Wisconsin Department of Transportation

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Bureau of Project Development
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February 2, 2023

NOTICE TO ALL CONTRACTORS:

Proposal #38: 9165-13-71
Argonne – Nelma
STH 70 to Michigan State Line
STH 55
Forest County

Letting of February 14, 2023

This is Addendum No. 01, which provides for the following:

Special Provisions:

Revised Special Provisions	
Article No.	Description
3	Prosecution and Progress.
6	Utilities.
20	Cold In-Place Recycling (CIR) Asphalt Base Layer, Item 327.1000.S; Asphalt Stabilizing Agent, Item 455.0770.S.

Schedule of Items:

Revised Bid Item Quantities					
Bid Item	Item Description	Unit	Proposal Total Prior to Addendum	Proposal Quantity Change (-)	Proposal Total After Addendum
204.0110	Removing Asphaltic Surface	SY	255	-35	220
204.0120	Removing Asphaltic Surface Milling	SY	88,790	-50	88,740
211.0400	Prepare Foundation for Asphaltic Shoulders	STA	587	3	590
305.0500	Shaping Shoulders	STA	146	-108	38
327.1000.S	Cold In-Place Recycling (CIR) Asphalt Base Layer	SY	85,972	-455	85,527
455.0605	Tack Coat	GAL	11,439	7	11,446
455.0770.S	Asphalt Stabilizing Agent	TON	390	-2	388
460.5244	HMA Pavement 4 LT 58-34 S	TON	9,190	10	9,200
465.0105	Asphaltic Surface	TON	5,270	25	5,295

Added Bid Item Quantities					
Bid Item	Item Description	Unit	Proposal Total Prior to Addendum	Quantity Added	Proposal Total After Addendum
450.400	HMA Cold Weather Paving	Ton	0	2,000	2,000

Plan Sheets:

Revised Plan Sheets	
Plan Sheet	Plan Sheet Title (brief description of changes to sheet)
4	Removed the existing paved shoulder in one location of guardrail and adjusted “##” symbol to indicate the locations with no existing paved shoulders more clearly.
5-6	Adjusted the Shaping Shoulders labels, Prepare Foundation for Asphaltic Shoulders labels, and CIR widths along with notes and the milling table to add clarity to contractor questions.
14	Adjusted the dimensions and graphics of the paved shoulders to accommodate a consistent CIR width.
26	Adjusted the precision on a dimension shown for the thermoplastic coating to demonstrate the actual dimension of 7.5-feet.
36	Revised quantities in the Shaping Shoulders table and Removal Items tables.
37	Revised quantities in the Asphaltic Items table.

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

Mike Coleman

Proposal Development Specialist
Proposal Management Section

ADDENDUM NO. 01

9165-13-71

February 2, 2023

Special Provisions

3. Prosecution and Progress.

Delete paragraph four.

Replace paragraph three under section titled **Milling, Overlay, and Cold In-Place Recycling (CIR)**

A CIR surface is prohibited during the time periods specified in this section and in the Holidays and Special Events article.

6. Utilities.

Replace paragraph two under section titled **Fronttier Communications of WI LLC** *with the following:*

Frontier Communications of WI LLC plans to relocate the existing underground communication facilities approximately 30-feet left of the STH 55 centerline and 4-feet below grade near Station 214+50 and Station 250+90 to accommodate the excavation for culvert replacements. This work is anticipated to be completed prior to construction. Frontier Communications of WI LLC plans to start this work in March 2023 and complete the relocation within 20 working days.

20. Cold In-Place Recycling (CIR) Asphalt Base Layer, Item 327.1000.S; Asphalt Stabilizing Agent, Item 455.0770.S.

Replace the entire article with the following:

A Description

(1) This work consists of the milling, crushing, and screening (as necessary) of the existing hot mix asphalt (HMA) pavement to the width and depth specified on the plans. The processed material shall be blended with foamed asphalt stabilizing agent, water, and other additives as necessary, and required by the mix design, for placement and compaction of this mixture in accordance with the plans and specifications.

B Materials

B.1 Reclaimed Asphalt Pavement (RAP) Material

(1) The RAP material shall be milled from the existing roadway and processed in place.

(2) The RAP shall be free of contamination including base material (except where noted on the plan), aggregate shoulder material, concrete, silt, clay, or other deleterious materials unless specified in the plan.

(3) Rubberized crack filler, pavement markers, loop wires, fabric, or other materials shall be removed as observed from the roadway during the recycling process. Any residual materials shall be appropriately sized and homogenously blended with the RAP. No rubberized crack filler or fabric piece may have a dimension

exceeding a length of 4 inches.

(4) The milled and processed material shall conform to the following non-extracted gradation:

Sieve Size	Percent Passing
2”	100
1 ½”	98 to 100
1”	95 to 100

B.2 Stabilizing Agent

(1) The asphalt stabilizing agent used for Cold In-Place Recycling (CIR) Asphalt Base Layer shall be foamed asphalt.

B.2.1 Foamed Asphalt

(1) Foamed asphalt shall be produced with a performance graded asphalt binder; without polymer modification; in accordance with standard spec 455.

(2) Asphalt binder performance grade for foamed asphalt shall be PG 46-34 or PG 52-34. Ensure that the material is furnished by a supplier from the Combined State Binder Group Certified Supplier List.

(3) Asphalt binder shall be sufficiently heated to meet the mix design expansion and half-life criteria; not to exceed 375° F.

(4) Asphalt binder shall produce asphalt foam with a minimum expansion ratio of 8 and a half-life of no less than 6 seconds.

B.2.2 Water

(1) Water may be added to the RAP at the milling head and/or in a mixing chamber.

(2) Water added to the RAP, used for foaming asphalt, shall be free of sediment and deleterious materials.

B.3 Mixture Design

(1) The contractor will be responsible for obtaining milled samples and/or cores for the project mix design.

(2) Core samples shall be obtained at a minimum frequency of 0.5 lane-mile. Cores shall be obtained from the area to be recycled including the shoulder. Samples obtained by coring should be enough to develop the mix design.

(3) Samples for mix design obtained by milling shall be taken from at least 3 different locations directly from the area to be recycled.

(4) All samples shall represent the entire depth of the layer to be recycled.

(5) Develop and submit a material sampling plan for review and approval a minimum of 5 business days prior to obtaining milled and/or cored samples.

(6) Material sampling prior to receipt of the engineer’s notice to proceed shall require submittal and approval of an Application/Permit to Work on Highway Right-of-Way (DT1812).

(7) During material sampling operations, contractor insurance will be as specified in standard spec 107, traffic control requirements will be as specified in standard spec 107 and 643, and in the contract special provisions.

(8) Develop and submit a mix design with the optimal asphalt content 10 business days prior to the start of the CIR operation. This will be developed according to AASHTO MP 38-18 and PP 94-18; and additionally, will conform to the requirements listed in B.3.1. Submit mix design using WisDOT’s provided CIR mix design template to the engineer and department’s Bureau of Technical Services, Materials Management Section, Pavement Unit.

Table B.3.1 – Minimum Mix Design Requirements

Properties	Test Method	Specification	Criteria
RAP	Gradation of RAP (Sieve Analysis of Aggregates)	AASHTO MP 38-18 and PP 94-18	Fine or Medium Gradation per AASHTO PP 38-18 (Table 1)
	RAP Coating Test	AASHTO T 59	Minimum Good
Foaming	Foamed Asphalt Expansion Ratio		Minimum 8.0 Times
	Foamed Asphalt Half-life		Minimum 6.0 Seconds
Mixture Volumetrics	Bulk Specific Gravity of Compacted Samples		Report Only; Ndes=30
	Maximum Theoretical Specific Gravity	AASHTO MP 38-18 and PP 94-18	Report Only
	% Air Voids in Compacted Dense and Open Bituminous Paving Mixtures		Report Only
	Tensile Strength (Resistance of Compacted Mixture to Moisture) Dry, psi Ratio (TSR)		Minimum 45 Minimum 0.60*

*0.70 for mix designs requiring the addition of cement.

(9) The mix design shall be used for informational purposes.

(10) The mix design report shall contain the following minimum information:

1. Gradation of RAP.
2. Density, maximum specific gravity, air void content, indirect dry tensile strength, indirect wet (conditioned) tensile strength, and tensile strength ratio at each recycling agent content iteration (minimum of 4; inclusive of recommended moisture and stabilizing contents) and at the recommended moisture and stabilizing agent contents.
3. Recommended water content from the moisture density curve as a percentage of dry RAP.
4. Optimum stabilizing agent content as a percentage of dry RAP.
5. Stabilizing agent designation, grading of asphalt binder, supplier name and location, and certified test report.
6. The optimal foaming characteristics of the asphalt stabilizing agent during the mix design process shall be determined at a minimum of using three different percentages of foamed asphalt content, three different temperatures, and water content.
7. RAP coating test results.
8. Any additives that may be used.

B.4 Quality Management Program

B.4.1 Quality Control Plan

(1) Submit a comprehensive written quality control plan, including random numbers, to the engineer no later than 10 business days before beginning CIR activities. Construct the project as the plan provides.

(2) Do not change the quality control plan without the engineer's review and acceptance. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post it in the contractor's laboratory as changes are adopted. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
3. A list of suppliers for all stabilizing agents.
4. A list of source locations for all water.
5. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
6. Location of the QC laboratory, retained sample storage, and other documentation.
7. A summary of locations or quantities, selected randomly using ASTM Method D3665, to be tested under this provision.

