STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ADDENDUM NO. 2
for
EMERGENCY EARTHQUAKE ROCKFALL REPAIRS
VARIOUS LOCATIONS ON HAWAII, UNIT 3
FEDERAL-AID PROJECT NO. ER-15(21)

The following amendments shall be made to the Bid Documents:

A. SPECIFICATIONS

1. Replace Page 107-1a dated 8/7/09 with the attached Pages 107-1a dated r2/17/10.

2. Replace Page 208-1a dated 01/04/2010 with the attached Pages 208-1a through 208-2a dated r2/17/2010.

3. Amend **Section 662.02 E. Wire Rope**, line 93 to 99 to read:
"**Wire Rope Anchors.** Wire Cable Anchors shall be designed and supplied by the barrier system manufacturer that meet the following minimum requirements: 6x19 construction (or equivalent) IWRC, 0.75-inch diameter, type 304 or 316 stainless steel, and a minimum breaking strength of 49,600 lbs. The wire cable anchors shall incorporate a factory-swaged eye on one end or shall be in accordance with the details shown on the Contract Documents."

4. Amend **Section 662.02 I. Miscellaneous Materials**, line 131 to 134 to read:
"**I. Galvanization.** All steel components, including ring nets, mesh, posts, cables, nuts, bolts, shackles, and any other miscellaneous steel part shall be hot dipped galvanized coated. "

5. Replace Pages 671-1a through 671-3a dated 7/27/09 with the attached Pages 671-1a through 671-4a dated r2/17/10.

6. Replace Pages 672-1a through 672-6a dated 7/27/09 with the attached Pages 672-1a through 671-6a dated r2/17/10.

7. Replace Pages 673-1a through 673-12a dated 10/13/09 with the attached Pages 673-1a through 673-12a dated r2/17/10.

B. PROPOSAL

1. Page P-1, change project number ER-14(21) to read ER-15(21).

2. Replace pages P-8 through P-38 dated 12/30/2009 with the attached pages P-8 through P-33 dated r2/17/2010.

C. PLANS

1. Plan Sheet 3, General Notes: Revise Note No. 23 to read as follows: "23. Leveling surfaces beneath draped and anchored wire mesh systems shall be considered incidental to the wire mesh system, and shall not be paid for separately."

2. Plan Sheet 3, General Notes: Add the following notes:

   "27. Trim trees and shrubs within limits of all draped wire mesh and anchored wire mesh systems, and within six (6) feet of all rockfall impact barrier systems, in accordance with Section 688 of the Special Provisions.

   28. Provide NCHRP 350, TL-3 End Treatment for the leading and trailing ends of all portable concrete barriers, for all sites. This work shall be considered incidental to traffic control.

   29. Maintain a 10 feet minimum clearance from all HELCO facilities, either overhead or beneath ground level, at all times. No drilling or excavation allowed within 10 feet of overhead transmission tower facilities."

3. Plan Sheet 63, Traffic Control – MP 21.6 Thru MP 21.9:
   Change the second speed limit sign at the Honokaa end from 35 to 45. Change the "End Construction" speed limit on the Honokaa end from 40 to 55. Change both first and second speed limit signs on the Hilo end from 35 to 45.

4. Plan Sheet 65, Traffic Control – MP 26.1:
   Close the entire truck climbing lane beginning at Baseline Station 68+00± and ending at Baseline Station 85+00±.

5. Plan Sheet 66, Traffic Control – MP 26.3:
   Close the entire truck climbing lane beginning at Baseline Station 68+00± and ending at Baseline Station 85+00±.

6. Plan Sheet 68, Traffic Control – MP 26.65:
   Close the entire truck climbing lane from Baseline Station 39+00± to Baseline Station 47+00±.

7. Plan Sheet 72, Traffic Control – 24-HR Lane Closure Plan: Revise the temporary traffic signal callout to read:
"Install Temporary Traffic Signal, One (1) Unit at Each End of Lane Shift, Typical".

8. Plan Sheet 89, Soil Anchor Detail:
Revise note "Threaded Bar, Epoxy Coated per ASTM 934" to read "Threaded Bar, Hot Dip Galvanized".

Please acknowledge receipt of this Addendum No. 2 by recording the date of its receipt in the space provided on page P-4 of the Proposal.

BRENNON T. MORIOKA, Ph.D., P.E.
Director of Transportation

SECTION 107 - LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Make the following amendments to said Section:

(I) Amend **107.01(B)(1) – Commercial General Liability (Occurrence form)** from lines 61 to 65 to read as follows:

> "**(c)** Bodily Injury & Property Damage Insurance.
>
> The State of Hawaii, its officers and employees; County of Hawaii; Maulua Investments LLC; Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools; LHF Lopiwa LLC; and Louis Nobriga; shall be as additional insureds under these coverages."

(II) Amend **107.01(B)(2) - Comprehensive Automobile Liability** from lines 71 to 72 to read as follows:

> "The State of Hawaii, its officers and employees; County of Hawaii; Maulua Investments LLC; Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools; LHF Lopiwa LLC; and Louis Nobriga; shall be as additional insureds under these coverages."

(III) Amend **107.01(D)(1) – Subcontractor Insurance** from lines 100 to 102 to read as follows:

> "On all such insurance coverages, The State of Hawaii, its officers and employees; County of Hawaii; Maulua Investments LLC; Trustees of the Estate of Bernice Pauahi Bishop dba Kamehameha Schools; LHF Lopiwa LLC; and Louis Nobriga; shall be as additional insureds."

END OF SECTION 107

SECTION 208 – LEVELING SURFACES

Make the following amendments to said Sections:

"208.01 Description. This section describes performing slope smoothing beneath draped and anchored wire mesh systems, in accordance with the contract documents.

208.02 Materials. None.

208.03 Construction. The Contractor shall level the ground surface beneath draped and anchored wire mesh systems in accordance with the contract documents, and as directed by the Engineer.

Level slope surface, trim back overhangs, and smoothen sharp grade breaks and edges of rocks and boulders to provide a uniform stable slope to allow the mesh to conform to the slope, per the requirements of the contract documents.

Prior to start of rock scaling and before installation of the mesh drape or anchored mesh, the Contractor shall demolish overhanging rocks and protruding outcrops, and round the sharp edges of rocks to render a smooth surface on which the steel mesh could be placed. Additional leveling surfaces may be ordered by the Engineer.

208.04 Measurement.

(A) The Engineer will not measure leveling surfaces for payment.

(B) If ordered by the Engineer, Additional Leveling Surfaces will be measured on a force account basis in accordance with Subsection 109.06 – Force Account Provisions and Compensation.

208.05 Payment.

(A) The Engineer will not pay for the accepted leveling surfaces beneath wire mesh systems separately, and will consider the cost for leveling surfaces included in the contract price for various wire mesh pay items.

(B) If ordered by the Engineer, payment for accepted Additional Leveling Surfaces will be the amount shown on the accepted force account records.

Pay Item	**Pay Unit**
Additional Leveling Surfaces	Force Account

An estimated amount for this force account has been allocated in the proposal schedule under "Additional Leveling Surfaces", but the actual amount to be paid will be the sum shown on the accepted force account records, whether this sum be more or less than the estimated amount allocated in the proposal schedule.

The Engineer will not pay for request submittals. The Engineer will not consider claims for additional compensation of late submittals or requests by the Contractor. "

END OF SECTION 208

Make this section a part of the Standard Specifications:

"SECTION 671 – ROCK SLOPE SCALING

671.01 Description. This section describes furnishing materials, labor, and equipment necessary to perform rock slope scaling in accordance with the contract documents.

Rock slope scaling operations shall include removal of loose rocks and debris from the slope surfaces. Perform rock slope scaling to the limits shown by the plans, or at the location indicated by the plans, or to the limits of wire mesh systems. Perform rock slope scaling utilizing acceptable industry standards. Rock slope scaling shall meet the following minimum general requirements.

