STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ADDENDUM NO. 1
FOR
KUHIO HIGHWAY
RETAINING WALLS AT
LUMAHAI AND WAINIHA
PROJECT NO. 560A-03-96

The following amendments shall be made to the Bid Documents:

A. SPECIAL PROVISIONS

a. Replace Table of Contents dated 1/02/09 with the attached Table of Contents dated r9/29/09.

b. Replace Section 507 – Textured Concrete Railing dated 01/12/04 with the attached Section 507 – Textured Concrete Railing dated r9/29/09.

c. Replace Section 509 – Modular Concrete Block Retaining Wall dated 05/01/09 with the attached Section 509 – Modular Concrete Block Retaining Wall dated r9/29/09.

B. PRE-BID MEETING

Attached are the "Minutes of the Pre-Bid Meeting" and Pre-Bid Meeting Attendance Sheet for your information.

C. REQUESTS FOR INFORMATION (RFIs) AND RESPONSES to RFIs

Attached are "Summary of Reponses to RFIs" for your information.

Please acknowledge receipt of this Addendum No. 1 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

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END OF TABLE OF CONTENTS

Amend **Section 507 — Railings** to read as follows:

"SECTION 507 - TEXTURED CONCRETE RAILING

507.01 Description. This work includes furnishing and installing concrete railings with textured concrete surfaces and staining of the exposed concrete surfaces according to the contract.

507.02 Materials. Materials shall conform to the following:

Concrete for concrete railings shall have a 28-day compressive strength, f'c, of 4,000 psi conforming to Section 601 — Structural Concrete.

Reinforcing steel shall conform to Section 602 — Reinforcing Steel.

507.03 Construction Requirements. The Contractor shall construct the concrete railings according to the details shown in the contract and as indicated below.

The line and grade of the railing shall be true to that shown in the contract. The Contractor shall not install the railings on concrete foundations until the Contractor has removed the falsework and backfills required are in place.

The Contractor shall construct the portion of the concrete railing that the Contractor will cast-in-place according to Section 503 — Concrete Structures. The Contractor shall secure smooth and tight fitting forms so that the Contractor can hold rigidly in line and grade and remove without damage to the concrete.

(A) Concrete Railing Texturing. The Contractor shall texture the roadside and back faces of the concrete railing using a form liner. Form liner and data sheets shall be submitted to the Engineer for review and acceptance. The pattern shall reasonably match the existing CRM wall pattern at the project work site, and shall be of Fitzgerald Formliner Pattern 16985 or equivalent manufacture.

Prior to constructing the permanent concrete railing, the Contractor shall produce a 3 feet by 3 feet test specimen for approval by the Engineer at no increase in contract price and contract time.

(B) Staining of Exposed Concrete Surfaces. All exposed concrete railing surfaces shall be stained with a penetrating liquid stain that produces permanent color in the concrete surfaces. The stain shall be a water based formulation of hydrochloric acid and metallic salts that creates a reaction within the concrete substrate. The reaction should slightly etch the concrete to provide deep and permanent color penetration. Stain data shall be submitted to the Engineer for approval.

The concrete surface must be uniformly cleaned, cured and dried as required by the stain manufacturer before applying the stain. The concrete shall be cured for a minimum of 28 days and any membrane curing compounds must be completely removed and surface shall be thoroughly rinsed. Pressure washing may be necessary to clean the concrete surfaces. Acid wash shall not be used to clean the concrete surfaces.

The 3 feet by 3 feet concrete test specimen shall be stained by the Contractor to experiment with the colors and application method. Two or more applications to the concrete surfaces may be required to produce the required color. Color of the concrete surface shall match the color of the existing CRM wall at the project site.

Adjacent areas and vegetation shall be protected during the preparation and application of the stain. Use of the product shall be as recommended by the manufacturer.

507.04 Method of Measurement. Textured concrete railing will be paid on a lump sum basis. Measurement for payment will not apply.

