

DIVISION 200 – EARTHWORK

SECTION 201 – CLEARING AND GRUBBING

201.03, begin line 25:

Surface objects, trees, stumps, roots, and other protruding obstructions not designated to remain shall be cleared and grubbed, including mowing as required. Undisturbed sound stumps, roots, and non-perishable solid objects, which are a minimum of 3 ft below the final subgrade or slope of embankments, may be left, provided they are as ~~nearly~~ flush as possible. However, they shall not extend more than 4 in. above the ground line or low water level. Sound stumps may be cut off at ground level outside the construction limits of cut and embankment areas if approved.

201.03, begin line 37:

Burning of perishable material shall be ~~done~~*performed* in accordance with applicable laws, ordinances, rules, and regulations. All necessary permit approvals shall be obtained prior to burning.

201.03, begin line 50:

Low hanging branches and unsound or unsightly branches on trees or shrubs designated to remain shall be removed as directed. Branches of trees extending over the roadbed shall be trimmed to give a clear height of 20 ft above the roadbed. All trimming shall be ~~done~~*performed* by skilled workers and in accordance with good tree surgery practices.

201.07, begin line 130:

Payment for tree removal sizes as designated in requirement 4 of 201.06(c), which are larger than those sizes shown as pay items, will be made *based* on ~~the basis of~~ the largest size shown in the Schedule of Pay Items except as set out below.

SECTION 202 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.01, begin line 4:

This work shall consist of the removal, wholly or in part, and satisfactory disposal of all buildings, fences, structures, old pavement, abandoned ~~pipe—lines~~*pipelines*, abandoned tanks, and any other obstructions which are not designated or allowed to remain, except for the obstructions to be removed and disposed of under other items in the contract. It shall include the salvaging of designated materials and backfilling the resulting trenches, basements, holes, and pits.

202.02, begin line 14:

All buildings and foundations ~~in accordance with 202.06~~, structures, fences, tanks, and other obstructions, any portions of which are on the right-of-way shall be razed, removed, and disposed of, except utilities and those features for which other provisions have been made for removal. Salvageable material designated by the Department shall be removed without unnecessary damage in sections or pieces which may be transported

readily and shall be stored at specified places within the project limits or as otherwise designated.

202.02, begin line 28:

Unsuitable material shall be removed from cisterns, septic tanks, other tanks, basements, and cavities. The disposal of this material shall be in accordance with all applicable and current local, State, and Federal regulations. Cisterns, septic tanks, other tanks, basements, and cavities shall be backfilled in an approved manner. Those which cannot be backfilled satisfactorily shall be removed. If the backfill is within the limits of construction, it shall be completed in accordance with 203.23, unless otherwise directed. All abandoned wells shall be backfilled in accordance with ~~the~~ 312 IAC 13-10-2. A copy of the driller's license shall be furnished prior to commencement of work.

202.02, begin line 44:

Copies of the demolition/renovation notification form can be obtained from ~~the~~ IDEM's website. Questions concerning the completion of the demolition/renovation notification ~~should~~*shall* be addressed to IDEM's Office of Air Quality.

202.02, begin line 76:

All identified regulated materials shall be reported and removed in accordance with the procedures specified in 104.06 prior to commencing the demolition of the facility. Asbestos removal shall be in accordance with the OSHA Asbestos Standard for ~~the~~ Construction Industry, the EPA Asbestos Facts: Demolition and Renovation Regulations, and 202.07.

202.03, begin line 132:

Unless otherwise directed, the substructures of existing structures shall be removed down to the natural stream bottom and those parts outside of the stream shall be removed down 1 ft below the natural ground surface. Where such portions of existing structures lie wholly or in part within the limits of a new structure, they shall be removed as necessary to accommodate the construction of the proposed structure. Portions of pre-existing structures that are not visible and not shown on the plans shall be removed as directed. ~~Payment for such~~*The* removal will be paid ~~for~~ as Class X excavation in accordance with 206.11.

Unless otherwise specified, structural steel and materials not designated by the Department to be salvaged shall become the property of the Contractor. It shall be removed from the site before completion of the work and proper allowance for its value shall be ~~taken into account~~*considered* in the bid price of the item involved. If the structure is to remain the property of the Department, steel or wood bridges shall be carefully dismantled without unnecessary damage, steel members shall be match marked, and all salvaged material shall be stored in accordance with 202.02.

202.03, begin line 170:

Pneumatic hammers, up to ~~a maximum of~~ 45 lb ~~maximum weight~~ may be used for all removal areas to be patched in the deck and all areas within 24 in. of full depth removal lines. Pneumatic hammers up to 69 lb maximum weight may be used for removal of all parapet walls having a construction joint separating the wall from the coping and all partial curb removals. Pneumatic hammers up to 90 lb maximum weight may be used for all other

removals outside these limits. Concrete splitters may be used for partial concrete removal subject to satisfactory performance. Deck areas that are to be removed full depth shall be completely separated from adjacent concrete by sawing before hammers heavier than 45 lb may be used.

202.04, begin line 209:

When indicated in the contract documents or as directed, all pipe and tile drains shall be removed and reasonable precautions ~~s shall be~~ taken to avoid breaking or damaging them. The pipe or tile shall be stored neatly on the right-of-way, unless it is to be re-laid as a part of the contract. Otherwise, the conditions in accordance with 104.05 shall apply.

Pipes to be re-laid shall be removed and stored so that there is no loss or damage to the pipe. Replacement will be required of sections lost from storage or from damage through negligence or from improper methods in handling. Removal of pipe or drain tile, any necessary cleaning, removal of headwalls, storage of pipe, and disposal of removed headwall material and unsuitable pipe will not be paid for directly. ~~†~~ The cost shall be included in the various pay items.

202.05, begin line 256:

Prior to performing the work of pavement removal at locations shown on the plans or where directed, cement concrete pavement to be removed shall be cut with a power driven concrete saw along designated lines. Sawing shall ~~be such that~~ ~~not damage~~ any portion of the pavement to remain in place ~~will not be damaged~~. Any portion that is damaged or removed outside the designated lines shall be replaced with no additional payment. Sawing of pavement to be removed will not be paid for directly, but shall be included in the cost of pavement removal.

202.14, begin line 593:

Testing for regulated materials will be paid for at the contract unit price per each for the type and number of tests required. Testing shall include collecting ~~of~~ samples and all necessary laboratory procedures.

202.14, begin line 795:

If it is necessary to package the contaminated soil in a container, the cost of the container and all ~~cost related to~~ packaging shall be included in the cost of removal. The cost of all excavation pertaining to contaminated soil, removal of all soil within the limits established by the Engineer, restoring ground lines, maintaining required records and filing of reports shall be included in the cost of contaminated soil, remove. No payment will be made for work beyond the limits established by the Engineer, work not performed in accordance with the specifications, or work not required by the contract unless in accordance with 104.03.

SECTION 203 – EXCAVATION AND EMBANKMENT

203.05, begin line 32:

Peat excavation shall consist of the necessary excavation and satisfactory disposal of peat, muck, marl, or any other similar unsuitable material in peat deposits, together with

any overlying material, ~~except pavement~~, which is not used in embankment construction. *Pavement layers are excluded from this work* except as otherwise provided in 203.16.

