



PROPOSAL SUBMITTED BY		
Schroeder Asphalt Services, Inc.		
Contractor's Name		
P. O. Box 831		
Street		P.O. Box
Huntley	IL	60142
City	State	Zip Code

STATE OF ILLINOIS

COUNTY OF Cook and DuPage

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

- ESTIMATE OF COST
- SPECIFICATIONS
- PLANS
- MATERIAL PROPOSAL
- DELIVER AND INSTALL PROPOSAL
- CONTRACT PROPOSAL
- CONTRACT
- CONTRACT BOND

FOR THE IMPROVEMENT OF

STREET NAME OR ROUTE NO. Gladiola Avenue

SECTION NO. 12-00061-00-FP

TYPES OF FUNDS MFT

For Municipal Projects

Submitted
Approved/Passed _____
Date May 8, 2012

Mayor President of Board of Trustees Municipal Official

For County and Road District Projects

Submitted/Approved _____
Date _____

Highway Commissioner

Submitted/Approved _____
Date _____

County Engineer/Superintendent of Highways

Department of Transportation

Released for bid based on limited review

Date _____
**AGREEMENT
OF
UNDERSTANDING**
Regional Engineer

Concurrence in approval of award

Date _____
Regional Engineer



RETURN WITH BID

Route	<u>Gladiola Avenue</u>
County	<u>Cook & DuPage</u>
Local Agency	<u>Hanover Park</u>
Section	<u>12-00061-00-FP</u>

Time and Place of Opening of Bids

Sealed proposals for the improvement described below will be received at the office of the Village Clerk of the
Village of Hanover Park, 2121 West Lake Street, Hanover Park, Illinois, 60133

until 11:00 o'clock A M., April 24, 2012 (date) Proposals will be opened and read publicly
 at 11:00 o'clock A M., April 24, 2012 (date) at the office of the Village Clerk of the
Village of Hanover Park, 2121 West Lake Street, Hanover Park, Illinois, 60133 (address)

Description of Work

Name Gladiola Avenue Reconstruction Length 1095.00 feet (0.21 miles)

Location Gladiola Avenue from Hollywood Ave. to Briarwood Ave.

Proposed Improvement Street reconstruction, including earth excavation, construction of storm sewers and
appurtenances, combination curb & gutter, aggregate base course, bituminous pavement, sidewalks & driveways

Bidders Instructions

1. Plans and proposal forms will be available in the office of The Director of Public Works, Village of Hanover Park
2041 Lake Street, Hanover Park, Illinois, 60133, (630) 823-5700 @ the cost of \$30.00 non-refundable
2. If prequalification is required, the 2 low bidders must file within 24 hours after the letting an "Affidavit of Availability" (Form BC 57), in triplicate, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work. One copy shall be filed with the Awarding Authority and 2 copies with the IDOT District Office.
3. All proposals must be accompanied by a proposal guaranty as provided in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals contained in the "Supplemental Specifications and Recurring Special Provisions".
4. 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 contained in the "Supplemental Specifications and Recurring Special Provisions".
5. Bidders need not return the entire contract proposal when bids are submitted unless otherwise required. Portions of the proposal that must be returned include the following:

a. BLR 12210 - Contract Cover	f. BLR 12230 - Proposal Bid Bond (if applicable)
b. BLR 12220 - Notice to Bidders	g. BLR 12325 - Apprenticeship or Training Program Certification (do not use for federally funded projects)
c. BLR 12221 - Contract Proposal	
d. BLR 12222 - Contract Schedule of Prices	
e. BLR 12223 - Signatures	
6. 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.

7. 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.
8. The bidder shall take no advantage of any error or omission in the proposal and advertised contract.
9. 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.
10. 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.

By Order of

Village of Hanover Park

(Awarding Authority)

/Eira L. Corral

County Engineer/County Superintendent of Highways/Municipal Clerk

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

INFORMATION FOR BIDDERS/GENERAL CONDITIONS

1. Proposal

All proposals must be on the forms provided in the bound copy of the specifications and contract stipulations hereto attached. All proposals must be legibly written in ink with all prices given in figures. Each proposal must be enclosed in a sealed envelope addressed to the Village Clerk, Village of Hanover Park, Illinois, and endorsed on the outside of the envelope, "Bid for Gladiola Ave Reconstruction (MFT Section 12-00061-00-FP)" and filed in the Village Clerk's office at Hanover Park, Illinois, prior to 11 :00 a.m.,

2. Special Notice

Bidders shall inform themselves of the condition of the site and applicable Village and State laws, obstacles to be encountered, and all other relevant matters concerning the work to be performed, and the Village shall not be obliged in any way by reason of any matter of thing concerning which such bidder might have so informed himself prior to the bidding.

3. Bid Award

Security deposited by unsuccessful bidders will be returned as soon as possible after the award is made and successful bidder has executed his contract and furnished contract bond.

4. Time of Completion

The successful bidder will be required to complete the work within the time stipulated in his proposal. It will be necessary for the bidder to satisfy the Village of his ability or as to his arrangements to execute the work within the time stipulated.

5. Bonds

Within ten (10) calendar days after acceptance of bid by the Village, the successful bidder shall furnish contract performance bond, acceptable to the Village in full amount of his contract.

6. Specifications

The ordinances and regulations of the Village of Hanover Park, the "Standard Specifications for Road and Bridge Construction", prepared by The Department of Transportation of the State of Illinois and adopted by said Department January 1, 2012, hereinafter known as "Standard Specifications", and the specifications and special provisions provided herein shall govern the construction of the proposed improvement designated as "Gladiola Ave Reconstruction (MFT Section 12-00061-00-FP)"

7. Definition

Anywhere in the specifications where the word Department is stated, Department shall be construed to mean the Village of Hanover Park.

8. Responsibility

The Contractor will be held responsible for any accidents due to his negligence. The Contractor shall provide barricades with flashers to mark any hazards created by construction, such as exposed manholes, pavement removal, areas of excavation, etc. The Engineer shall be the sole judge as to the acceptability of barricade placement.

9. Prevailing Wages

Not less than the prevailing rate of wages as found by the Village of Hanover Park or the Department of Labor as determined by the court on review shall be paid to all laborers, workmen and mechanics performing under this contract.

10. Bid Bond

A five (5%) percent bid bond, cashier's check, bank draft or certified check shall accompany all proposals.

11. Prequalification

Prequalification of all bidders in conformance with Section 102.01 of the Standard Specifications and special provision LRS6 is required and proposal forms will only be issued to contractors who furnish a certified or photostatic copy of a "Certificate of Eligibility" issued by the Illinois Department of Transportation.

12. Receiving Bids

Bids received prior to the time of opening will be securely kept, unopened. The Village Clerk, whose duty it is to open them will decide when the specified time has arrived, and no bid received thereafter will be considered. No responsibility will be attached to the Village Clerk or the Village for the premature or non-opening of a bid not properly addressed and identified, except as otherwise provided by law.

13. Permits and Licenses

The successful bidder shall obtain, at their own expense, all permits and licenses which may be required to complete the contract. Fees for all Village permits and licenses shall be waived.

14. Waiver of Liens

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 Village immunity from mechanics liens on account of anything which is done by the Contractor or his subcontractors in carrying out the contract and any work orders for additions thereto, all as a condition of any payment by the Village on account of the contract. Any payments made by the Village without requiring compliance with this paragraph shall not be construed as a waiver of the Village of the right to require compliance with this paragraph as a condition of later payments.

The Contractor shall furnish with his request for final 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 materials for which a lien could be filed.

15. Forms

All bids must be submitted on the forms provided, complete with all blank spaces filled in and properly signed in ink in the proper spaces and submitted in a sealed envelope. All bid forms may be obtained from the Office of the Village Clerk, 2121 West Lake Street, Hanover Park, IL 60133 and when completed delivered to the Office of the Village Clerk prior to the bid opening date and time. Bids must be identified as such on the outside of the sealed envelope by marking the envelope "SEALED BID" and with the following information: Company's name, address, item bid, date and time of opening. Bidders may attach separate sheets for the purpose of explanation, exception, or alternative proposal and to cover required unit prices.

16. Examination of Bid Forms, Specifications, and Site

The bidder shall carefully examine the bid forms which may include the invitation to bid, instruction to bidders, general conditions, special conditions, plans, specifications, bond, contract, and any addenda to them, and sites of the proposed work (when known) before submitting the bid. The submission of the bid shall be considered conclusive evidence that the bidder has investigated and is satisfied as to all conditions to be encountered in performing the work, and is fully informed as to character, quality, quantities, and costs of work to be performed and materials to be furnished, and as to the requirements of the bid forms. If the bid is accepted, the bidder will be responsible for all errors in his proposal resulting from his failure or neglect to comply with these instructions, and the Village shall not be responsible for any charge for extra work or change in anticipated profits resulting from such failure or neglect.

17. Interpretation of Bid Documents

Questions regarding bid documents, discrepancies, omissions, or intent of the specifications or plans shall be submitted in writing to the Village Clerk at least ten (10) working days prior to opening of bids to provide time for issuing and forwarding an addendum. Any interpretations of the Contract Documents will be made only by addendum duly issued or delivered by the Village to each person receiving a set of bid documents. The Village will not be responsible for any other explanations for interpretations of the Contract Documents.

Letters, requested interpretations, clarifications, and/or explanations shall be so noted on the outside of the envelope and on the first page of the letter with the words, INTERPRETATION REQUEST. Letters not properly marked will not be considered as a formal request. Any letter received within ten working days of the bid date will be returned unopened.

18. Bid Guarantee

Unless specifically waived, each bid shall be accompanied by a bid deposit in an amount of five percent (5%) of the full amount of the bid in the form of a certified or bank cashier's check or bid bond. In a reasonable time after the bid opening, bid deposits of all except the three lowest responsible bidders will be released. The remaining deposits will be released after the successful bidder has entered into the contract and furnished the required insurance and bonds. The bid

deposit shall become the property of the Village if the successful bidder within fourteen (14) days from awarding the contract refuses or is unable to comply with the contract requirements.

19. Receiving Bids

Bids received prior to the time of opening will be securely kept, unopened. The Village Clerk, whose duty it is to open them will decide when the specified time has arrived, and no bid received thereafter will be considered. No responsibility will be attached to the Village Clerk or the Village for the premature or non-opening of a bid not properly addressed and identified, except as otherwise provided by law.

20. Late and Fax Bids

Bids arriving after the specified time, whether sent by mail, courier, or in person, will not be accepted and will be refused and returned unopened. It is the bidder's responsibility for timely delivery regardless of the methods used. Mailed bids which are delivered after the specified hour will not be accepted regardless of postmarked time on the envelope. Facsimile machine transmitted bids will not be accepted, nor will the Village transmit bid documents to prospective bidders by way of a facsimile machine.

21. Completeness

All information required by the Invitation to Bid must be supplied to constitute a responsive bid.

22. Error in Bids

When an error is made in extending total prices, the unit bid price and/or written words shall govern. Otherwise, the bidder is not relieved from errors in bid preparation. Erasures in bids must be explained over signature of bidder.

23. Withdrawal of Bids

A written request for the withdrawal of a bid or any part thereof may be granted if the request is received by the Village Clerk prior to the specified time of opening. After the opening, the bidder cannot withdraw or cancel his bid for a period of forty-five (45) calendar days, or such longer time as stated in the bid documents.

24. Bidder Interested in More than One Bid

Unless otherwise specified, if more than one bid is offered by anyone party, by or in the name of his or their agent, partner, or other persons, all such bids may be rejected. A party who has quoted prices on work, materials, or supplies to other bidders is not thereby disqualified from quoting prices to other bidders or from submitting a bid directly for the work, materials, or supplies.

25. Samples

Samples or drawings requested shall be delivered and removed at no cost to the Village. The Village shall not be responsible for damage to samples. Samples shall be removed by the bidder within thirty (30) days after notification. Samples must be submitted prior to the time set for the opening of bids.

26. Equipment or Materials

Each bidder shall submit catalogs, descriptive literature, and detailed drawings necessary to fully describe those features or the material or work not covered in the specifications. The parts and materials bids must be of current date (latest model) and meet specifications. This provision excludes surplus, remanufactured, and used products except as an alternate bid. The brand name and/or manufacturer of each item proposed must be clearly stated. Guarantee and/or warranty information must be included with this bid.

27. Estimated Bid Quantities

On "Estimated Quantities", the Village may purchase more or less than the estimates. The Contractor shall not be required to deliver more than ten (10) percent in excess of the estimated quantity of each item, unless otherwise agreed upon.

28. Trade Names -Alternative Bid

When an item is identified in the specifications by a manufacturer's or trade name or catalog number, the bidder shall bid upon the item so identified.

If the specifications state "or equal" bids on other items will be considered, provided the bidder clearly identifies in his proposal the item to be furnished, together with any descriptive matter which will indicate the character of the item.

Bidders desiring to bid on items which deviate from these specifications, but which they believe are equivalent, are requested to submit alternate bids. However, ALTERNATE BIDS MUST BE CLEARLY INDICATED AS SUCH AND DEVIATIONS FROM THE APPLICABLE SPECIFICATIONS PLAINLY NOTED. The bid must be accompanied by complete specifications for the items offered. Bidders wishing to submit a secondary bid must submit it as an alternate bid.

The Village shall be the sole and final judge unequivocally as to whether any substitute from the specifications is of equivalent or better quality.

29. Price

Unit prices shall be shown for each unit on which there is a bid as well as the aggregate price and shall include all packing, crating, freight and shipping charges, and cost of unloading at the destination unless otherwise stated in the bid.

Unit prices shall not include any local, state, or federal taxes. The Village is exempt, by law, from paying State and Village Retailer's Occupation Tax, State Service Occupation and Use Tax and Federal Excise Tax. The Village will supply the successful bidder with its tax exemption number.

Cash discounts will not be considered in determining overall price, but may be used in an overall evaluation.

30. Consideration of Bid

No bid will be accepted from or contract awarded to any person, firm or corporation that is in arrears or is in default to the Village upon any debt or contract, or that is a defaulter, as surety or otherwise, upon any obligation to the Village or had failed to perform faithfully any previous contract with the Village.

The bidder, if requested, shall present within 48 hours evidence satisfactory to the Village of performance ability and possession of necessary facilities, pecuniary resources and adequate insurance to comply with the terms of these specifications and contract documents.

31. Award or Rejection

The Village reserves the right to reject and/or award any and all bids or parts thereof and to waive formalities and technicalities according to the best interests of the Village. Any bid submitted will be binding for forty-five (45) days subsequent to the date of the bid opening. A contract will be awarded to the lowest responsible bidder complying with the conditions of the contract documents only when it is in the best interest of the Village to accept the bid. The Village shall be the sole judge of compliance with the specifications and reserves the right to accept or reject any and/or all bids or parts thereof.

32. Execution of Contract

The successful bidder shall, within fourteen (14) days after notification of the award: (a) enter into a contract in writing with the Village covering all matters and things as are set forth in the specifications and his bid and (b) carry insurance acceptable to the Village, covering public liability, property damage, and workmen's compensation.

After the acceptance and award of the bid and upon receipt of a written purchase order executed by the proper officials of the Village, this Instruction to Bidders, including the specifications, will constitute part of the legal contract between the Village of Hanover Park and the successful bidder.

33. Payment

Final payment will be made within thirty (30) days after acceptance of the job by the Village after the completion of the work as covered within the contract documents. Periodic progress payments will also be paid with a 10% retainage held until final acceptance.

34. Compliance with All Laws

All work under the contract must be executed in accordance with all applicable federal, state, and local laws, ordinances, rules, and regulations which may in any manner affect the preparation of the bid or performance of the contract. This includes paying the prevailing rate of wages as established by the Village which requires that the Contractor and each subcontractor pay its laborers, workers, and mechanics constructing public works under this contract not less than the prevailing wages as determined by the Illinois Department of Labor pursuant to the Prevailing Wage Act (820 ILCS 13010.01 et seq.). It shall be the responsibility of the Contractor to monitor the prevailing wage rates for any increase in rates during the contract and adjust wage rates accordingly. The current prevailing wage rates are available on the Illinois Department of Labor web site at www.state.il.us/agencyidol or by calling the Village of Hanover Park at 630-372-4220.

The Contractor and its subcontractors shall comply with Section 5 of the Act that requires the Contractor and its subcontractors to submit to the Village monthly certified payroll records along with a statement affirming that such records are true and accurate, that the wages paid to each worker are not less than the required prevailing rate and that the Contractor or subcontractor is aware that filing records it knows to be false is a Class B misdemeanor. Each month's certified payroll(s) must be filed with the Village before the end of the next month or prior to payment by the Village for work that includes that payroll.

35. Contract Alterations

No amendment of a contract shall be valid unless made in writing and signed by the Village Manager or his authorized agent.

36. Notices

All notices required by the contract shall be given in writing.

37. Nonassignability

The Contractor shall not assign the contract, or any part thereof, to any other person, firm, or corporation without the previous written consent of the Village Manager. Such assignment shall not relieve the Contractor from his obligations, or change the terms of the contract.

38. Indemnity

To the fullest extent permitted by law, the Contractor hereby agrees to defend, indemnify, and hold harmless the Village, its officials, agents, and employees, against all injuries, deaths, loss, damages, claims, patent claims, suits, liabilities, judgments, cost, and expenses, which may in anywise accrue against the Village, 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 anywise result therefore, except that arising out of the sole legal cause of the Village, its agents, or employees, 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 Village, its officials, agents, and employees, 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 Village, its officials, agents, and employees as herein provided.

39. **Equal Employment Opportunity**

During the performance of the contract and/or supplying of materials, equipment, and suppliers, bidder must be in full compliance with all provisions of the Acts of the General Assembly of the State of Illinois relating to employment, including equal opportunity requirements.

40. **Default**

The Village may terminate a contract by written notice of default to the Contractor if:

- a. The Contractor fails to make delivery of the materials or perform the services within the time specified in the proposal, or
- b. fails to make progress so as to endanger performance of the contract, or
- c. fails to provide or maintain in full force and effect, the liability and indemnification coverages or performance bond as required.

If the Village terminates the contract, the Village may procure supplies or services similar to those so terminated, and the Contractor shall be liable to the Village for any excess costs for similar supplies and services, unless the Contractor provides acceptable evidence that failure to perform the contract was due to causes beyond the control and without the fault or negligence of the Contractor.

41. **Inspection**

The Village shall have a right to inspect, by its authorized representative, any material, components, or workmanship as herein specified. Materials, components, or workmanship that have been rejected by the authorized representative as not in accordance with the terms of the specifications shall be replaced by the Contractor at no cost to the Village.

42. Supplementary Conditions

Wherever special conditions are written into the specifications or supplementary conditions which are in conflict with conditions stated in these Instructions to Bidder, the conditions stated in the specifications or supplementary conditions shall take precedence.

43. Insurance

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.

In submission of a bid, the bidder is certifying that he has all insurance coverages required by law or would normally be expected for bidder's type of business. In addition, the bidder is certifying that he has or will obtain at least the insurance coverages on the attached Liability Insurance Contract Specifications.

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 Village named as additional insured, including ISO Additional Insured Endorsement CG 2010 Pre-2004 version, CG 2026 Pre-2004 version.
CG2037 -Completed Operations -Required if box is checked
- B. Owners and Contractors Protective Liability (OCP) policy with the Village as insured
Required if box is checked
- 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 Village 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 mitigating 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 Village. At the option of the Village, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Village, its officials, agents, employees, 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 Village, 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 Village, its officials, agents, employees, and volunteers.

2. The Contractor's insurance coverage shall be primary as respects the Village, its officials, agents, employees, and volunteers. Any insurance or self-insurance maintained by the Village, 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 Village, its officials, agents, employees, 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 Village, its officials, agents, employees, 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.

B. Workers' Compensation and Employers' Liability Coverage

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

1. NCCI Alternate Employer Endorsement (WC 000301) in place to insure that workers' compensation coverage applies under Contractor's coverage rather than Village's if the Village is borrowing, leasing, or in day-to-day control of Contractor's employee.

Required if box is checked

C. Professional Liability (Required if box is checked)

Professional liability insurance with limits not less than as required in the attached exhibit.

D. All Coverages

Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, cancelled, reduced in coverage, or in limits except after thirty

(30) days prior written notice by certified mail, return receipt requested, has been given to the Village.

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 Village with certificates of insurance naming the Village, its officials, agents, employees, and volunteers as additional insureds, 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 may be on forms provided by the Village and are to be received and approved by the Village before any work commences. Other additional insured endorsements may be utilized, if they provide a scope of coverage at least as broad as the coverage such as ISO Additional Insured Endorsements CG 2010 or CG 2026. The Village 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 subcontractor, 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.

INDEX
FOR
SUPPLEMENTAL SPECIFICATIONS
AND RECURRING SPECIAL PROVISIONS

Adopted January 1, 2012

This index contains a listing of SUPPLEMENTAL SPECIFICATIONS and frequently used RECURRING SPECIAL PROVISIONS.

SUPPLEMENTAL SPECIFICATIONS

Std. Spec. Sec.

Page No.

No Supplemental Specifications this year.

CHECK SHEET
FOR
RECURRING SPECIAL PROVISIONS

Adopted January 1, 2012

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

<u>CHECK SHEET #</u>	<u>RECURRING SPECIAL PROVISIONS</u>	<u>PAGE NO.</u>
1	<input type="checkbox"/> Additional State Requirements For Federal-Aid Construction Contracts (Eff. 2-1-69) (Rev. 1-1-10)	1
2	<input type="checkbox"/> Subletting of Contracts (Federal-Aid Contracts) (Eff. 1-1-88) (Rev. 5-1-93)	4
3	<input type="checkbox"/> EEO (Eff. 7-21-78) (Rev. 11-18-80)	5
4	<input type="checkbox"/> Specific Equal Employment Opportunity Responsibilities Non Federal-Aid Contracts (Eff. 3-20-69) (Rev. 1-1-94)	15
5	<input type="checkbox"/> Required Provisions - State Contracts (Eff. 4-1-65) (Rev. 1-1-12)	20
6	<input type="checkbox"/> Asbestos Bearing Pad Removal (Eff. 11-1-03)	25
7	<input type="checkbox"/> Asbestos Waterproofing Membrane and Hot-Mix Asphalt Surface Removal (Eff. 6-1-89) (Rev. 1-1-09)	26
8	<input type="checkbox"/> Haul Road Stream Crossings, Other Temporary Stream Crossings, and In-Stream Work Pads (Eff. 1-2-92) (Rev. 1-1-98)	27
9	<input type="checkbox"/> Construction Layout Stakes Except for Bridges (Eff. 1-1-99) (Rev. 1-1-07)	28
10	<input checked="" type="checkbox"/> Construction Layout Stakes (Eff. 5-1-93) (Rev. 1-1-07)	31
11	<input type="checkbox"/> Use of Geotextile Fabric for Railroad Crossing (Eff. 1-1-95) (Rev. 1-1-07)	34
12	<input type="checkbox"/> Subsealing of Concrete Pavements (Eff. 11-1-84) (Rev. 1-1-07)	36
13	<input type="checkbox"/> Hot-Mix Asphalt Surface Correction (Eff. 11-1-87) (Rev. 1-1-09)	40
14	<input type="checkbox"/> Pavement and Shoulder Resurfacing (Eff. 2-1-00) (Rev. 1-1-09)	42
15	<input type="checkbox"/> PCC Partial Depth Hot-Mix Asphalt Patching (Eff. 1-1-98) (Rev. 1-1-07)	43
16	<input type="checkbox"/> Patching with Hot-Mix Asphalt Overlay Removal (Eff. 10-1-95) (Rev. 1-1-07)	45
17	<input type="checkbox"/> Polymer Concrete (Eff. 8-1-95) (Rev. 1-1-08)	46
18	<input type="checkbox"/> PVC Pipeliner (Eff. 4-1-04) (Rev. 1-1-07)	48
19	<input checked="" type="checkbox"/> Pipe Underdrains (Eff. 9-9-87) (Rev. 1-1-07)	49
20	<input type="checkbox"/> Guardrail and Barrier Wall Delineation (Eff. 12-15-93) (Rev. 1-1-12)	50
21	<input type="checkbox"/> Bicycle Racks (Eff. 4-1-94) (Rev. 1-1-12)	54
22	<input type="checkbox"/> Temporary Modular Glare Screen System (Eff. 1-1-00) (Rev. 1-1-07)	56
23	<input type="checkbox"/> Temporary Portable Bridge Traffic Signals (Eff. 8-1-03) (Rev. 1-1-07)	58
24	<input type="checkbox"/> Work Zone Public Information Signs (Eff. 9-1-02) (Rev. 1-1-07)	60
25	<input type="checkbox"/> Night Time Inspection of Roadway Lighting (Eff. 5-1-96)	61
26	<input type="checkbox"/> English Substitution of Metric Bolts (Eff. 7-1-96)	62
27	<input type="checkbox"/> English Substitution of Metric Reinforcement Bars (Eff. 4-1-96) (Rev. 1-1-03)	63
28	<input type="checkbox"/> Calcium Chloride Accelerator for Portland Cement Concrete (Eff. 1-1-01)	64
29	<input type="checkbox"/> Portland Cement Concrete Inlay or Overlay for Pavements (Eff. 11-1-08) (Rev. 1-1-12)	65
30	<input type="checkbox"/> Quality Control of Concrete Mixtures at the Plant (Eff. 8-1-00) (Rev. 1-1-11)	68
31	<input type="checkbox"/> Quality Control/Quality Assurance of Concrete Mixtures (Eff. 4-1-92) (Rev. 1-1-11)	76

CHECK SHEET
FOR
LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

Adopted January 1, 2012

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

LOCAL ROADS AND STREETS RECURRING SPECIAL PROVISIONS

<u>CHECK SHEET #</u>	<u>PAGE NO.</u>
LRS 1	89
LRS 2	90
LRS 3	91
LRS 4	92
LRS 5	93
LRS 6	94
LRS 7	100
LRS 8	106
LRS 9	107
LRS 10	108
LRS 11	109
LRS 12	111
LRS 13	112
LRS 14	113
LRS 15	116
LRS 16	117
LRS 17	118

**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 "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", and the "Manual of Test Procedures of Materials" in effect on the date of invitation for bids, and the "Supplemental Specifications and recurring Special Provisions adopted January 1 2012, indicated on the Check Sheet included herein which apply to and govern the proposed improvement designated as "Gladiola Ave Reconstruction" and in case of conflict with any part or parts of said specifications, the said Special Provisions shall take precedence and shall govern. The plans entitled "Gladiola Ave Reconstruction", consisting of 11 sheets, are hereby made a part of these special provisions.

Prequalification of Bidders

In accordance with special provision LRS6 of the Standard Specifications prequalification will be required of all bidders on this proposal.

Project Description

The proposed improvement consists of pavement reconstruction on Gladiola Avenue from Hollywood Ave. to Briarwood Ave., a distance of 1095 feet. The work to be performed consists of earth excavation, construction of storm sewers and appurtenances, combination curb and gutters, aggregate base course, hot mix asphalt surface and binder courses, PCC sidewalks, PCC driveways, restoration and all collateral and incidental work necessary to complete the project in accordance with the plans and specifications.

Heavy Equipment Movement

The contractor shall notify the Engineer of the movement of any heavy equipment through the Village 24 hours in advance. The contractor shall comply with recommended travel routes throughout the entire Village. It shall be the responsibility of the contractor to notify State and County officials as may be appropriate with respect to movement of equipment.

Damages By Contractor

The contractor shall be held liable for the timely replacement of or repair to any damages caused by him or his subcontractors during the project effort. Corrective action by the contractor shall be done to the satisfaction of the Engineer.

The contractor is further advised that if his negligence or that of his subcontractors causes safety or hazardous conditions which requires intervention or remedial action by the Village or its vendors, the contractor will be held accountable for all costs incurred.

Water Usage

The contractor shall obtain a water meter complete with backflow preventer from the Village Water Department Supervisor prior to filling any equipment from Village hydrants. It shall be the responsibility of the contractor to arrange for such a meter in advance of need. While the Village will make every effort to provide the meter, supply is limited and available on a first request basis. The contractor will be held liable for any damage to the meter.

Mobilization

This contract contains no provisions for Mobilization. Therefore, Section 671 of the Standard Specifications is deleted.

Material Certification

The Contractor shall furnish certifications to the Engineer from all suppliers for all materials except those to be inspected by the Engineer. The statements shall certify that the materials comply with the requirements of the "Standard Specifications for Road and Bridge Construction in Illinois" and the Supplemental Specifications.

Material Tickets

The Contractor shall furnish the Engineer with material delivery tickets for all materials furnished in conjunction with the construction of the project including but not limited to aggregate, bituminous materials for prime coat, all bituminous mixes, and concrete. The delivery tickets shall be given to the Engineer each day at the end of the working day.

Pre-Construction Conference

A pre-construction conference will be held with the various Department representatives of the Village of Hanover Park and the Contractor regarding conflicts, scheduling and project progress. The date and time of the meeting will be established by the Village.

JULIE System

The Contractor shall telephone the Joint Utility Locating Information for Excavators at (JULIE) 1-800-892-0123 a minimum of 48 hours in advance of any excavating on this project.

OSHA

The Contractor shall be responsible for complying with all OSHA regulations applicable to this project.

Notice

The Contractor shall notify the Village between the hours of 7:00 a.m. and 3:30 p.m., Monday through Friday, forty-eight (48) hours in advance of any work so that the Village may have the time necessary to schedule staking.

Traffic Control Plan

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

Special attention is called to Articles 107.09 and 107.14 of the Standard Specifications and the following Highway Standards, Details, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall contact the Village of Hanover Park at least 48 hours in advance of beginning work.

STANDARDS: 702001, 701501, 701801, 701901

SPECIAL PROVISIONS:

- Temporary Access
- Traffic Control and Protection
- Work Zone Traffic Control
- Flaggers in Work Zones
- Flagger Vests
- Personal Protective Equipment
- Traffic control and protection for sidewalks, intersections, and driveways.

At the preconstruction meeting, the Contractor shall furnish the name of the individual in his direct employ who is to be responsible for the installation and maintenance of the traffic control for this project. If the actual installation and maintenance are to be accomplished by a subcontractor, consent shall be requested of the Engineer at the time of the preconstruction meeting in accordance with Article 108.01 of the Standard Specifications. This shall not relieve the Contractor for the requirement to have a responsible individual in his direct employ supervise this work. The Village will provide the Contractor the name of its representative who will be responsible for the administration of the Traffic Control Plan.

Traffic Control and Protection

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

Traffic Control and Protection shall be provided as called for in the plans, these Special Provisions, applicable Highway Standards, applicable sections of the Standard Specifications, or as directed by the Engineer.

The governing factor in the execution and staging of work for this project is to provide the motoring public with the safest possible travel conditions along the roadway through the construction zone. The Contractor shall arrange his operations to keep the closing of any lane of the roadway to a minimum and shall provide for emergency vehicle access at all times.

All traffic control devices used on this project shall conform to the plans, Special Provisions, Traffic Control Standards, Traffic Specifications and the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways". No modification on these requirements will be allowed without prior written approval of the Engineer.

Traffic Control Devices include signs and their supports, signals, pavement markings, barricades with sand bags, channelizing devices, warning lights, arrow boards, flaggers, or any other device used for the purpose of regulating, detouring, warning or guiding traffic through or around the construction zone.

The initial erection of a traffic control installation shall not include devices that are bent, scratched, faded, worn, and dirty or otherwise present a shabby appearance. The Contractor is required to conduct routing inspections of the worksite at a frequency that will allow for the prompt replacement of any traffic control device that has become displaced, worn or damaged to the extent that it no longer conforms to the shape, dimensions, color and operational requirements of the MUTCD, and the Traffic Control Standards or will no longer present a neat appearance to motorists. A sufficient quantity of replacement devices, based on vulnerability to damage, shall be readily available to meet this requirement.

The Contractor shall be responsible for the proper location, installation and arrangement of all traffic control devices. Special attention shall be given to advance warning signs during construction operations in order to keep lane assignment consistent with barricade placement at all times. The Contractor shall immediately remove, cover or turn from the view of the motorists all traffic control devices which are inconsistent with detour or lane assignment patterns and conflicting conditions during the transition from one construction stage to another. When the Contractor elects to cover conflicting or inappropriate signing materials used shall totally block out reflectivity for the sign and shall cover the entire sign. The method used for covering the signing shall meet with the approval of the Engineer.

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

The Contractor shall ensure that all traffic control devices installed by him are operational, properly placed and effective 24 hours a day, including Sundays and holidays.

Signs

All signs except those referring to daily lane closures shall be post mounted in accordance with Standard 702001 for all projects that exceed four days.

Construction signs referring to daytime lane closures during working hours shall be removed, covered or turned away from the view of the motorists during non-working hours.

Flashing lights shall be used on each approach in advance of the work area and installed above the first two signs in each series during the hours of darkness.

Prior to the beginning of construction operations, the Contractor will be provided a sign log of all existing signs within the limits of the construction zone. The Contractor is responsible for verifying the accuracy of the sign log. Throughout the duration of this project, all existing traffic signs shall be maintained by the Contractor. All provisions of Article 107.25 of the Standard Specifications shall apply except the third paragraph shall be revised to read: "The Contractor shall maintain, furnish and replace at his own expense, any traffic sign or post which has been damaged or lost by the Contractor or a third party."

"Fresh Oil" signs (W21-2) shall be used when prime is applied to pavement that is open to traffic. The signs are to remain until tracking of the prime ceases. The sign shall be erected a minimum of 500 feet preceding the start of the prime and on all side roads within the posted area. The "Fresh Oil" sign on the side road shall be posted a minimum of 200 feet from the mainline pavement.

"Rough Grooved Surface" signs (W8-I107) shall be used when the road has been cold milled and open to traffic. The signs shall remain in place until the milled surface condition no longer exists. These signs shall be erected a minimum of 500 feet preceding the start of the mined pavement and on all side roads within the posted area. The "Rough Grooved Surface" signs on the side roads shall be posed 200 feet from the mainline pavement. All signs shall be an 18" x 18" orange flag and an amber flashing light attached.

Whenever a lane is closed to traffic using Standard 701001, 701306 or 701301, the pavement width transition sign (W4-2R or W4-2L) shall be used in lieu of "Men Working" sign (W21-1 or W-21-1a).

Whenever any vehicle, equipment, workers or other activities infringe on the shoulder or within 15 feet of

the traveled way and the traveled remains unobstructed, then the applicable Traffic Control Standard shall be 701001, 701006 or 701101. "Shoulder Work Ahead" sign (W21-5(0)48) shall be used in lieu of the "Men Working" sign (W21-1 or W-21-1a).

Barricades

Any drop off greater than 3 inches, but less than 6 inches within 8 feet of the pavement edge shall be protected by Type I or II barricades equipped with mono-directional steady bum lights at 100 foot center to center spacing. If the drop off within 8 feet of the pavement edge exceeds 6 inches, the barricades mentioned above shall be placed at 50 foot center to center spacing. Barricades that must be placed in excavated areas shall have leg extensions installed such that the top of the barricade is in compliance with the height requirements of Standard 702001.

All Type I and Type II barricades and vertical panels shall be equipped with a steady bum light when used during hours of darkness otherwise stated herein.

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

Vertical panels, drums or other delineating devices may be substituted for Type I or II barricades with the approval of the Engineer.

Vertical panels shall have a minimum reflective area of 192 square inches when used along a road with a posted speed limit of 40 mph or less. When the posted speed limit is greater than 40 mph, the vertical panels shall have a minimum reflective area of 288 square inches.

