

SEVIER SOLID WASTE, INC.

SPECIFICATIONS

FULL DEPTH RECLAMATION OF PAVEMENT

SPECIFICATIONS

FULL DEPTH RECLAMATION OF PAVEMENT

As part of Sevier Solid Waste, Inc.'s (SSWI) asphalt entrance improvement project, SSWI is accepting bids for the Full Depth Reclamation of the Class I Landfill Road surface in Pigeon Forge, Tennessee. The area (approximately 8,470 square yards) is outlined in the attached plan. The successful contractor is expected to meet the requirements of the included specifications as well as the scheduling requirements of SSWI as the facility will remain in operation during the work.

Conditions

The bidder shall list on a separate sheet of paper any variations from, or exceptions to, the conditions and specifications of this bid. This sheet shall be labeled "Exception(s) to Bid Conditions and Specifications," and shall be attached to the bid.

Scope of Work

1. Full-depth Reclamation (FDR) with Cement

FDR consists of removing existing soil and pulverizing. This is mixed with base course material with Portland cement, soil and water to produce a dense, hard, cement treated base. The depth of the FDR shall be approximately 14 inches.

The recycled base course material and/or subgrade material shall be mixed. The base course and subgrade material shall not contain roots, topsoil, or any material deleterious to its reaction with cement. The particle distribution of the processed material shall be such that 100% passes a 3-inch (75 mm) sieve, at least 95% passes a 2-inch (50 mm) sieve, and at least 55% passes a No. 4 (4.75 mm) sieve.

The water used for the mixture shall be free from substances deleterious to the hardening of the cement-treated material.

The mixture of the re-compaction shall be mixed with 4% of Portland cement. Should the final FDR mix design require a change in the cement percentage, provisions will be made for the additional, or reduction, in required cement.

Portland Cement shall comply with the latest specifications for Portland cement (ASTM C 150, ASTM C 1157, or AASHTO M 85) or blended hydraulic cements (ASTM C 595, ASTM C 1157, or AASHTO M 240).

The area of the FDR is shown in the attached plan. The area has been surveyed and calculated to be 8,470 square yards.

2. Re-grading

Once the road base is removed, the successful bidder shall re-grade the FDR area for installation of the FDR.

3. Install the FDR

4. Compaction

The processed material shall be uniformly compacted to a minimum of 98% of maximum density based on a moving average of five consecutive tests with no individual test below 95%. Field density of compacted material can be determined by nuclear method in the direct transmission mode (ASTM D 2922, AASHTO T 310), sand cone method (ASTM D 1556, AASHTO T 191), or rubber balloon method (ASTM D 2167). Optimum moisture and maximum density shall be determined prior to start of construction and also in the field during construction by a moisture-density test (ASTM D 558 or AASHTO T 134).

At the start of compaction, the moisture content shall be within 2% of the specified optimum moisture. No section shall be left undisturbed for longer than 30 minutes during compaction operations. All compaction operations shall be completed within 2 hours from start of mixing.

5. Finishing

As compaction nears completion, the surface of the FDR material shall be shaped to the specified lines, grades, and cross sections. If necessary or as required by the engineer, the surface shall be lightly scarified or broom-dragged to remove imprints left by equipment or to prevent compaction planes. Compaction shall then be continued until uniform and adequate density is obtained.

During the finishing process the surface shall be kept moist by means of water spray devices that will not erode the surface. Compaction and finishing shall be done in such a manner as to produce a dense surface free of compaction planes, cracks, ridges, or loose material. All finishing operations shall be completed within 4 hours from start of mixing.

6. Curing

Finished portions of the FDR base that are traveled on by equipment used in constructing an adjoining section shall be protected in such a manner as to prevent equipment from marring or damaging completed work

Construction Requirements

1. Preparation.

Prior to the start of the reclamation, all utilities and drainage systems shall be relocated as necessary.

Methods, equipment, tools, and any machinery to be used during construction shall be approved by the Engineer prior to the start of the project. Prior to the actual reclaiming of the access driveways, drop inlets or catch basins that might be affected shall be sufficiently barricaded to prevent reclaimed subbase material, silt or runoff from plugging the drainage system.

Sufficient surface drainage must be provided for each stage of construction so that ponding does not occur on the reclaimed sub-base course prior to the placement of bituminous concrete.

Reclamation shall be accomplished by means of a self-propelled, traveling rotary reclaimer or equivalent machine capable of cutting through existing bituminous concrete pavement to depths of

up to 15 inches with one pass. The machine shall be equipped with an adjustable grading blade leaving its path generally smooth for initial compaction. Equipment such as road planers or cold milling machines designed to mill or shred the existing bituminous concrete, rather than crush or fracture it, shall not be allowed.