203.08, begin line 53:

Borrow shall consist of approved material required for the construction of embankments or for other portions of the work and shall be obtained from accepted locations and sources outside the right-of-way. Borrow material shall be free of substances that will form deleterious deposits, or produce toxic concentrations, or combinations that may be harmful to human, animal, plant or aquatic life, or otherwise impair the designated uses of a stream or area. Unless otherwise designated in the contract, arrangements shall be made for obtaining borrow. Borrow, as designated herein, shall not include material excavated beyond the right-of-way limits at intersecting public roads, private and commercial drive approaches, and material furnished as B borrow.

203.08, begin line 69:

Proposed borrow and disposal sites shall be *as* accepted by the Engineer prior to the start of any borrow or disposal operations at the site. For each proposed site, an IC-203 Request for Acceptance of Borrow or Disposal Site form, available on the Department's website, shall be submitted to the Engineer a minimum of 14 days prior to the Contractor's planned start of operations at the site. All requests for acceptance of a borrow or disposal site shall be in accordance with 203.08(a).

203.08, begin line 209:

All proposed General Sites shall have an inspection of areas impacted by the borrow or disposal operations conducted by a qualified wetland professional to determine if wetlands are present on the site. ~~An Approved-List of~~ *Prequalified* Wetland Delineators *Consultants* for INDOT Project Contractors is maintained on the Department's website. The wetlands inspection shall be in accordance with the Federal Manual for Identifying and Delineating Jurisdictional Wetlands. The inspection shall also determine if isolated wetlands as defined by IDEM are present. The Contractor shall demarcate the boundary of all wetlands identified within the proposed borrow or disposal site in a method acceptable to the Engineer.

203.13, begin line 477:

When slides are encountered during construction, or when water is observed seeping out of the slope or slope sloughing occurs, the Engineer shall be notified. The Engineer will contact the Department's Geotechnical Engineering Division. The Department will provide ~~the~~ remedial measures to address the slope issues. Soil disturbed due to a slide shall be treated as directed. Excavation of material resulting from a slide or sloughing event will be paid for as the class or classes of excavation encountered.

203.14, begin line 505:

Exploration of underground drainage and sinkholes may be required and payment will be hereinafter provided. Should any underground drain be encountered, the location of which is not shown on the plans, notification shall be made at once. Drainage shall be explored as directed and, if deemed necessary, ~~taken care of~~ *corrected* under applicable provisions of these specifications, or as otherwise directed.

203.15, begin line 544:

If material is encountered during excavation which appears to belong in the classification of rock excavation in accordance with 203.03, notification shall be made in writing. Ample time shall be allowed to ~~make such~~conduct an investigation and obtain measurements ~~that are~~ necessary to determine the class and volume of the material in question.

Exploratory cores shall be taken from the top of the rock to approximately subgrade elevation as directed. The cores shall be cut with standard diamond core bits and series X double tube core barrels to obtain 2 1/8 in. diameter samples. All cores shall be suitably marked and identified to show the location of the core by station, offset from centerline, elevation of top of rock, depth below top of rock, and percent recovery within each core. All cores shall be retained. The cores shall be placed in suitable compartmented wooden boxes in the order in which ~~they were~~ removed from the boring, with dividers between core runs. The top and bottom of each run shall be appropriately marked. The cores shall be transported to a location as directed.

203.15, begin line 616:

Except as indicated below, all pre-splitting charges shall be detonated simultaneously ~~by the use of~~fusing instantaneous electric blasting caps or by means of a detonating cord trunkline. The line holes shall be fired before the main excavation is blasted. Pre-splitting shall be kept well in advance of regular blasting operations. Primary blasting holes shall be drilled no less than 6 ft from the pre-split face, unless otherwise directed. If additional charges are required, holes shall be placed at 1/2 the distance of a full depth hole to a depth such that the bottom of the hole clears the pre-split face approximately 2 ft. The pre-split face shall deviate no more than 6 in. from the front line of drill holes or more than 12 in. from the back line of drill holes, except where the character of the rock will unavoidably result in some irregularities.

203.16, begin line 660:

If the required alignment is on an existing fill over a peat deposit, treatment may be required by any ~~one~~single or ~~any~~ combination of the following methods:

203.24, begin line 1255:

Acceptance of the compaction of chemically modified soils or aggregate will be determined by averaging three LWD tests obtained at a random station determined in accordance with ITM 802, for each 1,400 cu yds of chemically modified soil or for each 800 t of compacted aggregate. Where the construction area is 8 ft wide or more, the location of the three tests will be ~~at~~ 2 ft from each edge of the construction area and ~~at~~ 1/2 of the width of the construction area. Where the construction area is less than 8 ft wide, the location of the three LWD tests will be spaced at 1/2 of the width of the construction area and ~~spaced~~ 5 ft apart in the longitudinal direction. The average deflection shall be equal to or less than the maximum deflection allowed in the tables above or determined by the test section.

203.25, begin line 1267:

When aggregate is used for embankment construction and it is not possible to perform stiffness testing in accordance with ITM 508 or strength testing in accordance with ITM 509, such material shall be compacted with several passes of crawler-tread equipment,

~~or with~~ approved vibratory equipment, or both. The equipment weight shall be at least 10 t. The materials shall be placed in lifts not to exceed 9 in. loose measurements, or as directed by the Engineer. Each lift shall be compacted with a minimum of five passes. The tread areas shall overlap enough on each trip so that the entire embankment is compacted uniformly.

203.27, begin line 1348:

Measurement for payment will not include material excavated beyond authorized cross-sections. Where material is excavated beyond authorized cross-sections and wasted without authority, the ~~material so~~-wasted *material* will be measured and deducted from the excavation quantities. Unless otherwise authorized, the amount of waste to be deducted, when common excavation, rock excavation, unclassified excavation, borrow, or other excavation has been wasted along embankments or elsewhere without authority shall be that portion of the embankment or fill which is outside a 1/4 to 1 slope in excess of that shown on the plans, and all portions outside a line from the shoulder point to a point 4 ft, measured horizontally, outside the theoretical toe of the slope. In determining waste, no tolerance in widths of shoulders will be allowed unless additional widths are authorized in writing before shoulders are finally constructed.

203.28, begin line 1463:

The accepted quantities of excavation and embankment will be paid for at the contract price per unit of measurement for each of the pay items listed below which is included in the Schedule of Pay Items. Common excavation and unclassified excavation will be paid for on the unit basis of contract quantities in accordance with 203.27(a), without any quantity limit, unless otherwise shown in the Schedule of Pay Items. Combined quantities of borrow, common and unclassified excavation not exceeding 15,000 cu yds will be paid for *based* on ~~the basis of~~ contract quantities in accordance with 203.27(a) with no adjustment to plan shrinkage factor. Except as noted above, borrow, as well as all other excavation, will be paid for *based* on ~~the basis of~~ measured quantities in accordance with 203.27(b), unless otherwise shown in the Schedule of Pay Items. Linear grading will be paid for at the contract unit price per linear foot.

