Village of Villa Park

Local Public Agency
Formal Contract Proposal

2015 Twin Lakes Area Street Improvement Project

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

STATE OF ILLINOIS

COUNTY OF DuPage

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

FOR THE IMPROVEMENT OF

STREET NAME OR ROUTE NO. Twin Lakes Street Improvements

SECTION NO. N/A

TYPES OF FUNDS Local

☒ SPECIFICATIONS (required) ☒ PLANS (required)

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

RETURN WITH BID

NOTICE TO BIDDERS

County DuPage
Local Public Agency Village of Villa Park
Section Number N/A
Route Various

Sealed proposals for the improvement described below will be received at the office of The Public Works Director of Villa Park, 11 West Home Avenue, Villa Park, IL 60181 (Address) until 10:00 am (Time) on June 23, 2015 (Date)

Sealed proposals will be opened and read publicly at the office of The Public Works Director of Villa Park, 11 West Home Avenue, Villa Park, IL 60181 (Address) at 10 am (Time) on June 23, 2015 (Date)

DESCRIPTION OF WORK

Name Twin Lakes Street Improvements Length: 6,967 feet (1.32 miles)
Location Various locations within the Twin Lakes sub-division. Location map is included with the plans.
Proposed Improvement pavement removal; earth excavation; installation of pipe culverts; HMA surface removal, aggregate base course; hot-mix asphalt pavement; parkway restoration; an option bid for full depth reclamation;.and other incidental and miscellaneous items of work.

1. Plans and proposal forms will be available in the office of Villa Park Public Works, 11 West Home Avenue, Villa Park, IL for a fee of $20.00 (non-refundable). For information on bidding proposals contact Kevin Mantels of the Village of Villa Park at 630-834-8505

2. ☐ Prequalification
   If checked, the 2 low bidders must file within 24 hours after the letting an "Affidavit of Availability" (Form BC 57), in duplicate, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work. One original shall be filed with the Awarding Authority and one original with the IDOT District Office.

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 BLR Forms shall be returned by the bidder to the Awarding Authority:
   a. BLR 12200: Local Public Agency Formal Contract Proposal
   b. BLR 12200a Schedule of Prices
   c. BLR 12230: Proposal Bid Bond (if applicable)
   d. BLR 12325: Apprenticeship or Training Program Certification (**do not use for federally funded projects**)
   e. BLR 12326: Affidavit of Illinois Business Office

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.

RETURN WITH BID

PROPOSAL

County DuPage
Local Public Agency Village of Villa Park
Section Number N/A
Route Various

1. Proposal of _____

for the improvement of the above section by the construction of HMA surface removal; earth excavation; installation of pipe culverts; aggregate base course; hot-mix asphalt pavement; parkway restoration; an option bid for full depth reclamation; and other incidental and miscellaneous items of work.

a total distance of 6,967 feet, of which a distance of 6,967 feet, (1.32 miles) are to be improved.

2. The plans for the proposed work are those prepared by Baxter & Woodman, Inc.
and approved by the Village of Villa Park on 6/5/2015

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 N/A working days or by 45 calendar days 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:

Village Treasurer of Villa Park

The amount of the check is Five percent (5%) of the bid amount ( ).

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 N/A.

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 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 work shall be in accordance with the requirements of each individual proposal for the multiple bid specified in the Schedule for Multiple Bids below.

RETURN WITH BID

Illinois Department of Transportation

SCHEDULE OF PRICES
OPTION 1

County DU PAGE
Local Public Agency VILLAGE OF VILLA PARK
Section N/A
Route TWIN LAKES STREET IMPROVEMENTS

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
1	EARTH EXCAVATION	CU YD	1,129		
2	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	1,198		
3	TREE ROOT PRUNNING	EACH	7		
4	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	3,426		
5	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	642		
6	PARKWAY RESTORATION	SQ YD	4,956		
7	GRADING AND SHAPING DITCHES	FOOT	1,700		
8	GRADING AND SHAPING SHOULDERS	FOOT	14,014		
9	AGGREGATE SHOULDERS, TYPE B 4"	SQ YD	1,777		
10	TEMPORARY EROSION CONTROL SEEDING	POUND	108		
11	PERIMETER EROSION BARRIER	FOOT	472		
12	INLET FILTERS	EACH	17		
13	TEMPORARY DITCH CHECKS	FOOT	380		
14	AGGREGATE BASE COURSE, TYPE B	TON	398		
15	AGGREGATE BASE COURSE, TYPE B 6"	SQ YD	3,321		
16	AGGREGATE SURFACE COURSE, TYPE B	TON	1		
17	LEVELING BINDER (MACHINE METHOD), N50	TON	312		
18	HOT-MIX ASPHALT BINDER COURSE, IL19.0, N50	TON	1,667		
19	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	1,805		
20	PREPARATION OF BASE (SPECIAL)	SQ YD	7,166		
21	BITUMINOUS MATERIALS (PRIME COAT)	POUND	38,672		
22	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	6		
23	FULL-DEPTH RECLAMATION, 12"	SQ YD	-	-	-
24	CEMENT	100 WT	-	-	-
25	HOT-MIX ASPHALT SURFACE REMOVAL, 3"	SQ YD	5,288		
26	HOT-MIX ASPHALT SURFACE REMOVAL (FULL DEPTH)	SQ YD	10,281		
27	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	66		
28	HOT-MIX ASPHALT DRIVEWAY SURFACE REMOVAL AND REPLACEMENT	SQ YD	81		
29	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT REMOVAL AND REPLACEMENT	SQ YD	65		
30	CLASS D PATCHES, 6 INCH	SQ YD	538		
31	DRIVEWAY PAVEMENT REMOVAL	SQ YD	135		
32	HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 4"	SQ YD	146		

RETURN WITH BID

Bidder's Proposal for making Entire Improvements

Item No.	Items	Unit	Quantity	Unit Price	Total
33	DUST CONTROL WATERING	UNIT	195		
34	SOIL DISPOSAL ANALYSIS	EACH	1		
35	NON-SPECIAL WASTE DISPOSAL	CU YD	30		
36	PIPE CULVERT REMOVAL	FOOT	353		
37	TRENCH BACKFILL	CU YD	66		
38	PIPE CULVERTS, 10"	FOOT	89		
39	PIPE CULVERTS, 12"	FOOT	284		
40	PIPE CULVERTS, 18"	FOOT	31		
41	PIPE CULVERTS, CLASS A, TYPE 1 21"	FOOT	180		
42	PIPE CULVERTS, CLASS A, TYPE 1 30"	FOOT	35		
43	CATCH BASINS, TYPE C, TYPE 8 GRATE	EACH	1		
44	CATCH BASINS, TYPE A, 5'-DIAMETER, TYPE 8 GRATE	EACH	1		
45	METAL END SECTIONS 10"	EACH	8		
46	METAL END SECTIONS 12"	EACH	13		
47	METAL END SECTIONS 18"	EACH	2		
48	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 21"	EACH	1		
49	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 30"	EACH	1		
50	REMOVING CATCH BASINS	EACH	2		
51	SANITARY MANHOLES TO BE ADJUSTED	EACH	4		
52	DRAINAGE & UTILITY STRUCTURES TO BE ADJUSTED	EACH	2		
53	FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)	EACH	4		
54	REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	25		
55	TRAFFIC CONTROL AND PROTECTION	L SUM	1		
56	TEMPORARY INFORMATION SIGNING	SQ FT	100		
57	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	86		
58	CONSTRUCTION LAYOUT	L SUM	1		
59	TEMPORARY ACCESS (PRIVATE ENTRANCE)	EACH	86		
60	TEMPORARY ACCESS (ROAD)	EACH	4		
61	PRECONSTRUCTION VIDEO RECORDING	L SUM	1		
62	CONTINGENCY ALLOWANCE	DOLLAR	40,000	$1.00	$40,000.00

RETURN WITH BID

Illinois Department of Transportation

SCHEDULE OF PRICES
OPTION 2

County DU PAGE
Local Public Agency VILLAGE OF VILLA PARK
Section N/A
Route TWIN LAKES STREET IMPROVEMENTS

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
1	EARTH EXCAVATION	CU YD	190		
2	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	678		
3	TREE ROOT PRUNNING	EACH	7		
4	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	-		
5	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	122		
6	PARKWAY RESTORATION	SQ YD	4,956		
7	GRADING AND SHAPING DITCHES	FOOT	1,700		
8	GRADING AND SHAPING SHOULDERS	FOOT	14,014		
9	AGGREGATE SHOULDERS, TYPE B 4"	SQ YD	1,777		
10	TEMPORARY EROSION CONTROL SEEDING	POUND	108		
11	PERIMETER EROSION BARRIER	FOOT	472		
12	INLET FILTERS	EACH	17		
13	TEMPORARY DITCH CHECKS	FOOT	380		
14	AGGREGATE BASE COURSE, TYPE B	TON	571		
15	AGGREGATE BASE COURSE, TYPE B 6"	SQ YD	245		
16	AGGREGATE SURFACE COURSE, TYPE B	TON	1		
17	LEVELING BINDER (MACHINE METHOD), N50	TON	493		
18	HOT-MIX ASPHALT BINDER COURSE, IL19.0, N50	TON	949		
19	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	1,805		
20	PREPARATION OF BASE (SPECIAL)	SQ YD	7,166		
21	BITUMINOUS MATERIALS (PRIME COAT)	POUND	38,672		
22	MIXTURE FOR CRACKS, JOINTS, AND FLANGEWAYS	TON	6		
23	FULL-DEPTH RECLAMATION, 12"	SQ YD	3,113		
24	CEMENT	100 WT	1,714		
25	HOT-MIX ASPHALT SURFACE REMOVAL, 3"	SQ YD	8,404		
26	HOT-MIX ASPHALT SURFACE REMOVAL (FULL DEPTH)	SQ YD	7,165		
27	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	66		
28	HOT-MIX ASPHALT DRIVEWAY SURFACE REMOVAL AND REPLACEMENT	SQ YD	81		
29	PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT REMOVAL AND REPLACEMENT	SQ YD	65		
30	CLASS D PATCHES, 6 INCH	SQ YD	538		
31	DRIVEWAY PAVEMENT REMOVAL	SQ YD	135		
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RETURN WITH BID

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39	PIPE CULVERTS, 12"	FOOT	284		
40	PIPE CULVERTS, 18"	FOOT	31		
41	PIPE CULVERTS, CLASS A, TYPE 1 21"	FOOT	180		
42	PIPE CULVERTS, CLASS A, TYPE 1 30"	FOOT	35		
43	CATCH BASINS, TYPE C, TYPE 8 GRATE	EACH	1		
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49	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 30"	EACH	1		
50	REMOVING CATCH BASINS	EACH	2		
51	SANITARY MANHOLES TO BE ADJUSTED	EACH	4		
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53	FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)	EACH	4		
54	REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	25		
55	TRAFFIC CONTROL AND PROTECTION	L SUM	1		
56	TEMPORARY INFORMATION SIGNING	SQ FT	100		
57	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	86		
58	CONSTRUCTION LAYOUT	L SUM	1		
59	TEMPORARY ACCESS (PRIVATE ENTRANCE)	EACH	86		
60	TEMPORARY ACCESS (ROAD)	EACH	4		
61	PRECONSTRUCTION VIDEO RECORDING	L SUM	1		
62	CONTINGENCY ALLOWANCE	DOLLAR	40,000	$1.00	$40,000.00

CONTRACTOR CERTIFICATIONS

County	DuPage
Local Public Agency	Village of Villa Park
Section Number	N/A
Route	Various

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.

RETURN WITH BID

County DuPage
Local Public Agency Village of Villa Park
Section Number N/A
Route Various

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

Local Agency Proposal Bid Bond

Route Various
County DuPage
Local Agency Village of Villa Park
Section N/A

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) _____ (Company Name)

By: _____ (Signature and Title) 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

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

Affidavit of Availability
For the Letting of June 23, 2015

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)						
						$ 0.00
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

Local Public Agency
Formal Contract

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

STATE OF ILLINOIS

COUNTY DuPage

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

FOR THE IMPROVEMENT OF

STREET NAME OR ROUTE Twin Lakes Street Improvements

SECTION NO. N/A

TYPES OF FUNDS Local

☐ SPECIFICATIONS (required) ☐ PLANS (required) ☐ CONTRACT BOND (when required)

For Municipal Projects
Submitted/Approved/Passed

☐ Mayor ☐ President of Board of Trustees ☐ Municipal Official

Date

Department of Transportation
☐ Concurrence in approval of award

Regional Engineer

Date

For County and Road District Projects
Submitted/Approved

Highway Commissioner

Date

Submitted/Approved

County Engineer/Superintendent of Highways

Date

County DuPage
Local Public Agency Village of Villa Park
Section Number N/A
Route Various

1. THIS AGREEMENT, made and concluded the _____ day of _____ (Month and Year),

between the _____ of _____

acting by and through its _____ known as the party of the first part, and

_____ his/their executors, administrators, successors or assigns,

known as the party of the second part.

2. Witnesseth: That for and in consideration of the payments and agreements mentioned in the Proposal hereto attached, to be made and performed by the party of the first part, and according to the terms expressed in the Bond referring to these presents, the party of the second part agrees with said party of the first part at his/their own proper cost and expense to do all the work, furnish all materials and all labor necessary to complete the work in accordance with the plans and specifications hereinafter described, and in full compliance with all of the terms of this agreement and the requirements of the Engineer under it.

3. And it is also understood and agreed that the LPA Formal Contract Proposal, Special Provisions, Affidavit of Illinois Business Office, Apprenticeship or Training Program Certification, and Contract Bond hereto attached, and the Plans for Section _____, in _____,

approved by the Illinois Department of Transportation on _____ (Date), are essential documents of this

contract and are a part hereof.

4. IN WITNESS WHEREOF, The said parties have executed these presents on the date above mentioned.

Attest: The _____ of _____

_____ Clerk By _____
Party of the First Part

(Seal)

(If a Corporation)

Corporate Name _____

By _____
President Party of the Second Part

(If a Co-Partnership)

Attest: _____

_____
Secretary

_____
Partners doing Business under the firm name of

_____
Party of the Second Part

(If an individual)

_____
Party of the Second Part

Illinois Department of Transportation

Contract Bond

Route Various
County DuPage
Local Agency Village of Villa Park
Section N/A

We , _____

a/an) ☐ Individual ☐ Co-partnership ☐ Corporation organized under the laws of the State of _____ ,

as PRINCIPAL, and _____

_____ as SURETY,

are held and firmly bound unto the above Local Agency (hereafter referred to as "LA") in the penal sum of

_____ Dollars (_____), lawful money of the United States, well and truly to be paid unto said LA, for the payment of which we bind ourselves, our heirs, executors, administrators, successors, jointly to 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 has entered into a written contract with the LA acting through its awarding authority for the construction of work on the above section, which contract is hereby referred to and made a part hereof, as if written herein at length, and whereby the said Principal has promised and agreed to perform said work in accordance with the terms of said contract, and has promised to pay all sums of money due for any labor, materials, apparatus, fixtures or machinery furnished to such Principal for the purpose of performing such work and has further agreed to pay all direct and indirect damages to any person, firm, company or corporation suffered or sustained on account of the performance of such work during the time thereof and until such work is completed and accepted; and has further agreed that this bond shall inure to the benefit of any person, firm, company or corporation to whom any money may be due from the Principal, subcontractor or otherwise for any such labor, materials, apparatus, fixtures or machinery so furnished and that suit may be maintained on such bond by any such person, firm, company or corporation for the recovery of any such money.

NOW THEREFORE, if the said Principal shall well and truly perform said work in accordance with the terms of said contract, and shall pay all sums of money due or to become due for any labor, materials, apparatus, fixtures or machinery furnished to him for the purpose of constructing such work, and shall commence and complete the work within the time prescribed in said contract, and shall pay and discharge all damages, direct and indirect, that may be suffered or sustained on account of such work during the time of the performance thereof and until the said work shall have been accepted, and shall hold the LA and its awarding authority harmless on account of any such damages and shall in all respects fully and faithfully comply with all the provisions, conditions and requirements of said contract, then this obligation to be void; otherwise to remain in full force and effect.

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

PRINCIPAL

_____ (Company Name)

By: _____ (Signature & Title)

Attest: _____ (Signature & Title)

_____ (Company Name)

By: _____ (Signature & Title)

Attest: _____ (Signature & Title)

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

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 or PRINCIPAL)

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

Given under my hand and notarial seal this _____ day of _____ A.D. _____

My commission expires _____ _____ Notary Public **(SEAL)**

SURETY

_____ (Name of Surety)

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

STATE OF ILLINOIS. **(SEAL)**

COUNTY OF _____

I, _____ , a Notary Public in and for said county, do hereby certify that

_____

_____

(Insert names of individuals signing on behalf or SURETY)

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

Given under my hand and notarial seal this _____ day of _____ A.D. _____

My commission expires _____ _____ Notary Public **(SEAL)**

Approved this _____ day of _____ , A.D. _____

Attest:

_____ _____ (Awarding Authority)

_____ Clerk _____ (Chairman/Mayor/President)

Illinois Department of Transportation

Apprenticeship or Training Program Certification

Return with Bid

Route	Various
County	DuPage
Local Agency	Village of Villa Park
Section	N/A

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 DuPage
Local Public Agency Village of Villa Park
Section Number N/A
Route Various

State of Illinois)
) ss.
County of DuPage)

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

being first duly sworn upon oath, states as follows:

1. That I am the _____ of _____.
officer or position bidder
2. That I have personal knowledge of the facts herein stated.
3. That, if selected under this proposal, _____, will maintain a
(bidder)
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 day of _____, _____.

(SEAL)

_____
(Signature of Notary Public)

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2015

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS, frequently used RECURRING SPECIAL PROVISIONS, and LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS.

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CHECK SHEET
FOR
RECURRING SPECIAL PROVISIONS

Adopted January 1, 2015

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Adopted January 1, 2015

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STATE OF ILLINOIS
SPECIAL PROVISIONS

The following Special Provisions supplement the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2012, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", and the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the Supplemental Specifications and Recurring Special Provisions indicated on the Check Sheet included herein which apply to and govern the construction of Twin Lakes Street Improvements, and in case of conflict with any part, or parts, of said Specifications, the said Special Provisions shall take precedence and shall govern.

LOCATION OF PROJECT:

The project is located on various streets within the Twin Lakes Area in the Village of Villa Park, DuPage County, Illinois. A location map is shown on the cover of the Plans

DESCRIPTION OF WORK:

The work consists of furnishing all labor, materials, equipment, and other incidentals necessary for the completion of HMA surface removal; earth excavation; installation of pipe culverts; aggregate base course; hot-mix asphalt pavement; parkway restoration; and other incidental and miscellaneous items of work in accordance with the Plans, Standard Specifications, and these Special Provisions.

MAINTENANCE OF ROADWAYS:
Effective: September 30, 1985 Revised: November 1, 1996

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

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

OPTION BID:

This proposal includes submitting Contractor bids on the Option 1 and Option 2 bid. Bidders shall complete prices for both Option 1 and Option 2. The Village of Villa Park will award the

contract on the basis of the lowest responsible Option 1 or Option 2 bid as selected by the Village of Villa Park as funding is available. Only one bidder will be awarded this contract. A proposal guarantee shall be based on the higher of the two bids.

The Option 2 bid for this contract includes work items for full-depth reclamation (FDR) with cement as an alternative to reconstructing the roadway on Belden Avenue and Princeton Avenue.

The Village of Villa Park reserves the right to accept or reject any or all bids and to waive technicalities and to accept the proposal which best meets the needs and requirements of the Village of Villa Park.

QUALIFICATIONS OF BIDDERS:

Bidders will comply with all applicable Federal, State and local laws and requirements, and will further meet the qualifications prescribed in this and other applicable portions of these provisions.

Bidder, in submitting a Bid, certifies that Bidder is in compliance with all applicable Federal, State and local laws and requirements, and that Bidder further meets the qualifications prescribed in this and other applicable portions of these provisions. Engineer's determination as to the compliance and qualifications of the Bidder will be final, and Bidder, in submitting a Bid, agrees to be bound by that determination.

Bidder, in submitting a Bid, certifies that Bidder is in compliance with the following requirements and qualifications. Bidder further certifies that Bidder is able to provide written evidence of Bidder's compliance with the following requirements and qualifications. Bidder shall, upon request by Engineer, submit such written evidence within five (5) calendar days of the Engineer's request, as well as any other written evidence which Engineer may deem necessary for the purpose of evaluating Bidder's qualifications.

(a) Bidder shall be qualified to do business in the State of Illinois.

(b) Bidder shall possess either a valid Federal Employer Tax Identification Number (FEIN) or a valid Social Security Number (SSN).

(c) Bidder shall be able to provide a street address and description of the Bidder's place of business, and the mailing address of the business, if different from the street address.

(d) Bidder shall be able to provide the number of years Bidder has been engaged in the contracting business under the present firm name, and the name of the state where incorporated.

(e) Bidder shall be able to provide a list of the property and equipment available to the Bidder.

(f) Bidder shall be able to provide a financial statement demonstrating that the Bidder has the financial resources to meet all obligations related to the Work.

(g) Bidder shall maintain insurance policies with the coverages required by the Contract, and with the minimum limits of coverage required by the Contract. Bidder shall be able to provide current certificate(s) of insurance for the insurance policies held by Bidder, demonstrating that Bidder holds insurance policies with the coverages required by the contract, and with the minimum limits of coverage required by the Contract.

(h) Bidder shall have constructed a minimum of three (3) projects of a similar nature in the immediate past five (5) years. Bidder shall be able to provide a list of all projects of a similar nature constructed by Bidder in the immediate past five (5) years, which list shall contain the minimum of three (3) such projects, which list shall provide a description and the location(s) of all such projects, and shall contain the Bidder's performance record and references, as well as the names and current contact information, including addresses and telephone numbers, of persons who acted as owners' representatives for those projects and who have knowledge of those projects, and whom Bidder agrees the Village may contact for the purpose of verifying Bidder's performance and references.

(i) Bidder shall be able to provide a list of three (3) references (name, address and telephone number) with knowledge of the integrity and business practices of the bidder. Such references may not be persons who have been employed by Bidder as employees.

(j) Bidder shall be able to provide a list of projects presently under Contract, the awarded Contract amount of each, the approximate adjusted Contract amount of each (if applicable), and the dollar amount or percent of completion of each.

(k) Bidder shall be able to provide a list of Contracts which have resulted in lawsuits, whether against Bidder as a prime contractor, against Bidder as a subcontractor, or against Bidder as a party in any other capacity; or against subcontractors or suppliers performing work for Bidder or under Contract held by Bidder.

(l) Bidder shall be able to provide a list of Contracts defaulted.

(m) Bidder shall be able to provide a statement indicating whether or not Bidder has ever filed bankruptcy.

(n) Bidder shall be able to provide a list of all officers of the firm, which list shall also indicate those officers who, while in the employ of the firm or in the employ of previous firms, were associated with Contracts which resulted in lawsuits, Contracts defaulted, or firms which filed for bankruptcy.

(o) Bidder shall maintain personnel guaranteed to be employed in the responsible charge of the Work, which personnel possess sufficient technical experience to ensure the satisfactory completion of the Work. Bidder shall be able to provide the names and technical experience of such personnel, as well as statements as to whether the personnel have or have not performed satisfactorily on other contracts of like nature and magnitude or comparable difficulty at similar rate of progress.

(p) Bidder shall be able to provide a list of subcontractors and suppliers anticipated to be employed by Bidder for the purpose of completing the Work, including the firm name, street address and description of place of business; mailing address of business (if different); phone, fax and e-mail contact information of business; name of primary contact; and a list of any projects or contracts for which Bidder currently owes monies to said firm, which list shall include a description of the project or contract, the amount currently due to said firm, the period of time for which those monies have been owed, and the expected date of payment of those monies.

(q) Bidder shall participate in active apprenticeship and training programs approved by and registered with the United States Department of Labor Bureau of Apprenticeship and Training for each of the trades of work contemplated under the Contract. Bidder shall be able to provide evidence of Bidder's participation in such apprenticeship and training programs.

(r) Bidder shall only employ subcontractors who meet the requirements prescribed in this section and other sections of these specifications.

(s) Bidder shall be able to provide such other information as may assist the Village in determining whether the Bidder is adequately prepared to fulfill the Contract.

These requirements and qualifications are not intended to discourage bidding, to make it difficult for qualified Bidders to submit Bids, or to discourage beginning contractors. The purpose of these requirements and qualifications is to allow the Village to obtain sufficient information about

Bidder's financial state, available equipment, personnel, and previous work experience so that the Village may mitigate the hazards involved in awarding contracts to parties who may not be qualified to perform the Work as specified.

CONSTRUCTION DEBRIS:

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."

STATUS OF UTILITIES TO BE ADJUSTED:

Utilities companies involved in this project have provided the following estimated durations:

NAME OF UTILITY	TYPE	LOCATION	Estimated Duration of Time for the Completion of Relocation or Adjustments
Comcast 688 Industrial Drive Elmhurst, IL 60126 Martha Gieras 630.288.7637	Aerial cable TV		No conflicts anticipated.
Nicor Gas 1844 Ferry Road Naperville, IL 60563 Bruce Koppang 630.388.3830	Gas mains and services		No conflicts anticipated.
AT&T 1000 Commerce Drive Oak Brook, IL 60523 Janet Ahern 630.573.6414	Aerial phone cable		No conflicts anticipated.

ComEd 25000 Governors Hwy. University Park, IL 60466 Peter Kratzer 708.518.6209	Aerial cable		No conflicts anticipated.

The above represents the best information available to the Village and is included for the convenience of the bidder. The applicable portions of Articles 105.07 and 107.31 of the Standard Specifications shall apply.

INSURANCE:

Insurance and indemnification shall be according to applicable sections of the Standard Specifications, and shall also be according to the "IRMA Contractual Insurance Guidelines", incorporated herein as Appendix A. If a conflict is determined to exist between the requirements prescribed in the Standard Specifications and the requirements prescribed in the IRMA Contractual Insurance Guidelines, such conflict will be resolved as follows:

a. If a particular type of insurance coverage is required by one standard but not by both, that type of insurance coverage will be required.

b. If the minimum limits of insurance coverage required by one standard differ from those required by the other standard, the higher minimum limits of insurance coverage will prevail.

c. If any other conflicts are determined to exist between the requirements prescribed in the two standards, the stricter of the two requirements will prevail. Owner will make the final determination as to what constitutes a stricter requirement.

SUBCONTRACTORS:

Add the following to the end of Section 108.01 of the Standard Specifications.

"The apparent low Bidder shall submit to the office of Engineer within ten (10) days after the receipt of bids, a list of the names of Bidder's proposed subcontractors along with a description of the work to be performed by each."

APPLICATION FOR PAYMENT:

Add the following to the end of Section 109.07 (a) of the Standard Specifications.

"The Contractor shall procure from each subcontractor and supplier of material or labor a waiver of any claim which they may have under the mechanics lien laws of the state in which the Work is located, to insure the Municipality immunity from mechanics liens on subcontractors in carrying out the contract and any work orders for additions thereto, all as a condition of any payment by the Municipality. Any payments made by the Municipality without requiring compliance with this paragraph shall not be construed as a waiver by the Municipality of the right to require compliance with this paragraph as a condition to later payments.

The Contractor shall submit Partial Waivers of Lien from all subcontractors and suppliers with each partial payment estimate and Contractor's Affidavit for subcontractors and suppliers with second payment request for the previous payment estimates and then with all subsequent payment estimates."

Add the following to the end of Section 109.08 of the Standard Specifications.

"The Contractor shall furnish with his final application for payment a complete release of all liens arising out of this contract, or receipts in full in lieu thereof and an affidavit that the releases and receipts include all labor and material for which a lien could be filed."

LIMITATIONS ON ENGINEER'S AUTHORITY AND RESPONSIBILITIES:

The authority and duties of Resident Engineer in Article 105.10 of the Standard Specifications are hereby deleted. The authority of Engineer is amended as follows.

"The Engineer will be the Municipality's representative during the construction period. The Engineer will furnish a Resident Project Representative (RPR) to assist the Engineer in providing job-site observation of the Contractor's Work. The RPR will assist the Contractor with interpretation of the Plans and Specifications, observe in general if the Contractor's Work is in conformity with the Contract Documents, and monitor the Contractor's progress as related to the date of completion. The Engineer will not supervise, direct, control or have authority over or be responsible for the Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the Contractor to comply with Laws and Regulations applicable to the furnishing or performance of the Work. The Engineer will not be responsible for the Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

The Engineer will not be responsible for the acts or omissions of the Contractor or any subcontractor, any supplier, or of any other person or organization performing or furnishing any of the Work.

These limitations on authority and responsibility set forth herein shall also apply to the Engineer's Consultants, Resident Project Representative and assistants."

MAINTENANCE GUARANTEE:

The Contractor shall execute and deliver to the Village of Villa Park, before final payment will be issued, a written warranty, in a form satisfactory to the Village, which guarantees that the work is in accordance with the Contract Documents and will not be defective. This warranty shall guarantee this work for a period of 1-year from the date of acceptance of the work and final payment by the Village of Villa Park.

If within this guarantee period, any work is found to be defective, as determined by the Village, the Contractor shall promptly, without cost to the Village of Villa Park, correct or repair such defective work, or remove and replace the defective work in accordance with the Special Provisions for the items in question.

The Contractor shall furnish a warranty bond in an amount equal to five percent (5%) of the contract amount, or $25,000, whichever is greater, by a surety satisfactory to the Village of Villa Park to guarantee Contractor's warranty to repair defective work.

INCREASED OR DECREASED QUANTITIES:

The Village reserves the right to increase or decrease the amount of work shown in the plans in accordance with Section 109 of the Standard Specifications.

WORKING HOURS:

Working hours will be between 7:00 A.M. and 5:00 P.M., Monday through Friday, excluding legal holidays as designated by the Contract.

Contractor will not permit the performance of Work outside these working hours without Owner's written consent, which may be given after prior written request to Engineer, except as otherwise required for the safety of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents.
If Contractor permits the performance of Work outside these working hours, Contractor will compensate Owner for the costs of inspection and other services provided by Engineer. Owner will determine the rates at which such inspection and other services are to be compensated. Owner will determine the interval or intervals at which billing will take place, and may, at

Owner's discretion, submit invoices for payment to Contractor, or deduct the costs from any monies due or to become due to the Contractor from Owner.

HOLIDAYS:

Add the following to the list of legal holidays in Article 107.09 of the Standard Specifications:

Thanksgiving Friday
Christmas Eve
New Year's Eve

MOBILIZATION:

Mobilization will be according to Section 671 of the Standard Specifications except as modified herein.

Revise Article 671.02, Basis of Payment, to read:

"**671.02 Basis of Payment.** Mobilization will not be paid for separately but rather shall be included in the cost of the items for which this work applies."

USE OF FIRE HYDRANTS:

Effective: August 27, 2013
Revised: February 7, 2014

Revise Article 107.18 of the Standard Specifications to read:

"**107.18 Use of Fire Hydrants.** If Contractor requires water for the completion of construction operations, and desires to obtain water from Owner, Contractor shall make application to Engineer accordingly. If such application is approved by Engineer, Contractor shall obtain water from the fire hydrant located at 100 West Home Avenue, adjacent to the Village of Villa Park Fleet Maintenance Garage. Contractor's use of said hydrant and methods of obtaining water shall be in compliance with all applicable local ordinances, rules, and regulations concerning such use. Contractor shall furnish all labor and equipment necessary to make a connection to said hydrant, and to obtain and transport water. Contractor, in obtaining water from said hydrant, shall either:

(a) Make application to Engineer for temporary use of a hydrant meter, comply with all conditions requisite for use of said meter if such application is approved, and use said

hydrant meter when obtaining water from hydrant; or

(b) Make record of the quantity of water obtained from said hydrant along with the date and time obtained, and report such information after each use to the Village of Villa Park Public Works Department, 11 West Home Avenue, or, if such use takes place outside of the normal working hours of the Public Works Department, report such information after the next use which takes place during normal working hours.

Contractor shall not use, operate or obtain water from any hydrants other than the one prescribed. Contractor shall not obtain water from Owner for construction operations or activities not under contract with Owner.

Contractor shall compensate Owner for water obtained by Contractor at the current rate charged to commercial customers by Owner, which rate may also include any administrative fees, overhead, or other costs which are typically charged to commercial customers. The actual quantity of water obtained by Contractor may, at Owner's discretion, be rounded up to the next 1,000 gallon increment so as to coincide with standard units of measure on which water billing rates are based. Owner will determine the interval or intervals at which billing will take place, and may, at Owner's discretion, submit invoices for payment to Contractor, or deduct the cost of water from any monies due or to become due to the Contractor from Owner."

PARKWAY RESTORATION:

This work shall be done in accordance with Sections 211 and 252 of the Standard Specifications and the Details provided in the Plans, except where modified herein.

Description. The purpose of this work is to restore the areas disturbed by construction and/or to provide proper drainage in the parkways.

This work shall include restoring disturbed areas within the construction limits, removing excess backfill material, furnishing and placing topsoil in accordance with Section 211, compacting and grading to maintain positive slope, and sodding the areas in accordance with Section 252. Care should be taken to insure proper compaction as the Contractor will be responsible for repair of any areas where settlement occurs."

211.02 Materials. Add the following to the end of the Article:

"Topsoil shall be a loamy mixture of black dirt having at least 90 percent passing a No. 10 sieve, and shall be free of large roots, brush, sticks, weeds, stones larger than 1/2-inch in diameter and any other litter. Topsoil, pH shall not be lower than 4.5 nor higher than 8.5 as determined in accordance with ASTM procedures for soil testing. Sod shall be salt tolerant."

211.04 Placing Topsoil and Compost. Add the following to the end of the Article:

"The topsoil shall be spread to a smooth, compacted uniform thickness of not less than 4 inches."

252.03 Ground Preparation. Add the following to the end of the Article:

"The removal of any excess backfill material shall be included in the pay item for PARKWAY RESTORATION.

Fertilizer nutrients shall be applied in accordance with Section 252.03 of the Standard Specifications and shall be included in the pay item for PARKWAY RESTORATION."

252.06 Placing Sod. Add the following to the end of the Article:

"The Contractor shall provide subsequent resodding until a satisfactory growth of grass is produced or if settlement occurs."

211.07 and 252.12 Method of Measurement. Delete the final paragraph of Article 252.12, Replace Article 211.07 and the first paragraph of 252.12 with the following:

"**Method of Measurement.** This work will be measured for payment in place, and the area computed in square yards. To be acceptable for final payment, the sod shall be growing in place for a minimum of 30 days in a live, healthy condition."

211.08 and 252.13 Basis of Payment. Delete the final paragraph of Article 252.13, Replace Article 211.08 and the first three paragraphs of 252.13 with the following:

"**Basis of Payment.** This work will be paid for at the contract unit price per square yard for PARKWAY RESTORATION."

GRADING AND SHAPING DITCHES:

Description. This work shall consist of grading and shaping existing ditches according to the details shown on the plans or as directed by the Village. This work shall be done in accordance with all applicable Section 214 of the Standard Specifications for Road and Bridge Construction.

Basis of Payment. This work will be paid for at the Contract unit price per foot for GRADING AND SHAPING DITCHES, which shall include all labor, miscellaneous materials, and equipment necessary to complete this pay item. Any required removal and disposal of material for this pay item shall be considered inclusive to this pay item, and no additional compensation for such work will be provided. Any necessary restoration shall be paid for separately per square yard of PARKWAY RESTORATION.

GRADING AND SHAPING SHOULDERS:
Effective: December 28, 2001
Revised: January 1, 2007

Description. This work consists of regrading the existing aggregate shoulder high areas before a new layer of stone is laid for the proposed Aggregate Shoulder.

Construction Requirements. Applicable portions of Sections 202 and 481 shall apply. The existing aggregate shoulder shall be redistributed and regraded to fill any low spots and compacted in a manner approved by the Engineer.

Basis of Payment. This work will be paid for at the contract unit price per foot for GRADING AND SHAPING SHOULDERS

HOT-MIX ASPHALT DRIVEWAY SURFACE REMOVAL AND REPLACEMENT:

This item shall consist of the removal and replacement of the existing HMA driveway surface. Replacement shall be constructed to match the existing pavement removed for thickness, however the minimum thickness shall not be less than 4 inches of HMA Surface Course, Mix "D" N50. Prior to replacement with the surface course, the exposed base course shall be shaped, compacted and primed, including the exposed edge of the HMA surface remaining, to the satisfaction of the Engineer.

Removal of the driveway surface shall be in accordance with Section 440 of the Standard Specifications and replacement shall be done in accordance with Articles 406.02, 406.03, 406.05, 406.06, 406.07, and 406.12 of the Standard Specifications, except as modified herein.

Basis of Payment. This work will be paid for at the contract unit price per square yard for HOT-MIX ASPHALT DRIVEWAY SURFACE REMOVAL AND REPLACEMENT.

PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT REMOVAL AND REPLACEMENT:

This item shall be in accordance with Section 423 and Articles 440.03 and 440.06 of the Standard Specifications and consists of the removal and replacement of the existing PCC driveway pavement.

Replacement of the driveway shall be in accordance with Section 423 of the Standard Specifications except as modified herein.

423.01 Description. Add the following to the end of this article.

"The PCC driveway pavement shall be constructed to match the existing pavement removed for thickness, however the minimum thickness shall not be less than 6 inches of PCC pavement for residential driveways and not less than 8 inches of PCC pavement for commercial driveways. Prior to replacement with the PCC pavement, the exposed base course shall be shaped and compacted, to the satisfaction of the Engineer."

423.11 Basis of Payment. Revise this article to read:

"4**23.11 Basis of Payment.** This work will be paid for at the contract unit price per square yard for PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT REMOVAL AND REPLACEMENT."

CONTINGENCY ALLOWANCE:

A contingency allowance pay item is provided as a part of this contract for the purpose of facilitating the completion of unforeseen or additional work not included in the contract as awarded, and which is determined by the Engineer to be necessary and germane to the contract.

Use of the contingency allowance will be at the discretion of the Engineer. The Engineer may, at his/her discretion, use the contingency allowance for any of the following reasons:

(a) Facilitate a temporary payment allowance to the Contractor for work completed under existing contract pay items and for which completed quantities exceed contract quantities;

(b) Facilitate a temporary payment allowance to the Contractor for work completed beyond the scope of existing contract pay items; or

(c) Facilitate a temporary payment allowance to the Contractor for the purchase of equipment, materials or such other requisition as Engineer determines to be necessary for the completion of the Work.

Such use of the CONTINGENCY ALLOWANCE will be further subject to approval by Owner. Owner's decision with regard to use of the CONTINGENCY ALLOWANCE will be final.

A. Any payments made to Contractor under the CONTINGENCY ALLOWANCE will be considered temporary, and will only be retained by Contractor until such time that an

authorization of contract changes can be approved and incorporated into the contract.

B. Contractor, in accepting payments made under the CONTINGENCY ALLOWANCE, agrees to the terms of this and other applicable special provisions. Contractor agrees to relinquish any monies and any claim to monies paid under the CONTINGENCY ALLOWANCE upon approval of an authorization of contract changes and payment for any work for which payment was previously made under the CONTINGENCY ALLOWANCE. Contractor further agrees to return any monies previously paid thereunder.

C. The CONTINGENCY ALLOWANCE pay item for this contract has been established with a unit of measurement in dollars, a quantity of 40,000.00, and a contract unit price of one dollar ($1.00), for a total CONTINGENCY ALLOWANCE contract price of 40,000 dollars and no cents ($40,000.00). Bidder, in submitting a bid, accepts the quantity, unit price, and total contract price of the CONTINGENCY ALLOWANCE.

Basis of Payment. This work will be paid for at the contract unit price per dollar for CONTINGENCY ALLOWANCE. The total bid amount for this item will be $40,000.00.

CLASS D PATCHES:

This work shall be done in accordance with Section 442 of the Standard Specifications except as modified herein.

442.01 Description. Delete all reference to a specified “type” in this Article.

442.11 Basis of Payment. Revise the second paragraph of this Article to Read:

“This work will be paid for at the contract unit price per square yard for CLASS D PATCHES, of the thickness specified.”

AGGREGATE SUBGRADE IMPROVEMENT (D-1)
Effective: February 22, 2012
Revised: November 1, 2014

Add the following Section to the Standard Specifications:

“**SECTION 303. AGGREGATE SUBGRADE IMPROVEMENT**

303.01 Description. This work shall consist of constructing an aggregate subgrade

improvement.

303.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Coarse Aggregate	1004
(b) Reclaimed Asphalt Pavement (RAP) (Notes 1, 2 and 3)	1031

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

Note 2. RAP having 100 percent passing the 1 1/2 in. (37.5 mm) sieve and being well graded, may be used as capping aggregate in the top 3 in. (75 mm) when aggregate gradations CS 01 or CS 02 are used in lower lifts. When RAP is blended with any of the coarse aggregates, the blending shall be done with mechanically calibrated feeders.

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

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

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

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

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

303.07 Compaction. All aggregate lifts shall be compacted to the satisfaction of the Engineer. If the moisture content of the material is such that compaction cannot be obtained,

sufficient water shall be added so that satisfactory compaction can be obtained.

303.08 Finishing and Maintenance of Aggregate Subgrade Improvement. The aggregate subgrade improvement shall be finished to the lines, grades, and cross sections shown on the plans, or as directed by the Engineer. The aggregate subgrade improvement shall be maintained in a smooth and compacted condition.

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

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

Add the following to Section 1004 of the Standard Specifications:

"**1004.06 Coarse Aggregate for Aggregate Subgrade Improvement.** The aggregate shall be according to Article 1004.01 and the following.

(a) Description. The coarse aggregate shall be crushed gravel, crushed stone, or crushed concrete.

(b) Quality. The coarse aggregate shall consist of sound durable particles reasonably free of deleterious materials.

(c) Gradation.

(1) The coarse aggregate gradation for total subgrade thicknesses of 12 in. (300 mm) or greater shall be CS 01 or CS 02.

Grad No.	COARSE AGGREGATE SUBGRADE GRADATIONS Sieve Size and Percent Passing				
	8"	6"	4"	2"	#4
CS 01	100	97 ± 3	90 ± 10	45 ± 25	20 ± 20
CS 02		100	80 ± 10	25 ± 15	

Grad No.	COARSE AGGREGATE SUBGRADE GRADATIONS (Metric)				
	Sieve Size and Percent Passing				
	200 mm	150 mm	100 mm	50 mm	4.75 mm

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

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

BITUMINOUS MATERIALS (PRIME COAT):

Description. This work shall be performed in accordance with Section 406 of the Standard Specifications, with the following modifications:

Bituminous prime coat shall be placed at least one hour in advance of the placement of HMA, but no more than forty-eight hours in advance of the placement of HMA. If Contractor places prime coat more than forty-eight hours in advance of the placement of HMA, the prime coat will not be measured for payment, and Contractor will place prime coat again in accordance with this provision. Prime coat will not be placed on weekends or on legal holidays unless permitted by the Engineer. Prime coat will not be placed before weekends or legal holidays when placement of HMA is not expected to take place until after the weekend or legal holiday, unless permitted by the Engineer.

Basis of Payment. This work will be paid for at the contract unit price per pound for BITUMINOUS MATERIALS (PRIME COAT); which price shall include all labor, materials, and equipment necessary to complete the work as described herein.

HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 4":

This work shall be performed in accordance with Articles 406.02, 406.03, 406.05, 406.06, 406.07, and 406.12 of the Standard Specifications, and the detail shown on the Plans, except as modified herein. This work shall consist of placing HMA Surface Course, Mix "D" N50, to a minimum thickness of 4 inches, or to match the existing HMA thickness, whichever is greater.

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

Basis of Payment. This work will be paid for at the contract unit price per square yard for HOT-MIX ASPHALT DRIVEWAY PAVEMENT, 4".

DRAINAGE & UTILITY STRUCTURES TO BE ADJUSTED:

This work shall be done in accordance with Section 602 of the Standard Specifications except as modified herein.

602.01 Description. Revise this Article to read:

"**602.01 Description.** This work shall consist of adjusting existing catch basins, manholes, inlets, or valve vaults."

