

**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

**ADDENDUM NO. 3
for
KAMEHAMEHA HIGHWAY
KAIPAPAU STREAM BRIDGE REPLACEMENT**

FEDERAL-AID PROJECT NO. BR-083-1(48)

The following amendments shall be made to the Bid Documents:

A. SPECIAL PROVISIONS

1. Replace Special Provision Section 512 – Prefabricated Steel Beam Bridge dated 02/24/21 with the attached Special Provision Section 512 – Prefabricated Steel Beam Bridge dated r07/21/21. Revisions made include:

512.03 (A) Revised to read “Submittals of Working Drawings and Data. Unless approved by the Engineer, submit the following prior to construction.”

512.03 (C) (3) Added (c) Guardrail: TL-3.

B. FEDERAL WAGE RATES

1. Replace Federal Wage Rates dated 07/02/2021 with the attached Federal Wage Rates dated 07/16/2021.

C. PLANS

1. Replace Plan Sheets No. ADD.20, 30, 44, 45 and 65 with the attached Plan Sheet No. ADD. 20, ADD.30, ADD. 44, ADD. 45, and ADD. 65.

D. ANSWERS TO QUESTIONS FROM PROSPECTIVE BIDDERS

1. Attached are RFIs and responses for your information.

Please acknowledge receipt of this Addendum No. 3 by recording the date of its receipt in the space provided on page P-4 of the Proposal.



JADE T. BUTAY
Director of Transportation

1 Make the following Section a part of the Standard Specifications:
2

3 **“SECTION 512- PREFABRICATED STEEL BEAM BRIDGE**
4

5 **512.01 Description.** This work includes design, fabrication, erection,
6 monthly rental, monthly maintenance, and removal of one fully-engineered 90
7 foot 2 span Prefabricated Steel Beam Bridge of modular galvanized steel
8 construction or as directed by the Engineer. The Prefabricated Steel Beam
9 Bridge configuration shown on the contract documents is for bidding purposes
10 only.
11

12
13 **512.02 Materials**
14

15 **(A) General.** All Prefabricated Steel Beam Bridge material shall be
16 of recent manufacture and shall be of domestic origin and fabricated in the
17 United States. Submit certificates of compliance for each shipment prior
18 to erection for Engineers review and acceptance. Certificates of
19 compliance shall identify the manufacture date and attest to required
20 domestic content and fabrication. All materials shall conform to the
21 applicable sections of the Hawaii Standard Specifications and Project
22 Special Provisions.
23

24 **(B) Structural Concrete.** Structural concrete shall have a minimum
25 compressive strength $f'c = 4000$ psi at 28 days.
26

27 **(C) Reinforcing Steel.** Reinforcing steel shall conform to ASTM
28 A615, Grade 60, deformed bars.
29

30 **(D) Prefabricated Steel Beam Bridge.**
31

32 **(1) Panels.** Span length shall be either 25, 35 or 45 ft long.
33 Panels shall be 6 ft wide. Panels shall be able to be placed side by
34 side in 6 ft increments to provide variable width roadways. Panels
35 shall be made up of beams, diaphragms, posts, and orthotropic
36 steel deck.
37

38 **(2) Beams.** Primary beams shall be fabricated from wide
39 flanged sections of hot-rolled steel. Beams shall meet or exceed
40 AASHTO M223 Grade 50 – Yield 50,000 psi – elongation 18% of 8
41 inch gauge length. Ultimate tensile strength shall be 70,000 psi.
42

43 **(3) Diaphragms.** Diaphragms shall be fabricated from
44 channels. Diaphragms shall meet or exceed AASHTO M183 Grade
45 36 – Yield 36,000 psi – elongation 20% of 8 inch gauge length.
46 Ultimate tensile strength shall be 63,000 psi.
47

48 **(4) Posts.** The bridge shall be supplied with stanchion post to
49 accommodate either standard "W" or "Thrie" Beam rails. The post
50 shall be fabricated from wide flanged sections of hot rolled steel
51 and provide substantial resistance to horizontal loads from vehicles.
52 Post shall meet or exceed AASHTO M183 Grade 36 – Yield 36,000
53 psi – elongation 20% of 8 inch gauge length. Ultimate tensile
54 strength shall be 63,000 psi.
55

56 **(5) Orthotropic Steel Decks.** The deck system shall be
57 comprised of a single orthotropic deck for each beam panel that is
58 6 ft. wide by either: 25, 35 or 45 ft. in length. The steel deck plate
59 shall be welded to the internal stringers and large beams on each
60 side. The top surface of the deck plate shall be coated with an anti
61 - skid aggregate epoxy non-skid mixture. Unless approved
62 otherwise by the Engineer, anti-skid coating in accordance with
63 Special Provision 403 – Anti-Skid Coating shall be applied by the
64 Prefabricated Steel Beam Bridge Manufacturer under controlled
65 environmental conditions as required by the anti-skid system. Steel
66 Deck shall meet or exceed AASHTO M183 Grade 36 – Yield
67 36,000 psi – elongation 20% of 8 inch gauge length. Ultimate
68 tensile strength shall be 63,000 psi. In addition to all dead loads,
69 the deck shall have a live load rating which meets or exceeds
70 AASHTO HS25-44 as well as AASHTO HL-93.
71

72 **(6)** Bolts shall meet or exceed AASHTO M164.
73

74 **(7)** All Prefabricated Steel Beam Bridge structural steel
75 components shall be hot-dipped galvanized to meet or exceed
76 AASHTO M111 and ASTM A123. The Manufacturer's
77 representative shall visit the project site to adjust galvanizing
78 requirements based on project duration of at least 24 months. All
79 bolts shall be galvanized or spun galvanized.
80

81 **512.03 Construction Requirements.**

82
83 **(A) Submittals of Working Drawings and Data.** Unless approved
84 by the Engineer, submit the following prior to construction:
85

86 **(1)** Manufacturer's literature and product data for Prefabricated
87 Steel Beam Bridge and components.
88

89 **(2)** Manufacturer's installation instructions
90

91 **(3)** Details of Prefabricated Steel Beam Bridge component
92 connections.
93

94 **(4)** Prefabricated Steel Beam Bridge, abutment and pier

95 specifications, working drawings and structural calculations.

96
97 The Engineer shall be the sole authority for determining if
98 the proposed Prefabricated Steel Beam Bridge and Prefabricated
99 Steel Beam Bridge foundation system is acceptable for use on the
100 project.

101
102 The submitted specifications, working drawings and
103 structural calculations shall be signed and sealed by Hawaii
104 licensed professional geotechnical and structural engineers.

105
106 The Engineer will require two weeks review time to
107 determine the acceptability of the working drawings and data
108 submitted.

109
110 **(B) Quality Assurance**

111
112 **(1)** Components of the Prefabricated Steel Beam Bridge shall
113 be made by a firm regularly engaged in the manufacture of these
114 components.

115
116 **(2)** Installation and removal (at the end of the project) of the
117 Prefabricated Steel Beam Bridge shall be performed by personnel
118 with experience with the brand and type of Prefabricated Steel
119 Beam Bridge proposed for the project and shall provide at least
120 three successful examples of recent installations of similar length,
121 capacity and configuration.

122
123 **(C) Design Criteria**

124
125 **(1) General Specifications.** Conform to the State of Hawaii,
126 Department of Transportation, Hawaii Standard Specifications for
127 Road and Bridge Construction, 2005 and Special Provisions

128
129 **(2) Design Specifications.**

130
131 **(a)** American Association of State Highway and
132 Transportation Officials (AASHTO) LRFD Bridge Design
133 Specifications, 6th Edition 2012, including all subsequent
134 Interim Revisions.

135
136 **(b)** AASHTO Structural Specifications for Structural
137 Supports for Highway Signs, Luminaires and Traffic Signals,
138 6th Edition 2013, including all subsequent Interim Revisions.

139
140 **(c)** Hawaii Department of Transportation Memorandum
141 dated March 1, 2013 with Subject Title "Design Criteria for

142 Bridges and Structures”.

143
144 **(3) Design Loads.** As presented in Subsection 512.03(C)(2) -
145 Design Specifications, the following minimum loads are required.

146
147 **(a) Dead Load:** A 330 pound per linear foot allowance
148 for guardrails and guardrail supports shall be included in
149 Dead Load calculations. Concrete unit weight of 160 pounds
150 per cubic foot shall be assumed for Dead Load calculations.

151
152 **(b) Truck and Lane Live Load:** AASHTO HL-93.

153
154 **(c) Guardrail:** TL-3.

155
156 **(d) Seismic:** Importance Category is “Other”.
157 Acceleration Coefficient is 0.18. Site Coefficient shall be
158 for AASHTO Soil Profile Type D.

159
160 **(e) Hydraulic:** The Prefabricated Steel Beam Bridge
161 shall accommodate stream flow resulting from a ‘5-year’
162 storm.

163
164 **(D) Fabrication.**

165
166 **(1) Workmanship.** Prefabricated Steel Beam Bridge
167 workmanship, fabrication and shop connections shall be in
168 accordance with the American Society of Steel Construction
169 (AISC), American Welding Society (AWS) D1.1 and D1.5 Bridge
170 Welding codes, AASHTO and ISO9000 (International Standard for
171 Quality Control). The Prefabricated Steel Beam Bridge shall be
172 fabricated in the United States.

173
174 **(2) Prefabricated Steel Beam Bridge Welding.** Welding
175 shall be by certified welders in accordance with the Specifications
176 and AWS D1.5. The Engineer will not allow field welding unless
177 AWS D1.5 welder’s certifications are submitted and accepted by
178 the Engineer prior to the delivery of the Prefabricated Steel Beam
179 Bridge. All field welds shall be subjected to Non Destructive
180 Testing (NDT) by an accredited testing laboratory accepted by the
181 Engineer. Correct all defective welds immediately and retest until
182 NDT tests are accepted by the Engineer.

183
184 **(3) Prefabricated Steel Beam Bridge Foundations and**
185 **Abutments.** Abutments, abutment foundations, piers, pier
186 foundations, bridge layouts, loadings, geotechnical and structural
187 designs shall be in accordance with the contract structural drawings
188 and the Special Provisions. Prefabricated Steel Beam Bridge

189 Foundations, Abutments, and Piers shall be constructed by the
190 Kaipapau Stream Bridge Contractor.

191
192 **(E) Product Delivery, Storage and Handling.**

193
194 **(1)** Prefabricated Steel Beam Bridge components shall be
195 suitably protected against the elements for shipping and delivery to
196 the jobsite and in accordance with the Prefabricated Steel Beam
197 Bridge manufacturer's instructions.

198
199 **(2)** Specially fabricated framing shown on the Contract
200 Documents shall be suitably protected for delivery to the jobsite in
201 accordance with the Specifications.

202
203 **(F) Delivery and Erection.**

204
205 **(1)** Delivery of the Prefabricated Steel Beam Bridge shall be to
206 the jobsite or as near to the job site as practicable.

207
208 **(2)** The Contractor shall coordinate delivery and erection with
209 the Prefabricated Steel Beam Bridge manufacturer. The
210 manufacturer shall provide a Construction Supervisor to assist the
211 Contractor in construction and erection of the Prefabricated Steel
212 Beam Bridge. The manufacturer's Construction Supervisor shall
213 have a minimum of 3 years experience with the manufacturer in
214 overseeing the construction and erection of the Prefabricated Steel
215 Beam Bridge. Submit manufacturer's Construction Supervisors
216 qualifications for review and acceptance by the Engineer prior to
217 delivery. The Construction Supervisor shall be present on a daily
218 basis during the Prefabricated Steel Beam Bridge erection to
219 ensure that erection is in compliance with the accepted
220 Prefabricated Steel Beam Bridge manufacturer's specifications and
221 drawings.

222
223 **(G) Maintenance for Structural Capacity, Safety and Rideability.**

224
225 **(1)** Prior to opening the Prefabricated Steel Beam Bridge to
226 traffic the Contractor shall submit the following to the Engineer:

227
228 **(a)** Load and Resistance Factor Rating (LRFR) consisting
229 of a summary sheet, Calculations, and BRASS data file.

230
231 **(b)** Scour Evaluation Report

232
233 **(c)** National Bridge Inventory (NBI) Inspection

234
235 **(d)** Structural Inventory and Assessment (SI&A) Sheet

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(2) The Contractor shall maintain all portions of the Prefabricated Steel Beam Bridge to insure structural capacity, roadway safety and ride ability. Inspect the bridge every 30 days and repair and maintain as the inspection may warrant. The Engineer may increase the inspection, repair, and maintenance cycle if the bridge's condition in the sole opinion of the Engineer warrants it.

(3) The Contractor shall maintain the waterway opening shown on the plans at all times. Any debris accumulations within the waterway opening or on any part of the Prefabricated Steel Beam Bridge structure shall be immediately removed by the Contractor.

(4) Closing of the Prefabricated Steel Beam Bridge structure:

(a) If for any reason or at any time, the Prefabricated Steel Beam Bridge structures ability to safely carry traffic is in question, the Contractor shall be responsible for immediately taking the actions necessary to protect traffic, for repairing and reopening the Prefabricated Steel Beam Bridge.

(b) When the Contractor closes the Prefabricated Steel Beam Bridge structure, he shall immediately notify the Engineer and the appropriate law enforcement agencies.

(c) Water elevations exceeding the design year high water elevation or an excessive accumulation of debris within the waterway opening shall be sufficient reason to close the Prefabricated Steel Beam Bridge structure.

(d) The Design Year high water elevation shall be painted with fluorescent paint on the Prefabricated Steel Beam Bridge structure at a visible location.

(e) Closing of the Prefabricated Steel Beam Bridge shall be included as incidental to Maintenance of Traffic Control.

(H) Removal at completion of the Kaipapau Stream Bridge.

(1) After the Kaipapau Stream Bridge is opened to traffic and when directed by the Engineer, the above referenced manufacturer's Construction Supervisor shall be present on a daily basis to ensure that the Prefabricated Steel Beam Bridge is removed from the job site. Non-removal of the prefabricated steel beam bridge shall be considered a punchlist deficiency.