Existing bituminous concrete pavement and any underlying granular material must be pulverized and mixed so as to form a homogenous mass of reclaimed sub-base material which will bond together when compacted.

In areas where the vertical or horizontal geometry of the proposed driveway is different than that of the existing, the driveway shall be reclaimed in-place and the reclaimed material sub-base placed in windrows or stockpiled while any filling or excavation is performed. When the proposed sub-grade elevation is achieved, the reclaimed sub-base material will be placed back onto the driveway in lifts no greater than five (5) inches in depth before being compacted.

Reshaping using the reclaimed sub-base material should be minimized in order to insure that the driveway has a uniform thickness of reclaimed sub-base material throughout. Unless otherwise specified, when reshaping of the driveway is required, it should be performed utilizing additional sub-base or processed aggregate base. The reclaimed sub-base material shall be compacted prior to the placement of any additional granular material used (sub-base or processed aggregate base). Subsequent to the compaction of the reclaimed sub-base material, any reshaped material or additional material placed on the driveway should not exceed five (5) inches in depth before being compacted.

The reclaimed sub-base material shall be compacted to the requirements above prior to the placement of traffic on the driveway.

A motor grader shall be used for shaping, fine grading, and finishing the surface of the reclaimed material or any other granular materials placed to form the surface prior to paving.

Any surface irregularities which develop during or after the above described work shall be corrected until it is brought to a firm and uniform surface satisfactory to the Engineer.

2. Mixing and Placing.

FDR processing shall not commence when the soil aggregate or sub-grade is frozen, or when the air temperature is below 40°F (4°C). Moisture in the base course material at the time of cement application shall not exceed the quantity that will permit a uniform and intimate mixture of the pulverized asphalt, base material and cement during mixing operations, and shall be within 2% of the optimum moisture content for the processed material at start of compaction.

The operation of cement application, mixing, spreading, compacting, and finishing shall be continuous and completed within 2 hours from the start of mixing. Any processed material that has not been compacted and finished shall not be left undisturbed for longer than 30 minutes.

3. Scarifying.

Before cement is applied, initial pulverization or scarification may be required to the full depth of mixing. Scarification or pre-pulverization is a requirement for the following conditions:

1) When the processed material is more than 3% above or below optimum moisture content. When the material is below optimum moisture content, water shall be added. The pre-pulverized material shall be sealed and properly drained at the end of the day or if rain is expected.

2) For slurry application of cement, initial scarification shall be done to provide a method to uniformly distribute the slurry over the processed material without excessive runoff or ponding.

4. Application of Cement.

The specified quantity of cement shall be applied uniformly in a manner that minimizes dust and is satisfactory to the engineer. If cement is applied as a slurry, the time from first contact of cement with water to application on the soil shall not exceed 60 minutes. The time from cement placement on the soil to start of mixing shall not exceed 30 minutes.

5. Mixing.

Mixing shall begin as soon as possible after the cement has been spread and shall continue until a uniform mixture is produced. The mixed material shall meet the following gradation conditions:

1) The final mixture (bituminous surface, granular base, and sub-grade soil) shall be pulverized such that 100% passes the 3-inch (75 mm) sieve, at least 95% passes the 2-in. (50 mm) sieve, and at least 55% passes the No. 4 (4.75 mm) sieve. No more than 50% of the final mixed material shall be made of the existing bituminous material unless approved by the engineer and included in a mixture design. Additional material can be added to the top or from the sub-grade to improve the mixture gradation, as long as this material was included in the mixture design.

2) The final pulverization test shall be made at the conclusion of mixing operations. Mixing shall be continued until the product is uniform in color, meets gradation requirements, and is at the required moisture content throughout. The entire operation of cement spreading, water application, and mixing shall result in a uniform pulverized asphalt, soil, cement, and water mixture for the full design depth and width.

6. Compaction.

As defined in the scope of work

7. Finishing.

As defined in the scope of work.

8. Curing.

As defined in the scope of work.

9. Traffic.

Completed portions of FDR base can be opened immediately to low-speed local traffic and. to construction equipment, provided the curing material or moist curing operations are not impaired, and provided the FDR base is sufficiently stable to withstand marring or permanent deformation. The section can be opened up to all traffic after the FDR base has received a curing compound or subsequent surface and is sufficiently stable to withstand marring or permanent deformation. If

continuous moist curing is employed in lieu of a curing compound or subsequent surfacing within 7 days, the FDR base can be opened to all traffic after the 7-day moist curing period, provided the FDR base has hardened sufficiently to prevent marring or permanent deformation

10. Surfacing.

Subsequent pavement layers (asphalt, chip-seal, or concrete) can be placed any time after finishing, as long as the soil-cement is sufficiently stable to support the required construction equipment without marring or permanent distortion of the surface.