602.02 Materials. Revise Note 3 at the end of this Article to read:

Note 3. Riser rings fabricated from recycled rubber must be used to adjust the frames and grates of drainage and utility structures up to a maximum of 50 mm (2 in.). They shall be installed and sealed underneath the frames according to the manufacturer's specifications.

Recycled rubber products shall consist of no less than 80 percent by weight recycled rubber. The riser shall meet or exceed the following when maintained at 23 ± 2°C (73 ± 3°F) for at least 24 hours prior to and during testing.

Physical Property	Test Standard	Value
Density	ASTM C 642-90	1.10 ± 0.034 g/cu cm (68.63 ± 2.11 lb/cu ft)
Durometer Hardness	ASTM D 2240-97 Shore A	72 ± 6[1]
Compression Deformation under 1000 kPa (145 psi)	ASTM D 575 –Test Method B Test of Specified Force	9 ± 4 %
Compression Set	ASTM D 395 – Illinois Modified Test Method B Compression Set under Constant Deflection in Air	5 ± 3 %[2]
Weathering (70 hrs at 70 °C (158 °F)) Hardness retained	ASTM D 573	98 %, minimum
Freeze/thaw when exposed to deicing chemicals	ASTM C 672-91	3 % loss, maximum

[1] Average of three tests over a 28 mm (1.12") diameter sample.

[2] Samples compressed to 75 percent of initial height.
Recycled rubber adjusting rings shall have no void areas, cracks, or tears, and have no effects due to exposure to ultraviolet light. The actual diameter or length shall not vary more than 3 mm (0.125") from the specified diameter or length. Variations in height are limited to ± 1.6 mm (0.063") for parts up to 50 mm (2")."

602.11 Furnishing and Placing Castings. Revise the last three sentences of the second paragraph of part (c) of this Article to read:

"Castings shall be set to the finished pavement elevation so that no subsequent adjustment will be necessary, and the space around the casting shall be filled with Class SI concrete to the elevation of the surface of the base course or binder course. The Class SI concrete shall be cured for a period of 72 hours. HMA materials will not be allowed to backfill around an adjusted casting."

602.16 Basis of Payment. Revise the second paragraph of this Article to read:

"This work shall be paid for at the contract unit price each for DRAINAGE & UTILITY STRUCTURES TO BE ADJUSTED, which price shall include the adjustment of existing catch basins, manholes, inlets or valve vaults, resetting the frame and grate or lid, removing and resetting the existing external chimney seal, and excavation and backfilling."

DUST CONTROL WATERING:

This work shall consist of the exclusive control of dust resulting from construction operations by the uniform application of sprinkled water. DUST CONTROL WATERING shall be performed when directed by the Engineer. All equipment used for this work shall be approved by the Engineer prior to beginning the work and shall be equipped with adequate measuring devices for metering the exact amount of water discharged.

Method of Measurement. Dust Control Watering will be measured for payment in units of 1000 gallons of water applied. All water used shall be properly documented by ticket or other approved means.

Basis of Payment. This work will be paid for at the contract unit price per unit for DUST CONTROL WATERING.

TEMPORARY INFORMATION SIGNING:
Effective: November 13, 1996 Revised: January 1, 2012

Description. This work shall consist of furnishing, installing, maintaining, relocating for various states of construction and eventually removing temporary informational signs. Included in this

item may be ground mount signs, skid mount signs, truss mount signs, bridge mount signs, and overlay sign panels which cover portions of existing signs.

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

	Item	Article
a)	Sign Base (Notes 1 & 2)	1090
b)	Sign Face (Note 3)	1091
c)	Sign Legends	1091.02
d)	Sign Supports	1093
e)	Overlay Panels (Note 4)	1090.02

Note 1: The Contractor may use 5/8-inch (16 mm) instead of 3/4-inch (19 mm) thick plywood.
Note 2: Type A sheeting can be used on the plywood base.
Note 3: All sign faces shall be Type A except all orange signs shall meet the requirements in Article 1106.01
Note 4: The overlay panels shall be 0.08-inch (2 mm) thick.

CONSTRUCTION REQUIREMENTS

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

Signs which are placed along the roadway and/or within the construction zone shall be installed according to the requirements of Article 701.14 and Article 720.04. The signs shall be 7 ft (2.1 m) above the near edge of the pavement and shall be a minimum of 2 ft (600 mm) beyond the edge of the paved shoulder. A minimum of two (2) posts shall be used.

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

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

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

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

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

PREPARATION OF BASE (SPECIAL):

This work shall be done in accordance with Section 358 of the Standard Specifications except as modified herein.

358.04 Aggregate Bases. Add the following sentence to the beginning of the first paragraph of this Article:

"It may be necessary to remove existing aggregate base course in order to establish the proposed base course elevation."

358.04 Aggregate Bases. Delete reference to Article 358.04 (a).

358.04 Aggregate Bases. Add the following sentence to Article 358.04 (b):

"Proof-rolling with a 45,000-pound, rubber-tired vehicle in the presence of the Engineer will be necessary to demonstrate that the base is in proper condition for resurfacing."

358.06 Method of Measurement. Revise Article 358.06 (b) to read:

"(b) Measured Quantities. The work in connection with the preparation of bases, except base repairs and addition of materials, will be measured for payment in place and the area computed in square yards."

358.07 Basis of Payment. Revise this Article to read:

"**358.07 Basis of Payment.** The work will be paid for at the contract unit price per square yard for PREPARATION OF BASE (SPECIAL).

HOT-MIX ASPHALT SURFACE REMOVAL (FULL DEPTH):

This work shall be done in accordance with Section 440 of the Standard Specifications except as modified herein.

440.01 Description. Revise this Article to read:

"**440.01 Description.** This work shall consist of the removal and satisfactory disposal of the entire HMA pavement surface, full depth. Pavement cores are included in the contract specifications."

440.03 General. Add the following paragraph to the end of this Article:

"No additional compensation will be allowed because of variations from the assumed HMA surface thickness or from the HMA surface thickness shown on the Plans or in the specs."

440.08 Basis of Payment. Revise this Article to read:

"**440.08 Basis of Payment.** This work will be paid for at the contract unit price per square yard for HOT-MIX ASPHALT SURFACE REMOVAL (FULL DEPTH)."

AGGREGATE SURFACE COURSE FOR TEMPORARY ACCESS:

This work shall consist of furnishing and placing aggregate for use as temporary access in accordance with section 402 of the Standard Specifications, except as modified herein.

Revise Article 402.10 of the Standard Specifications to read:

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

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

(a) Private Entrance. The minimum width shall be 12 ft. The minimum compacted thickness shall be 6 in. The maximum grade shall be eight percent, except as required to match the existing grade.

(b) Commercial Entrance. The minimum width shall be 24 ft. The minimum compacted thickness shall be 9 in. The maximum grade shall be six percent, except as required to match the existing grade.

(c) Road. The minimum width shall be 24 ft. The minimum compacted thickness shall be 9 in. The grade and elevation shall be the same as the removed pavement, except as required to meet the grade of any new pavement constructed.

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

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

402.12 Method of Measurement. Add the following to this article:

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

402.13 Basis of Payment. Revise the second paragraph of this Article to read:

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

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

(a) Upon construction of the temporary access, sixty percent of the contract unit price per each, of the type constructed, will be paid.

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

SANITARY MANHOLES TO BE ADJUSTED:

This work shall be done in accordance with Section 602 of the Standard Specifications and shall consist of the adjustment of sanitary manholes. Non-hardening butyl rubber mastic sealant; minimum thickness ¼-inch, shall be used between adjusting rings in place of mortar, or as required by the Owner of the Sanitary Sewer. In locations where existing external frame seals exist, it shall be removed and reinstalled. In locations where internal frame seals exist, it shall be removed and disposed of and an external frame seal shall be installed. In locations where there are no existing frame seals, an external frame seal shall be installed. The installation of the external frame seal will not be paid for separately and will be considered included in this pay item.

The External Frame seal shall consist of the following:

A. Provide frame seals consisting of a flexible external rubber sleeve and extension and stainless steel compression bands.
B. Rubber sleeve and extension:
    1. Provide rubber sleeve and extension complying with ASTM C923.
    2. Comply with a minimum 1500 psi tensile strength, maximum 18 percent compression set and a hardness (durameter) of 48±5.
    3. Provide sleeve with a minimum thickness of 3/16-inch and unexpanded vertical heights of 6 or 9 inches.
C. Provide extension having a minimum thickness of 3/16-inch.
D. Compression band:
    1. Provide compression band to compress the sleeve against the manhole.
    2. Use 16 gauge stainless steel conforming to ASTM A240 Type 304 with no welded attachments and having a minimum width of 1-inch.
    3. Make a watertight seal having a minimum adjustment range of 2 diameter inches.
    4. Provide stainless steel screws, bolts, and nuts conforming to ASTM F593 and 594, Type 304.
E. Acceptable products:
    1. Cretex Specialty Products.
    2. Or equal.
F. Or as required by the Owner of the sanitary sewer system.

The External Frame Seal shall be installed as follows:

A. Install external rubber gasket on the manhole frame and chimney.
    1. Provide watertight gasket to eliminate leakage between the frame and each adjusting ring down to and including cone section.
B. Clean surface and prepare the lower 2 inches of the manhole frame and exterior of all adjusting rings and cone section/corbel surfaces.
    1. Realign frame on adjusting rings or corbel as required.
C. Repair and apply mortar grout to the adjusting rings as required to provide a smooth, circular surface for the rubber gasket.
D. Install rubber gasket in accordance with manufacturer's recommendations.
    1. Field verify for suitable dimensions and layout before installation.
    2. Utilize sealing caulk where required.
E. Or as required by the Owner of the sanitary sewer system.

Basis of Payment. This work will be paid for at the contract unit price per each for SANITARY MANHOLES TO BE ADJUSTED, which price shall include all of the above.

TRAFFIC CONTROL AND PROTECTION:

This work shall be done in accordance with applicable portions of Section 701 of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", and any details and Highway Standards contained in the Plans and Special Provisions, and the Special Provisions contained herein, except as modified herein.

Special Attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Recurring Local Roads and Streets Special Provisions, and Special Provisions contained herein, relating to traffic control.

HIGHWAY STANDARDS: 701301, 701311, 701501, 701901

DETAILS:
Traffic Control and Protection for Side Roads, Intersections, and Driveways (TC-10)

SPECIAL PROVISIONS (Included in these Special Provisions):
Maintenance of Roadways
Work Zone Traffic Control (LRS 3)
Flaggers in Work Zones (LRS 4)

The Contractor shall contact the Village at least 72 hours in advance of beginning work. Construction operations shall be conducted in a manner such that streets will be open to emergency traffic and accessible as required to local traffic. Advanced notice shall be provided to residents, police, fire, school districts and trash haulers when access to any street will be temporarily closed or limited. Removal and replacement of curb and gutter and driveways shall be planned so as to cause a minimum of inconvenience to the abutting property owners. The work shall be accomplished such that the streets will be left open to local traffic at the end of each working day.

701.19 Method of Measurement. Revise this Article to read:

"701.19 Method of Measurement. Traffic control and protection will be measured for payment on a lump sum basis."

701.20 Basis of Payment. Revise this Article to read:

"**701.20 Basis of Payment.** Traffic control and protection will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION, which price shall include all of the above listed details, standards, and special provisions."

PRECONSTRUCTION VIDEO RECORDING

Description. This work consists of performing color video and audio recording of the project area and other areas which may be impacted by construction.

Preconstruction video recordings will include coverage of the project area and all other areas which may be impacted by construction. Video recordings will also include construction easements when applicable. Video recordings will provide a visual record of all physical features within those areas, including, but not limited to, roadways, pavements, curbs, gutters, driveways, driveway aprons, sidewalks, carriage walks, parkways, trees, landscaping, shrubbery, plantings, landscaping walls, retaining walls, signs, sign posts, fences, utility poles, light poles, utilities, equipment, manholes, b-boxes, cleanouts, valves, curb structures, pipelines, buildings, mailboxes, and any other features located within the project area.

Video recordings will begin with an audio narrative which provides the current date and time, the name of Owner and name of project, and a description of both the starting location and the location or locations to be recorded, including street name or names, street addresses, and any additional information which may be necessary to describe the location and subject of viewing.

Video recordings will maintain viewer orientation by means of an audio commentary in the audio track of each video recording which provides an explanation of what is being viewed; and by videotaping landmarks and readily identifiable objects (property addresses, street signs, etc.) at appropriate intervals.

Preconstruction video recordings will be recorded at a rate of travel not exceeding 48 feet per minute, and zooming and panning rates will be controlled to provide clarity of features during playback. The finished product will be provided with bright, clear pictures and accurate colors free from distortion, tearing, rolls, or other forms of picture imperfection. The audio will have proper volume and clarity. All recordings will be performed at times of satisfactory visibility, and when no more than ten percent of ground is obscured by snow, leaves, or other cover.

If any element within or portion of the project area is not adequately documented by the preconstruction video recording so as to definitively demonstrate its condition prior to the start of construction, Contractor will assume responsibility for the repair, restoration or replacement of that element or portion of the project area. Such repair, restoration or replacement will be to equal or better condition than previously existing, and will further comply with all standards and provisions which govern the work in question.

Schedule. Preconstruction video recording will be performed according to the following schedule:

(a) Preconstruction video recording will take place after a Notice to Proceed has been issued.

(b) Preconstruction video recording will take place after the Joint Utility Locating Information for Excavators (JULIE) request for the project area has cleared.

(c) Preconstruction video recording will take place before any equipment, materials, or other items are delivered to the site.

(d) Preconstruction video recording will take place no more than seven (7) chargeable days prior to the start of construction.

(e) Preconstruction video recording will take place, the required pre-construction video recording deliverables will be submitted to the Engineer, and the Engineer will review and issue written approval of the video before any activity other than utility locating will be permitted to start. Such activity will include, but not be limited to, delivery of materials and equipment, installation of traffic control and erosion control, and completion of construction layout and tree protection. No days will be charged against the contract time while the video is under review by the Engineer, including the day the deliverables are submitted and the day a response is provided. If the video or any portions thereof are rejected, the contract time will commence to run until revisions are submitted.

(f) The recording will be submitted to Engineer for review prior to commencement of any construction, and receive acceptance of recordings prior to commencement of construction. Any areas found not acceptable to the Owner will be re-filmed at no additional cost to the contract.

Deliverables.

Video will be high-definition, with a minimum resolution of 1280 x 720 pixels per frame. Video will be filmed in a landscape aspect ratio. Video filmed in a portrait aspect ratio will be considered unacceptable and will be rejected.

Preconstruction video recordings will be provided as electronic files of .avi, .mp4, .m4v, .mkv, .wmv, or .mpg file format, or of such other file format as may be approved by Engineer. Preconstruction video recordings will be provided as independent digital container format files, which container files will include all video, audio, and other electronic information necessary to view the preconstruction video recording as intended.

Video DVD will be considered an unacceptable format for providing preconstruction video recordings, and will be rejected.

Preconstruction video recording electronic files will be provided on a portable electronic media device or devices of one of the following types: USB flash drive, SD flash memory card, CF flash memory card, data DVD, external hard drive, or such other portable electronic media device as may be approved by Engineer. Preconstruction video recording electronic files may also be provided via online file sharing, cloud storage, File Transfer Protocol (FTP), or other online or network file transfer methods if approved by Engineer.

Preconstruction video recording electronic files will be accompanied by corresponding logs which document the dates, times, and locations covered by each preconstruction video recording electronic file.

Contractor shall maintain copies of all items submitted to Engineer for Contractor's own use and record.

Method of Measurement. This work will be measured for payment on a lump sum basis. No measurement will be made of the individual components of this effort.

Basis of Payment. Preconstruction video recording will be paid for at the contract lump sum price for PRECONSTRUCTION VIDEO RECORDING.

PIPE CULVERTS

This work shall be done in accordance with applicable portions of Section 542 of the Standard Specifications.

The following materials are specified for the corresponding pipes:

Pipes called out as PIPE CULVERTS of the diameter specified shall be ductile iron pipe.
Pipes called out as PIPE CULVERTS, CLASS A, TYPE 1 of the diameter specified shall be reinforced concrete.

Basis of Payment. This work will be paid for per foot for PIPE CULVERTS, of the diameter specified and PIPE CULVERTS, CLASS A, TYPE 1, of the diameter specified.

DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)

Effective: April 1, 2011
Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

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

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

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

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

Revise Article 603.07 of the Standard Specifications to read:

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

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

(a) Temporary Asphalt Ramps. Temporary hot-mix asphalt ramps shall be placed around the casting, flush with its surface and decreasing to a featheredge in a distance of 2 ft (600 mm) around the entire surface of the casting.

(b) Temporary Rubber Ramps. Temporary rubber ramps shall only be used on roadways with permanent posted speeds of 40 mph or less and when the height of the casting to be protected meets the proper sizing requirements for the rubber ramps as shown below.

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

Placement shall be according to the manufacturer's specifications.

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

COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1)
Effective: November 1, 2011
Revised: November 1, 2013

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

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

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

HMA MIXTURE DESIGN REQUIREMENTS (D-1)

Effective: January 1, 2013
Revised: November 1, 2014

1) Design Composition and Volumetric Requirements

Revise the last sentence of the first paragraph of Article 312.05 of the Standard Specifications to read:

"The minimum compacted thickness of each lift shall be according to Article 406.06(d)."

Delete the minimum compacted lift thickness table in Article 312.05 of the Standard Specifications.

Revise the second paragraph of Article 355.02 of the Standard Specifications to read:

"The mixture composition used shall be IL-19.0."

Revise Article 355.05(a) of the Standard Specifications to read:
"(a) The top lift thickness shall be 2 1/4 in. (60 mm) for mixture composition IL-19.0."

Revise the Leveling Binder table and second paragraph of Article 406.05(c) of the Standard Specifications to read:

"Leveling Binder	
Nominal, Compacted, Leveling Binder Thickness, in. (mm)	Mixture Composition
≤ 1 1/4 (32)	IL-4.75, IL-9.5, or IL-9.5L
> 1 1/4 to 2 (32 to 50)	IL-9.5 or IL-9.5L

The density requirements of Article 406.07(c) shall apply for leveling binder, machine method, when the nominal compacted thickness is: 3/4 in. (19 mm) or greater for IL-4.75 mixtures; and 1 1/4 in. (32 mm) or greater for IL-9.5 and IL-9.5L mixtures."

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 ninth paragraph of Article 406.14 of the Standard Specifications to read:
"Test strip mixture will be evaluated at the contract unit price according to the following."

Revise Article 406.14(a) of the Standard Specifications to read:

"(a) If the HMA placed during the initial test strip is determined to be acceptable the mixture will be paid for at the contract unit price."

Revise Article 406.14(b) of the Standard Specifications to read:

"(b) If the HMA placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was not produced within 2.0 to 6.0 percent air voids or within the individual control limits of the JMF according to the Department's test results, the mixture will not be paid for and shall be removed at the Contractor's expense. An additional test strip shall be constructed and the mixture will be paid for in full, if produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF."

Revise Article 406.14(c) of the Standard Specifications to read:

"(c) If the HMA placed during the initial test strip (1) is determined to be unacceptable to remain in place by the Engineer, and (2) was produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF according to the Department's test results, the mixture shall be removed. Removal will be paid according to Article 109.04. This initial mixture will be paid for at the contract unit price. An additional test strip shall be constructed and the mixture will be paid for in full, if produced within 2.0 to 6.0 percent air voids and within the individual control limits of the JMF."

Delete Article 406.14(d) of the Standard Specifications.

Delete Article 406.14(e) of the Standard Specifications.

Delete the last sentence of Article 407.06(c) of the Standard Specifications.

Revise Note 2. of Article 442.02 of the Standard Specifications to read:

"Note 2. The mixture composition of the HMA used shall be IL-19.0 binder, designed with the same Ndesign as that specified for the mainline pavement."

Delete the second paragraph of Article 482.02 of the Standard Specifications.

Revise the first sentence of the sixth paragraph of Article 482.05 of the Standard Specifications to read:

"When the mainline HMA binder and surface course mixture option is used on resurfacing projects, shoulder resurfacing widths of 6 ft (1.8 m) or less may be placed simultaneously with the adjacent traffic lane for both the binder and surface courses."

Revise the second sentence of the fourth paragraph of Article 601.04 of the Standard Specifications to read:

"The top 5 in. (125 mm) of the trench shall be backfilled with an IL-19.0L Low ESAL mixture meeting the requirements of Section 1030 and compacted to a density of not less than 90 percent of the theoretical density."

Revise the second sentence of the fifth paragraph of Article 601.04 of the Standard Specifications to read:

"The top 8 in. (200 mm) of the trench shall be backfilled with an IL-19.0L Low ESAL mixture meeting the requirements of Section 1030 and compacted to a density of not less than 90 percent of the theoretical density."

Revise Article 1003.03(c) of the Standard Specifications to read:

"(c) Gradation. The fine aggregate gradation for all HMA shall be FA 1, FA 2, FA 20, FA 21, or FA 22. The fine aggregate gradation for SMA shall be FA/FM 20.

For mixture IL-4.75 and surface mixtures with an Ndesign = 90, at least 50 percent of the required fine aggregate fraction shall consist of either stone sand, slag sand, or steel slag meeting the FA 20 gradation.

For mixture IL-19.0, Ndesign = 90 the fine aggregate fraction shall consist of at least 67 percent manufactured sand meeting FA 20 or FA 22 gradation. For mixture IL-19.0, Ndesign = 50 or 70 the fine aggregate fraction shall consist of at least 50 percent

manufactured sand meeting FA 20 or FA 22 gradation. The manufactured sand shall be stone sand, slag sand, steel slag sand, or combinations thereof.

Gradation FA 1, FA 2, or FA 3 shall be used when required for prime coat aggregate application for HMA."

Delete the last sentence of the first paragraph of Article 1004.03(b) of the Standard Specifications.

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 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.

Delete Article 1030.04(a)(3) of the Standard Specifications.

Delete Article 1030.04(a)(4) of the Standard Specifications.

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.

<table>
<tr><td colspan="5">VOLUMETRIC REQUIREMENTS
High ESAL</td></tr>
<tr><td></td><td colspan="3">Voids in the Mineral Aggregate (VMA),
% minimum</td><td rowspan="2">Voids Filled with Asphalt Binder (VFA),
%</td></tr>
<tr><td>Ndesign</td><td>IL-19.0</td><td>IL-9.5</td><td>IL-4.75[1/]</td></tr>
<tr><td>50</td><td rowspan="3">13.5</td><td rowspan="3">15.0</td><td>18.5</td><td>65 – 78 [2/]</td></tr>
<tr><td>70</td><td rowspan="2"></td><td rowspan="2">65 - 75</td></tr>
<tr><td>90</td></tr>
</table>

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

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

Revise the table in Article 1030.04(b)(2) of the Standard Specifications to read:

"VOLUMETRIC REQUIREMENTS Low ESAL				
Mixture Composition	Design Compactive Effort	Design Air Voids Target %	VMA (Voids in the Mineral Aggregate), % min.	VFA (Voids Filled with Asphalt Binder), %
IL-9.5L	N_{DES} =30	4.0	15.0	65-78
IL-19.0L	N_{DES} =30	4.0	13.5	N/A"

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.

Delete Article 1030.04(b)(4) of the Standard Specifications.

Delete Article 1030.04(b)(5) from the Supplemental Specifications.

Delete last sentence of the second paragraph of Article 1102.01(a) (13) a.

Add to second paragraph in Article 1102.01 (a) (13) a.:

“As an option, collected bag-house dust may be used in lieu of manufactured mineral filler, provided; 1) there is enough available for the production of the SMA mix for the entire project and 2) a mix design was prepared with collected bag-house dust.”

Revise the table in Article 1030.05(d)(2)a. of the Standard Specifications to read:

"Parameter	Frequency of Tests High ESAL Mixture Low ESAL Mixture	Test Method See Manual of Test Procedures for Materials
Aggregate Gradation % passing sieves: 1/2 in. (12.5 mm), No. 4 (4.75 mm), No. 8 (2.36 mm), No. 30 (600 µm) No. 200 (75 µm)	1 washed ignition oven test on the mix per half day of production Note 3.	Illinois Procedure
Asphalt Binder Content by Ignition Oven Note 1.	1 per half day of production	Illinois-Modified AASHTO T 308
VMA Note 2.	Day's production ≥ 1200 tons: 1 per half day of production	Illinois-Modified AASHTO R 35

“Parameter	Frequency of Tests High ESAL Mixture Low ESAL Mixture	Test Method See Manual of Test Procedures for Materials
	Day’s production < 1200 tons: 1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)	
Air Voids Bulk Specific Gravity of Gyratory Sample Note 4.	Day’s production ≥ 1200 tons: 1 per half day of production	Illinois-Modified AASHTO T 312
	Day’s production < 1200 tons: 1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)	

"Parameter	Frequency of Tests High ESAL Mixture Low ESAL Mixture	Test Method See Manual of Test Procedures for Materials
Maximum Specific Gravity of Mixture	Day's production ≥ 1200 tons: 1 per half day of production	Illinois-Modified AASHTO T 209
	Day's production < 1200 tons: 1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day)	

Note 1. The Engineer may waive the ignition oven requirement for asphalt binder content if the aggregates to be used are known to have ignition asphalt binder content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine the asphalt binder content.

Note 2. The G_{sb} used in the voids in the mineral aggregate (VMA) calculation shall be the same average G_{sb} value listed in the mix design.

Note 3. The Engineer reserves the right to require additional hot bin gradations for batch plants if control problems are evident.

Note 4. The WMA compaction temperature for mixture volumetric testing shall be 270 ± 5 °F (132 ± 3 °C) for quality control testing. The WMA

compaction temperature for quality assurance testing will be 270 ± 5 °F (132 ± 3 °C) if the mixture is not allowed to cool to room temperature. If the mixture is allowed to cool to room temperature, it shall be reheated to standard HMA compaction temperatures."

Revise the table in Article 1030.05(d)(2)b. of the Standard Specifications to read:

"Parameter	High ESAL Mixture Low ESAL Mixture
Ratio Dust/Asphalt Binder	0.6 to 1.2
Moisture	0.3 %"

Revise the Article 1030.05(d)(4) of the Supplemental Specifications to read:

"(4) Control Limits. Target values shall be determined by applying adjustment factors to the AJMF where applicable. The target values shall be plotted on the control charts within the following control limits.

"CONTROL LIMITS						
Parameter	High ESAL		SMA		IL-4.75	
	Individual Test	Moving Avg. of 4	Test	Moving Avg. of 4	Individual Test	Moving Avg. of 4
% Passing: 1/						
1/2 in. (12.5 mm)	± 6 %	± 4 %	± 6 %	± 4 %		
3/8 in. (9.5mm)			± 4 %	± 3 %		
No. 4 (4.75 mm)	± 5 %	± 4 %	± 5 %	± 4 %		
No. 8 (2.36 mm)	± 5 %	± 3 %	± 4 %	± 2 %		
No. 16 (1.18 mm)			± 4 %	± 2 %	± 4 %	± 3 %
No. 30 (600 µm)	± 4 %	± 2.5 %	± 4 %	± 2.5 %		
Total Dust Content No. 200 (75 µm)	± 1.5 %	± 1.0 %			± 1.5 %	± 1.0 %
Asphalt Binder Content	± 0.3 %	± 0.2 %	± 0.2 %	± 0.1 %	± 0.3 %	± 0.2 %
Voids	± 1.2 %	± 1.0 %	± 1.2 %	± 1.0 %	± 1.2 %	± 1.0 %
VMA	-0.7 % 2/	-0.5 % 2/	-0.7 % 2/	-0.5 % 2/	-0.7 % 2/	-0.5 % 2/

1/ Based on washed ignition oven

2/ Allowable limit below minimum design VMA requirement

DENSITY CONTROL LIMITS		
Mixture Composition	Parameter	Individual Test
IL-4.75	Ndesign = 50	93.0 - 97.4 % 1/
IL-9.5	Ndesign = 90	92.0 - 96.0 %
IL-9.5,IL-9.5L	Ndesign < 90	92.5 - 97.4 %
IL-19.0	Ndesign = 90	93.0 - 96.0 %
IL-19.0, IL-19.0L	Ndesign < 90	93.0 2/- 97.4 %
SMA	Ndesign = 80	93.5 - 97.4 %

1/ Density shall be determined by cores or by correlated, approved thin lift nuclear gauge.

2/ 92.0 % when placed as first lift on an unimproved subgrade."

Revise the table in Article 1030.05(d)(5) of the Supplemental Specifications to read:

"CONTROL CHART REQUIREMENTS	High ESAL, Low ESAL, SMA & IL-4.75
Gradation 1/ 3/	% Passing Sieves: 1/2 in. (12.5 mm) 2/ No. 4 (4.75 mm) No. 8 (2.36 mm) No. 30 (600 µm)
Total Dust Content 1/	No. 200 (75 µm)
	Asphalt Binder Content
	Bulk Specific Gravity
	Maximum Specific Gravity of Mixture
	Voids
	Density
	VMA

1/ Based on washed ignition oven.

2/ Does not apply to IL-4.75.

3/ SMA also requires the 3/8 in. (9.5 mm) sieve."

Delete Article 1030.05(d)(6)a.1.(b.) of the Standard Specifications.

Delete Article 1030.06(b) of the Standard Specifications.

Delete Article 1102.01(e) of the Standard Specifications.

2) Design Verification and Production

Description. The following states the requirements for Hamburg Wheel and Tensile Strength testing for High ESAL, IL-4.75, and Stone Matrix Asphalt (SMA) hot-mix asphalt (HMA) mixes during mix design verification and production.

Mix Design Testing. Add the following below the referenced AASHTO standards in Article 1030.04 of the Standard Specifications:

AASHTO T 324 Hamburg Wheel Test

AASHTO T 283 Tensile Strength Test

Add the following to Article 1030.04 of the Standard Specifications:

"(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 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".

Before start-up, target values shall be determined by applying gradation correction factors to the JMF when applicable. These correction factors shall be determined from previous experience. The target values, when approved by the Engineer, shall be used to control HMA production. Plant settings and control charts shall be set according to target values.

Before constructing the test strip, target values shall be determined by applying gradation correction factors to the JMF when applicable. After any JMF adjustment, the JMF shall become the Adjusted Job Mix Formula (AJMF). Upon completion of the first acceptable test strip, the JMF shall become the AJMF regardless of whether or not the JMF has been adjusted. If an adjustment/plant change is made, the Engineer may require a new test strip to be constructed. If the HMA placed during the initial test strip is

determined to be unacceptable to remain in place by the Engineer, it shall be removed and replaced.

The limitations between the JMF and AJMF are as follows.

Parameter	Adjustment
1/2 in. (12.5 mm)	± 5.0 %
No. 4 (4.75 mm)	± 4.0 %
No. 8 (2.36 mm)	± 3.0 %
No. 30 (600 µm)	*
No. 200 (75 µm)	*
Asphalt Binder Content	± 0.3 %

* In no case shall the target for the amount passing be greater than the JMF.

Any adjustments outside the above limitations will require a new mix design.

Mixture sampled to represent the test strip shall include additional material sufficient for the Department to conduct Hamburg Wheel testing according to Illinois Modified AASHTO T324 (approximately 60 lb (27 kg) total).

The Contractor shall immediately cease production upon notification by the Engineer of failing Hamburg Wheel test. All prior produced material may be paved out provided all other mixture criteria is being met. No additional mixture shall be produced until the Engineer receives passing Hamburg Wheel tests.

The Department may conduct additional Hamburg Wheel tests on production material as determined by the Engineer."

Revise the title of Article 1030.06(b) of the Standard Specifications to read:

"(b) Low ESAL Mixtures."

Add the following to Article 1030.06 of the Standard Specifications:

"(c) Hamburg Wheel Test. All HMA mixtures shall be sampled 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.
The Department may conduct additional Hamburg Wheel Tests on production material as determined by the Engineer. 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"

The Contractor shall immediately cease production upon notification by the Engineer of failing Hamburg Wheel test. All prior produced material may be paved out provided all other mixture criteria are being met. No additional mixture shall be produced until the Engineer receives passing Hamburg Wheel tests.

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 seventh paragraph of Article 406.14 of the Standard Specifications with the following:

"For all mixes designed and verified under the Hamburg Wheel criteria, the cost of furnishing and introducing anti-stripping additives in the HMA will not be paid for separately, but shall be considered as included in the contract unit price of the HMA item involved.

No additional compensation will be awarded to the Contractor because of reduced production rates associated with the addition of the anti-stripping additive."

GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1)
Effective: June 26, 2006
Revised: January 1, 2013

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

"(c) Ground Tire Rubber (GTR) Modified Asphalt Binder. A quantity of 10.0 to 14.0 percent GTR (Note 1) shall be blended by dry unit weight with a PG 64-28 to make a GTR 70-28 or a PG 58-28 to make a GTR 64-28. The base PG 64-28 and PG 58-28 asphalt binders shall

meet the requirements of Article 1032.05(a). Compatible polymers may be added during production. The GTR modified asphalt binder shall meet the requirements of the following table.

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

Note 1. GTR shall be produced from processing automobile and/or light truck tires by the ambient grinding method. GTR shall not exceed 1/16 in. (2 mm) in any dimension and shall contain no free metal particles or other materials. A mineral powder (such as talc) meeting the requirements of AASHTO M 17 may be added, up to a maximum of four percent by weight of GTR to reduce sticking and caking of the GTR particles. When tested in accordance with Illinois modified AASHTO T 27, *a* 50 g sample of the GTR shall conform to the following gradation requirements:

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

Add the following to the end of Note 1. of article 1030.03 of the Standard Specifications:

"A dedicated storage tank for the Ground Tire Rubber (GTR) modified asphalt binder shall be provided. This tank must be capable of providing continuous mechanical mixing throughout by continuous agitation and recirculation of the asphalt binder to provide a uniform mixture. The tank shall be heated and capable of maintaining the temperature of

the asphalt binder at 300 °F to 350 °F (149 °C to 177 °C). The asphalt binder metering systems of dryer drum plants shall be calibrated with the actual GTR modified asphalt binder material with an accuracy of ± 0.40 percent."

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

"(c) RAP Materials (Note 3) ……..1031"

Add the following note to 1030.02 of the Standard Specifications:

Note 3. When using reclaimed asphalt pavement and/or reclaimed asphalt shingles, the maximum asphalt binder replacement percentage shall be according to the most recent special provision for recycled materials.

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

Effective: November 1, 2012
Revise: January 2, 2015

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 inch 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 tests 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 Illinois Test Procedure, "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 homogenous, 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 prequalified by the Department for the specified testing. The consultant 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 BMPR Aggregate Lab for MicroDeval Testing, according to Illinois Modified AASHTO T 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 a 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% 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/]	Maximum % ABR		
Ndesign	Binder/Leveling Binder	Surface	Polymer Modified [3/]
30L	50	40	10
50	40	35	10
70	40	30	10
90	40	30	10[4/]
4.75 mm N-50			30
SMA N-80			20

1/ For HMA "All Other" (shoulder and stabilized subbase) N-30, the percent asphalt binder replacement shall not exceed 50% of the total asphalt binder in the mixture.

2/ When the binder replacement exceeds 15 percent 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 percent 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 percent, the required virgin asphalt binder grade shall be PG64-28.

3/ When the ABR for SMA or IL-4.75 is 15 percent 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/ For polymerized surface mix used for overlays, with up to 10 percent ABR, an SBS PG70-22 will be required. However if used in full depth HMA, an SBS PG70-28 will be required.

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)

(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).

e. RAS and FRAP weight to the nearest pound (kilogram).

f. Virgin asphalt binder weight to the nearest pound (kilogram).

g. 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 Shoulders. 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 to construct aggregate surface course and aggregate shoulders shall be according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Reclaimed Asphalt Pavement (RAP) for Aggregate Applications"

(b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded, FRAP, or single sized will not be accepted for use as Aggregate Surface Course and Aggregate Shoulders."

FULL-DEPTH RECLAMATION (FDR) WITH CEMENT

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

Description. This work shall consist of cold milling and pulverizing all of the existing bituminous layers and/or portions of the aggregate base material and/or portions of the subgrade to a specified depth and maximum size; mixing cement, water and additives with the recycled material; and spreading and compacting the mixture.

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

Item	Article/Section
(a) Portland Cement (Note 1)	1001
(b) Water	1002
(c) Fine Aggregate (Note 2)	1003
(d) Coarse Aggregate (Note 2)	1004
(e) Reclaimed Asphalt Pavement (Note 3)	1031
(f) Cold Pulverized Material (Note 4)	
(g) Mix Design (Note 5)	

Note 1 Limit. The type and allowable percentage will be described in the mix design.

Note 2. The mix design will specify gradation and quality of any additional aggregate. Any additional fine aggregate shall meet Class B quality as a minimum. Any additional coarse aggregate shall meet Class C quality as a minimum.

Note 3. The Engineer may allow reclaimed asphalt pavement (RAP) from Conglomerate "D" Quality or better RAP stockpiles as specified in Article 1031.02 or from millings of the existing highway. The RAP material shall not exceed the maximum size requirement of the cold pulverized material, and when blended with the cold pulverized material shall produce a product which meets the specifications of the mix design.

Note 4. After pulverization, the gradation of the cold pulverized material shall meet the following requirements.

COLD PULVERIZED MATERIAL GRADATIONS				
Grad No.	Sieve Size and Percent Passing			
	3 in. (75 mm)	2 in. (50 mm)	1 1/2 in. (37.5 mm)	No 4 (4.75 mm)
PM 3		100	100 - 97	
PM 4	100	95		55

Note 6. A mix design for each distinct section shall be submitted to the Department prior to construction using actual materials (in-situ sampled by the Contractor and new materials from the Contractor's material suppliers) proposed for the project. The job mix formula shall meet the criteria in Attachment II-C (Cement) of Illinois Department of Transportation's Geotechnical Manual and shall be approved by the Engineer.

FDR WITH CEMENT MIX DESIGN REQUIREMENTS	
Test Method	Requirement
Gradation for Design Millings, AASHTO T 27	Report
Liquid Limit, AASHTO T 89	Report
Plasticity Index, AASHTO T 90	Report
Sand Equivalent, ASTM D2419, Method B	Report
Moisture Density Relationship	Report
Compressive Strength, 3 day, (psi) Compressive Strength, 7 day, (psi)	300 min 500 min
Freeze Thaw Durability, Vacuum Saturation Test, 7 day (psi)	350 min
Additional Additive(s) [1] Coarse Aggregate Fine Aggregate RAP	 Report Report Report
Cement Percentage	Report

Notes: 1. Report shall include type/gradation and producer/supplier.

Equipment. Equipment shall be according to the following Articles of Division 1100 – Equipment.

(a) Vibratory Roller (Note 1).....1101.01(g)
(b) Mechanical Sweeper 1101.03
(c) Motor Grader.....1101.05
(d) Self-Propelled Milling Machine .....1101.16(a)
(e) Mechanical Spreader (Note 2)
(f) Self-Propelled Reclaimer (Note 3)
(g) Self-Propelled Vibratory Padfoot Roller (Note 4)
(h) Water Truck (Note 5)

Note 1. The double drum vibratory steel roller shall have a gross weight of not less than 10 tons (9 metric tons).

Note 2. Spreaders or distributors used to apply the stabilization chemical for FDR shall be cyclone, screw type or pressure manifold type. Spreaders or distributors used shall be able to demonstrate a consistent and accurate application rate while minimizing dust during construction. Imported granular material used for FDR may be tailgated with end dumps and spread to a uniform thickness with a motor grader or it may be spread with mechanical spreader or placed with a conventional paver.

Note 3. The self-propelled reclaimer shall be capable of fully pulverizing the existing pavement to the depth required mix the materials to produce a homogeneous material. The self-propelled reclaimer shall be capable of mixing in place to a minimum depth of 12 in. should be used. The cutting drum should be fitted with cutting teeth capable of trimming earth, aggregate and bituminous mixtures, and so designed that they may be accurately adjusted vertically and held in place. The machine shall weigh at least 12.5 tons (11.5 metric tons) and shall have such strength and rigidity that it will not develop a center deflection of more than 1/8 in (0.125 mm). Disc harrows, bucket teeth and other equipment that do not meet the above requirements shall not be used.

Note 4. The self-propelled vibratory pad foot roller shall have 84 in. (2133 mm) wide drums and gross weight of not less than 10 tons (9 metric tons). A front mounted blade is recommended for back-dragging. A self-propelled vibratory pad foot roller shall be required for each self-propelled reclaimer.

Note 5. Water trucks shall be set up for a controlled spray.

CONSTRUCTION REQUIREMENTS

General Conditions. This work consisting of cement application, mixing, spreading, compacting, and finishing shall be continuous and completed within 2 hours from the start of mixing. Any processed material that has not been compacted and finished shall not be left undisturbed for longer than 30 minutes.

Weather Limitations. This work shall be performed when the atmospheric temperature in the shade and away from artificial heat is 40 °F (10 °C) and rising. Also, the weather shall not be foggy or rainy. The weather forecast shall not call for freezing temperature within 7 days with after placement of any portion of the project and the annual average low temperature within 7 days of the end of the project shall be greater than 32 °F (0 °C).

Pre-pulverization and Initial Shaping. Moisture content shall be within ± 2.0 percent from the optimum moisture content determined by the mix design. If the moisture content is too low, water shall be added directly by a water truck. The existing pavement shall be pre-pulverized by the self-propelled reclaimer and/or shaped by the motor grader to correct for profile, crown, and contour, according to the plans, before the addition of the cement. Water, coarse aggregate, RAP Material, or other additives required may be added during this operation. The pre-pulverized and shaped material shall be compacted with a vibratory roller in static mode to support equipment and/or traffic and to provide depth control during processing. Depth of pre-pulverization and shaping shall be 1 in. (25 mm) to 2 in. (50 mm) less than the depth of final processing.

Processing. The quantity of cement specified in the mix design shall be spread on the finished surface of the pre-pulverized material using a mechanical spreader. If a slurry is being applied, the finished surface of the pre-pulverized material shall be scarified prior to spreading of the slurry to prevent excessive runoff or ponding.

Mixing shall begin as soon as possible after the cement has been spread; however, the time from cement placement on the finished surface of the pre-pulverized material to start of mixing shall not exceed 30 minutes. If a slurry is used, the time from first contact of cement with water to application on the finished surface of the pre-pulverized material shall not exceed 60 minutes. Mixing shall continue until the entire mixture is pulverized so that the mixed material passes the gradation specified.

The final test shall be made at the conclusion of mixing operations. Prior to compaction, the mixture shall be at the required moisture content throughout. If using dry cement, water application shall only be done through the self-propelled reclaimer integrated fluid injection system during mixing.

Compaction. The recycled material shall be compacted according to the following.

(a) Growth Curve. Compaction shall be accomplished by performing a growth curve within the first one-half mile of production. If an adjustment is made to the cement or recycled depth, the Engineer reserves the right to request an additional growth curve. The growth curve, consisting of a plot of lb/cu ft (kg/cu m) versus number of passes with the project breakdown roller, shall be developed. Roller speed during the growth curve testing shall be the same as the normal paving operation. This curve shall be established by use of a nuclear gauge. Tests shall be taken after each pass until the highest lb/cu ft (kg/cu m) is obtained. This value shall be the target density.

A new growth curve is required if the rollers used on the growth curve are replaced with a new roller during production. The target density shall apply only to the specific gauge used. If additional gauges are to be used to determine density specification compliance, the Contractor shall establish a unique minimum allowable target density from the growth curve location for each gauge.

(b) Rollers. Immediately after processing and final shaping the recycled material shall be compacted with equipment meeting the following requirements.

MINIMUM ROLLER REQUIREMENTS FOR FDR			
Breakdown Roller (one of the following)	Intermediate Roller [1]	Final Roller (one or more of the following)[1]	Density Requirement
P[1], PF[2]	P, V_D	P, V_S	95 - 102 percent of the target density obtained on the growth curve

Note(s): 1. Equipment definitions in Table 1 of Article 406.07.
2. PF - Self-propelled vibratory padfoot roller for breakdown rolling.

(c) Rolling. The breakdown roller shall be 500 ft (150 m) or less behind all self-propelled reclaimer units. The recycled material shall be compacted by the padfoot roller, applying high amplitude and low frequency, or the pneumatic-tired roller. Breakdown rolling shall be performed until the breakdown roller walks out of the material. Walking out for the padfoot roller is defined as light being clearly evident between all of the pads at the material–padfoot drum interface and being no more than 3/16 in. (5 mm) deep. Walking out for the pneumatic-tired roller is defined as no significant wheel impressions being left on the surface.