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(2) The Prefabricated Steel Beam Bridge shall be accepted by and removed to a site specified by the manufacturer. Upon removal from the site, the Prefabricated Steel Beam Bridge shall be the contractors and manufacturers sole responsibility and the Engineer will not approve any additional payment for Prefabricated Steel Beam Bridge relocation. The Contractor shall be responsible for any relocation, storage and disposal costs related to the Prefabricated Steel Beam Bridge and the Prefabricated Steel Beam Bridge foundation and attached guardrails.

512.04 Method of Measurement.

(A) The Engineer will not measure Contractor’s Prefabricated Steel Beam Rental. The Engineer shall consider the cost for Contractor’s Prefabricated Steel Beam Rental as included in the contract price for Installing Prefabricated Steel Beam Bridge.

(B) The Engineer will measure Installing Prefabricated Steel Beam Bridge Abutments, and Piers per each in accordance with the contract documents.

(C) The Engineer will measure Installing Prefabricated Steel Beam Bridge per each in accordance with the contract documents.

(D) The Engineer will not measure Maintenance of Prefabricated Steel Beam Bridge. The Engineer shall consider the cost for Maintenance of Prefabricated Steel Beam Bridge as included in the contract price for Installing Prefabricated Steel Beam Bridge.

(E) The Engineer will measure Removal of Prefabricated Steel Beam Bridge, Prefabricated Steel Beam Bridge Abutments and Piers per each.

512.05 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
Installing Prefabricated Steel Beam Bridge Abutments and Piers	Each

The Engineer will pay for:

330 (A) 60 percent of the contract bid price upon completion of approved
331 Bridge Abutments and Piers.

332

333 (B) 40 percent of the contract bid price upon start of Installing
334 Prefabricated Steel Beam Bridge Abutments and Piers.

335

336 Installing Prefabricated Steel Beam Bridge Each

337

338 The Engineer will pay for:

339

340 (A) 60 percent of the contract bid price upon completion of approved
341 Prefabricated Steel Beam Bridge.

342

343 (B) 20 percent of the contract bid price upon completion of approved
344 guardrails on Prefabricated Steel Beam Bridge including guardrail
345 transitions each side at each approach for Phase 1.

346

347 (C) 20 percent of the contract bid price upon completion of approved
348 guardrails on Prefabricated Steel Beam Bridge including guardrail
349 transitions each side at each approach for Phase 2.

350

351 Removal of Prefabricated Steel Beam Bridge, Prefabricated Steel Beam Bridge
352 Abutments and Piers Each

353

354 The Engineer will pay for:

355

356 (A) 60 percent of the contract bid price upon Engineers receipt and
357 approval of manufacturers certified acceptance of and completion of
358 delivery of Prefabricated Steel Beam Bridge to a location designated by
359 the manufacturer and acceptable to the Engineer. Upon removal from the
360 site, the Prefabricated Steel Beam Bridge shall be the contractors and
361 manufacturers sole responsibility and the Engineer will not approve any
362 additional payment for Prefabricated Steel Beam Bridge relocation.

363

364 (B) 20 percent of the contract bid price upon completion removal of
365 Prefabricated Steel Beam Bridge Abutments and Piers.

366

367 (C) 20 percent of the contract bid price upon Engineers acceptance of
368 Prefabricated Steel Beam Bridge site restoration

369

370 The Engineer will not pay for the restoration of abutment, pier, and approach
371 areas separately. The Engineer will consider the cost for the restoration of
372 abutment and approach areas as included in the contract prices for the various
373 contract pay items.

374

375 Guardrails will be paid under Section 606 – Guardrails. Payment will be
376 full compensation for the work prescribed in this section and the contract

377 documents.”
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382

END OF SECTION 512

"General Decision Number: HI20210001 07/16/2021

Superseded General Decision Number: HI20200001

State: Hawaii

Construction Types: Building, Heavy (Heavy and Dredging), Highway and Residential

Counties: Hawaii Statewide.

BUILDING CONSTRUCTION PROJECTS; RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories); HEAVY AND HIGHWAY CONSTRUCTION PROJECTS AND DREDGING

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021
1	01/08/2021
2	01/22/2021
3	02/12/2021
4	02/19/2021
5	03/19/2021
6	05/07/2021
7	07/02/2021
8	07/09/2021
9	07/16/2021

ASBE0132-001 08/30/2020

	Rates	Fringes
Asbestos Workers/Insulator		
Includes application of all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems. Also the application of firestopping material for wall openings and penetrations in walls, floors, ceilings and curtain walls.....	\$ 41.90	25.65

 BOIL0627-005 01/01/2013

	Rates	Fringes
BOILERMAKER.....	\$ 35.20	27.35

 BRHI0001-001 08/31/2020

	Rates	Fringes
BRICKLAYER		
Bricklayers and Stonemasons.....	\$ 45.95	29.59
Pointers, Caulkers and Weatherproofers.....	\$ 46.21	29.59

 BRHI0001-002 08/31/2020

	Rates	Fringes
Tile, Marble & Terrazzo Worker		
Terrazzo Base Grinders.....	\$ 41.69	28.11
Terrazzo Floor Grinders and Tenders.....	\$ 40.14	28.11
Tile, Marble and Terrazzo Workers.....	\$ 43.50	28.11

 CARP0745-001 08/31/2020

	Rates	Fringes
Carpenters:		
Carpenters; Hardwood Floor Layers; Patent Scaffold Erectors (14 ft. and over); Piledrivers; Pneumatic Nailers; Wood Shinglers and Transit and/or Layout Man.....	\$ 50.50	23.59
Millwrights and Machine Erectors.....	\$ 50.75	23.59
Power Saw Operators (2		

h.p. and over).....\$ 50.65 23.59

 CARP0745-002 08/31/2020

	Rates	Fringes
Drywall and Acoustical Workers and Lathers.....	\$ 50.50	23.59

 ELEC1186-001 08/23/2020

	Rates	Fringes
Electricians:		
Cable Splicers.....	\$ 56.71	31.16
Electricians.....	\$ 51.55	29.58
Telecommunication worker....	\$ 32.69	12.96

 ELEC1186-002 08/23/2020

	Rates	Fringes
Line Construction:		
Cable Splicers.....	\$ 56.71	31.16
Groundmen/Truck Drivers.....	\$ 38.66	25.63
Heavy Equipment Operators...\$	46.40	28.00
Linemen.....	\$ 51.55	29.58
Telecommunication worker....\$	32.69	12.96

 ELEV0126-001 01/01/2021

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 63.18	35.825+a+b

a. VACATION: Employer contributes 8% of basic hourly rate for 5 years service and 6% of basic hourly rate for 6 months to 5 years service as vacation pay credit.

b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day and Christmas Day.

 ENGI0003-002 09/03/2018

	Rates	Fringes
Diver (Aqua Lung) (Scuba))		
Diver (Aqua Lung) (Scuba) (over a depth of 30 feet)...	\$ 66.00	31.26
Diver (Aqua Lung) (Scuba) (up to a depth of 30 feet)..	\$ 56.63	31.26
Stand-by Diver (Aqua Lung) (Scuba).....	\$ 47.25	31.26
Diver (Other than Aqua Lung) Diver (Other than Aqua		

Lung).....\$ 66.00	31.26
Diver Tender (Other than Aqua Lung).....\$ 44.22	31.26
Stand-by Diver (Other than Aqua Lung).....\$ 47.25	31.26
Helicopter Work	
Airborne Hoist Operator for Helicopter.....\$ 45.80	31.26
Co-Pilot of Helicopter.....\$ 45.98	31.26
Pilot of Helicopter.....\$ 46.11	31.26
Power equipment operator - tunnel work	
GROUP 1.....\$ 42.24	31.26
GROUP 2.....\$ 42.35	31.26
GROUP 3.....\$ 42.52	31.26
GROUP 4.....\$ 42.79	31.26
GROUP 5.....\$ 43.10	31.26
GROUP 6.....\$ 43.75	31.26
GROUP 7.....\$ 44.07	31.26
GROUP 8.....\$ 44.18	31.26
GROUP 9.....\$ 44.29	31.26
GROUP 9A.....\$ 44.52	31.26
GROUP 10.....\$ 44.58	31.26
GROUP 10A.....\$ 44.73	31.26
GROUP 11.....\$ 44.88	31.26
GROUP 12.....\$ 45.24	31.26
GROUP 12A.....\$ 45.60	31.26
Power equipment operators:	
GROUP 1.....\$ 41.94	31.26
GROUP 2.....\$ 42.05	31.26
GROUP 3.....\$ 42.22	31.26
GROUP 4.....\$ 42.49	31.26
GROUP 5.....\$ 42.80	31.26
GROUP 6.....\$ 43.45	31.26
GROUP 7.....\$ 43.77	31.26
GROUP 8.....\$ 43.88	31.26
GROUP 9.....\$ 43.99	31.26
GROUP 9A.....\$ 44.22	31.26
GROUP 10.....\$ 44.28	31.26
GROUP 10A.....\$ 44.43	31.26
GROUP 11.....\$ 44.58	31.26
GROUP 12.....\$ 44.94	31.26
GROUP 12A.....\$ 45.30	31.26
GROUP 13.....\$ 42.22	31.26
GROUP 13A.....\$ 42.49	31.26
GROUP 13B.....\$ 42.80	31.26
GROUP 13C.....\$ 43.45	31.26
GROUP 13D.....\$ 43.77	31.26
GROUP 13E.....\$ 43.88	31.26

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Fork Lift (up to and including 10 tons); Partsman (heavy duty repair shop parts room when needed).

GROUP 2: Conveyor Operator (Handling building material); Hydraulic Monitor; Mixer Box Operator (Concrete Plant).

GROUP 3: Brakeman; Deckhand; Fireman; Oiler; Oiler/Gradechecker; Signalman; Switchman; Highline Cableway Signalman; Bargeman; Bunkerman; Concrete Curing Machine (self-propelled, automatically applied unit on streets, highways, airports and canals); Leveeman; Roller (5 tons and under); Tugger Hoist.

GROUP 4: Boom Truck or dual purpose "A" Frame Truck (5 tons or less); Concrete Placing Boom (Building Construction); Dinky Operator; Elevator Operator; Hoist and/or Winch (one drum); Straddle Truck (Ross Carrier, Hyster and similar).

GROUP 5: Asphalt Plant Fireman; Compressors, Pumps, Generators and Welding Machines ("Bank" of 9 or more, individually or collectively); Concrete Pumps or Pumpcrete Guns; Lubrication and Service Engineer (Grease Rack); Screedman.

GROUP 6: Boom Truck or Dual Purpose "A" Frame Truck (over 5 tons); Combination Loader/Backhoe (up to and including 3/4 cu. yd.); Concrete Batch Plants (wet or dry); Concrete Cutter, Groover and/or Grinder (self-propelled unit on streets, highways, airports, and canals); Conveyor or Concrete Pump (Truck or Equipment Mounted); Drilling Machinery (not to apply to waterliners, wagon drills or jack hammers); Fork Lift (over 10 tons); Loader (up to and including 3 and 1/2 cu. yds); Lull High Lift (under 40 feet); Lubrication and Service Engineer (Mobile); Maginnis Internal Full Slab Vibrator (on airports, highways, canals and warehouses); Man or Material Hoist; Mechanical Concrete Finisher (Large Clary, Johnson Bidwell, Bridge Deck and similar); Mobile Truck Crane Driver; Portable Shotblast Concrete Cleaning Machine; Portable Boring Machine (under streets, highways, etc.); Portable Crusher; Power Jumbo Operator (setting slip forms, etc., in tunnels); Rollers (over 5 tons); Self-propelled Compactor (single engine); Self-propelled Pavement Breaker; Skidsteer Loader with attachments; Slip Form Pumps (Power driven by hydraulic, electric, air, gas, etc., lifting device for concrete forms); Small Rubber Tired Tractors; Trencher (up to and including 6 feet); Underbridge Personnel Aerial Platform (50 feet of platform or less).

GROUP 7: Crusher Plant Engineer, Dozer (D-4, Case 450, John Deere 450, and similar); Dual Drum Mixer, Extend Lift; Hoist and/or Winch (2 drums); Loader (over 3 and 1/2 cu. yds. up to and including 6 yards.); Mechanical Finisher or Spreader Machine (asphalt), (Barber Greene and similar) (Screedman required); Mine or Shaft Hoist; Mobile Concrete Mixer (over 5 tons); Pipe Bending Machine (pipelines only); Pipe Cleaning Machine (tractor propelled and supported); Pipe Wrapping Machine (tractor propelled and supported); Roller Operator (Asphalt); Self-Propelled Elevating Grade Plane; Slusher Operator; Tractor (with boom) (D-6, or similar); Trencher (over 6 feet and less than 200 h.p.); Water Tanker (pulled by Euclids, T-Pulls, DW-10, 20 or 21,

or similar); Winchman (Stern Winch on Dredge).

GROUP 8: Asphalt Plant Operator; Barge Mate (Seagoing); Cast-in-Place Pipe Laying Machine; Concrete Batch Plant (multiple units); Conveyor Operator (tunnel); Deckmate; Dozer (D-6 and similar); Finishing Machine Operator (airports and highways); Gradesetter; Kolman Loader (and similar); Mucking Machine (Crawler-type); Mucking Machine (Conveyor-type); No-Joint Pipe Laying Machine; Portable Crushing and Screening Plant; Power Blade Operator (under 12); Saurman Type Dragline (up to and including 5 yds.); Stationary Pipe Wrapping, Cleaning and Bending Machine; Surface Heater and Planer Operator, Tractor (D-6 and similar); Tri-Batch Paver; Tunnel Badger; Tunnel Mole and/or Boring Machine Operator Underbridge Personnel Aerial Platform (over 50 feet of platform).

GROUP 9: Combination Mixer and Compressor (gunite); Do-Mor Loader and Adams Elegrader; Dozer (D-7 or equal); Wheel and/or Ladder Trencher (over 6 feet and 200 to 749 h.p.).

GROUP 9A: Dozer (D-8 and similar); Gradesetter (when required by the Contractor to work from drawings, plans or specifications without the direct supervision of a foreman or superintendent); Push Cat; Scrapers (up to and including 20 cu. yds); Self-propelled Compactor with Dozer; Self-Propelled, Rubber-Tired Earthmoving Equipment (up to and including 20 cu. yds) (621 Band and similar); Sheep's Foot; Tractor (D-8 and similar); Tractors with boom (larger than D-6, and similar).

