Wisconsin Department of Transportation

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December, 1998

To: WisDOT Staff, Eligible Engineering Consulting Firms, and Prequalified Contractors

Subject: **Interim Supplemental Specification No. 1 amending the 1996 Standard Specifications for Highway and Structure Construction and the 1998 Supplemental Specifications**

From: Jerry Zogg - Chief Standards Development Engineer
Bureau of Highway Construction

Interim Supplemental Specification No. 1 has been approved by the Federal Highway Administration and will become effective with the February 1999 letting and be in effect until superseded. Enclosed are complementary copies of this document for your use; you may produce additional copies as needed.

Prequalified contractors will be responsible for producing sufficient copies of this document for their bidding and contract management purposes. They also will be responsible for notifying their subcontractors and suppliers about this document.

Eligible engineering consulting firms will be responsible for producing sufficient copies of this document to enable their personnel to fulfill their responsibilities under a contract with the Department for engineering services.

With this document we have begun to use dual dimensioning. Primary values are given in the U.S. Standard Measure system while the SI Metric system equivalents are shown in parentheses. Contracts with the plans and schedule of prices developed under the U.S. Standard Measure system, will be administered using the U.S. Standard Measure system values. Contracts with the plans and schedule of prices developed under the SI Metric system, will be administered using the SI Metric system values.

Interim Supplemental Specification No. 1 contains revisions to the 1996 Standard Specifications and the 1998 Supplemental Specifications as follows:

108.7 Determination and Extension of Contract Time for Completion

This subsection has been revised to reflect that Good Friday is no longer an official WisDOT holiday in the determination of working days for a working day contract.

108.12.2.1 General

This subsection has been revised to reflect that Good Friday is no longer an official WisDOT holiday in the determination of working days for a working day contract.

304.1 Description

Paragraphs one and two have been revised to allow the incorporation of limited amounts of crushed aggregate produced from approved industrial by-products or recycled/reclaimed materials in crushed aggregate base courses, both dense and open graded, and in the lower layers of aggregate shoulders and aggregate roadways.

304.2.1 General Conditions

Paragraph five has been added to this subsection to allow the incorporation of limited amounts of crushed aggregate produced from approved industrial by-products or recycled/reclaimed materials in crushed aggregate base courses, both dense and open graded, and in the lower layers of aggregate shoulders and aggregate roadways.

304.2.3 General Requirements

Paragraph one of this subsection has been revised to allow the incorporation of limited amounts of crushed aggregate produced from a single allowed industrial by-product or recycled/reclaimed material in crushed aggregate base courses, both dense and open graded, and in the lower layers of aggregate shoulders and aggregate roadways. Allowed materials and allowable percentages by weight are:

1. Glass - 12%
2. Foundry slag - 7%
3. Steel mill slag - 15%
4. Bottom ash - 8%
5. Pottery cull - 7%

Paragraphs three and four have also been revised to specify that the wear, liquid limit, and plasticity index restrictions apply to the composite aggregate blend, including any industrial by-product or recycled/reclaimed material used.

304.2.4 Soundness

This subsection has been revised to clarify that material retained on the No. 4 (4.75 mm) sieve of the composite aggregate blend, including any industrial by-product or recycled/reclaimed material used, must meet the soundness requirements.

304.10 Basis of Payment

Paragraph two has been revised to indicate that the preparation of foundation will not be incidental to the item Crushed Aggregate Base Course, Open Graded when there is a bid item for Preparation of Foundation for Crushed Aggregate Base Course, Open Graded in the contract.

308.5 Basis of Payment

Paragraph one is modified to remove a reference to separate payment for salvaged asphaltic pavement materials that are now incidental to the base patching items.

415.5.6.2 Placing Continuous Pavement Reinforcement

A new paragraph has been added to this subsection to allow the use of stainless steel tie wires for coated reinforcing steel. A performance criterion has also been added to prevent damage to the coating by the wires, fastening procedure, or fastening equipment. Tie requirements previously included in paragraph two, have been moved to this new paragraph five. A new paragraph was used to clarify that these requirements apply to all coated bars, not just longitudinal splices.

415.5.16 Tolerance in Pavement Thickness

This subsection has been rewritten to replace coring of the finished pavement with probing of fresh concrete as the primary mechanism for determining the thickness of concrete pavements. This is the same specification piloted during 1998. Procedural and equipment requirements for probing are in Section 13.20.9 of the Department's Construction and Materials Manual.

See also revisions in Subsection 415.7.1 for changes to the thickness pay table.

415.7.1 Concrete Pavement

Subsection 415.7.1.1 has been revised to pay for contractor probing as a part of the concrete pavement item. Subsection 415.7.1.2 has been revised to encourage less over-build by allowing the contractor to pave as thin as 3/8 inch (10 mm) less than the plan thickness without penalty. This is the same specification piloted during 1998. The pay table uses dual units with the U.S. Standard Measure system shown first and SI Metric values shown in parentheses.

See also revisions in Subsection 415.5.16 for probing provisions.

