



CONTRACT DATA SHEET

Monroe County Division of Purchasing
200 County Office Building, Rochester NY 14614

TITLE: SLIDE / SLOPE REPAIR SERVICES

CONTRACT #: 0506-18 (4700007484)

CONTRACT DATES: 06/27/2018 – 06/30/2020

BUYER: Sean Wilcox
PHONE: 585/753-1136
EMAIL: swilcox@monroecounty.gov

VENDOR(S): GeoStabilization International LLC
4475 E 74th Ave. Ste. 100
Commerce City, CO 80022
P: (855) 579-0536
F: (970) 245-7737

Sean Wilcox
Buyer

XC: BP FILE
VENDOR

TERMS AND CONDITIONS

BID ITEM:

SLIDE / SLOPE REPAIR SERVICES

FOR:

Department of Transportation

**PURCHASING
CONTACT:**

The Buyer, identified below, is the sole point of contact regarding this Bid from the date of issuance until the bids are opened and the results made public.

Sharon Berndt
Monroe County Division of Purchasing
200 County Office Building
39 West Main Street
Rochester, NY 14614
Email: sberndt@monroecounty.gov

All requests for bid clarification must be submitted in writing to the Buyer referenced above and received no later than close of business (5:00 PM Eastern Standard Time) on **Tuesday, June 5, 2018.**

All questions will be answered and documented in writing as an Addendum to the Bid. These will be sent out to all Bidders who received the original Bid no later than **Friday, June 8, 2018.**

DUPLICATE COPIES:

PLEASE SUBMIT YOUR BID IN DUPLICATE; THE ORIGINAL AND ONE (1) COPY.

BID INFORMATION:

At the time of bid, the bidder shall supply detailed specifications covering the item(s) contained herein and shall clearly indicate any areas in which item or items offered do not fully comply with the specifications contained herein.

**SUBMITTAL OF
FORMAL
PROPOSAL:**

Bid proposal must be legible and submitted in the original form, bearing an original signature. **EMAILS AND FACSIMILES ARE NOT ACCEPTABLE.**

All bidders must submit proof that they have obtained the required **Workers' Compensation** and **disability benefits** coverage or proof that they are exempt if awarded the contract.

**SPECIFICATION
ALTERATIONS:**

Specifications will be construed to be complete and be considered the entire description of the goods or services upon which Monroe County is now seeking bids. **Only formal written addenda can materially alter this set of specifications.** No verbal statement made by a Monroe County employee or anyone else is binding nor shall such statement be considered an official part of this public bid proposal.

QUANTITIES:

The quantities listed are the estimated annual requirements and should not be construed to represent either maximum or minimum quantities to be ordered during the contract term. **Estimates are based upon actual annual usage by County departments only.**

BRAND REFERENCE:

References to a manufacturer's product by brand name or number are done solely to establish the minimum quality and performance characteristics required. Bidders may submit bids on alternates, but must attach two (2) copies of manufacturer specifications for any alternate at the time of the bid. Further, the bidder must demonstrate that the alternate proposed has a sufficient operating track record to show the equipment will perform per the specified brand. The acceptance of a bidder's alternate rests solely with Monroe County.

QUALIFIED BIDDER:

Each bidder must be prepared to present satisfactory proof of his capacity and ability to perform this contract. Such proof may include, but is not limited to, an inspection of the bidder's facilities and equipment, financial statements, references and performance of similar contracts. **The Purchasing Manager reserves the right to reject any bid where the bidder cannot satisfy the County as to their ability to perform.** Monroe County reserves the right to reject any and all bids if the Monroe County Purchasing Manager deems said action to be in the best interests of Monroe County.

**METHOD OF
AWARD:**

Monroe County intends to award the bid to the lowest responsive and responsible bidder, based on the **TOTAL**. **Bidder must bid on all items in order to be considered.** **The County reserves the right to reject any and all bids** if the Purchasing Manager deems said action to be in the best interest of the County.

CONTRACT TERM:

Contract will start with the date of the contract award and run through **June 30, 2019**, with the option to renew the contract up to four (4) additional twelve (12) month periods with the mutual consent of both parties.

PRICE CHANGES:

Price changes may be proposed by either party no later than forty-five (45) days prior to contract extension, based upon manufacturer price changes which must be supported with documentation. Should price changes not be acceptable to both parties, the contract will not be extended. Prices may change only at the time of extension.

MINIMUM ORDER:

No minimum order is specified for this contract. Agencies must be able to order as needed. **Political subdivisions and others authorized by law may participate in this contract.**

DELIVERY:

All deliveries to be F.O.B. Monroe County to agency as specified by a Purchase Order. Delivery costs must be built into the unit prices bid. Deliveries must be made within **two (2) weeks** after receipt of purchase order number. The County reserves the right to terminate the contract in the event the specified delivery time is not met.