SECTION 204 – GEOTECHNICAL INSTRUMENTATION

204.03, begin line 41:

The pipe sections for the settlement plates shall be 3/4 in. steel pipe, 4 ft long and threaded on both ends with proper fittings so that pipe sections can be extended vertically from the center of the plates up through the new embankment as it increases in height during grading operations. A *2 in.* cover pipe *2 in.* shall be slipped over and centered on the standpipe, and not welded to plates. The 3/4 in. steel and cover pipes shall extend a minimum of 2 ft or more above the grade of the new embankments at all times during grading operations and monitoring period.

204.04, begin line 97:

The standpipe piezometers shall be installed by a geotechnical consultant on the Department's Qualified Geotechnical Consultant's List prior to placing the first lift of embankment. *The Piezometer shall* consist of a 1/2 in. leak proof, flush-coupled

Schedule 80 PVC pipe or ABS standpipe extending to the surface of the embankment with an attached polyethylene tip in accordance with AASHTO T 252.

204.04, begin line 128:

The auger shall then be pulled or jacked a distance equal to the length of the tip in increments of 6 in. The hole shall be filled with water saturated Ottawa sand at each increment. This layer of sand shall not be tamped ~~in order to~~ avoid damage to the tip.

204.04, begin line 151:

If the piezometer location is in an area of proposed fill, a PVC casing shall be used around the piezometer standpipe ~~in order to~~ protect the pipes during embankment construction. B borrow shall be placed and compacted around the casing without disturbing the casing.

SECTION 205 – STORMWATER MANAGEMENT

205.03, begin line 37:

The Contractor shall furnish, install, inspect, maintain, and remove BMPs for land-disturbing activity areas and develop an SWQCP in accordance with the CSGP. The Contractor's SWQCP shall be a required contract specific component to the Department's Design SWP3. The submitted and accepted Contractor's SWQCP shall ~~interrelate~~coordinate with the Department's Design SWP3 to satisfy the requirements of the CSGP.

205.03, begin line 259:

Inspection reports for CSGP contracts shall be submitted by the SWQM within 24 h of the day of the inspection. The inspection reports for CSGP contracts shall be documented and submitted electronically using the current version of the Department's stormwater inspection management report which is available on the Department's website. A paper inspection form shall only be used ~~in the event that~~if the electronic inspection form is out of service or as directed. Inspections shall begin when the installation of BMPs start, when land disturbing activities begin, or if potential impacts to protected resources will occur, whichever is earliest.

205.05, begin line 456:

Slope drains ~~pipes~~ shall be lengthened as required due to the construction of the embankment.

205.06, begin line 481:

Shipping, handling and storage shall be in accordance with the manufacturer's recommendations. Silt fence material shall be in accordance with 918.02(~~de~~). The silt fence material will be rejected if it has defects, tears, punctures, flaws, deterioration, or damage incurred during manufacture, transportation, storage, or installation. Each roll shall be labeled or tagged to provide product identification.

205.06, begin line 513:

Within areas prone to flooding or concentrated flow, "Do Not Disturb" signs in accordance with 622.20 may be accepted in lieu of fencing if requested and accepted in

writing prior to installation. If “Do Not Disturb” signs are used in lieu of fencing, they shall be spaced at ~~a distance of~~ 25 ft apart to delineate the entire length of concern. At a minimum, two signs shall be used.

SECTION 206 – STRUCTURE EXCAVATION

206.08, begin line 151:

Where the masonry is to rest on a foundation surface other than those described above, the approximate bottom of the excavation shall not be disturbed. The final removal of material to the required grade shall be ~~done~~*performed* carefully just prior to placing the foundation masonry. The final surface shall be left smooth and ~~be~~ *level* unless otherwise designated, ~~be level~~.

206.09, begin line 202:

Cofferdams shall be constructed for all abutments and piers where water or unstable soil is encountered or where the soil may become unstable; excessive stream pollution or stream flow restriction might occur with other construction procedures; or if necessary to support the sides of excavated areas, embankment, adjacent buildings, tracks, or other premises. In general, they shall be carried down well below bottoms of footings, ~~shall~~ be well braced, and ~~be~~ as ~~nearly~~ watertight as practicable. The interior dimensions shall be sufficient to provide ample clearance to enable pile driving, the construction of forms, and *provide* clearance for pumping equipment outside the forms. Cofferdams shall be constructed to protect plastic concrete against damage from a sudden rising of the stream and to prevent damage to the foundation by erosion.

206.11, begin line 312:

For a footing lowered more than 4 ft below its elevation shown on the plans, all such extended excavation below the bottom of footing elevation shown on the plans to the revised bottom of footing shall be ~~done~~*performed* as extra work in accordance with 104.03. Payment will be made in accordance with 109.05.

206.11, begin line 419:

The classifications for necessary excavation for arch superstructures outside the limits of foundation excavation or waterway excavation shall be those governing the excavation inside the limits of foundation excavation or waterway excavation, depending on the location of the excavation for the arch superstructure. Such excavation shall be bounded by vertical planes which are 1 ft outside the outside faces of the arch ring and parallel thereto, by a vertical plane passing through the intersection of the ~~intrados~~*interior* *curve* of the arch ring and the original ground line parallel to the face of the abutment, and the vertical plane bounding the foundation excavation on the side adjacent to the arch ring. The lower limit shall be a sloping plane which is 1 ft below a plane connecting the intersection of the ~~intrados~~*interior* *curve* of the arch ring and the original ground, and the intersection of the ~~intrados~~*interior* *curve* of the arch ring with the vertical plane bounding the foundation excavation.

206.11, begin line 443:

If a suitable sump is constructed outside the pay limits as described above, ~~such~~*the* *pay* limits will be extended to include the actual lines of the sump. The additional pay limits

added for the sump will not exceed 4% of the area of the footing involved.

SECTION 207 – SUBGRADE

207.04, begin line 65:

Prior to placement of the 3 in. coarse aggregate No. 53 as part of the subgrade treatment Type V, the grade shall be proofrolled, and then the coarse aggregate shall be compacted to 100% *of maximum dry density* prior to the placement of the pavement.

SECTION 208 – FINISHING SHOULDERS, DITCHES, AND SLOPES

208.02, begin line 30:

Where cuts are widened beyond the typical cross-sections shown on the plans ~~in order~~ to obtain additional material for constructing shoulder widths required or where fills are widened to dispose of excess excavated material, the shoulders shall be finished to the widths as finally constructed.

208.03, begin line 41:

Ditches shall be finished to the lines and grades shown on the plans or as otherwise laid out. The edges shall be parallel to the pavement unless it is necessary to have the gradients different from that of the pavement ~~in order~~ to obtain proper drainage, in which case the edges shall be as determined.

SECTION 210 – FINAL TRIMMING AND CLEANING

210.02, begin line 33:

If the contract is for construction of a portion of a divided highway on a right-of-way on which no previous construction has been ~~done~~*performed* or on a divided highway right-of-way on which a previous grading-only contract has been completed, then the provisions of this specification shall apply to the entire right-of-way for the full contract length.