GROUP 10: Chicago Boom; Cold Planers; Heavy Duty Repairman or Welder; Hoist and/or Winch (3 drums); Hydraulic Skooper (Koehring and similar); Loader (over 6 cu. yds. up to and including 12 cu. yds.); Saurman type Dragline (over 5 cu. yds.); Self-propelled, rubber-tired Earthmoving Equipment (over 20 cu. yds. up to and including 31 cu. yds.) (637D and similar); Soil Stabilizer (P & H or equal); Sub-Grader (Gurries or other automatic type); Tractors (D-9 or equivalent, all attachments); Tractor (Tandem Scraper); Watch Engineer.

GROUP 10A: Boat Operator; Cable-operated Crawler Crane (up to and including 25 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (up to and including 1 cu. yd.); Dozer D9-L; Dozer (D-10, HD41 and similar) (all attachments); Gradall (up to and including 1 cu. yd.); Hydraulic Backhoe (over 3/4 cu. yds. up to and including 2 cu. yds.); Mobile Truck Crane Operator (up to and including 25 tons) (Mobile Truck Crane Driver Required); Self-propelled Boom Type Lifting Device (Center Mount) (up to and including 25 tons) (Grove, Drott, P&H, Pettibone and similar); Trencher (over 6 feet and 750 h.p. or more); Watch Engineer (steam or electric).

GROUP 11: Automatic Slip Form Paver (concrete or asphalt); Band Wagon (in conjunction with Wheel Excavator);

Cable-operated Crawler Cranes (over 25 tons but less than 50 tons); Cable-operated Power Shovel, Clamshell, Dragline and Backhoe (over 1 cu. yd. up to 7 cu. yds.); Gradall (over 1 cu. yds. up to 7 cu. yds.); DW-10, 20, etc. (Tandem); Earthmoving Machines (multiple propulsion power units and 2 or more Scrapers) (up to and including 35 cu. yds., "" struck"" m.r.c.); Highline Cableway; Hydraulic Backhoe (over 2 cu. yds. up to and including 4 cu. yds.); Leverman; Lift Slab Machine; Loader (over 12 cu. yds); Master Boat Operator; Mobile Truck Crane Operator (over 25 tons but less than 50 tons); (Mobile Truck Crane Driver required); Pre-stress Wire Wrapping Machine; Self-propelled Boom-type Lifting Device (Center Mount) (over 25 tons m.r.c); Self-propelled Compactor (with multiple-propulsion power units); Single Engine Rubber Tired Earthmoving Machine (with Tandem Scraper); Tandem Cats; Trencher (pulling attached shield).

GROUP 12: Clamshell or Dipper Operator; Derricks; Drill Rigs; Multi-Propulsion Earthmoving Machines (2 or more Scrapers) (over 35 cu. yds ""struck""m.r.c.); Operators (Derricks, Piledrivers and Cranes); Power Shovels and Draglines (7 cu. yds. m.r.c. and over); Self-propelled rubber-tired Earthmoving equipment (over 31 cu. yds.) (657B and similar); Wheel Excavator (up to and including 750 cu. yds. per hour); Wheel Excavator (over 750 cu. yds. per hour).

GROUP 12A: Dozer (D-11 or similar or larger); Hydraulic Excavators (over 4 cu. yds.); Lifting cranes (50 tons and over); Pioneering Dozer/Backhoe (initial clearing and excavation for the purpose of providing access for other equipment where the terrain worked involves 1-to-1 slopes that are 50 feet in height or depth, the scope of this work does not include normal clearing and grubbing on usual hilly terrain nor the excavation work once the access is provided); Power Blade Operator (Cat 12 or equivalent or over); Straddle Lifts (over 50 tons); Tower Crane, Mobile; Traveling Truss Cranes; Universal, Liebherr, Linden, and similar types of Tower Cranes (in the erection, dismantling, and moving of equipment there shall be an additional Operating Engineer or Heavy Duty Repairman); Yo-Yo Cat or Dozer.

GROUP 13: Truck Driver (Utility, Flatbed, etc.)

GROUP 13A: Dump Truck, 8 cu.yds. and under (water level); Water Truck (up to and including 2,000 gallons).

GROUP 13B: Water Truck (over 2,000 gallons); Tandem Dump Truck, over 8 cu. yds. (water level).

GROUP 13C: Truck Driver (Semi-trailer. Rock Cans, Semi-Dump or Roll-Offs).

GROUP 13D: Truck Driver (Slip-In or Pup).

GROUP 13E: End Dumps, Unlicensed (Euclid, Mack, Caterpillar

or similar); Tractor Trailer (Hauling Equipment); Tandem Trucks hooked up to Trailer (Hauling Equipment)

BOOMS AND/OR LEADS (HOURLY PREMIUMS):

The Operator of a crane (under 50 tons) with a boom of 80 feet or more (including jib), or of a crane (under 50 tons) with leads of 100 feet or more, shall receive a per hour premium for each hour worked on said crane (under 50 tons) in accordance with the following schedule:

Booms of 80 feet up to but not including 130 feet or Leads of 100 feet up to but not including 130 feet	0.50
Booms and/or Leads of 130 feet up to but not including 180 feet	0.75
Booms and/or Leads of 180 feet up to and including 250 feet	1.15
Booms and/or Leads over 250 feet	1.50

The Operator of a crane (50 tons and over) with a boom of 180 feet or more (including jib) shall receive a per hour premium for each hour worked on said crane (50 tons and over) in accordance with the following schedule:

Booms of 180 feet up to and including 250 feet	1.25
Booms over 250 feet	1.75

 ENGI0003-004 09/04/2017

	Rates	Fringes
Dredging: (Boat Operators)		
Boat Deckhand.....	\$ 41.22	30.93
Boat Operator.....	\$ 43.43	30.93
Master Boat Operator.....	\$ 43.58	30.93
Dredging: (Clamshell or Dipper Dredging)		
GROUP 1.....	\$ 43.94	30.93
GROUP 2.....	\$ 43.28	30.93
GROUP 3.....	\$ 42.88	30.93
GROUP 4.....	\$ 41.22	30.93
Dredging: (Derricks)		
GROUP 1.....	\$ 43.94	30.93
GROUP 2.....	\$ 43.28	30.93
GROUP 3.....	\$ 42.88	30.93
GROUP 4.....	\$ 41.22	30.93
Dredging: (Hydraulic Suction Dredges)		
GROUP 1.....	\$ 43.58	30.93
GROUP 2.....	\$ 43.43	30.93
GROUP 3.....	\$ 43.28	30.93
GROUP 4.....	\$ 43.22	30.93

GROUP 5.....	\$ 37.88	26.76
Group 5.....	\$ 42.88	30.93
GROUP 6.....	\$ 37.77	26.76
Group 6.....	\$ 42.77	30.93
GROUP 7.....	\$ 36.22	26.76
Group 7.....	\$ 41.22	30.93

CLAMSHELL OR DIPPER DREDGING CLASSIFICATIONS

- GROUP 1: Clamshell or Dipper Operator.
- GROUP 2: Mechanic or Welder; Watch Engineer.
- GROUP 3: Barge Mate; Deckmate.
- GROUP 4: Bargeman; Deckhand; Fireman; Oiler.

HYDRAULIC SUCTION DREDGING CLASSIFICATIONS

- GROUP 1: Leverman.
- GROUP 2: Watch Engineer (steam or electric).
- GROUP 3: Mechanic or Welder.
- GROUP 4: Dozer Operator.
- GROUP 5: Deckmate.
- GROUP 6: Winchman (Stern Winch on Dredge)
- GROUP 7: Deckhand (can operate anchor scow under direction of Deckmate); Fireman; Leveeman; Oiler.

DERRICK CLASSIFICATIONS

- GROUP 1: Operators (Derricks, Piledrivers and Cranes).
- GROUP 2: Saurman Type Dragline (over 5 cubic yards).
- GROUP 3: Deckmate; Saurman Type Dragline (up to and including 5 yards).
- GROUP 4: Deckhand, Fireman, Oiler.

 ENGI0003-044 09/03/2018

	Rates	Fringes
Power Equipment Operators (PAVING)		
Asphalt Concrete Material Transfer.....	\$ 42.92	32.08
Asphalt Plant Operator.....	\$ 43.35	32.08
Asphalt Raker.....	\$ 41.96	32.08
Asphalt Spreader Operator...	\$ 43.44	32.08
Cold Planer.....	\$ 43.75	32.08
Combination Loader/Backhoe (over 3/4 cu.yd.).....	\$ 41.96	32.08
Combination Loader/Backhoe (up to 3/4 cu.yd.).....	\$ 40.98	32.08
Concrete Saws and/or Grinder (self-propelled unit on streets, highways, airports and canals).....	\$ 42.92	32.08
Grader.....	\$ 43.75	32.08
Laborer, Hand Roller.....	\$ 41.46	32.08
Loader (2 1/2 cu. yds. and		

under).....	\$ 42.92	32.08
Loader (over 2 1/2 cu. yds. to and including 5 cu. yds.).....	\$ 43.24	32.08
Roller Operator (five tons and under).....	\$ 41.69	32.08
Roller Operator (over five tons).....	\$ 43.12	32.08
Screed Person.....	\$ 42.92	32.08
Soil Stabilizer.....	\$ 43.75	32.08

IRON0625-001 09/01/2020

	Rates	Fringes
Ironworkers:.....	\$ 42.50	36.84
a. Employees will be paid \$.50 per hour more while working in tunnels and coffer dams; \$1.00 per hour more when required to work under or are covered with water (submerged) and when they are required to work on the summit of Mauna Kea, Mauna Loa or Haleakala.		

LAB00368-001 09/02/2020

	Rates	Fringes
Laborers:		
Driller.....	\$ 39.70	22.68
Final Clean Up.....	\$ 29.65	18.17
Gunite/Shotcrete Operator and High Scaler.....	\$ 39.20	22.68
Laborer I.....	\$ 38.70	22.68
Laborer II.....	\$ 36.10	22.68
Mason Tender/Hod Carrier....	\$ 39.20	22.68
Powderman.....	\$ 39.70	22.68
Window Washer (bosun chair).\$	38.20	22.68

LABORERS CLASSIFICATIONS

Laborer I: Air Blasting run by electric or pneumatic compressor; Asphalt Laborer, Ironer, Raker, Luteman, and Handroller, and all types of Asphalt Spreader Boxes; Asphalt Shoveler; Assembly and Installation of Multiplates, Liner Plates, Rings, Mesh, Mats; Batching Plant (portable and temporary); Boring Machine Operator (under streets and sidewalks); Buggymobile; Burning and Welding; Chainsaw, Faller, Logloader, and Bucker; Compactors (Jackson Jumping Jack and similar); Concrete Bucket Dumpman; Concrete Chipping; Concrete Chuteman/Hoseman (pouring concrete) (the handling of the chute from ready-mix trucks for such jobs as walls, slabs, decks, floors, foundations, footings, curbs, gutters, and sidewalks); Concrete Core Cutter (Walls, Floors, and Ceiling); Concrete Grinding or Sanding; Concrete: Hooking on, signaling, dumping of concrete for treme work over water on caissons, pilings, abutments, etc.; Concrete: Mixing, handling, conveying, pouring, vibrating, otherwise placing of concrete or aggregates or

by any other process; Concrete: Operation of motorized wheelbarrows or buggies or machines of similar character, whether run by gas, diesel, or electric power; Concrete Placement Machine Operator: operation of Somero Hammerhead, Copperheads, or similar machines; Concrete Pump Machine (laying, coupling, uncoupling of all connections and cleaning of equipment); Concrete and/or Asphalt Saw (Walking or Handtype) (cutting walls or flatwork) (scoring old or new concrete and/or asphalt) (cutting for expansion joints) (streets and ways for laying of pipe, cable or conduit for all purposes); Concrete Shovelers/Laborers (Wet or Dry); Concrete Screeding for Rough Strike-Off: Rodding or striking-off, by hand or mechanical means prior to finishing; Concrete Vibrator Operator; Coring Holes: Walls, footings, piers or other obstructions for passage of pipes or conduits for any purpose and the pouring of concrete to secure the hole; Cribbers, Shorer, Lagging, Sheeting, and Trench Jacking and Bracing, Hand-Guided Lagging Hammer Whaling Bracing; Curbing (Concrete and Asphalt); Curing of Concrete (impervious membrane and form oiler) mortar and other materials by any mode or method; Cut Granite Curb Setter (setting, leveling and grouting of all precast concrete or stone curbs); Cutting and Burning Torch (demolition); Dri Pak-It Machine; Environmental Abatement: removal of asbestos, lead, and bio hazardous materials (EPA and/or OSHA certified); Falling, bucking, yarding, loading or burning of all trees or timber on construction site; Forklift (9 ft. and under); Gas, Pneumatic, and Electric tools; Grating and Grill work for drains or other purposes; Green Cutter of concrete or aggregate in any form, by hand, mechanical means, grindstone or air and/or water; Grout: Spreading for any purpose; Guinea Chaser (Grade Checker) for general utility trenches, sitework, and excavation; Headerboard Man (Asphalt or Concrete); Heat Welder of Plastic (Laborers' AGC certified workers) (when work involves waterproofing for waterponds, artificial lakes and reservoir) heat welding for sewer pipes and fusion of HDPE pipes; Heavy Highway Laborer (Rigging, signaling, handling, and installation of pre-cast catch basins, manholes, curbs and gutters); High Pressure Nozzleman - Hydraulic Monitor (over 100# pressure); Jackhammer Operator; Jacking of slip forms: All semi and unskilled work connected therewithin; Laying of all multi-cell conduit or multi-purpose pipe; Magnesite and Mastic Workers (Wet or Dry)(including mixer operator);Mortar Man; Mortar Mixer (Block, Brick, Masonry, and Plastering); Nozzleman (Sandblasting and/or Water Blasting): handling, placing and operation of nozzle; Operation, Manual or Hydraulic jacking of shields and the use of such other mechanical equipment as may be necessary; Pavement Breakers; Paving, curbing and surfacing of streets, ways, courts, under and overpasses, bridges, approaches, slope walls, and all other labor connected therewith; Pilecutters; Pipe Accessment in place, bolting and lining up of sectional metal or other pipe including corrugated pipe; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including