**PURCHASE ORDER
ISSUANCE:**

Delivery of services may be directed by the receipt of a Purchase Order only. **Items that are not part of this bid will not be paid for by Monroe County.** As to all purchase orders issued by Monroe County, exceptions may only be authorized, in writing, by the Purchasing Manager or her authorized agent prior to delivery.

**BILLING
PROCEDURE:**

All invoices for items sold any authorized agency as a result of this contract must be billed in the following manner: Purchase Order #, Quantity, Description of Item Purchased, BP#, Item #, Extension and Total. **ALL INVOICES MUST BE MARKED WITH THE PURCHASE ORDER NUMBER. INVOICES WITHOUT THIS INFORMATION WILL NOT BE PROCESSED FOR PAYMENT.**

**WARRANTY/
GUARANTEE:**

All warranties by manufacturer shall apply. Bidder shall, as part of its proposal, furnish its warranty/guarantee for all goods/services to be furnished hereunder. As a minimum, Bidder shall warrant all goods for a period of one (1) year from date of acceptance. Bidder shall be obligated to repair or replace all defects in material or workmanship, which are discovered or exist during said period. All labor, parts and transportation shall be at Bidder's expense.

**UNCONTEMPLATED
PURCHASES:**

Monroe County reserves the right to request separate bids for such quantities of items on this contract that may be best procured via separate public bid offering and to otherwise act in furthering its own best interests.

SUBCONTRACT:

The Contractor shall not subcontract any work without first obtaining the written consent of the Monroe County Purchasing Manager.

RELATED ITEMS:

The County reserves the right to add miscellaneous related items to this contract during the contract term upon agreement by both parties as to the price. Approval must be given in writing by the Purchasing Manager or her Designee.

**REPORT OF
PURCHASE:**

The Contractor must, upon request, provide the County Purchasing Manager with detailed information showing how much of each item was delivered to any and all agencies under this contract. This includes deliveries to not only the County but any other municipality or agency which orders from this contract.

NYS WAGE RATES:

Pursuant to the provision of Section 220-A of the New York State Labor Law, as amended, the Contractor (and related Subcontractors) will be obligated to pay all workers in the covered classes only the applicable prevailing wage rates and supplements. The minimum hourly wage rate to be paid the various classes of labor performing work under this contract shall be in accordance with schedules which have been established or may hereafter be established or increased, by the New York State Department of Labor during the contract term. **Refer to NYS Wage Schedule PRC# 2018005518 developed for this project.**

OTHER AGENCIES:

The Contractor(s) **must** honor the prices, terms and conditions of this contract with political subdivisions or districts located in whole or in part within Monroe County. In addition, the contractor **may**, but is not required to, extend the prices, terms and conditions of this contract to any other political subdivision or district. Usage of this contract by any of these other political subdivisions or districts will have to be coordinated between that subdivision or district and the contractor. Orders placed against this contract between any subdivision or district will be contracts solely between the Contractor(s) and those entities. Monroe County will not be responsible for, nor will it have any liability or other obligation for, such contract between the Contractor(s) and any third party.

INDEMNIFICATION:

The Contractor agrees to defend, indemnify and save harmless the County, its officers, agents, servants and employees from and against any and all liability, damages, costs or expenses, causes of action, suits, judgments, losses and claims of every name not described, including attorneys' fees and disbursements, brought against the County which may arise, be sustained or occasioned directly or indirectly by any person, firm or corporation arising out of or resulting from the performance of the services by the Contractor, arising from any act, omission or negligence of the Contractor, its agents and employees or arising from any breach or default by the Contractor under this Agreement. Nothing herein is intended to relieve the County from its own negligence or misfeasance or to assume any such liability for the County by the Contractor.

SLIDE REPAIR SPECIFICATIONS

I. PURPOSE

The Monroe County Department of Transportation herein referred to as "MCDOT" is soliciting bids from interested firms to establish a contract to provide labor, equipment and supervision for "on-call", as needed services for slope/slide repairs using the methods of Launched Soil Nails, Super Nails, or Self-Drilling Super Nails as defined within these specifications. **These services will be provided primarily within Monroe County. However, other counties, cities, towns, and municipalities, herein referred to as "Agency", may use this contract as needed for slope/slide repairs within their respective jurisdictions.** The Contract period shall be **one (1) year from date of award** with four (4) one-year renewal options at the same unit pricing and contractual terms if agreed to by both MCDOT and the Contractor.

