

ESTIMATED QUANTITIES (STRUCTURAL)			
ITEM NO.	ITEM	QUANTITY	UNIT
202.1000	Removal of existing bridge railings, endposts and sidewalks, portion of existing deck slabs and deck drains, portion of existing abutments, wingwalls, fins, parapets and brackets, existing wood stairs and concrete stair on grade	L.S.	L.S.
202.2000	Relocate existing DOT trailer and field house	L.S.	L.S.
205.1000	Structure excavation for abutments and wingwalls	L.S.	L.S.
205.2000	Structure excavation for Piers #1, #2, and #3	L.S.	L.S.
205.3000	Shoring, bracing and/or underpinning of existing bridge foundations	L.S.	L.S.
205.4000	Structure backfill for abutments and wingwalls	L.S.	L.S.
205.5000	Structure backfill for Piers #1, #2, and #3	L.S.	L.S.
212.1000	Probing at Pier #1 and Pier #2	460	L.F.
212.2000	Grouting of Probe Holes at Pier #1 and Pier #2	4	C.F.
212.3000	Backfilling of Grouting of Voids or Cavities at Pier #1 and Pier #2	F.A.	F.A.
501.1000	Structural steel - welded plate girders (primed and painted)	L.S.	L.S.
501.2000	Structural steel - bracing and other members (zinc hot dip galvanized and painted)	L.S.	L.S.
501.3000	Structural steel - longitudinal strut, bumper and strut/bumper (zinc hot-dip galvanized and painted)	L.S.	L.S.
503.1000	Concrete in bridge deck slab widening	L.S.	L.S.
503.2000	Concrete in pier columns and caps - Piers #1, #2, and #3	L.S.	L.S.
503.3000	Concrete in abutments and wingwalls	L.S.	L.S.
503.4000	Concrete in abutment foundations (pile caps)	L.S.	L.S.
503.5000	Concrete in pier foundations (footings and pile caps)	L.S.	L.S.
503.6000	Concrete in approach slabs behind abutments	L.S.	L.S.
503.7000	Concrete in bridge deck new and existing - joint seals	L.S.	L.S.
506.1000	Bearing and expansion plates under new and existing steel plate girders (including new anchor bolts)	L.S.	L.S.
507.1000	Concrete traffic railing and endposts	L.S.	L.S.
511.1000	Furnishing drilled shaft drilling equipment	L.S.	L.S.
511.2000	Furnishing instrumentation and collecting data	L.S.	L.S.
511.3000	Drilled shafts	330	L.F.
511.4000	Standard excavation	330	L.F.
512.1000	Furnishing micropile drilling and grouting equipment	L.S.	L.S.
512.2000	Preproduction micropile load tests	L.S.	L.S.
512.3000	Production micropiles - uncased length of micropile	720	L.F.
512.4000	Production micropiles - cased length of micropile	800	L.F.
602.1000	Reinforcing steel for bridge (except foundations)	L.S.	L.S.
602.2000	Reinforcing steel for foundations	L.S.	L.S.
604.1000	Steel frame and hatch cover in concrete pier column	L.S.	L.S.
628.1000	Shotcrete for Pier #3 ground anchors	L.S.	L.S.
648.1000	Field Posted Drawings	L.S.	L.S.
654.1000	Longitudinal cable restrainer	L.S.	L.S.
670.1000	Draped wire mesh	180	S.Y.
681.1000	Furnishing specialty equipment for ground anchors	L.S.	L.S.
681.2000	Ground anchors for Pier #3	10	Ea.
681.3000	Reinstallation of ground anchors due to grout loss and additional performance tests or proof tests	F.A.	F.A.
694.1001	Repair to structural steel members - type 1	20	Ea.
694.1002	Repair to structural steel members - type 2	500	Ea.
694.1003	Repair to structural steel members - type 3	100	Ea.

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
NOTEBOOK	DRAWN BY _____	_____
	TRACED BY _____	_____
	DESIGNED BY _____	_____
	QUANTITIES BY _____	_____
No. _____	CHECKED BY _____	_____



NORMAN K. NAGAMINE  
 LICENSED  
 PROFESSIONAL  
 ENGINEER  
 NO. 5479-S  
 HAWAII, U.S.A.