Public Safety and Convenience

The Contractor shall provide a telephone number where a responsible individual can be contacted on a 24-hour-a-day basis to receive notification of any deficiencies regarding traffic control and protection. The Contractor shall dispatch men, materials and equipment to correct any such deficiencies. The Contractor shall respond to any call from the Village concerning any request for improving or correcting traffic control devices and begin making the requested repairs within two hours from the time of notification.

When traveling in lanes open to public traffic, the Contractor's vehicles shall always move with and not against or across the flow of traffic. These vehicles shall enter or leave work areas in a manner which will not be hazardous to, or interfere with, traffic and shall not park or stop except within designated work areas. Personal vehicles shall not be parked within the right-of-way except in specific areas designated by the Engineer.

The Contractor shall maintain at least one lane traffic at all times during the construction of this project. A Flagger will be required for each separate operation where two-way traffic is maintained over one lane of pavement. The Contractor shall also maintain entrances and side roads along the proposed improvement. Interference with traffic movements and inconvenience to owners of abutting property and the public shall be kept to a minimum. Any delays or inconveniences caused the Contractor by complying with these requirements shall be considered as incidental to the contract and no additional compensation will be allowed.

On two lane roads, the Contractor is to plan his work so that there will be no open holes in the pavement

and that all barricades will be removed from the pavement during non-work hours.

There shall be no open holes in the pavement being used by the traveling public. Lane closures, if allowed, will be in accordance with the applicable standards, any staging details shown in the plans and other applicable contract documents.

The Contractor's equipment shall not be allowed on the pavement open to traffic. The Contractor shall not park any equipment or vehicles unnecessarily on the shoulder. Whenever work is in progress adjacent to the traveled way, the Contractor shall provide necessary traffic signs to warn the public and protect the work as required herein or as provided in the Standards. The Contractor shall remove all equipment from the shoulders after work during the week and on weekends.

No road closure or restriction shall be permitted except those covered by Standard Designs without written approval by the Engineer.

Basis of Payment

This work will be paid for at the contract lump sum price for TRAFFIC CONTROL AND PROTECTION which price shall be payment in full for all labors, materials, transportation, handling and incidentals necessary to furnish, install, maintain, replace, relocate and remove all traffic control devices indicated in the plans and specifications. The salvage value of the materials removed shall be reflected in the bid price for this item.

Delays to the Contractor caused by complying with these requirements will be considered incidental to the item for Traffic Control and Protection and no additional compensation will be allowed.

Porous Granular Embankment, Special

This work shall consist of furnishing and placing porous granular embankment to the lines and grades shown on the plans or as directed by the Engineer in accordance with the applicable portions of Section 207 of the Standard Specifications. The materials shall be used as a bridging layer over soft, lumpy loose soil areas and for placement under water. The material shall conform with Article 1004.06 of the Standard Specifications except the gradation shall be as follows:

1. Crushed Stone, Crushed Blast Furnace Slag, and Crushed Concrete

<u>Sieve Size</u>	<u>Percent Passing</u>
*6"	90+10
2"	40+25
#200	0+10

<u>Sieve Size</u>	<u>Percent Passing</u>
*6"	90+10
2"	60+25
4"	40+20
#200	5+5

* For Undercut less than 18" sieve size may be 4".

The porous granular embankment shall be placed in lifts not to exceed two (2) foot thick or as directed by the Engineer. Rolling the top of this embankment material with vibratory roller meeting the requirements of

Article 1101.01(g) of the Standard Specifications should be sufficient to obtain the desired keying or interlock and necessary compaction. The Engineer shall verify that adequate keying has been obtained.

Upon completion of initial excavation to the proposed subgrade but prior to the placement of the base course stone the Contractor shall proof roll the subgrade with a loaded semi-trailer with the Engineer present and the Engineer will indicate which sections of the roadway to be undercut and replaced with porous granular embankment, special. The earth excavation for the undercuts shall be considered incidental to the porous granular embankment, special.

This work shall be paid for at the contract price per cubic yard for POROUS GRANULAR EMBANKMENT, SPECIAL and shall include all necessary earth excavation needed for the undercuts.

Pipe Foundation Material

In the event the Contractor encounters unsuitable or unstable soils for the storm sewer foundation, he shall immediately consult with the Resident Engineer, and if so directed by same, shall excavate the low quality soils and replace same with a coarse aggregate material, designated as CA-1 or CA-7 in the Standard Specifications.

The depth of the additional excavation shall be as determined by the Engineer. Prior to the placement of the Foundation Bedding (CA-1 or CA-7) the trench area shall be cross-sectioned to determine the amount of Foundation Bedding (CA-1 or CA-7) for which the Contractor is to be reimbursed. After placement of the CA-1 or CA-7 coarse material, a 4" lift of CA-6 shall be placed over it to form smooth bedding for the pipe.

Method of Measurement will be on a cubic yard basis as determined by cross sections. Basis of Payment shall be at the contract unit price per cubic yard for TRENCH BACKFILL. The cost of excavation and disposal of the unstable or unsuitable soil shall be included in the cost of the trench backfill. The Contractor shall check with the Engineer before disposing of any excavated material in case it may be required as fill material behind curb and gutter, etc. The cost of the 4" lifts of CA-6 or CA-7 and the additional amounts of CA-6 or CA-7 required to backfill around the pipe to its midpoint shall be included in the cost of the storm sewer.

Open Burning

Open burning of surplus and unsuitable material referred to in Article 202.03 of the Standard Specifications is prohibited.

Deficiency Charge

The primary concern of the Village is to maintain a safe travel way for the public and a safe environment for the worker in the construction zone. The Contractor is expected to comply with the Standard Specifications, contract plans, these Special Provisions and directions from the Engineer concerning traffic control protection. The Contractor shall provide a telephone number where a responsible individual can be contacted on a 24-hour-a-day basis to receive notification of any deficiencies regarding traffic control and protection. The Contractor shall immediately respond correcting traffic control deficiencies by dispatching personnel, materials and equipment to correct such deficiencies.

If the Contractor fails to begin corrections to the traffic control deficiencies within two (2) hours of the initial attempt of notification by the Village, fails to restore the traffic control and protection in compliance with the specifications within eight (8) hours of the original attempt of notification, the Engineer may execute such work as deemed necessary to correct the deficiencies. The cost thereof shall be deducted from monies due or which may be due the Contractor.

Failure to comply with directions from the Engineer for corrections or modifications to the traffic control and protection will result in a charge of \$100.00 per day per incident. This charge is separate from the cost of any corrective work ordered. The Contractor shall not be relieved of any contractual responsibilities by the Village's action.

Application of Bituminous Materials (Prime Coat)

Shields, covers, or other suitable equipment shall be provided by the Contractor to protect the motoring public, adjoining pavement, curbs, or structures during the application of prime coat. The Contractor will be required to present a weight ticket of the truckload prior to applying the prime coat. After application the truck shall then be weighed again in order to determine the net weight of prime coat that has been placed. Both tickets shall be stamped by the certified weighmaster.

Dust Control \Watering

This work shall consist of the exclusive control of dust resulting from construction operations and is not intended for use in the compaction of earth embankments, as specified under Article 205.06 of the Standard Specifications.

Dust shall be controlled by the uniform application of sprinkled water and shall be applied only when directed by the Engineer, in a manner meeting his approval. All equipment used for this work shall meet with the Engineer's approval. This work will not be paid for separately, but shall be incidental to the contract.

Protective Coat and Curing of P.C. Concrete

Protective Coat shall be applied to all new concrete gutter flags, faces and tops of curbs, in accordance with the requirements of Article 420.21 of the Standard Specifications.

The P.C. Concrete surface shall be cured in accordance with Article 1020.13 of the Standard Specifications. In addition, the oil phase of the emulsion shall consist of 85 percent by volume boiled linseed oil and 15 percent by volume petroleum spirits. Membrane curing will not be permitted on areas of concrete on which Protective Coat is to be applied.

The Protective Coat will be paid for at the contract unit price per square yard for PROTECTIVE COAT, which price shall be payment in full for furnishing all materials, labor and equipment necessary to complete the work as herein specified and to the satisfaction of the Engineer. The curing will not be paid for separately but shall be considered as incidental to the time requiring curing.

Backfilling Storm Sewer Under Roadway

For storm sewer under the roadway, backfilling methods two and three authorized under the provisions of Article 550.07 will not be allowed. All trench backfill shall be mechanically compacted to the satisfaction of the engineer.

Drainage Structures

This work shall consist of constructing catch basins, manholes and inlets, in accordance with Section 602 of the Standard Specifications. The Contractor shall supply the frame and grate with each drainage structure that is specified on the plans. The frames and grates shall conform to the following:

<u>Designation on Plans</u>	<u>Manufacturer</u>	<u>Model</u>
Type 1 Frame Closed Lid	Neenah	R-1713(or approved equal)
Type 1 Frame Open Lid	Neenah	R-1713 (or approved equal)
Type 8 Grate	Neenah	R-4340-B (or approved equal)
Type 11 Frame and Grate	Neenah	R3281-A (or approved equal)

This work shall be paid for at the contract unit price for MANHOLES, TYPE A 4'-DIAMTER, TYPE 1 FRAME, CLOSED LID; MANHOLES, TYPE A, 4'-DIAMTER, TYPE 1 FRAME, OPEN LID; MANHOLES, TYPE A, 4'-DIAMTER, TYPE 11 FRAME AND GRATE; CATCH BASIN TYPE C, TYPE 8 GRATE, which price shall include the cost of furnishing and installing the specified frame and grate.

Sodding, Special

This work shall consist of preparing the ground surface, furnishing and applying topsoil to a four (4) inch depth, fertilizing the areas to be sodded, furnishing and placing the sod, and watering of the sod. All work shall be in accordance with the applicable portions of Sections 211 and 252 of the Standard Specifications.

Fertilizer nutrients at a rate of 180# per acre shall be applied at a 5:3:2 ratio as follows:

- Nitrogen Fertilizer Nutrients 90 lbs./acre
- Phosphorous Fertilizer Nutrients 54 lbs./acre
- Potassium Fertilizer Nutrients 36lbs./acre

Watering shall be done as directed by the Engineer, in accordance with Articles 252.08 and 252.09 of the Standard Specifications. Topsoil, fertilizing and watering shall not be paid separately but shall be included in the cost for the SODDING, SPECIAL.

This work shall be measured in place and calculated in square yards. Payment shall be at the contract unit price per square yard for SODDING, SPECIAL, which price shall be full compensation for all labor, equipment, and material to complete the work as specified in these special provisions.

Parkway Trees

Parkway trees shall be planted at locations specified by the Engineer, shall be balled and burlapped and shall have a minimum trunk diameter of three (3) inches (measured at six (6) inches above the ground level). They shall be northern grown in a nursery and shall have been transplanted twice, the last transplanting being not less than four (4) years prior to parkway planting. All trees shall be tagged and identified as to species (botanic and common name), size and place of origin. Such tags shall not be removed prior to inspection by the Engineer.

All trees determined by the Engineer not to be in vigorous growing condition after one (1) growing season shall be replaced at the beginning of the next succeeding planting season, by the contractor and at no additional cost to the Village.

Each tree shall be planted plumb slightly lower than where it stood in the nursery in relation to finished grade. Backfill shall be properly fertilized with organic fertilizer in accordance with standards specified by the nursery supplying the trees and shall be thoroughly watered when the hole is two-thirds full to topsoil.

After watering, the filling shall be completed and the soil thoroughly tamped. After planting, a three (3)

inch mulch of well rotted manure or peat shall be applied over the disturbed ground and a shallow watering basin provided around the tree.

All planting shall be done during the proper season. No planting shall be done in frozen soil or during unfavorable weather conditions.

Each tree shall be staked with a two (2) inch square stake eight (8) feet long. The stake shall be driven plumb two and one-half (2.5) feet into the ground adjacent to the tree; tied at top and bottom with a figure eight hitch consisting of Number 14 wire encased in a section of rubber hose.

Tree pits shall be round; at least six (6) inches wider than the diameter of the root spread, shall have vertical sides and shall be at least twenty-four (24) inches below finished grade.

This work shall be paid for at the contract unit price for HYBRID ELM TREE, 3" DIAMETER; SKYLINE LOCUST TREE, 3" DIAMETER or CELEBRATION MAPLE TREE, 3" DIAMETER.

PCC Driveway Pavement, Non-Reinforced

This work shall consist of constructing PCC driveway pavement in accordance with applicable portions of Sections 202, 301, 351 and 420 of the Standard Specifications for Road and Bridge Construction in Illinois adopted January 1, 2012, and any Special Provisions that may apply.

Existing single family driveways shall be replaced with PCC driveway pavement, five (5) inches thick on a two (2) inch compacted granular base. Driveways for multi-family residential buildings shall be replaced with PCC driveway pavement, eight (8) inches thick on a two (2) inch compacted granular base.

This work shall be measured in place and paid for at the contract unit price, per square yard, for PORTLAND CEMENT CONCRETE DRIVEWAY, 5 INCH. Removal of existing driveways shall be paid for as EARTH EXCAVATION.

PCC Sidewalk Removal and Replacement

All public walks requiring replacement shall be not less than five (5) inches thick (6" at driveways) class "SI" Portland concrete cement poured on a two (2) inch compacted granular sub-base of a width to match the existing walkways or as designated by the Engineer. The Engineer will mark all public walkways to be replaced with an orange or pink "X".

All public walks removed and replaced shall be in accordance with the applicable portions of Sections 440, 424 and 1001 of the "Standard Specifications" and the Illinois Accessibility Code Standard 424001.

This work shall be paid for at the contract unit price per square foot for SIDEWALK REMOVAL and the contract unit price per square foot for PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH.

Construction Noise Restrictions

- a. All engine driven equipment used for hauling or construction shall be equipped with an adequate muffler in constant operation and properly maintained to prevent excessive or unusual noise.
- b. Construction within 1,000 feet of an occupied residence, or similar receptor shall be confined to the period beginning at 7:00 am and ending at 6:00 pm weekdays; 7:00 am to

4:00 pm Saturdays and no work on Sundays or Holidays. This time regulation shall not apply to sawing construction joints, as required in Article 420.10 of the Standard Specifications, maintenance or operation of safety and traffic control devices such as barricades, signs and lighting, or to construction of an emergency nature. (Exception: any machine or device, or part thereof which is regulated by, or becomes regulated by, Federal or State of Illinois noise standards shall conform to those standards.)

Saw Cutting

This work shall consist of sawing the existing pavement, in order to separate that portion to be removed from that which will remain. This work shall be performed at all locations where proposed improvement will meet existing conditions, and as indicated on the plans or by the Engineer.

The Contractor will be required to saw a vertical cut in the existing structure so as to form a clean vertical joint. The depth of cut shall be the thickness of the bituminous concrete for flexible pavement and the thickness of all concrete items. Should the Contractor deface the edge, a new sawed joint shall be constructed and any additional work including removal and replacement will be done at the Contractor's expense.

This work will not be paid for separately but shall be incidental to the Construction Contract.

Temporary Access

This work shall consist of construction and maintenance of an aggregate surface course for temporary roads and approaches as specified in Article 107.09 of the Standard Specifications.

Aggregate surface shall be constructed in accordance with the applicable portions of Section 402 of the Standard Specifications except that the equipment required for the work will be as directed by the Engineer.

Maintenance shall consist of placing and compacting additional aggregate of the same type and gradation as the surface aggregate.

When the use of the temporary roads and approaches is discontinued, the surface aggregate placed in its construction and maintenance shall be removed and utilized in the permanent construction or otherwise disposed of as specified in Article 202.03.

This work will be paid for at the contract unit price per ton for AGGREGATE FOR TEMPORARY ACCESS, which price shall include all costs of furnishing, placing, removing and disposing of aggregate used in the construction of temporary roads and approaches.

Removal of Existing Drainage Structures and Storm Sewer

This work shall consist of the removal or the partial removal below grade and the disposal of all drainage structures, catch basins, manholes, or inlets as shown in the plans, and shall be performed in accordance with Section 501 of the Standard Specification and as directed by the Engineer. Unless otherwise directed by the Engineer, no pavement removal will be allowed for removal of the catch basins at the edge of pavement.

If the outlet and inlet pipes are not being removed but are to be abandoned, then this work shall also include sealing the ends of the pipes with concrete or brick masonry. Filling the hole by the removal of the drainage structure or filling a partially removed structure with Trench Backfill is part of this work.

Existing storm sewer which is being abandoned and is under pavement shall be removed and disposed of off-site. Storm sewer in parkway areas shall be abandoned in place with all ends sealed. At all locations where the existing storm sewer system interferes with the installation of the proposed storm sewer system, the removal of any pipes or drainage structures shall be considered part of the normal trench excavation process. This type of excavation shall not be considered for any additional payment. Any existing storm sewer pipes or driveway culverts not incorporated into the new system shall be sealed with concrete or brick masonry to the satisfaction of the Engineer. This cost shall be incidental to the proposed storm sewer system.

This work will not be paid for separately but shall be included in the cost of EARTH EXCAVATION.

Existing Utilities

The Contractor shall make his own investigation to determine the existence, nature and location of all utilities within the limits of improvement.

No extra compensation will be allowed the Contractor for any expense incurred by complying with these requirements, or because of delays, inconvenience or interruptions in his work resulting from the failure of the Village or any utility company to remove, reconstruct or abandon their services if required.

Protection of Existing Drainage Facilities During Construction

Unless otherwise noted in the contract plans, the existing drainage facilities shall remain in use during the period of construction.

Locations of existing drainage structures and sewers, as shown on the contract plans, are approximate. Prior to commencing work the Contractor, at his own expense, shall determine the exact locations of existing structures which are within the proposed construction site.

All drainage structures are to be kept free of any debris resulting from construction operations. All work and material necessary to prevent accumulation of debris in the drainage structures will be considered as incidental to the contract. Any accumulation of debris in the drainage structures resulting from construction operations shall be removed at the Contractor's own expense, and no extra compensation will be allowed.

Unless reconstruction or adjustment of an existing manhole, catch basin, or inlet is called for in the contract plans or ordered by the Engineer, the proposed work shall meet the existing elevations of these structures. Should reconstruction or adjustment of a drainage structure be required by the Engineer in the field, the necessary work and payment shall be done in accordance with Section 602 and Article 104.02 respectively of the "Standard Specifications".

Existing Frames and Grates are to remain unless otherwise noted in the contract plans. Frames and Grates that are missing or damaged prior to construction shall be replaced. The type of replacement frame or grate shall be determined by the Engineer, and replacement and payment for same shall be in accordance with Section 604 and Article 104.02 respectively of the "Standard Specifications" unless otherwise noted in the plans or Special Provisions.

The Contractor shall take the necessary precautions when working near or above existing sewers in order to protect these pipes during construction from any damage resulting from his operations.

Any field tile encountered during excavation shall be tied into the new storm sewer system.

All work and material necessary to replace existing sewers damaged because of noncompliance with this

provision shall be as directed by the Engineer, in accordance with Section 550 of the "Standard Specifications" and at the Contractor's own expense, and no extra compensation will be allowed.

During construction, if the Contractor encounters or otherwise becomes aware of any sewers or underdrains within the right-of-way, other than those shown on the plans, he shall so inform the Engineer, who shall direct the work necessary to maintain the facilities in service and to protect them from damage during construction. Any sewers or underdrains to remain within the right-of-way after construction shall be replaced or otherwise made to conform to the type requirements of Section 550 of the "Standard Specifications", and the work involved therein will be paid for as specified in Article 109.04 thereof.

Geotechnical Fabric for Ground Stabilization

This work shall consist of the placement of fabric for ground stabilization in accordance with Sections 210 and 1180.02 of the "Standard Specifications" as directed by the Engineer prior to the placement of the base course stone and the porous granular embankment. This item shall be paid for at the contract unit price per square yard for GEOTECHNICAL FABRIC FOR GROUND STABILIZATION.

Storm Sewers

Storm sewers shall be constructed of reinforced concrete pipe (RCP) for sizes 12" and greater or Polyvinyl Chloride (PVC) for sizes less than 12", as shown on the Plans.

A. Reinforced Concrete Pipe

Except as otherwise specified, reinforced concrete pipe shall conform to ASTM C-76.

The sewer shall be constructed with rubber gasketed (O-ring) joints meeting the requirements of ASTM C-361 for Reinforced Concrete Low Head Pressure Pipe. The bell and spigot or tongue and groove ends shall be formed on machine rings formed to ensure accurate joint surfaces and shall be stepped to accommodate a round compression type rubber gasket.

Rubber gaskets shall be extruded or molded in such a manner that any cross section will be dense, homogeneous, and free of porosity, blisters, pitting and other imperfections. The gaskets shall be fabricated from a high grade rubber compound containing no reclaimed rubber. The basis polymer shall be natural rubber, synthetic rubber or a blend of both. The physical properties of the rubber gaskets and the permissible variations in dimensions shall conform to the requirements of those specified in the specifications for Rubber Gaskets, ASTM Designation C361.

The gaskets shall be seated on the joint in accordance with the manufacturer's specifications. Where adhesive is required to properly seat the gasket, the gasket shall be applied not less than 24 hours prior to installing the pipe.

When the pipe is lowered into the trench, installers shall make certain that no dirt is clinging to the jointing surface or lodged under the gasket. The gasket and inside surface of the groove shall be thoroughly lubricated as specified by the gasket manufacturer. The tongue end shall be carefully centered in the groove so as to avoid the displacement of the gasket, and the pipe shall be driven home, fully deforming the gasket, by use of a cable and

winch set inside the pipeline, at least two pipe lengths back, or by other methods approved by the Engineer. Adjustment to line and grade shall be made in such a manner as not to disturb the deformed gasket.

B. PVC PIPE

PVC storm sewer pipe shall meet the requirements of ASTM Specification D2241, with a Standard Dimension Ratio (SDR) of 26 or as specified on the Plans.

The pipe joints shall be elastomeric gasket (push-on) type in compliance with the requirements of ASTM D3139.

Method of measurement shall be as specified in Article 550.09 of the IDOT Standard Specifications.

Payment will be made at the contract unit price per foot for STORM SEWERS, of the material, size, and type specified, which shall be payment in full for all excavation, bedding, and backfill (including Selected Granular Backfill), for all sheeting, shoring, dewatering, connections to existing structures, and connections between different pipe materials.

Inlet and Pipe Protection

This work shall be in accordance with Section 280 of the Standard Specifications except as modified herein.

The Inlet Protector shall be a reinforced sediment bag with a frame that is inserted between the existing frame and grate. The Inlet Protector shall have an overflow feature to prevent ponding during heavy storms.

The Engineer has pre-approved the IPP Flex Storm Inlet Filter as manufactured by Inlet & Pipe Protection, Inc., 1635 Tonne Road, Elk Grove Village, IL (847) 722-0690. Other manufacturers may be used with prior approval from the Engineer.

Payment will be made at the Contract Unit Price each for INLET AND PIPE PROTECTION, which price shall include all costs associated with the installation and maintenance of the protection system.

Hot Mix Asphalt Mixture Requirements

MIXTURE TYPE	AC TYPE	AIR VOIDS
Hot-Mix Asphalt Surface Course, Mix "C", N50	PG 64-22	4% @ 50 Gyr
Leveling Binder (Machine Method), N50	PG 64-22	4% @ 50 Gyr
Class D Patches (HMA Binder IL-19 mm)	PG 64-22	4% @ 70 Gyr

See 1=>THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURE QUANTITIES IS 112

LBS/SQ/IN.

See 2=> * WHEN RAP EXCEEDS 20%, THE NEW ASPHALT BINDER IN THE MIX SHALL BE PG 58-22

Brick Paver Removal and Replacement

This work shall consist of the removal, storage and replacement of existing brick paver driveways.

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

Item	Article/Section
(a) Fine Aggregate	1003.01, 1003.02 (d)
(b) Coarse Aggregate	1004.04
(c) Paving Brick	1041.03

If additional bricks are required, they shall match the existing as well as possible

Refer to Check Sheet LRS14 of the Supplemental Specifications and Recurring Special Provisions, January 1, 2012

Refer to Check Sheet LRS14 of the Supplemental Specifications and Recurring Special Provisions, January 1, 2012 and the following:

A 6 inch Aggregate Base Course shall be placed and compacted on the prepared Subgrade. Cost of Aggregate Base Course will be included in the cost of this item. Any damaged brick pavers shall be replaced in kind by the contractor at no additional cost.

The work will be measured in place and the area computed in square feet.

The work will be paid for at the contract unit price per square foot for BRICK PAVER DRIVEWAY REMOVAL AND REPLACEMENT.

Cook County Prevailing Wage for March 2012

Trade Name	RG	TYP	C	Base	FRMAN	*M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng
ASBESTOS ABT-GEN		ALL		35.200	35.700	1.5	1.5	2.0	12.18	8.820	0.000	0.450
ASBESTOS ABT-MEC		BLD		32.850	0.000	1.5	1.5	2.0	10.82	10.66	0.000	0.720
BOILERMAKER		BLD		43.450	47.360	2.0	2.0	2.0	6.970	14.66	0.000	0.350
BRICK MASON		BLD		39.780	43.760	1.5	1.5	2.0	9.300	11.17	0.000	0.730
CARPENTER		ALL		40.770	42.770	1.5	1.5	2.0	12.34	11.25	0.000	0.530
CEMENT MASON		ALL		41.850	43.850	2.0	1.5	2.0	10.70	10.76	0.000	0.320
CERAMIC TILE FNSHER		BLD		33.600	0.000	2.0	1.5	2.0	9.200	6.680	0.000	0.580
COMM. ELECT.		BLD		36.440	38.940	1.5	1.5	2.0	8.420	8.910	0.000	0.700
ELECTRIC PWR EQMT OP		ALL		41.850	46.850	1.5	1.5	2.0	10.27	13.01	0.000	0.320
ELECTRIC PWR GRNDMAN		ALL		32.640	46.850	1.5	1.5	2.0	8.000	10.12	0.000	0.240
ELECTRIC PWR LINEMAN		ALL		41.850	46.850	1.5	1.5	2.0	10.27	13.01	0.000	0.320
ELECTRICIAN		ALL		40.400	43.000	1.5	1.5	2.0	13.83	7.920	0.000	0.750
ELEVATOR CONSTRUCTOR		BLD		48.560	54.630	2.0	2.0	2.0	11.03	11.96	2.910	0.000
FENCE ERECTOR		ALL		32.660	34.660	1.5	1.5	2.0	12.42	10.00	0.000	0.250
GLAZIER		BLD		38.500	40.000	1.5	2.0	2.0	11.49	14.64	0.000	0.840
HT/FROST INSULATOR		BLD		43.800	46.300	1.5	1.5	2.0	10.82	11.86	0.000	0.720
IRON WORKER		ALL		40.750	42.750	2.0	2.0	2.0	13.20	19.09	0.000	0.350
LABORER		ALL		35.200	35.950	1.5	1.5	2.0	12.18	8.820	0.000	0.450
LATHER		ALL		40.770	42.770	1.5	1.5	2.0	12.34	11.25	0.000	0.530
MACHINIST		BLD		43.160	45.160	1.5	1.5	2.0	7.980	8.950	0.000	0.000
MARBLE FINISHERS		ALL		29.100	0.000	1.5	1.5	2.0	9.300	11.17	0.000	0.660
MARBLE MASON		BLD		39.030	42.930	1.5	1.5	2.0	9.300	11.17	0.000	0.730
MATERIAL TESTER I		ALL		25.200	0.000	1.5	1.5	2.0	12.18	8.820	0.000	0.450
MATERIALS TESTER II		ALL		30.200	0.000	1.5	1.5	2.0	12.18	8.820	0.000	0.450
MILLWRIGHT		ALL		40.770	42.770	1.5	1.5	2.0	12.34	11.25	0.000	0.530
OPERATING ENGINEER		BLD 1		45.100	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 2		43.800	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 3		41.250	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 4		39.500	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 5		48.850	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 6		46.100	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 7		48.100	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		FLT 1		51.300	51.300	1.5	1.5	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		FLT 2		49.800	51.300	1.5	1.5	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		FLT 3		44.350	51.300	1.5	1.5	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		FLT 4		36.850	51.300	1.5	1.5	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		HWY 1		43.300	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 2		42.750	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 3		40.700	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 4		39.300	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 5		38.100	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 6		46.300	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 7		44.300	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
ORNAMNTL IRON WORKER		ALL		40.200	42.450	2.0	2.0	2.0	12.67	14.81	0.000	0.500
PAINTER		ALL		38.000	42.750	1.5	1.5	1.5	9.750	11.10	0.000	0.770
PAINTER SIGNS		BLD		33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000	0.000
PILEDRIVER		ALL		40.770	42.770	1.5	1.5	2.0	12.34	11.25	0.000	0.530
PIPEFITTER		BLD		44.050	47.050	1.5	1.5	2.0	8.460	13.85	0.000	1.820
PLASTERER		BLD		39.250	41.610	1.5	1.5	2.0	10.60	10.69	0.000	0.550
PLUMBER		BLD		44.750	46.750	1.5	1.5	2.0	11.59	9.060	0.000	0.780
ROOFER		BLD		37.650	40.650	1.5	1.5	2.0	7.750	6.570	0.000	0.430
SHEETMETAL WORKER		BLD		40.560	43.800	1.5	1.5	2.0	9.880	16.54	0.000	0.630
SIGN HANGER		BLD		29.460	29.960	1.5	1.5	2.0	4.800	2.980	0.000	0.000
SPRINKLER FITTER		BLD		49.200	51.200	1.5	1.5	2.0	9.750	8.200	0.000	0.450

STEEL ERECTOR	ALL		40.750	42.750	2.0	2.0	2.0	13.20	19.09	0.000	0.350
STONE MASON	BLD		39.780	43.760	1.5	1.5	2.0	9.300	11.17	0.000	0.730
TERRAZZO FINISHER	BLD		35.150	0.000	1.5	1.5	2.0	9.200	9.070	0.000	0.430
TERRAZZO MASON	BLD		39.010	42.010	1.5	1.5	2.0	9.200	10.41	0.000	0.510
TILE MASON	BLD		40.490	44.490	2.0	1.5	2.0	9.200	8.390	0.000	0.640
TRAFFIC SAFETY WRKR	HWY		28.250	29.850	1.5	1.5	2.0	4.896	4.175	0.000	0.000
TRUCK DRIVER	E ALL 1		33.850	34.500	1.5	1.5	2.0	8.150	8.500	0.000	0.150
TRUCK DRIVER	E ALL 2		34.100	34.500	1.5	1.5	2.0	8.150	8.500	0.000	0.150
TRUCK DRIVER	E ALL 3		34.300	34.500	1.5	1.5	2.0	8.150	8.500	0.000	0.150
TRUCK DRIVER	E ALL 4		34.500	34.500	1.5	1.5	2.0	8.150	8.500	0.000	0.150
TRUCK DRIVER	W ALL 1		32.550	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.000
TRUCK DRIVER	W ALL 2		32.700	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.000
TRUCK DRIVER	W ALL 3		32.900	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.000
TRUCK DRIVER	W ALL 4		33.100	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.000
TUCKPONTER	BLD		39.950	40.950	1.5	1.5	2.0	8.180	10.57	0.000	0.790

Legend:

M-F>8 (Overtime is required for any hour greater than 8 worked each day, Monday through Friday)
OSA (Overtime is required for every hour worked on Saturday)
OSH (Overtime is required for every hour worked on Sunday and Holidays)
H/W (Health & Welfare Insurance)
Pensn (Pension)
Vac (Vacation)
Trng (Training)

Explanations**COOK COUNTY**

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

TRUCK DRIVERS (WEST) - That part of the county West of Barrington Road.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed

products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS ELECTRICIAN

Installation, operation, inspection, maintenance, repair and service of radio, television, recording, voice sound vision production and reproduction, telephone and telephone interconnect, facsimile, data apparatus, coaxial, fibre optic and wireless equipment, appliances and systems used for the transmission and reception of signals of any nature, business, domestic, commercial, education, entertainment, and residential purposes, including but not limited to, communication and telephone, electronic and sound equipment, fibre optic and data communication systems, and the performance of any task directly related to such installation or service whether at new or existing sites, such tasks to include the placing of wire and cable and electrical power conduit or other raceway work within the equipment room and pulling wire and/or cable through conduit and the installation of any incidental conduit, such that the employees covered hereby can complete any job in full.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all

material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes; Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators; Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches; Bobcats (up to and including 3/4 cu yd.) .

Class 4. Bobcats and/or other Skid Steer Loaders (other than bobcats up to and including $\frac{3}{4}$ cu yd.); Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines; ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dowell Machine with Air Compressor; Dredges; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Hydraulic Backhoes; Backhoes with shear attachments; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Trenching Machine; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; All Locomotives, Dinky; Off-Road Hauling Units (including articulating)/2 ton capacity or more; Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Scoops - Tractor Drawn; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper; Scraper - Prime Mover in Tandem (Regardless of Size); Tank Car Heater; Tractors, Push, Pulling Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Fireman on Boilers; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Hydro- Blaster; Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Tractaire; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. Bobcats (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Gradall and machines of like nature.

OPERATING ENGINEER - FLOATING

Class 1. Craft Foreman; Diver/Wet Tender; and Engineer (hydraulic dredge).

Class 2. Crane/Backhoe Operator; 70 Ton or over Tug Operator; Mechanic/Welder; Assistant Engineer (Hydraulic Dredge); Leverman (Hydraulic Dredge); Diver Tender; Friction and Lattice Boom Cranes.

Class 3. Deck Equipment Operator, Machineryman; Maintenance of Crane (over 50 ton capacity); Tug/Launch Operator; Loader/Dozer and like equipment on Barge; and Deck Machinery, etc.

