

THE VILLAGE OF ROSCOMMON

BID PACKAGE AND SUPPLEMENTAL SPECIFICATIONS FOR THE
PLAN AND PROFILE OF PROPOSED
2011 Village of Roscommon M-18 Development
Commercial Drive Entrance Project

PART OF
SECTION 7, T24N, R2W, HIGGINS TOWNSHIP, ROSCOMMON COUNTY

Prepared by

May & Associates, Inc.

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PROJECT ENGINEER
JOHN P. MAY, P.S., P.E.

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INSTRUCTIONS TO BIDDERS

1. DESCRIPTION OF WORK

General Scope: The Village of Roscommon is proposing to install a Commercial Drive Entrance in Section 7, T22N, R2W, Higgins Township, Roscommon County. This contract is a **lump sum amount** for the installation of the drive entrance to unplatted property.

THIS CONTRACT IS TO BE BID AND PAID FOR AS A LUMP SUM. ANY QUANTITIES LISTED ARE FOR INFORMATIONAL PURPOSES ONLY. THE FINAL QUANTITIES MAY VARY FROM THOSE SHOWN. NO EXTRAS SHALL BE PAID UNLESS A SUBSTANTIAL CHANGE IN DESIGN AND PROJECT SCOPE IS MADE AND AGREED UPON BEFORE THE WORK IS PERFORMED.

This bid is for all of the materials, labor and supplies to complete the project as specified. All excess material will remain the property of the Village of Roscommon. Work under consideration for bidding shall be that work as shown on the drawings and described in the specifications for:

2011 Village of Roscommon M-18 Development Commercial Drive Entrance Project as prepared by May & Associates, Inc., 3197 W. M-76 STE B, West Branch, Michigan (989)-345-1600

2. DRAWINGS & SPECIFICATIONS FOR BIDDING

Each General Contractor desiring to submit a bid will be furnished one set of drawings and specifications without charge. Any General Contractor or sub-contractor desiring additional sets of prints and/or specifications may request same from The Village of Roscommon; however, the cost of the additional prints shall be paid by the bidder. A complete set of prints & specifications will cost \$20.00, non-refundable. The required material will be mailed upon receipt of cash or a check made payable to The Village of Roscommon.

3. BIDDER'S RESPONSIBILITY

Each bidder is hereby cautioned to familiarize himself/herself with the contact documents contained in these specifications. He/She shall examine the site thoroughly before preparing his/her bid.

4. ADDENDA TO DRAWINGS & SPECIFICATIONS

During the progress of bidding, bidders may be furnished certain addenda covering additions, deductions, or alterations to the drawings and/or specifications. Such addenda shall be included in the work covered by the proposal and shall become a part of the contract documents. If a monetary change order is required based on these addenda, the change order shall be submitted to The Village of Roscommon for approval.

5. PRINTED FORMS

The Owner shall furnish to the successful Contractor a sufficient supply of the following forms, as necessary, during the progress of the job. Samples of these forms are included in the specifications:

- a) Request for Payment

6. SUBMISSION OF PROPOSALS

All sealed bids shall be submitted (single copy only) on proposal form furnished by The Village of Roscommon, identical to the sample from as shown herein. All blanks shall be filled out or the bid will not be accepted.

All bids shall be submitted to:
The Village of Roscommon
214 S. Main Street
P.O. Box 236
Roscommon, Michigan 48653

Bids are Due by 4:00pm on Friday, March 23, 2011.

Bids will be publicly opened on March 23, at 4:00pm at The Village of Roscommon offices. The winner bidder may be awarded the contract at the March 28, 2011 regular Village Council meeting.

The bid shall be based on the items and brands named in these specifications or on the drawings.

The bidder shall include in his proposal, the cost of all state or local sales or use taxes, charges or duties of any nature applicable to the work incorporated under this contract.

7. THE VILLAGE OF ROSCOMMON

This organization reserves the unrestricted privilege to reject any, part of any, or all of the bids received and to waive any informalities/irregularities in the bidding. Contracts will be awarded on the basis of the lowest and/or best bid as determined by these parties.

No proposal shall be considered as accepted, nor any obligation here under assumed by the Owner until such time as the Owner may deposit in the U.S. Mail, or hand to the Contractor, personally, written notice addressed to the successful bidder at the address given on the proposal, of acceptance of his/her proposal.

8. CONSTRUCTION PROGRESS SCHEDULE

The successful bidder shall, immediately after award of the contract, furnish The Village of Roscommon with a construction Progress Schedule that indicates the proposed progress with the total number of days agreeing with the "Time for Completion" days listed in the Bid Form.

The successful bidder shall begin work during the week of May 1, 2011 and progress substantially with the "Construction Progress Schedule" and to complete all work within the time shown thereon, unless delayed by jurisdictional or general strikes beyond the control of the Contractor, Act of God or national emergency. This date is subject to change.

9. COLD WEATHER & DEWATERING REQUIREMENTS

Make estimate of the amount of cold weather necessary to complete the work in the time prescribed and the cost thereof shall be included in the contract price. No extra payment will be made for construction or protection in cold weather. Dewatering may be necessary on this project. No extra payment will be made for construction or dewatering.

10. ACCELERATED CONSTRUCTION SCHEDULE & PLANNING

The completion of this project in a timely manner is very important to The Village of Roscommon. Due to the type of facility, the **Contractor shall work only between the hours of 7am and 8pm**. Bidder shall thoroughly investigate all possible methods of scheduling and employing work forces to achieve the earliest completion date. The early completion is of such importance that the Village of Roscommon, in selecting the successful bidder, will base his decision not only on the lowest bid but also on the completion date and may award the contract to the bidder whose bid, in dollar amount and number of construction days, is to his overall advantage.

11. TIME FOR COMPLETION

The Base Bid will be for the completion of the work not to exceed 60 calendar days.

Completion of the work (as defined above) within the specified time period is of the essence of this Agreement. It is agreed that determination of actual damages to The Village of Roscommon, in the event the Contractor has not completed said work within said period would be impractical and difficult, if not impossible. Therefore, The Village of Roscommon shall deduct Four Hundred Dollars (\$400.00) per day from the contract sum, as liquidated damages and not as a penalty, for each calendar day Contractor is late in completing the work including the punch list items, after the final completion date. A written request may be made to extend the work schedule based on extenuating circumstances.

Contractor shall take into consideration all possible contingencies that might delay completion of said work within the established time period.

The Liquidated Damages Amount shall be absolutely payable for each calendar day after the expiration of said period, and there shall not be any extensions to recognize weather conditions, material shortages or any contingency which may be claimed to be unusual or not foreseeable.

12. INSURANCE

The Contractor awarded this project will be required to carry insurance in the amount of \$500,000.00 per occurrence, \$1,000,000.00 aggregate. All The Village of Roscommon Employees, residents and on-site construction inspectors shall be covered by this policy.

BID PROPOSAL FORM

2011 Village of Roscommon M-18 Development Commercial Drive Entrance Project
Roscommon, MI

TO: The Village of Roscommon
214 S. Main Street
P.O. Box 236
Roscommon, Michigan 48653
Attn: Tim Sadowski, Village Manager

FROM: Contractor Name: _____

Phone _____ No:

RE: PROPOSAL FOR THE VILLAGE OF ROSCOMMON

DATE: _____

1. The undersigned bidder after careful examination of plans, specifications, General Notes, and details, hereby agrees to furnish all material, labor, equipment, tools, and supervision, and to do everything necessary to complete the work in _____ calendar days from the date of signing the Contract for the lump sum of (including all applicable sales taxes):

_____ Dollars

(\$ _____)

2. The following Addenda are acknowledged to have been received and are included in this bid:

Addendum No. _____

Dated: _____

3. This bid includes the following documents from May & Associates, Inc.:

C1	TITLE SHEET	2/1/2011
C2	LAYOUT LEGEND AND GENERAL NOTES	2/1/2011
	Bid & Specification Package	2/1/2011

4. ALTERNATES: The contractor is encouraged to provide an alternate bid to supply all labor and materials.

5. CHANGES: When changes in the work are ordered by The Village of Roscommon which involves extra cost over the above contract sum, such work is to be billed on the following labor and material basis including overhead and profit. See ACTIVITY CATEGORY AND LINE ITEM BREAKDOWN below for basis. NOTE: No extras will be paid unless an Extra Work Authorization is issued beforehand by the staff at The Village of Roscommon.

6. UNIT PRICES: This proposal is made on a lump sum basis and **not by Unit Price.**

7. OFFICIAL SUBSTITUTION SHEET

Bid shall be based on those brands and items called for on the plans and in the specifications. Bidders desiring to offer substitutions for specified brands or items shall list such proposed substitutions below and state the amount, if any, to be added to or deducted from the bid. No such substitutions shall be incorporated into the work without prior written consent of the Owner.

DIVISION	ITEM SPECIFIED	SUBSTITUTION	ADD	DEDUCT
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

8. QUALIFICATIONS

The undersigned agrees that this proposal shall be valid for a period of 6 months from the date it is received, unless withdrawn with written consent of The Village of Roscommon. All work shall be guaranteed for this amount of time.

Work shall commence during the week of **May 1, 2011.**

In submitting this proposal, it is hereby understood that The Village of Roscommon reserves the unrestricted privilege to reject any and all bids, or parts of bids, and to waive any informalities/irregularities in the bidding.

We hereby certify that our state of affairs (business and financial) is such that the Contractor will find it possible to secure performance bond in the amount of 100% of the contract price.

The surety company providing the performance bond must be listed in the current U.S. Treasury Department's list of Surety Companies Acceptable on Federal Bonds with an underwriting limitation at least equal to the amount of the bond.

The undersigned further agrees to indemnify and save the The Village of Roscommon and the County of Roscommon from and against all losses, claims, demands, payments, suits, actions, recoveries, and judgments of every nature and description made, brought on, recovered the The Village of Roscommon and the County of Roscommon, by any reason of any acts or omission of the undersigned, his agents, subcontractors, or employees in the execution of the work or in guarding same.