any and all forms of tubular material, whether pipe, HDPE, metallic or non-metallic, conduit, and any other stationary-type of tubular device used for conveying of any substance or element, whether water, sewage, solid, gas, air, or other product whatsoever and without regard to the nature of material from which tubular material is fabricated; No-joint pipe and stripping of same, Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, treating Creosote and similar-type materials (6-inch) pipe and over); Piping: resurfacing and paving of all ditches in preparation for laying of all pipes; Pipe laying of lateral sewer pipe from main or side sewer to buildings or structure (except Contactor may direct work be done under proper supervision); Pipe laying, leveling and marking of the joint used for main or side sewers and storm sewers; Laying of all clay, terra cotta, ironstone, vitrified concrete, HDPE or other pipe for drainage; Placing and setting of water mains, gas mains and all pipe including removal of skids; Plaster Mortar Mixer/Pump; Pneumatic Impact Wrench; Portable Sawmill Operation: Choker setters, off bearers, and lumber handlers connected with clearing; Posthole Digger (Hand Held, Gas, Air and Electric); Powderman's Tender; Power Broom Sweepers (Small); Preparation and Compaction of roadbeds for railroad track laying, highway construction, and the preparation of trenches, footings, etc., for cross-country transmission by pipelines, electrical transmission or underground lines or cables (by mechanical means); Raising of structure by manual or hydraulic jacks or other methods and resetting of structure in new locations, including all concrete work; Ramming or compaction; Rigging in connection with Laborers' work (except demolition), Signaling (including the use of walkie talkie) Choke Setting, tag line usage; Tagging and Signaling of building materials into high rise units; Riprap, Stonepaver, and Rock Slinger (includes placement of stacked concrete, wet or dry and loading, unloading, signaling, slinging and setting of other similar materials); Rotary Scarifier (including multiple head concrete chipping Scarifier); Salamander Heater, Drying of plaster, concrete mortar or other aggregate; Scaffold Erector Leadman; Scaffolds: (Swing and hanging) including maintenance thereof; Scaler; Septic Tank/Cesspool and Drain Fields Digger and Installer; Shredder/Chipper (tree branches, brush, etc.); Stripping and Setting Forms; Stripping of Forms: Other than panel forms which are to be re-used in their original form, and stripping of forms on all flat arch work; Tampers (Barko, Wacker, and similar type); Tank Scaler and Cleaners; Tarman; Tree Climbers and Trimmers; Trencher (includes hand-held, Davis T-66 and similar type); Trucks (flatbed up to and including 2 1/2 tons when used in connection with on-site Laborers' work; Trucks (Refuse and Garbage Disposal) (from job site to dump); Vibra-Screed (Bull Float in connection with Laborers' work); Well Points, Installation of or any other dewatering system.

Laborer II: Asphalt Plant Laborer; Boring Machine Tender;

Bridge Laborer; Burning of all debris (crates, boxes, packaging waste materials); Chainman, Rodmen, and Grade Markers; Cleaning, clearing, grading and/or removal for streets, highways, roadways, aprons, runways, sidewalks, parking areas, airports, approaches, and other similar installations; Cleaning or reconditioning of streets, ways, sewers and waterlines, all maintenance work and work of an unskilled and semi-skilled nature; Concrete Bucket Tender (Groundman) hooking and unhooking of bucket; Concrete Forms; moving, cleaning, oiling and carrying to the next point of erection of all forms; Concrete Products Plant Laborers; Conveyor Tender (conveying of building materials); Crushed Stone Yards and Gravel and Sand Pit Laborers and all other similar plants; Demolition, Wrecking and Salvage Laborers: Wrecking and dismantling of buildings and all structures, with use of cutting or wrecking tools, breaking away, cleaning and removal of all fixtures, All hooking, unhooking, signaling of materials for salvage or scrap removed by crane or derrick; Digging under streets, roadways, aprons or other paved surfaces; Driller's Tender; Chuck Tender, Outside Nipper; Dry-packing of concrete (plugging and filling of she-bolt holes); Fence and/or Guardrail Erector: Dismantling and/or re-installation of all fence; Finegrader; Firewatcher; Flagman (Coning, preparing, stablishing and removing portable roadway barricade devices); Signal Men on all construction work defined herein, including Traffic Control Signal Men at construction site; General Excavation; Backfilling, Grading and all other labor connected therewith; Digging of trenches, ditches and manholes and the leveling, grading and other preparation prior to laying pipe or conduit for any purpose; Excavations and foundations for buildings, piers, foundations and holes, and all other construction. Preparation of street ways and bridges; General Laborer: Cleaning and Clearing of all debris and surplus material. Clean-up of right-of-way. Clearing and slashing of brush or trees by hand or mechanical cutting. General Clean up: sweeping, cleaning, wash-down, wiping of construction facility and equipment (other than "Light Clean up (Janitorial) Laborer. Garbage and Debris Handlers and Cleaners. Appliance Handling (job site) (after delivery unloading in storage area); Ground and Soil Treatment Work (Pest Control); Guniting/Shotcrete Operator Tender; Junk Yard Laborers (same as Salvage Yard); Laser Beam "Target Man" in connection with Laborers' work; Layout Person for Plastic (when work involves waterproofing for waterponds, artificial lakes and reservoirs); Limbers, Brush Loaders, and Pilers; Loading, Unloading, carrying, distributing and handling of all rods and material for use in reinforcing concrete construction (except when a derrick or outrigger operated by other than hand power is used); Loading, unloading, sorting, stockpiling, handling and distribution of water mains, gas mains and all pipes; Loading and unloading of all materials, fixtures, furnishings and appliances from point of delivery to stockpile to point of installation; hooking and signaling from truck, conveyance or stockpile; Material Yard Laborers; Pipelayer Tender;

Pipewrapper, Caulker, Bander, Kettlemen, and men applying asphalt, Laykold, Creosote, and similar-type materials (pipe under 6 inches); Plasterer Laborer; Preparation, construction and maintenance of roadbeds and sub-grade for all paving, including excavation, dumping, and spreading of sub-grade material; Prestressed or precast concrete slabs, walls, or sections: all loading, unloading, stockpiling, hooking on of such slabs, walls or sections; Quarry Laborers; Railroad, Streetcar, and Rail Transit Maintenance and Repair; Roustabout; Rubbish Trucks in connection with Building Construction Projects (excluding clearing, grubbing, and excavating); Salvage Yard: All work connected with cutting, cleaning, storing, stockpiling or handling of materials, all cleanup, removal of debris, burning, back-filling and landscaping of the site; Sandblasting Tender (Pot Tender): Hoses and pots or markers; Scaffolds: Erection, planking and removal of all scaffolds used for support for lathers, plasters, brick layers, masons, and other construction trades crafts; Scaffolds: (Specially designed by carpenters) laborers shall tend said carpenter on erection and dismantling thereof, preparation for foundation or mudsills, maintenance; Scraping of floors; Screeds: Handling of all screeds to be reused; handling, dismantling and conveyance of screeds; Setting, leveling and securing or bracing of metal or other road forms and expansion joints; Sheeting Piling/trench shoring (handling and placing of skip sheet or wood plank trench shoring); Ship Scalers; Shipwright Tender; Sign Erector (subdivision traffic, regulatory, and street-name signs); Sloper; Slurry Seal Crews (Mixer Operator, Applicator, Squeegee Man, Shuttle Man, Top Man); Snapping of wall ties and removal of tie rods; Soil Test operations of semi and unskilled labor such as filling sand bags; Striper (Asphalt, Concrete or other Paved Surfaces); Tool Room Attendant (Job Site); Traffic Delineating Device Applicator; Underpinning, lagging, bracing, propping and shoring, loading, signaling, right-of-way clearance along the route of movement, The clearance of new site, excavation of foundation when moving a house or structure from old site to new site; Utilities employees; Water Man; Waterscape/Hardscape Laborers; Wire Mesh Pulling (all concrete pouring operations); Wrecking, stripping, dismantling and handling concrete forms an false work.

 LAB00368-002 09/01/2020

	Rates	Fringes
Landscape & Irrigation		
Laborers		
GROUP 1.....	\$ 26.40	14.25
GROUP 2.....	\$ 27.40	14.25
GROUP 3.....	\$ 21.70	14.25

LABORERS CLASSIFICATIONS

GROUP 1: Installation of non-potable permanent or temporary irrigation water systems performed for the purposes of Landscaping and Irrigation architectural horticultural work; the installation of drinking fountains and permanent or temporary irrigation systems using potable water for Landscaping and Irrigation architectural horticultural purposes only. This work includes (a) the installation of all heads, risers, valves, valve boxes, vacuum breakers (pressure and non-pressure), low voltage electrical lines and, provided such work involves electrical wiring that will carry 24 volts or less, the installation of sensors, master control panels, display boards, junction boxes, conductors, including all other components for controllers, (b) and metallic (copper, brass, galvanized, or similar) pipe, as well as PVC or other plastic pipe including all work incidental thereto, i.e., unloading, handling and distribution of all pipes fittings, tools, materials and equipment, (c) all soldering work in connection with the above whether done by torch, soldering iron, or other means; (d) tie-in to main lines, thrust blocks (both precast and poured in place), pipe hangers and supports incidental to installation of the entire irrigation system, (e) making of pressure tests, start-up testing, flushing, purging, water balancing, placing into operation all irrigation equipment, fixtures and appurtenances installed under this agreement, and (f) the fabrication, replacement, repair and servicing of landscaping and irrigation systems. Operation of hand-held gas, air, electric, or self-powered tools and equipment used in the performance of Landscape and Irrigation work in connection with architectural horticulture; Choke-setting, signaling, and rigging for equipment operators on job-site in the performance of such Landscaping and Irrigation work; Concrete work (wet or dry) performed in connection with such Landscaping and Irrigation work. This work shall also include the setting of rock, stone, or riprap in connection with such Landscape, Waterscape, Rockscape, and Irrigation work; Grubbing, pick and shovel excavation, and hand rolling or tamping in connection with the performance of such Landscaping and Irrigation work; Sprigging, handseeding, and planting of trees, shrubs, ground covers, and other plantings and the performance of all types of gardening and horticultural work relating to said planting; Operation of flat bed trucks (up to and including 2 1/2 tons)..:

GROUP 2. Layout of irrigation and other non-potable irrigation water systems and the layout of drinking fountains and other potable irrigation water systems in connection with such Landscaping and Irrigation work. This includes the layout of all heads, risers, valves, valve boxes, vacuum breakers, low voltage electrical lines, hydraulic and electrical controllers, and metallic (coppers, brass, galvanized, or similar) pipe, as well as PVC or other plastic pipe. This work also includes the reading and interpretation of plans and specifications in connection with the layout of Landscaping, Rockscape, Waterscape, and Irrigation work; Operation of

Hydro-Mulching machines (sprayman and driver), Drillers, Trenchers (riding type, Davis T-66, and similar) and fork lifts used in connection with the performance of such Landscaping and Irrigation work; Tree climbers and chain saw tree trimmers, Sporadic operation (when used in connection with Landscaping, Rockscape, Waterscape, and Irrigation work) of Skid-Steer Loaders (Bobcat and similar), Cranes (Bantam, Grove, and similar), Hoptos, Backhoes, Loaders, Rollers, and Dozers (Case, John Deere, and similar), Water Trucks, Trucks requiring a State of Hawaii Public Utilities Commission Type 5 and/or type 7 license, sit-down type and "gang" mowers, and other self-propelled, sit-down operated machines not listed under Landscape & Irrigation Maintenance Laborer; Chemical spraying using self-propelled power spraying equipment (200 gallon capacity or more).

GROUP 3: Maintenance of trees, shrubs, ground covers, lawns and other planted areas, including the replanting of trees, shrubs, ground covers, and other plantings that did not "take" or which are damaged; provided, however, that re-planting that requires the use of equipment, machinery, or power tools shall be paid for at the rate of pay specified under Landscape and Irrigation Laborer, Group 1; Raking, mowing, trimming, and runing, including the use of "weed eaters", hedge trimmers, vacuums, blowers, and other hand-held gas, air, electric, or self-powered tools, and the operation of lawn mowers (Note: The operation of sit-down type and "gang" mowers shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer, Group 2); Guywiring, staking, propping, and supporting trees; Fertilizing, Chemical spraying using spray equipment with less than 200 gallon capacity, Maintaining irrigation and sprinkler systems, including the staking, clamping, and adjustment of risers, and the adjustment and/or replacement of sprinkler heads, (Note: the cleaning and gluing of pipe and fittings shall be paid for at the rate of pay specified under Landscape & Irrigation Laborer(Group 1); Watering by hand or sprinkler system and the performance of other types of gardening, yardman, and horticultural-related work.

 LAB00368-003 09/02/2020

	Rates	Fringes
Underground Laborer		
GROUP 1.....	\$ 39.30	22.68
GROUP 2.....	\$ 40.80	22.68
GROUP 3.....	\$ 41.30	22.68
GROUP 4.....	\$ 42.30	22.68
GROUP 5.....	\$ 42.65	22.68
GROUP 6.....	\$ 42.90	22.68
GROUP 7.....	\$ 43.35	22.68

GROUP 1: Watchmen; Change House Attendant.