B.4.2 Pre-CIR Construction Meeting

A minimum of 5 business days prior to the start of CIR construction, hold a pre-CIR construction meeting at a mutually agreed upon time and location. Attendance at the pre-CIR construction meeting is mandatory for the project leader, quality control manager, project inspection and testing staff, all appropriate contractor personnel involved in the sampling, testing, and quality control including subcontractors, and the engineer or designated representatives.

B.4.3 Personnel

(1) Provide HTCP Nuclear Density Technician I or ACT certified technician for the performance of field density and field moisture content testing.

(2) Provide HTCP Aggregate Technician I or ACT certified technician for material sampling and sieve analysis.

(3) A Transportation Materials Sampling (TMS) certified technician is allowed for materials sampling.

(4) If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing are performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.4.4 Equipment

(1) Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and applicable AASHTO and/or ASTM specifications and maintain a calibration record at the laboratory.

(2) Furnish nuclear gauges from the department's approved product list at:

https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/appr-prod/default.aspx

(3) Ensure that the nuclear gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

(4) Conform to AASHTO T310 and CMM 8.15 for density testing and gauge monitoring methods.

B.4.5 Quality Control (QC) Testing

(1) Roadway production lots will be defined as 4000 lane feet. Each roadway production lot will consist of two 2000 lane feet sublots. The contractor will notify the department before sampling.

(2) Gradation samples shall be taken at a random location at a minimum frequency of one per lot of production. Gradation samples shall be taken as representative of the full recycled depth. Samples may be obtained prior to or after the addition of stabilizing agent depending on the type of CIR equipment used in the project. For each sample report the gradation of the material, as determined in accordance with AASHTO T27, for the Number 4 (4.75mm) sieve and larger.

(3) Conduct and report density testing at a minimum frequency of three individual random tests per sublot.

(4) Conduct and report mill depth checks at a random location at a minimum frequency of once per sublot.

(5) Measure and report stabilizing agent foaming properties (i.e. half-life and expansion ratio) of each new tanker load from the equipment's test nozzle or recycling unit. If the foaming properties do not meet the requirement as specified in B.2.1, take the necessary corrective action by adjusting the temperature of the stabilizing agent and/or foaming water content.

(6) Report stabilizing agent temperature at a minimum of one per each new tanker load.

(7) Report stabilizing agent foamed asphalt expansion ratio and half-life at random locations at a minimum frequency of once per sublot.

(8) Perform startup QC testing (milling depth, stabilizing agent, foaming properties, and stabilizing agent application rate) within the first 500 feet at the beginning of each day of production.

(9) Conduct and report daily moisture content of the finished CIR layer representing each day's placement. Moisture content shall be based on the average of three random tests, from each day's placement. The moisture content shall be determined from a sample retrieved over the full depth of the CIR layer by weighting and drying to a constant weight using an oven at 230°±9°F. Engineer-directed tests are an addition to the above three tests representing the day's placement.

(10) Once the section achieves 2.5% or less in moisture, the section is considered cured and additional moisture tests are not required unless directed by the engineer.

(11) The contractor shall provide a Daily Inspection Report within 48 hours to the engineer summarizing the following:

- daily beginning and ending stations,
- applicable mix design,
- stabilizing agent temperature,
- stabilizing agent foaming properties,
- sublot tests (mill depth check, density test, and gradation) locations and values, and
- lot roadway sample locations.
- moisture

Any adjustments to the application rate of the stabilizing agent, compaction or foaming water shall be reported as stated in section C.1. Test results (except gradation and moisture) shall be provided to the engineer by the end of the business day.

B.4.6 Department Testing

B.4.6.1 General

(1) The department will conduct quality verification (QV) testing to validate the quality of the product and independent assurance (IA) testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project and provide test results to the contractor within 5 business days after the department obtains the sample.

B.4.6.2 Quality Verification (QV) Testing

(1) The department will have a technician, or ACT working under a technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in B.4.3 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling.

(2) The department will conduct random QV tests at the minimum frequency of 10% of the required QC

tests. The department will observe the contractor’s QC stabilizing agent foaming property test.

(3) The department’s mill depth check, roadway gradation sample, and density test sites, will be at locations independent of the contractor’s QC work, collecting one sample at each QV location. The department will split each QV gradation sample, test half for QV, and retain the remaining half for 7 calendar days.

(4) The department will verify the contractor’s moisture content values by testing a moisture content split sample at a frequency of at least one per day.

(5) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor’s QC tests. The department will use the same methods specified for QC testing.

(6) The department will assess QV results by comparing them to the appropriate specification limits. If QV test results conform to this special provision, the department will take no further action. If QV test results are nonconforming, a re-evaluation of the entire process must be completed before production can resume.

B.4.6.3 Independent Assurance (IA)

(1) Independence assurance is unbiased testing the department performs to evaluate the department’s QV and the contractor’s QC sampling and testing, including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department’s independent assurance program. That review may include one or more of the following:

1. Split sample testing.
2. Proficiency sample testing.
3. Witnessing sampling and testing.
4. Test equipment calibration checks.
5. Requesting that testing personnel perform additional sampling and testing.

(2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in B.4.6.4.

B.4.6.4 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor’s and the engineer’s testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor shall review the data, examine data reduction and analysis methods, evaluate sampling and testing methods/procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.

(2) Production test results, and results from other process control testing, may be considered when resolving a dispute.

(3) If project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product or work, the department will use third-party testing to resolve the dispute. The department’s central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third-party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third-party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C Construction

C.1 General

(1) Unless the contract provides otherwise, keep the road open to traffic during construction.

(2) Perform CIR operations; only between the dates of May 15 and September 15; when the air temperature approximately 3 feet above grade, in the shade, and away from artificial heat sources is above

50°F and when the nighttime ambient air temperature is above 35°F the night prior and following, unless approved otherwise by the engineer.

(3) Do not perform CIR operations during inclement weather; such as rain or fog; that will not allow proper mixing, placing, and/or compacting of the mixture.

(4) CIR operations and recycled pavement base layer curing shall be completed to allow adequate time for placement of surfacing in accordance with calendar requirements of standard spec 450.3.2.1.

(5) The asphalt binder stabilizing agent application rate will be 2.00 percent with a field adjustment tolerance of +/- 0.30 percent. Any changes within the +/- 0.30 percent tolerance from the 2.00 percent application rate will need to be documented with date, time, pavement temperature, location, reason, and new values and communicated to the engineer at the time the change occurs.

(6) The metered water added at the mill used for cooling and compaction shall be 2.00 percent. Any changes within the +/- 0.30 percent tolerance from the 2.00 percent application rate will need to be documented with date, time, pavement temperature, location, reason, and new values and communicated to the engineer at the time the change occurs.

(7) If the stabilizing agent or water application rate from the mix design referenced in section B.3 is not within the range of 1.70 to 2.30 percent, at the department's direction, 500 feet test sections will be required as a comparison. The contractor's liability for the department's directed test sections will be waived. The department's Bureau of Technical Services Pavement Unit will be consulted on these test sections. No test section will be considered below 1.50 percent asphalt binder stabilizing agent.

C.2 Equipment

(1) Equipment used for CIR shall be subject to approval by the engineer.

(2) Tankers supplying hot stabilizing agent components shall be equipped to constantly monitor temperature within the tank.

C.2.1 Milling Machine

(1) The primary milling machines; not inclusive of pre-mill/wedge-cut milling units; shall be capable of milling the existing pavement at a minimum width of not less than 12.5 feet and to the depth shown on the plans, specified in the contract or directed by the engineer. A smaller milling machine may be used to mill paved shoulders and miscellaneous areas to increase the recycle width.

(2) The milling machines shall be equipped with automatic depth control, shall maintain constant cutting depth and width, uniform grade, and uniform slope.

(3) For processes not incorporating additional screening, sizing, or crushing; the milling machine shall be capable of producing RAP sized as specified in B.1.

(4) Use of a heating device to soften the pavement is not permitted.

C.2.2 Screening, Crushing, and Sizing Equipment

(1) Processes requiring additional screening, sizing, or crushing, shall include a unit with a closed-circuit system capable of continuously returning oversized material to the crusher until all milled material entering the screening, crushing, or sizing equipment meets the gradation requirements of section B.1.

C.2.3 Mixing Unit

(1) Processed RAP shall be mixed with the stabilizing agent and water in a mixing unit; defined as the milling machine cutter housing, a separate mixing chamber, or a pugmill.

(2) The asphalt stabilizing agent shall be applied; using a computer-controlled additive system; uniformly at the predetermined application rate. The metering of the stabilizing agent must be monitored through a calibrated pump providing a continuous readout of quantities.

(3) The additive system shall contain separate pumping systems for adding stabilizing agent and water. Each system shall have an inspection or test nozzle for stabilizing agent and/or water sampling.

(4) The system shall be capable of producing a uniformly mixed homogeneous recycled pavement base layer mixture.

C.2.4 Paving Equipment

(1) The placement and shaping of the recycled pavement base layer mixture shall be completed using a self-propelled paver or screed integral to the recycling equipment meeting the requirements of standard spec 450.3.1.4; revised to exclude the requirement of an activated screed or strike-off assembly.

(2) The screed shall not be heated.

(3) If utilizing a self-propelled paver, the material shall be transferred directly into the paver hopper from the recycling equipment or with a pick-up device. When a pick-up device is used, the entire windrow shall be removed from the milled surface and transferred to the paver hopper.

C.2.5 Compaction Equipment

(1) Compaction equipment shall be self-propelled and meet the requirements of standard spec 450.3.1.5.