SECTION 211 – B BORROW AND STRUCTURE BACKFILL

211.03.1, begin line 122:

The gradation shall be performed on the material used in the permeability test. Testing for permeability shall be performed on the sample of the material compacted to 95% in accordance with AASHTO T 99, Method C or D. All ~~of~~ the tests listed above shall be performed a minimum of once every 12 months per source.

211.03.1, begin line 132:

If the minimum resistivity exceeds 5,000 Ω -cm, the requirement for the testing of chlorides and sulfates will be waived. The resistivity shall be tested at 100% saturation. All ~~of~~ the tests listed above shall be ~~run~~*performed* a minimum of once every 12 months per source. The Department's Division of Materials and Tests will evaluate the material from each source and determine the appropriate tests to be performed.

211.05, begin line 160:

When special filling is required, the embankment for bridges shall be constructed using B borrow within the specified limits shown on the plans. All embankment construction details ~~specifically set out in this specification for embankment for bridges~~ shall be considered in accordance with the applicable requirements of 203.

211.05, begin line 172:

~~If approach embankment or shoulders are constructed of material not suitable for growing seed or sod, and if one or both of these is required, then such areas shall, unless otherwise specified, be covered with a layer of clay, loam, or other approved material. This layer shall be approximately 1 ft thick after being compacted into place.~~
If seeding or sodding is required on approach embankments or shoulders constructed of material unsuitable for growing vegetation, those areas shall be covered with a layer of clay, loam, or other approved material, unless otherwise specified. This cover material shall be approximately 1 ft thick after being compacted in place.

211.06, begin line 178:

When specified, B borrow shall be placed around all bents falling within the limits of the approach grade as shown on the plans. ~~Before placing, t~~^the surface of the ground on which ~~it is to be~~^{the B borrow is} placed shall be scarified or plowed as directed. The embankment slope shall be 2:1 on the sides and beneath the structure; and shall be 6:1 from the end of the bridge down to the average ground line, ~~or it may be required to complete.~~
^tThe approaches *may be required to be completed* back to the existing grade. An enclosing dam and provisions for growing vegetation shall be constructed in accordance with 211.05.

211.10, begin line 222:

If the material comes from a wet source such as below water or a washing plant, and weighing is involved in the method of measurement, there shall be a 12 h drainage period prior to ~~the~~ weighing *the material*.

211.10, begin line 235:

B borrow material placed outside the neat lines will be paid for as borrow when ~~such~~^{the} B borrow eliminates required borrow material. Otherwise, no payment will be made for backfill material placed outside the neat lines.

SECTION 212 – STOCKPILED SELECTED MATERIALS

212.03, begin line 4:

This work shall consist of excavating selected road material from within the construction limits and stockpiling it on the right-of-way at designated locations. It *shall* also include any subsequent removal of the material from the stockpile, if to be used in the work.

212.03, begin line 24:

If the material is required to be taken from the stockpile and utilized in the work, the material ~~so utilized~~ shall be placed in accordance with these specifications as they apply to the nature of the material and the use to which it is ~~put~~^{utilized}.

SECTION 215 – CHEMICAL MODIFICATION OF SOILS

215.13, begin line 163:

Adjustment of materials for chemical modification that exceeds the limits of 215.03 will be included in a change order for materials only and paid for as chemical modifier adjustments. If mix design test results show that the chemical modifier as bid by the Contractor is not appropriate and the strength of the modified soil ~~can not~~*cannot* be achieved, a price adjustment will be made for the use of portland cement. The price adjustment will be calculated at a cost equal to the difference in the invoice cost of the chemical modifier found to be appropriate for use and the invoice or quoted delivered cost of the chemical modifier as bid by the Contractor. This adjustment will be included in a change order and will be paid for as chemical modifier adjustments. Coal ash will not be considered for price adjustment. Payment for chemical modifier adjustments will be made for direct delivered material costs incurred by the Contractor in accordance with 109.05.

SECTION 217 – SOILS DRYING WITH CHEMICAL MODIFIERS

217.09, begin line 79:

The moisture content of the mixture shall be at the optimum moisture content or above the optimum moisture content as determined by the mix design in accordance with 215.03. Moisture content will be determined in accordance with ITM 506. Aeration or drying by further mixing may be ~~done~~*performed* to obtain the required moisture content. Compaction of the mixture shall begin as soon as practical. Compaction shall be in accordance with 203 or 207.03, as applicable.

217.09, begin line 127:

The cost of performing the laboratory tests, providing a qualified geotechnical consultant, scarification of in-situ soil, spreading, pulverization, mixing of the chemical modifier and soil, moisture compaction of the resultant mixture, shaping the grade, work required due to adjustments of modifier proportioning, correction of deficient areas, water required for the modification process, and all operations needed to meet the requirements of this specification shall be included in the cost of the pay item ~~of this section~~.

DIVISION 300 – AGGREGATE PAVEMENT AND BASES

SECTION 301 – AGGREGATE BASE

301.06, begin line 55:

301.06 ~~Compacting~~ *Compaction*

Each lift shall be compacted immediately after spreading. Dense graded aggregate shall be compacted to achieve the allowable average deflection as determined with LWD testing in accordance with 203.24(b).

301.09, begin line 101:

The cost of placing, spreading, compacting, water, aggregate placed outside neat lines as shown on the plans, and necessary incidentals shall be included in the cost of the *applicable* pay item.

SECTION 302 – SUBBASE

302.06, begin line 47:

302.06 ~~Compacting~~ *Compaction*

Subbases shall be compacted as follows:

SECTION 303 – AGGREGATE PAVEMENTS OR SHOULDERS

303.02, begin line 12:

Coarse Aggregate, Class D or Higher, Size No. 53 904

Coarse Aggregate, Class D or Higher, Size No. 73* 904

Geosynthetic Materials..... 918

* Surface courses only, when specified.

303.04 Temperature Limitations

Aggregate shall not be placed on a frozen subgrade. Frozen aggregate shall not be placed. Aggregate shall not be placed when the air temperature is less than 35°F. ~~Aggregate shall not be placed on a frozen subgrade. Frozen aggregate shall not be placed.~~

303.06, begin line 44:

303.06 ~~Compacting~~ *Compaction*

Compaction shall be in accordance with 301.06.

SECTION 304 – ASPHALT BASES

304.05, begin line 47:

304.05 Widening

The outside face of the excavated area shall be left as *nearly* vertical as the nature of the material will allow and not wider than the outside limits of the widening section. The subgrade in the widened area shall be compacted in accordance with 207.

SECTION 305 – CONCRETE BASES

305.03, begin line 19:

305.03 New PCC Base

Construction of new PCC bases shall be in accordance with 502, except for 502.14 and 502.20. The CMDS shall be in accordance with 502.03, except utilization of the Department provided spreadsheet is not required. The surface shall be finished with wet burlap or ~~by~~ wood floats. Smoothness of the base shall be controlled by the Contractor with a 16 ft straightedge longitudinally and will be controlled by the Department with a 10 ft straightedge transversely. The 16 ft straightedge shall be in accordance with 306.03(d). The 10 ft straightedge will be in accordance with 306.03(d).