II. GENERAL

For the purpose of clarification, each firm receiving this Invitation for Bid is referred to as a "Bidder" and the Bidder awarded the contract to supply the services is referred to as a "Contractor". This Request for Bids states the instructions for submitting bids, the procedure and criteria by which a contract may be awarded, and the contractual terms which will exclusively govern the contract between MCDOT/Agency and the Contractor.

III. SPECIFICATIONS/CONTRACT REQUIREMENTS

Work shall consist of the Contractor designing and constructing stabilization systems at identified slides by internally reinforcing the soil mass with reinforcing elements (soil nails) by using installation methods as specified in this contract. The stabilization of the slide area shall be constructed from the top of slide down. MCDOT/Agency will identify locations and all work shall be performed as specified herein, under the direction of MCDOT/Agency. The Contractor shall review all locations with MCDOT/Agency representative to determine method to be used.

The Contractor will provide all necessary engineering plans and details required to successfully repair slides as noted. Any necessary core drilling, rotary drilling, percussion drilling, auger drilling or driven casing required to produce plans are the responsibility of the Contractor. These plans shall be stamped by a Registered Professional Engineer, licensed in the State of New York, who is knowledgeable in the design and implementation of slope stabilization with soil nails and related work. Changes or deviations from the approved submittals must be resubmitted for approval. No adjustments in project time will be allowed due to incomplete submittals. The plan submittal shall include at a minimum the following information:

1. A description of the soil nail construction sequence and a schedule for the work.
2. A description of the size, length, and spacing of soil nails and facing elements to be placed.
3. All necessary details to successfully construct any temporary facing and drainage system.

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The Contractor shall comply with AASHTO Specifications, or accepted industry standards for any specific items not addressed herein or elsewhere in the Contract Documents. MCDOT/Agency will provide: a yard space to receive and unload materials shipped by the Contractor, all traffic control, guiderail removal & re-installation, public notification, clearing, excavation, hauling, and reshaping of the site under the direction of the Contractor to ensure a proper working face for the stabilization system, environmental controls including erosion control measures, assistance with determining depths to any utilities identified within the work zone, all permits and easements including obtaining access to adjacent property as needed.

IV. MATERIALS SPECIFICATIONS:

- A. Launched Soil Nails.** Furnish Launched Galvanized Soil Nails that are hollow steel tubes that have been hot dip galvanized. The Launched Soil Nails shall have a minimum wall thickness of 0.120 inches and a nominal outside diameter of 1.5 inches. The strength of the tube shall be 36 ksi. Do not reuse excess cutoffs from previously installed nails.
- A-1. Super Nails:** Furnish Super Nails that are a three-stage construction including installation of an Outer Tube of 36 ksi steel that is nominally 1.5 inches in outside diameter, install neat cement grout so that the inside and outside of the Outer Tube is completely encased and immediately install an epoxy coated #6, 60 ksi reinforcing bar in the Inner Bar.
- A-2. Self-Drilling Super Nails:** Furnish Self-Drilling Super Nails that are a two-stage construction including installation of a Self-Drilling 36 ksi steel rod and installation of neat cement grout so that the inside and outside of the rod is completely encased in grout for corrosion protection. Multiple bars may be coupled to produce the final length required by the design. Bar outer diameters shall be a minimum of 1.5 inches and maximum 3 inches depending on the design load.
- B. Shotcrete.** Furnish shotcrete complying with the requirements of ACI 506.2, "Specifications for Materials, Proportioning and Application of Shotcrete", except as otherwise specified. Shotcreting consists applying of one or more layers of concrete conveyed through a hose pneumatically projected at a high velocity against a prepared surface.

Produce shotcrete by either a wet-mix or a dry-mix process. The wet-mix process consists of thoroughly mixing all the ingredients except accelerating admixtures, but including the mixing water, introducing the mixture into the delivery equipment and delivering it, by positive displacement, to the nozzle. Air jet the wet-mix shotcrete from the nozzle at high velocity onto the surface. The dry-mix process consists of producing shotcrete by delivering the dry ingredients conveyed pneumatically with the mixing water introduced at the nozzle. For additional descriptive information, refer to the American Concrete Institute ACI 506R "Guide to Shotcrete."