Class 4. Deck Equipment Operator, Machineryman/Fireman (4 Equipment Units or More); Off Road Trucks (2 ton capacity or more); Deck Hand, Tug Engineer, Crane Maintenance 50 Ton Capacity and Under or Backhoe Weighing 115,000 pounds or less; and Assistant Tug Operator.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

TRAFFIC SAFETY

Work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION - EAST & WEST

Class 1. Two or three Axle Trucks. A-frame Truck when used for

transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

Du Page County Prevailing Wage for March 2012

Trade Name	RG	TYP	C	Base	FRMAN	*M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng
ASBESTOS ABT-GEN		ALL		35.200	35.700	1.5	1.5	2.0	12.18	8.820	0.000	0.450
ASBESTOS ABT-MEC		BLD		32.850	0.000	1.5	1.5	2.0	10.82	10.66	0.000	0.720
BOILERMAKER		BLD		43.450	47.360	2.0	2.0	2.0	6.970	14.66	0.000	0.350
BRICK MASON		BLD		39.780	43.760	1.5	1.5	2.0	9.300	11.17	0.000	0.730
CARPENTER		ALL		40.770	42.770	1.5	1.5	2.0	12.34	11.25	0.000	0.530
CEMENT MASON		ALL		38.000	40.000	2.0	1.5	2.0	8.950	16.35	0.000	0.380
CERAMIC TILE FNSHER		BLD		33.600	0.000	2.0	1.5	2.0	9.200	6.680	0.000	0.580
COMMUNICATION TECH		BLD		32.650	34.750	1.5	1.5	2.0	9.250	14.46	0.400	0.610
ELECTRIC PWR EQMT OP		ALL		34.240	45.510	1.5	1.5	2.0	5.000	10.62	0.000	0.260
ELECTRIC PWR GRNDMAN		ALL		26.480	45.510	1.5	1.5	2.0	5.000	8.200	0.000	0.200
ELECTRIC PWR LINEMAN		ALL		41.000	45.510	1.5	1.5	2.0	5.000	12.71	0.000	0.310
ELECTRIC PWR TRK DRV		ALL		27.420	45.510	1.5	1.5	2.0	5.000	8.500	0.000	0.210
ELECTRICIAN		BLD		36.200	39.820	1.5	1.5	2.0	9.250	16.27	4.380	0.680
ELEVATOR CONSTRUCTOR		BLD		48.560	54.630	2.0	2.0	2.0	11.03	11.96	2.910	0.000
FENCE ERECTOR	NE	ALL		32.660	34.660	1.5	1.5	2.0	12.42	10.00	0.000	0.250
FENCE ERECTOR	W	ALL		44.950	47.200	2.0	2.0	2.0	8.890	17.69	0.000	0.400
GLAZIER		BLD		38.500	40.000	1.5	2.0	2.0	11.49	14.64	0.000	0.840
HT/FROST INSULATOR		BLD		43.800	46.300	1.5	1.5	2.0	10.82	11.86	0.000	0.720
IRON WORKER	E	ALL		40.750	42.750	2.0	2.0	2.0	13.20	19.09	0.000	0.350
IRON WORKER	W	ALL		44.950	47.200	2.0	2.0	2.0	8.890	17.69	0.000	0.400
LABORER		ALL		35.200	35.950	1.5	1.5	2.0	12.18	8.820	0.000	0.450
LATHER		ALL		40.770	42.770	1.5	1.5	2.0	12.34	11.25	0.000	0.530
MACHINIST		BLD		43.160	45.160	1.5	1.5	2.0	7.980	8.950	0.000	0.000
MARBLE FINISHERS		ALL		29.100	0.000	1.5	1.5	2.0	9.300	11.17	0.000	0.660
MARBLE MASON		BLD		39.030	42.930	1.5	1.5	2.0	9.300	11.17	0.000	0.730
MATERIAL TESTER I		ALL		25.200	0.000	1.5	1.5	2.0	12.18	8.820	0.000	0.450
MATERIALS TESTER II		ALL		30.200	0.000	1.5	1.5	2.0	12.18	8.820	0.000	0.450
MILLWRIGHT		ALL		40.770	42.770	1.5	1.5	2.0	12.34	11.25	0.000	0.530
OPERATING ENGINEER		BLD 1		45.100	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 2		43.800	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 3		41.250	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 4		39.500	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 5		48.850	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 6		46.100	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		BLD 7		48.100	49.100	2.0	2.0	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 1		43.300	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 2		42.750	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 3		40.700	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 4		39.300	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 5		38.100	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 6		46.300	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
OPERATING ENGINEER		HWY 7		44.300	47.300	1.5	1.5	2.0	14.40	9.550	1.900	1.250
ORNAMNTL IRON WORKER E	E	ALL		40.200	42.450	2.0	2.0	2.0	12.67	14.81	0.000	0.500
ORNAMNTL IRON WORKER W	W	ALL		44.950	47.200	2.0	2.0	2.0	8.890	17.69	0.000	0.400
PAINTER		ALL		40.180	42.180	1.5	1.5	1.5	8.950	8.200	0.000	1.250
PAINTER SIGNS		BLD		33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000	0.000
PILEDRIVER		ALL		40.770	42.770	1.5	1.5	2.0	12.34	11.25	0.000	0.530
PIPEFITTER		BLD		41.000	43.000	1.5	1.5	2.0	10.75	14.59	0.000	1.660
PLASTERER		BLD		39.360	41.720	1.5	1.5	2.0	9.300	11.72	0.000	0.780
PLUMBER		BLD		41.000	43.000	1.5	1.5	2.0	10.75	14.59	0.000	1.660
ROOFER		BLD		37.650	40.650	1.5	1.5	2.0	7.750	6.570	0.000	0.430
SHEETMETAL WORKER		BLD		41.660	43.660	1.5	1.5	2.0	9.540	11.57	0.000	0.780
SPRINKLER FITTER		BLD		49.200	51.200	1.5	1.5	2.0	9.750	8.200	0.000	0.450
STEEL ERECTOR	E	ALL		40.750	42.750	2.0	2.0	2.0	13.20	19.09	0.000	0.350

STEEL ERECTOR	W	ALL	44.950	47.200	2.0	2.0	2.0	8.890	17.69	0.000	0.400
STONE MASON		BLD	39.780	43.760	1.5	1.5	2.0	9.300	11.17	0.000	0.730
TERRAZZO FINISHER		BLD	35.150	0.000	1.5	1.5	2.0	9.200	9.070	0.000	0.430
TERRAZZO MASON		BLD	39.010	42.010	1.5	1.5	2.0	9.200	10.41	0.000	0.510
TILE MASON		BLD	40.490	44.490	2.0	1.5	2.0	9.200	8.390	0.000	0.640
TRAFFIC SAFETY WRKR		HWY	28.250	29.850	1.5	1.5	2.0	4.896	4.175	0.000	0.000
TRUCK DRIVER		ALL 1	32.550	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER		ALL 2	32.700	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER		ALL 3	32.900	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER		ALL 4	33.100	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TUCKPOINTER		BLD	39.950	40.950	1.5	1.5	2.0	8.180	10.57	0.000	0.790

Legend:

- M->8 (Overtime is required for any hour greater than 8 worked each day, Monday through Friday.)
- OSA (Overtime is required for every hour worked on Saturday)
- OSH (Overtime is required for every hour worked on Sunday and Holidays)
- H/W (Health & Welfare Insurance)
- Pensn (Pension)
- Vac (Vacation)
- Trng (Training)

Explanations

DUPAGE COUNTY

IRON WORKERS AND FENCE ERECTOR (WEST) - West of Route 53.

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether

for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS TECHNICIAN

Low voltage installation, maintenance and removal of telecommunication facilities (voice, sound, data and video) including telephone and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area networks), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers

treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators; Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches; Bobcats (up to and including $\frac{3}{4}$ cu yd.) .

Class 4. Bobcats and/or other Skid Steer Loaders (other than bobcats up to and including $\frac{3}{4}$ cu yd.); Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dowell Machine with Air Compressor; Dredges; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Hydraulic Backhoes; Backhoes with shear attachments; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Trenching Machine; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; All Locomotives, Dinky; Off-Road Hauling Units (including articulating)/2 ton capacity or more; Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Scoops - Tractor Drawn; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper; Scraper - Prime Mover in Tandem (Regardless of Size); Tank Car Heater; Tractors, Push, Pulling Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Fireman on Boilers; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with

"A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Hydro- Blaster; Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Tractaire; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. Bobcats (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Gradall and machines of like nature.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or

machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

BDE SPECIAL PROVISIONS
For the April 27 and June 15, 2012 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.

<u>File Name</u>	<u>#</u>	<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80240	1	Above Grade Inlet Protection	July 1, 2009	Jan. 1, 2012
80099	2	Accessible Pedestrian Signals (APS)	April 1, 2003	Jan. 1, 2007
80275	3	Agreement to Plan Quantity	Jan. 1, 2012	
80274	4	Aggregate Subgrade Improvement	April 1, 2012	
80192	5	Automated Flagger Assistance Device	Jan. 1, 2008	
80173	6	Bituminous Materials Cost Adjustments	Nov. 2, 2006	Jan. 1, 2012
80241	7	Bridge Demolition Debris	July 1, 2009	
80276	8	Bridge Relief Joint Sealer (NOTE: This special provision was previously named "Concrete Joint Sealer".)	Jan. 1, 2012	
50261	9	Building Removal-Case I (Non-Friable and Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50481	10	Building Removal-Case II (Non-Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50491	11	Building Removal-Case III (Friable Asbestos)	Sept. 1, 1990	April 1, 2010
50531	12	Building Removal-Case IV (No Asbestos)	Sept. 1, 1990	April 1, 2010
80291	13	Calcium Chloride Accelerator for Glass PP-2 Concrete	April 1, 2012	
80292	14	Coarse Aggregate in Bridge Approach Slabs/Footings	April 1, 2012	
80198	15	Completion Date (via calendar days)	April 1, 2008	
80199	16	Completion Date (via calendar days) Plus Working Days	April 1, 2008	
80293	17	Concrete Box Culverts with Skews > 30 Degrees and Design Fills <= 5 Feet	April 1, 2012	
80294	18	Concrete Box Culverts with Skews < 30 Degrees Regardless of Design Fill and Skews > 30 Degrees with Design Fills > 5 Feet	April 1, 2012	
80277	19	Concrete Mix Design – Department Provided	Jan. 1, 2012	
80261	20	Construction Air Quality – Diesel Retrofit	June 1, 2010	
80237	21	Construction Air Quality – Diesel Vehicle Emissions Control	April 1, 2009	Jan. 2, 2012
80239	22	Construction Air Quality – Idling Restrictions	April 1, 2009	
80177	23	Digital Terrain Modeling for Earthwork Calculations	April 1, 2007	
80029	24	Disadvantaged Business Enterprise Participation	Sept. 1, 2000	Aug. 2, 2011
80272	25	Drainage and Inlet Protection Under Traffic	April 1, 2011	Jan. 1, 2012
80296	26	Errata for the 2012 Standard Specifications	April 1, 2012	
80228	27	x Flagger at Side Roads and Entrances	April 1, 2009	
80265	28	Friction Aggregate	Jan. 1, 2011	
80229	29	Fuel Cost Adjustment	April 1, 2009	July 1, 2009
80169	30	High Tension Cable Median Barrier	Jan. 1, 2007	April 1, 2009
80246	31	x Hot Mix Asphalt – Density Testing of Longitudinal Joints	Jan. 1, 2010	April 1, 2012
80109	32	Impact Attenuators	Nov. 1, 2003	Jan. 1, 2012
80110	33	Impact Attenuators, Temporary	Nov. 1, 2003	Jan. 1, 2012
80045	34	Material Transfer Device	June 15, 1999	Jan. 1, 2009
80203	35	Metal Hardware Cast into Concrete	April 1, 2008	Jan. 1, 2012
80297	36	Modified Urethane Pavement Marking	April 1, 2012	
80165	37	Moisture Cured Urethane Paint System	Nov. 1, 2006	Jan. 1, 2010
80253	38	Movable Traffic Barrier	Jan. 1, 2010	Jan. 1, 2012
80231	39	Pavement Marking Removal	April 1, 2009	
80298	40	Pavement Marking Tape Type IV	April 1, 2012	
80254	41	x Pavement Patching	Jan. 1, 2010	
80022	42	Payments to Subcontractors	June 1, 2000	Jan. 1, 2006
80290	43	Payrolls and Payroll Records	Jan. 2, 2012	
80278	44	Planting Woody Plants	Jan. 1, 2012	

<u>File Name</u>	<u>#</u>		<u>Special Provision Title</u>	<u>Effective</u>	<u>Revised</u>
80279	45	x	Portland Cement Concrete	Jan. 1, 2012	
80299	46		Portland Cement Concrete Inlay or Overlay	April 1, 2012	
80280	47	x	Portland Cement Concrete Sidewalk	Jan. 1, 2012	
80300	48		Preformed Plastic Pavement Marking Type D Inlaid	April 1, 2012	
80248	49		Preventive Maintenance - Bituminous Surface Treatment	Jan. 1, 2009	April 1, 2012
80249	50		Preventive Maintenance - Cape Seal	Jan. 1, 2009	April 1, 2012
80220	51		Preventive Maintenance - Micro-Surfacing	Jan. 1, 2009	April 1, 2012
80224	52		Preventive Maintenance - Slurry Seal	Jan. 1, 2009	April 1, 2012
80281	53		Quality Control/Quality Assurance of Concrete Mixtures	Jan. 1, 2012	
34261	54		Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
80157	55		Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
80172	56	x	Reclaimed Asphalt Pavement (RAP)	Jan. 1, 2007	Jan. 1, 2012
80282	57		Reclaimed Asphalt Shingles (RAS)	Jan. 1, 2012	
80283	58		Removal and Disposal of Regulated Substances	Jan. 1, 2012	
80224	59		Restoring Bridge Approach Pavements Using High-Density Foam	Jan. 1, 2009	Jan. 1, 2012
80271	60		Safety Edge	April 1, 2011	
80152	61		Self-Consolidating Concrete for Cast-In-Place Construction	Nov. 1, 2005	April 1, 2012
80132	62		Self-Consolidating Concrete for Precast and Precast Prestressed Products (NOTE - This special provision was previously named "Self-Consolidating Concrete for Precast Products")	July 1, 2004	April 1, 2012
80284	63		Shoulder Rumble Strips	Jan. 1, 2012	
80285	64	x	Sidewalk, Corner or Crosswalk Closure	Jan. 1, 2012	
80127	65		Steel Cost Adjustment	April 2, 2004	April 1, 2009
80255	66		Stone Matrix Asphalt	Jan. 1, 2010	Jan. 1, 2012
80143	67		Subcontractor Mobilization Payments	April 2, 2005	April 1, 2011
80075	68		Surface Testing of Pavements	April 1, 2002	Jan. 1, 2007
80286	69	x	Temporary Erosion and Sediment Control	Jan. 1, 2012	
80225	70		Temporary Raised Pavement Marker	Jan. 1, 2009	
80256	71		Temporary Water Filled Barrier	Jan. 1, 2010	Jan. 1, 2012
80287	72		Type G Inlet Box	Jan. 1, 2012	
80273	73	x	Traffic Control Deficiency Deduction	Aug. 1, 2011	
20338	74		Training Special Provisions	Oct. 15, 1975	
80270	75		Utility Coordination and Conflicts	April 1, 2011	Jan. 1, 2012
80288	76		Warm Mix Asphalt	Jan. 1, 2012	
80289	77		Wet Reflective Thermoplastic Pavement Marking	Jan. 1, 2012	
80074	78	x	Working Days	Jan. 1, 2002	

The following special provisions are either in the 2012 Standard Specifications, the 2012 Recurring Special Provisions, or the special provision Portland Cement Concrete:

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80186	Alkali-Silica Reaction for Cast-in-Place Concrete	The special provision Portland Cement Concrete	Aug. 1, 2007	Jan. 1, 2009
80213	Alkali-Silica Reaction for Precast and Precast Prestressed Concrete	The special provision Portland Cement Concrete	Jan. 1, 2009	
80207	Approval of Proposed Borrow Areas, Use Areas, and/or Waste Areas	Article 107.22	Nov. 1, 2008	Nov. 1, 2010
80166	Cement	Section 1001	Jan. 1, 2007	April 1, 2011
80260	Certification of Metal Fabricator	Article 106.08	July 1, 2010	
80094	Concrete Admixtures	Section 1021 and the special provision Portland Cement Concrete	Jan. 1, 2003	April 1, 2009

<u>File Name</u>	<u>Special Provision Title</u>	<u>New Location</u>	<u>Effective</u>	<u>Revised</u>
80226	Concrete Mix Designs	The special provision Portland Cement Concrete	April 1, 2009	
80227	Determination of Thickness	Articles 353.12, 353.13, 353.14, 354.09, 355.09, 356.07, 407.10, 482.06, and 483.07	April 1, 2009	
80179	Engineer's Field Office Type A	Articles 670.02 and 670.07	April 1, 2007	Jan. 1, 2011
80205	Engineer's Field Office Type B	Articles 670.04 and 670.07	Aug. 1, 2008	Jan. 1, 2011
80189	Equipment Rental Rates	Articles 105.07 and 109.04	Aug. 2, 2007	Jan. 2, 2008
80249	Frames and Grates	Articles 609.02 and 609.04	Jan. 1, 2010	
80194	HMA – Hauling on Partially Completed Full-Depth Pavement	Article 407.08	Jan. 1, 2008	
80245	Hot-Mix Asphalt – Anti-Stripping Additive	Article 1030.04	Nov. 1, 2009	
80250	Hot-Mix Asphalt – Drop-Offs	Article 701.07	Jan. 1, 2010	
80259	Hot Mix Asphalt – Fine Aggregate	Articles 1003.01 and 1003.03	April 1, 2010	
80252	Improved Subgrade	Articles 302.04, 302.07, 302.08, 302.10, 302.11, 310.04, 310.08, 310.10, 310.11, and 311.05	Jan. 1, 2010	
80266	Lane Closure, Multilane, Intermittent or Moving Operation, for Speeds ≤ 40 MPH	Article 701.19	Jan. 1, 2011	Jan. 2, 2011
80230	Liquidated Damages	Article 108.09	April 1, 2009	April 1, 2011
80267	Long-Span Guardrail over Culvert	Articles 630.07 and 630.08	Jan. 1, 2011	
80262	Mulch and Erosion Control Blankets	Articles 251.03, 251.04, 251.06, 251.07, and 1081.06	Nov. 1, 2010	April 1, 2011
80180	National Pollutant Discharge Elimination System / Erosion and Sediment Control Deficiency Deduction	Article 105.03	April 1, 2007	Nov. 1, 2009
80208	Nighttime Work Zone Lighting	Section 702	Nov. 1, 2008	
80232	Pipe Culverts	Articles 542.03, 542.04, 542.11, and 1040.04	April 1, 2009	April 1, 2010
80263	Planting Perennial Plants	Section 254 and Article 1081.02	Jan. 1, 2011	
80210	Portland Cement Concrete Inlay or Overlay	Recurring CS #29	Nov. 1, 2008	
80217	Post Clips for Extruded Aluminum Signs	Article 1090.03	Jan. 1, 2009	
80268	Post Mounting of Signs	Article 701.14	Jan. 1, 2011	
80171	Precast Handling Holes	Articles 540.02, 540.06, 542.02, 542.04, 550.02, 550.06, 602.02, 602.07, and 1042.16	Jan. 1, 2007	
80015	Public Convenience and Safety	Article 107.09	Jan. 1, 2000	
80247	Raised Reflective Pavement Markers	Article 781.03	Nov. 1, 2009	April 1, 2010
80131	Seeding	Articles 250.07 and 1081.04	July 1, 2004	July 1, 2010
80264	Selection of Labor	Recurring CS #5	July 2, 2010	
80234	Storm Sewers	Articles 550.02, 550.03, 550.06, 550.07, 550.08, and 1040.04	April 1, 2009	April 1, 2010
80087	Temporary Erosion Control	Articles 280.02, 280.03, 280.04, 280.07, 280.08, and 1081.15	Nov. 1, 2002	Jan. 1, 2011
80257	Traffic Barrier Terminal, Type 6	Article 631.07	Jan. 1, 2010	
80269	Traffic Control Surveillance	Article 701.10	Jan. 1, 2011	
80258	Truck Mounted/Trailer Mounted Attenuators	Articles 701.03, 701.15, and 1106.02	Jan. 1, 2010	

File Name

Special Provision Title

New Location

Effective

Revised

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

FLAGGER AT SIDE ROADS AND ENTRANCES (BDE)

Effective: April 1, 2009

Revise the second paragraph of Article 701.13(a) of the Standard Specifications to read:

“The Engineer will determine when a side road or entrance shall be closed to traffic. A flagger will be required at each side road or entrance remaining open to traffic within the operation where two-way traffic is maintained on one lane of pavement. The flagger shall be positioned as shown on the plans or as directed by the Engineer.”

Revise the first and second paragraph of Article 701.20(i) of the Standard Specifications to read:

“Signs, barricades, or other traffic control devices required by the Engineer over and above those specified will be paid for according to Article 109.04. All flaggers required at side roads and entrances remaining open to traffic including those that are shown on the Highway Standards and/or additional barricades required by the Engineer to close side roads and entrances will be paid for according to Article 109.04.”

80228

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

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

PORTLAND CEMENT CONCRETE (BDE)

Effective: January 1, 2012

Revise Notes 1 and 2 of Article 312.24 of the Standard Specifications to read:

"Note 1. Coarse aggregate shall be gradation CA 6, CA 7, CA 9, CA 10, or CA 11, Class D quality or better. Article 1020.05(d) shall apply.

Note 2. Fine aggregate shall be FA 1 or FA 2. Article 1020.05(d) shall apply."

Revise the first paragraph of Article 312.26 of the Standard Specifications to read:

312.26 Proportioning and Mix Design. At least 60 days prior to start of placing CAM II, the Contractor shall submit samples of materials for proportioning and testing. The mixture shall contain a minimum of 200 lb (90 kg) of cement per cubic yard (cubic meter). Portland cement may be replaced with fly ash according to Article 1020.05(c)(1). Blends of coarse and fine aggregates will be permitted, provided the volume of fine aggregate does not exceed the volume of coarse aggregate. The Engineer will determine the proportions of materials for the mixture. However, the Contractor may substitute their own mix design. Article 1020.05(a) shall apply and a Level III PCC Technician shall develop the mix design."

Revise the second paragraph of Article 503.22 of the Standard Specifications to read:

Other cast-in-place concrete for structures will be paid for at the contract unit price per cubic yard (cubic meter) for CONCRETE HANDRAIL, CONCRETE ENCASEMENT, and SEAL COAT CONCRETE."

Add the following to Article 1003.02 of the Standard Specifications:

(e) Alkali Reaction.

(1) ASTM C 1260. Each fine aggregate will be tested by the Department for alkali reaction according to ASTM C 1260. The test will be performed with Type I or II portland cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.90 percent or greater. The Engineer will determine the assigned expansion value for each aggregate, and these values will be made available on the Department's Alkali-Silica Potential Reactivity Rating List. The Engineer may differentiate aggregate based on ledge, production method, gradation number, or other factors. An expansion value of 0.03 percent will be assigned to limestone or dolomite fine aggregates (manufactured stone sand). However, the Department reserves the right to perform the ASTM C 1260 test.

- (2) ASTM C 1293 by Department. In some instances, such as chert natural sand or other fine aggregates, testing according to ASTM C 1260 may not provide accurate test results. In this case, the Department may only test according to ASTM C 1293.
- (3) ASTM C 1293 by Contractor. If an individual aggregate has an ASTM C 1260 expansion value that is unacceptable to the Contractor, an ASTM C 1293 test may be performed by the Contractor to evaluate the Department's ASTM C 1260 test result. The laboratory performing the ASTM C 1293 test shall be approved by the Department according to the current Bureau of Materials and Physical Research Policy Memorandum "Minimum Laboratory Requirements for Alkali-Silica Reactivity (ASR) Testing".

The ASTM C 1293 test shall be performed with Type I or II portland cement having a total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.80 percent or greater. The interior vertical wall of the ASTM C 1293 recommended container (pail) shall be half covered with a wick of absorbent material consisting of blotting paper. If the testing laboratory desires to use an alternate container, wick of absorbent material, or amount of coverage inside the container with blotting paper, ASTM C 1293 test results with an alkali-reactive aggregate of known expansion characteristics shall be provided to the Engineer for review and approval. If the expansion is less than 0.040 percent after one year, the aggregate will be assigned an ASTM C 1260 expansion value of 0.08 percent that will be valid for two years, unless the Engineer determines the aggregate has changed significantly. If the aggregate is manufactured into multiple gradation numbers, and the other gradation numbers have the same or lower ASTM C 1260 value, the ASTM C 1293 test result may apply to multiple gradation numbers.

The Engineer reserves the right to verify a Contractor's ASTM C 1293 test result. When the Contractor performs the test, a split sample shall be provided to the Engineer. The Engineer may also independently obtain a sample at any time. The aggregate will be considered reactive if the Contractor or Engineer obtains an expansion value of 0.040 percent or greater.

Revise Article 1004.02(d) of the Standard Specifications to read:

- "(d)Combining Sizes. Each size shall be stored separately and care shall be taken to prevent them from being mixed until they are ready to be proportioned. Separate compartments shall be provided to proportion each size.
- (1) When Class BS concrete is to be pumped, the coarse aggregate gradation shall have a minimum of 45 percent passing the 1/2 in. (12.5 mm) sieve. The Contractor

may combine two or more coarse aggregate sizes, consisting of CA 7, CA 11, CA 13, CA 14, and CA 16, provided a CA 7 or CA 11 is included in the blend.

- (2) If the coarse aggregate is furnished in separate sizes, they shall be combined in proportions to provide a uniformly graded coarse aggregate grading within the following limits.

Class of Concrete ^{1/}	Combined Sizes	Sieve Size and Percent Passing						
		2 1/2 in.	2 in.	1 3/4 in.	1 1/2 in.	1 in.	1/2 in.	No. 4
PV ^{2/}	CA 5 & CA 7	---	---	100	98±2	72±22	22±12	3±3
	CA 5 & CA 11	---	---	100	98±2	72±22	22±12	3±3
SI and SC ^{2/}	CA 3 & CA 7	100	95±5	---	---	55±25	20±10	3±3
	CA 3 & CA 11	100	95±5	---	---	55±25	20±10	3±3
	CA 5 & CA 7	---	---	100	98±2	72±22	22±12	3±3
	CA 5 & CA 11	---	---	100	98±2	72±22	22±12	3±3

Class of Concrete ^{1/}	Combined Sizes	Sieve Size (metric) and Percent Passing						
		63 mm	50 mm	45 mm	37.5 mm	25 mm	12.5 mm	4.75 mm
PV ^{2/}	CA 5 & CA 7	---	---	100	98±2	72±22	22±12	3±3
	CA 5 & CA 11	---	---	100	98±2	72±22	22±12	3±3
SI and SC ^{2/}	CA 3 & CA 7	100	95±5	---	---	55±25	20±10	3±3
	CA 3 & CA 11	100	95±5	---	---	55±25	20±10	3±3
	CA 5 & CA 7	---	---	100	98±2	72±22	22±12	3±3
	CA 5 & CA 11	---	---	100	98±2	72±22	22±12	3±3

1/ See Table 1 of Article 1020.04.

2/ Any of the listed combination of sizes may be used.^{2/}

Add the following to Article 1004.02 of the Standard Specifications:

(g) Alkali Reaction.

- (1) Each coarse aggregate will be tested by the Department for alkali reaction according to ASTM C 1260. The test will be performed with Type I or II portland cement having a total equivalent alkali content (Na₂O + 0.658K₂O) of 0.90 percent or greater. The Engineer will determine the assigned expansion value for each aggregate, and these values will be made available on the Department's Alkali-Silica Potential Reactivity Rating List. The Engineer may differentiate aggregate based on ledge, production method, gradation number, or other factors. An expansion value of 0.05 percent will

be assigned to limestone or dolomite coarse aggregates. However, the Department reserves the right to perform the ASTM C 1260 test.

(2) ASTM C 1293 by Department. In some instances testing a coarse aggregate according to ASTM C 1260 may not provide accurate test results. In this case, the Department may only test according to ASTM C 1293.

(3) ASTM C 1293 by Contractor. If an individual aggregate has an ASTM C 1260 expansion value that is unacceptable to the Contractor, an ASTM C 1293 test may be performed by the Contractor according to Article 1003.02(e)(3).

Revise the first paragraph of Article 1019.06 of the Standard Specifications to read:

“1019.06 Contractor Mix Design. A Contractor may submit their own mix design and may propose alternate fine aggregate materials, fine aggregate gradations, or material proportions. Article 1020.05(a) shall apply and a Level III PCC Technician shall develop the mix design.”

Revise Section 1020 of the Standard Specifications to read:

“SECTION 1020. PORTLAND CEMENT CONCRETE

1020.01 Description. This item shall consist of the materials, mix design, production, testing, curing, low air temperature protection, and temperature control of concrete.

1020.02 Materials. Materials shall be according to the following.

Item	Article/Section
(a) Cement	1001
(b) Water	1002
(c) Fine Aggregate	1003
(d) Coarse Aggregate	1004
(e) Concrete Admixtures	1021
(f) Finely Divided Minerals	1010
(g) Concrete Curing Materials	1022
(h) Straw	1081.06(a)(1)
(i) Calcium Chloride	1013.01

1020.03 Equipment. Equipment shall be according to the following.

Item	Article/Section
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(a) Concrete Mixers and Trucks	1103.01
(b) Batching and Weighing Equipment	1103.02
(c) Automatic and Semi-Automatic Batching Equipment	1103.03
(d) Water Supply Equipment	1103.11
(e) Membrane Curing Equipment	1101.09
(f) Mobile Portland Cement Concrete Plants	1103.04

1020.04 Concrete Classes and General Mix Design Criteria. The classes of concrete shown in Table 1 identify the various mixtures by the general uses and mix design criteria. If the class of concrete for a specific item of construction is not specified, Class SI concrete shall be used.

For the minimum cement factor in Table 1, it shall apply to portland cement, portland-pozzolan cement, and portland blast-furnace slag except when a particular cement is specified in the Table.

The Contractor shall not assume that the minimum cement factor indicated in Table 1 will produce a mixture that will meet the specified strength. In addition, the Contractor shall not assume that the maximum finely divided mineral allowed in a mix design according to Article 1020.05(c) will produce a mixture that will meet the specified strength. The Contractor shall select a cement factor within the allowable range that will obtain the specified strength. The Contractor shall take into consideration materials selected, seasonal temperatures, and other factors which may require the Contractor to submit multiple mix designs.

For a portland-pozzolan cement, portland blast-furnace slag cement, or when replacing portland cement with finely divided minerals per Articles 1020.05(c) and 1020.05(d), the portland cement content in the mixture shall be a minimum of 375 lbs/cu yd (222 kg/cu m). When the total of organic processing additions, inorganic processing additions, and limestone addition exceed 5.0 percent in the cement, the minimum portland cement content in the mixture shall be 400 lbs/cu yd (237 kg/cu m). When calculating the portland cement portion in the portland-pozzolan or portland blast-furnace slag cement, the AASHTO M 240 tolerance may be ignored.

Special classifications may be made for the purpose of including the concrete for a particular use or location as a separate pay item in the contract. The concrete used in such cases shall conform to this section.

TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA

Class of Conc.	Use	Specification Section Reference	Cement Factor		Water / Cement Ratio lb/lb	S l u m p in. (4)	Mix Design Compressive Strength (Flexural Strength)			Air Content %	Coarse Aggregate Gradations (14)
			cwt/cu yd (3)				psi. minimum				
			Min.	Max			Days				
							3	14	28		
PV	Pavement Base Course	420 or 421 353	5.65 (1) 6.05 (2)	7.05	0.32 - 0.42	2 - 4 (5)	Ty III 3500 (650)	3500 (650)		5.0 - 8.0	CA 5 & CA 7, CA 5 & CA 11, CA 7, CA 11, or CA 14
	Base Course Widening	354									
	Driveway Pavement	423									
	Shoulders	483									
	Shoulder Curb	662									
PP	Pavement Patching	442					3200 (600) Article 701.17(e)(3)b.				
	Bridge Deck Patching (10)										
	PP-1		6.50 6.20 (Ty III)	7.50 7.20 (Ty III)	0.32 - 0.44	2 - 4	at 48 hours	4.0 - 7.0	CA 7, CA 11, CA 13, CA 14, or CA 16		
	PP-2		7.35	7.35	0.32 - 0.38	2 - 6	at 24 hours	4.0 - 6.0			
	PP-3		7.35 (Ty III) (8)	7.35 (Ty III) (8)	0.32 - 0.35	2 - 4	at 16 hours	4.0 - 6.0			
	PP-4		6.00 (9)	6.25 (9)	0.32 - 0.50	2 - 6	at 8 hours	4.0 - 6.0			
PP-5	6.75 (9)	6.75 (9)	0.32 - 0.40	2 - 8	at 4 hours	4.0 - 6.0	CA 13, CA 14, or CA 16				
RR	Railroad Crossing	422	6.50 6.20 (Ty III)	7.50 7.20 (Ty III)	0.32 - 0.44	2 - 4	3500 (650) at 48 hours		4.0 - 7.0	CA 7, CA 11, or CA 14	
BS	Bridge Superstructure Bridge Approach Slab	503	6.05	7.05	0.32 - 0.44	2 - 4 (5)	4000 (675)		5.0 - 8.0	CA 7, CA 11, or CA 14 (7)	
PC	Various Precast Concrete Items	1042	5.65 5.65 (TY III)	7.05 7.05 (TY III)	0.32 - 0.44 0.25 - 0.40	1 - 4 0 - 1	See Section 1042			5.0 - 8.0 N/A	CA7, CA11, CA 13, CA 14, CA 16, or CA 7 & CA 16
	Wet Cast										
PS	Precast Prestressed Members	504	5.65 5.65 (TY III)	7.05 7.05 (TY III)	0.32 - 0.44	1 - 4			Plans	5.0 - 8.0	CA 11 (11), CA 13, CA 14 (11), or CA 16
	Precast Prestressed Piles and Extensions	512							5000		
	Precast Prestressed Sight Screen	639							3500		

TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA

Class of Conc.	Use	Specification Section Reference	Cement Factor		Water / Cement Ratio lb/lb	S l u m p in. (4)	Mix Design Compressive Strength (Flexural Strength)			Air Content %	Coarse Aggregate Gradations (14)
			cwt/cu yd (3)				psi, minimum				
			Min.	Max			Days				
		3	14	28							
DS	Drilled Shaft (12) Metal Shell Piles (12) Sign Structures Drilled Shaft (12) Light Tower Foundation (12)	516 512 734 837	6.65	7.05	0.32 - 0.44	6 - 8 (6)		4000 (675)		5.0 - 8.0	CA 13, CA 14, CA 16, or a blend of these gradations.
SC	Seal Coat	503	5.65 (1) 6.05 (2)	7.05	0.32 - 0.44	3 - 5		3500 (650)		Optional 6.0 max.	CA 3 & CA 7, CA 3 & CA 11, CA 5 & CA 7, CA 7 & CA 11, CA 7, or CA 11
SI	Structures (except Superstructure) Sidewalk Slope Wall Encasement Box Culverts End Section and Collar Curb, Gutter, Curb & Gutter, Median, and Paved Ditch Concrete Barrier Sign Structures Spread Footing Concrete Foundation Pole Foundation (12) Traffic Signal Foundation Drilled Shaft (12) Square or Rectangular	503 424 511 512 540 542 606 637 734 836 878	5.65 (1) 6.05 (2)	7.05	0.32 - 0.44	2 - 4 (5)		3500 (650)		5.0 - 8.0	CA 3 & CA 7, CA 3 & CA 11, CA 5 & CA 7, CA 5 & CA 11, CA 7, CA 11, CA 13, CA 14, or CA 16 (13)

- Notes:
- (1) Central-mixed.
 - (2) Truck-mixed or shrink-mixed. Shrink-mixed concrete will not be permitted for Class PV concrete.
 - (3) For Class SC concrete and for any other class of concrete that is to be placed underwater, except Class DS concrete, the cement factor shall be increased by ten percent.
 - (4) The maximum slump may be increased to 7 in. when a high range water-reducing admixture is used for all classes of concrete, except Class PV, SC, and PP. For Class SC, the maximum slump may be increased to 8 in. For Class PP-1, the maximum slump may be increased to 6 in. For Class PS, the 7 in. maximum slump may be increased to 8 1/2 in. if the high range water-reducing admixture is the polycarboxylate type.
 - (5) The slump range for slipform construction shall be 1/2 to 1 1/2 in.
 - (6) If concrete is placed to displace drilling fluid, or against temporary casing, the slump shall be 8 - 10 in. at the point of placement. If a water-reducing admixture is used in lieu of a high range water-reducing admixture according to Article 1020.05(b)(7), the slump shall be 2 - 4 in.
 - (7) For Class BS concrete used in bridge deck patching, the coarse aggregate gradation shall be CA 13, CA 14, or CA 16, except CA 11 may be used for full-depth patching.
 - (8) In addition to the Type III portland cement, 100 lb/cu yd of ground granulated blast-furnace slag and 50 lb/cu yd of microsilica (silica fume) shall be used. For an air temperature greater than 85 °F, the Type III portland cement may be replaced with Type I or II portland cement.
 - (9) The cement shall be a rapid hardening cement from the Department's "Approved List of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs" for PP-4 and calcium aluminate cement for PP-5.
 - (10) For Class PP concrete used in bridge deck patching, the aggregate gradation shall be CA 13, CA 14, or CA 16, except CA 11 may be used for full-depth patching. In addition, the mix design shall have 72 hours to obtain a 4,000 psi compressive or 675 psi flexural strength for all PP mix designs.
 - (11) The nominal maximum size permitted is 3/4 in. Nominal maximum size is defined as the largest sieve which retains any of the aggregate sample particles.
 - (12) The concrete mix shall be designed to remain fluid throughout the anticipated duration of the pour plus one hour. At the Engineer's discretion, the Contractor may be required to conduct a minimum 2 cu yd trial batch to verify the mix design.
 - (13) CA 3 or CA 5 may be used when the nominal maximum size does not exceed two-thirds the clear distance between parallel reinforcement bars, or between the reinforcement bar and the form. Nominal maximum size is defined in Note 11.
 - (14) Alternate combinations of gradations sizes may be used with the approval of the Engineer. Refer also to Article 1004.02(d) for additional information on combining sizes.

TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA (metric)

Class of Conc.	Use	Specification Section Reference	Cement Factor		Water / Cement Ratio kg/kg	S l u m p mm (4)	Mix Design Compressive Strength (Flexural Strength) kPa, minimum			Air Content %	Coarse Aggregate Gradations (14)
			kg/cu m (3)				Days				
			Min.	Max.			3	14	28		
PV	Pavement Base Course	420 or 421 353			0.32 - 0.42	50 - 100 (5)	Ty III 24,000 (4500)	24,000 (4500)		5.0 - 8.0	CA 5 & CA 7, CA 5 & CA 11, CA 7, CA 11, or CA 14
	Base Course Widening	354	335 (1)	418							
	Driveway Pavement	423	360 (2)								
	Shoulders	483									
	Shoulder Curb	662									
PP	Pavement Patching Bridge Deck Patching (10)	442					22,100 (4150) Article 701.17(e)(3)b.				CA 7, CA 11, CA 13, CA 14, or CA 16
	PP-1		385 365 (Ty III)	445 425 (Ty III)	0.32 - 0.44	50 - 100	at 48 hours	4.0 - 7.0			
	PP-2		435	435	0.32 - 0.38	50 - 150	at 24 hours	4.0 - 6.0			
	PP-3		435 (Ty III) (8)	435 (Ty III) (8)	0.32 - 0.35	50 - 100	at 16 hours	4.0 - 6.0			
	PP-4		355 (9)	370 (9)	0.32 - 0.50	50 - 150	at 8 hours	4.0 - 6.0			
	PP-5		400 (9)	400 (9)	0.32 - 0.40	50 - 200	at 4 hours	4.0 - 6.0			
RR	Railroad Crossing	422	385 365 (Ty III)	445 425 (Ty III)	0.32 - 0.44	50 - 100	24,000 (4500) at 48 hours		4.0 - 7.0	CA 7, CA 11, or CA 14	
BS	Bridge Superstructure Bridge Approach Slab	503	360	418	0.32 - 0.44	50 - 100 (5)	27,500 (4650)		5.0 - 8.0	CA 7, CA 11, or CA 14 (7)	
PC	Various Precast Concrete Items	1042					See Section 1042		5.0 - 8.0 N/A	CA 7, CA 11, CA 13, CA 14, CA 16, or CA 7 & CA 16	
	Wet Cast		335	418	0.32 - 0.44	25 - 100					
PS	Dry Cast		335 (TY III)	418 (TY III)	0.25 - 0.40	0 - 25					
	Precast Prestressed Members	504						Plans	5.0 - 8.0	CA 11 (11), CA 13, CA 14 (11), or CA 16	
	Precast Prestressed Piles and Extensions	512	335 (TY III)	418 (TY III)	0.32 - 0.44	25 - 100		34,500			
Precast Prestressed Sight Screen	639						24,000				

TABLE 1. CLASSES OF CONCRETE AND MIX DESIGN CRITERIA (metric)

Class of Conc.	Use	Specification Section Reference	Cement Factor		Water / Cement Ratio kg/kg	S l u m p mm (4)	Mix Design Compressive Strength (Flexural Strength)			Air Content %	Coarse Aggregate Gradations (14)
			kg/cu m (3)				kPa, minimum				
			Min.	Max			Days				
							3	14	28		
DS	Drilled Shaft (12) Metal Shell Piles (12) Sign Structures Drilled Shaft (12) Light Tower Foundation (12)	516 512 734 837	395	418	0.32 - 0.44	150 - 200 (6)	27,500 (4650)		5.0 - 8.0	CA 13, CA 14, CA 16, or a blend of these gradations.	
SC	Seal Coat	503	335 (1) 360 (2)	418	0.32 - 0.44	75 - 125	24,000 (4500)		Optional 6.0 max.	CA 3 & CA 7, CA 3 & CA 11, CA 5 & CA 7, CA 7 & CA 11, CA 7, or CA 11	
SI	Structures (except Superstructure) Sidewalk Slope Wall Encasement Box Culverts End Section and Collar Curb, Gutter, Curb & Gutter, Median, and Paved Ditch Concrete Barrier Sign Structures Spread Footing Concrete Foundation Pole Foundation (12) Traffic Signal Foundation Drilled Shaft (12) Square or Rectangular	503 424 511 512 540 542 606 637 734 838 878	335 (1) 360 (2)	418	0.32 - 0.44	50 - 100 (5)	24,000 (4500)		5.0 - 8.0	CA 3 & CA 7, CA 3 & CA 11, CA 5 & CA 7, CA 5 & CA 11, CA 7, CA 11, CA 13, CA 14, or CA 16 (13)	

- Notes:
- (1) Central-mixed.
 - (2) Truck-mixed or shrink-mixed. Shrink-mixed concrete will not be permitted for Class PV concrete.
 - (3) For Class SC concrete and for any other class of concrete that is to be placed underwater, except Class DS concrete, the cement factor shall be increased by ten percent.
 - (4) The maximum slump may be increased to 175 mm when a high range water-reducing admixture is used for all classes of concrete except Class PV, SC, and PP. For Class SC, the maximum slump may be increased to 200 mm. For Class PP-1, the maximum slump may be increased to 150 mm. For Class PS, the 175 mm maximum slump may be increased to 215 mm if the high range water-reducing admixture is the polycarboxylate type.
 - (5) The slump range for slipform construction shall be 13 to 40 mm.
 - (6) If concrete is placed to displace drilling fluid, or against temporary casing, the slump shall be 200 - 250 mm at the point of placement. If a water-reducing admixture is used in lieu of a high range water-reducing admixture according to Article 1020.05(b)(7), the slump shall be 50 - 100 mm.
 - (7) For Class BS concrete used in bridge deck patching, the coarse aggregate gradation shall be CA 13, CA 14, or CA 16, except CA 11 may be used for full-depth patching.
 - (8) In addition to the Type III portland cement, 60 kg/cu m of ground granulated blast-furnace slag and 30 kg/cu m of microsilica (silica fume) shall be used. For an air temperature greater than 30 °C, the Type III portland cement may be replaced with Type I or II portland cement.
 - (9) The cement shall be a rapid hardening cement from the Department's "Approved List of Packaged, Dry, Rapid Hardening Cementitious Materials for Concrete Repairs" for PP-4 and calcium aluminate cement for PP-5.
 - (10) For Class PP concrete used in bridge deck patching, the aggregate gradation shall be CA 13, CA 14, or CA 16, except CA 11 may be used for full-depth patching. In addition, the mix design shall have 72 hours to obtain a 27,500 kPa compressive or 4,650 kPa flexural.
 - (11) The nominal maximum size permitted is 19 mm. Nominal maximum size is defined as the largest sieve which retains any of the aggregate sample particles.
 - (12) The concrete mix shall be designed to remain fluid throughout the anticipated duration of the pour plus one hour. At the Engineer's discretion, the Contractor may be required to conduct a minimum 1.5 cu m trial batch to verify the mix design.
 - (13) CA 3 or CA 5 may be used when the nominal maximum size does not exceed two-thirds the clear distance between parallel reinforcement bars, or between the reinforcement bar and the form. Nominal maximum size is defined in Note 11.
 - (14) Alternate combinations of gradation sizes may be used with the approval of the Engineer. Refer also to Article 1004.02(d) for additional information on combining sizes.

1020.05 Other Concrete Criteria. The concrete shall be according to the following.

- (a) **Proportioning and Mix Design.** For all Classes of concrete, it shall be the Contractors responsibility to determine mix design material proportions and to proportion each batch of concrete. A Level III PCC Technician shall develop the mix design for all Classes of concrete, except Classes PC and PS. The mix design, submittal information, trial batch, and Engineer verification shall be according to the "Portland Cement Concrete Level III Technician" course material.

The Contractor shall provide the mix designs a minimum of 45 calendar days prior to production. More than one mix design may be submitted for each class of concrete.

The Engineer will verify the mix design submitted by the Contractor. Verification of a mix design shall in no manner be construed as acceptance of any mixture produced. Once a mix design has been verified, the Engineer shall be notified of any proposed changes.

Tests performed at the jobsite will determine if a mix design can meet specifications. If the tests indicate it cannot, the Contractor shall make adjustments to a mix design, or submit a new mix design if necessary, to comply with the specifications.

- (b) **Admixtures.** The Contractor shall be responsible for using admixtures and determining dosages for all Classes of concrete, cement aggregate mixture II, and controlled low-strength material that will produce a mixture with suitable workability, consistency, and plasticity. In addition, admixture dosages shall result in the mixture meeting the specified plastic and hardened properties. The Contractor shall obtain approval from the Engineer to use an accelerator when the concrete temperature is greater than 60 °F (16 °C). However, this accelerator approval will not be required for Class PP, RR, PC, and PS concrete. The accelerator shall be the non-chloride type unless otherwise specified in the contract plans.

The Department will maintain an Approved List of Corrosion Inhibitors. Corrosion inhibitor dosage rates shall be according to Article 1020.05(b)(10). For information on approved controlled low-strength material air-entraining admixtures, refer to Article 1019.02. The Department will also maintain an Approved List of Concrete Admixtures, and an admixture technical representative shall be consulted by the Contractor prior to the pour when determining an admixture dosage from this list or when making minor admixture dosage adjustments at the jobsite. The dosage shall be within the range indicated on the approved list unless the influence by other admixtures, jobsite conditions (such as a very short haul time), or other circumstances warrant a dosage outside the range. The Engineer shall be notified when a dosage is proposed outside the range. To determine an admixture dosage, air temperature, concrete temperature, cement source and quantity, finely divided mineral sources and quantity, influence of other admixtures, haul time, placement conditions, and other factors as appropriate shall be considered. The Engineer may request the Contractor to have a batch of concrete mixed in the lab or field to verify the admixture dosage is correct. An admixture dosage or combination of admixture dosages shall not delay the initial set of concrete by more

than one hour. When a retarding admixture is required or appropriate for a bridge deck or bridge deck overlay pour, the initial set time shall be delayed until the deflections due to the concrete dead load are no longer a concern for inducing cracks in the completed work. However, a retarding admixture shall not be used to further extend the pour time and justify the alteration of a bridge deck pour sequence.

When determining water in admixtures for water/cement ratio, the Contractor shall calculate 70 percent of the admixture dosage as water, except a value of 50 percent shall be used for a latex admixture used in bridge deck latex concrete overlays.

The sequence, method, and equipment for adding the admixtures shall be approved by the Engineer. Admixtures shall be added to the concrete separately. An accelerator shall always be added prior to a high range water-reducing admixture, if both are used.

Admixture use shall be according to the following.

- (1) When the atmosphere or concrete temperature is 65 °F (18 °C) or higher, a retarding admixture shall be used in the Class BS concrete and concrete bridge deck overlays. The proportions of the ingredients of the concrete shall be the same as without the retarding admixture, except that the amount of mixing water shall be reduced, as may be necessary, in order to maintain the consistency of the concrete as required. In addition, a high range water-reducing admixture shall be used in bridge deck concrete. At the option of the Contractor, a water-reducing admixture may be used with the high range water-reducing admixture in Class BS concrete.
- (2) At the Contractor's option, admixtures in addition to an air-entraining admixture may be used for Class PP-1 or RR concrete. When the air temperature is less than 55 °F (13 °C) and an accelerator is used, the non-chloride accelerator shall be calcium nitrite.
- (3) When Class C fly ash or ground granulated blast-furnace slag is used in Class PP-1 or RR concrete, a water-reducing or high range water-reducing admixture shall be used.
- (4) For Class PP-2 or PP-3 concrete, a non-chloride accelerator followed by a high range water-reducing admixture shall be used, in addition to the air-entraining admixture. The Contractor has the option to use a water-reducing admixture with the high range water-reducing admixture. For Class PP-3 concrete, the non-chloride accelerator shall be calcium nitrite. For Class PP-2 concrete, the non-chloride accelerator shall be calcium nitrite when the air temperature is less than 55 °F (13 °C).
- (5) For Class PP-4 concrete, a high range water-reducing admixture shall be used in addition to the air-entraining admixture. The Contractor has the option to use a water-reducing admixture with the high range water-reducing admixture. An accelerator shall not be used. For stationary or truck-mixed concrete, a retarding

admixture shall be used to allow for haul time. The Contractor has the option to use a mobile portland cement concrete plant, but a retarding admixture shall not be used unless approved by the Engineer.

For PP-5 concrete, a non-chloride accelerator, high range water-reducing admixture, and air-entraining admixture shall be used. The accelerator, high range water-reducing admixture, and air-entraining admixture shall be per the Contractor's recommendation and dosage. The approved list of concrete admixtures shall not apply. A mobile portland cement concrete plant shall be used to produce the patching mixture.

- (6) When a calcium chloride accelerator is specified in the contract, the maximum chloride dosage shall be 1.0 quart (1.0 L) of solution per 100 lb (45 kg) of cement. The dosage may be increased to a maximum 2.0 quarts (2.0 L) per 100 lb (45 kg) of cement if approved by the Engineer. When a calcium chloride accelerator for Class PP-2 concrete is specified in the contract, the maximum chloride dosage shall be 1.3 quarts (1.3 L) of solution per 100 lb (45 kg) of cement. The dosage may be increased to a maximum 2.6 quarts (2.6 L) per 100 lb (45 kg) of cement if approved by the Engineer.
- (7) For Class DS concrete a retarding admixture and a high range water-reducing admixture shall be used. For dry excavations that are 10 ft (3 m) or less, the high range water-reducing admixture may be replaced with a water-reducing admixture if the concrete is vibrated. The use of admixtures shall take into consideration the slump loss limits specified in Article 516.12 and the fluidity requirement in Article 1020.04 (Note 12).
- (8) At the Contractor's option, when a water-reducing admixture or a high range water-reducing admixture is used for Class PV, PP-1, RR, SC, and SI concrete, the cement factor may be reduced a maximum 0.30 hundredweight/cu yd (18 kg/cu m). However, a cement factor reduction will not be allowed for concrete placed underwater.
- (9) When Type F or Type G high range water-reducing admixtures are used, the initial slump shall be a minimum of 1 1/2 in. (40 mm) prior to addition of the Type F or Type G admixture, except as approved by the Engineer.
- (10) When specified, a corrosion inhibitor shall be added to the concrete mixture utilized in the manufacture of precast, prestressed concrete members and/or other applications. It shall be added, at the same rate, to all grout around post-tensioning steel when specified.

When calcium nitrite is used, it shall be added at the rate of 4 gal/cu yd (20 L/cu m), and shall be added to the mix immediately after all compatible admixtures have been introduced to the batch.

When Rheocrete 222+ is used, it shall be added at the rate of 1.0 gal/cu yd (5.0 L/cu m), and the batching sequence shall be according to the manufacturer's instructions.

(c) Finely Divided Minerals. Use of finely divided minerals shall be according to the following.

(1) Fly Ash. At the Contractor's option, fly ash from approved sources may partially replace portland cement in cement aggregate mixture II, Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete.

The use of fly ash shall be according to the following.

- a. Measurements of fly ash and portland cement shall be rounded up to the nearest 5 lb (2.5 kg).
- b. When Class F fly ash is used in cement aggregate mixture II, Class PV, BS, PC, PS, DS, SC, and SI concrete, the amount of portland cement replaced shall not exceed 25 percent by weight (mass).
- c. When Class C fly ash is used in cement aggregate mixture II, Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete, the amount of portland cement replaced shall not exceed 30 percent by weight (mass).
- d. Fly ash may be used in concrete mixtures when the air temperature is below 40 °F (4 °C), but the Engineer may request a trial batch of the concrete mixture to show the mix design strength requirement will be met.

(2) Ground Granulated Blast-Furnace (GGBF) Slag. At the Contractor's option, GGBF slag may partially replace portland cement in concrete mixtures, for Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete. For Class PP-3 concrete, GGBF slag shall be used according to Article 1020.04.

The use of GGBF slag shall be according to the following.

- a. Measurements of GGBF slag and portland cement shall be rounded up to the nearest 5 lb (2.5 kg).
- b. When GGBF slag is used in Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC and SI concrete, the amount of portland cement replaced shall not exceed 35 percent by weight (mass).
- c. GGBF slag may be used in concrete mixtures when the air temperature is below 40 °F (4 °C), but the Engineer may request a trial batch of the concrete mixture to show the mix design strength requirement will be met.

- (3) **Microsilica.** At the Contractor's option, microsilica may be added at a maximum of 5.0 percent by weight (mass) of the cement and finely divided minerals summed together.

Microsilica shall be used in Class PP-3 concrete according to Article 1020.04.

- (4) **High Reactivity Metakaolin (HRM).** At the Contractor's option, HRM may be added at a maximum of 5.0 percent by weight (mass) of the cement and finely divided minerals summed together.

- (5) **Mixtures with Multiple Finely Divided Minerals.** Except as specified for Class PP-3 concrete, the Contractor has the option to use more than one finely divided mineral in Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete as follows.

- a. The mixture shall contain a maximum of two finely divided minerals. The finely divided mineral in portland-pozzolan cement or portland blast-furnace slag cement shall count toward the total number of finely divided minerals allowed. The finely divided minerals shall constitute a maximum of 35.0 percent of the total cement plus finely divided minerals. The fly ash portion shall not exceed 30.0 percent for Class C fly ash or 25.0 percent for Class F fly ash. The Class C and F fly ash combination shall not exceed 30.0 percent. The ground granulated blast-furnace slag portion shall not exceed 35.0 percent. The microsilica or high-reactivity metakaolin portion used together or separately shall not exceed ten percent. The finely divided mineral in the portland-pozzolan cement or portland blast-furnace slag blended cement shall apply to the maximum 35.0 percent.
- b. **Central Mixed.** For Class PV, SC, and SI concrete, the mixture shall contain a minimum of 565 lbs/cu yd (335 kg/cu m) of cement and finely divided minerals summed together. If a water-reducing or high-range water-reducing admixture is used, the Contractor has the option to use a minimum of 535 lbs/cu yd (320 kg/cu m).
- c. **Truck-Mixed or Shrink-Mixed.** For Class PV (only truck-mixed permitted), SC, and SI concrete, the mixture shall contain a minimum of 605 lbs/cu yd (360 kg/cu m) of cement and finely divided minerals summed together. If a water-reducing or high-range water-reducing admixture is used, the Contractor has the option to use a minimum of 575 lbs/cu yd (345 kg/cu m).
- d. **Central-Mixed, Truck-Mixed or Shrink-Mixed.** For Class PP-1 and RR concrete, the mixture shall contain a minimum of 650 lbs/cu yd (385 kg/cu m) of cement and finely divided minerals summed together. For Class PP-1 and RR concrete using Type III portland cement, the mixture shall contain a minimum of 620 lbs/cu yd (365 kg/cu m).

For Class PP-2 concrete, the mixture shall contain a minimum of 735 lbs/cu yd (435 kg/cu m) of cement and finely divided minerals summed together. For Class BS concrete, the mixture shall contain a minimum of 605 lbs/cu yd (360 kg/cu m). For Class DS concrete, the mixture shall contain a minimum of 665 lbs/cu yd (395 kg/cu m).

If a water-reducing or high range water-reducing admixture is used in Class PP-1 and RR concrete, the Contractor has the option to use a minimum of 620 lbs/cu yd (365 kg/cu m) of cement and finely divided minerals summed together. If a water-reducing or high-range water-reducing admixture is used with Type III portland cement in Class PP-1 and RR concrete, the Contractor has the option to use a minimum of 590 lbs/cu yd (350 kg/cu m).

- e. Central-Mixed or Truck-Mixed. For Class PC and PS concrete, the mixture shall contain a minimum of 565 lbs/cu yd (335 kg/cu m) of cement and finely divided minerals summed together.
 - f. The mixture shall contain a maximum of 705 lbs/cu yd (418 kg/cu m) of cement and finely divided mineral(s) summed together for Class PV, BS, PC, PS, DS, SC, and SI concrete. For Class PP-1 and RR concrete, the mixture shall contain a maximum of 750 lbs/cu yd (445 kg/cu m). For Class PP-1 and RR concrete using Type III portland cement, the mixture shall contain a maximum of 720 lbs/cu yd (425 kg/cu m). For Class PP-2 concrete, the mixture shall contain a maximum of 735 lbs/cu yd (435 kg/cu m).
 - g. For Class SC concrete and for any other class of concrete that is to be placed underwater, except Class DS concrete, the allowable cement and finely divided minerals summed together shall be increased by ten percent.
 - h. The combination of cement and finely divided minerals shall comply with Article 1020.05(d).
- (d) Alkali-Silica Reaction. For cast-in-place (includes cement aggregate mixture II), precast, and precast prestressed concrete, one of the mixture options provided in Article 1020.05(d)(2) shall be used to reduce the risk of a deleterious alkali-silica reaction in concrete exposed to humid or wet conditions. The mixture options are not intended or adequate for concrete exposed to potassium acetate, potassium formate, sodium acetate, or sodium formate. The mixture options will not be required for the dry environment (humidity less than 60 percent) found inside buildings for residential or commercial occupancy.

The mixture options shall not apply to concrete revetment mats, insertion lining of pipe culverts, portland cement mortar fairing course, controlled low-strength material, miscellaneous grouts that are not prepackaged, Class PP-3 concrete, Class PP-4 concrete, and Class PP-5 concrete.

- (1) Aggregate Groups. Each combination of aggregates used in a mixture will be assigned to an aggregate group. The point at which the coarse aggregate and fine aggregate expansion values intersect in the following table will determine the group.

Aggregate Groups			
Coarse Aggregate or Coarse Aggregate Blend ASTM C 1260 Expansion	Fine Aggregate Or Fine Aggregate Blend ASTM C 1260 Expansion		
	≤0.16%	>0.16% - 0.27%	>0.27%
≤0.16%	Group I	Group II	Group III
>0.16% - 0.27%	Group II	Group II	Group III
>0.27%	Group III	Group III	Group IV

- (2) Mixture Options. Based upon the aggregate group, the following mixture options shall be used. However, the Department may prohibit a mixture option if field performance shows a deleterious alkali-silika reaction or Department testing indicates the mixture may experience a deleterious alkali-silica reaction.

Group I – Mixture options are not applicable. Use any cement or finely divided mineral.

Group II – Mixture options 1, 2, 3, 4, or 5 shall be used.

Group III – Mixture options 1, combine 2 with 3, 4 or 5 shall be used.

Group IV – Mixture options 1, combine 2 with 4, or 5 shall be used.

- a. Mixture Option 1. The coarse or fine aggregates shall be blended to place the material in a group that will allow the selected cement or finely divided mineral to be used. Coarse aggregate may only be blended with another coarse aggregate. Fine aggregate may only be blended with another fine aggregate. Blending of coarse with fine aggregate to place the material in another group will not be permitted.

When a coarse for fine aggregate is blended, the weighted expansion value shall be calculated separately for the coarse and fine aggregate as follows:

$$\text{Weighted Expansion Value} = (a/100 \times A) + (b/100 \times B) + (c/100 \times C) + \dots$$

Where: a, b, c... = percentage of aggregate in the blend;
A, B, C... = expansion value for that aggregate.

- b. Mixture Option 2. A finely divided mineral shall be used as described in 1), 2), 3), or 4) that follow.

1. Class F Fly Ash. For cement aggregate mixture II, Class PV, BS, PC, PS, MS, DS, SC and SI concrete, the Class F fly ash shall be a minimum 25.0 percent by weight (mass) of the cement and finely divided minerals summed together.

If the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 4.50 percent for the Class F fly ash, it may be used only if it complies with Mixture Option 5.

2. Class C Fly Ash. For cement aggregate mixture II, Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete, Class C fly ash shall be a minimum of 25.0 percent by weight (mass) of the cement and finely divided minerals summed together.

If the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 4.50 percent or the calcium oxide exceeds 26.50 percent for the Class C fly ash, it may be used only per Mixture Option 5.

3. Ground Granulated Blast-Furnace Slag. For Class PV, PP-1, PP-2, RR, BS, PC, PS, DS, SC, and SI concrete, ground granulated blast-furnace slag shall be a minimum of 25.0 percent by weight (mass) of the cement and finely divided minerals summed together.

If the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 1.00 percent for the ground granulated blast-furnace slag, it may be used only per Mixture Option 5.

4. Microsilica or High Reactivity Metakaolin. Microsilica solids or high reactivity metakaolin shall be a minimum 5.0 percent by weight (mass) of the cement and finely divided minerals summed together.

If the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 1.00 percent for the Microsilica or High Reactivity Metakaolin, it may be used only if it complies with Mixture Option 5.

- c. Mixture Option 3. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.60 percent. When aggregate in Group II is involved and the Contractor desires to use a finely divided mineral, any finely divided mineral may be used with the cement unless the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 4.50 percent for the fly ash; or 1.00 percent for the ground granulated blast-furnace slag, microsilica or high reactivity metakaolin. If the alkali content is exceeded, the finely divided mineral may be used only per Mixture Option 5.
- d. Mixture option 4. The cement used shall have a maximum total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) of 0.45 percent. When aggregate in Group II or III is

involved and the Contractor desires to use a finely divided mineral, any finely divided mineral may be used with the cement unless the maximum total equivalent available alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$) exceeds 4.50 percent for the fly ash; or 1.00 percent for the ground granulated blast-furnace slag, microsilica, or high reactivity metakaolin. If the alkali content is exceeded, the finely divided mineral may be used only per Mixture Option 5.

- e. Mixture Option 5. The proposed cement or finely divided mineral may be used if the ASTM C 1567 expansion value is ≤ 0.16 percent when performed on the aggregate in the concrete mixture with the highest ASTM C 1260 test result. The laboratory performing the ASTM C 1567 test shall be approved by the Department according to the current Bureau of Materials and Physical Research Policy Memorandum "Minimum Laboratory Requirements for Alkali-Silica Reactivity (ASR) Testing". The ASTM C 1567 test will be valid for two years, unless the Engineer determines the materials have changed significantly. For latex concrete, the ASTM C 1567 test shall be performed without the latex. The 0.20 percent autoclave expansion limit in ASTM C 1567 shall not apply.

If during the two year time period the Contractor needs to replace the cement, and the replacement cement has an equal or lower total equivalent alkali content ($\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$), a new ASTM C 1567 test will not be required.

The Engineer reserved the right to verify a Contractor's ASTM C 1567 test result. When the Contractor performs the test, a split sample may be requested by the Engineer. The Engineer may also independently obtain a sample at any time. The proposed cement or finely divided mineral will not be allowed for use if the Contractor or Engineer obtains an expansion value greater than 0.16 percent.

1020.06 Water/Cement Ratio. The water/cement ratio shall be determined on a weight (mass) basis. When a maximum water/cement ratio is specified, the water shall include mixing water, water in admixtures, free moisture on the aggregates, and water added at the jobsite. The quantity of water may be adjusted within the limit specified to meet slump requirements.

When fly ash, ground granulated blast-furnace slag, high-reactivity metakaolin, or microsilica (silica fume) are used in a concrete mix, the water/cement ratio will be based on the total cement and finely divided minerals contained in the mixture.

1020.07 Slump. The slump shall be determined according to Illinois Modified AASHTO T 119.

If the measured slump falls outside the limits specified, a check test will be made. In the event of a second failure, the Engineer may refuse to permit the use of the batch of concrete represented.

If the Contractor is unable to add water to prepare concrete of the specified slump without exceeding the maximum design water/cement ratio, additional cement or water-reducing admixture shall be added.

1020.08 Air Content. The air content shall be determined according to Illinois Modified AASHTO T 152 or Illinois Modified AASHTO T 196. The air-entrainment shall be obtained by the use of cement with an approved air-entraining admixture added during the mixing of the concrete or the use of air-entraining cement.

If the air-entraining cement furnished is found to produce concrete having an air content outside the limits specified, its use shall be discontinued immediately and the Contractor shall provide other air-entraining cement which will produce air contents within the specified limits.

If the air content obtained is above the specified maximum limit at the jobsite, the Contractor, with the Engineer's approval, may add to the truck mixer non air-entraining cement in the proportion necessary to bring the air content within the specified limits, or the concrete may be further mixed, within the limits of time and revolutions specified, to reduce the air content. If the air content obtained is below the specified minimum limit, the Contractor may add to the concrete a sufficient quantity of an approved air-entraining admixture at the jobsite to bring the air content within the specified limits.

1020.09 Strength Tests. The specimens shall be molded and cured according to Illinois Modified AASHTO T 23. Specimens shall be field cured with the construction item as specified in Illinois Modified AASHTO T 23. The compressive strength shall be determined according to Illinois Modified AASHTO T 22. The flexural strength shall be determined according to Illinois Modified AASHTO T 177.

Except for Class PC and PS concrete, the Contractor shall transport the strength specimens from the site of the work to the field laboratory or other location as instructed by the Engineer. During transportation in a suitable light truck, the specimens shall be embedded in straw, burlap, or other acceptable material in a manner meeting with the approval of the Engineer to protect them from damage; care shall be taken to avoid impacts during hauling and handling. For strength specimens, the Contractor shall provide a water storage tank for curing.

1020.10 Handling, Measuring, and Batching Materials. Aggregates shall be handled in a manner to prevent mixing with soil and other foreign material.

Aggregates shall be handled in a manner which produces a uniform gradation, before placement in the plant bins. Aggregates delivered to the plant in a nonuniform gradation condition shall be stockpiled. The stockpiled aggregate shall be mixed uniformly before placement in the plant bins.

Aggregates shall have a uniform moisture content before placement in the plant bins. This may require aggregates to be stockpiled for 12 hours or more to allow drainage, or water added to the stockpile, or other methods approved by the Engineer. Moisture content requirements for crushed slag or lightweight aggregate shall be according to Article 1004.01(e).

Aggregates, cement, and finely divided minerals shall be measured by weight (mass). Water and admixtures shall be measured by volume or weight (mass).

The Engineer may permit aggregates, cement, and finely divided minerals to be measured by volume for small isolated structures and for miscellaneous items. Aggregates, cement, and finely divided minerals shall be measured individually. The volume shall be based upon dry, loose materials.

1020.11 Mixing Portland Cement Concrete. The mixing of concrete shall be according to the following.

- (a) Ready-Mixed Concrete. Ready-mixed concrete is central-mixed, truck-mixed, or shrink-mixed concrete transported and delivered in a plastic state ready for placement in the work and shall be according to the following.
 - (1) Central-Mixed Concrete. Central-mixed concrete is concrete which has been completely mixed in a stationary mixer and delivered in a truck agitator, a truck mixer operating at agitating speed, or a nonagitator truck.

The stationary mixer shall operate at the drum speed for which it was designed. The batch shall be charged into the drum so that some of the water shall enter in advance of the cement, finely divided minerals, and aggregates. The flow of the water shall be uniform and all water shall be in the drum by the end of the first 15 seconds of the mixing period. Water shall begin to enter the drum from zero to two seconds in advance of solid material and shall stop flowing within two seconds of the beginning of mixing time.

Some coarse aggregate shall enter in advance of other solid materials. For the balance of the charging time for solid materials, the aggregates, finely divided minerals, and cement (to assure thorough blending) shall each flow at acceptably uniform rates, as determined by visual observation. Coarse aggregate shall enter two seconds in advance of other solid materials and a uniform rate of flow shall continue to within two seconds of the completion of charging time.

The entire contents of the drum, or of each single compartment of a multiple-drum mixer, shall be discharged before the succeeding batch is introduced.

The volume of concrete mixed per batch shall not exceed the mixer's rated capacity as shown on the standard rating plate on the mixer by more than ten percent.

The minimum mixing time shall be 75 seconds for a stationary mixer having a capacity greater than 2 cu yd (1.5 cu m). For a mixer with a capacity equal to or less than 2 cu yd (1.5 cu m) the mixing time shall be 60 seconds. Transfer time in multiple drum mixers is included in the mixing time. Mixing time shall begin when all materials are in the mixing compartment and shall end when the discharge of any

part of the batch is started. The required mixing times will be established by the Engineer for all types of stationary mixers.

When central-mixed concrete is to be transported in a truck agitator or a truck mixer, the stationary-mixed batch shall be transferred to the agitating unit without delay and without loss of any portion of the batch. Agitating shall start immediately thereafter and shall continue without interruption until the batch is discharged from the agitator. The ingredients of the batch shall be completely discharged from the agitator before the succeeding batch is introduced. Drums and auxiliary parts of the equipment shall be kept free from accumulations of materials.

The vehicles used for transporting the mixed concrete shall be of such capacity, or the batches shall be so proportioned, that the entire contents of the mixer drum can be discharged into each vehicle load.

- (2) **Truck-Mixed Concrete.** Truck-mixed concrete is completely mixed and delivered in a truck mixer. When the mixer is charged with fine and coarse aggregates simultaneously, not less than 60 nor more than 100 revolutions of the drum or blades at mixing speed shall be required, after all of the ingredients including water are in the drum. When fine and coarse aggregates are charged separately, not less than 70 revolutions will be required. Additional mixing beyond 100 revolutions shall be at agitating speed unless additions of water, admixtures, cement, or other materials are made at the jobsite. The mixing operation shall begin immediately after the cement and water, or the cement and wet aggregates, come in contact. The ingredients of the batch shall be completely discharged from the drum before the succeeding batch is introduced. The drum and auxiliary parts of the equipment shall be kept free from accumulations of materials. If additional water or an admixture is added at the jobsite, the concrete batch shall be mixed a minimum of 40 additional revolutions after each addition.
- (3) **Shrink-Mixed Concrete.** Shrink-mixed concrete is mixed partially in a stationary mixer and completed in a truck mixer for delivery. The mixing time of the stationary mixer may be reduced to a minimum of 30 seconds to intermingle the ingredients, before transferring to the truck mixer. All ingredients for the batch shall be in the stationary mixer and partially mixed before any of the mixture is discharged into the truck mixer. The partially mixed batch shall be transferred to the truck mixer without delay and without loss of any portion of the batch, and mixing in the truck mixer shall start immediately. The mixing time in the truck mixer shall be not less than 50 nor more than 100 revolutions of the drum or blades at mixing speed. Additional mixing beyond 100 revolutions shall be at agitating speed, unless additions of water, admixtures, cement, or other materials are made at the jobsite. Units designed as agitators shall not be used for shrink mixing. The ingredients of the batch shall be completely discharged from the drum before the succeeding batch is introduced. The drum and auxiliary parts of the equipment shall be kept free from accumulations of materials. If additional water or an admixture is added at the jobsite, the concrete batch shall be mixed a minimum of 40 additional revolutions after each addition.