305.04(d), begin line 86:

The vibratory roller shall be operated in ~~the~~ vibration mode at a speed not to exceed 6 ft per s. All depressions 1 in. or greater in depth from the immediate surrounding area that result from the rubblizing or compaction effort shall be filled with coarse aggregate No. 53 or No. 73 and struck off level with the surrounding area. Filled depressions shall be compacted with the same roller and compactive effort previously described.

SECTION 306 – MILLING

306.03(a), begin line 35:

(a) Roadway Milling Machine

A milling machine shall be a power operated cold-milling machine equipped with automatic control devices to establish profile grades by referencing from either the existing pavement or from independent grade control. The equipment shall have a positive means of controlling cross-slope elevations, have an effective means for removing excess material from the surface, preventing airborne dust escaping from the operation, and producing a finished surface that provides a good bond to the new overlay.

306.04, begin line 82:

A fine milling cutting drum in accordance with 306.03(a) shall be used when a single course overlay is specified with a lay rate as shown on the plans less than 165 lb/sq yd and the maximum scarification mill cut depth is expected to be less than 3/4 in. for asphalt or PCCP. ~~Otherwise~~, a coarse milling cutting drum in accordance with 306.03(a) shall be used.

306.04 begin line 100:

Frequency of macrotexture testing shall be a minimum of once per day and shall be described in the QCP. The cross-slope shall not vary more than 1/8 in. when measured with a 10 ft straightedge.

306.05, begin line 114:

306.05 Asphalt or PCCP Profile Milling to Correct Cross-Slope

Profile milling shall consist of preparing a base for resurfacing by removing the existing asphalt or PCCP material to the specified cross-slope as shown on the plans. The milled pavement profile shall have a surface finish that does not vary longitudinally more than 1/4 in. from a 16 ft straightedge or as described in the QCP in accordance with 401.02.

A fine milling cutting drum in accordance with 306.03(a) shall be used when a single course overlay is specified with a lay rate as shown on the plans less than 165 lb/sq yd and the maximum profile mill cut depth is expected to be less than or equal to 1 1/2 in. for asphalt or 3/4 in. for PCCP. ~~se~~ Otherwise, a coarse milling cutting drum in accordance with 306.03(a) shall be used.

306.05, begin line 127:

Frequency of macrotexture testing shall be a minimum of once per day and shall be described in the QCP. The cross-slope shall not vary more than 1/8 in. when measured with a 10 ft straightedge.

306.06, begin line 153:

306.06 Approach Milling

Approach milling shall consist of milling the surface and cutting a wedge at ~~the~~ driveways and commercial or public road approaches. The existing approach shall be milled a minimum depth of no less than 1/4 in. to accommodate the approach pavement. The approach milling shall be completed to provide a smooth transition from the traveled way pavement to the termini of the approach. The existing approach pavement shall be cut to provide a vertical face of 1 1/2 in. for the termini of surface.

Mailbox approaches to be resurfaced shall be milled to maintain the traveled way profile and cross-slope.

306.07, begin line 199:

Frequency of macrotexture testing shall be a minimum of once per day and shall be described in the QCP. The cross-slope shall not vary more than 1/8 in. when measured with a 10 ft straightedge.

SECTION 307 – CEMENT STABILIZED FULL DEPTH RECLAMATION, FDR

307.07, begin line 158:

(d) Motor Grader

A motor grader for pre-shaping, aerating, spreading, and final shaping of the material shall be utilized. The motor grader shall have a cross-slope indicator.

307.09, begin line 211:

Any such materials retained in the mixture shall be appropriately sized and blended ~~so as~~ to not adversely affect the strength of the RBC.

307.17, begin line 355:

Monuments shall be re-established in accordance with 615.10.

DIVISION 400 – ASPHALT PAVEMENTS

SECTION 401 – QC/QA HMA PAVEMENT

401.02, begin line 9:

The HMA shall be produced from a certified HMA plant in accordance with ITM 583, ~~Certified Hot Mix Asphalt Producer Program~~.

The HMA shall be transported and placed according to a QCP prepared and submitted by the Contractor in accordance with ITM 803, ~~Contractor Quality Control Plans for Hot Mix Asphalt Pavements~~. The QCP shall be submitted to the Engineer at least 15 days prior to commencing HMA paving operations.

401.04, begin line 37:

A DMF shall be prepared in accordance with 401.05 and submitted in a format acceptable to the Engineer one week prior to use. The DMF shall be based on the ESAL category identified in the pay item and shall state the mixture designation and maximum particle size in the mixture. No mixture shall be used until the DMF has been assigned a mixture number by the DTE. The mixture number will be assigned for each calendar year. Assigning a mixture number shall not in any way be construed as acceptance in ~~conjunction~~ [accordance](#) with 401.19.

[\[moved to a separate paragraph\]](#) QC/QA HMA may be produced using a water-injection foaming device. The DMF shall list the minimum and maximum plant discharge temperatures as applicable to the mixture.

401.09, begin line 240:

Acceptance of mixtures for binder content and air voids at N_{des} will be based on a Type D certification, in accordance with 402.09, for dense graded mixtures with original contract pay item quantities less than 300 t. Acceptance of mixtures for binder content and air voids at N_{des} for each lot will be based on a Type D certification, in accordance with 402.09, for dense graded 4.75 mm mixtures.

Acceptance of mixtures for binder content and air voids at N_{des} for each lot will be based on tests performed by the Engineer for open graded mixtures with original contract pay item quantities greater than or equal to 300 t. Acceptance of mixtures for binder content and air voids at N_{des} will be based on a Type D certification, in accordance with 402.09, for open graded mixtures with original pay item quantities less than 300 t, except the air voids tolerance shall be $\pm 3.5\%$ from the DMF.

401.09, begin line 278:

The dust/calculated effective binder ratio and the volume of effective binder in the mixture will be determined and reported from the acceptance sample testing conducted in each subplot. The volume of effective binder will be the difference between VMA and air voids. The Contractor shall take action, in accordance with ITM 583, to address a dust/calculated effective binder ratio not in accordance with 401.05, a volume of effective

binder in the mixture below design minimums, or a volume of effective binder in the mixture greater than 2.0% above design minimums.

401.09, begin line 292:

A binder draindown test, in accordance with AASHTO T 305 for open graded mixtures, shall be completed once per lot in accordance with 401.07 and shall not exceed 0.50%.

401.09, begin line 299:

~~The Engineer will make available the subplot acceptance test results after receiving the subplot quality control results from the Contractor.~~ *After receiving the subplot quality control results from the Contractor, the Engineer will make the subplot acceptance test results available.*

401.09, begin line 321:

~~In the event that~~ *if* an acceptance sample is not available to represent a subplot, all test results of the previous subplot will be used for acceptance. If the previous subplot is not available, the subsequent subplot will be used for acceptance.

401.14, begin line 453:

The finished thickness of any course shall be at least ~~two~~ *2* times but not more than ~~five~~ *5* times the maximum particle size as shown on the DMF, except 4.75 mm mixtures shall be at least 1.5 times but not more than 3 times the maximum particle size shown on the DMF.