All Contractors must be qualified in their trades. To qualify, the respective Contractor or Subcontractor must have adequate financial stability to meet all obligations incident to the job, must have appropriate experience and expertise to do the job, and must bid in strict compliance with requirements of the plans and specifications.

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February 1, 2011*

In consideration of the foregoing, the undersigned hereby agrees to enter into a contract with the Association within five (5) days of receipt of the Contract Agreement from the Owner, and to faithfully execute said Contract according to its terms mutually agreed upon.

OFFICIAL ADDRESS

FIRM NAME

By: _____

Title: _____

State whether a () Corporation, () Partnership, or a () Sole Proprietorship.

Request for Payment Form - The Village of Roscommon

Project Name: <u>2011 Village of Roscommon M-18 Development Commercial Drive Entrance Project</u>	Date:
Contractor (receiving payment):	Period from-to:

Work performed to warrant payment:

Amount of Payment Requested: _____

Approval Signature:
 (Signature must be Construction/Inspection Engineer)

Title:

Contractor's Application for Payment:

Comments:

Original Contract Amount:		
Net Change Orders:		
Total Contract Sum to Date:		
Total Contract Paid to Date:		
Current Payment Request:		
Total Paid on Contract:		
Total Remaining in Contract:		

Change order Summary:

Change Order Number	Amount	Description

I hereby submit that the information provided in this document is accurate:

Name

Date

Title

Company

Contract Agreement

This Agreement, made and entered into this _____ day of _____ in the year ____ The Village of Roscommon hereinafter called OWNER, and _____ hereinafter called CONTRACTOR, in consideration of the mutual covenants hereinafter sent forth, agree as follows:

ARTICLE 1. WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

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ARTICLE 2. CONTRACT TIME

- 2.1 The Work will be completed and ready for final payment in accordance with the number of project days as indicated in the Bid Documents and provided by the CONTRACTOR. The number of work days indicated in the bid Documents is ___ days.
- 2.2 All engineering and inspection costs incurred after the specified completion date shall be paid by the CONTRACTOR to the OWNER prior to final payment authorization. Charges shall be made at such times and in such amounts as the ENGINEER shall invoice the OWNER, provided however said charges shall be in accordance with the ENGINEER's current rate schedule at the time the costs are incurred. The engineering and inspection costs incurred after the specified completion date shall be deducted from the CONTRACTOR's progress payments.
- 2.3 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence and that the OWNER will suffer financial loss if the Work is not substantially complete in the number of Work days as specified in the bid documents and in item 2.1 above, plus any extensions thereof allowed. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for the delay (but not as a penalty) CONTRACTOR shall pay OWNER Four Hundred Dollars (\$400.00) for each day that expires after the time specified in paragraph 2.1 for substantial completion until the Work is complete. Liquidated damages charged shall be deducted from the CONTRACTOR's progress payment.

ARTICLE 3. CONTRACT PRICE

- 3.1 OWNER shall pay CONTRACTOR as provided in the attached Proposal for performance of the Work in accordance with the Contract Documents.

ARTICLE 4. PAYMENT PROCEDURES

Progress payments and retain age under this Contract are governed by the provisions of PA 1980, No. 524 (MCLA 125.1561 et seq.). That Act is incorporated herein by reference and made a part of this Contract. Without excluding any provisions of the Act from this Contract, but in order to comply therewith and summarize certain provisions, the following shall apply:

- 4.1 The persons representing the CONTRACTOR who will submit written requests for progress payments shall be _____.
- 4.2 The person representing the OWNER whom requests for progress payments are to be submitted to shall be: Mr. Tim Sadowski, Village Manager, The Village of Roscommon.

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- 4.3 The CONTRACTOR's representative, listed above, shall submit Application for Payment on the form provided in the Contract Documents.

ARTICLE 5. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

- 5.1 CONTRACTOR has considered the nature and extent of the Contract Documents, Work, locality and conditions and federal, state and local laws, and regulations that may affect cost, progress, performance or furnishing of the Work.
- 5.2 CONTRACTOR has studied carefully all reports of investigations and latent physical conditions of the site or otherwise affecting cost, progress or performance of the Work which were relied upon in the preparation of the Plans and Specifications and which have been identified in the Contract Documents.
- 5.3 CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in paragraph 5.2 as he deems necessary for the performance of the Work and the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, test, reports or similar data are or will be required by CONTRACTOR for such purposes.
- 5.4 CONTRACTOR has correlated the results of all observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.
- 5.5 CONTRACTOR has given ENGINEER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

ARTICLE 6. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire Contract between OWNER and CONTRACTOR are attached to this Agreement, made a part hereof and consist of the following:

- 6.1 This Agreement
- 6.2 Bid Form
- 6.3 Performance and other Bonds (Provided by Contractor)
- 6.4 Proof of Insurance
- 6.5 Instructions to Bidders
- 6.6 Specifications (in project manual dated 2/1/2011)
- 6.7 Plans consisting of sheets numbered C1-C2, inclusive
- 6.8 Any Modification, including Change Orders, duly delivered after execution of Agreement.

ARTICLE 7. MISCELLANEOUS

- 7.1 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on any other party without the written consent of the party sought to be bound; and specifically but not without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of the restriction may be limited

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by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

- 7.2 OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in _____ counterparts, _____ counterpart(s) each has been delivered to the OWNER and CONTRACTOR, one counterpart has been delivered to the ENGINEER. All portions of the Contract Documents have been signed as indicated by the OWNER and CONTRACTOR.

This Agreement will be effective on _____, _____

OWNER: The Village of Roscommon

CONTRACTOR:

By: _____

By: _____

Attest:

Attest:

Address for giving notices:

Address for giving notices:

(If OWNER is a public body attach evidence of authority to sign and resolution or other document authorizing execution of Agreement)

License No. _____

Agent for service of process:

SPECIFICATIONS

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GENERAL NOTES

1. Prior to beginning construction it shall be the contractors responsibility to contact the Miss Dig utility protection service (1-800-482-7171) to verify the location of all existing utilities. Miss Dig shall be notified not less than 72 hours prior to beginning construction.
2. The Contractor shall follow all safety guidelines per MiOSHA at all times, both during construction hours and regarding site safety when the site is dormant.
3. It is the contractor's responsibility to secure all permits or copies of permits and bonds prior to construction. Copies of these permits as they pertain to Right-of-way work on Local, County or State Roads, Soil Erosion Control, and MDEQ Water and Sewer Permits must be provided to The Village of Roscommon prior to the beginning of construction. For work on County Roads contact the Roscommon County Road Commission (RCRC) at (989) 366-0333, for work on State Highways contact the Michigan Department of Transportation (MDOT) at (989) 346-1802.
4. Commercial, Industrial and multi-family sewer and water connections or extensions of existing mains require sealed engineering drawings and design for approval.
5. During all operations of the CONTRACTOR in the street and roadways, the CONTRACTOR shall maintain barricades, lights, and warning signs as required by MDOT, the Village and as defined and outlined in the Michigan Manual of Uniform Traffic Control Devices.
6. Inspection of public utility (sanitary, water and storm) installation and materials is required and shall be done as directed by the engineer and the Village of Roscommon. The contractor is responsible for coordination of all third party inspection. Compaction inspection is required by the engineer and shall be contracted by the owner. Inspection fees where, required shall, be paid prior to beginning the project.
7. Contractor shall notify the Village of Roscommon DPW department 24 hours prior to the start of construction. (989) 808-5002 or (989) 275-5743.
8. The Contractor shall be required to complete all work in an expeditious manner and shall not stop construction for extended periods once construction has begun. A schedule shall be established as part of the original permit. Fees will be assessed by the OWNER for projects exceeding their set schedule. An extension may be applied for from owner/engineer if required by special circumstances.
9. All major construction changes must have written approval of the consulting engineer and the owner. If changes are not pre-approved the job will be immediately shut-down until the changes have been approved.

10. The contractor shall abide by all of the Village of Roscommon DPW requirements regarding the construction of Water and Sewer mains, or other utilities, maintaining traffic barricading, boring, backfill, and restoration. There will be no additional compensation due the contractor for complying with these requirements.
11. The owner shall provide a copy of the Roscommon County Soil Erosion Control Permit and the state NPDES permit to the Contractor. The Contractor shall have permits available on-site during all construction.
12. All construction methods and materials shall conform to these standards and specifications. All materials used must be American made.
13. Prior to the start of construction the contractor shall furnish material certifications and shop drawings to the utility inspector verifying that all materials used on the project are in accordance with these standards.
14. Contractor shall maintain (as much as possible) all existing sanitary sewer, water or storm sewer service connections during construction. Any disruptions in service must be approved by the Village of Roscommon and coordinated with local users. Additional adjustments or repairs required to maintain these services shall be made by the contractor and the cost shall be incidental to construction.
15. Contractor shall verify the depth, size, material type and horizontal location of all existing utilities before any work is started. The exact location of existing utilities shall be determined by hand digging. All cost shall be incidental.

GENERAL CONSTRUCTION

A. EARTHWORK

These specifications shall be closely followed in all earthwork performed on this project. Earthwork shall mean all excavation and backfilling and shall include the removal and disposal of all materials of every sort necessary to be removed for purposes of construction; the furnishing, placing, and maintenance of all sheeting, bracing, and shoring if and where required and the care of existing structures, utilities and street surfaces.

B. EXCAVATION

All excavation, except where necessary to tunnel, bore, or jet under roads, railroads, tree roots, and other obstructions shall be open cut from the surface.

Excavation may be performed by any practical method consistent with the integrity and protection of the work and adjoining- structures and the protection of workmen and the public. If excess excavation is made or the material becomes disturbed so as to require removal, the resulting space shall be refilled with MDOT Class II material solidly tamped into place, in not more than nine (9) inch layers; to the satisfaction of the Village of Roscommon DPW, before the construction work proceeds; or may, at the direction of the Village of Roscommon DPW be filled with Class B concrete conforming to the standard concrete specifications at the CONTRACTOR's expense.