11. Maintenance.

The contractor shall maintain the cement-treated material in good condition until all work is completed and accepted. Such maintenance shall be done by the contractor at his own expense. Maintenance shall include immediate repairs of any defects that may occur. If it is necessary to replace any processed material, the replacement shall be for the full depth, with vertical cuts, using either cement

Inspection & Testing

The contractor shall make such inspections and tests as deemed necessary to ensure the conformance of the work to the contract documents. These inspections and tests may include, but shall not be limited to:

Recycling operations including recycling speed, yield monitoring, monitoring treatment depth, procedures for avoiding recycling and curing in inclement weather, methods to ensure that segregation is minimized, procedures for mix design modification, grading and compacting operations, and cement application procedure.

Density testing of the recycled material will be performed using the nuclear method by the owner's representative and used as the base for approval.

Only those materials, machines, and methods meeting the requirements of the contract documents shall be used unless otherwise approved by the engineer.

All testing of processed material or its individual components, unless otherwise provided specifically in the contract documents, shall be in accordance with the latest applicable ASTM or AASHTO specifications in effect as of the date of advertisement for bids on the project.

General Information

It will be the sole responsibility of the bidder to deliver personally or by mail the proposal or proposals to the office of the Sevier Solid Waste, Inc. (mailing – P.O. Box 4520 Sevierville, TN 37864 or physical address – 1831 Ridge Road, Pigeon Forge, TN 37863), on or before the closing hour and date shown below for the receipt of bids. The envelope must be marked "FDR" and sent to the office of SSWI by 10:00 a.m. on Friday, March 31, 2023.

Bidders are invited to survey the site. Appointments are required and can be made by contacting Sevier Solid Waste, Inc. at (865) 453-5676 between the hours of 8:00 am and 4:30 pm.

SSWI does not exclude participation in bidding or being awarded the bid based upon the grounds of disability, age, race, color, religion, sex, national origin, or any other classification protected by Federal, Tennessee State constitutional, or statutory law.

SSWI complies with Title VI as required by the State of Tennessee. The successful bidder shall provide a Title VI survey and Title VI Training Verification to SSWI prior to submitting an invoice to SSWI. SSWI will not make any payments until Title VI verification has been received.

SSWI is exempt for taxes imposed by state and/or federal government. Exemption Certificates, if required are to be furnished by the successful bidder, and will be filled out by Sevier Solid Waste, Inc.

The specifications are to serve as a guide in bidding and each bidder must furnish descriptive material with each proposal. Each variance to these specifications must be specifically stated by the bidder in the bidding proposal. The SSWI Board reserves the right to reject all or any proposal as described herein, to waive informalities, or any part of any proposal as described herein, as they may deem to be in the best interest of SSWI.

While preparing the proposal, the measurement to be used is square yards (meters) of completed and accepted FDR base course as determined by the specified lines, grades, and cross sections shown on the plans.

Bidders guarantee that the prices quoted in the bid will remain firm from the date of bid opening until the completion of delivery, including the interim from bid-opening to receipt of purchase order, which interim period may be up to 60 days. Bidders guarantee that the quantity of units purchased can be increased and purchased by the City of Gatlinburg, the City of Pigeon Forge, the City of Sevierville, or Sevier County for the same bid price at any time during this 60 day period.

All proposals shall be made on the forms furnished by SSWI. Supporting information shall be on the bidder's stationery.

All proposals must indicate the firm's name address, and be signed in ink by an officer or employee having the authority to bind the company or firm.

The bidder, by executing a contract of bid proposal on the terms of the invitation to bid, warrants the product that is supplied to the buyer is found to be defective or does not conform to the specifications, the buyer reserves the right to cancel the order upon written notice to the supplier and return such product to the supplier at the supplier's expense.

Payments will commence or be made in full after delivery and acceptance of equipment. All documents, invoices, titles, and exemption certificates shall be presented to the office of SSWI.

The successful bidder shall agree to defend, at their expense, all suits alleging infringement on any United States Patent by reason of the use of sale of any piece of material furnished and will save the purchaser harmless from all expense of defending said suits and from all payments which may be assessed against the purchaser on account of such infringement.

Commencement of work is an important consideration. Unless there is a substantial difference in the bid price, time of delivery may be the determining factor in the selection of the successful bidder. Each vendor shall note in the proposal for the open top containers the number of days to make delivery after the receipt of a purchase order from Sevier Solid Waste, Inc.

Failure on part of the bidder to comply with all the above instructions may result in bid rejection.

Total Cost Bid

Bid Item	Unit	Price per Unit	Cost
Mobilization (lump sum)	1 ea	\$	\$
FDR-4% cement (/sqYD.)	8500 sqYD	\$	\$
Cement add/deduct (ton)	TBD	\$	\$
Total			\$

Date Work Can Begin : _____

Name of Bidder: _____

Address: _____

Signed By: _____

Title: _____