(2) The number, weight, and types of rollers shall be used as necessary to achieve the specified compaction. At a minimum, the following rollers shall be used:

1. At least one self-propelled double drum vibratory steel roller with a minimum weight of not less than 10 tons.
2. At least one self–propelled pneumatic-tired roller with a minimum weight of not less than 22 tons.

C.3 Constructing CIR

C.3.1 Preparation

(1) After any contract required surface milling, and immediately prior to commencing CIR operations, remove from the roadway, and up to 1 inch below the milled surface, any vegetation, standing water, loose crack filler, and any other deleterious materials.

(2) Inspect the pavement surface, after any contract required surface milling, for areas of yielding subgrade. Yielding areas will be repaired prior to CIR operations.

(3) Blade the existing base aggregate roadway shoulders away from the asphaltic surface edge to minimize contamination of the CIR base layer.

C.3.2 Processing and Placement of CIR Material

(1) Mill the existing pavement to the required depth and width indicated on the plans.

(2) Further process the milled RAP material as necessary by crushing, screening, and/or sizing to the gradation requirements of B.1.

(3) Blend the RAP material with the mix design specified proportions of stabilizing agent and water; produce a uniform and homogeneous recycled mixture.

(4) Spread the recycled mixture to the grade, elevations, and slopes specified on the plans; avoiding tearing or scarring of the recycled pavement base layer surface.

(5) Ensure proper material transfer, handling, and spreading to prevent material segregation. If segregation does occur behind the paver, the contractor shall take immediate steps to correct the problem. Corrective action may include adjusting the forward speed of the paving operation and adjusting the flow of material to paver. The contractor shall make adjustments until a satisfactory end-product has been obtained, as determined by the engineer.

(6) Longitudinal joints between successive CIR operations shall be overlapped a minimum of 3 inches. Consideration should be given to the amount of stabilizing agent used in the overlapping pass. Adjust the width of the stabilizing agent application so that the overlapped CIR mixtures maintains the target stabilizing agent content. Transverse joints between successive CIR operations during the same day of placement shall be overlapped a minimum of 2 feet. The beginning of each day’s recycling operation shall overlap the end of the preceding recycling operation a minimum of 50 feet unless otherwise directed by the engineer.

C.4 Compaction

C.4.1 Control Strip Construction

(1) On the first day of production, construct a control strip to identify the target wet density for the CIR layer using a nuclear moisture-density gauge in backscatter measurement. Nuclear gauge test duration in backscatter measurement shall be for a total of one-minute test per location in the direction of paving. The control strip construction and density testing will occur under the direct observation and/or assistance of the department QV personnel.

(2) After the construction of the control strip, the CIR process shall be permitted to continue until the project's first asphalt binder tanker truck is empty. Any further CIR process shall be halted till the completion of the test rolling.

(3) Unless the engineer approves otherwise, construct control strips to a minimum dimension of 500 feet long and one full lane width. Begin the control strip at a location of at least 200 feet beyond the start of the project.

(4) Completed control strips may remain in place to be incorporated into the final roadway cross-section.

(5) Construct additional control strips, at a minimum, when:

1. The CIR layer thickness changes in excess of 2.0 inches.
2. The percent of target wet density is less than 96% or exceeds 105.0%; and is outside the range of the 10 random measurements defining the control strip; on two consecutive sublots.
3. If there is a significant change in mix proportions, weather conditions, compaction equipment, or other controlling factors, the engineer may require the construction of new control strips to check target density.

(6) Construct control strips using equipment and methods representative of the operations to be used for constructing the CIR layer.

(7) After compacting the control strip with a minimum of three roller passes, mark and take three wet density measurements using a nuclear moisture-density gauge in backscatter mode at one random station. One density measurement representing the inside 1/3, one density measurement representing the middle 1/3, and one density measurement representing the outside 1/3 transversely across the traveled lane, a minimum of 1 ½ feet from the center of the probe to the unrestricted edge of the CIR layer. Subsequent density measurements will be taken at the same three locations.

(8) After each subsequent pass of compaction equipment over the entirety of the control strip, take wet density measurements at the three marked locations. Continue compacting and testing until the increase in density measurements of individual locations is less than 2.0 lb/ft^3, or the density measurements begin to decrease.

(9) Upon completion of control strip compaction, take 10 randomly located wet density measurements within the limits of the control strip, a minimum of 1 ½ feet from the center of the probe to the unrestricted edge of the CIR layer. The final measurements recorded at the three locations under article paragraph (6) of this section may be included as 3 of the 10 measurements. Average the 10 measurements to obtain the control strip target density.

C.4.2 Compaction Requirements

(1) Compact the CIR layer to a required density of 96% of the target density. Density acceptance shall be based on the average sublot measurements results.

C.5 Surface Requirements

(1) Prior to placement of the surface treatment, the engineer and contractor shall visually inspect the CIR layer for distresses including, but not limited to raveled areas, rutted areas, and areas of excess or deficient stabilizing agent, or deficient surface tolerance areas.

(2) Test the recycled pavement base layer surface at regular intervals, and engineer selected locations, using a 10-foot straightedge or other engineer-specified devices.

(3) The engineer may direct the repair of surface deviations greater than ½ inch between two surface contact points. High points shall be corrected by rerolling, trimming, milling, or grinding. Depressions may be corrected by having a tack coat applied and be filled with HMA immediately prior to placement of the surface treatment.

(3) Raveled areas, rutted areas, and areas of excess or deficient stabilizing agent shall be re-processed or repaired. Reprocessing shall consist of milling, blending of additional stabilizing agent, placement with a paver, and compaction with determined rolling patterns as determined by the control strip.

C.6 Maintaining the Work

(1) After compaction is complete, the contractor will determine when the CIR is stable to open to traffic.

(2) After opening to traffic, and prior to placement of the upper layer, the surface of the recycled base shall be maintained in a condition suitable for the safe movement of traffic.

(3) The recycled base and shoulders shall be protected and maintained from standing water, deleterious substances, and/or other damage.

(4) Any damage to the recycled base, excluding department-directed test sections, shall be repaired by the contractor prior to placement of the upper layer at no additional cost to the department.

C.7 Curing and Surfacing

C.7.1 Curing

(1) Application of a surface treatment or leveling/lower layer of HMA will not be allowed until the moisture content of the CIR layer reduces to 2.50 percent or less.

(2) If the moisture content of the CIR layer does not reduce to 2.50 percent; the surface treatment may be applied after the change in moisture content is less than 0.30 percentage points for three consecutive calendar days.

(3) The moisture content shall be determined from a sample retrieved over the full depth of the CIR layer by weighting and drying to a constant weight using an oven at 230°±9°F. Moisture content testing by nuclear density shall only be used for informational purposes and not for acceptance. The department will obtain a sample(s) to verify the contractor's final moisture content values.

C.7.2 Tack Coat

(1) The surface shall be prepared, and tack coat applied meeting the requirements of standard spec 455.3.2.

(2) Tack coat application rate shall be 0.05 to 0.07 gal/SY. The engineer may adjust the tack coat application rate based on surface conditions.

(3) Use only emulsified asphalt material as tack coat specified in standard spec 455.2.5. Paving grade asphaltic tack coat shall not be used.

C.7.3 Surfacing

(1) Surfacing materials, equipment, and construction methods shall be in accordance with the applicable sections of the standard specs or contract special provisions.

(2) Paving of final surfacing (for single layer) or leveling/lower layer of HMA on the cured CIR sections shall not be conducted until the moisture content in the CIR layer reduces to 2.50% or less.

(3) The final surfacing (for single layer) or leveling/lower layer shall be placed on the CIR layer within 10 calendar days once a section of the CIR layer is considered cured per section B.4.5.

(4) After any rain event, the excess moisture in the CIR layer shall be allowed to dry before paving the final surfacing (for single layer) or leveling/lower HMA layer. The contractor and the engineer should inspect the CIR layer to determine suitability for surfacing.

D Measurement

(1) The department will measure Cold In-Place Recycling (CIR) Asphalt Base Layer by the square yard,

acceptably completed.

(2) The department will measure the Asphalt Stabilizing Agent incorporated into the work by the ton; as metered through a calibrated pump, or through delivered ticket quantity.

E Payment

(1) The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
327.1000.S	Cold In-Place Recycling (CIR) Asphalt Base Layer	SY
455.0770.S	Asphalt Stabilizing Agent	TON

(2) Payment is full compensation for measured quantities as specified above; all material including mixing and milling water; equipment necessary for milling and sizing, mixing, paving, compacting the completed CIR; incidentals necessary to the conduct mix design; including sampling and traffic control; mill the existing pavement for recycling, size the milled RAP, inject and mix the RAP with the stabilizing agent, place or pave, compact, and maintain the completed CIR.

(3) The department will pay separately for the repair of yielding areas under the bid item Base Repair for CIR Layer.

(4) The department will pay separately for removing or blading away of the adjacent shoulder material under the bid item Shaping Shoulders or Prepare Foundation for Asphaltic Shoulders as designated in the plan.

(5) The department will pay separately for preparation under the bid item Prepare Foundation for CIR Base Layer.

