# INDEX TO VIADUCT DRAWINGS

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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 414 | 816 |


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ORIGINAL PLAN
NOTE BOOK
No.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | △3 Added Sheets |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

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INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AS0.1 OF 150 SHEETS

ADD. 414

WV-AS01.DWG
1 = 1

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ORIGINAL PLAN
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SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
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INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

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SHEET No. AS0.2 OF 150 SHEETS

WV-AS01.DWG
1 = 1

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# VIADUCT GENERAL NOTES

1. General Specifications: Hawaii Department of Transportation, Standard Specifications for Road, Bridge and Public Works Construction, 1994, together with Special Provisions prepared for this contract.

2. Design Specifications:
   (A) AASHTO 1998 LRFD Bridge Design Specifications (Second Edition) and its subsequent interim specifications with interim supplements and modifications by the HDOT Highways Division.
   (B) HDOT Memorandum HWY-DB 2-7490 dated August 13, 2002 with subject title "Bridge Design Criteria, August 2002".

3. Loads:
   (A) Dead Load: An allowance of 25 PSF for future wearing surface of asphalt concrete has been provided for in the design.
   (B) Live Load: AASHTO HL-93 Truck Loading
   (C) Seismic Loads: Acceleration coefficient – 0.18
   Seismic Performance Zone – 2 (Applies only to viaduct widening)
   Importance Category – Critical ( Applies only to viaduct widening)
   Soil Profile – Frame "A" – Type 3
   Frame "B" – Type 4
   Frame "C" – Type 4
   Frame "D" – Type 1 and Type 3
   (D) Utility Load: An allowance of 150 PLF on the Mauka (Mountain) side of widening for Utility Loads has been provided for in the design.
   (E) Railing Test Level: TL-4

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

| Item No. | Structural Parts | Classes of Concrete | Compressive Strength f'c (28 Days) |
|---|---|---|---|
| (1) | Prestressed girders | – | 7500 PSI |
| (2) | Bent caps<br>For bent caps poured against existing bent caps, see note (C) this section | – | 6000 PSI |
| (3) | Beams over bent caps<br>For beams over bent caps below the closure pour, see note (C) this section | – | 6000 PSI |
| (4) | Columns | – | 6000 PSI |
| (5) | Bridge deck, see note (B) this section<br>For deck blockouts at expansion joints, see notes (B) and (C) this section. | – | 5000 PSI |
| (6) | In-span beams (diaphragms)<br>For In-span beams (diaphragms) in the exterior bay of the existing viaduct and in the bay between the existing exterior girder and new girder, see note (C) this section. | – | 5000 PSI |
| (7) | Column footings<br>Abutment footings<br>Wing wall footings<br>Retaining wall footings | – | 5000 PSI |
| (8) | Closure pour in bridge deck and deck blockouts at expansion joints, see notes (B) and (C) this section. | – | 5000 PSI |
| (9) | Overlay, Refer to Section 540 of the Special Provisions. | | |
| (10) | Abutment walls, including seat extenders (3)<br>Wing walls<br>Retaining walls | – | 5000 PSI |
| (11) | Drilled shafts, including load test shafts | – | 4500 PSI |
| (12) | Mud slab | D | 1500 PSI |
| (13) | Railing and thickened parapets at light standards, see note (B) this section. | – | 4000 PSI |

4. Materials (Cont.):

| Item No. | Structural Parts | Classes of Concrete | Compressive Strength f'c (28 Days) |
|---|---|---|---|
| (14) | Approach slab – 1st Phase | – | 4000 PSI |
| (15) | Approach slab and supporting corbel – 2nd Phase | – | See Note (D) this section |
| (16) | Except as noted otherwise, all others | A | 3000 PSI |

All concrete noted above with the exception of Classes A and D concrete shall have a maximum W/C Ratio of 0.45. The W/C Ratio for Classes A and D concrete shall follow the Specifications.

(B) A shrinkage reducing admixture (SRA), Tetraguard AS20 by Master Builders or Eclipse by W.R. Grace & Co., shall be added to the concrete mix for the bridge deck including the closure pour and deck blockouts at expansion joints; and for the railing and thickened parapets at light standards. The minimum dosage requirement shall be 96 ounces per cubic yard of concrete. SRA shall limit the shrinkage strain to 0.000075 in/in at the concrete age of 60 days. The shrinkage strain shall be determined by a qualified testing laboratory, which is approved by the Engineer, according to ASTM C 157. The specimen curing period will be 7 days after casting in accordance to Structural Engineers Association of California (SEAOC) recommendations. The shrinkage specimen shall be cast with local aggregates.

(C) A calcium nitrite corrosion inhibitor shall be added to the following concrete mixes:
   (1) Bent caps poured against existing bent caps. (Refer to Stage [14] on sheets AS18.1 and AS18.3)
   (2) In-span beams (diaphragms) below the closure pour and in the exterior bay of the existing viaduct. (Refer to Stage [15] on sheets AS18.2 and AS18.3)
   (3) Beams over bent caps below the closure pour. (Refer to Stage [16] on sheets AS18.1 and AS18.3)
   (4) Closure pour. (Refer to Stage [17] on sheets AS18.1 through AS18.3)
   (5) Deck blockouts at expansion joints. (Refer to stage [18] on sheet AS18.3)

The dose shall be a minimum 5 gallons per cubic yard of concrete and approved by the Engineer. In addition to inhibiting corrosion, the calcium nitrite shall accelerate the concrete hydration to give a final set at 3 hours. At three hours, the minimum concrete compressive strength shall be 700 psi. At twenty-eight days, the minimum concrete compressive strength shall be 5,000 psi for items 4.(C)(2), 4.(C)(4) and 4.(C)(5); and 6,000 psi for items 4.(C)(1) and 4.(C)(3). The 3-hour and the 28-day compressive strengths shall be determined by AASHTO T-22, ASTM C 109 or ASTM C 779. These tests shall be performed by the Contractor in the presence of the Engineer. If ASTM C 779 is used, the Contractor shall first prepare base-line samples which will be used by the Engineer for comparison and acceptance of the work. The records of these tests shall be submitted to the Engineer the same day the tests are performed. The addition of calcium nitrate with a SRA for the closure pour and deck blockouts at expansion joints shall not alter the shrinkage requirements under item (B) this section.

(D) The concrete for 2nd Phase approach slabs and supporting corbels shall be non-shrink, non-metallic and shall have a fast setting time, and achieve a rapid strength gain. Concrete compressive strength shall be 4000 psi in 6 hours. Manufacturer's recommendations shall be followed.

(E) The use of any calcium chloride in any concrete is prohibited.

(F) All reinforcing steel shall be ASTM A 615 Grade 60 unless otherwise noted.

(G) Reinforcing steel shall be ASTM A 706 where welded connections are required.

(H) All structural steel shall be ASTM A 36 hot dip galvanized after fabrication, unless otherwise noted.

4. Materials (Cont.):
   (J) All anchor bolts, washers and nuts shall be ASTM A 307 hot dip galvanized after fabrication, unless otherwise specified.
   (K) Prestressing steel shall be uncoated seven wire low-relaxation strand conforming to ASTM A 416 Grade 270.
   (L) For cable restrainer, see sheet no. AS17.4.
   (5) (M) Steel casing for drilled shaft shall conform to ASTM A252 Class 1 and need not be galvanized.
   (N) Steel pipes shall conform to ASTM A53, Type E or S, Grade B.
   (O) All welding shall conform to the latest ANSI / AASHTO / AWS D1.5 Bridge Welding Code. Unless noted otherwise, all welding shall be shielded arc welding done with E70 electrodes.
   (3) (P) Hollow masonry units shall conform to ASTM C-90 with F'm = 1,500 psi and Specifications Section 513.

5. Reinforcement:
   (A) The covering measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as otherwise shown:
      (1) Deck slabs
         a. Top bars = 2" with a tolerance of – 0 inch to +3/8 inch
         b. Bottom bars = 1 1/4" except as otherwise noted
      (2) Prestressed concrete girders = 1" to stirrups
      (3) Abutment walls and Wing walls = 2"
      (4) Columns = 2" to ties or spirals
      (5) Bent cap and Beams = 2" to stirrups
      (6) Drilled shafts = 4" to spirals.
      (7) Approach slab top bars = 2"
      Approach slab bottom bars = 3"
      (8) Concrete cast against and permanently exposed to earth = 3"
      (9) All others unless otherwise noted = 2".
   (B) Reinforcing bars shall be detailed in accordance with the latest edition of the A.C.I. Detailing Manual unless otherwise noted.
   (C) Minimum clear spacing between parallel bars shall be 1 1/2 times the diameter of bars (for non bundled bars). In no case shall the clear distance between the bars be less than 1 1/2 times the maximum size of the coarse aggregate or 1 1/2".
   (D) All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| | DESIGNED BY | |
| | QUANTITIES BY | |
| | CHECKED BY | |

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | (5) Clarification |
| 6/20/03 | (3) Clarification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

VIADUCT GENERAL NOTES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AS0.3 OF 150 SHEETS

ADD. 416

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# VIADUCT GENERAL NOTES

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 417 | 816 |

5. Reinforcement:

(E) Reinforcing bars shall be securely tied at all intersections and lap splices except where the spacing of intersections is less than one foot in each direction, in which case alternate intersections shall be tied.

(F) Vertical column bars shall be shown on shop drawings and arranged in such a manner as to avoid interference with bent cap bars above. At columns, bent caps and beams above bent caps, reinforcing steel shall be adjusted to provide 2" clearance to drain pipe, unless noted otherwise. 3

6. Glass Fiber Reinforced Polymer Bar

(A) Glass Fiber Reinforced Polymer (GFRP) rebar shall have a minimum tensile strength of 110 ksi for #4 bar and smaller. All others shall have a minimum tensile strength of 95 ksi. The allowable stress is equal to 1/4 of the tensile strength.

(B) The modulus of elasticity of the GFRP bar shall be a minimum of 5,900,000 psi.

(C) Minimum concrete cover for the GFRP bars shall be 3/4" unless otherwise noted.

(D) Minimum lap splice lengths for the GFRP bars shall be 42 bar diameters unless otherwise noted.

(E) All GFRP bars shall be securely tied in place.

(F) The GFRP bars may be cut in the field with a masonry or diamond blade.

(G) All work including materials and bends shall follow manufacturer's recommendations.

7. Girder Bearings, Hinge Blocks and Creep Blocks:

(A) Girder concrete seats receiving elastomeric pads, hinge blocks and creep blocks shall be poured monolithically with supporting structure. Top of concrete seats receiving elastomeric bearing pads shall be finished with a steel trowel to a smooth level surface to the elevation shown on the plans. Grind down high spots as needed to provide an even bearing surface to 1/16"± tolerance.

(B) Elastomeric pads: To prevent displacement, the bottom of bridge bearing pads shall be secured to the concrete seats with adhesives approved by the Engineer.

8. Construction Notes:

(A) Finish deck slopes and grades shall provide smooth and even transitions at and near connections with existing elements. The Contractor shall provide a field survey, by a registered Hawaii Land Surveyor, of existing grades at 25-foot intervals along the grade control and along a line offset 6-inches makai from the the edge of the existing mauka concrete barrier with tolerances tolerances of ±0.01 feet to verify the finish grades shown for the viaduct grade control on sheet AS5.1. The field survey shall be performed only during the full closure of the existing Waimalu Viaduct (see Civil sheet AC13.1) and when there are no live loads or stored materials of any kind unless permitted by the Engineer. The Engineer will determine if the elevations for the viaduct should be revised. The work required by this paragraph shall be incidental to the accepted concrete for the viaduct deck in Section 503 and no change order for cost or time shall be prepared. The field survey and any revisions by the Engineer shall be completed prior to the concrete pour of the abutments or bent caps. 3

(B) The Contractor shall verify all dimensions and site conditions and shall report any discrepancies in writing to the Engineer before commencing work or ordering materials.

(C) The Contractor shall verify all site conditions and not rely upon these plans for existing viaduct elevations and azimuths, stream channel location, roads, roadway gutters, curbs and sidewalks, etc.. Conditions may differ from those shown.

8. Construction Notes (Cont.):

(D) The Contractor shall be solely responsible for the protection of adjacent properties, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer.

(E) The Contractor shall verify the location of all utility lines and notify the respective owners before commencing with excavation, and any temporary piling or sheeting.

(F) The Contractor shall submit working drawings and calculations for the proposed bracing/falsework details needed to protect the existing Waimalu Stream channel walls from increases in the existing load due to equipment, drilled shaft rigs, cranes, vehicles and fresh concrete, etc. The drawings and calculations shall be stamped by a licensed Structural Engineer and a licensed Civil Engineer specializing in geotechnical engineering in the State of Hawaii. The above work, including working drawings and calculations, shall be incidental to structure excavation of the bent footings. The drawings and calculations shall be found acceptable by the Engineer before any construction work is to proceed. 3

(G) In general, top of new concrete deck slab shall be constructed to follow the existing roadway vertical and horizontal curves and superelevations.

(H) For the installation of anchor bolts for lighting standards, the Contractor shall provide rigid templates to maintain the proper locations and shall protect such anchor bolts at all times during the period of construction.

(J) Except as otherwise noted, all vertical dimensions are measured plumb.

(K) For concrete finish see Standard Specifications and Special Provisions.

(L) Construction joints may be relocated or additional ones added subject to the approval of the Engineer.

(M) Unless otherwise noted, all exposed concrete edges shall be chamfered 3/4" x 3/4".

(N) The Contractor shall verify the location and size of all existing reinforcing bars prior to drilling.

(P) Drilled holes in existing concrete for reinforcing steel dowels shall not be left unfilled for more than 8 hours. Epoxy in drilled holes shall be able to develop the full strength of the dowels prior to pouring concrete around reinforcing steel dowels.

(Q) Class 1 ordinary surface finish shall be applied to the surfaces of all new bent caps and columns except that these surfaces shall not be rubbed with carborundum stone and that all fins caused by form joints and other projections of these surfaces shall not be removed.

(R) During the pour of the deck, the concrete portion of the deck within 1/4 of the span length on each side of all Bents, except at Bent Nos. 3, 6, and 9, shall remain plastic until the deck pour is completed in the spans on each side of the Bent. The contractor shall submit the deck pour sequence and schedule for review and acceptance by the Engineer.

(S) See Specs. Section 206.03 (A) for submittal of working drawings and calculations at various excavation locations.

3 (T) No construction work, including bracing/falsework, shall be performed within or below the top of the walls of the Waimalu Stream Channel.

3 (U) Contractor shall unplug, clean and maintain existing drains until stage 20 on plan sheet AS18.3. This work shall be incidental to concrete for viaduct deck.

(V) Location of drilled holes shown in plans are approximate. Prior to placing holes in concrete, the Contractor shall locate all reinforcing steel and adjust the location of the holes to clear all reinforcing bars. Final hole locations are subject to the approval of the Engineer.

(W) Aluminum in contact with concrete and dissimilar metals shall be separated by neoprene sheets. Such work shall be incidental to the various pay items of work.

9. General:

(A) Viaduct General Notes apply to the Waimalu Viaduct portion of project and all related phases of construction unless noted otherwise.

(B) All items noted incidental will not be paid for separately.

(C) Standard Plans refer to all structures in general, except for modifications as may be required for special conditions. For such modifications refer to the corresponding detailed drawings.

3 (D) Plans of the existing viaduct and the foundation report prepared by Geolabs, Inc. dated March 31, 2003, are available for review from the Highways Design Branch located at the State Department of Transportation, Highways Division Kakuhihewa Building, Room 609, 601 Kamokila Boulevard, Kapolei, HI 96707 (George Atiburcio, phone number 692-7586).

10. Foundation:

(A) For boring logs and other geotechnical information, see foundation report by Geolabs, Inc. and sheet nos. AG0.1 to AG3.9.

(B) Design load and minimum shaft depth for drilled shafts are shown on sheet no. AS10.1. For shaft details, see sheet no. AS9.7.

(C) Design Soil Parameters:

(1) Bearing pressure (spread footing - Bent No. 11)
A. Extreme event limit state = 30 ksf
B. Strength limit state = 18 ksf
C. Service limit state = 10 ksf

(2) Passive resistance (spread footing - Bent No. 11)
A. Extreme event limit state = 500 pcf and Cohesion = 2000 psf
B. Strength limit state = 250 pcf and Cohesion = 1000 psf

(3) Coefficient of friction (spread footing - Bent No. 11)
A. Extreme event limit state = 0.62
B. Strength limit state = 0.5

(4) Static lateral earth pressure
A. Active conditon, level backfill = 32 pcf
B. At-rest conditon, level backfill = 50 pcf

(5) Dynamic lateral earth pressure
A. Active conditon, level backfill = 7H psf (rectangular distribution)
B. At-rest conditon, level backfill = 11H psf (rectangular distribution)

11. Reference Drawings:

(A) For construction sequence, see sheet nos. AS18.1 through AS18.3.

(B) For electrical conduit and light standard location details see electrical drawing.

(C) For drain line schematic diagram and details, see sheet no. AC7.28.

3 (D) See Civil and Electrical drawings for existing or future utility lines not shown on plans.

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification Added Note |

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara
SIGNATURE

4-30-04
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

VIADUCT GENERAL NOTES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AS0.4 OF 150 SHEETS

ADD. 417

ORIGINAL PLAN
NOTE BOOK No.
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 418 | 816 |

# ESTIMATED QUANTITIES

| ITEM NO. | ITEM | QUAN. | UNIT | ITEM NO. | ITEM | QUAN. | UNIT |
|---|---|---|---|---|---|---|---|
| 202.0201 | Removal of Existing Concrete Barrier | LS | LS | 503.1092 | Concrete for Viaduct Deck including Drop Inlets on Bridge but excluding Closure Pour | LS | LS |
| 202.0202 | Removal of Portion of Existing Concrete Deck | LS | LS | | | | |
| | | | | 503.1093 | Concrete for Bent Caps | LS | LS |
| 202.0203 | Removal of Portion of Existing Concrete Deck for Replacement Concrete by Shotblasting | LS | LS | | | | |
| | | | | 503.1094 | Concrete for Columns | LS | LS |
| 202.0204 | Removal of Portion of Existing Concrete Deck for Replacement Concrete by Hydrodemolition | LS | LS | 503.1095 | Concrete for Bent Footings | LS | LS |
| 202.0205 | Removal of Portion of Existing Concrete Wingwall | LS | LS | 503.1096 | Concrete for Closure Pour | LS | LS |
| 202.0206 | Removal of Potion of Existing Portland Cement Concrete Pavement and Asphalt Concrete Pavement for Approach Slab | LS | LS | 503.1097 | Concrete for Seat Extender at Abutments | LS | LS |
| | | | | 503.1910 | Concrete for Approach Slabs (1st Phase) | LS | LS |
| 206.6000 | Structure Excavation for Abutments, Wingwalls, and Retaining Wall "B" | 3 580 | CY | | | | |
| | | | | 503.1911 | Concrete for Approach Slabs including Type II Corbel (2nd Phase) | LS | LS |
| 206.6001 | Structure Excavation for Bent Footings | 2200 | CY | | | | |
| | | | | 503.8000 | Mechanical Grooving | LS | LS |
| 206.7200 | Structure Backfill for Abutments, Wingwalls, and Retaining Wall "B" | 460 | CY | | | | |
| | | | | 504.4100 | Type Keehi IVM Prestressed Concrete Girders | LS | LS |
| 206.7201 | Structure Backfill for Bent No. 11 Column Footing (Class D Concrete) | 42 | CY | | | | |
| | | | | 507.7000 | Concrete Railings on Bridge | 1300 | Lin. Ft. |
| 206.7202 | Controlled Low Strength Material for Column Footings | 218 | CY | | | | |
| | | | | 511.0100 | Furnishing Drilled Shaft Drilling Equipment | LS | LS |
| 206.8200 | Filter Material | 11 | CY | | | | |
| | | | | 511.0200 | Obstructions | 80 | Hours |
| 501.0210 | Structural Steel for Luminaire Support Bracket at Pono St., Ponohana Place, and Detour Road | 10 | EACH | | | | |
| | | | | 511.0300 | Load Test | 2 | Each |
| 501.2010 | 8 – Inch Pipe Support Hangers | 30 | EACH | 511.0400 | Trial Shaft | 150 | Lin. Ft. |
| 501.2011 | 12 – Inch Pipe Support Hangers | 9 | EACH | 511.0600 | Permanent Casing (48–Inch Diameter) | 500 | Lin. Ft. |
| 503.1090 | Concrete for Abutments, Wingwalls, and Retaining Wall "B" including Type I Corbel | LS | LS | 511.0700 | Permanent Casing (60–Inch Diameter) | 1600 | Lin. Ft. |
| | | | | 511.0910 5 | Standard Shaft Excavation (48–Inch Diameter) | 440 | Lin. Ft. |
| 503.1091 | Concrete for Abutments, Wingwalls, and Retaining Wall "B" Footings | LS | LS | | | | |

NOTES:

1. Quantities and price for diaphragm beams "A", "B", "C", and "C1" shall be included with Item 503.1092 – Concrete for Viaduct Deck including Drop Inlets on Bridge but excluding Closure Pour.
2. Quantities and price for beams "D", "E", and "F" at Bents shall be included with Item 503.1093 – Concrete for Bent Caps.
3. Structural Backfill will not be paid for separately unless called for in the proposal schedule. Structural backfill shall be considered incidental to structural excavation unless otherwise noted.

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104–S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Added Items, Revised Quantities and Added Item. |
| 6/20/03 | 3 Revised Quantity and Item No. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AS0.5 OF 150 SHEETS

ADD. 418

ORIGINAL PLAN
NOTE BOOK No.
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 419 | 816 |

# ESTIMATED QUANTITIES

| ITEM NO. | ITEM | QUAN. | UNIT |
|---|---|---|---|
| 511.0920 /5 | Special Shaft Excavation (48-Inch Diameter) | 170 | Lin. Ft. |
| 511.0930 /5 | Rock Excavation (48-Inch Diameter) | 460 | Lin. Ft. |
| 511.1010 /5 | Standard Shaft Excavation (60-Inch Diameter) | 1750 | Lin. Ft. |
| 511.1020 /5 | Special Shaft Excavation (60-Inch Diameter) | 1850 | Lin. Ft. |
| 511.1030 /5 | Rock Excavation (60-Inch Diameter) | 600 | Lin. Ft. |
| 511.1300 /5 | Drilled Shaft (Type 48B) | 270 | Lin. Ft. |
| 511.1400 /5 | Drilled Shaft (Type 48C) | 980 | Lin. Ft. |
| 511.1500 /5 | Drilled Shaft (Type 60A) | 850 | Lin. Ft. |
| 511.1600 /5 | Drilled Shaft (Type 60B) | 870 | Lin. Ft. |
| 511.1700 /5 | Drilled Shaft (Type 60C) | 2030 | Lin. Ft. |
| 511.1800 /5 | Coring Samples (Integrity Testing) | 750 | Lin. Ft. |
| | | | |
| | | | |
| 540.1000 | Replacement Concrete for Frame A – Honolulu Half | LS | LS |
| | | | |
| 540.1001 | Replacement Concrete for Frame A – Waianae Half | LS | LS |
| | | | |
| 540.1002 | Replacement Concrete for Frame B | LS | LS |
| | | | |
| 540.1003 | Replacement Concrete for Frame C | LS | LS |
| | | | |
| 540.1004 | Replacement Concrete for Frame D | LS | LS |
| | | | |
| 540.1005 | Tensile Bond Test | 180 | EACH |
| | | | |
| | | | |
| 602.0090 | Reinforcing Steel for Abutments, Wingwalls, and Retaining Wall "B" including Type I Corbel | LS | LS |
| | | | |
| 602.0091 | Reinforcing Steel for Abutments, Wingwalls, and Retaining Wall "B" Footings | LS | LS |
| | | | |
| 602.0092 | Reinforcing Steel for Viaduct Deck including Drop Inlets on Bridge but Excluding Closure Pour | LS | LS |
| | | | |
| 602.0093 | Reinforcing Steel for Bent Caps | LS | LS |
| | | | |

| ITEM NO. | ITEM | QUAN. | UNIT |
|---|---|---|---|
| 602.0094 | Reinforcing Steel for Columns | LS | LS |
| | | | |
| 602.0095 | Reinforcing Steel for Bent Footings | LS | LS |
| | | | |
| 602.0096 | Reinforcing Steel for Closure Pour | LS | LS |
| | | | |
| 602.0097 | Reinforcing Steel for Seat Extender at Abutments | LS | LS |
| | | | |
| 602.0098 | Reinforcing Steel for Approach Slabs (1st Phase) | LS | LS |
| | | | |
| 602.0099 | Reinforcing Steel for Approach Slabs including Type II Corbel (2nd Phase) | LS | LS |
| | | | |
| /5 | | | |
| | | | |
| 654.1000 | Cable Restrainer Assembly | 18 | EACH |
| | | | |
| 655.1000 | Drilling Holes and Installing Dowel Reinforcing Bars into Existing Deck | 2500 | EACH |
| | | | |
| 655.1001 | Drilling Holes and Installing Dowel Reinforcing Bars into Existing Girder | 74 | EACH |
| | | | |
| 655.1002 | Drilling Holes and Installing Dowel Reinforcing Bars into Existing Bent Cap | 650 | EACH |
| | | | |
| 655.1003 | Drilling Holes and Installing Dowel Reinforcing Bars into Existing Abutment Walls | 30 | EACH |
| | | | |
| 655.1004 | Drilling Holes and Installing Dowel Reinforcing Bars into Existing Abutment Wall Footings | 28 | EACH |
| | | | |
| 655.1005 | Drilling Holes and Installing Dowel Reinforcing Bars for Seat Extender at Abutment | 846 | EACH |
| | | | |
| 655.1006 | Drilling Holes and Installing Dowel Reinforcing Bars for Approach Slab | 34 | EACH |
| | | | |
| 670.1000 | Glass Fiber Reinforced Polymer Rebar | LS | LS |

ORIGINAL PLAN
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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

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|---|---|
| 10/16/03 | /5 Added Items, Revised Quantities and Added Item. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AS0.6 OF 150 SHEETS

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# SYMBOLS AND ABBREVIATIONS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 420 | 816 |

| | |
|---|---|
| & | And |
| @ | At |
| ø | Diameter |
| ≥ | Greater Than or Equal to |
| ≤ | Less Than or Equal to |
| # | Number |
| Abut. | Abutment |
| Abbr. | Abbreviation |
| Add. | Additional |
| Alt. | Alternate |
| AB | Anchor Bolt |
| AC | Asphaltic Concrete |
| Approx. | Approximate |
| Az. | Azimuth |
| Bk. | Back |
| Bal. | Balance |
| ℄ | Baseline |
| Bm. | Beam |
| Brg., Brgs. | Bearing, Bearings |
| BVC | Beginning of Vertical Curve |
| Bet. | Between |
| BF | Both Faces |
| BW | Both Ways |
| BFE | Bottom of Footing Elevation |
| Bot., Bott., B | Bottom |
| Br. | Bridge |
| Blt. | Bolt |
| Cant. | Cantilever |
| CIP | Cast Iron Pipe |
| ℄ | Center line |
| CG | Center of Gravity |
| cc | Center to Center |
| Cl. | Class |
| Clr. | Clearance |
| CO | Clean Out |
| Col. | Column |
| Conc. | Concrete |
| CBW | Concrete Barrier Wall |
| 3 CMU | Concrete Masonry Unit |
| Conn. | Connection |
| Const. | Construction |
| CJ | Construction Joint |
| Cntl. Jt. | Control Joint |
| CLSM | Controlled Low Strength Material |
| Cont. | Continuous |
| CSL | Cross Hole Sonic Loggin |
| CF | Cubic Feet |
| CY, Cu. Yd. | Cubic Yard |
| Det. | Detail |
| Dia. | Diameter |
| Diaph. | Diaphragm |
| Dim. | Dimension |
| Dist. | Distance |
| DO | Ditto |
| Dwls. | Dowels |
| Dn. | Down |
| Dbl. | Double |
| DI | Drain Inlet, Ductile Iron |
| Dwg., Dwgs. | Drawing, Drawings |
| DS | Drilled Shaft |
| E | East |
| EA, Ea., ea. | Each |
| EF | Each Face |
| EFH | Each Face Horizontal |
| EFV | Each Face Vertical |
| EW | Each Way |
| EPE | Existing Edge of Pavement |
| EPS | Expanded Polystyrene |
| ES | Edge of Shoulder |
| Elec. | Electrical |
| EMH | Electrical Manhole |
| El., Elev. | Elevation |
| Emb. | Embankment |
| EVC | End of Vertical Curve |
| Eq. | Equal |
| Est. | Estimated |
| Exc. | Excavation |
| Excl. | Excluding |
| Exist., Ex. | Existing |
| Exp., (E) | Expansion |
| EJ | Expansion Joint |
| Ext. | Exterior |
| FF | Far Face. Front Face |
| f'c | Specified Compressive Strength of Concrete at 28 days |
| f'ci | Specified Compressive Strength of Concrete at Time of Initial Prestress |
| Ft. | Feet, Foot |
| Fig. | Figure |
| Fin. Gr. | Finish Grade |
| (F) | Fixed |
| FB | Flat Bar |
| Ftg. | Footing |
| FA | Force account |
| Ga. | Gage, Gauge |
| Galv. | Galvanized |
| G, Gir. | Girder |
| GDI | Grated Drain Inlet |
| GFRP | Glass Fiber Reinforced Polymer |
| Gr. | Grade |
| Grd. | Ground |
| GRP | Grouted Rubble Pavement |
| Ht. | Height |
| (H) | Hinge |
| Horiz., H | Horizontal |
| HDOT | State of Hawaii Department of Transportation |
| HDPE | High Density Polyethylene |
| HS | High strength |
| HECO | Hawaiian Electric Company |
| IB | Inbound |
| In. | Inch |
| ID | Inside Diameter |
| IF | Inside Face |
| Int. | Interior |
| Inv. | Invert |
| Jt. | Joint |
| K | Kips |
| KF | Kip Foot |
| KSF | Kips Per Square Foot |
| KSI | Kips Per Square Inch |
| KLF | Kips Per Linear Foot |
| L | Length |
| lb., lbs., LBS. | Pound, Pounds |
| Ltg. Std. | Lighting Standard |
| LF, Lin. Ft. | Linear Feet/Foot |
| LS | Lump Sum |
| Longit. | Longitudinal |
| M | Modified |
| MH | Manhole |
| Max. | Maximum |
| Mech. | Mechanical |
| Min. | Minimum |
| Misc. | Miscellaneous |
| MPH | Miles Per Hour |
| NF | Near Face |
| N | North |
| NIC | Not in Contract |
| No. | Number |
| NTS | Not to Scale |
| O/S | Offset |
| oc | On Center |
| Opn'g | Opening |
| OB | Outbound |
| OD | Outside Diameter |
| OG | Outside Girder, Outbound Girder |
| Perf. | Perforated |
| PL | Plate |
| PCC | Portland Cement Concrete |
| PC | Point of Curvature |
| PCF | Pounds per Cubic Foot |
| PPM | Parts Per Million |
| PSF | Pounds per Square Foot |
| PSI | Pounds per Square Inch |
| PLF | Pounds per Linear Foot |
| PI | Point of Intersection of Tangents |
| PIVC | Point of Intersection of Vertical Curve |
| PT | Point of Tangency |
| Pt., Pts. | Point, Points |
| PRC | Point of Reverse Curvature |
| PVC | Polyvinyl Chloride |
| Prestr. | Prestressed |
| P/S | Prestressed Strands |
| PB | Pull Box |
| Rad., R | Radius |
| RF | Rear Face |
| Rebar | Reinforcing Bar |
| Ref. | Reference |
| Reinf. | Reinforced, Reinforcing, Reinforcement |
| Req'd. | Required |
| Ret. | Retaining |
| ROW | Right of Way |
| Rdwy. | Roadway |
| Sect. | Section |
| SRW | Segmental Retaining Wall |
| Sht. | Sheet |
| Sim. | Similar |
| Sl. | Slope |
| S | South |
| Spc., Spg. | Spaces, Spacing |
| Sprd. | Spread |
| Spec. | Specification |
| SF | Square Feet |
| SY | Square Yard |
| SS | Stainless Steel |
| Std. | Standard |
| Sta. | Station |
| Stiff. | Stiffener |
| Stirr. | Stirrup |
| Stl. | Steel |
| Str. | Straight |
| Struct. | Structure |
| SE | Super Elevation |
| Symm. | Symmetrical |
| Tan. | Tangent |
| Temp. | Temporary |
| Thk. | Thick |
| T | Top |
| T&B | Top and Bottom |
| TCE | Top of Column (and Bent Cap Soffit) Elevation |
| TOD | Top of Deck |
| TFE | Top of Footing Elevation |
| Tot. | Total |
| Transv. | Transverse |
| TS | Structural Tubing |
| Typ. | Typical |
| Undergrd. | Underground |
| Var. | Varies |
| Vert., V | Vertical |
| VC | Vertical Curve |
| W/C | Water/Cement |
| w/ | With |
| W | West |
| WWF | Welded Wire Fabric |
| WW | Wingwall |
| WP | Work Point, Working Point |
| WS | Water Surface |
| Yr. | Year |

| | |
|---|---|
| Sect. | Section |
| SRW | Segmental Retaining Wall |
| Sht. | Sheet |
| Sim. | Similar |
| Sl. | Slope |
| S | South |
| Spc., Spg. | Spaces, Spacing |
| Sprd. | Spread |
| Spec. | Specification |
| SF | Square Feet |
| SY | Square Yard |
| SS | Stainless Steel |
| Std. | Standard |
| Sta. | Station |
| Stiff. | Stiffener |
| Stirr. | Stirrup |
| Stl. | Steel |
| Str. | Straight |
| Struct. | Structure |
| SE | Super Elevation |
| Symm. | Symmetrical |

| | |
|---|---|
| Tan. | Tangent |
| Temp. | Temporary |
| Thk. | Thick |
| T | Top |
| T&B | Top and Bottom |
| TCE | Top of Column (and Bent Cap Soffit) Elevation |
| TOD | Top of Deck |
| TFE | Top of Footing Elevation |
| Tot. | Total |
| Transv. | Transverse |
| TS | Structural Tubing |
| Typ. | Typical |
| Undergrd. | Underground |
| Var. | Varies |
| Vert., V | Vertical |
| VC | Vertical Curve |
| W/C | Water/Cement |
| w/ | With |
| W | West |
| WWF | Welded Wire Fabric |
| WW | Wingwall |
| WP | Work Point, Working Point |
| WS | Water Surface |
| Yr. | Year |

| | |
|---|---|
| 6/20/03 | 3 Addition to Abbreviations |
| DATE | REVISION |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SYMBOLS AND ABBREVIATIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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SHEET No. AS0.7 OF 150 SHEETS

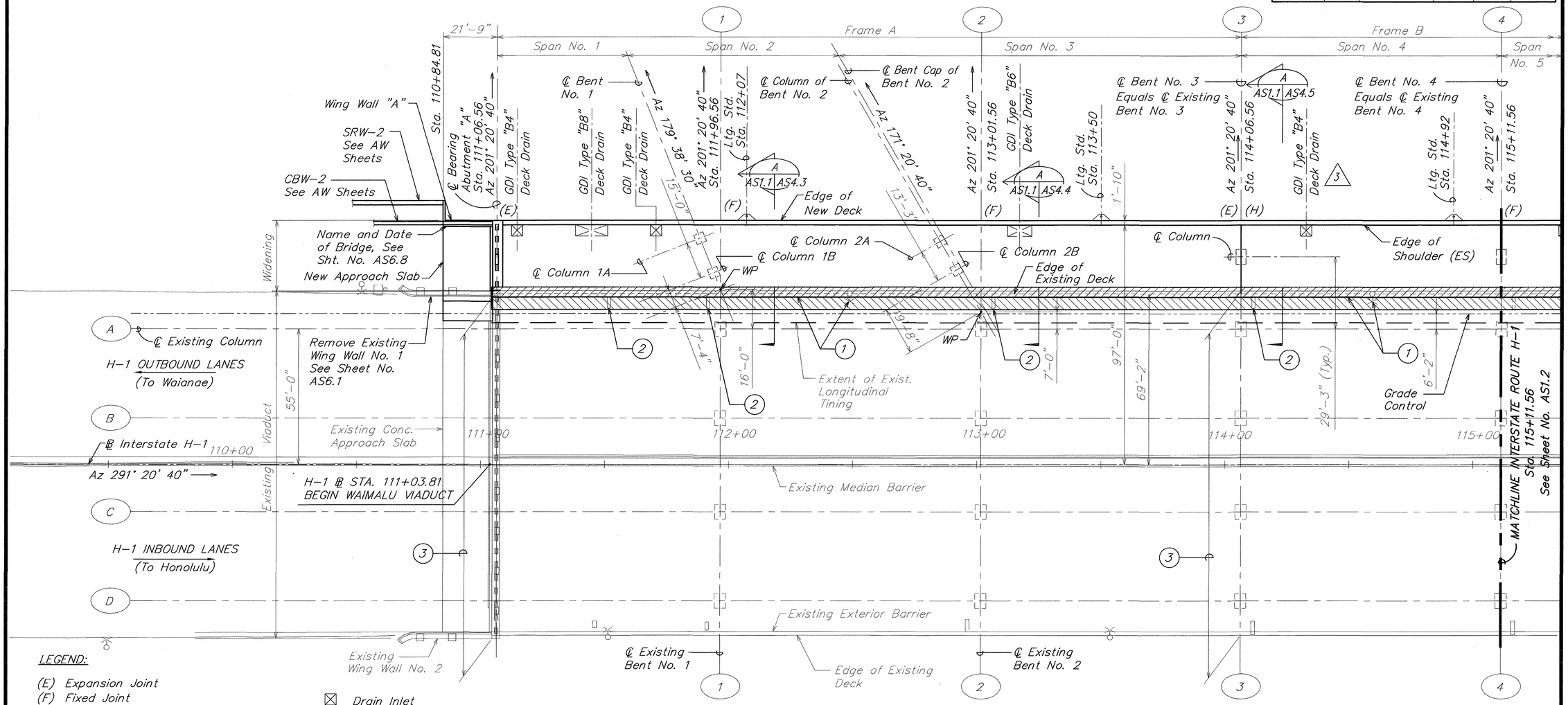
ADD. 420

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

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 421 | 816 |




LEGEND:

(E) Expansion Joint
(F) Fixed Joint
(H) Hinged Joint

(1) Remove Existing Railing and Deck
Remove Existing Light Standards
Refer to Sheet Nos. AS18.1 to AS18.3
Stage 11 of Viaduct Construction Sequence

(2) Plug Existing Deck Storm Drain,
See Detail on Sheet No. AS16.12 and AS16.13
Refer to Sheet Nos. AS18.1 to AS18.3, Stage 20 of Viaduct Construction Sequence

(3) Remove Existing Compression Seal and Replace with New Seal
See Sheet Nos. AS17.5 to AS17.11

Drain Inlet
Closure Pour
Partial Removal of Existing Deck and Replace with Overlay.

REFERENCE DRAWINGS:

1. Light Standard Details, See Sheet No. AS16.6.
2. New Drain Inlet Details, See Sheet Nos. AS16.14 to AS16.20.
3. Approach Slab Details, See Sheet Nos. AS7.9 to AS7.11.
4. Closure Slab Details, See Sheet No. AS15.8 and AS15.9.
5. Foundation Plan, See Sheet Nos. AS2.1 to AS2.3.
6. Deck Drain Stations, See Sheet No. AC7.9.
7. See Sheet Nos. AS2.1 to AS2.3 for New and Existing ROW.

## PARTIAL LAYOUT PLAN – ABUTMENT "A" TO BENT NO. 4

SCALE: 1" = 20'-0"

A AS1.1 | AS1.1

| ORIGINAL PLANS | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
| No. | QUANTITIES BY | |
| | CHECKED BY | |

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Relocate Drain |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PARTIAL LAYOUT PLAN
ABUTMENT "A" TO BENT NO. 4

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

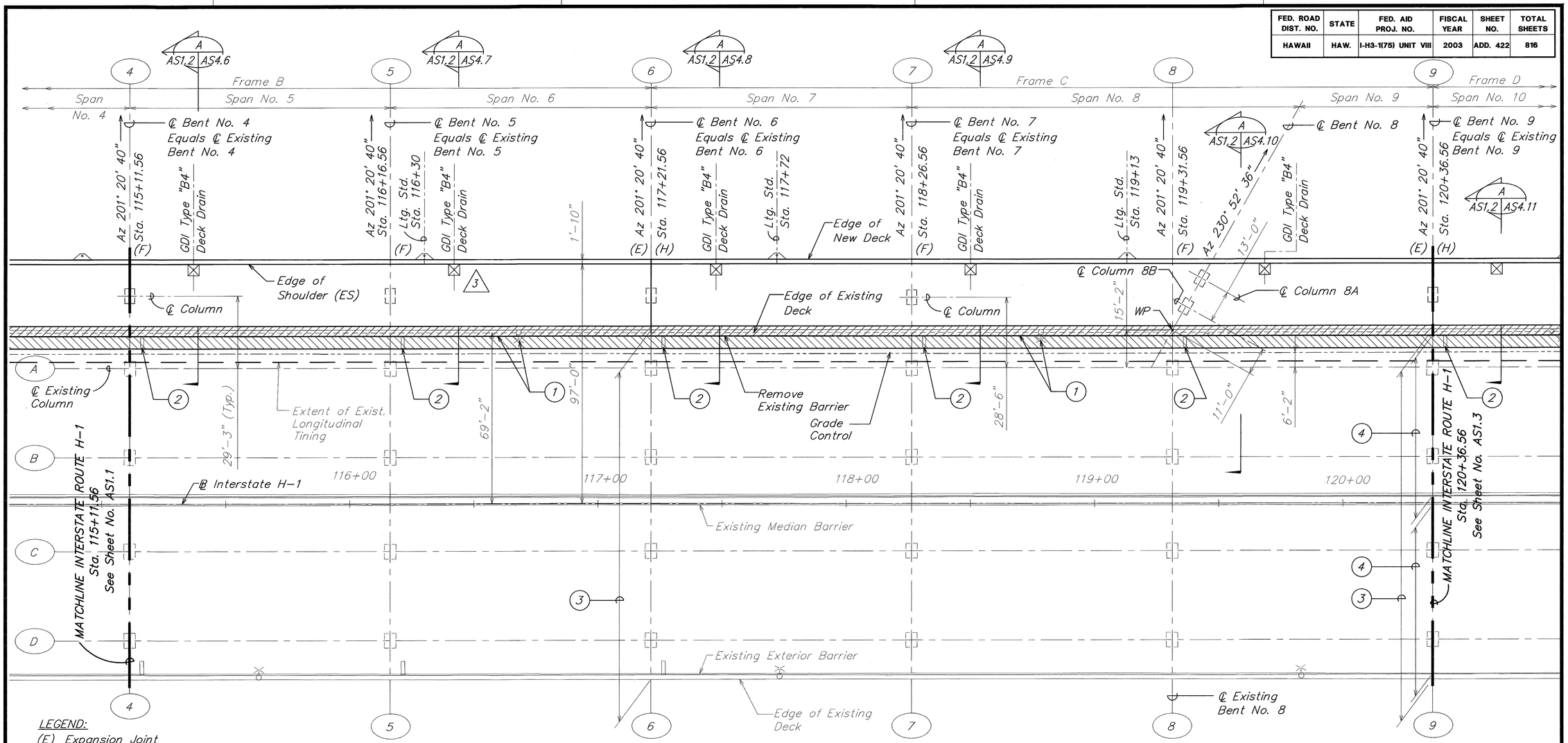
SHEET No. AS1.1 OF 150 SHEETS

ADD. 421

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 422 | 816 |




LEGEND:

(E) Expansion Joint
(F) Fixed Joint
(H) Hinged Joint

(1) Remove Existing Railing and Deck
Remove Existing Light Standards
Refer to Sheet Nos. AS18.1 to AS18.3
Stage 11 of Viaduct Construction Sequence

(2) Plug Existing Deck Storm Drain,
See Detail on Sheet No. AS16.12 and AS16.13
Refer to Sheet Nos. AS18.1 to AS18.3, Stage 20 of Viaduct Construction Sequence

(3) Remove Existing Compression Seal and Replace with New Seal
See Sheet Nos. AS17.5 to AS17.11

(4) Install structural steel plates.
See sht. nos. AS17.5 to AS17.11.

Drain Inlet
Closure Pour
Partial Removal of Existing Deck and Replace with Overlay.

REFERENCE DRAWINGS:

1. Light Standard Details, See Sheet No. AS16.6.
2. New Drain Inlet Details, See Sheet Nos. AS16.14 to AS16.20.
3. Approach Slab Details, See Sheet Nos. AS7.9 to AS7.11.
4. Closure Slab Details, See Sheet No. AS15.8 and AS15.9.
5. Foundation Plan, See Sheet Nos. AS2.1 to AS2.3.
6. Deck Drain Stations, See Sheet No. AC7.9 and AC7.10.
7. See Sheet Nos. AS2.1 to AS2.3 for New and Existing ROW.

# PARTIAL LAYOUT PLAN – BENT NO. 4 TO BENT NO. 9

SCALE: 1" = 20'-0"

A AS1.2 AS1.2

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

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Correct Drain Location |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PARTIAL LAYOUT PLAN
BENT NO. 4 TO BENT NO. 9

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

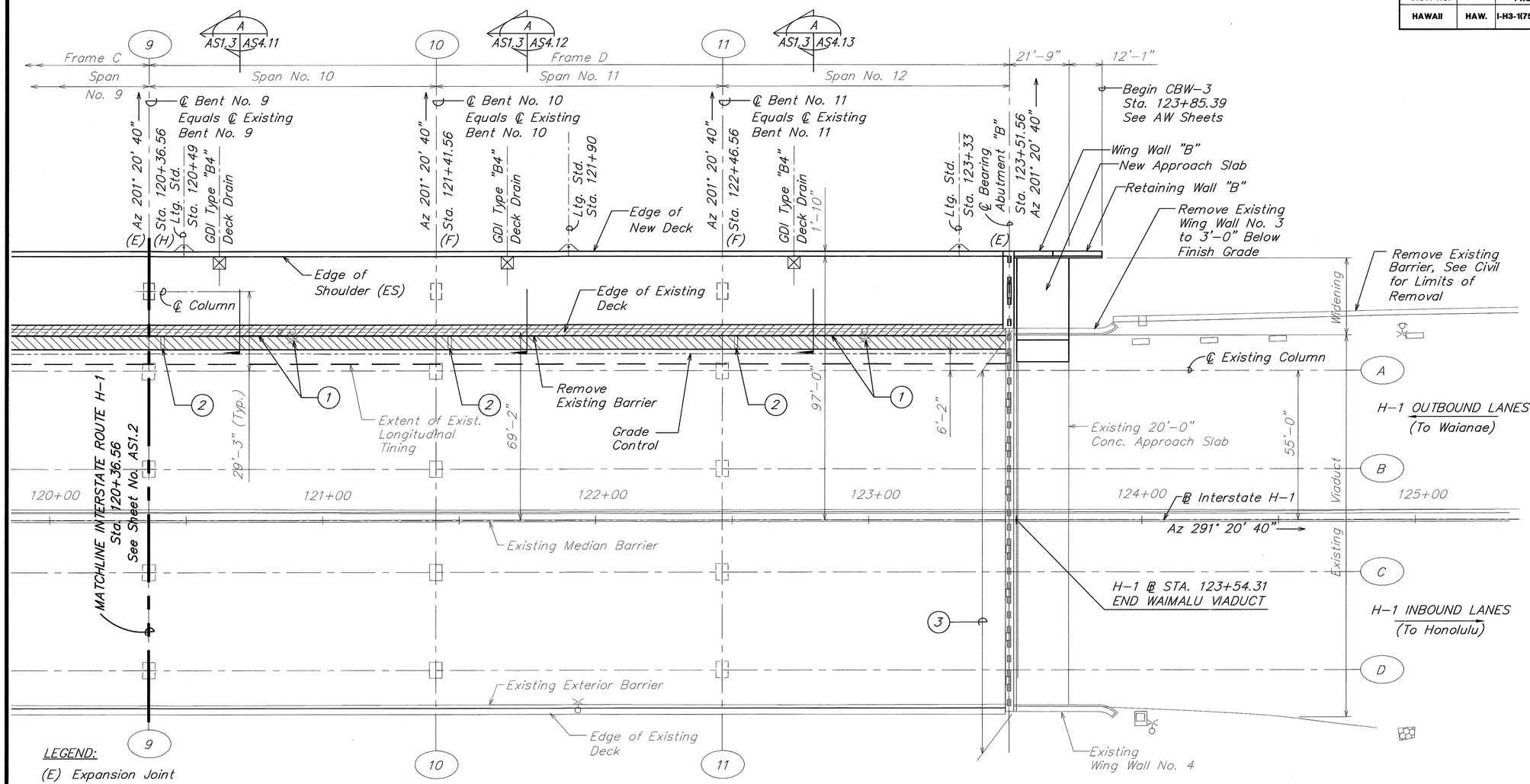
SHEET No. AS1.2 OF 150 SHEETS

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 423 | 816 |




LEGEND:

(E) Expansion Joint
(F) Fixed Joint
(H) Hinged Joint

(1) Remove Existing Railing and Deck
Remove Existing Light Standards
Refer to Sheet Nos. AS18.1 to AS18.3
Stage [11] of Viaduct Construction Sequence

(2) Plug Existing Deck Storm Drain,
See Detail on Sheet No. AS16.12 and AS16.13
Refer to Sheet Nos. AS18.1 to AS18.3, Stage [20] of Viaduct Construction Sequence

(3) Remove Existing Compression Seal and Replace with New Seal
See Sheet Nos. AS17.5 to AS17.11

Drain Inlet
Closure Pour
Partial Removal of Existing Deck and Replace with Overlay.

## PARTIAL LAYOUT PLAN – BENT NO. 9 TO ABUTMENT "B"

A AS1.3 AS1.3

SCALE: 1" = 20'-0"

REFERENCE DRAWINGS:

1. Light Standard Details, See Sheet No. AS16.6.
2. New Drain Inlet Details, See Sheet Nos. AS16.14 to AS16.20.
3. Approach Slab Details, See Sheet Nos. AS7.9 to AS7.11.
4. Closure Slab Details, See Sheet No. AS15.8 and AS15.9.
5. Foundation Plan, See Sheet Nos. AS2.1 to AS2.3.
6. Deck Drain Stations, See Sheet No. AC7.10 and AC7.11.
7. Removal of PCC at Abutment "B", See Sheet Nos. AS7.9.
8. See Sheet Nos. AS2.1 to AS2.3 for New and Existing ROW.

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

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NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara
SIGNATURE

4-30-04
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PARTIAL LAYOUT PLAN
BENT NO. 9 TO ABUTMENT "B"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

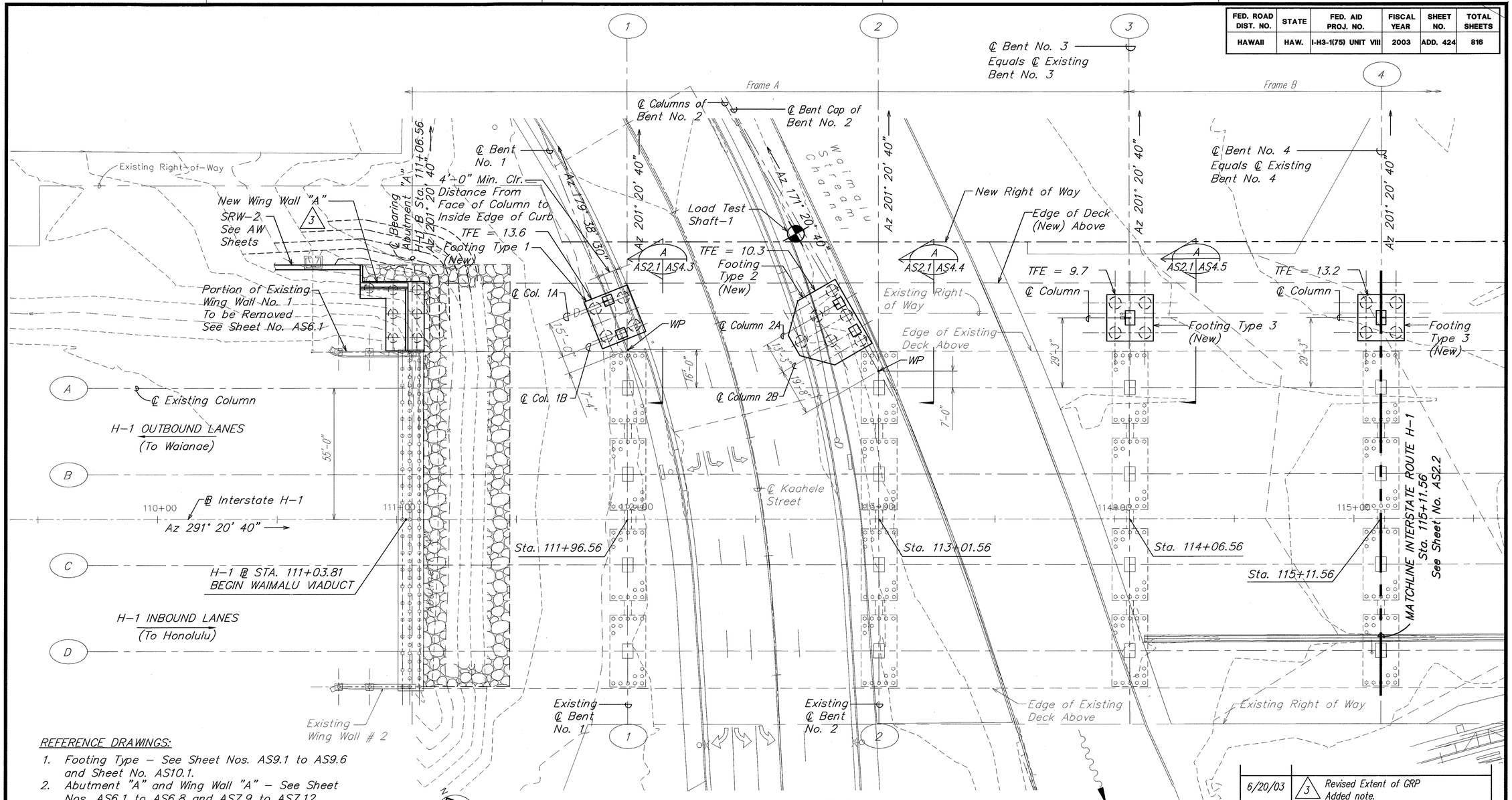
SHEET No. AS1.3 OF 150 SHEETS



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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 424 | 816 |




## PARTIAL FOUNDATION PLAN – ABUTMENT "A" TO BENT NO. 4

SCALE: 1" = 20'-0"

A
AS2.1 AS2.1

REFERENCE DRAWINGS:

1. Footing Type – See Sheet Nos. AS9.1 to AS9.6 and Sheet No. AS10.1.
2. Abutment "A" and Wing Wall "A" – See Sheet Nos. AS6.1 to AS6.8 and AS7.9 to AS7.12.
3. Abutment "B" and Wing Wall "B" – See Sheet Nos. AS7.1 to AS7.12.
4. Drilled Shaft – See Sheet No. AS9.7.
5. Load Test Shaft – See Sheet No. AS9.8.
6. Columns – See Sheet Nos. AS10.1 to AS10.4.
7. Drainage Below Viaduct – See Sheet Nos. AC7.16 to AC7.18.
8. For extent of GRP, see sheet no. AC4.23.
9. See Civil and Electrical drawings for existing or future utility lines not shown on plans.