501.11 Placing

The last sentence of paragraph one is deleted to eliminate language prohibiting retempering of concrete because that language was inconsistent with provisions in Subsection 501.8.3 where water can be added to concrete mixes with the permission of the engineer.

505.3.4 Placing and Fastening

This subsection has been revised to allow the use of stainless steel tie wires for coated reinforcing steel. A performance criterion has also been added to prevent damage to the coating by the wires, fastening procedure, or fastening equipment.

628.2.5.1 Geotextile Fabric

This subsection is revised to conform to new AASHTO criteria for silt fence. A single silt fence material is now specified for use in both silty soils and in sandy soils. This specification change implements the policy Memo dated June 5, 1998.

(See also BID ITEMS ADDED and BID ITEMS RETIRED)

636.1 Description

A reference is added to indicate that the specifications for structural steel sign supports and sign bridges

are in Section 641.

641.1 Description
Bid items for sign bridges of various spans, single pole sign supports, and overhead sign supports, all paid as each, have been retired from use. These bid items have been replaced with the following new items, all paid as lump sum:

Sign Bridge, Single Pole Sign Support, One Sign, Structure____
Sign Bridge, Single Pole Sign Support, Two Signs, Structure____
Sign Bridge, Cantilevered, Structure____
Sign Bridge, Structure Mounted, Structure____
Overhead Sign Support, Structure____

New et seq. items are available for up to 5 single pole supports with signs facing one direction and another 5 items for single pole supports with signs facing two directions. These items are generally used for Type I signs placed in the median areas. New et seq. items are also available for up to 14 cantilevered and up to 5 structure mounted sign bridges on a given project. These items are generally used for truss bridges with Type I signs. The generic lump sum item, Sign Bridge, Structure____ , is retained and can be used for up to 14 additional sign bridges with multiple supporting structures.

New et seq. items are available for up to 5 overhead sign supports generally used with Type II signs. The existing description has been augmented to emphasize that these sign supports are commercially designed according to the requirements shown in the plan layout details.

This subsection is revised to provide a complete list of bid items used in this section and provide a unique description of each bid item. Note also that paragraphs one and two of the existing text have been merged, without change, into the revised paragraph one.

(See also BID ITEMS ADDED and BID ITEMS RETIRED)

641.4 Method of Measurement
This subsection is revised to indicate that all sign bridge and sign support items are measured in place as a unit for each specific installation provided under the contract.

(See also BID ITEMS ADDED and BID ITEMS RETIRED)

641.5 Basis of Payment
Subsection 641.5.1 is revised to indicate that all of the sign bridge items are paid for at the contract lump sum price for each specific sign bridge provided under the contract.

Subsection 641.5.2 is revised to indicate that overhead sign supports are paid for at the contract lump sum price for each specific overhead sign support provided under the contract. This subsection is also revised to clarify that the design of overhead sign supports and required concrete supports are paid for as a part of the item, Overhead Sign Support, Structure____.

(See also BID ITEMS ADDED and BID ITEMS RETIRED)

647.1 Description
Paragraph eleven is revised to specify marking of the vertical face and top of the curb for Pavement

Marking, Curb items.

BID ITEMS ADDED - U.S. STANDARD MEASURE (EAS VERSION 3)
Additional bid items have been added in Interim No. 1 to the Supplemental Specifications - 1998 Edition.

BID ITEMS RETIRED - U.S. STANDARD MEASURE (EAS VERSION 3)
Additional bid items have been retired in Interim No. 1 to the Supplemental Specifications - 1998 Edition.

BID ITEMS ADDED - SI METRIC (EAS VERSION 4)
Additional bid items have been added in Interim No. 1 to the Supplemental Specifications - 1998 Edition.

BID ITEMS RETIRED - SI METRIC (EAS VERSION 4)
Additional bid items have been retired in Interim No. 1 to the Supplemental Specifications - 1998 Edition.

ERRATA SHEET

The errata sheet of the Supplemental Specifications - 1998 Edition is corrected.

Subsection 416.3.10, Continuous Diamond Grinding, is revised to correct punctuation errors. A semicolon was added and the existing double comma was corrected.

Subsection 651.3, Construction Methods, is revised to correct a spelling error. The word "make"should be "made".

Prepared By: Michael Hall - Standard Specifications Engineer
Bureau of Highway Construction

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STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

Supplemental Specification - 1998 Edition
Interim Supplemental Specification No. 1

Interim Supplemental Specifications amend the provisions of the 1996 Standard Specifications or the 1998 Supplemental Specifications and shall be considered to be a part of those Supplemental Specifications, superseding any conflicting provisions in the 1998 Supplemental Specifications applicable to work under the contract.

INTRODUCTION

Interim Supplemental Specification No. 1 has been approved by the Federal Highway Administration and will become effective with the February 1999 letting and remain in effect until superseded.

