

ASPHALT STABILIZATION**PART 1 - GENERAL****1.01 SECTION INCLUDES**

Asphalt Stabilization for existing unpaved roadways

1.02 DESCRIPTION OF WORK

Asphalt stabilization consists of a mixture of emulsified asphalt, imported mineral aggregate, and existing roadway material; properly proportioned, mechanically mixed, spread evenly on the surface specified, compacted in place and surfaced to the thickness, width, and crown specified in the plans.

1.03 SUBMITTALS

Comply with Division 1 - General Provisions and Covenants.

1.04 SUBSTITUTIONS

Comply with Division 1 - General Provisions and Covenants.

1.05 DELIVERY, STORAGE, AND HANDLING

Comply with Division 1 - General Provisions and Covenants.

1.06 SCHEDULING AND CONFLICTS

Comply with Division 1 - General Provisions and Covenants.

1.07 SPECIAL REQUIREMENTS

None.

1.08 MEASUREMENT AND PAYMENT**A. Asphalt Stabilization:**

1. **Measurement:** Measurement will be in square yards for asphalt stabilization.
2. **Payment:** Payment will be at the unit price per square yard of asphalt stabilization.
3. **Includes:** Unit price includes, but is not limited to, furnishing and spreading imported material, applying and incorporating asphalt stabilization, blending of the materials, grading and compacting the blended materials, and final clean up.

B. Fixture Adjustment: Comply with Section 6010 for adjustment of manholes and intakes and Section 5020 for adjustment of water valves and fire hydrants.

C. Re-shaping Ditches: Comply with Section 2010 for Class 10, Class 12 or Class 13 Excavation.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Asphalt Emulsion:** Comply with the slow setting cationic emulsified asphalt; CSS-1 per ASTM D 2397.
- B. Aggregate:** Pitrun gravel, crushed stone, or reclaimed material as specified in the contract documents.

PART 3 - EXECUTION**3.01 EQUIPMENT**

Comply with Iowa DOT Section 2001 for all equipment, tools, and machines used in the performance of this work.

- A. Motor Grader:** Include attachments for scarifying, shaping, ditching, grading, and sloping. A basic motor grader does not weigh less than 22,000 pounds.
- B. Asphalt Distributor:** Ensure the tank is insulated and range in capacity from 500 to 1,500 gallons. The truck mounted asphalt distributor must have a circulating system, spray bar (fully circulating), and calibration controls.
- C. Pug-mill Mixer:** Use a road reclaiming machine or similar tractor mounted or towed mechanical mixers for blending, emulsion, and roadway aggregates.
- D. Rollers:** A vibratory type roller compactor, minimum static weight 10,000 pounds, and minimum dynamic force of 15,000 pounds is recommended. Rollers must be capable of compacting a 6 inch lift of blended asphalt stabilized material to a minimum density of 95% of maximum Standard Proctor Density.

3.02 RE-SHAPING DITCHES

- A. Remove excess and undesirable material from side ditches and properly dispose of material.
- B. Shape ditches as shown on typical cross-section. Do not place excess material excavated from ditch on the roadway but dispose of material off of the roadway.

3.03 PREPARE / PLACE BASE MATERIAL

- A. Reclaim present surface material by pulverizing the existing roadway surface to a minimum depth of 4 inches or the depth specified by the Engineer for the full length and width of the designated roadway.
- B. Spread the imported aggregate as uniformly as possible on center 15 feet of roadway at the rate of 10 pounds per square foot for the full length of designated roadway.

3.04 SURFACE FIXTURE ADJUSTMENT

Adjust manhole frames and other fixtures within area to be paved to conform to finished surface. Comply with Section 6010, 3.04 for manhole adjustments and Section 5020, 3.04 for water fixture adjustments.

3.05 APPLICATION AND MIXING OF ASPHALT EMULSION

- A. Do not apply asphalt stabilization during rainfall, when excessive moisture content exists, when the air temperature is below 50° F in the shade, or during night conditions.
- B. Incorporate asphalt emulsion with a pug-mill mixer, road reclaimer, or similar machine, capable of thoroughly mixing and/or incorporating the emulsion in a single pass.
- C. Alternately, a distributor truck may be used to apply the asphalt emulsion. Apply one-half of the required emulsion. Thoroughly blade mix to incorporate the emulsion into the aggregate. Once the emulsion is worked into the aggregate, windrow the mixture and apply the second half of the emulsion and incorporate as noted above.
- D. Adjust the application rate to obtain a minimum of 3% residual asphalt.

3.06 GRADE AND COMPACT MATERIAL

- A. Blade blended material on the roadway to form a uniform mat over the final design cross-section.
- B. Obtain final cross-section and smoothness by compaction with a sheepsfoot and subsequent rolling with vibratory and pneumatic rollers and alternating final blade shaping. Continue rolling until compacted to a minimum of 95% of maximum Standard Proctor Density.
- C. Following compaction, open roadway to traffic.

3.07 SURFACE TREATMENT

After a minimum of 48 hours, re-close the roadway and apply the surface treatment specified in the contract documents. Comply with Section 7060, Bituminous Seal Coat; Section 7070, Emulsified Asphalt Slurry Seal; or Iowa DOT Article 2306, Bituminous Fog Seal. Blot fog seal with sand prior to reopening of the roadway to prevent tracking of the asphalt emulsion.

END OF SECTION