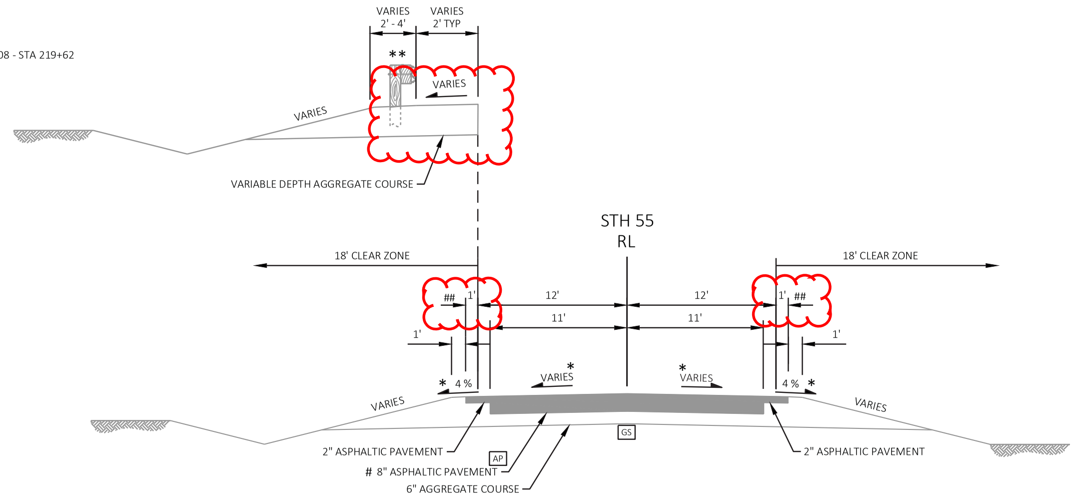
(6) The department will pay separately for surfacing treatments, including tack coat, under the appropriate bid items.

Schedule of Items
Attached, dated February 2, 2023, are the revised Schedule of Items Pages 1, 2, and 6.

Plan Sheets
The following 8½ x 11-inch sheets are attached and made part of the plans for this proposal:
Revised: 4 – 6, 14, 26, 36, and 37.

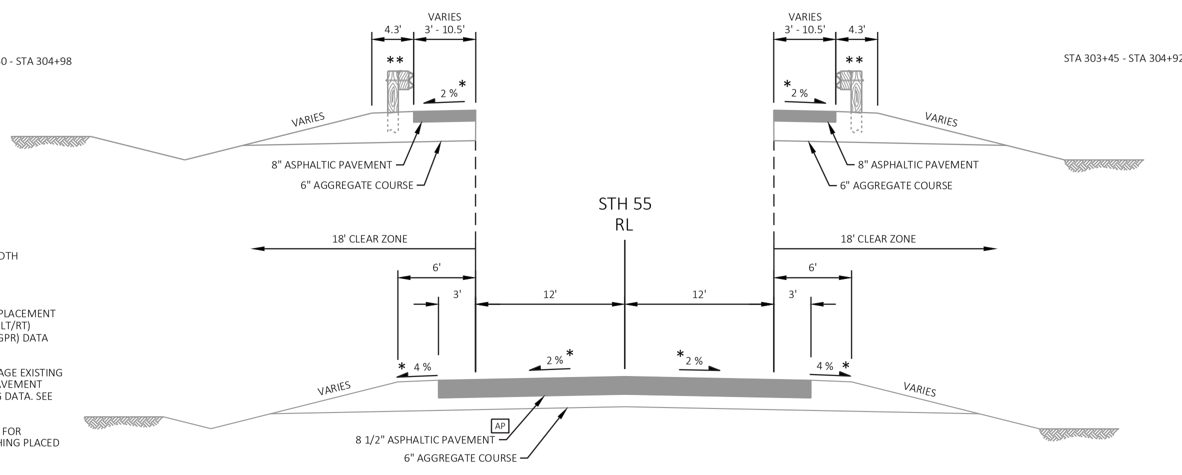
END OF ADDENDUM

Addendum No. 01
ID 9165-13-71
Revised Sheet 4
February 2, 2023



EXISTING TYPICAL SECTION

STA 0+83 - STA 287+35



EXISTING TYPICAL SECTION

STA 287+35 - STA 305+07

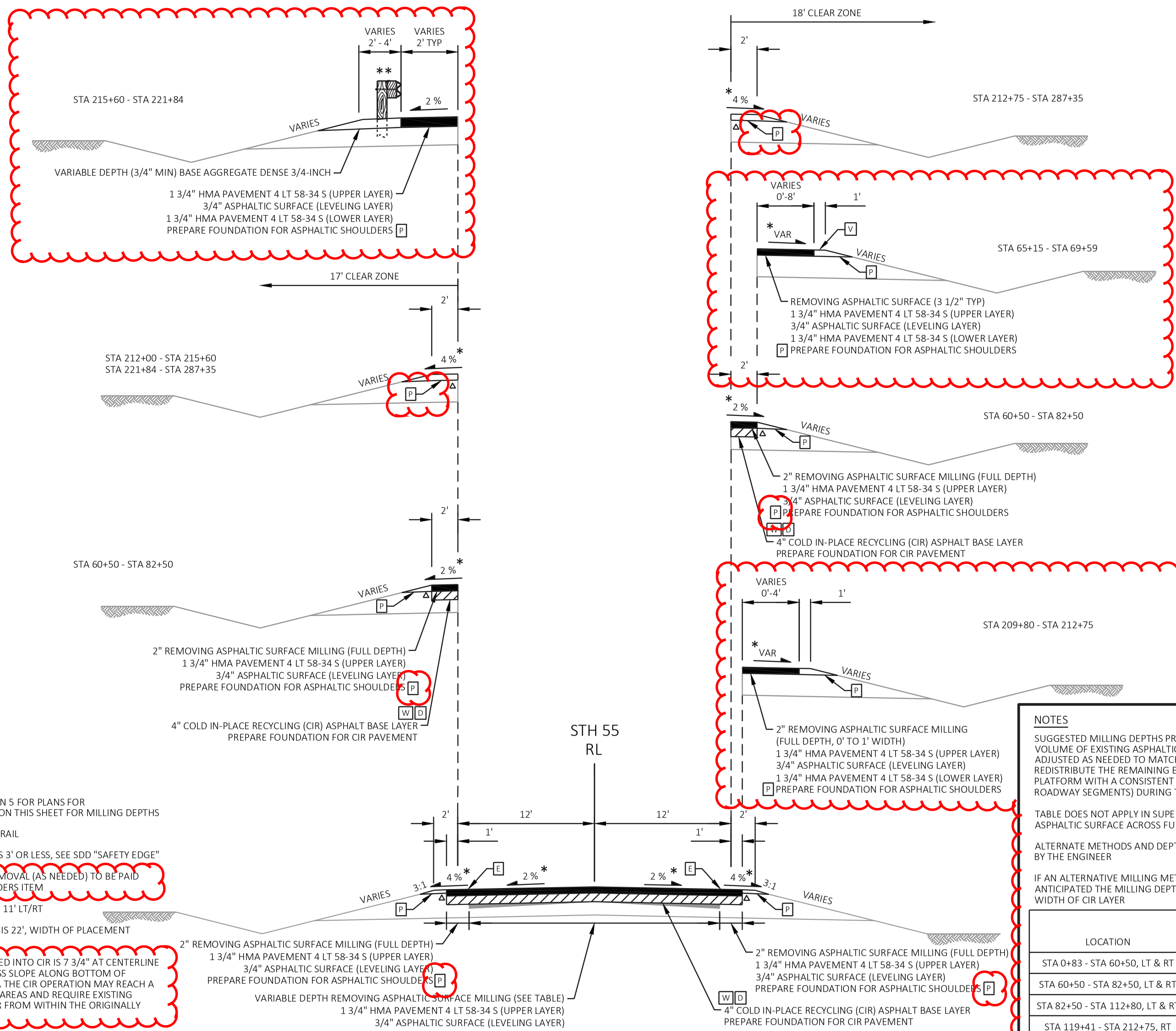
NOTES

- * CROSS SLOPE VARIES DUE TO SUPERELEVATION AND PARTIAL WIDTH OVERLAY, SEE SECTION 5 SHEETS FOR FOR CURVE INFORMATION
- ** SEE SECTION 5 PLANS FOR LOCATION OF EXISTING GUARDRAIL
- \# EXISTING PAVEMENT CORING DATA WAS COMPLETED PRIOR TO PLACEMENT OF AN 8' WIDE VARIABLE DEPTH (1 1/4" AT CENTERLINE, 0" AT 8' LT/RT) ASPHALTIC SURFACE OVERLAY. GROUND-PENETRATING RADAR (GPR) DATA WAS OBTAINED AFTER THE PARTIAL OVERLAY
- AP THE TYPICAL ASPHALTIC PAVEMENT DEPTH SHOWN IS THE AVERAGE EXISTING ASPHALTIC PAVEMENT DEPTH BASED ON GPR DATA. EXISTING PAVEMENT DEPTH RANGES FROM 5" TO 10 1/4" BASED ON GPR AND CORING DATA. SEE CONSTRUCTION DETAILS FOR GPR AND CORING DATA
- GS SEE CONSTRUCTION DETAILS - EXISTING GROUNDWATER SPRING FOR PAVEMENT STRUCTURE AND LOCATION INFORMATION OF PATCHING PLACED DURING PREVIOUS GROUNDWATER SPRING PIPE REPLACEMENT
- \## NO PAVED SHOULDER FROM STA 212+00 - STA 287+35
- SEE PLAN VIEW CONSTRUCTION DETAILS FOR EXISTING CONCRETE APPROACH SLAB LOCATION

PROJECT NO: 9165-13-71	HWY: STH 55	COUNTY: FOREST	TYPICAL SECTIONS	SHEET 4	E

FILE NAME : P:\53XX\5387.DP.21.STH55.FOR\CADDS\91651371\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 01
PLOT DATE : 1/31/2023 3:25 PM PLOT BY : ERIK OLESON PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