(A) Exercise care when performing work next to public roadways and facilities adjacent to the project site. Damages to existing facilities shall be immediately reported to the Engineer and repaired at no additional cost to the State.

(B) Provide, install, and maintain all necessary barriers, signs, lights, flares, barricades, markers, cones, and other protective devices and take all necessary precautions for the protection, convenience, and safety of the public.

(C) Provide and maintain a portable barrier system to prevent loose rocks and debris from entering the adjacent travel lane while doing rock scaling work.

(D) Indemnify, defend, and hold harmless AECOM and the State from and against all losses, damages, claims, actions, and all expenses incidental to such losses, damages, claims, or actions based upon or arising out of damage to property or injury to persons, or other tortuous acts caused or contributed to by the Contractor or anyone acting under its direction or control or on its behalf.

(E) Employ, a qualified person as a "spotter" full time during rock slope scaling operations. The spotter shall be someone experienced in rockfall mitigation procedures. The spotter shall have no other responsibility except for continually monitoring the upper slope and for sounding of an alarm in case of possible rockfall during rock slope scaling operations.

671.02 Materials. (Not Applicable)

671.03 Construction.

(A) Submit for acceptance, a work plan reflecting how the Contractor plans to perform his/her rock slope scaling operations including public protection, protection of existing improvements, and traffic control.

(B) Conduct a pre-construction condition survey of the adjacent area that may be impacted by the rock slope scaling operations prior to commencement of the scaling work. Submit a copy of the pre-construction condition survey to the Engineer for information only.

(C) All public protection measures shall be in place and operational prior to commencing rock scaling. Protect the public against all rockfall hazards, at all times during scaling operations.

(D) Each rock slope scaling crew shall consist of at least one scaling supervisor and two experienced slope scalers. Determine the number of slope scaling crews to be employed on this project based on the extent of the rock slope scaling to be performed and the duration available for performing the work as specified in the contract documents. A ground person will be required so the Engineer can communicate with the scaling supervisor and slope scalers for safety considerations.

(E) Scaling bars, air bags, hydraulic jacks, and other scaling tools shall be used where necessary during the scaling operation. Where necessary or as identified by the Engineer, large boulders may be demolished on the slope to smaller size prior to scaling. Demolition shall be by means of mechanical rock splitters or other expansive stress methods. Demolition methods proposed by the Contractor shall be subject to written acceptance by the Engineer. Explosives shall not be used for rock demolition. Rock demolition work as identified by the Contract Documents shall be at no additional cost to the State and shall be considered incidental to rock slope scaling.

(F) For areas defined by scaling limits and for areas beneath draped or anchored wire mesh systems, perform general slope scaling for the entire area. Start rock slope scaling at the top of the slope and proceed down slope, removing loose rocks and other debris. All material on the slope face that is loose, overhanging or creates imminent or short-term safety hazards to the public shall be removed or stabilized to the Engineer's satisfaction prior to completion of the section of slope.

(G) For boulder locations that are identified by the contract documents, remove the boulders or rock outcrops that are identified by the contract

documents. Additional rock slope scaling may be ordered by the Engineer for additional boulders and/or rock outcrops.

(H) All rocks that are loosened during the Contractor's operations, including rocks that are disturbed or stopped along falling rock trails, shall be removed at Contractor's own expense to the satisfaction of the Engineer.

(I) Exercise extra care in the slope scaling work and avoid over-steepening the slope face that may cause instability of the slope. Immediately stop all work and notify the Engineers should he/she encounter unsafe slope conditions that may constitute a potential slide.

(J) All rocks and debris removed from the slopes shall be the property of the Contractor. Dispose all rock and debris at an approved disposal location at the end of each slope scaling shift.

671.04.1 Method of Measurement.

(A) Engineer will pay for rock slope scaling on a lump sum basis. Measurement for payment will not apply.

(B) When ordered by the Engineer, additional rock slope scaling will be measured on a force account basis, in accordance with Subsection 109.06 – Force Account Provisions and Compensation.

671.05 Payment. Payment for the accepted rock slope scaling shall include but is not limited to general rock slope scaling, disposal of scaled material, portable barrier system and protection of existing facilities, including the existing roadway pavement. The Engineer will pay for the accepted pay items listed below at the contract price per pay unit, as shown in the proposal schedule. Payment will be full compensation for work prescribed in this section and contract documents.

The Engineer will pay for each of the following pay items when included in the proposal schedule:

Pay Item	**Pay Unit**
Rock Slope Scaling	Lump Sum
Additional Rock Slope Scaling	Force Account

General rock slope scaling for areas beneath draped and anchored wire mesh systems will be considered incidental to the respective wire mesh system pay item.

An estimated amount for this force account item has been allocated in the proposal schedule. The actual amount to be paid will be the sum shown on the accepted force account records, whether this sum be more or less than the estimated amount allocated in the proposal schedule.

The Engineer will not pay for request submittals. The Engineer will not consider claims for additional compensation of late submittals or requests by the Contractor."

END SECTION 671

Make this section a part of the Standard Specifications:

"SECTION 672 – DRAPED WIRE MESH SYSTEM

672.01 Description. This section describes furnishing materials, labor, and equipment necessary to install the draped wire mesh system to the limits shown in the contract documents. Draped wire mesh system shall meet the following minimum general requirements.

(A) Demonstrate satisfactory performance in similar applications. Performance results and examples of previous installations shall be made available to the Engineer upon request.

(B) Comprised of readily available components to the extent practical and shall require minimal maintenance. The system shall be resistant to corrosion, UV degradation, and thermal deterioration.

(C) The manufacturer of the draped wire mesh system shall be regularly engaged in the manufacturing of rockfall protection systems, having documented experience with manufacturing of rockfall protection systems used in a similar application and capacity. The manufacturer shall supply written evidence demonstrating certification of a quality assurance program, as well as proof and validity of seller's liability insurance.

672.02 Materials. All materials for the draped wire mesh system shall conform to the following requirements.

(A) Wire Mesh. The mesh shall be woven construction made with 4-millimeter minimum diameter wire core. The ends of each wire shall be formed into a loop and twisted. The loops of the wire mesh shall be fastened together to prevent unraveling of the mesh. The wire shall be alloyed high strength carbon steel wire with a minimum tensile strength of at least 1,770 N/mm^2. The mesh shall have a minimal longitudinal tensile strength of at least 250 kN/m and a minimal transversal tensile strength of 90 at least kN/m.

The size of the mesh opening shall be no larger than 3.3 inches by 5.7 inches.

The wire mesh shall be coated for corrosion protection by one of the following methods, or approved equal:

(1) The wire shall be PET coated (polyethylene terephtalate coating on ZN + Al coated wire), color flat black. The Zn + Al coating shall have a minimum weight of 60 g/m2.

(2) The wire shall be coated with a Zn + AL coating that lasts a minimum of 2500 hours salt spray test until 5% Dark Brown Rust (5% DBR) based on Test Method DIN 50021-SS / ASTM B117

(Salt Spray Test - NaCl). The Zn + Al coating shall have a minimum weight of 125 g/m2. Wire shall also be powder coated with a flat black color to have a thickness of 2 to 4 mils.

(B) Anchor System. Submit for acceptance, working drawings for the size and design of the anchor system to be used based upon the existing ground condition. Consult the anchor system manufacturer for the anchor depth.

(1) Wire rope anchors. Wire rope anchors shall be constructed from 3/4-inch minimum diameter wire rope of 6 by19 construction, type 304 or 316 stainless steel strands (SS) with a minimum breaking strength of 49,600 lbs. Anchor holes shall be minimum 4 inch diameter.

The minimum requirements shall be 20-foot minimum embedment depth in competent soil material or a 10-foot minimum embedment depth in competent rock material, and spacing requirements based on the existing soil information with a maximum spacing of 20 feet for anchors along the top of the slope. Anchors at the bottom of the slope shall have a minimum depth of 10 feet and a spacing of 50 feet maximum.