LICENSE EXPIRES: 4/30/14  
 THIS WORK WAS PREPARED BY ME OR  
 UNDER MY SUPERVISION  
 Norman K. Nagamine

EXISTING & DEMOLITION GENERAL NOTES

- See general structural notes on sheet S0.1, S0.2 and S0.3 for additional information.
- Existing bridge occurs over a deep valley with steep sloped terrain on both sides. There are no existing access roads below the bridge. Refer to topographic map on sheet T7 and elevation view of bridge on sheet S1.4.
- Existing bridge must remain open to traffic during the construction period.
- Demolition work shall be coordinated with construction of new work. See construction phasing on sheet S15.1. Contractor shall submit proposed schedule and sequence of demolition work for Engineer's review prior to commencing with demolition work.
- Existing conditions are shown on the drawings to the best of our knowledge. Dimensions and member sizes where shown on the drawings are based on available as-built bridge plans. Existing dimensions shown may not be exact and are provided for information only. Contractor shall field verify all existing dimensions prior to construction. All discrepancies shall be promptly called to the attention of the Engineer and shall be resolved prior to proceeding with the demolition work.
- As-built plans of the existing bridge are available for review from the State of Hawaii Department of Transportation, Highways Division, Design Branch, Kakuhihewa Building Room 609, 601 Kamokila Boulevard, Kapolei, Hawaii 96707, Phone no. 808-692-7586.
- Protect from damage existing structures to remain. Protect from damage and clean existing reinforcing steel to be incorporated in new concrete work. See Standard Specifications Section 202 "Removal of Structures and Obstructions".
- Where existing reinforcing steel is not required to be incorporated in new concrete work, cut ends of reinforcing steel shall be recessed 1-1/2" minimum below existing concrete surface. Resulting pockets in existing concrete shall be filled with non-shrink grout. This work shall be incidental to Section 202 "Removal of Structures and Obstructions".

HAZARDOUS MATERIALS NOTES

- Portions of existing bridge structure are known to contain lead-based paint. Portions of existing grade around existing pedestal footings are known to contain lead impacted soil. Contractor shall refer to the report prepared by Bureau Veritas North America, Inc. and entitled "Hazardous Materials Assessment with Soil and Sediment Sampling and Analysis, Rehabilitation of Umauma Stream Bridge, Hawaii Belt Road, Route 19, District of North Hilo, Island of Hawaii", dated April 16, 2010.
- Refer to Special Provisions Section 695 "Lead in Construction" for removal and disposal of lead in construction.
- 2

Removal and disposal of lead-based paint on existing concrete structures shall be paid for under Section 695 "Lead in Construction".
- 2

Remediation of lead-impacted soil shall be paid for under Section 695 "Lead in Construction".

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(61)	2012	ADD. 39	137

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DESIGNED BY	
	NOTED BY	
	CHECKED BY	
No.		

<div>2</div> <div>10/22/12</div>	Revised Hazardous Materials Notes
DATE	REVISION

NORMAN K. NAGAMINE

LICENSED PROFESSIONAL ENGINEER

NO. 5479-S

HAWAII, U.S.A.

LICENSE EXPIRES: 4/30/14

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Norman K. Nagamine

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

EXISTING & DEMOLITION

GENERAL NOTES

HAWAII BELT ROAD

Rehabilitation of Umauma Stream Bridge

Federal Aid Project No. BR-019-2(61)

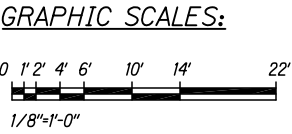
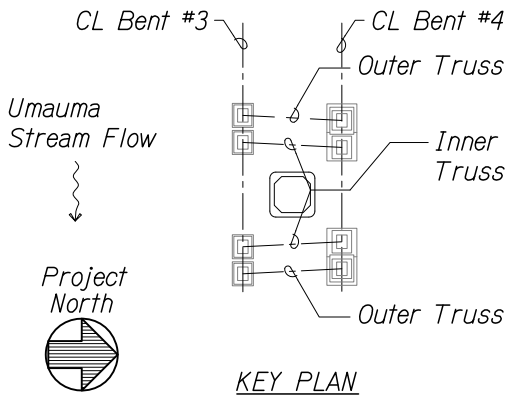
Scale: NoneDate: July 25, 2012

SHEET No. S1.1 OF 14 SHEETS

ADD. 39

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(61)	2012	ADD. 91	137

- Notes:
1. Typical pier column notes, see sheet S7.1.
  2. Portions of existing steel members crossing into new columns shall be blast cleaned and coated with 2 coats epoxy. See sheet S0.3.