After the completion of breakdown rolling, the motor grader shall be used to cut the recycled material no deeper than necessary to remove breakdown roller marks from the initial compaction and to achieve desired cross slope.

The bladed recycled material shall be compacted by the intermediate and final rollers. The number of passes and order of rollers may be altered to meet compaction requirements. Finish rolling shall not be done in vibratory mode. Water may be lightly sprayed by a water truck to aid in improving final density and appearance. A second water truck is required if water is also being added at the reclaimer.

Curing. Finished portions of the FDR base that are traveled on by equipment used in constructing an adjoining section shall be protected in such a manner as to prevent equipment from marring or damaging completed work.

After completion of final finishing, the surface shall be cured by application of a bituminous or other approved sealing membrane, or by being kept continuously moist for a period of 7 days with a water spray that will not erode the surface of the FDR base. If curing material is used, it shall be applied as soon as possible, but not later than 24 hours after completing finishing operations. The surface shall be kept continuously moist prior to application of curing material. For bituminous curing material, the FDR base surface shall be dense, free of all loose and extraneous materials and shall contain sufficient moisture to prevent excessive penetration of the bituminous material. The bituminous material shall be uniformly applied to the surface of the completed chemically stabilized material. The exact rate and temperature for complete coverage, without undue runoff, shall be specified by the engineer.

Should it be necessary for construction equipment or other traffic to use the bituminous covered surface before the bituminous material has dried sufficiently to prevent pickup, sufficient sand cover shall be applied before such use.

Sufficient protection from freezing shall be given the chemically stabilized material for 7 days after its construction or as approved by the engineer.

Opening to Traffic. Completed portions of FDR base may be opened immediately to low speed local traffic and to construction equipment, provided the curing material or moist curing operations are not impaired and provided the FDR base is sufficiently stable to withstand marring or permanent deformation. The section can be opened up to all traffic after the FDR base has received a curing compound or subsequent surface and is sufficiently stable to withstand marring or permanent deformation. If continuous moist curing is employed in lieu of a curing compound or subsequent surfacing within 7 days, the FDR base can be opened to all traffic after the 7 day moist curing period, provided the FDR base has hardened sufficiently to prevent marring or permanent deformation.

Maintenance. The finished surface shall be maintained in good condition until all work is completed and accepted. **I**mmediate repairs of any defects that may occur shall be done at the contractor's expense. If it is necessary to replace any processed material, the replacement shall be for full depth, with vertical cuts, using an approved material. No skin patches shall be permitted.

Quality Control/ Quality Assurance (QC/QA).

(a) Quality Control by the Contractor. The Contractor shall perform or have performed the inspection and tests required to assure conformance to contract requirements. Control includes the recognition of obvious defects and their immediate correction. This may require increased testing, communication of test results to the job site, modification of operations, suspension of the work, or other actions as appropriate.

The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported to the Engineer no later than the start of the next work day.

(b) Quality Assurance by the Engineer. The Engineer will conduct independent assurance tests on split samples taken by the Contractor for quality control testing. In addition, the Engineer will witness the sampling and splitting of these samples and will immediately retain witnessed split samples for quality assurance testing.

(c) Tests Methods and Frequency.

(1) Depth of Pulverization (Milling). The nominal depth at the centerline shall be required. Anytime depth changes are made or equipment is idle, a depth check shall be taken.

(2) Pulverized Material Sizing and Gradation. A sample shall be obtained before cement addition and screened using a 3.0 in. (37.5 mm) sieve (or smaller sieve if required) to determine if meeting the maximum particle size requirement. Gradations shall be performed each day on the moist millings using the following sieves: 2.0, in. 1.5 in., 1.0 in., 3/4 in., 1/2 in., 3/8 in., No. 4, No. 8, No. 16, and No. 30. The resulting gradation shall be compared to the mix design gradations to determine any necessary changes to cement content.

Sampling procedures shall generally be in accordance with ASTM D 979 or AASHTO T 168.

(3) Cement Application Rate. The Engineer shall be notified any time cement application rate is changed. The cement application rate shall be checked and recorded for each segment in which the percentage is changed.

(4) Water Content. The Engineer shall be notified any time the water content is changed. Water content at the milling head shall be checked and recorded for each segment in which the percentage is changed. This information shall be gathered from the water metering device, which can be checked from the belt scale totalizer to verify daily quantities used. Water content changes shall be made based on mixture consistency, coating, and dispersion of the recycled materials.

(5) Compacted Density. A dry density shall be determined using a nuclear moisture-density gauge generally following the procedures for ASTM D 2950, direct transmission measurement. This measurement shall be compared to the target density obtained by the growth curve.

(6) Frequency. The following table provides the minimum frequency for tests; however, the Engineer may increase the testing frequency if the construction process is experiencing problems or unknown conditions are encountered.

QC/QA TESTING FREQUENCY		
Test	QC Frequency [1]	QA Frequency [1]
Depth of Pulverization	1 per 500 ft (150 m)	1 per 1000 feet (300 m)
Pulverized Material Gradation	1 per 0.5 day of production	1 per day of production
Cement Application Rate	1 per 500 ft (150 m)	1 per 1000 feet (300 m)
Water Content	1 per 500 ft (150 m)	1 per 1000 feet (300 m)
Compacted Density Compacted Strength[2]	1 per 0.25 mile (0.4 km) 1 per 0.5 day of production	1 per mile (1.6 km) not required

Note: 1. *The Contractor shall perform all quality control tests within the first 500 ft (150 m) after startup or any change in the mix. The Department will also run the split samples at these locations.*

2. *Strength specimens prepared in the field for testing after 3 days and 7 days cure or as prescribed by the engineer. Tests are for information only, not acceptance.*

Method of Measurement.

Cement incorporated in the full-depth reclamation mixture will be measured for payment in hundredweights (kilograms), but payment will not be measured for cement in excess of 105 percent of the amount specified by the mix design or approved by the engineer.

Coarse aggregate will be measured in tons.

Full-depth reclamation will be measured in square yards (square meters) of the recycled pavement.

Basis of Payment.

The cement material will be paid for at the contract unit price per hundredweight (kilogram) for CEMENT.

The coarse aggregate will be paid for at the contract unit price per ton for AGGREGATE BASE COURSE, TYPE B.

The full-depth reclamation will be paid for at the contract unit price per square yard (square meter) for FULL-DEPTH RECLAMATION, of the thickness specified.

APPENDIX A

IRMA
CONTRACTUAL INSURANCE GUIDELINES

I. INSURANCE REQUIREMENTS

Contractor shall procure and maintain, for the duration of the contract, insurance against claims for injuries to persons or damages to property, which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

MINIMUM SCOPE OF INSURANCE

Coverage shall be at least as broad as:

A. Insurance Services Office Commercial General Liability occurrence form CG 0001 with the member named as additional insured, on a form at least as broad as the attached sample endorsement including ISO Additional Insured Endorsement CG 2010 (Exhibit A), CG 2026 (Exhibit B).

CG2037 - Completed Operations – (Exhibit C)
Required if box is checked ☒ ; and

B. Owners and Contractors Protective Liability (OCP) policy with the member as insured
Required if box is checked ☒ ; and

C. Insurance Service Office Business Auto Liability coverage form number CA 0001, Symbol 01 "Any Auto."

D. Workers' Compensation as required by the Workers' Compensation Act of the State of Illinois and Employers' Liability insurance.
Coverage required for employee exposure to lead, if box is checked ☒

E. Builder Risk Property Coverage with member as loss payee
Required if box is checked ☐**.**

F. Environmental Impairment/Pollution Liability Coverage for pollution incidents as a result of a claim for bodily injury, property damage or remediation costs from an incident at, on or migrating beyond the contracted work site. Coverage shall be extended to Non-Owned Disposal sites resulting from a pollution incident at, on or mitigating beyond the site; and also provide coverage for incidents occurring during transportation of pollutants.
Required if box is checked ☐**.**

MINIMUM LIMITS OF INSURANCE

Contractor shall maintain limits no less than the following, **if required under above scope**:

A. Commercial General Liability: $1,000,000 combined single limit per occurrence for bodily injury, and property damage and $1,000,000 per occurrence for personal injury. The general aggregate shall be twice the required occurrence limit.

Minimum General Aggregate shall be no less than $2,000,000 or a project/contract specific aggregate of $1,000,000.

B. Owners and Contractors Protective Liability (OCP): $1,000,000 combined single limit per occurrence for bodily injury and property damage.

C. Business Automobile Liability: $1,000,000 combined single limit per accident for bodily injury and property damage.

D. Workers' Compensation and Employers' Liability: Workers' Compensation coverage with statutory limits and Employers' Liability limits of $500,000 per accident.

E. Builder's Risk: Shall insure against "All Risk" of physical damage, including water damage (flood and hydrostatic pressure not excluded), on a completed replacement cost basis.

F. Environmental Impairment/Pollution Liability: $1,000,000 combined single limit per occurrence for bodily injury, property damage and remediation costs.

DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions must be declared to and approved by the member. At the option of the member, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the member, its officials, employees, agents and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigation, claim administration and defense expenses.

OTHER INSURANCE PROVISIONS

The policies are to contain, or be endorsed to contain, the following provisions:

A. General Liability and Automobile Liability Coverages

1. The member, its officials, agents, employees and volunteers are to be covered as additional insureds as respects: liability arising out of the Contractor's work, including activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; premises owned, leased or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the member, its officials, agents, employees and volunteers.

2. The Contractor's insurance coverage shall be primary as respects the member, its officials, employees, agents and volunteers. Any insurance or self-insurance maintained by the member, its officials, agents, employees and volunteers shall be excess of Contractor's insurance and shall not contribute with it.

3. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the member, its officials, employees, agents and volunteers.

4. The Contractor's insurance shall contain a Severability of Interests/Cross Liability clause or language stating that Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

5. If any commercial general liability insurance is being provided under an excess

or umbrella liability policy that does not "follow form," then the Contractor shall be required to name the member, its officials, employees, agents and volunteers as additional insureds.

6. All general liability coverages shall be provided on an occurrence policy form. Claims-made general liability policies will not be accepted.

7. The contractor and all subcontractors hereby agree to waive any limitation as to the amount of contribution recoverable against them by member. This specifically includes any limitation imposed by any state statute, regulation, or case law including any Workers' Compensation Act provision that applies a limitation to the amount recoverable in contribution such as Kotecki v. Cyclops Welding.

B. Workers' Compensation and Employers' Liability Coverage

The insurer shall agree to waive all rights of subrogation against the member, its officials, employees, agents and volunteers for losses arising from work performed by Contractor for the municipality.

1. NCCI Alternate Employer Endorsement (WC 000301) in place to insure that workers' compensation coverage applies under contractor's coverage rather than member's if the member is borrowing, leasing or in day to day control of contractors employee.
Required if box is checked ☐.

C. Professional Liability (Required if box is checked ☐)

1. Professional liability insurance with limits not less than $1,000,00 each claim with respect to negligent acts, errors and omissions in connection with professional services to be provided under the contract, with a deductible not-to-exceed $50,000 without prior written approval.

2. If the policy is written on a claims-made form, the retroactive date must be equal to or preceding the effective date of the contract. In the event the policy is cancelled, non-renewed or switched to an occurrence form, the Contractor shall be required to purchase supplemental extending reporting period coverage for a period of not less than three (3) years.

3. Provide a certified copy of actual policy for review.

4. Recommended Required Coverage (architect, engineer, surveyor, consultant): Professional liability insurance that provides indemnification and defense for injury or damage arising out of acts, errors, or omissions in providing the following professional services, but not limited to the following:

   a. Preparing, approving or failure to prepare or approve maps, drawings, opinions, report, surveys, change orders, designs or specifications;

   b. Providing direction, instruction, supervision, inspection, engineering services or failing to provide them, if that is the primary cause of injury or damage.

D. All Coverages

Each insurance policy required shall have the member expressly endorsed onto the policy as a Cancellation Notice Recipient. Should any of the policies be cancelled

before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

ACCEPTABILITY OF INSURERS

Insurance is to be placed with insurers with a Best's rating of no less than A-, VII and licensed to do business in the State of Illinois.

VERIFICATION OF COVERAGE

Contractor shall furnish the member with certificates of insurance naming the member, its officials, employees, agents and volunteers as additional insureds (Exhibit D), and with original endorsements affecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be received and approved by the member before any work commences. The following additional insured endorsements may be utilized: ISO Additional Insured Endorsements CG 2010 (Exhibit A) or CG 2026 (Exhibit B), and CG 2037 (Exhibit C) – Completed Operations, where required. The member reserves the right to request full certified copies of the insurance policies and endorsements.

SUBCONTRACTORS

Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

ASSUMPTION OF LIABILITY

The contractor assumes liability for all injury to or death of any person or persons including employees of the contractor, any sub-contractor, any supplier or any other person and assumes liability for all damage to property sustained by any person or persons occasioned by or in any way arising out of any work performed pursuant to this agreement.

II. INDEMNITY/HOLD HARMLESS PROVISION

To the fullest extent permitted by law, the Contractor hereby agrees to defend, indemnify and hold harmless the member, its officials, employees and agents against all injuries, deaths, loss, damages, claims, patent claims, suits, liabilities, judgments, cost and expenses, which may in anywise accrue against the member, its officials, agents and employees, arising in whole or in part or in consequence of the performance of this work by the Contractor, its employees, or subcontractors, or which may in anywise result therefore, except that arising out of the sole legal cause of the member, its employees or agents, the Contractor shall, at its own expense, appear, defend and pay all charges of attorneys and all costs and other expenses arising therefore or incurred in connections therewith, and, if any judgment shall be rendered against the member, its officials, employees and agents, in any such action, the Contractor shall, at its own expense, satisfy and discharge the same.

Contractor expressly understands and agrees that any performance bond or insurance policies required by this contract, or otherwise provided by the Contractor, shall in no way limit the responsibility to indemnify, keep and save harmless and defend the member, its officials, employees and agents as herein provided.

The Contractor further agrees that to the extent that money is due the Contractor by virtue of this contract as shall be considered necessary in the judgment of the member, may be

retained by the member to protect itself against said loss until such claims, suits, or judgments shall have been settled or discharged and/or evidence to that effect shall have been furnished to the satisfaction of the member.

III. SAFETY/LOSS PREVENTION

Safety/Loss Prevention Program Requirements

- Successful bidder will provide written confirmation that a safety/loss prevention program was in place at least 90 days prior to submitting the bid proposal.

- Evidence of completed employee safety training can be provided.

Regulatory Requirements

- Successful bidder must comply with all applicable laws, regulations, and rules promulgated by any Federal, State, County, Municipal and/or other governmental unit or regulatory body now in effect or which may be in effect during the performance of the work. Included within the scope of the laws, regulations, and rules referred to in this paragraph but in no way to operate as a limitation, are Occupational Safety & Health Act (OSHA), Illinois Department of Labor (IDOL), Department of Transportation, all forms of traffic regulations, public utility, Intrastate and Interstate Commerce Commission regulations, Workers' Compensation Laws, Prevailing Wage Laws, the Social Security Act of the Federal Government and any of its titles, the Illinois Department of Human Rights, Human Rights Commission, or EEOC statutory provisions and rules and regulations.

- Evidence of specific regulatory compliance will be provided by bidder, if required by owner.

EXHIBIT A

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 10 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location(s) Of Covered Operations
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

EXHIBIT B

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 26 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – DESIGNATED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

A. In the performance of your ongoing operations; or

B. In connection with your premises owned by or rented to you.

EXHIBIT C

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 37 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location And Description Of Completed Operations
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

Exhibit D (Example)

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Producer/Ins. Broker Contact Info.
Name of Insurance Broker	PHONE (A/C, No, Ext): FAX (A/C, No):
	E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	Name of Insurance Company	Completed
INSURER B:	Name of Insurance Company	Completed
INSURER C:		
INSURER D:		
INSURER E:		
INSURER F:		

INSURED: Name of Contractor

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE OCCUR Owners & Cont.Prot. (OCP) if requested GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC	Y	Y	Policy Number Inserted	Policy Start Date	Policy Start Date	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 50,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 1,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS			Policy Number Inserted	Policy Start Date	Policy Start Date	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
A	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $	Y	Y	Policy Number Inserted	Policy Start Date	Policy Start Date	EACH OCCURRENCE AGGREGATE	$ Per Request $ Per Request
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	Policy Number Inserted	Policy Start Date	Policy Start Date	X WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 500,000 $ 500,000 $ 500,000
	Professional Liability (other specialty coverages as requested)			Policy Number Inserted	Policy Start Date	Policy start Date	$1,000,000 per occurrence or as requested	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

List project number, location and description.

No additional endorsements limit coverage to additional insured beyond terms of actual additional insured endorsement (CG 2010 or CG 2026). Coverage to additional insured is primary. Additional Insured: Member, its officials, employees, agents and volunteers.

* Member named as cancellation notice recipient.

CERTIFICATE HOLDER

Name of Member

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. *

AUTHORIZED REPRESENTATIVE

Signature of authorized insurance company representative

Ordinance No. 3733

AN ORDINANCE OF THE VILLAGE OF VILLA PARK, DUPAGE COUNTY, ILLINOIS AMENDING THE REQUIREMENTS OF BIDDERS FOR CONSTRUCTION PROJECTS

WHEREAS, the Village of Villa Park (the "*Village*") is a duly organized and validly existing non home-rule municipality created in accordance with the Constitution of the State of Illinois of 1970 and the laws of the State; and,

WHEREAS, section 8-9-1 of the Illinois Municipal Code (65 ILCS 5/8-9-2) allows the Village to require competitive bidding after advertising for bids in the manner prescribed by ordinance; and,

WHEREAS, the President and Board of Trustees desire to adopt purchasing procedures to provide for additional requirements of bidders for construction projects to have active apprenticeship and training programs approved and registered with the United States Department of Labor's Bureau of Apprenticeship and Training and to have bidders show three similar projects they constructed within the last five years.

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the Village of Villa Park, DuPage County, Illinois, as follows:

Section 1. That Section 2-219 of the Villa Park Municipal Code, as amended, be and is hereby amended by placing the existing text as subsection A. and adding a new subsection B. to read as follows:

"B. A responsible bidder for the construction of public works projects shall meet and submit evidence of compliance with the following requirements:

(1) All applicable laws prerequisite to doing business in the State of Illinois,
(2) A federal employer tax identification number or social security number,
(3) Provision of Section 2000(e) of Chapter 21, Title 42 of the United States Code and Federal Executive Order No. 11246 as amended by Executive Order No. 11375 (known as the Equal Opportunity Employer provisions),
(4) Certificates of insurance indicating the following coverage's: general liability, worker's compensation, completed operations, automobile, hazardous occupation and product liability
(5) Compliance with all provisions of the Illinois Prevailing Wage Act, including wages, medical and hospitalization insurance and retirement for those trades covered in the Act,
(6) The bidder and all bidder's sub-contractors must participate in active apprenticeship and training programs approved and registered with the United States Department of Labor's Bureau of Apprenticeship and Training for each of the trades of work contemplated under the proposed contract,
(7) All contractors and sub-contractors are required to file certified payrolls as specified in Illinois Pubic Act 94-0515, and follow all provisions of the Employee Classification Act (820 ILCS 185/1 et seq.), and

(8) All bidders must provide three (3) projects of a similar nature constructed in the immediate past five (5) years with the name, address and telephone number of the contact person having knowledge of the project along with three (3) references (name, address, and telephone number) with knowledge of the integrity and business practices of the bidder."

Section 2. This Ordinance shall be in full force and effect upon its passage, approval, and publication as provided by law.

Passed this 11 day of February, 2013.

AYES: ALL

NAYS: Aiello Bulthuis

ABSENT: _____

Approved this 11 day of February, 2013.

Village President

Attest:

Village Clerk

VILLAGE OF VILLA PARK CORPORATE SEAL DU PAGE COUNTY, ILL.

Published in pamphlet form:

2-11, 2013

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

SPECIAL PROVISION
FOR
INSURANCE

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

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

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

Village of Villa Park (Municipality)

Baxter & Woodman, Inc. (Design Engineer)

Clark Dietz, Inc. (Construction Engineer)

Engineer's Consultants

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

BDE SPECIAL PROVISIONS
For the April 24 and June 12, 2015 Lettings

The following special provisions indicated by an "x" are applicable to this contract and will be included by the Project Development and Implementation Section of the BD&E. An * indicates a new or revised special provision for the letting.

	File Name	#		Special Provision Title	Effective	Revised
	80240	1		Above Grade Inlet Protection	July 1, 2009	Jan. 1, 2012
	80099	2		Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2014
	80274	3		Aggregate Subgrade Improvement	April 1, 2012	Jan. 1, 2013
	80192	4		Automated Flagger Assistance Device	Jan. 1, 2008	
	80173	5		Bituminous Materials Cost Adjustments	Nov. 2, 2006	Aug. 1, 2013
	80241	6		Bridge Demolition Debris	July 1, 2009	
	5026I	7		Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
	5048I	8		Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
	5049I	9		Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
	5053I	10		Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
	80310	11		Coated Galvanized Steel Conduit	Jan. 1, 2013	Jan. 1, 2015
	80341	12		Coilable Nonmetallic Conduit	Aug. 1, 2014	Jan. 1, 2015
	80198	13		Completion Date (via calendar days)	April 1, 2008	
	80199	14		Completion Date (via calendar days) Plus Working Days	April 1, 2008	
*	80293	15		Concrete Box Culverts with Skews > 30 Degrees and Design Fills ≤ 5 Feet	April 1, 2012	April 1, 2015
	80294	16		Concrete Box Culverts with Skews ≤ 30 Degrees Regardless of Design Fill and Skews > 30 Degrees with Design Fills > 5 Feet	April 1, 2012	April 1, 2014
	80311	17		Concrete End Sections for Pipe Culverts	Jan. 1, 2013	
	80334	18		Concrete Gutter, Curb, Median, and Paved Ditch	April 1, 2014	Aug. 1, 2014
	80277	19		Concrete Mix Design – Department Provided	Jan. 1, 2012	Jan. 1, 2014
	80261	20	✓	Construction Air Quality – Diesel Retrofit	June 1, 2010	Nov. 1, 2014
	80335	21		Contract Claims	April 1, 2014	
*	80029	22		Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Jan. 2, 2015
*	80358	23		Equal Employment Opportunity	April 1, 2015	
	80265	24	✓	Friction Aggregate	Jan. 1, 2011	Nov. 1, 2014
	80229	25		Fuel Cost Adjustment	April 1, 2009	July 1, 2009
	80329	26		Glare Screen	Jan. 1, 2014	
	80304	27		Grooving for Recessed Pavement Markings	Nov. 1, 2012	Aug. 1, 2014
	80246	28	✓	Hot-Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	April 1, 2012
	80322	29		Hot-Mix Asphalt – Mixture Design Composition and Volumetric Requirements	Nov. 1, 2013	Nov. 1, 2014
	80323	30		Hot-Mix Asphalt – Mixture Design Verification and Production	Nov. 1, 2013	Nov. 1, 2014
*	80347	31		Hot-Mix Asphalt – Pay for Performance Using Percent Within Limits – Jobsite Sampling	Nov. 1, 2014	April 1, 2015
	80348	32	✓	Hot-Mix Asphalt – Prime Coat	Nov. 1, 2014	
	80315	33		Insertion Lining of Culverts	Jan. 1, 2013	Nov. 1, 2013
	80351	34		Light Tower	Jan. 1, 2015	
	80336	35		Longitudinal Joint and Crack Patching	April 1, 2014	
*	80324	36		LRFD Pipe Culvert Burial Tables	Nov. 1, 2013	April 1, 2015
*	80325	37		LRFD Storm Sewer Burial Tables	Nov. 1, 2013	April 1, 2015
	80045	38		Material Transfer Device	June 15, 1999	Aug. 1, 2014
	80342	39		Mechanical Side Tie Bar Inserter	Aug. 1, 2014	Jan. 1, 2015
	80165	40		Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
	80337	41		Paved Shoulder Removal	April 1, 2014	
	80349	42		Pavement Marking Blackout Tape	Nov. 1, 2014	
	80298	43		Pavement Marking Tape Type IV	April 1, 2012	

	File Name	#		Special Provision Title	Effective	Revised
	80254	44	✓	Pavement Patching	Jan. 1, 2010	
	80352	45		Pavement Striping - Symbols	Jan. 1, 2015	
*	80359	46		Portland Cement Concrete Bridge Deck Curing	April 1, 2015	
*	80353	47		Portland Cement Concrete Inlay or Overlay	Jan. 1, 2015	April 1, 2015
	80338	48		Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	April 1, 2014	
	80343	49		Precast Concrete Handhole	Aug. 1, 2014	
	80300	50		Preformed Plastic Pavement Marking Type D - Inlaid	April 1, 2012	
	80328	51		Progress Payments	Nov. 2, 2013	
	3426I	52		Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
	80157	53		Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
	80306	54		Reclaimed Asphalt Pavement (RAP) and Reclaimed Asphalt Shingles (RAS)	Nov. 1, 2012	April 1, 2014
	80350	55		Retroreflective Sheeting for Highway Signs	Nov. 1, 2014	
	80327	56		Reinforcement Bars	Nov. 1, 2013	
	80344	57		Rigid Metal Conduit	Aug. 1, 2014	
*	80354	58		Sidewalk, Corner, or Crosswalk Closure	Jan. 1, 2015	April 1, 2015
	80340	59		Speed Display Trailer	April 2, 2014	
	80127	60		Steel Cost Adjustment	April 2, 2004	April 1, 2009
	80317	61		Surface Testing of Hot-Mix Asphalt Overlays	Jan. 1, 2013	
	80355	62		Temporary Concrete Barrier	Jan. 1, 2015	
	80301	63		Tracking the Use of Pesticides	Aug. 1, 2012	
	80356	64		Traffic Barrier Terminals Type 6 or 6B	Jan. 1, 2015	
	20338	65		Training Special Provisions	Oct. 15, 1975	
	80318	66		Traversable Pipe Grate	Jan. 1, 2013	April 1, 2014
*	80345	67		Underpass Luminaire	Aug. 1, 2014	April 1, 2015
	80357	68		Urban Half Road Closure with Mountable Median	Jan. 1, 2015	
*	80346	69		Waterway Obstruction Warning Luminaire	Aug. 1, 2014	April 1, 2015
	80288	70	✓	Warm Mix Asphalt	Jan. 1, 2012	Nov. 1, 2014
	80302	71		Weekly DBE Trucking Reports	June 2, 2012	
	80289	72		Wet Reflective Thermoplastic Pavement Marking	Jan. 1, 2012	
	80071	73		Working Days	Jan. 1, 2002	

The following special provisions are in the 2015 Supplemental Specifications and Recurring Special Provisions:

File Name	Special Provision Title	New Location	Effective	Revised
80292	Coarse Aggregate in Bridge Approach Slabs/Footings	Articles 1004.01(b) and 1004.02(f)	April 1, 2012	April 1, 2013
80303	Granular Materials	Articles 1003.04, 1003.04(c), and 1004.05(c)	Nov. 1, 2012	
80330	Pavement Marking for Bike Symbol	Article 780.14	Jan. 1, 2014	
80331	Payrolls and Payroll Records	Recurring CS #1 and #5	Jan. 1, 2014	
80332	Portland Cement Concrete – Curing of Abutments and Piers	Article 1020.13	Jan. 1, 2014	
80326	Portland Cement Concrete Equipment	Article 1103.03(a)(5)	Nov. 1, 2013	
80281	Quality Control/Quality Assurance of Concrete Mixtures	Recurring CS #31	Jan. 1, 2012	Jan. 1, 2014
80283	Removal and Disposal of Regulated Substances	Articles 669.01, 669.08, 669.09, 669.14, and 669.16	Jan. 1, 2012	Nov. 2, 2012
80319	Removal and Disposal of Surplus Materials	Article 202.03	Nov. 2, 2012	
80307	Seeding	Article 250.07	Nov. 1, 2012	
80339	Stabilized Subbase	Article 312.06	April 1, 2014	
80333	Traffic Control Setup and Removal Freeway/Expressway	Articles 701.18(l) and 701.19(a)	Jan. 1, 2014	

The following special provisions require additional information from the designer. The additional information needs to be included in a separate document attached to this check sheet. The Project Development and Implementation section will then include the information in the applicable special provision. The Special Provisions are:

- Bridge Demolition Debris
- Building Removal-Case I
- Building Removal-Case II
- Building Removal-Case III
- Building Removal-Case IV
- Completion Date
- Completion Date Plus Working Days
- DBE Participation
- Material Transfer Device
- Railroad Protective Liability Insurance
- Training Special Provisions
- Working Days

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Diesel Retrofit Deficiency Deduction

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

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

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

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

80261

FRICTION AGGREGATE (BDE)

Effective: January 1, 2011
Revised: November 1, 2014

Revise Article 1004.01(a)(4) of the Standard Specifications to read:

"(4) Crushed Stone. Crushed stone shall be the angular fragments resulting from crushing undisturbed, consolidated deposits of rock by mechanical means. Crushed stone shall be divided into the following, when specified.

a. Carbonate Crushed Stone. Carbonate crushed stone shall be either dolomite or limestone. Dolomite shall contain 11.0 percent or more magnesium oxide (MgO). Limestone shall contain less than 11.0 percent magnesium oxide (MgO).

b. Crystalline Crushed Stone. Crystalline crushed stone shall be either metamorphic or igneous stone, including but is not limited to, quartzite, granite, rhyolite and diabase."

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

Use	Mixture	Aggregates Allowed	
HMA Low ESAL	Stabilized Subbase or Shoulders	<u>Allowed Alone or in Combination</u> [5/]: Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag[1/] Crushed Concrete	
HMA High ESAL Low ESAL	Binder IL-19.0 or IL-19.0L SMA Binder	<u>Allowed Alone or in Combination</u> [5/]: Crushed Gravel Carbonate Crushed Stone[2/] Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Concrete[3/]	
HMA High ESAL Low ESAL	C Surface and Leveling Binder IL-9.5 or IL-9.5L SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> [5/]: Crushed Gravel Carbonate Crushed Stone[2/] Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag[4/] Crushed Concrete[3/]	
HMA High ESAL	D Surface and Leveling Binder IL-9.5 SMA Ndesign 50 Surface	<u>Allowed Alone or in Combination</u> [5/]: Crushed Gravel Carbonate Crushed Stone (other than Limestone)[2/] Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag[4/] Crushed Concrete[3/]	
		<u>Other Combinations Allowed:</u>	
		Up to...	*With...*
		25% Limestone	Dolomite

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

Use	Mixture	Aggregates Allowed	
		Up to...	*With...*
		50% Crushed Gravel, Crushed Concrete[3/], or Dolomite[2/]	Crushed Sandstone, Crushed Slag (ACBF), Crushed Steel Slag, or Crystalline Crushed Stone

1/ Crushed steel slag allowed in shoulder surface only.
2/ Carbonate crushed stone 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."

80265

HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE)

Effective: January 1, 2010
Revised: April 1, 2012

Description. This work shall consist of testing the density of longitudinal joints as part of the quality control/quality assurance (QC/QA) of hot-mix asphalt (HMA). Work shall be according to Section 1030 of the Standard Specifications except as follows.

Quality Control/Quality Assurance (QC/QA). Delete the second and third sentence of the third paragraph of Article 1030.05(d)(3) of the Standard Specifications.

Add the following paragraphs to the end of Article 1030.05(d)(3) of the Standard Specifications:

"Longitudinal joint density testing shall be performed at each random density test location. Longitudinal joint testing shall be located at a distance equal to the lift thickness or a minimum of 4 in. (100 mm), from each pavement edge. (i.e. for a 5 in. (125 mm) lift the near edge of the density gauge or core barrel shall be within 5 in. (125 mm) from the edge of pavement.) Longitudinal joint density testing shall be performed using either a correlated nuclear gauge or cores.

a. Confined Edge. Each confined edge density shall be represented by a one-minute nuclear density reading or a core density and shall be included in the average of density readings or core densities taken across the mat which represents the Individual Test.

b. Unconfined Edge. Each unconfined edge joint density shall be represented by an average of three one-minute density readings or a single core density at the given density test location and shall meet the density requirements specified herein. The three one-minute readings shall be spaced ten feet apart longitudinally along the unconfined pavement edge and centered at the random density test location."

Revise the Density Control Limits table in Article 1030.05(d)(4) of the Standard Specifications to read:

"Mixture Composition	Parameter	Individual Test (includes confined edges)	Unconfined Edge Joint Density Minimum
IL-4.75	Ndesign = 50	93.0 – 97.4%	91.0%
IL-9.5, IL-12.5	Ndesign ≥ 90	92.0 – 96.0%	90.0%
IL-9.5,IL-9.5L, IL-12.5	Ndesign < 90	92.5 – 97.4%	90.0%
IL-19.0, IL-25.0	Ndesign ≥ 90	93.0 – 96.0%	90.0%
IL-19.0, IL-19.0L, IL-25.0	Ndesign < 90	93.0 – 97.4%	90.0%

SMA	Ndesign = 50 & 80	93.5 – 97.4%	91.0%
All Other	Ndesign = 30	93.0 - 97.4%	90.0%”

80246

HOT MIX ASPHALT – PRIME COAT (BDE)

Effective: November 1, 2014

Revise Note 1 of Article 406.02 of the Standard Specifications to read:

"Note 1. The bituminous material used for prime coat shall be one of the types listed in the following table.

When emulsified asphalts are used, any dilution with water shall be performed by the emulsion producer. The emulsified asphalt shall be thoroughly agitated within 24 hours of application and show no separation of water and emulsion.

Application	Bituminous Material Types
Prime Coat on Brick, Concrete, or HMA Bases	SS-1, SS-1h, SS-1hP, SS-1vh, RS-1, RS-2, CSS-1, CSS-1h, CSS-1hp, CRS-1, CRS-2, HFE-90, RC-70
Prime Coat on Aggregate Bases	MC-30, PEP"

Add the following to Article 406.03 of the Standard Specifications.

"(i) Vacuum Sweeper 1101.19
(j) Spray Paver ..... 1102.06"

Revise Article 406.05(b) of the Standard Specifications to read:

"(b) Prime Coat. The bituminous material shall be prepared according to Article 403.05 and applied according to Article 403.10. The use of RC-70 shall be limited to air temperatures less than 60 °F (15 °C).

(1) Brick, Concrete or HMA Bases. The base shall be cleaned of all dust, debris and any substance that will prevent the prime coat from adhering to the base. Cleaning shall be accomplished by sweeping to remove all large particles and air blasting to remove dust. As an alternative to air blasting, a vacuum sweeper may be used to accomplish the dust removal. The base shall be free of standing water at the time of application. The prime coat shall be applied uniformly and at a rate that will provide a residual asphalt rate on the prepared surface as specified in the following table.

Type of Surface to be Primed	Residual Asphalt Rate lb/sq ft (kg/sq m)
Milled HMA, Aged Non-Milled HMA, Milled Concrete, Non-Milled Concrete & Tined Concrete	0.05 (0.244)
Fog Coat between HMA Lifts, IL-4.75 & Brick	0.025 (0.122)

The bituminous material for the prime coat shall be placed one lane at a time. If a spray paver is not used, the primed lane shall remain closed until the prime coat is

fully cured and does not pickup under traffic. When placing prime coat through an intersection where it is not possible to keep the lane closed, the prime coat may be covered immediately following its application with fine aggregate mechanically spread at a uniform rate of 2 to 4 lb/sq yd (1 to 2 kg/sq m).

(2) Aggregate Bases. The prime coat shall be applied uniformly and at a rate that will provide a residual asphalt rate on the prepared surface of 0.25 lb/sq ft ± 0.01 (1.21 kg/sq m ±0.05).

The prime coat shall be permitted to cure until the penetration has been approved by the Engineer, but at no time shall the curing period be less than 24 hours for MC-30 or four hours for PEP. Pools of prime occurring in the depressions shall be broomed or squeegeed over the surrounding surface the same day the prime coat is applied.

The base shall be primed 1/2 width at a time. The prime coat on the second half/width shall not be applied until the prime coat on the first half/width has cured so that it will not pickup under traffic.

The residual asphalt rate will be verified a minimum of once per type of surface to be primed as specified herein for which at least 2000 tons (1800 metric tons) of HMA will be placed. The test will be according to the "Determination of Residual Asphalt in Prime and Tack Coat Materials" test procedure.

Prime coat shall be fully cured prior to placement of HMA to prevent pickup by haul trucks or paving equipment. If pickup occurs, paving shall cease in order to provide additional cure time, and all areas where the pickup occurred shall be repaired.

If after five days, loss of prime coat is evident prior to covering with HMA, additional prime coat shall be placed as determined by the Engineer at no additional cost to the Department."

Revise the last sentence of the first paragraph of Article 406.13(b) of the Standard Specifications to read:

"Water added to emulsified asphalt, as allowed in Article 406.02, will not be included in the quantities measured for payment."

Revise the second paragraph of Article 406.13(b) of the Standard Specifications to read:

"Aggregate for covering prime coat will not be measured for payment."

Revise the first paragraph of Article 406.14 of the Standard Specifications to read:

"**406.14 Basis of Payment.** Prime Coat will be paid for at the contract unit price per pound (kilogram) of residual asphalt applied for BITUMINOUS MATERIALS (PRIME COAT), or POLYMERIZED BITUMINOUS MATERIALS (PRIME COAT)."

Revise Article 407.02 of the Standard Specifications to read:

"**407.02 Materials.** Materials shall be according to Article 406.02, except as follows.

Item	Article/Section
(a) Packaged Rapid Hardening Mortar or Concrete	1018"

Revise Article 407.06(b) of the Standard Specifications to read:

"(b) A bituminous prime coat shall be applied between each lift of HMA according to Article 406.05(b)."

Delete the second paragraph of Article 407.12 of the Standard Specifications.

Revise the first paragraph of Article 408.04 of the Standard Specifications to read:

"**408.04 Method of Measurement.** Bituminous priming material will be measured for payment according to Article 406.13."

Revise the first paragraph of Article 408.05 of the Standard Specifications to read:

"**408.05 Basis of Payment.** This work will be paid for at the contract unit price per pound (kilogram) of residual asphalt applied for BITUMINOUS MATERIALS (PRIME COAT) or POLYMERIZED BITUMINOUS MATERIALS (PRIME COAT) and at the contract unit price per ton (metric ton) for INCIDENTAL HOT-MIX ASPHALT SURFACING."

Revise Article 1032.02 of the Standard Specifications to read:

"**1032.02 Measurement.** Asphalt binders, emulsified asphalts, rapid curing liquid asphalt, medium curing liquid asphalts, slow curing liquid asphalts, asphalt fillers, and road oils will be measured by weight.

A weight ticket for each truck load shall be furnished to the inspector. The truck shall be weighed at a location approved by the Engineer. The ticket shall show the weight of the empty truck (the truck being weighed each time before it is loaded), the weight of the loaded truck, and the net weight of the bituminous material.

When an emulsion or cutback is used for prime coat, the percentage of asphalt residue of the actual certified product shall be shown on the producer's bill of lading or attached certificate of analysis. If the producer adds extra water to an emulsion at the request of the purchaser, the amount of water shall also be shown on the bill of lading.

Payment will not be made for bituminous materials in excess of 105 percent of the amount specified by the Engineer."

Add the following to the table in Article 1032.04 of the Standard Specifications.

"SS-1vh	160-180	70-80
RS-1, CRS-1	75-130	25-55"

Add the following to Article 1032.06 of the Standard Specifications.

"(g) Non Tracking Emulsified Asphalt SS-1vh shall be according to the following.

Requirements for SS-1vh			
Test		SPEC	AASHTO Test Method
Saybolt Viscosity @ 25C,	SFS	20-200	T 72
Storage Stability, 24hr.,	%	1 max.	T 59
Residue by Evaporation,	%	50 min.	T 59
Sieve Test,	%	0.3 max.	T 59
Tests on Residue from Evaporation			
Penetration @25°C, 100g., 5 sec., dmm		20 max.	T 49
Softening Point,	°C	65 min.	T 53
Solubility,	%	97.5 min.	T 44
Orig. DSR @ 82°C,	kPa	1.00 min.	T 315"

Revise the last table in Article 1032.06(f)(2)d. of the Standard Specifications to read:

"Grade	Use
SS-1, SS-1h, RS-1, RS-2, CSS-1, CRS-1, CRS-2, CSS-1h, HFE-90, SS-1hP, CSS-1hP, SS-1vh	Prime or fog seal
PEP	Bituminous surface treatment prime
RS-2, HFE-90, HFE-150, HFE- 300, CRSP, HFP, CRS-2, HFRS-2	Bituminous surface treatment
CSS-1h Latex Modified	Microsurfacing"

Add the following to Article 1101 of the Standard Specifications.

"**1101.19 Vacuum Sweeper.** The vacuum sweeper shall have a minimum sweeping path of 52 in. (1.3 m) and a minimum blower rating of 20,000 cu ft per minute (566 cu m per minute)."

Add the following to Article 1102 of the Standard Specifications:

"**1102.06 Spray Paver.** The spreading and finishing machine shall be capable of spraying a rapid setting emulsion tack coat, paving a layer of HMA, and providing a smooth HMA mat in one pass. The HMA shall be spread over the tack coat in less than five seconds after the

application of the tack coat during normal paving speeds. No wheel or other part of the paving machine shall come into contact with the tack coat before the HMA is applied. In addition to meeting the requirements of Article 1102.03, the spray paver shall also meet the requirements of Article 1102.05 for the tank, heating system, pump, thermometer, tachometer or synchronizer, and calibration. The spray bar shall be equipped with properly sized and spaced nozzles to apply a uniform application of tack coat at the specified rate for the full width of the mat being placed."

80348

PAVEMENT PATCHING (BDE)

Effective: January 1, 2010

Revise the first sentence of the second paragraph of Article 701.17(e)(1) of the Standard Specifications to read:

"In addition to the traffic control and protection shown elsewhere in the contract for pavement, two devices shall be placed immediately in front of each open patch, open hole, and broken pavement where temporary concrete barriers are not used to separate traffic from the work area."

80254

WARM MIX ASPHALT (BDE)

Effective: January 1, 2012
Revised: November 1, 2014

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.

"(13) 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

Illinois Department of Transportation

Storm Water Pollution Prevention Plan

Route	Twin Lake Street Improvements	Marked Rte.	Various
Section	N/A	Project No.	N/A
County	DuPage	Contract No.	N/A

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.

Vydas Juskelis	Vydas Juskelis
Print Name	Signature
Director of Public Works	6-9-15
Title	Date
Village of Villa Park	
Agency	

I. Site Description:

A. Provide a description of the project location (include latitude and longitude):

The project is located along various streets within the Twin Lakes sub-division.

B. Provide a description of the construction activity which is the subject of this plan:

The work consists of furnishing all labor, materials, equipment, and other incidentals necessary for the completion of HMA surface removal; earth excavation; installation of pipe culverts, and gutter removal and replacement; hot-mix asphalt pavement; parkway restoration; and other incidental and miscellaneous items of work in accordance with the Plans, Standard Specifications, and these Special Provisions.

C. Provide the estimated duration of this project:

90 days

D. The total area of the construction site is estimated to be 10.6 acres.

The total area of the site estimated to be disturbed by excavation, grading or other activities is 3.2 acres.

E. The following is a weighted average of the runoff coefficient for this project after construction activities are completed:

0.6

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

Topsoil, clay and gravel. Topsoil and clay can be highly erosive on steep slopes but the project contains parkway slopes that are 1:6 or flatter.

G. Provide an aerial extent of wetland acreage at the site:

See attached.

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

Disturbed parkways and exposed base course.

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):

Parkway (1:6 slope or flatter) disturbed as a result of ditch grading and base course exposed from HMA pavement removal.

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

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

Village of Villa Park.

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

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:

Salt Creek

N. Describe areas of the site that are to be protected or remain undisturbed. These areas may include steep slopes, highly erodible soils, streams, stream buffers, specimen trees, natural vegetation, nature preserves, etc.

All vegetation outside of the construction limits will be undisturbed.