The top anchors shall withstand a minimum pullout capacity of 15 tons and shall be tested by the contractor in the field under the observation of the Engineer. Bottom anchors will not be tested. After installation and testing, the top foundation anchors shall be cold-weld sealed, using J-B Weld® or equivalent.

(2) Support Rope. The support rope shall be constructed of 3/4-inch stainless steel type 304 or 316 wire rope of 6 by19 construction with a minimum breaking strength of 49,600 lbs at the top of the slope and 1/2-inch stainless steel type 304 or 316 wire rope with a minimum breaking strength of 22,800 lbs at the bottom of the slope, PVC coated with a flat black color. The Contractor shall submit shop drawings for the proposed support rope system for review and approval by the Engineer.

(3) Tag Line. Tag lines shall be used to connect the top anchors to the support rope. Tag lines shall meet the same requirements as the top support rope.

(C) Seam Rope and Fasteners. Seam rope shall be used to fasten the mesh panels to each other. Seam rope shall be used to lace the mesh to the net support rope. The seam rope shall have a diameter of 5/16" and shall be of 7x7 construction (or equivalent) type 304 or 316 stainless steel, with a minimum breaking strength of 9,000 lbs. Seam rope shall be PVC coated with a flat black color.

(D) Miscellaneous Material. All miscellaneous materials such as wire rope clips, thimbles, shackles, rings, bolts, nuts, washers, plates, etc. shall be supplied by the vendor of the draped wire mesh system, shall be hot dipped galvanized, and shall be powder coated with a flat black color to have an average of 2 to 4 mils thickness unless specified otherwise.

(E) Anchor Grout. Grout for the anchors shall consist of either a cement grout or epoxy and polyester resin material capable of permanently developing the bond and internal strength necessary for the tensioning required for the project. Cement grout shall be a non-shrink, non-metallic, high-strength grout with a minimum compressive strength of 6,000 psi in three days. Cement grout shall be capable of being hydraulically pumped to the bottom of the drill hole. Epoxy and polyester resin grout shall be non-shrink, single speed cartridge system capable of ensuring complete encapsulation of the anchor. Epoxy and polyester resin shall have a gel time that is consistent with rapid installation and installed per manufacturer's recommendations.

672.03 Construction.

(A) General Requirements. Install the draped wire mesh system in accordance with the requirements of the manufacturer and the contract documents. Prior to construction, mark the limits wire mesh system in the field. Do not begin construction until the limits are reviewed and approved by the Engineer.

(B) Slope Preparation. Prior to installation of the draped wire mesh system, prepare the slope surface as required by the mesh system manufacturer, and as follows:

(1) Trim all vegetation flush to the ground. Remove all trees and remove or grind flush all tree stumps.

(2) Scale all loose and unstable rocks, debris, soils or any other material encountered on the slope within the designated wire mesh coverage area.

(3) Level slope surface, trim back overhangs, and smoothen sharp grade breaks to provide a uniform stable slope to allow the mesh to conform to the slope. The distance from the wire mesh panel to the slope face shall not be greater than 1.5 feet measured perpendicularly.

All material and debris removed from the slope shall be the property of the Contractor and disposed of off-site at an approved disposal location.

(C) Anchor System.

(1) Drill holes to receive the anchors to the minimum diameter recommended by the anchor manufacturer and as specified by the contract documents. Drill holes at the angle specified by the contract documents. The Contractor shall determine the anchor depth to be used in order to meet the 15 ton pullout requirement, and meet the minimum embedment depth as shown in the contract documents. The minimum requirements shall be 20-foot minimum embedment depth in competent soil material and a 10-foot minimum embedment depth in competent rock material, and spacing requirements based on the existing soil information with a maximum spacing of 20 feet for anchors along the top of the slope. Anchors at the bottom of the slope shall have a minimum depth of 10 feet and a spacing of 50 feet maximum.

(2) Clean flush the drill holes of all drill cuttings, sludge, and debris with compressed air prior to the installation of the anchor.

(3) Install anchors at the center of the drilled hole. Install PVC centralizers every 4 feet along the anchor, with a minimum of two centralizers for each anchor and the first at 1'-0" from anchor bottom. Any installed anchor touching the side of the hole is grounds for rejection of the anchor at the Contractor's expense. Securely fasten the centralizers to the anchor prior to inserting into the bore hole.

(4) Fill the hole with cement grout. Pump all grout from the bottom of the hole to the top using a grout tube. The grout tube must extend to the bottom of the hole, and shall remain at the bottom of the hole until the hole is completely filled to the top. No top grouting shall be allowed. Remove grout tube immediately after grouting.

Provide the Engineer with a schedule of grouting at least 5 days prior to grouting. All grouting operations shall be performed according to the schedule and shall be observed by the Engineer. Grouting performed not in the presence of the Engineer shall be grounds for rejection of the anchor. Notify the Engineer in writing at least 3 working days prior for any changes to the scheduled grouting operation.

(D) Anchor Testing. Perform pullout test on of the anchor assemblies in the presence of the Engineer. At the discretion of the Engineer, test up to 25 percent of the anchors to be selected by the Engineer. Should more than 25 percent of the anchors tested fail, test all anchors at no increase in contract price or contract time. All anchors that fail shall be replaced by the Contractor at no increase in contract price or

contract time. Give the Engineer a minimum of 3 working days advance notice prior to each load testing.

(1) Perform testing against a temporary yoke or load frame. No part of the yoke or load frame shall bear within 3 feet of the anchor. Perform the pullout test of the anchor assemblies in the direction of the axial loading. A pullout test consists of incrementally loading the anchor assembly to the maximum test load of 15 tons pullout design capacity or failure point, whichever occurs first. Failure point shall be the point where the movement of the anchor continues without an increase in the load or when the anchor has displaced 2 inches. Record the failure load corresponding to the failure point as part of the test data.

(2) Conduct the pullout test by measuring the test load applied to the anchor and the anchor end movement at each load. Monitor and record displacement of the anchors relative to a stable reference point which is founded a minimum distance of 3 feet from the anchor and test load reaction points. Measure and record the movements of the end of the anchor during the load tests. Unload the anchor only after completion of the test.

(3) Measure applied test loads with either a calibrated pressure gauge or a load cell. The pressure gauge shall have an accurately reading dial at least 6 inches in diameter. Calibrate each jack and its gauge as a unit with the cylinder extension in the approximate position that it will be at final jacking force. Each jack and its gauge shall be accompanied by a certified calibration chart. The gauge shall have been calibrated within one-year prior to use on the project. Certify and identify all calibrated instruments using a unique and non-removable label provided by the company performing the calibration tests.

Upon request from the Engineer, any testing equipment being used by the Contractor can be asked to be certified for calibration by the Manufacturer or Manufacturer's official representative after load testing at no increase in contract price or contract time.

Anchors at the bottom of the slope and supplemental anchors shall not be load tested.

(E) Wire Mesh. Install the wire mesh panels in accordance with the requirements of the manufacturer and the contract documents. Use of a helicopter to install the draped wire mesh system shall be at the option of the Contractor.

(1) Anchor the draped wire mesh system first at the uppermost boundary of the slope area to be covered before draping and securing over the slope.

(2) Place the wire mesh panels on the slope in a manner that will follow the contours of the slope and minimize gaps and large voids between the mesh and the ground surface as directed by the Engineer. Place outcroppings or breaks in the slope surface to be restrained below the wire mesh under the center of the mesh panel or panels.

(3) Fasten the wire mesh together to create a uniform drapery blanket when two or more panels are used at one site location. There shall be no discontinuity in the wire mesh. Connection of the wire mesh panels to each other shall be equal to or greater than the strength of the wire mesh.

(4) When permitted by the Engineer, supplemental anchors may be installed with a minimum depth of 4 feet in competent soil or 2 feet in competent bedrock, with a 1/8 inch stainless steel break-away connector cable shall be used to pull draped wire mesh down where a void under the mesh is over 1.5 feet high or over 8 cubic foot volume.