401.15, begin line 521:

Application of the VRAM material shall be with a distributor in accordance with 409.03(a) that is equipped with a heating and recirculating system along with a functioning auger agitating system or vertical shaft mixer in the tank to prevent localized heating. Material from a melting kettle may be dispensed through a pressure feed wand with an applicator shoe or through a pressure feed wand into a hand-operated thermal ~~push cart~~ *pushcart* used for transport and application.

401.16, begin line 654:

Samples for the bulk specific gravity and maximum specific gravity will be dried in accordance with ITM 572. The Engineer will determine the bulk specific gravity of the cores in accordance with AASHTO T 166, Method A or AASHTO T 331, if required. The maximum specific gravity will be ~~the~~ *the* mass determined in water in accordance with AASHTO T 209.

401.18, begin line 679:

When a pay item for Inertial Profiler, HMA is included in the contract, the Contractor shall furnish, calibrate, and operate an approved inertial profiler in accordance with ITM 917 for the acceptance of longitudinal smoothness on the mainline traveled way, including adjacent acceleration or deceleration lanes, where all ~~of~~ *the* following conditions are met:

401.18, begin line 763:

At locations where the inertial profiler is being used on an intermediate course, all

areas having a localized roughness ~~in excess of~~ *greater than* 160 in./mi utilizing continuous IRI with a 25 ft window shall be corrected subject to approval by the Engineer.

At locations where the inertial profiler is being used on a surface course, all areas under category Type A, as defined in 401.19(c), having a localized roughness ~~in excess of~~ *greater than* 160 in./mi or category Type B ~~in excess of~~ *greater than* 170 in./mi utilizing continuous IRI with a 25 ft window shall be corrected subject to approval by the Engineer. After ALR's have been identified, a grinding simulation shall be performed to estimate whether the ALR can be corrected to an IRI value of less than 160 in./mi with no more than a 1/4 in. max grind depth at any spot. If such correction is not possible, then an ALR with an IRI value of less than 190 in./mi can remain uncorrected if approved by the Engineer, and an ALR with an IRI value greater than 190 in./mi shall require full depth removal and replacement of the surface course of sufficient area to meet specifications.

In addition, if there is only one ALR in any two lane mile section, then no smoothness correction will be required if the ALR does not exceed 190 in./mi and the overall smoothness in accordance with 401.19(c) of the two lane mile section does not require any corrective action. A two lane mile section will start one mile before the ALR and end one mile after the ALR ~~in order that so~~ all two lane mile sections will have, at most, one ALR each.

401.18, begin line 841:

where:

q = quality assurance adjustment for mixture properties and
density of the lot

L = ~~L~~lot quantity

U = ~~U~~unit price for the material, \$/ton

Lot PF = ~~L~~lot ~~P~~pay ~~F~~factor:

MAF = *mixture adjustment factor*.

401.19, begin line 875:

q = quality assurance adjustment for the subplot

L = subplot quantity

U = unit price for the material \$/ton

SCPF = subplot composite pay factor:

MAF = *mixture adjustment factor*.

401.19, begin line 905:

1. Type A.  Pavement on a non-interstate with more than a single opportunity to achieve a smooth ride or asphalt pavement on an interstate with a single opportunity or more. The following operations, if performed on the contract, will be considered opportunities.

401.19, begin line 919:

2. Type B.  Pavement that is not included in the description above under Type A.

401.21, begin line 1028:

HMA mixtures will be measured by the ton ~~of~~for the type specified, in accordance with 109.01(b). The measured quantity will be divided by the MAF to determine the pay quantity.

401.22, begin line 1038:

The accepted quantities for this work will be paid for at the contract unit price per ton for QC/QA-HMA, ~~of~~for the type specified, complete in place.

401.22, begin line 1094:

If QC/QA-HMA 19.0 mm over QC/QA-HMA 25.0 mm mixtures are specified, QC/QA-HMA 19.0 mm mixture may be considered as a substitute for the QC/QA-HMA 19.0 mm ~~and over~~ QC/QA-HMA 25.0 mm mixtures upon a written request by the Contractor. The request for the substitution shall be prepared in advance of the work. A computation will be made ~~in order~~ to obtain a unit price for the QC/QA-HMA 19.0 mm mixture. The quantity and amount for QC/QA-HMA 19.0 mm mixture shall equal the sum of the contract quantities and amounts shown for QC/QA-HMA 19.0 mm and QC/QA-HMA 25.0 mm mixtures. The unit price for QC/QA-HMA 19.0 mm mixture shall be equal to the sum of contract amounts divided by the sum of contract quantities. Payment for the QC/QA-HMA 19.0 mm mixture will be made at the unit price per ton for QC/QA-HMA 19.0 mm mixture. No payment will be made for additional work or costs which may result due to this change.

SECTION 402 – HMA PAVEMENT

402.02, begin line 8:

The HMA shall be supplied from a certified HMA plant in accordance with ITM 583; ~~Certified Hot Mix Asphalt Producer Program~~. The HMA shall be transported and placed according to a QCP prepared and submitted by the Contractor in accordance with ITM 803; ~~Contractor Quality Control Plans for Hot Mix Asphalt Pavements~~. The QCP shall be submitted to the Engineer at least 15 days prior to commencing HMA paving operations.

402.07, begin line 93:

The mixture shall be HMA surface, Type B in accordance with 402, except 402.05 shall not apply and RAP shall not be used. The binder content shall be 7.0% and the gradations shall meet the following:

402.11, begin line 149:

Rubblized concrete pavements shall be primed in accordance with 405. PCCP, ~~milled~~ asphalt surfaces, and ~~milled~~ asphalt surfaces shall be tacked in accordance with 406. Contact surfaces of curbing, gutters, manholes, and other structures shall be tacked in accordance with 406.

402.12, begin line 155:

HMA courses less than 110 lb/sq yd are to be placed when the ambient and surface temperatures are 60°F or above. HMA courses equal to or greater than 110 lb/sq yd but less than 220 lb/sq yd ~~are to~~shall be placed when the ambient and surface temperatures are 45°F or above. HMA courses equal to or greater than 220 lb/sq yd and HMA curbing ~~are~~

~~to~~shall be placed when the ambient and surface temperatures are 32°F or above. Mixture shall not be placed on a frozen subgrade. However, HMA courses may be placed at lower temperatures, provided the density of the HMA course is in accordance with 402.16.

402.13, begin line 171:

The mixture shall be placed upon an approved surface by means of laydown equipment in accordance with 409.03(c). Prior to paving, both the planned quantity and lay rate shall be adjusted by multiplying by the MAF. When a mixture is produced from more than one DMF for a given pay item, the MAF will be applied to the applicable portion of the mixture for each. Mixtures in areas inaccessible to laydown equipment or mechanical devices may be placed by other ~~approved~~ methods.

402.13, begin line 211:

The finished thickness of each course shall be at least ~~two~~2 times but not more than ~~five~~5 times the maximum particle size as shown on the DMF. The finished thickness of wedge and level mixtures shall be at least ~~1-1/2~~1.5 times but not more than ~~six~~6 times the maximum particle size as shown on the DMF. Feathering may be less than the minimum thickness requirements.