O. The following sensitive environmental resources are associated with this project, and may have the potential to be impacted by the proposed development:

- ☐ Floodplain
- ☐ Wetland Riparian
- ☐ Threatened and Endangered Species
- ☐ Historic Preservation
- ☐ 303(d) Listed receiving waters for suspended solids, turbidity, or siltation
- ☐ Receiving waters with Total Maximum Daily Load (TMDL) for sediment, total suspended solids, turbidity or siltation
- ☐ Applicable Federal, Tribal, State or Local Programs
- ☐ Other

1. 303(d) Listed receiving waters (fill out this section if checked above):

   a. The name(s) of the listed water body, and identification of all pollutants causing impairment:

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

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

   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)
☒	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	☐	Erosion Control Blanket / Mulching
☐	Vegetated Buffer Strips	☒	Sodding

☐	Protection of Trees	☐	Geotextiles
☒	Temporary Erosion Control Seeding	☐	Other (specify)
☐	Temporary Turf (Seeding, Class 7)	☐	Other (specify)
☐	Temporary Mulching	☐	Other (specify)
☐	Permanent Seeding	☐	Other (specify)

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

Existing vegetation shall be maintained at all locations not impacted directly by ongoing construction. Existing drainage patterns will be maintained over existing vegetation until the final stages of the project. Parkway restoration will commence immediately after curb and gutter and sidewalk replacement.

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

Parkway restoration will be permanent and remain after construction.

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	☐	Rock Outlet Protection
☒	Temporary Ditch Check	☐	Riprap
☒	Storm Drain Inlet Protection	☐	Gabions
☐	Sediment Trap	☐	Slope Mattress
☐	Temporary Pipe Slope Drain	☐	Retaining Walls
☐	Temporary Sediment Basin	☐	Slope Walls
☐	Temporary Stream Crossing	☐	Concrete Revetment Mats
☒	Stabilized Construction Exits	☐	Level Spreaders
☐	Turf Reinforcement Mats	☐	Other (specify)
☐	Permanent Check Dams	☐	Other (specify)
☐	Permanent Sediment Basin	☐	Other (specify)
☐	Aggregate Ditch	☐	Other (specify)
☐	Paved Ditch	☐	Other (specify)

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

Drainage and utility structures shall be kept clean of debris during ongoing construction activities. Inlet filters shall be placed on structures.

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

All inlet filters shall be removed at the completion of construction, and structures will be cleaned.

D. **Treatment Chemicals**

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

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

E. **Permanent 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:

   N/A

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:

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.

N/A

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

Additional Inspections Required:

N/A

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.

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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	Twin Lakes Street Improvements	Marked Rte.	Various
Section	N/A	Project No.	N/A
County	DuPage	Contract No.	N/A

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:

U.S. Fish and Wildlife Service

National Wetlands Inventory

North Side Sidewalk Project

Mar 14, 2013

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

User Remarks:

ABV	ABOVE
A/C	ACCESS CONTROL
AC	ACRE
ADJ	ADJUST
AS	AERIAL SURVEYS
AGG	AGGREGATE
AH	AHEAD
APT	APARTMENT
ASPH	ASPHALT
AUX	AUXILIARY
AGS	AUXILIARY GAS VALVE (SERVICE)
AVE	AVENUE
AX	AXIS OF ROTATION
BK	BACK
B-B	BACK TO BACK
BKPL	BACKPLATE
B	BARN
BARR	BARRICADE
BGN	BEGIN
BM	BENCHMARK
BIND	BINDER
BIT	BITUMINOUS
BTM	BOTTOM
BLVD	BOULEVARD
BRK	BRICK
BBOX	BUFFALO BOX
BLDG	BUILDING
CIP	CAST IRON PIPE
CB	CATCH BASIN
C-C	CENTER TO CENTER
CL	CENTERLINE OR CLEARANCE
CL-E	CENTERLINE TO EDGE
CL-F	CENTERLINE TO FACE
CTS	CENTERS
CERT	CERTIFIED
CHSLD	CHISELED
CS	CITY STREET
CP	CLAY PIPE
CLSD	CLOSED
CLID	CLOSED LID
CT	COAT OR COURT
COMB	COMBINATION
C	COMMERCIAL BUILDING
CE	COMMERCIAL ENTRANCE
CONC	CONCRETE
CONST	CONSTRUCT
CONTD	CONTINUED
CONT	CONTINUOUS
COR	CORNER
CORR	CORRUGATED
CMP	CORRUGATED METAL PIPE
CNTY	COUNTY
CH	COUNTY HIGHWAY
CSE	COURSE
XSECT	CROSS SECTION
m^3	CUBIC METER
mm^3	CUBIC MILLIMETER
CU YD	CUBIC YARD
CULV	CULVERT
C&G	CURB & GUTTER
D	DEGREE OF CURVE
DC	DEPRESSED CURVE
DET	DETECTOR
DIA	DIAMETER
DIST	DISTRICT
DOM	DOMESTIC
DBL	DOUBLE
DSEL	DOWNSTREAM ELEVATION
DSFL	DOWNSTREAM FLOWLINE
DR	DRAINAGE OR DRIVE
DI	DRAINAGE INLET OR DROP INLET
DRV	DRIVEWAY
DCT	DUCT
EA	EACH
EB	EASTBOUND
EOP	EDGE OF PAVEMENT
E-CL	EDGE TO CENTERLINE
E-E	EDGE TO EDGE
EL	ELEVATION
ENTR	ENTRANCE
EXC	EXCAVATION
EX	EXISTING
EXPWAY	EXPRESSWAY
E	EXTERNAL DISTANCE OF HORIZONTAL CURVE
E	OFFSET DISTANCE TO VERTICAL CURVE
F-F	FACE TO FACE
FA	FEDERAL AID
FAI	FEDERAL AID INTERSTATE
FAP	FEDERAL AID PRIMARY
FAS	FEDERAL AID SECONDARY
FAUS	FEDERAL AID URBAN SECONDARY
FP	FENCE POST
FE	FIELD ENTRANCE
FH	FIRE HYDRANT
FL	FLOW LINE
FB	FOOT BRIDGE
FDN	FOUNDATION
FR	FRAME
F&G	FRAME & GRATE
FRWAY	FREEWAY
GAL	GALLON
GALV	GALVANIZED
G	GARAGE
GM	GAS METER
GV	GAS VALVE
GRAN	GRANULAR
GR	GRATE
GRVL	GRAVEL
GND	GROUND
GUT	GUTTER
GP	GUY POLE
GW	GUY WIRE
HH	HANDHOLE
HATCH	HATCHING
HD	HEAD
HDW	HEADWALL
HDUTY	HEAVY DUTY
ha	HECTARE
HMA	HOT MIX ASPHALT
HWY	HIGHWAY
HORIZ	HORIZONTAL
HSE	HOUSE
IL	ILLINOIS
IMP	IMPROVEMENT
IN DIA	INCH DIAMETER
INL	INLET
INST	INSTALLATION
IDS	INTERSECTION DESIGN STUDY
INV	INVERT
IP	IRON PIPE
IR	IRON ROD
JT	JOINT
kg	KILOGRAM
km	KILOMETER
LS	LANDSCAPING
LN	LANE
LT	LEFT
LP	LIGHT POLE
LGT	LIGHTING
LF	LINEAL FEET OR LINEAR FEET
L	LITER OR CURVE LENGTH
LC	LONG CHORD
LNG	LONGITUDINAL
L SUM	LUMP SUM
MACH	MACHINE
MB	MAIL BOX
MH	MANHOLE
MATL	MATERIAL
MED	MEDIAN
m	METER
METH	METHOD
M	MID-ORDINATE
mm	MILLIMETER
mm DIA	MILLIMETER DIAMETER
MIX	MIXTURE
MBH	MOBILE HOME
MOD	MODIFIED
MFT	MOTOR FUEL TAX
N & BC	NAIL & BOTTLE CAP
N & C	NAIL & CAP
N & W	NAIL & WASHER
NOAA	NATIONAL OCEANIC ATMOSPHERIC ADMINISTRATION
NC	NORMAL CROWN
NB	NORTHBOUND
NE	NORTHEAST
NW	NORTHWEST
OLID	OPEN LID
PAT	PATTERN
PVD	PAVED
PVMT	PAVEMENT
PM	PAVEMENT MARKING
PED	PEDESTAL
PNT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION OF HORIZONTAL CURVE
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
POT	POINT ON TANGENT
POLYETH	POLYETHYLENE
PCC	PORTLAND CEMENT CONCRETE
PP	POWER POLE OR PRINCIPAL POINT
PRM	PRIME
PE	PRIVATE ENTRANCE
PROF	PROFILE
PGL	PROFILE GRADELINE
PROJ	PROJECT
P.C.	PROPERTY CORNER
PL	PROPERTY LINE
PR	PROPOSED
R	RADIUS
RR	RAILROAD
RRS	RAILROAD SPIKE
RPS	REFERENCE POINT STAKE
REF	REFLECTIVE
RCCP	REINFORCED CONCRETE CULVERT PIPE
REINF	REINFORCEMENT
REM	REMOVAL
RC	REMOVE CROWN
REP	REPLACEMENT
REST	RESTAURANT
RESURF	RESURFACING
RET	RETAINING
RT	RIGHT
ROW	RIGHT-OF-WAY
RD	ROAD
RDWY	ROADWAY
RTE	ROUTE
SAN	SANITARY
SANS	SANITARY SEWER
SEC	SECTION
SEED	SEEDING
SHAP	SHAPING
S	SHED
SH	SHEET
SHLD	SHOULDER
SW	SIDEWALK OR SOUTHWEST
SIG	SIGNAL
SOD	SODDING
SM	SOLID MEDIAN
SB	SOUTHBOUND
SE	SOUTHEAST
SPL	SPECIAL
SD	SPECIAL DITCH
SQ FT	SQUARE FEET
m^2	SQUARE METER
mm^2	SQUARE MILLIMETER
SQ YD	SQUARE YARD
STB	STABILIZED
STD	STANDARD
SBI	STATE BOND ISSUE
SR	STATE ROUTE
STA	STATION
SPBGR	STEEL PLATE BEAM GUARDRAIL
SS	STORM SEWER
STY	STORY
ST	STREET
STR	STRUCTURE
e	SUPERELEVATION RATE
S.E. RUN.	SUPERELEVATION RUNOFF LENGTH
SURF	SURFACE
SMK	SURVEY MARKER
T	TANGENT DISTANCE
T.R.	TANGENT RUNOUT DISTANCE
TEL	TELEPHONE
TB	TELEPHONE BOX
TP	TELEPHONE POLE
TEMP	TEMPORARY
TBM	TEMPORARY BENCH MARK
TD	TILE DRAIN
TBE	TO BE EXTENDED
TBR	TO BE REMOVED
TBS	TO BE SAVED
TWP	TOWNSHIP
TR	TOWNSHIP ROAD
TS	TRAFFIC SIGNAL
TSCB	TRAFFIC SIGNAL CONTROL BOX
TSC	TRAFFIC SYSTEMS CENTER
TRVS	TRANSVERSE
TRVL	TRAVEL
TRN	TURN
TY	TYPE
T-A	TYPE A
TYP	TYPICAL
UNDGND	UNDERGROUND
USGS	U.S. GEOLOGICAL SURVEY
USEL	UPSTREAM ELEVATION
USFL	UPSTREAM FLOWLINE
UTIL	UTILITY
VBOX	VALVE BOX
VV	VALVE VAULT
VLT	VAULT
VEH	VEHICLE
VP	VENT PIPE
VERT	VERTICAL
VC	VERTICAL CURVE
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
WM	WATER METER
WV	WATER VALVE
WMAIN	WATER MAIN
WB	WESTBOUND
WILDFL	WILDFLOWERS
W	WITH
WO	WITHOUT

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ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Updated abbreviations
	and symbols.
1-1-08	Updated abbreviations
	and symbols.

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

STANDARD 000001–06

ADJUSTMENT ITEMS	EX	PR
Structure To Be Adjusted		ADJ
Structure To Be Cleaned		C
Main Structure To Be Filled		FM
Structure To Be Filled		F
Structure To Be Filled Special		FSP
Structure To Be Removed		R
Structure To Be Reconstructed		REC
Structure To Be Reconstructed Special		RSP
Frame and Grate To Be Adjusted		A
Frame and Lid To Be Adjusted		A
Domestic Service Box To Be Adjusted		A
Valve Vault To Be Adjusted		A
Special Adjustment		SP
Item To Be Abandoned		AB
Item To Be Moved		M
Item To Be Relocated		REL
Pavement Removal and Replacement		

ALIGNMENT ITEMS	EX	PR
Baseline		
Centerline		
Centerline Break Circle		
Baseline Symbol		
Centerline Symbol		
PI Indicator		
Point Indicator		
Horizontal Curve Data (Half Size)	CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=	CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=

BOUNDARIES ITEMS	EX	PR
Dashed Property Line		
Solid Property/Lot Line		
Section/Grant Line		
Quarter Section Line		
Quarter/Quarter Section Line		
County/Township Line		
State Line		
Iron Pipe Found		
Iron Pipe Set		
Survey Marker		
Property Line Symbol		
Same Ownership Symbol (Half Size)		
Northwest Quarter Corner (Half Size)		
Section Corner (Half Size)		
Southeast Quarter Corner (Half Size)		

CONTOUR ITEMS	EX	PR
Approx. Index Line		
Approx. Intermediate Line		
Index Contour		
Intermediate Contour		

DRAINAGE ITEMS	EX	PR
Channel or Stream Line		
Culvert Line		
Grading & Shaping Ditches		
Drainage Boundary Line		
Paved Ditch		
Aggregate Ditch		
Pipe Underdrain		
Storm Sewer		
Flowline		
Ditch Check		
Headwall		
Inlet		
Manhole		
Summit		
Roadway Ditch Flow		
Swale		
Catch Basin		
Culvert End Section		
Water Surface Indicator		
Riprap		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

STANDARD 000001–06

EROSION & SEDIMENT CONTROL ITEMS

	EX	PR
Cleaning & Grading Limits		
Dike		
Erosion Control Fence		
Perimeter Erosion Barrier		
Temporary Fence		
Ditch Check Temporary		
Ditch Check Permanent		
Inlet & Pipe Protection		
Sediment Basin		
Erosion Control Blanket		
Fabric Formed Concrete Revetment Mat		
Turf Reinforcement Mat		
Mulch Temporary		
Mulch Method 1		
Mulch Method 2 Stabilized		
Mulch Method 3 Hydraulic		

NON-HIGHWAY IMPROVEMENT ITEMS

	EX	PR
Noise Attn./Levee		
Field Line		
Fence		
Base of Levee		
Mailbox		
Multiple Mailboxes		
Pay Telephone		
Advertising Sign		

LANDSCAPING ITEMS

	EX	PR
Contour Mounding Line		
Fence		
Fence Post		
Shrubs		
Mowline		
Perennial Plants		
Seeding Class 2		
Seeding Class 2A		
Seeding Class 4		
Seeding Class 4 & 5 Combined		

EXISTING LANDSCAPING ITEMS (contd.)

	EX	PR
Seeding Class 5		
Seeding Class 7		
Seedlings Type 1		
Seedlings Type 2		
Sodding		
Mowstake w/Sign		
Tree Trunk Protection		
Evergreen Tree	E	
Shade Tree	E	

LIGHTING

	EX	PR
Duct		
Conduit		
Electrical Aerial Cable	A	A
Electrical Buried Cable	L	L
Controller		
Underpass Luminaire		
Power Pole		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 3 of 8)

STANDARD 000001-06

LIGHTING (contd.)

	EX	PR
Pull Point		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Unit Comb.		
Electrical Ground		
Traffic Flow Arrow		
High Mast Pole (Half Size)		
Light Unit-1		

PAVEMENT (MISC.)

	EX	PR
Keyed Long. Joint		
Keyed Long. Joint w/Tie Bars		
Sawed Long. Joint w/Tie Bars		
Bituminous Shoulder		
Bituminous Taper		
Stabilized Driveway		
Widening		

PAVEMENT MARKINGS

	EX	PR
Bike Lane Symbol		
Bike Lane Text		
Handicap Symbol		
RR Crossing		
Raised Marker Amber 1 Way		
Raised Marker Amber 2 Way		
Raised Marker Crystal 1 Way		
Two Way Turn Left		
Shoulder Diag. Pattern		
Skip-Dash White		
Skip-Dash Yellow		
Stop Line		
Solid Line		
Double Centerline		
Dotted Lines		
CL 2Ln 2Way RRPM 12.2 m (40') o.c.		
CL 2Ln 2Way RRPM 80' (24.4 m) o.c.		
CL Multilane Div. RRPM 40' (12.2 m) o.c.		
CL Multilane Div. RRPM 80' (24.4 m) o.c.		
CL Multilane Div. Dbl. RRPM 80' (24.4 m) o.c.		
CL Multilane Undiv.		
Two Way Turn Left Line		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 4 of 8)

STANDARD 000001–06

PAVEMENT MARKINGS (contd.)

	EX	PR
Urban Combination Left		
Urban Combination Right		
Urban Left Turn Arrow		
Urban Right Turn Arrow		
Urban Left Turn Only		
Urban Right Turn Only		
Urban Thru Only		
Urban U-Turn		
Urban Combined U-Turn		
Rural Combination Left		
Rural Combination Right		
Rural Left Turn Arrow		
Rural Right Turn Arrow		
Rural Left Turn Only		
Rural Right Turn Only		
Rural Thru Only		

RAILROAD ITEMS	EX	PR
Abandoned Railroad		
Railroad		
Railroad Point		
Control Box		
Crossing Gate		
Flashing Signal		
Railroad Cant. Mast Arm		
Crossbuck		

REMOVAL ITEMS	EX	PR
Removal Tic		
Bituminous Removal		
Hatch Pattern		
Tree Removal Single		

RIGHT OF WAY ITEMS	EX	PR
Future ROW Corner Monument		
ROW Marker		
ROW Line		
Easement		
Temporary Easement		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 5 of 8)

STANDARD 000001–06

RIGHT OF WAY ITEMS (contd.)

	EX	PR
Access Control Line	AC	AC
Access Control Line & ROW	AC	AC
Access Control Line & ROW with Fence	AR	AC
Excess ROW Line		XS

ROADWAY PLAN ITEMS

	EX	PR
Cable Barrier		
Concrete Barrier		
Edge of Pavement		
Bit Shoulders, Medians and C&G Line		
Aggregate Shoulder		
Sidewalks, Driveways		
Guardrail		
Guardrail Post		
Traffic Sign		
Corrugated Median		
Impact Attenuator		
North Arrow with District Office (Half Size)	N	
Match Line		STA. 45+00
Slope Limit Line		
Typical Cross-Section Line		

ROADWAY PROFILES

	EX	PR
P.I. Indicator		
Point Indicator		
Earthworks Balance Point		
Begin Point		
Vert. Curve Data	VPI = ELEV= L = E =	VPI = ELEV= L = E =
Ditch Profile Left Side		
Ditch Profile Right Side		
Roadway Profile Line		
Storm Sewer Profile Left Side		
Storm Sewer Profile Right Side		

SIGNING ITEMS

	EX	PR
Cone, Drum or Barricade		
Barricade Type II		
Barricade Type III		
Barricade With Edge Line		
Flashing Light Sign		
Panels I		
Panels II		
Direction of Traffic		
Sign Flag (Half Size)		

SIGNING ITEMS (contd.)

	EX	PR
Reverse Left W1-4L (Half Size)		
Reverse Right W1-4R (Half Size)		
Two Way Traffic Sign W6-3 (Half Size)		
Detour Ahead W20-2(0) (Half Size)		DETOUR AHEAD
Left Lane Closed Ahead W20-5L(0) (Half Size)		LEFT LANE CLOSED AHEAD
Right Lane Closed Ahead W20-5R(0) (Half Size)		RIGHT LANE CLOSED AHEAD
Road Closed Ahead W20-3(0) (Half Size)		ROAD CLOSED AHEAD
Road Construction Ahead W20-1-(0) (Half Size)		ROAD CONSTRUCTION AHEAD
Single Lane Ahead (Half Size)		SINGLE LANE AHEAD
Transition Left W4-2L (Half Size)		
Transition Right W4-2R (Half Size)		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 6 of 8)

STANDARD 000001–06

SIGNING ITEMS (contd.)

	EX	PR
One Way Arrow Lrg. W1-6-(0) (Half Size)		
Two Way Arrow Large W1-7-(0) (Half Size)		
Detour M4-10L-(0) (Half Size)		
Detour M4-10R-(0) (Half Size)		
One Way Left R6-1L (Half Size)		
One Way Right R6-1R (Half Size)		
Left Turn Lane R3-I100L (Half Size)		
Keep Left R4-7AL (Half Size)		
Keep Left R4-7BL (Half Size)		
Keep Right R4-7AR (Half Size)		
Keep Right R4-7BR (Half Size)		
Stop Here On Red R10-6-AL (Half Size)		
Stop Here On Red R10-6-AR (Half Size)		
No Left Turn R3-2 (Half Size)		
No Right Turn R3-1 (Half Size)		
Road Closed R11-2 (Half Size)		
Road Closed Thru Traffic R11-2 (Half Size)		

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STRUCTURES ITEMS

	EX	PR
Box Culvert Barrel		
Box Culvert Headwall		
Bridge Pier		
Bridge		
Retaining Wall		
Temporary Sheet Piling		

TRAFFIC SHEET ITEMS

	EX	PR
Cable Number		
Left Turn Green		
Left Turn Yellow		
Signal Backplate		
Signal Section 8" (200 mm)		
Signal Section 12" (300 mm)		
Walk/Don't Walk Letters		
Walk/Don't Walk Symbols		

TRAFFIC SIGNAL ITEMS

	EX	PR
Galv. Steel Conduit		
Underground Cable		
Detector Loop Line		
Detector Loop Large		
Detector Loop Small		
Detector Loop Quadrapole		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 7 of 8)

STANDARD 000001–06

TRAFFIC SIGNAL ITEMS (contd.)

	EX	PR
Detector Raceway		
Aluminum Mast Arm		
Steel Mast Arm		
Veh. Detector Magnetic		
Conduit Splice		
Controller		
Gulfbox Junction		
Wood Pole		
Temp. Signal Head		
Handhole		
Double Handhole		
Heavy Duty Handhole		
Junction Box		
Ped. Pushbutton Detector		
Ped. Signal Head		
Power Pole Service		
Priority Veh. Detector		
Signal Head		
Signal Head w/Backplate		
Signal Post		
Closed Circuit TV		
Video Detector System		

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UNDERGROUND UTILITY ITEMS

	EX	PR	ABANDONED
Cable TV	CTV	CTV	CTV
Electric Cable	E	E	E
Fiber Optic	FO	FO	FO
Gas Pipe	G	G	G
Oil Pipe	O	O	O
Sanitary Sewer			
Telephone Cable	T	T	T
Water Pipe	W	W	W

UTILITIES ITEMS

	EX	PR
Controller		
Double Handhole		
Fire Hydrant		
GuyWire or Deadman Anchor		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Pole		
Manhole		
Pipeline Warning Sign		
Power Pole		
Power Pole with Light		
Sanitary Sewer Cleanout		
Splice Box Above Ground		
Telephone Splice Box Above Ground		
Telephone Pole		

UTILITY ITEMS (contd.)

	EX	PR
Traffic Signal		
Traffic Signal Control Box		
Water Meter		
Water Meter Valve Box		
Profile Line		
Aerial Power Line	A A	A A

VEGETATION ITEMS

	EX	PR
Deciduous Tree		
Bush or Shrub		
Evergreen Tree		
Stump		
Orchard/Nursery Line		
Vegetation Line		
Woods & Bush Line		

WATER FEATURE ITEMS

	EX	PR
Stream or Drainage Ditch		
Waters Edge		
Water Surface Indicator		
Water Point		
Disappearing Ditch		
Marsh		
Marsh/Swamp Boundary		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 8 of 8)

STANDARD 000001–06

ABV	ABOVE
A/C	ACCESS CONTROL
AC	ACRE
ADJ	ADJUST
AS	AERIAL SURVEYS
AGG	AGGREGATE
AH	AHEAD
APT	APARTMENT
ASPH	ASPHALT
AUX	AUXILIARY
AGS	AUXILIARY GAS VALVE (SERVICE)
AVE	AVENUE
AX	AXIS OF ROTATION
BK	BACK
B-B	BACK TO BACK
BKPL	BACKPLATE
B	BARN
BARR	BARRICADE
BGN	BEGIN
BM	BENCHMARK
BIND	BINDER
BIT	BITUMINOUS
BTM	BOTTOM
BLVD	BOULEVARD
BRK	BRICK
BBOX	BUFFALO BOX
BLDG	BUILDING
CIP	CAST IRON PIPE
CB	CATCH BASIN
C-C	CENTER TO CENTER
CL	CENTERLINE OR CLEARANCE
CL-E	CENTERLINE TO EDGE
CL-F	CENTERLINE TO FACE
CTS	CENTERS
CERT	CERTIFIED
CHSLD	CHISELED
CS	CITY STREET
CP	CLAY PIPE
CLSD	CLOSED
CLID	CLOSED LID
CT	COAT OR COURT
COMB	COMBINATION
C	COMMERCIAL BUILDING
CE	COMMERCIAL ENTRANCE
CONC	CONCRETE
CONST	CONSTRUCT
CONTD	CONTINUED
CONT	CONTINUOUS
COR	CORNER
CORR	CORRUGATED
CMP	CORRUGATED METAL PIPE
CNTY	COUNTY
CH	COUNTY HIGHWAY
CSE	COURSE
XSECT	CROSS SECTION
m^3	CUBIC METER
mm^3	CUBIC MILLIMETER
CU YD	CUBIC YARD
CULV	CULVERT
C&G	CURB & GUTTER
D	DEGREE OF CURVE
DC	DEPRESSED CURVE
DET	DETECTOR
DIA	DIAMETER
DIST	DISTRICT
DOM	DOMESTIC
DBL	DOUBLE
DSEL	DOWNSTREAM ELEVATION
DSFL	DOWNSTREAM FLOWLINE
DR	DRAINAGE OR DRIVE
DI	DRAINAGE INLET OR DROP INLET
DRV	DRIVEWAY
DCT	DUCT
EA	EACH
EB	EASTBOUND
EOP	EDGE OF PAVEMENT
E-CL	EDGE TO CENTERLINE
E-E	EDGE TO EDGE
EL	ELEVATION
ENTR	ENTRANCE
EXC	EXCAVATION
EX	EXISTING
EXPWAY	EXPRESSWAY
E	EXTERNAL DISTANCE OF HORIZONTAL CURVE
E	OFFSET DISTANCE TO VERTICAL CURVE
F-F	FACE TO FACE
FA	FEDERAL AID
FAI	FEDERAL AID INTERSTATE
FAP	FEDERAL AID PRIMARY
FAS	FEDERAL AID SECONDARY
FAUS	FEDERAL AID URBAN SECONDARY
FP	FENCE POST
FE	FIELD ENTRANCE
FH	FIRE HYDRANT
FL	FLOW LINE
FB	FOOT BRIDGE
FDN	FOUNDATION
FR	FRAME
F&G	FRAME & GRATE
FRWAY	FREEWAY
GAL	GALLON
GALV	GALVANIZED
G	GARAGE
GM	GAS METER
GV	GAS VALVE
GRAN	GRANULAR
GR	GRATE
GRVL	GRAVEL
GND	GROUND
GUT	GUTTER
GP	GUY POLE
GW	GUY WIRE
HH	HANDHOLE
HATCH	HATCHING
HD	HEAD
HDW	HEADWALL
HDUTY	HEAVY DUTY
ha	HECTARE
HMA	HOT MIX ASPHALT
HWY	HIGHWAY
HORIZ	HORIZONTAL
HSE	HOUSE
IL	ILLINOIS
IMP	IMPROVEMENT
IN DIA	INCH DIAMETER
INL	INLET
INST	INSTALLATION
IDS	INTERSECTION DESIGN STUDY
INV	INVERT
IP	IRON PIPE
IR	IRON ROD
JT	JOINT
kg	KILOGRAM
km	KILOMETER
LS	LANDSCAPING
LN	LANE
LT	LEFT
LP	LIGHT POLE
LGT	LIGHTING
LF	LINEAL FEET OR LINEAR FEET
L	LITER OR CURVE LENGTH
LC	LONG CHORD
LNG	LONGITUDINAL
L SUM	LUMP SUM
MACH	MACHINE
MB	MAIL BOX
MH	MANHOLE
MATL	MATERIAL
MED	MEDIAN
m	METER
METH	METHOD
M	MID-ORDINATE
mm	MILLIMETER
mm DIA	MILLIMETER DIAMETER
MIX	MIXTURE
MBH	MOBILE HOME
MOD	MODIFIED
MFT	MOTOR FUEL TAX
N & BC	NAIL & BOTTLE CAP
N & C	NAIL & CAP
N & W	NAIL & WASHER
NOAA	NATIONAL OCEANIC ATMOSPHERIC ADMINISTRATION
NC	NORMAL CROWN
NB	NORTHBOUND
NE	NORTHEAST
NW	NORTHWEST
OLID	OPEN LID
PAT	PATTERN
PVD	PAVED
PVMT	PAVEMENT
PM	PAVEMENT MARKING
PED	PEDESTAL
PNT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION OF HORIZONTAL CURVE
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
POT	POINT ON TANGENT
POLYETH	POLYETHYLENE
PCC	PORTLAND CEMENT CONCRETE
PP	POWER POLE OR PRINCIPAL POINT
PRM	PRIME
PE	PRIVATE ENTRANCE
PROF	PROFILE
PGL	PROFILE GRADELINE
PROJ	PROJECT
P.C.	PROPERTY CORNER
PL	PROPERTY LINE
PR	PROPOSED
R	RADIUS
RR	RAILROAD
RRS	RAILROAD SPIKE
RPS	REFERENCE POINT STAKE
REF	REFLECTIVE
RCCP	REINFORCED CONCRETE CULVERT PIPE
REINF	REINFORCEMENT
REM	REMOVAL
RC	REMOVE CROWN
REP	REPLACEMENT
REST	RESTAURANT
RESURF	RESURFACING
RET	RETAINING
RT	RIGHT
ROW	RIGHT-OF-WAY
RD	ROAD
RDWY	ROADWAY
RTE	ROUTE
SAN	SANITARY
SANS	SANITARY SEWER
SEC	SECTION
SEED	SEEDING
SHAP	SHAPING
S	SHED
SH	SHEET
SHLD	SHOULDER
SW	SIDEWALK OR SOUTHWEST
SIG	SIGNAL
SOD	SODDING
SM	SOLID MEDIAN
SB	SOUTHBOUND
SE	SOUTHEAST
SPL	SPECIAL
SD	SPECIAL DITCH
SQ FT	SQUARE FEET
m^2	SQUARE METER
mm^2	SQUARE MILLIMETER
SQ YD	SQUARE YARD
STB	STABILIZED
STD	STANDARD
SBI	STATE BOND ISSUE
SR	STATE ROUTE
STA	STATION
SPBGR	STEEL PLATE BEAM GUARDRAIL
SS	STORM SEWER
STY	STORY
ST	STREET
STR	STRUCTURE
e	SUPERELEVATION RATE
S.E. RUN.	SUPERELEVATION RUNOFF LENGTH
SURF	SURFACE
SMK	SURVEY MARKER
T	TANGENT DISTANCE
T.R.	TANGENT RUNOUT DISTANCE
TEL	TELEPHONE
TB	TELEPHONE BOX
TP	TELEPHONE POLE
TEMP	TEMPORARY
TBM	TEMPORARY BENCH MARK
TD	TILE DRAIN
TBE	TO BE EXTENDED
TBR	TO BE REMOVED
TBS	TO BE SAVED
TWP	TOWNSHIP
TR	TOWNSHIP ROAD
TS	TRAFFIC SIGNAL
TSCB	TRAFFIC SIGNAL CONTROL BOX
TSC	TRAFFIC SYSTEMS CENTER
TRVS	TRANSVERSE
TRVL	TRAVEL
TRN	TURN
TY	TYPE
T-A	TYPE A
TYP	TYPICAL
UNDGND	UNDERGROUND
USGS	U.S. GEOLOGICAL SURVEY
USEL	UPSTREAM ELEVATION
USFL	UPSTREAM FLOWLINE
UTIL	UTILITY
VBOX	VALVE BOX
VV	VALVE VAULT
VLT	VAULT
VEH	VEHICLE
VP	VENT PIPE
VERT	VERTICAL
VC	VERTICAL CURVE
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
WM	WATER METER
WV	WATER VALVE
WMAIN	WATER MAIN
WB	WESTBOUND
WILDFL	WILDFLOWERS
W	WITH
WO	WITHOUT

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DATE	REVISIONS
1-1-11	Updated abbreviations
	and symbols.
1-1-08	Updated abbreviations
	and symbols.

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

STANDARD 000001–06

ADJUSTMENT ITEMS	EX	PR
Structure To Be Adjusted		ADJ
Structure To Be Cleaned		C
Main Structure To Be Filled		FM
Structure To Be Filled		F
Structure To Be Filled Special		FSP
Structure To Be Removed		R
Structure To Be Reconstructed		REC
Structure To Be Reconstructed Special		RSP
Frame and Grate To Be Adjusted		A
Frame and Lid To Be Adjusted		A
Domestic Service Box To Be Adjusted		A
Valve Vault To Be Adjusted		A
Special Adjustment		SP
Item To Be Abandoned		AB
Item To Be Moved		M
Item To Be Relocated		REL
Pavement Removal and Replacement		

ALIGNMENT ITEMS	EX	PR
Baseline		
Centerline		
Centerline Break Circle		
Baseline Symbol		
Centerline Symbol		
PI Indicator		
Point Indicator		
Horizontal Curve Data (Half Size)	CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=	CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=

BOUNDARIES ITEMS	EX	PR
Dashed Property Line		
Solid Property/Lot Line		
Section/Grant Line		
Quarter Section Line		
Quarter/Quarter Section Line		
County/Township Line		
State Line		
Iron Pipe Found		
Iron Pipe Set		
Survey Marker		
Property Line Symbol		
Same Ownership Symbol (Half Size)		
Northwest Quarter Corner (Half Size)		
Section Corner (Half Size)		
Southeast Quarter Corner (Half Size)		

CONTOUR ITEMS	EX	PR
Approx. Index Line		
Approx. Intermediate Line		
Index Contour		
Intermediate Contour		

DRAINAGE ITEMS	EX	PR
Channel or Stream Line		
Culvert Line		
Grading & Shaping Ditches		
Drainage Boundary Line		
Paved Ditch		
Aggregate Ditch		
Pipe Underdrain		
Storm Sewer		
Flowline		
Ditch Check		
Headwall		
Inlet		
Manhole		
Summit		
Roadway Ditch Flow		
Swale		
Catch Basin		
Culvert End Section		
Water Surface Indicator		
Riprap		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

STANDARD 000001–06

EROSION & SEDIMENT CONTROL ITEMS

	EX	PR
Cleaning & Grading Limits		
Dike		
Erosion Control Fence		
Perimeter Erosion Barrier		
Temporary Fence		
Ditch Check Temporary		
Ditch Check Permanent		
Inlet & Pipe Protection		
Sediment Basin		
Erosion Control Blanket		
Fabric Formed Concrete Revetment Mat		
Turf Reinforcement Mat		
Mulch Temporary		
Mulch Method 1		
Mulch Method 2 Stabilized		
Mulch Method 3 Hydraulic		

NON-HIGHWAY IMPROVEMENT ITEMS

	EX	PR
Noise Attn./Levee		
Field Line		
Fence		
Base of Levee		
Mailbox		
Multiple Mailboxes		
Pay Telephone		
Advertising Sign		

LANDSCAPING ITEMS

	EX	PR
Contour Mounding Line		
Fence		
Fence Post		
Shrubs		
Mowline		
Perennial Plants		
Seeding Class 2		
Seeding Class 2A		
Seeding Class 4		
Seeding Class 4 & 5 Combined		

EXISTING LANDSCAPING ITEMS (contd.)

	EX	PR
Seeding Class 5		
Seeding Class 7		
Seedlings Type 1		
Seedlings Type 2		
Sodding		
Mowstake w/Sign		
Tree Trunk Protection		
Evergreen Tree	E	
Shade Tree	E	

LIGHTING

	EX	PR
Duct		
Conduit		
Electrical Aerial Cable	A	A
Electrical Buried Cable	L	L
Controller		
Underpass Luminaire		
Power Pole		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

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STANDARD 000001-06

LIGHTING (contd.)

	EX	PR
Pull Point		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Unit Comb.		
Electrical Ground		
Traffic Flow Arrow		
High Mast Pole (Half Size)		
Light Unit-1		

PAVEMENT (MISC.)

	EX	PR
Keyed Long. Joint		
Keyed Long. Joint w/Tie Bars		
Sawed Long. Joint w/Tie Bars		
Bituminous Shoulder		
Bituminous Taper		
Stabilized Driveway		
Widening		

PAVEMENT MARKINGS

	EX	PR
Bike Lane Symbol		
Bike Lane Text		
Handicap Symbol		
RR Crossing		
Raised Marker Amber 1 Way		
Raised Marker Amber 2 Way		
Raised Marker Crystal 1 Way		
Two Way Turn Left		
Shoulder Diag. Pattern		
Skip-Dash White		
Skip-Dash Yellow		
Stop Line		
Solid Line		
Double Centerline		
Dotted Lines		
CL 2Ln 2Way RRPM 12.2 m (40') o.c.		
CL 2Ln 2Way RRPM 80' (24.4 m) o.c.		
CL Multilane Div. RRPM 40' (12.2 m) o.c.		
CL Multilane Div. RRPM 80' (24.4 m) o.c.		
CL Multilane Div. Dbl. RRPM 80' (24.4 m) o.c.		
CL Multilane Undiv.		
Two Way Turn Left Line		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 4 of 8)

STANDARD 000001–06

PAVEMENT MARKINGS (contd.)

	EX	PR
Urban Combination Left		
Urban Combination Right		
Urban Left Turn Arrow		
Urban Right Turn Arrow		
Urban Left Turn Only		
Urban Right Turn Only		
Urban Thru Only		
Urban U-Turn		
Urban Combined U-Turn		
Rural Combination Left		
Rural Combination Right		
Rural Left Turn Arrow		
Rural Right Turn Arrow		
Rural Left Turn Only		
Rural Right Turn Only		
Rural Thru Only		

RAILROAD ITEMS	EX	PR
Abandoned Railroad		
Railroad		
Railroad Point		
Control Box		
Crossing Gate		
Flashing Signal		
Railroad Cant. Mast Arm		
Crossbuck		

REMOVAL ITEMS	EX	PR
Removal Tic		
Bituminous Removal		
Hatch Pattern		
Tree Removal Single		

RIGHT OF WAY ITEMS	EX	PR
Future ROW Corner Monument		
ROW Marker		
ROW Line		
Easement		
Temporary Easement		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 5 of 8)

STANDARD 000001–06

RIGHT OF WAY ITEMS (contd.)

	EX	PR
Access Control Line	AC	AC
Access Control Line & ROW	AC	AC
Access Control Line & ROW with Fence	AR	AC
Excess ROW Line		XS

ROADWAY PLAN ITEMS

	EX	PR
Cable Barrier		
Concrete Barrier		
Edge of Pavement		
Bit Shoulders, Medians and C&G Line		
Aggregate Shoulder		
Sidewalks, Driveways		
Guardrail		
Guardrail Post		
Traffic Sign		
Corrugated Median		
Impact Attenuator		
North Arrow with District Office (Half Size)	N	
Match Line		STA. 45+00
Slope Limit Line		
Typical Cross-Section Line		

ROADWAY PROFILES

	EX	PR
P.I. Indicator		
Point Indicator		
Earthworks Balance Point		
Begin Point		
Vert. Curve Data	VPI = ELEV= L = E =	VPI = ELEV= L = E =
Ditch Profile Left Side		
Ditch Profile Right Side		
Roadway Profile Line		
Storm Sewer Profile Left Side		
Storm Sewer Profile Right Side		

SIGNING ITEMS

	EX	PR
Cone, Drum or Barricade		
Barricade Type II		
Barricade Type III		
Barricade With Edge Line		
Flashing Light Sign		
Panels I		
Panels II		
Direction of Traffic		
Sign Flag (Half Size)		

SIGNING ITEMS (contd.)

	EX	PR
Reverse Left W1-4L (Half Size)		
Reverse Right W1-4R (Half Size)		
Two Way Traffic Sign W6-3 (Half Size)		
Detour Ahead W20-2(0) (Half Size)		DETOUR AHEAD
Left Lane Closed Ahead W20-5L(0) (Half Size)		LEFT LANE CLOSED AHEAD
Right Lane Closed Ahead W20-5R(0) (Half Size)		RIGHT LANE CLOSED AHEAD
Road Closed Ahead W20-3(0) (Half Size)		ROAD CLOSED AHEAD
Road Construction Ahead W20-1-(0) (Half Size)		ROAD CONSTRUCTION AHEAD
Single Lane Ahead (Half Size)		SINGLE LANE AHEAD
Transition Left W4-2L (Half Size)		
Transition Right W4-2R (Half Size)		

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STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 6 of 8)

STANDARD 000001–06

SIGNING ITEMS (contd.)

	EX	PR
One Way Arrow Lrg. W1-6-(0) (Half Size)		
Two Way Arrow Large W1-7-(0) (Half Size)		
Detour M4-10L-(0) (Half Size)		
Detour M4-10R-(0) (Half Size)		
One Way Left R6-1L (Half Size)		
One Way Right R6-1R (Half Size)		
Left Turn Lane R3-I100L (Half Size)		
Keep Left R4-7AL (Half Size)		
Keep Left R4-7BL (Half Size)		
Keep Right R4-7AR (Half Size)		
Keep Right R4-7BR (Half Size)		
Stop Here On Red R10-6-AL (Half Size)		
Stop Here On Red R10-6-AR (Half Size)		
No Left Turn R3-2 (Half Size)		
No Right Turn R3-1 (Half Size)		
Road Closed R11-2 (Half Size)		
Road Closed Thru Traffic R11-2 (Half Size)		

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STRUCTURES ITEMS

	EX	PR
Box Culvert Barrel		
Box Culvert Headwall		
Bridge Pier		
Bridge		
Retaining Wall		
Temporary Sheet Piling		

TRAFFIC SHEET ITEMS

	EX	PR
Cable Number		
Left Turn Green		
Left Turn Yellow		
Signal Backplate		
Signal Section 8" (200 mm)		
Signal Section 12" (300 mm)		
Walk/Don't Walk Letters		
Walk/Don't Walk Symbols		

TRAFFIC SIGNAL ITEMS

	EX	PR
Galv. Steel Conduit		
Underground Cable		
Detector Loop Line		
Detector Loop Large		
Detector Loop Small		
Detector Loop Quadrapole		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 7 of 8)

STANDARD 000001–06

TRAFFIC SIGNAL ITEMS (contd.)

	EX	PR
Detector Raceway		
Aluminum Mast Arm		
Steel Mast Arm		
Veh. Detector Magnetic		
Conduit Splice		
Controller		
Gulfbox Junction		
Wood Pole		
Temp. Signal Head		
Handhole		
Double Handhole		
Heavy Duty Handhole		
Junction Box		
Ped. Pushbutton Detector		
Ped. Signal Head		
Power Pole Service		
Priority Veh. Detector		
Signal Head		
Signal Head w/Backplate		
Signal Post		
Closed Circuit TV		
Video Detector System		

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UNDERGROUND UTILITY ITEMS

	EX	PR	ABANDONED
Cable TV	CTV	CTV	CTV
Electric Cable	E	E	E
Fiber Optic	FO	FO	FO
Gas Pipe	G	G	G
Oil Pipe	O	O	O
Sanitary Sewer			
Telephone Cable	T	T	T
Water Pipe	W	W	W

UTILITIES ITEMS

	EX	PR
Controller		
Double Handhole		
Fire Hydrant		
GuyWire or Deadman Anchor		
Handhole		
Heavy Duty Handhole		
Junction Box		
Light Pole		
Manhole		
Pipeline Warning Sign		
Power Pole		
Power Pole with Light		
Sanitary Sewer Cleanout		
Splice Box Above Ground		
Telephone Splice Box Above Ground		
Telephone Pole		

UTILITY ITEMS (contd.)