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Cement	AASHTO M85 / ASTM C150, Type I, II, III OR V
Fine Aggregate	AASHTO M6 / ASTM C33 clean, natural
Coarse Aggregate	AASHTO M80, Class B for quality
Water	Clean and Potable, AASHTO M157 / ASTM C94
Chemical Admixtures Accelerator	Fluid type, applied at nozzle, meeting requirements of AASHTO M194 / ASTM C494 / ASTM C1141
Water – reducer and superplastisers	AASHTO M194 / ASTM C494 Type A, C, D, E, F or G
Retarders	AASHTO M194 / ASTM C494 Type B or D
Mineral Admixtures	
Fly Ash	AASHTO M295 / ASTM C618 Type F or C, cement replacement up to 35 percent by weight of cement
Silica Fume	ASTM C1240, 90 percent minimum silicon dioxide solids content, not to exceed 12 percent by weight of cement
Welded Wire Fabric	AASHTO M55/ASTM A185 or A497
Prepackaged Shotcrete	ASTM C928

Deliver, store, and handle materials to prevent contamination, segregation, corrosion or damage. Store liquid admixtures to prevent evaporation and freezing.

Obtain MCDOT/Agency approval for the proposed mix design and method of placement prior to beginning shotcrete placement.

Use aggregate for shotcrete meeting the strength and durability requirements of AASHTO, as applicable, and the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
1/2"	100
3/8"	90-100
No. 4	70-85
No. 8	50-70
No. 16	35-55
No. 30	20-35
No. 50	8-20
No. 100	2-10

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Proportion the shotcrete to be pumpable with the concrete pump furnished for the work, with a cementing materials content of at least 24.3 pounds per cubic foot and water/cement ratio not greater than 0.55. Do not use admixtures unless approved by the Engineer. Thoroughly mix admixtures into the shotcrete at the rate specified by the manufacturer. Use only accelerators compatible with the cement used, non-corrosive to steel, and not promoting other detrimental effects such as cracking or excessive shrinkage. The maximum allowable chloride ion content of all ingredients is 0.10% when tested to AASHTO T260.

Air entrainment is not required for temporary shotcrete construction facings but shall be used in all exposed permanent shotcrete.

Provide shotcrete with a minimum design compressive strength of 2000 psi in 3 days and 4000 psi in 28 days.

Batch aggregate and cement by weight or by volume in accordance with the requirements of ASTM C94 or AASHTO M241/ASTM C685. Use mixing equipment that thoroughly blends the materials in sufficient quantity to maintain placing continuity. Produce ready mix shotcrete complying with AASHTO M157. Batch, deliver, and place shotcrete within 90 minutes of mixing. The use of retarding admixtures may extend application time beyond 90 minutes if approved by the Engineer.

Premixed and packaged shotcrete mix may be provided for on-site mixing. Use packages containing materials conforming to the Materials section of this Appendix. Placing time limit after mixing is per the manufacturers' recommendations.

When required to meet the drawings and plans the Contractor may be required to provide a 24 inch Extra Shoulder Build Up which is shotcrete formed above the wall at the road level.

V. METHOD OF DELIVERY

Delivery: The Contractor shall provide services requested under this contract only upon receipt of approved purchase orders from requesting agencies. There shall be a 25 nail minimum per site, unless otherwise grouped with additional nearby sites as ordered and agreed upon by MCDOT/Agency and the Contractor.

Response time by the Contractor shall be 21 days or less for all orders placed against this contract.

- A. **Launched Soil Nails.** Furnish Launched Galvanized Soil Nails, and equipment and incidentals necessary to complete work. Insert Launched Nails with a single stroke at initial velocities in excess of 200 miles per hour. Inserted length and spacing will be determined based upon the Engineering Plans submitted for the area. Do not leave more than 4 inches of Soil Nail exposed after installation unless approved by MCDOT/Agency. Cut off the exposed portion of installed nails for inclusion into shotcrete or flush to ground in the case of no shotcrete work when not required by plans. Dispose of the cut-off portions of the soil nails off the right of way at sites obtained by the Contractor at no additional cost to MCDOT/Agency; do not reuse remaining lengths from cut nails for Soil Nails. If required, lagging and backfill will be provided by MCDOT/Agency.
- B. **Super Nails:** Super Nails will be constructed by drilling a hole to a prescribed depth at the prescribed location as shown on the plans, inserting a 1.5 inch

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outside diameter steel pipe (Outer Tube) fully encasing the inside and outside the Outer Tube with grout (neat cement) and immediately inserting an epoxy coated #6 reinforcing rebar as the Inner Bar. At the point of entry, the nail angle shall be within plus or minus 3 degrees of that shown on the approved plans. The nails shall not extend beyond the limits of the permanent easement or right of way. Subsidence or physical damage by such operations shall be cause for immediate cessation of operations and repairs at the Contractor's expense.