After structure excavation has been carried down to final grade where applicable, any unsuitable foundation material found at this level shall be excavated and removed until a suitable foundation material (as determined by the inspector for the project) is encountered. Unsuitable materials are organic type soils that are wet and have little stable structure. The excess excavation shall be replaced with MDOT stone or Class II material compacted in 6-inch layers or Class B concrete placed up to the excavation limits.

Excavated material not suitable for backfilling shall be removed and properly disposed of by the CONTRACTOR.

For construction of water mains trenches shall be excavated to a depth required with allowance for bedding the pipe on a minimum 4-inch layer of MDOT Class II granular material, so as to provide uniform and continuous bearing and support for the pipe over the full length between joint cuts. (Unless otherwise specified on the plans.) For gravity sanitary sewer and storm sewer, the trenches shall be excavated to a depth required with allowance for bedding the pipe on a minimum 4-inch layer of MDOT 6A or 10A stone, so as to provide uniform and continuous bearing and support for the pipe over the full length between joint cuts. The trench shall be cut wider and deeper at each pipe joint location to provide for properly completing the pipe joint and to relieve the joint of all loadings. The bottom of the trench shall be shaped so as to conform as nearly as possible to the outside of the pipe with allowance being made for a 4-inch cushion below the pipe.

The width of trench shall be sufficient to allow the pipe to be laid and jointed properly and

shall provide for a minimum net clearance of 6 inches and a maximum net clearance of 12 inches on each side of the barrel of the pipe and to allow the backfill to be placed and properly compacted. Exceptions to these clearances will occur at encasement or special construction.

Foreign materials encountered in the excavation such as wood, boulders and the like, which obstruct the excavation shall be removed. Where such obstructions occur at or near the bottom of the excavation, requiring excavation below grade for their removal, the excavation shall be brought back to grade by MDOT Class II material compacted to 95 percent of its maximum density.

Where the condition of the ground requires, the sides of excavation shall be securely held by bracing and/or sheeting which may be removed in units when the level of the backfill has reached a point where-it is safe to pull the sheeting without disturbing the protected feature.

No sheeting, bracing, or other timber shall be left in the excavation upon the completion of the work. Boxes, as required, shall be used by the CONTRACTOR, wherever the depth of the excavation is ten (10) ft or more.

Where men are required to work in excavation, all trenching, bracing, and shoring shall conform to the requirements of MIOSHA.

If crossing over or under or exposing any main or lateral sewer, sewer connections, basin connections, water main, service connections, gas mains, gas connections wire conduit or any underground improvement, the Contractor shall use all possible care in protecting same from injury or damage. The work shall be performed in such a manner as will result in the least damage or interference. The Contractor will be required to repair, replace or rebuild any such improvement that is injured or damaged by him and he shall be responsible to the department, companies, individuals or corporations controlling or owning such improvements.

Where these services are encountered and are undamaged, they shall be supported and/or protected by the contractor at his expense against later settlement and/or damage after backfill. The contractor shall consult the Village of Roscommon DPW, the Road Agency (i.e. RCRC) or utility company having jurisdiction over any duct line, gas main, etc., which may cross the excavation to determine the method of supporting such duct or pipe.

All excavated material shall be piled in a manner that will not endanger the work and that will avoid obstructing sidewalks and driveways. Hydrants under pressure, valve manhole covers, valve boxes, curb stop boxes. Fire and police call boxes, or other utility controls shall be left unobstructed and accessible until the work is completed. Gutters shall be kept clear or other satisfactory provisions made for street drainage, and natural water courses shall not be obstructed, except as otherwise provided for herein on a temporary basis. Excavated materials and disturbed earth causing sedimentation in catch basins and storm sewer shall be cleaned out.

Dewatering

The Contractor shall at his own expense pump out or otherwise remove any water which may gather in the trenches or tunnels and shall form all dams, cofferdams or other works necessary for keeping the excavated trenches or tunnels clear of water during the progress of the work. In case of quicksand or other bad and treacherous ground, the work shall be proceeded with day and night without intermission, if the Engineer or Inspector so directs.

C. BACKFILLING

Standards

Density testing as identified in this specification is to be per the test method AASHTO T - 180 for a modified proctor.

Indicators

Construction tape shall be placed in the trench over all utilities as they are backfilled. Tracer wire shall also be placed over all plastic water main installation.

Structural Backfilling

As soon as practical after concrete structures have set, forms, and debris have been removed, the excavated area around structures shall be carefully backfilled up to grade with MDOT Class II material, compacted in place to 95 percent of its dry density in not-to-exceed 12-inch layers. Where the overdig around new or existing structures is less than 12" wide, MDOT 6A or 10A stone must be used to backfill around the structures up to within 6" of grade. Backfilling around house basements shall be as herein specified up to within 24 inches of finished grade. Excavated material can be used to backfill 18 inches up to within 6 inches from grade, with the final 6 inches backfilled with topsoil.

Backfilling within County Road Rights-of-Way

Backfill for roadwork within street rights-of-way, under roadways, pavements, shoulders, and sidewalks shall be MDOT Class II granular material compacted to 95 percent of its dry density in not-to-exceed 9-inch layers. Materials such as soft clay, topsoil, muck, cinders, vegetable matter, refuse, boulders, and other objectionable and non-packing earth shall be excluded from the backfill and removed from the site. Stone larger than three (3) inches in any dimension shall be excluded from the backfill and removed from the site by the CONTRACTOR.

Utility and Street Backfilling

In commencing backfill for all pipe work except gravity sanitary sewer, a "cushion" of modified MDOT Class II granular material (100% passing 1 1/2" sieve) shall be thoroughly compacted by hand tamps in not-to-exceed 6-inch layers under, around, and along the sides of the pipe up to the centerline of the pipe. The sand shall be machine tamped in not-to-exceed 9-inch layers to a level a 18 inches above the crown of the pipe. Voids under the pipe joints shall be filled, tamped in place from the sides after the joint is completed. Gravity sanitary sewer shall have 6A or 10A stone surrounding the pipe up to the top of the pipe. Non-woven fabric shall be placed over the stone and modified Class-II can be used above the pipe.

Above the level of 18 inches above the crown of the pipe or the bottom of structural excavations the backfill material shall be as follows:

- a) Under pavements, curb, paved or gravel driveways, gravel roads, and shoulders the remainder of the backfill shall be MDOT Class II material which shall be solidly compacted to 95 percent of its dry density by mechanical tamps in layers of not more than 9-inch loose thickness with backfilling carried up to within 9 inches of finished grade. The fill shall be brought to finished grade with surface compatible to the removed surface. For new pavement see details of pavement sections.
- b) Under sidewalks the remainder of the backfill shall also by MDOT Class II material compacted to 95 percent of its dry density by mechanical tamps in layers not-to-exceed 9-inches loose thickness with backfilling carried up to subgrade.
- c) In all other areas the remainder of the backfill shall be of the excavated material with the exception of those materials excluded above. The backfill shall be spread and compacted not-to-exceed thickness of 12 inches. The finished grade of this backfill shall be restored to its original condition. Compaction of backfill shall be such as to obtain 90 percent of the maximum unit density as determined at the optimum moisture content.

Clay and organic material will not be permitted as backfill material under any pavement, drive, sidewalk, or curb and gutter in the Village, and the CONTRACTOR shall furnish and place all MDOT Class II granular backfill material required, which is not available from trench excavation at his own expense.

Backfill Not in the Road Influence

All trenches between the property line and road shoulder shall be left with a sufficient mound of earth above the original surface, as is deemed necessary by the Village of Roscommon DPW, to take care of future settlement.

General Backfill Information

The CONTRACTOR shall continuously maintain all excavations and shall refill and compact to finished grade all settlement which shall occur.

After a one freeze/thaw cycle (November thru May), and if the backfill compaction is satisfactory to the Village of Roscommon DPW, MDOT or RCRC, to provide for any slight settlement, the CONTRACTOR shall retrim neatly any broken edges of pavement and replace the top surface of the backfill within the pavement area with pavement surface equal to that surface which was removed.

Headwalls, culverts, and drainage systems filled, or damaged by the CONTRACTOR during the course of his operation shall be cleaned, relaid, or rebuilt to a condition equal to the original state, at the CONTRACTOR's expense.

Where the excavation is located beside a ditch and/or where an existing ditch is filled or disturbed in the CONTRACTOR's operations, the CONTRACTOR shall clean, repair, or replace the ditch with properly pitched bottom and side slopes and of section and capacity not less than the original section. It will be the CONTRACTOR's responsibility to document the original section in advance to the appropriate road agency in sufficient detail as is acceptable to them. (via pictures, drawings, etc.)

Where excavation has been through lawn areas the Contractor shall restore the disturbed area by placing topsoil and seeding or hydroseeding over the final backfill material.

The CONTRACTOR shall remove excess dirt and other construction material from the site of the work and leave the site in a clean and neat condition.

Should any deficiency in the backfilling occur, in either quantity or quality of excavated materials taken from the trench, the Contractor shall supply the deficiency without extra charge to the Owner. No foreign or perishable material shall be used in the backfilling.

Surplus Earth

Surplus earth is understood to mean the excess of earth excavated and remaining after the required backfilling herein before specified is completed. Such surplus earth shall be loaded by the Contractor and trucked to disposal sites arranged by the contractor. Excess earth not used by the Owner shall become property of the Contractor and shall be removed from the project. The unexcavated portion of the roadway surface shall be left in its original condition, clean and free of any soil deposits. No surplus earth will be left in the road ditches.

