



Town of Indian Trail
Engineering Department

ADDENDUM NUMBER 01

2012 Resurfacing Contract
Project No. 505-2012-001

Addendum Issue Date: November 10, 2011

Purpose: The purpose of this Addendum is to make changes, additions, deletions, revisions and clarifications to the bidding documents dated November 9, 2011 for the project referenced above. Bidders shall review the Addendum work and requirements in detail and incorporate any effects the Addendum may have in their bid price.

Acknowledgement: Bidders must acknowledge receipt of any and all Addenda in the space provided on the Bid Form. Failure to do so may result in rejection of the Bid. All requirements of the bidding documents remain unchanged except as cited herein.

PROJECT MANUAL CHANGES:

<u>Section / Page / Title</u>	<u>Description</u>
VII/50-57/Project Special Provisions	Remove Project Special Provisions pages 50-57 and Replace with revised Project Special Provisions pages 50-57.

ATTACHMENTS:

The following documents are attached hereto and are incorporated as part of this Addendum:

1. Attachment #1 is the revised Project Special Provisions consisting of eight (8) pages.

END OF ADDENDUM NO. 1

Plan Holder of Record: _____

Received by: _____
Name Title Date

VII. PROJECT SPECIAL PROVISIONS

7.1 SP1 - MOBILIZATION

Description: Work covered by this special provision consists of preparatory work and operations which must be performed or for costs incurred prior to beginning work on the contract.

Payment: Payment for the entire lump sum price for the item of "Mobilization" will be made with the first pay request paid on the contract. The bid price shall not exceed 3% of the total amount bid for the various items in this contract.

Payment will be made under:

MOBILIZATION.....LS

7.2 SP2 – GRADING

Description: Work covered by this special provision consists of but not limited to removal and proper disposal of asphalt, concrete, existing drain pipes and structures, proof rolling, and general clean up of the project site.

Any erosion control needed during the duration of the project shall be included in this item. Possible items needed may be silt bags in catch basins, rock check dams, erosion control matting, or silt fence. The Contractor shall be responsible for proving, installing, maintaining, and removing any required erosion control as directed by the Engineer.

All proof rolling shall consist of a loaded tandem axel dump truck with 15 tons loaded on it or equivalent as approved by the Engineer. The actual path of the proof rolling will be up to the discretion of the Engineer or Geotechnical Representative, whichever is present at the time of the operation. The Contractor should have a pre-planned route for the loaded truck in order to minimize driving on newly paved roads from the previous year. This route plan shall be submitted to the Engineer twenty-four (24) hours prior to planned operations.

All disturbed areas shall be reestablished with fertilizer, limestone, and seed sown with straw or coconut matting used to cover the entire repaired area. Any existing plantings in the immediate area of the work shall be mulched with a minimum of four (4) loosely placed inches of new, clean, pine straw.

Contractor will repair any insufficiencies that are present in all catch basins after the road has been paved (no steps, open joints, etc.). All catch basins shall be free of any debris that may have collected due to construction.

Payment will be made under:

GRADING.....LS

7.3 SP3 – FULL DEPTH RECYCLING USING PORTLAND CEMENT

Description: Work covered by this special provision consists of but is not limited to the recycling of roadway by pulverizing, treating with Portland Cement, mixing, and compacting the existing asphalt pavement, base, subbase, and subgrade materials to a specified depth to produce a uniform mixture which meets density requirements. Full Depth Recycling to be performed at a ten (10) in depth.

Materials: Cement shall be in accordance with Section 1024-1 (Type I, II, or IS) of the Standard Specifications. Cement to be added at a rate of 50 pounds per square yard.

Water used shall be in accordance with Section 1024-4 of the Standard Specifications.

Use asphalt, base, subbase, and subgrade material existing in the area that is free from vegetation, roots and other objectionable matter, and does not contain asphalt, aggregate or stone larger than 2 inches (50.8 mm).

Limitations: Do not perform flexible pavement recycling operations when the air temperature is below 40°F in the shade or when conditions indicate that the temperature may fall below 40°F. Do not perform process with a frozen subgrade. Protect the base from freezing for a period of 7 days after completion. Perform the work and meet density requirements only during daylight hours of the day the section was started, except as otherwise specified in the Contract. If the work is interrupted for more than 30 minutes after the cement has been added, or if rain causes excessive moisture, reconstruct the entire section and provide the cement required at no cost to the Town. Regulate operations to limit the application of cement to sections small enough so that all of the mixing, compacting and finishing operations can be completed within the required time limit of three (3) hours. Work shall be performed within the NCDOT seasonal limitations.