GROUP 2: Swamper; Brakeman; Bull Gang-Muckers, Trackmen; Dumpmen (any method); Concrete Crew (includes rodding and spreading); Grout Crew; Reboundmen

GROUP 3: Chucktenders and Cabletenders; Powderman (Prime House); Vibratorman, Pavement Breakers

GROUP 4: Miners - Tunnel (including top and bottom man on shaft and raise work); Timberman, Retimberman (wood or steel or substitute materials thereof); Blasters, Drillers, Powderman (in heading); Microtunnel Laborer; Headman; Cherry Pickerman (where car is lifted); Nipper; Grout Gunmen; Grout Pumpman & Potman; Gunite, Shotcrete Gunmen & Potmen; Concrete Finisher (in tunnel); Concrete Screed Man; Bit Grinder; Steel Form Raisers & Setters; High Pressure Nozzleman; Nozzleman (on slick line); Sandblaster-Potman (combination work assignment interchangeable); Tugger

GROUP 5: Shaft Work & Raise (below actual or excavated ground level); Diamond Driller; Gunite or Shotcrete Nozzleman; Rodman; Groundman

GROUP 6: Shifter

GROUP 7: Shifter (Shaft Work & Raiser)

PAIN1791-001 07/01/2021

	Rates	Fringes
Painters:		
Brush.....	\$ 38.90	30.09
Sandblaster; Spray.....	\$ 38.90	30.09

* PAIN1889-001 07/01/2021

	Rates	Fringes
Glaziers.....	\$ 40.50	36.18

PAIN1926-001 02/28/2021

	Rates	Fringes
Soft Floor Layers.....	\$ 37.77	32.07

PAIN1944-001 01/05/2020

	Rates	Fringes
Taper.....	\$ 43.10	29.90

PLAS0630-001 08/31/2020

	Rates	Fringes
--	-------	---------

PLASTERER.....\$ 43.69 31.68

PLAS0630-002 08/31/2020

Rates Fringes

Cement Masons:

 Cement Masons.....\$ 42.65 32.29
 Trowel Machine Operators....\$ 42.80 32.29

PLUM0675-001 07/04/2021

Rates Fringes

Plumber, Pipefitter,
Steamfitter & Sprinkler Fitter...\$ 48.63 28.40

ROOF0221-001 09/06/2020

Rates Fringes

Roofers (Including Built Up,
Composition and Single Ply).....\$ 41.80 20.50

SHEE0293-001 09/02/2018

Rates Fringes

Sheet metal worker.....\$ 42.55 27.44

SUHI1997-002 09/15/1997

Rates Fringes

Drapery Installer.....\$ 13.60 1.20

FENCE ERECTOR (Chain Link
Fence).....\$ 9.33 1.65

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons

resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007

in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

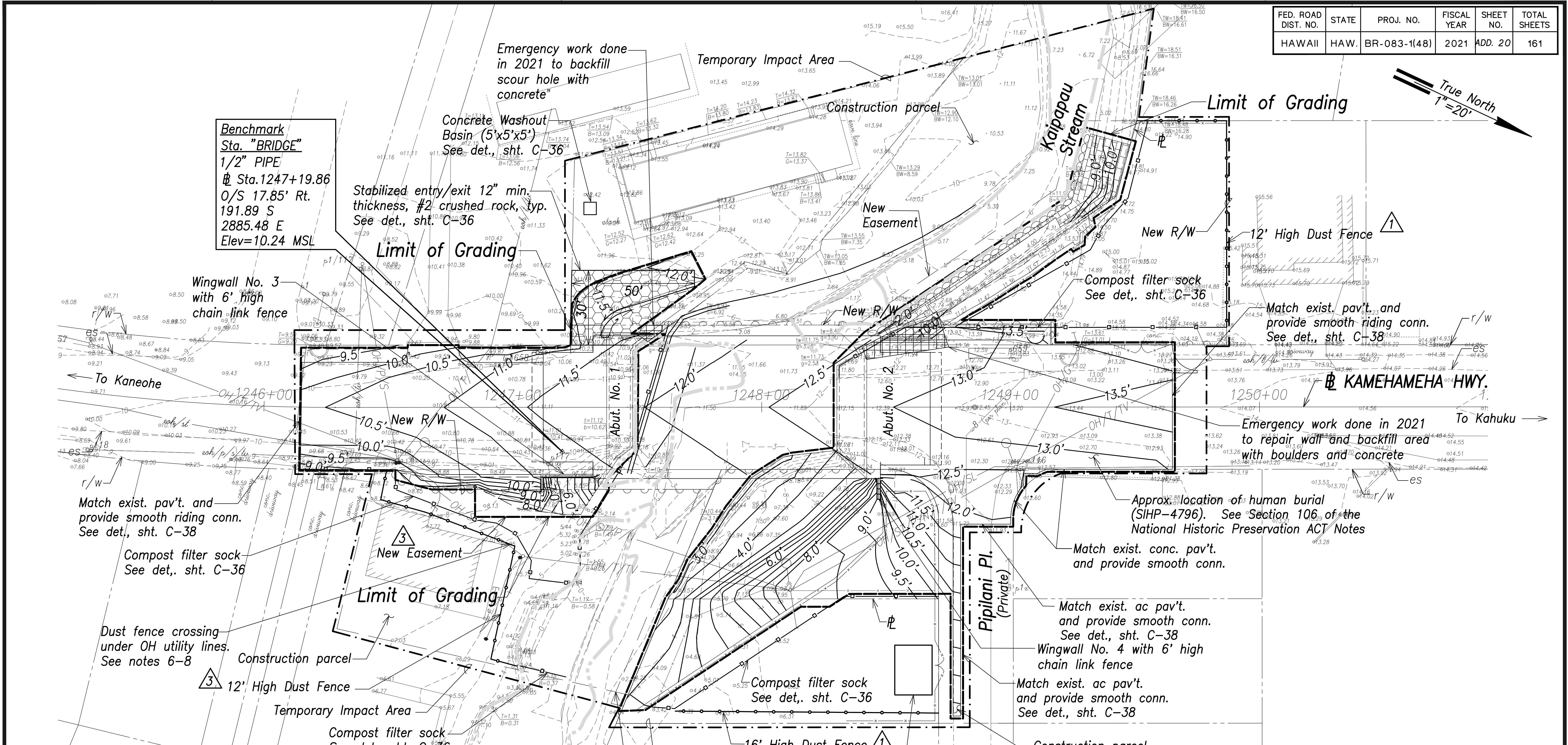
Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-083-1(48)	2021	ADD. 20	161



Benchmark
Sta. "BRIDGE"
1/2" PIPE
Sta. 1247+19.86
O/S 17.85' Rt.
191.89 S
2885.48 E
Elev=10.24 MSL

Stabilized entry/exit 12" min. thickness, #2 crushed rock, typ. See det., sht. C-36

Wingwall No. 3 with 6' high chain link fence

Match exist. pav't. and provide smooth riding conn. See det., sht. C-38

Compost filter sock See det., sht. C-36

Dust fence crossing under OH utility lines. See notes 6-8

12' High Dust Fence

Temporary Impact Area

Compost filter sock See det., sht. C-36

New R/W

New Easement

Temp. Dewatering Basin (20'x15'x8')

Pipilani Pl. (Private)

Match exist. ac pav't. and provide smooth conn. See det., sht. C-38

Wingwall No. 4 with 6' high chain link fence

Match exist. ac pav't. and provide smooth conn. See det., sht. C-38

Construction parcel

Approx. location of human burial (SIHP-4796). See Section 106 of the National Historic Preservation Act Notes

Match exist. conc. pav't. and provide smooth conn.

Match exist. pav't. and provide smooth riding conn. See det., sht. C-38

KAMEHAMEHA HWY.

Emergency work done in 2021 to repair wall and backfill area with boulders and concrete

Limit of Grading

12' High Dust Fence

Compost filter sock See det., sht. C-36

New R/W

New Easement

Temporary Impact Area

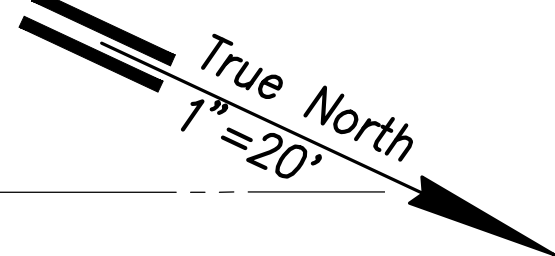
Emergency work done in 2021 to backfill scour hole with concrete

Concrete Washout Basin (5'x5'x5') See det., sht. C-36

Construction parcel

Kaipapau Stream

Limit of Grading



Legend:

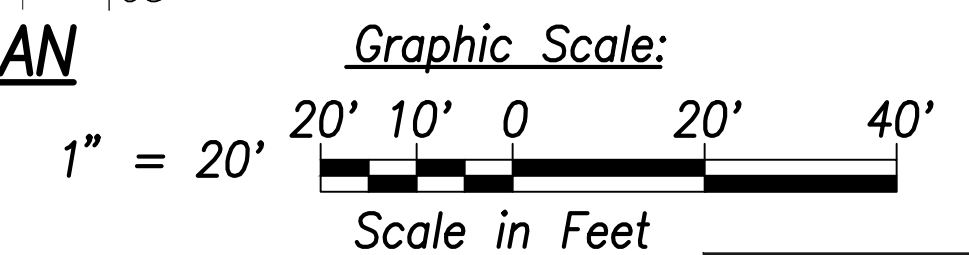
- Temporary Impact Area
- - - - - 10 --- Exist. Ground Contour
- 10 — Finished Grade Contour
- Limit of Grading
- ○ ○ ○ ○ Dust Fence
- □ □ □ □ Compost Filter Sock
- Y Top of Bank
- Y Bottom of Bank
- ← Fill Condition Cut Condition
- ← Drainage Flow Direction
- Stabilized Entry/Exit

Notes:

- For additional finished grade elevations, see sht. C-20.
- For bridge deck elevations, see structural drawings.
- For grading work under bridge, see sht. C-19.
- The contractor shall be responsible for obtaining grading permit from the City and County of Honolulu, Department of Planning and Permitting.
- Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment and Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Cost shall be included in Pay Item 209.0100, "Installation, Maintenance, Monitoring, and Removal of BMP."
- Minimum clearance of overhead utility lines to the fence shall be 3 feet.
- Fence post locations shall be coordinated to avoid impact to the existing and proposed ductlines to the houses on TMK 5-4-11.4.
- If any part of the fence is constructed of metal, the fence shall be properly grounded.

ROADWAY GRADING, EROSION & SEDIMENT CONTROL PLAN

Scale: 1"=20'



DATE	BY
DESIGNED BY	TC
DRAWN BY	TC
CHECKED BY	
QUANTITIES BY	
NOTE BOOK	
ORIGINAL PLAN	
TRACKED BY	
SURVEY PLOTTED BY	

WALTER G. CHONG
LICENSED PROFESSIONAL ENGINEERS
No. 8982-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. OBSERVATION OF CONSTRUCTION IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES, ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS."

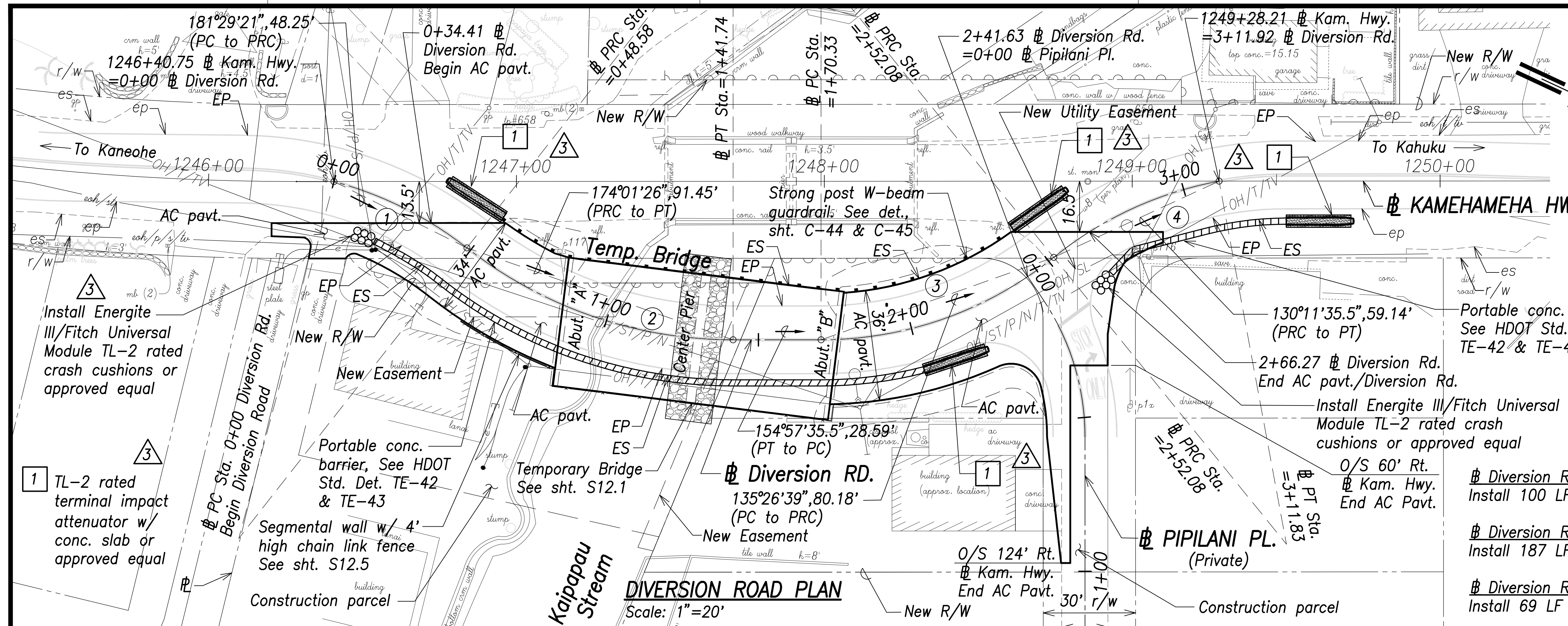
4/30/22
R. M. TOWILL CORPORATION

DATE	REVISION
7/21/21	Rev. Dust fence alignments & hts; Showed temp. OH lines. Add. notes 6-8
7/7/21	Rev. Dust fence heights

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ROADWAY GRADING, EROSION & SEDIMENT CONTROL PLAN
Kamehameha Highway
Kaipapau Stream Bridge Replacement
Federal Aid Project No. BR-083-1(48)