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The following specifications have been issued:

	Effective From Letting	to Letting
1996 Standard Specifications	Oct. 1996	Until Superseded
1996 Supplemental Specifications	Oct. 1996	Oct. 1997
Interim Supplemental Specifications No. 1	Jan. 1997	Oct. 1997
1997 Supplemental Specifications	Oct. 1997	Oct. 1998
Interim Supplemental Specifications No. 1	June 1998	Oct. 1998
1998 Supplemental Specifications	Oct. 1998	Oct. 1999
Interim Supplemental Specifications No. 1	Feb. 1999	Until Superseded

Prepared By: Michael Hall - Standard Specifications Engineer
Bureau of Highway Construction

Supplemental Specifications and/or Interim Supplemental Specifications may be requested in writing, at no charge, from the following address:

Wisconsin Department of Transportation
Bureau of Highway Construction, Room 601
P.O. Box 7916
Madison, WI 53707-7916

Supplemental Specifications and Interim Supplemental Specifications also may be obtained in person, at no charge, at the Bureau's Office, Room 601, Hill Farms Transportation Building, 4802 Sheboygan Avenue, Madison, Wisconsin.

Wisconsin Department Of Transportation
Division Of Transportation Infrastructure Development
Bureau Of Highway Construction
Standards Development Section

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PART I
GENERAL REQUIREMENTS AND COVENANTS

108.7 Determination and Extension of Contract Time for Completion
Replace paragraph one with the following:

The time for completion of the work contemplated under the contract will be specified in the proposal as a specific number of calendar days including Saturdays, Sundays and holidays, subject to the provisions of Subsection 108.13.1; as a specific number of working days, excluding Sundays, Saturdays, New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Eve Day, Christmas Day, New Year's Eve Day and the period from November 16 through March 31, both dates inclusive, subject to the provisions of Subsection 108.12.2; or as a given calendar date on or before which the work shall be completed. The completion of work within the time as specified is an essential part of the contract.

108.12.2.1 General
Replace paragraph two with the following:

No working day charges will be assessed on Saturdays, Sundays, New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Eve Day, Christmas Day, and New Year's Eve Day, nor during the period from November 16 through March 31, both dates inclusive, even though work is performed on the controlling item, or on other days or times specified in the special provisions when work on the controlling item is prohibited, except that working day time charges will be assessed after November 15 for those contracts not completed to the stage required by the contract to be completed by November 16.

PART III
BASE COURSES

304.1 Description
Replace paragraphs one and two with the following:

Crushed Aggregate Base Course shall consist of a dense graded compacted base course composed of one or more courses or layers of coarse aggregate, either crushed gravel or crushed concrete or crushed stone or crushed asphaltic pavement; fine aggregate; and binder or filler. Aggregate produced from crushed gravel, crushed concrete, or crushed stone may be supplemented with crushed aggregate produced from industrial by-products or recycled/reclaimed materials as described in Subsection 304.2.1. All materials shall be blended as necessary to produce an intimate mixture of the required gradation and stability, constructed on the prepared foundation in accordance with the specifications and in reasonably close conformity with the lines, grades, thicknesses and typical cross-sections shown on the plans or established by the engineer.

Crushed Aggregate Base Course, Open Graded, shall consist of an open graded, compacted base course composed of one or more courses or layers of coarse aggregate, either crushed gravel or crushed concrete or crushed stone, and fine aggregate. Aggregate produced from crushed gravel, crushed concrete, or crushed stone may be supplemented with crushed aggregate produced from industrial by-products or recycled/reclaimed materials as described in Subsection 304.2.1. All materials shall be blended as necessary to produce an intimate mixture of the required gradation and

stability, constructed on the prepared foundation in accordance with the specifications and in reasonably close conformity with the lines, grades, thicknesses and typical cross-sections shown on the plans or established by the engineer.

304.2.1 General Conditions

Add the following to the end as paragraph five:

Limited amounts of aggregate produced from an allowed industrial by-product or an allowed recycled/reclaimed material may be blended with crushed gravel, crushed concrete, or crushed stone. Specific materials and allowable percentages, by weight, are listed in Subsection 304.2.3. These materials shall be substantially free of deleterious substances and shall be crushed, screened, and blended with the crushed gravel, crushed concrete, or crushed stone to produce a uniform mixture. This blended material shall contain only one industrial by-product or one recycled/reclaimed material. This blended material shall not be used in the upper 3 inches (75mm) of Crushed Aggregate Base Course used as an aggregate shoulder or in the upper 3 inches (75mm) of a temporary or permanent aggregate roadway.

304.2.3 General Requirements

Replace the text of 304.2.3, excluding Subsections 304.2.3.1 and 304.2.3.2, with the following:

The aggregates for Crushed Aggregate Base Course shall consist of hard, durable particles of crushed stone or crushed concrete or crushed gravel and a filler of natural sand, stone sand or other finely divided mineral matter. The aggregates for Crushed Aggregate Base Course, Open Graded, shall consist of hard, durable particles of crushed stone or crushed gravel or crushed concrete. Except for applications excluded in Subsection 304.2.1, Crushed Aggregate Base Course and Crushed Aggregate Base Course, Open Graded may contain up to the listed maximum percentage, by weight, of one of the following permitted industrial by-products or recycled/reclaimed materials:

Material	Maximum Percentage (by weight)
Glass	12
Foundry slag	7
Steel mill slag	15
Bottom ash	8
Pottery cull	7

Oversize material encountered in deposits from which the material is taken shall be removed by screening or shall be crushed to the required sizes. The composite material shall be substantially free from vegetable matter, shale and lumps or balls of clay, and shall conform to the pertinent gradation requirements.