672.04 Method of Measurement. The Engineer will measure draped wire mesh system, including but not limited to mesh, anchors, supplemental anchors, cables, fasteners, all necessary hardware, coatings, anchor testing, general rock slope scaling, and general slope leveling per square yard along the finished grade, in accordance with the contract documents.

672.05 Payment. The Engineer will pay for the accepted draped wire mesh system per square yard. Payment will be full compensation for the work prescribed in this section and the contract documents.

The Engineer will pay for the following pay item when included in the proposal schedule:

Pay Item	**Pay Unit**
Draped Wire Mesh System	Square Yard

The Engineer will pay for Trimming of Trees and Shrubs under Section 688 – Trimming of Trees and Shrubs.

The Engineer will not pay for general rock scaling and general slope leveling within the wire mesh limits separately, and will consider the cost for this work as included in the contract price unit price for Draped Wire Mesh System.

281
282
283

END SECTION 672

Make this section a part of the Standard Specifications:

"SECTION 673 – ANCHORED WIRE MESH SYSTEM

673.01 Description. This section describes furnishing, transporting and constructing an anchored wire mesh system to the limits shown in the contract documents, in accordance with the contract documents and the manufacturer's standards and requirements.

The anchored wire mesh system is a mitigation system consisting of a mesh of high-tensile steel wire anchored to soil and/or rock anchors to stabilize steep slopes consisting of unconsolidated material and/or rocks liable to slip or break out. The system shall be designed to withstand the static and dynamic forces generated from rocks or soil moving under the permanently installed system. The manufacturer shall be regularly engaged in the manufacturing of slope stabilization systems used in similar application and capacity. The manufacturer shall supply written evidence demonstrating certification of a quality assurance program.

673.02 Materials. All materials for the anchored wire mesh system shall conform to the following minimum requirements. All materials shall be hot dipped galvanized coated unless specified otherwise.

(A) Wire Mesh. The mesh shall be woven construction made with 4-millimeter minimum diameter wire core. The ends of each wire shall be formed into a loop and twisted. The loops of the wire mesh shall be fastened together to prevent unraveling of the mesh. The wire shall be alloyed high strength carbon steel wire with a minimum tensile strength of at least 1,770 N/mm^2. The mesh shall have a minimal longitudinal tensile strength of at least 250 kN/m and a minimal transversal tensile strength of 90 at least kN/m.

The size of the mesh opening shall be no larger than 3.3 inches by 5.7 inches.

The wire mesh shall be coated for corrosion protection by one of the following methods, or approved equal:

(1) The wire shall be PET coated (polyethylene terephtalate coating on ZN + Al coated wire), color flat black. The Zn + Al coating shall have a minimum weight of 60 g/m2.

(2) The wire shall be coated with a Zn + AL coating that lasts a minimum of 2500 hours salt spray test until 5% Dark Brown Rust (5% DBR) based on Test Method DIN 50021-SS / ASTM B117 (Salt Spray Test - NaCl). The Zn + Al coating shall have a minimum weight of 125 g/m2. Wire shall also be powder coated with a flat black color to have a thickness of 2 to 4 mils.

(B) Mesh Connection Clips (Compression Claws). Mesh connection clips shall be of 4-millimeter high tensile strength steel wire with a minimum strength of 240,000 psi.

Use larger mesh connection clips to fasten the mesh to the boundary wire ropes. Large mesh clips shall be 8-mm minimum diameter. All mesh clips shall be hot dipped galvanized and powder coated flat black.

(C) Spike Plates. The spike plates shall be made from 0.4 inch (10 mm) thick steel and shall be hot dipped galvanized with a minimum layer thickness of 85 microns (μm). The spike plate shall be diamond shaped with a width of 7.5 inches (190 mm) and a length of 13 inches (330 mm).

(D) Boundary Wire Ropes. Boundary wire ropes shall have a finished diameter of 0.5 inches and shall be PVC coated, Flat Black (3/8 inch zinc coated wire plus 1/8 inch PVC coating). The rope shall be 6 by 19 construction (or equivalent), IWRC and galvanized with a minimum breaking strength of 23,940 pounds. The rope shall meet Federal Specification RR-W-410D or equivalent including galvanizing.

(E) Drilled Holes. Drill the holes for the grouted soil/rock anchors (including supplemental, short anchors and the anchors for the boundary wire ropes) in accordance with the minimum dimensions (diameter and depths) shown in the design drawings. Submit deviations from the dimensions shown on the design drawings for acceptance by the Engineer. The Engineer will not permit blasting for installation of the drilled holes. Prepare to encounter both rock and soil when drilling and therefore the choice of drill and drilling method shall be appropriate to drill holes in both conditions. Drilling and grouting at the same time shall not be allowed.

(F) Grouted Soil/Rock Anchors. The grouted soil/rock anchors shall consist of either 1" diameter hot dipped galvanized grade 60 ksi threaded bars, or hollow core bolts meeting the following minimum specifications:

Outside Diameter	1.25 inches	(32 mm)
Internal Diameter	0.59 inches	(15 mm)
Effective Cross Sectional Area	0.76 in^2	(490 mm^2)
Ultimate Load Capacity	81 kips	(360 kN)
Yield Load Capacity	63 kips	(280 kN)
Weight per Foot	2.85 lbs	(1.29 kg)
Corrosion Allowance (Zinc galvanization)	7 to 8 mils	

Zinc galvanization shall be included in the diameter (inside and outside). The length of the grouted soil/rock anchors shall be in accordance with the contract documents.

(G) Supplemental (Short) Anchors. Where required (not shown on the design drawings), supplemental anchors shall be installed, with the acceptance of the Engineer, in between the grouted soil/rock anchors shown in the contract documents. Supplemental anchors are primarily installed at local depressions missed by main soil/rock anchors to pull the mesh down for a neat appearance of the anchored wire mesh system. The supplemental anchors shall meet the minimum specifications shown in subsection (F) above. The supplemental anchors shall have a corrosion allowance of 7 to 8 mils zinc galvanization included in their diameter (inside and outside). Where installed by the Contractor, the length of the supplemental anchors shall be at least 6 feet in length.

(H) Color Coating. All exposed components of the anchored wire mesh system such as compression claws, rope clips, and spike plates shall be powder coated Flat Black to 2 to 4 mils thickness, unless specified otherwise. Apply the pigmented powder coating using an electrostatic spray gun or equivalent process. Exposed anchors shall have an applied coating of rubberized paint (color shall be black unless otherwise directed by the Engineer) for aesthetic purposes. Should shotcrete be used to fill depressions along the slope before anchored wire mesh installation, this shotcrete shall be dyed or coated with the color specified by the Engineer.

(I) Elastomeric Sealant. Elastomeric sealant shall be polyurethane based and shall conform to ASTM C-920, Type S, Grade NS Class 25. Sealant shall be Sikaflex®-1a or approved equal.

(J) Miscellaneous Materials. Supply all miscellaneous materials associated with the anchored wire mesh system, such as wire rope clips, thimbles, etc., and appropriate for use with a PVC coated wire rope and shall be hot dipped galvanized on all surfaces. Couplers shall be hot dipped galvanized coated on the inside and outside surfaces.

673.03 Construction.

(A) Pre-Construction Requirements. Submit eight copies of the layout and detailed drawings to the Engineer for review and acceptance. The submittal shall be prepared by the manufacturer of the anchored wire mesh system. If required, the submittal shall include samples of the materials with the powder coating and color(s) of the high strength wire mesh for selection and acceptance by the Engineer prior to placing an order for the anchored wire mesh system. The Engineer shall have 10

days to review the submittal and provide written comments and acceptance of the submittal. Fabrication of the anchored wire mesh system shall not begin until the submittal has been reviewed and accepted by the Engineer.