Addendum No. 01
ID 9165-13-71
Revised Sheet 5
February 2, 2023



FINISHED TYPICAL SECTION

STA 0+83 - STA 112+80
STA 119+41 - STA 287+35

NOTES

* CROSS SLOPE VARIES DUE TO SUPERELEVATION, SEE SECTION 5 FOR PLANS FOR CURVE INFORMATION AND SEE THE MILLING TABLE NOTES ON THIS SHEET FOR MILLING DEPTHS

** SEE SECTION 5 PLANS FOR LOCATION OF PROPOSED GUARDRAIL

Δ PAVEMENT SAFETY EDGE REQUIRED FOR PAVED SHOULDERS 3' OR LESS, SEE SDD "SAFETY EDGE"

P EXISTING AGGREGATE COURSE SHAPING, BLADING, AND REMOVAL (AS NEEDED) TO BE PAID UNDER THE PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS ITEM
REMOVE EXISTING PAVED SHOULDERS FULL DEPTH BEYOND 11' LT/RT

W TYPICAL WIDTH OF EXISTING PAVEMENT TO BE USED IN CIR IS 22', WIDTH OF PLACEMENT VARIES AS SHOWN

D TYPICAL DEPTH OF EXISTING MATERIAL TO BE INCORPORATED INTO CIR IS 7 3/4" AT CENTERLINE AND DEPTH VARIES ACROSS THE LANES TO YIELD A 2% CROSS SLOPE ALONG BOTTOM OF PROPOSED CIR, BASED ON EXISTING GPR AND CORING DATA THE CIR OPERATION MAY REACH A DEPTH BELOW THE EXISTING ASPHALTIC SURFACE IN SOME AREAS AND REQUIRE EXISTING AGGREGATE COURSE TO BE INCORPORATED INTO CIR LAYER FROM WITHIN THE ORIGINALLY CONSTRUCTED 11' PAVED LANES

E MATCH EXISTING ELEVATION AT EDGE OF LANE (TYP)

SIDE ROAD WORK WILL CONSIST OF 1 3/4" REMOVING ASPHALTIC SURFACE MILLING AND 1 3/4" OF HMA PAVEMENT 4 LT 58-34 S

V MATCH EXISTING DRIVEWAY SURFACE WITH HMA OR BASE AGGREGATE: STA 66+95 - STA 68+07

NOTES

SUGGESTED MILLING DEPTHS PROVIDED IN THE TABLE BELOW ARE INTENDED TO REMOVE EXCESS VOLUME OF EXISTING ASPHALTIC PAVEMENT NOT NEEDED DURING THE CIR PROCESS AND MAY BE ADJUSTED AS NEEDED TO MATCH FIELD CONDITIONS AND LEAVE REQURIED VOLUMES FOR CIR, REDISTRIBUTE THE REMAINING EXISTING ASPHALTIC PAVEMENT ACROSS THE PROPOSED PAVING PLATFORM WITH A CONSISTENT 4" DEPTH AND A 2% CROSS SLOPE (IN NON-SUPERELEVATED ROADWAY SEGMENTS) DURING THE CIR PROCESS

TABLE DOES NOT APPLY IN SUPERELEVATED CURVES, MILL 2 1/2" (APPROXIMATE) OF EXISTING ASPHALTIC SURFACE ACROSS FULL PAVEMENT WIDTH IN SUPERELEVATED CURVES

ALTERNATE METHODS AND DEPTHS OF MILLING MAY BE UTILIZED BY THE CONTRACTOR IF APPROVED BY THE ENGINEER

IF AN ALTERNATIVE MILLING METHOD IS PROPOSED WITH A UNIFORM 2% MILLED CROSS SLOPE, IT IS ANTICIPATED THE MILLING DEPTH MAY RANGE FROM 2" TO 2 3/4" DEPENDING ON THE FINISHED WIDTH OF CIR LAYER

LOCATION	REMOVING ASPHALTIC SURFACE MILLING DEPTH (APPROXIMATE)	
	CENTERLINE	11' LT OR RT
STA 0+83 - STA 60+50, LT & RT	0"	4 3/4"
STA 60+50 - STA 82+50, LT & RT	0"	4"
STA 82+50 - STA 112+80, LT & RT	0"	4 3/4"
STA 119+41 - STA 212+75, RT	0"	4 3/4"
STA 119+41 - STA 212+00, LT	0"	4 3/4"
STA 212+00 - STA 287+35, LT	0"	5 1/2"
STA 212+75 - STA 287+35, RT	0"	5 1/2"

PROJECT NO: 9165-13-71 | HWY: STH 55 | COUNTY: FOREST | TYPICAL SECTIONS | SHEET 5 | E

FILE NAME : P:\53XX\5387.DP.21.STH55.FOR\CADDS\91651371\SHEETSPLAN\020301-TS.DWG
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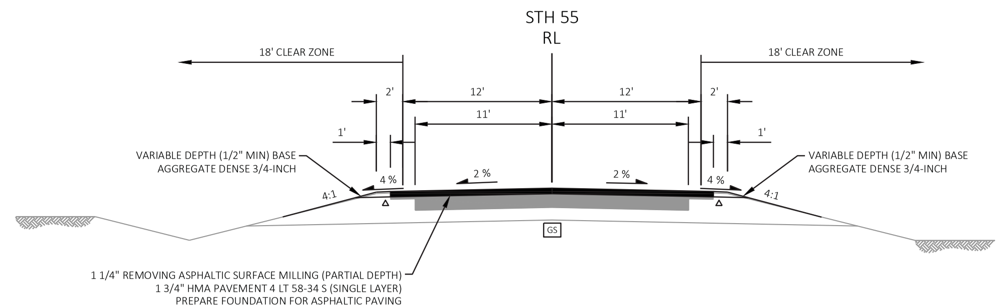
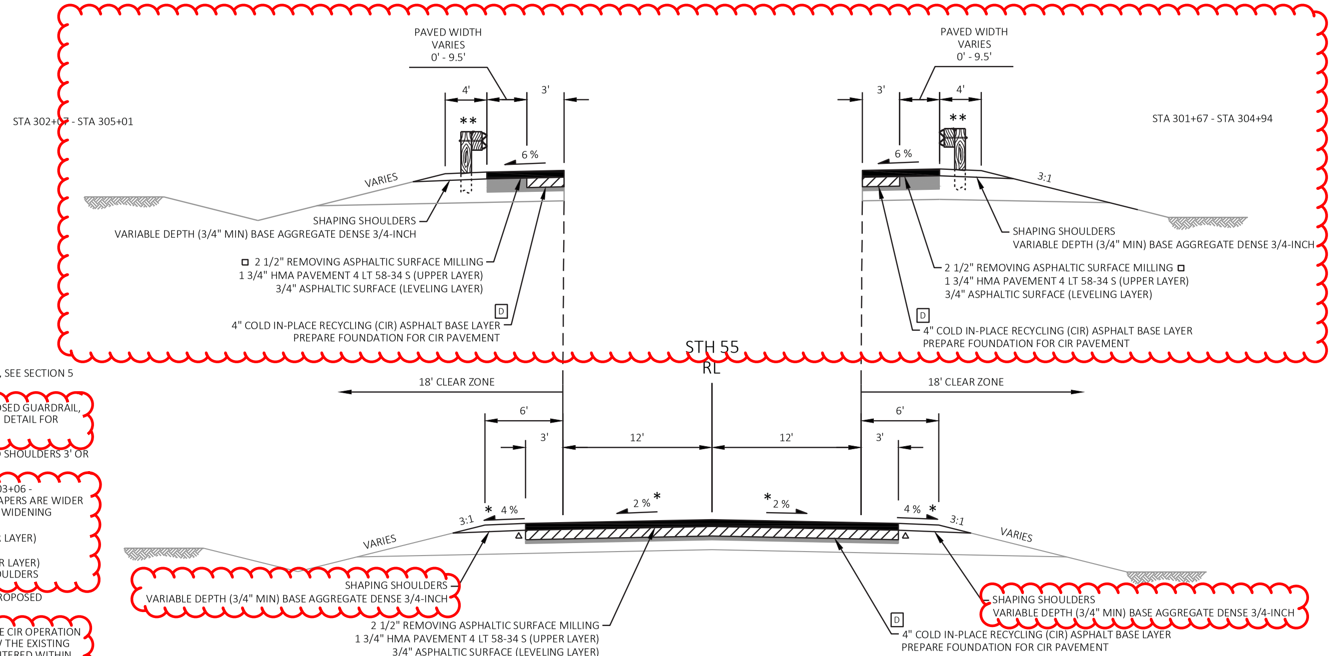
PLOT DATE : 1/31/2023 3:25 PM PLOT BY : ERIK OLESON PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



FINISHED TYPICAL SECTION
STA 112+80 - STA 119+41



FINISHED TYPICAL SECTION
STA 287+35 - STA 305+07

NOTES

* CROSS SLOPE VARIES DUE TO SUPERELEVATION, SEE SECTION 5 FOR PLANS FOR CURVE INFORMATION

** SEE SECTION 5 PLANS FOR LOCATION OF PROPOSED GUARDRAIL, SEE GUARDRAIL REPLACEMENT CONSTRUCTION DETAIL FOR GUARDRAIL LAYOUT INFORMATION

Δ PAVEMENT SAFETY EDGE REQUIRED FOR PAVED SHOULDERS 3' OR LESS, SEE SDD "SAFETY EDGE"

□ FROM STA 302+59 - STA 303+85, RT AND STA 303+06 - STA 303+69, LT PROPOSED PAVED SHOULDER TAPERS ARE WIDER THAN EXISTING PAVED SHOULDERS, COMPLETE WIDENING WORK WITH THE FOLLOWING ITEMS:
- 1 3/4" HMA PAVEMENT 4 LT 58-34 S (UPPER LAYER)
- 3/4" ASPHALTIC SURFACE (LEVELING LAYER)
- 1 3/4" HMA PAVEMENT 4 LT 58-34 S (LOWER LAYER)
- PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