Unless otherwise specified in the contract, the aggregate, including any industrial by-product or recycled/reclaimed material, shall have a percentage of wear of not more than 50, as determined by AASHTO T 96.

The aggregate, including any blended filler and any industrial by-product or recycled/reclaimed material, shall have a liquid limit of not more than 25 and a plasticity index of not more than six, except in the case of aggregates for base courses placed between old and new pavements, where the plasticity index shall not exceed three.

For aggregate for crushed aggregate base course, a minimum of 45 percent, by count, of the number of particles of aggregate retained on the No. 4 (4.75 mm) sieve shall have at least one fractured face.

For aggregate for open graded base course, a minimum of 90 percent, by count, of the number of particles retained on the No. 4 (4.75 mm) sieve shall have at least one fractured face.

304.2.4 Soundness
Replace the entire text with the following:

When the fraction of the aggregates, including any industrial by-product or recycled/reclaimed material, retained on the No. 4 (4.75 mm) sieve is subjected to five cycles of the sodium sulfate soundness test (AASHTO T 104), the weighted loss shall not exceed 18 percent by mass for crushed aggregate base course, or 12 percent for crushed aggregate base course, open graded, unless otherwise provided in the contract. If the quality of material or conditions of deposition in a quarry or deposit make questionable the continuous compliance with this soundness requirement, the engineer reserves the right to require maintenance of a stockpile or stockpiles of produced material sufficiently large to preclude use of material which has not been previously approved by test.

304.10 Basis of Payment
Replace paragraph two with the following:

The quantity of aggregate for the item of Crushed Aggregate Base Course, Open Graded Number (-), measured as provided above, will be paid for at the contract unit price per ton (Mg) or cubic yard (m^3), which price shall be full compensation for furnishing, producing, crushing, screening, loading, hauling, placing, watering unless otherwise provided, drying and compacting; for maintaining; for preparing foundation, unless otherwise provided; for dust abatement, unless otherwise provided; for stockpiling, if required; and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

308.5 Basis of Payment
Replace paragraph one with the following:

The quantity of Base Patching; Base Patching, Asphaltic; or Base Patching, Concrete; as the case may be, measured as provided above, will be paid for at the contract unit price per ton (Mg), or per square yard (m^2). That price shall be full compensation for furnishing all materials, except pavement ties and dowel bars installed in the existing concrete pavement; for the removal of old pavement, including any patching or surfacing materials, with the exception of sawing; for all excavation, except as hereinafter provided; for the preparation of the foundation, including all necessary cutting and trimming, filling of depressions to shape the subgrade to grade and section and satisfactory compaction; for disposal of all removed or excess materials; for furnishing, placing, consolidating, finishing and curing concrete masonry; for furnishing, placing and compacting asphaltic mixture, including the asphalt; and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

PART IV
PAVEMENTS

415.5.6.2 Placing Continuous Pavement Reinforcement
Replace the entire text with the following:

After the subgrade has been properly prepared, the bar steel reinforcement shall be placed. The longitudinal bars shall be placed on top of the transverse bars and firmly tied or fastened together at each intersection. The assembled bars shall be supported on bar chairs with bars located at a depth as shown on the plans. The bar chairs shall meet the approval of the engineer and shall be sufficient in strength and number to hold the steel reinforcement in required position during the construction operations.

Splices of longitudinal bars shall be made with the bars lapped as shown on the plans and firmly tied or fastened together. The arrangement of splices shall be as shown on the plans. Additional steel reinforcement as shown on the plans shall be installed at construction joints.

All bar steel reinforcement left protruding from the slab for any extended period of time shall be protected from deterioration caused by exposure.

The bar steel reinforcement shall not be bent or subjected to loading or forces which distort the steel or weaken the bond with the concrete.

Coated bars shall be tied using a procedure, equipment, and materials that will not damage or cut the coating. Ties for use with coated reinforcement shall be an approved plastic or nonmetallic material; stainless steel wire; or nylon, epoxy, or plastic-coated wire.

415.5.16 Tolerance in Pavement Thickness
Replace the entire text with the following:

415.5.16.1 General
The pavement shall be constructed to the thickness shown on the plans. Determination of the pavement thickness will be based on an acceptance program that considers the results of the following:

1. Contractor Quality Control Tests.
2. Validation of Contractor Quality Control Test Procedures.
3. Verification Tests.
4. Dispute Resolution Process.

Contractor probing of the freshly placed concrete will be the primary method for determination of thickness. Acceptance and payment will be based on the contractor's quality control tests until it can be shown through the validation, verification, or dispute resolution process that the contractor's test results are in error. The required contractor quality control test measurements shall be recorded and will become part of the permanent project record.

Areas with deficient thickness, as defined below, will be determined by coring and accepted and paid for as prescribed in 415.7.1.2.