Transverse rumble strips shall be placed to ensure uniformity of height, width, texture, and the required spacing between strips. Tack coat, in accordance with 406, shall be applied on the pavement surface prior to placing the mixture. The tack coat may be applied with a paint brush or other approved methods.

402.15, begin line 251:

A reduced number of applications on a course may be approved if detrimental results are ~~being~~ observed.

SECTION 404 – SEAL COAT

404.02, begin line 8:

Seal coat, SC, shall be constructed according to a QCP prepared and submitted by the Contractor in accordance with ITM 803, ~~Contractor Quality Control Plan for Seal Coat~~. The QCP shall be submitted to the Engineer at least 15 days prior to commencing seal coat operations.

404.07, begin line 58:

Surfaces to be sealed shall be patched as shown on the plans or as directed, brought to ~~the~~ proper section and grade, and compacted.

404.08, begin line 74:

The spread of the asphalt material shall be no wider than the width covered by the cover aggregate from the spreading device. Operations shall ~~not~~ allow asphalt materials to chill, set up, dry, or otherwise impair retention of the cover coat.

404.09, begin line 79:

Within 1 minute of the application of the asphalt material, cover aggregate shall be spread in quantities as required. Spreading shall be accomplished ~~such that~~so the tires of

the trucks or aggregate spreader do not contact the uncovered and newly applied asphalt material.

404.12, begin line 99:

Traffic shall not be allowed on the freshly sealed surfaces until ~~the~~ final rolling application is complete. The seal coat shall be protected by keeping traffic off the freshly sealed surface or by controlling traffic speed in accordance with the QCP. Traffic shall not displace the embedded aggregate.

Any areas with minor bleeding ~~will~~shall be covered with fine aggregate or other approved blotting material.

SECTION 405 – PRIME COAT

405.08, begin line 47:

If the asphalt material fails to penetrate and the primed surface ~~must~~will be used by traffic, cover aggregate shall be spread to provide a dry surface.

SECTION 409 – EQUIPMENT

409.03, begin line 36:

The paver shall be self-propelled, ~~and~~equipped with a material receiving system, and equipped with heated and vibrating screeds. The paver may also include automatic slope and grade controls, extendable screeds and extendable augers.

SECTION 410 – QC/QA HMA – SMA PAVEMENT

410.02, begin line 8:

The SMA mixture shall be supplied from a certified HMA plant in accordance with ITM 583, ~~Certified Hot Mix Asphalt Producer Program~~.

The QCP shall be modified to include the requirements for the SMA mixtures. The SMA shall be transported and placed according to the QCP prepared and submitted by the Contractor in accordance with ITM 803, ~~Contractor Quality Control Plans for Hot Mix Asphalt Pavements~~.

410.04, begin line 47:

The DMF shall be based on the ESAL and mixture designation. No mixture shall be used until the DMF has been assigned a mixture number by the DTE. The mixture number will be assigned for each calendar year. Assigning ~~of~~a mixture number shall not in any way be construed as acceptance in conjunction with 401.19.

410.05, begin line 69:

A SMA mixture shall be designed in accordance with ITM 220, AASHTO M 325, and AASHTO R 46 except the design gyrations shall be 75 for all ESAL categories.

All loose mixtures shall be conditioned in accordance with AASHTO R 30 prior to testing, except as follows:

410.08, begin line 154:

The aggregate and recycled materials blend percentage and the amount passing all sieves on the DMF may be adjusted provided the gradation limits do not exceed the requirements of 410.05. Adjustments to the aggregate and recycled materials blend percentage, gradation, and the new combined aggregate bulk specific gravity shall be included on the JMF.

410.09, begin line 181:

A maximum specific gravity sample and a binder content and gradation sample will be obtained from the plate sample in accordance with ITM 587. The binder content will be determined in accordance with ITM 586 or ITM 571 as directed by the Engineer, and the gradation will be determined in accordance with AASHTO T 30. The maximum specific gravity will be mass determined in water in accordance with AASHTO T 209. The test results of the sublots will be averaged and shall meet the requirements for tolerances from the JMF for each sieve and binder content.

410.09, begin line 189:

~~The Engineer will make the subplot acceptance test results available after receiving the subplot quality control results from the Contractor.~~ After receiving the subplot quality control results from the Contractor, the Engineer will make the subplot acceptance test results available.

410.09, begin line 217:

A Type C certification in accordance with 916 shall be provided for the stabilizing additives for each shipment. Stabilizing additives from different manufacturers and different types of additives shall not be intermixed.

410.11, begin line 258:

~~Milled~~ asphalt surfaces and milled asphalt surfaces shall be tacked in accordance with 406. Contact surfaces of curbing, gutters, manholes, and other structures shall be tacked in accordance with 406.

410.14, begin line 310:

The finished thickness of any course shall be at least two times but not more than five times the maximum particle size as shown on the DMF.

410.15, begin line 319:

Transverse joints shall be constructed by exposing a near vertical full depth face of the previous course. For areas inaccessible to rollers, other approved mechanical devices shall be used to achieve the required density.

410.15, begin line 370:

Application of the VRAM material shall be with a distributor in accordance with 409.03(a) that is equipped with a heating and recirculating system along with a functioning auger agitating system or vertical shaft mixer in the tank to prevent localized heating.

Material from a melting kettle may be dispensed through a pressure feed wand with an applicator shoe or through a pressure feed wand into a hand-operated thermal ~~push cart~~*pushcart* used for transport and application.

410.15, begin line 381:

Prior to the application of the VRAM, the existing surface to be treated shall be free of foreign materials deemed detrimental by the Engineer and shall also be dry and cleaned of all dust, debris and any substances that will prevent adherence. The VRAM may be placed before or after the tack coat. If after, the tack coat shall be fully cured prior to placement of ~~the~~ VRAM.

410.19, begin line 498:

The adjustment for mixture properties and density ~~are~~*will be* calculated as follows:

$$q = 1.00 \times (L \times U \times P/100)/MAF$$

where:

q = quality assurance adjustment quantity

L = lot quantity

U = unit price for the material, \$/ton

P = total adjustment points

MAF = mixture adjustment factor.

The total quality assurance adjustments ~~is to~~*will* be calculated as follows:

SECTION 411 – WARRANTED MICRO-SURFACING

411.03, begin line 60:

(i) results for the tests ~~shall be~~ in ~~accordance with~~ the following:

411.06, begin line 99:

Cracks in the pavement ~~in excess of~~*greater than* 1/4 in. shall be filled in accordance with 408 prior to placement of warranted micro-surfacing.

411.08, begin line 116:

All finished surface irregularities ~~in excess of~~*greater than* 1/8 in. measured with a 10 ft straightedge shall be corrected.

411.10, begin line 161:

The team members will be identified in writing when needed and will be knowledgeable in the terms and conditions of this warranty and the methods used in the measurement and calculation of pavement distress. The team will render a final recommendation to the Chief Engineer by a majority vote. Each member ~~has an~~*will have* equal vote.

411.11, begin line 190:

Coring, milling, or other destructive procedures may not be performed by the Contractor without prior consent of the Department. The Contractor will not be responsible

for damages to the pavement ~~as a result of~~ caused by coring, milling, or other destructive procedures conducted by the Department.