SEE PLAN VIEW CONSTRUCTION DETAILS FOR PROPOSED CONCRETE APPROACH SLAB LOCATION

D BASED ON EXISTING GPR AND CORING DATA THE CIR OPERATION IS NOT ANTICIPATED TO REACH A DEPTH BELOW THE EXISTING ASPHALTIC SURFACE. IF AGGREGATE IS ENCOUNTERED WITHIN THE ORIGINALLY CONSTRUCTED 30' PAVED WIDTH, THE CIR OPERATION WILL REQUIRE EXISTING AGGREGATE COURSE TO BE INCORPORATED INTO THE CIR LAYER

GS SEE CONSTRUCTION DETAILS - EXISTING GROUNDWATER SPRING FOR MILL DEPTH TRANSITION AND ADDITIONAL INFORMATION

SIDE ROAD WORK WILL CONSIST OF 1 3/4" REMOVING ASPHALTIC SURFACE MILLING AND 1 3/4" OF HMA PAVEMENT 4 LT 58-34 S

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PROJECT NO: 9165-13-71	HWY: STH 55	COUNTY: FOREST	TYPICAL SECTIONS	SHEET 6	E

2

LEGEND

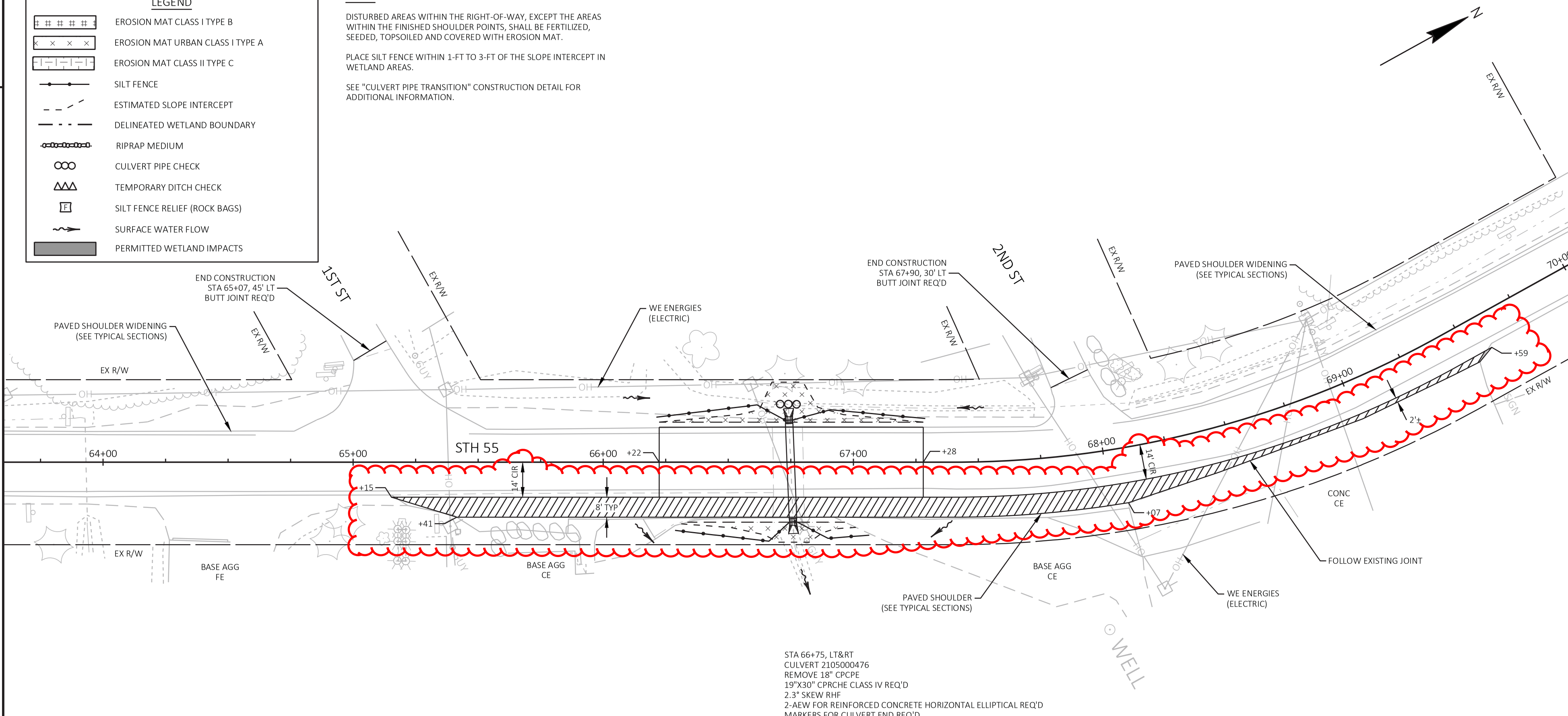
- EROSION MAT CLASS I TYPE B
- EROSION MAT URBAN CLASS I TYPE A
- EROSION MAT CLASS II TYPE C
- SILT FENCE
- ESTIMATED SLOPE INTERCEPT
- DELINEATED WETLAND BOUNDARY
- RIPRAP MEDIUM
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- SILT FENCE RELIEF (ROCK BAGS)
- SURFACE WATER FLOW
- PERMITTED WETLAND IMPACTS

NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.



Addendum No. 01
ID 9165-13-71
Revised Sheet 14
February 2, 2023

PROJECT NO: 9165-13-71	HWY: STH 55	COUNTY: FOREST	CONSTRUCTION DETAILS - GUARDRAIL REPLACEMENTS	SHEET 14	E

FILE NAME : P:\53XX\5387.DP.21.STH55.FOR\CADDS\91651371\SHEETSPLAN\021004-CD.DWG
LAYOUT NAME - 01
PLOT DATE : 1/26/2023 11:23 AM PLOT BY : NICK MENNINGA PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

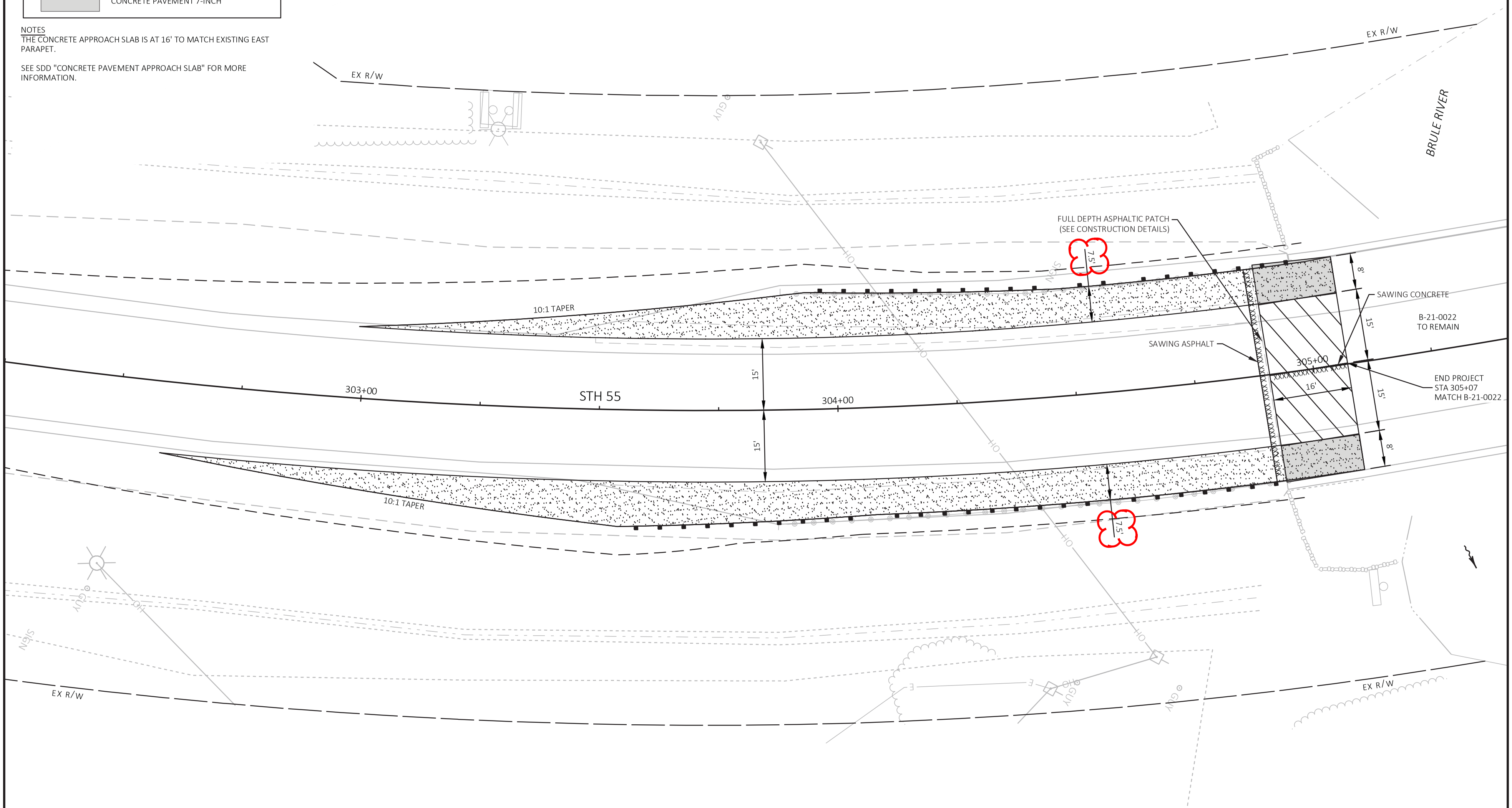
Addendum No. 01
ID 9165-13-71
Revised Sheet 26
February 2, 2023

LEGEND

- PROTECTIVE THERMOPLASTIC COATING AT SNOWMOBILE TRAIL CROSSINGS
- CONCRETE PAVEMENT APPROACH SLAB
- CONCRETE PAVEMENT 7-INCH

NOTES
THE CONCRETE APPROACH SLAB IS AT 16' TO MATCH EXISTING EAST PARAPET.