415.5.16.2 Definitions
These definitions are used to describe thickness within 415.5.16.

Acceptable	Greater than or equal to the plan thickness minus 3/8 inch (10 mm).
Marginal	Greater than or equal to the plan thickness minus 1 inch (25 mm) but less than the plan thickness minus 3/8 inch (10 mm).
Deficient	Less than the plan thickness minus 1 inch (25 mm).
Measured Thickness	The thickness determined as the average of the contractor quality control measurements taken for a pavement unit.
Final Thickness	The thickness determined after validation, verification, and resolution of disputes for an area of pavement.

415.5.16.3 Pavement Units

Generally, the pavement shall be divided into basic units 250 feet (80 m) long, measured along the pavement centerline. Fractional units less than 250 feet (80 m) but greater than or equal to 100 feet (30 m) long shall be considered a whole basic unit. Fractional units less than 100 feet (30 m) long shall be included as a part of a contiguous basic unit.

The width of a basic unit shall be one lane, as measured from the pavement edge to the adjacent longitudinal joint; from one longitudinal joint to the next; or between pavement edges where there is no longitudinal joint.

Special units shall be established for areas of fillets, intersections, gaps, ramps and other special areas not included in basic units.

415.5.16.4 Contractor Quality Control Tests

415.5.16.4.1 General

The measured thickness of a pavement unit shall be determined as:

1. For a basic unit containing no deficient areas, the average of the two required contractor probings made within that unit.
2. For a special unit containing no deficient areas, the average of the available measurements made within that unit as agreed upon by the engineer.
3. For units containing deficient areas, the average thickness of the remaining portion of that unit that has not been defined as deficient. This determination shall be based on adjacent required tests and, if agreed upon by the engineer, may include additional measurements provided by the contractor.

In computing the measured thickness for a unit, individual measurements in excess of the plan thickness by more than 1/4 inch (6 mm) shall be considered as the plan thickness plus 1/4 inch (6 mm).

415.5.16.4.2 Probing Method

The contractor shall make a series of two probings for each basic unit. Both probings shall be at a single longitudinal location selected at random. Individual probings shall be at transverse locations as agreed upon by the engineer. The probing locations may be changed as approved or directed by the engineer.

All probing tests shall be conducted as prescribed in Subsection 13.20.9 of the Department's Construction and Materials Manual.

415.5.16.4.3 Alternate Methods

An alternate method, agreeable to the engineer, may be employed to determine the measured thickness of special units. The contractor shall measure the depth of a special unit at a minimum of two locations as agreed upon by the engineer. Contractor measurements and a brief description of the method employed shall be recorded and will become part of the permanent project record.

415.5.16.5 Validation of Contractor Quality Control Test Procedures

The engineer will periodically observe the contractor's testing procedure to assure that the test is being performed properly. At the engineer's request, the probing assembly shall be brought to the edge of the pavement for the engineer to validate the accuracy of the measurements recorded by the contractor.

415.5.16.6 Verification Tests

The engineer will use probing to verify that the pavement thickness is acceptable. Verification tests will be performed at a frequency of at least once for each half-day of paving. The engineer may elect to increase the verification testing frequency as necessary to assure that the pavement has an acceptable thickness.

The engineer will select a longitudinal location at random and designate the transverse positions for a series of two probings in each lane of pavement at that location. The contractor shall perform the probing as prescribed in Subsection 13.20.9 of the Department's Construction and Materials Manual. The engineer will be present and observe both placement of the plates and probing of the freshly placed concrete.

The engineer will record the individual measurements and calculate the average thickness for each lane. In computing the average thickness for verification tests, measurements in excess of the plan thickness by more than 1/4 inch (6 mm) will be considered as the plan thickness plus 1/4 inch (6 mm). The engineer will make available the results of the verification tests to the contractor without delay.

When verification tests indicate acceptable thickness, the final thickness will be accepted as equal to the contractor's measured thickness for the affected pavement and no further action is required.

When verification tests indicate marginal or deficient thickness and the contractor's tests do not, the contractor and engineer will jointly investigate that discrepancy immediately. If this investigation does not lead to a mutually agreeable explanation of the discrepancy, either the contractor or the engineer may invoke the dispute resolution provisions as prescribed in 415.5.16.7 to determine the final thickness of the affected pavement.

Where the contractor and engineer agree that the pavement is deficient, the extent of the deficient area will be determined as prescribed in 415.5.16.10.

415.5.16.7 Dispute Resolution

Resolution of a disputed thickness will be based on coring. Dispute resolution coring will be performed by the engineer as prescribed in AASHTO T 24 and evaluated by the engineer as

prescribed in AASHTO T 148. Costs associated with dispute resolution coring, except costs for filling of the holes with concrete or mortar, will be shared equally by the contractor and the Department.

415.5.16.8 Acceptable Areas

When the final thickness of a pavement unit is acceptable, no more measurements are required and that unit will be paid for at the full contract price.