Equipment:

- (A) MIXER: A self-propelled rotary mixer with a minimum of 400 hp, capable of pulverizing the existing road to a depth up to 12 inches and no less than 6.5 feet wide, is required. The mixer is also required to have a metered full-width spray bar system for adding water directly into the milling drum, and a breaker bar for use in conjunction with the milling drum. Details of the asphalt recycler shall be submitted to the Engineer for review at least five (5) working days before the machine is brought onto the site.
- (B) CEMENT SPREADERS: A cement spreader that has an adjustable rate of flow and the capability of spreading the required amount of cement in one pass shall be used. Correct any leakage of fluids and/or materials promptly or the Engineer may order such equipment removed and replaced with satisfactory equipment. Use equipment and methods for applying cement and water that will not damage the roadway.
- (C) SCARIFYING EQUIPMENT: Use a motor grader equipped with a cross slope indicator and capabilities to perform aeration, mixing, spreading and final shaping.
- (D) WATER DISTRIBUTION: Use a water truck capable of nursing water into the mixer. Use water truck for adjusting moisture content and for wetting the curing reclaimed sections.
- (E) COMPACTION EQUIPMENT: Use self-propelled compaction equipment consisting of vibratory sheeps-foot, vibratory smooth-drum, and pneumatic tire rollers.

Construction Sequence:

- (A) ROADBED PREPARATION: Pulverize and mix the existing roadway structure to the specified depth prior to adding cement. Do not add cement during the initial pulverizing and mixing process. The pulverizing and mixing shall breakup the roadbed to the extent that 100% weight passes a 2-inch sieve and a minimum of 50% passes a No. 4 sieve. The moisture content shall be maintained at a point that is at or below the optimum moisture content unless otherwise approved by the Engineer.
- (B) CEMENT APPLICATION: Apply the required quantity of cement as established by the Engineer, in a uniform spread on the pulverized roadway and immediately blend water and cement for the full depth of treatment over the entire surface in one pass. Apply cement on days when wind will not interfere with spreading. Have the moisture content at or below the optimum moisture at the time of application of cement. Multiple mixing passes may be necessary after cement is incorporated into the pulverized roadbed to obtain thorough blending and if moisture content has exceeded or is below the specified range.

During the mixing process, maintain the moisture content within a range of optimum to optimum plus 1.5% as determined. Make sure that the moisture content in the mix does not exceed the quantity that will cause the base course to become unstable during compaction or finishing operations.

- (C) COMPACTION: Begin compaction immediately after the mixing operation is completed. During compaction, maintain the moisture content of the material within a range of optimum to optimum plus 1.5% as determined by AASHTO T-99, Method D. Initial shaping may be required to obtain a uniform compaction and required grade and cross-section. Initial compaction of the base should be performed with an approved self-propelled, vibratory

sheep's-foot roller, to be followed by a vibratory smooth-drum roller and a pneumatic-tired roller. Compact to a density equal to at least 97% of the maximum dry density obtained by compaction of a material sample in accordance with AASTO T-99, Method D.

- (D) FINAL GRADING: After uniformly compacting the mixture, grade to required shape and cross-slope. Deficient areas needing additional material should be scarified before the addition of material, then compacted to density requirements, and graded to required shape and cross-slope.

Complete final compaction and grading, including that necessary due to correction of high or low areas, within 3 hours after water has been added to the mixture. Do not leave any cement-roadway mixture undisturbed for more than 30 minutes if it has not been compacted and finished. When rain causes excessive moisture, or the 3-hour time limit is exceeded, the entire section must be reconstructed. When such reconstruction is necessary, perform the work of reconstruction, and provide the cement required, at no cost to the Town. The amount of cement to be used in reconstruction is 50% of the original rate. The finished surface shall be kept moist until the curing seal, another surface treatment, or the next pavement course is applied.

Paving Operations: The asphaltic pavement course should be placed within 7 to 10 calendar days of completion of final compaction and finishing operations of each section. The base should be maintained and conditioned as specified previously during this time period. If the asphaltic pavement course is not placed within 10 calendar days, placement of a cure seal (i.e. fog coat seal of liquid asphalt) should be considered. The Engineer must approve the delay in placement of asphaltic pavement and a curing seal in advance. All base materials should be covered with asphaltic pavement prior to NCDOT seasonal shutdowns.