(B) Construction Requirements. The anchored wire mesh system installation shall consist of the following steps. Installation of the anchored wire mesh system shall follow the manufacturer's recommendations. Where discrepancies exist between the contract documents and the manufacturer's recommendations, notify the Engineer immediately. The Engineer will provide additional guidance for proceeding with the work upon consultation with the manufacturer's technical representatives to resolve the discrepancies.

In general, the following steps shall be followed during the installation of the anchored wire mesh system.

(1) Cut the slopes flat and remove trees, brush, debris and loose rock in accordance with the contract documents. Clear all vegetation flush to the ground. Trim all trees and vegetation and remove or grind flush all tree stumps.

(2) Scale all loose and unstable rocks, debris, soils or any other material encountered on the slope within the designated wire mesh coverage area.

(3) Level slope surface, trim back overhangs, and smoothen sharp grade breaks to provide a uniform stable slope, to allow the mesh to conform to the slope. Deep depressions (greater than 18 inches deep) that are not removed when clearing and cutting the slope may be filled with shotcrete, as ordered by the Engineer.

(4) Locate the grouted soil/rock anchors on the slope as shown in the contract documents. Take into account low spots by changing the positions of individual nails within a maximum deviation of +/- 10% from the nail distance specified in the contract documents.

(5) Excavate, preferably before drilling, a dell for each grouted soil/rock anchor to be used for tensioning the mesh. The dell shall be plate- or bowl- shaped and have an opening diameter of 24 inches and a depth of 8 inches, with the grouted soil/rock anchor at the center of the dell.

(6) Drill the grouted soil/rock anchors in accordance with the contract documents.

(7) Drill supplemental anchors in depressions missed by the main grouted soil/rock anchors in order to pull the anchored wire mesh into the depressions and against the ground.

(8) Grout the grouted soil/rock anchors and supplemental anchors using none-shrink grout in accordance with the contract documents.

(9) Lay the high strength wire mesh on the slope by unrolling down the slope. The rolls can be shortened or lengthened as necessary by removing or adding sections, respectively. Make the horizontal connection (in line with the slope) of two mesh panels by either connecting each diamond opening by one standard compression claw or turning-in of wire spirals with ends secured by compression clips (DIN 3093) or wire clips (NG3 DIN 741). The wire spirals shall be the same as the high strength wire mesh.

(10) For vertical mesh connection (along length of slope), overlap the mesh panels by two mesh cells. Fasten the overlapped mesh panels with two standard compression claws at each mesh cell length. The compression claws shall be staggered. For the minimum overlapping of one mesh cell, each overlapping cell has two compression claws, on the opposite sides of the cell.

(11) Install the required boundary wire ropes and fasten the wire mesh to the boundary wire rope with special compression claws (minimum of one compression claw at every second mesh cell). Tighten the boundary ropes and pull tight against the slope ground.

(12) Place the spike plate onto the anchors. Using a torque wrench or hydraulic press, tighten the nuts and push the spike plates and wire mesh into the dells in order to tension the anchored wire mesh to 7 to 11 kips (31-49 kN). Torque the nuts to the values shown in the contract documents or in accordance with the manufacturer's recommendations.

(13) Completely seal the ends of the anchors with polyurethane based elastomeric sealant.

(C) Anchors. Prior to any anchor testing, the Contractor shall provide the Engineer with the anchor location plan showing exact location and number for each anchor. Anchor location numbers must also be marked at each anchor location in the site. The grouted soil/rock anchor bars shall be handled and stored in such a manner as to avoid damage.

Damage to the anchor bar as a result of abrasions, rust, cuts, nicks, welds, and weld splatter will be cause for rejection. The anchor bars shall be protected from dirt and harmful substances. Prior to installation, all mill scale and grease shall be removed from the steel.

The Contractor shall drill holes to receive the grouted soil/rock anchors to the minimum diameter recommended by the grouted soil/rock anchor manufacturer or as specified by the contract drawings, whichever is greater. The Contractor shall clean flush the drill holes of all drill cuttings, sludge, and debris with compressed air prior to the installation of the grouted soil/rock anchor. Anchor bars shall be installed at the center of the drilled hole. Any installed anchor bar touching the side of the hole is reason for rejection of the grouted soil/rock anchor at no increase in the contract price or contract time. All anchors placed in the drilled holes shall be grouted within 48 hours from the time of anchor placement.

Grout shall be pumped into the drill hole and filled from the bottom of the hole to the top. The bolt shall be maintained in position until the grout or resin has reached final set or strength.

If any of the grouted soil/rock anchors have been weathered, scratched, or have any chipped surfaces, it shall be cleaned and painted with the Manufacturer's cold spray galvanizing paint prior to installation at no increase in the contract price or contract time.

(D) Anchor Testing. Verification testing shall be performed at the locations selected by the Contractor and approved by the Engineer. Proof tests shall be performed at the locations selected by the Engineer. All test data shall be recorded by the Contractor, unless approved otherwise. Pullout testing of anchors shall not be performed until the anchor grout and has attained at least 50 percent of the specified 28-day compressive strength.

Provide the Engineer an anchor plan indicating the general layout of each anchor on the slope, and an anchoring numbering system used to identify each anchor.

The top 3 feet of all test anchors shall be unbonded. Where temporary casing of the unbonded length of test anchors is provided, the casing shall be installed to prevent any reaction between the casing and the grouted bond length of the anchor and/or the stressing apparatus.

(1) Testing Equipment. Anchor testing equipment shall included two dial gauges, a dial gauge support, jack and pressure gauge, electronic load cell, and a reaction frame. Provide description of test setup and jack, pressure gauge, and load cell calibration curves for review and acceptance by the Engineer. The load cell is only required for the creep test portion of the verification test.

(a) Dial Gauges. A minimum of two dial gauges capable of measuring to 0.001-inch shall be available at the site to measure the anchor head movement. The dial gauges shall be aligned within 5 degrees of the axis of the anchor and shall be supported independently of the jacking set-up and slope. The dial gauge shall have a travel sufficient to allow the test to be done without having to reset the gauge.

(b) Stressing Equipment. A hydraulic jack, calibrated pressure gauge, and pump shall be used to apply and measure the test load.

The jack and pressure gauge shall be calibrated as a unit by an independent testing laboratory within one-year prior to use on the project. Each jack and its gauge shall be accompanied by a certified calibration chart. Certify and identify all calibrated instruments using a unique and non-removable label provided by the company or manufacturer performing the calibration tests.

The pressure gauge shall be graduated in 100 psi increments or less and shall have a range not exceeding twice the anticipated maximum pressure during testing unless approved otherwise. The ram travel of the jack shall be sufficient to enable the test to be performed without re-setting the jack.

Upon request from the Engineer, any testing equipment being used by the Contractor can be asked to be certified for calibration by the Manufacturer or Manufacturer's official representative after load testing at no increase in contract price or contract time.

(c) Stressing Equipment Set-up. The jack shall be independently supported and centered over the anchor so that the anchor does not carry the weight of the jack. The stressing equipment shall be placed over the anchor in such a manner that the jack bearing plates, and stressing anchorage are in alignment. The jack shall be positioned at the beginning of the test such that the unloading and repositioning of the jack during the test shall not be required.

(d) Reaction Frame. The test reaction frame shall be sufficiently rigid and of adequate dimension such that excessive deformations of the test apparatus during testing shall not require repositioning of any components.

(2) Verification Testing.

(a) Sacrificial Anchors. Two verification tests shall be performed prior to installation of production anchors, at locations chosen by the Contractor and accepted by the Engineer, to verify the Contractor's installation methods, anchor pullout capacity, and design assumptions. The anchors used for the verification tests shall be sacrificial and shall not be incorporated as production anchors.

(b) Methods and Procedures. Test anchors shall be constructed using the same equipment, methods, and hole diameter as planned for the production anchors. Changes to the drilling or installation method may require additional anchor testing as determined by the Engineer at no increase to the contract price or contract time.