3

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised Extent of GRP Added note. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PARTIAL FOUNDATION PLAN
# ABUTMENT "A" TO BENT NO. 4

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
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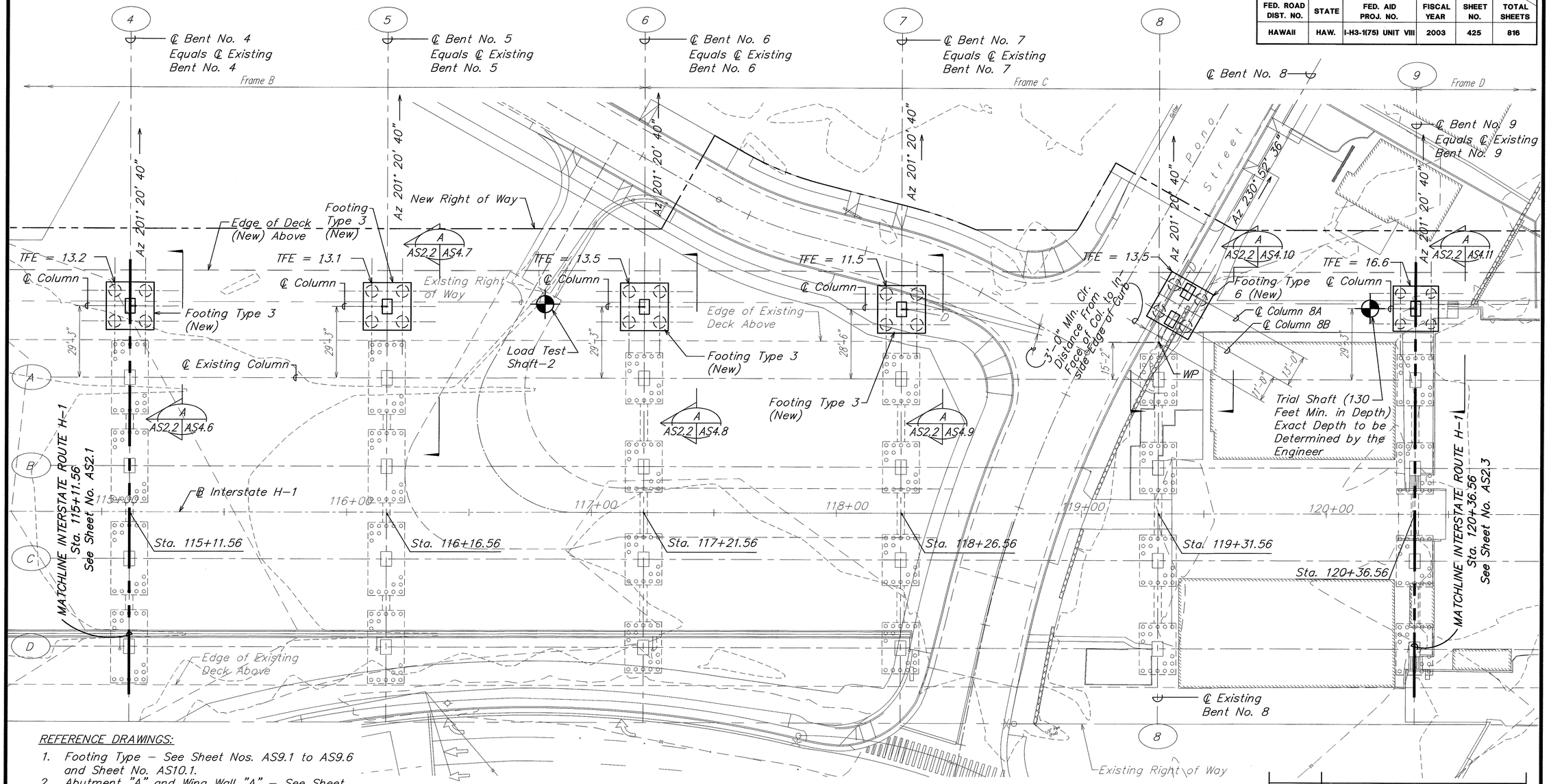
SHEET No. AS2.1 OF 150 SHEETS

ADD. 424

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 425 | 816 |




REFERENCE DRAWINGS:

1. Footing Type – See Sheet Nos. AS9.1 to AS9.6 and Sheet No. AS10.1.
2. Abutment "A" and Wing Wall "A" – See Sheet Nos. AS6.1 to AS6.8 and AS7.9 to AS7.12.
3. Abutment "B" and Wing Wall "B" – See Sheet Nos. AS7.1 to AS7.12.
4. Drilled Shaft – See Sheet No. AS9.7.
5. Load Test Shaft – See Sheet No. AS9.8.
6. Columns – See Sheet Nos. AS10.1 to AS10.4.
7. Drainage Below Viaduct – See Sheet Nos. AC7.16 to AC7.18.
3 8. See Civil and Electrical drawings for existing or future utility lines not shown on plans.

## PARTIAL FOUNDATION PLAN – BENT NO. 4 TO BENT NO. 9

A AS2.2 AS2.2

SCALE: 1" = 20'-0"

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Added note. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PARTIAL FOUNDATION PLAN BENT NO. 4 TO BENT NO. 9

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS2.2 OF 150 SHEETS

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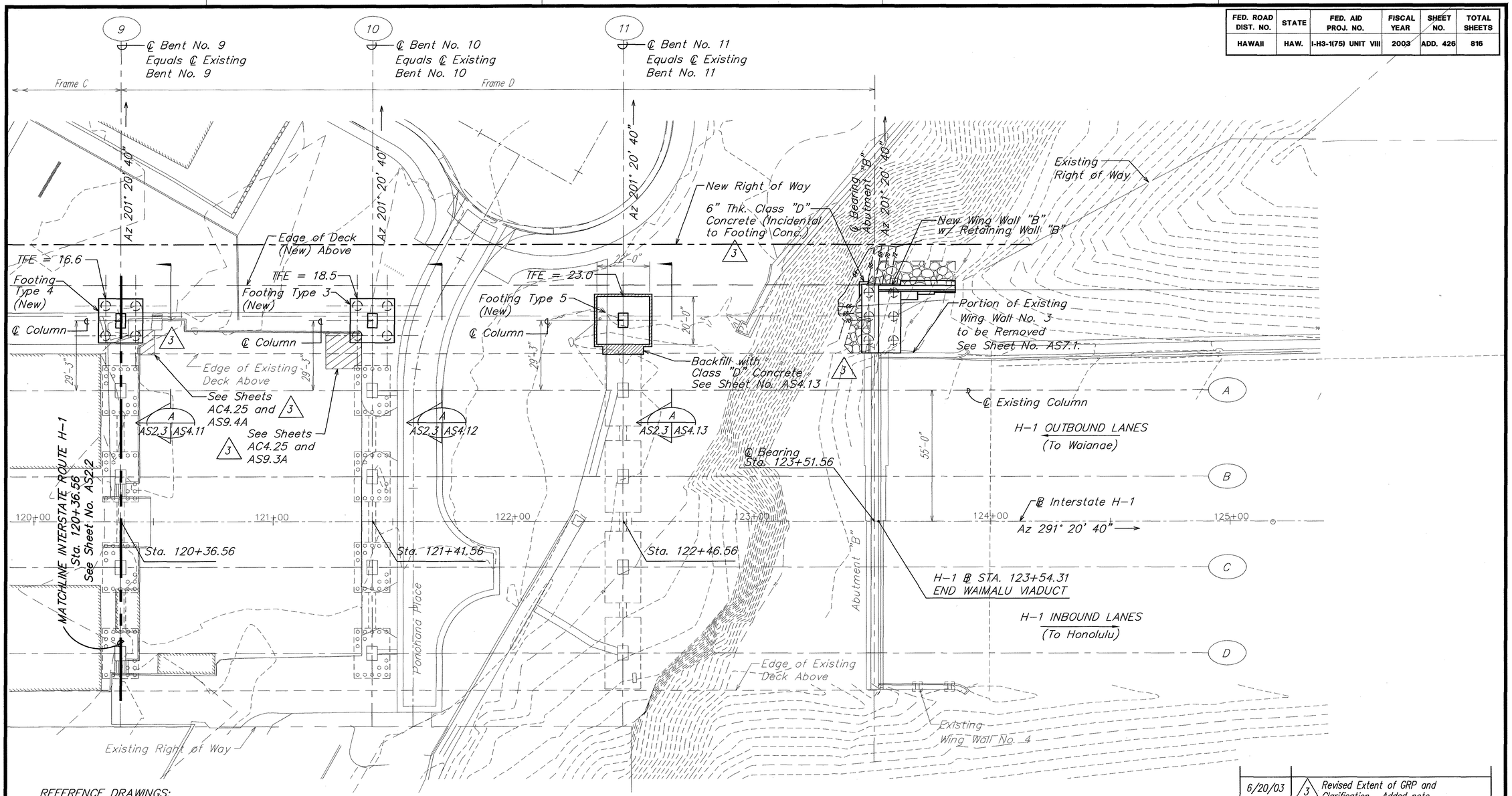
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David K. Fujiwara 4-30-04
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WV-AS0201.DWG 1 = 1

ADD. 425

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 426 | 816 |




REFERENCE DRAWINGS:

1. Footing Type – See Sheet Nos. AS9.1 to AS9.6 and Sheet No. AS10.1.
2. Abutment "A" and Wing Wall "A" – See Sheet Nos. AS6.1 to AS6.8 and AS7.9 to AS7.12.
3. Abutment "B" and Wing Wall "B" – See Sheet Nos. AS7.1 to AS7.12.
4. Drilled Shaft – See Sheet No. AS9.7.
5. Columns – See Sheet Nos. AS10.1 to AS10.4.
6. Drainage Below Viaduct – See Sheet Nos. AC7.16 to AC7.18.
7. For extent of GRP, see Sheet No. AC4.25.
3 8. See Civil and Electrical drawings for existing or future utility lines not shown on plans.

N

## PARTIAL FOUNDATION PLAN – BENT NO. 9 TO ABUTMENT "B"

A AS2.3 AS2.3

SCALE: 1" = 20'-0"

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

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LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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SIGNATURE 4-30-04 EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised Extent of GRP and Clarification. Added note. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PARTIAL FOUNDATION PLAN
BENT NO. 9 TO ABUTMENT "B"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

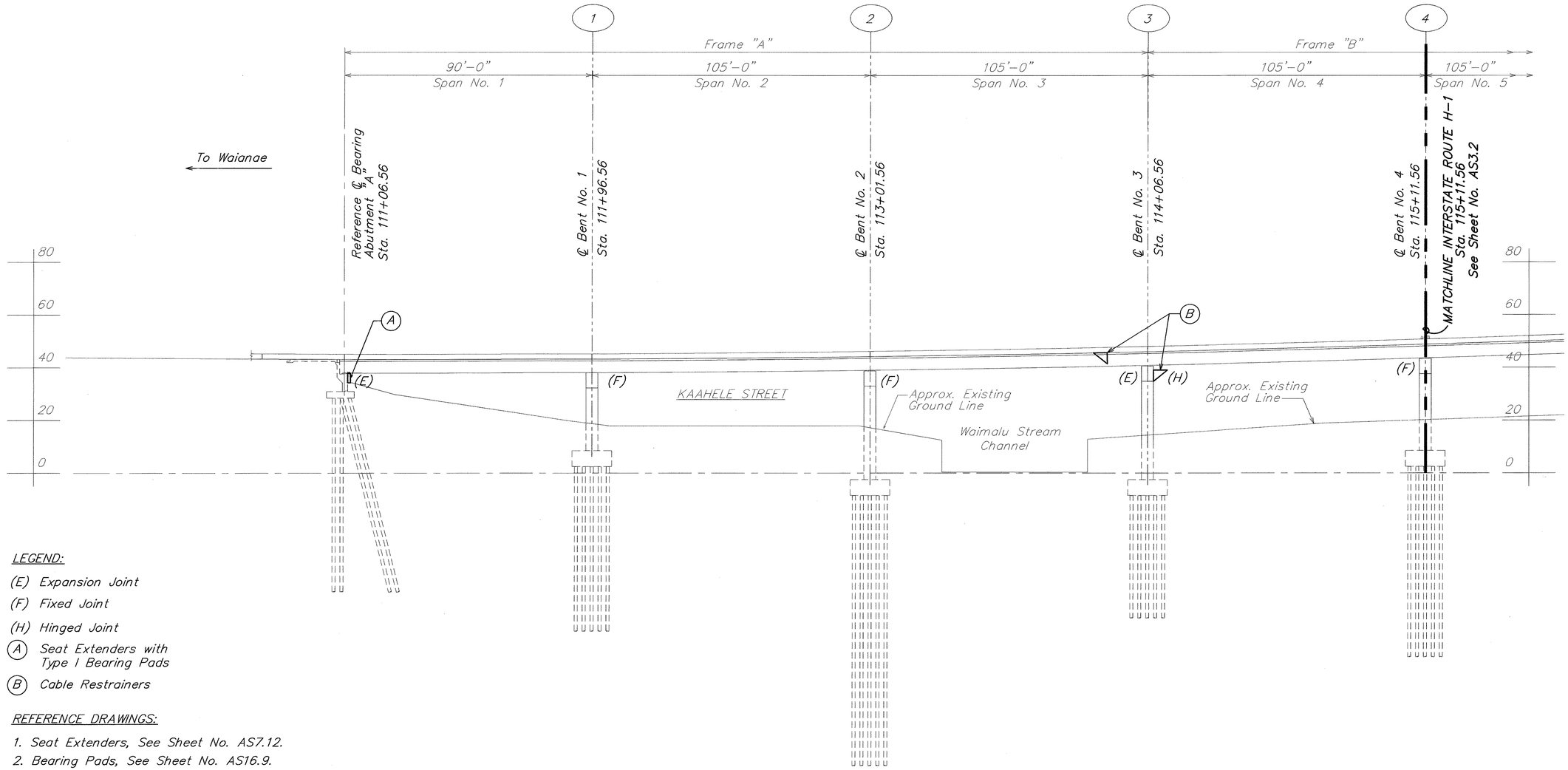
SHEET No. AS2.3 OF 150 SHEETS

ADD. 426

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 427 | 816 |




*LEGEND:*

(E) *Expansion Joint*

(F) *Fixed Joint*

(H) *Hinged Joint*

(A) *Seat Extenders with Type I Bearing Pads*

(B) *Cable Restrainers*

*REFERENCE DRAWINGS:*

1. *Seat Extenders, See Sheet No. AS7.12.*
2. *Bearing Pads, See Sheet No. AS16.9.*
3. *Cable Restrainers, See Sheet Nos. AS17.1 to AS17.4*

*PARTIAL LONGITUDINAL SECTION OF EXISTING VIADUCT ALONG H-1 ℄ WITH SEISMIC RETROFIT SCHEME – ABUTMENT "A" TO BENT NO. 4* (A AS3.1|AS3.1)

*SCALE: 1" = 20'-0"*

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

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

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

*PARTIAL LONG. SECTION ABUTMENT "A" TO BENT NO. 4*

*INTERSTATE ROUTE H-3*
*H-3 FINISH (UNIT VIII)*
*F.A.I. Proj. No. I-H3-1(75) Unit VIII*

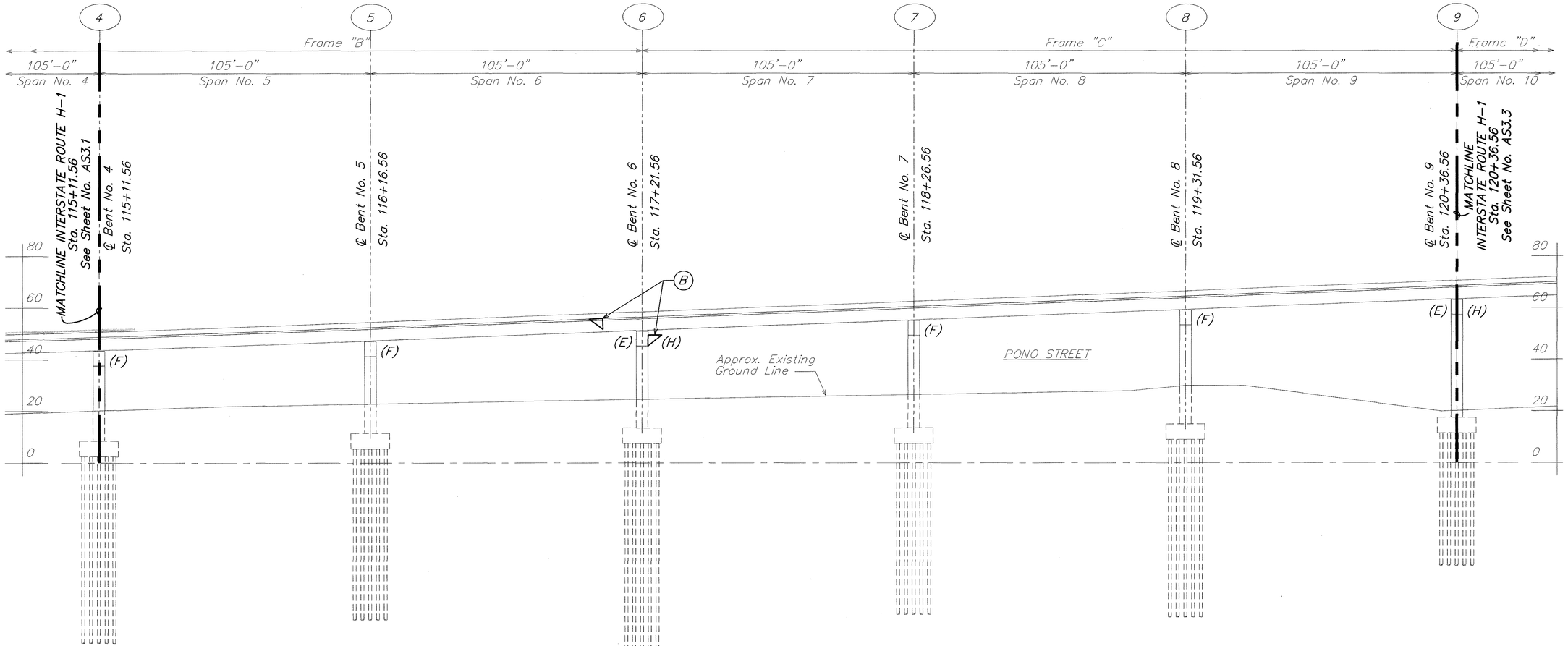
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**SHEET No. AS3.1 OF 150 SHEETS**



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WV-AS0301.DWG 1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 428 | 816 |




LEGEND:

(E) Expansion Joint
(F) Fixed Joint
(H) Hinged Joint
(B) Cable Restrainers

REFERENCE DRAWINGS:

1. Cable Restrainers, See Sheet Nos. AS17.1 to AS17.4

PARTIAL LONGITUDINAL SECTION OF EXISTING VIADUCT ALONG H-1 ℄ WITH SEISMIC RETROFIT SCHEME - BENT NO. 4 TO BENT NO. 9

SCALE: 1" = 20'-0"

A
AS3.2 | AS3.2

ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PARTIAL LONG. SECTION
BENT NO. 4 TO BENT NO. 9

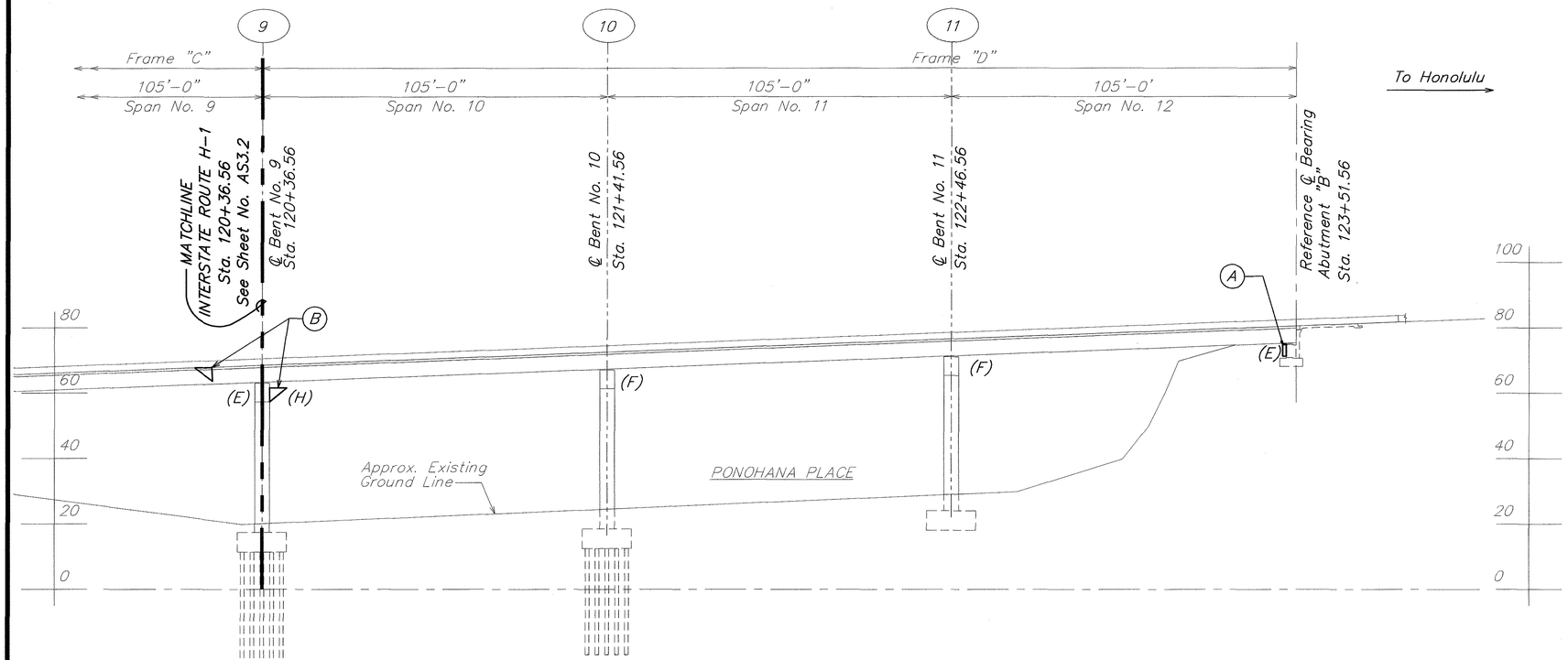
INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS3.2 OF 150 SHEETS

WV-AS0301.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 429 | 816 |




LEGEND:

(E) Expansion Joint

(F) Fixed Joint

(H) Hinged Joint

(A) Seat Extenders with Type I Bearing Pads

(B) Cable Restrainers

REFERENCE DRAWINGS:

1. Seat Extenders, See Sheet No. AS7.12.
2. Bearing Pads, See Sheet No. AS16.9.
3. Cable Restrainers, See Sheet Nos. AS17.1 to AS17.4

PARTIAL LONGITUDINAL SECTION OF EXISTING VIADUCT ALONG H-1 ℄ WITH SEISMIC RETROFIT SCHEME - BENT NO. 9 TO ABUTMENT "B" (A)

SCALE: 1" = 20'-0"

AS3.3 | AS3.3

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PARTIAL LONG. SECTION
BENT NO. 9 TO ABUTMENT "B"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

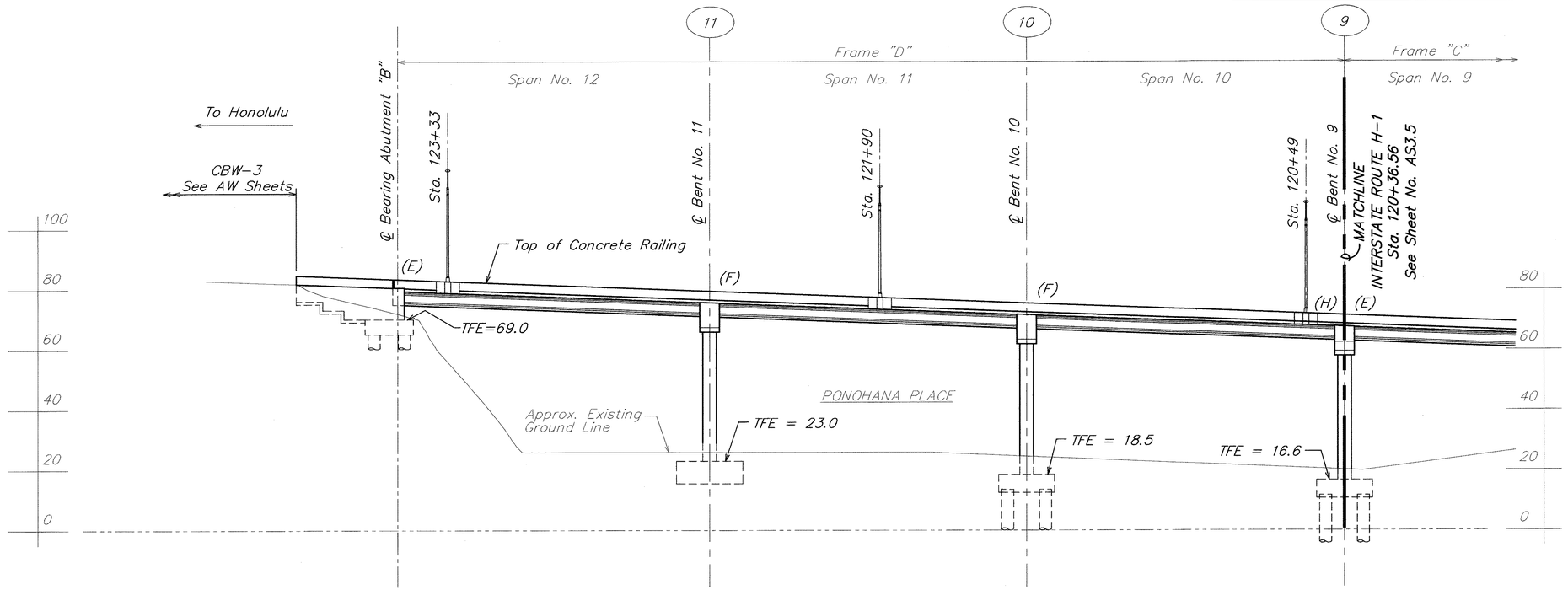
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429

WV-AS0301.DWG
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 430 | 816 |




LEGEND:

(E) Expansion Joint

(F) Fixed Joint

(H) Hinged Joint

NOTE:

See Sheet Nos. AS16.1 to AS16.7. for Railing Layout and Details.

## PARTIAL MAUKA ELEVATION OF VIADUCT WIDENING ABUTMENT "B" TO BENT NO. 9

SCALE: 1" = 20'-0"

A
AS3.4 | AS3.4

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

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HIGHWAYS DIVISION

PARTIAL MAUKA ELEVATION OF VIADUCT WIDENING
ABUTMENT "B" TO BENT NO. 9

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

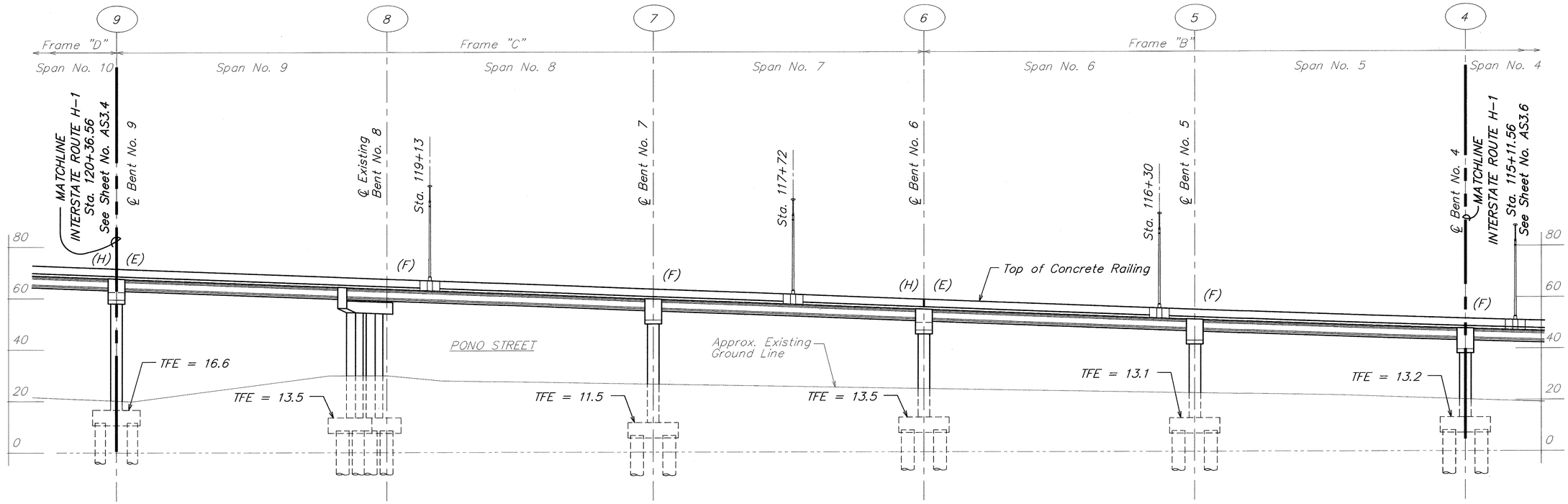
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SHEET No. AS3.4 OF 150 SHEETS

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 431 | 816 |




LEGEND:

(E) Expansion Joint

(F) Fixed Joint

(H) Hinged Joint

NOTE:

See Sheet Nos. AS16.1 to AS16.7. for Railing Layout and Details.

## PARTIAL MAUKA ELEVATION OF VIADUCT WIDENING BENT NO. 9 TO BENT NO. 4

SCALE: 1" = 20'-0"

A
AS3.5 | AS3.5

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PARTIAL MAUKA ELEVATION OF VIADUCT WIDENING
BENT NO. 9 TO BENT NO. 4

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

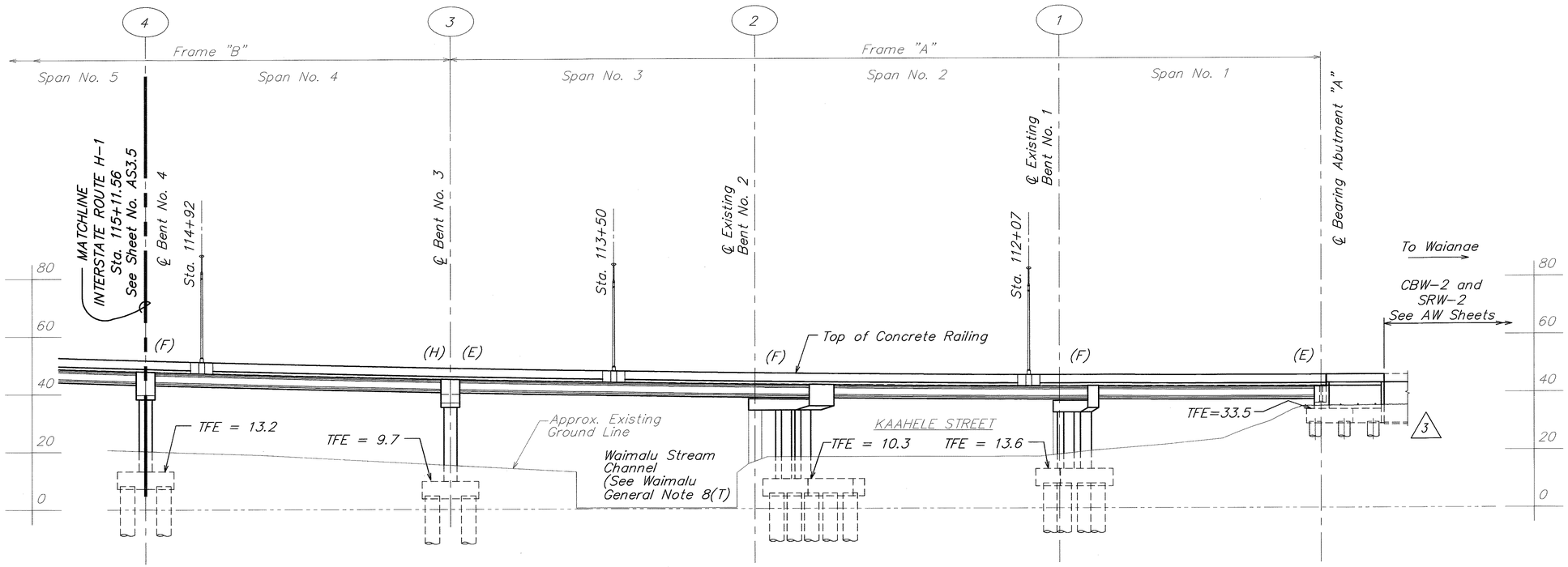
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 432 | 816 |




LEGEND:

(E) Expansion Joint

(F) Fixed Joint

(H) Hinged Joint

NOTE:

See Sheet Nos. AS16.1 to AS16.7. for Railing Layout and Details.

PARTIAL MAUKA ELEVATION OF VIADUCT WIDENING
BENT NO. 4 TO ABUTMENT "A"

SCALE: 1" = 20'-0"

A
AS3.6 | AS3.6

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

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Wingwall and Segmental Retaining Wall |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PARTIAL MAUKA ELEVATION OF VIADUCT WIDENING
BENT NO. 4 TO ABUTMENT "A"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

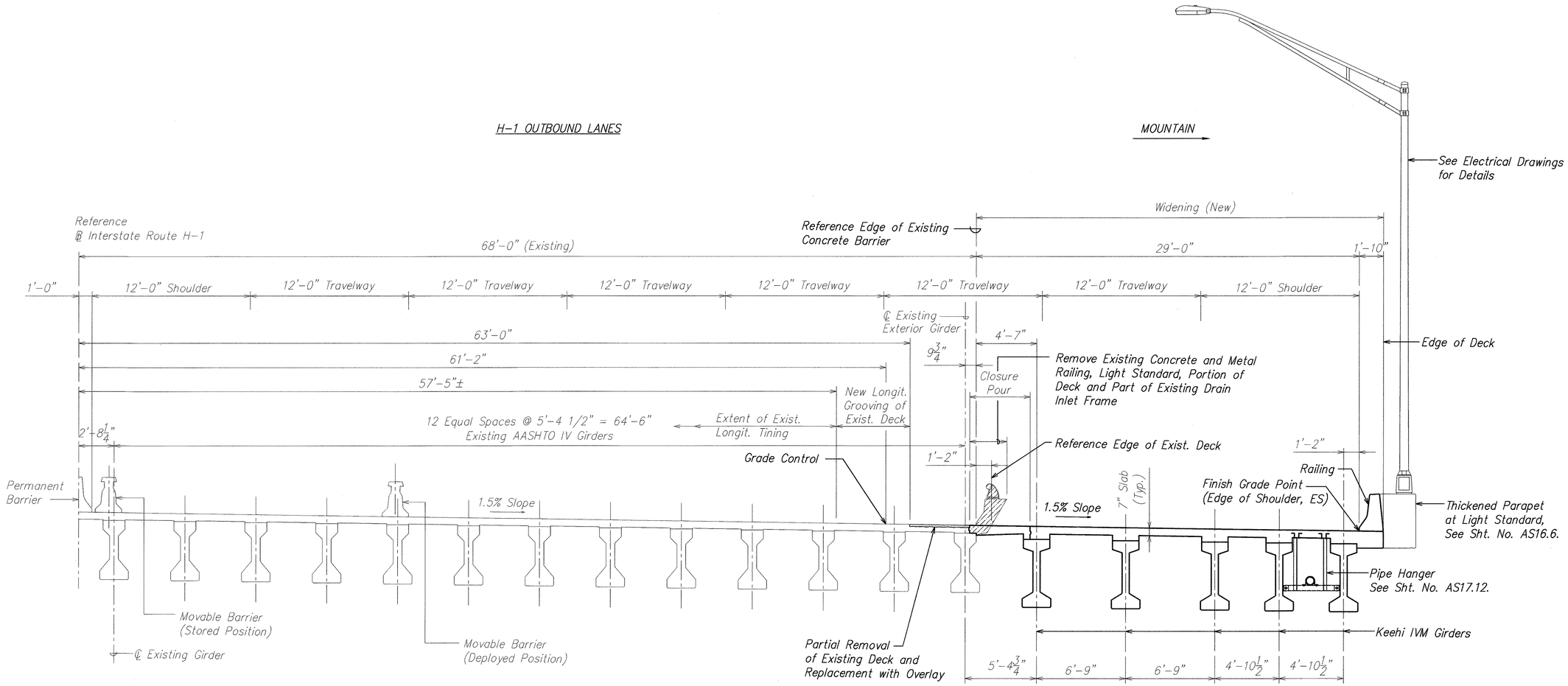
SHEET No. AS3.6 OF 150 SHEETS

ADD. 432


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1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 433 | 816 |




## NORMAL DECK SECTION AT FRAME "A"

SCALE: 1/4" = 1'-0"

A
AS4.1 | AS4.1

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

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

NORMAL DECK SECTION AT FRAME "A"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

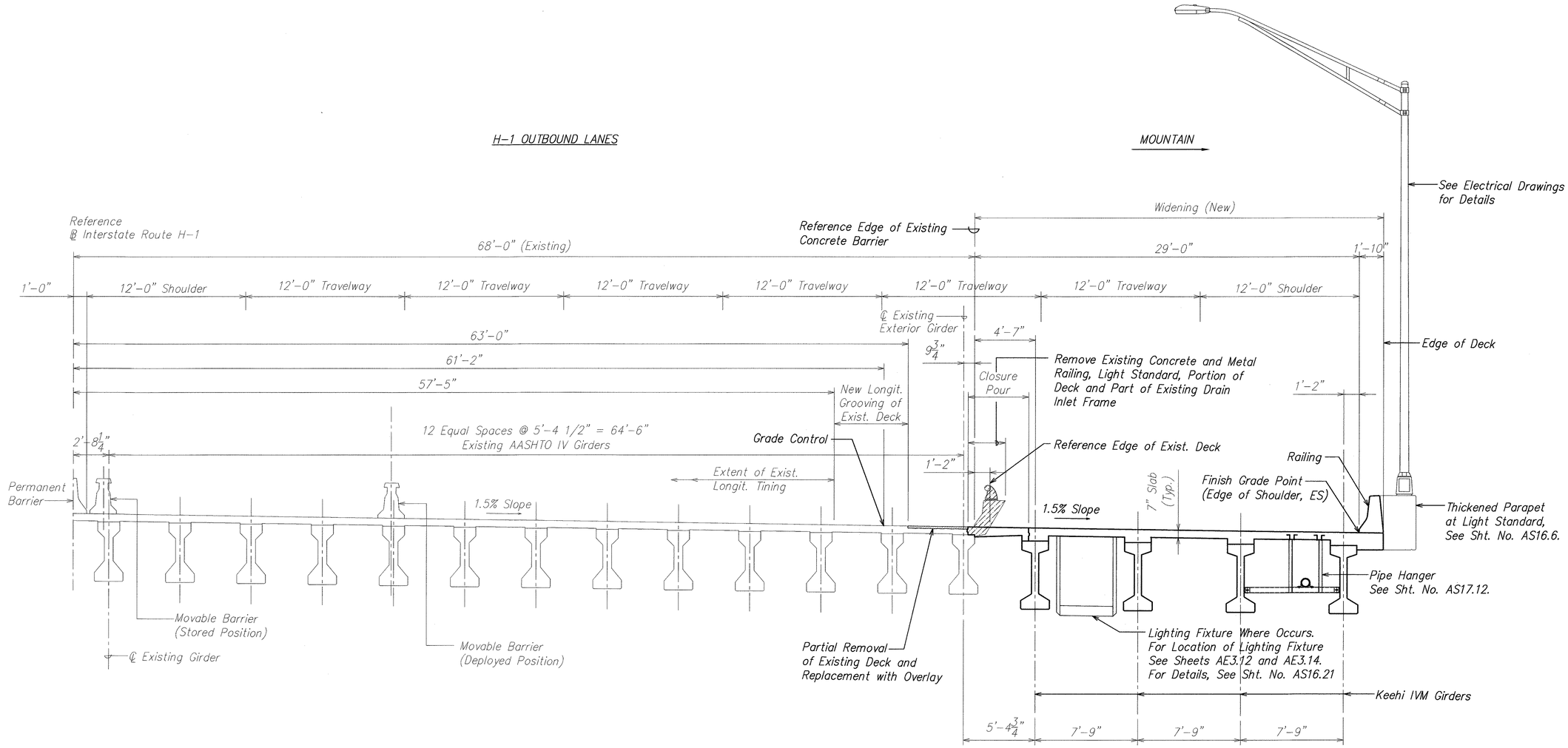
**SHEET No. AS4.1 OF 150 SHEETS**



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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 434 | 816 |




## NORMAL DECK SECTION AT FRAMES "B", "C", AND "D"

SCALE: 1/4" = 1'-0"

A
AS4.2 | AS4.2

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
| No. | TRACED BY | |
| | DESIGNED BY | |
| | QUANTITIES BY | |
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NORMAL DECK SECTION AT FRAMES "B", "C", AND "D"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

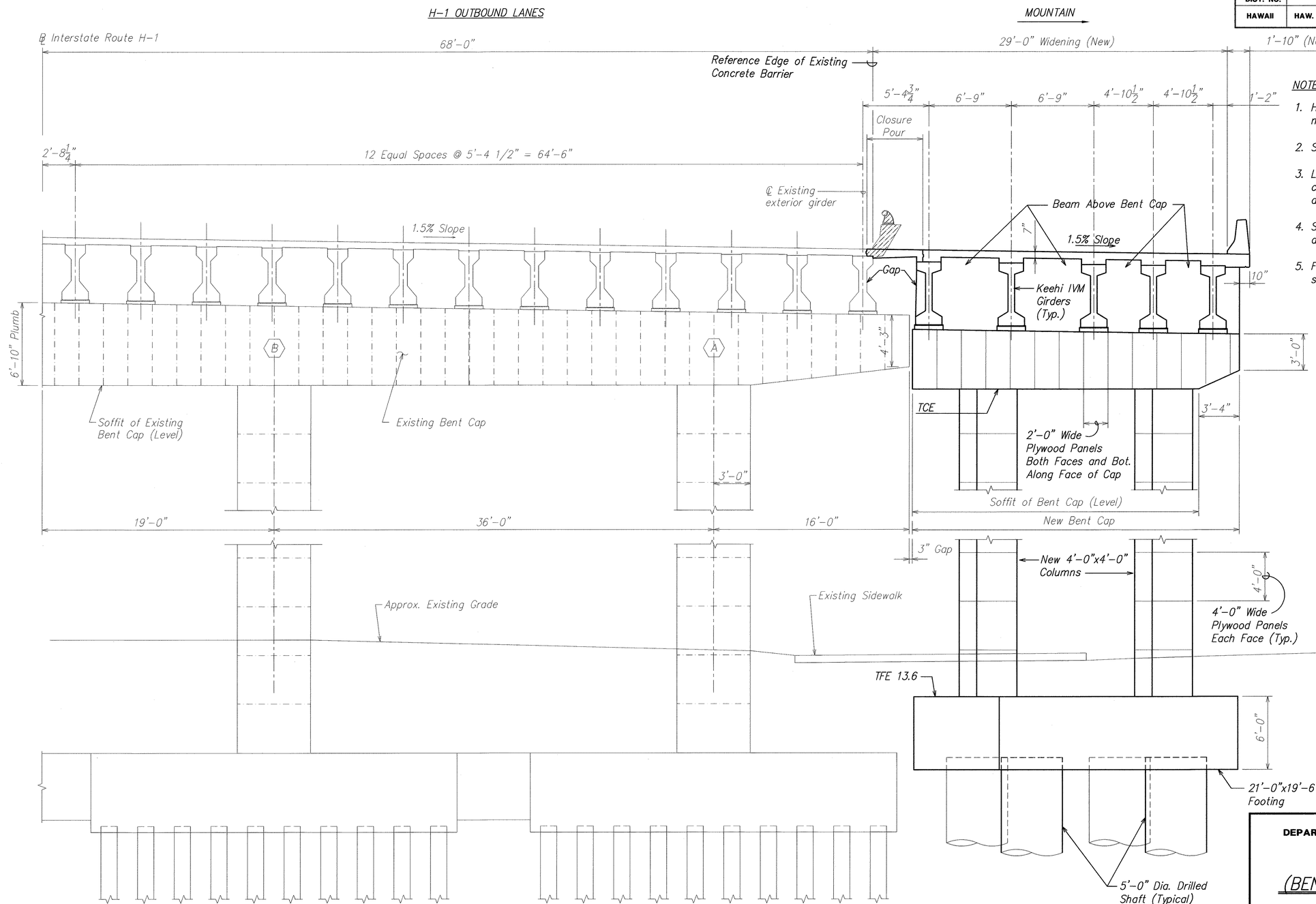
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 435 | 816 |




NOTES:

1. Horizontal dimensions are measured normal to deck unless otherwise noted.
2. See Viaduct General Note 8.(Q).
3. Lighting details not shown for clarity. See Civil and Electrical drawings.
4. See normal section for additional details, see sheets AS4.1 and AS4.2.
5. For Top of Column Elevation (TCE) see sheet no. AS10.1.

SECTION (BENT ELEVATION - BENT NO. 1)

SCALE: 1/4" = 1'-0"

A
AS1.1 AS4.3
AS2.1

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NO. 8104-S
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SECTION (BENT NO. 1 ELEVATION)

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

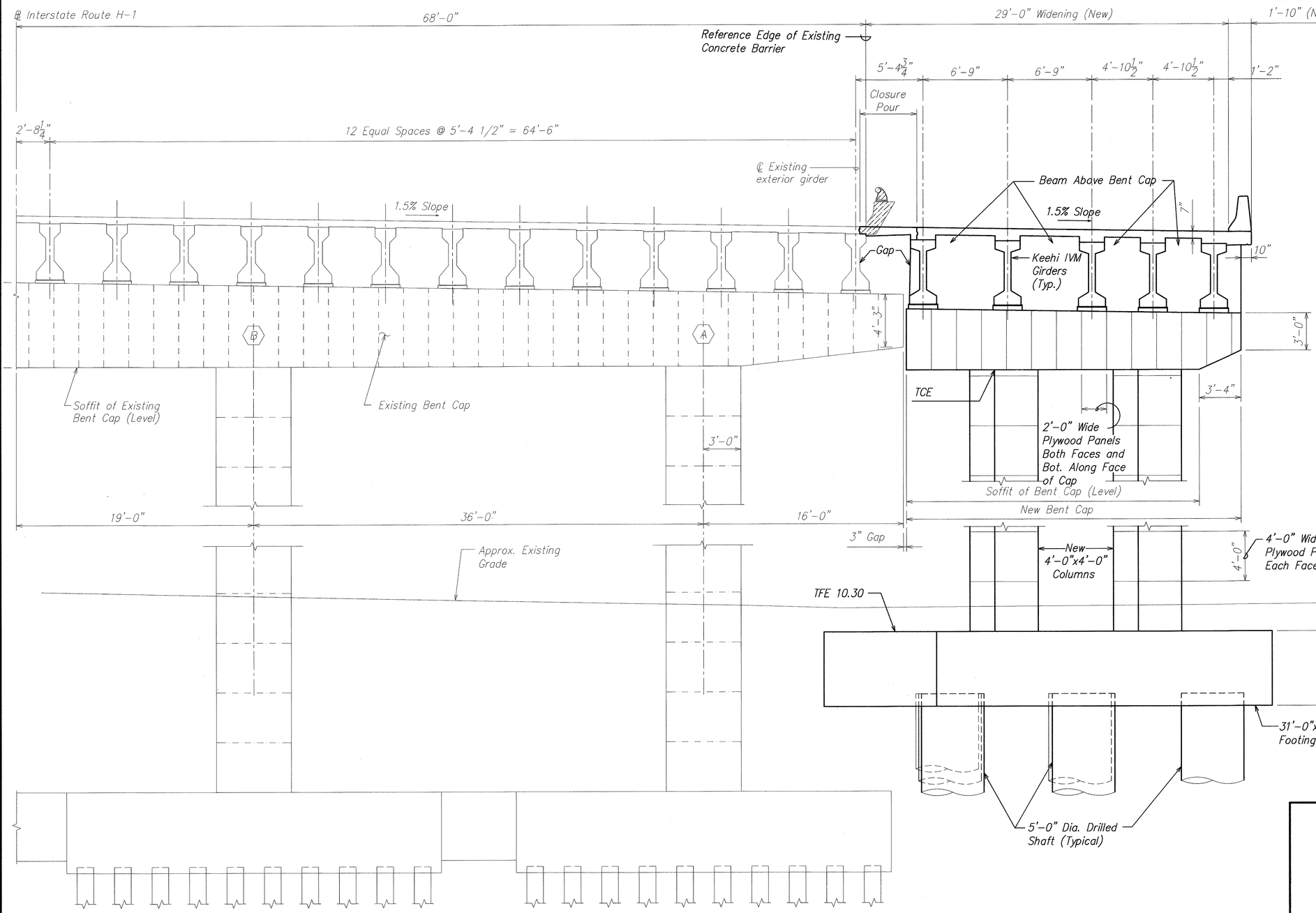
SHEET No. AS4.3 OF 150 SHEETS

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

WV-AS0403.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 436 | 816 |




SECTION (BENT ELEVATION - BENT NO. 2)

SCALE: 1/4" = 1'-0"

A
AS2.1 AS1.1 AS4.4

NOTES:

1. Horizontal dimensions are measured normal to deck unless otherwise noted.
2. See Viaduct General Note 8.(Q).
3. Lighting details not shown for clarity. See Civil and Electrical drawings.
4. See normal section for additional details, see sheets AS4.1 and AS4.2.
5. For Top of Column Elevation (TCE) see sheet no. AS10.1.

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SECTION
(BENT NO. 2 ELEVATION)

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

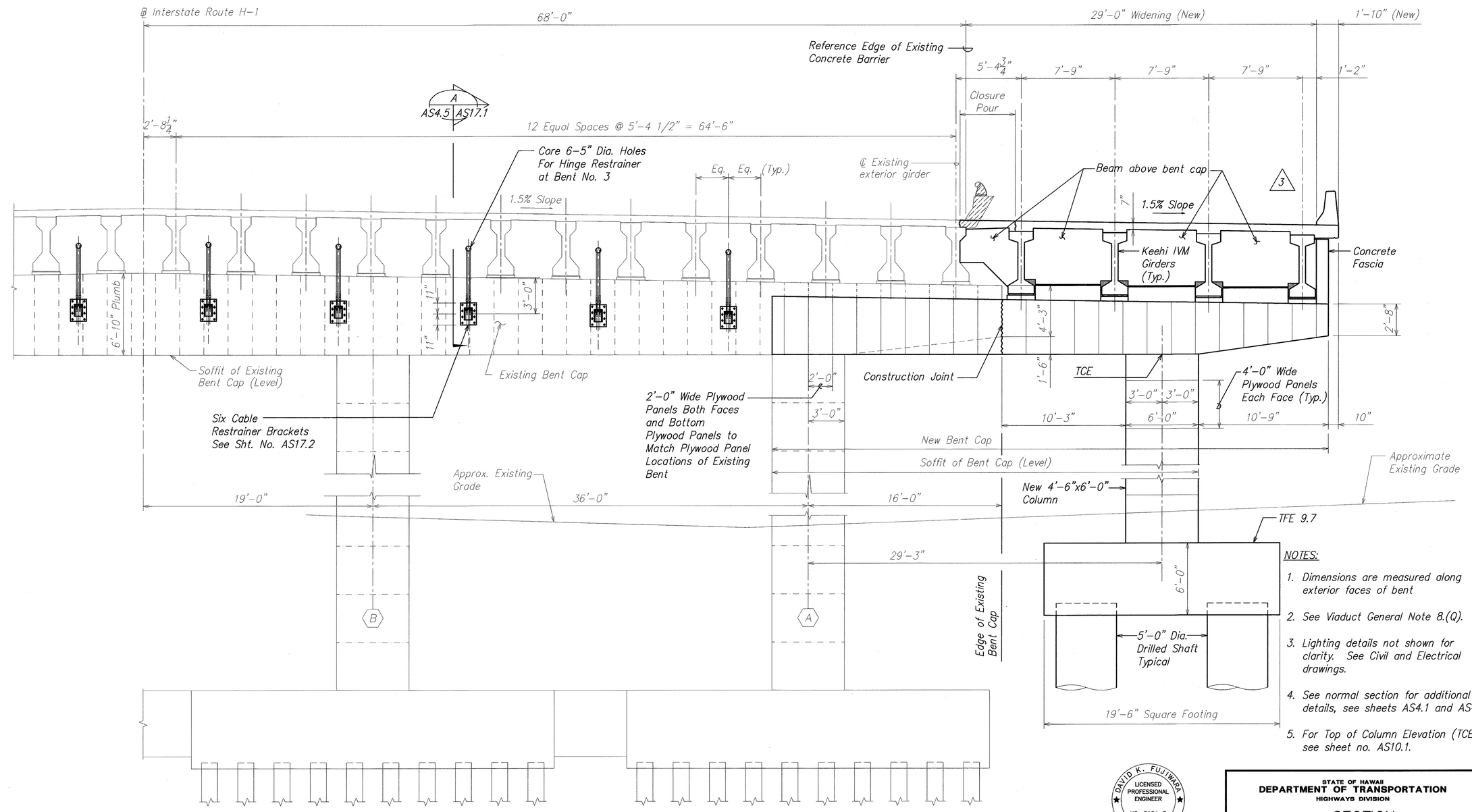
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436

WV-AS0404.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 437 | 816 |




NOTES:

1. Dimensions are measured along exterior faces of bent
2. See Viaduct General Note 8.(Q).
3. Lighting details not shown for clarity. See Civil and Electrical drawings.
4. See normal section for additional details, see sheets AS4.1 and AS4.2.
5. For Top of Column Elevation (TCE) see sheet no. AS10.1.

SECTION (BENT ELEVATION - BENT NO. 3)

SCALE: 1/4" = 1'-0"

A
AS1.1 AS4.5
AS2.1

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification |

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

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STATE OF HAWAII
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HIGHWAYS DIVISION

SECTION
(BENT NO. 3 ELEVATION)

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

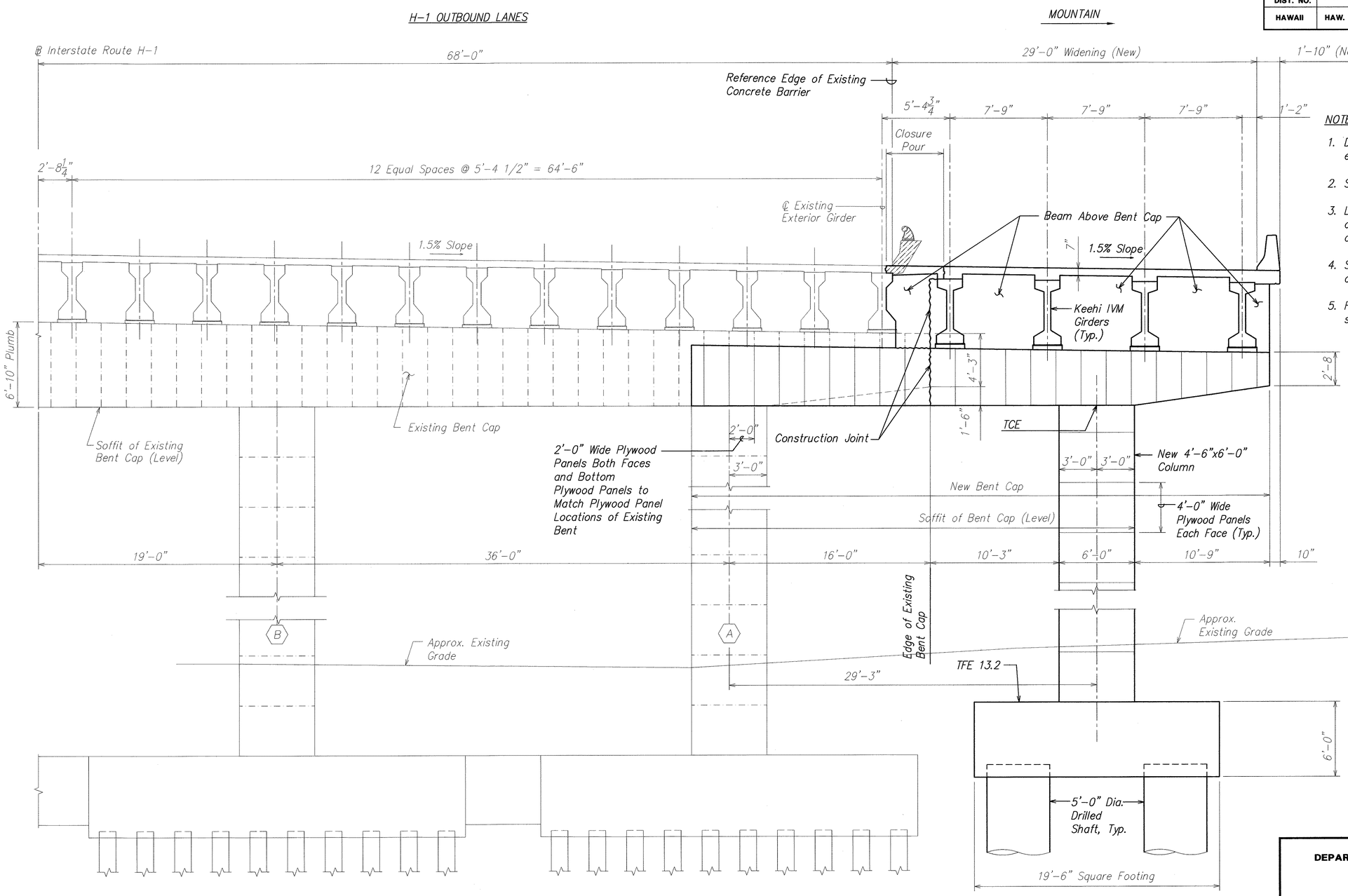
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ADD. 437

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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 438 | 816 |




NOTES:

1. Dimensions are measured along exterior faces of bent
2. See Viaduct General Note 8.(Q).
3. Lighting details not shown for clarity. See Civil and Electrical drawings.
4. See normal section for additional details, see sheets AS4.1 and AS4.2.
5. For Top of Column Elevation (TCE) see sheet no. AS10.1.