Proofrolling of the base should be performed prior to placement of the asphaltic pavement course. Proofrolling of the base should be performed with a fully-loaded, tandem-axle dump truck or equivalent construction equipment. Soft or unstable areas identified during proofrolling operations should be stabilized as previously outlined for reconstruction or by undercutting and backfilling with compacted NCDOT ABC crushed stone base material.

Testing: After final mixing and before compaction, a minimum of one bulk sample per day of the mixed material shall be obtained for unconfined compressive strength testing. The mixture should have a minimum 7-day unconfined compressive strength of 250 to 350 psi as determined by AASHTO T-1633.

A representative loose mix sample (minimum 35 lb per sample) must be obtain from the treated material for moisture and tensile strength testing at a minimum frequency of two samples per working day. The samples shall be obtained immediately following stabilization and shall be properly labeled and bagged to protect against moisture loss. For each sample the moisture content of the stabilized material shall be determined according to AASHTO T-99, Method D.

Each sample shall be tested for dry tensile strength, wet tensile strength and tensile strength ratio according to AASHTO T283 using the same conditioning, preparation and curing conditions as were used during the mix design with the exception that the moisture content shall be adjusted, if required, to match field conditions. Test reports shall be reported to the Town in a timely manner and no later than five (5) days following sampling.

During compaction operations the density required shall equal to at least 97% of the maximum density obtained by compaction of a material sample in accordance with AASHTO T-99, Method D. The Engineer may, at his option, utilize nuclear methods, as described in the current NCDOT Nuclear Gauge Operators Manual, to determine the density of the base in conjunction with the methods required above. Copies of this manual are available upon request from the NCDOT Materials and Tests Unit. At least one density test shall be performed for each day of completed work.

Tolerances: After final shaping and compacting of the base, the Engineer will check the surface of the base for conformance to the grade and typical section and determine the base thickness. Construct the thickness of the base so that it is within a tolerance of plus or minus ½ inch (12.7mm) of the base thickness required by the plans. Construct the base so that the maximum differential between the established grade and the base within any 50-foot (15-meter) section is ½ inch (12.7mm).

If it's determined that the thickness of the base is more than 1/2", remove and replace the deficient area with base of the required thickness at no cost to the Town.

If the deficient area is shown not to have impaired the required strength of the treated base, the deficient area may, at the discretion of the Engineer, be left in place. However, only 50% payment will be made for the base in question and the theoretical amount of cement used.

Construction Joints: At the end of each day’s construction, form a straight transverse construction joint by cutting back into the completed work to form a vertical face unless the road is to be opened to traffic. Build the treated base for large, wide areas in a series of parallel lines of convenient length and width meeting the approval of the Engineer. Form straight longitudinal joints at the edge of each day’s construction by cutting back into the completed work to form a vertical face free of loose or shattered materials.

Traffic: Completed sections of the base may be opened when necessary to lightweight local traffic, provided the base has hardened sufficiently to prevent marring or distorting of the surface, and provided the curing is not impaired. Do not operate construction equipment on the base except as necessary to discharge into the spreader during paving operations.

Maintenance: Maintain the base in an acceptable condition until final acceptance of the project. Include immediate repair of any defects of damage that may occur in any maintenance operation. Perform this maintenance at no cost to the Owner and repeat as often as may be necessary to keep the base in an acceptable condition. Perform repairs to the base by replacing the base for its full depth.

Adjustment of Valve Boxes, Manholes, and Meter Boxes: Adjust existing valve boxes, manholes, and meter boxes by raising or lowering to match the finished surface grade. Adjustments to valve boxes, manholes, and meter boxes shall be made by the use of an approved Rapid Set Grout, Mortar, or Concrete that will take full set and become load bearing within sixty (60) minutes of placement.

Measurement and Payment: Full Depth Recycling will be measured in units of square yards. The length and width will be measured along the surface of the pavement. The contract unit price for Full Depth Recycling shall be the full price for furnishing all materials (except cement), equipment, tools, labor, and incidentals necessary to complete the work.

Portland Cement for Full Depth Recycling will be measured and paid for at the contract unit price per ton that has been incorporated into the mix. The quantity will be measured by weighing in trucks on certified platform scales or other certified weighing devices. Measurement will not be made of any cement added or replaced for corrective measures during construction or for repairing damaged areas.

No changes can be made to this specification without prior written consent of the Engineer.