(c) Anchor Length. The unbonded length of test anchors shall be at least 3 feet unless approved otherwise by the Engineer. The bond length (grouted length) of test anchors shall be 7 feet. The bar load during testing shall not exceed 80 percent of the steel ultimate strength for Grade 150 bars or 90 percent of the steel yield strength for Grade 75 bars.

(d) Testing Schedule. The Design Test Load (DTL) during testing shall be as shown in the contract documents (12 kips). Verification test anchors shall be incrementally loaded and unloaded in accordance with the following schedule:

Verification Test Loading Schedule

LOAD	LOAD HOLD TIME
AL (0.05 DTL* max.)	1 Minute
0.25 DTL	10 Minutes
0.50 DTL	10 Minutes
0.75 DTL	10 Minutes
1.00 DTL	10 Minutes
1.25 DTL	10 Minutes
1.50 DTL (Creep Test)	60 Minutes
1.75 DTL	10 Minutes
2.00 DTL (Max Test Load)	10 Minutes
* Design Test Load = 12 kips	

(e) Alignment Load. The Alignment Load (AL) should be the minimum load required to align the testing apparatus and should not exceed 5 percent of the Design Test Load maximum (0.05 times the DTL). Dial gauges should be set to "zero" after the alignment load has been applied.

(f) Loading Times. Each load increment shall be held for at least 10 minutes. The verification test anchor shall be monitored for creep for 60 minutes at the 1.50 DTL load increment. Anchor movements during the creep portion of the test shall be measured and recorded at 1, 2, 3, 5, 6, 10, 20, 30, 50, and 60 minutes. The load during the creep test shall be maintained to within 2 percent of the intended load by the use of the load cell.

Unload the anchor only after completion of the test. Restore the drill hole for remaining 3 feet unbonded length and fill with grout.

(3) Proof Testing of Production Anchors. Proof testing shall be performed on at least 5 percent of the production anchors in each row or as determined by the Engineer. If anchor installation methods are substandard on any particular anchor or series of anchors, additional tests shall be required at no increase to the contract price or contract time.

(a) Anchor Length. The temporary unbonded length of the production test anchors shall be at least 3 feet unless approved otherwise. The bond length of test anchors shall be 7 feet. The bar load during testing shall not exceed 80 percent of the steel ultimate strength for Grade 150 bars or 90 percent of the steel yield strength for Grade 75 bars.

(b) Proof Test Schedule. Proof tests shall be performed by incrementally loading the proof anchor to a maximum load of 150 percent of the Design Test Load (DTL). The anchor movement at each load increment shall be measured and recorded. The test load shall be monitored by a jack pressure gauge with a sensitivity and range meeting the requirements of pressure gauges used for verification test anchors. At load increments other than the maximum test load, the load shall be held long enough to obtain a stable reading. Incremental loading for proof tests shall be in accordance with the following loading schedule.

Proof Test Loading Schedule

LOAD	LOAD HOLD TIME
AL (0.05 DTL* max.)	Until Stable
0.25 DTL	Until Stable
0.50 DTL	Until Stable
0.75 DTL	Until Stable
1.00 DTL	Until Stable
1.25 DTL	Until Stable
1.50 DTL (Max. Test Load)	Until Stable, minimum 10 minutes
* Design Test Load = 12 kips	

(c) Alignment Load. The Alignment Load (AL) should be the minimum load required to align the testing apparatus and should not exceed 5 percent of the Design Test Load maximum (0.05 times the DTL). Dial gauges should be set to "zero" after the alignment load has been applied.

(d) Loading Times. All load increments shall be maintained to within 5 percent of the intended load. Depending on performance, either 10 minute or 60 minute creep tests shall be performed at the maximum test load (1.50 DTL). The creep period shall start as soon as the maximum test load is applied and the anchor movement shall be measured and recorded at 1 and 10 minutes. Where the anchor movement between 1 minute and 10 minutes exceeds 0.04 inches, the maximum test load shall be maintained an additional 50 minutes and movements shall be measured and recorded at 20 minutes, 30, 50, and 60 minutes.

Unload the anchor only after completion of the test. Restore the drill hole for remaining 3 feet unbonded length and fill with grout.

(4) Test Anchor Acceptance. A test anchor shall be considered acceptable if the following criteria are met.

(a) Verification Tests. For verification tests, a total creep rate of less than 0.08 inches per log cycle of time between the 6 and 60 minute readings is observed during creep testing, and the rate is linear or decreasing throughout the creep test load hold period.

(b) Proof Tests. For proof tests, a creep rate less than 0.04 inches per log cycle of time between the 1 minute

and 10 minute readings is observed or a creep rate of less than 0.08 inches per log cycle of time between the 6 and 60 minute readings, and the creep rate is linear or decreasing throughout the creep test load hold period.

(c) Total Movements. The total movement at the maximum test load exceeds 80 percent of the theoretical elastic elongation of the anchor unbonded length.

(5) Proof Test Anchor Incorporated as Production Anchors. At the Contractor's option, successful proof test anchors meeting the above test acceptance criteria may be incorporated as production anchors provided that: (1) the unbonded test length of the anchor hole has not collapsed during testing; (2) the minimum required drill hole diameter has been maintained; (3) the test anchor length and bar size are equal to or greater than the scheduled production anchor length and bar size, and; (4) the specified corrosion protection is provided. Test anchors meeting these requirements shall be completed by satisfactorily grouting up the unbonded test length. Maintaining the temporary unbonded test length for subsequent grouting is the Contractor's responsibility.

(6) Test Anchor Rejection. If a test anchor does not satisfy the acceptance criterion, the Contractor shall determine the cause.

(7) Engineer Acceptance of Test Anchors.

(a) Verification Test Anchors. The Engineer will evaluate the results of each verification test. Anchor installation methods that do not satisfy the anchor testing requirements shall be considered inadequate or failed. The Contractor shall propose alternative methods and replacement verification test anchors. Replacement test anchors shall be installed and tested at no increase to contract price or contract time.

(b) Proof Test Anchors. The Engineer may require that the Contractor to replace some or all of the production anchors represented by inadequate or failed proof tests. Alternatively, the Engineer may require the installation and testing of additional proof test anchors to verify that adjacent previously installed production anchors have sufficient carrying capacity. Installation and testing of additional proof test anchors or installation of additional or modified anchors

as a result of proof test anchor failure(s) will be at no increase to contract price or contract time.

(8) Anchor Installation Records. Records documenting the soil anchor construction shall be maintained by the Contractor. The Contractor shall provide the Engineer with as-built drawings showing the as-built anchor lines and grade within 5-days after completion of the anchor testing.

673.04 Method of Measurement.

(A) The Engineer will measure anchored wire mesh system, including but not limited to mesh, grouted soil/rock anchors, cables, fasteners, all necessary hardware, coatings, sealants, anchor testing and anchor testing equipment, general rock slope scaling, and general slope leveling, and as-built documents, per square yard along the finished grade, in accordance with the contract documents.

(B) The Engineer will measure supplemental short anchors at the contract unit price per each, in accordance with the contract documents.

673.05 Payment. The Engineer will pay for the accepted pay items listed below at the contract price per pay unit, as shown in the proposal schedule. Payment will be full compensation for the work prescribed in this section and the contract documents.

The Engineer will pay for each of the following pay items when included in the proposal schedule:

Pay Item	**Pay Unit**
Anchored Wire Mesh System	Square Yard
Supplemental (Short) Anchors	Each

The Engineer will pay for Trimming of Trees and Shrubs under Section 688 – Trimming of Trees and Shrubs.

The Engineer will not pay for general rock scaling and general slope leveling within the wire mesh limits separately, and will consider the cost for this work as included in the contract price unit price for Anchored Wire Mesh System."