- (4) **Mixing Water.** Wash water shall be completely discharged from the drum or container before a batch is introduced. All mixing water shall be added at the plant and any adjustment of water at the jobsite by the Contractor shall not exceed the specified maximum water/cement ratio or slump. If strength specimens have been made for a batch of concrete, and subsequently during discharge there is more water added, additional strength specimens shall be made for the batch of concrete. No additional water may be added at the jobsite to central-mixed concrete if the mix design has less than 565 lbs/cu yd (335 kg/cu m) of cement and finely divided minerals summed together.
- (5) **Mixing and Agitating Speeds.** The mixing or agitating speeds used for truck mixers or truck agitators shall be per the manufacturer's rating plate.
- (6) **Capacities.** The volume of plastic concrete in a given batch will be determined according to AASHTO T 121, based on the total weight (mass) of the batch, determined either from the weight (masses) of all materials, including water, entering the batch or directly from the net weight (mass) of the concrete in the batch as delivered.

The volume of mixed concrete in truck mixers or truck agitators shall in no case be greater than the rated capacity determined according to the Truck Mixer, Agitator, and Front Discharge Concrete Carrier Standards of the Truck Mixer Manufacturer's Bureau, as shown by the rating plate attached to the truck. If the truck mixer does not have a rating plate, the volume of mixed concrete shall not exceed 63 percent of the gross volume of the drum or container, disregarding the blades. For truck agitators, the value is 80 percent.

- (7) **Time of Haul.** Haul time shall begin when the delivery ticket is stamped. The delivery ticket shall be stamped no later than five minutes after the addition of the mixing water to the cement, or after the addition of the cement to the aggregate when the combined aggregates contain free moisture in excess of two percent by weight (mass). If more than one batch is required for charging a truck using a stationary mixer, the time of haul shall start with mixing of the first batch. Haul time shall end when the truck is emptied for incorporation of the concrete into the work.

The time elapsing from when water is added to the mix until it is deposited in place at the site of the work shall not exceed 30 minutes when the concrete is transported in nonagitating trucks.

The maximum haul time for concrete transported in truck mixers or truck agitators shall be according to the following.

Concrete Temperature at Point of Discharge °F (°C)	Haul Time	
	Hours	Minutes
50-64 (10-17.5)	1	30

>64 (>17.5) - without retarder	1	0
>64 (>17.5) - with retarder	1	30

To encourage start-up testing for mix adjustments at the plant, the first two trucks will be allowed an additional 15 minutes haul time whenever such testing is performed.

For a mixture which is not mixed on the jobsite, a delivery ticket shall be required for each load. The following information shall be recorded on each delivery ticket: (1) ticket number; (2) name of producer and plant location; (3) contract number; (4) name of Contractor; (5) stamped date and time batched; (6) truck number; (7) quantity batched; (8) amount of admixture(s) in the batch; (9) amount of water in the batch; and (10) Department mix design number.

For concrete mixed in jobsite stationary mixers, the above delivery ticket may be waived, but a method of verifying the haul time shall be established to the satisfaction of the Engineer.

- (8) Production and Delivery. The production of ready-mixed concrete shall be such that the operations of placing and finishing will be continuous insofar as the job operations require. The Contractor shall be responsible for producing concrete that will have the required workability, consistency, and plasticity when delivered to the work. Concrete which is unsuitable for placement as delivered will be rejected. The Contractor shall minimize the need to adjust the mixture at the jobsite, such as adding water, admixtures, and cement prior to discharging.
- (9) Use of Multiple Plants in the Same Construction Item. The Contractor may simultaneously use central-mixed, truck-mixed, and shrink-mixed concrete from more than one plant, for the same construction item, on the same day, and in the same pour. However, the following criteria shall be met.
- a. Each plant shall use the same cement, finely divided minerals, aggregates, admixtures, and fibers.
 - b. Each plant shall use the same mix design. However, material proportions may be altered slightly in the field to meet slump and air content criteria. Field water adjustments shall not result in a difference that exceeds 0.02 between plants for water/cement ratio. The required cement factor for central-mixed concrete shall be increased to match truck-mixed or shrink-mixed concrete, if the latter two types of mixed concrete are used in the same pour.
 - c. The maximum slump difference between deliveries of concrete shall be 3/4 in. (19 mm) when tested at the jobsite. If the difference is exceeded, but test results are within specification limits, the concrete may be used. The Contractor shall take immediate corrective action and shall test subsequent deliveries of concrete until the slump difference is corrected. For each day, the first three truck loads of delivered concrete from each plant shall be tested for slump by the Contractor.

Thereafter, when a specified test frequency for slump is to be performed, it shall be conducted for each plant at the same time.

- d. The maximum air content difference between deliveries of concrete shall be 1.5 percent when tested at the jobsite. If the difference is exceeded, but test results are within specification limits, the concrete may be used. The Contractor shall take immediate corrective action and shall test subsequent deliveries of concrete until the air content difference is corrected. For each day, the first three truck loads of delivered concrete from each plant shall be tested for air content by the Contractor. Thereafter, when a specified test frequency for air content is to be performed, it shall be conducted for each plant at the same time.
 - e. Strength tests shall be performed and taken at the jobsite for each plant. When a specified strength test is to be performed, it shall be conducted for each plant at the same time. The difference between plants for strength shall not exceed 900 psi (6200 kPa) compressive and 90 psi (620 kPa) flexural. If the strength difference requirements are exceeded, the Contractor shall take corrective action.
 - f. The maximum haul time difference between deliveries of concrete shall be 15 minutes. If the difference is exceeded, but haul time is within specification limits, the concrete may be used. The Contractor shall take immediate corrective action and check subsequent deliveries of concrete.
- (b) Class PC Concrete. The concrete shall be central-mixed or truck-mixed. Variations in plastic concrete properties shall be minimized between batches.
- (c) Class PV Concrete. The concrete shall be central-mixed or truck-mixed.

The required mixing time for stationary mixers with a capacity greater than 2 cu yd (1.5 cu m) may be less than 75 seconds upon satisfactory completion of a mixer performance test. Mixer performance tests may be requested by the Contractor when the quantity of concrete to be placed exceeds 50,000 sq yd (42,000 sq m). The testing shall be conducted according to the current Bureau of Materials and Physical Research's Policy Memorandum, "Field Test Procedures for Mixer Performance and Concrete Uniformity Tests".

The Contractor will be allowed to test two mixing times within a range of 50 to 75 seconds. If satisfactory results are not obtained from the required tests, the mixing time shall continue to be 75 seconds for the remainder of the contract. If satisfactory results are obtained, the mixing time may be reduced. In no event will mixing time be less than 50 seconds.

The Contractor shall furnish the labor, equipment, and material required to perform the testing according to the current Bureau of Materials and Physical Research's Policy

Memorandum, "Field Test Procedures for Mixer Performance and Concrete Uniformity Tests".

A contract which has 12 ft (3.6 m) wide pavement or base course, and a continuous length of 1/2 mile (0.8 km) or more, shall have the following additional requirements.

(1) The plant and truck delivery operation shall be able to provide a minimum of 50 cu yd (38 cu m) of concrete per hour.

(2) The plant shall have automatic or semi-automatic batching equipment.

(d) All Other Classes of Concrete. The concrete shall be central-mixed, truck-mixed, or shrink-mixed concrete.

1020.12 Mobile Portland Cement Concrete Plants. The use of a mobile portland cement concrete plant may be approved under the provisions of Article 1020.10 for volumetric proportioning in small isolated structures, thin overlays, and for miscellaneous and incidental concrete items.

The first 1 cu ft (0.03 cu m) of concrete produced may not contain sufficient mortar and shall not be incorporated in the work. The side plate on the cement feeder shall be removed periodically (normally the first time the mixer is used each day) to see if cement is building up on the feed drum.

Sufficient mixing capacity of mixers shall be provided to enable continuous placing and finishing insofar as the job operations and the specifications require.

Slump and air tests made immediately after discharge of the mix may be misleading, since the aggregates may absorb a significant amount of water for four or five minutes after mixing.

1020.13 Curing and Protection. The method of curing, curing period, and method of protection for each type of concrete construction is included in the following Index Table.

INDEX TABLE OF CURING AND PROTECTION OF CONCRETE CONSTRUCTION			
TYPE OF CONSTRUCTION	CURING METHODS	CURING PERIOD DAYS	LOW AIR TEMPERATURE PROTECTION METHODS
Cast-in-Place Concrete ^{11/}			
Pavement			
Shoulder	1020.13(a)(1)(2)(3)(4)(5) ^{3/5/}	3	1020.13(c)
Base Course			
Base Course Widening	1020.13(a)(1)(2)(3)(4)(5) ^{2/}	3	1020.13(c)
Driveway			
Median			
Barrier			
Curb			
Gutter	1020.13(a)(1)(2)(3)(4)(5) ^{4/5/}	3	1020.13(c) ^{15/}
Curb & Gutter			
Sidewalk			
Slope Wall			
Paved Ditch			
Catch Basin			
Manhole	1020.13(a)(1)(2)(3)(4)(5) ^{4/}	3	1020.13(c)
Inlet			
Valve Vault			
Pavement Patching	1020.13(a)(1)(2)(3)(4)(5) ^{2/}	3 ^{12/}	1020.13(c)
Bridge Deck Patching	1020.13(a)(3)(5)	3 or 7 ^{12/}	1020.13(c)
Railroad Crossing	1020.13(a)(3)(5)	1	1020.13(c)
Piles and Drilled Shafts	1020.13(a)(3)(5)	7	1020.13(d)(1)(2)(3)
Foundations & Footings			
Seal Coat	1020.13(a)(1)(2)(3)(4)(5) ^{4/6/}	7	1020.13(d)(1)(2)(3)
Substructure	1020.13(a)(1)(2)(3)(4)(5) ^{1/7/}	7	1020.13(d)(1)(2)(3)
Superstructure (except deck)	1020.13(a)(1)(2)(3)(5) ^{8/}	7	1020.13(d)(1)(2)
Deck			
Bridge Approach Slab	1020.13(a)(5)	7	1020.13(d)(1)(2) ^{17/}
Retaining Walls	1020.13(a)(1)(2)(3)(4)(5) ^{1/7/}	7	1020.13(d)(1)(2)
Pump Houses	1020.13(a)(1)(2)(3)(4)(5) ^{1/}	7	1020.13(d)(1)(2)
Culverts	1020.13(a)(1)(2)(3)(4)(5) ^{4/6/}	7	1020.13(d)(1)(2) ^{16/}
Other Incidental Concrete	1020.13(a)(1)(2)(3)(5)	3	1020.13(c)
Precast Concrete ^{11/}			
Bridge Slabs			
Piles and Pile Caps	1020.13(a)(3)(5) ^{9/10/}	As ^{13/}	9/
Other Structural Members		Required	
All Other Precast Items	1020.13(a)(3)(4)(5) ^{2/9/10/}	As ^{14/}	9/
		Required	
Precast, Prestressed Concrete ^{11/}			
All Items	1020(a)(3)(5) ^{9/10/}	Until Strand Tensioning Is Released ^{15/}	9/

Notes-General:

- 1/ Type I, membrane curing only
- 2/ Type II, membrane curing only
- 3/ Type III, membrane curing only

- 4/ Type I, II and III membrane curing
- 5/ Membrane Curing will not be permitted between November 1 and April 15.
- 6/ The use of water to inundate foundations and footings, seal coats or the bottom slab of culverts is permissible when approved by the Engineer, provided the water temperature can be maintained at 45 °F (7 °C) or higher.
- 7/ Asphalt emulsion for waterproofing may be used in lieu of other curing methods when specified and permitted according to Article 503.18.
- 8/ On non-traffic surfaces which receive protective coat according to Article 503.19, a linseed oil emulsion curing compound may be used as a substitute for protective coat and other curing methods. The linseed oil emulsion curing compound will be permitted between April 16 and October 31 of the same year, provided it is applied with a mechanical sprayer according to Article 1101.09(b).
- 9/ Steam, supplemental heat, or insulated blankets (with or without steam/supplemental heat) are acceptable and shall be according to the Bureau of Materials and Physical Research's Policy Memorandum "Quality Control/Quality Assurance Program for Precast Concrete Products" and the "Manual for Fabrication of Precast, Prestressed Concrete Products".
- 10/ A moist room according to AASHTO M 201 is acceptable for curing.
- 11/ If curing is required and interrupted because of form removal for cast-in-place concrete items, precast concrete products, or precast prestressed concrete products, the curing shall be resumed within two hours from the start of the form removal.
- 12/ Curing maintained only until opening strength is attained for pavement patching, with a maximum curing period of three days. For bridge deck patching the curing period shall be three days if Class PP concrete is used and 7 days if Class BS concrete is used.
- 13/ The curing period shall end when the concrete has attained the mix design strength. The producer has the option to discontinue curing when the concrete has attained 80 percent of the mix design strength or after seven days. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.
- 14/ The producer shall determine the curing period or may elect to not cure the product. All strength test specimens shall remain with the units and shall be subjected to the same curing method and environmental condition as the units, until the time of testing.

15/ The producer has the option to continue curing after strand release.

16/ When structural steel or structural concrete is in place above slope wall, Article 1020.13(c) shall not apply. The protection method shall be according to Article 1020.13(d)(1).

17/ When Article 1020.13(d)(2) is used to protect the deck, the housing may enclose only the bottom and sides. The top surface shall be protected according to Article 1020.13(d)(1).

18/ For culverts having a waterway opening of 10 sq ft (1 sq m) or less, the culverts may be protected according to Article 1020.13(d)(3).

(a) Methods of Curing. Except as provided for in the Index Table of Curing and Protection of Concrete Construction, curing shall be accomplished by one of the following described methods. When water is required to wet the surface, it shall be applied as a fine spray so that it will not mar or pond on the surface. Except where otherwise specified, the curing period shall be at least 72 hours.

(1) Waterproof Paper Method. The surface of the concrete shall be covered with waterproof paper as soon as the concrete has hardened sufficiently to prevent marring the surface. The surface of the concrete shall be wetted immediately before the paper is placed. The blankets shall be lapped at least 12 in. (300 mm) end to end, and these laps shall be securely weighted with a windrow of earth, or other approved method, to form a closed joint. The same requirements shall apply to the longitudinal laps where separate strips are used for curing edges, except the lap shall be at least 9 in. (225 mm). The edges of the blanket shall be weighted securely with a continuous windrow of earth or any other means satisfactory to the Engineer to provide an air-tight cover. Any torn places or holes in the paper shall be repaired immediately by patches cemented over the openings, using a bituminous cement having a melting point of not less than 180 °F (82 °C). The blankets may be reused, provided they are air-tight and kept serviceable by proper repairs.

A longitudinal pleat shall be provided in the blanket to permit shrinkage where the width of the blanket is sufficient to cover the entire surface. The pleat will not be required where separate strips are used for the edges. Joints in the blanket shall be sewn or cemented together in such a manner that they will not separate during use.

(2) Polyethylene Sheeting Method. The surface of the concrete shall be covered with white polyethylene sheeting as soon as the concrete has hardened sufficiently to prevent marring the surface. The surface of the concrete shall be wetted immediately before the sheeting is placed. The edges of the sheeting shall be weighted securely with a continuous windrow of earth or any other means satisfactory to the Engineer to provide an air-tight cover. Adjoining sheets shall overlap not less than 12 in. (300 mm) and the laps shall be securely weighted with earth, or any other means satisfactory to the Engineer, to provide an air tight cover.

For surface and base course concrete, the polyethylene sheets shall be not less than 100 ft (30 m) in length nor longer than can be conveniently handled, and shall be of such width that, when in place, they will cover the full width of the surface, including the edges, except that separate strips may be used to cover the edges. Any tears or holes in the sheeting shall be repaired. When sheets are no longer serviceable as a single unit, the Contractor may select from such sheets and reuse those which will serve for further applications, provided two sheets are used as a single unit; however, the double sheet units will be rejected when the Engineer deems that they no longer provide an air tight cover.

- (3) **Wetted Burlap Method.** The surface of the concrete shall be covered with wetted burlap blankets as soon as the concrete has hardened sufficiently to prevent marring the surface. The blankets shall overlap 6 in. (150 mm). At least two layers of wetted burlap shall be placed on the finished surface. The burlap shall be kept saturated by means of a mechanically operated sprinkling system. In place of the sprinkling system, at the Contractor's option, two layers of burlap covered with impermeable covering shall be used. The burlap shall be kept saturated with water. Plastic coated burlap may be substituted for one layer of burlap and impermeable covering.

The blankets shall be placed so that they are in contact with the edges of the concrete, and that portion of the material in contact with the edges shall be kept saturated with water.

- (4) **Membrane Curing Method.** Membrane curing will not be permitted where a protective coat, concrete sealer, or waterproofing is to be applied, or at areas where rubbing or a normal finish is required, or at construction joints other than those necessary in pavement or base course. Concrete at these locations shall be cured by another method specified in Article 1020.13(a).

After the concrete has been finished and the water sheen has disappeared from the surface, the concrete shall be immediately sealed with membrane curing compound of the type specified. The seal shall be maintained for the specified curing period. The edges of the concrete shall, likewise, be sealed immediately after the forms are removed. Two separate applications, applied at least one minute apart, each at the rate of not less than 1 gal/250 sq ft (0.16 L/sq m) will be required upon the surfaces and edges of the concrete. These applications shall be made with the mechanical equipment specified. Type III compound shall be agitated immediately before and during the application.

At locations where the coating is discontinuous or where pin holes show or where the coating is damaged due to any cause and on areas adjacent to sawed joints, immediately after sawing is completed, an additional coating of membrane curing compound shall be applied at the above specified rate. The equipment used may be of the same type as that used for coating variable widths of pavement. Before the additional coating is applied adjacent to sawed joints, the cut faces of the joint shall be protected by inserting a suitable flexible material in the joint, or placing an

adhesive width of impermeable material over the joint, or by placing the permanent sealing compound in the joint. Material, other than the permanent sealing compound, used to protect cut faces of the joint, shall remain in place for the duration of the curing period. In lieu of applying the additional coating, the area of the sawed joint may be cured according to any other method permitted.

When rain occurs before an application of membrane curing compound has dried, and the coating is damaged, the Engineer may require another application be made in the same manner and at the same rate as the original coat. The Engineer may order curing by another method specified, if unsatisfactory results are obtained with membrane curing compound.

- (5) **Wetted Cotton Mat Method.** After the surface of concrete has been textured or finished, it shall be covered immediately with dry or damp cotton mats. The cotton mats shall be placed in a manner which will not mar the concrete surface. A texture resulting from the cotton mat material is acceptable. The cotton mats shall then be wetted immediately and thoroughly soaked with a gentle spray of water. For bridge decks, a foot bridge shall be used to place and wet the cotton mats.

The cotton mats shall be maintained in a wetted condition until the concrete has hardened sufficiently to place soaker hoses without marring the concrete surface. The soaker hoses shall be placed on top of the cotton mats at a maximum 4 ft (1.2 m) spacing. The cotton mats shall be kept wet with a continuous supply of water for the remainder of the curing period. Other continuous wetting systems may be used if approved by the Engineer.

After placement of the soaker hoses, the cotton mats shall be covered with white polyethylene sheeting or burlap-polyethylene blankets.

For construction items other than bridge decks, soaker hoses or a continuous wetting system will not be required if the alternative method keeps the cotton mats wet. Periodic wetting of the cotton mats is acceptable.

For areas inaccessible to the cotton mats on bridge decks, curing shall be according to Article 1020.13(a)(3).

- (b) **Removing and Replacing Curing Covering.** When curing methods specified above in Article 1020.13(a), (1), (2), or (3) are used for concrete pavement, the curing covering for each day's paving shall be removed to permit testing of the pavement surface with a profilograph or straightedge, as directed by the Engineer.

Immediately after testing, the surface of the pavement shall be wetted thoroughly and the curing coverings replaced. The top surface and the edges of the concrete shall not be left unprotected for a period of more than 1/2 hour.

- (c) Protection of Concrete, Other Than Structures, From Low Air Temperatures. When the official National Weather Service forecast for the construction area predicts a low of 32 °F (0 °C), or lower, or if the actual temperature drops to 32 °F (0 °C), or lower, concrete less than 72 hours old shall be provided at least the following protection.

Minimum Temperature	Protection
25 – 32 °F (-4 – 0 °C)	Two layers of polyethylene sheeting, one layer of polyethylene and one layer of burlap, or two layers of waterproof paper.
Below 25 °F (-4 °C)	6 in. (150 mm) of straw covered with one layer of polyethylene sheeting or waterproof paper.

These protective covers shall remain in place until the concrete is at least 96 hours old. When straw is required on pavement cured with membrane curing compound, the compound shall be covered with a layer of burlap, polyethylene sheeting or waterproof paper before the straw is applied.

After September 15, there shall be available to the work within four hours, sufficient clean, dry straw to cover at least two days production. Additional straw shall be provided as needed to afford the protection required. Regardless of the precautions taken, the Contractor shall be responsible for protection of the concrete placed and any concrete damaged by cold temperatures shall be removed and replaced.

- (d) Protection of Concrete Structures From Low Air Temperatures. When the official National Weather Service forecast for the construction area predicts a low below 45 °F (7 °C), or if the actual temperature drops below 45 °F (7 °C), concrete less than 72 hours old shall be provided protection. Concrete shall also be provided protection when placed during the winter period of December 1 through March 15. Concrete shall not be placed until the materials, facilities, and equipment for protection are approved by the Engineer.

When directed by the Engineer, the Contractor may be required to place concrete during the winter period. When winter construction is specified, the Contractor shall proceed with the construction, including excavation, pile driving, concrete, steel erection, and all appurtenant work required for the complete construction of the item, except at times when weather conditions make such operations impracticable.

Regardless of the precautions taken, the Contractor shall be responsible for protection of the concrete placed and any concrete damaged by cold temperatures shall be removed and replaced.

- (1) Protection Method I. The concrete shall be completely covered with insulating material such as fiberglass, rock wool, or other approved commercial insulating material having the minimum thermal resistance R, as defined in ASTM C 168, for

the corresponding minimum dimension of the concrete unit being protected as shown in the following table.

Minimum Pour Dimension		Thermal Resistance R
in.	(mm)	
6 or less	(150 or less)	R=16
> 6 to 12	(> 150 to 300)	R=10
> 12 to 18	(> 300 to 450)	R=6
> 18	(> 450)	R=4

The insulating material manufacturer shall clearly mark the insulating material with the thermal resistance R value.

The insulating material shall be completely enclosed on sides and edges with an approved waterproof liner and shall be maintained in a serviceable condition. Any tears in the liner shall be repaired in a manner approved by the Engineer. The Contractor shall provide means for checking the temperature of the surface of the concrete during the protection period.

On formed surfaces, the insulating material shall be attached to the outside of the forms with wood cleats or other suitable means to prevent any circulation of air under the insulation and shall be in place before the concrete is placed. The blanket insulation shall be applied tightly against the forms. The edges and ends shall be attached so as to exclude air and moisture. If the blankets are provided with nailing flanges, the flanges shall be attached to the studs with cleats. Where tie rods or reinforcement bars protrude, the areas adjacent to the rods or bars shall be adequately protected in a manner satisfactory to the Engineer. Where practicable, the insulation shall overlap any previously placed concrete by at least 1 ft (300 mm). Insulation on the underside of floors on steel members shall cover the top flanges of supporting members. On horizontal surfaces, the insulating material shall be placed as soon as the concrete has set, so that the surface will not be marred and shall be covered with canvas or other waterproof covering. The insulating material shall remain in place for a period of seven days after the concrete is placed.

The Contractor may remove the forms, providing the temperature is 35 °F (2 °C) and rising and the Contractor is able to wrap the particular section within two hours from the time of the start of the form removal. The insulation shall remain in place for the remainder of the seven days curing period.

- (2) Protection Method II. The concrete shall be enclosed in adequate housing and the air surrounding the concrete kept at a temperature of not less than 50 °F (10 °C) nor more than 80 °F (27 °C) for a period of seven days after the concrete is placed. The Contractor shall provide means for checking the temperature of the surface of the concrete or air temperature within the housing during the protection period. All exposed surfaces within the housing shall be cured according to the Index Table.

The Contractor shall provide adequate fire protection where heating is in progress and such protection shall be accessible at all times. The Contractor shall maintain labor to keep the heating equipment in continuous operation.

At the close of the heating period, the temperature shall be decreased to the approximate temperature of the outside air at a rate not to exceed 15 °F (8 °C) per 12 hour period, after which the housing may be removed. The surface of the concrete shall be permitted to dry during the cooling period.

- (3) Protection Method III. As soon as the surface is sufficiently set to prevent marring, the concrete shall be covered with 12 in. (300 mm) of loose, dry straw followed by a layer of impermeable covering. The edges of the covering shall be sealed to prevent circulation of air and prevent the cover from flapping or blowing. The protection shall remain in place until the concrete is seven days old. If construction operations require removal, the protection removed shall be replaced immediately after completion or suspension of such operations.

1020.14 Temperature Control for Placement. Temperature control for concrete placement shall be according to the following.

- (a) Concrete other than Structures. Concrete may be placed when the air temperature is above 35 °F (2 °C) and rising, and concrete placement shall stop when the falling temperature reaches 40 °F (4 °C) or below, unless otherwise approved by the Engineer.

The temperature of concrete immediately before placement shall be a minimum of 50 °F (10 °C) and a maximum of 90 °F (32 °C). If concrete is pumped, the temperature of the concrete as placed in the forms shall be a minimum of 50 °F (10 °C) and a maximum of 90 °F (32 °C). A maximum concrete temperature shall not apply to Class PP concrete.

- (b) Concrete in Structures. Concrete may be placed when the air temperature is above 40 °F (4 °C) and rising, and concrete placement shall stop when the falling temperature reaches 45 °F (7 °C) or below, unless otherwise approved by the Engineer.

The temperature of the concrete immediately before placement shall be a minimum of 50 °F (10 °C) and a maximum of 90 °F (32 °C). If concrete is pumped, the temperature of the concrete as placed in the forms shall be a minimum of 50 °F (10 °C) and a maximum of 90 °F (32 °C).

When insulated forms are used, the maximum temperature of the concrete mixture immediately before placement shall be 80 °F (25 °C).

When concrete is placed in contact with previously placed concrete, the temperature of the mixed concrete may be increased to 80 °F (25 °C) by the Contractor to offset anticipated heat loss.

- (c) All Classes of Concrete. Aggregates and water shall be heated or cooled uniformly and as necessary to produce concrete within the specified temperature limits. No frozen aggregates shall be used in the concrete.
- (d) Temperature. The concrete temperature shall be determined according to Illinois Modified AASHTO T 309.

1020.15 Heat of Hydration Control for Concrete Structures. The Contractor shall control the heat of hydration for concrete structures when the least dimension for a drilled shaft, foundation, footing, substructure, or superstructure concrete pour exceeds 5.0 ft (1.5 m). The work shall be according to the following.

- (a) Temperature Restrictions. The maximum temperature of the concrete after placement shall not exceed 150 °F (66 °C). The maximum temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface shall not exceed 35 °F (19 °C). The Contractor shall perform temperature monitoring to ensure compliance with the temperature restrictions.
- (b) Thermal Control Plan. The Contractor shall provide a thermal control plan a minimum of 28 calendar days prior to concrete placement for review by the Engineer. Acceptance of the thermal control plan by the Engineer shall not preclude the Contractor from specification compliance, and from preventing cracks in the concrete. At a minimum, the thermal control plan shall provide detailed information on the following requested items and shall comply with the specific specifications indicated for each item.
 - (1) Concrete mix design(s) to be used. Grout mix design if post-cooling with embedded pipe.

The mix design requirements in Articles 1020.04 and 1020.05 shall be revised to include the following additional requirements to control the heat of hydration.

- a. The concrete mixture shall be uniformly graded and preference for larger size aggregate shall be used in the mix design. Article 1004.02(d)(2) and information in the "Portland Cement Concrete Level III Technician Course – Manual of Instructions for Design of Concrete Mixtures" shall be used to develop the uniformly graded mixture.
- b. The following shall apply to all concrete except Class DS concrete or when self-consolidating concrete is desired. For central-mixed concrete, the Contractor shall have the option to develop a mixture with a minimum of 520 lbs/cu yd (309 kg/cu m) of cement and finely divided minerals summed together. For truck-mixed or shrink-mixed concrete, the Contractor shall have the option to develop a mixture with a minimum of 550 lbs/cu yd (326 kg/cu m) of cement and finely divided minerals summed together. A water-reducing or high range water-reducing admixture shall be used in the central mixed, truck-mixed or shrink-mixed concrete mixture. For any mixture to be placed underwater, the minimum

cement and finely divided minerals shall be 550 lbs/cu yd (326 kg/cu m) for central-mixed concrete, and 580 lbs/cu yd (344 kg/cu m) for truck-mixed or shrink-mixed concrete.

For Class DS concrete, CA 11 may be used. If CA 11 is used, the Contractor shall have the option to develop a mixture with a minimum cement and finely divided minerals of 605 lbs/cu yd (360 kg/cu m) summed together. If CA 11 is used and either Class DS concrete is placed underwater or a self-consolidating concrete mixture is desired, the Contractor shall have the option to develop a mixture with a minimum cement and finely divided minerals of 635 lbs/cu yd (378 kg/cu m) summed together.

- c. The minimum portland cement content in the mixture shall be 375 lbs/cu yd (222 kg/cu m). When the total of organic processing additions, inorganic processing additions, and limestone addition exceed 5.0 percent in the cement, the minimum portland cement content in the mixture shall be 400 lbs/cu yd (237 kg/cu m). For a drilled shaft, foundation, footing, or substructure, the minimum portland cement may be reduced to as low as 330 lbs/cu yd (196 kg/cu m) if the concrete has adequate freeze/thaw durability. The Contractor shall provide freeze/thaw test results according to AASHTO T 161 Procedure A or B, and the relative dynamic modulus of elasticity of the mix design shall be a minimum of 80 percent. Freeze/thaw testing will not be required for concrete that will not be exposed to freezing and thawing conditions as determined by the Engineer.
- d. The maximum cement replacement with fly ash shall be 40.0 percent. The maximum cement replacement with ground granulated blast-furnace slag shall be 65.0 percent. When cement replacement with ground granulated blast-furnace slag exceeds 35.0 percent, only Grade 100 shall be used.
- e. The mixture may contain a maximum of two finely divided minerals. The finely divided mineral in portland-pozzolan cement or portland blast-furnace slag cement shall count toward the total number of finely divided minerals allowed. The finely divided minerals shall constitute a maximum of 65.0 percent of the total cement plus finely divided minerals. The fly ash portion shall not exceed 40.0 percent. The ground granulated blast-furnace slag portion shall not exceed 65.0 percent. The microsilica or high-reactivity metakaolin portion used together or separately shall not exceed 5.0 percent.
- f. The time to obtain the specified strength may be increased to a maximum 56 days, provided the curing period specified in Article 1020.13 is increased to a minimum of 14 days.

The minimum grout strength for filling embedded pipe shall be as specified for the concrete, and testing shall be according to AASHTO T 106.

- (2) The selected mathematical method for evaluating heat of hydration thermal effects, which shall include the calculated adiabatic temperature rise, calculated maximum concrete temperature, and calculated maximum temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface. The time when the maximum concrete temperature and maximum temperature differential will occur is required if the time frame will be more than seven days.

Acceptable mathematical methods include ACI 207.2R "Report on Thermal and Volume Change Effects on Cracking of Mass Concrete" as well as other proprietary methods. The Contractor shall perform heat of hydration testing on the cement and finely divided minerals to be used in the concrete mixture. The test shall be according to ASTM C 186 or other applicable test methods, and the result for heat shall be used in the equation to calculate adiabatic temperature rise.

The Contractor has the option to propose a higher maximum temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface, but the proposed value shall not exceed 50 °F (10 °C). In addition, based on strength gain of the concrete, multiple maximum temperature differentials at different times may be proposed. The proposed value shall be justified through a mathematical method.

- (3) Proposed maximum concrete temperature or temperature range prior to placement.

Article 1020.14 shall apply except a minimum 40 °F (10 °C) concrete temperature will be permitted.

- (4) Pre-cooling, post-cooling, and surface insulation methods that will be used to ensure the concrete will comply with the specified maximum temperature and specified or proposed temperature differential. For reinforcement that extends beyond the limits of the pour, the Contractor shall indicate if the reinforcement is required to be covered with insulation.

Refer to ACI 207.4R "Cooling and Insulating Systems for Mass Concrete" for acceptable methods that will be permitted. A copy of the ACI document shall be provided to the Engineer at the construction site. If embedded pipe is used for post-cooling, the material shall be polyvinyl chloride or polyethylene. The embedded pipe system shall be properly supported, and the Contractor shall subsequently inspect glued joints to ensure they are able to withstand free falling concrete. The embedded pipe system shall be leak tested after inspection of the glued joints, and prior to the concrete placement. The leak test shall be performed at maximum service pressure or higher for a minimum of 15 minutes. All leaks shall be repaired. The embedded pipe cooling water may be from natural sources such as streams and rivers, but shall be filtered to prevent system stoppages. When the embedded pipe is no longer needed, the surface connections to the pipe shall be removed to a depth of 4 in. (100 mm) below the surface of the concrete. The remaining pipe shall be

completely filled with grout. The 4 in. (100 mm) deep concrete hole shall be filled with nonshrink grout. Form and insulation removal shall be done in a manner to prevent cracking and ensure the maximum temperature differential is maintained. Insulation shall be in good condition as determined by the Engineer and properly attached.

- (5) Dimensions of each concrete pour, location of construction joints, placement operations, pour pattern, lift heights, and time delays between lifts.

Refer to ACI 207.1R "Guide to Mass Concrete" for acceptable placement operations that will be permitted. A copy of the ACI document shall be provided to the Engineer at the construction site.

- (6) Type of temperature monitoring system, the number of temperature sensors, and location of sensors.

A minimum of two independent temperature monitoring systems and corresponding sensors shall be used.

The temperature monitoring system shall have a minimum temperature range of 32 °F (0 °C) to 212 °F (100 °C), an accuracy of ± 2 °F (± 1 °C), and be able to automatically record temperatures without external power. Temperature monitoring shall begin once the sensor is encased in concrete, and with a maximum interval of one hour. Temperature monitoring may be discontinued after the maximum concrete temperature has been reached, post-cooling is no longer required, and the maximum temperature differential between the internal concrete core and the ambient air temperature does not exceed 35 °F (19 °C). The Contractor has the option to select a higher maximum temperature differential, but the proposed value shall not exceed 50 °F (28 °C). The proposed value shall be justified through a mathematical method.

At a minimum, a temperature sensor shall be located at the theoretical hottest portion of the concrete, normally the geometric center, and at the exterior face that will provide the maximum temperature differential. At the exterior face, the sensor shall be located 2 to 3 in. (50 to 75 mm) from the surface of the concrete. Sensors shall also be located a minimum of 1 in. (25 mm) away from reinforcement, and equidistant between cooling pipes if either applies. A sensor will also be required to measure ambient air temperature. The entrant/exit cooling water temperature for embedded pipe shall also be monitored.

Temperature monitoring results shall be provided to the Engineer a minimum of once each day and whenever requested by the Engineer. The report may be electronic or hard copy. The report shall indicate the location of each sensor, the temperature recorded, and the time recorded. The report shall be for all sensors and shall include ambient air temperature and entrant/exit cooling water temperatures. The temperature data in the report may be provided in tabular or graphical format, and the report shall indicate any corrective actions during the monitoring period. At the

completion of the monitoring period, the Contractor shall provide the Engineer a final report that includes all temperature data and corrective actions.

(7) Indicate contingency operations to be used if the maximum temperature or temperature differential of the concrete is reached after placement.