	EX	PR
Traffic Signal		
Traffic Signal Control Box		
Water Meter		
Water Meter Valve Box		
Profile Line		
Aerial Power Line	A A	A A

VEGETATION ITEMS

	EX	PR
Deciduous Tree		
Bush or Shrub		
Evergreen Tree		
Stump		
Orchard/Nursery Line		
Vegetation Line		
Woods & Bush Line		

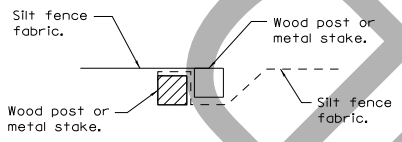
WATER FEATURE ITEMS

	EX	PR
Stream or Drainage Ditch		
Waters Edge		
Water Surface Indicator		
Water Point		
Disappearing Ditch		
Marsh		
Marsh/Swamp Boundary		

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

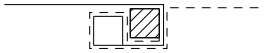
(Sheet 8 of 8)

STANDARD 000001–06



Place end-post (stake) of first silt fence adjacent to end-post (stake) of second silt fence with fabric positioned as swown.

STEP 1

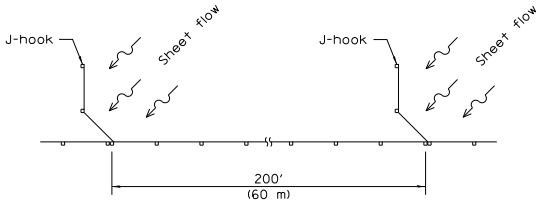


Rotate posts (stakes) together 180° clockwise and drive both posts (stakes) 18 (450) into ground.

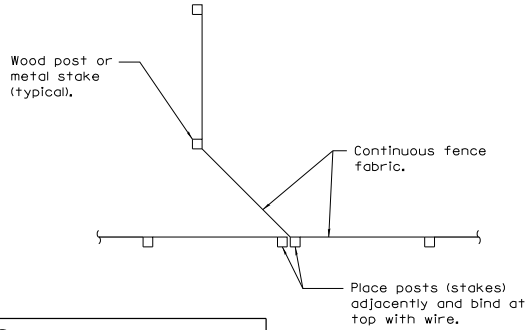
STEP 2

ATTACHING TWO SILT FILTER FENCES

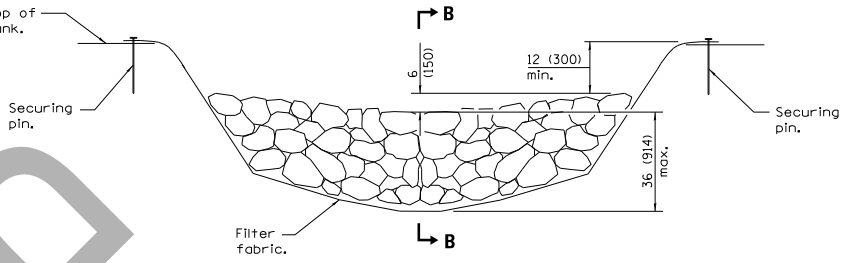
(Not applicable for J-hooks)



SILT FILTER J–HOOK PLACEMENT

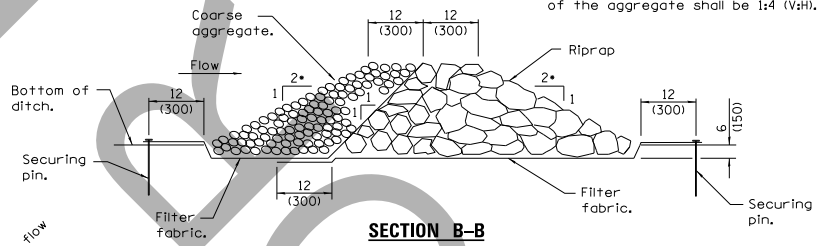


J–HOOK



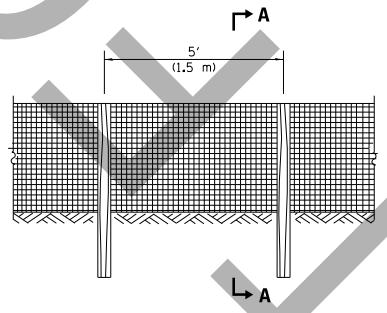
ELEVATION

- When the ditch check is within the clear zone and the road is open to traffic, the traffic approach slope of the aggregate shall be 1:4 (V:H).



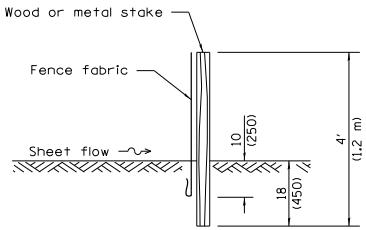
SECTION B–B

AGGREGATE DITCH CHECK

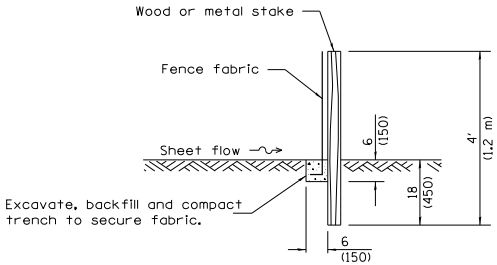


ELEVATION

SILT FILTER FENCE AS A PERIMETER EROSION BARRIER



SLICE METHOD



TRENCH METHOD

SECTION A–A

GENERAL NOTES

The installation details and dimensions shown for perimeter erosion barriers shall also apply for inlet and pipe protection.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2013
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2013
ENGINEER OF DESIGN AND ENVIRONMENT

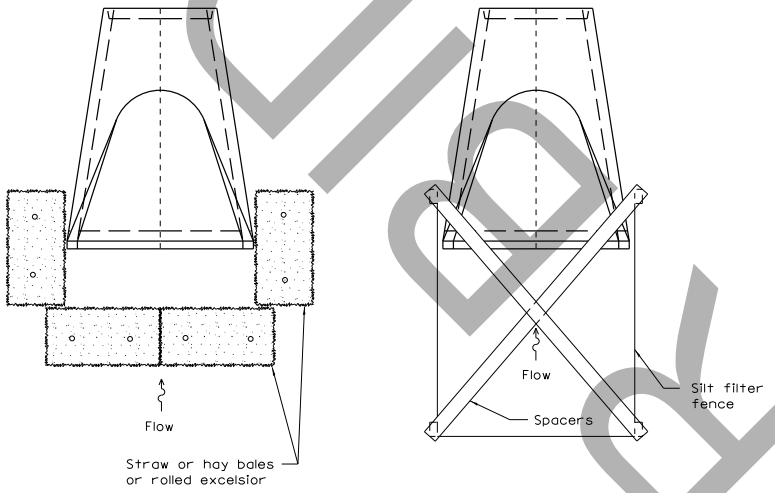
ISSUED 1-1-97

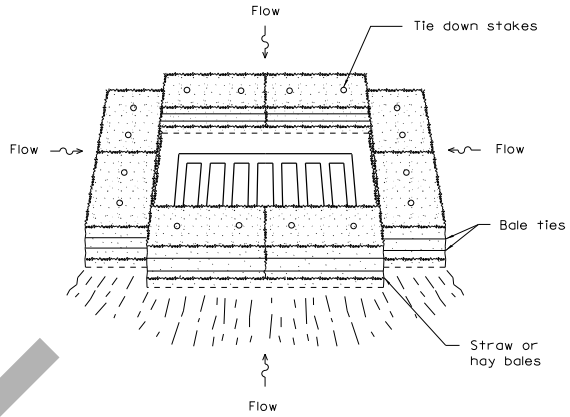
DATE	REVISIONS
1-1-13	Corrected notation for flowline (℄) on SEDIMENT BASIN ELEVATION.
1-1-12	Omitted hay/straw perimeter barrier. Added SLICE METHOD to SECTION A-A.

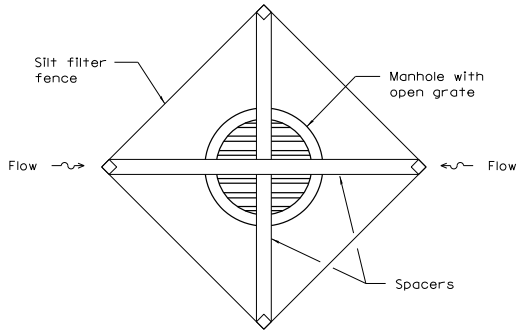
TEMPORARY EROSION CONTROL SYSTEMS

(Sheet 1 of 2)

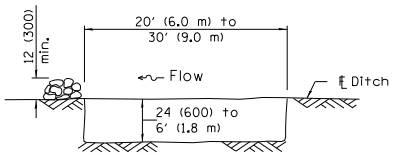
STANDARD 280001–07





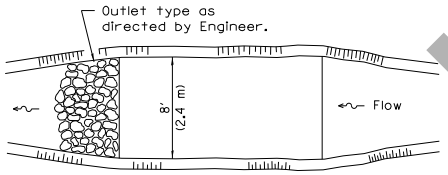


INLET AND PIPE PROTECTION



The performance of the basin will improve if put into a series.

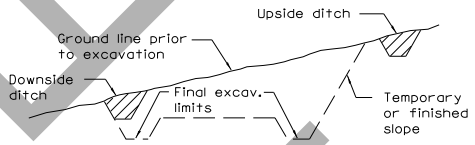
ELEVATION



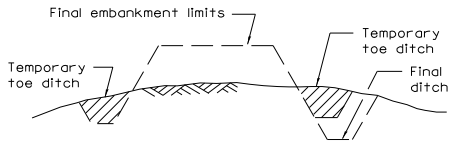
The long dimension should be parallel with the direction of the flow. Accumulated silt shall be removed anytime the basins become 75% filled.

PLAN

SEDIMENT BASIN



TYPICAL CUT CROSS-SECTION



TYPICAL FILL CROSS-SECTION

TEMPORARY DITCHES FOR CUT & FILL SECTIONS

Illinois Department of Transportation

PASSED January 1, 2013
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

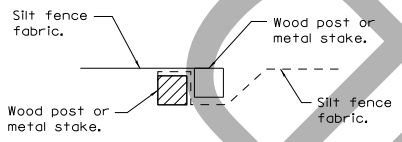
APPROVED January 1, 2013
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

TEMPORARY EROSION CONTROL SYSTEMS

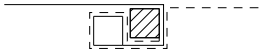
(Sheet 2 of 2)

STANDARD 280001-07



Place end-post (stake) of first silt fence adjacent to end-post (stake) of second silt fence with fabric positioned as swown.

STEP 1

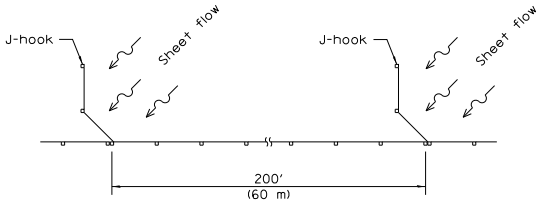


Rotate posts (stakes) together 180° clockwise and drive both posts (stakes) 18 (450) into ground.

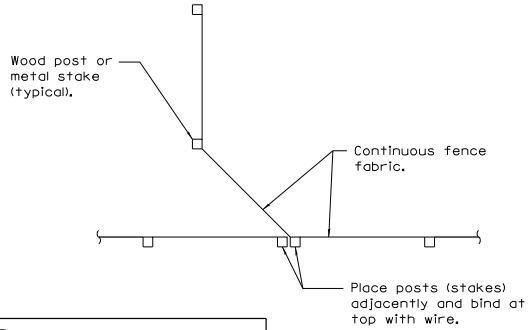
STEP 2

ATTACHING TWO SILT FILTER FENCES

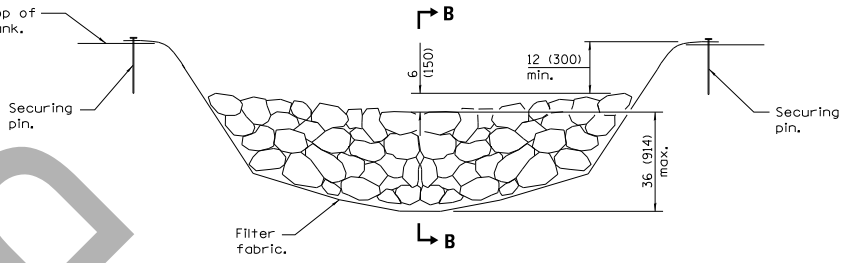
(Not applicable for J-hooks)



SILT FILTER J–HOOK PLACEMENT

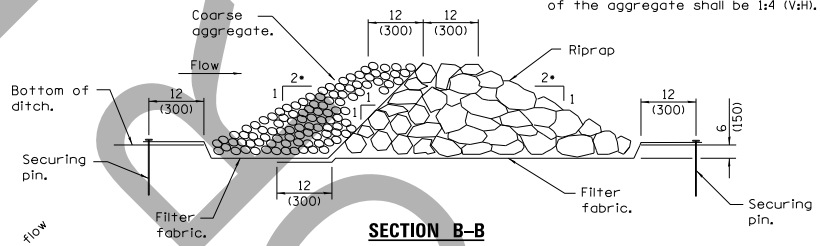


J–HOOK



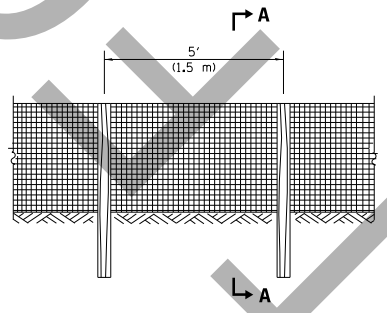
ELEVATION

- When the ditch check is within the clear zone and the road is open to traffic, the traffic approach slope of the aggregate shall be 1:4 (V:H).



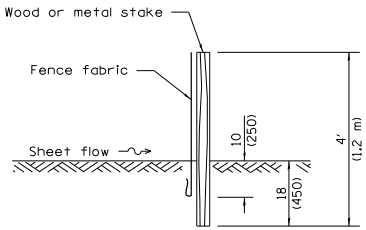
SECTION B–B

AGGREGATE DITCH CHECK

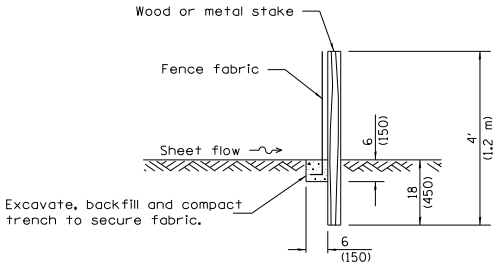


ELEVATION

SILT FILTER FENCE AS A PERIMETER EROSION BARRIER



SLICE METHOD



TRENCH METHOD

SECTION A–A

GENERAL NOTES

The installation details and dimensions shown for perimeter erosion barriers shall also apply for inlet and pipe protection.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2013
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2013
ENGINEER OF DESIGN AND ENVIRONMENT

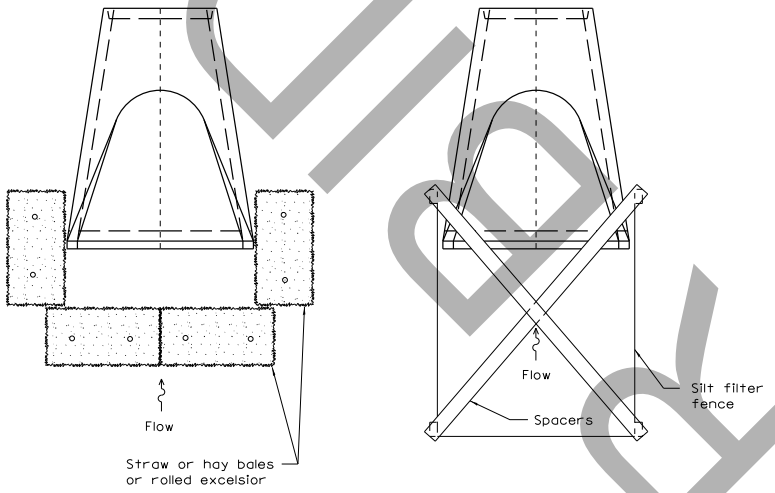
ISSUED 1-1-97

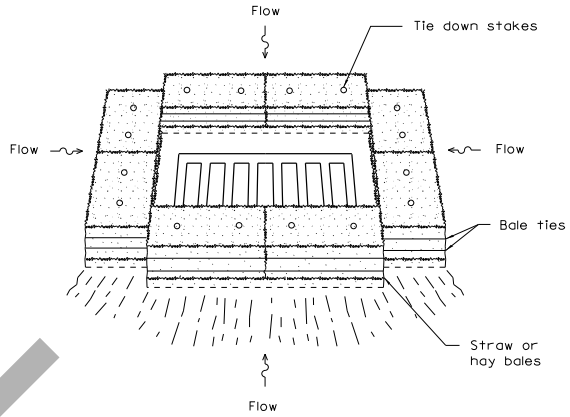
DATE	REVISIONS
1-1-13	Corrected notation for flowline (℄) on SEDIMENT BASIN ELEVATION.
1-1-12	Omitted hay/straw perimeter barrier. Added SLICE METHOD to SECTION A-A.

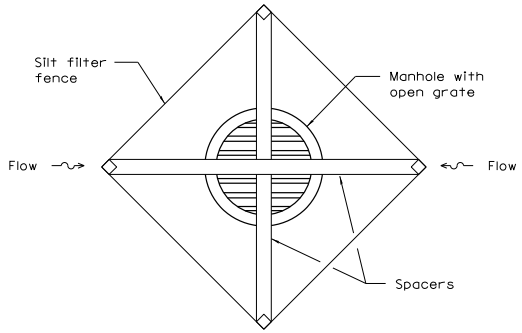
TEMPORARY EROSION CONTROL SYSTEMS

(Sheet 1 of 2)

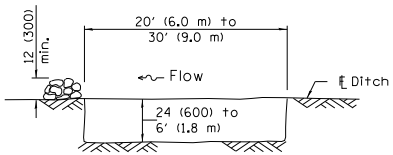
STANDARD 280001–07





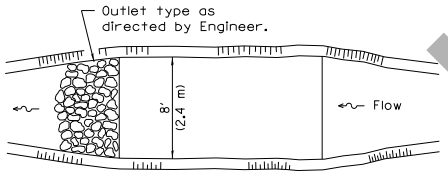


INLET AND PIPE PROTECTION



The performance of the basin will improve if put into a series.

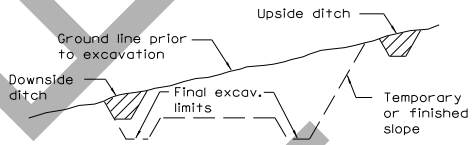
ELEVATION



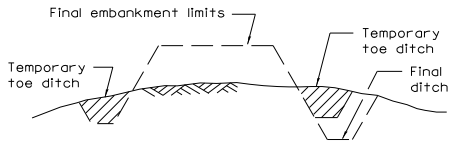
The long dimension should be parallel with the direction of the flow. Accumulated silt shall be removed anytime the basins become 75% filled.

PLAN

SEDIMENT BASIN



TYPICAL CUT CROSS-SECTION



TYPICAL FILL CROSS-SECTION

TEMPORARY DITCHES FOR CUT & FILL SECTIONS

Illinois Department of Transportation

PASSED January 1, 2013
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2013
ENGINEER OF DESIGN AND ENVIRONMENT

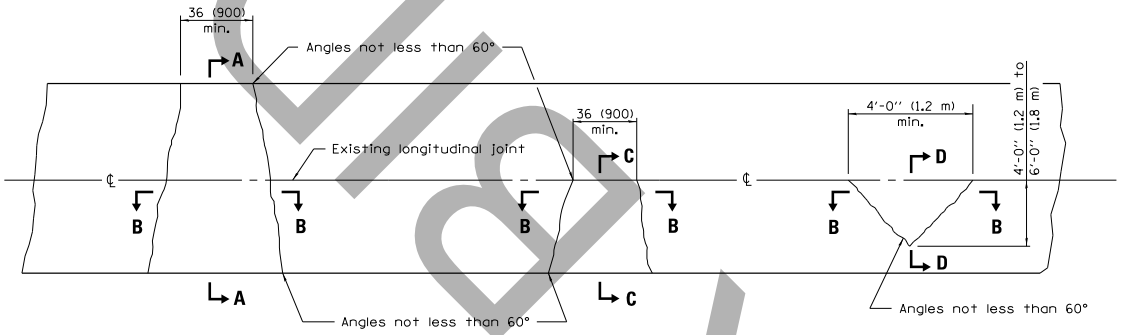
ISSUED 1-1-97

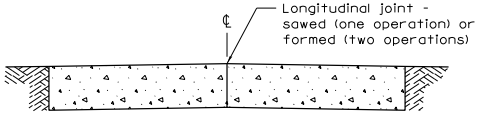
TEMPORARY EROSION CONTROL SYSTEMS

(Sheet 2 of 2)

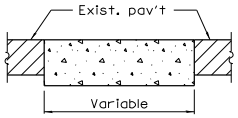
STANDARD 280001-07

CLASS C

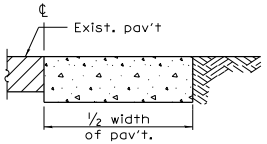




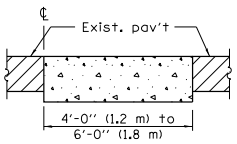
SECTION A–A



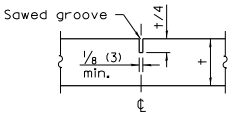
SECTION B–B



SECTION C–C



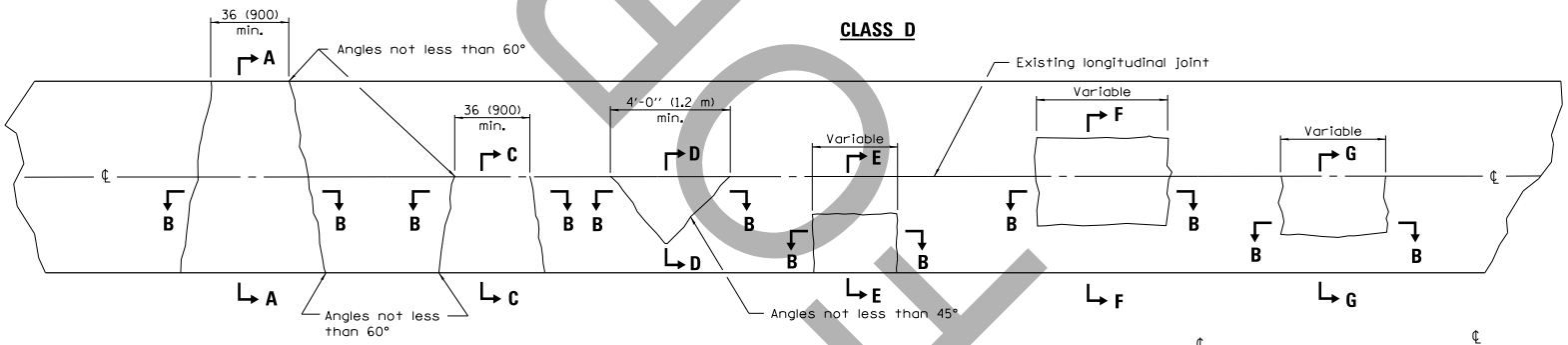
SECTION D–D

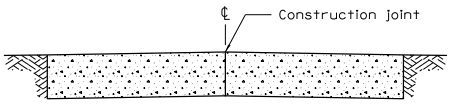


DETAIL OF SAWED CONTRACTION JOINT

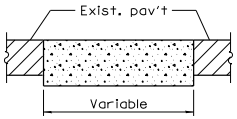
Note:
Longitudinal joints shall be as detailed on Standard 420001, except tie bars are not required for patches 20'-0" (6.0 m) or less in length.

CLASS D

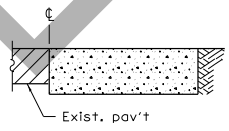




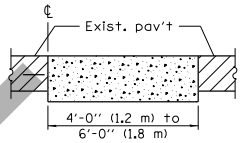
SECTION A–A
(Built in two operations)



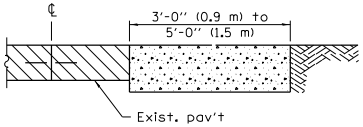
SECTION B–B



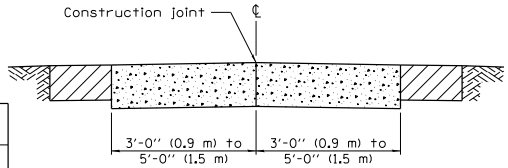
SECTION C–C



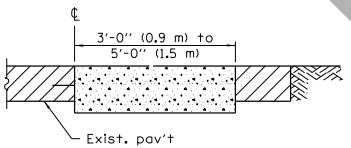
SECTION D–D



SECTION E–E



SECTION F–F
(Built in two operations)



SECTION G–G

GENERAL NOTES

Existing tie bars shall be either cut or removed. Marginal bars shall be cut.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2008
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2008
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

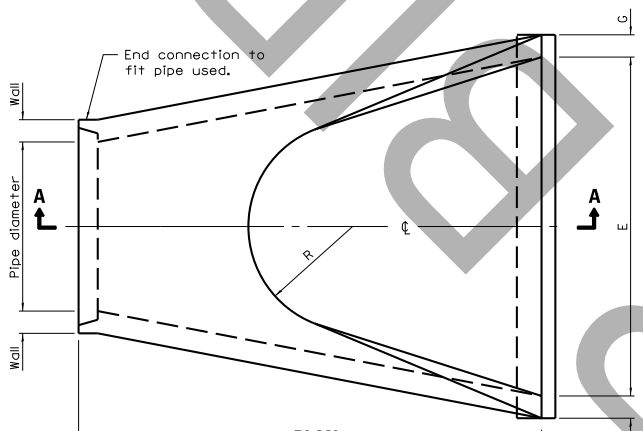
DATE	REVISIONS
1-1-08	Switched units to
	English (metric).
1-1-07	Revised Note for
	Class C patches.

CLASS C and D PATCHES

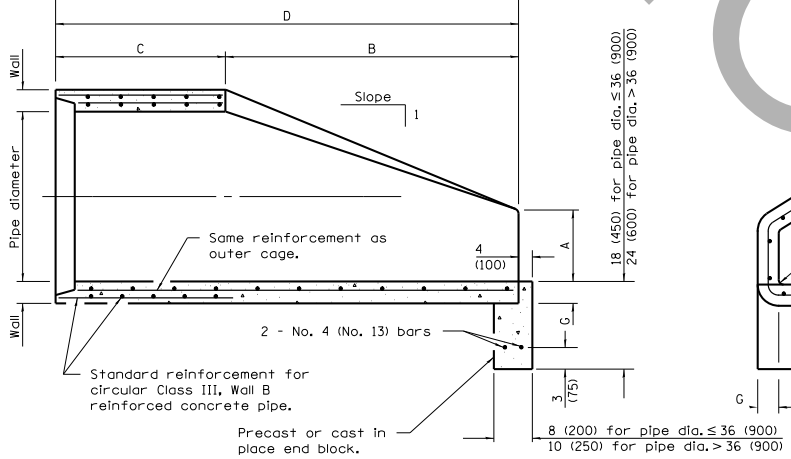
STANDARD 442201–03

PIPE DIA.	APPROX. QTY. lbs. (kg)	WALL	A	B	C	D	E	G	R	APPROX. SLOPE
12 (300)	530 (240)	2 (51)	4 (102)	24 (610)	4′-0⅞″ (1.241 m)	6′-0⅞″ (1.851 m)	24 (610)	2 (51)	9 (229)	1:2.4
15 (375)	740 (335)	2¼ (57)	6 (152)	27 (686)	3′-10″ (1.168 m)	6′-1″ (1.854 m)	30 (762)	2¼ (57)	11 (280)	1:2.4
18 (450)	990 (450)	2½ (64)	9 (229)	27 (686)	3′-10″ (1.168 m)	6′-1″ (1.854 m)	36 (914)	2½ (64)	12 (305)	1:2.4
21 (525)	1280 (580)	2¾ (70)	9 (229)	35 (889)	38 (965)	6′-1″ (1.854 m)	3′-6″ (1.067 m)	2¾ (70)	13 (330)	1:2.4
24 (600)	1520 (690)	3 (76)	9½ (241)	3′-7½″ (1.105 m)	30 (762)	6′-1½″ (1.867 m)	4′-0″ (1.219 m)	3 (76)	14 (356)	1:2.5
27 (675)	1930 (875)	3¼ (83)	10½ (267)	4′-0″ (1.219 m)	25½ (648)	6′-1½″ (1.867 m)	4′-6″ (1.372 m)	3¼ (83)	14½ (368)	1:2.4
30 (750)	2190 (995)	3½ (89)	12 (305)	4′-6″ (1.375 m)	19¾ (502)	6′-1¾″ (1.874 m)	5′-0″ (1.524 m)	3½ (89)	15 (381)	1:2.5
33 (825)	3200 (1450)	3¾ (95)	13½ (343)	4′-10½″ (1.486 m)	39¼ (997)	8′-1¾″ (2.483 m)	5′-6″ (1.676 m)	3¾ (95)	17½ (445)	1:2.5
36 (900)	4100 (1860)	4 (102)	15 (381)	5′-3″ (1.6 m)	34¾ (883)	8′-1¾″ (2.483 m)	6′-0″ (1.829 m)	4 (102)	20 (508)	1:2.5
42 (1050)	5380 (2440)	4½ (114)	21 (533)	5′-3″ (1.6 m)	35 (889)	8′-2″ (2.489 m)	6′-6″ (1.981 m)	4½ (114)	22 (559)	1:2.5
48 (1200)	6550 (2970)	5 (127)	24 (610)	6′-0″ (1.829 m)	26 (660)	8′-2″ (2.489 m)	7′-0″ (2.134 m)	5 (127)	22 (559)	1:2.5
54 (1350)	8240 (3740)	5½ (140)	27 (686)	5′-5″ (1.651 m)	35 (889)	8′-4″ (2.54 m)	7′-6″ (2.286 m)	5½ (140)	24 (610)	1:2.0
60 (1500)	8730 (3960)	6 (152)	35 (889)	5′-0″ (1.524 m)	39 (991)	8′-3″ (2.515 m)	8′-0″ (2.438 m)	5 (127)	•	1:1.9
66 (1650)	10710 (4860)	6½ (165)	30 (762)	6′-0″ (1.829 m)	27 (686)	8′-3″ (2.515 m)	8′-6″ (2.591 m)	5½ (140)	•	1:1.7
72 (1800)	12520 (5680)	7 (178)	36 (914)	6′-6″ (1.981 m)	21 (533)	8′-3″ (2.514 m)	9′-0″ (2.743 m)	6 (152	•	1:1.8
78 (1950)	14770 (6700)	7½ (191)	36 (914)	7′-6″ (2.286 m)	21 (533)	9′-3″ (2.819 m)	9′-6″ (2.896 m)	6½ (165)	•	1:1.8
84 (2100)	18160 (8240)	8 (203)	36 (914)	7′-6½″ (2.299 m)	21 (533)	9′-3½″ (2.832 m)	10′-0″ (3.048 m)	6½ (165)	•	1:1.6

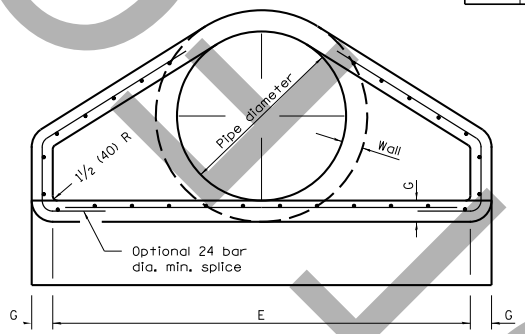
• Radius as furnished by manufacturer



PLAN



SECTION A–A



END VIEW

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2011
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT

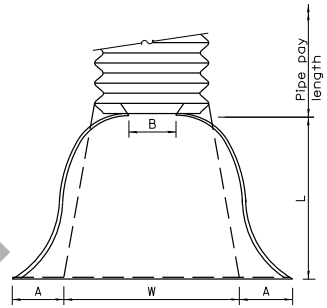
ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Clarified ref. to pipe dia.
	on Section A-A. Changed
	'inner' to 'outer' cage ref.
1-1-09	Switched units to
	English (metric).

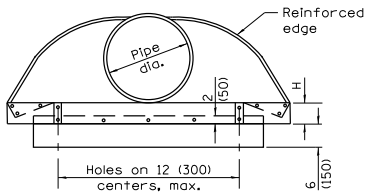
PRECAST REINFORCED CONCRETE FLARED END SECTION

STANDARD 542301–03

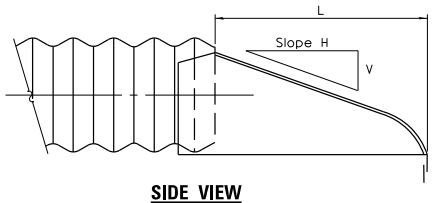
PIPE DIA.	THICK-NESS	DIMENSIONS A 1± (25)	B (max.)	H 1± (25)	L 1½± (38)	W 2± (50)	SLOPE (Approx.) (V:H)	BODY
12 (300)	0.064 (1.63)	6 (150)	6 (150)	6 (150)	21 (535)	24 (610)	1:2½	1 Pc.
15 (375)	0.064 (1.63)	7 (180)	8 (205)	6 (150)	26 (660)	30 (760)	1:2½	1 Pc.
18 (450)	0.064 (1.63)	8 (205)	10 (255)	6 (150)	31 (785)	36 (915)	1:2½	1 Pc.
21 (525)	0.064 (1.63)	9 (230)	12 (305)	6 (150)	36 (915)	42 (1.065 m)	1:2½	1 Pc.
24 (600)	0.064 (1.63)	10 (255)	13 (330)	6 (150)	41 (1.040 m)	48 (1.220 m)	1:2½	1 Pc.
30 (750)	0.079 (2.01)	12 (305)	16 (405)	8 (205)	51 (1.295 m)	60 (1.525 m)	1:2½	1 Pc.
36 (900)	0.079 (2.01)	14 (355)	19 (480)	9 (230)	60 (1.525 m)	72 (1.830 m)	1:2½	2 Pc.
42 (1050)	0.109 (2.77)	16 (405)	22 (560)	11 (280)	69 (1.750 m)	84 (2.135 m)	1:2½	2 Pc.
48 (1200)	0.109 (2.77)	18 (455)	27 (685)	12 (305)	78 (1.980 m)	90 (2.285 m)	1:2¼	2 Pc.
54 (1350)	0.109 (2.77)	18 (455)	30 (760)	12 (305)	84 (2.135 m)	102 (2.590 m)	1:2	2 Pc.
60 (1500)	0.109 (2.77)	18 (455)	33 (840)	12 (305)	87 (2.210 m)	114 (2.895 m)	1:1¾	3 Pc.
66 (1650)	0.109 (2.77)	18 (455)	36 (915)	12 (305)	87 (2.210 m)	120 (3.050 m)	1:1½	3 Pc.
72 (1800)	0.109 (2.77)	18 (455)	39 (990)	12 (305)	87 (2.210 m)	126 (3.200 m)	1:1⅓	3 Pc.
78 (1950)	0.109 (2.77)	18 (455)	42 (1.065 m)	12 (305)	87 (2.210 m)	132 (3.355 m)	1:1¼	3 Pc.
84 (2250)	0.109 (2.77)	18 (455)	45 (1.145 m)	12 (305)	87 (2.210 m)	138 (3.505 m)	1:1⅙	3 Pc.



PLAN



END VIEW



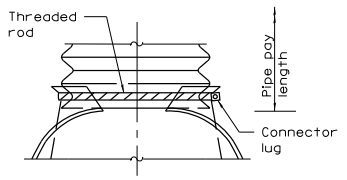
SIDE VIEW

END SECTION

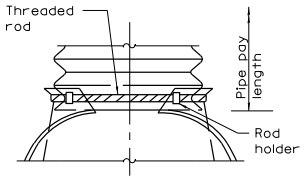
NOTES

For 60 (1500) thru 84 (2250) sizes, reinforced edges shall be supplemented with stiffener angles. The angles shall be 2x2x¼(51x51x6.4) for 60 (1500) thru 72 (1800) diameter and 2½x2½x¼ (64x64x6.4) for 78 (1950) thru 84 (2250) diameter. The angles shall be attached by ⅜ (M10) rivets or bolts.

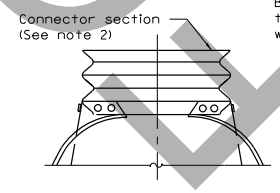
All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).



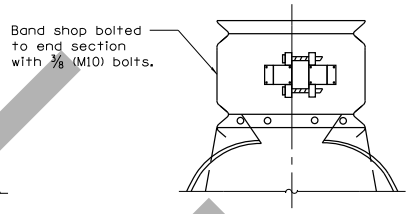
TYPE 1
For 12 (300) thru 24 (600) only
(See Note 1)



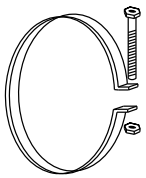
TYPE 2
For 30 (750) and 36 (900) only
(See Note 1)



TYPE 3
(See Note 2)



TYPE 4
(See Note 3)



1 (25) wide, 0.109 (2.77) thick strap with standard ½x6 (M12x150) band bolt and nut.

ALTERNATE STRAP CONNECTOR
(For Type 1 only)

NOTES

1. Types 1 and 2 for pipes with annular ends only.
2. Type 3 connection may be used for all pipe sizes and includes 12 (300) of the pipe length. The connector section shall be attached to the end section by rivets or bolts and shall be the same metal thickness as the end section. Stub shall be either 2⅔ (68) pitch x ½ (13) depth or 3 (75) pitch x 1 (25) depth annular corrugated pipe.
3. Type 4 connection can be used for all pipe sizes. Coupler shall be 2⅔ x ½ (68x13) dimple, hugger, or annular band of 3x1 (75x25). The dimple, hugger, or annular band may be used with corrugated metal pipes having annular ends. For corrugated metal pipes having helical ends, only the dimple band will be allowed.

All dimensions are in inches (millimeters) unless otherwise shown.

CONNECTIONS OF END SECTIONS

Illinois Department of Transportation

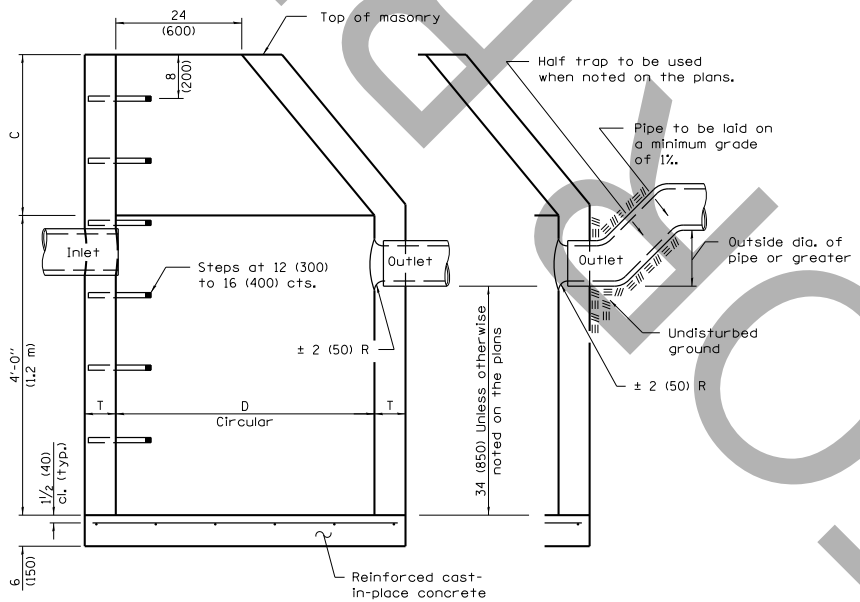
PASSED January 1, 2009
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-09	Switched units to
	English (metric).
1-1-97	Renum. Standard 2228-5.

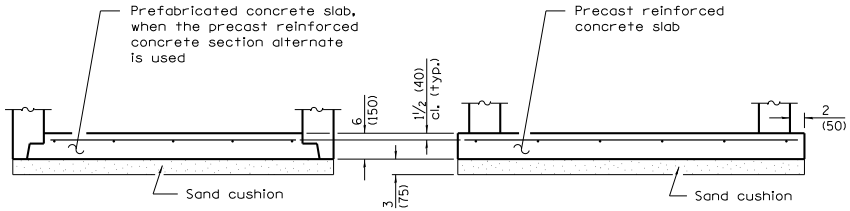
METAL END SECTION FOR PIPE CULVERTS

STANDARD 542401-01



ELEVATION
(Standard Outlet)

ELEVATION
(Half Trap)



ALTERNATE BOTTOM SLAB

ALTERNATE MATERIALS FOR WALLS	D	C•	T (min.)
Concrete Masonry Unit	4'-0" (1.2 m) 5'-0" (1.5 m)	30 (750) 3'-9" (1.15 m)	5 (125) 5 (125)
Brick Masonry	4'-0" (1.2 m) 5'-0" (1.5 m)	30 (750) 3'-9" (1.15 m)	8 (200) 8 (200)
Precast Reinforced Concrete Section	4'-0" (1.2 m) 5'-0" (1.5 m)	30 (750) 3'-9" (1.15 m)	4 (100) 5 (125)
Cast-in-place Concrete	4'-0" (1.2 m) 5'-0" (1.5 m)	30 (750) 3'-9" (1.15 m)	6 (150) 6 (150)

• For precast reinforced concrete sections, dimension "C" may vary from the dimension given to plus 6 (150).

GENERAL NOTES

Bottom slabs shall be reinforced with a minimum of 0.20 sq. in./ft (420 sq. mm/m) in both directions with a maximum spacing of 12 (300).

Bottom slabs may be connected to the riser as determined by the fabricator; however, only a single row of reinforcement around the perimeter may be utilized.

See Standard 602601 for optional precast reinforced concrete flat slab top.

See Standard 602701 for details of steps.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2011
Michael Brand
ENGINEER OF POLICY AND PROCEDURES

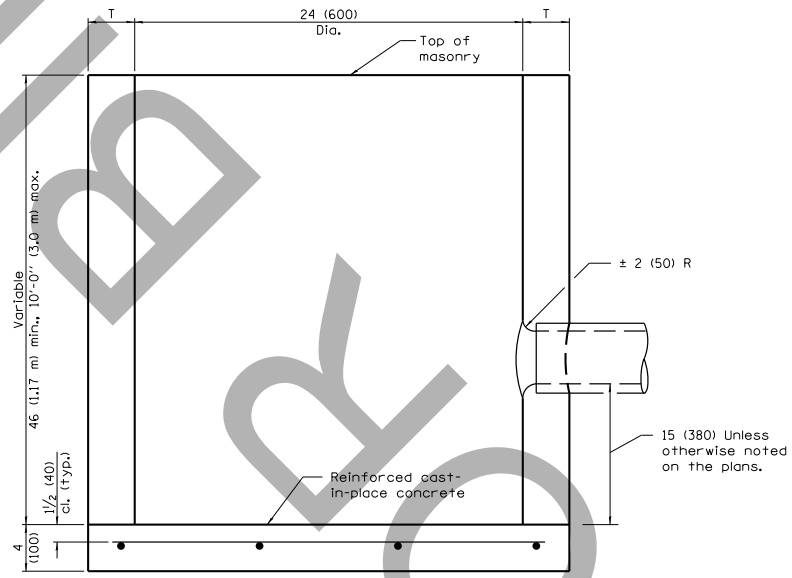
APPROVED January 1, 2011
Scott Bush
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Added 'Outside' to half trap
	note. Detail rein. in slabs.
	Revised general notes.
1-1-09	Switched units to
	English (metric).