SEE SDD "CONCRETE PAVEMENT APPROACH SLAB" FOR MORE INFORMATION.



CLEARING AND GRUBBING ITEMS

STATION	TO	STATION	OFFSET	CLEARING STA	201.0205 GRUBBING STA
157+50	-	157+71	RT	--	--
194+11	-	194+22	LT&RT	--	--
209+51	-	209+67	LT	--	--
214+29	-	214+57	RT	--	--
216+44	-	216+66	LT	--	1
218+56	-	221+54	LT	--	1
250+84	-	250+94	LT	--	--
272+78	-	273+18	LT&RT	--	--
TOTALS				--	2

NOTE:
THE STATION RANGES WITHOUT QUANTITIES ARE INCIDENTAL CLEARING AND GRUBBING OF LIGHT BRUSH, SHRUBS, OTHER VEGETATION, AND TREES LESS THAN 3-INCHES IN DIAMETER

REMOVING SMALL PIPE CULVERT ITEMS

STATION	OFFSET	203.0100 REMOVING SMALL PIPE CULVERTS EACH	204.0180* REMOVING DELINEATORS AND MARKERS EACH	COMMENTS
66+75	LT&RT	1	2	18-INCH CPCPE
118+89	LT&RT	1	1	24-INCH CPCA
146+63	LT&RT	1	--	18-INCH X 24-INCH CPCA
157+61	LT&RT	1	1	24-INCH CPCA
170+36	LT&RT	1	--	24-INCH CPCA
194+18	LT&RT	1	--	24-INCH CPCS
209+76	LT&RT	1	--	30-INCH CPCA
214+46	LT&RT	1	1	24-INCH CPCA
219+08	LT&RT	1	1	24-INCH CPCA
250+88	LT&RT	1	--	24-INCH CPCS
270+99	LT&RT	1	--	24-INCH CPCA
272+95	LT&RT	1	--	24-INCH CPCA
TOTALS		12	6	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

REMOVAL ITEMS

STATION	TO	STATION	OFFSET	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
0+83	-	60+50	LT&RT	--	--	10	17,240
60+50	-	82+50	LT&RT	--	210	19	6,900
82+50	-	212+00	LT&RT	--	--	15	38,230
212+00	-	287+35	LT&RT	--	--	5	20,280
287+35	-	304+91	LT&RT	--	10	10	6,090
304+91	-	305+07	LT&RT	84	--	--	--
TOTALS				84	220	60	88,740

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Revised Sheet 36
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SHAPING SHOULDERS

STATION	TO	STATION	OFFSET	305.0500 STA
287+35	-	305+07	LT&RT	38
TOTAL				38

EARTHWORK

DIVISION	FROM/TO STATION	LOCATION	205.0100 EXCAVATION COMMON (NOTE 1)	SALVAGED/UNUSABLE PAVEMENT MATERIAL (NOTE 2)	AVAILABLE MATERIAL (NOTE 3)	UNEXPANDED FILL	EXPANDED FILL (NOTE 4)	MASS ORDINATE +/- (NOTE 5)
			CY	CY	CY	CY	CY FACTOR 1.25	CY
1	STA 66+22 - STA 67+28	CULVERT 2105000476	265	39	226	--	--	226
1	STA 118+36 - STA 119+41	CULVERT 2105000479	217	39	178	--	--	178
1	STA 146+10 - STA 147+16	CULVERT 2105000480	205	39	166	--	--	166
1	STA 157+08 - STA 158+13	CULVERT 2105000481	364	39	325	--	--	325
1	STA 169+83 - STA 170+88	CULVERT 2105000482	263	39	224	--	--	224
1	STA 193+65 - STA 194+72	CULVERT 2105000484	205	39	166	--	--	166
1	STA 209+15 - STA 210+37	CULVERT 2105000485	301	39	262	--	--	262
1	STA 213+92 - STA 214+99	CULVERT 2105000486	291	39	252	--	--	252
1	STA 218+56 - STA 219+61	CULVERT 2105000487	405	39	366	--	--	366
1	STA 250+35 - STA 251+41	CULVERT 2105000489	212	39	173	--	--	173
1	STA 270+37 - STA 271+61	CULVERT 2105000491	588	39	549	--	--	549
1	STA 272+42 - STA 273+48	CULVERT 2105000492	506	39	467	--	--	467
SUBTOTALS			3,822	468	3,354	0	0	3,354
2	STA 214+81 - STA 222+63	CTH A GUARDRAIL, LT	304	188	116	29	37	79
2	STA 302+07 - STA 305+01	BRULE RIVER GUARDRAIL, LT	182	72	110	5	5	105
2	STA 301+68 - STA 304+95	BRULE RIVER GUARDRAIL, RT	165	82	83	72	90	-7
SUBTOTALS			651	342	309	106	132	177
PROJECT TOTALS			4,473	810	3,663	106	132	3,531

NOTES:
1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL = (AREA OF PROJECT PAVEMENT) * (TYPICAL DEPTH)
3) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
4) EXPANDED FILL FACTOR = (UNEXPANDED FILL) * (FILL FACTOR)
5) MASS ORDINATE = AVAILABLE MATERIAL - (EXPANDED FILL); POSITIVE INDICATES AN EXCESS OF MATERIAL

BASE AGGREGATE ITEMS

STATION	TO	STATION	OFFSET	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	COMMENTS
66+22	-	67+27	LT&RT	1	171	CULVERT REPLACEMENT
112+80	-	119+41	LT&RT	20	--	MAINLINE
118+36	-	119+41	LT&RT	5	146	CULVERT REPLACEMENT
146+10	-	147+16	LT&RT	5	148	CULVERT REPLACEMENT
157+08	-	158+13	LT&RT	5	146	CULVERT REPLACEMENT
169+83	-	170+88	LT&RT	5	146	CULVERT REPLACEMENT
193+65	-	194+72	LT&RT	5	149	CULVERT REPLACEMENT
209+15	-	210+37	LT&RT	5	170	CULVERT REPLACEMENT
213+92	-	214+99	LT&RT	8	155	CULVERT REPLACEMENT
215+60	-	221+84	LT	44	135	GUARDRAIL
218+56	-	219+61	LT&RT	8	152	CULVERT REPLACEMENT
250+35	-	251+41	LT&RT	8	154	CULVERT REPLACEMENT
270+37	-	271+61	LT&RT	9	180	CULVERT REPLACEMENT
272+42	-	273+48	LT&RT	8	154	CULVERT REPLACEMENT
287+35	-	302+07	LT&RT	108	--	MAINLINE
302+07	-	304+91	LT&RT	58	176	GUARDRAIL
304+91	-	305+07	LT&RT	--	9	APPROACH SLAB
TOTALS				300	2,190	