- (c) Temperature Restriction Violations. If the maximum temperature of the concrete after placement exceeds 150 °F (66 °C), but is less than 158 °F (70 °C), the concrete will be accepted if no cracking or other unacceptable defects are identified. If cracking or unacceptable defects are identified, Article 105.03 shall apply. If the concrete temperature exceeds 158 °F (70 °C), Article 105.03 shall apply.

If a temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface exceeds the specified or proposed maximum value allowed, the concrete will be accepted if no cracking or other unacceptable defects are identified. If unacceptable defects are identified, Article 105.03 shall apply.

When the maximum 150 °F (66 °C) concrete temperature or the maximum allowed temperature differential is violated, the Contractor shall implement corrective action prior to the next pour. In addition, the Engineer reserves the right to request a new thermal control plan for acceptance before the Contractor is allowed to pour again.

- (d) Inspection and Repair of Cracks. The Engineer will inspect the concrete for cracks after the temperature monitoring is discontinued, and the Contractor shall provide access for the Engineer to do the inspection. A crack may require repair by the Contractor as determined by the Engineer. The Contractor shall be responsible for the repair of all cracks. Protective coat or a concrete sealer shall be applied to a crack less than 0.007 in. (0.18 mm) in width. A crack that is 0.007 in. (0.18 mm) or greater shall be pressure injected with epoxy according to Section 590.

PORTLAND CEMENT CONCRETE SIDEWALK (BDE)

Effective: January 1, 2012

Revise Article 424.07 of the Standard Specifications to read:

"424.07 Expansion Joints. Expansion joints shall be 1/2 in. (13 mm) thick and consist of preformed joint filler. The top of the joint filler shall be 1/4 in. (6 mm) below the surface of the sidewalk.

Expansion joints shall be placed in locations as follows.

- (a) Expansion joints shall be placed between the sidewalk and all structures such as light poles, traffic signal poles, traffic poles and subway columns, which extend through the sidewalk.
- (b) Transverse expansion joints shall be placed at maximum intervals of 50 ft (15 m) in the sidewalk. Where the sidewalk is constructed adjacent to pavement or curb having expansion joints, the expansion joints in the sidewalk shall be placed in line with the adjacent expansion joints as nearly as practicable.
- (c) Expansion joints shall also be placed where the sidewalk abuts existing sidewalks, between driveway pavement and sidewalk, and between sidewalk accessibility ramps and curbs where the ramp abuts a curb."

80280

RECLAIMED ASPHALT PAVEMENT (RAP) (BDE)

Effective: January 1, 2007

Revised: January 1, 2012

Revise Section 1031 of the Standard Specifications to read:

"SECTION 1031. RECLAIMED ASPHALT PAVEMENT

1031.01 Description. Reclaimed asphalt pavement (RAP) is from the material produced by cold milling or crushing of an existing hot-mix asphalt (HMA) pavement. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.

1031.02 Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP shall be added to the pile after the pile has been sealed. Stockpiles shall be sufficiently separated to prevent intermingling at the base. Stockpiles shall be identified by signs indicating the type as listed below (i.e. "Homogeneous Surface").

Prior to milling, the Contractor shall request the District to provide verification of the quality of the RAP to clarify appropriate stockpile.

- (a) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, HMA (High and Low ESAL) 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 fractionated prior to testing by screening into a minimum of two size 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 shall pass the sieve size specified below for the mix the FRAP will be used in.

Mixture FRAP will be used in:	Sieve Size that 100% of FRAP Shall Pass
IL-25.0	2 in. (50 mm)
IL-19.0	1 1/2 in. (40 mm)
IL-12.5	1 in. (25 mm)
IL-9.5	3/4 in. (20 mm)
IL-4.75	1/2 in. (13 mm)

- (b) Homogeneous. Homogeneous RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) mixtures and represent: 1) the same aggregate quality, but shall be at least C quality; 2) the same type of crushed aggregate (either crushed natural aggregate, ACBF slag, or steel slag); 3) similar gradation; and 4) similar asphalt binder content. If approved by the Engineer, combined single pass surface/binder millings may be considered "homogenous" with a quality rating dictated by the lowest coarse aggregate quality present in the mixture.

- (c) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, HMA (High and Low ESAL) 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 prior to testing by crushing to where all RAP shall pass the 5/8 in. (16 mm) or smaller screen. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (d) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from Class I, HMA (High or Low ESAL), or "All Other" (as defined by Article 1030.04(a)(3)) mixtures. 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.
- (e) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

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

1031.03 Testing. When used in HMA, the RAP/FRAP shall be sampled and tested either during or after 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).

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 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.

Evaluation of Test Results. All of the extraction results shall be compiled and averaged for asphalt binder content and gradation and, when applicable G_{mm} . Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	FRAP/Homogeneous /Conglomerate	Conglomerate "D" Quality
1 in. (25 mm)		± 5 %
1/2 in. (12.5 mm)	± 8 %	± 15 %
No. 4 (4.75 mm)	± 6 %	± 13 %
No. 8 (2.36 mm)	± 5 %	
No. 16 (1.18 mm)		± 15 %
No. 30 (600 μ m)	± 5 %	
No. 200 (75 μ m)	± 2.0 %	± 4.0 %
Asphalt Binder	± 0.4 % ^{1/}	± 0.5 %
G_{mm}	± 0.03	

1/ The tolerance for FRAP shall be ± 0.3 %.

If more than 20 percent of the individual sieves are out of the gradation tolerances, or if more than 20 percent of the asphalt binder content test results fall outside the appropriate tolerances, the RAP/FRAP shall not be used in HMA unless the RAP/FRAP representing the failing tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

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)".

1031.04 Quality Designation of Aggregate in RAP/FRAP.

- (a) 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 (High ESAL)/HMA (High ESAL), or HMA (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
 - (2) RAP from Superpave (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.
 - (3) RAP from Class I, Superpave (High ESAL), or 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) The aggregate quality of FRAP shall be determined as follows.

(1) 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 according to Article 1031.04(b)(2).

(2) Coarse and fine FRAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5000 tons (4500 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 BMPPR 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."

1031.05 Use of RAP/FRAP in HMA. The use of RAP/FRAP shall be a Contractor's option when constructing HMA in all contracts. The use of RAP/FRAP in HMA shall be as follows.

(a) Coarse Aggregate Size. The coarse aggregate in all RAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.

(b) Steel Slag Stockpiles. RAP 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) surface mixtures only.

(c) Use in HMA Surface Mixtures (High and Low ESAL). RAP/FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall be FRAP or homogeneous in which the coarse aggregate is Class B quality or better. RAP/FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 in. (10 mm).

(d) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP/FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP, homogeneous, or conglomerate, in which the coarse aggregate is Class C quality or better.

(e) Use in Shoulders and Subbase. RAP/FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be FRAP, homogeneous, conglomerate, or conglomerate DQ.

- (f) When the Contractor chooses the RAP option, the percentage of RAP shall not exceed the amounts indicated in the table below for a given N Design.

Max RAP Percentage

HMA Mixtures ^{1/, 3/}	Maximum % RAP			
	Ndesign	Binder/Leveling Binder	Surface	Polymer Modified
30	30	30	10	10
50	25	15	10	10
70	15 / 25 ^{2/}	10 / 15 ^{2/}	10	10
90	10	10	10	10
105	10	10	10	10

- 1/ For HMA "All Other" (shoulder and stabilized subbase) N-30, the amount of RAP shall not exceed 50% of the mixture.

- 2/ Value of Max % RAP if homogeneous RAP stockpile of IL-9.5 RAP is utilized.

- 3/ When RAP exceeds 20 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent RAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28). If warm mix asphalt (WMA) technology is utilized, and production temperatures do not exceed 275 °F (135 °C) the high and low virgin asphalt binder grades shall each be reduced by one grade when RAP exceeds 25 percent (i.e. 26 percent RAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28).

- (g) When the Contractor chooses the FRAP option, the percentage of FRAP shall not exceed the amounts indicated in the table below for a given N Design.

- (1) Level 1 Maximum FRAP Percentage.

HMA Mixtures ^{1/, 2/}	Level 1 - Maximum % FRAP			
	Ndesign	Binder/Leveling Binder	Surface	Polymer Modified ^{3/, 4/}
30	35	35	10	10
50	30	25	10	10
70	25	20	10	10
90	20	15	10	10
105	10	10	10	10

- 1/ For HMA "All Other" (shoulder and stabilized subbase) N30, the amount of FRAP shall not exceed 50 percent of the mixture.

- 2/ When FRAP exceeds 20 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 FRAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28). If warm mix asphalt (WMA) technology is utilized, and production temperatures do not exceed 275 °F (135 °C) the high and low virgin asphalt binder grades shall each be reduced by one grade when FRAP exceeds 25 percent (i.e. 26 percent FRAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28).
- 3/ For SMA the maximum FRAP shall be 20 percent. When the FRAP usage in SMA exceeds 10 percent, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).
- 4/ For IL-4.75 mix the amount of minus #4 fine fraction FRAP shall not exceed 20 percent. When the FRAP usage in IL-4.75 exceeds 10 percent, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).

(2) Level 2 Maximum FRAP percentage.

HMA Mixtures ^{1/, 2/}	Level 1 - Maximum % FRAP		
	Ndesign	Binder/Leveling Binder	Surface
30	40	40	10
50	40	30	10
70	30	20	10
90	30	20	10
105	30	15	10

- 1/ For HMA "All Other" (shoulder and stabilized subbase) N30, the amount of FRAP shall not exceed 50 percent of the mixture.
- 2/ When FRAP exceeds 20 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 FRAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28). If warm mix asphalt (WMA) technology is utilized, and production temperatures do not exceed 275 °F (135 °C) the high and low virgin asphalt binder grades shall each be reduced by one grade when FRAP exceeds 25 percent (i.e. 26 percent FRAP would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28).
- 3/ For SMA the maximum FRAP shall be 20 percent. When the FRAP usage in SMA exceeds 10 percent, the high and low virgin asphalt binder grade shall each be

reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).

- 4/ For IL-4.75 mix the amount of minus #4 fine fraction FRAP shall not exceed 30 percent. When the FRAP usage in IL-4.75 exceeds 10 percent, the high and low virgin asphalt binder grade shall each be reduced by one grade (i.e. 15 percent asphalt binder replacement would require a virgin asphalt binder grade of PG76-22 to be reduced to a PG70-28).

1031.06 HMA Mix Designs. At the Contractor's option, HMA mixtures may be constructed utilizing RAP/FRAP material meeting the above detailed requirements.

FRAP mix designs exceeding the Level 1 FRAP percentages shall be tested prior to submittal for verification, according to Illinois Modified AASHTO T324 (Hamburg Wheel) and shall meet the following requirements.

Asphalt Binder Grade	# Repetitions	Max. Rut Depth in. (mm)
PG76-XX	20,000	1/2 (12.5)
PG70-XX	15,000	1/2 (12.5)
PG64-XX	10,000	1/2 (12.5)
PG58-XX	10,000	1/2 (12.5)

RAP/FRAP designs shall be submitted for volumetric verification. If additional RAP/FRAP stockpiles are tested and found that no more than 20 percent of the results, as defined under "Testing" herein, are outside of the control tolerances set for the original RAP/FRAP stockpile and HMA mix design, and meets all of the requirements herein, the additional RAP/FRAP stockpiles may be used in the original mix design at the percent previously verified.

1031.07 HMA Production. Mixture production where the FRAP percentage exceeds the Level 1 limits shall be sampled within the first 500 tons (450 metric tons) on the first day of production with a split reserved for the Department. The mix sample shall be tested according to the Illinois Modified AASHTO T324 and shall meet the requirements specified herein. FRAP mix production shall not exceed 1500 tons (1350 metric tons) or one days 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 FRAP mixture conformance is demonstrated prior to start of mix production for the contract.

The coarse aggregate in all RAP used shall be equal to or less than the nominal maximum size requirement for the HMA mixture being produced.

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 RAP 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 the RAP/FRAP control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAP/FRAP and either switch to the virgin aggregate design or submit a new RAP/FRAP design.

HMA plants utilizing RAP/FRAP shall be capable of automatically recording and printing the following information.

(a) Dryer Drum Plants.

- (1) Date, month, year, and time to the nearest minute for each print.
- (2) HMA mix number assigned by the Department.
- (3) Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- (4) Accumulated dry weight of RAP/FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
- (5) Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
- (6) Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
- (7) Residual asphalt binder in the RAP/FRAP material as a percent of the total mix to the nearest 0.1 percent.
- (8) Aggregate and RAP/FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAP/FRAP are printed in wet condition.)

(b) Batch Plants.

- (1) Date, month, year, and time to the nearest minute for each print.
- (2) HMA mix number assigned by the Department.
- (3) Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
- (4) Mineral filler weight to the nearest pound (kilogram).
- (5) RAP/FRAP weight to the nearest pound (kilogram).
- (6) Virgin asphalt binder weight to the nearest pound (kilogram).

- (7) Residual asphalt binder in the RAP/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.

1031.08 RAP in Aggregate Surface Course and Aggregate Shoulders. The use of RAP 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.
- (b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5 mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded or single sized will not be accepted."

SIDEWALK, CORNER OR CROSSWALK CLOSURE (BDE)

Effective: January 1, 2012

Add the following to Article 701.03 of the Standard Specifications:

“(p) Detectable Pedestrian Channelizing Barricades1106.02(k)”

Add the following to Article 701.15 of the Standard Specifications:

“(n) Detectable Pedestrian Channelizing Barricade. Detectable pedestrian channelizing barricades are cane detectable and visible to persons having low vision. These barricades are used to channelize pedestrian traffic.”

Add the following to Article 1106.02 of the Standard Specifications:

“(m) Detectable Pedestrian Channelizing Barricades. The top and bottom panels shall have alternating white and orange stripes sloping at 45 degrees on the side exposed to pedestrian traffic. Barricade stripes shall be 6 in. (150 mm) in width. The predominant color for other barricade components shall be white, orange, or silver.

The top and bottom rails shall be continuous to allow for detection for hand trailing and cane trailing, respectively.

The faces of the barricade rails shall be vertical.”

TEMPORARY EROSION AND SEDIMENT CONTROL (BDE)

Effective: January 1, 2012

Revise the first paragraph of Article 280.04(f) of the Standard Specifications to read:

"(f) Temporary Erosion Control Seeding. This system consists of seeding all erodible/bare areas to minimize the amount of exposed surface area. Seed bed preparation will not be required if the surface of the soil is uniformly smooth and in a loose condition. Light disking shall be done if the soil is hard packed or caked. Erosion rills greater than 1 in. (25 mm) in depth shall be filled and area blended with the surrounding soil. Fertilizer nutrients will not be required."

Delete the last sentence of Article 280.08(e) of the Standard Specifications.

80286

TRAFFIC CONTROL DEFICIENCY DEDUCTION (BDE)

Effective: August 1, 2011

Revise the third sentence of the third paragraph of Article 105.03(b) of the Standard Specifications to read:

"The daily monetary deduction will be \$2,500."

80273

WORKING DAYS (BDE)

Effective: January 1, 2002

The Contractor shall complete the work within 40 working days.

80071

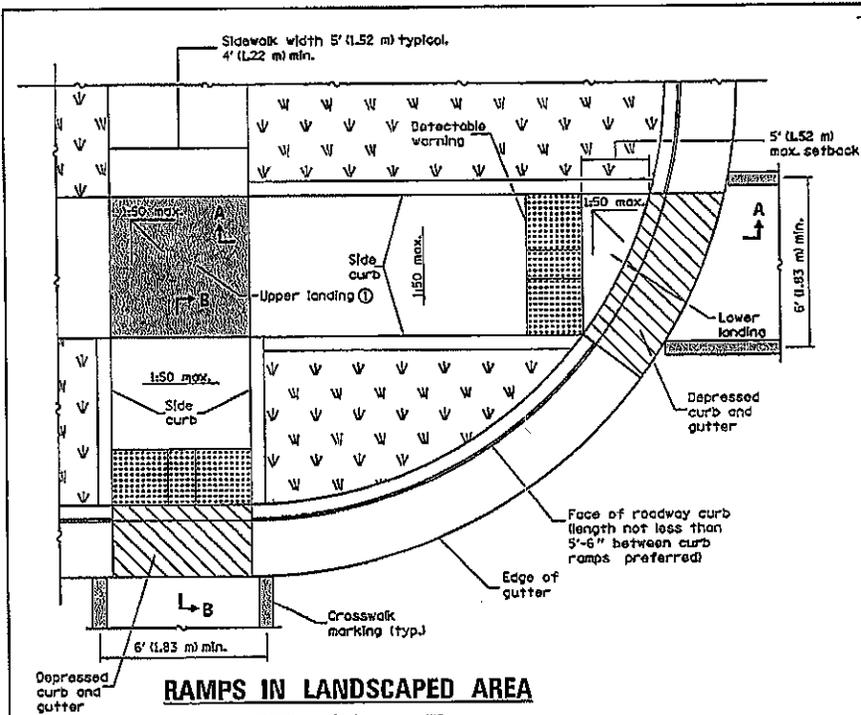
State of Illinois
Department of Transportation
Bureau of Local Roads and Streets
SPECIAL PROVISION
FOR
CONSTRUCTION AND MAINTENANCE SIGNS

Effective: January 1, 2004
Revised: June 1, 2007

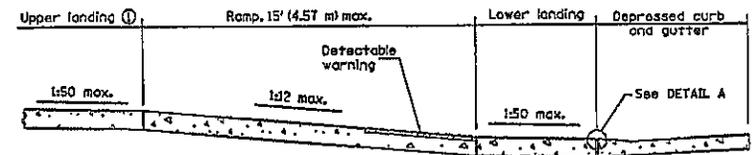
All references to Sections or Articles in this specification shall be construed to mean a specific Section or Article of the Standard Specifications for Road and Bridge Construction, adopted by the Department of Transportation.

701.14. Signs. Add the following paragraph to Article 701.14:

All warning signs shall have minimum dimensions of 1200 mm x 1200 mm (48" x 48") and have a black legend on a fluorescent orange reflectorized background, meeting, as a minimum, Type AP reflectivity requirements of Table 1091-2 in Article 1091.02.

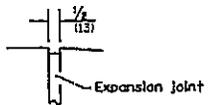


RAMPS IN LANDSCAPED AREA
SETBACK ≤ 5'

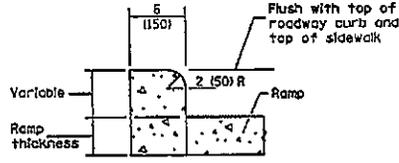


SECTION A-A

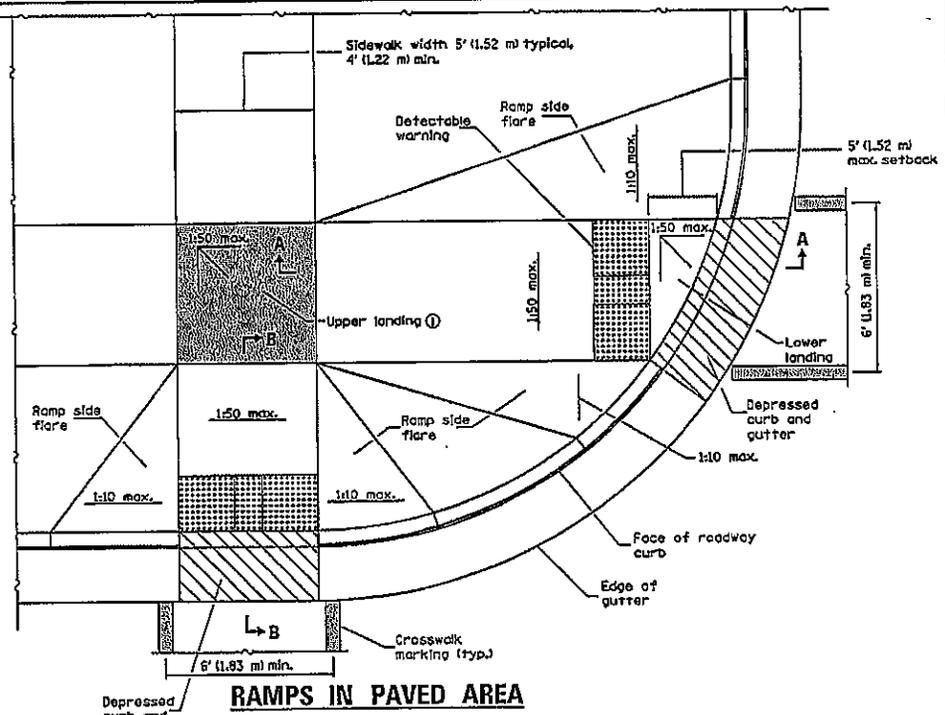
① Upper landing not required for ramp slopes flatter than 1:20.



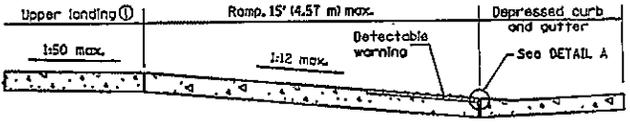
DETAIL A



SIDE CURB DETAIL



RAMPS IN PAVED AREA
SETBACK < 5'



SECTION B-B

① Upper landing not required for ramp slopes flatter than 1:20.

GENERAL NOTES

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

See Standard 606001 for details of depressed curb adjacent to curb ramp.

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

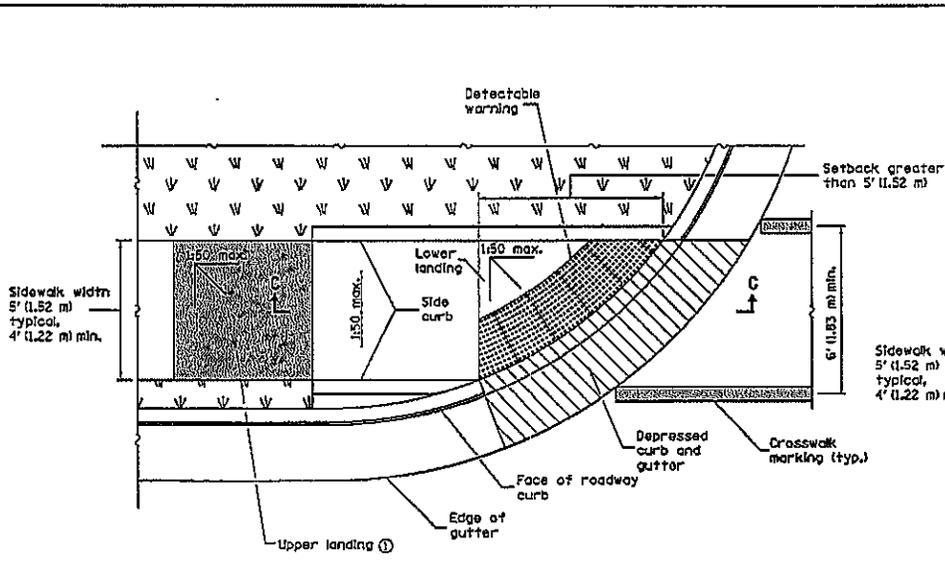
Tennessee Department of Transportation PASSED January 1, 2012 Michael Beard CHAIRMAN OF POLICY AND PROCEDURES APPROVED January 1, 2012 Scott Smith ENGINEER OF DESIGN AND ENVIRONMENT		STANDARD 424001-06 1-1-81
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DATE	REVISIONS
1-1-12	Completely revised and renamed standard.
1-1-08	Switched units to English (metric).

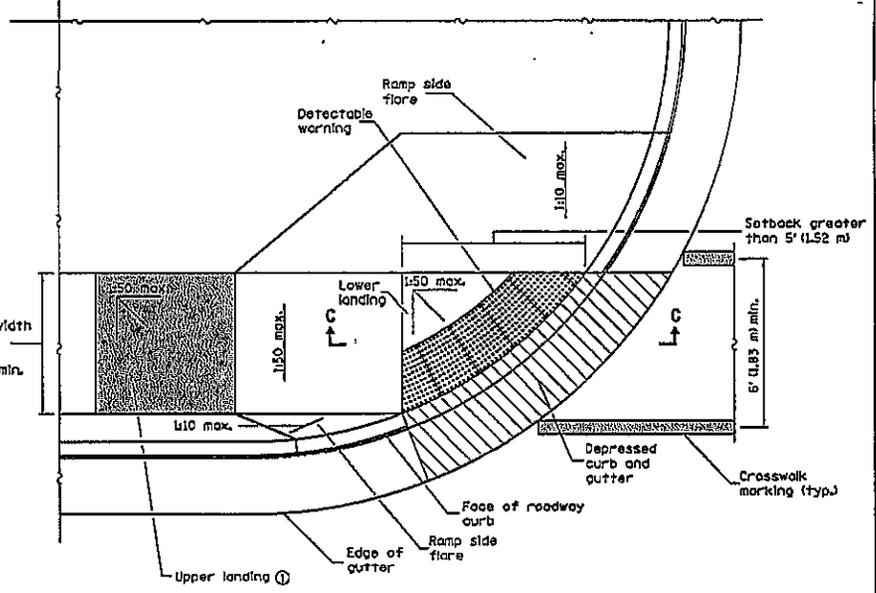
PERPENDICULAR CURB RAMPS FOR SIDEWALKS

(Sheet 1 of 2)

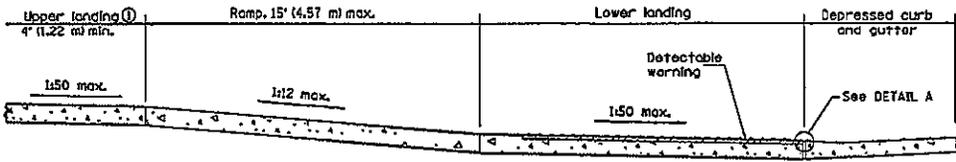
STANDARD 424001-06



**RAMP IN LANDSCAPED AREA
SETBACK > 5'**



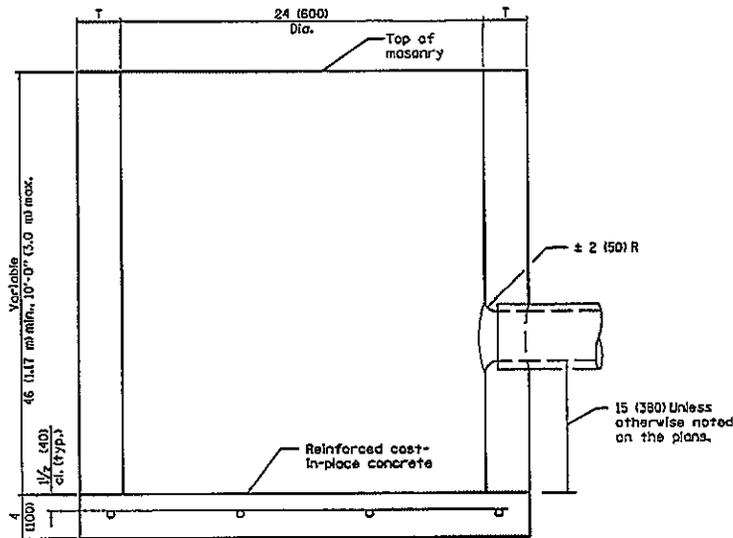
**RAMP IN PAVED AREA
SETBACK > 5'**



SECTION C-C
① Upper landing not required for ramp slopes flatter than 1:20.

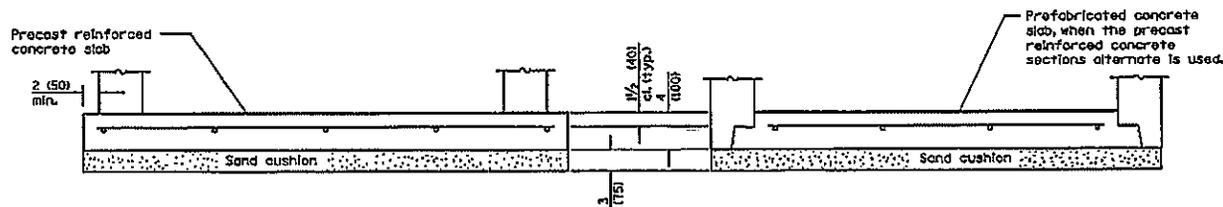
Illinois Department of Transportation
 PASSED January 1, 2012
Michael Beard
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED January 1, 2012
Scott S. Kelly
 ENGINEER OF DESIGN AND ENVIRONMENT

**PERPENDICULAR CURB RAMPS
FOR SIDEWALKS**
 (Sheet 2 of 2)
 STANDARD 424001-06



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)

ELEVATION



ALTERNATE BOTTOM SLAB

GENERAL NOTES

Bottom slabs shall be reinforced with a minimum of 0.27 sq. in./ft. (1570 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.

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

Illinois Department of Transportation

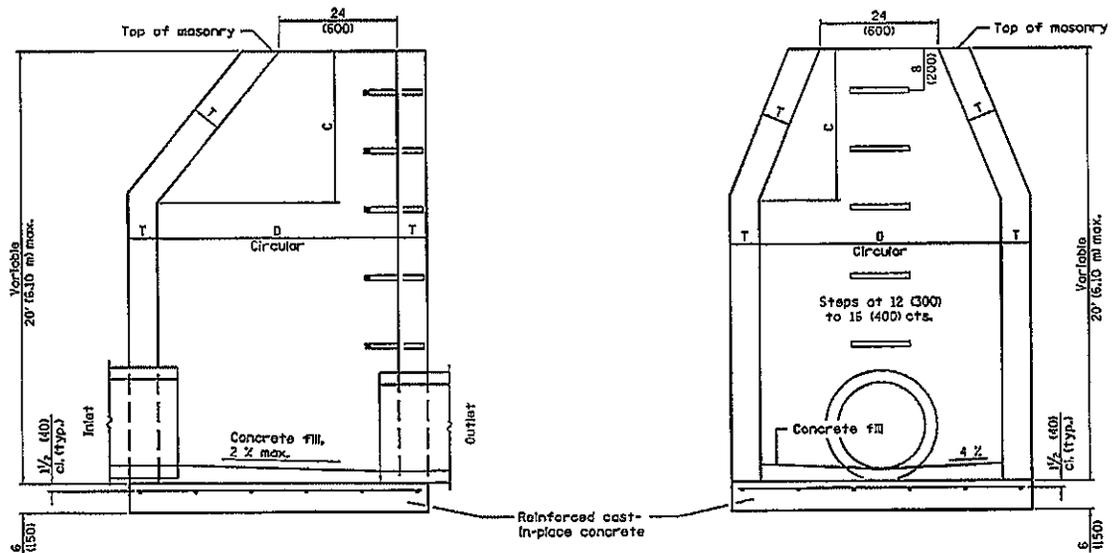
PASSED January 1, 2011

Michael Brand
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2011

ENGINEER OF DESIGN AND ENVIRONMENT

11-1-11 602011

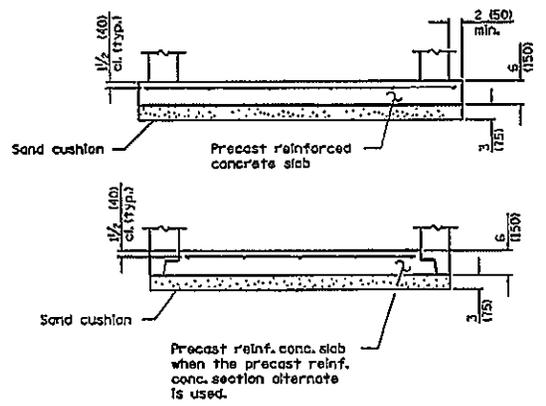


ELEVATION - ECCENTRIC

ELEVATION - CONCENTRIC

ALTERNATE MATERIALS FOR WALLS	D	C	T (min.)
Concrete Masonry Unit	4'-0" (1.2 m)	30 (750)	5 (125)
	5'-0" (1.5 m)	3'-9" (1.15 m)	5 (125)
Brick Masonry	4'-0" (1.2 m)	30 (750)	8 (200)
	5'-0" (1.5 m)	3'-9" (1.15 m)	8 (200)
Precast Reinforced Concrete Section	4'-0" (1.2 m)	30 (750)	4 (100)
	5'-0" (1.5 m)	3'-9" (1.15 m)	5 (125)
Cast-in-place Concrete	4'-0" (1.2 m)	30 (750)	6 (150)
	5'-0" (1.5 m)	3'-9" (1.15 m)	6 (150)

* For precast reinforced concrete sections, dimension "C" may vary from the dimension given to plus 6 (150).



ALTERNATE BOTTOM SLAB

GENERAL NOTES

Bottom slabs shall be reinforced with a minimum of 0.31 sq. in./ft. (660 sq. mm/m) in both directions with a maximum spacing of 12 (300).

Bottom slabs may be connected to the floor as determined by the fabricator; however, only a single row of reinforcement around the perimeter may be utilized.

See Standard 602701 for details of steps.

See Standard 602601 for optional Precast Reinforced Concrete Flat Slab Top.

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

MANHOLE TYPE A

STANDARD 602401-03

DATE	REVISIONS
1-1-11	Detailed rein. in slabs.
	Added max. limit to height.
	Revised general notes.
1-1-09	Switched units to
	English (metric).