SECTION (BENT ELEVATION - BENT NO. 4)

SCALE: 1/4" = 1'-0"

A
AS1.2 | AS4.6
AS2.2

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SECTION
(BENT NO. 4 ELEVATION)

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

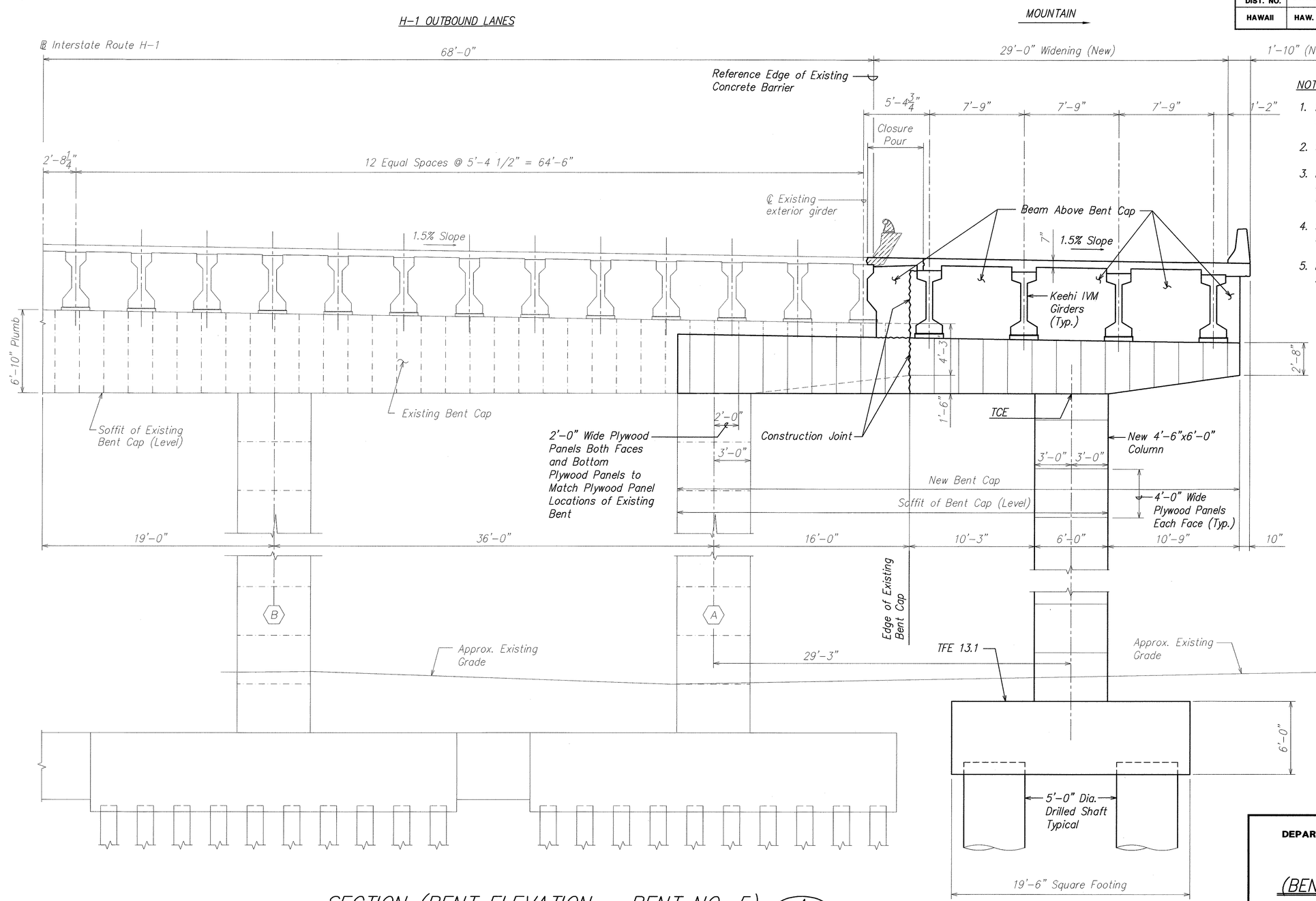
SHEET No. AS4.6 OF 150 SHEETS

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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 439 | 816 |




SECTION (BENT ELEVATION - BENT NO. 5) A

SCALE: 1/4" = 1'-0"

AS1.2 AS4.7

AS2.2

NOTES:

1. Dimensions are measured along exterior faces of bent
2. See Viaduct General Note 8.(Q).
3. Lighting details not shown for clarity. See Civil and Electrical drawings.
4. See normal section for additional details, see sheets AS4.1 and AS4.2.
5. For Top of Column Elevation (TCE) see sheet no. AS10.1.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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SECTION
(BENT NO. 5 ELEVATION)

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

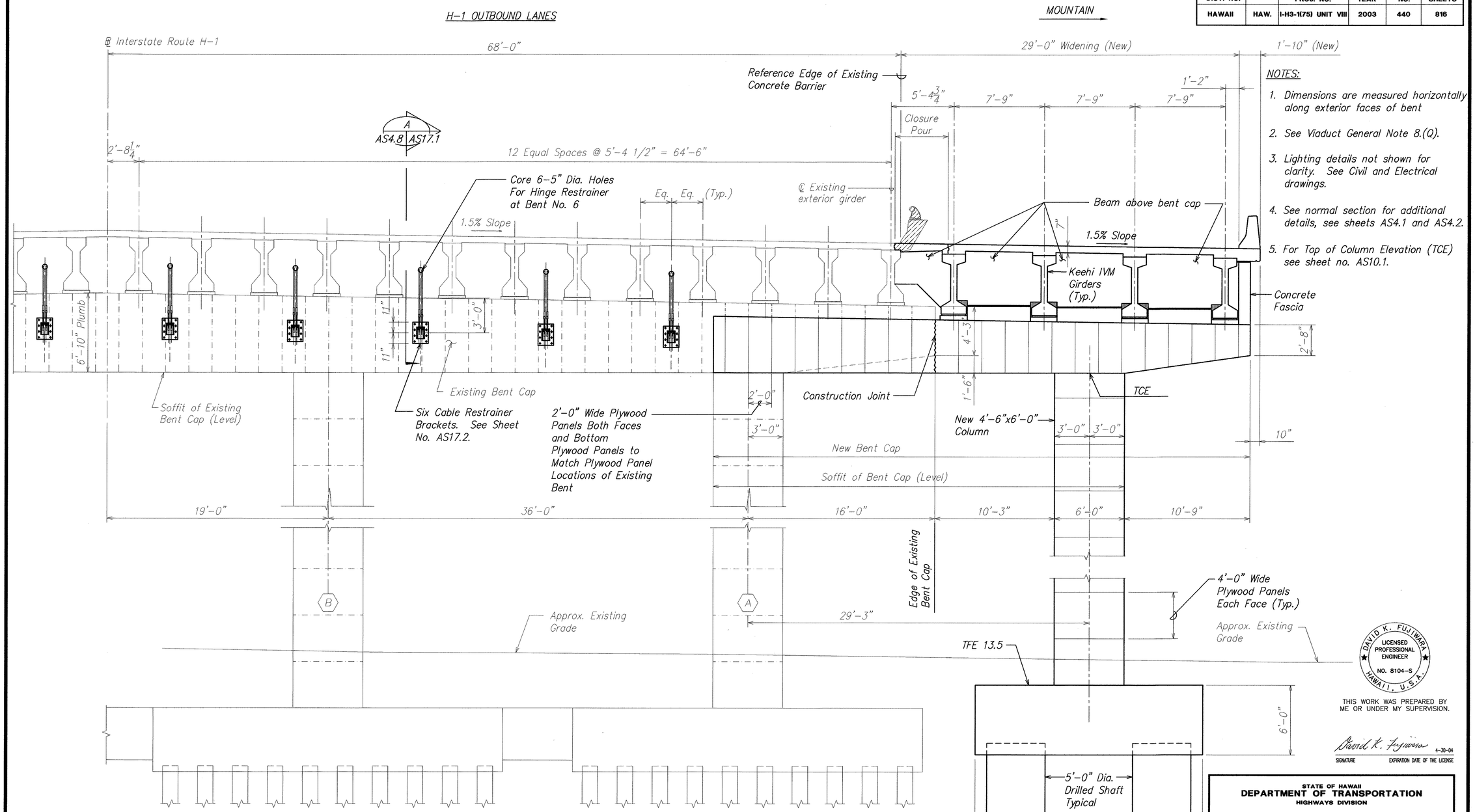
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SHEET No. AS4.7 OF 150 SHEETS



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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 440 | 816 |




## SECTION (BENT ELEVATION - BENT NO. 6)

SCALE: 1/4" = 1'-0"

A
AS1.2 AS4.8
AS2.2

NOTES:

1. Dimensions are measured horizontally along exterior faces of bent
2. See Viaduct General Note 8.(Q).
3. Lighting details not shown for clarity. See Civil and Electrical drawings.
4. See normal section for additional details, see sheets AS4.1 and AS4.2.
5. For Top of Column Elevation (TCE) see sheet no. AS10.1.

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SECTION
(BENT NO. 6 ELEVATION)

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

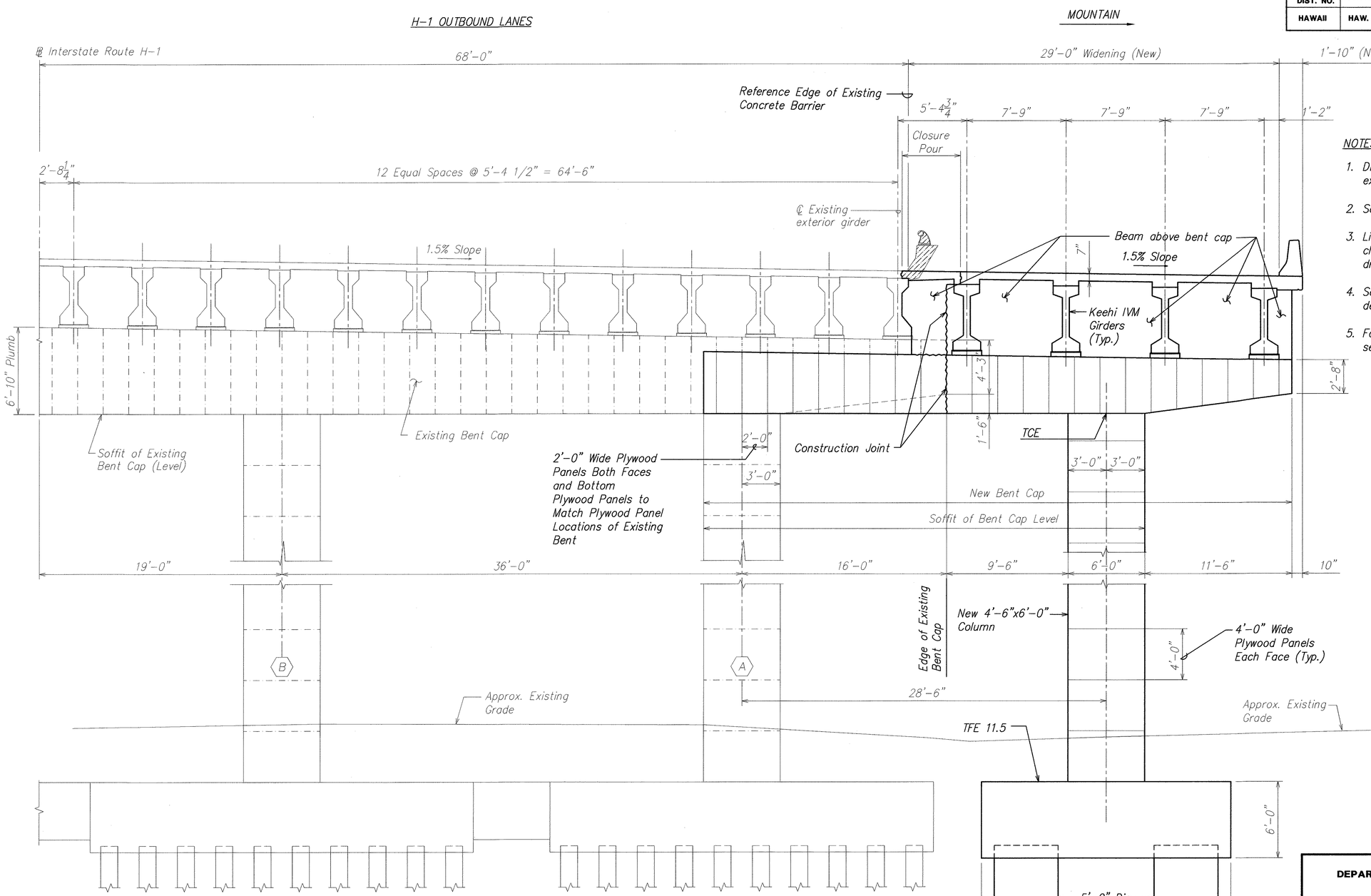
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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 441 | 816 |




## SECTION (BENT ELEVATION - BENT NO. 7)

SCALE: 1/4" = 1'-0"

A
AS1.2 AS4.9
AS2.2

NOTES:

1. Dimensions are measured along exterior faces of bent
2. See Viaduct General Note 8.(Q).
3. Lighting details not shown for clarity. See Civil and Electrical drawings.
4. See normal section for additional details, see sheets AS4.1 and AS4.2.
5. For Top of Column Elevation (TCE) see sheet no. AS10.1.

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SECTION
(BENT NO. 7 ELEVATION)

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

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SHEET No. AS4.9 OF 150 SHEETS

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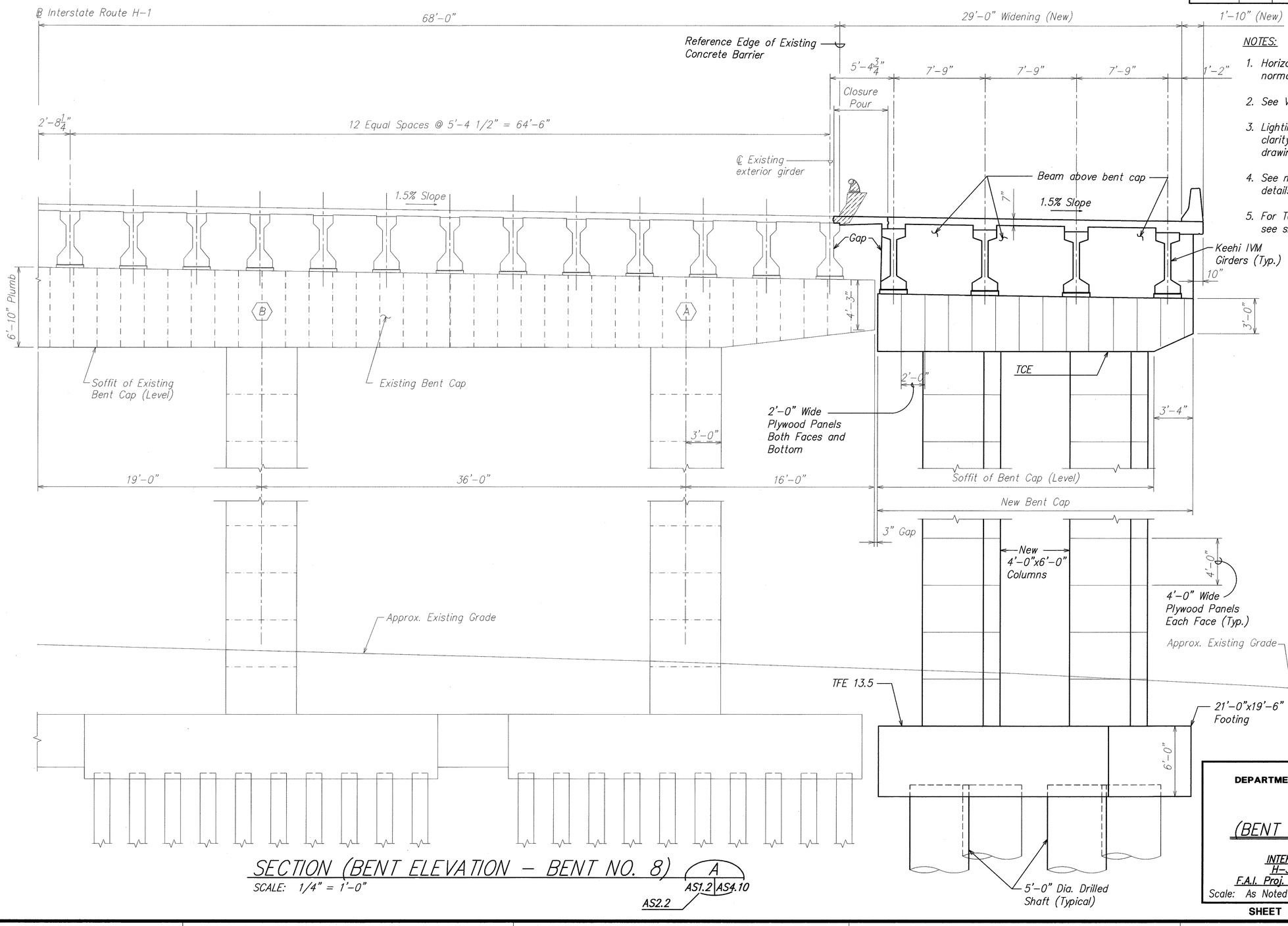
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 442 | 816 |

H-1 OUTBOUND LANES

MOUNTAIN




## SECTION (BENT ELEVATION - BENT NO. 8)

SCALE: 1/4" = 1'-0"

A
AS1.2 AS4.10
AS2.2

NOTES:

1. Horizontal dimensions are measured normal to deck unless otherwise noted.
2. See Viaduct General Note 8.(Q).
3. Lighting details not shown for clarity. See Civil and Electrical drawings.
4. See normal section for additional details, see sheets AS4.1 and AS4.2.
5. For Top of Column Elevation (TCE) see sheet no. AS10.1.

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SECTION
(BENT NO. 8 ELEVATION)

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

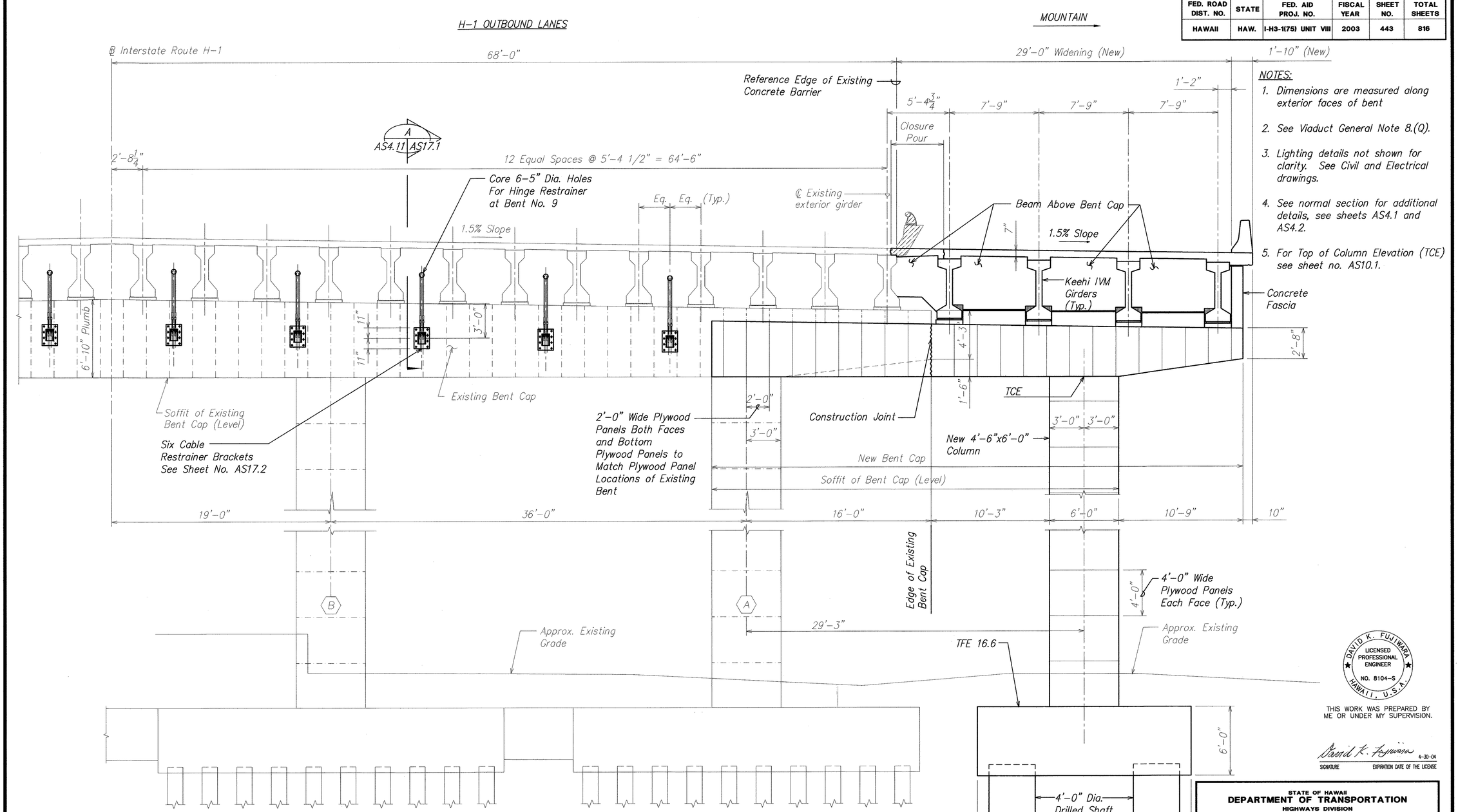
SHEET No. AS4.10 OF 150 SHEETS

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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 443 | 816 |




NOTES:

1. Dimensions are measured along exterior faces of bent
2. See Viaduct General Note 8.(Q).
3. Lighting details not shown for clarity. See Civil and Electrical drawings.
4. See normal section for additional details, see sheets AS4.1 and AS4.2.
5. For Top of Column Elevation (TCE) see sheet no. AS10.1.

SECTION (BENT ELEVATION - BENT NO. 9) A
SCALE: 1/4" = 1'-0"
AS1.2 AS4.11
AS1.3, AS2.2, AS2.3

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# SECTION (BENT NO. 9 ELEVATION)

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

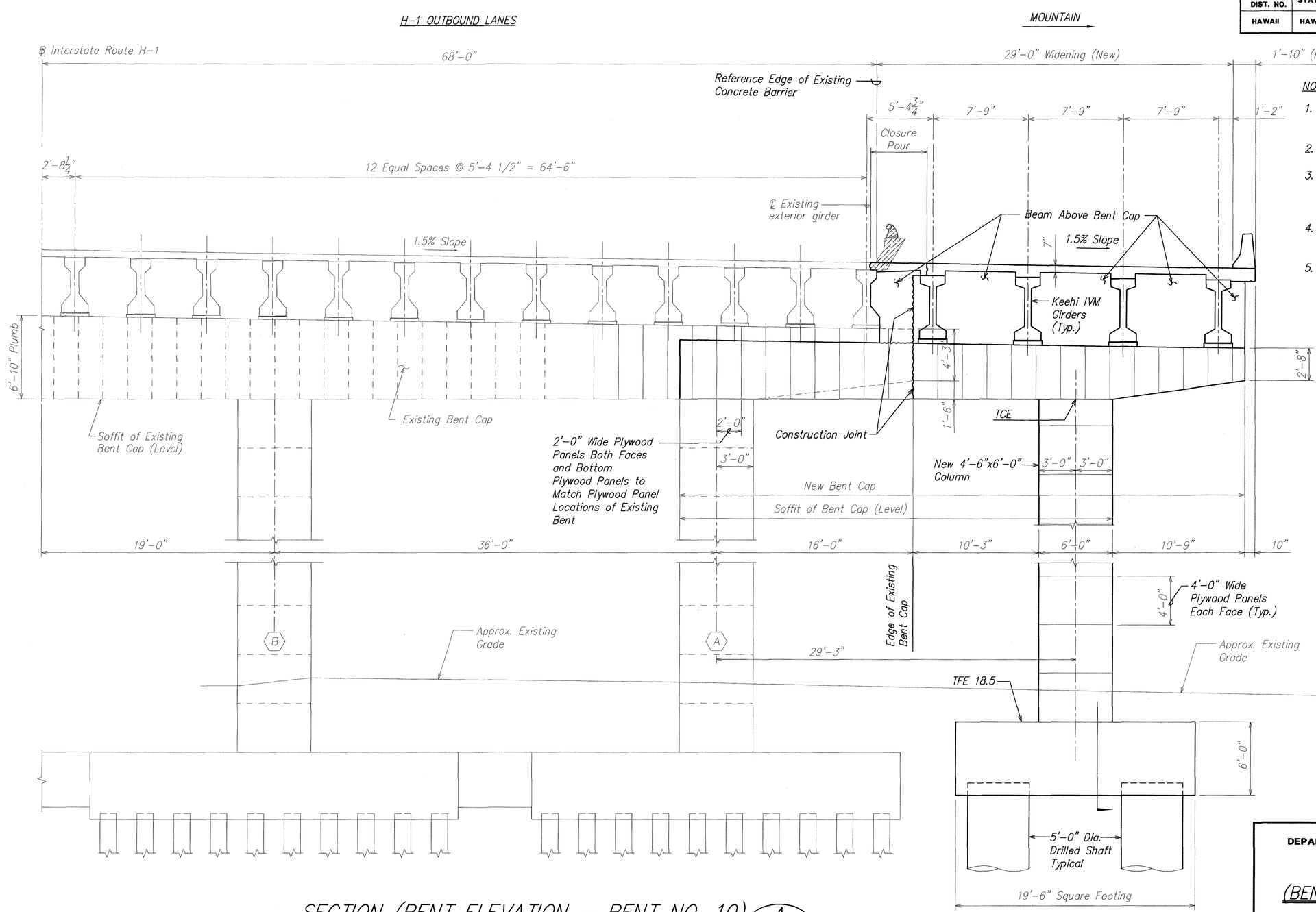
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SHEET No. AS4.11 OF 150 SHEETS

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 444 | 816 |




NOTES:

1. Dimensions are measured along exterior faces of bent
2. See Viaduct General Note 8.(Q).
3. Lighting details not shown for clarity. See Civil and Electrical drawings.
4. See normal section for additional details, see sheets AS4.1 and AS4.2.
5. For Top of Column Elevation (TCE) see sheet no. AS10.1.

SECTION (BENT ELEVATION - BENT NO. 10) A

SCALE: 1/4" = 1'-0"

AS1.3 | AS4.12

AS2.3

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

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SECTION
(BENT NO. 10 ELEVATION)

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

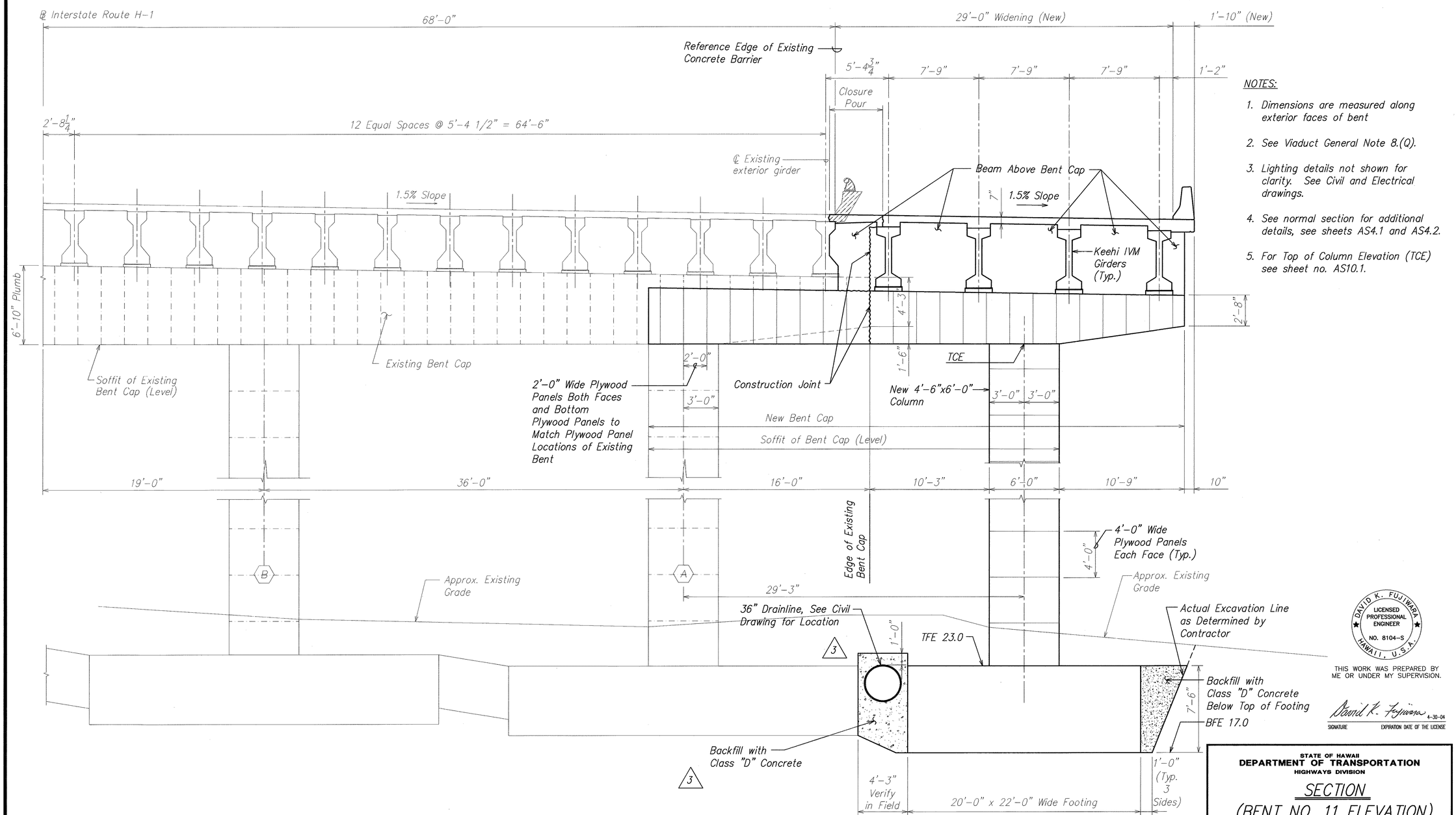
SHEET No. AS4.12 OF 150 SHEETS

444

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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 445 | 816 |




## SECTION (BENT ELEVATION - BENT NO. 11)

SCALE: 1/4" = 1'-0"

A
AS1.3 AS4.13
AS2.3

**NOTES:**

1. Dimensions are measured along exterior faces of bent
2. See Viaduct General Note 8.(Q).
3. Lighting details not shown for clarity. See Civil and Electrical drawings.
4. See normal section for additional details, see sheets AS4.1 and AS4.2.
5. For Top of Column Elevation (TCE) see sheet no. AS10.1.

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|---|---|
| 6/20/03 | 3 Clarification |

STATE OF HAWAII
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HIGHWAYS DIVISION

SECTION
(BENT NO. 11 ELEVATION)

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS4.13 OF 150 SHEETS

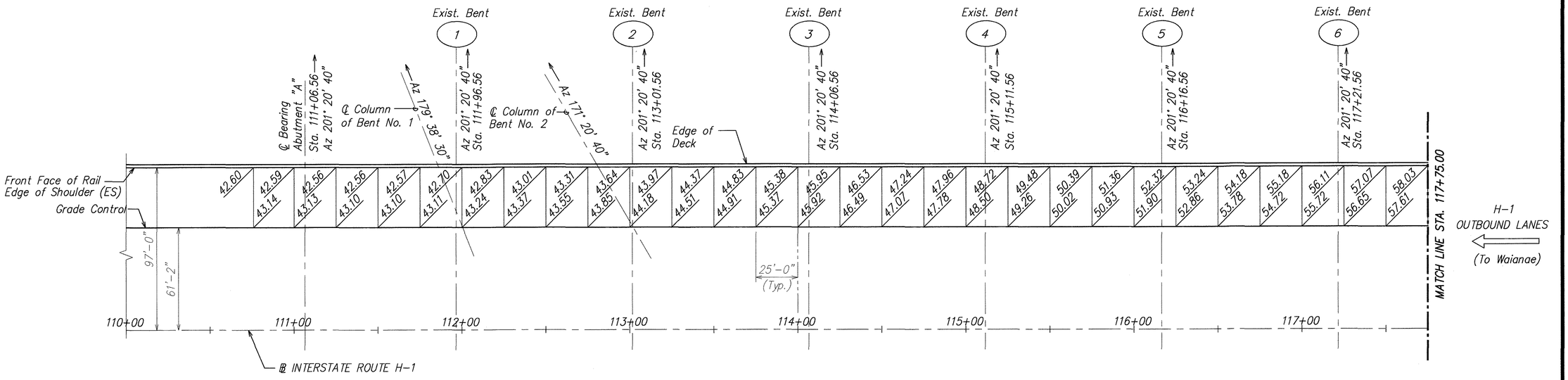
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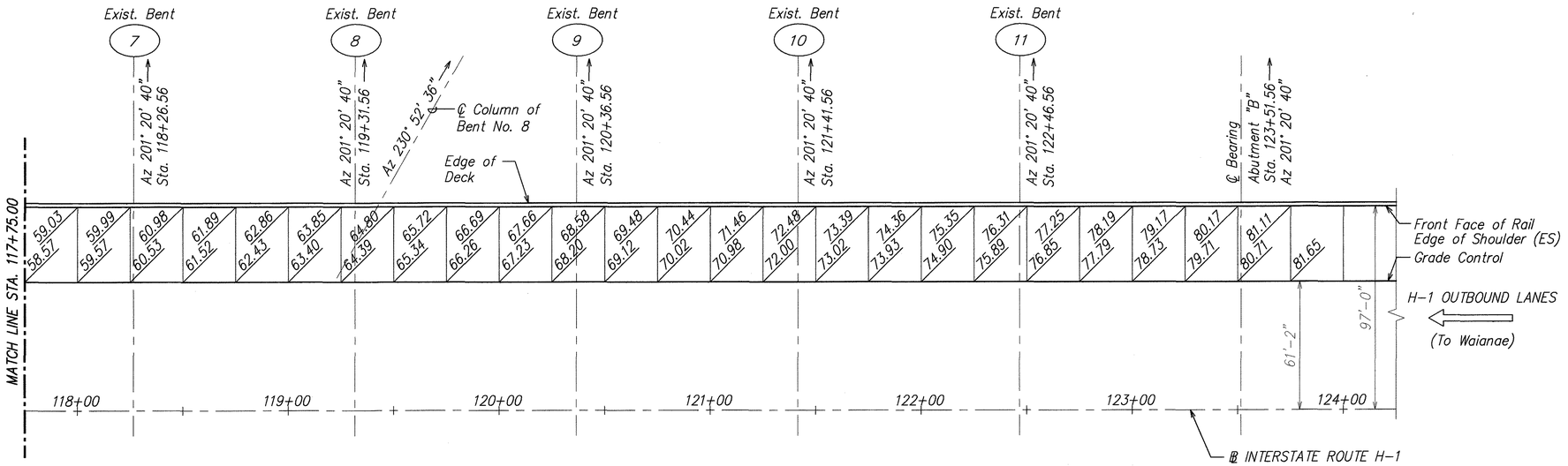
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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 446 | 816 |




NOTE:

The elevations are based on a field survey of the grade control points which have a tolerance of more than ± 0.01 feet. See Viaduct General Notes 8 (A) and 8 (B).

## FINISH GRADE PLAN

SCALE: 1' = 30'-0"

A AS5.1 AS5.1

ORIGINAL PLAN

NOTE BOOK No.

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FINISH GRADE PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS5.1 OF 150 SHEETS

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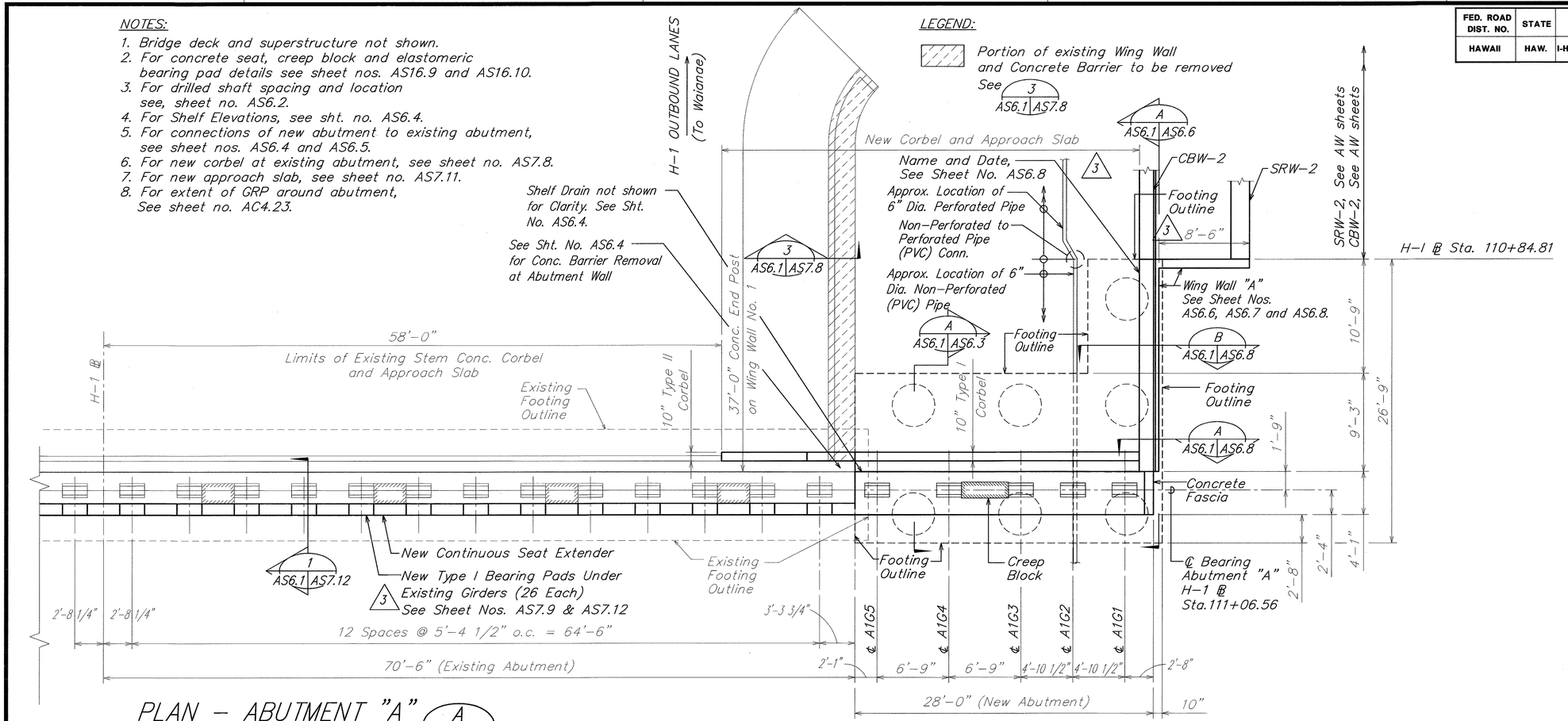
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 447 | 816 |

NOTES:

1. Bridge deck and superstructure not shown.
2. For concrete seat, creep block and elastomeric bearing pad details see sheet nos. AS16.9 and AS16.10.
3. For drilled shaft spacing and location see, sheet no. AS6.2.
4. For Shelf Elevations, see sht. no. AS6.4.
5. For connections of new abutment to existing abutment, see sheet nos. AS6.4 and AS6.5.
6. For new corbel at existing abutment, see sheet no. AS7.8.
7. For new approach slab, see sheet no. AS7.11.
8. For extent of GRP around abutment, See sheet no. AC4.23.

LEGEND:

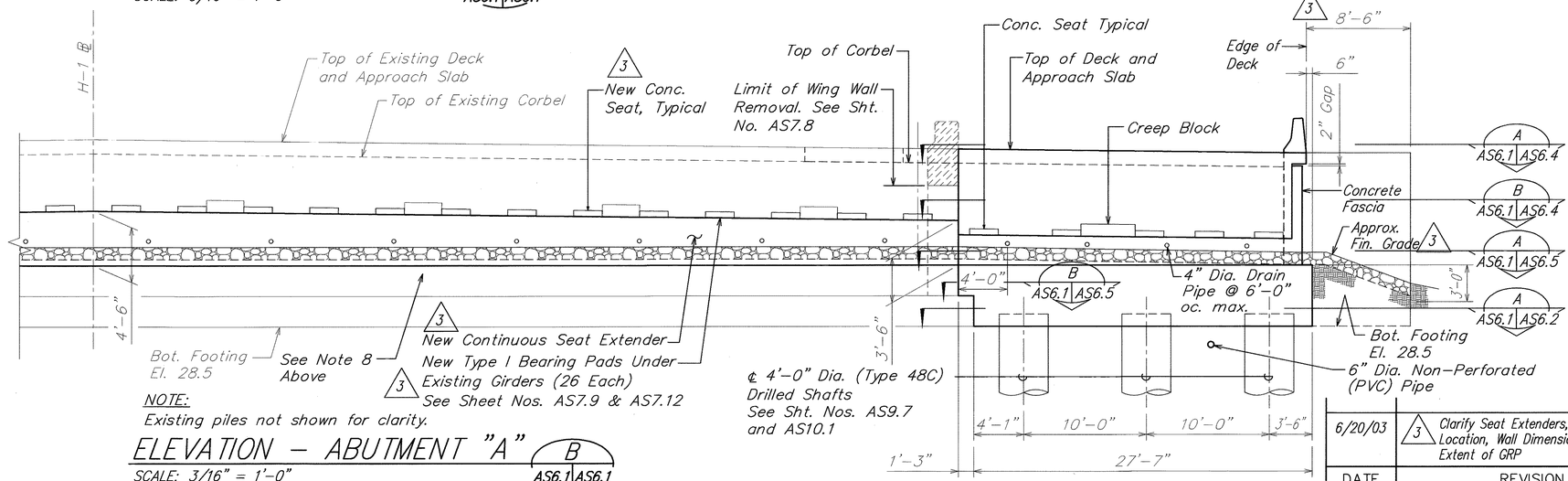
Portion of existing Wing Wall and Concrete Barrier to be removed See 3 AS6.1 AS7.8




## PLAN – ABUTMENT "A"

SCALE: 3/16" = 1'-0"

A AS6.1 AS6.1




NOTE:
Existing piles not shown for clarity.

## ELEVATION – ABUTMENT "A"

SCALE: 3/16" = 1'-0"

B AS6.1 AS6.1

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Seat Extenders, Perforated Pipe Location, Wall Dimensions and Extent of GRP |

STATE OF HAWAII
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HIGHWAYS DIVISION

# ABUTMENT "A" PLAN AND ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

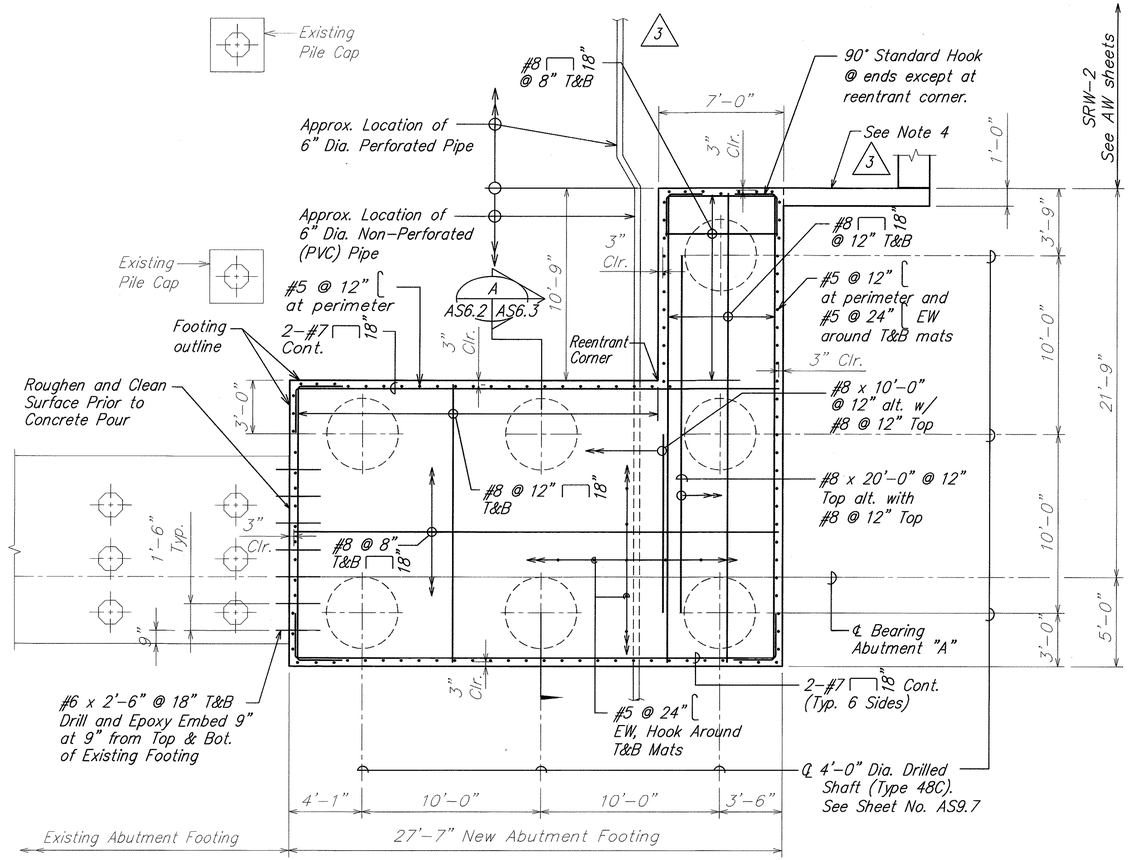
SHEET No. AS6.1 OF 150 SHEETS

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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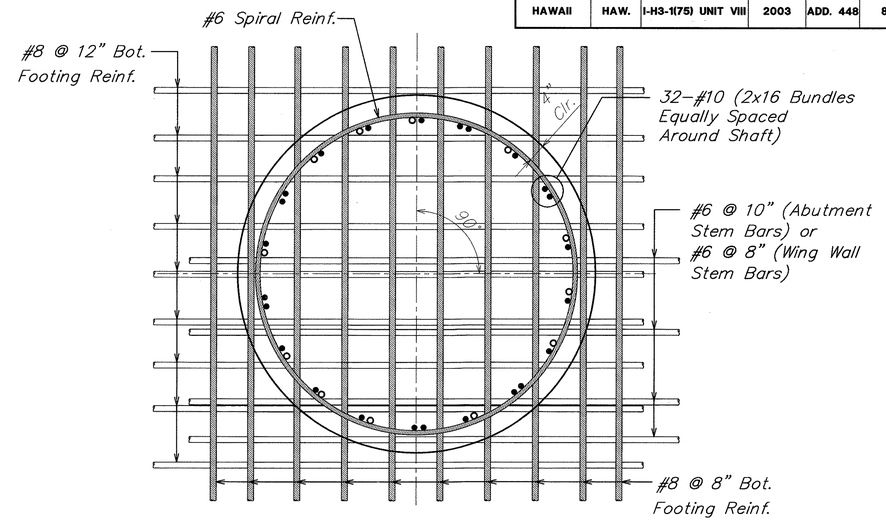

## ABUTMENT "A" FOOTING PLAN

A
AS6.1 | AS6.2

SCALE: 1/4 = 1'-0"

NOTES:

1. For abutment stem reinforcing bent into footing, see sheet no. AS6.3.
2. For wingwall reinforcing bent into footing, see sheet nos. AS6.7 and AS6.8.
3. For additional Abut. "A" reinforcing and details, see sheet no. AS6.3.
3. 4. See sheet nos. AS6.4, AS6.5, and AS6.7 for 1'-0" thick wall details.




## SCHEMATIC OF ABUTMENT AND WINGWALL FOOTING REINFORCEMENT AT DRILLED SHAFT

1
AS6.2 | AS6.2
AS7.2

NOT TO SCALE

AT ABUTMENT

At each shaft, at least 50% of abutment back face stem reinforcing (#6 @ 10") shall be bent and pass through the drilled shaft vertical reinforcing to end of toe of footing. (No more than two adjacent bars shall be cut).

Those reinf. unable to pass through shall be bent 2'-0" into the heel of the footing.

Abutment stem reinforcing (#6 @ 10") spacing may be altered to accommodate the minimum 50% requirement.

Bottom footing reinforcing (#8) shall pass through the drilled shaft vertical reinforcing.

The reinforcing spacing of these reinforcing may be altered to accommodate their passage through the drilled shaft reinforcing.

AT WINGWALL

Wingwall stem reinforcing (#6 @ 8") spacing may be altered to accommodate passage through the drilled shaft vertical reinforcing.

Those reinforcing unable to pass through shall be bent in the opposite direction.

At each shaft, a minimum of 50% of the #6 @ 8" (V) should pass through the vertical reinforcing. (No more than two adjacent bars shall be cut).

AT BENTS

See Sht. Nos. AS9.1 to AS9.6 and AS10.4

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

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Perforated Pipe Location and Added Note. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ABUTMENT "A" FOOTING PLAN
REINFORCEMENT AT DRILLED SHAFT

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

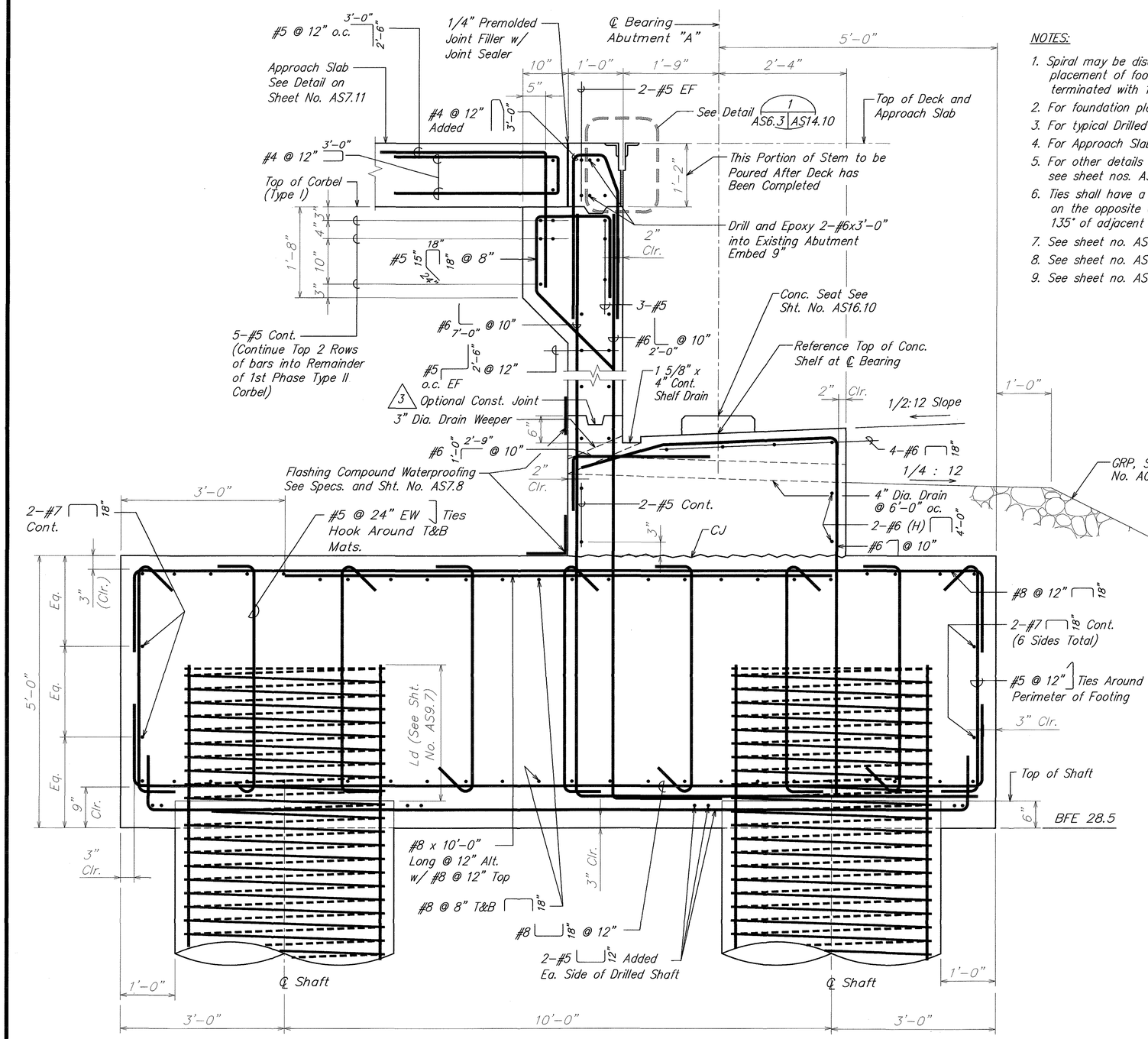
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS6.2 OF 150 SHEETS

ADD. 448


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WV-AS0601.DWG 1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 449 | 816 |



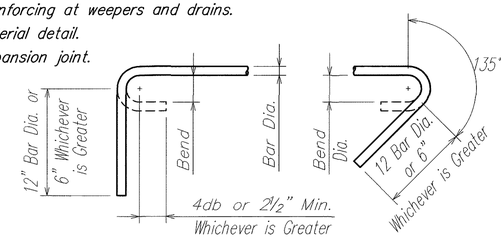

## NORMAL ABUTMENT "A" SECTION A

SCALE: 1" = 1'-0"

AS6.1 | AS6.3 AS6.2, AS7.10

NOTES:

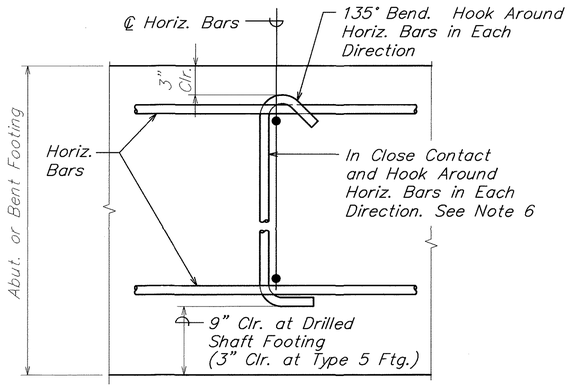
1. Spiral may be discontinuous at the footing reinforcement to facilitate placement of footing reinforcement. The discontinuous ends shall be terminated with 135° hook around vertical reinforcement.
2. For foundation plans of abutments, see sheet nos. AS6.1 and AS6.2.
3. For typical Drilled Shaft Details, see sheet no. AS9.7.
4. For Approach Slab Details, see sheet no. AS7.11.
5. For other details of abutment footing and wingwalls, see sheet nos. AS6.4 to AS6.8.
6. Ties shall have a 135° hook on one end and a 90° hook on the opposite end. Ties shall be placed so that 90° and 135° of adjacent ties, horizontally and vertically, shall be alternated.
7. See sheet no. AS7.8 for added reinforcing at weepers and drains.
8. See sheet no. AS8.2 for filter material detail.
9. See sheet no. AS17.8 for deck expansion joint.