507.05 Basis of Payment. The Engineer will pay for the accepted railing on a contract lump sum basis complete in place.

The price includes full compensation for the concrete; for placing, curing and finishing; for furnishing materials including admixtures and cement; for furnishing and installing reinforcing steel; for furnishing and installing scuppers, forms, form lining and falsework or centering; staining, and for equipments, tools, labor, materials, and incidentals necessary to complete the work.

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

Pay Item	**Pay Unit**
Textured Concrete Railing	Lump Sum"

END OF SECTION 507

Make this Section a part of the Standard Specifications:

"SECTION 509 - MODULAR CONCRETE BLOCK RETAINING WALL

509.01 Description. This section describes the following:

(A) Furnishing and installing modular block units with fiberglass shear/alignment pins to the lines and grades shown on the construction drawings within reasonable field tolerance and as specified in this section.

(B) Preparing foundation soil, furnishing and installing concrete leveling pad, unit fill and backfill to the lines and grades shown on the construction drawings.

(C) Furnishing and installing geogrid reinforcement and backfill to the lines and grades designated on the construction drawings.

(D) Furnishing and installing subdrain system and drainage holes as designated on the construction drawings.

509.02 Materials.

(A) Modular Block Units:

(1) Shall be Standard 21" TriPlane Keystone retaining wall units or approved equal. See Subsection 102.14 for substitution of block units.
(2) Shall conform to the requirements of ASTM 1372.
(3) Color shall be manufacturer's standard color pallette.
(4) Face finish shall be sculptured rock face in angular tri-planar configuration.
(5) Bond configuration shall be running bond with ends of blocks located at midpoint of vertically adjacent units in both straight and curved alignments.
(6) Exposed surface shall be free of chips, cracks and other imperfections.
(7) Alignment and grid positioning shall be by fiberglass pins, two per block unit.
(8) Compressive strength of block shall be 3000 psi.
(9) Width shall be 18", depth shall be 21" and height shall be 8".
(10) Unit weight per block shall be between 95 and 125 lbs.

(B) Shear Connectors:

(1) Shall be 1/2" diameter by 5 1/4" long thermostat isopthalic

polyester resin-pultruded fiberglass reinforcing rods.

(2) Flexural strength shall be 128,000 psi.

(3) Short beam shear shall be 6,400 psi.

(4) Connectors shall be capable of maintaining strength over a temperature range of minus 10 degrees F to plus 100 degrees F.

(5) Connectors must be capable of holding the geogrid in the proper design position when geogrid fabric is pulled at a minimum load of 1,000 plf and backfill material is placed.

(C) Geogrid Fabric:

(1) Geogrid shall be a geotextile fabric knitted from high tenacity polyester yarn with a molecular weight exceeding 25,000 Meg/m and a carboxyl end group value of less than 30 and shall be coated with impregnated PVC that resists peeling, cracking, and stripping or a high density polyethylene specifically fabricated for use as soil reinforcement.

(D) Base Leveling Pad:

(1) Material shall be concrete f'c = 3000 psi.

(E) Unit Drainage Fill:

(1) Material shall be clean 1-inch minus crushed stone or gravel and shall conform to the following gradation:

U.S. Standard Sieve Size	Percent Passing By Weight
1 inch	100
3/4 inch	75 - 100
No. 4	0 - 10
No. 50	0 - 5

(2) Pea rock rounded stone is not acceptable for use as drainage fill.

(F) Reinforced Backfill (Structure Backfill):

(1) The reinforced backfill material shall consist of coarse granular material free from organic or other deleterious materials, and shall conform to the following gradation:

U.S. Standard Sieve Size	Percent Passing By Weight
4 inch	100
3 inch	75 - 100
No. 4	20 - 75
No. 40	0 - 60
No. 200	0 - 15

(2) Onsite excavated soil is not acceptable for use as reinforced backfill.

(3) Material shall be non-plastic. Plasticity Index (PI) as determined by AASHTO T90 shall be 0.

(4) The fraction finer than 15 microns (0.015 mm) as determined by AASHTO T-88 shall not exceed 5 percent.