END SECTION 673

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 12.9				
201.0100	Clearing and Grubbing	L.S.	L.S.	L.S.	$_____
202.0200	Removal of Existing Guardrail System	L.S.	L.S.	L.S.	$_____
203.0100	Roadway Excavation	108	Cu. Yd.	$_____	$_____
205.0110	Structure Excavation for Retaining Wall	L.S.	L.S.	L.S.	$_____
205.0120	Structure Backfill for Retaining Wall	L.S.	L.S.	L.S.	$_____
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 20,000.00
312.0100	Hot Mix Glassphalt Base Course	L.S.	L.S.	L.S.	$_____
401.0100	HMA Pavement, Mix No. IV	L.S.	L.S.	L.S.	$_____
503.0100	Concrete for Wall Footing	L.S.	L.S.	L.S.	$_____
503.0120	Concrete for Wall	L.S.	L.S.	L.S.	$_____
512.0100	Soil Anchors for Retaining Walls, Installed and Tested	29	Each	$_____	$_____
602.0100	Reinforcing Steel	L.S.	L.S.	L.S.	$_____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
606.0100	Guardrail Type Strong Post W-Beam	L.S.	L.S.	L.S.	$_____
606.0200	End Anchorage Type Modified A	L.S.	L.S.	L.S.	$_____
606.0300	Terminal Section Type G	L.S.	L.S.	L.S.	$_____
611.0100	Hand-laid Riprap	L.S.	L.S.	L.S.	$_____
629.0110	4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0120	Double 4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0330	Type C Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0340	Type D Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0350	Type H Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0360	Type J Pavement Marker	L.S.	L.S.	L.S.	$_____
638.0100	Curb and Gutter, Type 2DG	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices. And Advertisement	F.A.	F.A.	F.A.	$ 20,000.00
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____
	SUM OF ALL ITEMS FOR MILEPOST 12.9				$ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 21.6				
209.0100	Installation, Maintenance, Monitoring and Removal of BMP	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices, And Advertisement	F.A.	F.A.	F.A.	$ 20,000.00
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____
671.0100	Rock Slope Scaling	L.S.	L.S.	L.S.	$_____
671.0200	Additional Rock Slope Scaling	F.A.	F.A.	F.A.	$ 20,000.00
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____
	SUM OF ALL ITEMS FOR MILEPOST 21.6				$ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 21.9				
209.0100	Installation, Maintenance, Monitoring and Removal of BMP	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices, And Advertisement	F.A.	F.A.	F.A.	$ 25,000.00
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____
671.0100	Rock Slope Scaling	L.S.	L.S.	L.S.	$_____
671.0200	Additional Rock Slope Scaling	F.A.	F.A.	F.A.	$ 20,000.00
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____
	SUM OF ALL ITEMS FOR MILEPOST 21.9				$ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 26.1				
201.0100	Clearing and Grubbing	L.S.	L.S.	L.S.	$_____
202.0300	Removal of Existing CRM Wall	L.S.	L.S.	L.S.	$_____
202.0310	Removal of Existing Headwall	L.S.	L.S.	L.S.	$_____
203.0100	Roadway Excavation	41	Cu. Yd.	$_____	$_____
205.0210	Structure Excavation for Shotcrete Retaining System	L.S.	L.S.	L.S.	$_____
205.0220	Structure Backfill for Shotcrete Retaining System	L.S.	L.S.	L.S.	$_____
205.0230	Structure Excavation for Drain Manhole Structure	L.S.	L.S.	L.S.	$_____
205.0240	Structure Backfill for Drain Manhole Structure	L.S.	L.S.	L.S.	$_____
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 25,000.00
312.0100	Hot Mix Glassphalt Base Course	L.S.	L.S.	L.S.	$_____
401.0100	HMA Pavement, Mix No. IV	L.S.	L.S.	L.S.	$_____
503.0100	Concrete for Wall Footing	L.S.	L.S.	L.S.	$_____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
503.0200	Concrete for Drain Manhole Structure	L.S.	L.S.	L.S.	$_____
512.0100	Soil Anchors for Retaining Walls, Installed and Tested	64	Each	$_____	$_____
602.0100	Reinforcing Steel	L.S.	L.S.	L.S.	$_____
606.0100	Guardrail Type Strong Post W Beam	L.S.	L.S.	L.S.	$_____
606.0200	End Anchorage Type Modified A	L.S.	L.S.	L.S.	$_____
611.0100	Hand-laid Riprap	L.S.	L.S.	L.S.	$_____
628.0100	Shotcrete for Retaining Wall	L.S.	L.S.	L.S.	$_____
629.0120	Double 4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0130	8-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0330	Type C Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0340	Type D Pavement Marker	L.S.	L.S.	L.S.	$_____
641.0100	Hydro-mulch Seeding	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices, And Advertisement	F.A.	F.A.	F.A.	$ 30,000.00

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____
659.0100	Anchored Erosion Control Mat	L.S.	L.S.	L.S.	$_____
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____

SUM OF ALL ITEMS FOR MILEPOST 26.1 $ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 26.3				
202.0210	Removal of Existing Wire Fence	L.S.	L.S.	L.S.	$_____
208.0100	Additional Leveling Surfaces	F.A.	F.A.	F.A.	$ 100,000.00
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 50,000.00
608.0100	Barbed Wire Fence	L.S.	L.S.	L.S.	$_____
629.0130	8-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0310	Type A Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0330	Type C Pavement Marker	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices, And Advertisement	F.A.	F.A.	F.A.	$ 50,000.00
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____
662.0100	Rockfall Impact Barrier	365	Lin. Ft.	$_____	$_____
671.0200	Additional Rock Slope Scaling	F.A.	F.A.	F.A.	$ 100,000.00

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
672.0100	Draped Wire Mesh System	21,940	Sq. Yd.	$_____	$_____
696.0100	Field Office Trailer (Not to Exceed $100,000)	L.S.	L.S.	L.S.	$_____
696.0200	Maintenance of Trailers	F.A.	F.A.	F.A.	$ 20,000.00
688.0100	Trimming of Trees and Shrubs	L.S.	L.S.	L.S.	$_____
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____

SUM OF ALL ITEMS FOR MILEPOST 26.3 $ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 26.45				
209.0100	Installation, Maintenance, Monitoring and Removal of BMP	L.S.	L.S.	L.S.	$_____
629.0120	Double 4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0130	8-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0330	Type C Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0340	Type D Pavement Marker	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices, And Advertisement	F.A.	F.A.	F.A.	$ 10,000.00
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____
671.0100	Rock Slope Scaling	L.S.	L.S.	L.S.	$_____
671.0200	Additional Rock Slope Scaling	F.A.	F.A.	F.A.	$ 20,000.00
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____
	SUM OF ALL ITEMS FOR MILEPOST 26.45				$ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 26.55				
208.0100	Additional Leveling Surfaces	F.A.	F.A.	F.A.	$ 60,000.00
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 40,000.00
629.0120	Double 4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0130	8-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0330	Type C Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0340	Type D Pavement Marker	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices. And Advertisement	F.A.	F.A.	F.A.	$ 50,000.00
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____
671.0100	Rock Slope Scaling	L.S.	L.S.	L.S.	$_____
671.0200	Additional Rock Slope Scaling	F.A.	F.A.	F.A.	$ 100,000.00
673.0100	Anchored Wire Mesh System	4,319	Sq. Yd.	$_____	$_____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
673.0200	Supplemental Short Anchors	27	Each	$_____	$_____
688.0100	Trimming of Trees and Shrubs	L.S.	L.S.	L.S.	$_____
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____

SUM OF ALL ITEMS FOR MILEPOST 26.55 $ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 26.65				
208.0100	Additional Leveling Surfaces	F.A.	F.A.	F.A.	$ 30,000.00
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 30,000.00
629.0120	Double 4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0130	8-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0310	Type A Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0330	Type C Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0340	Type D Pavement Marker	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices, And Advertisement	F.A.	F.A.	F.A.	$ 30,000.00
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____
671.0200	Additional Rock Slope Scaling	F.A.	F.A.	F.A.	$ 30,000.00
672.0100	Draped Wire Mesh System	3,622	Sq. Yd.	$_____	$_____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
688.0100	Trimming of Trees and Shrubs	L.S.	L.S.	L.S.	$_____
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____