Payment will be made under:

FULL DEPTH RECYCLING, 10-inch depth.....	SQUARE YARDS
PORTLAND CEMENT.....	TONS

7.4 SP4 – 4” CONCRETE SIDEWALK, 6” CONCRETE WHEELCHAIR RAMPS, 6” CONCRETE DRIVEWAYS, AND CONCRETE CURB AND GUTTER

Description: The work covered by this special provision consists of all elements of work covered by Section 846 “Concrete Curb and Gutter” and Section 848 “Concrete Sidewalk, Driveways, and Wheelchair Ramps” of the Standard Specifications. **This item includes sawcutting, excavation, backfill, removal and disposal of existing concrete and the installation of new 4” Concrete Sidewalk, 6” Concrete Wheelchair Ramps, 6” Concrete Driveways, and Concrete Curb and Gutter.** Indian Trail Land Development Standards 1.12A, 1.12B, 1.17, and NCDOT Std. 848.05 shall be followed in the installation, construction and materials used for concrete work.

Work areas shall be clearly marked with construction barrels or caution tape at all times. All debris shall be removed from the work area daily. Installation of the new concrete must occur within 24 hours of the excavation and removal of the existing concrete; otherwise the Contractor must secure the work area with temporary methods at the Contractor’s expense.

Temporary methods of securing the work area must meet the approval of the Engineer. Backfilling along with seeding and mulching shall occur no later than 3 days following the pouring of the concrete.

Methods and Materials: The concrete mix design shall conform to the requirements of the Concrete section under the Specifications section of this Contract.

The Contractor shall incorporate existing castings encountered within the limits of the project to match the adjacent finished work. No direct payment will be made for this work. Any costs anticipated should be included in other contract quantities bid price.

Measurement: The quantity of 4" Concrete Sidewalk to be paid for will be the actual number of square yards of 4" Concrete Sidewalk measured along the surface of work which has been completed and accepted. The quantity of 6" Concrete Driveway to be paid for will be the actual number of square yards of 6" Concrete Driveway measured along the surface of work which has been completed and accepted. The quantity of 6" Concrete Wheelchair Ramps to be paid for will be the actual number of 6" Concrete Wheelchair Ramps installed and has been completed and accepted. The quantity of specified Concrete Curb and Gutter to be paid for will be the actual number of lineal feet of Concrete curb and gutter measured along the surface of work which has been completed and accepted.

Payment: Payment for 4" Concrete Sidewalk will be the number of square yards (SY) of 4" sidewalk measured in place. Payment for 6" Concrete Driveway will be the number of square yards (SY) of 6" driveway measured in place. Payment for 6" Concrete Wheelchair Ramps will be each (EA) for the number installed and accepted.

Payment for concrete curb and gutter will be the actual number of linear feet (LF) removed and replaced in the field which has been accepted by the Engineer.

Payment will be made under:

4" CONCRETE SIDEWALK	SY
6" CONCRETE DRIVEWAY.....	SY
6" CONCRETE WHEELCHAIR RAMPS.....	EA
CONCRETE CURB AND GUTTER.....	LF

7.5 SP5 - CURB SEALS

Description: The work covered by this special provision consists of the sawcutting and placing a silicon joint sealant along the existing crack in the concrete curb and gutter.

Methods and Materials: All cracks shall be sawcutted a minimum of 1/8" inch wide for a depth of 1 inch. Follow the saw cut with a compressed air blast to remove any debris and seal with an NCDOT approved silicon sealer.

Measurement: The quantity of curb cracks sealed will be counted as each. Each cracks location will be indicated by paint marks in the field, or as directed by the Engineer.

Payment: Payment for curb cracks sealed will be per each. Cracks will be counted in the field and paid by the number of cracks sealed.

Payment will be made under:

CURB SEAL	EA
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7.6 SP6 – MILLING ASPHALT PAVEMENT

Description: The work covered by this special provision shall be in accordance with Section 607 “Milling Asphalt Pavement” of the Standard Specifications.

Equipment: Machine shall be a self-propelled unit capable of milling depths up to six (6) inches.

Construction Requirements: To minimize exposure of the milled pavement, only a maximum of 2500 square yards of roadway surface shall be milled per asphalt overlay. If asphalt overlay does not occur within a 24 hours of the finished milling process than the Contractor will not hold the Town liable for any damage done to the milled surface. Any repair work that is deemed necessary by the Engineer will be remedy by the Contractor at no cost to the Town.

Measurement: The quantity of milling will be the number of square yards measured in place along the existing pavement surface that has been completed and accepted.

Payment: The quantity of milling to be paid for will be the number of square yards measured in place. There will be no payment for “Incidental Milling”.