411.12, begin line 222:

Distress	Single Location	Multiple Locations
<i>Rut Depth</i>	<i>1/4 in.</i>	<i>average 1/4 in./mi</i>
Delamination or Raveling	1/2 sq yd	1 sq yd/mi
Rut Depth	1/4 in.	average 1/4 in./mi
Friction Number*	no less than 30	average 35
* Individual friction tests will be performed in each lane every 1/2 mi for the length of the project.		

SECTION 414 - ULTRATHIN BONDED WEARING COURSE, WARRANTED

414.06, begin line 102:

The Contractor shall sample the mix a minimum once per day in accordance with ITM 580, section 8.6 ~~Truck Samples, Dense Graded HMA Mixture~~. The sample shall be tested for binder content and gradation prior to the next day's production.

414.10, begin line 154:

A pre-paving meeting between the Engineer and ~~the~~ Contractor will be held on-site prior to beginning work. The following shall be reviewed:

- (a) work schedule
- (b) traffic control plan
- (c) equipment calibrations and adjustments
- (d) inspection and evaluation of the condition and adequacy of equipment, including units for transport of materials
- (e) DMF
- (f) ~~the~~ Contractor's proposed emulsion and mix application rates
- (g) QCP in accordance with ITM 803
- (h) ~~the~~ Contractor's authorized representative.

414.13, begin line 178:

Pavement smoothness shall be controlled by the Contractor with a 16 ft straightedge longitudinally in accordance with 401.18(b) and will be controlled by the Department with a 10 ft straightedge transversely in accordance with 401.18(c). ~~The 16 ft straightedge shall be in accordance with 306.03(d). The 10 ft straightedge will be in accordance with 306.03(d).~~ *The use of the 16 ft and 10 ft straightedges shall be in accordance with 306.03(d).* Smoothness correction shall be in accordance with 401.18(e).

414.14, begin line 200:

Upon the final acceptance of the project, the contractual obligations of the Contractor ~~are will be~~ satisfied ~~as long as when~~ the UBWC continues to meet or exceed the warranted values as defined herein.

414.15, begin line 220:

The team members will be identified in writing when needed and will be knowledgeable in the terms and conditions of this warranty and the methods used in the measurement and calculation of pavement distress. The team will render a final recommendation to the Chief Engineer by a majority vote. Each member ~~has an~~ will have equal vote.

414.16, begin line 231:

Remedial work ~~is~~ shall be performed as a result of pavement distress surveys performed by the Department.

414.16, begin line 247:

Coring, milling, or other destructive procedures may not be performed by the Contractor without prior consent of the Department. The Contractor will not be responsible for damages to the pavement ~~as a result of~~ caused by coring, milling, or other destructive procedures conducted by the Department.

414.16, begin line 252:

The Contractor ~~has~~ shall have the first option to perform the remedial work. If the problem requires immediate attention, as determined by the Engineer, for safety of the traveling public and the Contractor cannot perform the remedial work within 24 h of notification, the Department will perform the remedial work. The Contractor shall be responsible for all costs incurred by the Department for remedial work performed by the Department. Remedial work performed by the Department will not alter the requirements, responsibilities, or obligations of the warranty.

SECTION 416 - COLD IN-PLACE RECYCLING, CIR

416.03, begin line 35:

~~The following table provides the type and minimum frequency for tests.~~ QC testing for the type and minimum frequency shall be as follows:

416.04, begin line 46:

The actual materials used ~~are~~ will be dependent on the CIR mix design and project requirements.

416.05, begin line 80:

~~The mix design, or designs,~~ All mix designs shall be submitted to the Engineer for approval at least five calendar days prior to the JTT and shall include results of all tests performed. If new materials are added, a new mix design shall be submitted at least one day prior to implementation. New mix designs shall include the updated test results.

416.07, begin line 118:**(a) Cold In-Place Recycler Equipment**

The cold in-place recycling equipment ~~will~~ shall include either a single unit recycler or a multi-unit recycler.

416.07, begin line 201:

The screed shall be controlled by electronic grade and cross-slope control. The equipment shall be of sufficient size and power to spread the recycled material in one continuous pass, without segregation, in accordance with 105.03. Heating of the screed will not be allowed.

416.09, begin line 264:

Any such materials retained in the mixture shall be appropriately sized and blended ~~so as~~ to not adversely affect the strength of the CIR.

416.10, begin line 280:

- (a) demonstrate ~~that~~ the proposed equipment, materials, and processes can produce a CIR layer in accordance with specification requirements,

416.10, begin line 310:

The QC technician shall be on site, observing all compaction efforts, and approving areas as they reach minimum relative compaction. Care shall be taken ~~not~~ to ~~not~~ over compact the mat.

416.17, begin line 384:

The CIR will be paid for at the contract unit price per square yard, complete in place. Asphalt emulsion will be paid for at the contract unit price per ton, complete in place. Aggregate used to adjust the CIR gradation will be paid for at the contract unit price per ton, complete in place. HMA patching will be paid for in accordance with 304.07 for the thickness shown on the plans. Milling will be paid for in accordance with 306.11. Re-established monuments will be paid for in accordance with 615.14. Grade adjustment of existing structures will be paid for in accordance with 720.07. Removal of snowplowable raised pavement markers will be paid for in accordance with 808.13. Portland cement will be paid for in accordance with 104.03. The change order will include direct material costs, delivery costs, and ~~shall will~~ not include any other markups.

SECTION 417 - COLD CENTRAL PLANT RECYCLING, CCPR

417.03, begin line 38:

~~The following table provides the type and minimum frequency for tests~~ *QC testing for the type and minimum frequency shall be as follows:*

417.05, begin line 81:

~~The mix design, or designs,~~ *All mix designs* shall be submitted to the Engineer for approval at least five calendar days prior to the JITT and shall include results of all tests performed. If new materials are added, a new mix design, including the updated test results, shall be submitted at least one day prior to implementation.

417.06, begin line 98:

If the CCPR mix is to be placed on a prepared subgrade or aggregate base, the Contractor shall ensure the subgrade soils and base have been properly prepared, moisture

treated, and compacted to the minimum density as specified immediately prior to placement of the CCPR mix to create an evenly graded, unyielding surface.

417.07, begin line 104:

The existing asphalt pavement shall be milled in accordance with 306 to the length, depth, and width as specified. The RAP shall be free of contamination of dirt, base, concrete or other deleterious materials such as silt and clay.

417.07, begin line 123:

Any such materials retained in the mix shall be appropriately sized and blended ~~so~~ ~~as to~~ not ~~to~~ adversely affect the strength of the recycled pavement.

417.08, begin line 178:

The paver screed shall be controlled by electronic grade and cross slope control. Heating of the screed ~~shall~~ ~~will~~ not be allowed.

417.12, begin line 238:

The depth of CCPR shall be as ~~indicated~~ ~~shown~~ on the plans.

417.13, begin line 256:

- (b) determine the optimal rates for the asphalt emulsion, water, and any additives recommended for the material, and

417.20, begin line 379:

Portland cement will be paid for in accordance with 104.03. The change order will include direct material costs, delivery costs, and ~~shall~~ ~~will~~ not include any other markups.