(5) The material shall exhibit an angle of internal friction of not less than 34 degrees, as determined by the standard direct shear test - AASHTO T-236 (ASTM D-3080), utilizing a sample of the material compacted to 95 percent of ASTM D-1557, Methods C or D at optimum moisture content. This sample shall consist of a parallel gradation of material passing the No. 4 sieve.

(6) The top 3 feet of backfill shall contain sufficient fines (minus No. 10 sieve) to fill the voids in a compacted state.

509.03 Construction

(A) Concrete Leveling Pad:

(1) Place concrete pad to the lines, grades, and dimensions shown on the construction drawings.

(2) Prepare leveling pad to ensure full contact to the base surface of the modular concrete blocks.

(B) Modular Concrete Blocks:

(1) Place first course on leveling pad and check alignment and level. Use shear connectors for alignment control. Do not attempt to align with the block face due to irregular split finish.

(2) Be sure that all blocks are in full contact with leveling pad and courses below. Do not leave gaps between blocks. Lay out corners and curves in accordance with the block manufacturer's recommendations.

(3) Place and compact drainage fill within, between, and behind blocks. Place one cubic foot per block of drainage fill within the cores of the blocks and between and behind the blocks.

(4) Place and compact backfill material behind the drainage fill.

(5) Follow block and drainage fill installation as soon as possible with compacted fill material. Maximum vertical height for installation of drainage and backfill material shall not exceed the height between geogrid fabric or two courses of block, whichever is less.

(C) Geogrid Fabric.

(1) Orient geogrid fabric with the highest strength axis perpendicular to the blocks.

(2) Place geogrid fabric at the courses as shown on the construction drawings. The fabric shall be attached to the blocks at the shear connectors and pre-tensioned with a minimum load of 1,000 plf prior to placement of drainage and backfill material over the fabric.

(D) Drainage and Backfill Material Placement.

(1) Place, spread and compact the backfill material in such a manner that minimizes the development of slack and damage to the geogrid fabric.

(2) Place and compact drainage and backfill material in lifts not to exceed 6 inches if hand compaction is used or 8 inches if heavy compaction equipment is used. Decrease lift thickness where necessary to achieve required compaction.

(3) Backfill material shall be compacted to 95 percent of maximum density as determined by ASTM D 698. The moisture content of the material prior to and during compaction shall be uniformly distributed throughout each layer and shall be within +0 to 3 percent of dry optimum.

(4) Only lightweight hand operated compaction equipment shall be used 3 feet and less from the back end of the blocks.

(5) Do not operate tracked construction equipment directly on the geogrid fabric. A minimum of 6 inches of backfill material is required before tracked equipment is allowed over the geogrid fabric. Turning of tracked equipment shall be kept to a minimum to prevent tracks from displacing backfill material and damaging the geogrid fabric.

(6) At the end of each day's operation, the last lift of the backfill material shall be sloped away from the blocks to direct runoff away from the bocks. Surface runoff from adjacent areas shall not be allowed to enter the modular concrete block wall construction site.

(E) Excavated Material.

(1) The excavated material at the project site is unsuitable for use as backfill material. The unsuitable material shall become the property of the Contractor and disposal of the unsuitable material shall be at no increase in contract price or contract time.

509.04 Measurement. Modular concrete block wall, including furnishing and installing subdrain system and geogrid reinforcement, will be paid on a lump sum basis. Measurement for payment will not apply.

509.05 Payment. The Engineer will pay for the accepted pay items listed below at the contract price per 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**
Modular Concrete Block Retaining Wall	Lump Sum"

END OF SECTION 509

MINUTES OF PRE-BID MEETING

PROJECT: Kuhio Highway Retaining Walls at Lumahai & Wainiha
District of Hanalei, Island of Kauai

PROJECT NO.: 560A-03-96

LOCATION: 1720 Haleukana Street
Lihue, Kauai, Hawaii

DATE & TIME: September 23, 2009 at 9:00 a.m.