Payment will be made under:

MILLING ASPHALT PAVEMENT.....SY

7.7 SP7 – ASPHALT CURING SEAL

Description: The work covered by this special provision shall be in accordance with Section 543 “Asphalt Curing Seal” of the Standard Specifications.

Measurement: The quantity of asphalt curing seal shall be measured at the contract unit price per gallon. Seal material placed on the stabilized layer or base in excess of the authorized rate plus 0.02 gallon per square yard will not be measured for payment. Measurement will not be made of any curing seal used to replace curing seal lost by heavy rains which occur after placing the curing seal.

Payment: The quantity of asphalt curing seal shall be paid for at the contract unit price per gallon that has been placed on the stabilized layer or base.

Payment will be made under:

ASPHALT CURING SEAL.....GAL

7.8 SP8 – BLOTTING SAND

Description: The work covered by this special provision shall be in accordance with Section 818 “Blotting Sand” of the Standard Specifications.

Measurement: The quantity of blotting sand will be measured by suitable means agreed upon between the Contractor and the Town. No deduction will be made of any moisture that might add weight to the quantity.

Payment: The quantity of blotting sand shall be paid for at the contract unit price per ton that has been measured by suitable means agreed upon between the Contractor and the Town.

Payment will be made under:

BLOTTING SANDTON

7.9 SP9 - TRAFFIC CONTROL

Beginning Work and Street Closings: The Contractor is responsible for notifying the appropriate agency of any work where the number of travel lanes is reduced from normal conditions. The Contractor shall install advance warning signs for the Project. These signs shall be in place for one week before construction activity begins. The Contractor shall begin construction activity on a street on the scheduled date for the closing of the travel lane.

During daily construction work hours, the Contractor will maintain at least one lane of traffic. The Contractor shall not narrow or close any travel way during the peak hours of 7:00 am to 9:00 am and 4:00 pm to 6:00 pm Monday through Friday. During periods of construction inactivity, all lanes of traffic will be open unless otherwise shown on the plans or noted in the specifications.

Traffic Control Plan: Traffic control will be performed by the Contractor based upon the current NC Traffic Control In Work Zones Standards Provisions.

The current editions of the Manual on Uniform Traffic Control Devices, the North Carolina Department of Transportation (NCDOT) Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways, the NCDOT Roadway Standard Drawings and the NCDOT Standard Specifications for Roads and Structures shall be followed at all times.

The Contractor shall maintain the traffic control as described herein unless the Contractor submits an alternate traffic control plan to the Engineer and it is approved by the Engineer. The Engineer may direct the Contractor to modify the traffic control if, in the Engineer's opinion, traffic is not moving safely or efficiently.

Maintenance of Traffic: The Contractor shall maintain all travel lanes in accordance with the noted procedures and standards.

The Contractor shall use flagger control in accordance with the appropriate standard.

In areas of drop-offs and low shoulders, the Contractor shall backfill up to the edge and elevation of the existing pavement as directed by the Engineer

The Contractor will be required to maintain ingress and egress to all businesses and dwellings, and easy access to fire hydrants.

The Contractor shall not work on both sides of the road simultaneously within the same area.

The Contractor shall provide adequate drainage under driveways and within the construction area for the duration of the Project.

The Contractor shall mark all hazards within the Project limits with well-maintained signs, barricades, warning and/or channelizing devices.

Traffic Control Devices: The Contractor shall furnish, install, operate, relocate, maintain and remove all temporary traffic control devices necessary for controlling traffic. All construction signs and barricades shall remain in place until the appropriate permanent signs and pavement markings are installed.

Pedestrian Considerations: The Contractor shall accommodate the needs of all pedestrians.

Equipment and Material Storage: During periods of construction inactivity, all construction materials and equipment shall be stored by the Contractor as directed by the Engineer.

Excavation and Trenches: Excavations and trenches that cannot be properly backfilled and patched prior to the end of the workday shall be secured as directed by the Engineer.

Measurement: There will be no separate measurement made for Traffic Control.

Payment: Traffic Control will be paid at the lump sum price for "Traffic Control". This payment will be full compensation for all elements of work required to complete the Project as specified.

Partial payments will be made as follows:

- 25% of the lump sum price on the first partial payment estimate made after any work has been performed on the item of "Traffic Control".
- 25% of the lump sum price on the first partial payment after work is 25% complete.
- 25% of the lump sum price on the first partial payment after work is 50% complete.
- 25% of the lump sum price on the first partial payment after work is 100% complete.

Payment will be made under:

TRAFFIC CONTROL.....LS

END OF PROJECT SPECIAL PROVISIONS