D. WORK WITHIN ROAD RIGHTS-OF-WAY

The Contractor shall obtain permits for construction within the road right-of-way from the authority having jurisdiction over the road. All work within the road rights-of-way shall conform to the requirements of these specifications and the requirements of MDOT or the Roscommon County Road Commission. The Contractor shall put up and maintain during the continuance of the work such barriers, caution lights and other protective devices as required by law and shall furnish a watchman so as to effectually prevent any accident in consequence of his work, and he shall be liable for all accidents and damage occasioned in any way by his acts or neglect, or by the acts or neglect of his subcontractors, agents, employees or workmen.

Where the proposed construction parallels the road, the Contractor shall protect the existing surface where possible. Any damage to the roadway shall be repaired by the Contractor.

E. REMOVAL OF PAVEMENT, CURB AND GUTTER AND SIDEWALK

Before commencement of excavating operations, the CONTRACTOR shall cut and remove from the work all pavement, curb and gutter, or sidewalk that would be damaged by his operations. Cutting of concrete pavement where permitted, shall be done with a concrete saw, in a manner meeting the approval of the Road Agency having jurisdiction. Asphalt pavements shall be cut by a tool leaving a square neat cut. Pavements shall be

cut back so that pavement opening is one (1) foot wider on each side than the width of the trench, and care shall be taken during construction operations so as not to cave the banks or undermine remaining pavement. Where an existing joint in the pavement occurs within nine (9) feet or less from the top edge of the undisturbed soil, the Contractor shall remove and replace the pavement to this point. Any reinforcement encountered shall not be cut out, but shall be left protruding at least 2 ft from the face of the cut and shall be bent out of the way to be replaced later and spliced to new reinforcement.

In cutting through sidewalks, driveways, or curb and gutter, the CONTRACTOR shall remove full slabs of sidewalk or driveway or full lengths of curb and gutter to the nearest regular joint on each side of the excavation.

Broken pieces of pavement, sidewalk, or curb and gutter shall be removed from the work and disposed of by the CONTRACTOR to the satisfaction of the Village and under no circumstances shall these materials be used in backfilling any pipe trenches.

All strips of the existing pavement which are less than five (5) ft wide and which are between the cut pavement and the concrete gutter, shall be removed and replaced.

The CONTRACTOR shall exercise special precautions during construction, not to damage any remaining pavement, sidewalk, or curb and gutter and no construction equipment with traction lugs or other defacing or damaging components will be permitted on these surfaces. Where it is necessary for such equipment to travel over paved areas, the CONTRACTOR shall provide suitable planks and blocking to prevent damaging paved surfaces.

F. REPLACEMENT OF PAVEMENTS AND DRIVES

No pavement replacement is to be done during the period between November 1, and May 1, unless with the written permission of the RCRC, and/or MDOT.

Road Surface Replacement

All road surfaces removed during construction shall be repaired, unless otherwise specified, by placing 6 inches of 22A gravel, 1.5 inches of bituminous base course and 1.5 inches of bituminous wearing course, or pavement of equal thickness to the removed section, whichever is greater. Whenever a road repair is not to be immediately paved after backfilling, a temporary road repair will be required. The temporary repair will consist of 9-inches of 22A gravel brought to existing grade. For final paving, gravel equivalent in thickness to the asphalt pavement shall be removed and the remaining thickness of gravel will provide the base. Road repair may not be delayed more than 2 weeks without written permission. During delay, the Contractor shall maintain the road at his expense.

Driveway Surface Replacement

All asphalt driveways removed during construction shall be repaired, unless otherwise specified, by placing 6-inches of compacted 22A gravel and 2 inches of bituminous surface course, or pavement equal in thickness to the section removed, whichever is greater. Whenever a driveway is not to be immediately paved after backfilling, a temporary repair

will be required. The temporary repair will consist of 8-inches of 22A gravel brought to existing grade. For final paving gravel equivalent in thickness to the thickness of pavement shall be removed and the remaining thickness of gravel will provide the base.

All concrete driveways removed during construction shall be repaired, unless otherwise specified, by placing 8-inches of compacted 22A gravel and 6-inches of concrete, or concrete equal in thickness to the removed section, whichever is greater. All concrete work shall be done in accordance with the best modern practice using 4,000 psi concrete. Whenever a driveway is not to be immediately paved after backfilling, a temporary repair will be required. The temporary repair will consist of 14-inches 22A gravel brought to existing grade. For final paving, crushed gravel in thickness to the concrete shall be removed and the remaining thickness of gravel will provide the base.

All gravel driveways removed during construction shall be repaired, unless otherwise specified, by placing 6-inches of 22A gravel compacted and finished to match existing grade. Whenever a driveway is not to be immediately finished to final repair after backfilling, a temporary repair will be required. The temporary repair will consist of 7-inches 22A gravel brought to just above existing grade. For final repair, the gravel shall be compacted and graded to match existing elevations.

G. CLEAN UP

All backfilled trenches shall be leveled to original grade and finished as required above. All excess material, refuse and debris removed and ditches and drainage restored not more than 500 feet behind the construction operation. Two inches of topsoil shall be deposited and fine graded on all disturbed lawn areas. Seeding of lawn areas is the responsibility of the Contractor. The clean up and restoration of each street and easement, as nearly as reasonably possible, to its original condition, shall be considered a part of the new utility construction.

H. EXCEPTIONS

Any types of construction required for the project and not specifically identified in this manual shall be done in accordance with the current MDOT specifications.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
HIGH VISIBILITY CLOTHING

SSA:JDG

1 of 1

C&T:APPR:JAJ:BRZ:01-23-09
FHWA:APPR:02-10-09

Add the following, to the end, of subsection 104.10, Safety and Health Requirements, of the Standard Specification for Construction:

D. Worker Visibility. Effective November 24, 2008, all workers within the right-of-way who are exposed to traffic or to construction equipment within the work area, shall wear high visibility clothing.

High visibility clothing or high visibility safety apparel is personal protective safety clothing that is intended to provide conspicuity during both daytime and nighttime usage. High Visibility safety apparel shall meet the Performance Class 2 or 3 requirements of the American National Standards Institute/International Safety Equipment Association (ANSI/ISEA) 107-2004 for High-Visibility Safety Apparel and subsequent revisions thereof.

Costs incurred to comply with this requirement shall be the responsibility of the contractor.

This Special Provision shall remain in place until the 2009 Federal Manual on Uniform Traffic Control Devices, Part 6, has been adopted by the State of Michigan (planned for 2011).

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SOURCE OF STEEL AND IRON

C&T:DBP

1 of 1

C&T:APPR:POJ:DS:04-16-09
FHWA:APPR:04-19-09

Delete the first sentence in subsection 105.10, on page 61 of the Standard Specifications for Construction, in its entirety and replace with the following:

All steel and iron materials permanently incorporated in this project shall have been produced in the United States. FHWA may grant a waiver for steel and iron materials if they are not produced in sufficient and reasonably available quantities which are of a satisfactory quality.

Delete the first sentence, in the second paragraph, in subsection 105.10, on page 61 of the Standard Specifications for Construction, in its entirety and replace with the following:

All manufacturing processes, including application of a coating, for these materials and products must have occurred within the United States.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**OBTAINING REQUIRED NPDES PERMITS FOR
STORAGE AREAS, DISPOSAL AREAS AND BORROW AREAS**

C&T:DMG

1 of 2

C&T:APPR:TWK:JAR:07-24-06

FHWA:APPR:08-10-06

a. Description. The Contractor shall be responsible to ensure a National Pollutant Discharge Elimination System (NPDES) Permit for storage areas, disposal areas and borrow areas as well as other earth disturbance activities located outside of the Michigan Department of Transportation's right-of-way is obtained in accordance with the Clean Water Act of 1972 (CWA) prior to commencing any activities regulated by the CWA.

In accordance with the CWA, construction activities disturbing 5 acres or more, with a point source discharge to the waters of the state are required to have a Notice of Coverage (NOC) submitted to the Michigan Department of Environmental Quality (MDEQ) to obtain NPDES coverage under R 323.2190 (Permit by Rule). Prior to submitting the NOC, a Soil Erosion and Sedimentation Control (SESC) Permit must be obtained from the county or municipal enforcing agency in accordance with Part 91, Soil Erosion and Sedimentation Control, of PA 451 of 1994, the Natural Resources and Environmental Protection Act (NREPA). Once the SESC Permit has been obtained, the landowner or recorded easement holder must submit a completed NOC form to the MDEQ along with the required attachments (location map, a copy of the SESC Permit and \$400.00 fee) to the address on the NOC form. Copies of the NOC form are available from the Water Bureau of the MDEQ.

Under Permit by Rule, the construction permittee is defined as "A person who is deemed to have a national permit pursuant to the provisions of R 323.2190 and who **owns or holds a recorded easement on the property where a construction activity is located**, is constructing in Public Right of Way in accordance with sections 13, 14, 15, and 16 of Act 368 of the Public Acts of 1925, as amended, being §§247.183, 247.184, 247.185, and 247.186 of the Michigan Compiled laws, or is the Authorized Public Agency if a construction activity is carried out by the Authorized Public Agency." If the Contractor does not own or hold a recorded easement on the property, the property owner must apply for coverage. If the owner of the property is applying on behalf of the Contractor, a copy of the property owner consent agreement shall be included with the NOC form and can be substituted for the easement document. The consent agreement must contain verbiage describing the party responsible for restoration of the areas upon vacating by the Contractor.

The Contractor shall submit a site plan, a copy of the recorded easement document or deed if owned and the NPDES permit to the Engineer for review a minimum of seven days prior to mobilization of storage areas, the expected date of excavation of a borrow area or expected date of disposal. This review by the Engineer does not relieve the Contractor of any responsibilities required by law. The Contractor shall not commence activities which require NPDES permits until they have received written approval from the Engineer.

Submittal of the NOC is not required for regulated construction activities that disturb 1 to 5 acres. These sites have automatic coverage under Permit by Rule if they have obtained coverage (SESC Permit) in accordance with Part 91, Soil Erosion and Sedimentation Control, of NREPA. Although there are no application requirements, the landowner or easement holder still must comply with the requirements of Permit by Rule.