IN ATTENDANCE:

Stanford Iwamoto	HDOT – HWY-K
Fred Reyes	HDOT – HWY-K
Bernie Vargas	HDOT – HWY-K
Suzanne Kishimori	Hawaiian Dredging Construction
Jeff Griffin	Goodfellow Brothers, Inc.
Nick Drury	Kiewit Pacific Company
Ralph Cushnie	Cushnie Construction Co., Inc.
James Hasenyager	Cushnie Construction Co, Inc.
Dan Kittredge	Earthworks Pacific
George Nishimura	Nishimura, Katayama & Oki, Inc.

The meeting started at 9:00 a.m. HWY-K Project Manager, Stanford Iwamoto, began the meeting with a brief overview of the background and scope of work for the project.

The following questions were presented and responses were made at the meeting:

Question #1: What are the liquidated damages for the project?
Response: Liquidated damages are as shown in Subsection 108.08 of the Special Provisions. In addition, Subsection 108.09 sets a rental fee rate for traffic lane(s) closed to public use beyond the authorized time period.

Question #2: What is the estimated date for start of construction?
Response: Subsection 108.01 normally allows up to 90 calendar days from effective date of contract to NTP date. Due to ongoing negotiations for land acquisition, set-aside, rights-of-entry onto Bishop Estate and DLNR State lands, and a Conservation District Use Application (CDUA) in process, the 90-day period has been extended for up to 240 days. However, if the CDUA and rights-of-entry are obtained earlier, the State will coordinate with the selected Contractor for an NTP date in possibly late spring 2010.
Question #3: Is the 240 days for construction period working or calendar days?
Response: Calendar days.

Question #4: What is the deadline for submittal of Requests for Information (RFI)?
Response: By 4:00 pm September 30, 2009, RFI's should be addressed to Stanford Iwamoto at Stanford.Iwamoto@hawaii.gov with cc to Fred Reyes at

Fred.Reyes@hawaii.gov. No assurance is given that RFI's submitted after September 29, 2009 will be covered in Addendum No. 1.

Question #5: What is the modular concrete block specified?
Response: The modular concrete block specified in the construction documents is based on the Standard 21" Triplane block by Keystone Retaining Wall Systems, as stated on Plan Sheet 12. This block is manufactured by Tileco, Inc. on Oahu. Tileco, Inc. can be contacted for additional information.

Question #6: What are the limitations for working at night?
Response: Limitations for working at night is specified in Note 17 of the General Notes on Plan Sheet 3.

Question #7: What type of material will be required for structure backfill material?
Response: Specifications for backfill material is found in the attached Section 509 – Modular Concrete Block Retaining Wall which replaces the previous Section 509.

Question #8: What are the allowable weight limits for the three bridges located between Hanalei Town and the project site?
Response: The posted weight limits for all three bridges is 8 tons. If the contractor wishes to transport heavier loads across the bridges, he will need to complete an application(s) for overweight vehicle/load permit from HDOT-Kauai, and provide the required supporting documentation. The State reserves the right to prohibit crossing of these bridges by vehicles/loads it considers too heavy.

Other matters discussed:

1. **Pre-qualification of Materials:**
    a. If the bidder desires to use a modular concrete block other than the specified, he will have to submit the substitute block for DOT review and acceptance prior to bid opening date, as stated on Plan Sheet 12.
    b. The form liner requirements have been revised as stated in revised Section 507 of Addendum No. 1. Form liner needs to be accepted by HDOT.
    c. All substitution requests will have to be submitted to HDOT no later than the close of the business day of September 30, 2009. Submittal of substitution requests shall be made in the manner similar to RFIs.

2. **Silt Fence:**
    a. The silt fence must be completed prior to the start of construction. Fall protection for the contractor's employees working on the slope shall be the contractor's responsibility.

3. **BMP:**
    a. The contractor must submit his site-specific BMP plan for review and acceptance by HDOT before start of construction.

4. **Agreements and Insurance:**
    a. The contractor should become familiar with the requirements as set forth in Section 107 of the Special Provisions.

5. **Temporary Detour:**
    One traffic lane must be kept open to traffic for the duration of construction. Traffic-actuated signal lights shall be used to control traffic within the one-lane segment, as described in Section 657 of the Special Provisions.