Illinois Department of Transportation

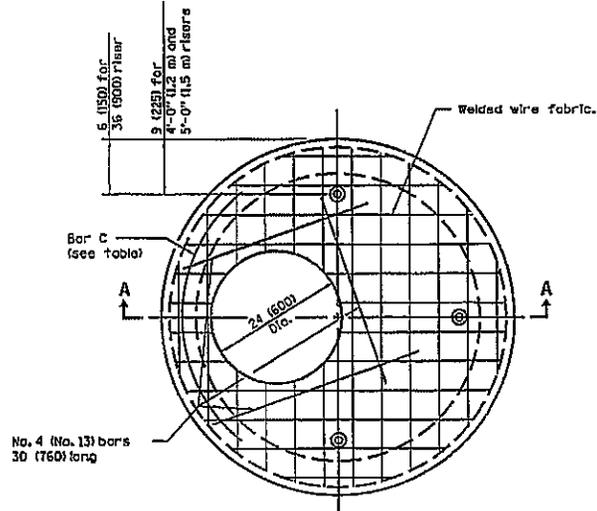
PASSED January 1, 2011

Michael Bond
ENGINEER OF POLICY AND PROCEDURES

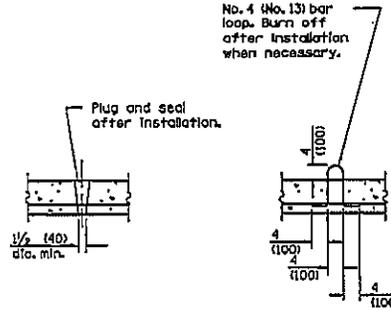
APPROVED January 1, 2011

[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

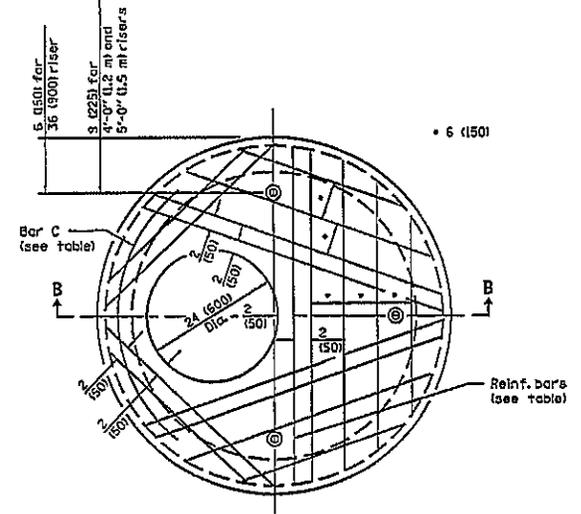
46-1-4 DESIGN



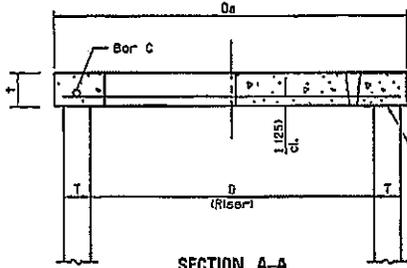
PLAN
(WELDED WIRE FABRIC)



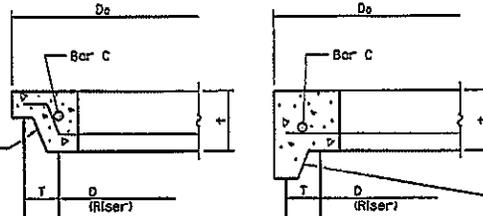
LIFTING HOLE OR LIFTING LOOP
TYPICAL
(3 required per slab)



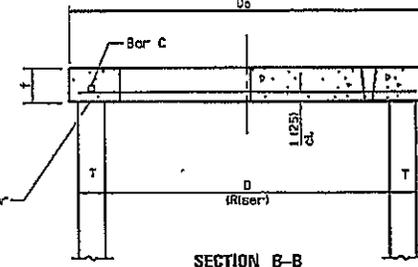
PLAN
(REINFORCEMENT BARS)



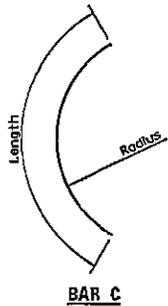
SECTION A-A



ALTERNATE JOINT CONFIGURATIONS



SECTION B-B



BAR C

TABLE

D	T	D _o (min.)	t	Reinforcement "A _s " W.W.F. OR Bar each direction	No. 4 (No. 13) Bar C Length/Radius
36 (900)	See applicable Standards	D + 2t	6 (150)	0.20 sq. in./ft. (425 sq. mm/m)	No. 4 (No. 13) 4'-0" (1.2 m) 19 (480)
4'-0" (1.2 m)			6 (150)	0.35 sq. in./ft. (740 sq. mm/m)	No. 5 (No. 16) 4'-6" (1.35 m) 26 (660)
5'-0" (1.5 m)			8 (200)	0.35 sq. in./ft. (740 sq. mm/m)	No. 5 (No. 16) 5'-0" (1.5 m) 32 (810)

GENERAL NOTES

The flat slab top may be used in lieu of the tapered tops shown on Standards 602001, 602011, 602016, 602305, 602401, or 602501 at the option of the Contractor or when field conditions prohibit the use of tapered tops.

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

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-07	Soft converted metric reinforcement bars.

**PRECAST REINFORCED
CONCRETE FLAT SLAB TOP**

STANDARD 602601-02

Illinois Department of Transportation

PASSED January 1, 2009

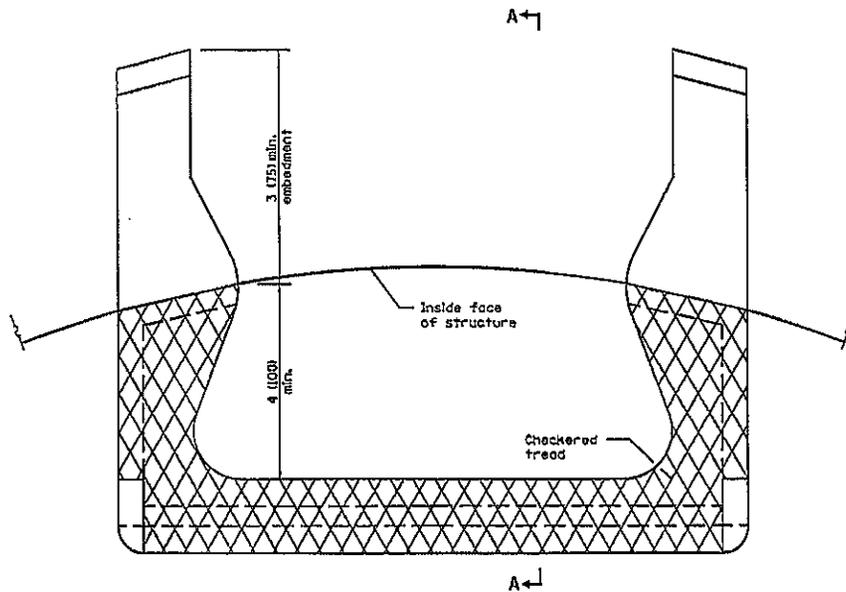
ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2009

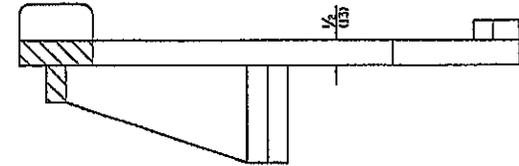
ENGINEER OF DESIGN AND ENVIRONMENT

1/E-1-1 000011

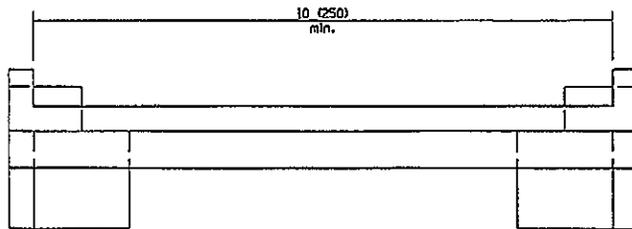
CAST IRON STEPS



PLAN VIEW



SECTION A-A



ELEVATION VIEW

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

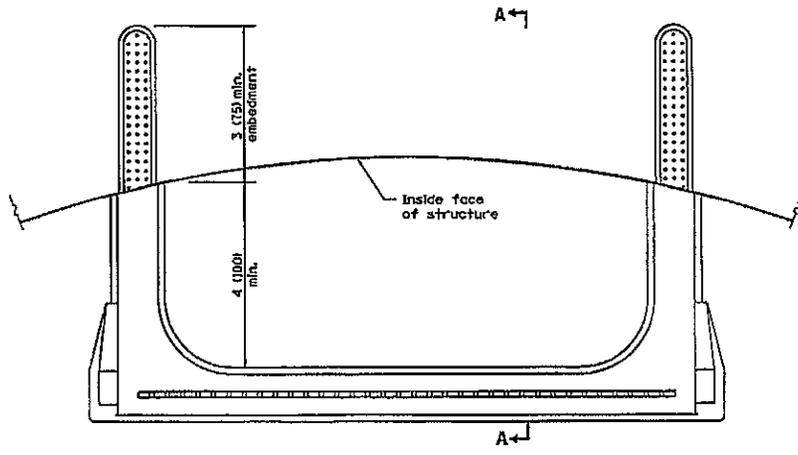
Illinois Department of Transportation	
PASSED	January 1, 2009
ENGINEER OF POLICY AND PROCEDURES	<i>[Signature]</i>
APPROVED	January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT	<i>[Signature]</i>
DESIGN	1-1-09

DATE	REVISIONS
1-1-09	Switched units to English (metric).
4-1-06	Revised title, drawings, and added plastic steps on sheet 2.

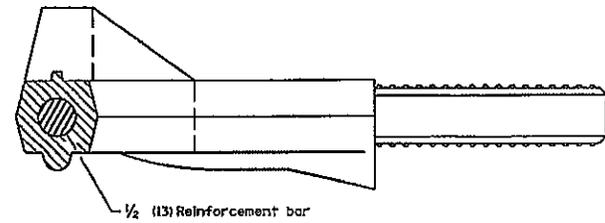
MANHOLE STEPS

(Sheet 1 of 2)

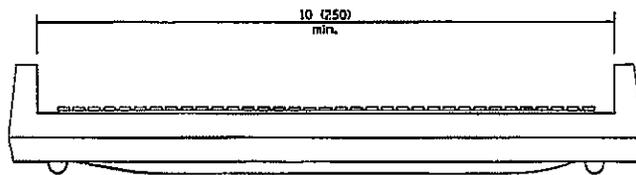
STANDARD 602701-02



PLAN VIEW



SECTION A-A



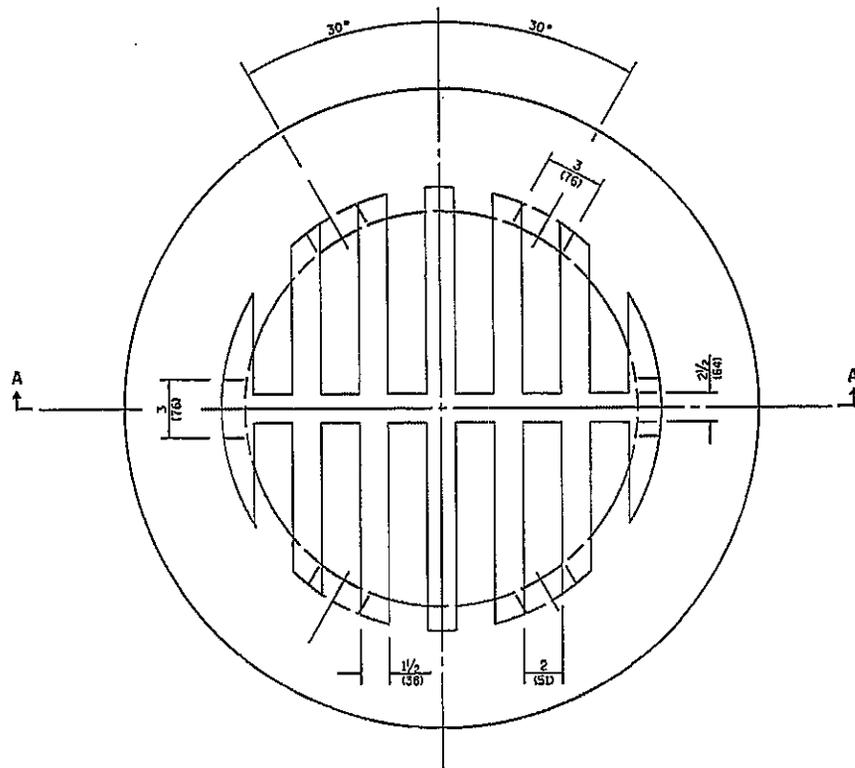
ELEVATION VIEW

MANHOLE STEPS

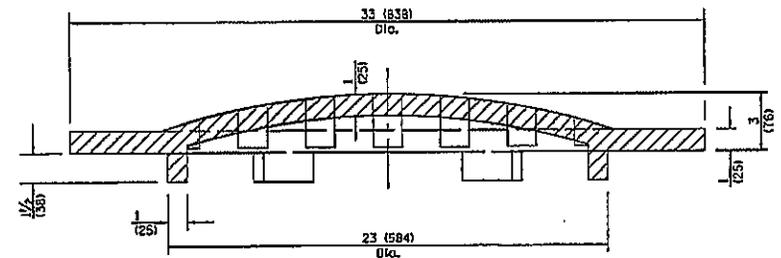
(Sheet 2 of 2)

STANDARD 602701-02

Minnesota Department of Transportation	
PASSED	January 1, 2009
ENGINEER OF POLICY AND PROCEDURES	<i>[Signature]</i>
APPROVED	January 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT	<i>[Signature]</i>
ISSUED	1-1-09



CAST GRATE



SECTION A-A

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

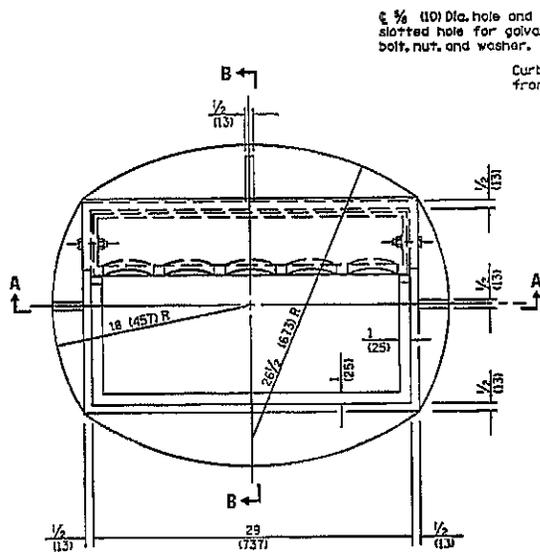
Illinois Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

16-1-1 020321

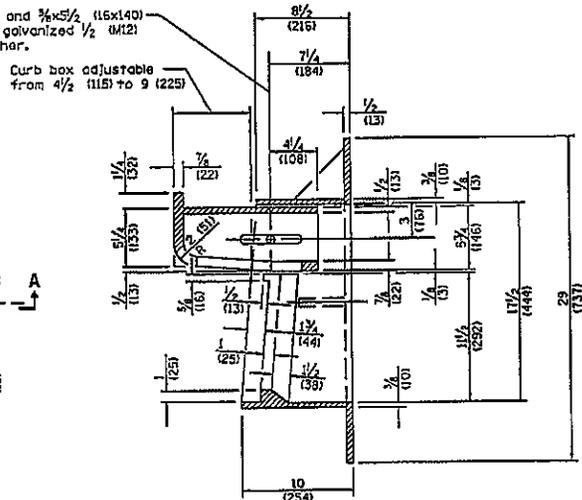
DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-04	Removed weights.

GRATE TYPE 8

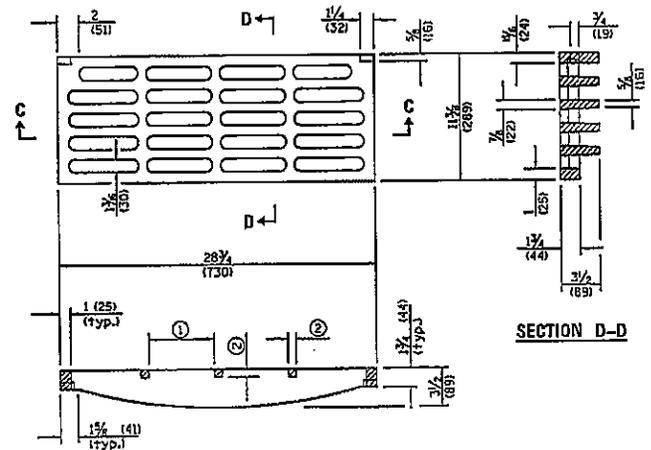
STANDARD 604036-02



CAST FRAME



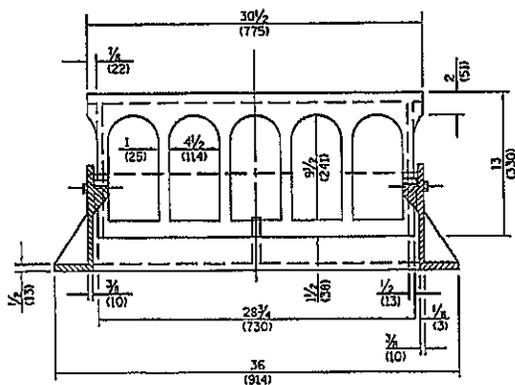
SECTION B-B



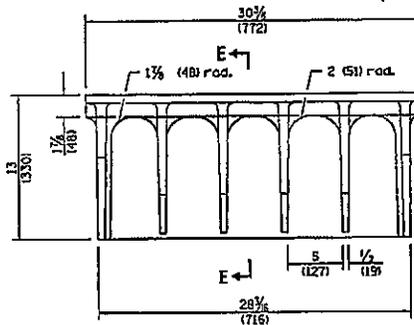
SECTION C-C

SECTION D-D

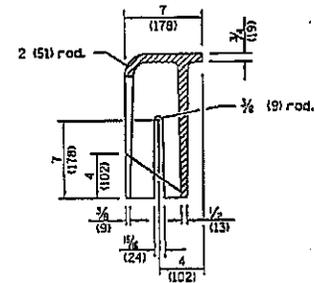
- ① = 5/4 (159) max. (typ.)
- ② = 3/4 (19) min. (typ.)



SECTION A-A



ALTERNATE CURB BOX



SECTION E-E

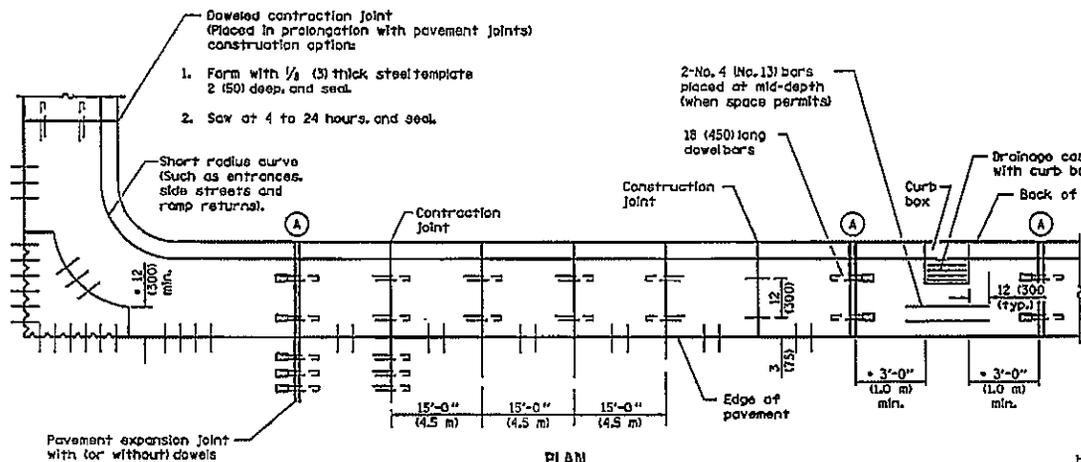
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

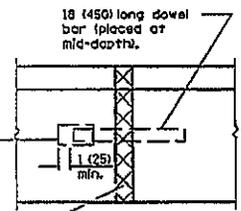
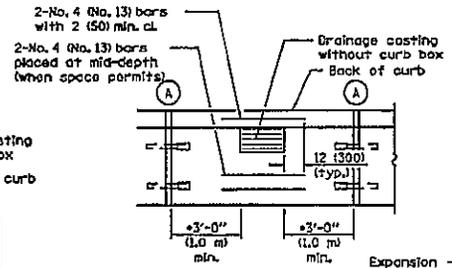
DATE	REVISIONS
4-1-09	Switched units to English (metric).
4-1-06	Added alternate curb box.

**FRAME AND GRATE
 TYPE 11**

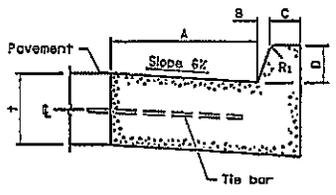
STANDARD 604051-03



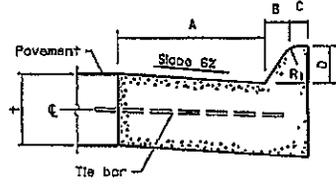
PLAN
ADJACENT TO PCC PAVEMENT OR PCC BASE COURSE



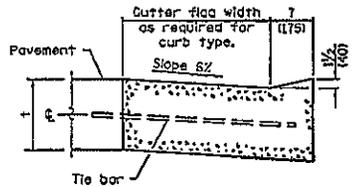
DETAIL (A)
EXPANSION JOINT



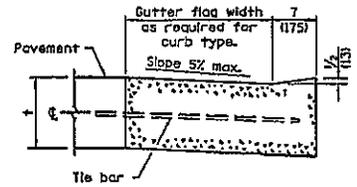
BARRIER CURB



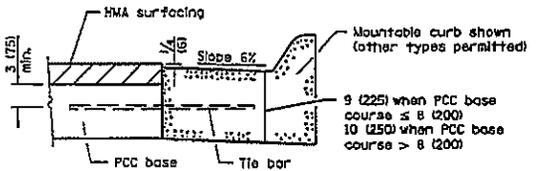
MOUNTABLE CURB



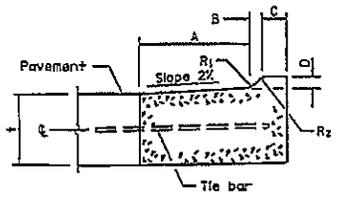
DEPRESSED CURB (TYPICAL)



DEPRESSED CURB ADJACENT TO CURB RAMP ACCESSIBLE TO THE DISABLED



ADJACENT TO PCC BASE COURSE WITH HMA SURFACING



M-2.06 (M-5.15) and M-2.12 (M-5.30)

TABLE OF DIMENSIONS BARRIER CURB					
TYPE	A	B	C	D	R1
B-6.12 (B-15.3)	12 (300)	1 (25)	6 (150)	6 (150)	1 (25)
B-6.18	18 (450)	1 (25)	6 (150)	6 (150)	1 (25)
B-6.24	24 (600)	1 (25)	6 (150)	6 (150)	1 (25)
B-9.12	12 (300)	2 (50)	9 (225)	9 (225)	1 (25)
B-9.18	18 (450)	2 (50)	9 (225)	9 (225)	1 (25)
B-9.24	24 (600)	2 (50)	9 (225)	9 (225)	1 (25)

TABLE OF DIMENSIONS MOUNTABLE CURB							
TYPE	A	B	C	D	R1	R2	
M-2.06 (M-5.15)	6 (150)	2 (50)	4 (100)	2 (50)	3 (75)	2 (50)	
M-2.12	12 (300)	2 (50)	4 (100)	2 (50)	3 (75)	2 (50)	
M-4.06	6 (150)	4 (100)	3 (75)	4 (100)	3 (75)	NA	
M-4.12	12 (300)	4 (100)	3 (75)	4 (100)	3 (75)	NA	
M-4.18	18 (450)	4 (100)	3 (75)	4 (100)	3 (75)	NA	
M-4.24	24 (600)	4 (100)	3 (75)	4 (100)	3 (75)	NA	
M-6.06	6 (150)	6 (150)	2 (50)	6 (150)	2 (50)	NA	
M-6.12	12 (300)	6 (150)	2 (50)	6 (150)	2 (50)	NA	
M-6.18	18 (450)	6 (150)	2 (50)	6 (150)	2 (50)	NA	
M-6.24	24 (600)	6 (150)	2 (50)	6 (150)	2 (50)	NA	

Illinois Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-07	Switched to Hot-Mix Asphalt (HMA) terminology.

GENERAL NOTES

The bottom slope of combination curb and gutter constructed adjacent to pcc pavement shall be the same slope as the subbase or 6% when subbase is omitted.

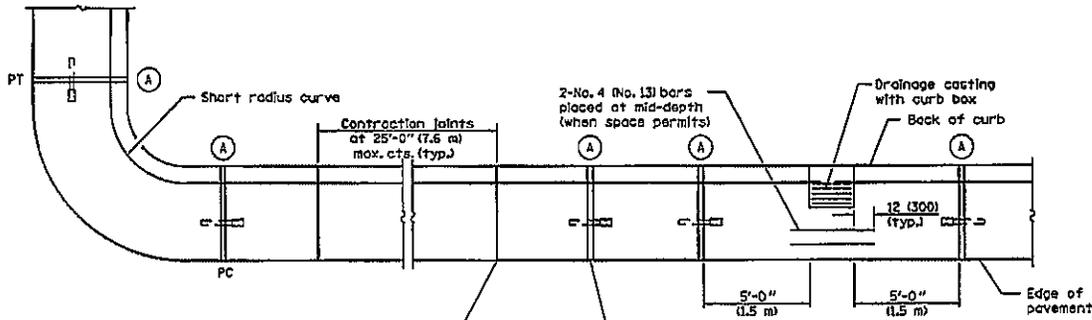
+ = Thickness of pavement.

Longitudinal joint tie bars shall be No. 6 (No. 19) at 24 (600) centers in accordance with details for longitudinal construction joint shown on Standard 42000L.

A minimum clearance of 2 (50) between the end of the tie bar and the back of the curb shall be maintained.

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

CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
 (Sheet 1 of 2)
STANDARD 606001-04

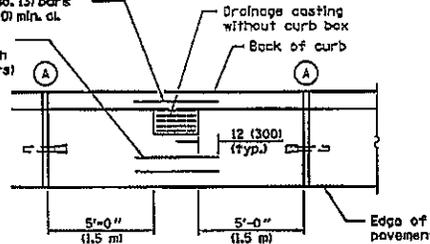


Undeveled contraction joint (typ.) construction options:

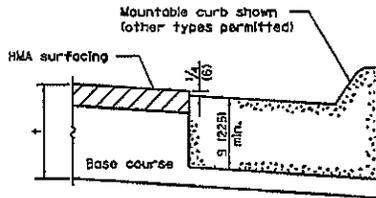
1. Form with $\frac{1}{8}$ (3) thick steel template 2 (50) deep, and seal.
2. Saw 2 (50) deep at 4 to 24 hours, and seal.
3. Insert $\frac{3}{4}$ (20) thick preformed joint filler full depth and width.

Construction joint
2-No. 4 (No. 13) bars with 2 (50) min. cl.

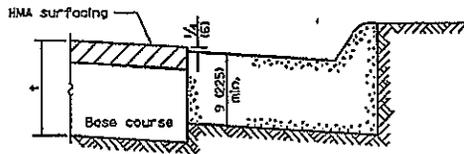
2-No. 4 (No. 13) bars placed at mid-depth (when space permits)



PLAN

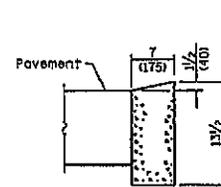


ON DISTURBED SUBGRADE

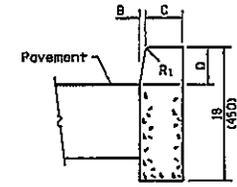


ON UNDISTURBED SUBGRADE

ADJACENT TO FLEXIBLE PAVEMENT

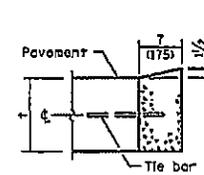


DEPRESSED CURB

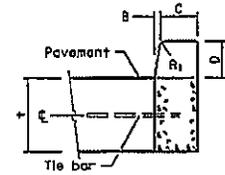


BARRIER CURB

ADJACENT TO FLEXIBLE PAVEMENT



DEPRESSED CURB



BARRIER CURB

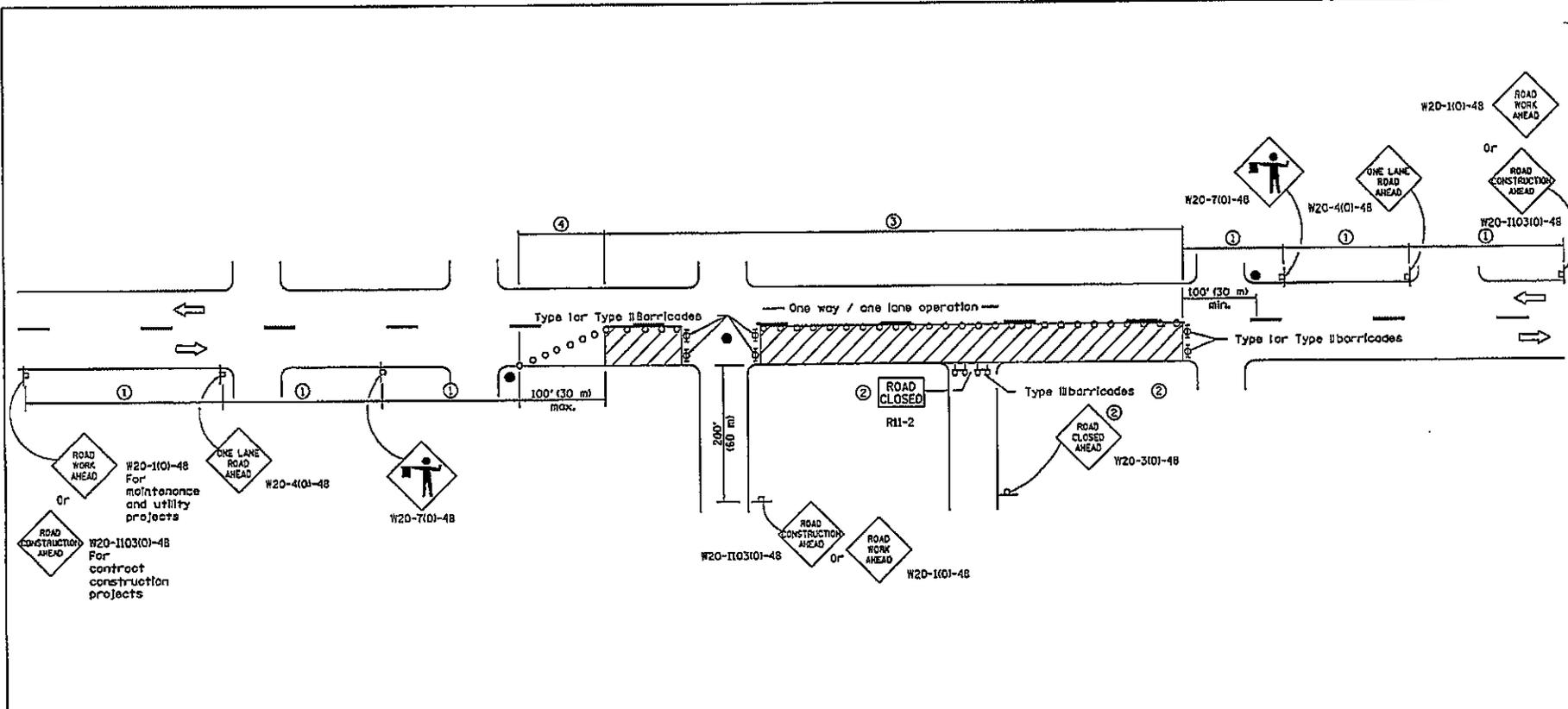
ADJACENT TO PCC PAVEMENT OR PCC BASE COURSE

CONCRETE CURB TYPE B

Minnesota Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

**CONCRETE CURB TYPE B
 AND COMBINATION
 CONCRETE CURB AND GUTTER**
 (Sheet 2 of 2)

STANDARD 606001-04



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.

Dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2011
Thomas C. Baker
 ENGINEER OF SAFETY ENGINEERING

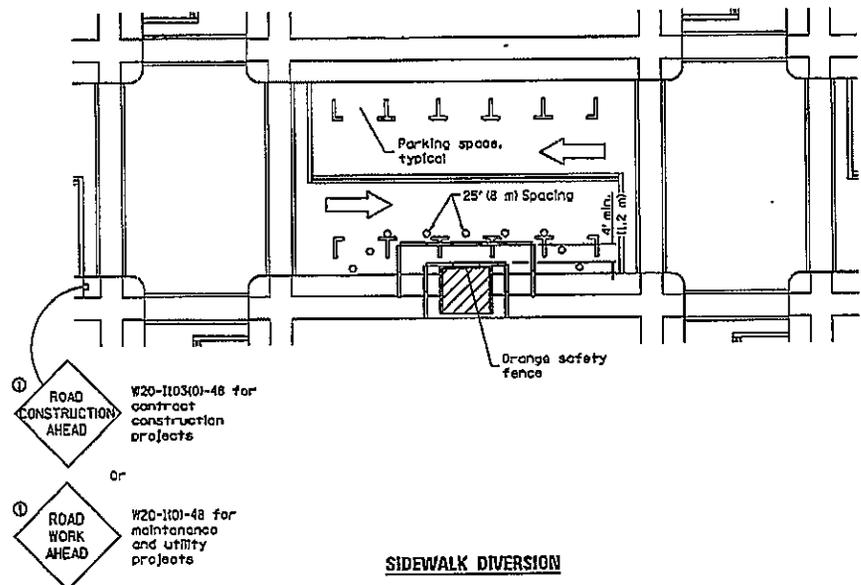
APPROVED January 1, 2011
John S. Smith
 ENGINEER OF DESIGN AND ENVIRONMENT

18-2-1 (01/01)

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).
	Corrected sign No.'s.

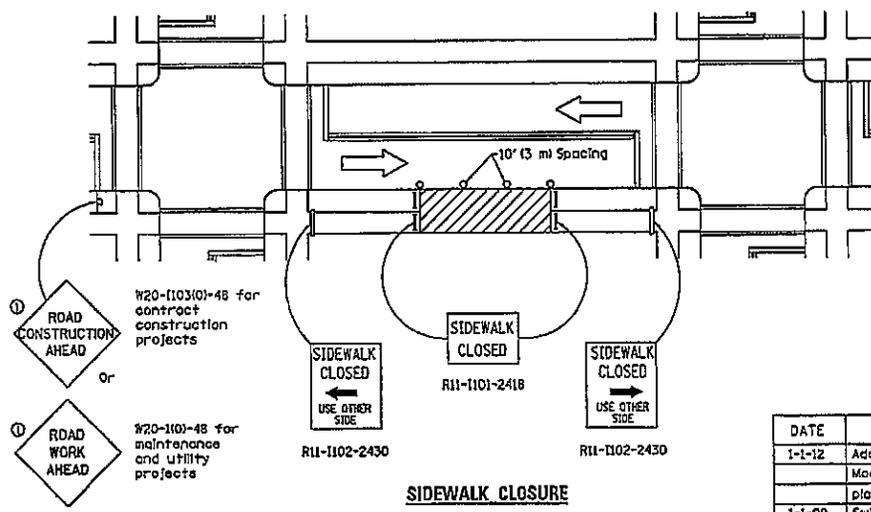
**URBAN LANE CLOSURE,
2L, 2W, UNDIVIDED**

STANDARD 701501-06



SIDEWALK DIVERSION

- SYMBOLS**
- Work area
 - Sign on portable or permanent support
 - Barricade or drum
 - Cone, drum or barricade
 - Type III barricade
 - Detectable pedestrian channelizing barricade



SIDEWALK CLOSURE

GENERAL NOTES

This Standard is used where, at any time, pedestrian traffic must be rerouted due to work being performed.

This Standard must be used in conjunction with other Traffic Control & Protection Standards when roadway traffic is affected.

Temporary facilities shall be detectable and accessible.

The temporary pedestrian facilities shall be provided on the same side of the closed facilities whenever possible.

The SIDEWALK CLOSED / USE OTHER SIDE sign shall be placed at the nearest crosswalk or intersection to each end of the closure. Where the closure occurs at a corner, the signs shall be erected on the corners across the street from the closure. The SIDEWALK CLOSED signs shall be used at the ends of the actual closures.

Type III barricades and R11-2-4830 signs shall be positioned as shown in "ROAD CLOSED TO ALL TRAFFIC" detail on Standard 701901.