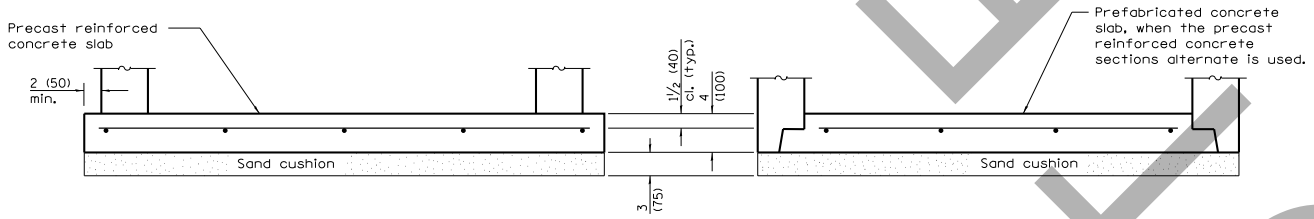
CATCH BASIN TYPE A

STANDARD 602001-02



ELEVATION

ALTERNATE MATERIALS FOR WALLS	T (min)
Precast Reinforced Concrete Section	3 (75)
Concrete Masonry Unit	5 (125)
Cast-in-Place Concrete	6 (150)
Brick Masonry	8 (200)



ALTERNATE BOTTOM SLAB

GENERAL NOTES

Bottom slabs shall be reinforced with a minimum of 0.27 sq. in./ft. (570 sq. mm/m) in both directions with a maximum spacing of 9 (230).

Bottom slabs may be connected to the riser as determined by the fabricator; however, only a single row of reinforcement around the perimeter may be utilized.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

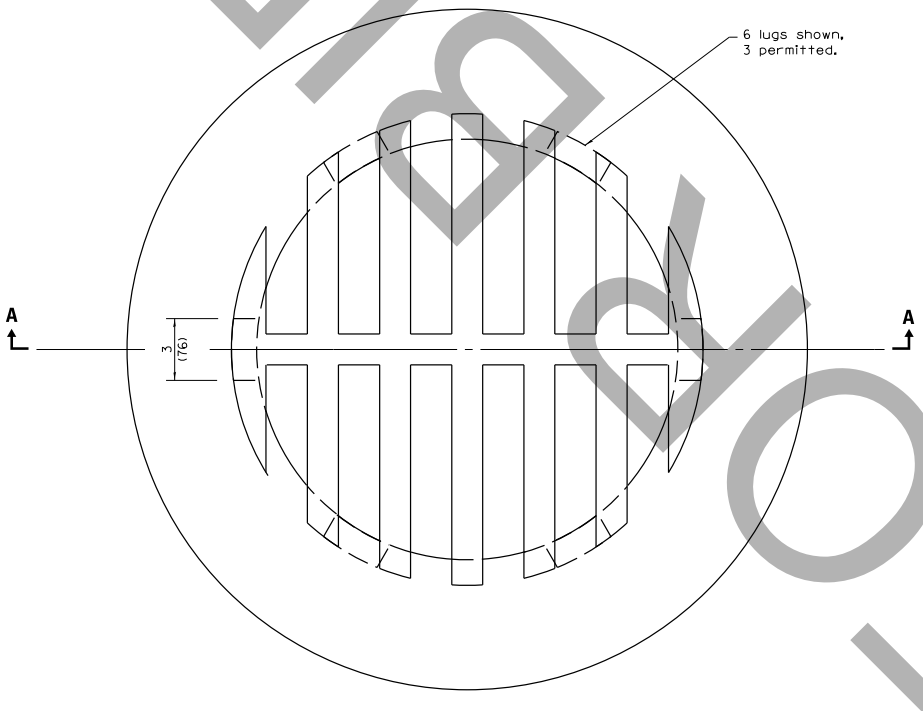
PASSED January 1, 2011
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

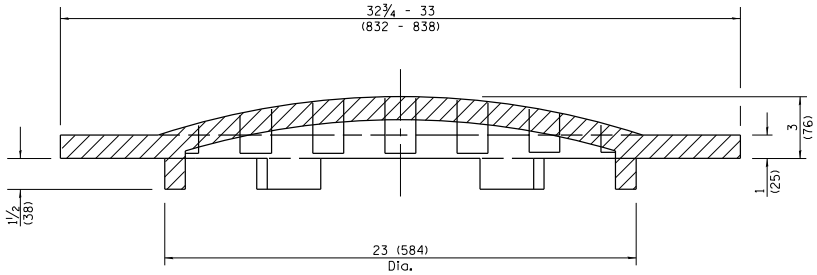
DATE	REVISIONS
1-1-11	Detailed rein. in slabs.
	Added max. limit to height.
	Added general notes.
1-1-09	Switched units to
	English (metric).

CATCH BASIN TYPE C

STANDARD 602011-02



CAST GRATE



SECTION A–A

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-15	Revised dimensions.
1-1-09	Switched units to
	English (metric).

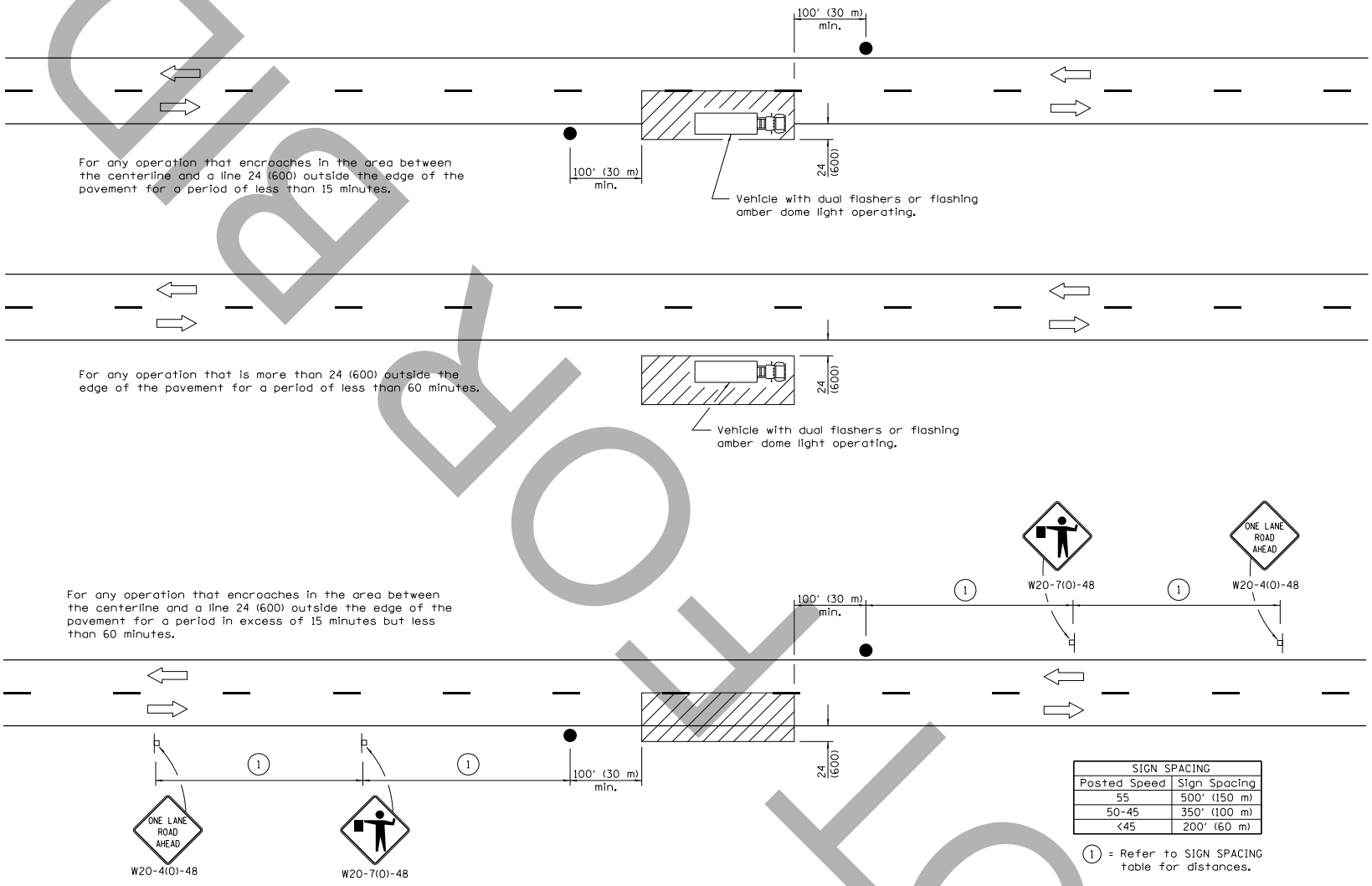
GRATE TYPE 8

STANDARD 604036–03

Illinois Department of Transportation

PASSED January 1. 2015
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1. 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

(1) = Refer to SIGN SPACING table for distances.

TYPICAL APPLICATIONS

Marking patches
Field survey
String line
Utility operations
Cleaning up debris on pavement

SYMBOLS

Work area

Sign on portable or permanent support

Flagger with traffic control sign

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2011
ENGINEER OF SAFETY ENGINEERING

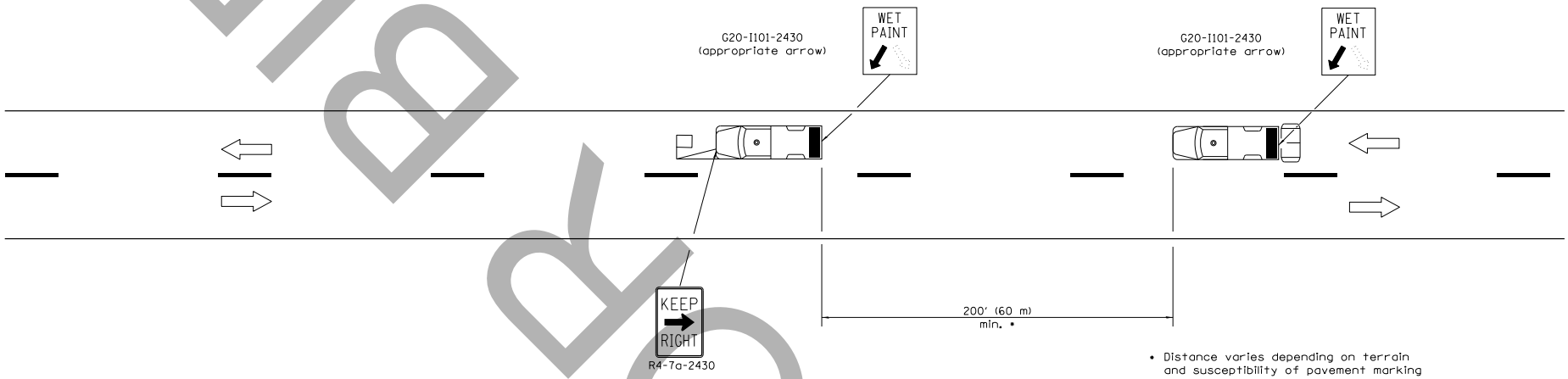
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to
	English (metric).

LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS

STANDARD 701301-04



• Distance varies depending on terrain and susceptibility of pavement marking or crack sealant to wheel tracking.

TYPICAL APPLICATIONS

Landscaping work
Utility work
Pavement marking
Weed spraying
Roadometer measurements
Debris cleanup
Crack pouring

SYMBOLS

Arrow board (Hazard Mode only)

Truck with headlights, emergency flashers and flashing amber light. (visible from all directions)

18x18 (450x450) min. orange flag (use when guide wheel is used)

Truck mounted attenuator

GENERAL NOTES

This Standard is used where any vehicle, equipment, workers or their activities will require a continuous moving operation where the average speed is greater than 3 mph (5 km/h).

For shoulder operations not encroaching on the pavement, use DETAIL A, Standard 701426.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2009
ENGINEER OF OPERATIONS

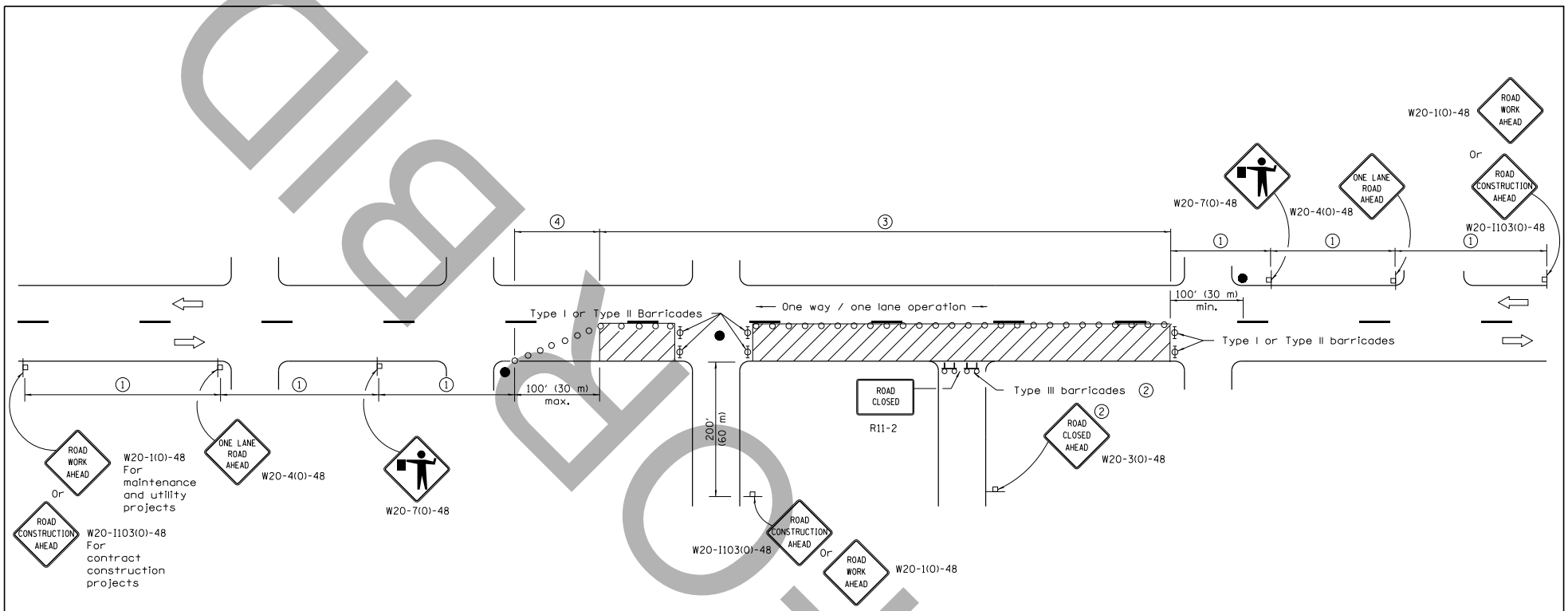
APPROVED January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-09	Switched units to
	English (metric). Omitted
	Pass With Care sign.
1-1-00	Elim. speed restrictions
	in Standard title.

LANE CLOSURE 2L, 2W MOVING OPERATIONS–DAY ONLY

STANDARD 701311–03



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

SYMBOLS

- Work area
- Cone, drum or barricade (not required for moving operations)
- Sign on portable or permanent support
- Flagger with traffic control sign
- Barricade or drum with flashing light
- Type III barricade with flashing lights

1. Refer to SIGN SPACING TABLE for distances.
2. For approved sideroad closures.
3. Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
4. Cones, drums or barricades at 20' (6 m) centers.

GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an urban area.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

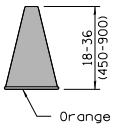
APPROVED January 1, 2011
ENGINEER OF SAFETY ENGINEERING
APPROVED January 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

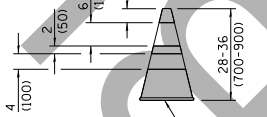
DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to
	English (metric).
	Corrected sign No.'s.

URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED

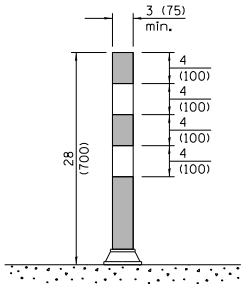
STANDARD 701501-06



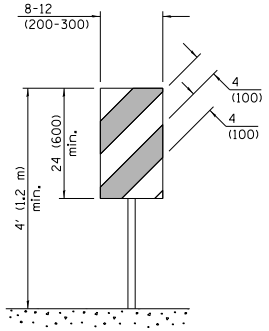
CONE



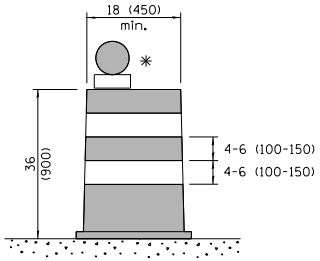
REFLECTORIZED CONE



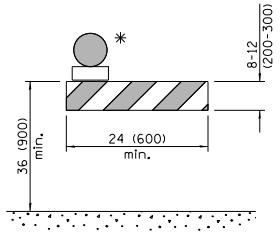
FLEXIBLE DELINEATOR



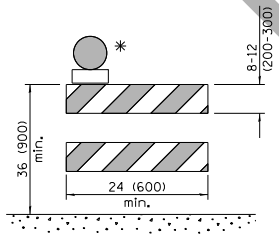
VERTICAL PANEL
POST MOUNTED



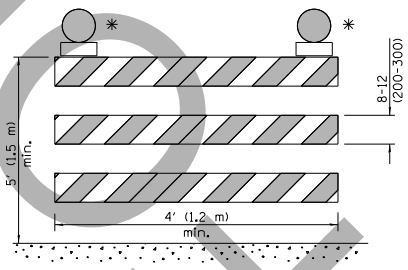
DRUM



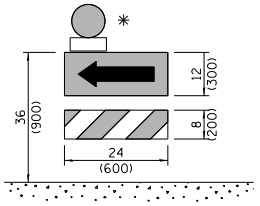
TYPE I BARRICADE



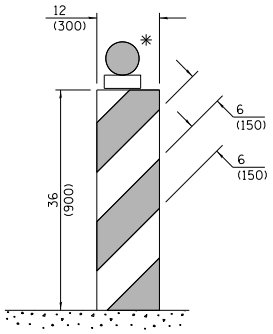
TYPE II BARRICADE



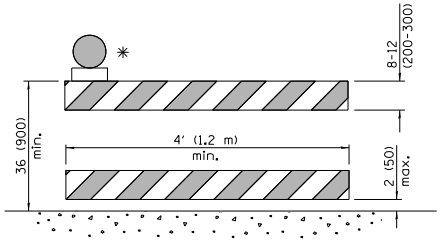
TYPE III BARRICADE



DIRECTION INDICATOR BARRICADE



VERTICAL BARRICADE



DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE

* Warning lights (if required)

GENERAL NOTES

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2015
ENGINEER OF OPERATIONS

APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

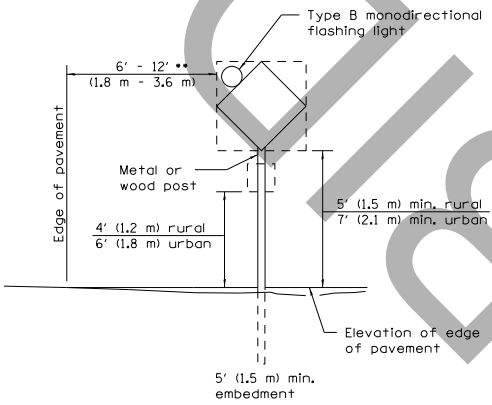
ISSUED 1-1-97

DATE	REVISIONS
1-1-15	Revised two sign numbers on sheet 2. Added note reg. PHOTO ENFORCED plaque.
1-1-14	Modified flagger sign height. Added highway construction speed zone signs.

TRAFFIC CONTROL DEVICES

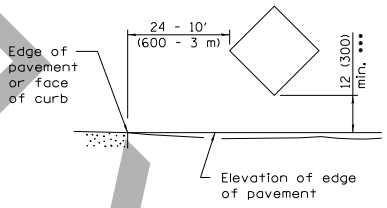
(Sheet 1 of 3)

STANDARD 701901-04



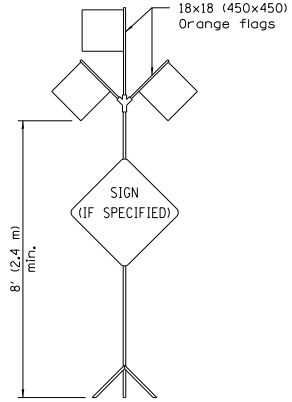
POST MOUNTED SIGNS

•• When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.

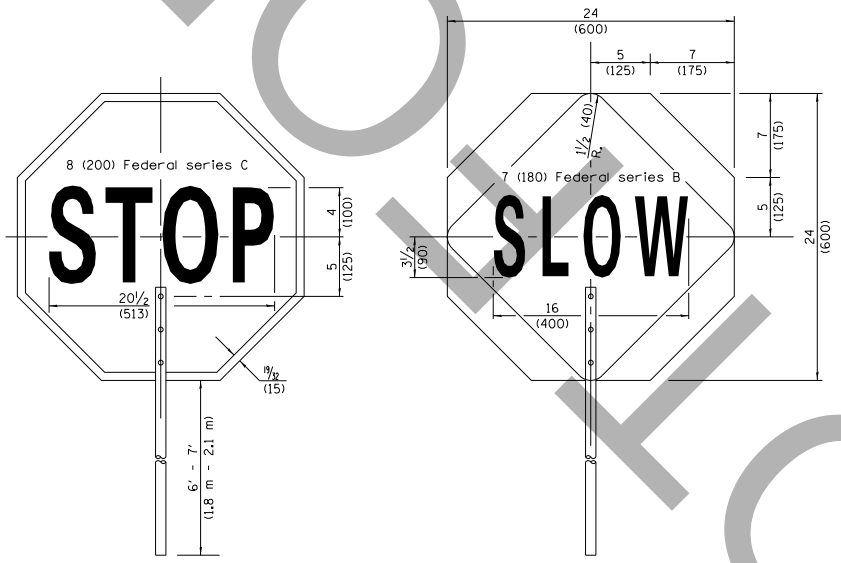


SIGNS ON TEMPORARY SUPPORTS

••• When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



HIGH LEVEL WARNING DEVICE



FLAGGER TRAFFIC CONTROL SIGN

ROAD CONSTRUCTION NEXT X MILES — G20-I104(0)-6036

END CONSTRUCTION — G20-I105(0)-6024

This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.

END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING

WORK ZONE — W21-I115(0)-3618

SPEED LIMIT XX — R2-1-3648

PHOTO ENFORCED — R10-I108p-3618 ••••

$XXX FINE MINIMUM — R2-I106p-3618

Sign assembly as shown on Standards or as allowed by District Operations.

END WORK ZONE SPEED LIMIT — G20-I103(0)-6036

This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

•••• R10-I108p shall only be used along roadways under the juristiction of the State.

Illinois Department of Transportation

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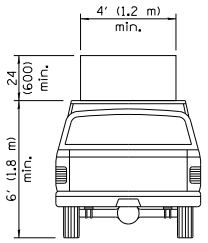
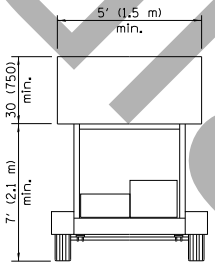
TRAFFIC CONTROL DEVICES

(Sheet 2 of 3)

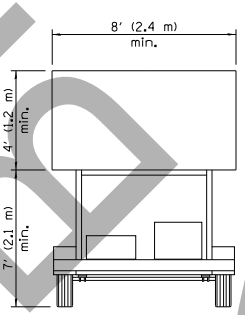
STANDARD 701901-04



TYPE A ROOF MOUNTED

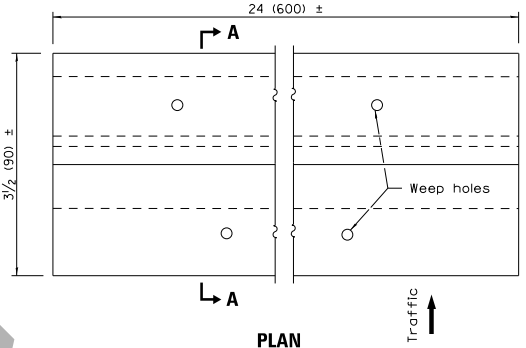


TYPE B ROOF OR TRAILER MOUNTED

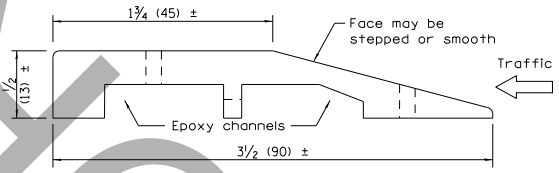


TYPE C TRAILER MOUNTED

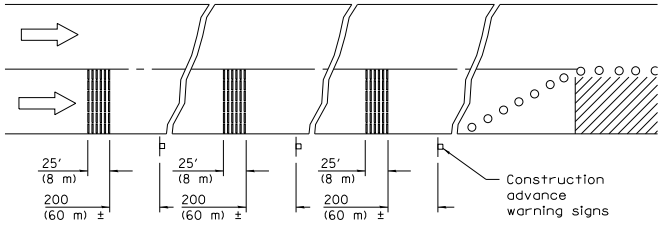
ARROW BOARDS

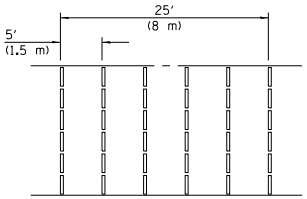


PLAN



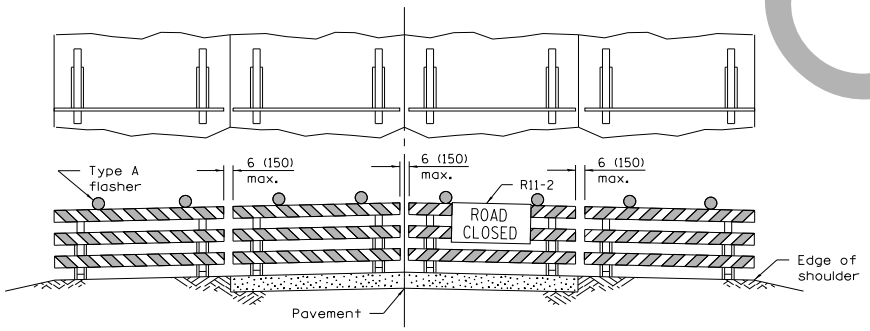
SECTION A–A





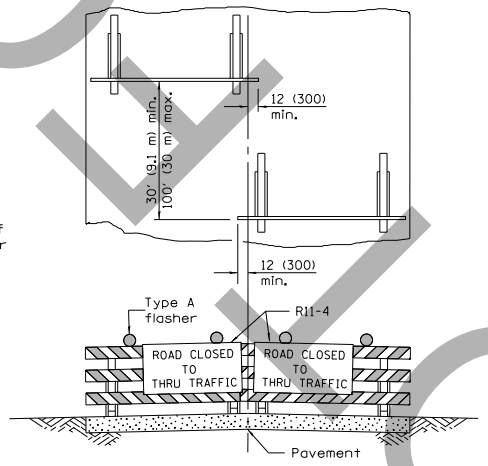
TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.



ROAD CLOSED TO THRU TRAFFIC

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

Illinois Department of Transportation

APPROVED January 1, 2015
ENGINEER OF OPERATIONS

APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

TRAFFIC CONTROL DEVICES

(Sheet 3 of 3)

STANDARD 701901–04

SOIL AND MATERIAL CONSULTANTS, INC.

office: 1-847-870-0544
fax: 1-847-870-0661
www.soilandmaterialconsultants.com
us@soilandmaterialconsultants.com

January 30, 2015
File No. 21873

Mr. Kevin Mantels
Village of Villa Park
20 South Ardmore Avenue
Villa Park, IL 60181

Re: Pavement Investigation
Geotechnical Year 1 – Group 2
Villa Park, Illinois

Dear Mr. Mantels:

We are submitting our report for the pavement investigation completed on various streets for the Geotechnical Year 1 - Group 2 Road Program located in the Village of Villa Park, Illinois.

The investigation was requested to determine existing pavement sections and subgrade soil support conditions. The information is intended to assist in planning, design and construction of the proposed road program.

SCOPE OF THE INVESTIGATION

The field investigation included a total of 32 test locations as shown on the enclosed sketches. The pavement section was cored to determine material types and thicknesses. The supporting soils were visually and texturally classified in the field to depths of 7.0 feet. Soil samples were obtained using a split barrel sampler advanced utilizing an automatic SPT hammer.

Pavement materials and soil samples obtained during the field investigation were returned to our laboratory for review and testing. Soil testing included determination of moisture content. Cohesive soils obtained by split barrel sampling were further tested to determine dry unit weight and unconfined compressive strength. The results of all field and laboratory testing are included in summary with this report.

RESULTS

The pavement cores determined the existing pavement section at the selected locations. Our findings are presented on the enclosed logs and are summarized as follows:

Location	HMA Surf. (in.)	HMA Bind. (in.)	Granular Base (in.)	Emulsified Soil & Agg. Mix (in.)	Total HMA (in.)	Total Pvmnt. (in.)
Armitage Avenue – Harvard Drive to Ardmore Avenue						
C/B-1	5.00		8.50		5.00	13.50
C/B-2	4.00**		4.50	5.75	4.00	14.25
C/B-3	2.50**	4.00	4.50		6.50	11.00
C/B-4	7.75**			3.75	7.75	11.50
C/B-5	5.25**			4.75	5.25	10.00

Location	Concrete (in.)	Granular Base (in.)	Total Pavement (in.)
Armitage Avenue – Ellsworth Avenue to Villa Avenue			
C/B-6	8.00	3.50	11.50
C/B-7	7.50	6.25	13.75
C/B-8	8.50	15.50	24.00

Location	HMA Surf. (in.)	HMA Bind. (in.)	Granular Base (in.)	Emulsified Soil & Agg. Mix (in.)	Total HMA (in.)	Total Pvmnt. (in.)
W. Belden Avenue						
C/B-9		2.00	5.00		2.00	7.00
C/B-10	0.75	1.50	9.50		2.25	11.75
C/B-11		3.50		4.00	3.50	7.50
C/B-12		3.75	6.50	4.00	3.75	14.25
C/B-13		3.75	4.75		3.75	8.50
W. Sidney Avenue						
C/B-14		2.75	10.75		2.75	13.50
C/B-15		2.50	57.50		2.50	60.00
C/B-16		1.75	21.25		1.75	23.00

Location	HMA Surf. (in.)	HMA Bind. (in.)	Granular Base (in.)	Bituminous Treated Agg. (in.)	Total HMA (in.)	Total Pvmnt. (in.)
Yale Avenue						
C/B-17	2.00	2.00	6.50	3.00	4.00	13.50
C/B-18	1.75	1.25*	3.25	2.75	3.00	9.00
C/B-19	1.75	2.00	2.00	3.75*	3.75	9.50
C/B-20	2.25		4.75	5.00	2.25	12.00
C/B-21	2.00		3.25	9.50*	2.00	14.75
C/B-22	2.25		5.25	3.50	2.25	11.00
C/B-23	2.00	1.75	6.75		3.75	10.50
C/B-24	2.00		4.00	6.00	2.00	12.00

*Failures noted.
**Petromat was noted beneath the most recent overlay.
Please refer to the core logs for more detailed information

Location	HMA Surf. (in.)	HMA Bind. (in.)	Granular Base (in.)	Emulsified Soil & Agg. Mix (in.)	Total HMA (in.)	Total Pvmnt. (in.)
Princeton Avenue						
C/B-25		4.00	2.50		4.00	6.50
C/B-26		3.25	3.00		3.25	6.25
C/B-27	1.25	2.00	32.75		3.25	36.00
C/B-28	2.25	3.50	4.25		5.75	10.00
C/B-29	1.75		82.25		1.75	84.00
Ardmore Avenue						
C/B-30	2.25**	3.00	4.75		5.25	10.00
C/B 31	7.50**			1.75	7.50	9.25
C/B 32	6.00**			5.25	6.00	11.25

*Failures noted.
**Petromat was noted beneath the most recent overlay.
Please refer to the core logs for more detailed information

EXISTING CONDITIONS

Armitage Avenue

Pavement cores and borings C/B-1 to C/B-5 were performed on Armitage Avenue between North Harvard Avenue and Ardmore Avenue. Visual examination of the pavement reveals areas with distress and failures but was generally in fair condition. Alligatoring, cold joint cracking, and meandering cracks were observed. Patching of previous distressed areas was also noted.

The pavement cores show the existing pavement sections at these locations include 4.0 inches to 7.75 inches of bituminous concrete over 4.5 inches to 8.5 inches of granular base and/or 3.75 inches to 5.75 inches of emulsified soil and aggregate mix. Petromat was noted at all locations except C/B-1. The total pavement section is found to range in thickness from 10.0 inches to 14.25 inches.

Directly beneath the pavement is the presence of topsoil which extended to depths of 2.0 to 3.0 feet. Cohesive soils were encountered underlying the topsoil at these locations and are classified as soft to hard clay/silt mixtures with lesser portions of sand and gravel. Cobbles and boulders may be present within the soil at any elevation, although none were encountered while drilling.

Locations C/B-6 to C/B-8 were performed on Armitage Avenue between Ellsworth Avenue and Villa Avenue. The existing concrete pavement revealed areas of distress and failures but was generally in fair condition. Bituminous concrete patches in previously distressed areas was noted.

The pavement cores show the existing pavement sections at these locations include 7.5 inches to 8.5 inches of concrete over 3.5 inches to 15.5 inches of granular base. The total pavement section is found to range in thickness from 11.5 inches to 24.0 inches.

Cohesive soils were encountered beneath the pavement materials at these locations. These are classified as very tough to hard clay/silt mixtures with lesser portions of sand and gravel. Cobbles and boulders may be present within the soil at any elevation, although none were encountered while drilling.

W. Belden Avenue

Locations C/B-9 through C/B-13 were performed on W. Belden Avenue from the west end to Ardmore Avenue. Visual examination of the pavement reveals areas with significant distress and was in a poor to extremely poor condition. Alligatoring, cold joint cracking, meandering cracks, raveling, and settlement were observed. Patching of previously distressed areas west of Yale Avenue was noted.

The pavement cores show the existing pavement sections at these locations include 2.0 inches to 3.75 inches of bituminous concrete over 4.75 inches to 9.5 inches of granular base and/or 4.0 inches of emulsified soil and aggregate mix. The total pavement section is found to range in thickness from 7.0 inches to 14.25 inches.

High moisture content topsoil was present directly beneath the pavement and extended to depths of 1.0 to 2.5 feet. Cohesive soils were encountered underlying the topsoil and are classified as stiff to hard clay/silt mixtures with lesser portions of sand and gravel. Cobbles and boulders may be present within the soil at any elevation, although none were encountered while drilling.

Sidney Avenue

Pavement cores and borings C/B-14 through C/B-16 were drilled to the scheduled depth of 7.0 feet. Boring C/B-14 was extended to a depth of 10.0 feet due to the presence of underlying organic silt. Visual examination of the pavement reveals areas with distress and was generally in fair to poor condition. Cold joint cracks, meandering cracking, and settlement were observed. Patching of previously distressed areas was also noted.

The pavement cores show the existing pavement sections at these locations include 1.75 inches to 2.75 inches of bituminous concrete over 10.75 inches to 57.5 inches of granular base. The total pavement section is found to range in thickness from 13.5 inches to 60.0 inches. The deep granular base at location C/B-15 is likely due to the presence of a utility trench.

Buried topsoil was present directly underlying the pavement at locations C/B-14 and C/B-16. The topsoil was found extending to depths of 3.5 to 5.5 feet. Cohesive soils were also encountered and are classified as soft to very tough clay/silt mixtures with lesser amounts of sand and gravel.
A deposit with significant high moisture content and low-strength organic clay and silt was encountered at C/B-14. These soils are highly compressible due to their high moisture contents and are likely present in other areas of the site but were not discovered within the scope of this investigation.

Yale Avenue

Locations C/B-17 to C/B-24 were performed on Yale Avenue between West Armitage Avenue and Wildfire Drive. Visual examination of the pavement reveals areas with meandering cracks and settlement along the pavement edges. The roadway was generally in fair condition.

The pavement cores show the existing pavement sections at these locations include 2.0 inches to 4.0 inches of bituminous concrete over 2.75 inches to 9.5 inches of bituminous treated aggregate and 4.0 inches to 12.0 inches of granular base with the exception of C/B-23 which only contains granular base. The total pavement section is found to range in thickness from 9.0 inches to 15.75 inches.

Fill soils were encountered directly underlying the pavement materials at locations C/B-21 and C/B-22. Composition of the fill includes the presence of clay/silt mixtures extending to depths of 1.5 feet to 2.0 feet at these locations. The limits of fill placement were not determined within the scope of this investigation.

Buried topsoil was noted beneath the pavement material and/or fill soils at locations C/B-17 through C/B-23. The topsoil extended to depths of 2.0 feet to 4.0 feet.

Underlying natural soil conditions consist of cohesive soils. These are classified as soft to hard clay/silt mixtures with lesser portions of sand and gravel. Portions of these soils are sometimes high in moisture content with values in excess of 30% determined.

Non-cohesive soils were also encountered as indicated at the bottom of boring C/B-24. These include medium dense sand/silt mixtures. Cobbles and boulders may be present within the site soils at any elevation, although none were encountered while drilling.

Significant deposits of high moisture content and low-strength organic silts and clays are indicated at borings C/B-21 and C/B-22. These conditions are likely present in other areas of the site but were not discovered within the scope of this investigation.

Princeton Avenue

Pavement cores and borings C/B-25 to C/B-29 were performed on Princeton Avenue south of West Armitage Avenue. Visual examination of the pavement reveals areas with significant distress between Armitage Avenue and West Belden Avenue. These include cold joint cracking, meandering cracks, alligatoring, material raveling, potholes, and settlement. The poor surface condition prevents effective water run-off.

C/B-27 and C/B-28 were located between Belden Avenue and the south end of Princeton with location C/B-29 on the section of Princeton Avenue north of Wildfire Drive. Visual examination of the pavement reveals areas of some distress. These include cold joint cracking, meandering cracks, alligatoring, potholes, and settlement. Patching of previously distressed areas was noted. The poor surface condition prevents effective water run-off in some areas.

The pavement cores show the existing pavement sections at these locations include 1.75 inches to 5.75 inches of bituminous concrete over 2.75 inches to 82.25 inches of granular base The total pavement section is found to range in thickness from 6.25 inches to 84.0 inches. The

deep granular base indicated at locations C/B-27 and C/B-29 is likely due to the presence of utility trenches.

Topsoil was present directly beneath the pavement materials at locations C/B-25 through C/B-28 and was found extending to depths of 2.0 to 4.5 feet. Cohesive soils were encountered underlying the topsoil at these locations. These are classified as very soft to hard clay/silt mixtures with lesser portions of sand and gravel. Cobbles and boulders may be present within the site soils at any elevation, although none were encountered while drilling.

A significant deposit of high moisture content and low-strength organic silt is indicated at boring C/B-27. These conditions are likely present in other areas of the site but were not discovered within the scope of this investigation.

Ardmore Avenue

Locations C/B-30 to C/B-32 were performed on Ardmore Avenue between East Armitage Avenue and West Belden Avenue. Visual examination of the pavement reveals areas of some distress. These include edge cracking, meandering cracks, and alligatoring.

The pavement cores show the existing pavement sections at these locations include 5.25 inches to 7.5 inches of bituminous concrete over 4.5 inches of granular base or 1.75 inches to 5.25 inches of emulsified soil and aggregate mix. Petromat was noted beneath the most recent surface overlay at each of the locations. The total pavement section ranges in thickness from 9.25 inches to 11.25 inches.

Topsoil was present directly beneath the pavement at each of the locations and extended to depths of 1.5 to 2.0 feet. Cohesive soils, classified as tough to hard clay/silt mixtures with lesser portions of sand and gravel are present beneath the topsoil. A layer of loose silt/clay was also encountered as indicated at location C/B-32. Cobbles and boulders may be present within the soil at any elevation, although none were encountered while drilling.

DISCUSSION

Grind and Overlay

Some of the streets included in this investigation could be considered for a grind and overlay form of pavement rehabilitation. Generally this would include milling of the existing bituminous surface as needed for overlaying. A thin mill or thicker overlay could be considered if the profile of the road allows for the surface of the pavement to be elevated. Deeper milling may be needed in areas where failures were noted in the original bituminous materials. Surface areas with extensive pavement deterioration will likely require full depth patching with either bituminous concrete binder, portland cement concrete (on Armitage east of Ellsworth), or a combination of crushed aggregate (CA06) and binder. A leveling binder should then be placed as needed. The use of a reflective crack control fabric can also be considered. The new design thickness of HMA surface overlay would then be placed.

Some streets that could be considered for a typical grind and overlay procedure are Armitage Avenue, Yale Avenue, and Ardmore Avenue.

Partial Reconstruction

Some of the other streets included in the investigation could be considered for a partial reconstruction form of rehabilitation. This would include the removal of all the existing bituminous materials. The underlying original granular base would then be re-graded, compacted and proof rolled. Areas that are found to be unstable would then be removed and replaced with a minimum of 12.0 inches of crushed aggregate, CA06, over a woven geotextile fabric. Any new aggregate base, if needed, would then be placed and compacted. A new bituminous pavement section that includes a minimum of 2.25 inches of HMA binder and 1.5 inches of HMA surface would then be placed.

Some streets that could be considered for partial reconstruction are as follows: West Belden Avenue west of Yale Avenue, Sidney Avenue, Princeton Avenue between Belden Avenue and the south end, and Princeton Avenue north of Wildfire Drive to the north end.

Total Reconstruction

Total reconstruction of some streets will be necessary due to the extensive amount of pavement deterioration that has occurred combined with the amount of patching that may be needed. The complete reconstruction of the pavement would include the removal of all the existing pavement materials and high organic topsoil. The presence of buried topsoil extending to approximate depths of 1.5 feet to 2.5 feet should be considered in the design. The subgrade would then be excavated to the design elevation, compacted and proof rolled. Any areas of unstable soils will most likely require removal and replacement with large crushed aggregate, possibly in conjunction with the use of an appropriate geotextile fabric. The new aggregate base would then be placed and compacted followed by the placement of the designed thickness of bituminous concrete binder and bituminous concrete surface courses.

Streets that should be considered for a total reconstruction are West Belden Avenue between Yale Avenue and Ardmore Avenue and Princeton Avenue between Armitage Avenue and Belden Avenue. Any of the other streets could also be considered for a total reconstruction but may not be economically feasible.

CONCLUSION

This report has been prepared to assist in initial determination of existing pavement sections and supporting soil conditions. Locally varying conditions may be present between test locations.

Any questions concerning the information presented in this report should be directed to our office.

Very truly yours,

SOIL AND MATERIAL CONSULTANTS, INC.

Reid T. Steinbach, E.I.T
Project Engineer

Thomas P. Johnson, P.E.
President

Enc.RTS/TPJ

N

SMC	SOIL AND MATERIAL CONSULTANTS, INC.	LOCATION SKETCH
Client:	VILLAGE OF VILLA PARK	
Project:	GEOTECHNICAL YEAR 1 – GROUP 2	
Location:	VILLA PARK, ILLINOIS	
File No. 21873	Date: 01-19-15	Scale: NONE

N

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Client:	VILLAGE OF VILLA PARK	
Project:	GEOTECHNICAL YEAR 1 – GROUP 2	
Location:	VILLA PARK, ILLINOIS	
File No. 21873	Date: 01-19-15	Scale: NONE

N

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Client:	VILLAGE OF VILLA PARK	
Project:	GEOTECHNICAL YEAR 1 – GROUP 2	
Location:	VILLA PARK, ILLINOIS	
File No. 21873	Date: 01-19-15	Scale: NONE

SOIL AND MATERIAL CONSULTANTS, INC.

8 WEST COLLEGE DRIVE
ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 12/29/14

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 1 Work Done By: DB & JL

Location of Core: 210 W. Armitage Avenue, 10' S. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0		
1		
2	3-3/4" Bituminous concrete - surface	Full
3		
4		
5	1-1/4" Bituminous concrete - surface	Full
6		
7		
8		
9	8-1/2" Crushed limestone with fines	Partial
10		
11		
12		
13	Total 13-1/2"	
14	E.O.C.	
15		
16		
17		
18		
19		
20		

SOIL AND MATERIAL CONSULTANTS, INC.