## TIE REINFORCEMENT DETAIL 1

SCALE: 1 1/2" = 1'-0"

AS6.3 | AS6.3 AS10.2




## TIE BAR DETAIL 2

SCALE: 1 1/2" = 1'-0"

AS6.3 | AS6.3

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarified Construction Joint |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## NORMAL ABUTMENT "A" SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

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

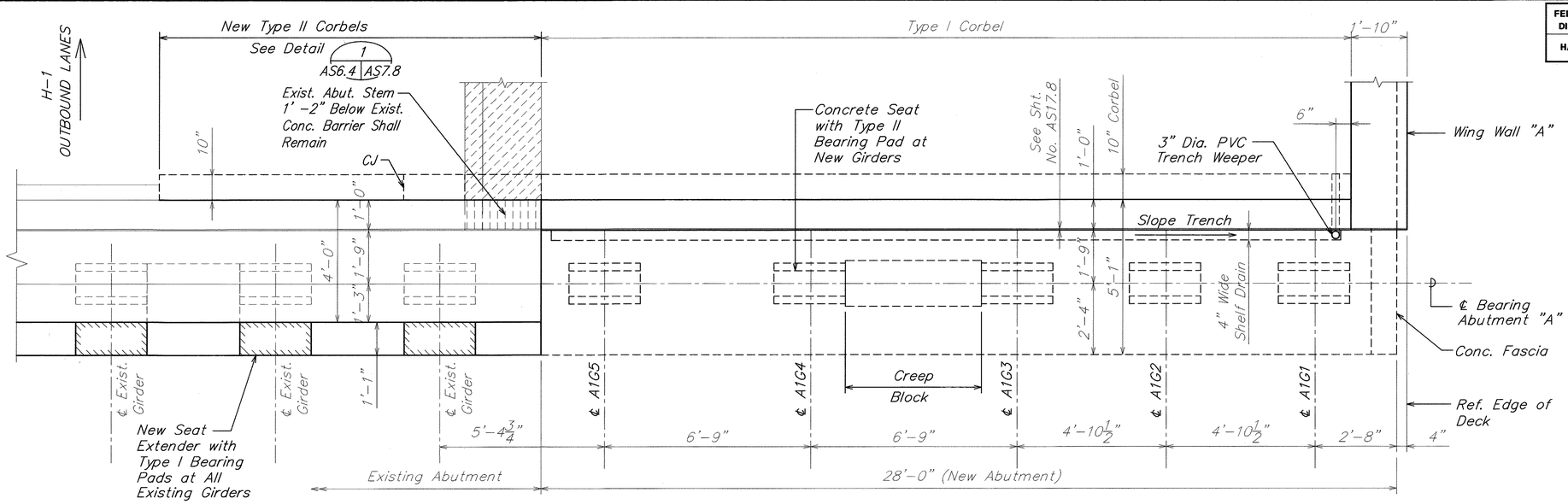
WV-AS063.DWG
1 = 1

SHEET No. AS6.3 OF 150 SHEETS

ADD. 449

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 450 | 816 |




## TOP PLAN – ABUTMENT "A"

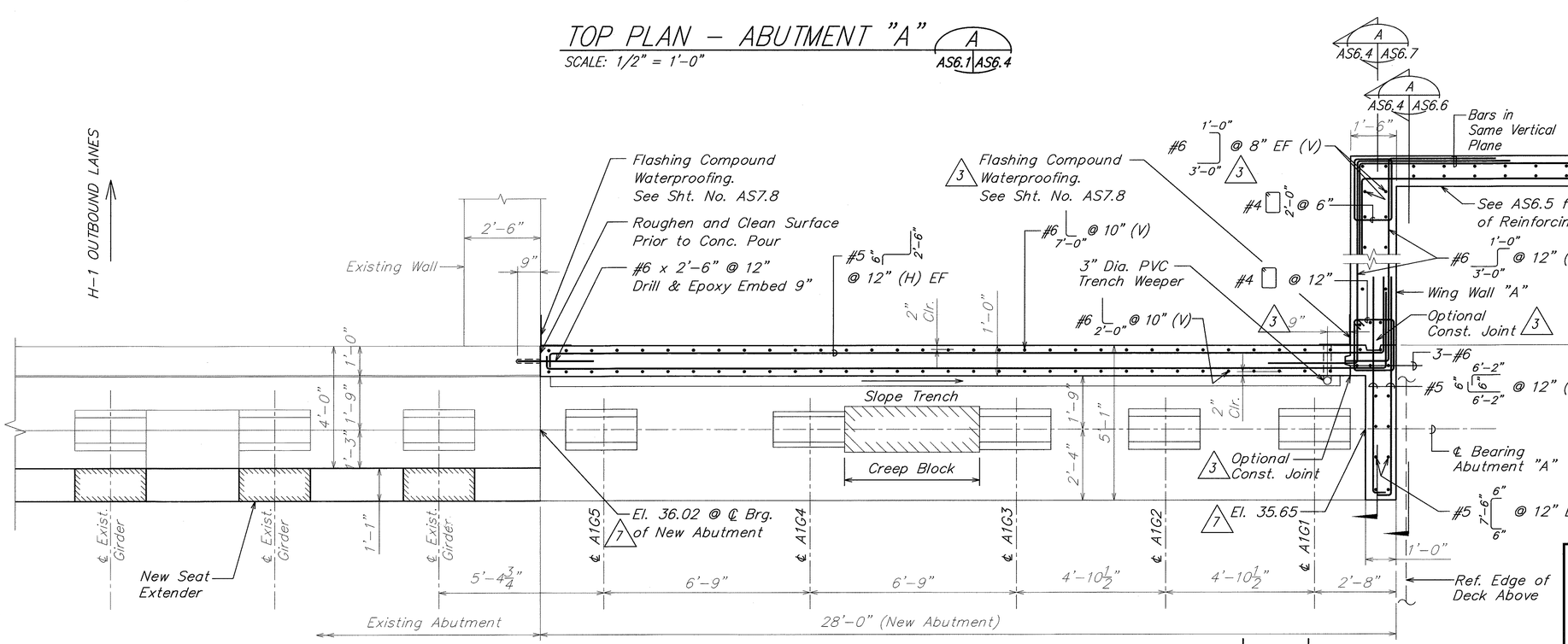
SCALE: 1/2" = 1'-0"

A AS6.1 AS6.4

LEGEND:

Denotes Portion of Existing Concrete Barrier and Top 1'-2" of Existing Abutment backwall to be Removed. Existing Reinforcing in Backwall Shall Remain.

Denotes Portion of Existing Wing Wall and Conc. Barrier to be Demolished. See Sht. No. AS7.8 for Details. For Existing Wing Wall Horizontal Bars Connecting to Exist. Abutment Backwall, See Det. 4/AS7.8 (Sim).




## AT SHELF LEVEL – ABUTMENT "A"

SCALE: 1/2" = 1'-0"

B AS6.1 AS6.4

| DATE | REVISION |
|---|---|
| 10/31/03 | 7 Revise Top of Bent Cap Elevation. |
| 6/20/03 | 3 Clarified Construction Joint and Reinforcing |

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

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SIGNATURE 4-30-04 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# ABUTMENT "A" TOP AND SHELF LEVEL PLANS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

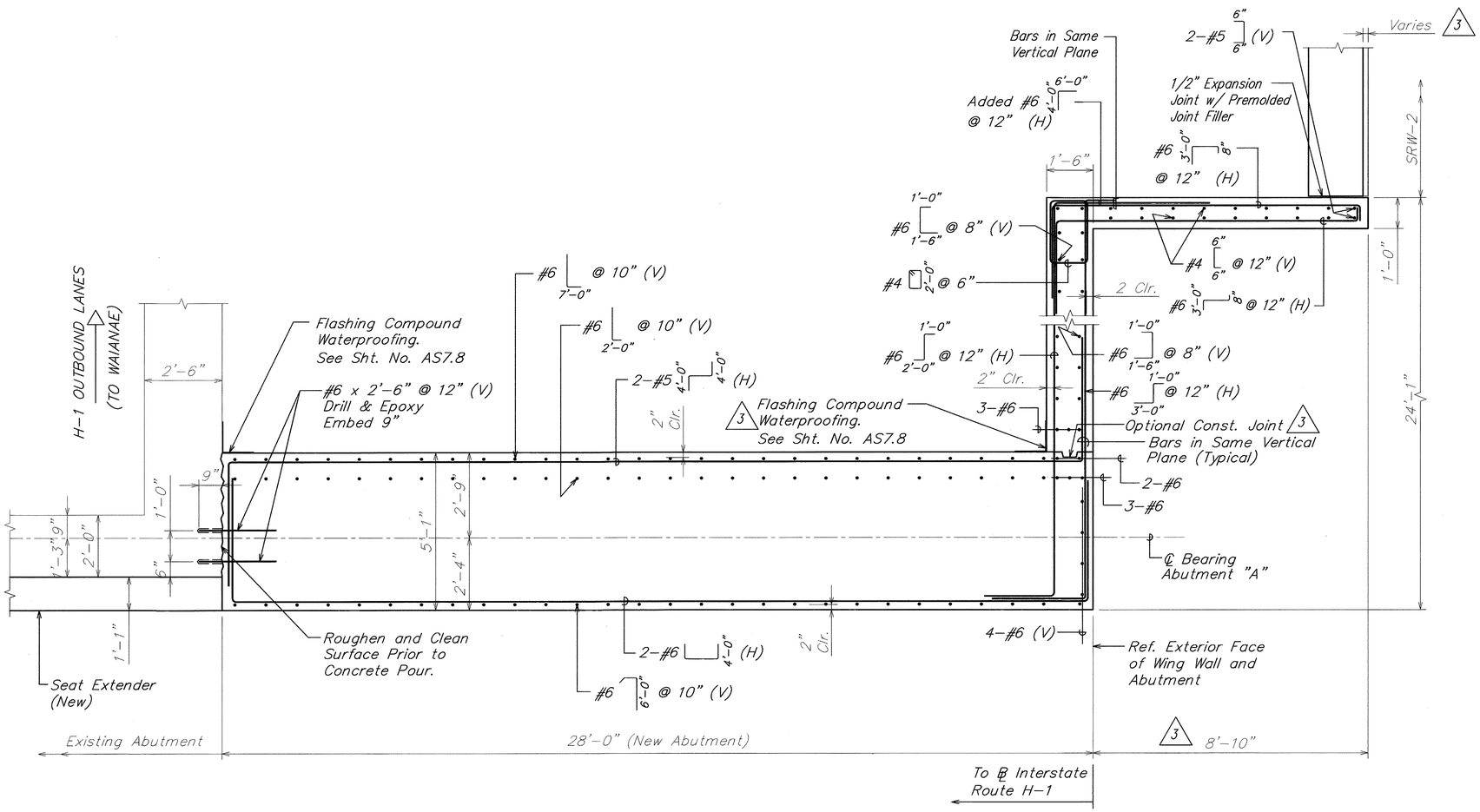
SHEET No. AS6.4 OF 150 SHEETS

ADD. 450

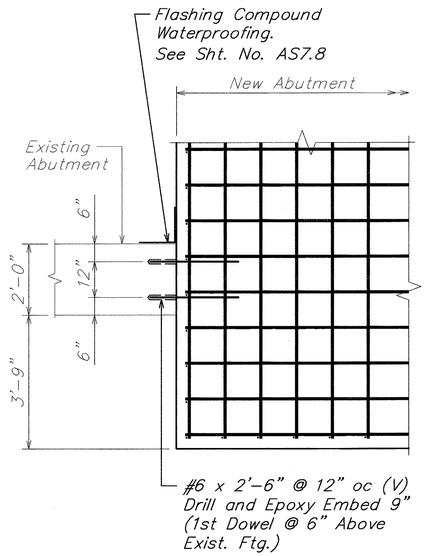
WV-AS0604.DWG
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 451 | 816 |




AT STEM - ABUTMENT "A" (A)
SCALE: 1/2" = 1'-0"
AS6.1 | AS6.5




AT STEM - ABUTMENT "A" (B)
SCALE: 1/2" = 1'-0"
AS6.1 | AS6.5

| ORIGINAL PLANS | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| | TRACED BY | |
| NOTE BOOK | DESIGNED BY | |
| | QUANTITIES BY | |
| No. | CHECKED BY | |

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Length of Wall and Construction Joint |

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SIGNATURE — EXPIRATION DATE OF THE LICENSE 4-30-04

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# ABUTMENT "A" SECTION AT STEM

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

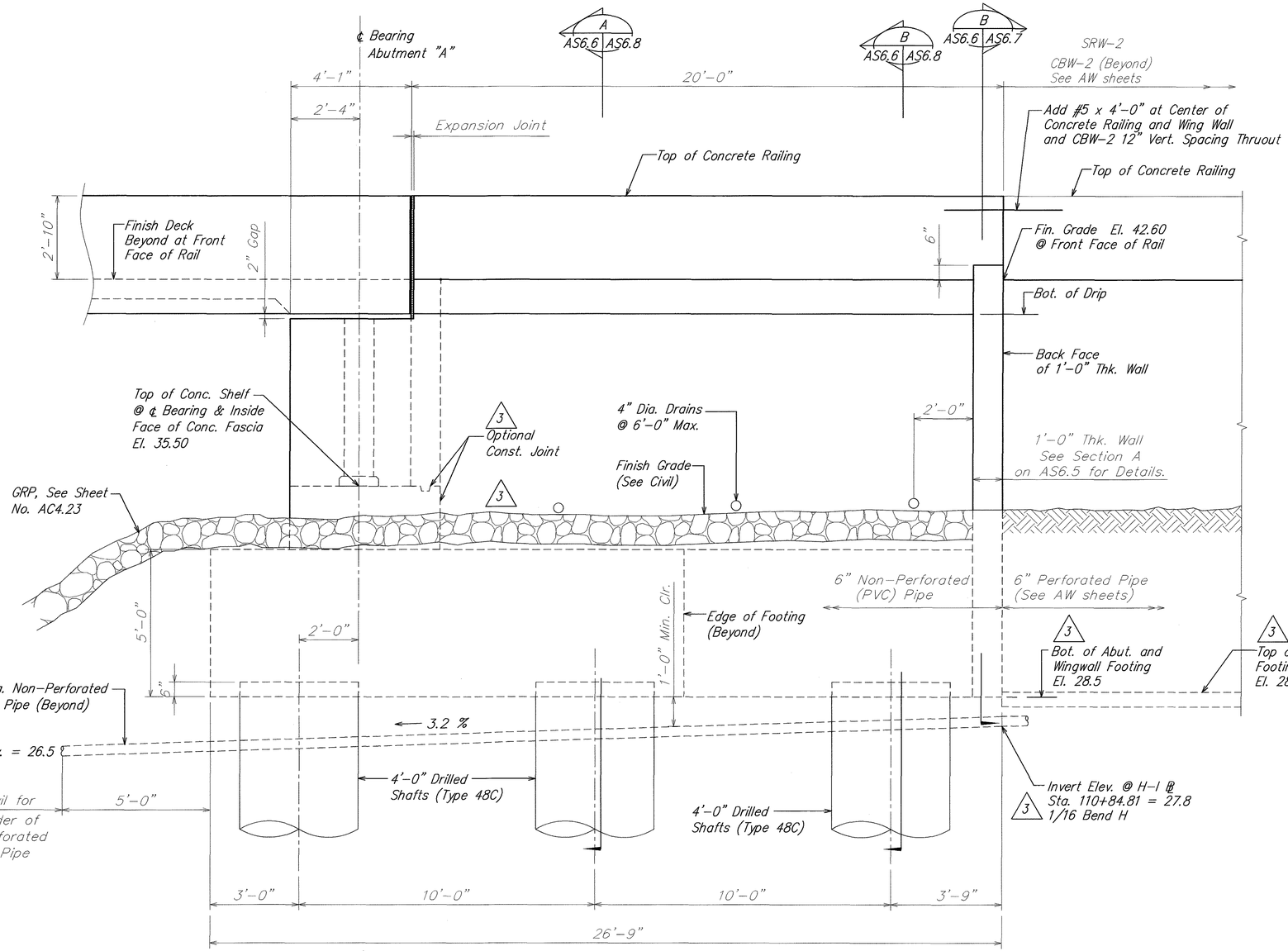
SHEET No. AS6.5 OF 150 SHEETS

ADD. 451

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 452 | 816 |




## ELEVATION - WING WALL "A"

SCALE: 1/2 = 1'-0"

A
AS6.1 AS6.6
AS6.4

NOTES:

1. See sheet nos. AS17.7 and AS17.8 for expansion joint details.
2. For finish grade at front face of rail, see sheet AS5.1.

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised Extent of GRP, Approx. Pipe Elevation and Bot. of Wall Elevation |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WING WALL "A" ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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SIGNATURE EXPIRATION DATE OF THE LICENSE

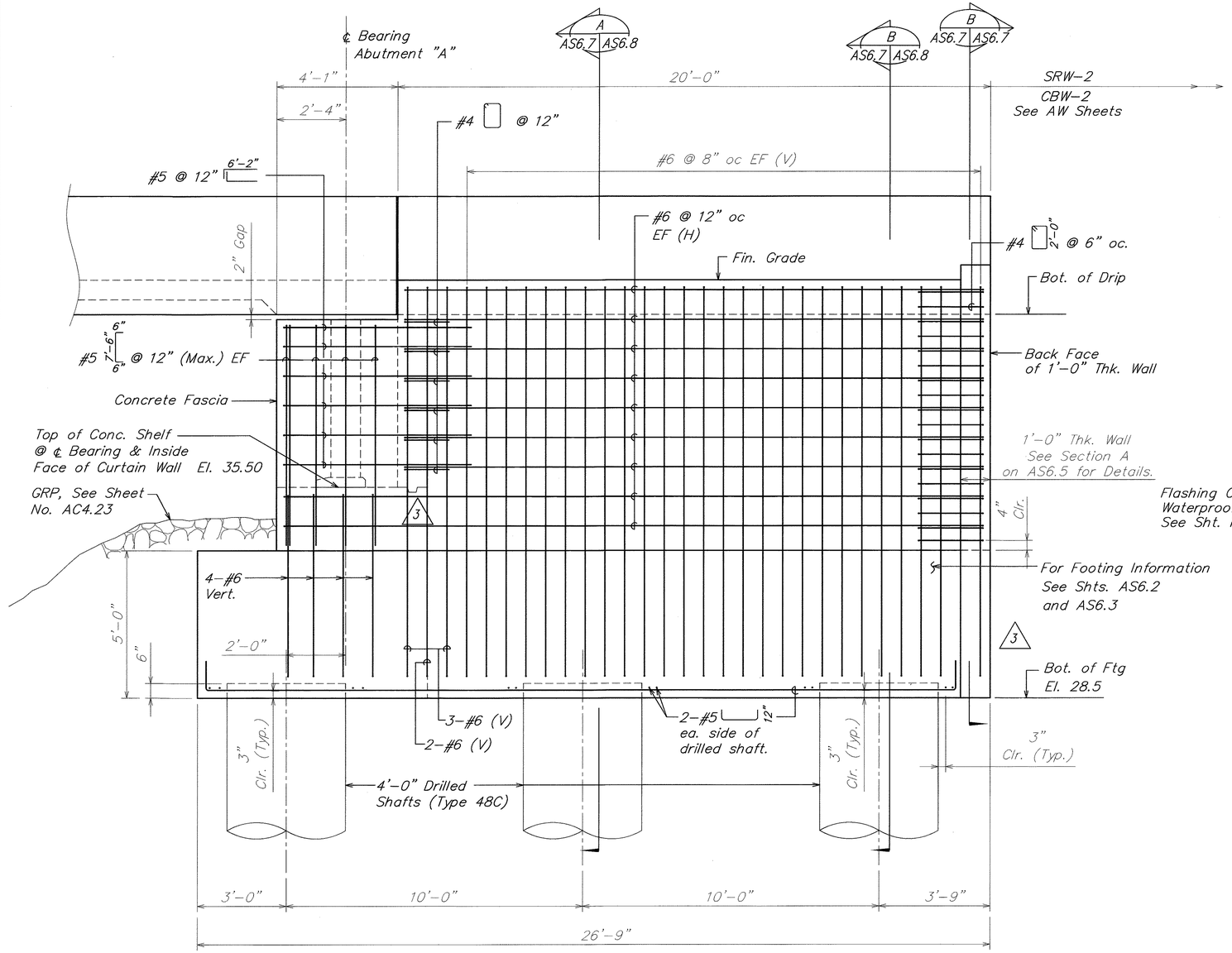
SHEET No. AS6.6 OF 150 SHEETS

ADD. 452

WV-AS0606.DWG
1 = 1

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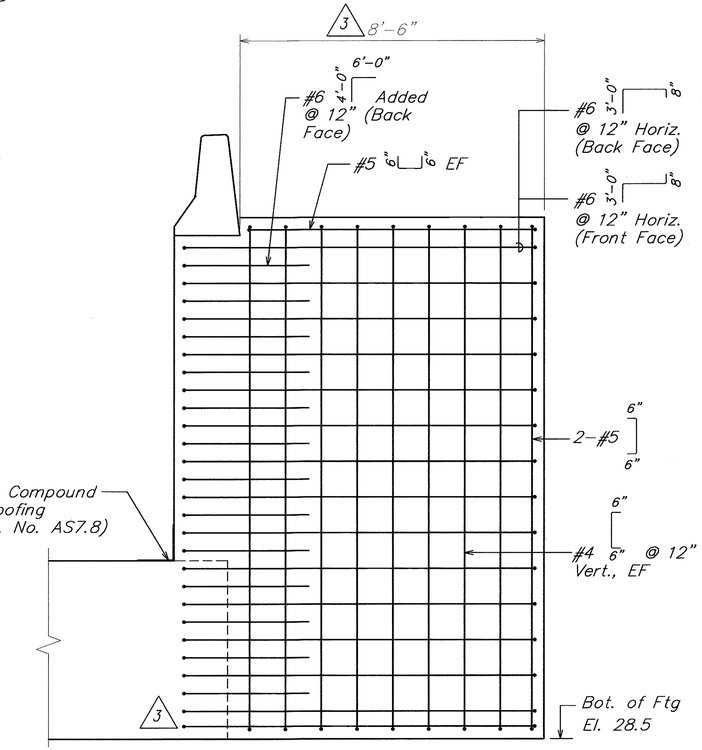
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 453 | 816 |




## SECTION — WING WALL "A"

A — AS6.4 | AS6.7

SCALE: 1/2 = 1'-0"




## SECTION

B — AS6.6 | AS6.7 — AS6.7

SCALE: 1/2 = 1'-0"

* For Balance of Reinforcing See Sht. Nos. AS6.4, AS6.5 and Section A on this Sheet.

NOTES:

1. See Sheet AS9.7 for drilled shaft reinforcing.
2. Non-perforated (PVC) and perforated pipes (beyond) not shown for clarity. See sheet no. AS6.6.

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

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised 1'-0" Thick Wall |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WING WALL "A" SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

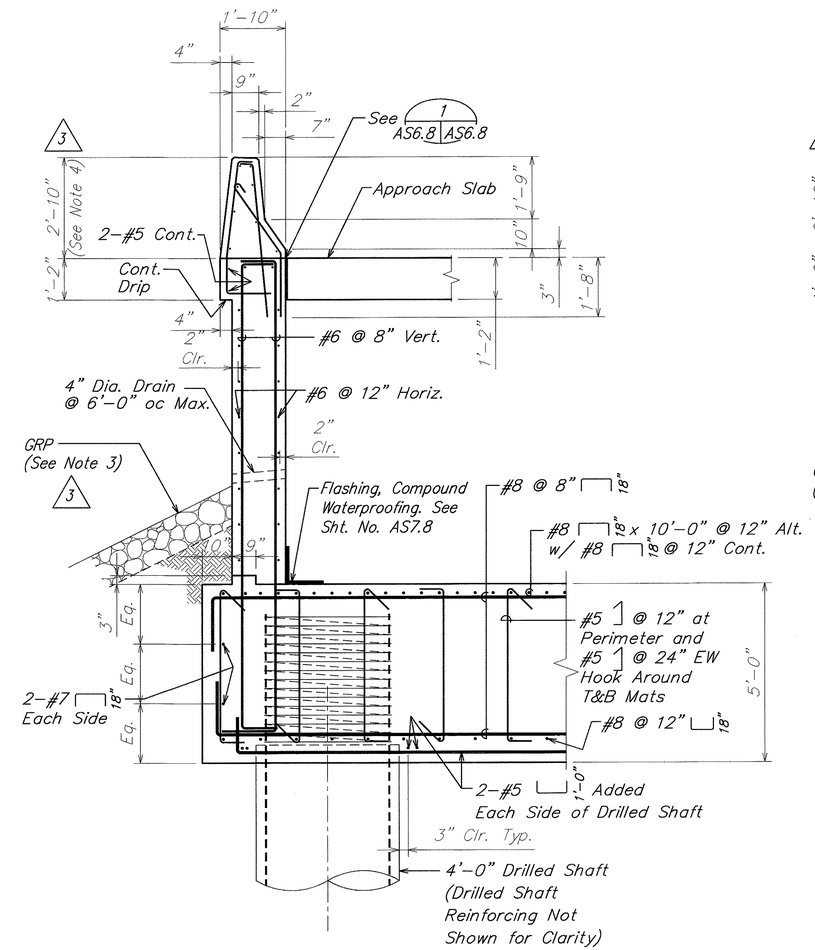
SHEET No. AS6.7 OF 150 SHEETS

ADD. 453

WV-AS0606.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 454 | 816 |

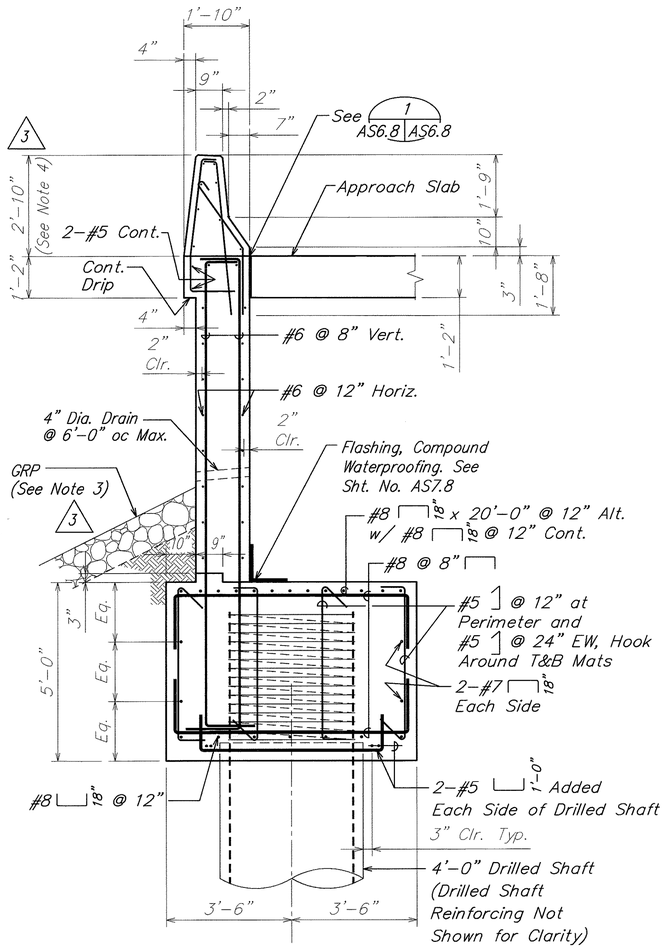



## SECTION A

SCALE: 1/2 = 1'-0"

AS6.1 | AS6.8

AS6.6, AS6.7, AS7.1




## SECTION B

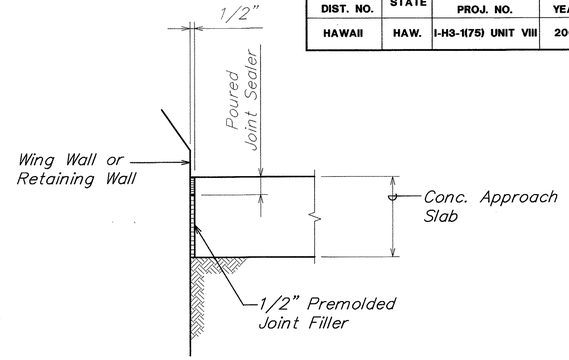
SCALE: 1/2 = 1'-0"

AS6.1 | AS6.8

AS6.6, AS6.7

NOTES:

1. See sht. AS8.2 for excavation and backfill details.
2. For similar barrier reinforcing see sht. AS16.5, similar.
3. See sheets AC7.16 and AC7.18 for finish grades.
3. 4. Concrete railing shall be paid for under Bid Item 507.7000.




## TYPICAL JOINT DETAIL AT WALL AND CONCRETE RAIL

SCALE: 1 1/2" = 1'-0"

1 AS6.8 | AS6.8

AS7.7




Use Correct Name of Bridge — Date of Year Built

NOTES:

1. Unless otherwise directed by the Engineer, the bridge name and date built shall be placed 5 feet from the end of the Ewa wingwall (toward Honolulu). Name and Date shall also be centered vertically in upper 1'-9" of barrier.
2. Exact details and spacing of letter and figures and location shall be as directed by the Engineer. Gothic letters and figures approximating the dimensions shown will be acceptable if approved by the Engineer.
3. Name and date shall match the name and date on the existing Waimalu Viaduct end post.

TYPICAL DETAIL OF LETTERS AND FIGURES

## BRIDGE IDENTIFICATION DETAIL

2 AS6.8 | AS6.8

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
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| No. | DESIGNED BY | |
| | QUANTITIES BY | |
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David K. Fujiwara 4-30-04

SIGNATURE — EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised GRP, Added Note and Revised Flashing Note. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# WING WALL SECTIONS AND DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

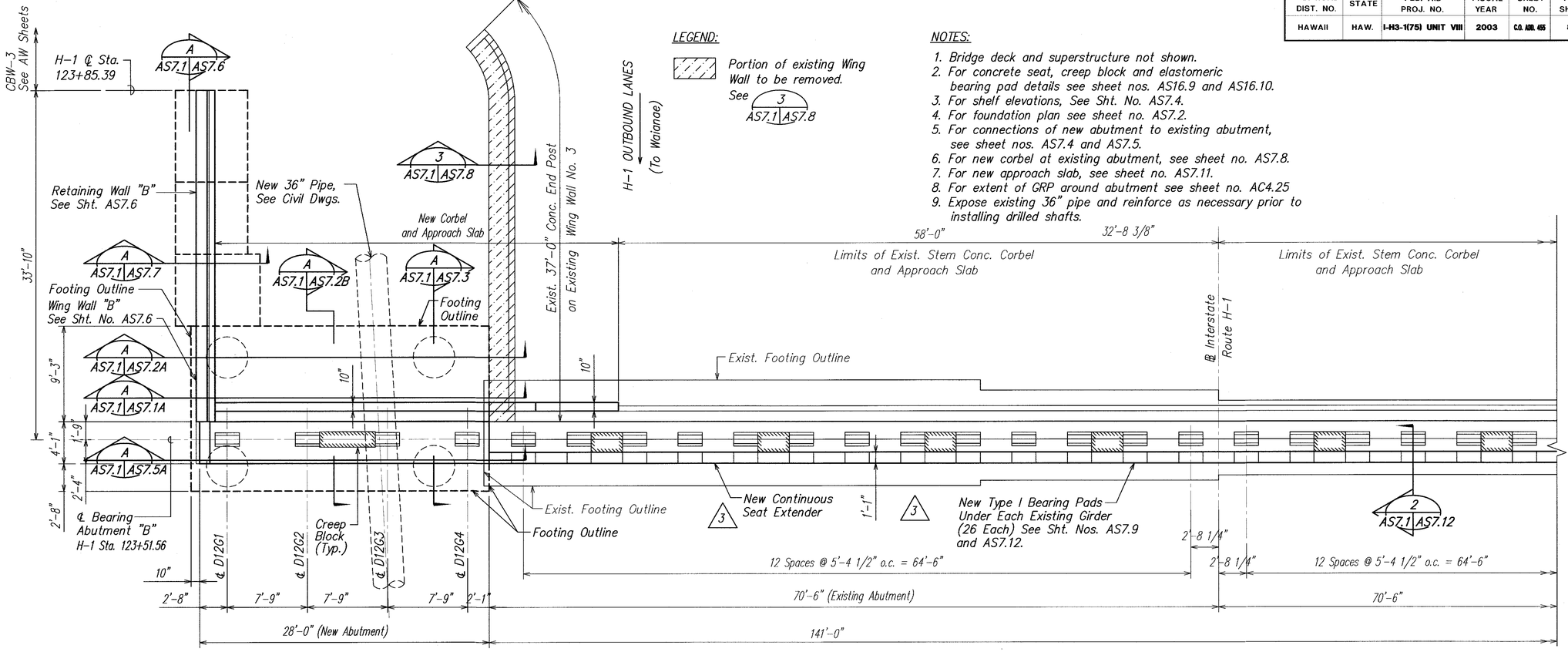
SHEET No. AS6.8 OF 150 SHEETS

ADD. 454

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1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. ADD. 455 | 816 |




LEGEND:

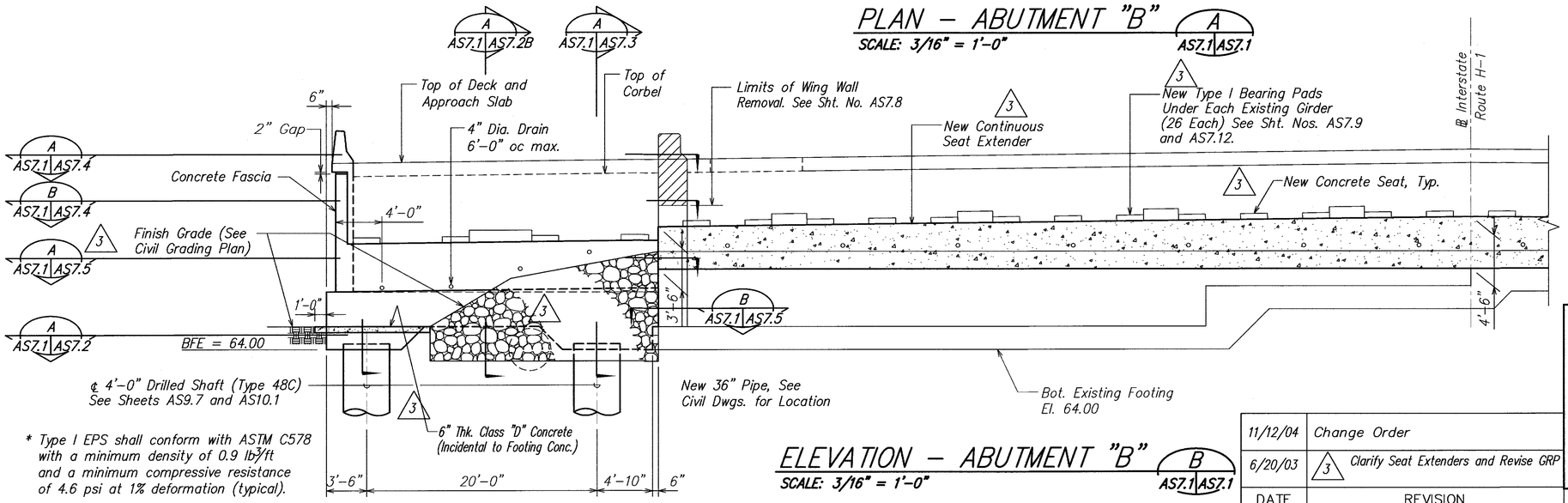
Portion of existing Wing Wall to be removed. See 3 AS7.1 AS7.8

NOTES:

1. Bridge deck and superstructure not shown.
2. For concrete seat, creep block and elastomeric bearing pad details see sheet nos. AS16.9 and AS16.10.
3. For shelf elevations, See Sht. No. AS7.4.
4. For foundation plan see sheet no. AS7.2.
5. For connections of new abutment to existing abutment, see sheet nos. AS7.4 and AS7.5.
6. For new corbel at existing abutment, see sheet no. AS7.8.
7. For new approach slab, see sheet no. AS7.11.
8. For extent of GRP around abutment see sheet no. AC4.25
9. Expose existing 36" pipe and reinforce as necessary prior to installing drilled shafts.

## PLAN – ABUTMENT "B"

SCALE: 3/16" = 1'-0"




* Type I EPS shall conform with ASTM C578 with a minimum density of 0.9 lb/ft³ and a minimum compressive resistance of 4.6 psi at 1% deformation (typical).

## ELEVATION – ABUTMENT "B"

SCALE: 3/16" = 1'-0"

B AS7.1 AS7.1

| DATE | REVISION |
|---|---|
| 11/12/04 | Change Order |
| 6/20/03 | 3 Clarify Seat Extenders and Revise GRP |

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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SIGNATURE 4-30-04 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# ABUTMENT "B" PLAN AND ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

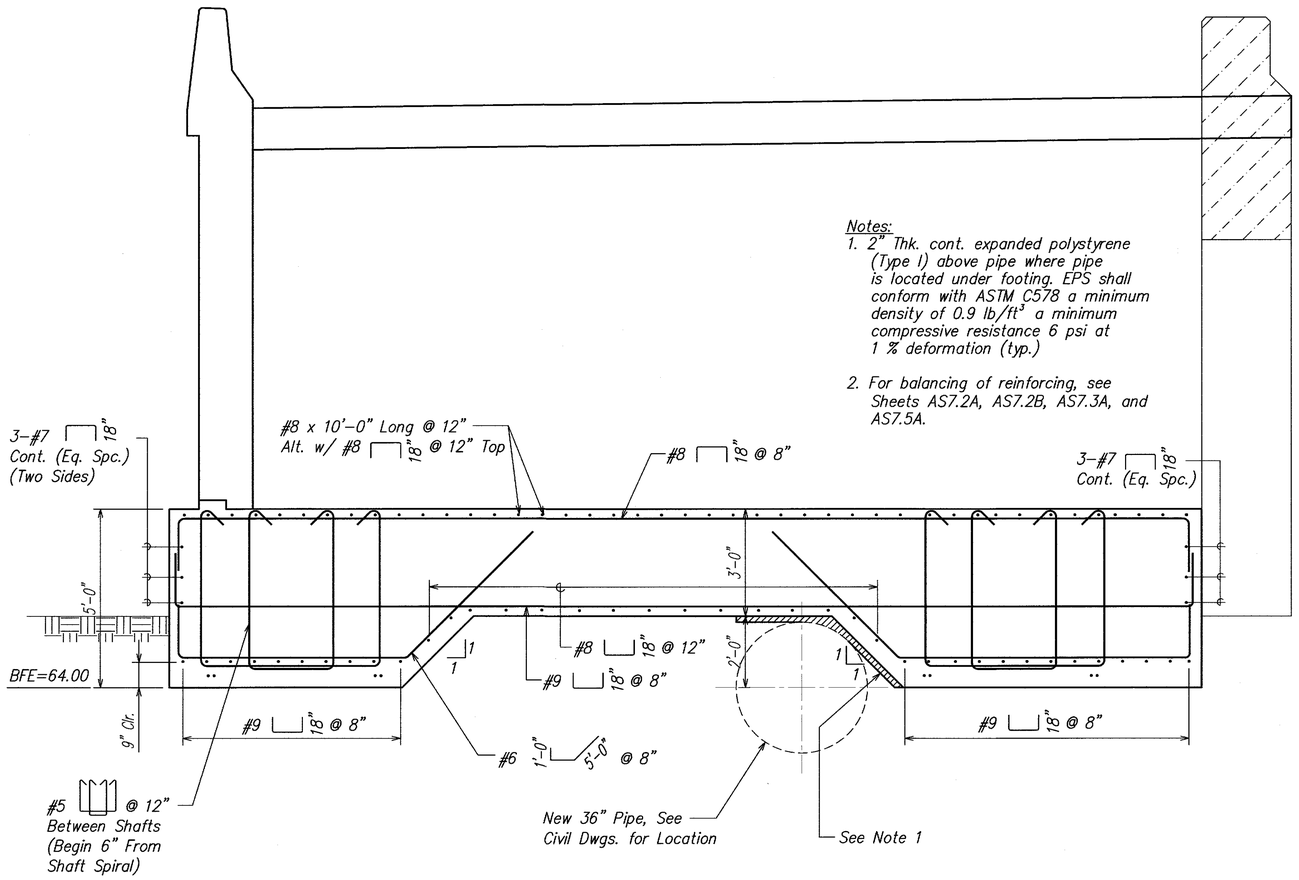
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS7.1 OF 150 SHEETS

"AS-BUILT"

C.O. ADD. 455

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 4558-1 | 816 |




Notes:
1. 2" Thk. cont. expanded polystyrene (Type I) above pipe where pipe is located under footing. EPS shall conform with ASTM C578 a minimum density of 0.9 lb/ft³ a minimum compressive resistance 6 psi at 1 % deformation (typ.)

2. For balancing of reinforcing, see Sheets AS7.2A, AS7.2B, AS7.3A, and AS7.5A.

## SECTION – ABUTMENT "B" (A)

SCALE: 1/4" = 1'–0"

AS7.1 | AS7.1A

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


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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**ABUTMENT "B" SECTION**

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

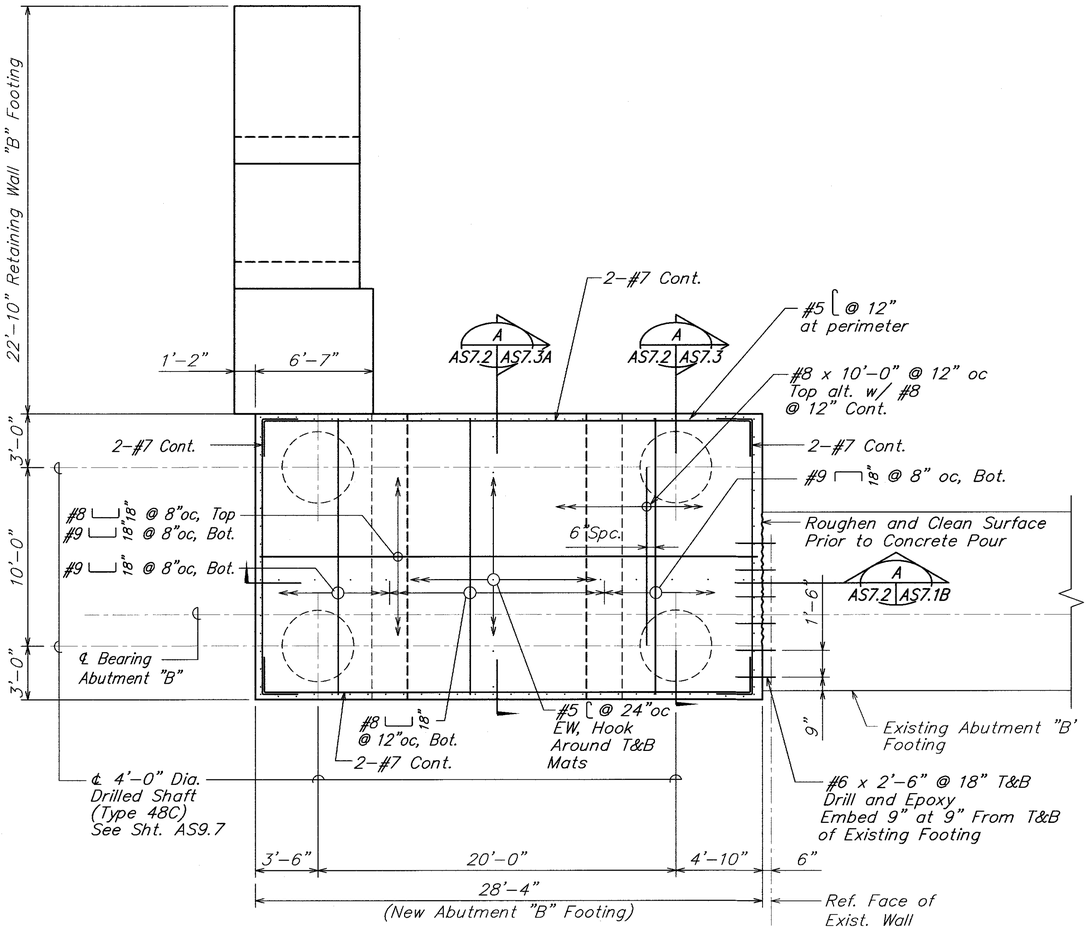
SHEET No. **AS7.1A** OF **150** SHEETS

| DATE | REVISION |
|---|---|
| 11/12/04 | Change Order New Sheet |

"AS–BUILT"

C.O. 4555-1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 456 | 816 |




## ABUTMENT "B" FOOTING PLAN (A AS7.1 AS7.2)

SCALE: 1/4" = 1'-0"

NOTES:

1. For abutment stem reinforcing bent into footing, see sht. no. AS7.3.
2. For wingwall reinforcing bent into footing, see sht. no. AS6.8.
3. For additional Abut. "B" reinforcing, see sht. no. AS7.3.
4. For schematic of footing reinforcement at drilled shaft, See Detail 1 on sht. no. AS6.2

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

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| DATE | REVISION |
|---|---|
| 11/12/04 | Change Order |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## ABUTMENT "B" FOOTING PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

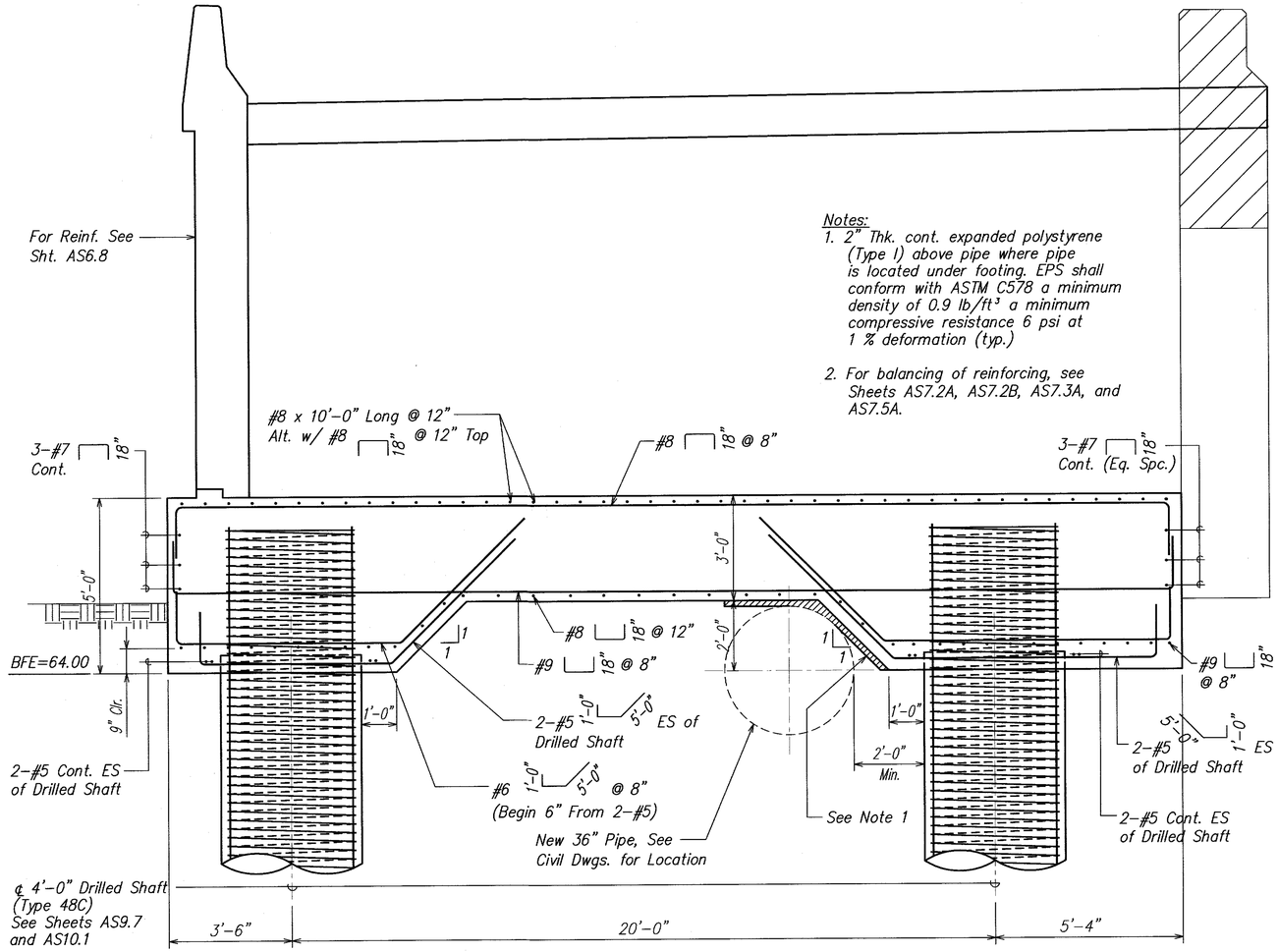
Scale: As Noted Date: Mar. 31, 2003

SHEET No. **AS7.2** OF **150** SHEETS

"AS-BUILT"

C.O. 456

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 456S-1 | 816 |




Notes:
1. 2" Thk. cont. expanded polystyrene (Type I) above pipe where pipe is located under footing. EPS shall conform with ASTM C578 a minimum density of 0.9 lb/ft³ a minimum compressive resistance 6 psi at 1 % deformation (typ.)
2. For balancing of reinforcing, see Sheets AS7.2A, AS7.2B, AS7.3A, and AS7.5A.

## SECTION – ABUTMENT "B"

SCALE: 1/4" = 1'-0"

A AS7.1 AS7.2A

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**ABUTMENT "B" SECTION**

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

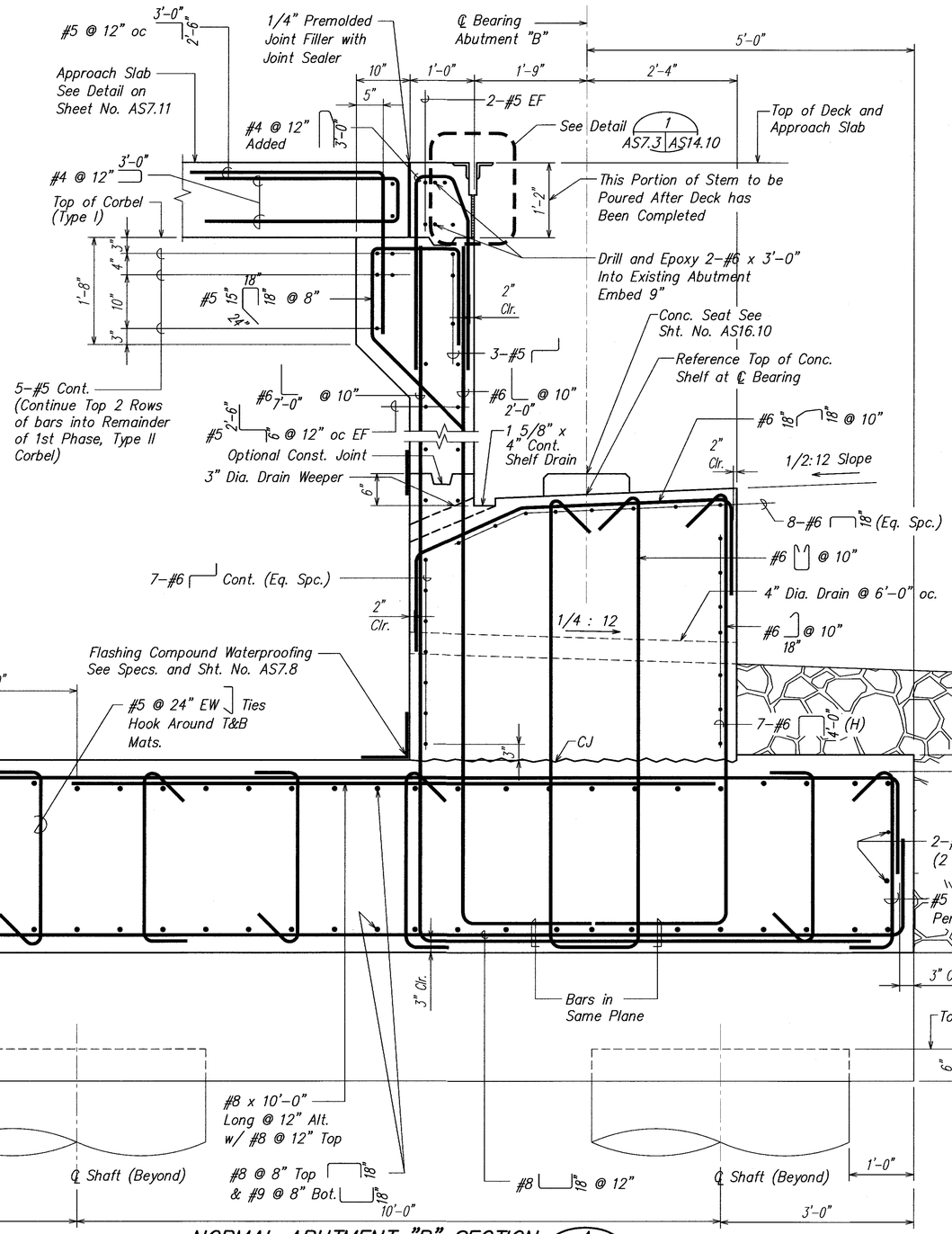
SHEET No. **AS7.2A** OF **150** SHEETS

| DATE | REVISION |
|---|---|
| 11/12/04 | Change Order New Sheet |

"AS-BUILT"

C.O. 456S-1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 456S-2 | 816 |




NORMAL ABUTMENT "B" SECTION A

SCALE: 1" = 1'-0"

AS7.1 | AS7.2B

AS7.2, AS7.10 Sim.

NOTES:

1. Spiral may be discontinuous at the footing reinforcement to facilitate placement of footing reinforcement. The discontinuous ends shall be terminated with 135° hook around vertical reinforcement.
2. For foundation plans of abutments, see sheet nos. AS7.1 and AS7.2.
3. For typical Drilled Shaft Details, see sheet no. AS9.7.
4. For Approach Slab Details, see sheet no. AS7.11.
5. For other details of abutment footing and wingwalls, see sheet nos. AS7.4 to AS7.7.
6. Ties shall have a 135° hook on one end and a 90° hook on the opposite end. Ties shall be placed so that 90° and 135° of adjacent ties, horizontally and vertically, shall be alternated.
7. See sheet no. AS7.8 for added reinforcing at weepers and drains.
8. See sheet no. AS8.2 for filter material detail.
9. See sheet no. AS17.8 for deck expansion joint.

ORIGINAL PLAN

SURVEY PLOTTED BY _____ DATE
DRAWN BY " " "
TRACED BY " " "
DESIGNED BY " " "
QUANTITIES BY " " "
CHECKED BY " " "

NOTE BOOK
No. _____

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Signature 4-30-04 Expiration Date of the License

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# NORMAL ABUTMENT "B" SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

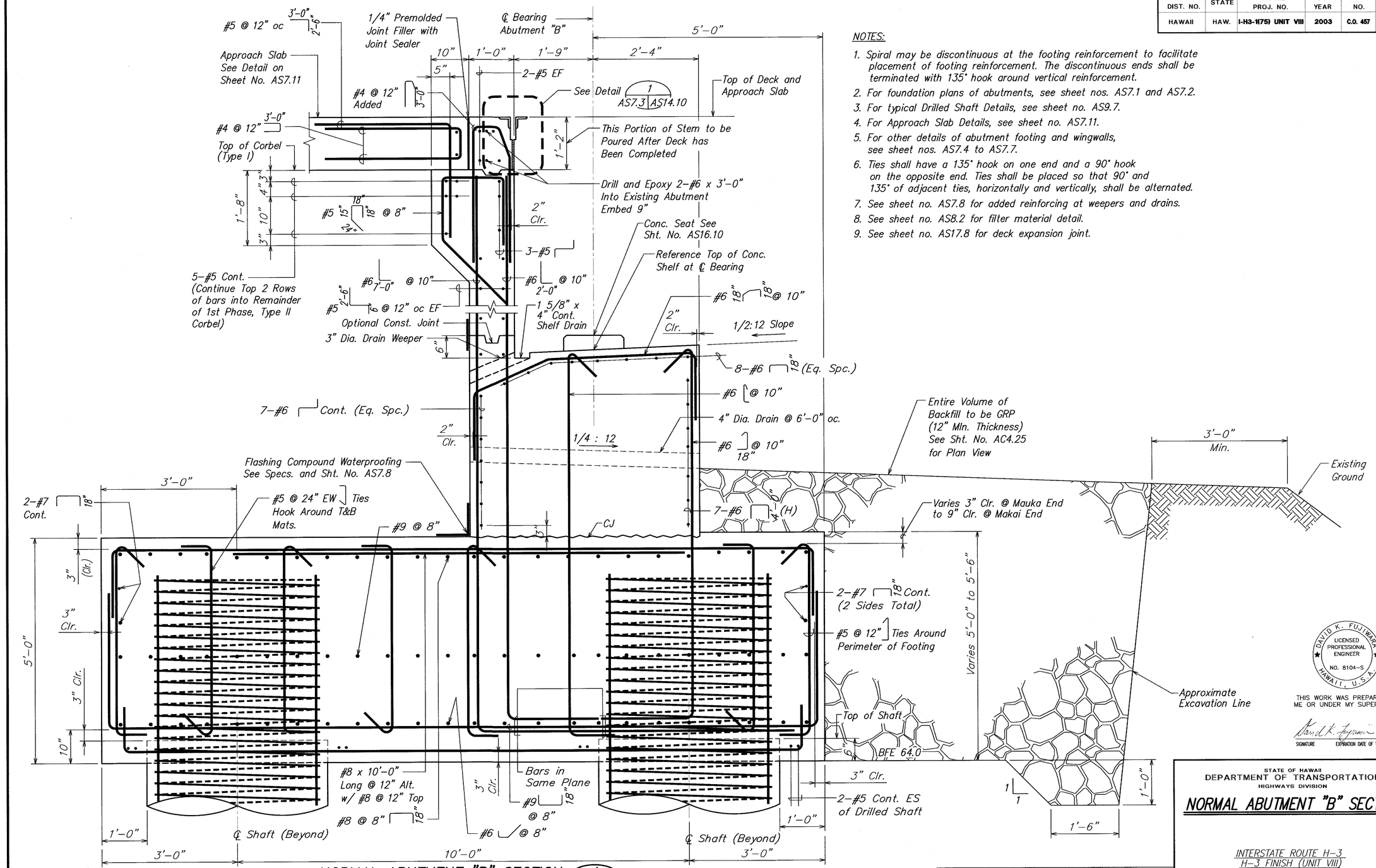
SHEET No. **AS7.2B** OF **150** SHEETS

| DATE | REVISION |
|---|---|
| 11/12/04 | Change Order New Sheet |

"AS-BUILT"

C.O. 456S-2

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 457 | 816 |




NORMAL ABUTMENT "B" SECTION A
SCALE: 1" = 1'-0"
AS7.1 AS7.3
AS7.2, AS7.10 Sim.