- C. **Self-Drilling Super Nails:** Self Drilling Super Nails will be constructed at the prescribed locations as shown on the plans, by drilling a hole to a prescribed depth at the prescribed location utilizing a self drilling rod full depth, filling the hole with grout (neat cement) either after the drilling is completed or as the drilling proceeds, depending on soil conditions.
- D. **Shotcrete.** Construct shotcrete with a nominal thickness of 4" - 6" with either welded wire fabric or triple twisted galvanized wire mesh approximately 2" from the ground surface. The following information shall be submitted to MCDOT/Agency for review and approval prior to the actual work:
 - 1. All nozzle men shall be fully qualified & certified by the Contractor. Contractor shall be fully responsible for training, operation, and results of all work performed by all nozzle men.
 - 2. Proposed methods of shotcrete placement and of controlling and maintaining facing alignment and location and shotcrete thickness.
 - 3. Shotcrete mix design performed by a Certified ACI Level II Technician including:
 - a. Type of Portland cement.
 - b. Aggregate source and gradation.
 - c. Portions of mix by weight and water-cement ratio.
 - d. Proposed admixtures, manufacturer, dosage, technical literature.
 - 4. Previous strength test results for the proposed shotcrete mix completed within one year of the start of shotcreting may be submitted for initial verification of the required compressive strengths at start of production work. If the submitted test results meet the Contract Administrators approval then further testing will not be required, if results do not meet approval then testing must take place per the Road and Bridge specifications for testing.

MCDOT/Agency will accept or reject the Contractors submittals within 10 calendar days after receipt of a complete submission. Do not begin shotcrete construction or incorporate materials into the work until the submittal requirements are satisfied and accepted by MCDOT/Agency. Re-submit changes or deviations from the accepted submittals. No adjustments in contract time or compensation will be allowed due to incomplete submittals.

Ensure the minimum thickness of shotcrete by field measurements.

Clean the face of the excavation and other surfaces to be shotcreted of loose materials, mud, rebound, overspray or other foreign matter that could prevent or reduce shotcrete bond. Protect adjacent surfaces from overspray during shooting. Avoid loosening, cracking, or shattering the

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ground during excavation and cleaning. Remove any surface material that is so loosened or damaged, to a sufficient depth to provide a base that is suitable to receive the shotcrete. Remove material that loosens as the shotcrete is applied. The cost of additional shotcrete is incidental to the work. Divert water flow and remove standing water so that shotcrete placement will not be detrimentally affected by standing water.

Maintain a clean, dry, oil-free supply of compressed air sufficient for maintaining adequate nozzle velocity at all times. Use equipment capable of delivering the premixed material accurately, uniformly, and continuously through the delivery hose. Control shotcrete application thickness, nozzle technique, air pressure, and rate of shotcrete placement to prevent sagging or sloughing of freshly-applied shotcrete.

Begin shotcrete work only after receiving approval of the design mix and continue if the specified strengths are obtained. Contractor is to provide all work required to obtain all appropriate strength tests results at no additional cost to MCDOT/Agency.

Apply the shotcrete from the lower part of the area upward to prevent accumulation of rebound. Orient nozzle at a distance and approximately perpendicular to the working face so that rebound will be minimal and compaction will be maximized. Pay special attention to encapsulating reinforcement and the head of the soil nail. Do not work rebound back into the construction. Where shotcrete is used to complete the top ungrouted zone of the nail drill hole near the face, position the nozzle into the mouth of the drill hole to completely fill the void.

A clearly defined pattern of continuous horizontal or vertical ridges or depressions at the reinforcing elements after they are covered with shotcrete will be considered an indication of insufficient reinforcement cover or poor nozzle techniques. In this case immediately suspend the application of shotcrete and implement corrective measures before resuming the shotcrete operations. Correct the shotcreting procedure by adjusting the nozzle distance and orientation, by insuring adequate cover over the reinforcement, by adjusting the water content of the shotcrete mix or other means.

Repair shotcrete surface defects as soon as possible after placement. Remove and replace shotcrete that exhibits segregation, honeycombing, lamination, voids, or sand pockets. In-place shotcrete not meeting the specified strength requirement will be subject to remediation. Possible remediation options include placement of additional shotcrete thickness or removal and replacement, at no additional cost to MCDOT/Agency.

Provide a minimum reinforcement overlap at reinforcement splice joints as per industry standards. Clean the surface of a joint as necessary before adjacent shotcrete is applied. Where shotcrete is used to complete the top ungrouted zone of the nail drill hole near the face, to the maximum extent practical, clean and dampen the upper grout surface to receive shotcrete, similar to a construction joint.

Use either an undisturbed gun finish as applied from the nozzle or a rough, screeded finish.

Do not install shotcrete if the ground is frozen. Maintain cold weather protection if the temperature after placement is below 32°F until the in-place compressive strength of the shotcrete is greater than 725 psi. Cold weather protection may require blankets, heating under tents, or other means acceptable to the MCDOT. Deposit the shotcrete mix at a temperature of not less than 32°F or more than 100°F.