The Contractor must maintain proper soil erosion and sedimentation control measures associated with those areas, including ingress and egress from the Department's right-of-way and shall be responsible for any fines or penalties occurring from the failure to maintain and operate those controls.

Contractor storage areas, disposal areas, borrow areas, and haul roads located within MDOT's right of way will be considered included in the Department's permit application. Site plans for storage areas, disposal areas, and borrow areas within the right-of-way must be submitted to the Engineer for review and approval a minimum of seven days prior to expected use. Although covered under the Department's permit, the Contractor shall be responsible for all costs to install and maintain required soil erosion and sedimentation control measures. Any fines or penalties resulting from the Contractor's failure to maintain and operate those controls are the full responsibility of the Contractor.

The Contractor shall be aware that the NOC within MDOT's right-of-way is intended for **storm water only** and does not allow the discharge of process water. An example of process water is that used in cleaning equipment. All process water from Contractor activities within MDOT's right-of-way must be contained as to not discharge and mix with the storm water runoff. The process water shall, as a minimum, be contained in a lined storage area. The liner shall consist of a two-foot minimum clay liner or a 40 mil non-permeable synthetic liner. The storage area shall be a two-celled system. The first cell will allow any particulates to settle while the second cell will receive the overflow of effluent from the first. It may be required to pump and haul the effluent to a licensed wastewater treatment facility. Complete chemical and biological testing results must be taken of the effluent and submitted to the MDEQ if the Contractor intends to discharge to the ground water. Discharges will not be allowed until a copy of a ground water discharge exemption is granted from the MDEQ and is provided to the Engineer. The storage area shall be constructed such that all surface water runoff is diverted away from the storage area. If the processed water is not contained in a lined storage area, a ground water discharge permit may be required prior to commencing plant operations.

b. Measurement and Payment. All work necessary to obtain required NPDES permits for storage areas, disposal areas and borrow areas, including but not limited to, excavation, embankment, permit fees, liners, testing and all other labor and materials, is considered to be included in payment for Mobilization of the project.

03SP501(A)

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SAMPLING ASPHALT BINDER ON LOCAL AGENCY PROJECTS

C&T:MF

1 of 1

C&T:APPR:JAR:JTL:12-19-01
FHWA:APPR:08-06-02

For informational purposes, original samples of asphalt binder will be taken by the Contractor and delivered to the Engineer prior to incorporation into the mixture. The frequency of sampling shall be determined by the Engineer. The cost of obtaining and delivering the samples to the Engineer will be included in the hot mix asphalt (HMA) pay items.

The Contractor must certify in writing that the materials used in the HMA mixture are from the same source as the materials used in developing the HMA mixture design and the bond coat is from an approved certifier as stated in MDOT's Material Source Guide.

MICHIGAN
DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION
FOR
RECYCLED HOT MIX ASPHALT MIXTURE

C&T:GMM

1 of 1

C&T:APPR:JAR:MF:12-19-01
FHWA:APPR:08-06-02

Add the following subsection to Section 501.02.A.2 of the standard specifications.

c. Reclaimed Asphalt Pavement (RAP) Percentages and Binder Grade Selection. The method for determining the binder grade in hot mix asphalt (HMA) mixtures incorporating RAP is divided into three categories designated Tier 1, Tier 2 and Tier 3. Each tier has a range of percentages that represent the contribution of the RAP binder toward the total binder, by weight. The tiers identified below apply to both Superpave and Marshall mixtures with the following exception: **Superpave mixture types E3, E3 High Stress and E10 used as leveling or top course shall be limited to a maximum of 17% RAP binder by weight of the total binder in the mixture. Superpave Mixture types E10 High Stress, and all E30 and E50 mixtures used as leveling or top course shall be limited to a maximum of 14% RAP binder by weight of the total binder in the mixture.**

Tier 1 (0% to 17% RAP binder by weight of the total binder in the mixture)

No binder grade adjustment is made to compensate for the stiffness of the asphalt binder in the RAP.

Tier 2 (18% to 27% RAP binder by weight of the total binder in the mixture)

The selected binder grade for the asphalt binder is one grade lower for the high temperature than the binder grade required for the specified project mixture type. For example, if the specified binder grade for the mixture type is PG58-28, the required grade for the binder in the recycled mixture would be a PG52-28.

The asphalt binder grade can also be selected using a blending chart for high and low temperatures. The Contractor shall supply the blending chart and the RAP test data used in determining the binder selection.

Tier 3 (≥ 28% RAP binder by weight of the total binder in the mixture)

The binder grade for the asphalt binder is selected using a blending chart for high and low temperatures. The Contractor shall supply the blending chart and the RAP test data used in determining the binder selection.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**CONTROLLING UNIFORMITY IN HOT MIX ASPHALT PAVEMENT
DURING PAVING OPERATIONS**

C&T:MJB

1 of 2

C&T:APPR:MF:GMM:08-29-01

FHWA:APPR:08-06-02

a. Description. All work shall be done according to the standard specifications, except as modified herein. This special provision shall be used to help assist the Contractor and Engineer in identifying segregation and taking corrective action to eliminate segregation when it is present in the hot mix asphalt pavements. This special provision requires the use of a nuclear density gauge and the MDOT MBITSEG2 computer program to assist in locating segregated areas.

b. Terminology Used.

Segregation - Areas of Hot Mix Asphalt Pavement exhibiting non-uniform distribution of coarse and fine aggregate particles that are visually identifiable or can be identified by other methods.

Heavy Segregation - An area showing stone against stone, with little or no matrix visible.

Medium Segregation - An area showing significantly more stone than surrounding pavement with a lack of matrix.

c. Equipment. Nuclear Density Gauge provided by the Contractor.

MBITSEG2 Excel or Quattro Pro computer program provided by the Department.

d. Quality Control of Contractors Construction Process. Hot Mix Asphalt Pavement materials shall be produced, transported, placed and compacted with the proper construction processes to provide uniform volumetric properties throughout the entire cross section of pavement. When heavy segregation is identified visually in the pavement by the Contractor or the Engineer, a set of six to fifteen one minute nuclear density measurements shall be taken by the Contractor in the segregated area, a similar set of readings shall also be taken in an adjacent non segregated area. The mean value of the density of the two areas shall be compared using MDOT's MBITSEG2 computer program. When it is determined that corrective action is needed, the Contractor shall implement corrective actions immediately and report them to the Engineer before the next day's paving begins. The Contractor shall also provide, in writing, the actions that will be taken to eliminate segregation. The Contractor, with the Engineer, shall closely monitor the in-place pavement when paving resumes. If, once paving resumes, heavy segregation is identified, the Contractor shall stop production and a complete evaluation of the manufacturing and paving process shall be completed. This evaluation shall follow the troubleshooting guide and suggested changes according to the equipment manufacturer's recommendations or the guide manual *AASHTO Segregation Causes and Cures For Hot Mix Asphalt*.

The Engineer reserves the right to independently monitor the uniformity in hot mix asphalt pavement and require that the Contractor take corrective action if segregation is identified.

e. Measurement & Payment. No additional compensation will be made for corrective action required or operational changes to prevent segregation. This work will be considered as included in other contract items.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
ACCEPTANCE OF HMA MIXTURE ON LOCAL AGENCY PROJECTS

C&T:JWB

1 of 2

C&T:APPR:JWB:JAR:07-27-04
FHWA:APPR:08-03-04

a. Description. This special provision provides acceptance testing requirements for use on local agency projects that do not include the QC/QA special provision. The HMA mixture shall be provided to meet the requirements of the standard specifications for construction except where modified herein.

b. Materials. Aggregates, mineral filler (if required), and asphalt binder shall be combined as necessary to produce a mixture proportioned within the master gradation limits shown in the project documents, and meeting the uniformity tolerances listed in Table 1. The master gradation range is to be used for establishing mix design only. Topsoil, clay, or loam shall not be added to aggregates which are to be used in plant mixed HMA mixtures.

c. Construction. After the job-mix-formula is established, the aggregate gradation and the binder content of the HMA mixture furnished for the work shall be maintained within the Range 1 uniformity tolerance limits permitted for the job-mix-formula specified in Table 1. However, if deviations are predominantly either below or above the job-mix-formula, the Engineer may order alterations in the plant to bring the mixture to the job-mix-formula. If two consecutive aggregate gradations on one sieve, or binder contents as determined by the field tests, are outside Range 1 but within Range 2 tolerance limits, the Contractor shall suspend all operations. Contract time will continue during these times when the plant is down. Before resuming any production, the Contractor shall propose, for the Engineer's approval, all necessary alterations to the materials or plant so that the job-mix-formula can be maintained. The Engineer, after evaluating for effects on AWI and mix design properties, will approve or disapprove such alterations.

Acceptance sampling and testing will be performed by the Engineer using the sampling method and testing option selected by the Engineer. Each day of production, a minimum of two samples will be obtained for each mix type. Acceptance testing will be performed at the frequency specified by the Engineer. No less than three samples shall be obtained for each mix type. Quality control measures to insure job control are the responsibility of the Contractor.

The crushed particle content of the aggregate used in the HMA mixture shall not be more than 10 percentage points above or below the crushed particle content used in the job-mix-formula nor less than the minimum specified for the aggregate in the project documents.

Pavement density will be measured by the Engineer with a Nuclear Density Gauge using the Gmm from the Job Mix Formula (JMF) for the density control target. The required in place density of the HMA mixture shall be 92.0 - 96.0% of the density control target. The Contractor is responsible for establishing a rolling pattern that will achieve the required in place density.