NOTES:

1. Spiral may be discontinuous at the footing reinforcement to facilitate placement of footing reinforcement. The discontinuous ends shall be terminated with 135° hook around vertical reinforcement.
2. For foundation plans of abutments, see sheet nos. AS7.1 and AS7.2.
3. For typical Drilled Shaft Details, see sheet no. AS9.7.
4. For Approach Slab Details, see sheet no. AS7.11.
5. For other details of abutment footing and wingwalls, see sheet nos. AS7.4 to AS7.7.
6. Ties shall have a 135° hook on one end and a 90° hook on the opposite end. Ties shall be placed so that 90° and 135° of adjacent ties, horizontally and vertically, shall be alternated.
7. See sheet no. AS7.8 for added reinforcing at weepers and drains.
8. See sheet no. AS8.2 for filter material detail.
9. See sheet no. AS17.8 for deck expansion joint.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | " |
| | TRACED BY | " |
| NOTE BOOK | DESIGNED BY | " |
| No. | QUANTITIES BY | " |
| | CHECKED BY | " |

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HIGHWAYS DIVISION

NORMAL ABUTMENT "B" SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

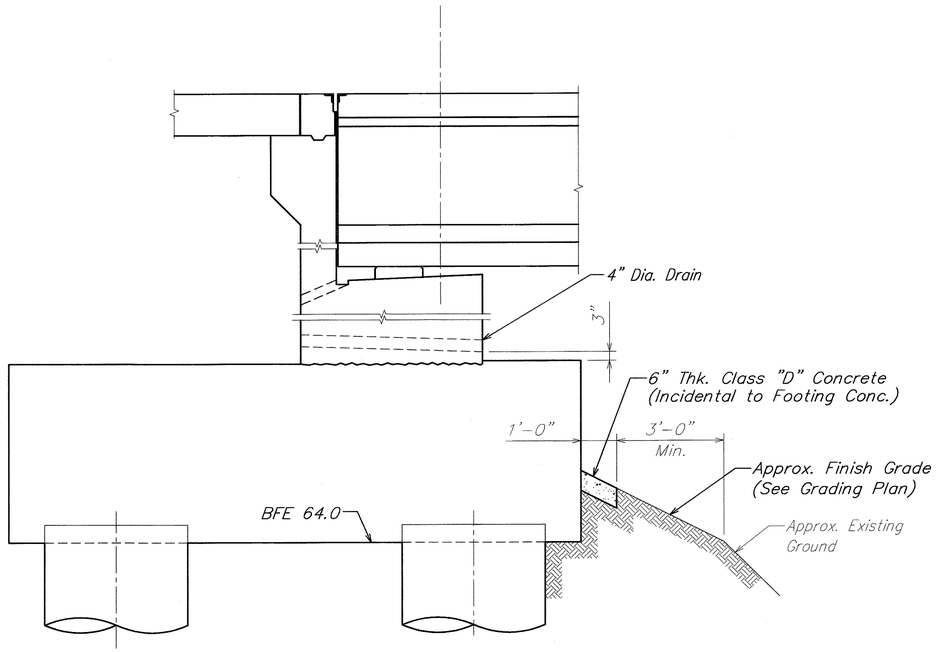
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SHEET No. AS7.3 OF 150 SHEETS

| DATE | REVISION |
|---|---|
| 11/12/04 | Change Order New Sheet |

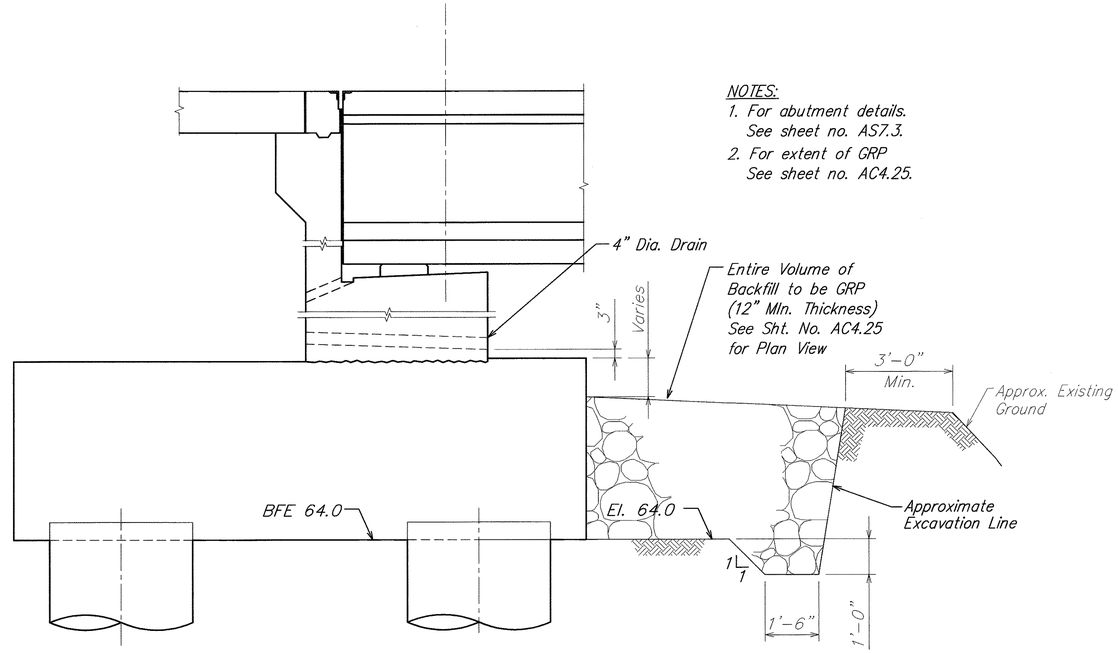
"AS-BUILT"
C.O. 457

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 457S-1 | 816 |




FINISH GRADE AT FRONT OF ABUTMENT "B" SECTION (A / AS7.1 | AS7.3A)

SCALE: 1/2" = 1'-0'




NOTES:
1. For abutment details. See sheet no. AS7.3.
2. For extent of GRP See sheet no. AC4.25.

FINISH GRADE AT FRONT OF ABUTMENT "B" SECTION (B / AS7.1 | AS7.3A)

SCALE: 1/2" = 1'-0'

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| No. | TRACED BY | " |
| | DESIGNED BY | " |
| | QUANTITIES BY | " |
| | CHECKED BY | " |

STATE OF HAWAII
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HIGHWAYS DIVISION

# ABUTMENT "B" SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

SHEET No. AS7.3A OF 150 SHEETS

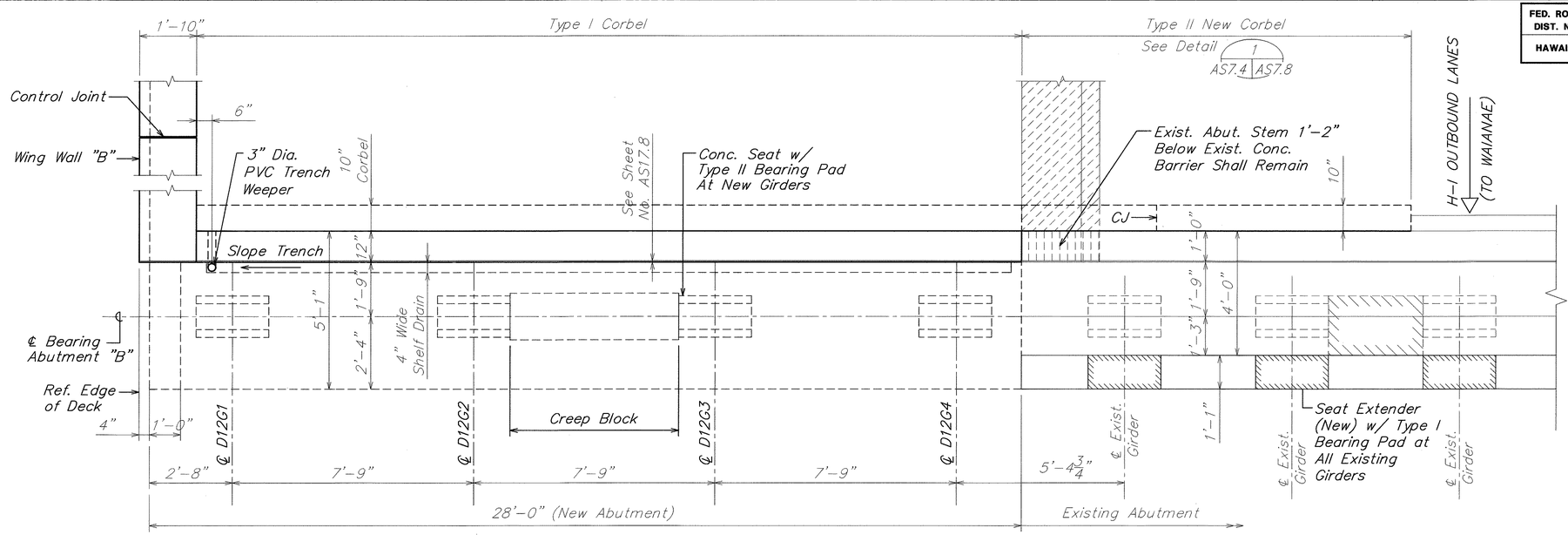
| DATE | REVISION |
|---|---|
| 6/20/03 | 3 New Sheet Clarifying Finish Grade at Front of Abutment B |

ADD. 457S-1

WV-AS.DWG
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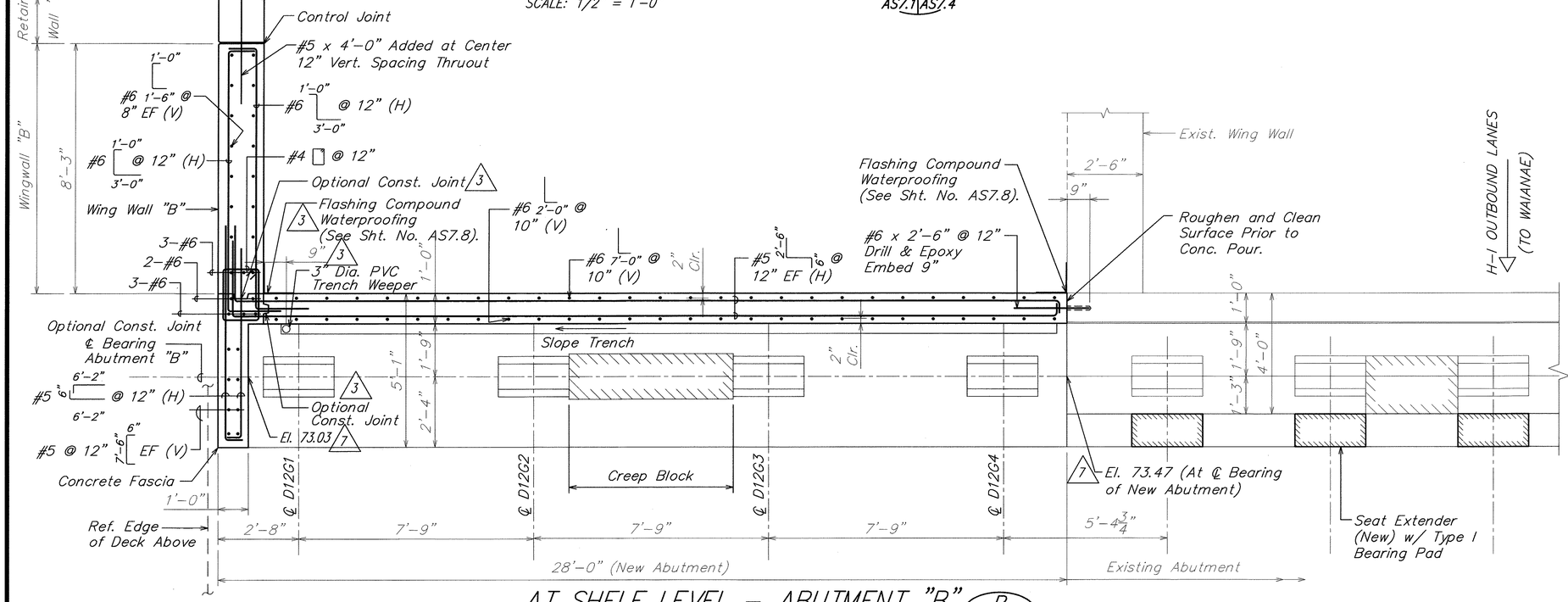
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 458 | 816 |




## TOP PLAN – ABUTMENT "B" (A)

SCALE: 1/2" = 1'-0"

AS7.1 | AS7.4




## AT SHELF LEVEL – ABUTMENT "B" (B)

SCALE: 1/2" = 1'-0"

AS7.1 | AS7.4

LEGEND:

Denotes Portion of Existing Conc. Barrier and Top 1'-2" of Existing Abutment Backwall to be Removed. Existing Reinforcing in Backwall Shall Remain.

Denotes Portion of Existing Wing Wall and Conc. Barrier to be Demolished. See Sht. No. AS7.8 for Details. For Existing Wing Wall Horizontal Bars Connecting to Existing Abutment Backwall, See Detail 4/AS7.8 (Sim).

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David K. Fujiwara 4-30-04

SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | | REVISION |
|---|---|---|
| 10/31/03 | 7 | Revise Top of Bent Cap Elevation. |
| 6/20/03 | 3 | Clarified Construction Joint and Reinforcing |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# ABUTMENT "B" TOP AND SHELF LEVEL PLANS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS7.4 OF 150 SHEETS

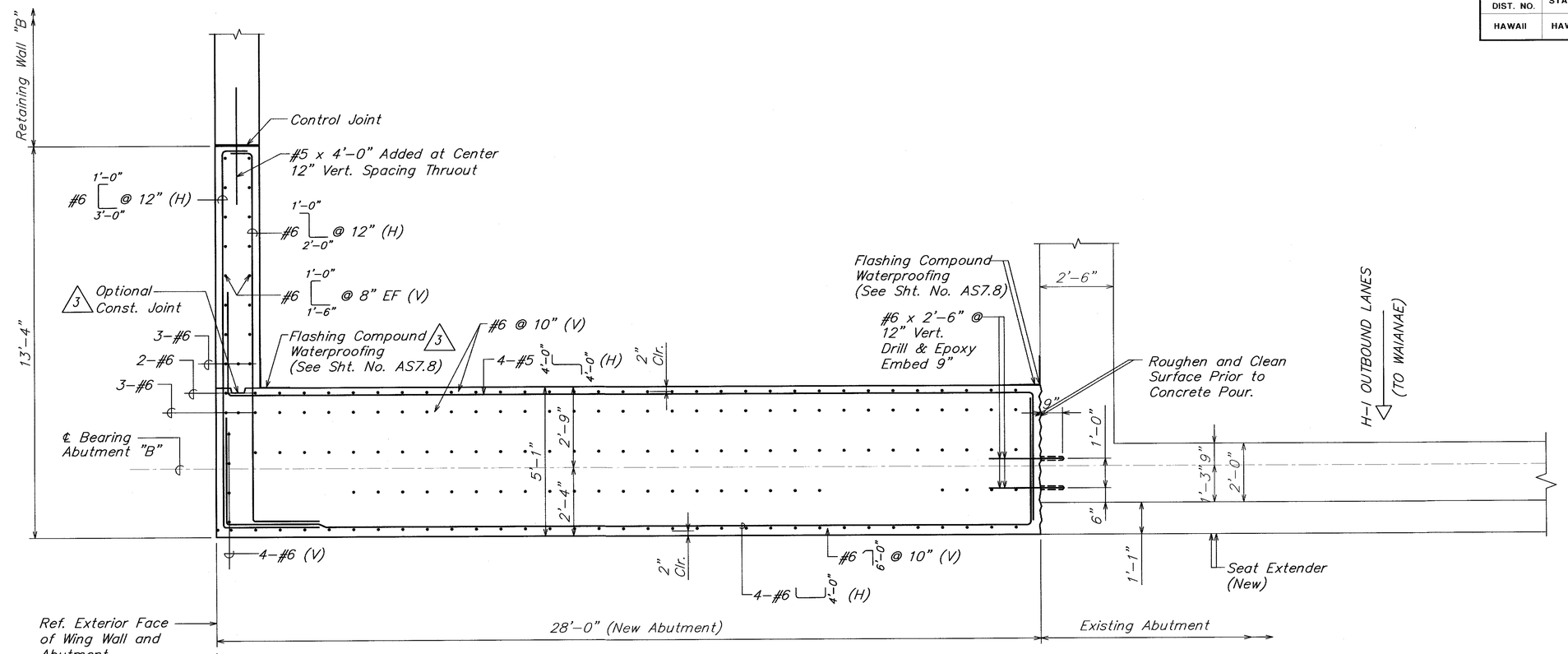
ADD. 458

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| | CHECKED BY | |

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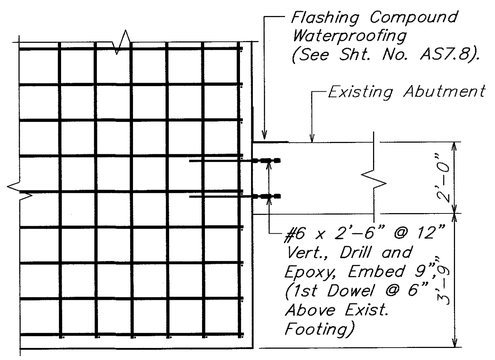
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(175) UNIT VIII | 2003 | C.O. ADD. 459 | 816 |




## AT STEM – ABUTMENT "B" (A)

SCALE: 1/2" = 1'-0"

AS7.1 | AS7.5




## AT STEM – ABUTMENT "B" (B)

SCALE: 1/2" = 1'-0"

AS7.1 | AS7.5

ORIGINAL PLAN
NOTE BOOK

SURVEY PLOTTED BY _____ DATE
DRAWN BY " " "
TRACED BY " " "
DESIGNED BY " " "
QUANTITIES BY " " "
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| DATE | REVISION |
|---|---|
| 11/12/04 | Change Order |
| 6/20/03 | 3 Clarified Construction Joint |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# ABUTMENT "B" SECTION AT STEM

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. **AS7.5** OF **150** SHEETS

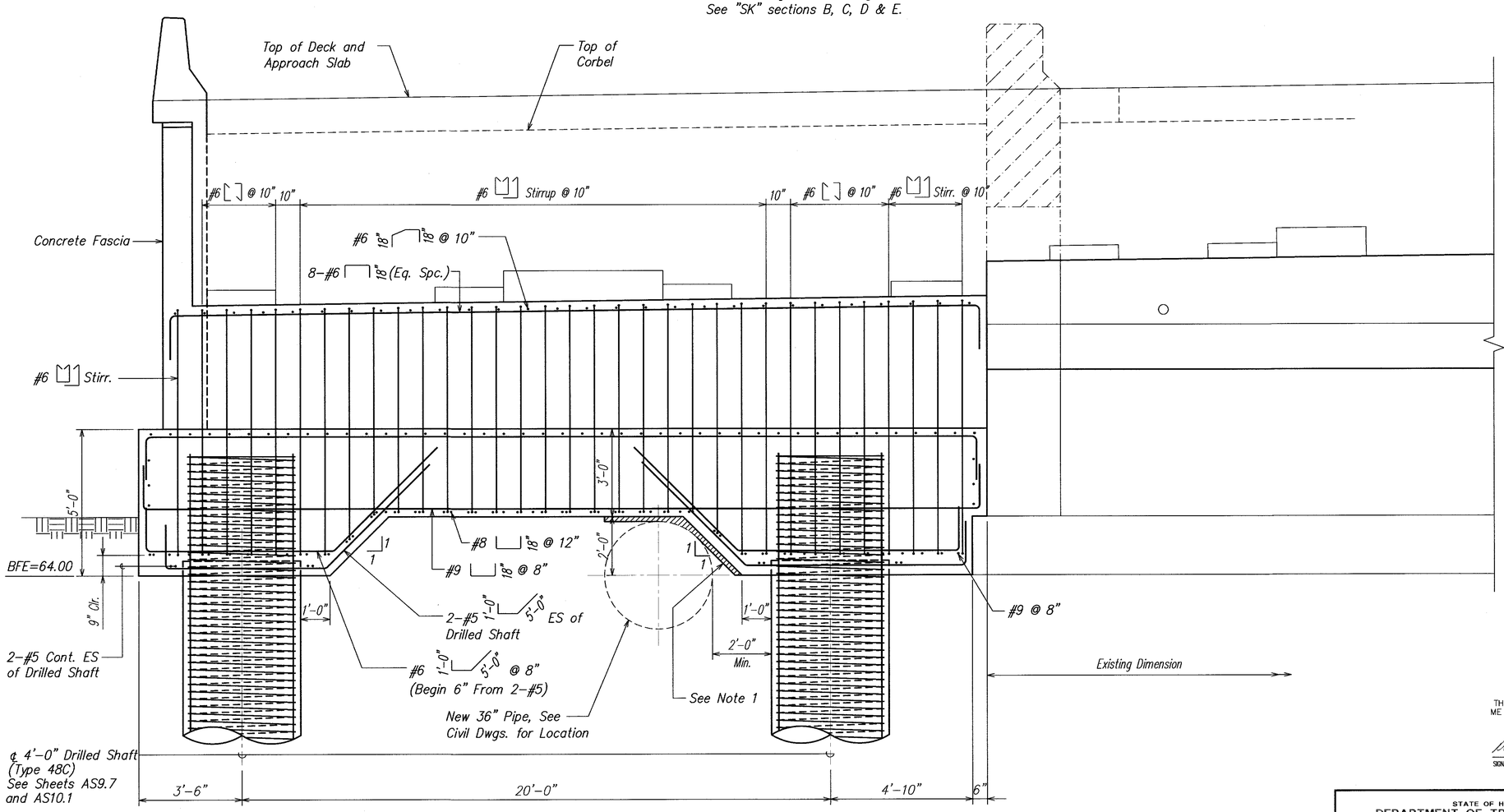
"AS-BUILT"

C.O. ADD. 459

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 459S-1 | 816 |

Notes:
1. 2" Thk. cont. expanded polystyrene (Type I) above pipe where pipe is located under footing. EPS shall conform with ASTM C578 a minimum density of 0.9 lb/ft³ a minimum compressive resistance 6 psi at 1 % deformation (typ.)

2. For balancing of reinforcing, See "SK" sections B, C, D & E.




## SECTION – ABUTMENT "B"

SCALE: 1/4" = 1'-0"

A
AS7.1A | AS7.5A

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STATE OF HAWAII
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HIGHWAYS DIVISION

**ABUTMENT "B" SECTION**

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. **AS7.5A** OF **150** SHEETS

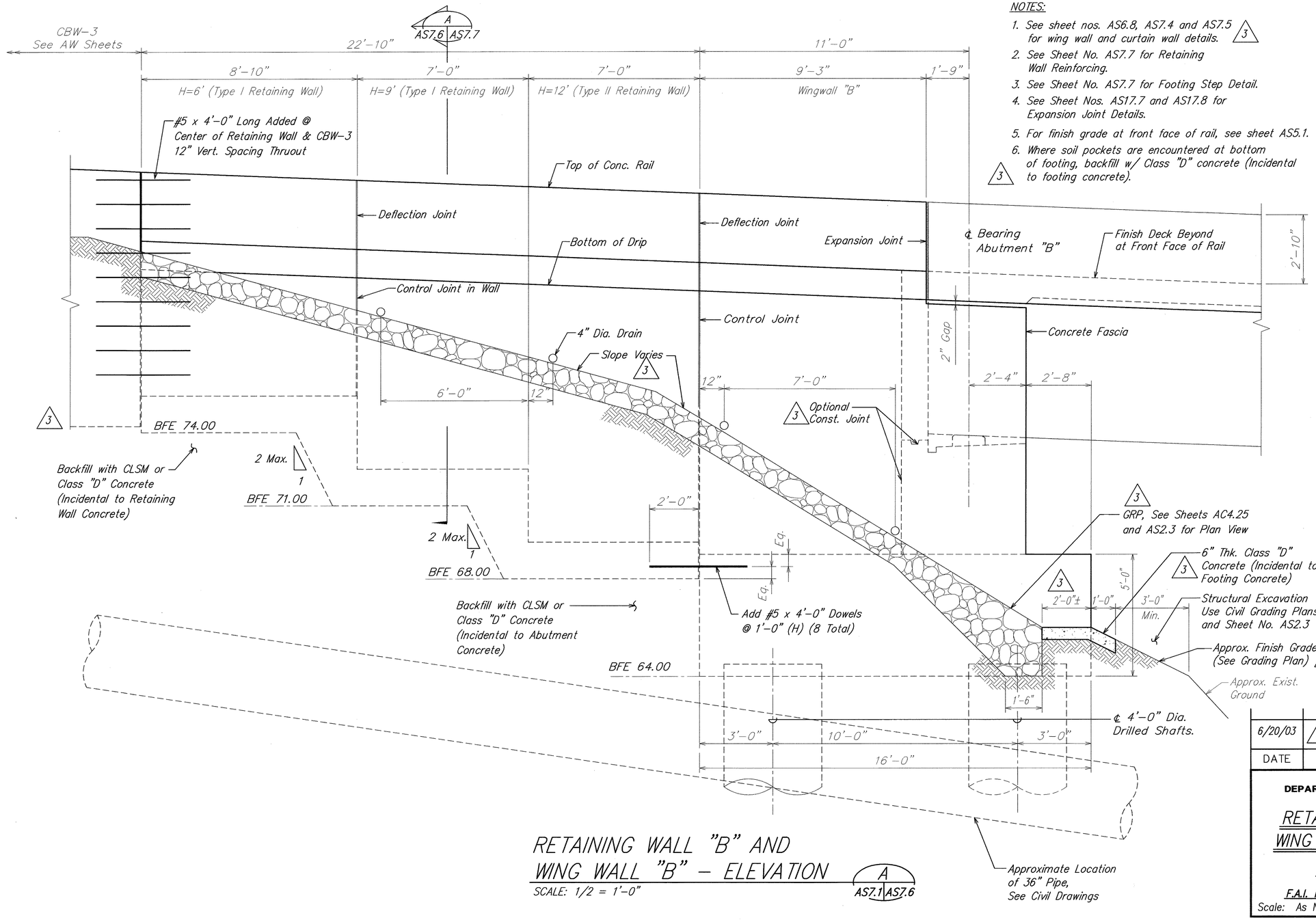
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| 11/12/04 | Change Order New Sheet |

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

"AS-BUILT"

C.O. 459S-1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 460 | 816 |




NOTES:

1. See sheet nos. AS6.8, AS7.4 and AS7.5 for wing wall and curtain wall details. 3
2. See Sheet No. AS7.7 for Retaining Wall Reinforcing.
3. See Sheet No. AS7.7 for Footing Step Detail.
4. See Sheet Nos. AS17.7 and AS17.8 for Expansion Joint Details.
5. For finish grade at front face of rail, see sheet AS5.1.
6. Where soil pockets are encountered at bottom of footing, backfill w/ Class "D" concrete (Incidental to footing concrete). 3

## RETAINING WALL "B" AND WING WALL "B" – ELEVATION

SCALE: 1/2 = 1'-0"

A
AS7.1 AS7.6

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised GRP, CBW, BFE and Notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RETAINING WALL "B" AND WING WALL "B" ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS7.6 OF 150 SHEETS

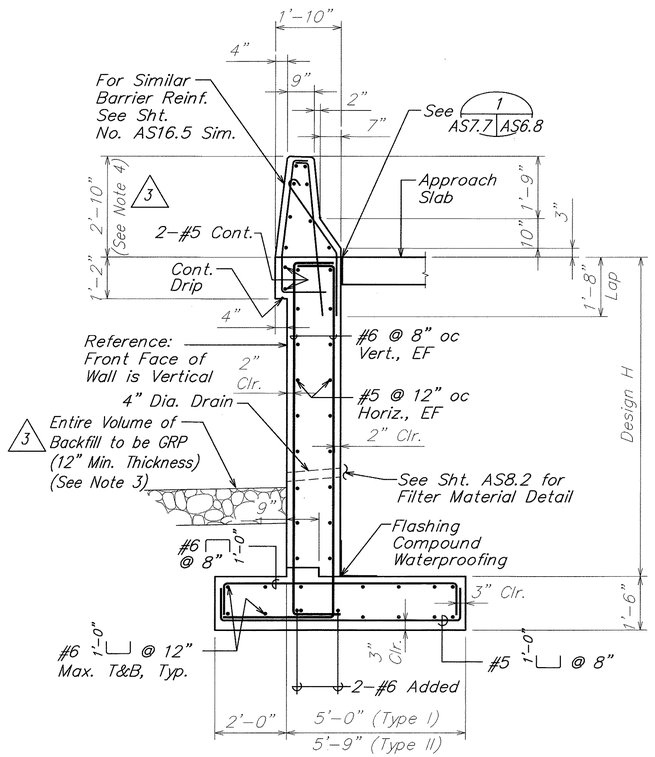
ADD. 460

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

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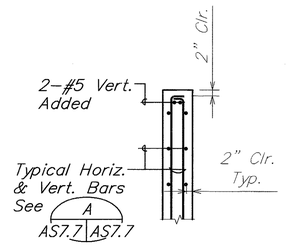
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 461 | 816 |



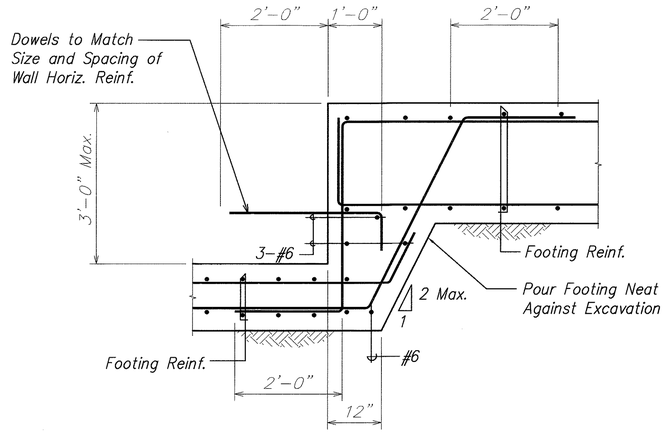

RETAINING WALL SECTION A
SCALE: 1/2 = 1'-0"
AS7.1 AS7.7
AS7.6, AS7.7

NOTES:

1. For Flashing Compound Waterproofing See 2 AS7.7 AS7.8
2. See Standard Detail B-01 for Control Joint details.
3. See sheet no. AC4.25 for plan view. GRP details shall extend entire length of retaining walls and wingwall "B".
4. Concrete railing shall be paid for under Bid Item 507.7000.




TYPICAL PLAN AT END OF RETAINING WALL 1
SCALE: NONE
AS7.7 AS7.7




TYPICAL FOOTING STEP DETAIL 2
SCALE: 3/4" = 1'-0"
AS7.7 AS7.7

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised GRP and Added Note. |

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HIGHWAYS DIVISION

# RETAINING WALL "B" SECTION AND TYPICAL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

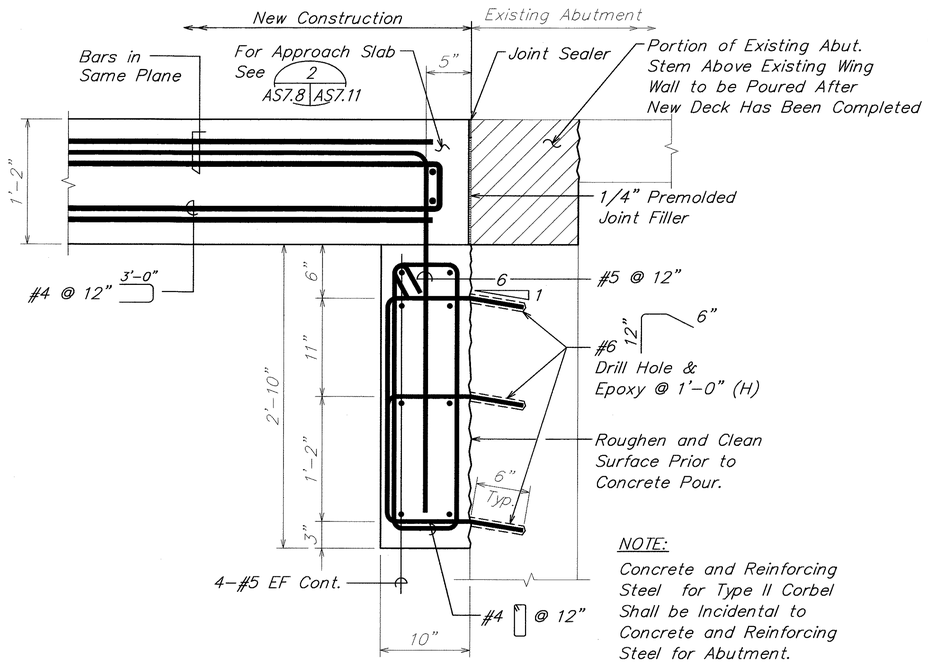
SHEET No. AS7.7 OF 150 SHEETS

ADD. 461

WV-AS0706.DWG
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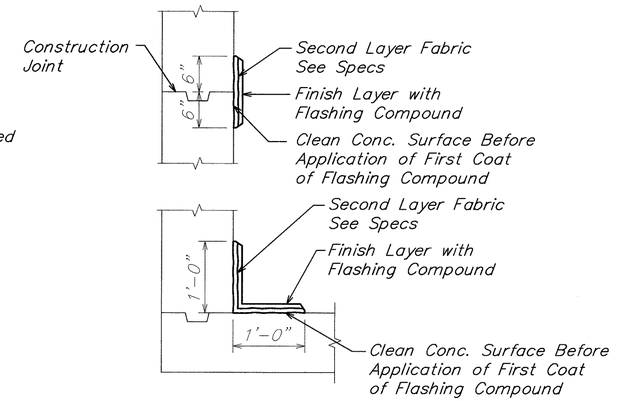
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 462 | 816 |

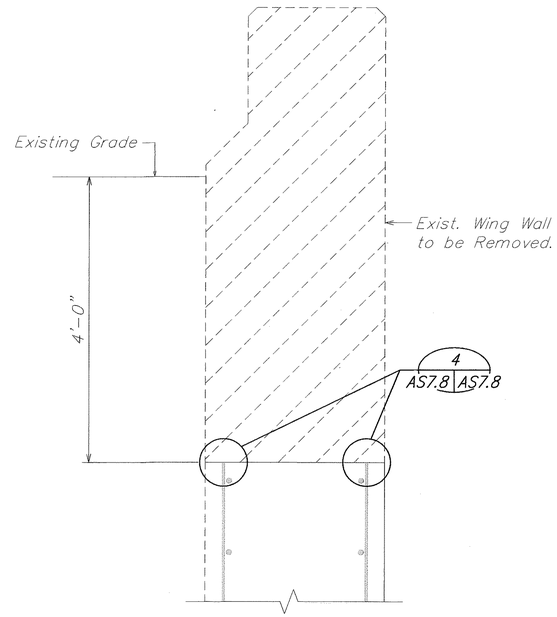



NOTE:
Concrete and Reinforcing Steel for Type II Corbel Shall be Incidental to Concrete and Reinforcing Steel for Abutment.

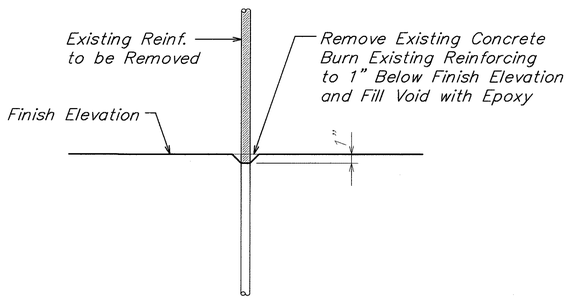
## TYPE II CORBEL DETAIL 1
SCALE: 1 1/2" = 1'-0"
AS6.1 AS7.8
AS6.4, AS7.4, AS7.10



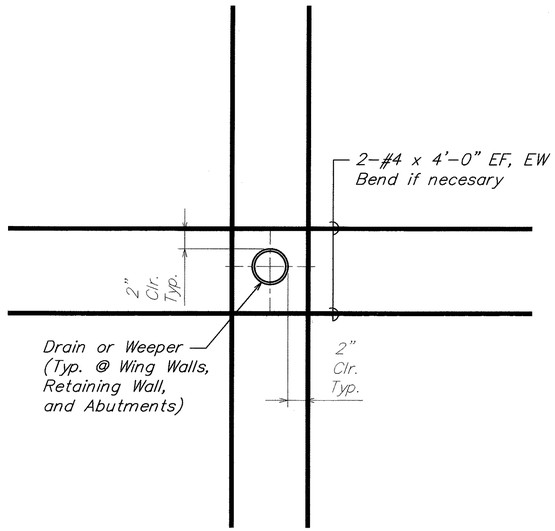

## TYPICAL FLASHING COMPOUND WATERPROOFING DETAILS 2
SCALE: 1" = 1'-0"
AS6.3 AS7.8
AS6.4, AS6.5, AS6.7, AS6.8, AS7.3, AS7.4, AS7.7




## REMOVAL OF EXIST. WING WALL 3
SCALE: 1" = 1'-0"
AS6.1 AS7.8
AS7.1




## REINFORCING REMOVAL DETAIL 4
SCALE: 1 1/2" = 1'-0"
AS7.8 AS7.8




## ADDED REINFORCING @ WEEPERS AND DRAINS 5
SCALE: 1 1/2" = 1'-0"
AS7.8 AS7.8

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

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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TYPICAL ABUTMENT DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

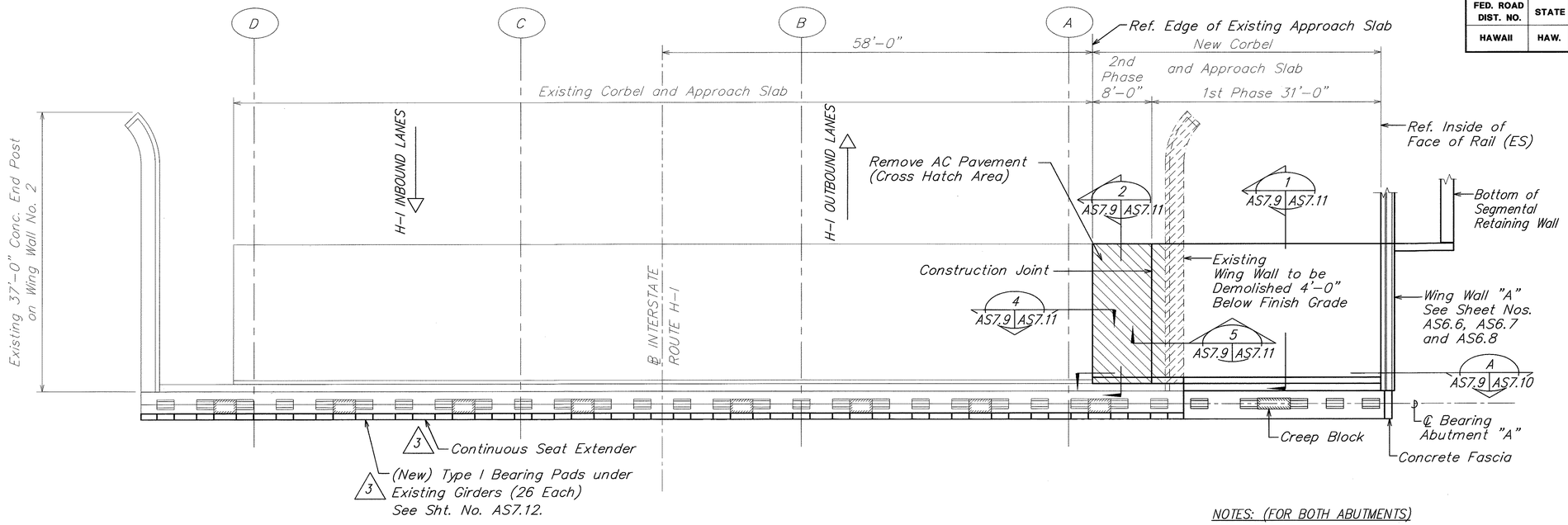
SHEET No. AS7.8 OF 150 SHEETS

462

WV-AS0708.DWG
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 463 | 816 |



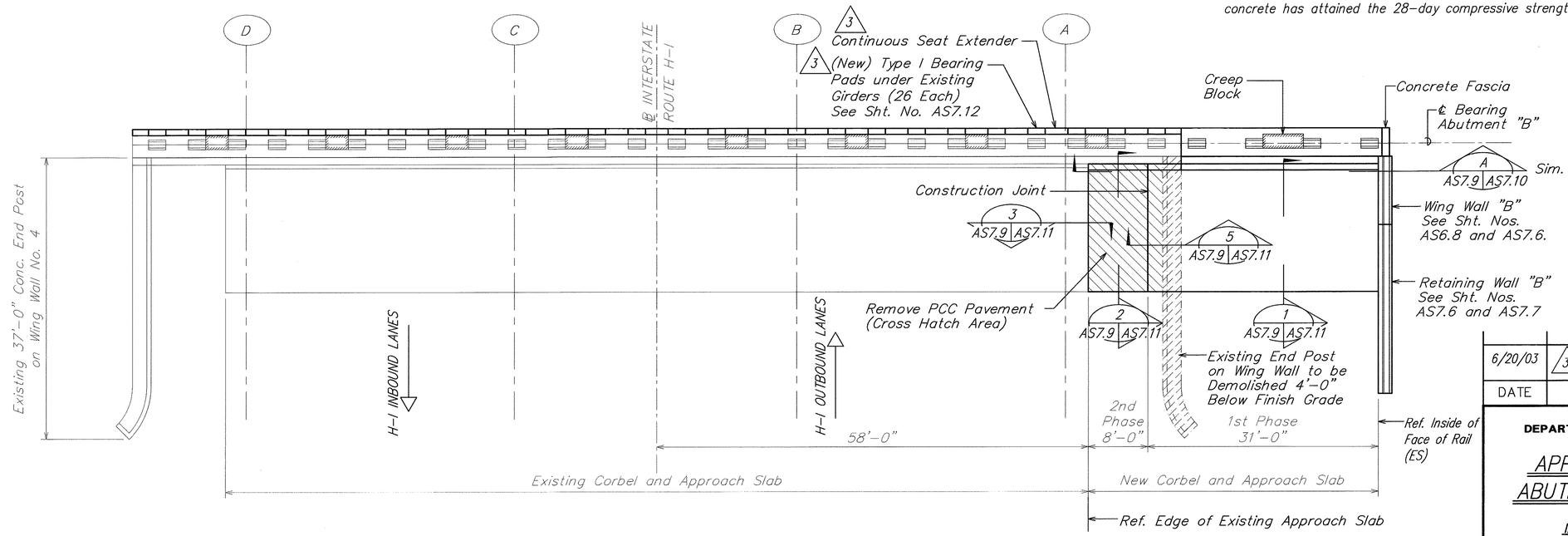

## PLAN – APPROACH SLAB AT ABUTMENT "A"

SCALE: 1/8" = 1'-0"

A AS7.9 AS7.9

NOTES: (FOR BOTH ABUTMENTS)

1. See sheet no. AS18.3 for additional requirements.
2. See sheet no. AS7.11 for Approach Slab Details.
3. No excavation in the 2nd phase approach slab area shall be permitted until after the 1st phase approach slab concrete has attained the 28-day compressive strength (f'c).




## PLAN – APPROACH SLAB AT ABUTMENT "B"

SCALE: 1/8" = 1'-0"

B AS7.9 AS7.9

| ORIGINAL PLANS | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Seat Extender |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# APPROACH SLABS AT ABUTMENTS "A" AND "B"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

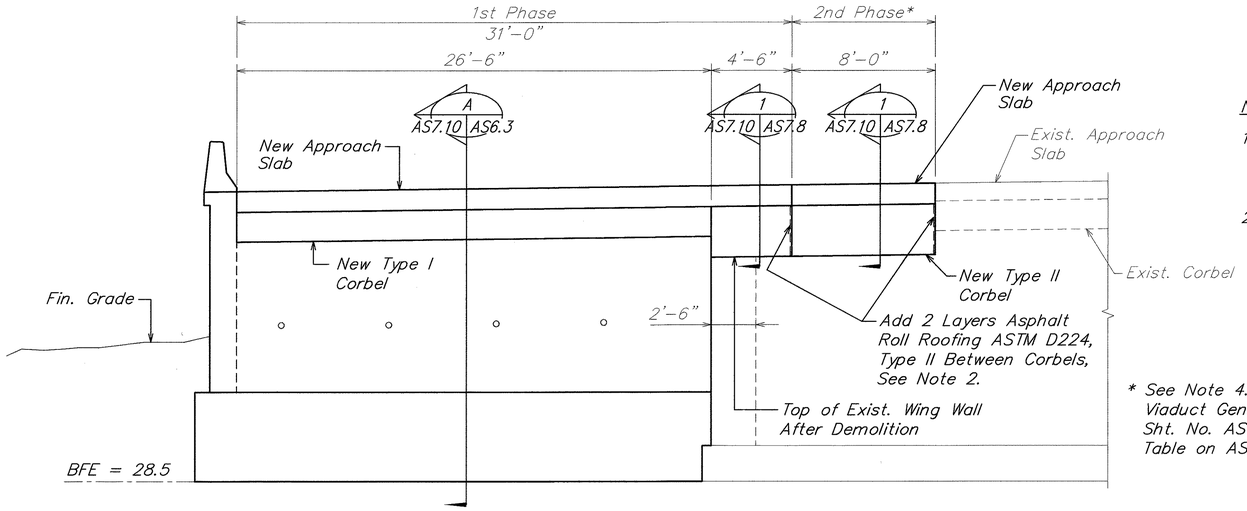
SHEET No. AS7.9 OF 150 SHEETS

ADD. 463

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 464 | 816 |




NOTES:

1. For Type II Corbel and Approach Slab See Sht. Nos. AS7.8 and AS7.11.
2. Do not extend asphalt roll roofing into approach slab.

* See Note 4. (D) on Viaduct General Notes on Sht. No. AS0.3 and Table on AS18.3.

## BACK ELEVATION OF ABUTMENT "A"

A
AS7.9 AS7.10

SCALE: 1/4" = 1'-0"

(BACK ELEVATION OF ABUTMENT "B" SIMILAR)

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
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**DEPARTMENT OF TRANSPORTATION**
HIGHWAYS DIVISION

BACK ELEVATION OF ABUTMENT "A"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

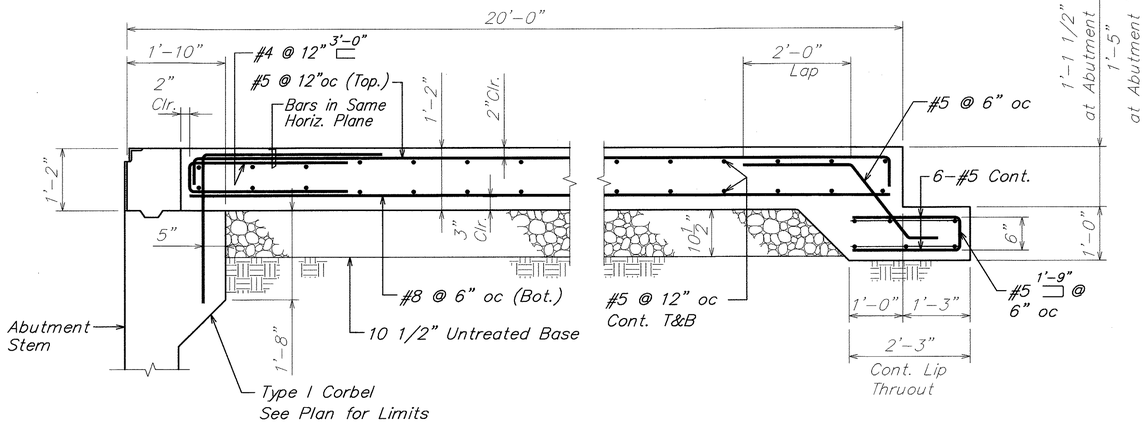
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**SHEET No. AS7.10 OF 150 SHEETS**



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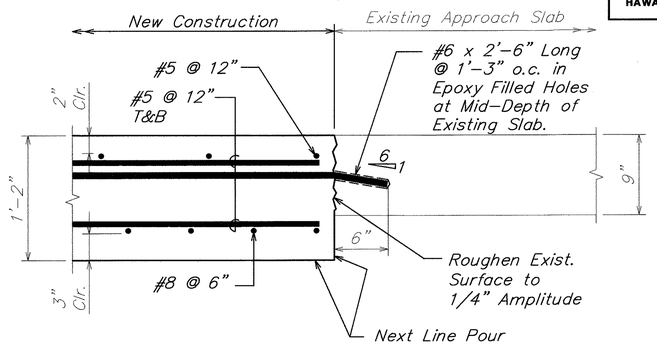
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 465 | 816 |




## APPROACH SLAB DETAIL AT NEW ABUTMENTS (1)

SCALE: 3/4" = 1'-0"

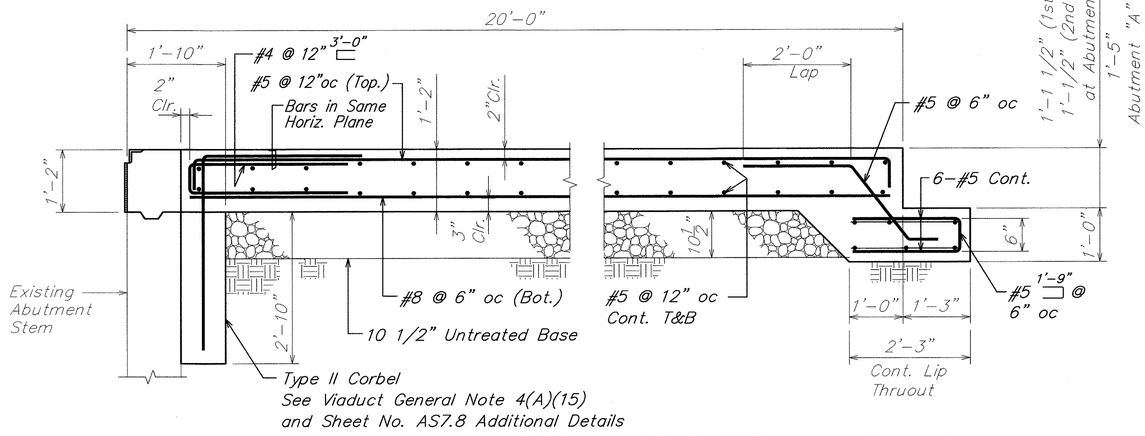
AS7.9 | AS7.11




## APPROACH SLAB CONNECTION AT ABUTMENT "B" (3)

SCALE: 1 1/2" = 1'-0"

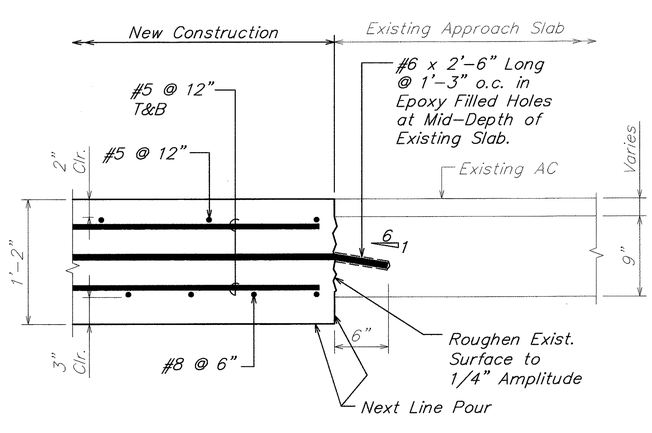
AS7.9 | AS7.11




## APPROACH SLAB DETAIL AT EXIST. ABUTMENTS (2)

SCALE: 3/4" = 1'-0"

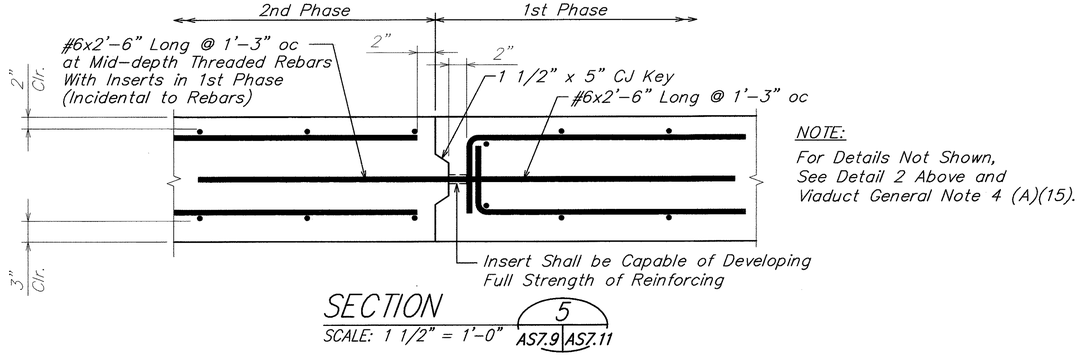
AS7.8 | AS7.11 | AS7.9




## APPROACH SLAB CONNECTION AT ABUTMENT "A" (4)

SCALE: 1 1/2" = 1'-0"

AS7.9 | AS7.11




NOTE:

For Details Not Shown, See Detail 2 Above and Viaduct General Note 4 (A)(15).