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ASPHALTIC ITEMS

STATION	TO	STATION	OFFSET	211.0101 PREPARE FOUNDATION FOR ASPHALTIC PAVING (9165-13-71) EACH	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	211.0700.S.01 PREPARE FOUNDATION FOR CIR BASE LAYER (9165-13-71) EACH	211.0800.S BASE REPAIR FOR CIR LAYER CY	327.1000.S COLD IN-PLACE RECYCLING (CIR) ASPHALT BASE LAYER SY	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	455.0770.S ASPHALT STABILIZING AGENT TON	460.5244 HMA PAVEMENT 4 LT 58-34 S TON	465.0105 ASPHALTIC SURFACE TON	465.0110 ASPHALTIC SURFACE PATCHING TON	465.0450 ASPHALTIC INTERSECTION RUMBLE STRIPS SY	COMMENTS
0+83	-	60+50	LT&RT	--	122	--	--	17,238	--	2,148	77	1,755	752	--	75	MAINLINE PAVING
60+50	-	82+50	LT&RT	--	44	--	--	6,844	--	915	31	750	320	--	--	MAINLINE PAVING
65+15	-	69+59	RT	--	--	--	--	--	--	18	--	60	13	--	--	DRIVEWAY
66+22	-	67+27	LT&RT	--	--	--	--	--	--	39	--	--	130	--	--	CULVERT REPLACEMENT
82+50	-	112+80	LT&RT	--	60	--	--	8,753	--	1,091	40	891	384	--	--	MAINLINE PAVING
112+80	-	119+41	LT&RT	1	14	--	--	--	--	139	--	194	--	--	--	MAINLINE PAVING
118+36	-	119+41	LT&RT	--	--	--	--	--	--	30	--	--	120	--	--	CULVERT REPLACEMENT
119+41	-	212+00	LT&RT	--	184	--	--	26,748	--	3,431	123	2,805	1,201	--	--	MAINLINE PAVING
146+10	-	147+16	LT&RT	--	--	--	--	--	--	31	--	--	120	--	--	CULVERT REPLACEMENT
157+08	-	158+13	LT&RT	--	--	--	--	--	--	30	--	--	120	--	--	CULVERT REPLACEMENT
169+83	-	170+88	LT&RT	--	--	--	--	--	--	30	--	--	120	--	--	CULVERT REPLACEMENT
193+65	-	194+72	LT&RT	--	--	--	--	--	--	31	--	--	120	--	--	CULVERT REPLACEMENT
209+15	-	210+37	LT&RT	--	--	--	--	--	--	36	--	--	140	--	--	CULVERT REPLACEMENT
209+80	-	212+75	RT	--	4	--	--	--	--	6	--	22	7	--	--	PAVED SHOULDER WIDENING
212+00	-	287+35	LT&RT	--	152	--	--	20,093	--	2,534	90	2,070	887	--	--	MAINLINE PAVING
213+92	-	214+99	LT&RT	--	--	--	--	--	--	29	--	--	112	--	--	CULVERT REPLACEMENT
215+60	-	221+84	LT	--	7	--	--	--	--	17	--	26	6	--	--	GUARDRAIL PAVING
218+56	-	219+61	LT&RT	--	--	--	--	--	--	28	--	--	110	--	--	CULVERT REPLACEMENT
250+35	-	251+41	LT&RT	--	--	--	--	--	--	28	--	--	111	--	--	CULVERT REPLACEMENT
270+37	-	271+61	LT&RT	--	--	--	--	--	--	38	--	--	148	--	--	CULVERT REPLACEMENT
272+42	-	273+48	LT&RT	--	--	--	--	--	--	28	--	--	111	--	--	CULVERT REPLACEMENT
287+35	-	304+90	LT&RT	--	--	--	--	5,850	--	722	26	589	253	--	--	MAINLINE PAVING
302+59	-	304+90	LT&RT	--	3	--	--	--	--	46	--	38	13	--	--	GUARDRAIL PAVING
304+88	-	304+90	LT&RT	--	--	--	--	--	--	1	--	--	--	4	--	APPROACH SLAB PATCHING
PROJECT				--	--	1	500	--	2,000	--	--	--	--	--	--	--
TOTALS				1	590	1	500	85,527	2,000	11,446	388	9,200	5,295	4	75	

CULVERT PIPE MARKER ITEMS

STATION	OFFSET	204.0180* REMOVING DELINEATORS AND MARKERS EACH	633.5200* MARKERS CULVERT END EACH
11+13	LT&RT	1	2
23+60	LT&RT	1	2
34+23	LT&RT	1	2
46+90	LT&RT	1	2
64+03	LT&RT	2	2
71+16	LT&RT	2	2
81+75	LT&RT	2	2
176+42	LT&RT	1	2
237+60	LT&RT	1	2
266+52	LT&RT	2	2
291+67	LT&RT	1	2
TOTALS		15	22

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CULVERT PIPE ITEMS

STATION	OFFSET	520.3424 CULVERT PIPE CLASS III-A NON-METAL 24-INCH LF	522.0424 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF	522.0430 CULVERT PIPE REINFORCED CONCRETE CLASS IV 30-INCH LF	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH	522.2419 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH LF	522.2429 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 29X45-INCH LF	522.2619 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH EACH	522.2629 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 29X45-INCH EACH	633.5200* MARKERS CULVERT END EACH
66+75	LT&RT	--	--	--	--	--	38	--	2	--	2
118+89	LT&RT	--	--	--	--	--	32	--	2	--	2
146+63	LT&RT	--	--	--	--	--	32	--	2	--	2
157+61	LT&RT	--	40	--	2	--	--	--	--	--	2
170+36	LT&RT	--	36	--	2	--	--	--	--	--	2
194+18	LT&RT	--	30	--	2	--	--	--	--	--	2
209+76	LT&RT	--	--	52	--	2	--	--	--	--	2
214+46	LT&RT	--	--	--	--	--	--	36	--	2	2
219+08	LT&RT	44	--	--	2	--	--	--	--	--	2
250+88	LT&RT	--	--	30	--	2	--	--	--	--	2
270+99	LT&RT	--	62	--	2	--	--	--	--	--	2
272+95	LT&RT	50	--	--	2	--	--	--	--	--	2
TOTALS		94	168	82	12	4	102	36	6	2	24

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

NOTE:
1) CULVERT PIPE INVERTS ARE SHOWN ON CROSS SECTIONS

CONCRETE PAVEMENT APPROACH SLAB ITEMS

LOCATION	STATION	TO	STATION	OFFSET	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	415.0070 CONCRETE PAVEMENT 7-INCH SY
B-21-0022	304+91	-	305+07	LT&RT	55	29
TOTALS					55	29

3

3

Proposal ID: 20230214038 **Project(s):** 9165-13-71

Federal ID(s): N/A

SECTION: 0001 Contract Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0002	201.0205 Grubbing	2.000 STA	_________._____	_________._____
0004	203.0100 Removing Small Pipe Culverts	12.000 EACH	_________._____	_________._____
0006	204.0100 Removing Concrete Pavement	84.000 SY	_________._____	_________._____
0008	204.0110 Removing Asphaltic Surface	220.000 SY	_________._____	_________._____
0010	204.0115 Removing Asphaltic Surface Butt Joints	60.000 SY	_________._____	_________._____
0012	204.0120 Removing Asphaltic Surface Milling	88,740.000 SY	_________._____	_________._____
0014	204.0165 Removing Guardrail	470.000 LF	_________._____	_________._____
0016	204.0180 Removing Delineators and Markers	21.000 EACH	_________._____	_________._____
0018	205.0100 Excavation Common	4,473.000 CY	_________._____	_________._____
0020	211.0101 Prepare Foundation for Asphaltic Paving (project) 01. 9165-13-71	1.000 EACH	_________._____	_________._____
0022	211.0400 Prepare Foundation for Asphaltic Shoulders	590.000 STA	_________._____	_________._____
0024	211.0700.S Prepare Foundation for CIR Base Layer (project) 01. 9165-13-71	1.000 EACH	_________._____	_________._____
0026	211.0800.S Base Repair for CIR Layer	500.000 CY	_________._____	_________._____
0028	213.0100 Finishing Roadway (project) 01. 9165-13-71	1.000 EACH	_________._____	_________._____
0030	305.0110 Base Aggregate Dense 3/4-Inch	300.000 TON	_________._____	_________._____
0032	305.0120 Base Aggregate Dense 1 1/4-Inch	2,190.000 TON	_________._____	_________._____

Proposal ID: 20230214038 **Project(s):** 9165-13-71

Federal ID(s): N/A

SECTION: 0001 Contract Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price	Bid Amount
0034	305.0500 Shaping Shoulders	38.000 STA	_________._____	_________._____
0036	327.1000.S CIR Asphaltic Base Layer	85,527.000 SY	_________._____	_________._____
0038	415.0070 Concrete Pavement 7-Inch	29.000 SY	_________._____	_________._____
0040	415.0410 Concrete Pavement Approach Slab	55.000 SY	_________._____	_________._____
0042	455.0605 Tack Coat	11,446.000 GAL	_________._____	_________._____
0044	455.0770.S Asphalt Stabilizing Agent	388.000 TON	_________._____	_________._____
0046	460.2000 Incentive Density HMA Pavement	5,890.000 DOL	1.00000	5,890.00
0048	460.5244 HMA Pavement 4 LT 58-34 S	9,200.000 TON	_________._____	_________._____
0050	465.0105 Asphaltic Surface	5,295.000 TON	_________._____	_________._____
0052	465.0110 Asphaltic Surface Patching	4.000 TON	_________._____	_________._____
0054	465.0450 Asphaltic Intersection Rumble Strips	75.000 SY	_________._____	_________._____
0056	520.3424 Culvert Pipe Class III-A Non-metal 24-Inch	94.000 LF	_________._____	_________._____
0058	522.0424 Culvert Pipe Reinforced Concrete Class IV 24-Inch	168.000 LF	_________._____	_________._____
0060	522.0430 Culvert Pipe Reinforced Concrete Class IV 30-Inch	82.000 LF	_________._____	_________._____
0062	522.1024 Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	12.000 EACH	_________._____	_________._____

Proposal ID: 20230214038 **Project(s):** 9165-13-71

Federal ID(s): N/A

SECTION: 0001 Contract Items

Alt Set ID: **Alt Mbr ID:**

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price	Bid Amount
0158	650.5000 Construction Staking Base	1,300.000 LF	_________._____	_________._____
0160	650.6000 Construction Staking Pipe Culverts	12.000 EACH	_________._____	_________._____
0162	650.7000 Construction Staking Concrete Pavement	16.000 LF	_________._____	_________._____
0164	650.8000 Construction Staking Resurfacing Reference	30,407.000 LF	_________._____	_________._____
0166	650.9911 Construction Staking Supplemental Control (project) 01. 9165-13-71	1.000 EACH	_________._____	_________._____
0168	650.9920 Construction Staking Slope Stakes	2,050.000 LF	_________._____	_________._____
0170	690.0150 Sawing Asphalt	1,360.000 LF	_________._____	_________._____
0172	690.0250 Sawing Concrete	16.000 LF	_________._____	_________._____
0174	715.0720 Incentive Compressive Strength Concrete Pavement	500.000 DOL	1.00000	500.00
0176	740.0440 Incentive IRI Ride	23,050.000 DOL	1.00000	23,050.00
0178	SPV.0180 Special 01. Protective Thermoplastic Coating At Snowmobile Trail Crossings	393.000 SY	_________._____	_________._____
0180	450.4000 HMA Cold Weather Paving	2,000.000 TON	_________._____	_________._____

Section: 0001 **Total:** _________._____

Total Bid: _________._____