Scale: As Noted Date: February 2021

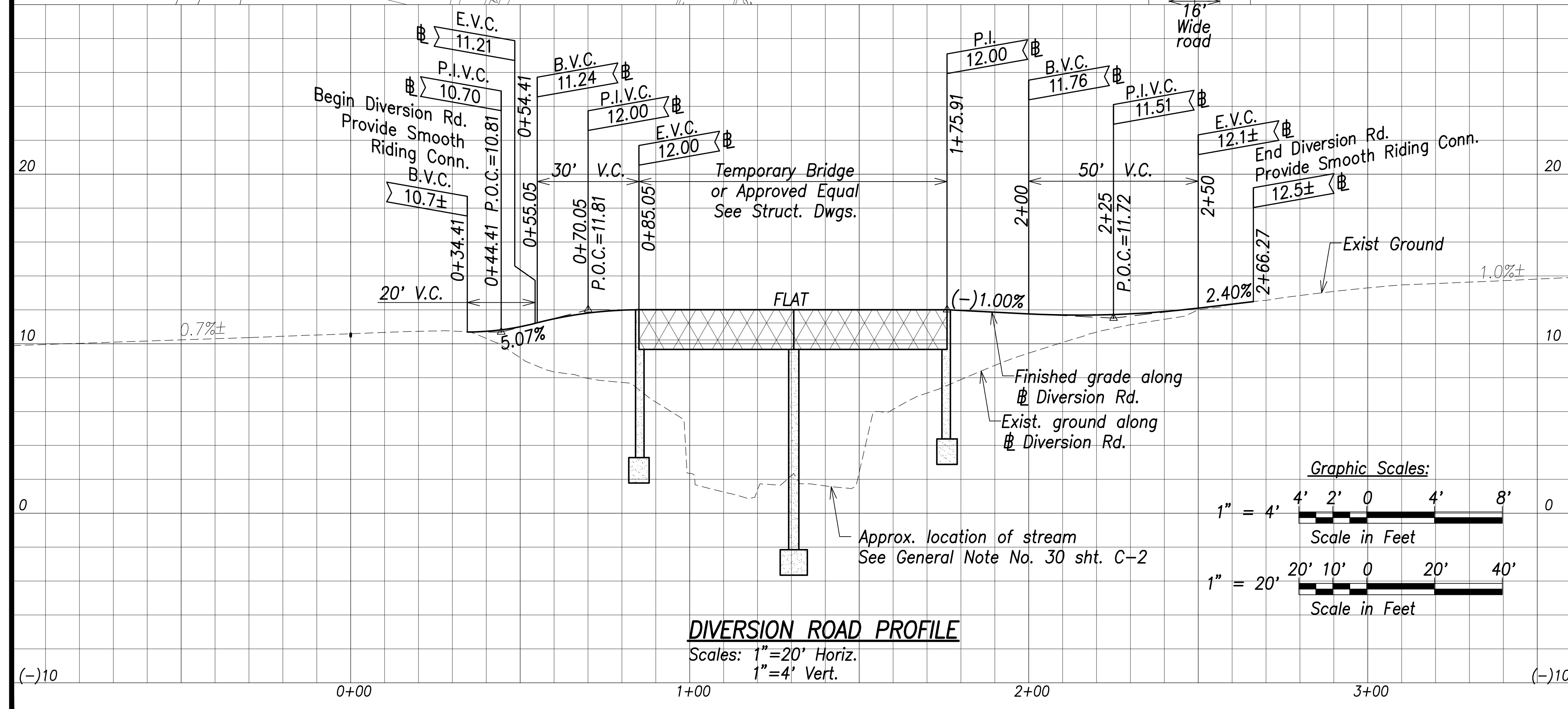
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-083-1(48)	2021	ADD. 30	161



Diversion Rd. Curve Data	
①	②
$\Delta=23^{\circ}11'51''$	$\Delta=38^{\circ}07'41''$
$\Delta/2=11^{\circ}35'55.5''$	$\Delta/2=19^{\circ}03'50.5''$
$R=120.00'$	$R=140.00'$
$T=24.63'$	$T=48.38'$
$C=48.25'$	$C=91.45'$
$Lc=48.58'$	$Lc=93.16'$
③	④
$\Delta=39^{\circ}01'53''$	$\Delta=28^{\circ}31'46''$
$\Delta/2=19^{\circ}30'56.5''$	$\Delta/2=14^{\circ}15'53''$
$R=120.00'$	$R=120.00'$
$T=42.53'$	$T=30.51'$
$C=80.18'$	$C=59.14'$
$Lc=81.75'$	$Lc=59.75'$

① TL-2 rated terminal impact attenuator w/ conc. slab or approved equal
 ② Portable conc. barrier, See HDOT Std. Det. TE-42 & TE-43
 ③ Install Energite III/Fitch Universal Module TL-2 rated crash cushions or approved equal
 ④ Portable conc. barrier, See HDOT Std. Det. TE-42 & TE-43

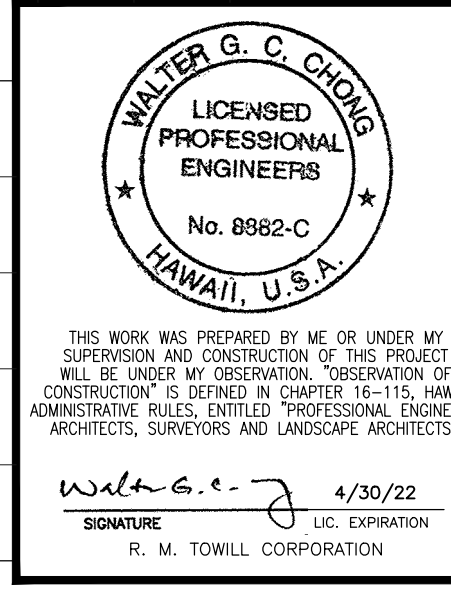
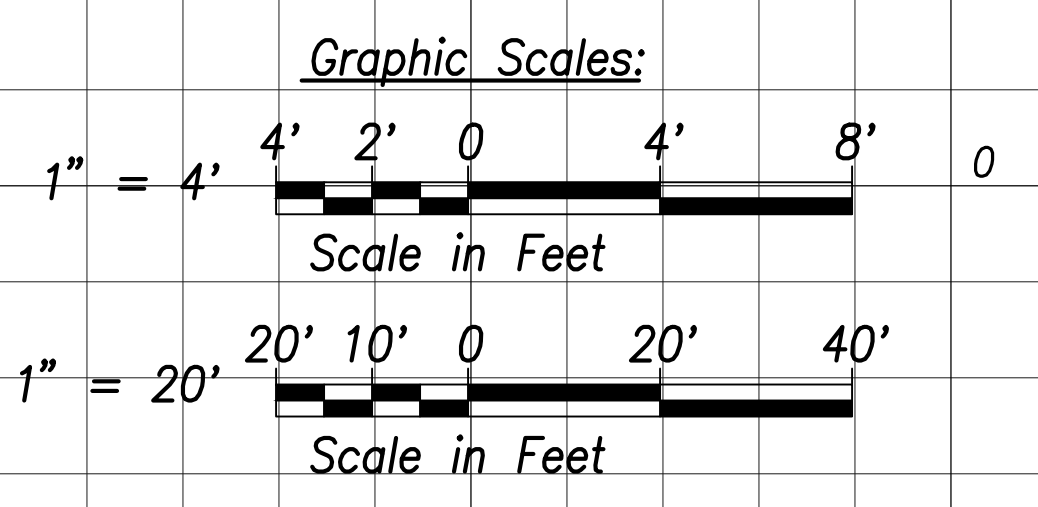
Diversion Rd. Sta. 0+53 to # Diversion Rd. Sta. 2+53
 Install 100 LF strong post W-Beam guardrail on Mauka side.
 # Diversion Rd. Sta. 0+21 to # Diversion Rd. Sta. 2+08
 Install 187 LF Portable conc. barrier on Makai side.
 # Diversion Rd. Sta. 2+65 to # Diversion Rd. Sta. 3+34
 Install 69 LF Portable conc. barrier Makai side.



- Notes:**
- The contractor shall adjust the tops of all existing boxes and structures as required to construct the Diversion Road. Adjustment of boxes and structures shall be considered incidental to the various items of work.
 - Portable concrete barriers shall be anchored to protect the temporary waterline. Contractor to provide shop drawings for anchoring the portable concrete barriers on the temporary bridge.
 - Contractor to provide shop drawings for terminal impact attenuators and crash cushions.
 - Diversion road design shown in the contract documents are for bidding purposes. The contractor shall be responsible for the diversion road design based upon their means and methods and construction sequence taking into consideration the existing site conditions.

DATE	BY	TC
DESIGNED BY	TRACED BY	QC
QUANTITIES BY	CHECKED BY	
NO.		

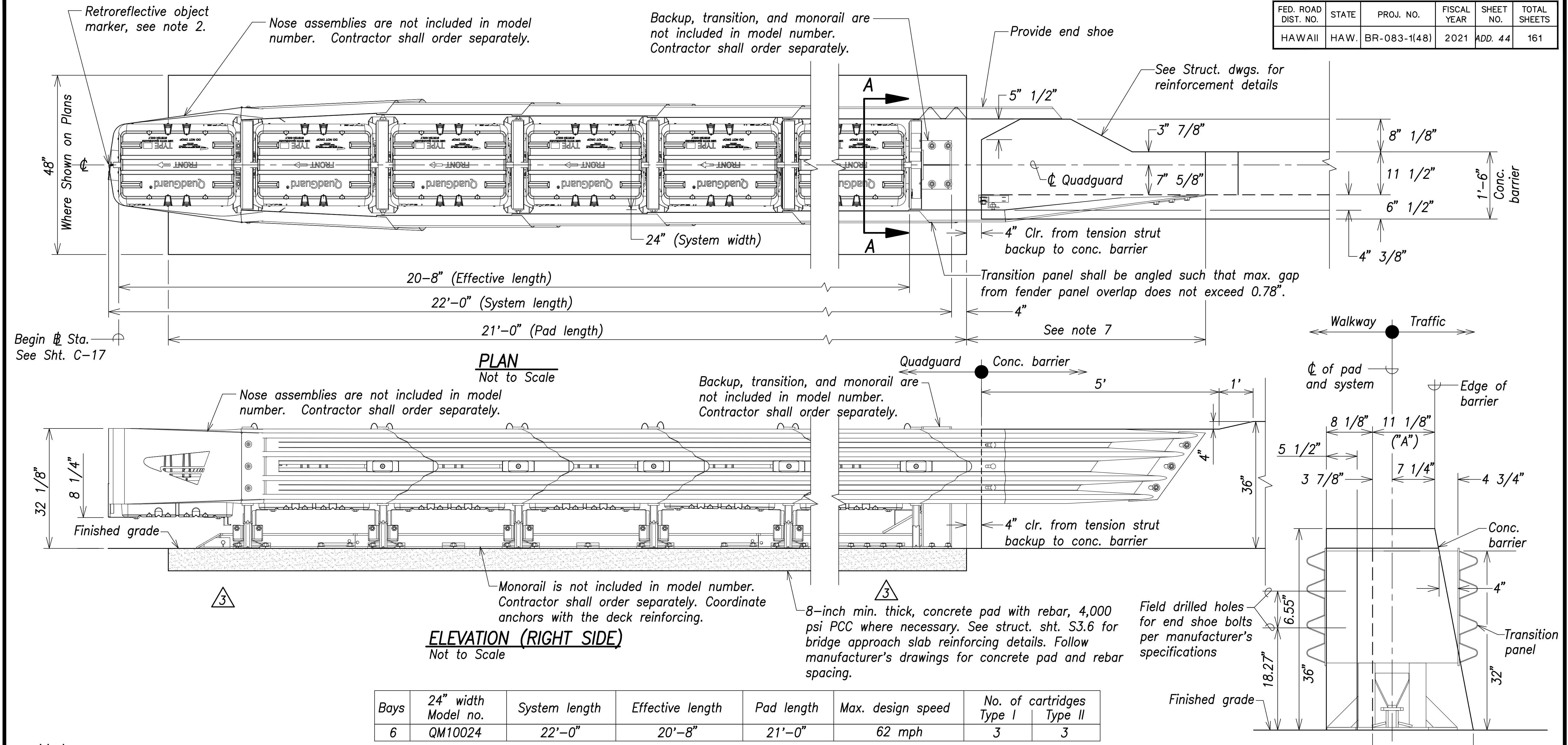
7/21/21	Rev. Callouts for Quadguards to "terminal impact attenuators w/conc. slab. or approved equal". Add. notes 3 & 4
DATE	REVISION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**DIVERSION ROAD
PLAN & PROFILE**
Kamehameha Highway
Kaipapau Stream Bridge Replacement
Federal Aid Project No. BR-083-1(48)

Scale: As Noted Date: February 2021

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-083-1(48)	2021	ADD. 44	161



Bays	24" width Model no.	System length	Effective length	Pad length	Max. design speed	No. of cartridges	
						Type I	Type II
6	QM10024	22'-0"	20'-8"	21'-0"	62 mph	3	3

- Notes:**
1. Install MASH Test Level 3 Quadguard Terminal Impact Attenuator or approved equal per manufacturer's recommendations. Bidders to use manufacturer's drawings as basis for bid.
 2. The contractor shall order crash cushion object marker from the Quadguard manufacturer and install on the nose of the Quadguard per the manufacturer's specifications. Object marker shall be considered incidental to the Quadguard attenuator.
 3. In compliance with the AASHTO 2011 Roadside Design Guide, manufacturer recommends removal of all curbs and islands to ensure proper impact performance.
 4. Provision shall be made for rear fender panels to slide reward upon impact 30 inches, min.
 5. 8" min. reinforced 4,000 PSI PC concrete pad or 8" min. non-reinforced 4,000 PSI concrete roadway, measuring at least 12'-0" wide by 50'-0" long.
 6. See the "Quadguard M10 System Product Manual" for a description of its impact performance characteristics and design limitations before placing a system at a given site.
 7. Where necessary, the customer shall supply an adequate transition from the Quadguard M10 system to the object being shielded.
 8. Backup, monorail, and nose assemblies are not included in model number, order separately.