## SECTION (5)

SCALE: 1 1/2" = 1'-0"

AS7.9 | AS7.11

| ORIGINAL PLANS | SURVEY PLOTTED BY | DATE |
|---|---|---|
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# APPROACH SLAB SECTIONS AND DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

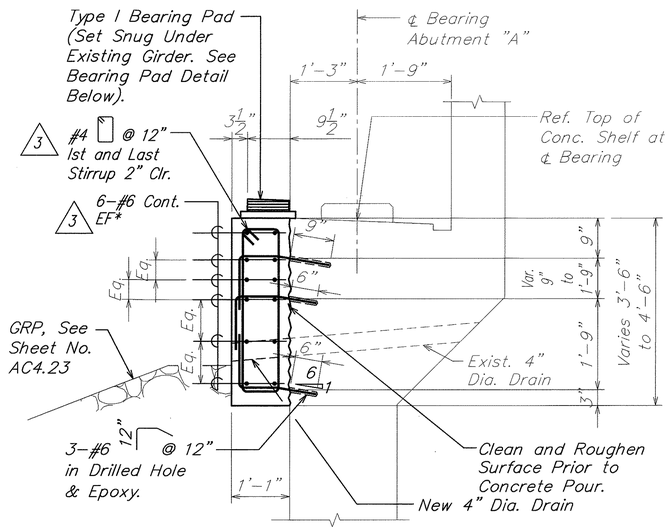
SHEET No. AS7.11 OF 150 SHEETS



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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 466 | 816 |

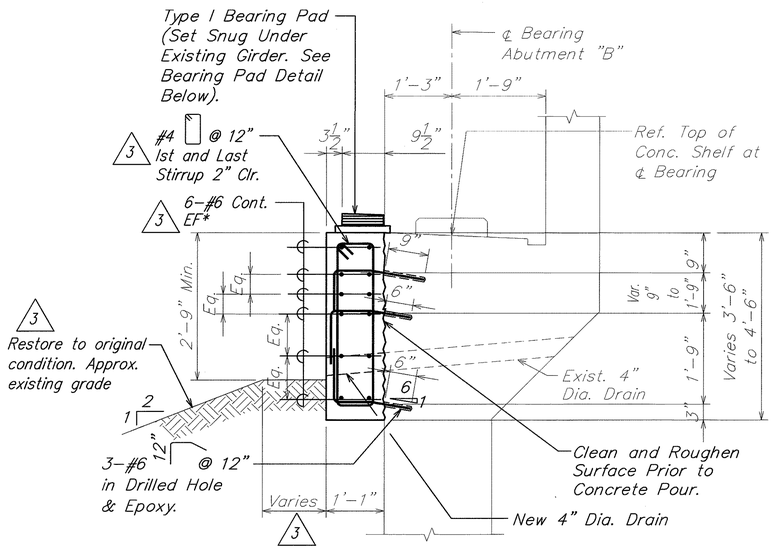



* Continue #6 Horiz. Reinforcing 5'-0" Into New Abutment Stem

## DETAIL – TYPICAL SEAT EXTENDER AT ABUTMENT "A" (1)

SCALE: 3/4" = 1'-0"

AS6.1 | AS7.12




* Continue #6 Horiz. Reinforcing 5'-0" Into New Abutment Stem

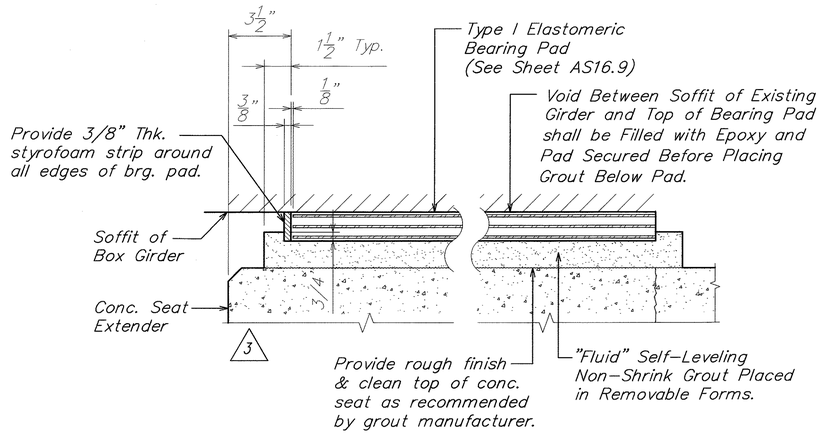
## DETAIL – TYPICAL SEAT EXTENDER AT ABUTMENT "B" (2)

SCALE: 3/4" = 1'-0"

AS7.1 | AS7.12

△3 NOTES: (APPLICABLE TO DETAILS 1 AND 2)

1. Provide tight seal connection between new and existing 4" dia. drain.
2. New 4" dia. drain shall have the same slope as existing drain.
3. Excavation and backfill for seat extenders shall be paid for under excavation and backfill for abutment




## BEARING PAD DETAIL (3)

SCALE: N.T.S.

AS7.12 | AS7.12

Construction Sequence at Seat Extender Bearing Pads:

1. Prepare surfaces of soffit of existing girder to receive bearing pads.
2. Construct concrete seat extender with monolithic concrete seats. Prepare top surface of concrete seat for grouting.
3. Attach bearing pad to soffit of girder w/epoxy adhesive.
4. Install forms for grout.
5. Pump "fluid" self-leveling non-shrink grout from one side to fill all voids between bearing pad and concrete seat extender. Screed edges level around bearing pad where accessible.
6. Remove forms and clean up.

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

| DATE | REVISION |
|---|---|
| 6/20/03 | △3 Clarify Reinforcing and Drain in Seat Extender and Added Notes |

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HIGHWAYS DIVISION

# SEAT EXTENDER DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

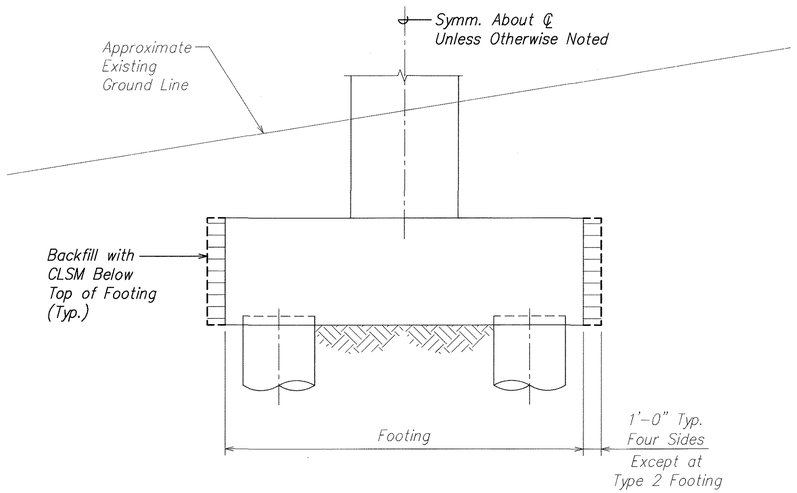
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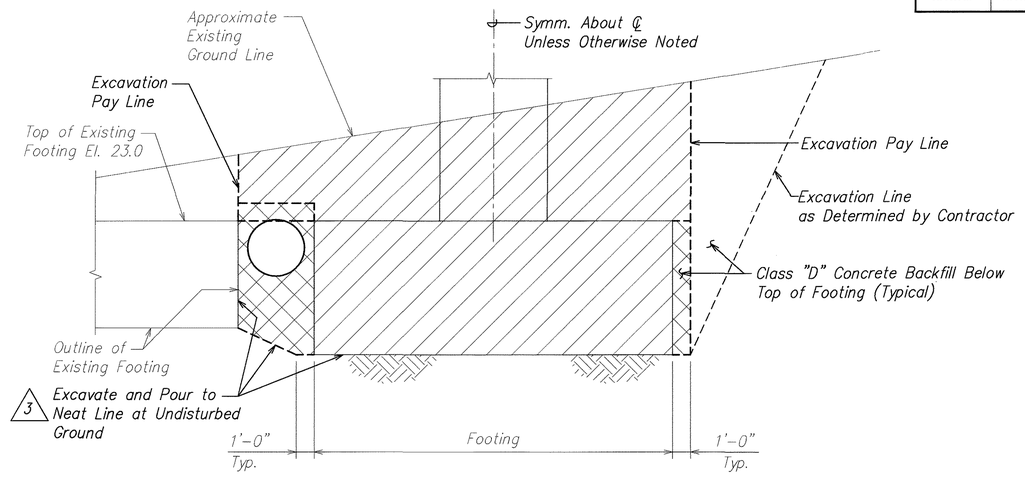
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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 467 | 816 |




## TYPICAL CLSM BACKFILL PAY LIMITS AT DRILLED SHAFT FOOTING

NOT TO SCALE



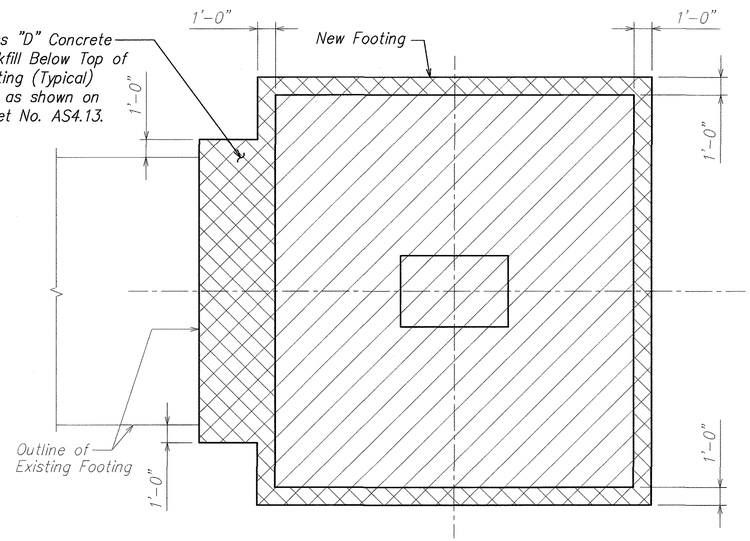

## STRUCTURE EXCAVATION AND BACKFILL PAY LIMITS AT BENT NO. 11 – ELEVATION

NOT TO SCALE

PAY LIMITS LEGEND:

- Structure Excavation
- Class "D" Concrete Backfill
- CLSM Backfill

For Additional Details and Pay Limits, see Standard Plan B-03 and Spec. Sect. 206.




## STRUCTURE EXCAVATION AND BACKFILL PAY LIMITS AT BENT NO. 11 – PLAN

NOT TO SCALE

ORIGINAL PLAN / SURVEY PLOTTED BY ____ DATE
DRAWN BY ____
TRACED BY ____
NOTE BOOK DESIGNED BY ____
No. ____ QUANTITIES BY ____
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HAWAII, U.S.A.

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Class "D" Concrete Backfill |

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HIGHWAYS DIVISION

STRUCTURE EXCAVATION AND BACKFILL PAY LIMITS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

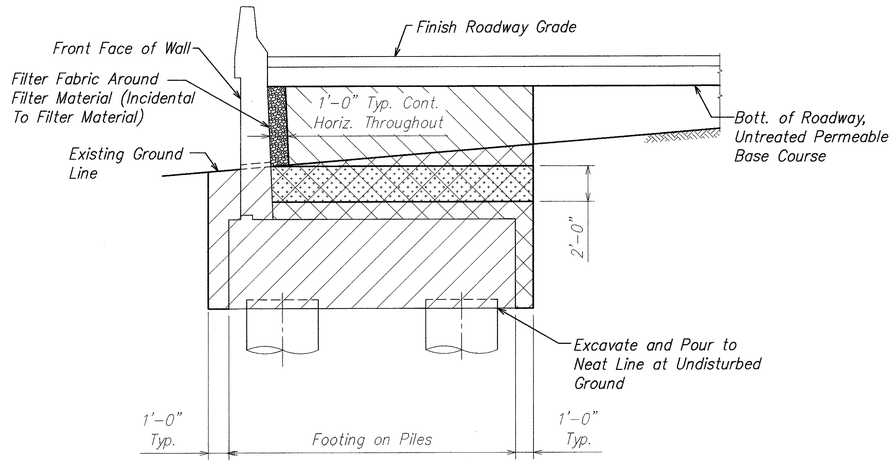
SHEET No. AS8.1 OF 150 SHEETS

ADD. 467

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1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 468 | 816 |




## STRUCTURE EXCAVATION AND BACKFILL PAY LIMITS AT WINGWALL OR RETAINING WALL

NOT TO SCALE

PAY LIMITS LEGEND:

- Structure Excavation
- Impervious Material
- Structure Backfill See Specs. Sect. 703.20
- Filter Material

Impervious Material: Impervious material as selected by the Engineer shall be made as impervious as possible by pneumatic tamping or other approved methods and shall be incidental to structure backfill.

For Additional Details and Pay Limits, See Standard Plan B-03.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
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STRUCTURE EXCAVATION AND BACKFILL PAY LIMITS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS8.2 OF 150 SHEETS

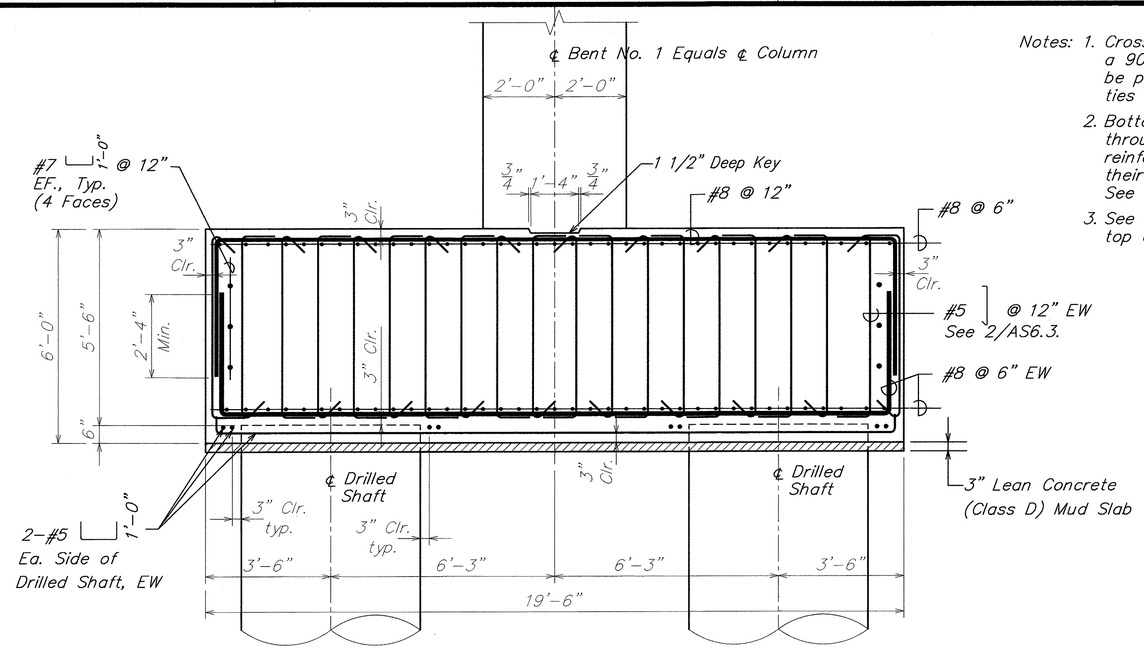
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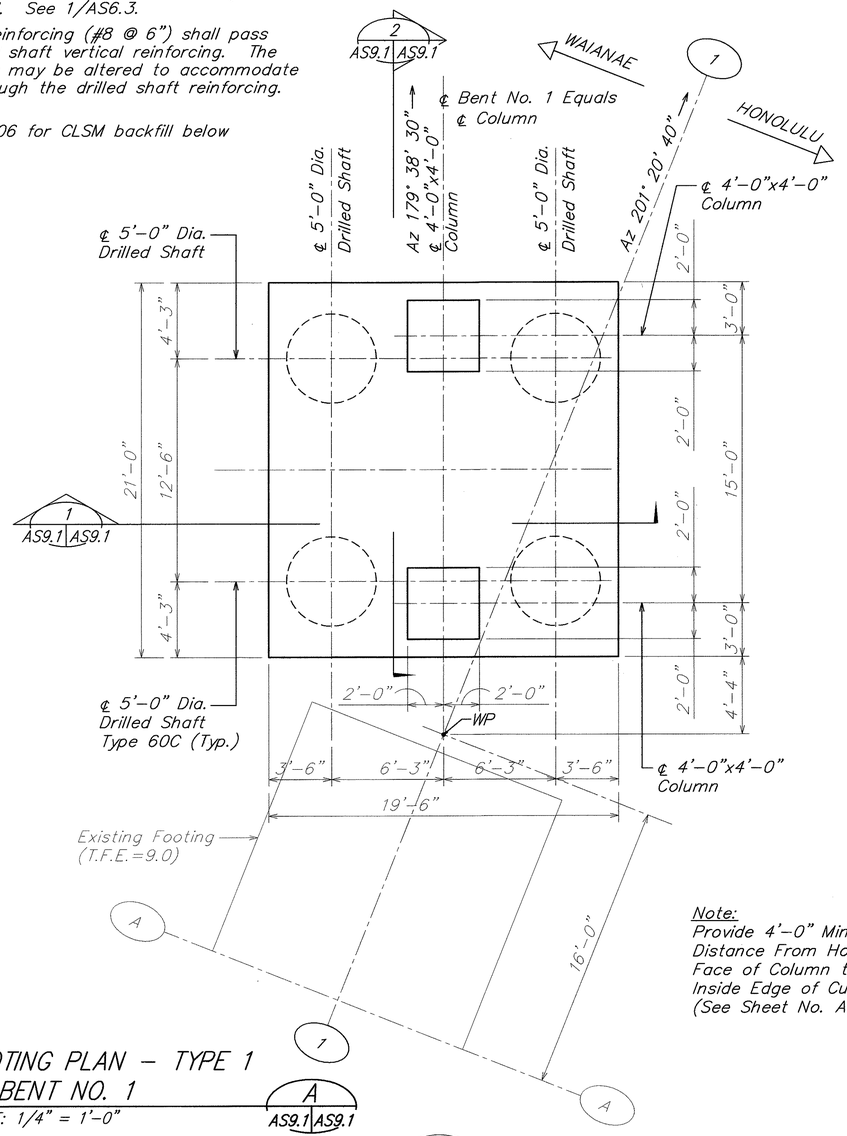
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 469 | 816 |

Notes:
1. Cross ties shall have a 135° hook on one end and a 90° hook on the opposite end. Cross ties shall be placed so that 90° and 135° hooks of adjacent ties are alternated. See 1/AS6.3.
2. Bottom Footing Reinforcing (#8 @ 6") shall pass through the drilled shaft vertical reinforcing. The reinforcing spacing may be altered to accommodate their passage through the drilled shaft reinforcing. See 1/AS6.2.
3. See Spec. Sect. 206 for CLSM backfill below top of footing.

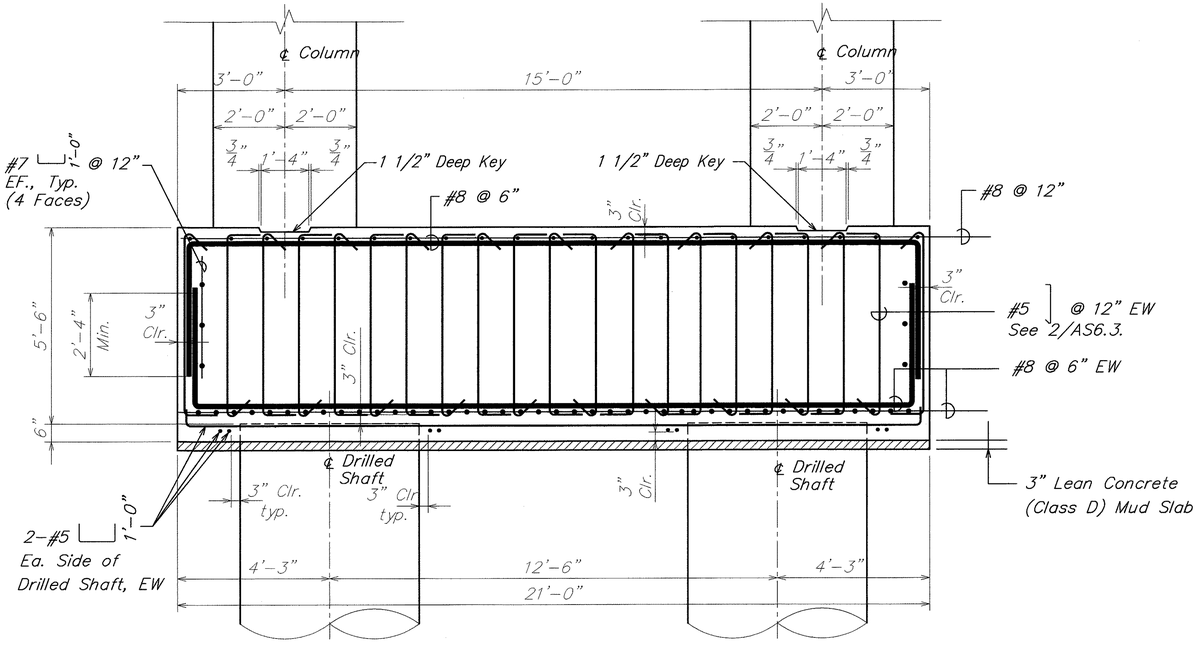



FOOTING SECTION – TYPE 1 (1 / AS9.1 AS9.1)
SCALE: 1/2" – 1'-0"




FOOTING PLAN – TYPE 1 AT BENT NO. 1 (A / AS9.1 AS9.1)
SCALE: 1/4" = 1'-0"

Note:
Provide 4'-0" Min. Clear Distance From Honolulu Face of Column to Inside Edge of Curb. (See Sheet No. AS2.1)




FOOTING SECTION – TYPE 1 (2 / AS9.1 AS9.1)
SCALE: 1/2" – 1'-0"

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TYPE 1 FOOTING PLAN AND SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

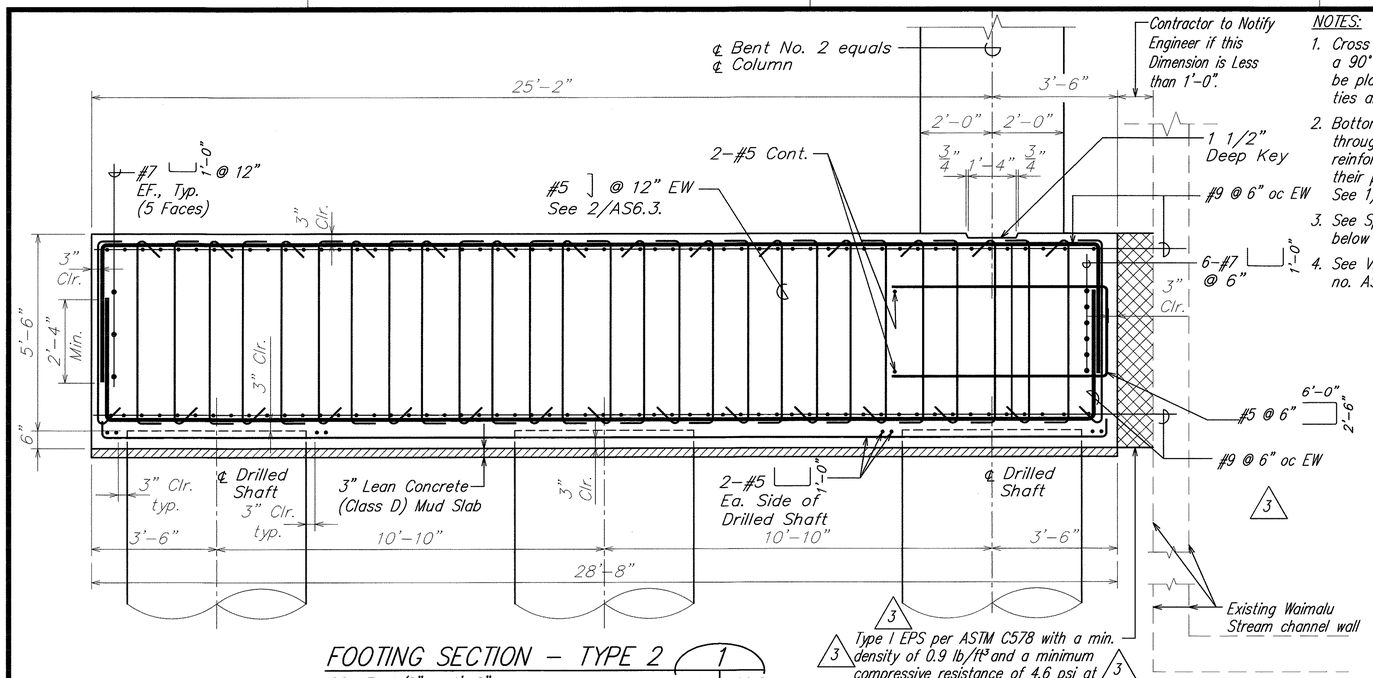
SHEET No. AS9.1 OF 150 SHEETS

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

WV-AS0901.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 470 | 816 |



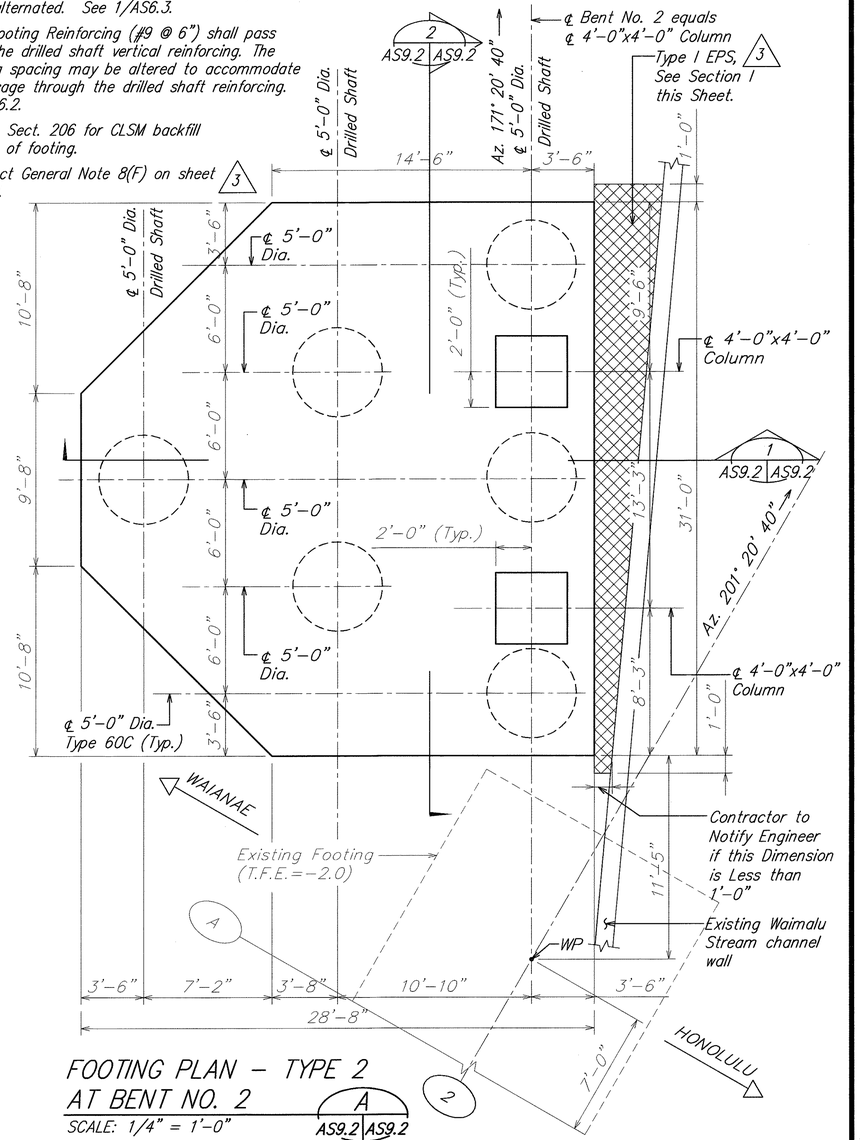

FOOTING SECTION – TYPE 2 (1 / AS9.2 | AS9.2)

SCALE: 1/2" – 1'-0"

3 Type I EPS per ASTM C578 with a min. density of 0.9 lb/ft³ and a minimum compressive resistance of 4.6 psi at 1% deformation. (Incidental to Structural Backfill). (No CLSM below top of footing where Type I EPS occurs). Install EPS in open space between footing and the channel wall 7 days after footing concrete pour. 3

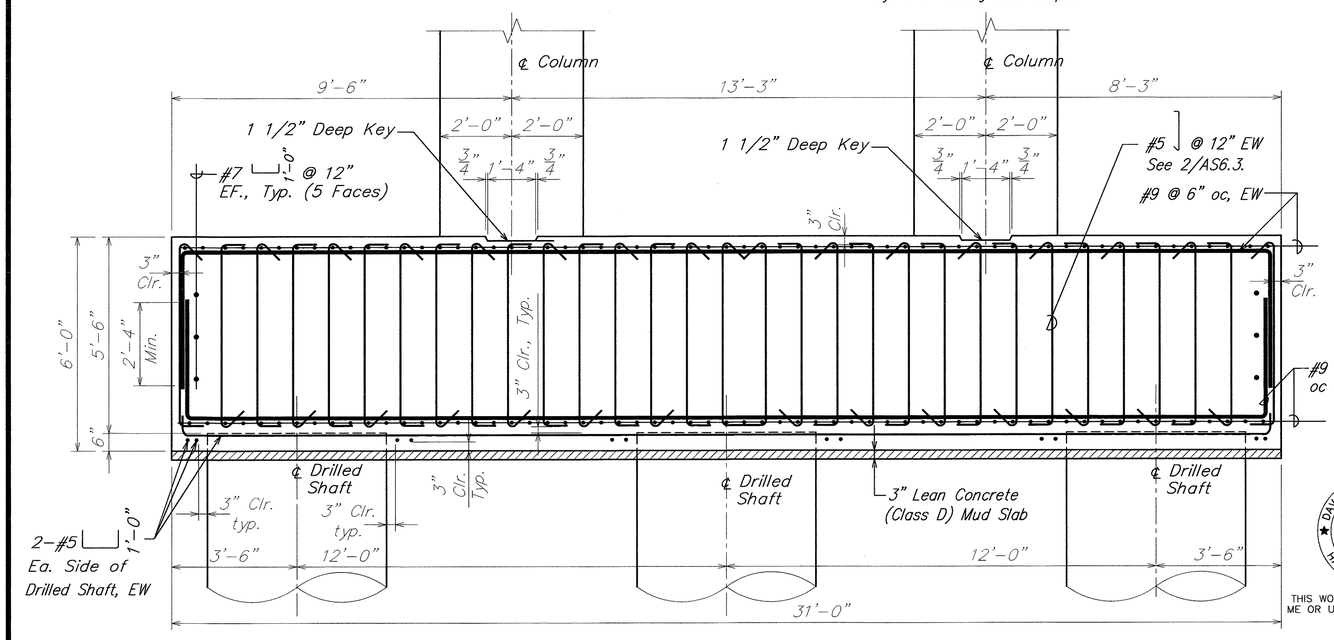
NOTES:

1. Cross ties shall have a 135° hook on one end and a 90° hook on the opposite end. Cross ties shall be placed so that 90° and 135° hooks of adjacent ties are alternated. See 1/AS6.3.
2. Bottom Footing Reinforcing (#9 @ 6") shall pass through the drilled shaft vertical reinforcing. The reinforcing spacing may be altered to accommodate their passage through the drilled shaft reinforcing. See 1/AS6.2.
3. See Spec. Sect. 206 for CLSM backfill below top of footing.
4. See Viaduct General Note 8(F) on sheet no. AS0.4.




FOOTING PLAN – TYPE 2 AT BENT NO. 2 (A / AS9.2 | AS9.2)

SCALE: 1/4" = 1'-0"




FOOTING SECTION – TYPE 2 (2 / AS9.2 | AS9.2)

SCALE: 1/2" – 1'-0"

ORIGINAL PLAN

SURVEY PLOTTED BY _____ DATE
DRAWN BY _____
TRACED BY _____
DESIGNED BY _____
QUANTITIES BY _____
CHECKED BY _____

NOTE BOOK _____
No. _____

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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Signature _____ 4-30-04 Expiration Date of the License

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised and Added Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TYPE 2 FOOTING PLAN AND SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

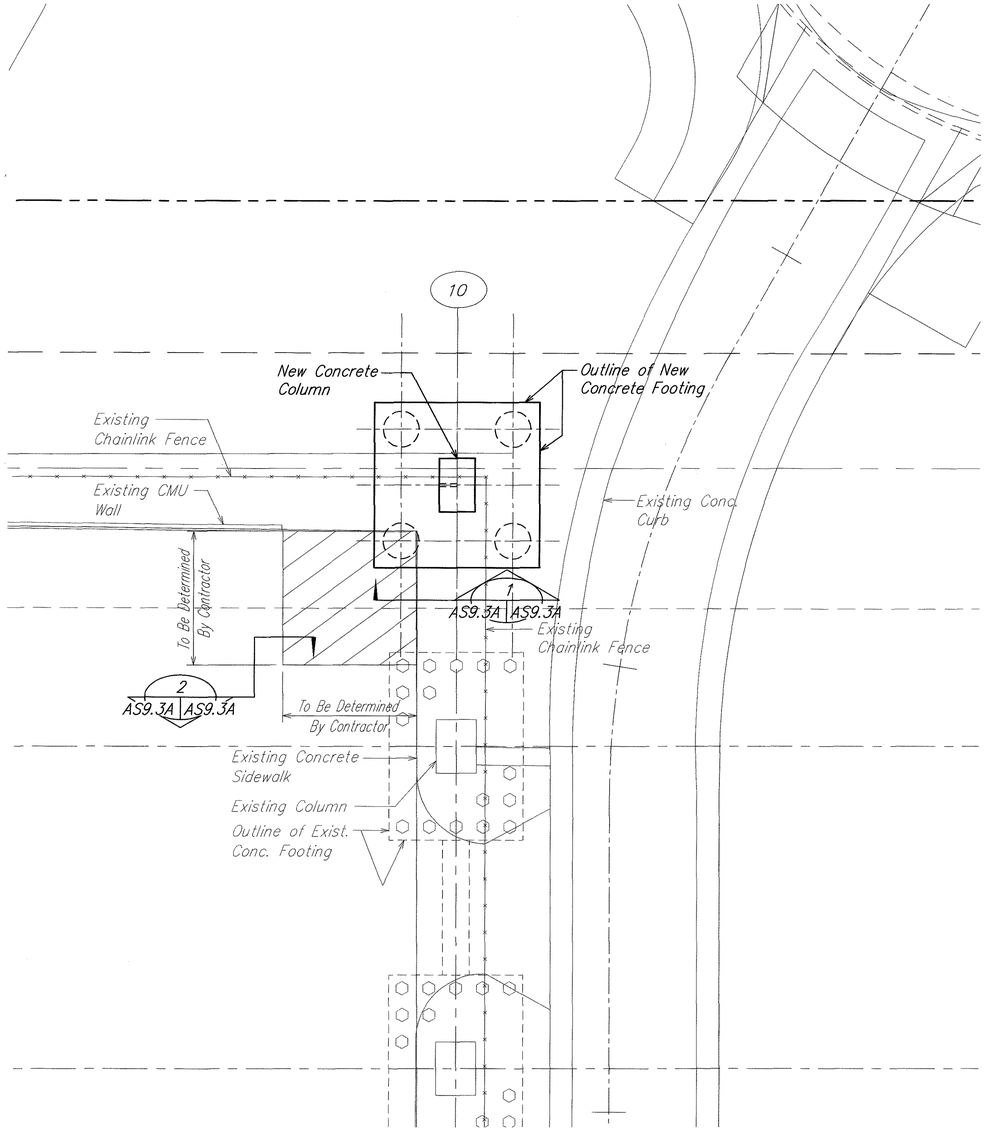
SHEET No. AS9.2 OF 150 SHEETS

ADD. 470

WV-AS0901.DWG
1 = 1

\\Cad1\sf\2001\10066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS0901.dwg, AS9.2, 6/19/2003 2:29:35 PM, KSFinc.pc3

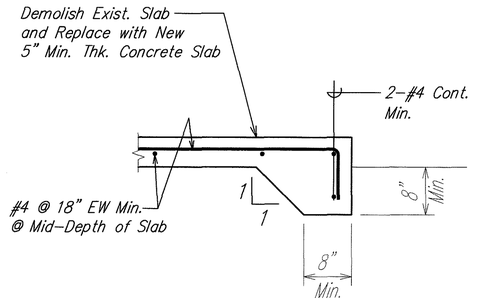
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 471S-1 | 816 |




## BENT NO. 10 PARTIAL FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

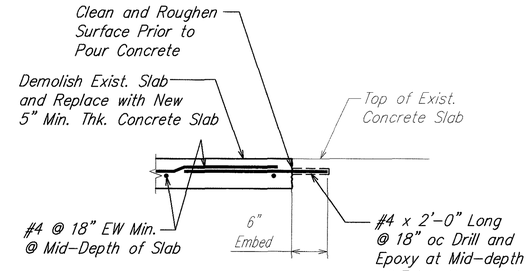
A
AS9.3A | AS9.3A




## SECTION

SCALE: 3/4" = 1'-0"

1
AS9.3A | AS9.3A




## SECTION

SCALE: 3/4" = 1'-0"

2
AS9.3A | AS9.3A
AS9.4A

NOTES:

1. All work necessary to replace the concrete slab shall be incidental to the construction of bent footing. The removal of the concrete slab will be paid under Bid Item 202.0123.
2. New concrete slab shall be equal to or better than existing concrete slab.
3. The Engineer shall be notified during demolition of existing structure to verify existing conditions.
4. See Civil Drawings for additional details.
5. Provide control joints at existing control joint locations. New control joints to match existing control joints.

| ORIGINAL PLAN | SHEET PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
| No. | TRACED BY | |
| | DESIGNED BY | |
| | QUANTITIES BY | |
| | CHECKED BY | |

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NO. 8104-S
HAWAII, U.S.A.

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SIGNATURE — EXPIRATION DATE OF THE LICENSE: 4-30-04

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NO. 10 PARTIAL FOUNDATION PLAN AND SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS9.3A OF 150 SHEETS

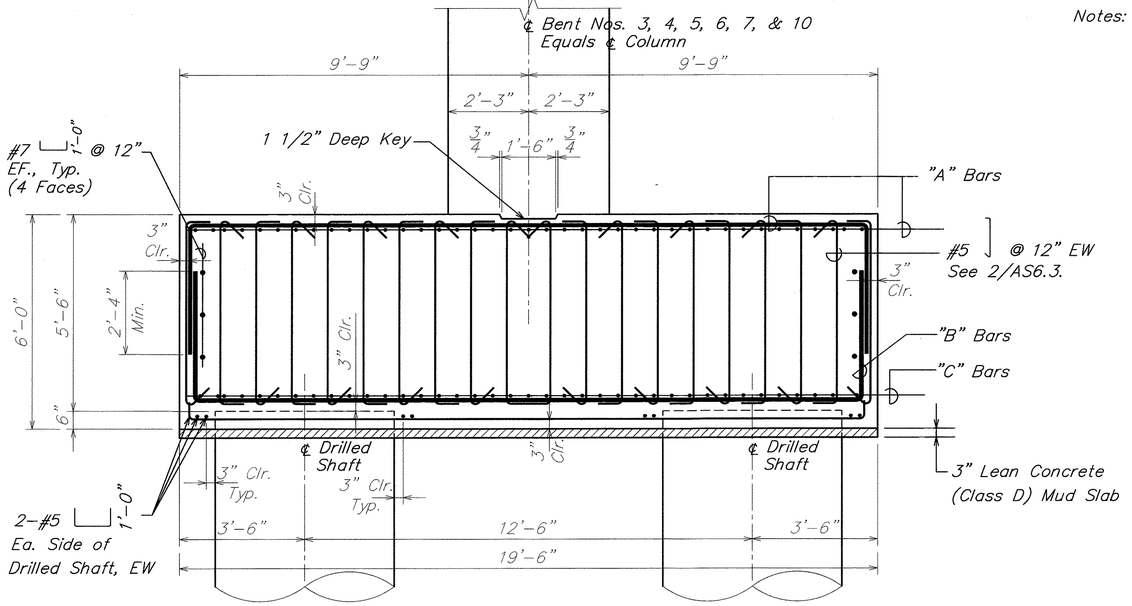
| DATE | REVISION |
|---|---|
| 10/31/03 | 7 Revised Note |
| 6/20/03 | 3 New Sheet for Reconstruction of Existing Structures |

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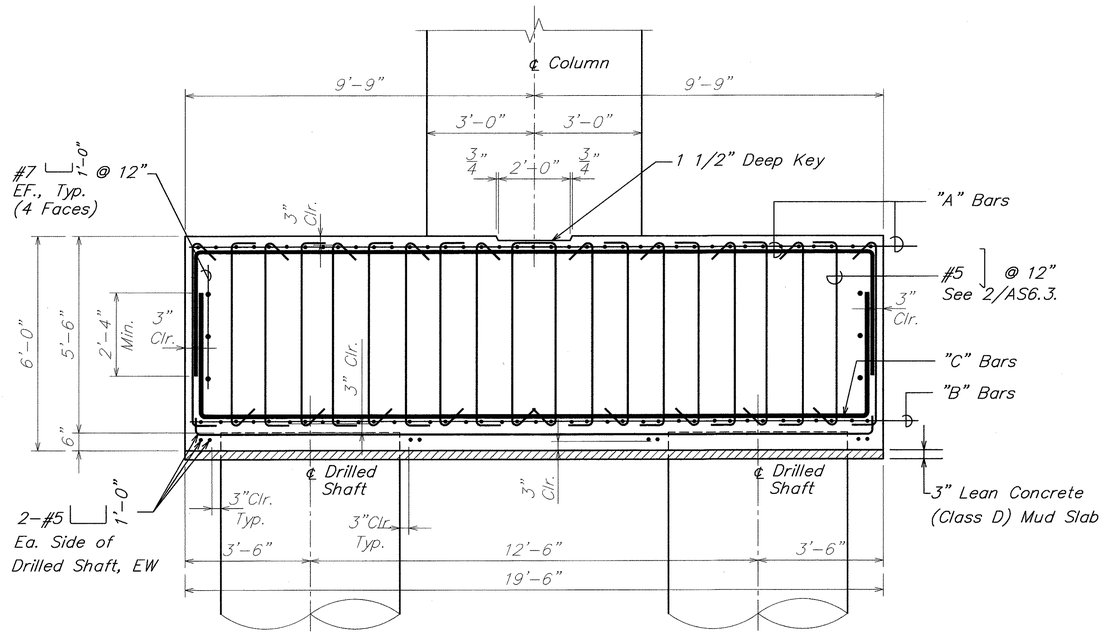
ADD. 471S-1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 471 | 816 |

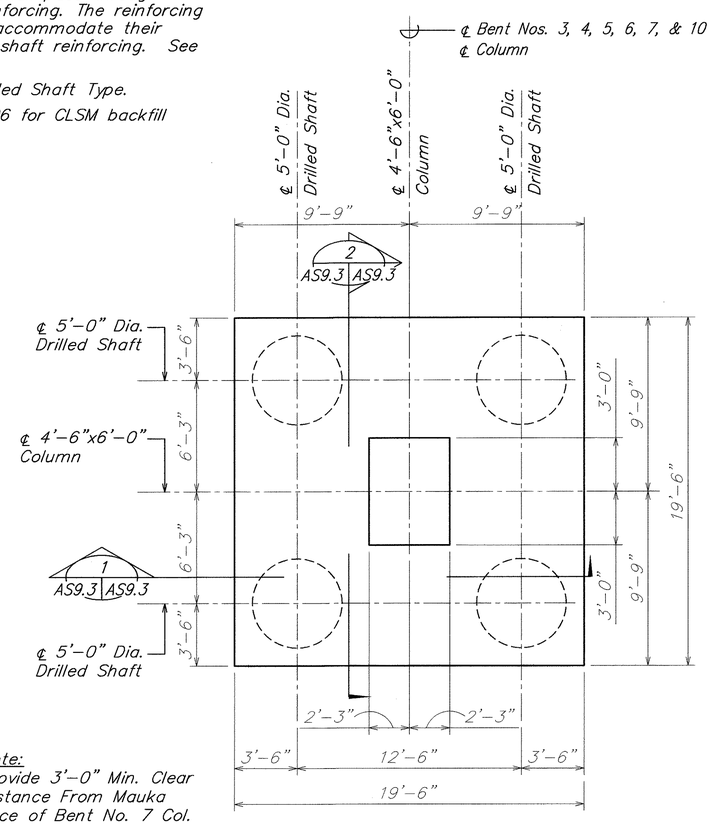



FOOTING SECTION – TYPE 3 (1 / AS9.3 | AS9.3)
SCALE: 1/2" – 1'-0"




FOOTING SECTION – TYPE 3 (2 / AS9.3 | AS9.3)
SCALE: 1/2" – 1'-0"

Notes:
1. Cross ties shall have a 135° hook on one end and a 90° hook on the opposite end. Cross ties shall be placed so that 90° and 135° hooks of adjacent ties are alternated. See 1/AS6.3.
2. Bottom Footing Reinforcing shall pass through the drilled shaft vertical reinforcing. The reinforcing spacing may be altered to accommodate their passage through the drilled shaft reinforcing. See 1/AS6.2.
3. See Sht. No. AS10.1 for Drilled Shaft Type.
4. See Specification Section 206 for CLSM backfill below top of footing.




Note:
Provide 3'-0" Min. Clear Distance From Mauka Face of Bent No. 7 Col. to Inside Edge of Curb. (See Sheet No. AS2.2)

FOOTING PLAN – TYPE 3
AT BENT NOS. 3, 4, 5, 6, 7 AND 10 (A / AS9.3 | AS9.3)
SCALE: 1/4" = 1'-0"

| Footing Bent No. | "A" Bar | "B" Bar | "C" Bar |
|---|---|---|---|
| 3 | #11 @ 6" EW | #10 @ 6" | 2-#10 @ 6" (Bundled) |
| 4 | #10 @ 6" EW | #11 @ 6" | #11 @ 6" |
| 5 | #10 @ 6" EW | 2-#9 @ 6" (Bundled) | 2-#9 @ 6" (Bundled) |
| 6 | #10 @ 6" EW | #11 @ 6" | #11 @ 6" |
| 7 | #10 @ 6" EW | 2-#9 @ 6" (Bundled) | 2-#9 @ 6" (Bundled) |
| 10 | #10 @ 6" EW | #11 @ 6" | #11 @ 6" |

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TYPE 3 FOOTING PLAN AND SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

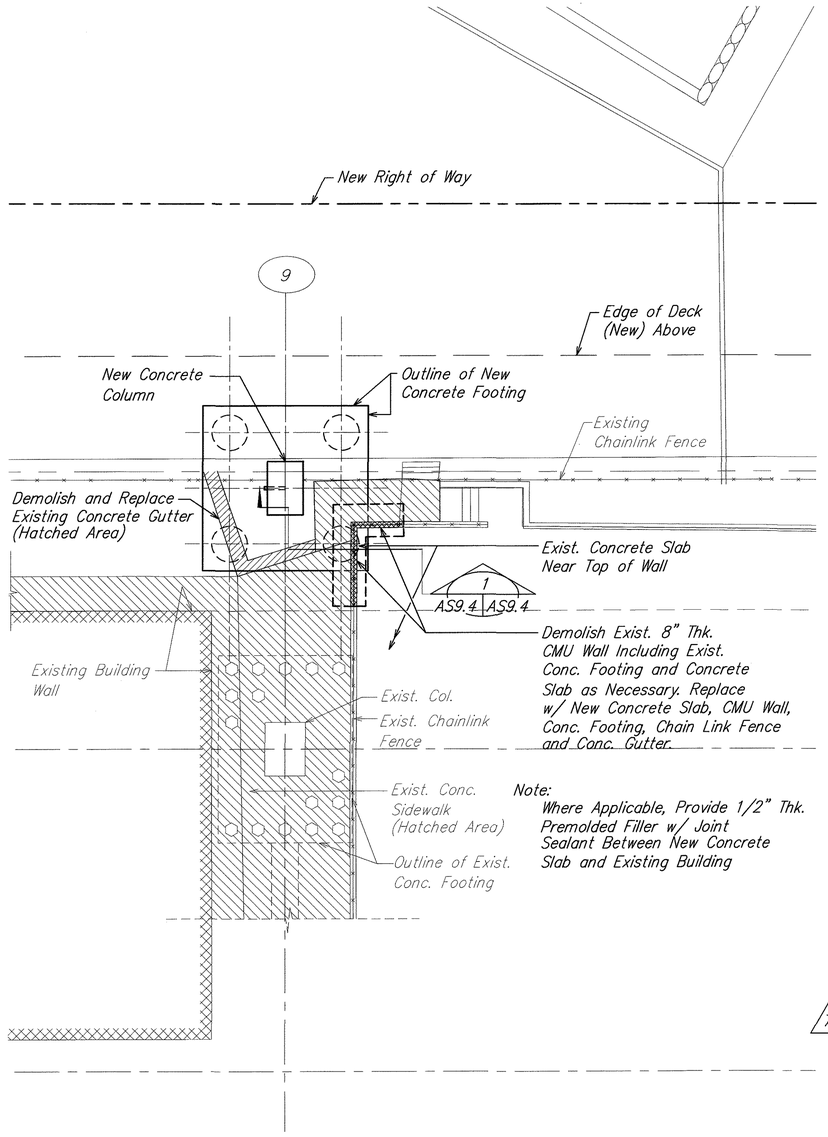
SHEET No. AS9.3 OF 150 SHEETS

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

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 472S-1 | 816 |

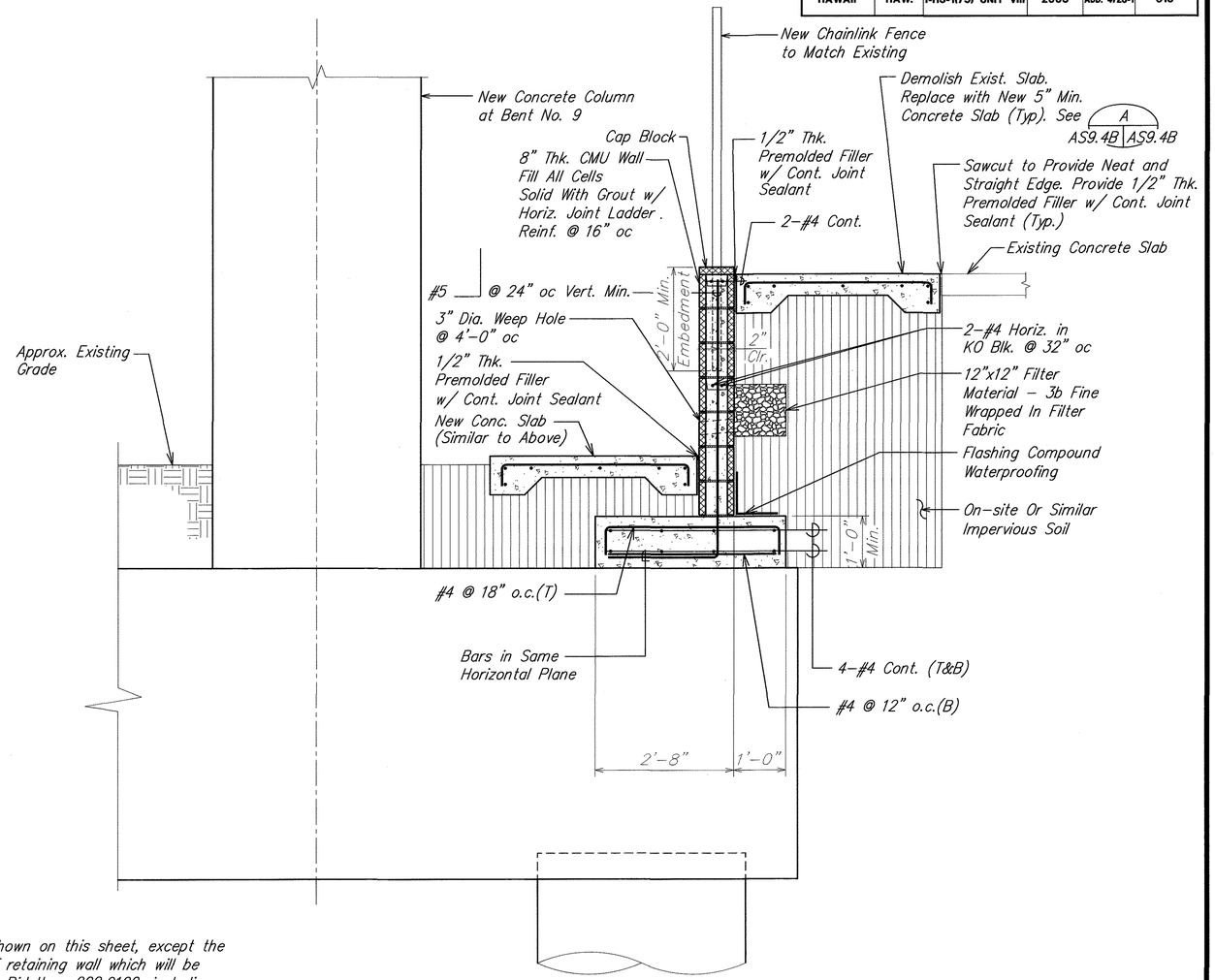



Note:
Where Applicable, Provide 1/2" Thk. Premolded Filler w/ Joint Sealant Between New Concrete Slab and Existing Building

## BENT NO. 9 PARTIAL FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

A
AS9.4A | AS9.4A




## SECTION

SCALE: 3/4" = 1'-0"

1
AS9.4A | AS9.4A

NOTES:

7 1. All work shown on this sheet, except the removal of retaining wall which will be paid under Bid Item 202.0122, including demolition and the replacement of existing facilities shall be incidental to construction of Bent No.9 footing.

2. All replacement work shall be equal to or better than existing concrete slab, or better than existing concrete slab, CMU wall, and concrete footing.