415.5.16.9 Marginal Areas

When the final thickness of a pavement unit is marginal, the pay adjustment for that unit will be contingent upon the final thickness of the next unit in that lane. If the location for the next required random probing series is within 125 feet (40 m) of the first test location, the contractor may select and document a new random location to provide space for corrective action.

If the final thickness of the next unit is acceptable, then no pay adjustments will be assessed for either unit. If the final thickness of the next unit is not acceptable, pay will be adjusted for both units. Pay adjustment will continue for each succeeding unit until a unit with acceptable final thickness is produced.

415.5.16.10 Deficient Areas

Pavement will be considered deficient if one or more of the following is true:

1. An individual required contractor probe measurement is deficient.
2. The outcome of an investigation of a discrepancy between contractor and verification test results indicates a deficient final thickness.
3. A dispute resolution core is deficient.

The engineer will take additional measurements by coring of the hardened concrete to determine the extent of this deficient area. Cores will be taken at points approximately 20 feet (6 m) in each direction of the deficient measurement on a line generally parallel to the centerline or longitudinal axis of the unit. Coring will continue until a core that is not deficient is located in each direction. The limits of the deficient area will be determined, at each end, by lines drawn across the unit of pavement midway between the location of the last two cores.

Core testing will be performed by the engineer as prescribed in AASHTO T 24 and evaluated by the engineer as prescribed in AASHTO T 148. Coring, including filling of the holes with concrete or mortar, shall be paid for by the contractor.

415.7.1 Concrete Pavement

Replace the entire text with the following:

415.7.1.1 General

Except as otherwise provided in 415.7.1.2 for pavement thinner than plan thickness minus 3/8 inch (10 mm), the quantity completed and accepted, measured as provided above, will be paid for at the contract unit price per square yard (m^2) for Concrete Pavement. This price shall be full compensation for furnishing, hauling, preparing, placing, curing and protecting of all materials, including cement, concrete masonry, joints and joint materials, dowels and tie bars, unless otherwise provided; for preparing foundation, unless otherwise provided; for thickness measurement, except as prescribed in 415.5.16.7; for filling all core holes; for furnishing, operating, maintaining and repairing a

profilograph, performing profilograph testing of the pavement surface, providing all special traffic control required for profilograph testing, and performing all necessary corrective actions and corrective work associated with profilograph testing, all if required by special provision in the contract; and for all labor, equipment, tools and incidentals necessary for constructing the pavement complete, exclusive of reinforcement.

415.7.1.2 Pay Adjustment for Final Thickness

Payment, for pavement units subject to pay adjustment as prescribed in 415.5.16, will be:

For Pavement With a Final Thickness Thinner Than Plan Thickness By:	Percent of the Contract Unit Price
more than 3/8 inch (10 mm) but less than or equal to 1/2 inch (15 mm)	80
more than 1/2 inch (15 mm) but less than or equal to 3/4 inch (20 mm)	60
more than 3/4 inch (20 mm) but less than or equal to 1inch (25 mm)	50

Areas of pavement determined to have deficient final thickness, as prescribed in 415.5.16.10, shall be either:

1. Removed and replaced by the contractor with concrete pavement of acceptable thickness and paid for at the full contract price.
2. Left in place, if permitted by the engineer, and not paid for.

PART V
STRUCTURES

501.11 Placing

Replace paragraph one with the following:

Concrete shall be placed immediately after mixing and in no case shall concrete be used which does not reach its final position in the form or slab within 30 minutes after the time that the water is first added to the batch, except as specified under Ready-Mixed Concrete, Subsection 501.8. The method and manner of placing shall be such as to minimize the possibility of segregation of the aggregate.

505.3.4 Placing and Fastening

Replace paragraph ten with the following:

Coated bars shall be tied using a procedure, equipment, and materials that will not damage or cut the coating. Ties for use with coated reinforcement shall be an approved plastic or nonmetallic material; stainless steel wire; or nylon, epoxy, or plastic-coated wire.

PART VI
INCIDENTAL CONSTRUCTION

628.2.5.1 Geotextile Fabric
Replace the entire text with the following:

The geotextile fabric shall consist of either woven or non-woven polyester, polypropylene, stabilized nylon, polyethylene, or polyvinylidene chloride. Non-woven fabric may be needle punched, heat bonded, resin bonded, or combinations thereof. All fabric shall meet the following requirements:

Test Requirement	Method	Value*
Minimum Grab Tensile Strength in the Machine Direction	ASTM D 4632	120 lbs. (550 N)
Minimum Grab Tensile Strength in the Cross Machine Direction	ASTM D 4632	100 lbs. (450 N)
Maximum Apparent Opening Size Equivalent Standard Sieve	ASTM D 4751	No. 30 (600 µm)
Minimum Permittivity	ASTM D 4491	0.05 sec-1
Minimum Ultraviolet Stability Percentage of Strength retained after 500 hours of exposure	ASTM D 4355	70 %

* All numerical values represent minimum/maximum average roll values. (For example, the average of minimum test results on any roll in a lot should meet or exceed the minimum specified values.)

636.1 Description
Replace the entire text with the following:

This item of work shall consist of the construction of concrete masonry footings intended for supporting structural steel sign supports or sign bridges, in conformity with the requirements of the plans and specifications. Structural steel sign supports and sign bridges are described in Section 641.