Table 1: Uniformity Tolerance Limits for HMA Mixtures

PARAMETER	TOP & LEVELING COURSE		BASE COURSE	
	* Range 1	Range 2	* Range 1	Range 2
Binder Content	± 0.40	± 0.50	± 0.40	± 0.50
% Passing # 8 and Larger Sieves	± 5.0	± 8.0	± 7.0	± 9.0
% Passing # 30 Sieve	± 4.0	± 6.0	± 6.0	± 9.0
% Passing # 200 Sieve	± 1.0	± 2.0	± 2.0	± 3.0
*This range allows for normal mixture and testing variations. The mixture shall be proportioned to test as closely as possible to the Job-Mix-Formula.				

d. Rejected Mixtures. If for any one mixture, two consecutive aggregate gradations on one sieve or binder contents as determined by field tests exceed the uniformity tolerance of Range 2 under Table 1, or do not meet the minimum requirements for crushed particle content specified in the project documents, the mixture will be rejected. If such mixtures are placed in a pavement, the remaining portions of the failing field samples (split sample) will be sent to the MDOT Central Laboratory to confirm the field test results. If the Laboratory's results do not confirm the field test results and there are no price adjustments required due to test failures on the asphalt binder, then no price adjustments will be made for the mixture involved. If the Laboratory's results confirm the field test results and if, in the Engineer's judgment, the defective mixture can remain in place and there are no price adjustments required due to test failures on the asphalt binder, the contract unit price for the defective mixture involved, as determined from field tests, will be decreased on the following basis:

The contract unit price for material outside of Range 2 or with a crushed particle content below that specified in the project documents will be decreased 25 percent.

If three consecutive aggregate gradations on one sieve, or bitumen contents as determined by field tests are outside Range 1 but within Range 2 tolerance limits, the mixture produced from the time the third sample was taken until the gradation, or bitumen content is corrected back into Range 1 will be decreased in contract unit price by 10 percent. Field tests indicating that mixtures are subject to the 10 percent penalty will be confirmed in the same manner as mixtures subject to the 25 percent penalty as described herein.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**PAVEMENT ACCEPTANCE FOR
JOINTED PLAIN CONCRETE PAVEMENT**

C&T:CB

1 of 2

C&T:APPR:JAR:KPK:07-29-03
FHWA:APPR:08-12-03

a. Description. This specification defines the requirements for pavement acceptance that are: 1) in addition to those specified in Section 602 of the standard specifications, and 2) when applicable, stipulates the condition when initial acceptance of the pavement can occur according to the Materials and Workmanship Warranty.

The Engineer will inspect the completed pavement for any visible indication of cracking any time prior to initial acceptance. If cracking is found, an examination will be made of its extent and severity to determine an appropriate corrective action. Corrective action shall consist of: 1) crack repair, 2) pavement slab replacement in kind, or 3) a contract payment adjustment of up to one hundred percent of the bid price. The smallest pavement unit area to be replaced or receiving a payment adjustment shall be one slab length by one lane width.

The following table describes appropriate corrective actions for the more common distress circumstances. Decisions regarding corrective actions for circumstances not covered by the table will be made jointly by the Engineer and the Pavement Research Unit, Construction & Technology Support Area.

All costs for the work required to repair or replace any unacceptable pavement are the responsibility of the Contractor. No time extensions will be granted to the Contractor for any required repair work to meet the requirements of this specification.

For purposes of this special provision, a crack is defined as a fissure of varying length and orientation in the pavement that extends to some measurable depth. A crack may be a single entity or found in groups or clusters with possible associated distress features.

Table 1: Corrective Action for Common JPCP Distresses

Crack Type	Length	Extent	Severity	Corrective Action (a)
LC (random)	any	multiple	all	Replace slab
LC	$\geq \frac{1}{2}$ PL	single	all	Replace slab
LC - ALJ	any	single	all	repair (b)
LC - not ALJ	$< 1/10$ PL	single/multiple	all	pay adjustment
TC - ≥ 1.5 ft. from TJ	$> \frac{1}{2}$ PW	single/multiple	width < 0.024 in.	repair (b)
TC - ≥ 1.5 ft. from TJ	$> \frac{1}{2}$ PW	single/multiple	width ≥ 0.024 in.	Replace slab
TC - ≥ 0.75 ft. to < 1.5 ft. from TJ	any	single/multiple	all	replace joint
TC - < 0.75 ft. from TJ	any	single/multiple	all	repair (c)

LC = longitudinal crack
 TC = transverse crack
 ALJ = associated w/ longitudinal joint
 TJ = transverse joint
 PL = panel length
 PW = panel width

a. The appropriate corrective treatment (ie: repair or pay adjustment) is dependent on the specific crack's characteristics and it's affect on the pavement's intended service life.
 b. Repair must establish acceptable load transfer efficiency: $>90\%$ transverse or $>60\%$ longitudinal
 c. Depending on crack depth and proximity to a joint, treat as partial depth repair or as spall repair. Full depth cracks will require joint replacement.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
**JOINTING LAYOUT PLAN FOR PORTLAND CEMENT
CONCRETE PAVEMENT INTERSECTIONS**

C&T:JFS

1 of 2

C&T:APPR:DEB:MJE:01-05-05
FHWA:APPR:03-17-10

a. Description. This special provision sets forth requirements for submitting a joint layout detail plan to the Engineer for layout and construction of joints in concrete pavements at intersections, including turn lane tapers, as shown on the plans. Perform all work according to the Standard Plans R-39 Series, R-41 Series, and R-42 Series, the standard specifications, and this special provision.

b. Joint Layout Detail Plan. The limits for inclusion into the joint layout detail plan are bound by either the farthest spring point, or turn lane taper for each respective roadway. The Engineer will furnish blank intersection worksheets (11 × 17 inch) to scale (1 inch = 40 feet) showing all proposed curb lines, longitudinal lane lines and all existing and proposed utility/drainage structure covers within the intersections and tapers. These worksheets will be available for the Contractor's use.

Using the furnished worksheets, submit a joint layout detail plan to the Engineer (5 days minimum) prior to concrete placement. The Engineer will review the Contractor's joint layout detail plan. Any comments or proposed revisions to the plan will be returned to the Contractor in a timely manner, so as to produce an approved joint layout detail plan prior to concrete placement. Draw each plan to include details related to staging of paving operations, locations of longitudinal and transverse construction joints, and any other pertinent elements necessary to prevent random uncontrolled cracking of the concrete pavement. Provide the Engineer with a copy of all technical publications which were used as basis for developing the joint layout detail plan, such as the American Concrete Paving Association (ACPA) publication for Intersection Joint Layout.

c. Construction. The transverse joint type specified for the mainline pavement will govern within the boundaries of the intersection. The transverse joint types specified for each respective intersecting roadway will govern outside the boundaries of the intersection. Modifications to the mainline transverse joint spacing within the boundaries of the intersection may be necessary so that they coincide with anticipated longitudinal joints for the intersecting roadway. Transverse expansion joints (either Symbol E2 or Erg, where applicable) are required at each spring-point. However, transverse expansion joints at the spring-points for the mainline pavement can be eliminated if the mainline is being paved through the intersection in the same operation as the non-intersection mainline. Plane-of-weakness joints (either Symbol D1 or W, where applicable) are permitted only for relief joints measuring less than 4 feet in length, as shown on the approved Contractor's joint layout detail plan. For pavement thickness greater than 4 inches, provide load transfer (either Symbol B or Crg, where applicable) at all longitudinal and transverse construction joints.

Saw all joints after the concrete has hardened enough that no excessive raveling or spalling occurs, but before random cracks develop. Unless otherwise specified, seal all joints with low modulus hot-poured rubber sealant according to subsection 602.03.S.4 of the Standard Specifications for

Construction.

d. Measurement and Payment. The completed work, as described, will be measured and paid for at the contract unit prices using the following contract items (pay items):

Contract Item (Pay Item)	Pay Unit
Joint, Contraction (type), Intersection	Foot
Joint, Expansion (type), Intersection	Foot
Joint, Plane-of-Weakness (type), Intersection	Foot

Joint, Contraction (type), Intersection; Joint, Expansion (type), Intersection; and Joint, Plane-of-Weakness (type), Intersection will be measured in feet based on field measured quantities, not to exceed the quantity shown on the approved Contractor's joint layout detail plan. Payment includes furnishing all joint materials required, such as load transfer assemblies, expansion joint fillers, and joint sealants; sawing, forming, and cleaning the joints; furnishing and applying bond breakers where required; and installing joint sealants as applicable.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
TRAFFIC CONTROL QUALITY AND COMPLIANCE

OPR:JJG

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C&T:APPR:CER:DBP:01-10-11
FHWA:APPR:01-10-11

Delete the last paragraph of subsection 103.05, Traffic Control on page 29 of the Standard Specifications for Construction in its entirety, and replace with the following.

A. Traffic Control Quality and Compliance. The following applies to all aspects of the traffic control plan and traffic control devices except the Type D lights on plastic drums which are covered elsewhere in the contract.

1. **Traffic Control not Anticipated in Design.** If at any time during the project, including the time during the seasonal suspension, the Engineer documents that the traffic control requires improvements beyond the scope of the Traffic Control Plan, the Engineer will provide written instructions to the Contractor and traffic control supplier what improvements are required. The Contractor must develop and submit to the Engineer for approval, a written implementation schedule for improvements. If the schedule is not approved, or if the schedule is approved but is not followed, the Department will adjust the contract according to subsection 812.03.E.3. If the implementation schedule is not followed, the Engineer will notify the Contractor and traffic control supplier in writing that they are in violation of this subsection. The work of making traffic control improvements directed by the Engineer that are beyond the scope of the Traffic Control Plan will be paid for as extra work.
2. **As Designed Traffic Control.** If at any time during the project, including the time during the seasonal suspension, the Engineer documents that the traffic control is deficient, inadequate or improperly placed, the Engineer will provide written notification with instructions for corrective action to the Contractor and traffic control supplier. Upon receipt of the notification of corrective action, the Contractor has 4 hours to correct the traffic control. If the traffic control cannot be corrected within the 4 hour time period, the Contractor will develop a written implementation schedule for the corrective action and submit the schedule to the Engineer for approval within 1 hour of receiving the written notification. If the schedule is not approved, or if the schedule is approved but is not followed, the Department will adjust the contract according to subsection 812.03.E.3. If the implementation schedule is not followed, the Engineer will notify the Contractor and traffic control supplier in writing that they are in violation of this subsection.
3. **Failure to Take Corrective Action.** If the Contractor fails to take immediate corrective action, the Engineer may stop any or all of the work on the project until corrective action is taken. If the Contractor fails to take corrective action, the Department will authorize others to do the necessary work. If the deficiency is the fault of the Contractor, then the cost will be the responsibility of the Contractor.