3. The Engineer shall be notified during demolition to verify existing conditions.

4. See Civil Drawings (See AC4.24 and AC17.17) for additional details especially chain link fence.

5. Restore sidewalk control joints at existing control locations. New control joints to match existing control joints.

| DATE | REVISION |
|---|---|
| 10/31/03 | 7 Revised Note |
| 6/20/03 | 3 New Sheet for Reconstruction of Existing Facilities. |

DAVID K. FUJIWARA
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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NO. 9 PARTIAL FOUNDATION PLAN AND SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS9.4A OF 150 SHEETS

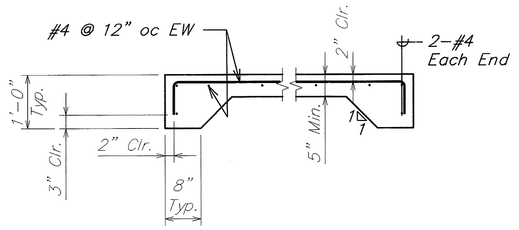
ADD. 472S-1

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

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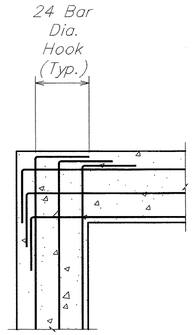
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 472S-1 | 816 |




## TYPICAL SLAB ON GRADE DETAIL A

SCALE: 3/4" = 1'-0"

AS9.4B | AS9.4B

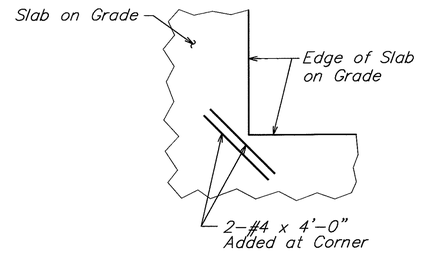



AT CORNER

## TYPICAL WALL FOOTING DETAIL C

NOT TO SCALE

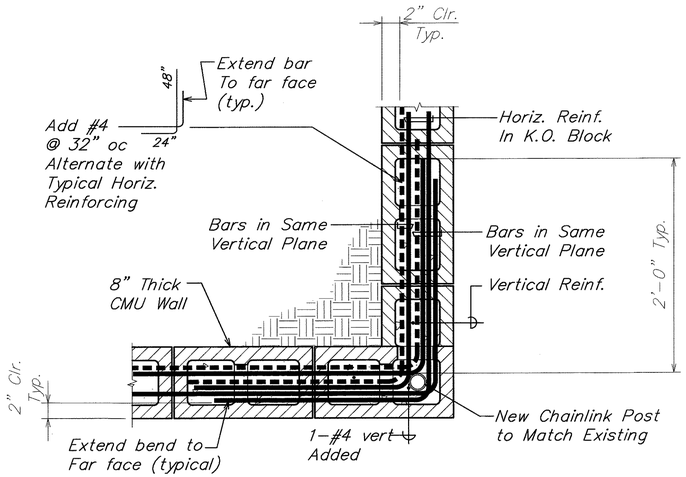
AS9.4B | AS9.4B




## ADDED REINF. IN SLAB ON GRADE AT CORNER E

NOT TO SCALE

AS9.4B | AS9.4B

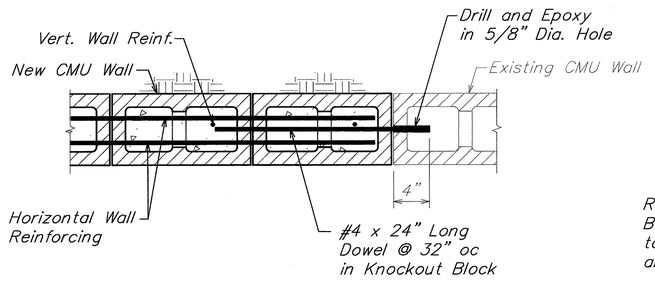



AT CORNER

## TYPICAL CMU WALL DETAIL B

SCALE: 1 1/2" = 1'-0"

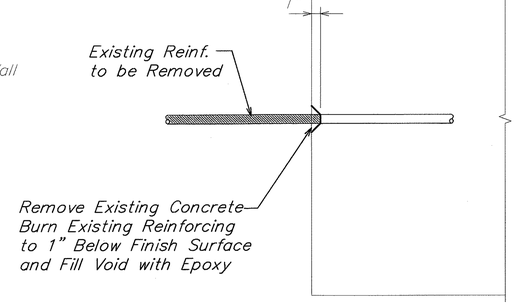
AS9.4B | AS9.4B




## TYPICAL CMU WALL DETAIL D

SCALE: 1 1/2" = 1'-0"

AS9.4B | AS9.4B




## REINFORCING REMOVAL DETAIL F

SCALE: 1 1/2" = 1'-0"

AS9.4B | AS9.4B

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 New Sheet for Reconstruction of Existing Facilities. |

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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David K. Fujiwara 4-30-04

SIGNATURE EXPIRATION DATE OF THE LICENSE

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

## TYPICAL DETAILS FOR EXISTING FACILITIES AT BENT NO. 9

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

**SHEET No. AS9.4B OF 140 SHEETS**

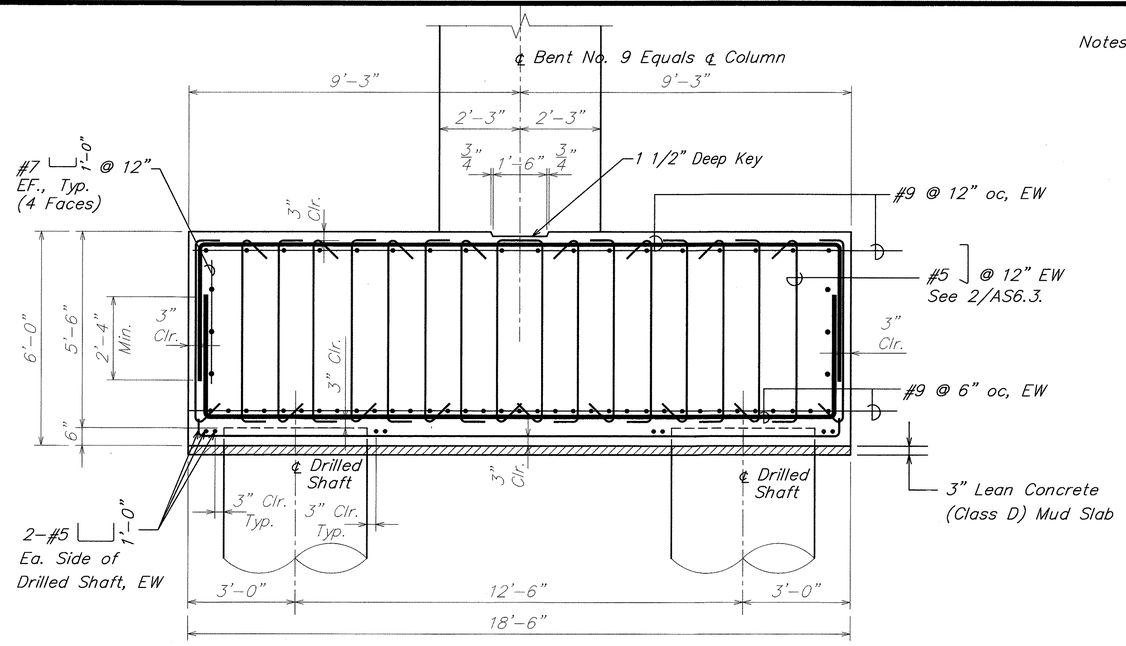
ADD. 472S-2


WV-AS0904-A.DWG
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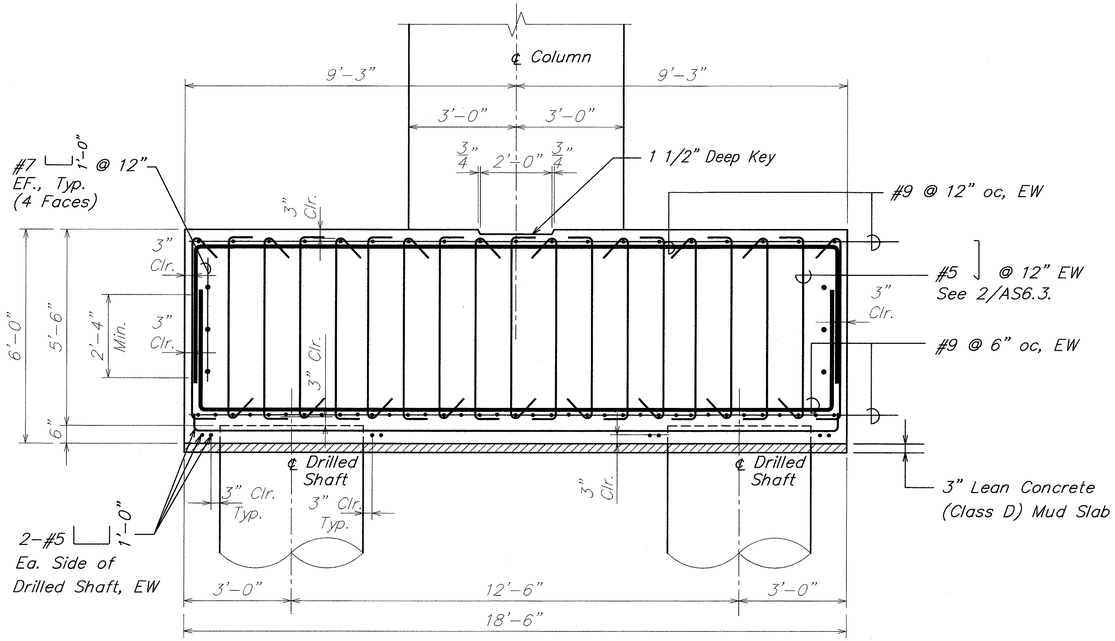
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 472 | 816 |

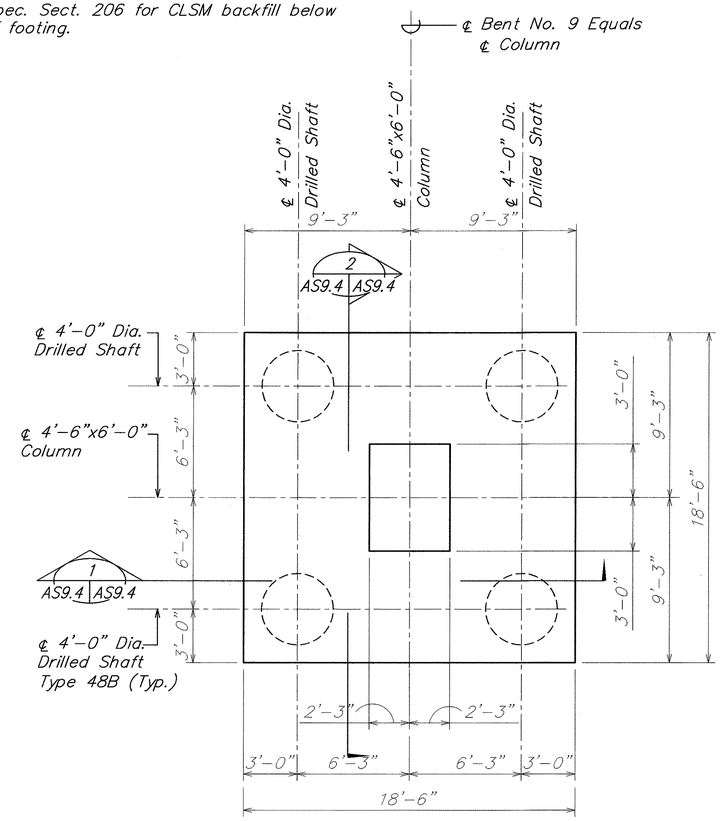
Notes:
1. Cross ties shall have a 135° hook on one end and a 90° hook on the opposite end. Cross ties shall be placed so that 90° and 135° hooks of adjacent ties are alternated. See 1/AS6.3.
2. Bottom Footing Reinforcing (#9 @ 6") shall pass through the drilled shaft vertical reinforcing. The reinforcing spacing may be altered to accommodate their passage through the drilled shaft reinforcing. See 1/AS6.2.
3. See Spec. Sect. 206 for CLSM backfill below top of footing.




FOOTING SECTION – TYPE 4 (1 / AS9.4 | AS9.4)
SCALE: 1/2" – 1'-0"




FOOTING SECTION – TYPE 4 (2 / AS9.4 | AS9.4)
SCALE: 1/2" – 1'-0"




FOOTING PLAN – TYPE 4 AT BENT NO. 9 (A / AS9.4 | AS9.4)
SCALE: 1/4" = 1'-0"

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

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TYPE 4 FOOTING PLAN AND SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

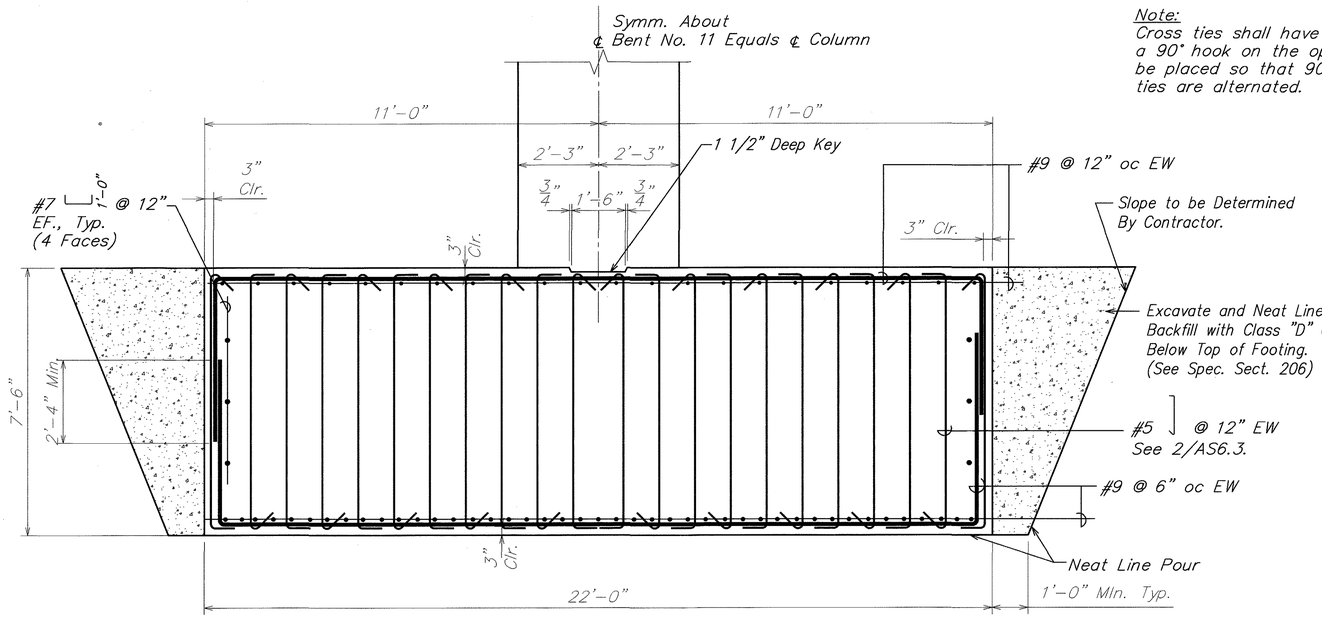
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS9.4 OF 150 SHEETS

WV-AS0901.DWG
1 = 1

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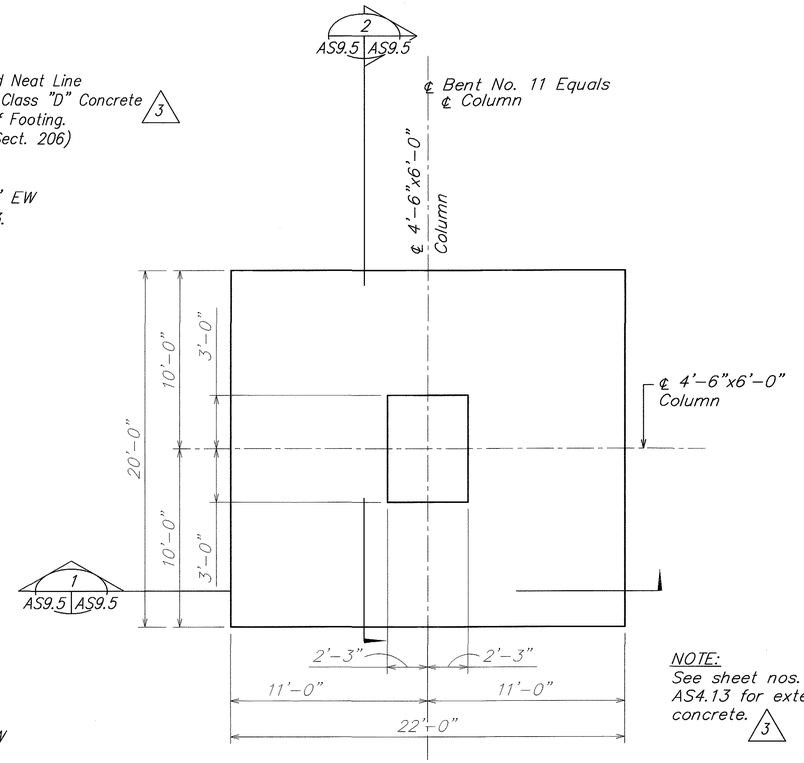
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 473 | 816 |




FOOTING SECTION – TYPE 5 (1 / AS9.5 | AS9.5)

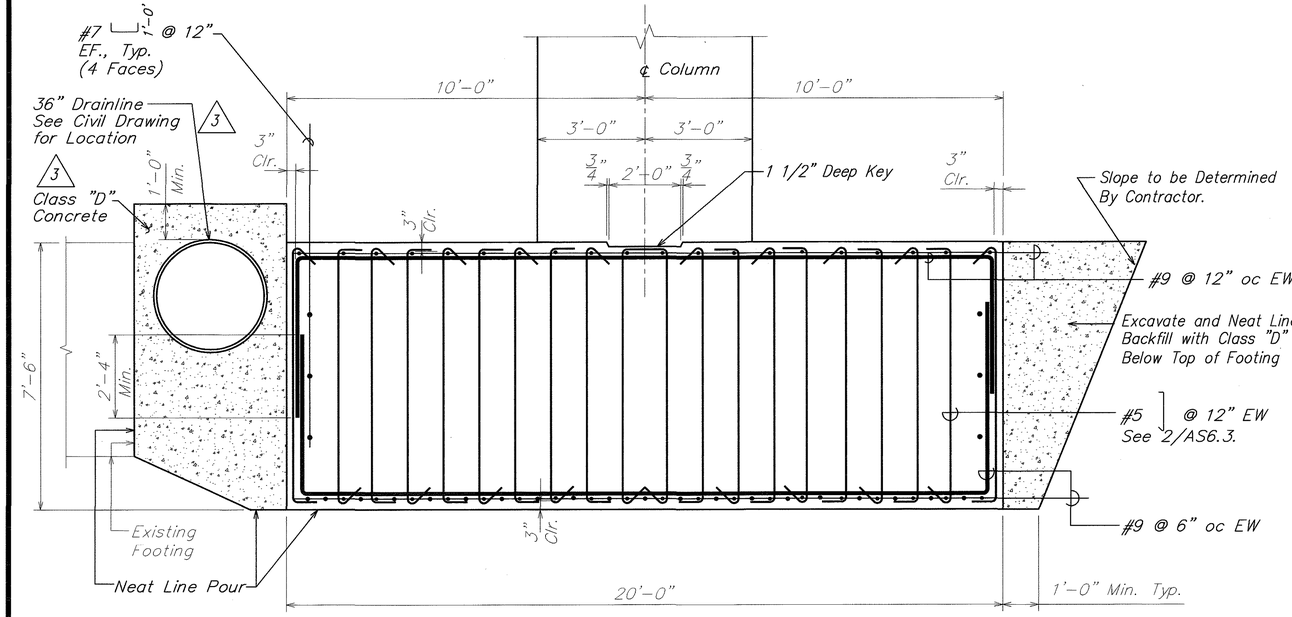
SCALE: 1/2" – 1'-0"

Note:
Cross ties shall have a 135° hook on one end and a 90° hook on the opposite end. Cross ties shall be placed so that 90° and 135° hooks of adjacent ties are alternated. See 1/AS6.3.




FOOTING PLAN – TYPE 5 AT BENT NO. 11 (A / AS9.5 | AS9.5)

SCALE: 1/4" = 1'-0"




FOOTING SECTION – TYPE 5 (2 / AS9.5 | AS9.5)

SCALE: 1/2" – 1'-0"

NOTE:
See sheet nos. AS2.3 and AS4.13 for extent of class "D" concrete.
3




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David K. Fujiwara 4-30-04
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| | DESIGNED BY | |
| | QUANTITIES BY | |
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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Class "D" Concrete Backfill |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TYPE 5 FOOTING PLAN AND SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

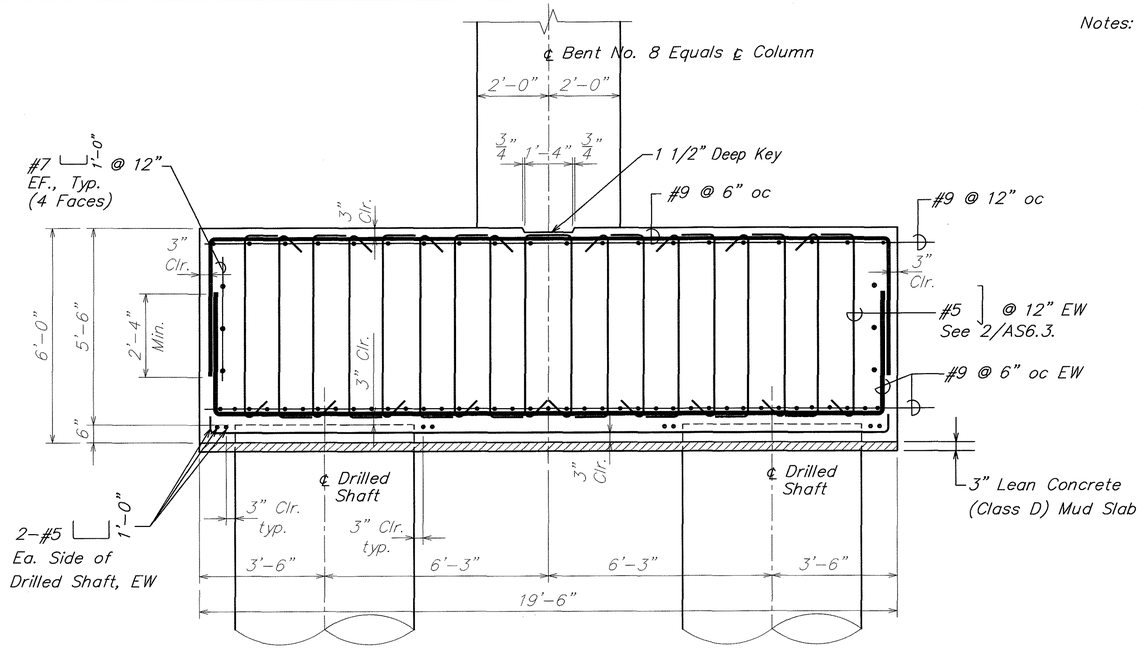
SHEET No. AS9.5 OF 150 SHEETS

ADD. 473

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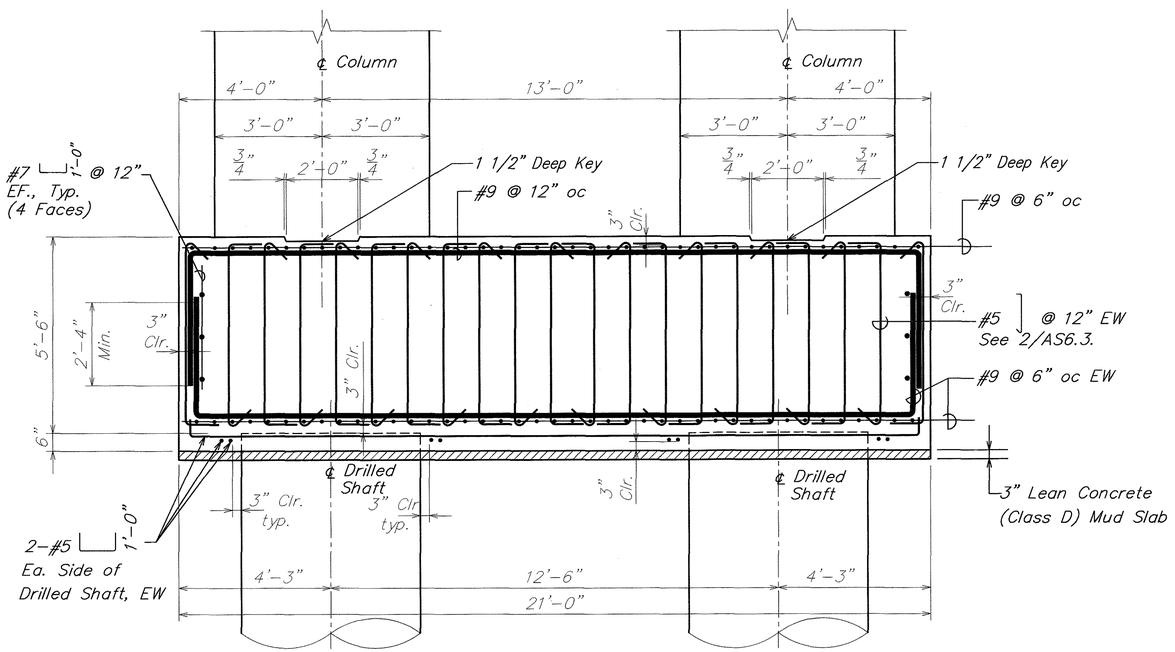
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 474 | 816 |




FOOTING SECTION – TYPE 6 (1 / AS9.6 | AS9.6)

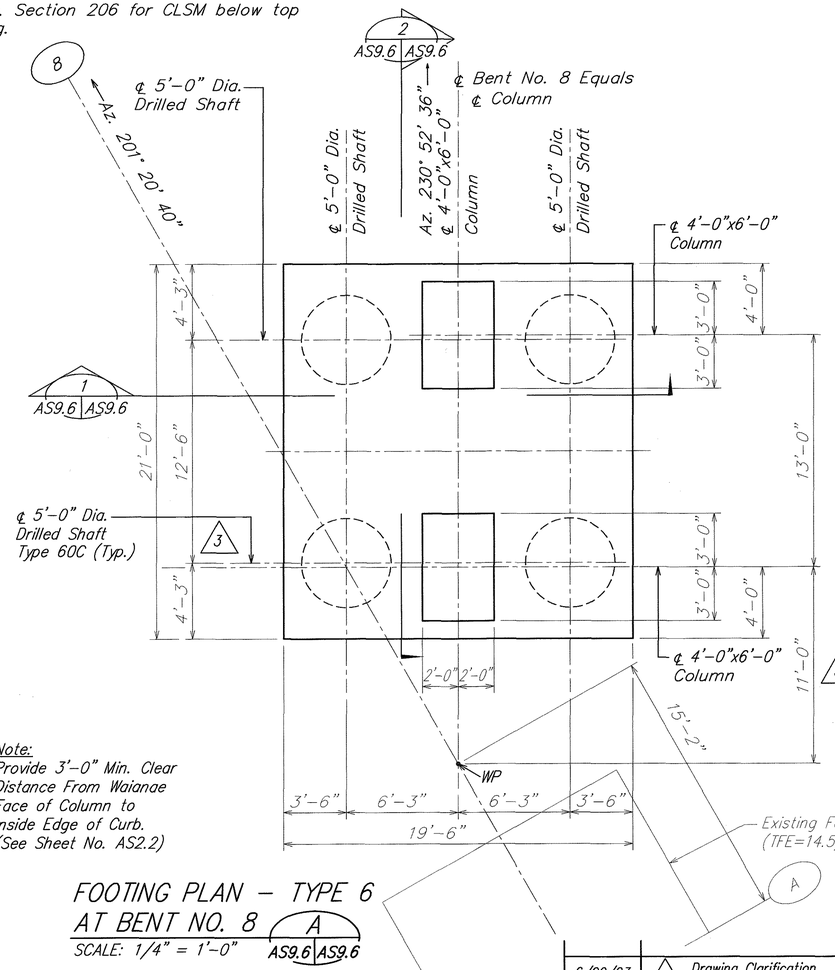
SCALE: 1/2" – 1'-0"




FOOTING SECTION – TYPE 6 (2 / AS9.6 | AS9.6)

SCALE: 1/2" – 1'-0"

Notes:
1. Cross ties shall have a 135° hook on one end and a 90° hook on the opposite end. Cross ties shall be placed so that 90° and 135° hooks of adjacent ties are alternated. See 1/AS6.3.
2. Bottom Footing Reinforcing (#9 @ 6") shall pass through the drilled shaft vertical reinforcing. The reinforcing spacing may be altered to accommodate their passage through the drilled shaft reinforcing. See 1/AS6.2.
3. See Spec. Section 206 for CLSM below top of footing.




FOOTING PLAN – TYPE 6 AT BENT NO. 8 (A / AS9.6 | AS9.6)

SCALE: 1/4" = 1'-0"

3 Note: Provide 3'-0" Min. Clear Distance From Waianae Face of Column to Inside Edge of Curb. (See Sheet No. AS2.2)

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Drawing Clarification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TYPE 6 FOOTING PLAN AND SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

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DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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QUANTITIES BY
CHECKED BY
DATE
ORIGINAL PLAN
NOTE BOOK
No.

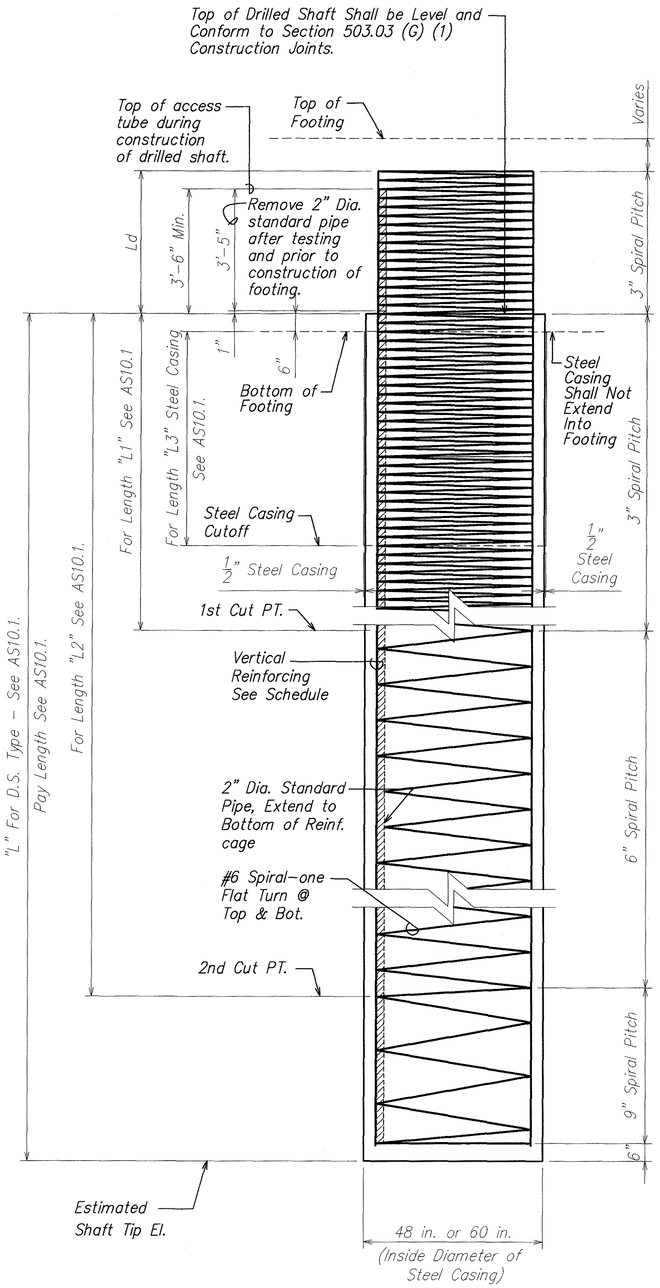
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SHEET No. AS9.6 OF 150 SHEETS

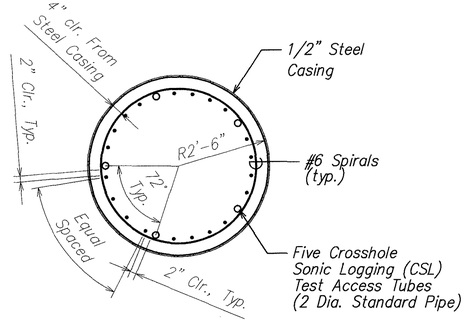
ADD. 474

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 475 | 816 |




## TYP. DRILLED SHAFT ELEVATION

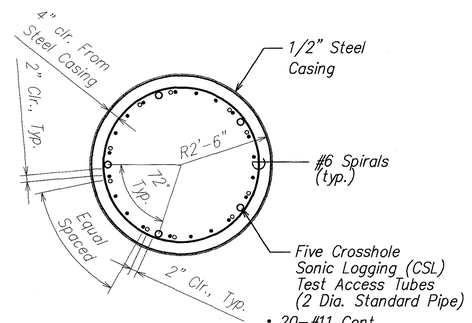
Scale : NOT TO SCALE




1% Reinforcing
20-#11

## TYPE 60A

SCALE: 1/2" = 1'-0"

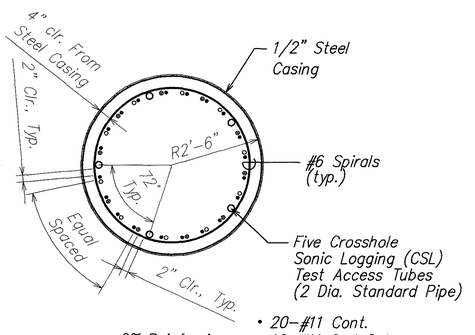



1 1/2% Reinforcing
30-#11
(2x10 Bundles,
10 Single Bars)

- 20-#11 Cont.
- 10-#11 1st Cut

## TYPE 60B

Scale : 1/2"=1'-0"

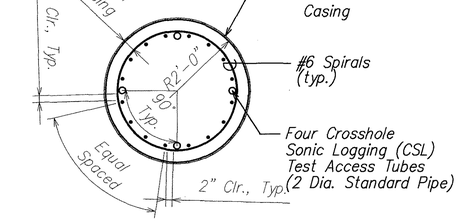



2% Reinforcing
40-#11
(2x20 Bundles)

- 20-#11 Cont.
- 10-#11 2nd Cut
- 10-#11 1st Cut

## TYPE 60C

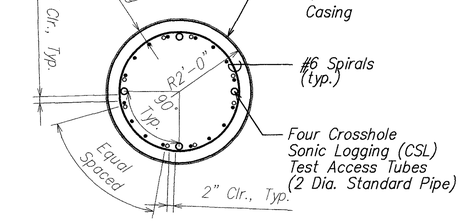
SCALE: 1/2" = 1'-0"




1% Reinforcing
16-#10

## TYPE 48A

SCALE: 1/2" = 1'-0"

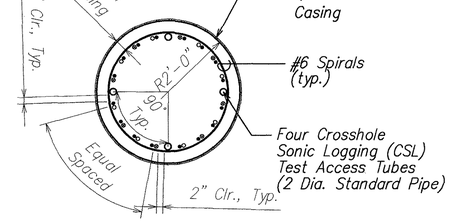



1 1/2% Reinforcing
24-#10
(2x8 Bundles
8 Single Bars)

- 16-#10 Cont.
- 8-#10 1st Cut

## TYPE 48B

SCALE: 1/2" = 1'-0"




2% Reinforcing
32-#10
(2x16 Bundles)

- 16-#10 Cont.
- 8-#10 2nd Cut
- 8-#10 1st Cut

## TYPE 48C

SCALE: 1/2" = 1'-0"

NOTES:

1. Concrete or other non-corrosive spacing devices shall be used to maintain the reinforcement cage in position within the shaft.
2. Lap splice length for #6 Spiral shall be 3'-0".
3. Spirals may be discontinuous at footing reinforcement to allow for placing footing reinforcement. The discontinuous spirals shall be terminated with a 135° hook around vertical reinforcement.
4. Vertical bar splices shall be lapped spliced only in the bottom half of the drilled shaft.
5. Staggered splice points not more than 33% of total at one point.
6. Minimum of 5'-0" vertically between splice points.
7. Individual bar splices within a bundle shall not overlap. Entire bundle shall not be lap spliced.
8. 1st Cut bar length = "L1" + "Ld", 2nd Cut bar length = "L2" + "Ld".
9. Sonic log test shall be performed on every shaft except the load test shaft.
10. Remove portion of CSL test access tubes within footing and completely fill tubes with non-shrink, non-metallic, non-gaseous cementious grout of equal strength as drilled shaft prior to footing pour. See Specification Section 511.

| BAR | Ld - Development Length | | Drilled Shafts Lap Splice Lengths | |
|---|---|---|---|---|
| | Single and 2 - Bar Bundles | | Single and 2-Bar Bundles | |
| #10 | 3'-8" | | 6'-6" | |
| #11 | 4'-5" | | 8'-0" | |
| | | | | |

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
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| | CHECKED BY | |

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LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRILLED SHAFT DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

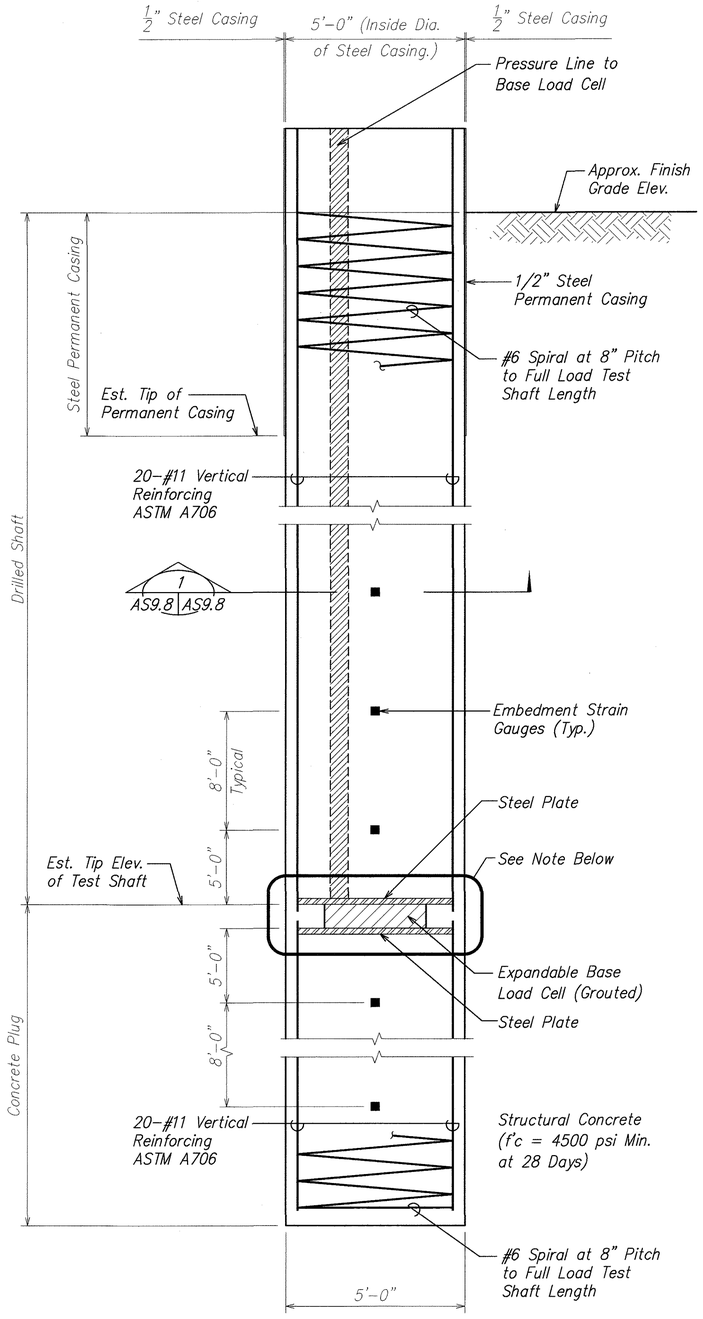
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS9.7 OF 150 SHEETS



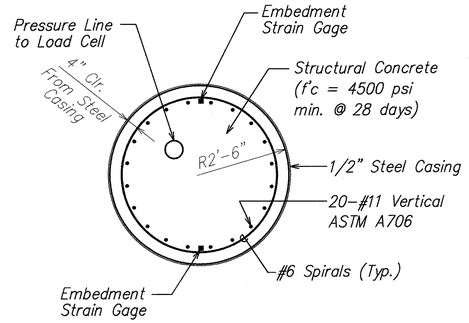
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WV-AS0907.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 476 | 816 |




## LOAD TEST SHAFT DETAIL

Not To Scale




SECTION 1
SCALE: 1/2" = 1'-0" AS9.8 AS9.8

| Load Test Shaft No. | Est. Tip of Permanent Casing | Est. Tip of Drilled Shaft | Est. Permanent Casing Length | Est. Drilled Shaft Length | Est. Concrete Plug Length | Total No. of Embedment Strain Gage |
|---|---|---|---|---|---|---|
| 1 | -29' | -113' | 43' | 127' | 40' | 36 |
| 2 | -47' | -95' | 64' | 112' | 30' | 26 |
| | | | | | | |

NOTE:

See Special Provisions Section 511 for Load Test Requirements.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| No. | TRACED BY | |
| | DESIGNED BY | |
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| | CHECKED BY | |

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LICENSED PROFESSIONAL ENGINEER
No. 8436-C
HAWAII, U.S.A.

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GEOLABS, INC.

DAVID K. FUJIWARA
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NO. 8104-S
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# LOAD TEST SHAFT DETAIL

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS9.8 OF 150 SHEETS

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1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 477 | 816 |

# COLUMN AND FOOTING SCHEDULE

| | COLUMN MARK | (1A) | (1B) | (2A) | (2B) | (3) | (4) | (5) | (6) | (7) | (8A) | (8B) | (9) | (10) | (11) | Abut. "A" | Abut. "B" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Column Size | 4'-0" x 4'-0" | 4'-0" x 4'-0" | 4'-0" x 4'-0" | 4'-0" x 4'-0" | 4'-6" x 6'-0" | 4'-6" x 6'-0" | 4'-6" x 6'-0" | 4'-6" x 6'-0" | 4'-6" x 6'-0" | 4'-0" x 6'-0" | 4'-0" x 6'-0" | 4'-6" x 6'-0" | 4'-6" x 6'-0" | 4'-6" x 6'-0" | – | – |
| | COLUMN VERTICAL REINF. | 64–#9 (32 Bundles 2–#9 Ea.) | 64–#9 (32 Bundles 2–#9 Ea.) | 64–#11 (32 Bundles 2–#11 Ea.) | 64–#11 (32 Bundles 2–#11 Ea.) | 88–#11 (44 Bundles 2–#11 Ea.) | 88–#10 (44 Bundles 2–#10 Ea.) | 88–#10 (44 Bundles 2–#10 Ea.) | 88–#10 (44 Bundles 2–#10 Ea.) | 88–#11 (44 Bundles 2–#11 Ea.) | 80–#11 (40 Bundles 2–#11 Ea.) | 80–#11 (40 Bundles 2–#11 Ea.) | 88–#9 (44 Bundles 2–#9 Ea.) | 88–#10 (44 Bundles 2–#10 Ea.) | 88–#10 (44 Bundles 2–#10 Ea.) | – | – |
| | COLUMN SECTION | A/AS10.2 & A/AS10.3 | A/AS10.2 & A/AS10.3 | A/AS10.2 & A/AS10.3 | A/AS10.2 & A/AS10.3 | B/AS10.2 & B/AS10.3 | B/AS10.2 & B/AS10.3 | B/AS10.2 & B/AS10.3 | B/AS10.2 & B/AS10.3 | B/AS10.2 & B/AS10.3 | C/AS10.2 & C/AS10.3 | C/AS10.2 & C/AS10.3 | B/AS10.2 & B/AS10.3 | B/AS10.2 & B/AS10.3 | B/AS10.2 & B/AS10.3 | – | – |
| | TOP OF COLUMN ELEVATION (TCE) | 31.37 | 31.37 | 31.89 | 31.89 | 34.28 | 37.05 | 40.70 | 44.87 | 48.89 | 53.19 | 53.19 | 56.94 | 60.95 | 64.97 | – | – |
| | FOOTING TYPE | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 6 | 6 | 4 | 3 | 5 | – | – |
| | TOP OF FOOTING ELEVATION (TFE) | 13.6 | 13.6 | 10.3 | 10.3 | 9.7 | 13.2 | 13.1 | 13.5 | 11.5 | 13.5 | 13.5 | 16.6 | 18.5 | 23.0 | 33.5 | 69.0 |
| | DRILLED SHAFT TYPE | 60C | 60C | 60C | 60C | 60C | 60B | 60A | 60A | 60B | 60C | 60C | 48B | 60C | – | 48C | 48C |
| DRILLED SHAFT | DRILLED SHAFT TIP ELEVATION | –82.0 | –82.0 | –116.0 | –116.0 | –84.0 | –112.0 | –96.0 | –92.0 | –81.0 | –76.0 | –76.0 | –52.0 | –30.0 | – | –65.0 | 18.0 |
| DRILLED SHAFT | DRILLED SHAFT PAY LENGTH ("L") | 90' | 90' | 120' | 120' | 88' | 119' | 103' | 100' | 87' | 84' | 84' | 63' | 43' | – | 94' | 46' |
| DRILLED SHAFT | "L1" | 70' | 70' | 68' | 68' | 55' | 80' | – | – | – | 75' | 75' | – | 35' | – | 70' | 35' |
| DRILLED SHAFT | "L2" | 80' | 80' | 94' | 94' | 72' | – | – | – | – | – | – | – | – | – | 80' | – |
| DRILLED SHAFT | "L3" | 36' | 36' | 34' | 34' | 25' | 43' | 39' | 55' | 58' | 43' | 43' | 28' | – | – | 49' | – |
| DRILLED SHAFT | 3 STRENGTH 1 LIMIT STATE COMPRESSIVE CAPACITY (KIPS) NO SCOUR | 910 | 910 | 1300 | 1300 | 900 | 1100 | 900 | 800 | 800 | 900 | 900 | 650 | 800 | – | 800 | 1300 |
| | 3 EXTREME EVENT LIMIT STATE COMPRESSIVE CAPACITY (KIPS) NO SCOUR | 1400 | 1400 | 2000 | 2000 | 1380 | 1690 | 1380 | 1230 | 1230 | 1380 | 1380 | 1000 | 1230 | – | 1230 | 2000 |

NOTE:

1. See Sheet No. AS9.7 for Drilled Shaft Type Detail.
2. See Sheet Nos. AS9.1 to AS9.6 for Footing Detail.
3. See Sheet Nos. AS10.2 to AS10.4 for Column Details.

| ORIGINAL PLAN | SHEET PLOTTED BY | DATE |
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| NOTE BOOK | DRAWN BY | |
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HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised Limit States Shaft Capacity |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

COLUMN AND FOOTING SCHEDULE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

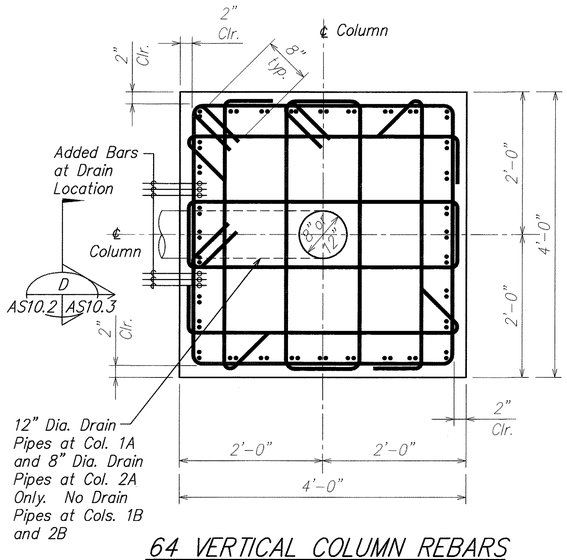
SHEET No. AS10.1 OF 150 SHEETS

ADD. 477

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 478 | 816 |

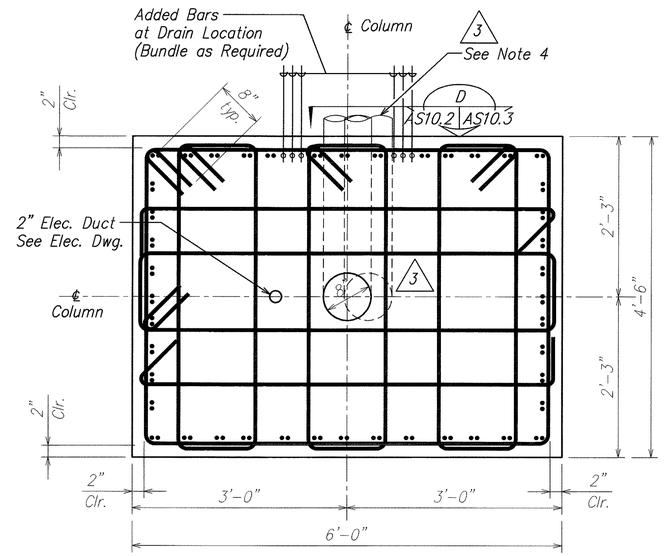



64 VERTICAL COLUMN REBARS

#6 "A" TIES

4'-0" x 4'-0" COLUMN SECTION A S10.2 | S10.2

SCALE: 1" = 1'-0"

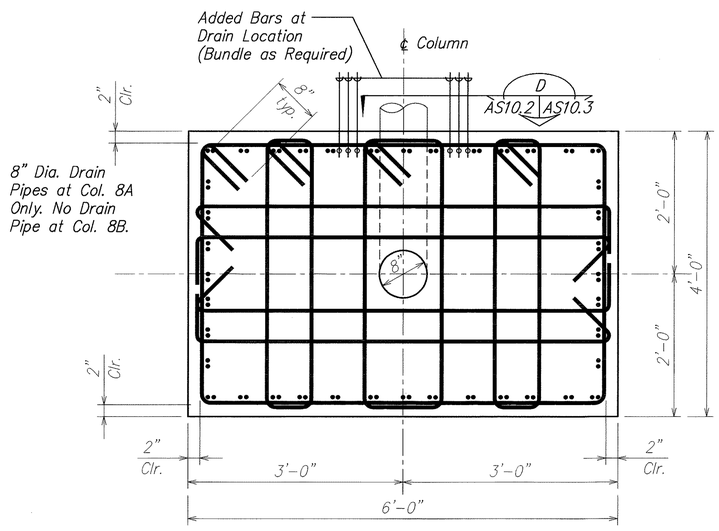



88 VERTICAL COLUMN REBARS

#6 "A" TIES

4'-6" x 6'-0" COLUMN SECTION B S10.2 | S10.2

SCALE: 1" = 1'-0"




80 VERTICAL COLUMN REBARS

#6 "A" TIES

4'-0" x 6'-0" COLUMN SECTION C S10.2 | S10.2

SCALE: 1" = 1'-0"

NOTES:

1. Cross ties shall have a 135° hook on one end and a 90° hook on the opposite end. Cross ties shall be placed so that 90° and 135° hooks of adjacent ties are alternated. See 1 AS10.2 | AS6.3
2. See sheet no. AS10.4 for size and spacing of ties.
3. See Civil Drawings for drain locations. See sheet no. AC7.28.
4. (3) Offset drain Pipe as shown on plan sheet no. AS14.10 at columns 3, 6, and 9. Adjust column verticals and ties about the column centerline as required to clear the drain pipe. Do not cut or delete any reinforcing bars.

ORIGINAL PLAN | NOTE BOOK No. ____

SURVEY PLOTTED BY ____ DATE ____
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | (3) Revised Drain Location and Added Note. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

COLUMN SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

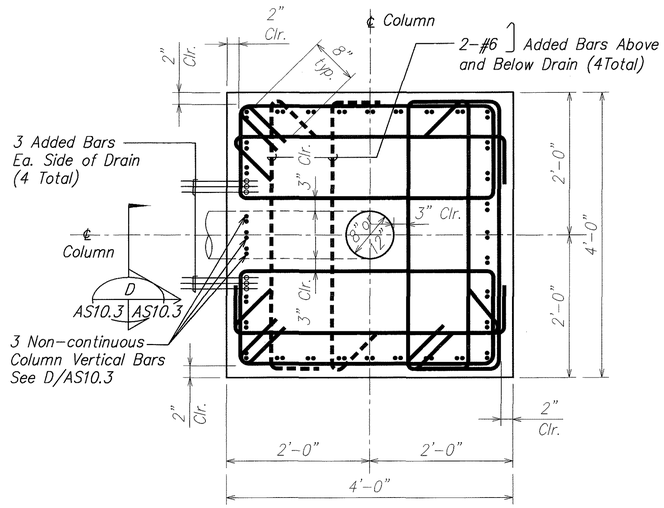
SHEET No. AS10.2 OF 150 SHEETS

ADD. 478

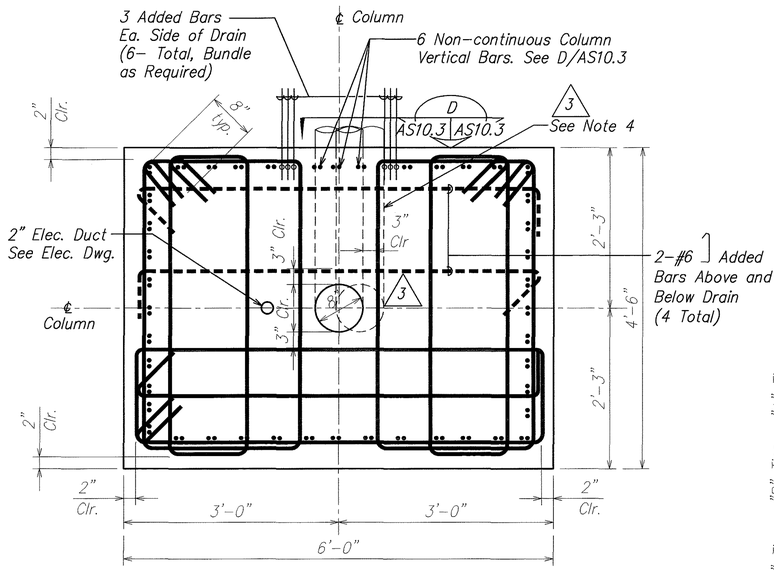
WV-AS1002.DWG
1 of 1

\\Cad1\fest\2001\10066-WAIMALU WADUCT\06-20-03 AS ADD3\WV-AS1002.dwg, AS10.2, 6/18/2003 11:44:29 AM, KSFinc.pc3

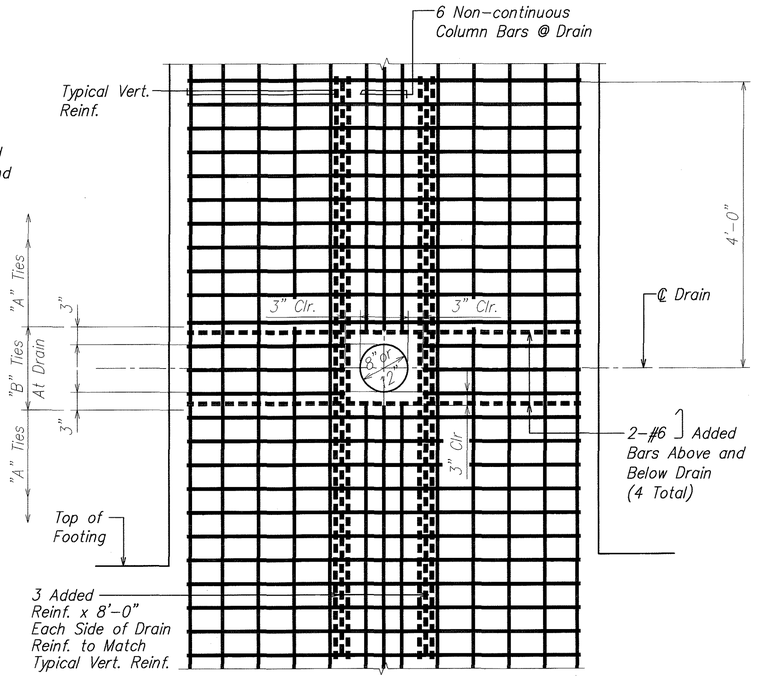
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD 479 | 816 |



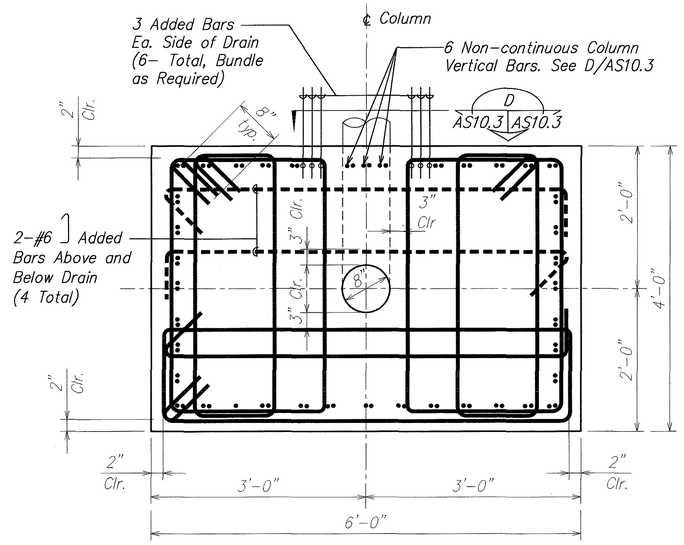

104 VERTICAL COLUMN REBARS
(EXCLUDING ADDING REINF.) #6 "B" TIES
4'-0" x 4'-0" COLUMN SECTION (A AS10.3|AS10.3)
SCALE: 1" = 1'-0"




88 VERTICAL COLUMN REBARS
(EXCLUDING ADDED REINF.) #6 "B" TIES
4'-6" x 6'-0" COLUMN SECTION (B AS10.3|AS10.3)
SCALE: 1" = 1'-0"




COLUMN ELEVATION AT DRAIN (D AS10.2|AS10.3 AS10.3)
SCALE: 1" = 1'-0"




80 VERTICAL COLUMN REBARS
(EXCLUDING ADDING REINF.) #6 "B" TIES
4'-0" x 6'-0" COLUMN SECTION (C AS10.3|AS10.3)
SCALE: 1" = 1'-0"

NOTES:

1. Cross ties shall have a 135° hook on one and a 90° hook on the opposite end. Cross ties shall be placed so that 90° and 135° hooks of adjacent ties are alternated. See (1 AS10.3|AS6.3)
2. See sheet no. AS10.4 for size and spacing of ties.
3. See Civil Drawings for drain locations. See sheet no. AC7.28.
3. Offset drain Pipe as shown on plan sheet no. AS14.10 at columns 3, 6, and 9. Adjust column verticals and ties about the column centerline as required to clear the drain pipe. Do not cut or delete any reinforcing bars.