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

Illinois Department of Transportation

APPROVED January 1, 2012
James P. Ryan
 ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2012
Scott H. ...
 ENGINEER OF DESIGN AND ENVIRONMENT

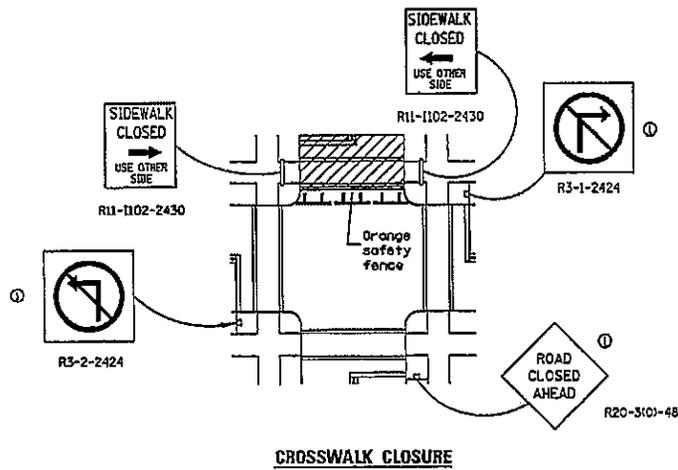
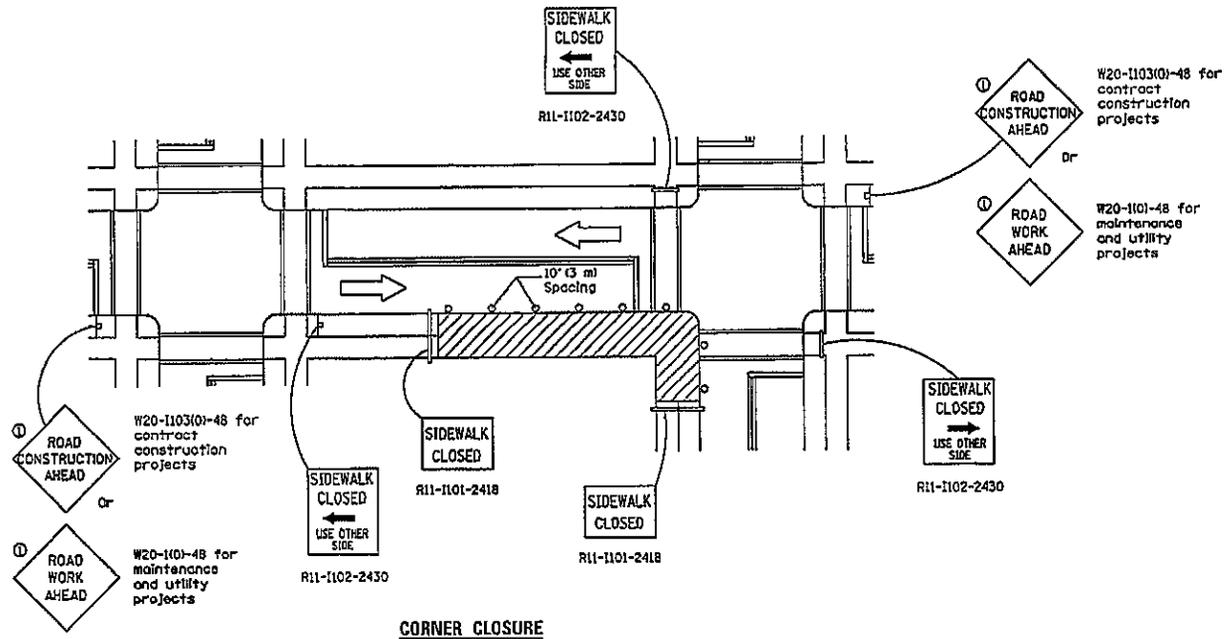
18-1-1 (02/05)

DATE	REVISIONS
1-1-12	Added SIDEWALK DIVERSION.
	Modified appearance of
	plan views. Renamed Std.
1-1-09	Switched units to
	English (metric).
	702001 to 701901.

SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 1 of 2)

STANDARD 701801-05



Illinois Department of Transportation

APPROVED January 1, 2012
[Signature]
 ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2012
[Signature]
 ENGINEER OF DESIGN AND ENVIRONMENT

46-1-1 (REVISED)

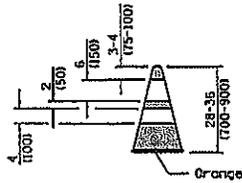
SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 2 of 2)

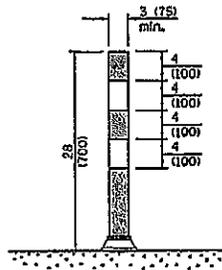
STANDARD 701801-05



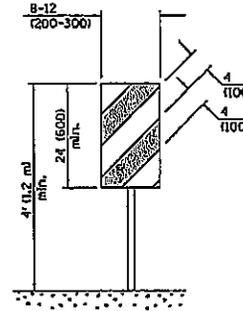
CONE



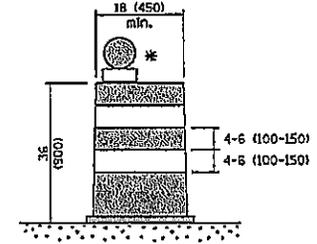
REFLECTORIZED CONE



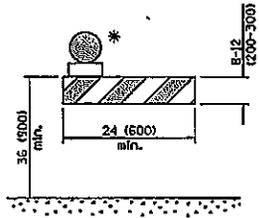
FLEXIBLE DELINEATOR



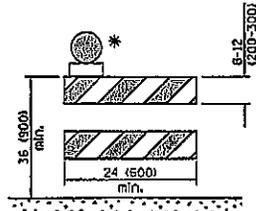
**VERTICAL PANEL
POST MOUNTED**



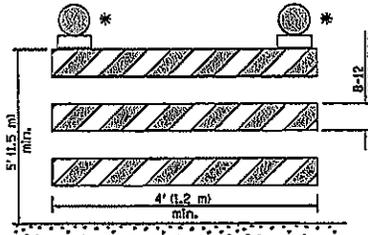
DRUM



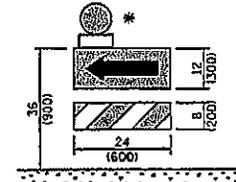
TYPE I BARRICADE



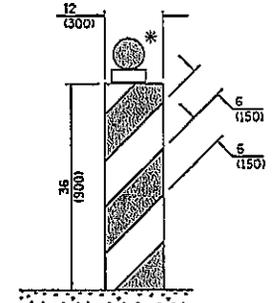
TYPE II BARRICADE



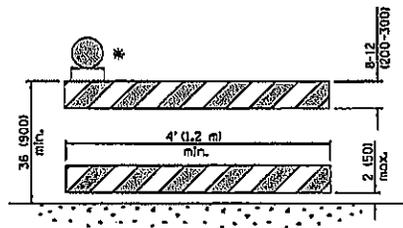
TYPE III BARRICADE



**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.

**TRAFFIC CONTROL
DEVICES**

(Sheet 1 of 3)

STANDARD 701901-02

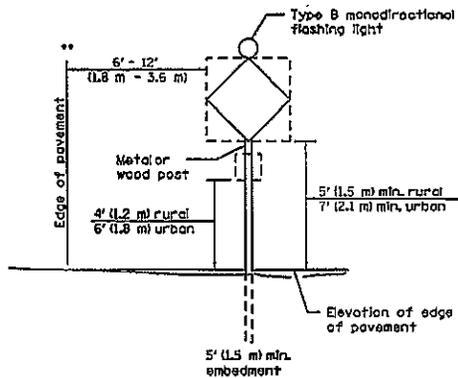
DATE	REVISIONS
1-1-12	Added DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE.
1-1-09	Switched units to English (metric). Omitted light on vertical panel.

Illinois Department of Transportation

APPROVED: *[Signature]* January 1, 2012
 ENGINEER OF OPERATIONS

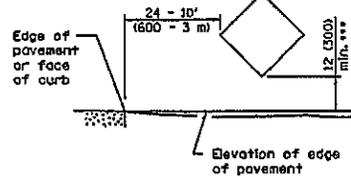
APPROVED: *[Signature]* January 1, 2012
 ENGINEER OF DESIGN AND ENVIRONMENT

16-E-1 02/15/03



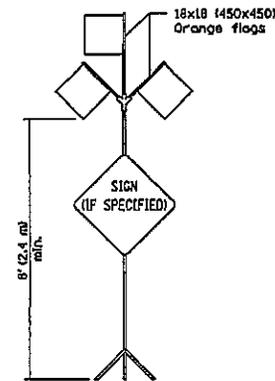
POST MOUNTED SIGNS

** 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.

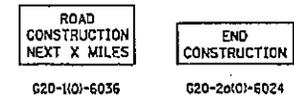


SIGNS ON TEMPORARY SUPPORTS

*** 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 by motorists.



HIGH LEVEL WARNING DEVICE



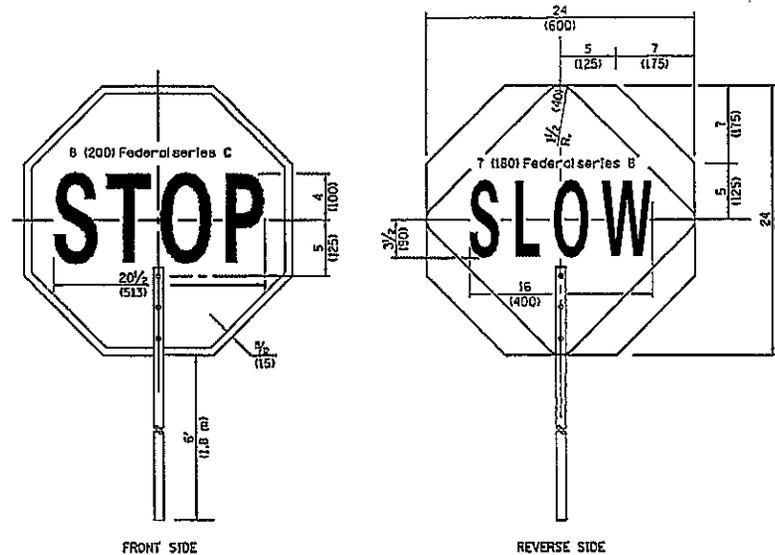
This signing is required for all projects 2 miles (3200 m) or more in length.

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



FLAGGER TRAFFIC CONTROL SIGN

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

TRAFFIC CONTROL DEVICES

(Sheet 2 of 3)

STANDARD 701901-02

Illinois Department of Transportation

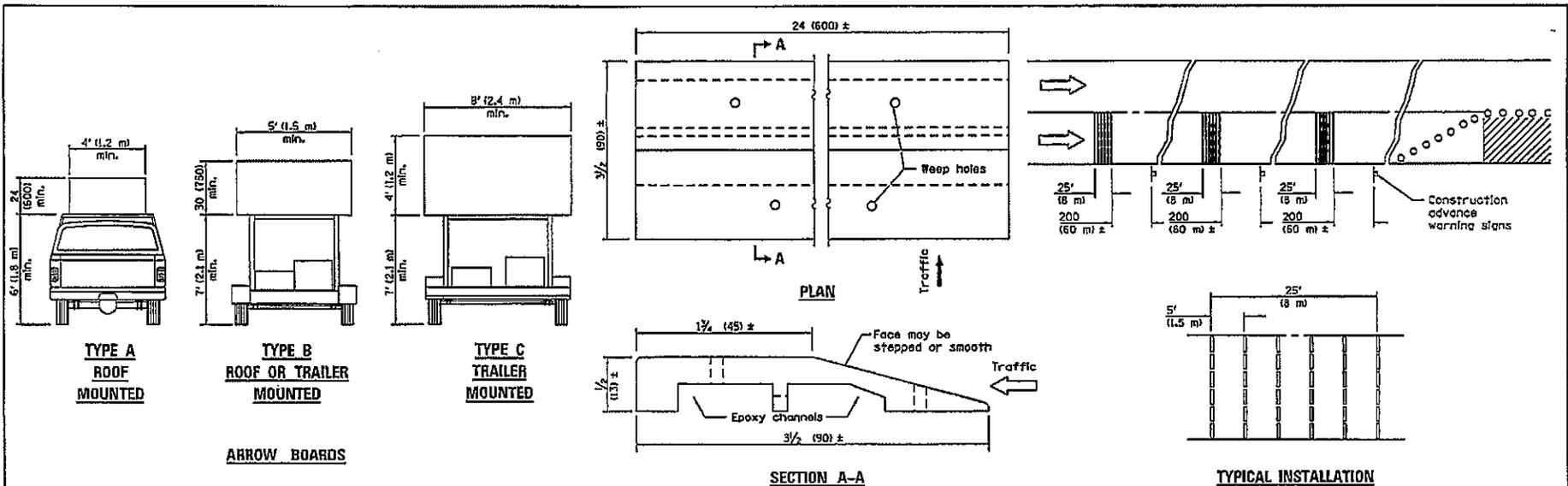
APPROVED January 1, 2012

ENGINEER OF OPERATIONS

APPROVED January 1, 2012

ENGINEER OF DESIGN AND ENVIRONMENT

26-1-4 001/51



**TYPE A
ROOF
MOUNTED**

**TYPE B
ROOF OR TRAILER
MOUNTED**

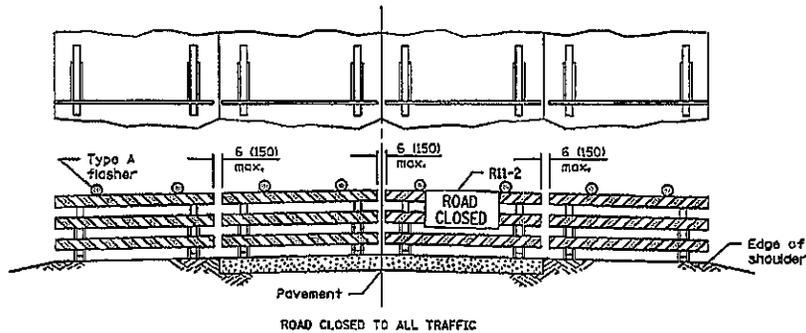
**TYPE C
TRAILER
MOUNTED**

ARROW BOARDS

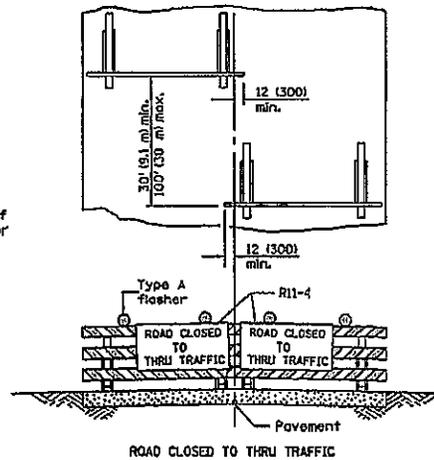
SECTION A-A

TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



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.



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.

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

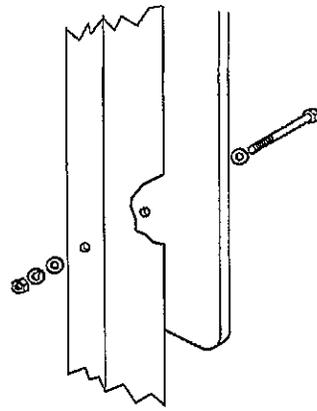
**TRAFFIC CONTROL
DEVICES**

(Sheet 3 of 3)

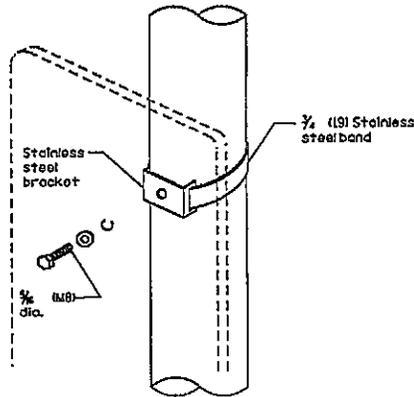
STANDARD 701901-02

Texas Department of Transportation
 APPROVED January 1, 2012
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2012
 ENGINEER OF DESIGN AND ENVIRONMENT

**TYPICAL APPLICATIONS OF
TYPE III BARRICADES CLOSING A ROAD**

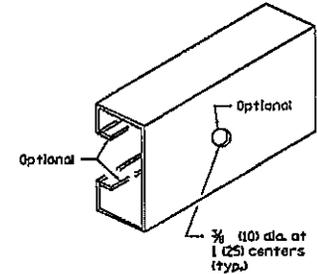
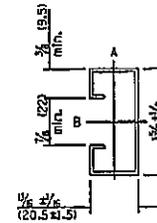


Sign panel 36 (900) wide or less

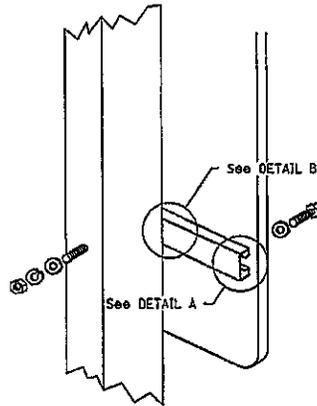


Sign panel 36 (900) wide or less

Section modulus (minimum)	Axis A	Axis B
Steel	0.050 in. ³ (819 mm ³)	0.105 in. ³ (1720 mm ³)
Aluminum	0.150 in. ³ (2458 mm ³)	0.315 in. ³ (5162 mm ³)

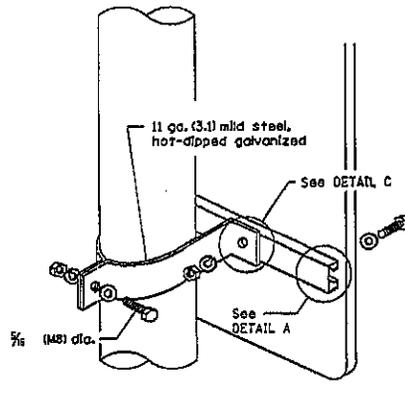


SUPPORTING CHANNEL DETAILS



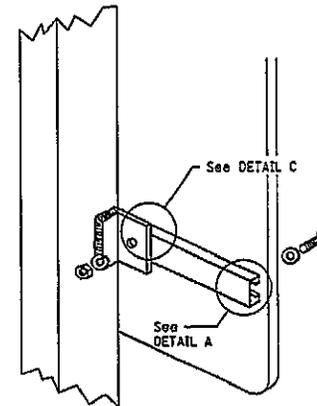
Sign panel over 36 (900) wide

WOOD OR TELESCOPING STEEL POSTS

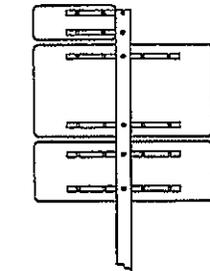


Sign panel over 36 (900) wide

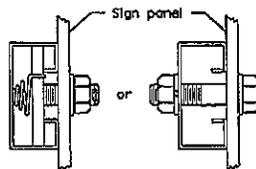
LIGHT OR SIGNAL STANDARDS



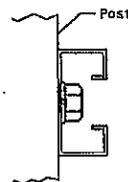
BREAKAWAY STEEL TUBING POSTS
(As sign panel sizes)



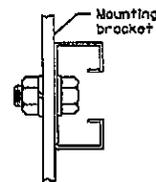
ROUTE MARKER ASSEMBLY



DETAIL A



DETAIL B



DETAIL C

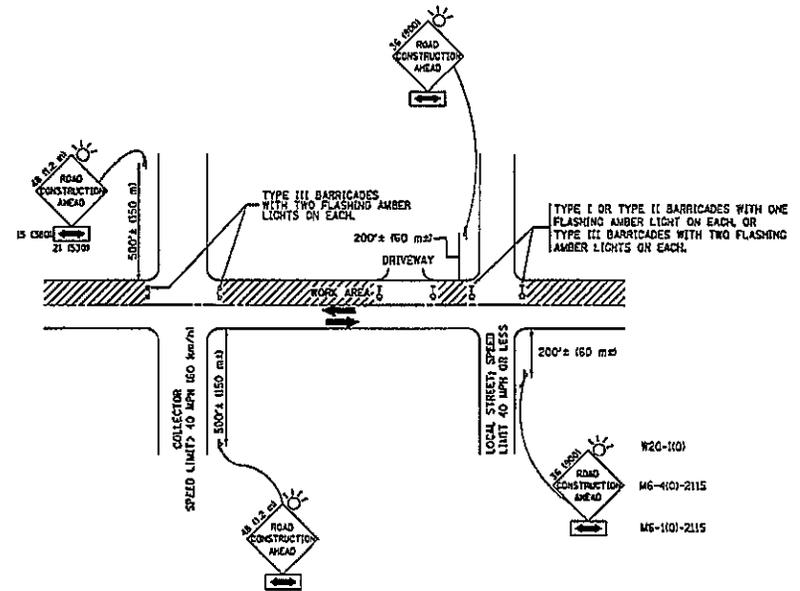
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
 APPROVED January 1, 2009
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

15203
 48-1-1 02/03

DATE	REVISIONS
1-1-09	Switched units to English (metric)
1-1-97	Renum. Standard 2319-6.

SIGN PANEL MOUNTING DETAILS	
STANDARD 720001-01	



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

- A. FOR NO LAWE RESTRICTION ON THE SIDE ROAD OR DRIVEWAY
 - 1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER
 - a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
 - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
 - 2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER
 - a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (12 m x 12 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
 - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
 - 3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE STOPPING AND THE WORK ZONE, A SINGLE HEADED ARROW W46-11 SHALL BE USED IN LEFT OF THE DOUBLE HEADED ARROW W46-11.
- B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY
 - 1. USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 7050.01, STD. 7050.02 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE OMITTED OR ADJUSTED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
 - 2. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
 - 3. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in millimeters unless otherwise shown.

FILE NAME =	USER NAME = gog/hh/mb	DESIGNED = LHA	REVISED = J. OSBORN 10-18-95
WORKBOOK/2207/100/100/100		DRAWN =	REVISED = A. HOUSEN 03-08-96
		PLT SCALE = 3/16" = 1" PL	CHECKED =
		PLT DATE = 1/1/2000	DATE = 05-89
			REVISED = A. HOUSEN 10-18-95
			REVISED = T. RAMMACHER 01-05-00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: NONE	SHEET NO. 1 OF 1	SHEETS 1 STA.	TO STA.
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7E-10			
CONTRACT NO.		ILL. ROAD DIST. NO. 1 (UNDR) (7E) AD. PROJECT	



RETURN WITH BID

Route Gladiola Avenue
County Cook & DuPage
Local Agency Village of Hanover Park
Section 12-00061-00-FP

1. Proposal of Schroeder Asphalt Services, Inc.
P.O. Box 831, Huntley, IL 60142

for the improvement of the above section by the construction of
Street reconstruction, including earth excavation, construction of storm sewers and appurtenances,
combination curb & gutter, aggregate base course, bituminous surface and binder course,
portland cement concrete sidewalks and driveways.

a total distance of 1095.00 feet, of which a
distance of 1095.00 feet, (0.210 miles) are to be improved.

2. The plans for the proposed work are those prepared by Howard Killian, P.E. Director of Public Works,
the Village of Hanover Park and approved by the Department of Transportation on

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 40 working days or by
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 [X] will [] will not be allowed as proposal
guaranties. Accompanying this proposal is either a bid bond if allowed, on Department form BLR 12230 or a proposal
guaranty check, complying with the specifications, made payable to: Treasurer of
Village Clerk of Hanover Park

the amount of the check is Bid Bond (5%)

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

8. 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 firm certifies that it has not been convicted of bribery or attempting to bribe an officer or employee of
the State of Illinois, 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. The undersigned firm further certifies that it is not barred
from contracting with any unit of State or local government as a result of a violation of State laws prohibiting bid-rigging
or bid-rotating.

12. The undersigned submits herewith the schedule of prices on BLR 12222 covering the work to be performed under this
contract.



Illinois Department of Transportation

Schedule of Prices

Route	Gladiola Avenue
County	Cook & DuPage
Local Agency	Village of Hanover Park
Section	12-00081-00-FP

RETURN WITH BID

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

Item No.	Items	Unit	Quantity	Unit Price	Total
1	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	186	22.45	4,596.20
2	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	553	32.80	18,138.40
3	EARTH EXCAVATION	CU YD	2,035	26.50	53,927.50
4	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	450	50.00	22,500.00
5	GEOTECH. FABRIC FOR GROUND SATABILIZATION	SQ YD	1,400	.75	1,050.00
6	TRENCH BACKFILL	CU YD	45	36.05	1,622.25
7	AGGREGATE FOR TEMPORARY ACCESS	TON	200	1.00	200.00
8	AGGREGATE BASE COURSE, TYPE A 10"	SQ YD	3,173	7.85	24,908.05
9	BITUMINOUS MATERIALS (PRIME COAT)	TON	5.1	1.00	5.10
10	AGGREGATE (PRIME COAT)	TON	19.1	.01	1.91
11	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	274	72.00	19,728.00
12	HOT-MIX ASPHALT BINDER COURSE, IL-19, N50	TON	639	65.00	41,535.00
13	PROTECTIVE COAT	SQ YD	675	1.10	742.50
14	STORM SEWERS, CLASS A, TYPE 1 12"	FOOT	17	41.20	700.40
15	STORM SEWERS, CLASS A, TYPE 1 16"	FOOT	75	57.20	4,290.00
16	MANHOLES, TY A 4'-DIA., TY 1 FRAME, CL	EACH	3	2,028.00	6,084.00
17	CATCH BASIN TYPE C, TY 8 GRATE	EACH	1	1,250.00	1,250.00
18	MANHOLES, TY A 4'-DIA. TY 11 F&G	EACH	2	2,185.00	4,370.00
19	PCC DRIVEWAY PAVEMENT, 6 INCH	SQ YD	733	30.00	21,990.00
20	COMBINATION CURB & GUTTER, TYPE B-6.12	FOOT	2,346	12.50	29,325.00
21	PCC SIDEWALK, 6 INCH	SQ FT	5,000	3.25	16,250.00
22	DETECTABLE WARNINGS	SQ FT	98	17.00	1,666.00
23	SIDEWALK REMOVAL	SQ FT	5,000	1.80	9,000.00
24	HYBRID ELM TREE, 3" DIAMETER	EACH	13	400.00	5,200.00
25	SKYLINE LOCUST TREE, 3" DIAMETER	EACH	13	400.00	5,200.00
26	CELEBRATION MAPLE TREE, 3" DIAMETER	EACH	13	400.00	5,200.00
27	INLET AND PIPE PROTECTION	EACH	8	50.00	400.00
28	SODDING, SPECIAL	SQ YD	2,210	7.25	16,022.50
29	SUPPLEMENTAL WATERING	UNIT	22	1.00	22.00
30	FIRE HYDRANTS TO BE ADJUSTED	EACH	1	800.00	800.00
31	TRAFFIC CONTROL AND PROTECTION	L SUM	1	3,000.00	3,000.00
32	BRICK PAVER DRIVEWAY REMOVAL & REPLACEMENT	SQ FT	217.8	6.30	1,372.14
33	CONSTRUCTION LAYOUT	L SUM	1	2,500.00	2,500.00
34	PIPE UNDERDRAIN, 4" DIAMETER	FOOT	110	20.00	2,200.00
Page Total (To be carried forward to Page)					320,761.20

- 0.19

- 1632.00

320,761.20



Illinois Department of Transportation

Signatures

RETURN WITH BID

Route Gladiola Avenue
County Cook & DuPage
Local Agency Village of Hanover Par
Section 12-00061-00-FP

(If an individual)

Signature of Bidder
Business Address

(If a partnership)

Firm Name
Signed By
Business Address

Insert Names and Addresses of All Partners

[List of lines for partner names and addresses]

(If a corporation)

Corporate Name Schroeder Asphalt Services, Inc.
Signed By [Signature] President
Business Address P.O. Box 831
Huntley, IL 60142



Insert Names of Officers

President Karen Schroeder
Secretary Micah Higgins
Treasurer Karen Schroeder

Attest: [Signature] Secretary



Apprenticeship or Training Program Certification

Return with Bid

Route Gladlola Avenue
County
Local Agency
Section

All contractors are required to complete the following certification:

[X] 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:

Blank lines for listing deliver and install groups.

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:

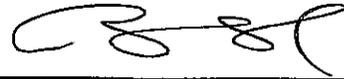
- I. Except as provided in paragraph IV below, the undersigned bidder certifies that it is a participant, either as an individual or as part of a group program, in an approved apprenticeship or training program applicable to each type of work or craft that the bidder will perform with its own employees.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

International Brotherhood of Teamsters. Joint Council No. 25 Training Fund.
Chicagoland Laborers' Training & Apprenticeship Program
Operating Engineers Local 150 Apprenticeship & Training Program

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: Schroeder Asphalt Services, Inc. By: _____



(Signature)

Address: P.O. Box 831, Huntley, IL 60142

Title: Brent Schroeder/ Vice President

1. THIS AGREEMENT, made and concluded the _____ day of May, 2012 _____
Month and Year
between the Village _____ of Hanover Park _____
acting by and through its Village Manager _____ known as the party of the first part, and
Schroeder Asphalt Services, Inc. _____ 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 Notice to Contractors, Special Provisions, Proposal and Contract Bond hereto attached, and the Plans for Section 12-00061-00-FP _____
in the Village of Hanover Park _____, approved by the Department of Transportation of the
State of Illinois _____, N/A _____, are essential documents of this contract and are a part hereof.
Date

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

Attest:
Eena A. Careef Clerk
(Seal)

The Village of Hanover Park
By [Signature]
Party of the First Part
(If a Corporation)

Corporate Name Schroeder Asphalt Services, Inc.
By [Signature]
President Party of the Second Part
(If a Co-Partnership)

Attest:
[Signature]
Secretary

Partners doing Business under the firm name of

Party of the Second Part

(If an individual)

Party of the Second Part

IN TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers this 3rd day of May A.D. 2012

PRINCIPAL

Schroeder Asphalt Services Inc. _____
(Company Name) (Company Name)
By: Brent Schroeder Vice President _____
(Signature & Title) (Signature & Title)
Attest: Melissa King Secretary _____
(Signature & Title) (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 McHenry
I, JENNIFER GROVES

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

BRENT SCHROEDER

(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 3RD day of MAY A.D. 2012

My commission expires MAY 17, 2015

Jennifer Groves
Notary Public



SURETY

West Bend Mutual Insurance Company
(Name of Surety)

By: Eva Castillo
(Signature of Attorney-in-Fact)

STATE OF ILLINOIS,
COUNTY OF Boone

(SEAL)

I, Nora K. Salisbury
Eva Castillo

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

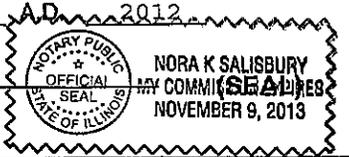
(Insert names of individuals signing on behalf or SURETY)

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 3rd day of May A.D. 2012

My commission expires 11/09/2013

Nora K. Salisbury
Notary Public



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

Attest: Eva J. Connal
Clerk

(Awarding Authority)
Paul J. [Signature]
(Chairman/Mayor/President)



0851823

Power of Attorney

Know all men by these Presents, That West Bend Mutual Insurance Company, a corporation having its principal office in the City of West Bend, Wisconsin does make, constitute and appoint:

EVA CASTILLO

lawful Attorney(s)-in-fact, to make, execute, seal and deliver for and on its behalf as surety and as its act and deed any and all bonds, undertakings and contracts of suretyship, provided that no bond or undertaking or contract of suretyship executed under this authority shall exceed in amount the sum of: Six Million Dollars (\$6,000,000)

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of West Bend Mutual Insurance Company at a meeting duly called and held on the 21st day of December, 1999.

Appointment of Attorney-In-Fact. The president or any vice president, or any other officer of West Bend Mutual Insurance Company may appoint by written certificate Attorneys-in-Fact to act on behalf of the company in the execution of and attesting of bonds and undertakings and other written obligatory instruments of like nature. The signature of any officer authorized hereby and the corporate seal may be affixed by facsimile to any such power of attorney or to any certificate relating therefore and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the company, and any such power so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the company in the future with respect to any bond or undertaking or other writing obligatory in nature to which it is attached. Any such appointment may be revoked, for cause, or without cause, by any said officer at any time.

In witness whereof, the West Bend Mutual Insurance Company has caused these presents to be signed by its president undersigned and its corporate seal to be hereto duly attested by its secretary this 1st day of March, 2009.

Attest

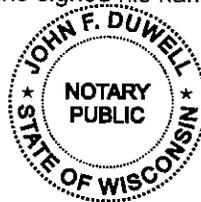
James J. Pauly
Secretary



Kevin A. Steiner
Chief Executive Officer / President

State of Wisconsin
County of Washington

On the 1st day of March, 2009 before me personally came Kevin A. Steiner, to me known being by duly sworn, did depose and say that he resides in the County of Washington, State of Wisconsin; that he is the President of West Bend Mutual Insurance Company, the corporation described in and which executed the above instrument; that he knows the seal of the said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation and that he signed his name thereto by like order.



John F. Duwell
Executive Vice President - Chief Legal Officer
Notary Public, Washington Co. WI
My Commission is Permanent

The undersigned, duly elected to the office stated below, now the incumbent in West Bend Mutual Insurance Company, a Wisconsin corporation authorized to make this certificate, Do Hereby Certify that the foregoing attached Power of Attorney remains in full force effect and has not been revoked and that the Resolution of the Board of Directors, set forth in the Power of Attorney is now in force.

Signed and sealed at West Bend, Wisconsin this 3 day of May, 2012



Dale J. Kent
Executive Vice President -
Chief Financial Officer

Notice: Reproductions are not binding on the company. Any questions concerning this Power of Attorney may be directed to the Bond Manager at NSI, a division of West Bend Mutual Insurance Company.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
5/2/2012

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 Assurance Agency, Ltd. One Century Centre 1750 E. Golf Road Schaumburg IL 60173-	CONTACT NAME: PHONE (A/C, No. Ext): (847) 797-5700 E-MAIL ADDRESS:		FAX (A/C, No): 847-440-9130
	INSURER(S) AFFORDING COVERAGE		NAIC #
INSURED Schroeder Asphalt Services, Inc. P.O. Box 831 Huntley, IL 60142	INSURER A : Continental Insurance Company		
	INSURER B : Continental Casualty Co		
	INSURER C : Travelers Property Casualty Co		25674
	INSURER D : National Fire Insurance of Har		20478
	INSURER E :		
		INSURER F : Valley Forge Insurance	

COVERAGES **CERTIFICATE NUMBER: 738907264** **REVISION NUMBER:**

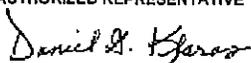
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE 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
D	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC			INS5082781391	3/1/2012	3/1/2013	EACH OCCURRENCE \$2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$300,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$2,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 \$
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS			BUA5082781410	3/1/2012	3/1/2013	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$10,000			CUP5082781438	3/1/2012	3/1/2013	EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000 \$
F	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	WC5082781407	3/1/2012	3/1/2013	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
C	Equipment Floater Leased / Rented			QT6602A298073COF12	3/1/2012	3/1/2013	\$10,000 Limit \$1,000 Ded \$100,000 Limit \$1,000 Ded

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

RE: Various Locations, Gladiola Avenue Reconstruction MFT Section #12-00061-00-FP.
 It is agreed that the following are added as Additional Insureds, when required by written contract, on the General Liability on a primary and non-contributory basis with respect to operations performed by the Named Insured in connection with this project: Village of Hanover Park, its officials, agents, employees and volunteers.
 A Waiver of Subrogation in favor of the Additional Insureds applies to the Worker's Compensation policy, when required by written contract and where allowed by law. Umbrella Follows Form.

CERTIFICATE HOLDER**CANCELLATION**

Village of Hanover Park 2121 West Lake Street Hanover Park IL 60133-4398	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 
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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization:

Any person or organization you have agreed in a written contract or written agreement to add as an additional insured on this Coverage Part, provided the written contract or written agreement was executed prior to:

- a. The "bodily injury" or "property damage"; or
- b. The offense that caused the "personal and advertising injury"

for which the additional insured seeks coverage under this Coverage Part. The written contract or written agreement must pertain to your ongoing operations for the additional insured, and must specifically require additional insured status according to the provisions of CG 20 10 (10 01).

But notwithstanding the above, no person or organization is an additional insured for professional architectural or engineering services provided at or for the Location(s) of Covered Operations.

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

A. Section II – Who Is An Insured is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

B. With respect to the insurance afforded to these additional insureds, the following exclusion is added:

2. Exclusions

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 site 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.



THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization:

As Per Written Contract

Location And Description of Completed Operations:

As Per Written Contract

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

Section II – Who Is An Insured is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" at the location designated and described in the schedule of this endorsement performed for that insured and included in the "products-completed operations hazard".