Suspend shotcrete application during high winds and heavy rains unless suitable protective covers, enclosures or wind breaks are installed. Remove and replace newly placed shotcrete exposed to rain that washes out cement or otherwise makes the shotcrete unacceptable. Provide

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a polyethylene film equivalent to protect the work from exposure to adverse weather.

The Contractor shall be responsible for meeting all federal, state, and local safety code requirements to include OHSA and NYSDOT requirements.

- E. **Strip Drains:** Use minimum 4 inch Strip Drains full width of shotcrete (down slope) at maximum six foot centers. Strip drain shall be from one of sources in the NYSDOT approved list of Wall Drain Systems and shall be fully encased in filter media. Drains shall extend beyond the face of the Shotcrete at the downhill face. Ensure that bottom ends are open and free of shotcrete.
- F. **Delay.** If the contractor is unable to deliver material(s) or services in accordance with this contract for a specific period of time, for reasons other than weather or temperatures, immediately notify MCDOT/Agency with an uncompleted order, in writing, that material(s) or services cannot be furnished. Specify the inclusive dates of this period and the reason for delay. Failure to comply with this provision may result in cancellation of the Contract.
- G. **Mobilization/Demobilization.** Perform all work and operations necessary to load and unload equipment, move personnel, supplies, and incidentals to and from the project site to accomplish all other miscellaneous associated work items or operations that must be performed, including cost that must be incurred, to begin work on the project and acceptable completion of construction operations on the project. If equipment can be transported under its own power to an adjacent site within a reasonable distance as agreed upon by MCDOT/Agency and the Contractor mobilization/demobilization will not be paid by MCDOT/Agency for the second site.

VI. EQUIPMENT AND CREW

The equipment offered by bidders shall be suitable for the intended purpose and shall meet all New York State regulations.

All Crew persons shall possess the knowledge, skills, and abilities to perform all aspects of operation of the equipment and to follow the practices and methods of roadway maintenance and construction used by MCDOT/Agency. The Contractors staff shall have a general supervisor with experience in slide stabilization procedures using soil nail technologies. The operators shall also be capable of completion of the assigned work.

Equipment operators and foreman shall have sufficient experience installing soil nails with the Contractors organization. Submit documentation showing that project personnel have appropriate qualifications. Changes to previously approved personnel must be approved in writing.

The contractor's operators shall not create any hazardous condition with the operation of the equipment. All personnel shall at all time wear approved protective clothing, safety vests, and any other equipment required to meet OSHA and NYSDOT standards. They will obey all traffic and safety rules and regulations.

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VII. SOIL NAIL SAMPLING AND TESTING

- A. Acceptance of the Soil Nails will be by Contractor's certification to MCDOT/Agency stating the material composition and installation conforms to these specifications, combined with visual inspection of the in place Soil Nails and Shotcrete by MCDOT/Agency. MCDOT/Agency reserves the right to require testing by the Contractor. Any requested testing of the soil nails will be reimbursed by MCDOT/Agency at the rate included in the bid and follow these procedures:
- B. Equipment: A dial gauge capable of measuring to 25.4 μ m (0.001 inch) shall be used to measure movement. A hydraulic jack and gauge calibrated as a unit shall be used to apply the test load. The pressure gauge shall be graduated in 690 kPA (100psi) increments or less and used to measure the applied load. The test loads shall be applied incrementally. Pullout testing: Install 1 nail per horizontal row but no more than 3 percent of the total number of nails as non-service nails and load test to pullout failure. Pullout failure is defined as movement in excess of 1 mm (0.04 inch) between the 1-minute and 10 minute reading or 2 mm (0.08 inch) per log cycle of time over a minimum load hold period of 60 minutes. The test nails shall be installed and tested as each level at a rate consistent with construction operations. The test length of nail shall be chosen to cause pullout failure prior to steel yield, but it shall not be less than 2.4 m (8ft) or 2.1 m (7ft) where construction boundaries shown on the contract plans do not allow 2.4 m (8ft) nails. A minimum ungrouted zone of 1 m (3ft.) in length to the face shall be provided.
- C. Each test soil nail using the drilling method shall be grouted in place as part of a regular production grouting process. After grouting, the nail shall not be loaded for a minimum of 3 days. Reaction frames should not bear on the shotcrete face with a 1 m (3ft.) radius of the center of the drilled hole.
- D. The pullout test shall be made by incrementally loading the nail. The nail movement shall be measured and recorded to the nearest 25.4 μ m (0.001 inch) with respect to the independent fixed reference point at each increment of load. The test shall be monitored with a pressure gauge. The load hold period shall start as soon as the test load is applied. Movement shall be recorded at 0, 1, 2, 3, 4, 5, 6 and 10 minutes. If the load is extended, the nail movement shall be recorded at 15, 25, 30, 45 and 60 minutes. Each increment of load shall be no greater than 25 percent of the design load of the nail tested. The loading shall be terminated at failure or earlier at the option of the Contractor if at least twice the design unit bond stress is demonstrated.
- E. Acceptance criteria: The nail will be deemed acceptable if the unit bond stress at a failure load or test termination is equal to or greater than twice the design unit bond stress. Unacceptable test results shall result in modifications to design or construction procedures. Any modifications of design or construction procedures shall be at the Contractor's expense, and the verification testing procedure shall be repeated as required by MCDOT/Agency. Graphs shall be plotted during the test of deflection against load.
- F. Acceptance of shotcrete will be by visual inspection by the agency of the work.