Add the following paragraph to subsection 812.03.E, on page 593 of the Standard Specifications for Construction.

3. A contract price adjustment will be made in the amount of \$100 per hour for every hour or portion thereof the improvements or corrective action remains incomplete as described in subsection 103.05.A. If improvements or corrections have not been made to the satisfaction of the Department, the contract will be adjusted until the traffic control is acceptable.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATION
FOR
ERRATA TO THE 2003 STANDARD SPECIFICATIONS

03SS001(2h)

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02-07-07

Page	Subsection	Errata
iii		Add <i>Soil Erosion and Sedimentation Control Manual</i> to the list of MDOT publications included by reference.
vii		Change the title of Section 605 to read "Concrete Quality Assurance"
27	103.03.A.1	Reference should read 109.07.B and C.
27	103.03.C	Reference should read 109.07.E.
38	104.08.A.3	Change "right of way" to "right-of-way" in this subsection.
38	104.08.A.5	Change "right of way" to "right-of-way" in five instances in this subsection.
42	104.08.B.11	Change "the Engineerwill" to "the Engineer will" in the first sentence of this subsection.
43	104.08.B.15	The first sentence of this subsection should read "Final measurement for payment for all earthwork, undercuts, muck excavation, swamp backfill, sand subbase, and topsoil stripping will be the responsibility of the Contractor and must include detailed measurements, sketches and computations."
50	104.09.A.1	Delete the second instance of the word "or" in this subsection.
63	106.03.D	Formula 106-2 should read $s = \sqrt{\frac{\sum (x_i - \bar{x})^2}{n - 1}}$
67	107.02	Change "National Pollution Discharge Elimination System" to "National Pollutant Discharge Elimination System" in the second sentence of the third paragraph of this subsection.
71	107.10.D	Delete the first sentence of this subsection and replace with the following: "All insurance policies and binders must also include endorsements by which the insurer shall agree to provide the Department, in writing, items 1 and 2 below. All insurance policies and binders issued in the name of the contractor must also include the additional endorsement, to be provided in writing, in item 3 below."

An asterisk (*) indicates an entry which has been revised from an earlier version of this Supplemental Specification.

Page	Subsection	Errata
71	107.10.D.1	Change "initialed" to "initiated."
76	107.15.A.2	Delete the last paragraph of this subsection.
105	109.07	The first sentence of this subsection should read "...prices for extra work, the extra work..."
122	203.03.C.2	Reference in the first sentence of this subsection should read 402.03.E.
122	203.04	Delete the following Contract Items (Pay Items) Culv, Rem, More than 24 inch..... Each Culv, End, Rem, More than 24 inch Each Sewer, Rem, More than 24 inch..... Foot Add the following Contract Items (Pay Items) Culv, Rem, Over 48 inch Each Culv, End, Rem, Over 48 inch..... Each Sewer, Rem, Over 48 inch Foot
142	205.03.P	Change "soley" to "solely" in the last sentence of this subsection.
158	208.03.D.13	Change "22A" to "21AA" in the first sentence of this subsection.
162	209.01	Change "Removel" to "Remove" in the first sentence of this subsection.
171	304.03.B.5	This subsection should read as follows. 5. Loose joint materials and loose patching materials may be removed prior to rubblizing; do not fill the resulting voids prior to rubblizing.
174	305.03.A	Delete the second instance of "reduction" in the first sentence of the first paragraph in this subsection.
180 *	307.04	Change the last pay item in this list to read as follows: Approach, CI ____, __ inch.
192	401.04	Change the fourth pay item from the end of this list to read as follows: Steel Casing Pipe, __ inch, Tr Det ____.
197	402.03.C.1	Replace "CPE" with "CPE and CPV" in three instances in this subsection.
202 *	402.04	Change the first pay item in this list to read as follows: Sewer, CI ____, __ inch, Tr Det ____.
206	403.03.A.6	Delete the fourth sentence of this subsection beginning with

Page	Subsection	Errata
206	403.03.A.8	“Wrap the connection...” Change the last sentence of this subsection to read as follows: “Place and compact the HMA according to Section 502.”
210	Table 403-1	Change “350” to “315” for the Weight, lbs for Cover B in this table.
210	Table 403-1	Change “350” to “318” for the Weight, lbs for Cover Q in this table.
240	502.03.I	Change “point” to “print” in the first sentence of this subsection.
240	502.03.I	Delete the word “a” in the last sentence of this subsection.
242	502.04.C	Change the first sentence of this subsection to read as follows: “...material, and cleaning the cold milled pavement.”
242	502.04.C	Change “placment” to “placement” in the second sentence of this subsection.
266	507.03.G.3	The time period for placing mixture in the Upper Peninsula should read: • June 1 - September 15
287	601.03.F	The first sentence of this subsection should read “Concrete must be between 45 °F and 90 °F, inclusive, at the time it is placed.”
288	601.03.G	This subsection should read as follows: “G. Concrete Mixture Requirements. The Contractor is responsible for quality control for concrete on all projects according to Section 604.”
289	601.03.G	Re-index subheadings in this subsection, beginning with the second instance of 601.03.G.3, as follows: 4. Air Content. 5. Water-Reducing Admixtures. 6. Slump. 7. Strength of Concrete.
290*	601.03.G.7.b	Delete the paragraph with the heading Non Concrete QA Projects , in its entirety, and replace with the following: b. Non Concrete QA Projects. The Engineer will perform strength testing for acceptance and payment, according to Department procedures, for all projects not covered by the Department’s concrete quality assurance program.
314	602.04.C.1	Change “faction” to “fraction” in the second sentence of this subsection.

Page	Subsection	Errata
324*	603.03.B	Change "6 feet" to "4 feet" in the first sentence of the second paragraph of this subsection.
327	603.03.B.3	The last sentence in this subsection should read as follows: 4. Placing Reinforcement. Position and support reinforcement according to the standard plans.
328	603.03.B.8	The third sentence, in the third paragraph of this subsection should read "...correct all high or low spots exceeding 1/8 inch."
330	603.03.B.13	Change "3/4" to "5/8" in the third paragraph of this subsection.
333	603.03.D.3	Reference in the first sentence of this subsection should read 602.03.R.
333	603.03.D.4	The last sentence of this subsection should read "...flush to 1/8 inch (after cooling) below the surface..."
333	603.03.E.3	The last sentence of the first paragraph of this subsection should read "...flush to 1/8 inch below the surface..."
338	604.01	Delete the first sentence of the first paragraph of this subsection and replace with the following: 604.01 Description. Provide quality control for all concrete production and placement on the project adequate to produce work of acceptable quality.
339	604.03.C	Change "assurance" to "control" in the first sentence of the first paragraph of this subsection.
348	605.03.C.1	Change " <i>Materials Quality Assurance Manual</i> " to " <i>Materials Quality Assurance Procedures Manual</i> " in the first sentence of this subsection.
350	Table 605-2	Change "10" to "90" for the Rejection Limit (percent) for all grades of concrete shown in this table.
350	605.03.D.1.a	The first sentence of this subsection should read "...retest strength from Table 605-2 for the class..."
352	605.03.E.3.c	Delete the second instance of the word "a" in the first sentence of this subsection.
353	605.04	Change the lettering for the subheadings from "A., D. & E." to "A., B. & C."
360	701.03.D	The first sentence of this subsection should read "Concrete must be between 45 °F and 90 °F, inclusive, at the time it is placed."

Page	Subsection	Errata
363	701.03.G.2	<p>Delete the first four paragraphs of this subsection and replace with the following:</p> <p>2. Non Quality Assurance. The Engineer will perform strength testing for acceptance and payment, according to Department procedures, for all concrete not covered by the Department's concrete quality assurance program.</p> <p>Test specimens will be made according to AASHTO T 23 and cured according to section 9.2 or 9.3 of T 23.</p>
382	705.03.F	Formula 705-1b should read $c = \frac{W_r + k^2 W_p}{W_r + W_p}$
407	706.03.M.3	Change "Grove" to "Groove" in the first sentence of the first paragraph of this subsection.
416	706.04.B	Move the entire paragraph beginning with "Concrete placed by the pumping method..." from subsection 706.04.C to the end of subsection 706.04.B.
416	706.04.C	Change the first sentence of this subsection to read as follows. "C. False Decking will be measured for the total area protected, including the width of the beams."
423	Table 707-1	Change the Minimum Size of Fillet Weld from "3/4" inch to "1/4" inch when Base Metal Thickness of Thicker Part Joined is less than or equal to 3/4 inch.
427	707.03.C.8	Change the first sentence of this subsection to read as follows: "...must be qualified according to AWS D1.5, <i>Bridge Welding Code</i> , ..."
435	707.03.D.3	Change the first sentence of this subsection to read as follows. "3. Falsework. Build and remove falsework according to subsections 706.03.C and 706.03.O."
449	708.03.A.13.e	Change reference to AASHTO M 111.
475	712.03.A.3	Change " Equipment for Constructing Latex Modified Concrete Surfaces. " to " Equipment for Constructing Concrete Overlay Surfaces. " in the heading of this subsection.
483	712.03.L.3	Change the fourth sentence of this subsection to read as follows: "...two test splices on the largest bar sizes that are to be spliced."
488*	712.03.Q	The first sentence of the last paragraph of this subsection should read "Maintain wet cure for no less than seven days

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		following concrete placement.”
489*	712.03.T	The last sentence of the fifth paragraph of this subsection should read “Allow heavy equipment on the deck overlay only after the overlay concrete has reached an age of at least seven days.”
491	712.03.W.1	The last sentence of this subsection should read “Clean and coat as required according to Section 715.”
497	713.02	Change “Grade 400” to “Grade 60” for the Steel Reinforcement.
500	713.03.C.2	Reference in the first paragraph of this subsection should read 204.03.A.5
535	804.02	Change Type H-2 to Type H-1 for Mortar and Grout material.
548	807.04	Change the Pay Unit for Guardrail, Type ___ to “Foot”.
558	809.04.A	Delete the first sentence of the first paragraph in this subsection and replace with the following: A. Field Office, CI __ includes set up, providing access, grading, maintaining, plowing snow, utility hook up charges and monthly water and sanitary service fees.
562	810.03.J	Change “sigh” to “sign” in the last sentence of this subsection.
571	810.03.P	Delete the phrase “and the traffic signal contract typical construction plans” from the end of the first sentence of this subsection.
577	810.04.D	This subsection should read “...all work, including construction of the foundations, necessary for the installation of...”.
583	811.03.D.2	The last sentence of this subsection should read “Place regular dry paint between October 1 and May 1, inclusive.”
588	811.04	Change the third pay item in this list to read as follows “Pavt Mrkg, Waterborne, for Rest Areas, Parks, & Lots, ___ inch, (color)”.
588	811.04	Change the nineteenth pay item in this list to read as follows “Rem Curing Compound, for Longit Mrkg”.
602	812.03.G	Delete the word “of” in the second sentence of the second paragraph of this subsection.

