

CITY OF COOS BAY CITY COUNCIL
Agenda Staff Report

MEETING DATE May 17, 2016	AGENDA ITEM NUMBER
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TO: Mayor Shoji and City Councilors

FROM: Jim Hossley, Director Public Works *JH*

THROUGH: Rodger Craddock, City Manager *RC*

ISSUE: Award Contract for Geotechnical Design and Stabilization Work – West Park Road Rehabilitation

BACKGROUND:

The December 2015 storm created infrastructure failure throughout the City, one of those locations is the West Park Road slide. The City obtained a quote from a firm under contract with ODOT to provide landslide stabilization services. The firm is GEOstabilization International. The City's purchasing rules allow the City to forego its typical procurement process when using firms that have been procured by other government agencies using the typical government purchasing process. The firm has Oregon licensed geotechnical engineers that will prepare the bank stabilization plan for stabilizing the Coos River Highway slide. The firm will also perform the stabilization work.

The City still needs to bid for additional work with a separate contractor(s) for West Park Road repairs. We need to replace the sewer main that runs through the slide area as well as rebuild the roadbed and asphalt the surface. The sewer main in this area is critical as it serves approximately 300 households. Due to the slide, the sewer main has experienced some deformation but it has not broken. Replacement of the sewer main and reconstruction of the road surface will occur after the stabilization work. The contract for the sewer and road surface work will come to Council for approval at a future meeting.

ADVANTAGES:

The embankment stabilization project on West Park will fix a problem that has existed for several years. The work will allow for the road to re-open and will protect the integrity of a critical sewer main.

DISADVANTAGES:

Other than cost, none

BUDGET IMPLICATIONS:

The cost for the stabilization project is expected to be paid for using Federal Emergency

Management Administration (FEMA) funds. It may be necessary to use Fund 16 Surface Transportation Program funds to pay the contractor if FEMA payment is not immediate. The cost for the stabilization work is \$271,349.76 for design and building. Staff recommends a \$20,000 contingency. The total cost, with contingency, is \$291,349.76.

ACTION REQUESTED:

If it pleases council, award the Coos River Highway slope stabilization design and construction contract to Geostabilization International for a cost not to exceed \$291,349.76.

ATTACHEMENTS:

GSI Report



February 5th, 2016

Mr. Randy Dixon, Operations Administrator
City of Coos Bay
500 Central Avenue
Coos Bay, Oregon

Proposal for Design/Build/Warranty Stabilization of West Park Roadway at Intersection with Barham Terrace

Dear Mr. Dixon:

GeoStabilization International (GSI®) is pleased to offer this design/build/warranty proposal to stabilize the landslide on West Park Roadway at the intersection with Barham Terrace in Coos Bay, Oregon. GSI personnel performed a site reconnaissance with you on February 1st, 2016 in preparation of this proposal. We have also reviewed topographical and utility plans provided by the City.

Project Overview

The following proposal outlines a stabilization plan that includes the installation of Self Drilling SuperNails™ faced with reinforced structural shotcrete for an estimated stabilization length of 125 lineal feet (LF).

Photo illustrating headscarp extending across the entire road width.



Slope Stabilization Construction Plan

The recommended slope stabilization plan will be completed as a collaborative effort between GSI and City of Coos Bay Maintenance forces. The primary scopes of work for the City of Coos Bay or their subcontractor will consist of excavation to prepare the site for stabilization, traffic control, drainage improvements, and guardrail installation. GSI will provide Self Drilling SuperNail® and shotcrete wall construction. **GSI may subcontract the City of Coos Bay work scope if requested.**

The proposed stabilization plan will consist of the installation of four rows of Self Drilling SuperNails™ up to 40-feet in length. The Self Drilling SuperNails™ will be faced with a structural layer of reinforced shotcrete, up to 12 feet tall, to distribute the nail head loads and create a buttress to stabilize the road surface.

The soil nail wall will be constructed approximately 5 feet east of the existing pavement surface of West Park Roadway to allow room for guardrail installation. The wall will divert around the manhole located at the south end of the headscarp so that it may remain in place. It should be noted that future maintenance or repair of the manhole and associated drainline may be impossible with the implemented stabilization and require realignment. The wall alignment will result in the abandonment of the entrance to the driveway.

GSI will collaborate with City personnel prior to construction to modify the stabilization plan to avoid potential underground utility obstructions as feasible. However, relocation of one or more utilities may be unavoidable to successfully stabilize the landslide.

Drainage improvements are also required for successful stabilization of the landslide. It is understood that water has historically flowed from the north within the near surface pavement base and/or subgrade soils. A subsurface interceptor drain (French Drain) will need to be installed, uphill of the distressed pavement, as part of the project and is assumed to be completed by the City of Coos Bay or their subcontractor. The 5-year warranty will be voided if the drain is not installed. GSI will also install horizontal drains to alleviate the buildup of hydrostatic pressure with the upper failure mass.

Proposed Construction Sequence

The estimated order of tasks is as follows along with an example photo to better illustrate the operation:

1. Excavation to remove loose debris and vegetation, and to reduce undulations in the slope face to facilitate shotcrete placement. The excavation will need to be completed in at least two lifts to prevent temporary construction instability.

2. GSI File Photo showing installation of production Self Drilling SuperNails™ working from road surface.



3. GSI File Photo showing placement of flat panel drains and steel reinforcing components and shotcrete application.



4. Below: GSI File Photo showing finished shotcrete wall prior to final cleanup and revegetation.



Resources

Our SuperNailer™ is mounted on a tracked carriage that allows the work to be accomplished from the existing road surface. **We anticipate that the road will remain closed during construction.**

Schedule

The proposed scope of work assumes working 10 hours per day, 6 days per week as daylight permits. GSI crews typically are on site for 2 weeks and travel home for 4 days.

Cost

The cost outlined in the following table includes design drawings and calculations sealed by a professional engineer registered in the State of Oregon, all materials and equipment required for installation of the Self Drilling SuperNails™ and shotcrete slope stabilization plan, a 75-year design life and a 5-year performance warranty.

Cost Estimate

Description	Total
Design/Build/Warranty Slope Stabilization (125 LF)	\$271,349.76

*Assumes One Mobilization

GSI Includes or Excludes the Following Items as Indicated

	Exclude	Include		Exclude	Include
Self Drilling SuperNail™ Supply & Installation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Excavation for Wall	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Water	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Hauling of Spoils	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Stamped stabilization plans and calculations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Traffic Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>
One (1) Mobilization	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Facing Installation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Construction Surveying	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Erosion Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Horizontal Drains	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Drainage Improvements	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Construction Permits	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Guardrail Installation	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Warranty:

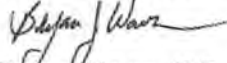
Our proposal includes design and we will supply a P.E. stamped typical section. Our work also carries a five-year warranty commencing after GSI project completion. This warranty is void absent GSI receiving mutually agreed project payment or if the City of Coos Bay or their subcontractor does not repair the failed culvert. If at any point within the warranty period the repaired section becomes unstable, GSI 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.

This proposal is contingent on the fact that the slide does not move significantly prior to our mobilization. If significant movement occurs we should be contacted to potentially modify the scope of this proposal.

This offer expires 30 days from the date transmitted. GeoStabilization International is confident that we can construct a quality stabilization system in an efficient manner. This proposal is conditional upon entering a mutually acceptable contract between GeoStabilization International and City of Coos Bay.

Sincerely,

GeoStabilization International



Bryan Wavra, P.E.

NW Project Development Engineer

503-999-4187

bryan@gsi.us

Acceptance: _____
Name/Title Date