Materials found not in compliance with the requirements of this Contract may be rejected, removed and replaced at the Contractor's expense.

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VIII. MANNER OF CONDUCTING WORK AT THE JOB SITE

All work shall be performed according to the MCDOT/Agency specifications and completed to the satisfaction of MCDOT/Agency. The contractor shall communicate in English both verbally and in writing. The contractor shall be responsible for the behavior and conduct of his crews. The contractor shall be responsible for providing and assuring that the crews wear appropriate work attire (Long Pants, Polo Shirts or Tee Shirts with Sleeves, Hard Hats, Steel Toe Boots (ANSI 75 or current applicable standard) Safety Vest meeting ANSI Class II standards). All personnel shall at all times wear approved protective clothing, safety vests, and any other equipment required to meet OSHA and NYSDOT standards. They will obey all traffic and safety rules and regulations and shall not create any hazardous conditions within their operation.

IX. PRE-BID CONFERENCE:

A pre-bid conference **will not** be held for this solicitation however potential Bidders are encouraged to present questions and obtain clarification relative to any facet of this solicitation.

X. TRAFFIC CONTROL

MCDOT/Agency will be responsible for all public notices and traffic control for services performed under this contract.

XI. BASIS OF BID AND METHOD OF AWARD

The unit prices submitted by the Bidder shall be multiplied by the estimated quantity for each item listed on the Bid Tab sheet.

The basis of the award shall be the sum total of all items listed on the Bid Tab Sheet. Bidders must bid on all bid items listed on the Bid Tab sheet.

XII. METHOD OF MEASUREMENT AND PAYMENT

A. **Launched Soil Nails.** MCDOT/Agency will measure Launched Galvanized Soil Nails in individual units (per each). Nails will be measured as Launched Galvanized Soil Nails up to 20 feet. MCDOT/Agency will not make payment for materials on site and not installed. Upon receipt of proper invoices, MCDOT/Agency will pay for the materials delivered and installed and accepted at the Contractors unit price per Launched Galvanized Soil Nail. Payment at the Contract unit price each shall be full compensation for all design, labor, materials, equipment, and incidentals to furnish and place required Nails.

B. **Super Nails & Self Drilling Super Nails.** MCDOT/Agency will measure Super Nails & Self Drilling Super Nails in multiple units of measure (each) as listed on the Bid Tab Sheet. MCDOT/Agency will not make payment for materials on site

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and not installed. Upon receipt of proper invoices, MCDOT/Agency will pay for the materials delivered and installed and accepted at the Contractors unit price per Super Nail or Self Drilling Nails. Payment at the Contract unit price each shall be full compensation for all design, labor, materials, equipment, and incidentals to furnish and place required Nails.