641.1 Description
Replace the entire text with the following:

This work shall consist of furnishing and erecting sign bridges and sign supports fabricated from aluminum or structural steel, or combination thereof, consisting of trusses, crossarms, columns, braces, walkway supports, walkway, grating, handrails, guard chains, poles, mast arms, anchor bolts and all incidentals and accessories necessary to complete the work in accordance with the requirements of the plans and specifications. The furnishing and placing of signs or lighting of signs, or placing of concrete supports, except as provided hereinafter for Overhead Sign Support,

Structure____, will not be a part of this work.

Sign Bridge, Single Pole Sign Support, One Sign, Structure____ shall consist of furnishing and erecting single pole sign supports with attachments for signs facing in one direction.

Sign Bridge, Single Pole Sign Support, Two Signs, Structure____ shall consist of furnishing and erecting single pole sign supports with attachments for signs facing in opposite directions.

Sign Bridge, Cantilevered, Structure____ shall consist of furnishing and erecting cantilevered sign bridges with a single supporting structure.

Sign Bridge, Structure Mounted, Structure____ shall consist of furnishing and erecting sign bridges mounted on overhead roadway bridges.

Sign Bridge, Structure____ shall consist of furnishing and erecting sign bridges with multiple supporting structures.

Overhead Sign Support, Structure____ shall consist of furnishing and erecting commercially designed sign supports, fabricated from aluminum or steel, consisting of pole shafts, mast arms, anchor bolts, hardware, concrete supports and all other items necessary to complete the work in accordance with the requirements of the plan layout details and the contract.

641.4 Method of Measurement

Replace the entire text with the following:

The following items will be measured in place as a unit for each specific sign bridge completed and accepted in accordance with the contract:

Sign Bridge, Single Pole Sign Support, One Sign, Structure____
Sign Bridge, Single Pole Sign Support, Two Signs, Structure____
Sign Bridge, Cantilevered, Structure____
Sign Bridge, Structure Mounted, Structure____
Sign Bridge, Structure____

The item of Overhead Sign Support, Structure____ will be measured in place by the unit for each specific overhead sign support completed and accepted in accordance with the contract.

641.5 Basis of Payment

Replace the entire text with the following:

641.5.1 Sign Bridges and Single Pole Sign Supports

The following items, measured as provided above, will be paid for at the contract lump sum price for:

Sign Bridge, Single Pole Sign Support, One Sign, Structure____
Sign Bridge, Single Pole Sign Support, Two Signs, Structure____
Sign Bridge, Cantilevered, Structure____
Sign Bridge, Structure Mounted, Structure____
Sign Bridge, Structure____

This price shall be payment in full for furnishing all materials, including anchor bolts, dampeners when required in the structure plans, but not including concrete supports paid for separately as

described in Section 636; for fabricating, including all cutting, preparing, welding and zinc coating; for transporting and erecting; and for furnishing all labor, tools, equipment and incidentals necessary to complete this item of work in accordance with the contract.

641.5.2 Overhead Sign Supports

Overhead Sign Support, Structure____, measured as provided above, will be paid for at the contract lump sum price, which price shall be payment in full for designing the sign support structure including required concrete supports; for excavating; for furnishing all materials, including anchor bolts, pole shafts, mast arms, required reinforcing steel, and concrete; for fabricating, including all cutting, preparing, welding, and zinc coating; for placing and curing concrete supports; for transporting and erecting; and for furnishing all labor, tools, equipment, and incidentals necessary to complete this item of work in accordance with the contract.

647.1 Description

Replace paragraph eleven with the following:

Pavement Marking, Curb, shall consist of the furnishing and application of reflectorized curb marking of the specified color, configuration and material. The contractor shall mark the vertical face and top of the curb.

BID ITEMS ADDED - U.S. STANDARD MEASURE (EAS VERSION 3)
Add the following bid items to those already added in the Supplemental Specifications - 1998 Edition.

NEWLY ADDED BID ITEMS

Item Number	Description	Unit
62815	Silt Fence, Delivered	L.F.
62816	Silt Fence, Installed	L.F.
64101-64105 et seq.	Sign Bridge, Single Pole Sign Support, One Sign, Structure____	LS
64106-64110 et seq.	Sign Bridge, Single Pole Sign Support, Two Signs, Structure____	LS
64112-64125 et seq.	Sign Bridge, Cantilevered, Structure____	LS
64151-64155 et seq.	Sign Bridge, Structure Mounted, Structure____	LS
64181-64185 et seq.	Overhead Sign Support, Structure____	LS

BID ITEMS RETIRED - U.S. STANDARD MEASURE (EAS VERSION 3)
Add the following bid items to those already retired in the Supplemental Specifications - 1998 Edition.