8 WEST COLLEGE DRIVE
ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 12/29/15

File No.: 21873

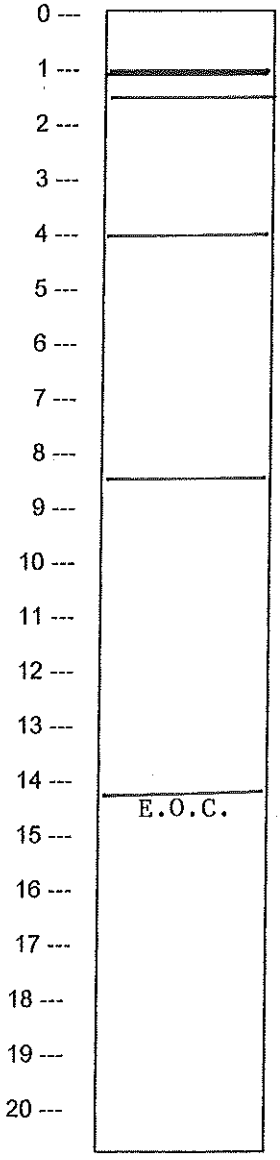
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 2 Work Done By: DB & JL

Location of Core: 230 W. Armitage Avenue, 6' N. of CL

Comments:



Type of Material	Recovery
1-0" Bituminous concrete - surface	Full
Petromat 0-1/2" Bituminous concrete - surface	Full
2-1/2" Bituminous concrete - surface	Full
4-1/2" Crushed limestone with fines	Partial
5-3/4" Emulsified soil & aggregate mixture	Partial
Total 14-1/4"	

SOIL AND MATERIAL CONSULTANTS, INC.

8 WEST COLLEGE DRIVE
ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 12/29/14

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 3 Work Done By: DB & JL

Location of Core: 250 W. Armitage Avenue, 5' S. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0	1-1/4" Bituminous concrete - surface	Full
1	Petromat	
2	1-1/4" Bituminous concrete - surface	Full
3		
4	4-0" Bituminous concrete - binder	Full
5		
6		
7		
8		
9	4-1/2" Crushed gravel with fines some broken asphalt	Partial
10		
11	Total 11-0"	
	E.O.C.	
12		
13		
14		
15		
16		
17		
18		
19		
20		

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8 WEST COLLEGE DRIVE
ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
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Date: 12/29/14

File No.: 21873

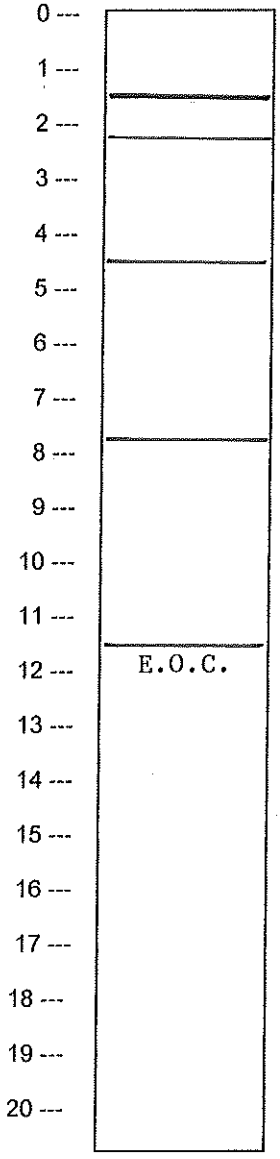
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 4 Work Done By: DB & JL

Location of Core: 286 W. Armitage Avenue, 5' N. of CL

Comments:



Type of Material	Recovery
1-1/2" Bituminous concrete - surface	Full
Petromat	
0-3/4" Bituminous concrete - surface	Full
2-1/4" Bituminous concrete - surface	Full
3-1/4" Bituminous concrete - surface	Full
3-3/4" Emulsified soil & aggregate mixture	Partial
Total 11-1/2"	

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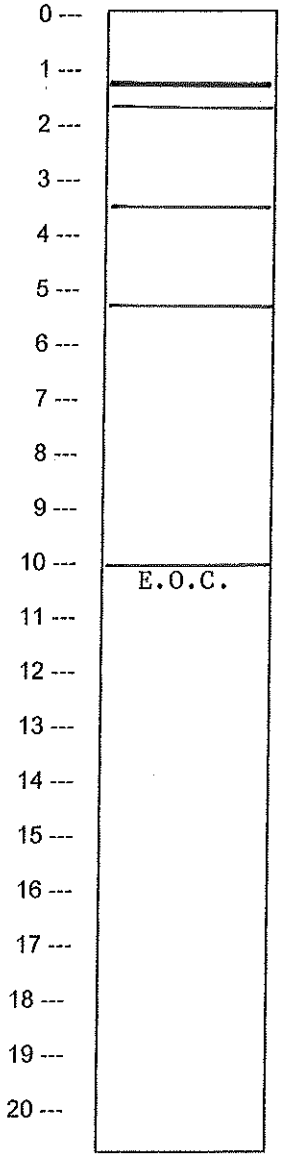
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 5 Work Done By: DB & JL

Location of Core: 23 E. Armitage Avenue, 7' S. of CL

Comments:



Type of Material	Recovery
1-1/4" Bituminous concrete - surface	Full
Petromat	
0-1/4" Bituminous concrete - surface no bond	Full
2-0" Bituminous concrete - surface	Full
1-3/4" Bituminous concrete - surface	Full
4-3/4" Emulsified soil & aggregate mixture	Partial
Total 10-0"	

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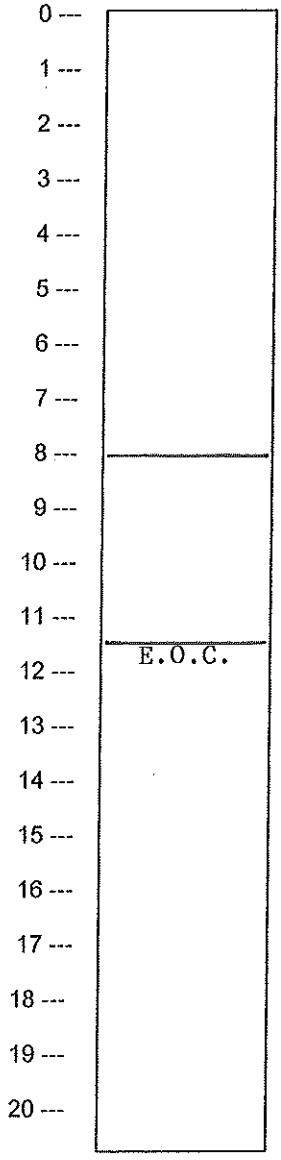
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 6 Work Done By: DB & JL

Location of Core: 1199 E. Armitage Avenue, 11' N. of CL (Crown Battery Bldg.)

Comments:



Type of Material	Recovery
8-0" Concrete	Full
3-1/2" Crushed limestone with fines	Partial
Total 11-1/2"	

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CORE LOG

Client: Village of Villa Park

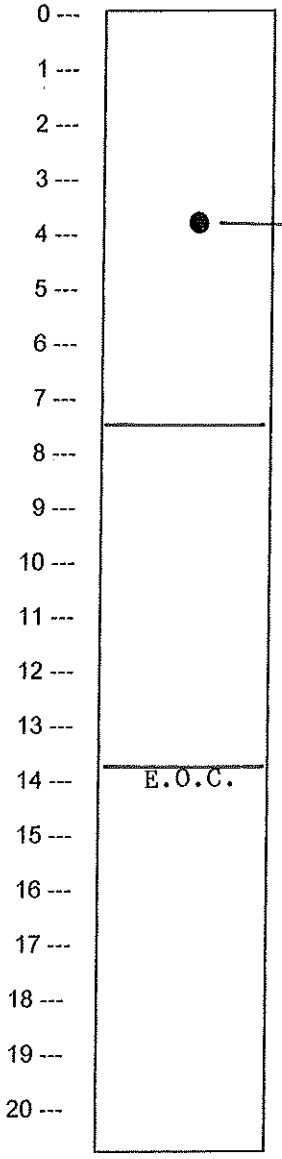
Reference: Geotechnical Year 1 - Group 2

Core No: 7

Work Done By: DB & JL

Location of Core: 650 E. Armitage Avenue, 8' S. of CL

Comments:



Type of Material	Recovery
7-1/2" Concrete	Full
Rebar at 3-3/4"	
6-1/4" Crushed limestone with fines	Partial
Total 13-3/4"	

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CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 8 Work Done By: DB & JL

Location of Core: E. Armitage Avenue, 25' W. of Villa Avenue, 12' N. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0 ---		
1 ---		
2 ---		
3 ---		
4 ---	8-1/2" Concrete	Full
5 ---		
6 ---		
7 ---		
8 ---		
9 ---		
10 ---		
11 ---		
12 ---		
13 ---	15-1/2" Crushed limestone with fines	Partial
14 ---		
15 ---		
16 ---		
17 ---		
18 ---		
19 ---		
20 ---		
24 __	Total 24-0"	

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File No.: 21873

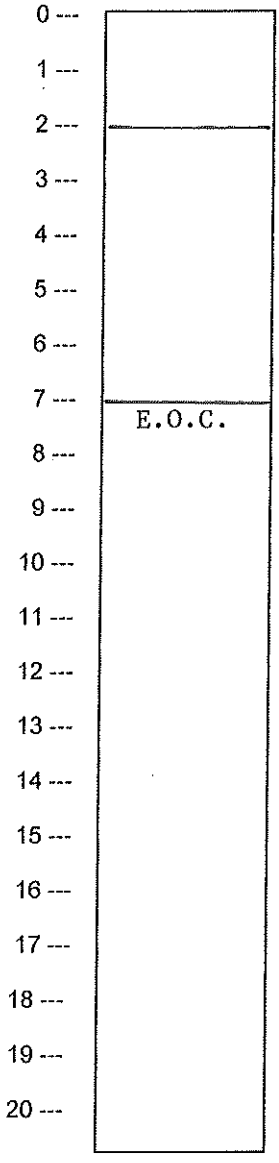
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 9 Work Done By: DB & JL

Location of Core: 146 W. Belden Avenue, 5' S. of CL

Comments:



Type of Material		Recovery
2-0"	Bituminous concrete - binder	Full
5-0"	Crushed gravel with fines	Partial
Total 7-0"		

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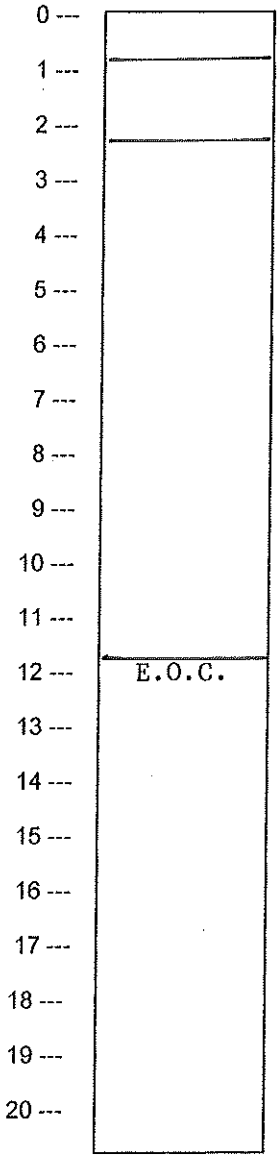
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 10 Work Done By: DB & JL

Location of Core: 1044 W. Belden Avenue, 5' N. of CL

Comments:



Type of Material	Recovery
0-3/4" Bituminous concrete - surface	Full
1-1/2" Bituminous concrete - binder	Full
9-1/2" Crushed limestone with fines	Partial
Total 11-3/4"	

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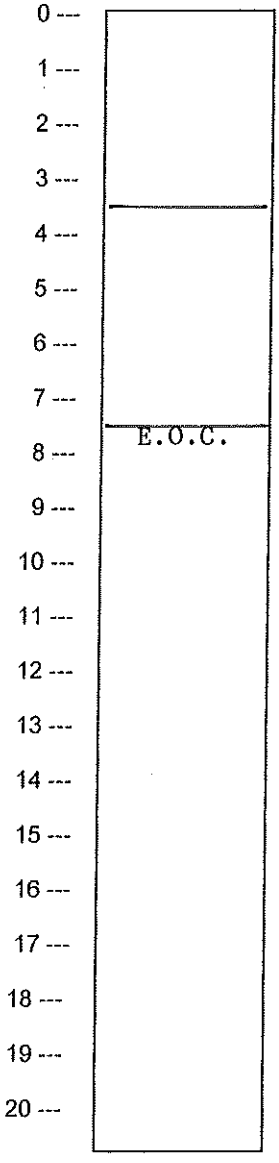
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 11 Work Done By: DB & JL

Location of Core: 1107 W. Belden Avenue, 4' S. of CL

Comments:



Type of Material	Recovery
3-1/2" Bituminous concrete - binder	Full
4-0" Emulsified soil & aggregate mixture	Partial
Total 7-1/2"	

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File No.: 21873

CORE LOG

Client: Village of Villa Park

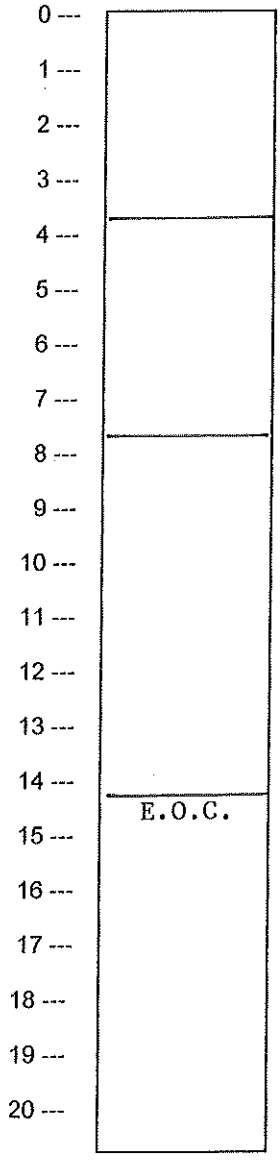
Reference: Geotechnical Year 1 - Group 2

Core No: 12

Work Done By: DB & JL

Location of Core: W. Belden Avenue, 50' W. of Princeton Avenue, 6' N. of CL

Comments:



Type of Material	Recovery
3-3/4" Bituminous concrete - binder	Full
4-0" Emulsified soil & aggregate mixture	Partial
6-1/2" Crushed limestone with fines	Partial
Total 14-1/4"	

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CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 13 Work Done By: DB & JL

Location of Core: 41 W. Belden Avenue, 5' S. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0	3-3/4" Bituminous concrete - binder	Full
4	4-3/4" Crushed limestone with fines	Partial
8	Total 8-1/2"	
9 E.O.C.		

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Date: 1/12/15

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 14 Work Done By: JL & BB

Location of Core: 150 W. Sidney Avenue, 4' N. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0		
1	2-3/4" Bituminous concrete - binder	Full
2		
3		
4		
5		
6		
7	10-3/4" Limestone/sand/asphalt mixture contaminated with clay	Partial
8		
9		
10		
11		
12		
13		
14	E.O.C. Total 13-1/2"	
15		
16		
17		
18		
19		
20		

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CORE LOG

Client: Village of Villa Park

Reference: Geotechnical Year 1 - Group 2

Core No: 15

Work Done By: JL & BB

Location of Core: Sidney Avenue, 50' E. of Yale Avenue, 3' N. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0 ---		
1 ---	2-1/2" Bituminous concrete - binder	Full
2 ---		
3 ---		
4 ---		
5 ---		
6 ---		
7 ---		
8 ---		
9 ---		
10 ---	37-1/2" Crushed limestone with fines	Partial
11 ---		
12 ---		
13 ---		
14 ---		
15 ---		
16 ---		
17 ---		
18 ---		
19 ---		
20 ---		
60--	Total 60-0"	

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CORE LOG

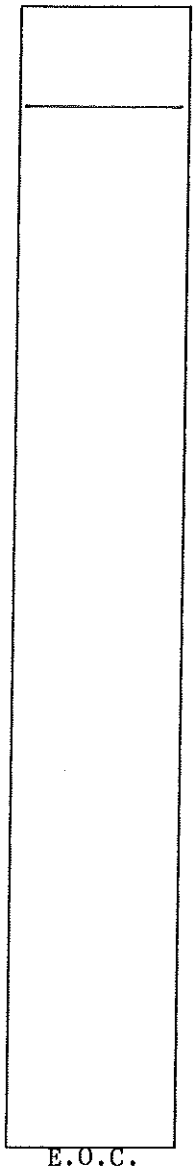
Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 16 Work Done By: JL & BB

Location of Core: Sidney Avenue, 235' E. of Yale Avenue, 2' S. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0 ---		
1 ---	1-3/4" Bituminous concrete - binder	Full
2 ---	no bond	
3 ---		
4 ---		
5 ---		
6 ---		
7 ---		
8 ---		
9 ---		
10 ---	21-1/4" Sand/grave/crushed asphalt mixture	Partial
11 ---		
12 ---		
13 ---		
14 ---		
15 ---		
16 ---		
17 ---		
18 ---		
19 ---		
20 ---		
23-- E.O.C.	Total 23-0+"	



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CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 17 Work Done By: JL & BB

Location of Core: 1142 Yale Avenue, 7' W. of CL

Comments:

(Depth, In.)		Type of Material	Recovery
0			
1	2-0"	Bituminous concrete - surface	Full
2		no bond	
3	2-0"	Bituminous concrete - binder	Full
4			
5	3-0"	Bituminous treated aggregate	Partial
6			
7			
8			
9	6-1/2"	Crushed limestone with fines	Partial
10			
11			
12			
13			
14	E.O.C.	Total 13-1/2"	
15			
16			
17			
18			
19			
20			

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File No.: 21873

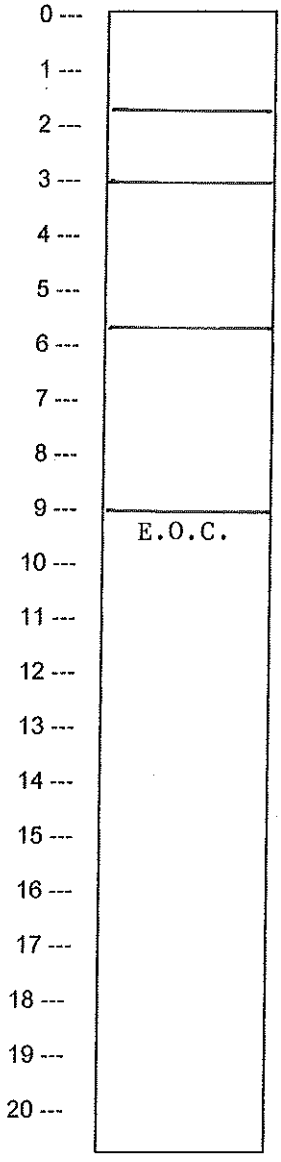
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 18 Work Done By: JL & BB

Location of Core: 1115 Yale Avenue, 5' E. of CL

Comments:



Type of Material	Recovery
1-3/4" Bituminous concrete - surface no bond	Full
1-1/4" Bituminous concrete - binder (failed)	Partial
2-3/4" Bituminous treated aggregate	Full
3-1/4" Crushed limestone with fines	Partial
Total 9-0"	

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CORE LOG

Client: Village of Villa Park

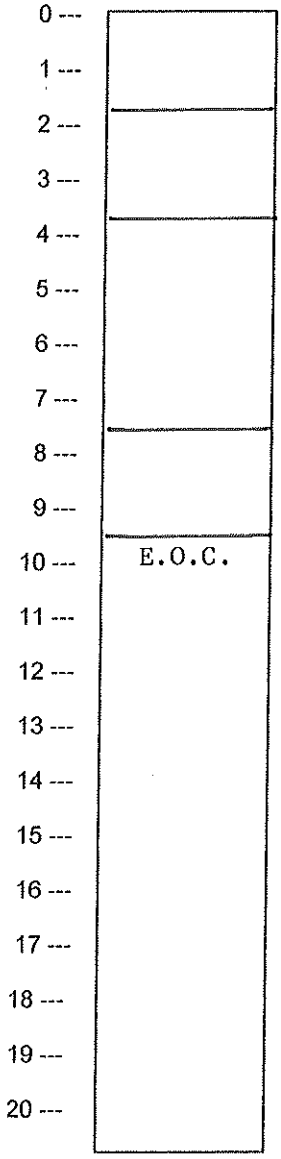
Reference: Geotechnical Year 1 - Group 2

Core No: 19

Work Done By: DB & JL

Location of Core: 1043 Yale Avenue, 10' W. of CL

Comments:



Type of Material	Recovery
1-3/4" Bituminous concrete - surface	Full
2-0" Bituminous concrete - binder	Full
3-3/4" Bituminous treated aggregate (failed)	Partial
2-0" Crushed limestone with fines	Partial
Total 9-1/2"	

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CORE LOG

Client: Village of Villa Park

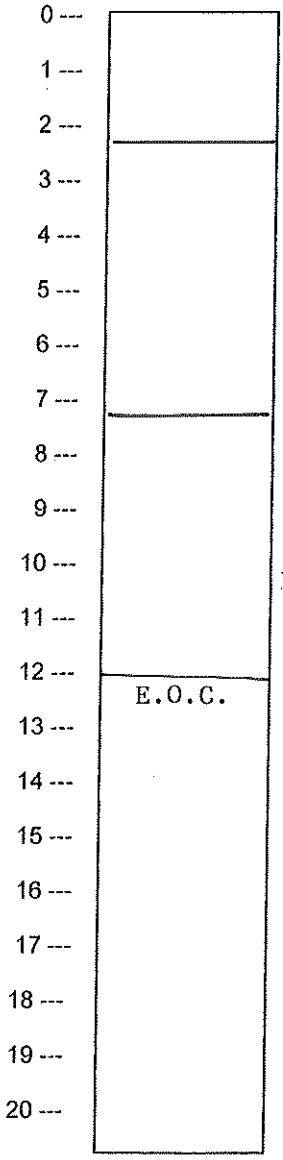
Reference: Geotechnical Year 1 - Group 2

Core No: 20

Work Done By: JL & BB

Location of Core: 1001 Yale Avenue, 5' E. of CL

Comments:



Type of Material	Recovery
2-1/4" Bituminous concrete - surface	Full
5-0" Bituminous treated aggregate	Full
4-3/4" Crushed limestone with fines	Partial
Total 12-0"	

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CORE LOG

Client: Village of Villa Park

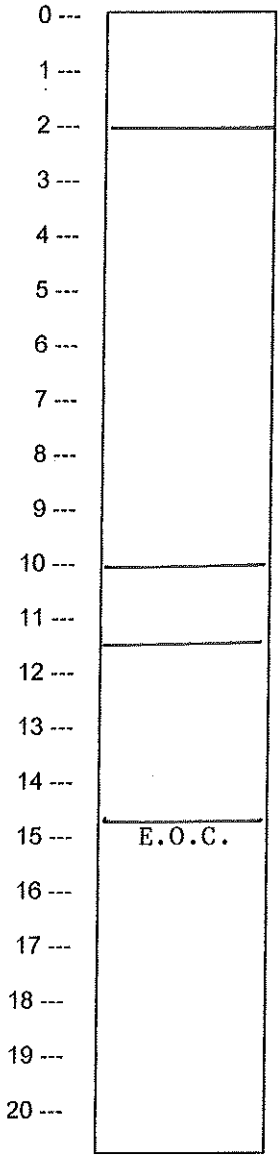
Reference: Geotechnical Year 1 - Group 2

Core No: 21

Work Done By: JL & BB

Location of Core: 951 Yale Avenue, 6' W. of CL

Comments:



	Type of Material	Recovery
2-0"	Bituminous concrete - surface	Full
8-0"	Bituminous treated aggregate (failed)	Partial
1-1/2"	Built-up surface treatments (failed)	Partial
3-1/4"	Crushed limestone with fines, some large	Partial
Total 14-3/4"		

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CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 22 Work Done By: JL & BB

Location of Core: 932 Yale Avenue, 6' E. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0		
1	2-1/4" Bituminous concrete - surface	Full
2		
3		
4	5-1/4" Bituminous treated aggregate	Full
5		
6		
7		
8		
9	3-1/2" Crushed limestone with fines	Partial
10		
11	Total 11-0"	
E.O.C.		
12		
13		
14		
15		
16		
17		
18		
19		
20		

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CORE LOG

Client: Village of Villa Park

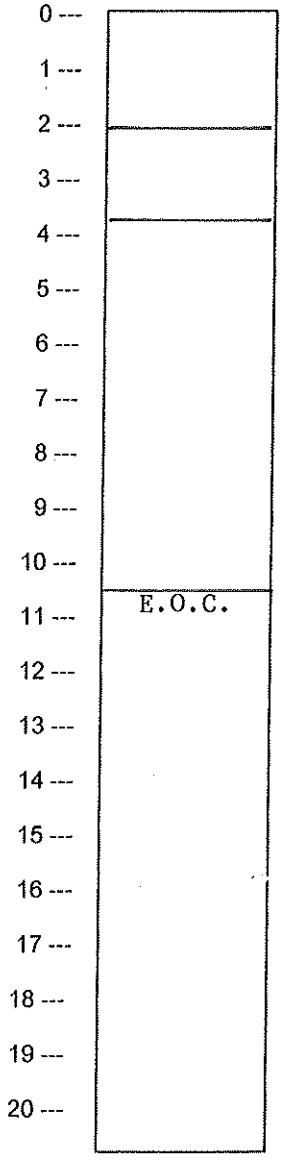
Reference: Geotechnical Year 1 - Group 2

Core No: 23

Work Done By: JL & BB

Location of Core: 911 Yale Avenue, 4' W. of CL

Comments:



Type of Material	Recovery
2-0" Bituminous concrete - surface	Full
1-3/4" Bituminous concrete - binder	Full
6-3/4" Crushed limestone & asphalt with fines	Partial
Total 10-1/2"	

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CORE LOG

Client: Village of Villa Park

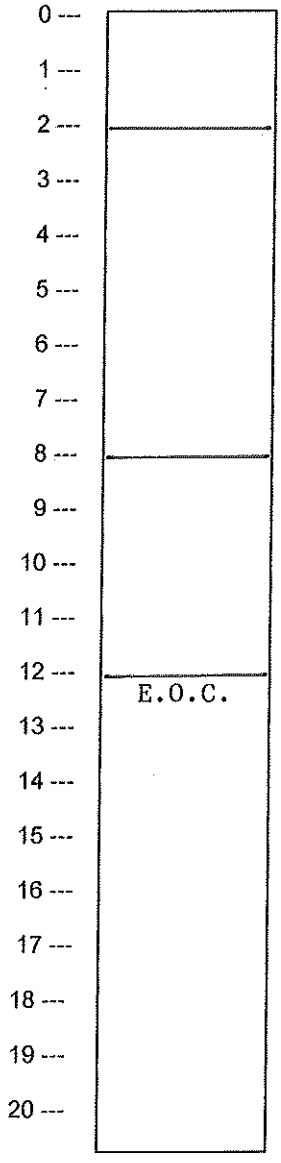
Reference: Geotechnical Year 1 - Group 2

Core No: 24

Work Done By: JL & BB

Location of Core: 835 Yale Avenue, 6' E. of CL

Comments:



	Type of Material	Recovery
2-0"	Bituminous concrete - surface	Full
6-0"	Bituminous treated aggregate	Full
4-0"	Crushed limestone with fines	Partial
Total 12-0"		

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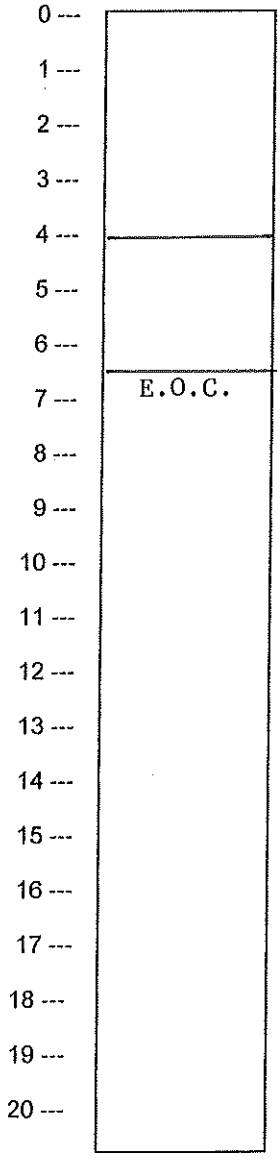
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 25 Work Done By: JL & BB

Location of Core: Princeton Avenue, 50' S. of Armitage Avenue, 6' W. of CL

Comments:



Type of Material	Recovery
4-0" Bituminous concrete - binder	Full
2-1/2" Crushed limestone with fines	Partial
Total 6-1/2"	

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CORE LOG

Client: Village of Villa Park

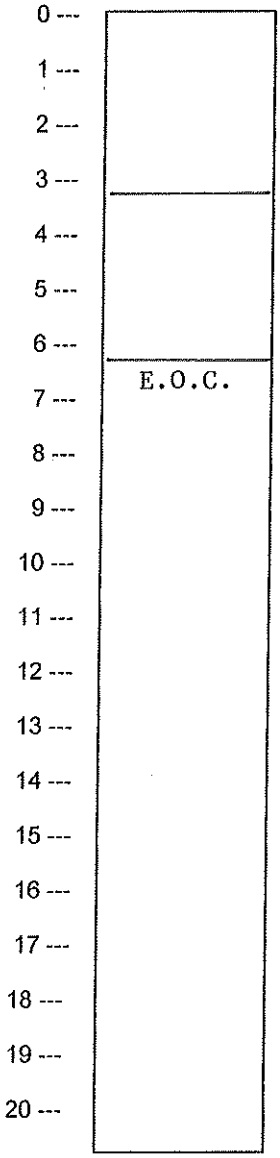
Reference: Geotechnical Year 1 - Group 2

Core No: 26

Work Done By: JL & BB

Location of Core: 1105 Princeton Avenue, 5' E. of CL

Comments:



Type of Material	Recovery
3-1/4" Bituminous concrete - binder	Full
3-0" Crushed limestone with fines	Partial
Total 6-1/4"	

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CORE LOG

Client: Village of Villa Park

Reference: Geotechnical Year 1 - Group 2

Core No: 27

Work Done By: JL & BB

Location of Core: 1036 Princeton Avenue, 5' W. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0		
1	1-1/4" Bituminous concrete - surface	Full
2	2-0" Bituminous concrete - binder	Full
3		
4		
5		
6		
7		
8		
9	32-3/4" Crushed gravel with fines	Partial
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
36	Total 36-0"	

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CORE LOG

Client: Village of Villa Park

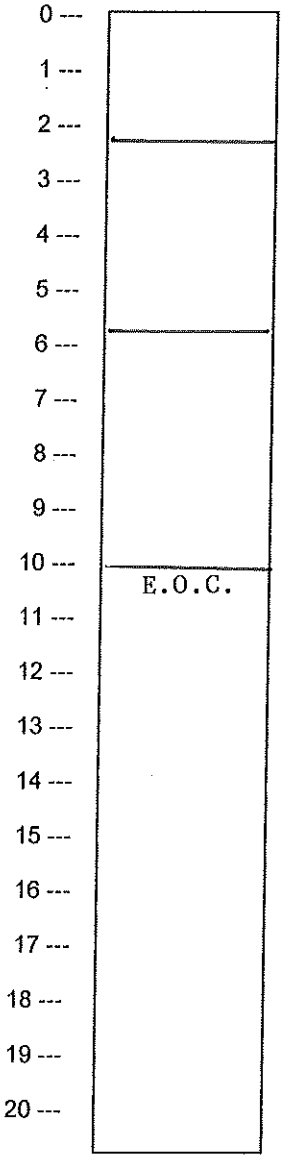
Reference: Geotechnical Year 1 - Group 2

Core No: 28

Work Done By: JL & BB

Location of Core: 1022 Princeton Avenue, 4' E. of CL

Comments:



Type of Material	Recovery
2-1/4" Bituminous concrete - surface	Full
3-1/2" Bituminous concrete - binder	Full
4-1/4" Crushed limestone with fines	Partial
Total 10-0"	

SOIL AND MATERIAL CONSULTANTS, INC.

8 WEST COLLEGE DRIVE
ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 1/12/15

File No.: 21873

CORE LOG

Client: Village of Villa Park

Reference: Geotechnical Year 1 - Group 2

Core No: 29

Work Done By: JL & BB

Location of Core: 837 Princeton Avenue, 5' E. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0	1-3/4" Bituminous concrete - surface	Partial
10	82-1/4" Crushed limestone with fines	Partial
84	Total 84-0"	

E.O.C.

G-333

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8 WEST COLLEGE DRIVE
ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 12/29/14

File No.: 21873

CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 30 Work Done By: DB & JL

Location of Core: 1144 Ardmore Avenue, 6' W. of CL

Comments:

(Depth, In.)	Type of Material	Recovery
0	1-1/4" Bituminous concrete - surface	Full
1	Petromat	
2	1-0" Bituminous concrete - surface	Full
3	3-0" Bituminous concrete - binder	Full
4		
5		
6		
7	4-3/4" Crushed & uncrushed gravel with fines some asphalt pieces	Partial
8		
9		
10	Total 10-0"	
	E.O.C.	
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

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8 WEST COLLEGE DRIVE
ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 12/29/14

File No.: 21873

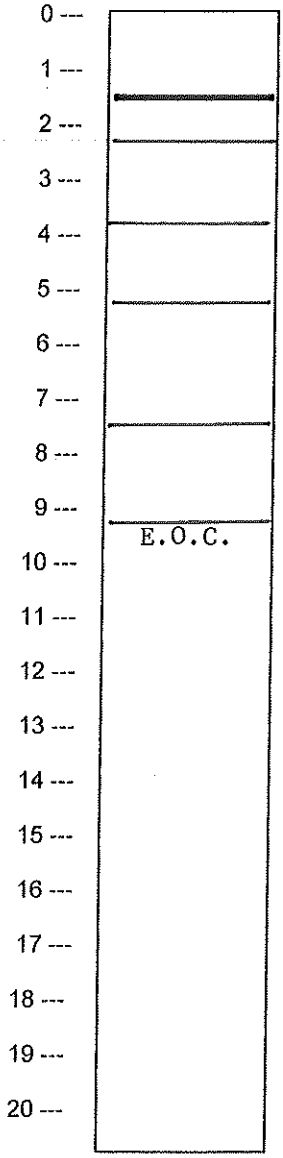
CORE LOG

Client: Village of Villa Park Reference Geotechnical Year 1 - Group 2

Core No: 31 Work Done By: DB & JL

Location of Core: 1128 Ardmore Avenue, 7' E. of CL

Comments:



Type of Material		Recovery
1-1/2" Bituminous concrete - surface		Full
Petromat		
0-3/4" Bituminous concrete - surface	no bond	Full
1-1/2" Bituminous concrete - surface		Full
1-1/2" Bituminous concrete - surface		Full
2-1/4" Bituminous concrete - surface		Full
1-3/4" Emulsified soil & aggregate mixture		Partial
Total 9-1/4"		

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8 WEST COLLEGE DRIVE
ARLINGTON HEIGHTS, IL 60004

OFFICE: (847) 870-0544
FAX: (847) 870-0661

Date: 12/29/14

File No.: 21873

CORE LOG

Client: Village of Villa Park

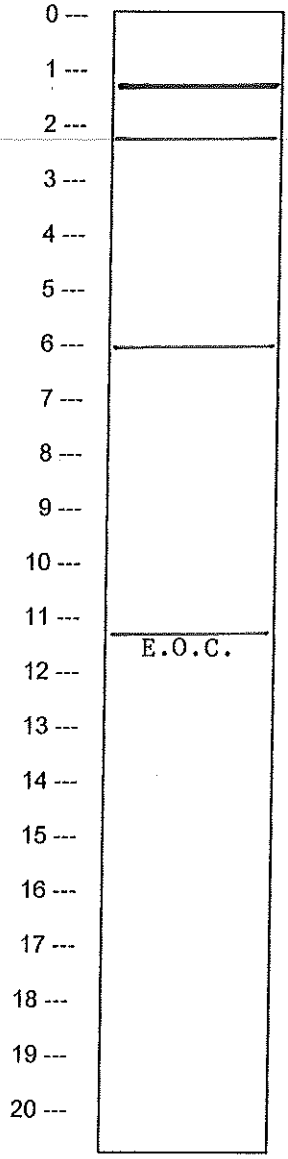
Reference: Geotechnical Year 1 - Group 2

Core No: 32

Work Done By: DB & JL

Location of Core: 881 Ardmore Avenue, 4' W. of CL

Comments:



Type of Material	Recovery
1-1/4" Bituminous concrete - surface	Full
Petromat	
1-0" Bituminous concrete - surface	Full
3-3/4" Bituminous concrete - surface	Full
5-1/4" Emulsified soil & aggregate mixture	Partial
Total 11-1/4"	

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SOIL BORING LOG 1

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 210 W. Armitage Ave., 10' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1					
2	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.5')				
3	Dark brown-brown-black clay,some silt, trace sand & gravel,damp-very damp,tough	15	27.7		
4					
5		6	25.0	98.6	1.3
6					
7	End of Boring	4	34.1		
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

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SOIL BORING LOG 2

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 230 W. Armitage Ave., 6' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log)				
2	Black silt,some clay,trace roots,damp (topsoil) (frozen to 2.0')		25.9		
3	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,very tough	18	21.7	105.0	3.5
4	Brown-gray clay & silt,some fine sand, trace gravel,damp,soft		21.8		
5	Brown-gray clay,some silt,trace sand & gravel,damp,very tough	5	22.0	101.4	2.0
6					
7	End of Boring	7	18.4	115.1	2.9
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

SOIL AND MATERIAL CONSULTANTS, INC.

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SOIL BORING LOG 3

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

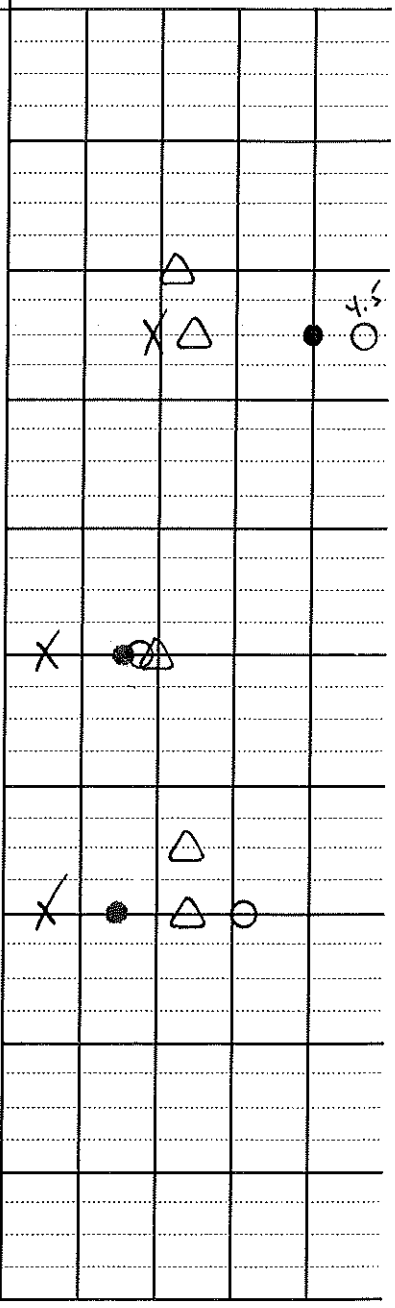
Comments: 250 W. Armitage Ave., 5' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp (topsoil) (frozen to 2.0')				
2			21.1		
	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,hard	19	23.7	99.6	4.5
3					
4	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,tough				
5		5	20.1	106.5	1.8
6	Brown-gray clay & silt,trace gravel,damp, soft				
			24.2		
7	Brown-gray clay,some silt,trace sand & gravel,damp,very tough	5	23.9	102.8	3.1
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

SOIL AND MATERIAL CONSULTANTS, INC.
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SOIL BORING LOG 4

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 286 W. Armitage Ave., 5' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp, medium dense (topsoil) (frozen to 3.0')				
2					
3		17	31.3		
4	Brown to brown-gray clay,some silt,trace sand & gravel,damp,very tough				
5		6	19.9	107.5	2.5
6	Brown clay & silt,some fine sand,trace gravel,very damp,soft				
			24.6		
7	Brown-gray clay,some silt,trace sand & gravel,damp,very tough	6	20.5	107.6	3.4
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

SOIL AND MATERIAL CONSULTANTS, INC.
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SOIL BORING LOG 5

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 23 E. Armitage Ave., 7' S. of CL

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp (topsoil) (frozen to 2.5')				
2			28.4		
	Dark brown-brown clay,some silt,trace sand & gravel,damp,hard	23	22.4	102.4	4.4
3					
	Brown-gray clay,some silt,trace sand & gravel,damp,hard				
4					
5		15	17.4	112.6	6.1
6					
7	End of Boring	11	19.0	114.4	4.9
8					
9					
10					

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

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SOIL BORING LOG 6

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

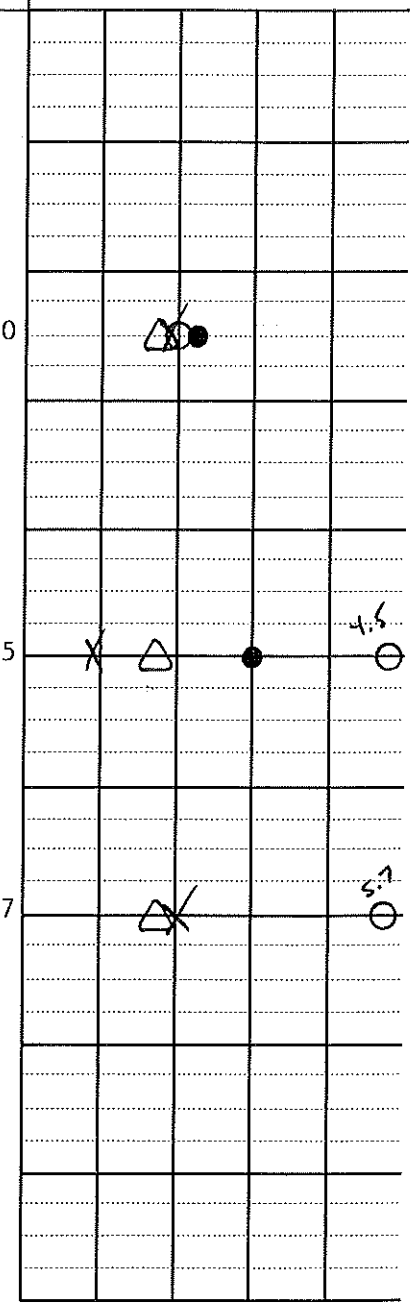
Comments: 1199 E. Armitage Ave., 11' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Brown-gray-black clay, some silt, trace sand & gravel, damp, very tough to hard (frozen to 2.0')				
2		19	18.6	103.9	2.0
3					
4					
5		9	17.7	112.1	4.5
6					
7	End of Boring	20	18.5	113.6	5.7
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 7

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

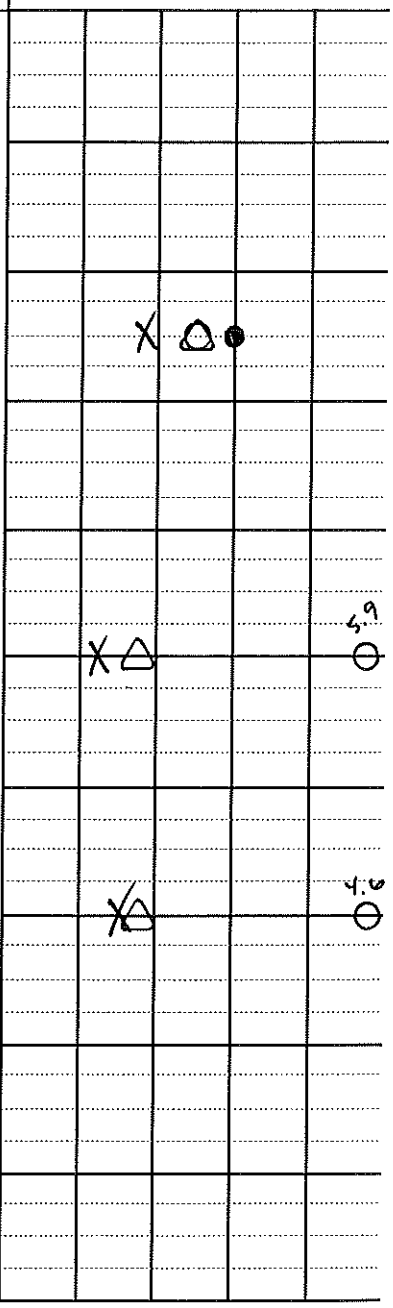
Comments: 650 E. Armitage Ave., 8' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1					
2	Dark brown to brown-gray clay, some silt, trace sand & gravel, very tough to hard				
3		18	24.9	98.4	2.5
4					
5		13	18.6	113.9	5.9
6					
7	End of Boring	15	19.3	111.9	4.6
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 8