KUHIO HIGHWAY RETAINING WALLS AT LUMAHAI AND WAINIHA

PROJECT NO. 560A-03-96

PRE-BID MEETING - SEPTEMBER 23, 2009

Name	Representing	Phone	FAX	email
SUZANNE KISHIMORI	HAWAIIAN DREDGING CONSTR.	483-4270	483-4274	skishimori@hdcc.com
JEFF GRIFFIN	GOODFELLOW BROS., INC	241-4601	241-4605	JEFFG@GOODFELLOWBROS.com
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NICK DRURY	Kiewit Pacific Co.	241-7374	241-7377	nick.drury@kiewit.com
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Fred Reyes	HWY-K	241-3017	241-3011	fred.reyes@hawaii.gov
Ralph Cushnie	Cushnie Const. Co	645-0955	332-9400	Ralph@cushnieccii.com
James Hasenyager	Cushnie Const Co Inc	651-6769	332-9400	james@cushnieccii.com
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George Nishimura	NKOI	947-2908	944-5724	glen@hawaii.rr.com

KUHIO HIGHWAY, RETAINING WALLS
AT LUMAHAI AND WAINIHA, Proj. No. 560A-03-96

SUMMARY OF RESPONSES TO REQUESTS FOR INFORMATION (RFIs) RECEIVED BY THE HDOT BEFORE THE END OF BUSINESS DAY RFI SUBMITTAL DEADLINE DATE OF SEPTEMBER 30, 2009.

Question # 1 – Plan sheet 14 has a conflict between Station call outs and Plan scale. The distance from Sta. 5+12.60 to Station 5+87.15 is 74 feet and 7 inches; however the plan dimension shows a total of 102 feet. Please clarify which dimension is correct.
Response – The station call outs are correct. The dimensions on Plan sheet 14 should have shown a total length of 74 feet and 7 inches instead of 102 feet between these 2 station call outs.

Question # 2 – Plan sheet 19, detail A, shows the scupper detail. Please clarify if this is the detail for the textured railing shown on the Plan sheet 12.
Response – Detail A for the scupper shown on Plan sheet 19 is the detail to be used for the scupper through the textured railing shown on Plan sheet 12.

Question # 3 – Plan sheet 12, detail A, notes GRP under the scuppers. The detail shows the GRP under the 4" diameter drain for the modular block wall. Please clarify if the GRP is only under the scuppers, or is it also under the 4" drains for the modular wall.
Response – The GRP is required only under the scuppers.

Question # 4 – Plan sheet 12 shows a 4" subdrain. Please advise if the subdrain is to conform to Standard Spec Section 605 – Underdrains. Also please advise if the subdrain is to run parallel to the wall in addition to perpendicular to the wall.
Response – Subdrains shall be installed in accordance with Section 605 – Underdrains. Excavated trench dimensions shall be 16" by 16" with the subdrain centered in the trench section. This trench was inadvertently omitted in the project plans. Trench material shall be Unit Drainage Fill (Select Granular Material as shown on Plan sheet 12) per Subsection 509.02(E). The subdrain shall run parallel to the wall for its entire length at the rear of the excavated area, and perpendicular through the wall to daylight at approximately 50 feet on center. All subdrain pipes shall be perforated plastic pipe in accordance with Subsections 605.02 and 706.12. Geotextile is not required.

Question # 5 – Regarding the structural excavation for the T-6 railing foundation, is this work incidental to Bid Item 205.0100 or 205.0200.
Response – The structural excavation for the T-6 railing foundation shall be incidental to Bid Item 205.0100.

Question # 6 – Regarding the Inertial Barrier System in Special Provision Section 609, please clarify if this system is the sand barrel type (as seemed to be referenced in 694.02(B) or the type that is attached to the concrete barrier (as seemed to be referenced in either 694.02(B)
Response – The Inertial Barrier System shall conform to the requirements in 694.03(B) or 694.03(B). Submit Inertial Barrier System manufacturer's data sheets to the Engineer for acceptance.