NEWLY RETIRED BID ITEMS

Item Number	Description	Unit
62848	Silt Fence, Silty Soil, Delivered	L.F.
62849	Silt Fence, Sandy Soil, Delivered	L.F.
62850	Silt Fence, Silty Soil, Installed	L.F.
62851	Silt Fence, Sandy Soil, Installed	L.F.
64127	Sign Bridges, 20-Ft. Span	Each
64128	Sign Bridges, 25-Ft. Span	Each
64129	Sign Bridges, 30-Ft. Span	Each
64130	Sign Bridges, 35-Ft. Span	Each
64131	Sign Bridges, 40-Ft. Span	Each
64132	Sign Bridges, 45-Ft. Span	Each
64133	Sign Bridges, 50-Ft. Span	Each
64134	Sign Bridges, 55-Ft. Span	Each
64135	Sign Bridges, 60-Ft. Span	Each
64136	Sign Bridges, 65-Ft. Span	Each
64137	Sign Bridges, 70-Ft. Span	Each
64138	Sign Bridges, 75-Ft. Span	Each
64139	Sign Bridges, 80-Ft. Span	Each
64140	Sign Bridges, 85-Ft. Span	Each
64142	Sign Bridges, 90-Ft. Span	Each

64143	Sign Bridges, 95-Ft. Span	Each
64144	Sign Bridges, 100-Ft. Span	Each
64145	Sign Bridges, 105-Ft. Span	Each
64146	Sign Bridges, 110-Ft. Span	Each
64147	Sign Bridges, 115-Ft. Span	Each
64148	Sign Bridges, 120-Ft. Span	Each
64160	Single Pole Sign Supports, One Sign	Each
64165	Single Pole Sign Supports, Two Signs	Each
64180	Overhead Sign Supports	Each

BID ITEMS ADDED - SI METRIC (EAS VERSION 4)

Add the following bid items to those already added in the Supplemental Specifications - 1998 Edition.

NEWLY ADDED BID ITEMS

Item Number	Description	Unit
62815	Silt Fence, Delivered	m
62816	Silt Fence, Installed	m
64101-64105 et seq.	Sign Bridge, Single Pole Sign Support, One Sign, Structure____	LS
64106-64110 et seq.	Sign Bridge, Single Pole Sign Support, Two Signs, Structure____	LS
64112-64125 et seq.	Sign Bridge, Cantilevered, Structure____	LS
64151-64155 et seq.	Sign Bridge, Structure Mounted, Structure____	LS
64181-64185 et seq.	Overhead Sign Support, Structure____	LS

BID ITEMS RETIRED - SI METRIC (EAS VERSION 4)

Add the following bid items to those already retired in the Supplemental Specifications - 1998 Edition.

NEWLY RETIRED BID ITEMS

Item Number	Description	Unit
62848	Silt Fence, Silty Soil, Delivered	m
62849	Silt Fence, Sandy Soil, Delivered	m
62850	Silt Fence, Silty Soil, Installed	m
62851	Silt Fence, Sandy Soil, Installed	m
64127	Sign Bridges, 6.1 m Span	Each
64128	Sign Bridges, 7.6 m Span	Each
64129	Sign Bridges, 9.1 m Span	Each
64130	Sign Bridges, 10.7 m Span	Each
64131	Sign Bridges, 12.2 m Span	Each
64132	Sign Bridges, 13.7 m Span	Each
64133	Sign Bridges, 15.2 m Span	Each
64134	Sign Bridges, 16.8 m Span	Each
64135	Sign Bridges, 18.3 m Span	Each
64136	Sign Bridges, 19.8 m Span	Each
64137	Sign Bridges, 21.3 m Span	Each
64138	Sign Bridges, 22.9 m Span	Each
64139	Sign Bridges, 24.4 m Span	Each
64140	Sign Bridges, 25.9 m Span	Each

64142	Sign Bridges, 27.4 m Span	Each
64143	Sign Bridges, 29.0 m Span	Each
64144	Sign Bridges, 30.5 m Span	Each
64145	Sign Bridges, 32.0 m Span	Each
64146	Sign Bridges, 33.5 m Span	Each
64147	Sign Bridges, 35.1 m Span	Each
64148	Sign Bridges, 36.6 m Span	Each
64160	Single Pole Sign Supports, One Sign	Each
64165	Single Pole Sign Supports, Two Signs	Each
64180	Overhead Sign Supports	Each

ERRATA SHEET

Replace the errata sheet of the Supplemental Specifications - 1998 Edition with the following:

Conversion Table (page 751):
Under the heading "Volume", change "millimeter" to "milliliter".

416.3.10 Continuous Diamond Grinding:
Replace paragraph six with the following to correct punctuation errors:

Solid and liquid residue from grinding shall be removed from the roadway by vacuuming. Residue and water shall not be permitted to flow or be blown across lanes used by public traffic; or to enter any storm sewer, stream, lake, reservoir or marsh. Residue and water shall be disposed of at an acceptable material disposal site, except that residue from pavements in rural areas may be disposed of on the roadway, beyond the shoulder edge, in a manner satisfactory to the engineer.

651.3 Construction Methods:
Replace paragraph eight with the following to correct a spelling error:

The electrical connection between the equipment grounding conductor and any equipment grounding electrode shall be made by the exothermic weld method.