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

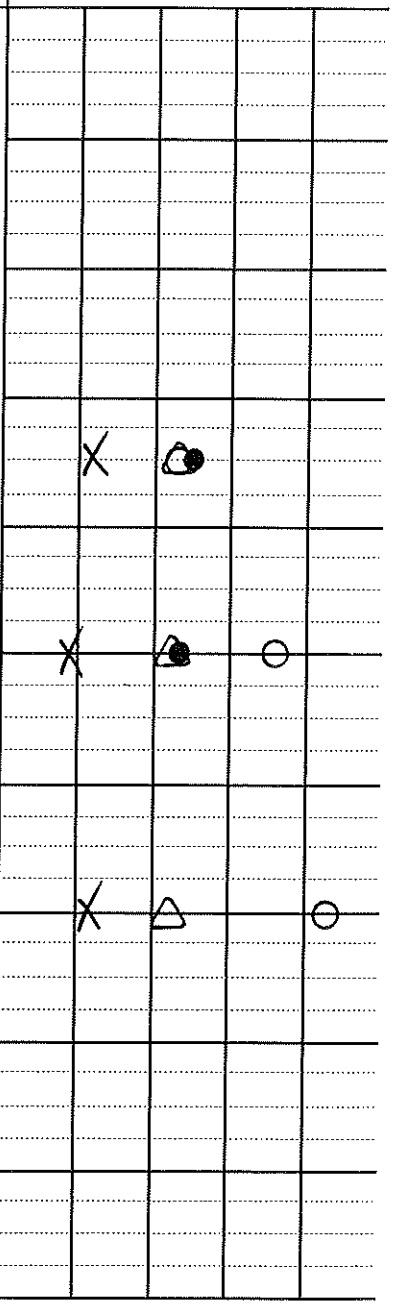
Comments: E. Armitage Ave., 25' W. of Villa Ave., 12' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log)				
2	Dark brown-brown-black clay,some silt, trace sand & gravel,damp,very tough				
3		12	22.0	100.5	2.2
4	Brown-gray clay,some silt,trace sand & gravel,damp,very tough to hard				
5		9	20.5	108.5	3.6
6					
7	End of Boring	12	20.7	109.8	4.3
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 9

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

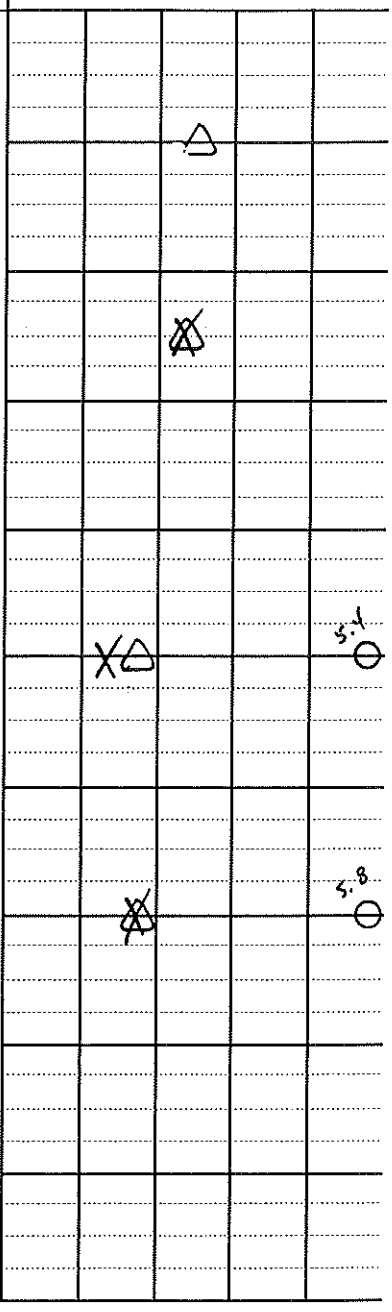
Comments: 146 W. Belden Ave., 5' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt, some clay, trace sand & roots, damp (topsoil)		25.0		
	Brown clay, some silt, trace sand & gravel, damp, hard (frozen to 2.0')				
2		23	23.0		
3					
4					
5		13	18.5	114.9	5.4
6					
7	End of Boring	18	18.8	110.9	5.8
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL BORING LOG 10

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

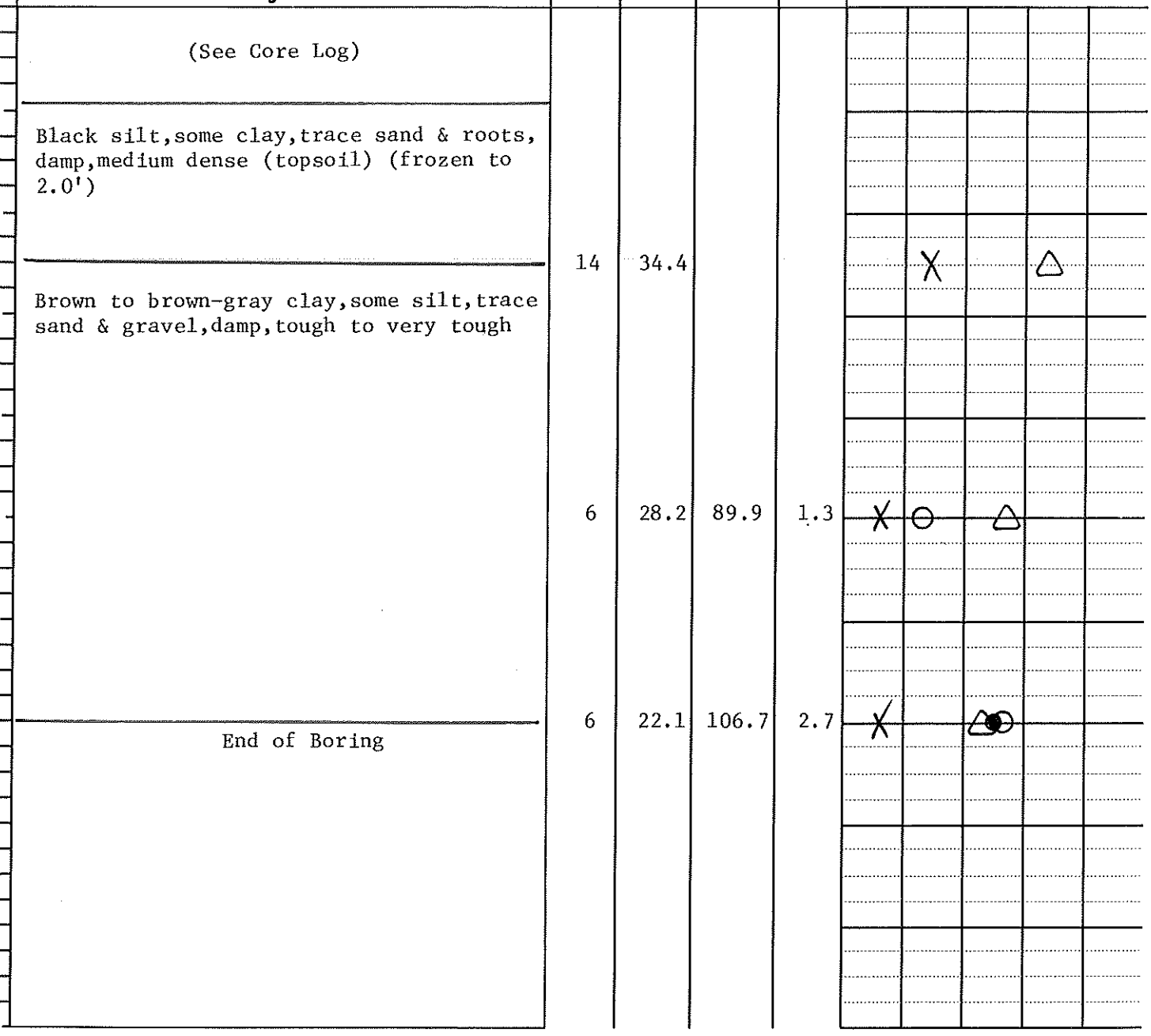
Comments: 1044 W. Belden Ave., 5' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.0')				
2		14	34.4		
3	Brown to brown-gray clay,some silt,trace sand & gravel,damp,tough to very tough				
4					
5		6	28.2	89.9	1.3
6					
7	End of Boring	6	22.1	106.7	2.7
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

SOIL AND MATERIAL CONSULTANTS, INC.

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SOIL BORING LOG 11

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

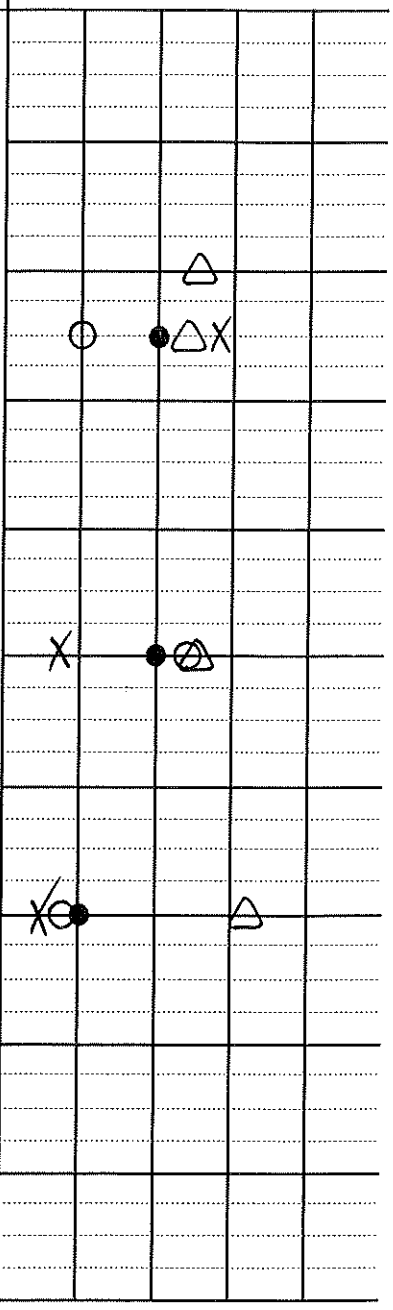
Comments: 1107 W. Belden Ave., 4' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp (topsoil) (frozen to 1.5')				
2	Dark brown-brown-black clay,some silt, trace sand & gravel,damp,tough		25.4		
3		28	23.3	101.1	1.0
4	Brown-gray clay,some silt,trace sand & gravel,damp,very tough				
5		7	24.6	100.0	2.4
6	Brown-gray clay,some silt,trace sand & gravel,damp,stiff				
7		5	30.6	93.9	0.9
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 12

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL
W. Belden Ave., 50' W. of
Princeton Ave., 6' N. of CL

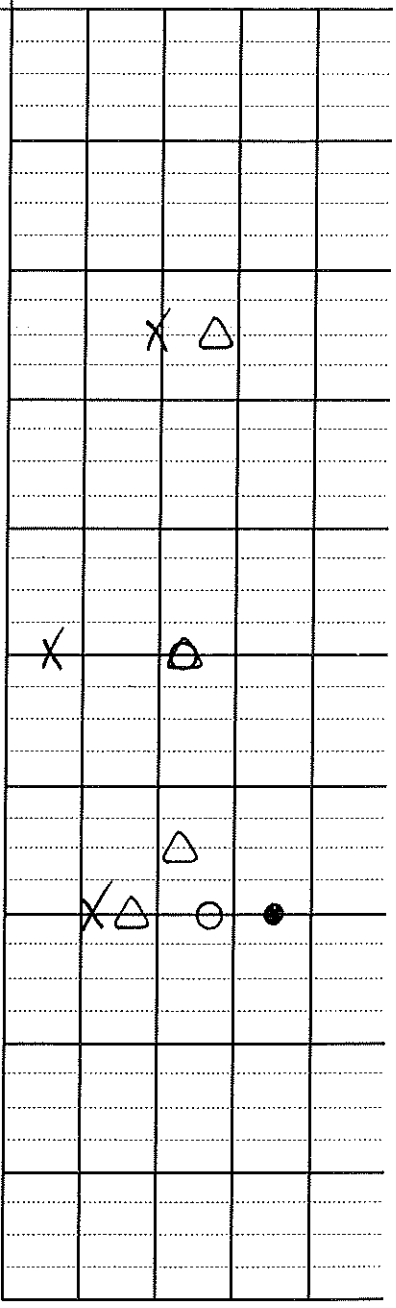
Comments: Princeton Ave., 6' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp, medium dense (topsoil) (frozen to 2.5')				
2					
		19	28.2		
3	Dark brown-brown clay,some silt,trace sand & gravel,damp,very tough				
4					
5		6	23.0	103.5	2.3
6	Dark brown clay & silt,trace fine sand & gravel,damp				
			21.7		
7	Dark brown clay,some silt,trace sand & gravel,damp,very tough	12	17.0	109.6	2.7
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

SOIL AND MATERIAL CONSULTANTS, INC.
Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 13

Logged By: DB **Page:** 1 of 1

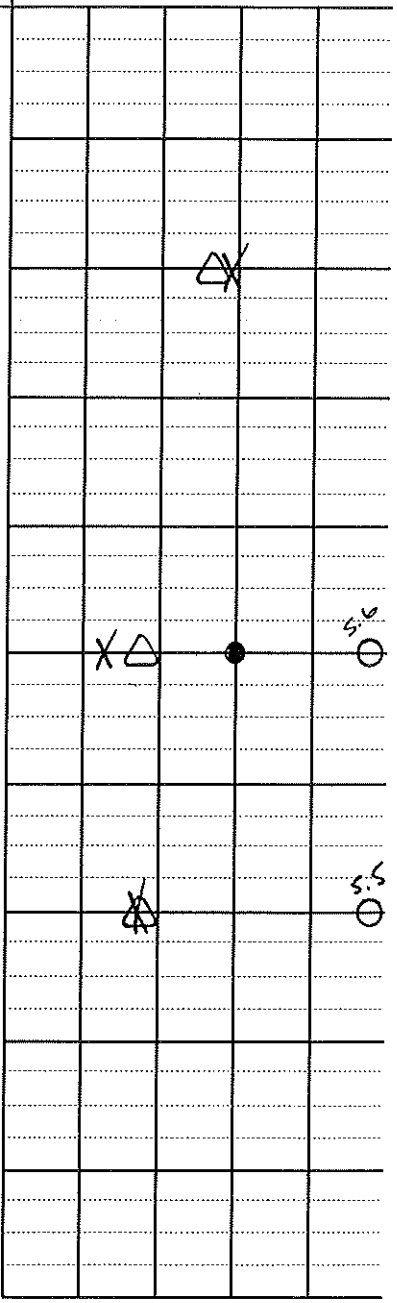
Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 41 W. Belden Ave., 5' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt, some clay, trace roots, damp, medium dense (topsoil) (frozen to 2.0')				
2		29	26.7		
3	Dark brown to brown-gray clay, some silt, trace sand & gravel, damp, hard				
4					
5		13	18.5	111.1	5.6
6					
7	End of Boring	16	18.5	114.0	5.5
8					
9					
10					



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

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SOIL BORING LOG 14

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

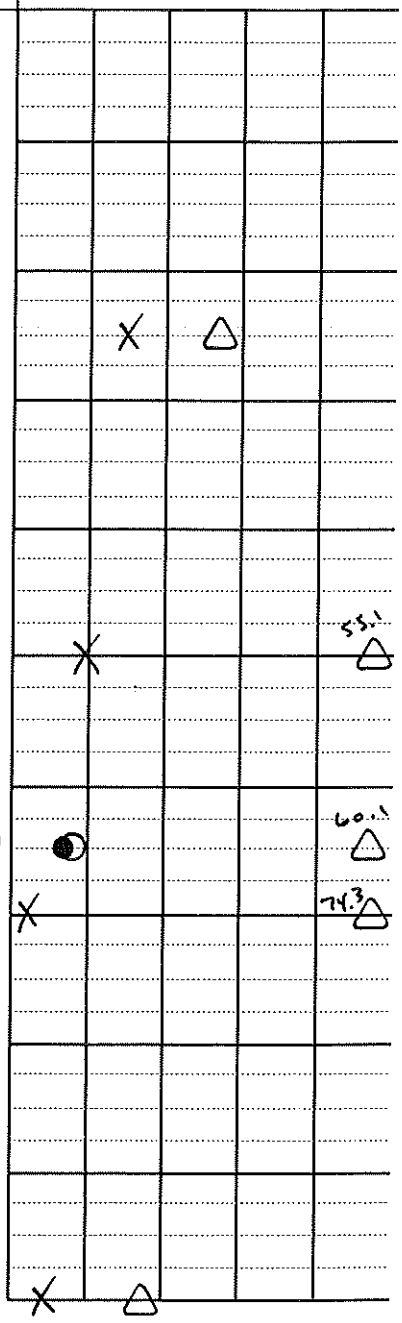
Comments: 150 W. Sidney Ave., 4' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1					
2	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.0')	15	27.9		
3					
4					
5		10	55.1		
6	Dark brown-black clay,some silt,trace sand & gravel,damp,stiff		60.1	58.4	0.9
7	Gray organic silt,trace shells,very damp, soft	3	74.3		
8					
9	Gray clay,some fine sand,trace gravel, very damp,soft				
10	End of Boring	4	17.6		

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at 8.0 feet during drilling operations (W.D.).
Water recorded at 5.0 feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

SOIL AND MATERIAL CONSULTANTS, INC.

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SOIL BORING LOG 15

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL
Sidney Avenue

Comments: 50' E. of Yale Ave., 3' N. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Crushed limestone with fines, damp-saturated, loose to very loose				
2					
3	▽				
4		5	13.1		
5		3	14.2		
6	Gray clay, some fine sand, trace gravel, very damp, soft				
7		3	22.4		
8	End of Boring				
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at 3.0 feet during drilling operations (W.D.).
Water recorded at 4.0 feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

SOIL AND MATERIAL CONSULTANTS, INC.

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SOIL BORING LOG 16

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL
Sidney Avenue

Comments: 235' E. of Yale Ave., 2' S. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log) (4"-6" concrete slab at 1.5')				
2	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil)				
3		13	28.0		
4	Dark brown clay,some silt,trace sand & gravel,damp,tough				
5		7	32.9	86.1	1.7
6	Brown-gray silt & clay,trace roots & peat,damp,loose		35.0		
7	Brown-gray clay,some silt,trace sand & gravel,damp,very tough End of Boring	7	22.0	105.1	2.8
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 17

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

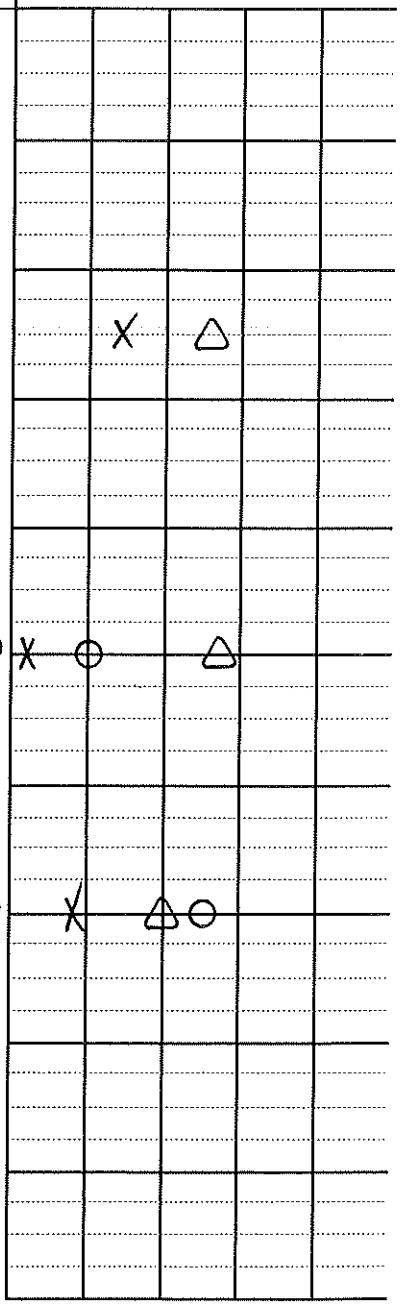
Comments: 1142 Yale Ave., 7' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log)				
2	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.0')				
3		14	26.2		
4	Brown-gray clay,some silt,trace sand & gravel,damp,tough to very tough				
5		3	28.2	90.9	1.0
6					
7	End of Boring	8	19.9	109.3	2.5
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.
Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 18

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1115 Yake Ave., 5' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt, some clay, trace sand & roots, damp (topsoil) (frozen to 2.0')				
2			27.1		
	Dark brown to brown-gray clay, some silt, trace sand & gravel, damp, very tough to hard	12	15.7	147.3	3.3
3					
4					
5		11	19.0	108.6	4.4
6	Dark brown to brown-gray clay, some silt, trace sand & gravel, damp, very tough				
7	End of Boring	6	22.3	106.7	2.7
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL AND MATERIAL CONSULTANTS, INC.
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SOIL BORING LOG 19

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

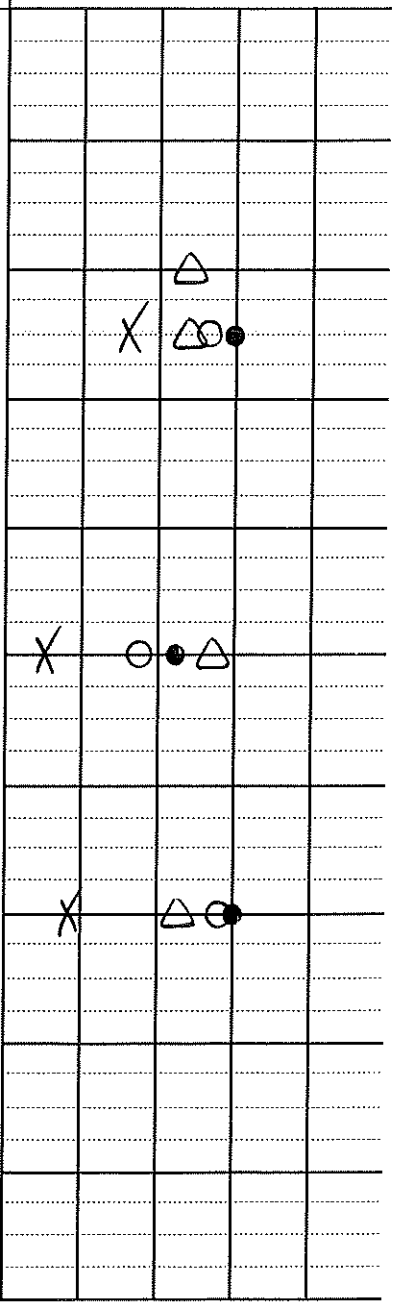
Comments: 1043 Yale Ave., 10' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp,very tough (topsoil)				
2			23.2		
	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,very tough	16	23.8	101.6	2.6
3					
4	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,tough to very tough				
5		5	28.0	94.4	1.8
6					
7	End of Boring	8	22.2	105.5	2.9
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 20

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1001 Yale Ave., 5' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp,loose (topsoil) (frozen to 2.0')				
2		6	39.7		
3	Brown-gray clay,some silt,trace sand & gravel,very damp,soft				
4					
5		3	34.2		
6	Brown-gray silt,trace clay & fine sand, very damp to saturated,loose				
7	End of Boring	5	24.9		
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL AND MATERIAL CONSULTANTS, INC.
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SOIL BORING LOG 21

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

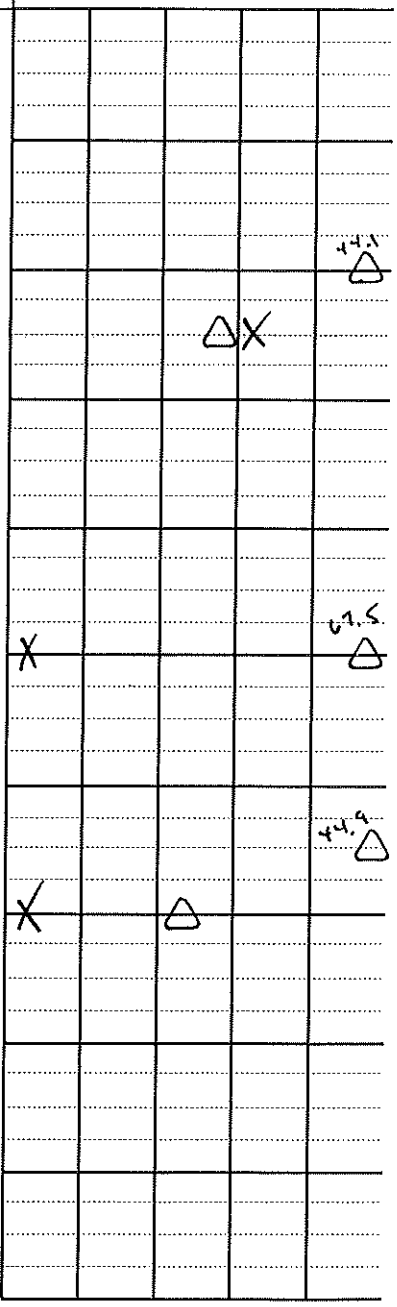
Comments: 951 Yale Ave., 6' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
1	(See Core Log)				
2	Dark brown-brown-gray clay,some silt, trace sand & gravel,damp (frozen to 2.0') Fill		44.1		
3	Black silt,some clay,trace sand & roots, damp,dense (topsoil) ▼	32	28.8		
4	Brown clay,some silt,trace sand,gravel & organic matter,very damp,soft				
5		3	67.5		
6	Dark brown-gray organic silt,trace shells & roots,very damp,very loose ▽				
7	Gray clay,some fine sand,trace gravel, damp,soft End of Boring	3	44.9 22.7		
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at 6.0 feet during drilling operations (W.D.).
Water recorded at 3.5 feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 22

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 932 Yale Ave., 6' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Dark brown-brown clay, some silt, trace sand & gravel, damp (frozen) - Fill		19.9		
2	Black silt, some clay, trace sand & roots, damp, dense (topsoil) (frozen to 2.0')	35	34.8		
3					
4	Dark brown-black clay, some silt, trace sand & gravel, very damp, stiff				
5		4	43.3		
6	Dark brown organic silt & clay, some peat, trace roots, very damp, very loose				
7		2	63.6		
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

63.6

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL AND MATERIAL CONSULTANTS, INC.

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SOIL BORING LOG 23

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

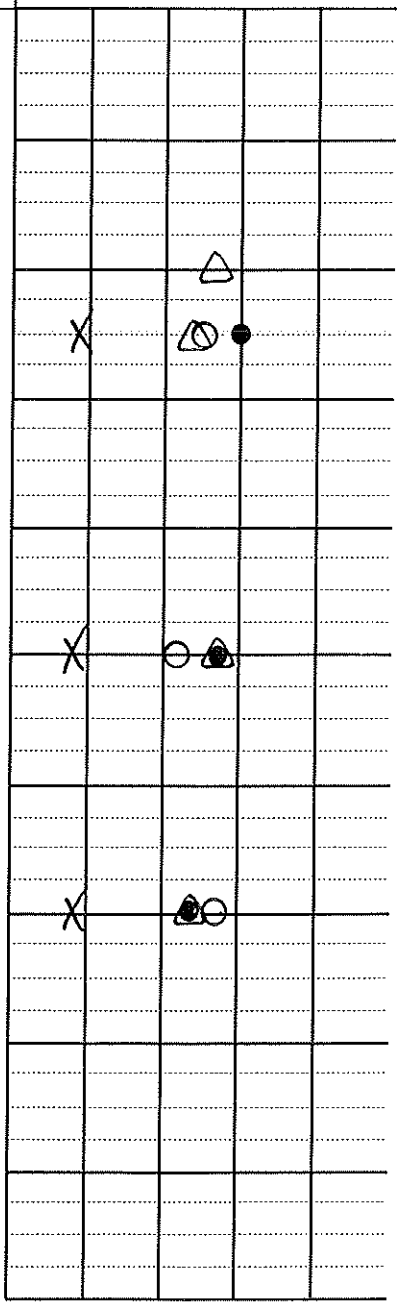
Comments: 911 Yale Ave., 4' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp (topsoil) (frozen to 1.5')				
2			25.7		
	Dark brown to browh-gray clay,some silt, trace sand & gravel,damp,very tough	9	24.2	102.1	2.5
3					
4					
5		8	27.8	96.1	2.1
6					
7	End of Boring	8	22.9	120.9	2.7
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.
Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 24

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

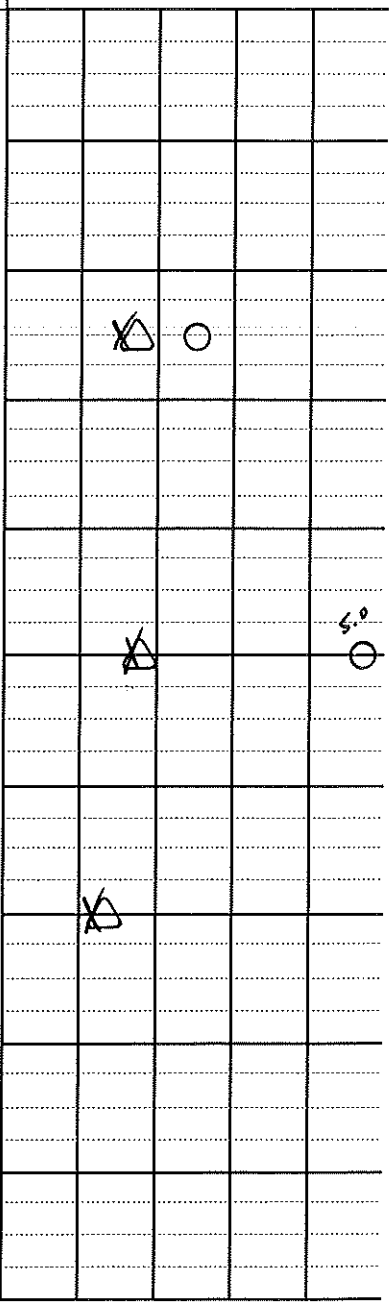
Comments: 835 Yale Ave., 6' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1					
2	Brown-gray clay, some silt, trace sand & gravel, damp, very tough to hard	15	17.8	107.7	2.5
3					
4					
5		16	19.4	112.9	5.0
6					
7	Brown fine sand, some silt, trace gravel, medium dense	12	13.2		
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 25

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL
Princeton Ave.

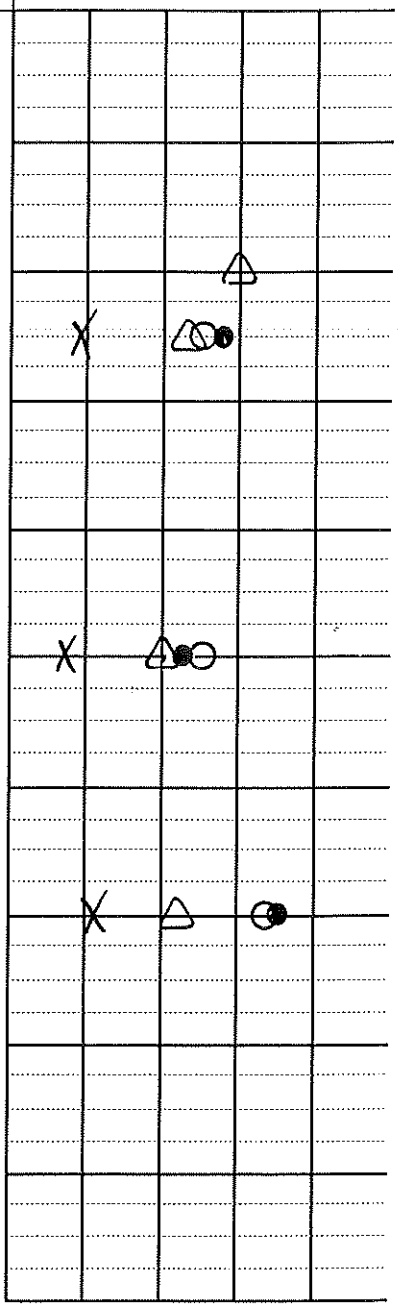
Comments: 50' S. of Armitage Ave., 6' W. of CL

Equipment: ☑ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ϒ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt, some clay, trace sand & roots, damp (topsoil)				
2			29.5		
	Dark brown clay, some silt, trace sand & gravel, damp, very tough	9	21.7	100.3	2.5
3					
4	Brown-gray clay, some silt, trace sand & gravel, damp, very tough				
5		7	20.0	109.3	2.5
6					
7	End of Boring	11	21.4	109.2	3.4
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 26

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1105 Princeton Ave., 5' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.5')				
3	Brown to brown-gray clay,some silt,trace sand & gravel,damp,very tough	12	27.9		
5		8	19.0	109.7	2.8
7	End of Boring	9	18.7	111.6	3.0

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 27

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1036 Princeton Ave., 5' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Crushed limestone with fines,damp,loose (frozen to 1.5')				
2					
3		7	11.0		
	Black silt,some clay,trace sand & roots, damp (topsoil)		37.2		
4					
5	Brown to brown-gray clay,some silt,trace sand & gravel,damp,soft	3	38.2		
6	Gray organic silt,some clay,trace roots, very damp,very soft		44.2		
7	Gray clay,some silt,trace sand & gravel, damp,very soft	3	14.8		
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at 5.5 feet during drilling operations (W.D.).
Water recorded at 3.0 feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

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SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 28

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 1022 Princeton Ave., 4' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace sand & roots, damp,medium dense (topsoil) (frozen to 2.0')				
2		12	29.9		
3	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,very tough to hard				
4					
5		7	22.7	105.7	2.8
6					
7	End of Boring	14	17.7	117.0	5.8
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 29

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/19/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

Comments: 837 Princeton Ave., 5' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	Elevation **Existing Surface**				
	(See Core Log)				
1	Crushed limestone with fines				
2					
			5.0		
3		22			
4					
5		10	4.6		
6					
7		19	5.2		
	End of Boring				
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40

Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

G-303d

SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 30

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

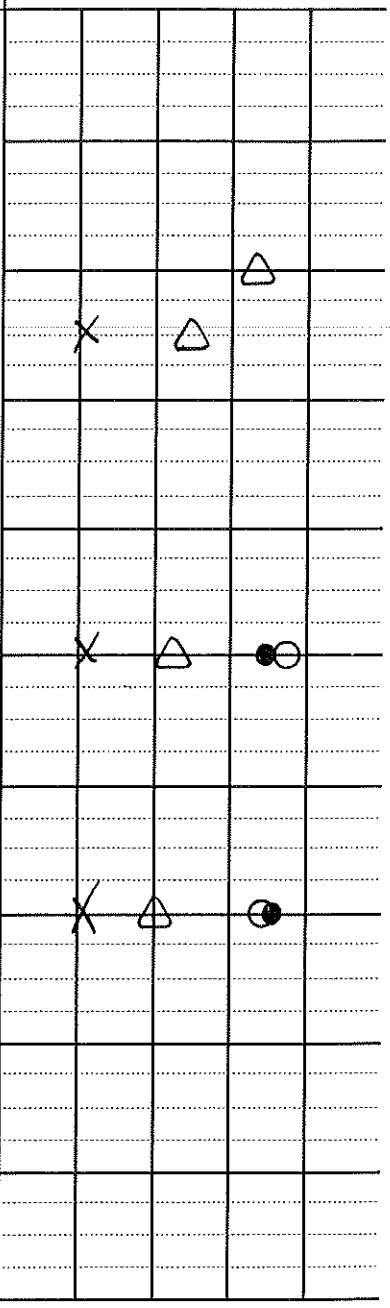
Comments: 1144 Ardmore Ave., 6' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp (topsoil) (frozen to 2.0')				
2			33.1		
3	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,very tough	11	24.4		
4					
5		11	21.0	108.0	3.8
6					
7	End of Boring	11	20.2	110.4	3.4
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 31

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park **File No.** 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

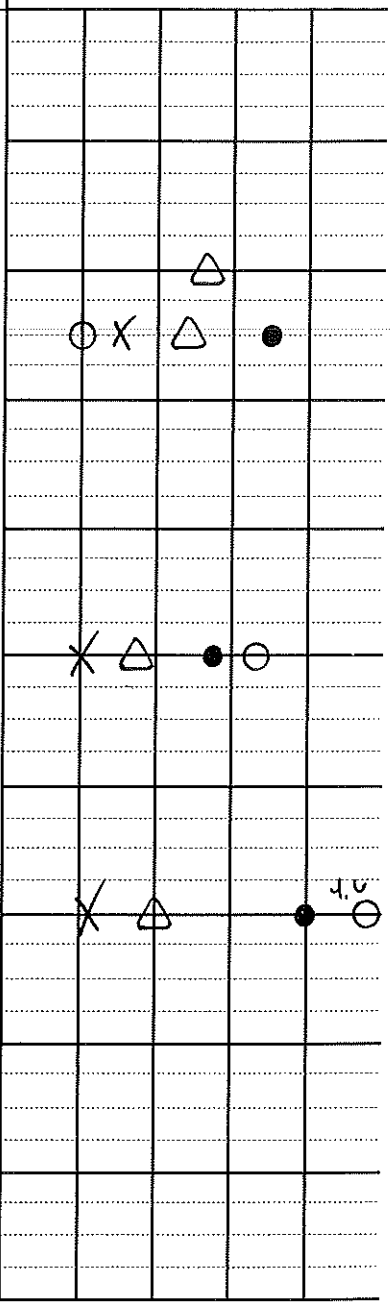
Comments: 1128 Ardmore Ave., 7' E. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ɣ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp (topsoil) (frozen to 2.0')				
2			25.9		
	Dark brown to brown-gray clay,some silt, trace sand & gravel,damp,tough to hard	15	23.8	95.0	1.0
3					
4					
5		10	18.0	108.2	3.3
6					
7	End of Boring	11	20.1	106.7	4.6
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.

Arlington Heights, Illinois (847) 870-0544

SOIL BORING LOG 32

Logged By: DB **Page:** 1 of 1

Client: Village of Villa Park

File No. 21873 **Date Drilled:** 1/13/15

Reference: Geotechnical Year 1 - Group 2
Villa Park, IL

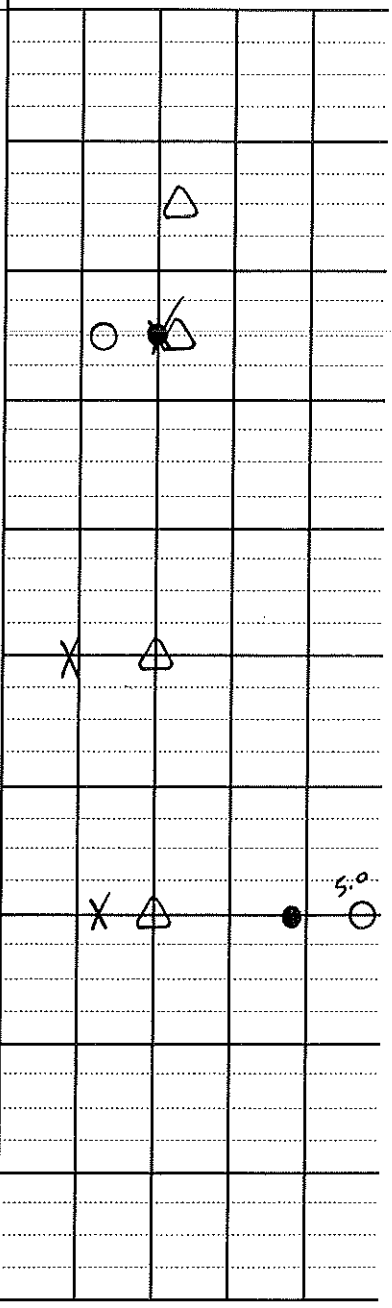
Comments: 881 Ardmore Ave., 4' W. of CL

Equipment: ☒ CME 45B ☐ CME 55 ☐ Hand Auger ☐ Other

depth, ft.	CLASSIFICATION Elevation Existing Surface	standard penetration ×	moisture content △	dry unit weight lbs./cu.ft. ϑ	unconfined compressive strength ○
	(See Core Log)				
1	Black silt,some clay,trace roots,damp (topsoil) (frozen to 2.0')		21.9		
2	Brown to brown-gray clay,some silt,trace sand & gravel,damp,tough	20	22.2	100.1	1.3
3					
4	Brown silt,some clay,trace fine sand & gravel,damp,loose				
5		9	20.3		
6	Brown clay,some silt,trace sand & gravel, damp,hard				
7	End of Boring	13	20.0	111.1	5.0
8					
9					
10					

○ unconfined compressive strength, tons/sq.ft.
● penetrometer reading, tons/sq.ft.
1.0 2.0 3.0 4.0

× standard penetration "N", blows/ft.
△ moisture content, %
10 20 30 40



Water encountered at dry feet during drilling operations (W.D.).
Water recorded at dry feet on completion of drilling operations (A.D.).
Water recorded at feet hours after completion of drilling operations (A.D.).

SOIL AND MATERIAL CONSULTANTS, INC.

General Notes

SAMPLE CLASSIFICATION

Soil sample classification is based on the Unified Soil Classification System, the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), ASTM D-2488, the Standard Test Method for Classification of Soils for Engineering Purposes, ASTM D-2487(when applicable), and the modifiers noted below.

CONSISTENCY OF COHESIVE SOILS

Term	Qu -tons/sq. ft.	N (unreliable)
Very Soft	0.00 - 0.25	0 - 2
Soft	0.26 - 0.49	3 - 4
Stiff	0.50 - 0.99	5 - 8
Tough	1.00 - 1.99	9 - 15
Very Tough	2.00 - 3.99	16 - 30
Hard	4.00 - 7.99	30 +
Very Hard	8.00 +	

RELATIVE DENSITY OF GRANULAR SOILS

Term	N - blows/foot
Very Loose	0 - 4
Loose	5 - 9
Medium Dense	10 - 29
Dense	30 - 49
Very Dense	50 +

IDENTIFICATION AND TERMINOLOGY

Term		Size Range
Boulder		over 8 in.
Cobble		3 in. to 8 in.
Gravel	-coarse	1 in. to 3 in.
	-medium	3/8 in. to 1 in.
	-fine	#4 sieve to 3/8 in.
Sand	-coarse	#10 sieve to #4 sieve
	-medium	#40 sieve to #10 sieve
	-fine	#200 sieve to #40 sieve
Silt		0.002 mm to #200 sieve
Clay		smaller than 0.002 mm

Modifying Term	Percent by Weight
Trace	1 - 10
Little	11 - 20
Some	21 - 35
And	36 - 50

Moisture Condition

Dry
Damp
Very Damp
Saturated

DRILLING, SAMPLING & SOIL PROPERTY SYMBOLS

CF - Continuous Flight Auger
HS - Hollow Stem Auger
HA - Hand Auger
RD - Rotary Drilling
AX - Rock Core, 1-3/16 in. diameter
BX - Rock Core, 1-5/8 in. diameter
NX - Rock Core, 2-1/8 in. diameter
S - Sample Number
T - Type of Sample
J - Jar
AS - Auger Sample
SS - Split-spoon (2 in. O.D. with 1-3/8 in. I.D.)
ST - Shelby Tube (2 in. O.D. with 1-7/8 in. I.D.)
R - Recovery Length, in.
B - Blows/ 6 in. interval, Standard Penetration Test (SPT)
N - Blows/ foot to drive 2 in. O.D. split-spoon sampler with 140 lb. hammer falling 30 in., (STP)
Pen. - Pocket Penetrometer reading, tons/ sq. ft.
W - Water Content, % of dry weight
Uw - Dry Unit Weight of soil, lbs./ cu. ft.
Qu - Unconfined Compressive Strength, tons/ sq. ft.
Str - % Strain at Qu.
WL - Water Level
WD - While Drilling
AD - After Drilling
DCI - Dry Cave-in
WCI - Wet Cave-in
LL - Liquid Limit, %
PL - Plastic limit, %
PI - Plasticity Index (LL-PL)
LI - Liquidity Index [(W-PL)/PI]