- C. **Shotcrete.** MCDOT/Agency will measure Shotcrete in Square Feet. Upon receipt of proper invoices, MCDOT/Agency will pay for the materials delivered and installed and accepted at the Contractors unit price per square feet. MCDOT/Agency will not make payment for partial deliveries. MCDOT/Agency will not make payment for materials on site and not installed. Payment at the Contract unit price per square foot shall be full compensation for all design, labor, materials, equipment, drains, reinforcing steel, shotcrete and all incidentals, to furnish and place shotcrete around the soil nail, including but not limited to any preparatory trimming and cleaning of soil/rock surfaces and shotcrete in preparation for receiving new shotcrete.
- D. **Mobilization/Demobilization.** For each identified project site and delivery order, MCDOT/Agency will measure Mobilization/ Demobilization as one lump sum, upon completion of all other work on a delivery order and receipt of proper invoices, MCDOT/Agency will pay for Mobilization/Demobilization at the Contractor's lump sum unit price. Payment at the lump sum price bid shall be full compensation for all materials, labor, equipment, and incidentals; to move personnel, equipment, supplies, and incidentals to and from the project site. If equipment can be transported under its own power to an adjacent site within a reasonable distance as agreed upon by MCDOT/Agency and the Contractor, mobilization/demobilization will not be paid by MCDOT/Agency for the second site.
- E. **Geosynthetic Fabric.** MCDOT/Agency will measure the woven polypropylene sheet in units of square feet. Upon receipt of proper invoices, MCDOT/Agency will pay for the materials delivered and accepted at the Contractor unit price per square feet. MCDOT/Agency will not make payment for partial deliveries. Payment at the contract unit price each unit shall be full compensation for all materials. The Contractor will provide MCDOT/Agency personnel with guidance and supervision in the proper technique for installation of geosynthetic fabric by MCDOT/Agency personnel for a GCS wall. Optionally, the Contractor will provide a unit price on the Bid Tab Sheet for installing a GCS Wall with Contractor personnel.
- F. **Split Faced GCS Blocks:** Split faced Concrete Masonry Blocks will be measured and paid per each for all materials, labor, equipment and incidentals to furnish a finished product.
- G. **Geosynthetically Confined Soil Wall (GCS):** Geosynthetically Confined Soil Wall (GCS) will be measured and paid in square feet (measured on the finished face) for all materials, labor, equipment and incidentals to furnish and construct a finished GCS Wall according to the approved plans. Number one and number two (#1 & #2) stone blended (dry) backfill for constructing the GCS Wall will be provided to the site by MCDOT/Agency for installation and compaction by the

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Contractor.

- H. **Extra Shoulder Buildout.** Extra shoulder buildout width will be measured and paid in linear feet for all materials, labor, equipment and incidentals to furnish a finished product.
- I. **Galvanized Steel Plates.** Galvanized Steel Plates will be measured and paid per Each for all materials, labor, equipment and incidentals to furnish a finished product.
- J. **Wire Mesh Surface Treatment:** Galvanized wire mesh surface treatment will be measured and paid in square feet for all materials, labor, equipment and incidentals to furnish a finished product.
- K. **Horizontal Drains:** Horizontal drains will be measured and paid for in lineal feet for all materials, labor, equipment and incidentals to furnish a finished product.
- L. **Strip Drains:** Strip drains will not be measured and paid for separately as they are to be considered incidental to the work.

XIV. WARRANTY/GUARANTEE

The contractor shall warrant that the slide correction performed will be constructed with industry standard materials and construction methods. The contractor shall warranty the work for a five year period. If at any point within the warranty period the repaired section becomes unstable, the contractor will, in a timely manner, remedy the situation with a design/construction solution at no cost to the owner. This warranty does not cover work completed by others or shallow surface erosion problems that may develop in the future. Exceptions to the warranty include catastrophic seismic, weather, or other events outside reasonable accounting in design (including earthquakes and weather events exceeding expectation for the region) or further construction by third parties that destabilizes the repair (including utility trenches dug into or through any soil nails, deep excavations in the area, etc). Extreme storm water volumes may cause erosion which could undermine the repaired areas which may void this warranty. After such an event these areas should be checked for erosion.

Item #	Description	Unit	Unit Price
1	Launched Soil Nails (up to 20 Ft.)	EA	\$550.00
2	Up to 20 Ft. Super Nails	EA	\$725.00
3	21 - 30 Ft. Super Nails	EA	\$800.00
4	31 - 40 Ft. Super Nails	EA	\$950.00
5	41 - 50 Ft. Super Nails	EA	\$1,150.00
6	Up to 20 Ft. Self-Drilling Super Nails	EA	\$800.00
7	21 -30 Ft. Self-Drilling Super Nails	EA	\$1,150.00
8	31 -40 Ft. Self-Drilling Super Nails	EA	\$1,650.00
9	41 -50 Ft. Self-Drilling Super Nails	EA	\$2,200.00
10	Galvanized Steel Plates (3/8"x8"x8")	EA	\$35.00
11	Wire Mesh Surface Treatment	SF	\$20.00
12	4" Shotcrete	SF	\$30.00
13	6" Shotcrete	SF	\$39.00
14	8" Shotcrete	SF	\$46.00
15	Extra 24"- 48" Shotcrete Shoulder Build-up	LF	\$225.00
16	GCS Split Faced Blocks	EA	\$5.50
17	GCS Geotextile Fabric	SF	\$0.50
18	Geosynthetically Confined Soil Wall (#1 & # 2 Stone Blended (dry) by MCDOT / Agency)	SF	\$38.00
19	Horizontal Drains	LF	\$35.00
20	Mobilization/Demobilization	EA	\$7,500.00