SUM OF ALL ITEMS FOR MILEPOST 26.65 $ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 26.75				
202.0210	Removal of Existing Wire Fence	L.S.	L.S.	L.S.	$_____
208.0100	Additional Leveling Surfaces	F.A.	F.A.	F.A.	$ 10,000.00
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 30,000.00
608.0100	Barbed Wire Fence	L.S.	L.S.	L.S.	$_____
629.0120	Double 4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0130	8-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0310	Type A Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0330	Type C Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0340	Type D Pavement Marker	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices. And Advertisement	F.A.	F.A.	F.A.	$ 25,000.00
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
671.0200	Additional Rock Slope Scaling	F.A.	F.A.	F.A.	$ 10,000.00
672.0100	Draped Wire Mesh System	2,198	Sq. Yd.	$_____	$_____
688.0100	Trimming of Trees and Shrubs	L.S.	L.S.	L.S.	$_____
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____

SUM OF ALL ITEMS FOR MILEPOST 26.75 $ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 28.6				
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 30,000.00
629.0120	Double 4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0130	8-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0310	Type A Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0330	Type C Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0340	Type D Pavement Marker	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices. And Advertisement	F.A.	F.A.	F.A.	$ 30,000.00
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____
662.0100	Rockfall Impact Barrier	453	Lin. Ft.	$_____	$_____
688.0100	Trimming of Trees and Shrubs	L.S.	L.S.	L.S.	$_____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____

SUM OF ALL ITEMS FOR MILEPOST 28.6 $ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 44.9				
203.0100	Roadway Excavation	605	Cu. Yd.	$_____	$_____
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 10,000.00
305.0100	Aggregate Subbase	L.S.	L.S.	L.S.	$_____
312.0100	Hot Mix Glassphalt Base Course	L.S.	L.S.	L.S.	$_____
401.0100	HMA Pavement, Mix No. IV	L.S.	L.S.	L.S.	$_____
613.0100	Reconstructing Centerline and Reference Survey Monuments	L.S.	L.S.	L.S.	$_____
629.0110	4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0120	Double 4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0310	Type C Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0320	Type D Pavement Marker	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices, And Advertisement	F.A.	F.A.	F.A.	$ 20,000.00

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____
681.0100	Geogrid	L.S.	L.S.	L.S.	$_____
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____

SUM OF ALL ITEMS FOR MILEPOST 44.9 $ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 45.0				
201.0100	Clearing and Grubbing	L.S.	L.S.	L.S.	$_____
202.0200	Removal of Existing Guardrail System	L.S.	L.S.	L.S.	$_____
203.0100	Roadway Excavation	414	Cu. Yd.	$_____	$_____
205.0410	Structure Excavation for Geocell System	L.S.	L.S.	L.S.	$_____
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 40,000.00
312.0100	Hot Mix Glassphalt Base Course	L.S.	L.S.	L.S.	$_____
401.0100	HMA Pavement, Mix No. IV	L.S.	L.S.	L.S.	$_____
606.0100	Guardrail Type Strong Post W Beam	L.S.	L.S.	L.S.	$_____
606.0200	End Anchorage Type Modified A	L.S.	L.S.	L.S.	$_____
621.0100	Temporary Traffic Signal System	L.S.	L.S.	L.S.	$_____
629.0110	4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____
629.0120	Double 4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
629.0310	Type C Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0310	Type D Pavement Marker	L.S.	L.S.	L.S.	$_____
641.0100	Hydro-mulch Seeding	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices. And Advertisement	F.A.	F.A.	F.A.	$ 50,000.00
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____
682.0100	Geocell System	L.S.	L.S.	L.S.	$_____
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____

SUM OF ALL ITEMS FOR MILEPOST 45.0 $ _____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
	MILEPOST 45.3				
201.0100	Clearing and Grubbing	L.S.	L.S.	L.S.	$_____
202.0200	Removal of Existing Guardrail System	L.S.	L.S.	L.S.	$_____
203.0100	Roadway Excavation	300	Cu. Yd.	$_____	$_____
205.0410	Structure Excavation for Geocell System	L.S.	L.S.	L.S.	$_____
209.0100	Installation, Maintenance, Monitoring, and Removal of BMP	L.S.	L.S.	L.S.	$_____
209.0200	Additional Water Pollution, Dust, and Erosion Control	F.A.	F.A.	F.A.	$ 30,000.00
312.0100	Hot Mix Glassphalt Base Course	L.S.	L.S.	L.S.	$_____
401.0100	HMA Pavement, Mix No. IV	L.S.	L.S.	L.S.	$_____
606.0100	Guardrail Type Strong Post W Beam	L.S.	L.S.	L.S.	$_____
606.0200	End Anchorage Type Modified A	L.S.	L.S.	L.S.	$_____
606.0300	Terminal Section Type G	L.S.	L.S.	L.S.	$_____
621.0100	Temporary Traffic Signal System	L.S.	L.S.	L.S.	$_____
629.0110	4-Inch Pavement Striping (Thermoplastic Extrusion)	L.S.	L.S.	L.S.	$_____

PROPOSAL SCHEDULE

ITEM NO.	ITEM	APPROX. QUANTITY	UNIT	UNIT PRICE	AMOUNT
629.0330	Type C Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0340	Type D Pavement Marker	L.S.	L.S.	L.S.	$_____
629.0350	Type H Pavement Markers	L.S.	L.S.	L.S.	$_____
629.0360	Type J Pavement Markers	L.S.	L.S.	L.S.	$_____
641.0100	Hydro-mulch Seeding	L.S.	L.S.	L.S.	$_____
645.0100	Traffic Control	L.S.	L.S.	L.S.	$_____
645.0200	Additional Police Officers, Additional Traffic Control Devices, And Advertisement	F.A.	F.A.	F.A.	$ 37,500.00
648.0100	Field Posted Drawings	L.S.	L.S.	L.S.	$_____
682.0100	Geocell System	L.S.	L.S.	L.S.	$_____
699.0100	Mobilization (Not to exceed 10% of the sum of all items excluding the bid price of this item and force account items)	L.S.	L.S.	L.S.	$_____

SUM OF ALL ITEMS FOR MILEPOST 45.3 $ _____

PROPOSAL SCHEDULE SUMMARY	
MILEPOST	SUM OF ALL ITEMS
(MILEPOST 12.9)	$ _____
(MILEPOST 21.6)	$ _____
(MILEPOST 21.9)	$ _____
(MILEPOST 26.3)	$ _____
(MILEPOST 26.45)	$ _____
(MILEPOST 26.55)	$ _____
(MILEPOST 26.65)	$ _____
(MILEPOST 26.75)	$ _____
(MILEPOST 28.6)	$ _____
ADDITIVE ALTERNATE NO. 1 (MILEPOST 26.1)	$ _____
ADDITIVE ALTERNATE NO. 2 (MILEPOST 45.3)	$ _____
ADDITIVE ALTERNATE NO. 3 (MILEPOST 45.0)	$ _____
ADDITIVE ALTERNATE NO. 4 (MILEPOST 44.9)	$ _____

a. **TOTAL SUM OF ALL ITEMS** **$** _____

b. Either Furnish Foreign Steel Not to Exceed Minimal Amount (Fill in "0") or Furnish Foreign Steel in Excess of Minimal Amount (Fill in 25% x a) * $ _____

c. Amount for Comparison of Bids (a+b) * $ _____

* All Bidders must fill in b and complete c.

Note: To be considered, bidders must bid on all the bid items, including Additive Alternates 1 through 4. Failure to do so may be grounds for rejection of bid.

The Amount for Comparison of Bids will be used to determine the lowest responsible bidder.

If the Amount for Comparison of Bids of the lowest responsible bidder exceeds the funds available for this project, Additive Alternates will be deducted in the following order: No. 4, No. 3, No. 2, No. 1until the amount is within the available funds.