DATE	BY	BY	BY	BY	BY
SURVEY PLOTTED BY	DESIGNED BY	DESIGNED BY	DESIGNED BY	DESIGNED BY	DESIGNED BY
ORIGINAL PLAN	TRACED BY	TRACED BY	TRACED BY	TRACED BY	TRACED BY
NOTE BOOK	QUANTITIES BY	QUANTITIES BY	QUANTITIES BY	QUANTITIES BY	QUANTITIES BY
	CHECKED BY	CHECKED BY	CHECKED BY	CHECKED BY	CHECKED BY
	No.	No.	No.	No.	No.

SECTION A-A
Not to Scale

7/21/21	Rev. Conc pad. Rev. notes 1 & 5
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

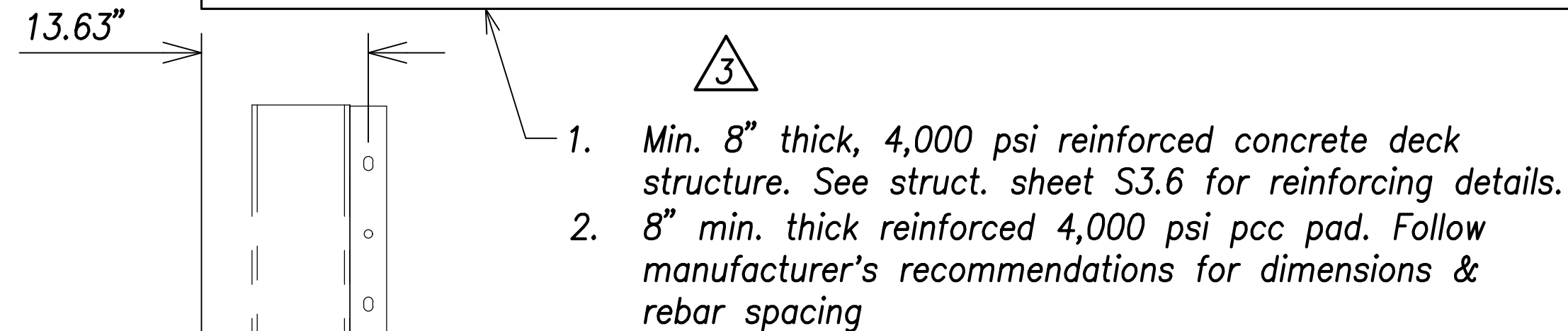
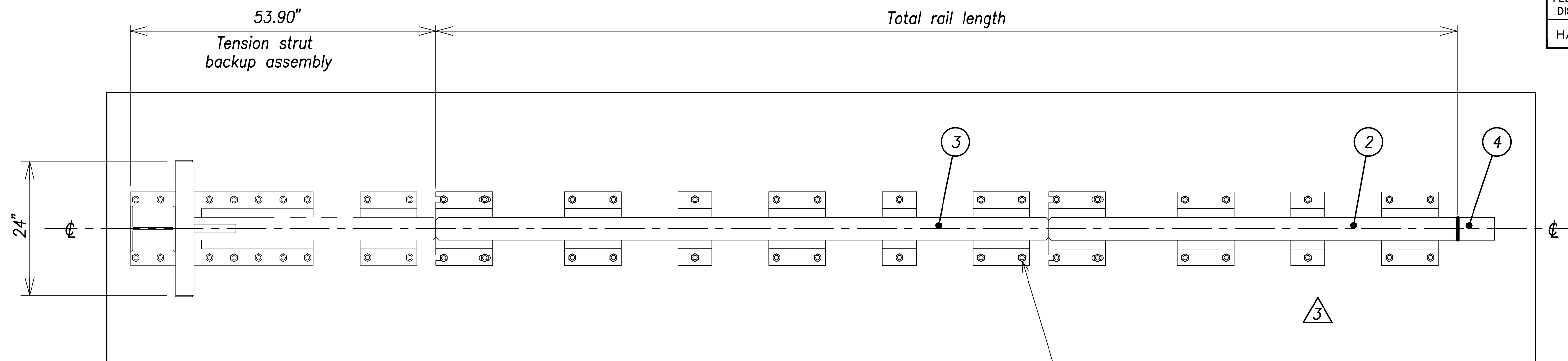
QUADGUARD DETAILS

Kamehameha Highway
Kaipapau Stream Bridge Replacement
Federal Aid Project No. BR-083-1(48)

Scale: As Noted Date: February 2021

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-083-1(48)	2021	ADD. 45	161

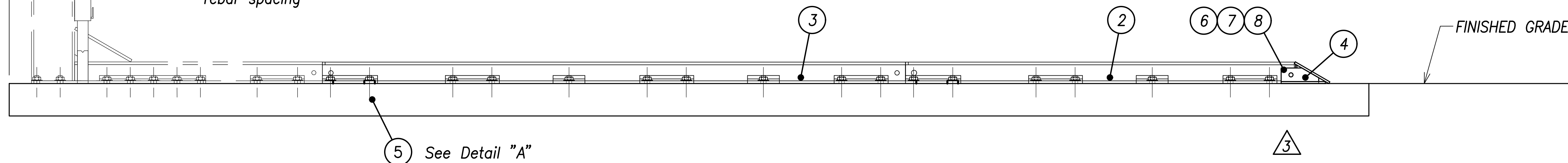
Note:
Monorail & backup assembly must be straight to within 0.5".



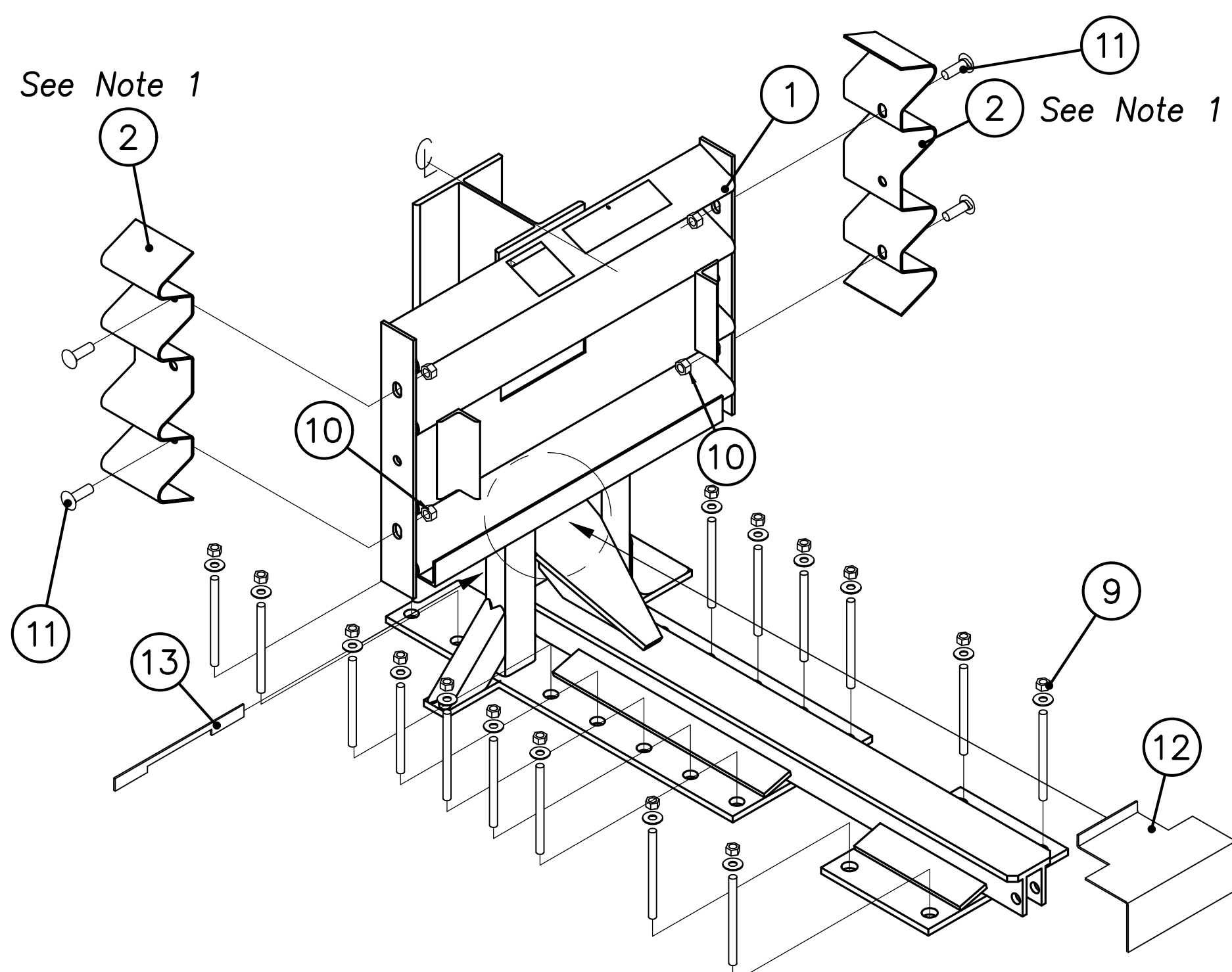
PLAN
Not to Scale

Use item 5 to secure monorail to concrete.
Recommended hole depth: 5.50", final torque to be: 120 ft lbs

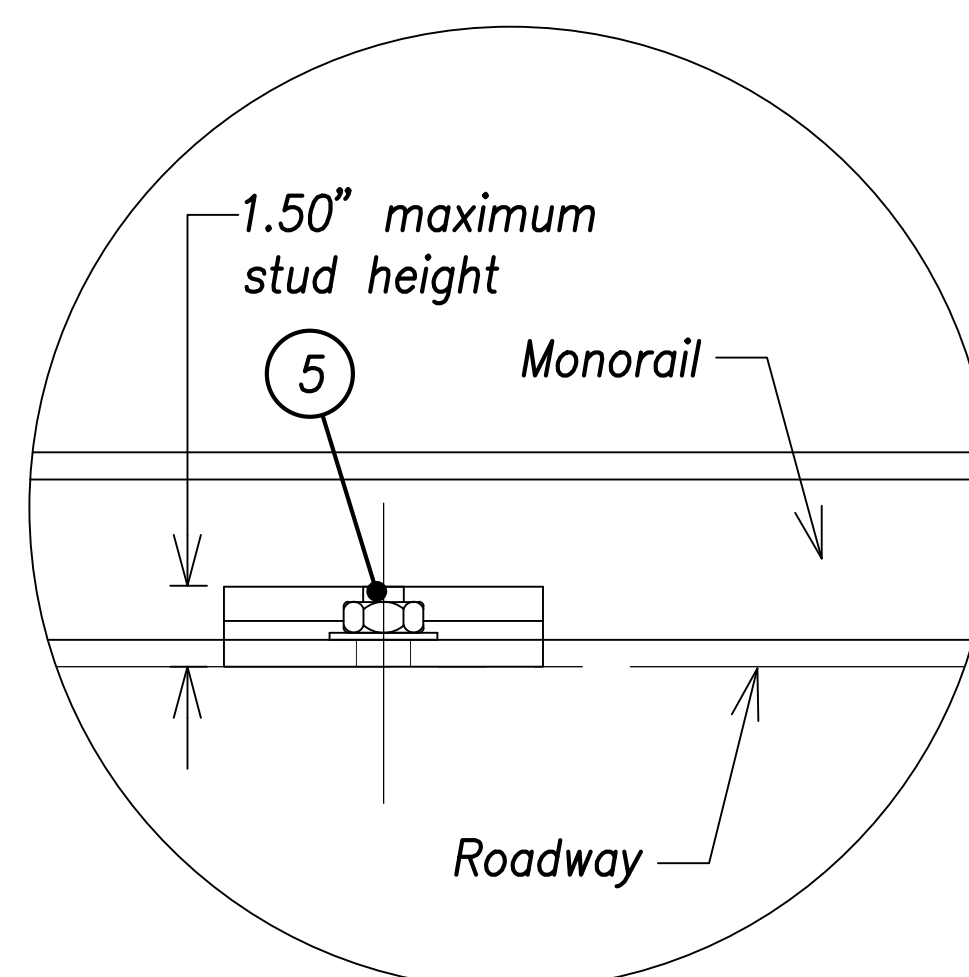
1. Min. 8" thick, 4,000 psi reinforced concrete deck structure. See struct. sheet S3.6 for reinforcing details.
2. 8" min. thick reinforced 4,000 psi pcc pad. Follow manufacturer's recommendations for dimensions & rebar spacing



ELEVATION (W/ TENSION STRUT BACKUP)
Not to Scale



TENSION STRUT BACKUP
Not to Scale



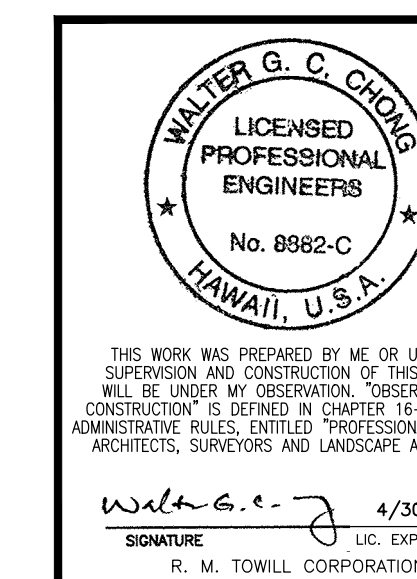
DETAIL "A"
Not to Scale

Notes:

1. Use monorail(s) (items 1, 2 and 3) as template(s) to locate mp-3 anchor bolts (item 5) and install per manufacturer's directions.
2. Cross slope of pad shall not exceed 2% in any direction.
3. Units of measurement are inches unless otherwise noted.
4. Every stud must be embedded to a depth of 5.50-inches. If rebar is encountered in a pcc pad, drill through it. If rebar is encountered on a deck structure, ask the engineer for direction.

DATE	BY
DESIGNED BY	WC
QUANTITIES BY	
CHECKED BY	
NO.	

7/21/21	REV. CONC PAD
DATE	REVISION



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

QUADGUARD DETAILS

Kamehameha Highway
Kaipapau Stream Bridge Replacement
Federal Aid Project No. BR-083-1(48)

Scale: As Noted Date: February 2021

STRUCTURAL GENERAL NOTES

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-083-1(48)	2021	ADD. 65	161

1. GENERAL SPECIFICATIONS:

(A) Hawaii Department of Transportation, Hawaii Standard Specifications for Road and Bridge Construction, 2005, together with Special Provisions prepared for this Contract.