Page	Subsection	Errata
610*	812.03.K.6	Change "W8-11 (UNEVEN LANES)" to "W8-9b (UNEVEN LANES)" in two places.
616	812.04	Change the eighth pay item from the end of this list to read as follows "Pavt Mrkg, Longit, 6 inch or Less Width, Rem".
621	812.04.M.3	The second sentence of the first paragraph of this subsection should read "...applies for both existing longitudinal permanent markings and temporary Type NR markings...".
623	812.04.T.3	Delete this subsection and replace with the following: 3. Items measured as lump sum if they are used or required on the worksite during the authorized extension of time, except that Minor Traffic Control Devices will not be adjusted when conspicuity tape is the only minor traffic control device in service or required during the authorized extension of time.
639	816.01	Change "National Pollution Discharge Elimination System" to "National Pollutant Discharge Elimination System" in the last sentence of this subsection.
640	816.03.A	Delete the last sentence of this subsection beginning with "Supply compost from..."
643	Table 816-2	Under Mixture for Upland Areas, in the row for ES (Environmental Seeding), in the Seeding Rate column, change "110 lb/acre" to "Table 917-1".
646	816.03.H	Reference in the second paragraph of this subsection should read 917.15.D.2.
661	819.03E.3	The second sentence of the third paragraph of this subsection should read "...so that they are not displaced during concrete placement."
665	819.03.H	Add the following sentence at the beginning of this subsection: "Construct tower lighting unit foundations according to subsections 810.03.J and K."
667	819.04	Change the fifth pay item in this list to read as follows "Conduit, Fiberglass, ___ inch, Structure".
679	820.03.H	Delete the word "lineal" in the first sentence of the sixth paragraph of this subsection.
680	820.04	Change the first pay item of this list to read as follows "TS, (<u>number</u>) Way (<u>type</u>) Mtd".

Page	Subsection	Errata
694	902.03.B	Change "...retained on the-inch sieve..." to "retained on the 3/8-inch sieve..." in the second paragraph of this subsection.
696	Table 902-1	Delete section reference "503" in three places in the Item of Work by Section Number column. Delete the reference to "502 Temporary Patching with HMA Mixture" in footnote (a).
705	903.06.A	Change the first sentence of the first paragraph of this subsection to read "...ASTM C 309, Type 2 compounds, except that the requirements for reflectance and drying time do not apply."
719	905.03	Change "A 616" to "A 616-96a" and change "A 617" to "A 617-96a" in the first paragraph of this subsection.
719	905.03	Change "A 617" to "A 617-96a" in the second paragraph of this subsection.
719	905.03	Delete the third paragraph of this subsection and replace with the following: Bar reinforcement for prestressed concrete beams must meet ASTM A 616-96a for Grade 60 steel bars, except that bar reinforcement meeting ASTM A 615 or A 617-96a for Grade 40 steel bars will be permitted for stirrups in prestressed concrete beams.
720	905.03.C	Change the first sentence of this subsection to read "... must be coated according to AASHTO M 284, with the following exceptions and additions:"
720	905.03.C.3	Change this subsection to read "...and tested according to AASHTO M 284."
720	905.03.C.4	Reference in the last sentence of this subsection should read subsection 706.03.E.8.
720	905.05	Change "A 616" to "A 616-96a" and change "A 617" to "A 617-96a" in the first paragraph of this subsection.
723	906.04.B	Change "40 °F" to "30 °F" in the last sentence of this subsection.
729	907.03.D.2.b	Change "1æ" to "1½" in the second sentence of the first paragraph of this subsection.
734	908.04	Change the second sentence of the first paragraph of this subsection to read "...requirements for carbon steel castings

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		of ASTM A 148 Grade 60/90, as specified on the plans.”
761	910.03.B	Change the last sentence of this subsection to read, “Furnish a non-woven geotextile meeting the strength requirements in Table 910-1 for Geotextile Liner Heavy when heavy riprap is specified.”
774	Table 912-2	Replace Table 912-2 with new Table 912-2 shown below.
789*	914.04.A	Change the first sentence of this subsection to read “Conform to ASTM D 6690, Type II with the following exceptions:”
795	914.08	Reference in the second paragraph of this subsection should read subsection 914.09.C.
795	914.08	Change “A 616” to “A 616-96a” and change “A 617” to “A 617-96a” in the first sentence of the third paragraph of this subsection.
795	914.09.A	Change “A 616” to “A 616-96a” and change “A 617” to “A 617-96a” in the first sentence of this subsection.
797	912.12	Change “A 570” to “A 1011” in the first sentence of the second paragraph in this subsection.
800	916.01.B	Change “ Coarse Gravel 3x1. ” to “ Coarse Aggregate 3x1. ” in the heading of this subsection.
801	916.01.D.1	The last sentence of this subsection should read “...3 to 12 inches for ditch grades 2 percent or greater.”
801	916.02	Delete the sixth sentence of this subsection beginning with “Silt fence fabric...”
805	917.08	Delete the first sentence of this subsection beginning with “Furnish compost from...”
839*	919.02.C	Delete the second and third paragraphs of this subsection and replace with the following. Bolts, nuts, washers, U-bolts and straps must be stainless steel. The stainless steel alloy for bolts, washers, U-bolts, and straps must conform to ASTM A 320, Class 1, Grade B8. Nuts must be self-locking nylon insert type conforming to ASTM A 320 and A 194 for Grade 8F. If U-bolts are formed from straight bar stock, forming must be by cold working.
846*	919.10.A	Delete the last two paragraphs of this subsection and replace with the following. Bolts, nuts, washers, U-bolts and straps must be stainless steel. The stainless steel alloy for bolts, washers, U-bolts,

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		and straps must conform to ASTM A 320, Class 1, Grade B8. Nuts must be self-locking nylon insert type conforming to ASTM A 320 and A 194 for Grade 8F. If U-bolts are formed from straight bar stock, forming must be by cold working.
847	919.11.A.1	This subsection should read as follows:
847	919.11.A.2	1. Wood Posts. Concrete for wood post foundations, when required, must be Grade P2 as specified in section 601. This subsection should read as follows:
		2. Breakaway Columns. Concrete for breakaway column foundations must be Grade P2 as specified in section 601.
868	922.02.D	Change "3200 square feet" to "32 square feet" in the last sentence of this subsection.
869	922.03.C	Delete this subsection and replace with the following. C. Drums with Lights. Drums with warning lights attached must meet NCHRP 350 crashworthy criteria. Provide certification, according to subsection 922.01, when requested.
869	922.03.D	Change "crash worthy" to "crashworthy" in the last sentence of this subsection.
871	922.03.E.2	Change "1/2 inch" to "1/2 -inch" in the second sentence of the third paragraph of this subsection.
883	Pay Item Index	Change the page number reference for Calcium Chloride to 322.
883	Pay Item Index	Delete the reference for Conc, Grade __ and add the following references. Conc, Grade __ (for pavements)..... 313 602 Conc, Grade __ (for structures) 414 706
886	Pay Item Index	Change "Fertilizer, Chemical Nutrient, Class ____" to "Fertilizer, Chemical Nutrient, CI ____".
899	General Index	Change the page number reference for Concrete: Barrier, Bridge to 469.
906	General Index	Change "Carrier Bills, Required for Partial Payments" to "Freight Carrier Bills, Required for Partial Payments".
920	General Index	Delete the material page reference, in boldface type, for Sleeves Placed in Structures.

Page	Subsection	Errata
922	General Index	Change "Structure: Rehabilitation: Remove Portions" to "Structure: Rehabilitation, Remove Portions".

Table 912-2 Species and Grading Requirements for Posts

Species	Round Posts Grade	Sawn Posts Agency (a)
Hardwoods		
Red Oak (Northern Red, Black, Pin Laurel, Cherry-Bark, Scarlet, Water and Willow Oaks) (b) Hard Maple (Black and Sugar) and Red Maple White Ash White-Heartwood Beech Yellow Birch	ASTM D 245	MDOT
Softwoods		
Northern White Cedar, Red Pine and Eastern White Pine (Northern White Pine)	No. 1 or better	NHPMA
Douglas-Fir	No. 2 or better	WCLIB, WWPA
Southern Pine Species	No. 2 or better	SPIB
a. NHPMA (Northern Hardwood and Pine Manufacturers Assoc.); WWPA (Western Wood Products Assoc.); WCLIB (West Coast Lumber Inspection Bureau) and SPIB (Southern Pine Inspection Bureau). b. Southern Red Oak is not permitted.		