10/22/12	EAST AND WEST ELEVATION: "Top of Base EI 99.0"
DATE	REVISION

LICENSE EXPIRES: 4/30/14  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION  
Norman K. Nagamine

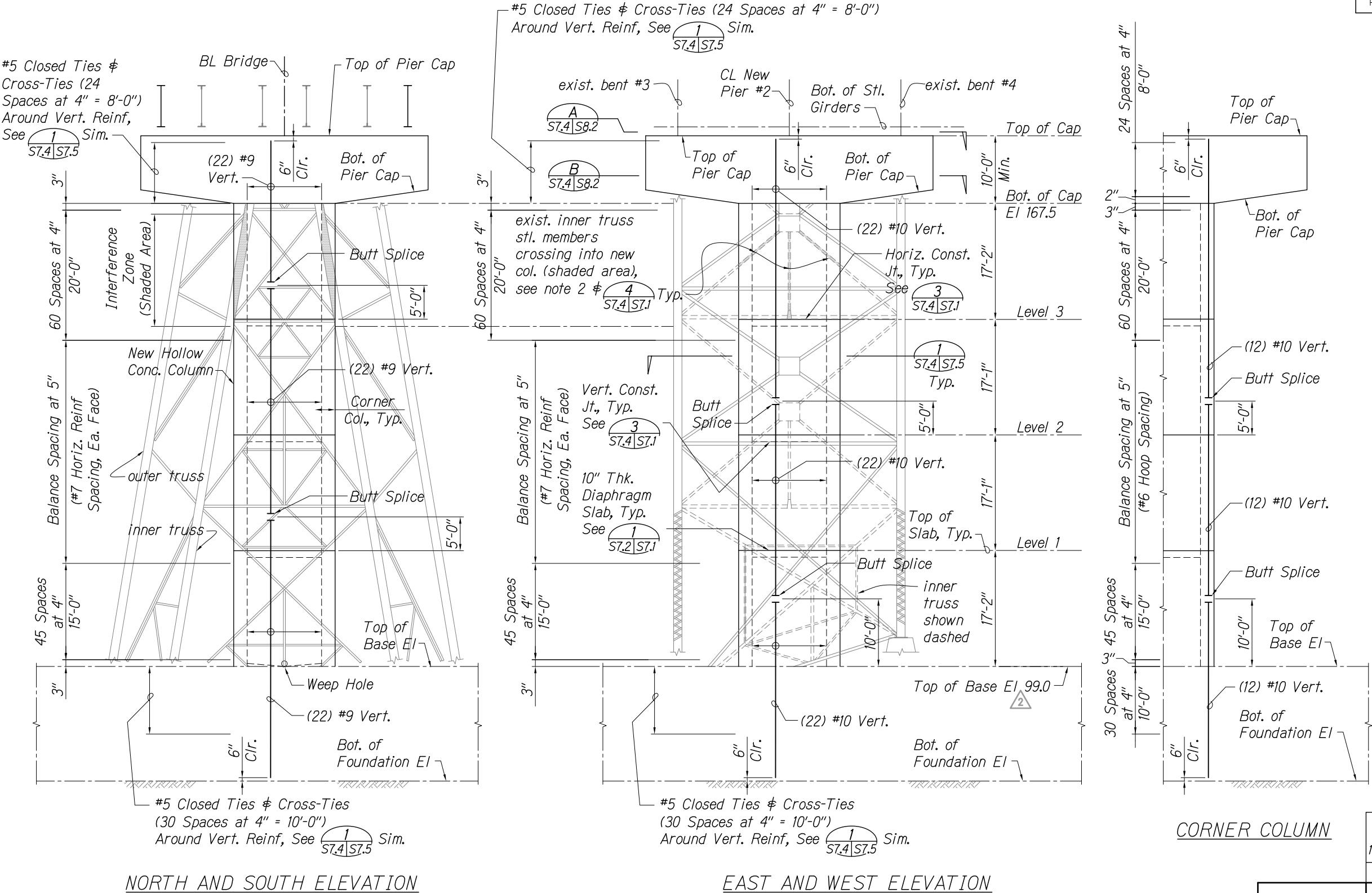
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**NEW PIER #2 - COLUMN  
ELEVATIONS & REINFORCING**

HAWAII BELT ROAD  
Rehabilitation of Umauma Stream Bridge  
Federal Aid Project No. BR-019-2(61)

Scale: 1/8" = 1'-0" Date: July 25, 2012

SHEET No. S7.4 OF 6 SHEETS



**ELEVATION NEW PIER #2 COLUMN REINFORCING**  
SCALE: 1/8" = 1'-0"

SURVEY PLOTTED BY	DATE
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CHECKED BY	
ORIGINAL PLAN	
NOTEBOOK	
No.	