2. DESIGN SPECIFICATIONS:

- (A) AASHTO 2012 LRFD Bridge Design Specifications (Sixth Edition) and its subsequent interim specifications with interim supplements and modifications by the HDOT Highways Division.
- (B) HDOT Document dated March 1, 2013 with subject title "Design Criteria for Bridges and Structures"
- (C) AASHTO 2013 Standard Specifications for structural supports for Highways, Signs, Luminaires, and Traffic Signals (Sixth Edition) and its subsequent interim specifications with interim supplements and modifications by the HDOT Highways Division.

3. LOADS:

- (A) Dead Load: A 25 psf allowance for future wearing surface of asphalt concrete has been included in Dead Load calculations. Concrete unit weight of 160 pcf has been assumed for Dead Load calculations. A future utilities load on each side of the Bridge of 150 plf has been included.
- (B) Live Load: HL-93 Service and Strength Limit States
- (C) Seismic: In accordance with AASHTO LRFD Bridge Design Specifications, 6th Edition, 2012:
 - Peak Ground Acceleration (PGA = 0.18g), modified by the Site Coefficient ($F_{PGA} = 1.44$) to give a spectrum acceleration, $A_S = 0.26g$
 - Short period acceleration at 0.2 seconds ($S_S = 0.40g$) modified by the Site Coefficient ($F_a = 1.48$) to give the short period spectrum acceleration, $S_{DS} = 0.592g$
 - Long Period acceleration at 1.0 seconds ($S_1 = 0.11g$) modified by the Site Coefficient ($F_v = 2.36$) to give the long period spectrum acceleration, $S_{D1} = 0.260g$
 - Site Class = D
 - Seismic Zone = 2
 - Operational Category = Essential
- (D) Federal Emergency Management Agency (FEMA) -Flood Hazard Designation:

Zone: _____ AE
 Base Flood Elevation: _____ El. = 14
 (Upstream of Bridge)
 Non-Bore Tsunami Run up: _____ El. = 10

3. LOADS (Cont.):

- (E) Combined Scour Elevations:
 - Abutment No. 1: _____ 100 year Scour El. = -8.0
 - Abutment No. 2: _____ 100 year Scour El. = -8.0
- (F) Railing Test Level TL-3
- (G) Seismic Parameters for Segmental Retaining Wall - Refer to S12.5.

4. MATERIALS:

(A) All concrete strengths shall be as noted below:

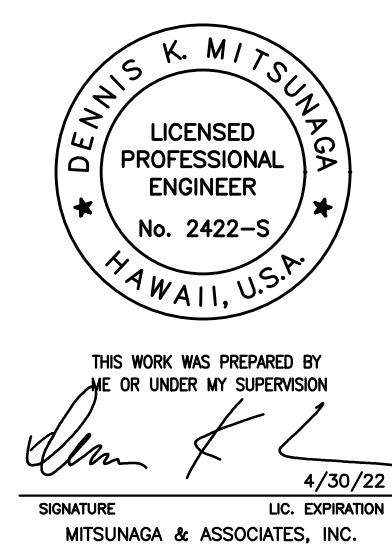
Item No.	Structural Parts	Compressive Strength f'c (28 Days)	Maximum Water (W/C)	Maximum Cement (lbs/cyd)	Maximum Cementitious Material Content (lbs/cyd)
(1)	Drilled Shafts including Trial and Load Test Shafts See Note (E) in this section	4500 psi	0.45	720	720
(2)	Drilled Shaft Cap Beam, End Beam, Aesthetic Railing, End Post, Concrete Barrier, Corbel for Approach Slab, Corbel for Conc. Encased Ducts, Diaphragms, Girder Seats, Barrier Wall, Wing Walls and Wing Wall return See Notes (D), (E), and (F) in this section	5000 psi	0.40	670	670
(3)	Prestressed Girders See Note (E) in this section and Sheet S4.5	10000 psi 3 (12000 psi at 56 days)	0.40	670	752
(4)	Precast Deck Form See Notes (D), (E) and (F)	6000 psi	0.40	670	670
(5)	Bridge Deck, Topping over End Beam, Approach Slabs, Concrete encasing ducts within bridge, and Sleeper Slab. See Notes (D), (E) and (F).	SBD (See Section 601)	--	--	--
(6)	Temporary Bridge Abutments, Piers, Footings, and Miscellaneous Concrete	4000 psi	0.45	670	670
(7)	Deck and End beam Closure Pours (Including Corbel), See Note (E)	VESLMC (See Section 540)	-	-	-
(8)	Concrete for Waterline: <ul style="list-style-type: none"> a. Cradle See notes (D), (E), and (F) b. Curtain wall shall be light weight concrete (Density < 120 lbs/cu. ft.) 	5000 psi	0.40	670	670
(9)	All others, except as noted otherwise	4000 psi	0.45	670	670

4. MATERIALS (Cont.):

- (B) Concrete mixes shall be designed to be pumpable and flowable with minimum segregation and separation.
- (C) The use of calcium chloride in any concrete is prohibited.
- (D) A shrinkage reducing admixture (SRA), such as Master Life SRA35 by BASF or Eclipse by W.R. Grace & Co., or accepted equal, shall be added to the concrete mix for Items No. (2), (4), (5) and (8)a, under note 4.(A). The minimum dosage requirement shall be 128 ounces per cubic yard of concrete. Include the weight of the SRA with the total water in computation of the Water to Cement Ratio.
- (E) A migrating corrosion inhibitor amine carboxylate water-based admixture shall be added to the concrete mix for Item Nos. (1), (2), (3), (4), (5), (7) and (8). under Note 4.(A). The minimum dosage shall be 24 ounces per cubic yard of concrete.
- (F) A 1 1/2" long macro synthetic fiber such as Forta Ferro, Strux 90/40, Max Matrix, or approved equal shall be added to the concrete mix for items No. (2), (4), (5) and (8)a. under note 4.(A). The minimum dosage shall be 7.5 pounds per cubic yard of concrete.
- (G) Non-shrink Grout shall be a pre-mixed product consisting of non-staining, non-metallic aggregate cement, water reducing and plasticizing agents capable of developing a minimum compressive strength of 4000 psi in 3 days and 7000 psi in 28 days. The non-shrink grout shall contain at least 10 grams of migrating amine carboxylate corrosion inhibiting admixture per 0.4 to 0.5 cubic feet of non-shrink grout.
- (H) Cure concrete as specified in the Contract documents. Remove curing that may affect bonding from all areas requiring future bonding unless a curing agent such as SINAK Lithium Cure or accepted equal that does not affect bond and provide equal or better curing is used.
- (I) All concrete shall include at least one of the three methods stated in Section 601 of the Special Provisions, or approved equal, to reduce the embodied carbon footprint in concrete.

ORIGINAL PLAN	DATE
DESIGNED BY	DATE
CHECKED BY	DATE
NO.	DATE

DRAWING NAME: I:\PROJECTS\ACTIVE FILES\13-01_KAIPAPAU BRIDGE\INCOMING\072121_PFROM_CHAD\XSB-S04_REV NOTE DELTA_3.DWG PLOT TIME: 07-21-21 9:21 AM



DATE	REVISION
7/21/21	Revised Comp. Strength for Prestressed Girders

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURAL GENERAL NOTES

**KAMEHAMEHA HIGHWAY
Kaipapau Stream Bridge Replacement
Federal Aid Proj. No. BR-083-1(48)**

Scale: None Date: February 2021

SHEET No. S04 OF 12 SHEETS

**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

**Project: KAMEHAMEHA HIGHWAY
KAIPAPAU STREAM BRIDGE REPLACEMENT
FEDERAL-AID PROJECT NO. BR-083-1(48)**

Prospective bidders had submitted RFIs in HlePRO following answers given in Addendum No. 1. Questions and responses are as follows:

25. After reviewing the plans for the project, on sheet 44 there is a concrete pad for the Quad M10 that does not match the manufacturers drawing, can you please clarify?

Response: A revised concrete pad design is shown on sheets C-42 and C-43, which have been included in Addendum No. 3.

26. On sheet 30 there are two call outs for crash barrel arrays that seem to have 5 barrels in each array, can you please provide a drawing similar to sheet 50?

Response: Crash barrel arrays shall be minimum TL-2 rated. Contractor shall provide shop drawings for review. Contractor shall be responsible for coordinating crash barrel array design with their means and methods and construction sequence.

27. On sheet 30 there are 4 QuadGuards called out, can you clarify if these Terminal Impact Attenuators can be TL-2?

Response: Terminal impact attenuators shall be minimum TL-2 rated. Contractor shall provide shop drawings for review. Contractor shall be responsible for coordinating terminal impact attenuator design with their means and methods and construction sequence.

28. Can you please provide the type of Thrie Beam End treatment that will be required on the mauka (east) side of the temporary bridge?

Response: The Contractor shall design based on the barrier they provide.

29. Can you please provide the type of Thrie Beam Transition to W-beam to be required on the Makai (west) side of the temporary bridge?

Response: The Contractor shall design based on the barrier they provide.

30. With respect to the temporary prefabricated steel beam bridge, will non steel beam bridge systems be allowable if they meet the design criteria for loading that is outlined in Special Provision 512.03 (C) – Design Criteria?

Response: Non steel beam bridge systems are acceptable provided they meet the requirements shown in Special Provisions 512.03 (C) and other Contract Documents. The Contractor shall also follow the submittal requirements in Section 512.

31. Are Post mounted Advisory Boards (Notice to Motorist) Required Per Spec 645.03(G) Advisory Signs. Submit advisory sign shop drawings. Construct, install, maintain, and remove two advisory signs as ordered by the Engineer. Place signs at locations designated by the Engineer. Provide signs, minimum B feet wide by 4 feet high, with black letters on orange background, and with three 4,00 pounds/foot flanged channel posts for each sign? If so, can you please provide the locations?

Response: Yes, these signs will be required, at locations agreed upon between the Contractor and HDOT, as determined at the start of construction.

32. Please provide copies of the Utility Agreements.

Response: Copies will not be provided.

33. We request that the engineering submittal requirements for the Prefabricated Steel Beam Bridge prior to bid date be waived.

Response: Installation instructions, details for connections, calculations, specifications, and working drawings for temporary bridge need not be submitted prior to bid opening. Installation instructions, details for connections, calculations, specifications, and working drawings for temporary bridge will be required prior to installation.

34. Referencing Sheet S0.6, Note G2 - Will interlocking steel sheetpiling be allowed if installed via impact hammer? If so, may the sheetpiles be abandoned in place if the top is cut off below grade?

Response: Yes, the use of an impact hammer will be allowed. The sheetpiles may be abandoned in place provided the tops are cut down at least 3 feet below finished grade and the abandoned sheetpiles do not interfere with any underground structures or utilities.

35. Specification Section 512 states that the Contractor is responsible to complete the design of the detour road and bridge. Given the severity of the storms in this area, we need to understand the requirements of storm and scour protection that HDOT will accept. See youtube link for a recent storm event as an example

(<https://youtu.be/rBS9MQHfuUw>). What is the design criteria for the scour protection, such as 50 yr storm and any other criteria? Are there hydraulic studies available for the Contractors use?

Response: Minimum scour protection for the detour bridge based on a 5-yr storm is shown on C-29 and C-36.

36. The bid documents include a proposed Bridge design for bidding purposes. It is unclear if that is an example of an acceptable detour bridge or if that is the only Bridge HDOT will accept. In other words, can the Contractor base its bid on an alternative Bridge type as long as it meets the intent of the detour as indicated on the plans? The contractor is responsible for the design of its bridge in either case.

Response: Contractor may base bid on an alternative bridge type as long as it meets the requirements shown in Special Provisions 512 and other Contract Documents.

37. Per sheets S12.3, the contractor shall "submit calculations and details to show that the foundation will not be adversely affected by scouring." Please provide the design criteria for the scour evaluation (e.g. type of flood event and flow rate).

Response: Minimum scour protection for the detour bridge shall be based on a 5-yr storm (flow of 2,100 cubic feet per second).

38. Per Note 2 on Sheet S12.1-4, "all drawings and details for the prefabricated steel beam bridge and segmental retaining wall shown on sheets S12.1 to S12.5 are schematic only and are shown for bidding purposes only. " Please confirm that the contractor shall use the dimensions provided on Sheets S12.1-S12.4 for bidding purposes.

Response: Contractor may deviate from the dimensions shown on Sheets S12.1 to S12.5 provided the requirements shown in Special Provisions 512 and other Contract Documents are met. Contractor will also be required to submit a traffic control plan acceptable to the Engineer.

39. In consideration of Act 218 in 2012, please confirm that Water Quality Monitoring, specifically sampling, is still required.

Response: Yes, water quality monitoring will be required.

40. Please confirm that the requirement to demo the existing bridge structure to 3'-0" below the existing stream bed elevation, applies to the temporary bridge center pier removal as well.

Response: All temporary work shall be removed.

41. Per the response to RFI#8, please confirm that the removal of the temporary bridge abutment structure shall be a minimum of 2'-0" below finish grade and the bottom of the new structure.

Response: All temporary work shall be removed.

42. Please confirm that the existing bridge abutment walls are to be removed down to an elevation of 4.0' as depicted on sheet S1.4 and S2.2 Detail A rather than sheet S2.2 Detail B.

Response: S2.2 Detail B shows the existing abutment at the existing 16" waterline (W16). According to BWS as-builts, the existing W16 crosses right next to the existing abutments:

- South abutment, at an invert of about (-)3.0, and top of jacket about (-)0.2
- North abutment, at an invert of about (-)4.0, and top of jacket about (-)1.2

43. In concurrence with Note 2 on sheets S12.1 to S12.4, the contractor is responsible for providing the center pier design for the temporary bridge. Please provide the design criteria and permit restrictions for constructing alternate foundation designs within the stream.

Response: For the design criteria, refer to the contract documents and see responses to questions 35 and 37. For the permit restrictions, the requirements of the permits provided to the Contractor in HlePRO shall apply.