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised Drain Location and Added Note. |

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

COLUMN SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS10.3 OF 150 SHEETS

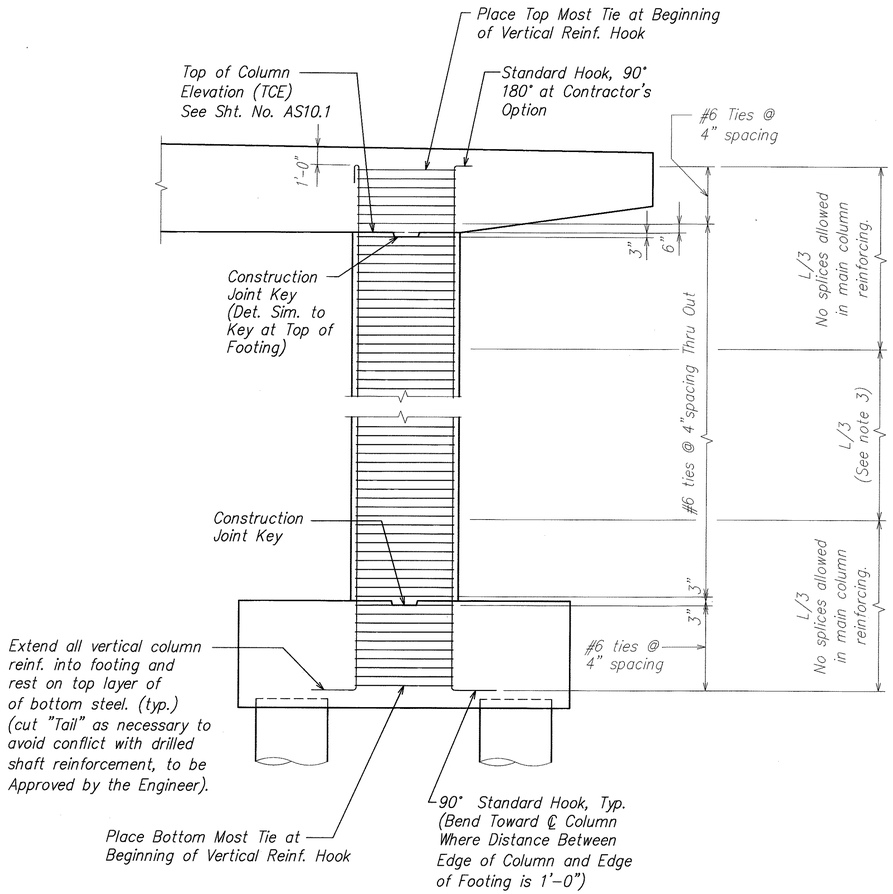
ADD. 479

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | * * * * * |
| NOTS BOOK | TRACED BY | |
| No. | DESIGNED BY | |
| | QUANTITIES BY | |
| | CHECKED BY | |

WV-AS1002.DWG
1 = 1

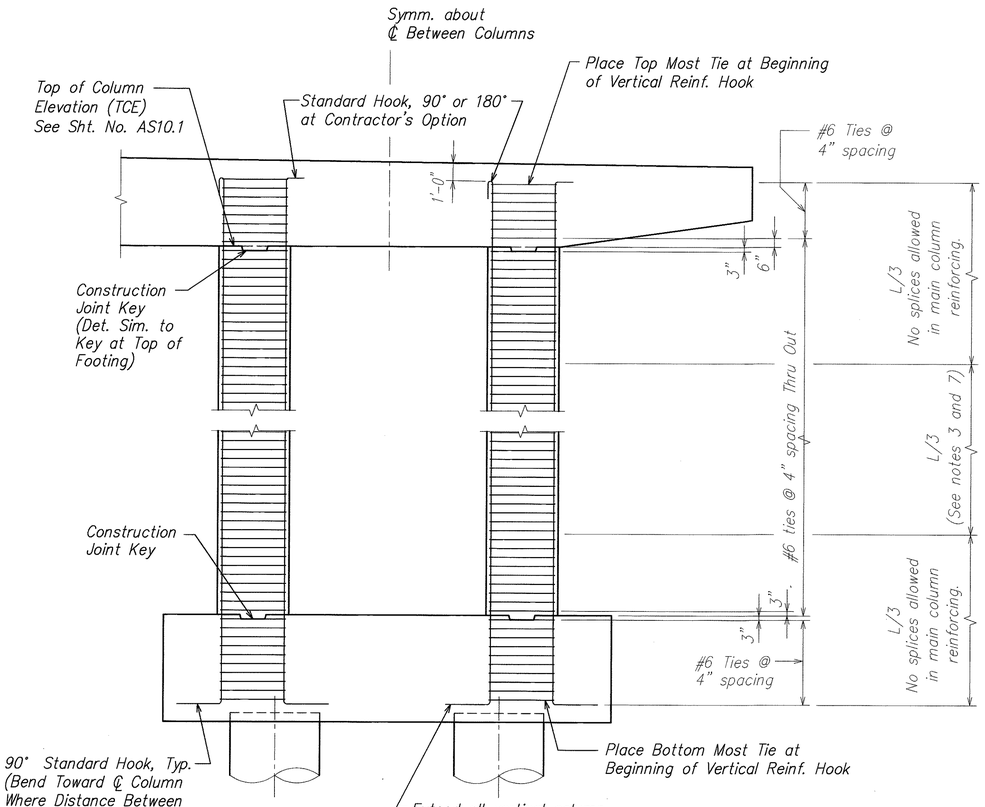
\\Cad1\vol1\2001\10066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1002.dwg, AS10.3, 6/18/2003 11:44:48 AM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 480 | 816 |




## COLUMN ELEVATION AT NOS. 3, 4, 5, 6, 7, 9, 10, AND 11 (1 AS10.4 | AS10.4)

SCALE: 1/4" = 1'-0"




## COLUMN ELEVATION AT BENT NOS. 1, 2, AND 8 (2 AS10.4 | AS10.4)

SCALE: 1/4" = 1'-0"

NOTES:

1. For cap reinforcing. see sht. AS11.1 to AS11.23
2. For footing reinforcing and details not shown. see sht. AS9.1 to AS9.6
3. Vertical bar splices shall be mechanical butt splices or lapped splices.
4. Staggered splice points not more than 33% of total at one point.
5. Minimum of 5'-0" vertically between splice points.
6. (3) All ties are "A" ties except at location where pipe exits column. See (D AS10.4 | AS10.3)
7. Vertical bars in Bent No. 2 columns shall not be spliced.

| Column Lap Splice Lengths | |
|---|---|
| Bar | Length |
| 9 | 5'-0" |
| 10 | 5'-6" |
| 11 | 7'-0" |

| DATE | REVISION |
|---|---|
| 6/20/03 | (3) Clarify Note |

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

COLUMN ELEVATIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

SHEET No. AS10.4 OF 150 SHEETS

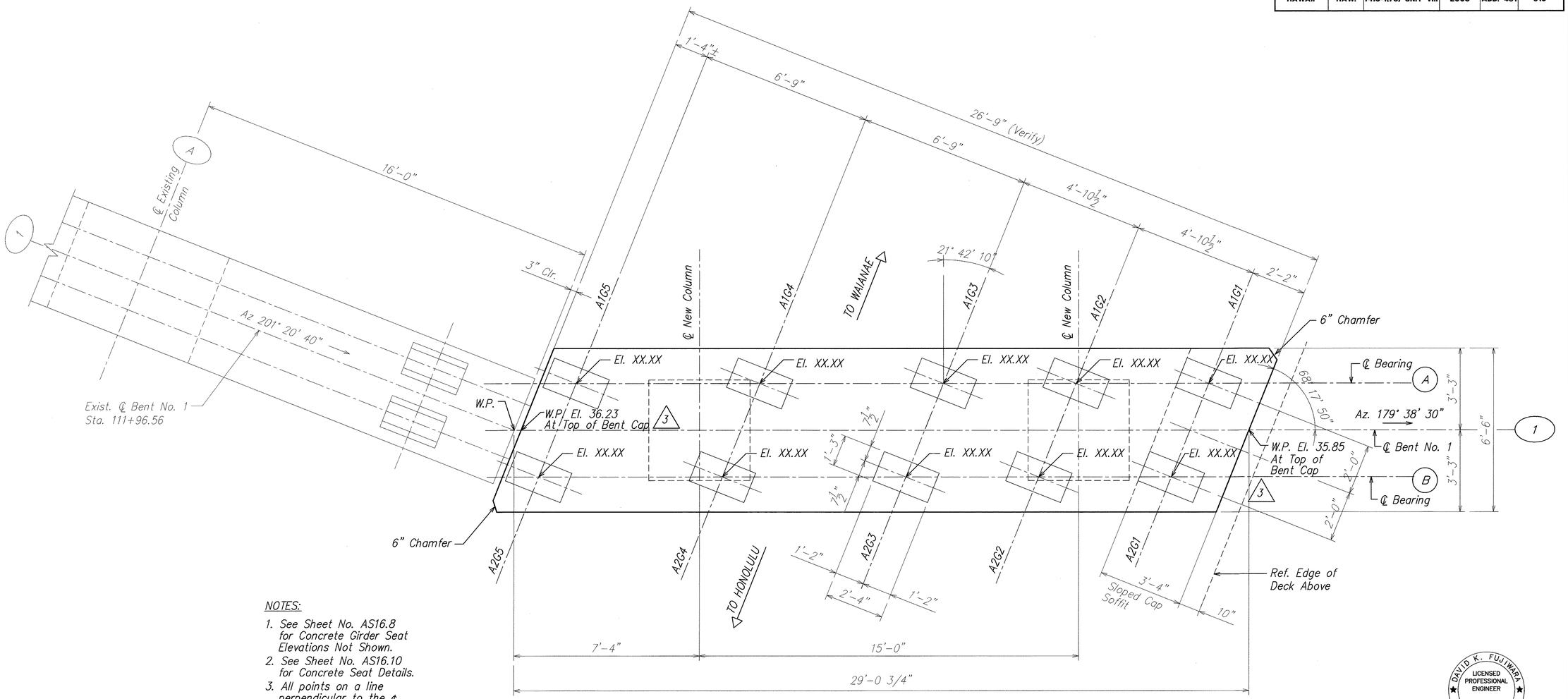
ADD. 480

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

WV-AS1002.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 481 | 816 |




NOTES:

1. See Sheet No. AS16.8 for Concrete Girder Seat Elevations Not Shown.
2. See Sheet No. AS16.10 for Concrete Seat Details.
3. All points on a line perpendicular to the ℄ of the bent cap, shall be at the same elevation.

## BENT NO. 1 CAP PLAN (A)

SCALE: 1/2" = 1'-0"

AS11.1 | AS11.1

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Bent Notation |

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara 4-30-04

SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BENT NO. 1 CAP PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

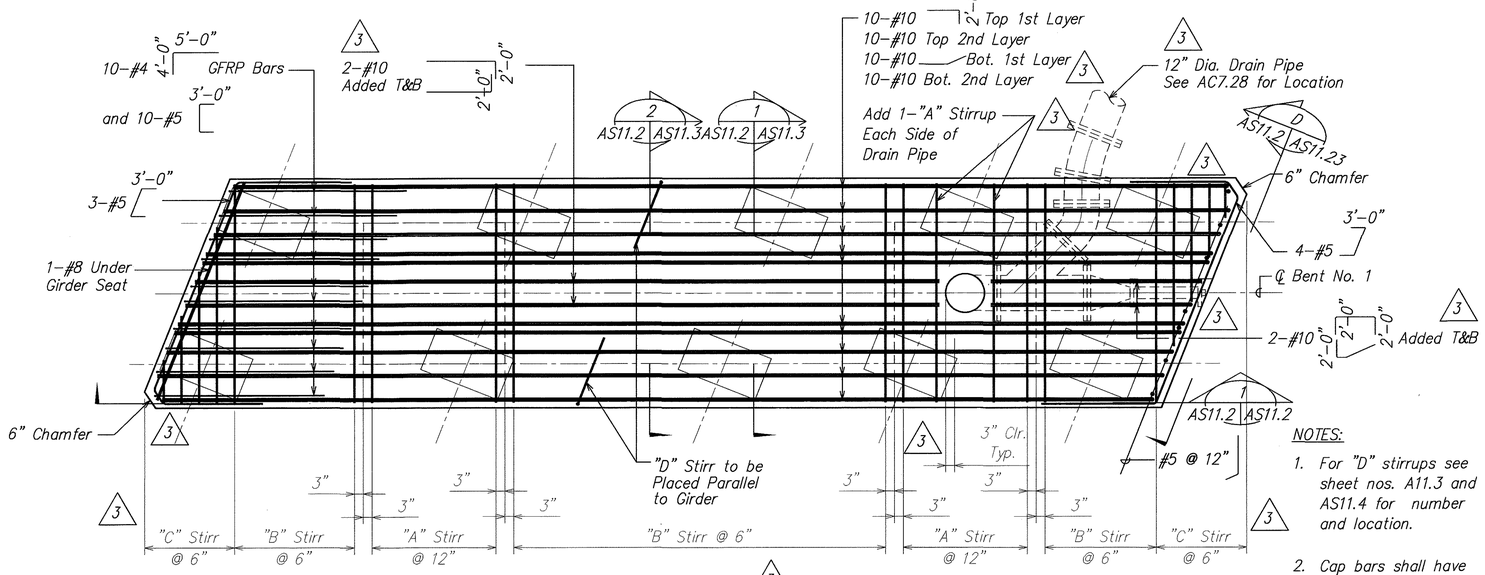
SHEET No. AS11.1 OF 150 SHEETS

ADD. 481

WV-AS1101.DWG
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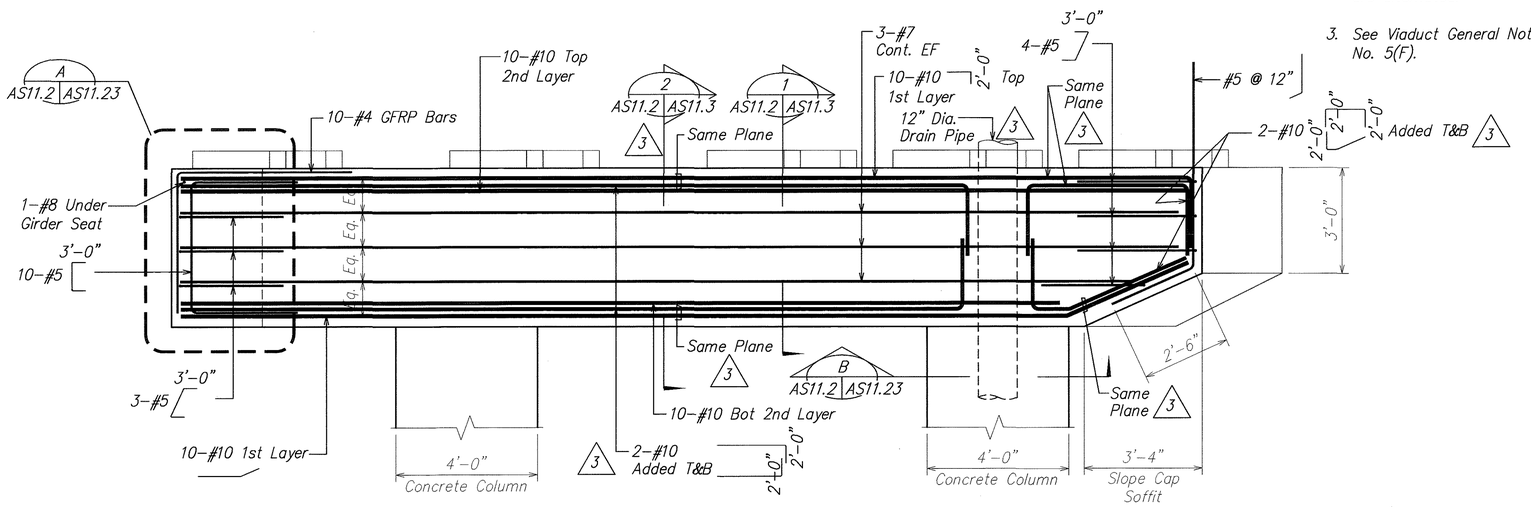
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 482 | 816 |




## 3 BENT CAP PLAN – BENT NO. 1 LONGITUDINAL REINFORCING AND STIRRUP CONFIGURATION

SCALE: 1/2" = 1'–0"

A AS11.2 AS11.2




NOTE:
Stirrups not shown for clarity.

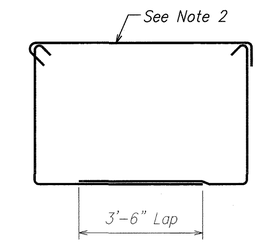
## BENT SECTION – BENT NO. 1

SCALE: 1/2" = 1'–0"

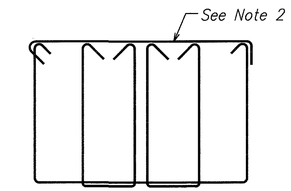
1 AS11.2 AS11.2

NOTES:

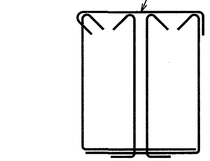
1. For "D" stirrups see sheet nos. A11.3 and AS11.4 for number and location.
2. Cap bars shall have a 135° hook on one end and a 90° hook on the opposite end. Cap bars shall be placed so that 90° and 135° hooks of adjacent ties are alternated.
3. See Viaduct General Note No. 5(F).



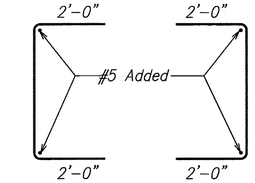

"A" STIRRUPS (#6)




"B" STIRRUPS (#6)




"C" STIRRUPS (#6)




"D" STIRRUPS (#6)

| SURVEY PLOTTED BY | DATE |
|---|---|
| DRAWN BY | " |
| TRACED BY | " |
| DESIGNED BY | " |
| QUANTITIES BY | " |
| CHECKED BY | " |

ORIGINAL PLAN
NOTE BOOK
No.

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104–S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara
SIGNATURE

4–30–04
EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Reinforcing Modification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NO. 1 PLAN AND SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

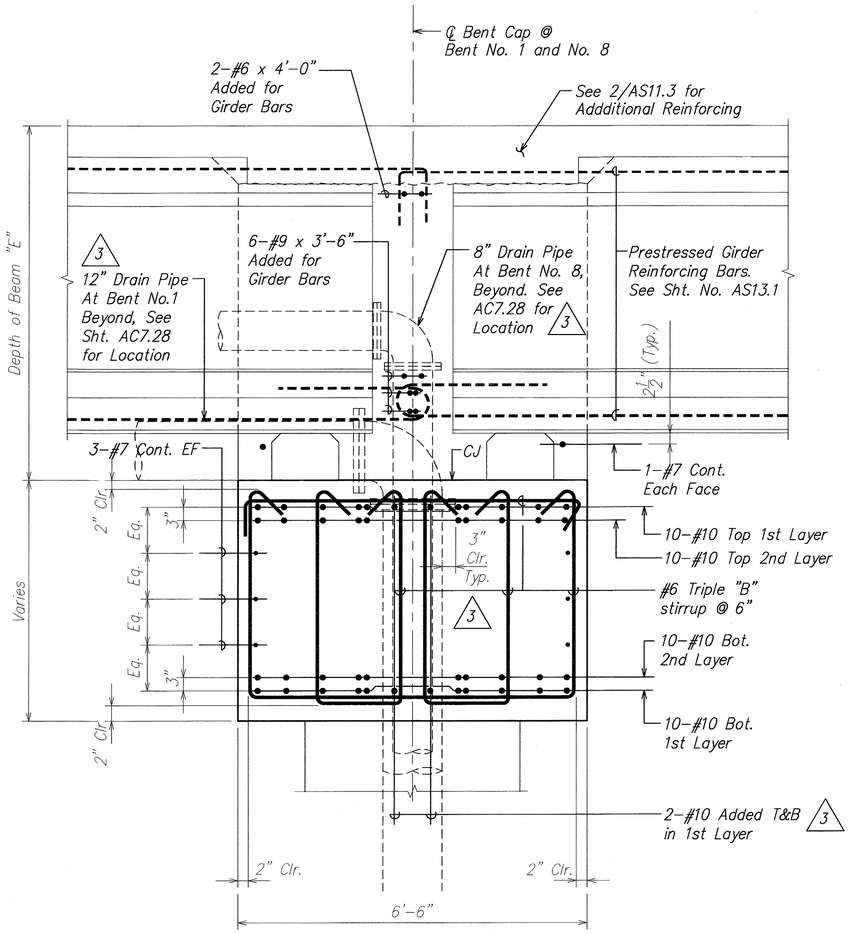
SHEET No. AS11.2 OF 150 SHEETS

ADD. 482

WV–AS1102.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 483 | 816 |

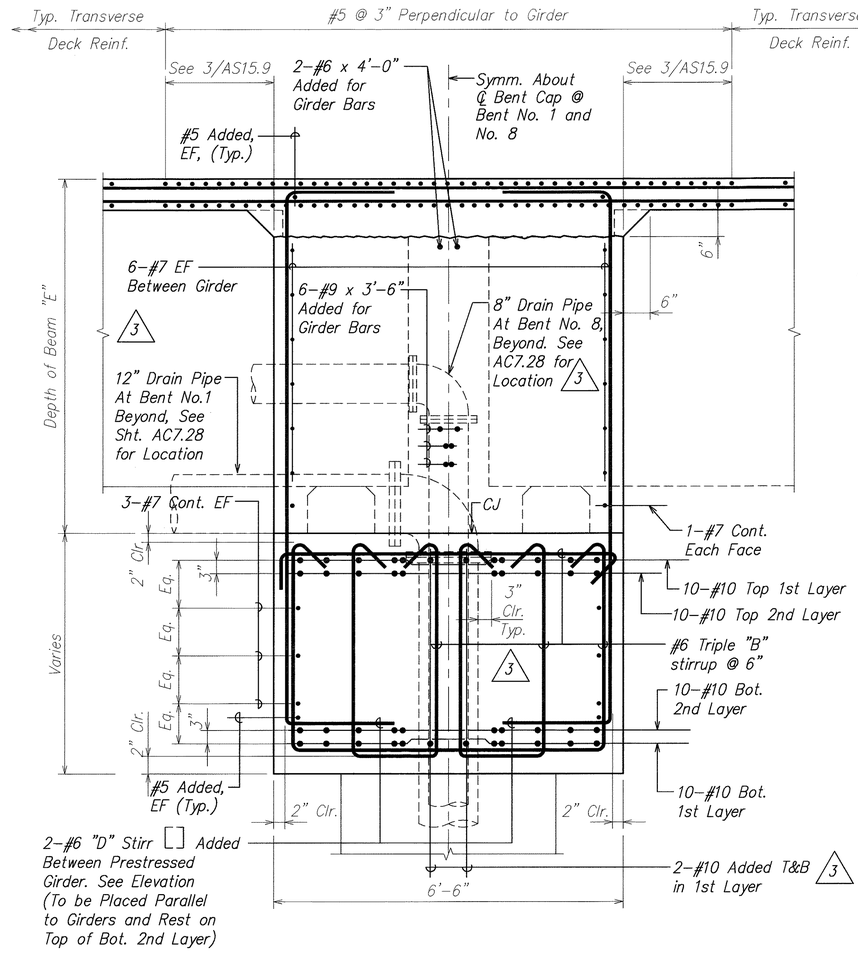



## SECTION AT GIRDERS 1

SCALE: 3/4" = 1'–0"

AS11.2 | AS11.3

AS11.4, AS11.20, AS11.21




## SECTION BETWEEN GIRDERS 2

SCALE: 3/4" = 1'–0"

AS11.2 | AS11.3

AS11.4, AS11.20, AS11.21

3 NOTE:
See viaduct general note no. 5 (F).

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104–S HAWAII, U.S.A.

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David K. Fujiwara 4-30-04

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SECTIONS BEAM "E"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS11.3 OF 150 SHEETS

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Reinforcing Modification, Added Note, and Added Drain Pipe |

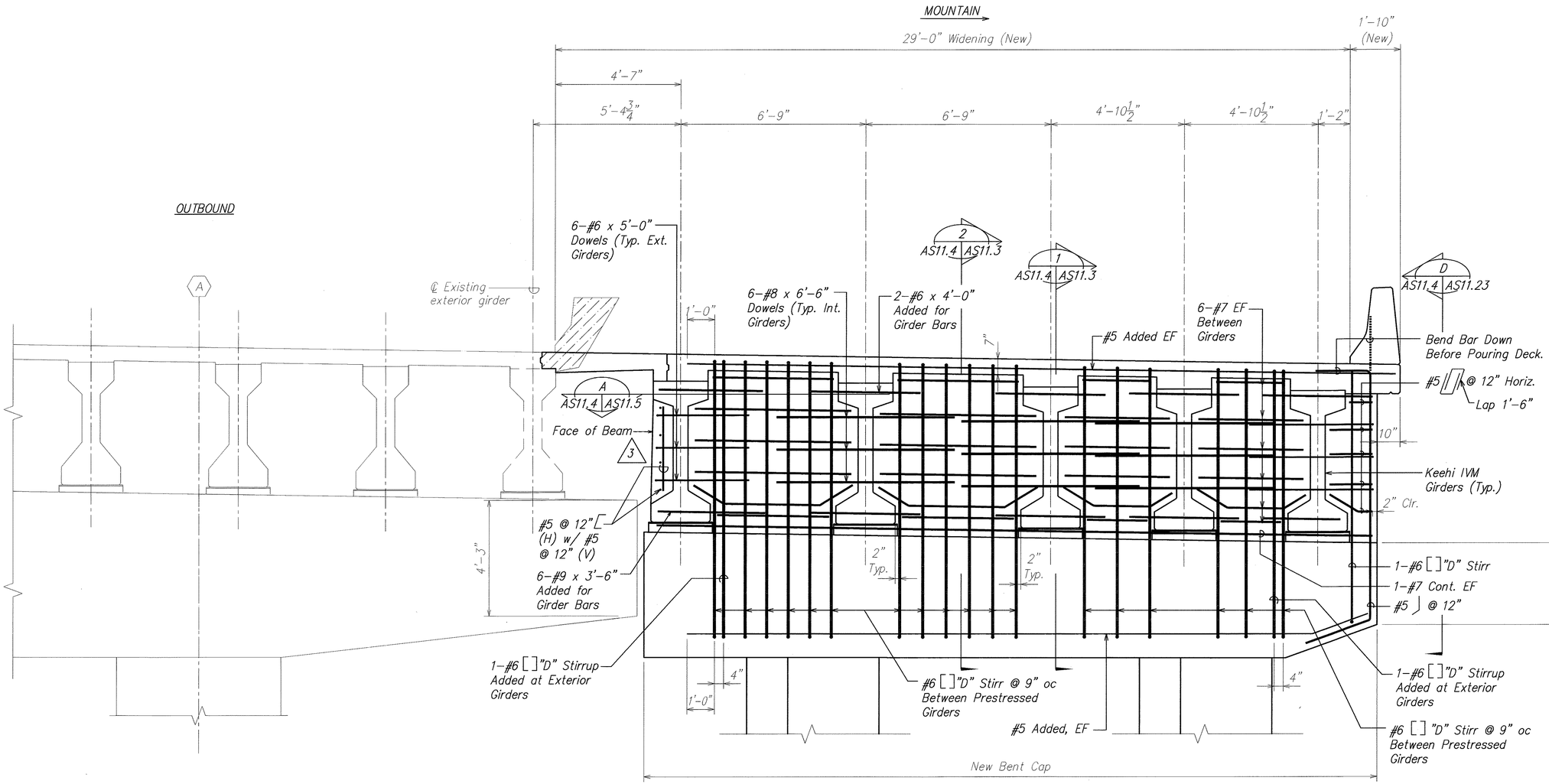
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

WV-AS1103.DWG
1 = 1

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ADD. 483

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 484 | 816 |




3 NOTES:

1. Deck reinf. not shown for clarity.
2. Drain pipe not shown for clarity. See AC7.28 for location.
3. See C/AS11.23 for drain pipe detail.

## ELEVATION – BENT NO. 1 TRANSVERSE BEAM "E"

A AS11.4 AS11.4

SCALE: 1/2" = 1'-0"

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Rebar Detailing, and Added Notes |

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NO. 1 TRANSVERSE BEAM "E" ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

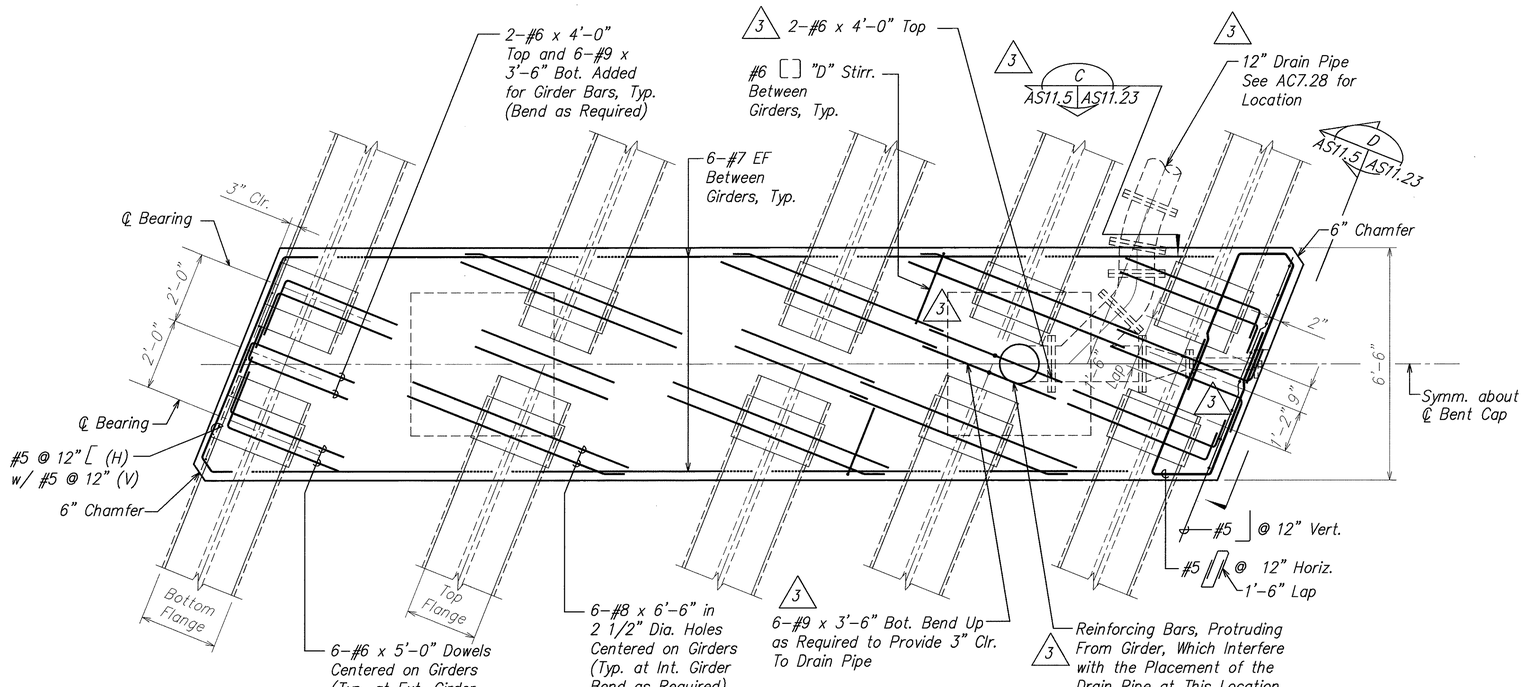
SHEET No. AS11.4 OF 150 SHEETS

ADD. 484

WV-AS1104.DWG
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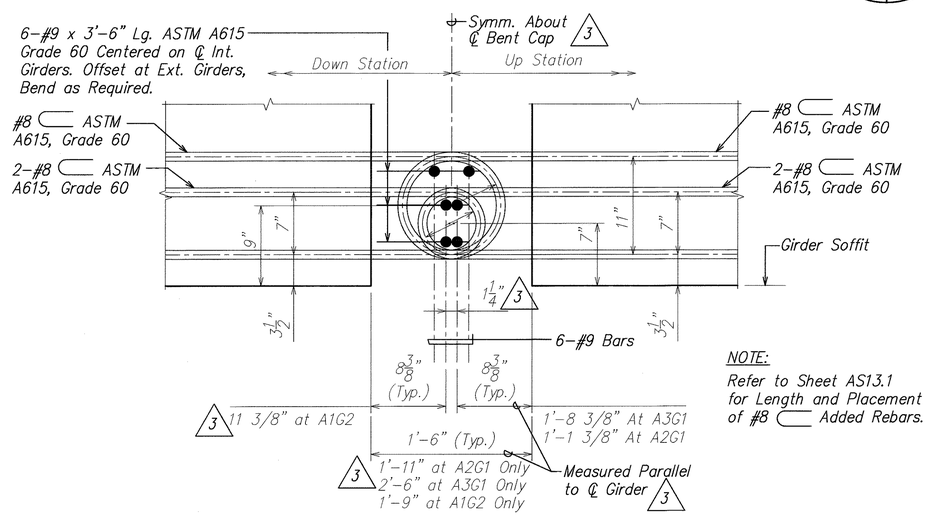
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 485 | 816 |




## TYPICAL PLAN SECTION BEAM "E"

SCALE: 1/2" = 1'-0"

A AS11.4 AS11.5




## DETAIL

SCALE: 1 1/2" = 1'-0"

1 AS13.1 AS11.5

NOTE:
Refer to Sheet AS13.1 for Length and Placement of #8 ⊂ Added Rebars.

3 NOTE:
See Viaduct General Note No. 5 (F).

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

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SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NO. 1 TYPICAL PLAN SECTION BEAM "E"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS11.5 OF 150 SHEETS

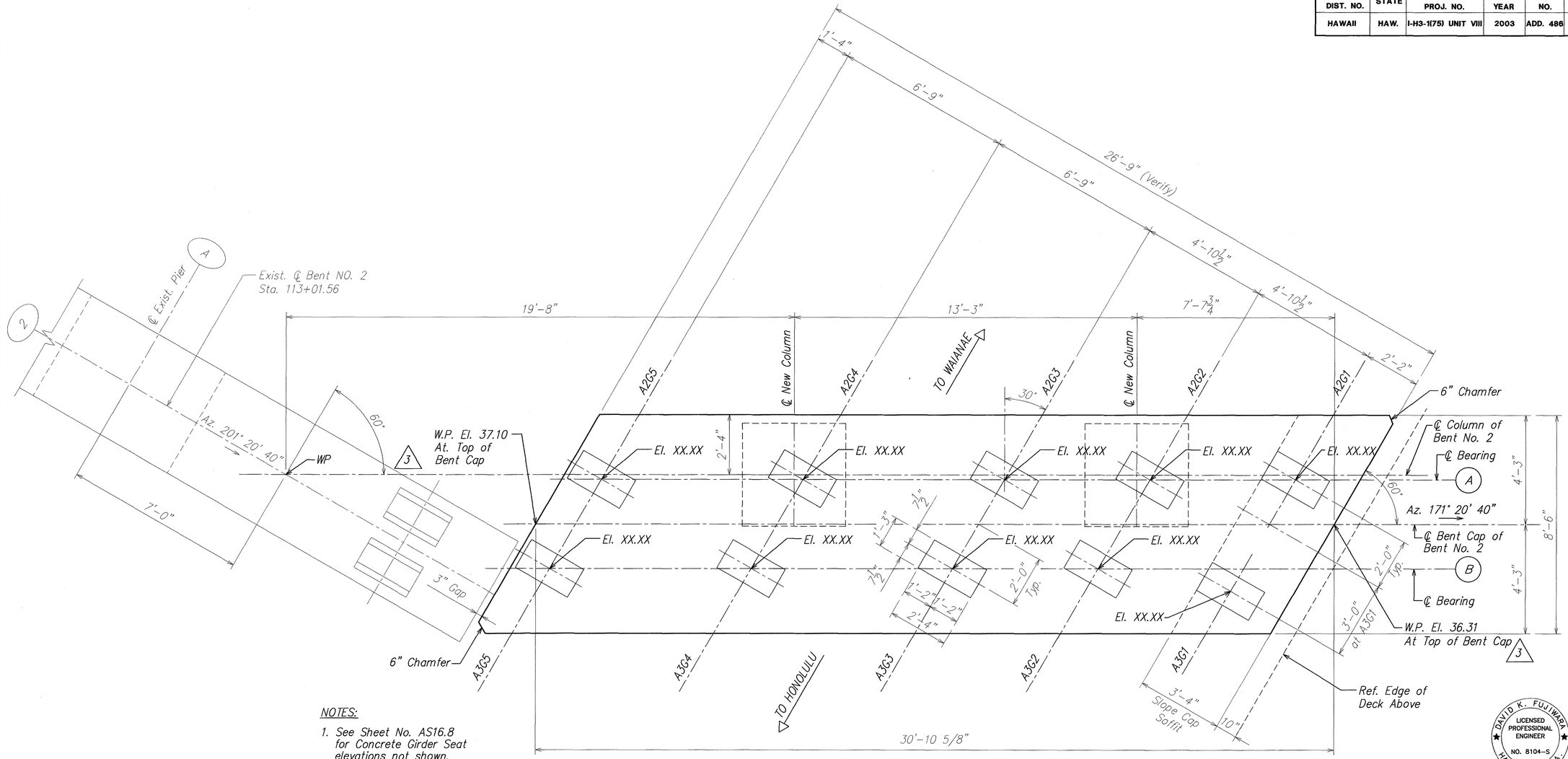
| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Reinforcing Modification, Added Notes, and Added Drain Pipe |

ADD. 485

WV-AS1105.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 486 | 816 |




NOTES:

1. See Sheet No. AS16.8 for Concrete Girder Seat elevations not shown.
2. See Sheet No. AS16.10 for Concrete Seat details.
3. All points on a line perpendicular to the ℄ of the bent cap, shall be at the same elevation.

## BENT NO. 2 CAP PLAN (A)

SCALE: 1/2" = 1'-0"

AS11.6 | AS11.6

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara — 4-30-04
SIGNATURE — EXPIRATION DATE OF THE LICENSE

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Bent Notation |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NO. 2 CAP PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

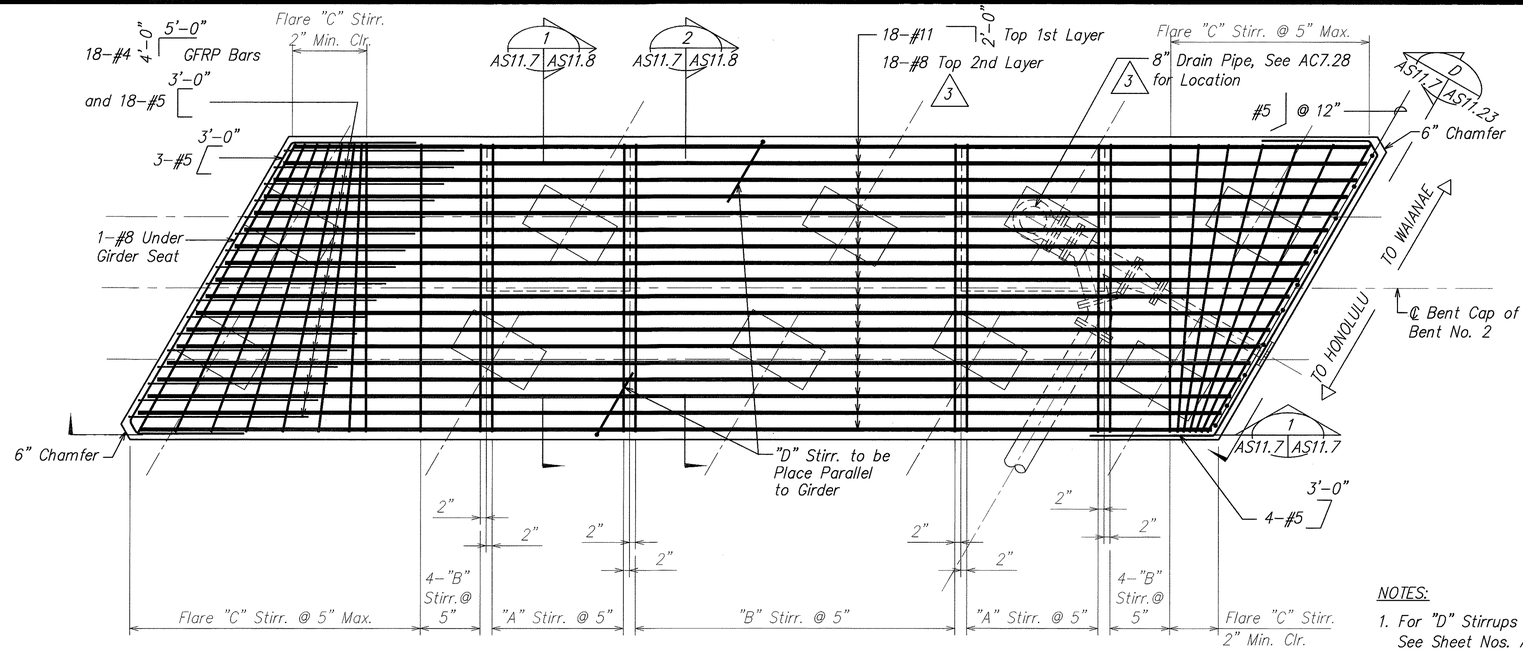
SHEET No. AS11.6 OF 150 SHEETS

ADD. 486

WV-AS1106.DWG
1 = 1

\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1106.dwg, AS11.6, 6/18/2003 11:53:22 AM, KSFinc.pc3

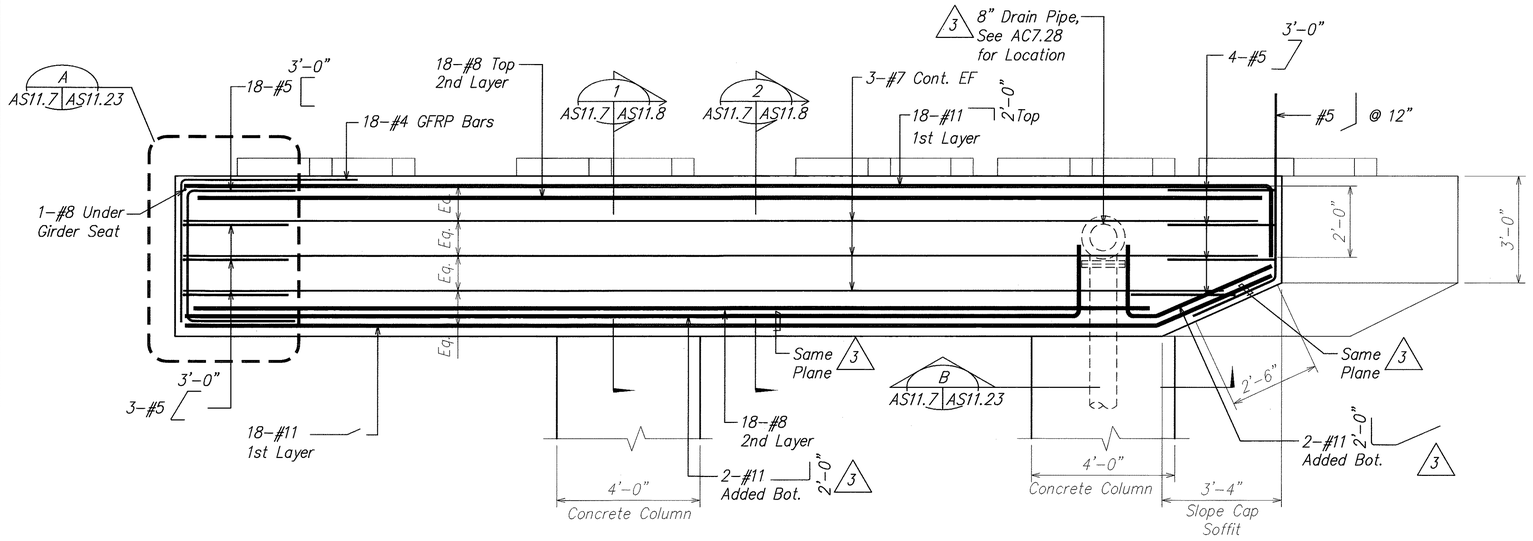
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 487 | 816 |




## BENT CAP PLAN – BENT NO. 2 TOP LONGITUDINAL REINFORCING AND STIRRUP CONFIGURATION

SCALE: 1/2" = 1'-0"

A AS11.7 AS11.7




## BENT SECTION – BENT NO. 2

SCALE: 1/2" = 1'-0"

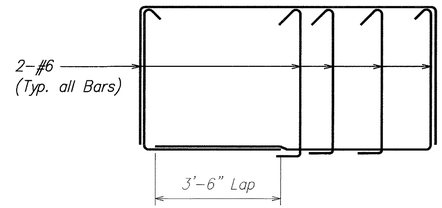
1 AS11.7 AS11.7

NOTES:

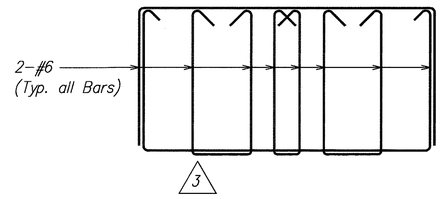
1. For "D" Stirrups See Sheet Nos. AS11.8 and AS11.9 for Number and Locations.
2. See Viaduct General Note No. 5(F).

NOTE:

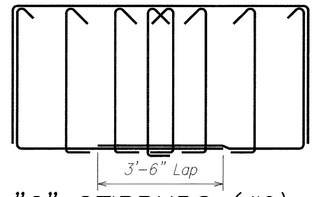
Stirrups not shown for clarity.



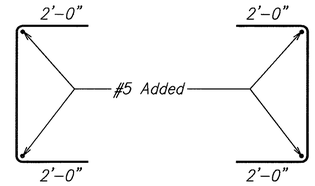

"A" STIRRUPS (2–#6 BUNDLED)




"B" STIRRUPS (2–#6 BUNDLED)




"C" STIRRUPS (#6)




"D" STIRRUPS (#6)

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104–S HAWAII, U.S.A.

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SIGNATURE EXPIRATION DATE OF THE LICENSE

| ORIGINAL PLANS | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| No. | DESIGNED BY | |
| | QUANTITIES BY | |
| | CHECKED BY | |

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Reinforcing Modification, and Added Drain Pipes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BENT NO. 2
PLAN AND SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

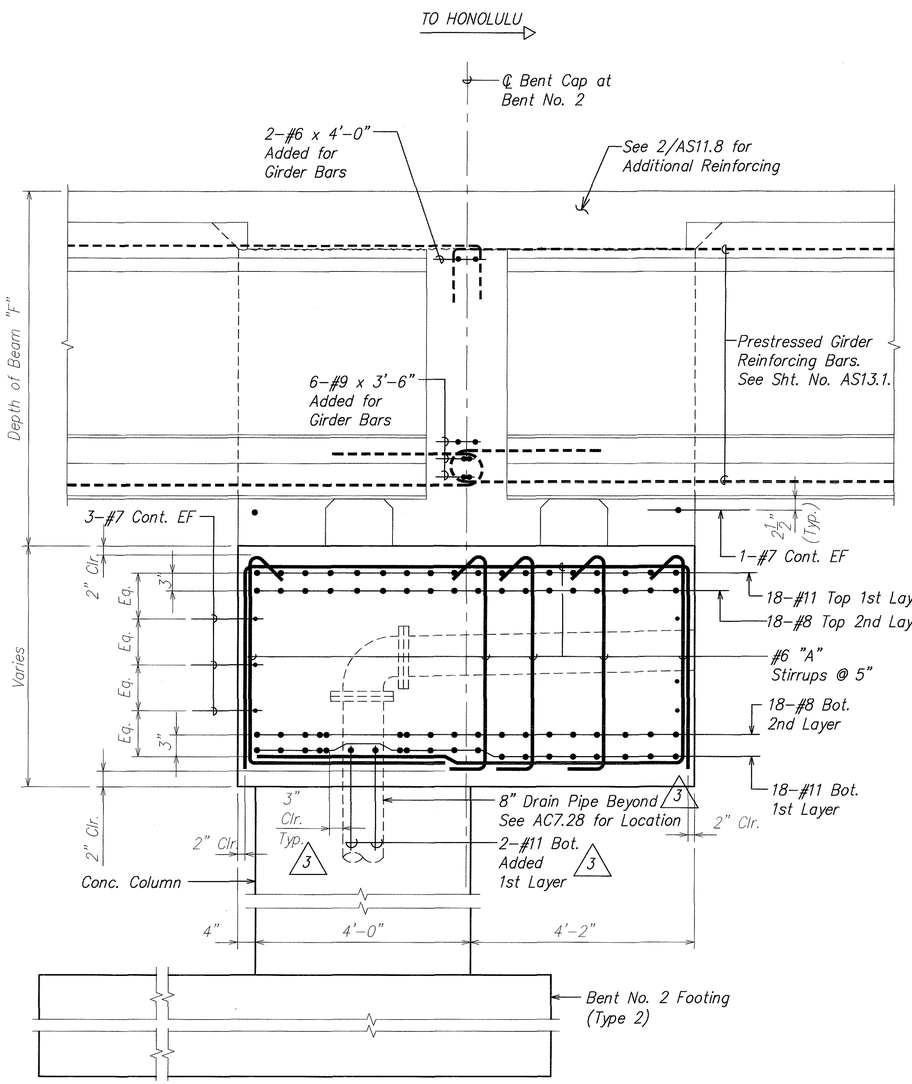
SHEET No. AS11.7 OF 150 SHEETS

ADD. 487

WV-AS1107.DWG
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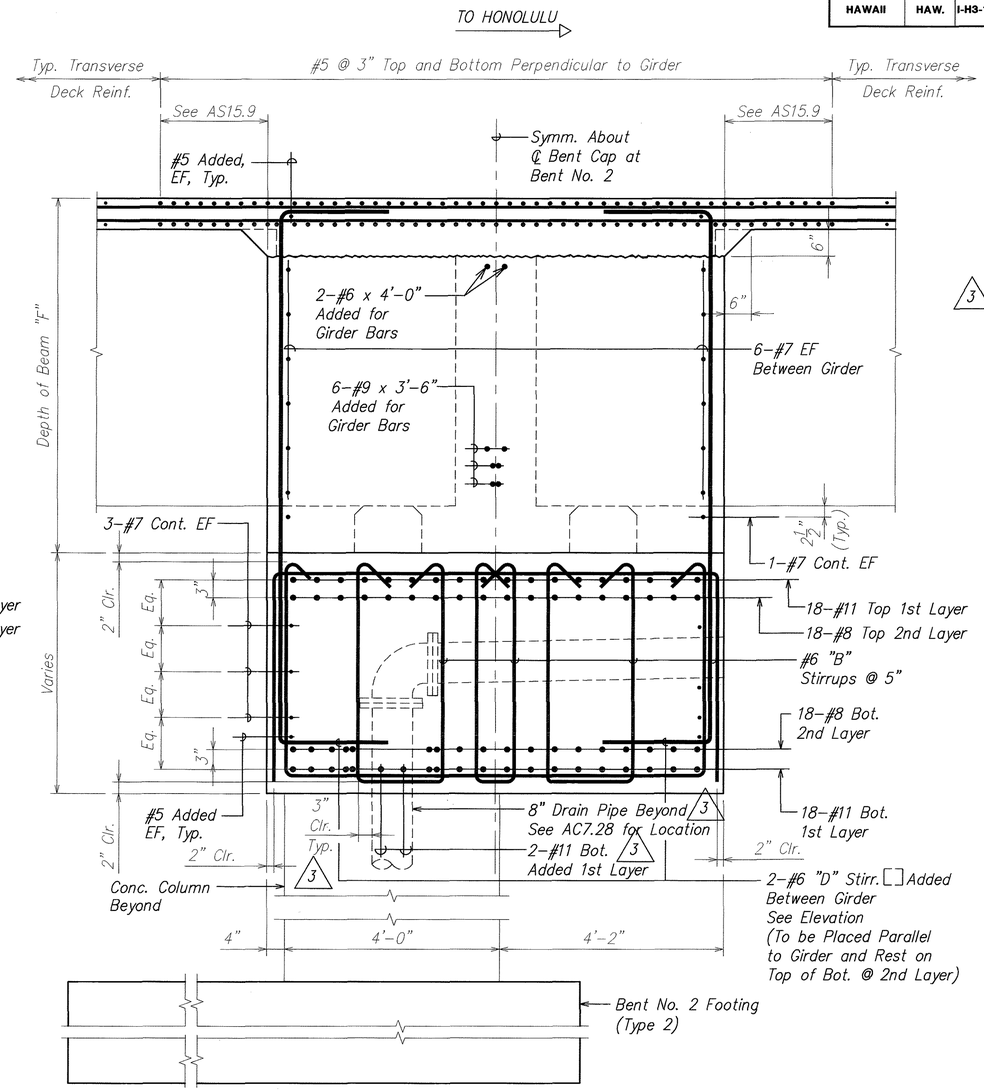
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 488 | 816 |




## SECTION AT GIRDERS 1

SCALE: 3/4" = 1'–0"

AS11.7 | AS11.8 | AS11.9




## SECTION BETWEEN GIRDERS 2

SCALE: 3/4" = 1'–0"

AS11.7 | AS11.8 | AS11.9

△3 NOTE:
See Viaduct General Note No. 5(F).

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HAWAII, U.S.A.

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David K. Fujimara 4-30-04
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ORIGINAL PLAN
NOTS BOOK No.
SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

| DATE | REVISION |
|---|---|
| 6/20/03 | △3 Reinforcing Modification, Added Notes, and Added Drain Pipe |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SECTIONS BEAM "F"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

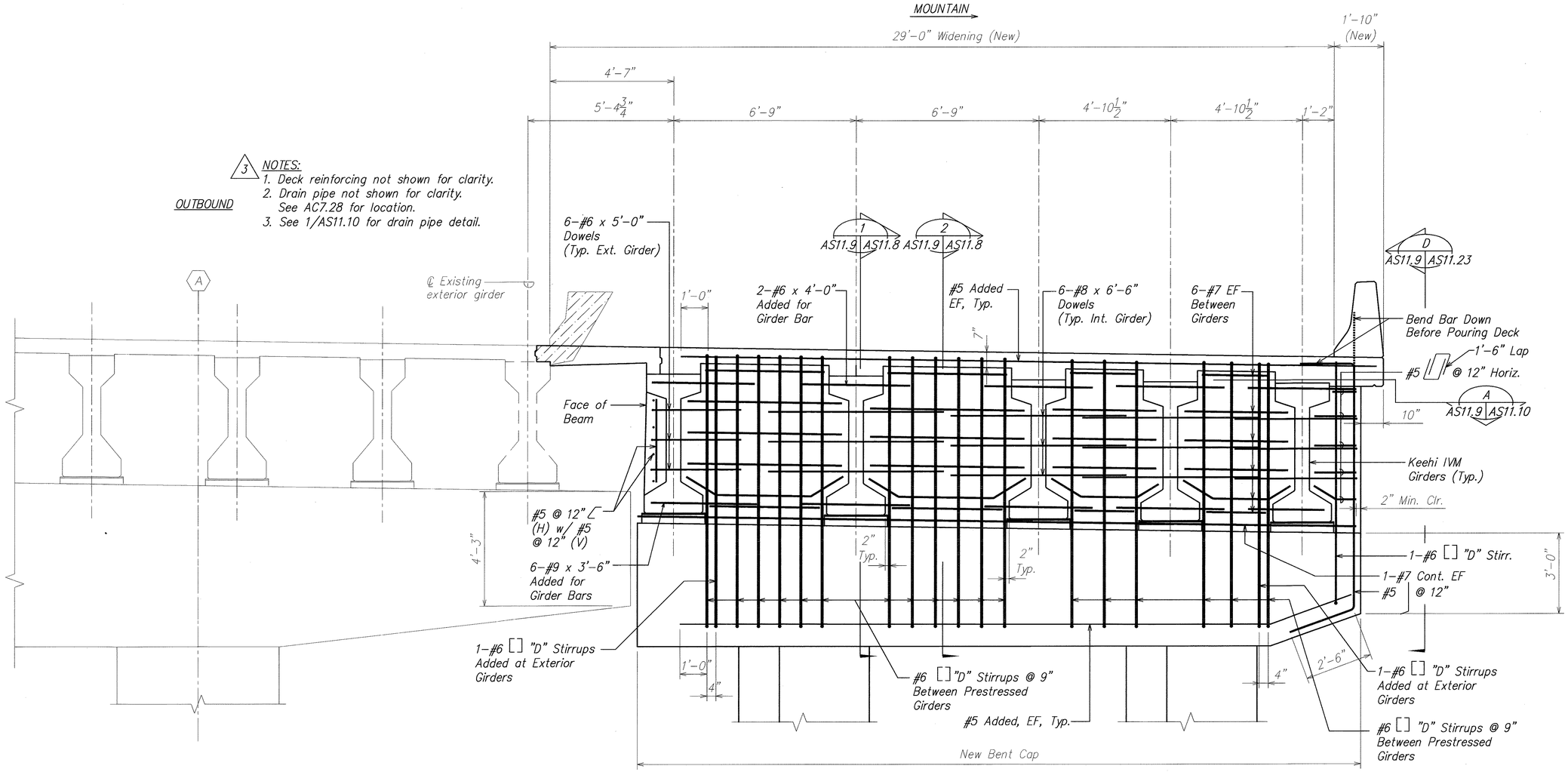
**SHEET No. AS11.8 OF 150 SHEETS**

ADD. 488

WV-AS1108.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 489 | 816 |




# ELEVATION – BENT NO. 2
# TRANSVERSE BEAM "F" (A AS11.9 AS11.9)

SCALE: 1/2" = 1'-0"

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

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Added Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRANSVERSE BEAM "F" ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

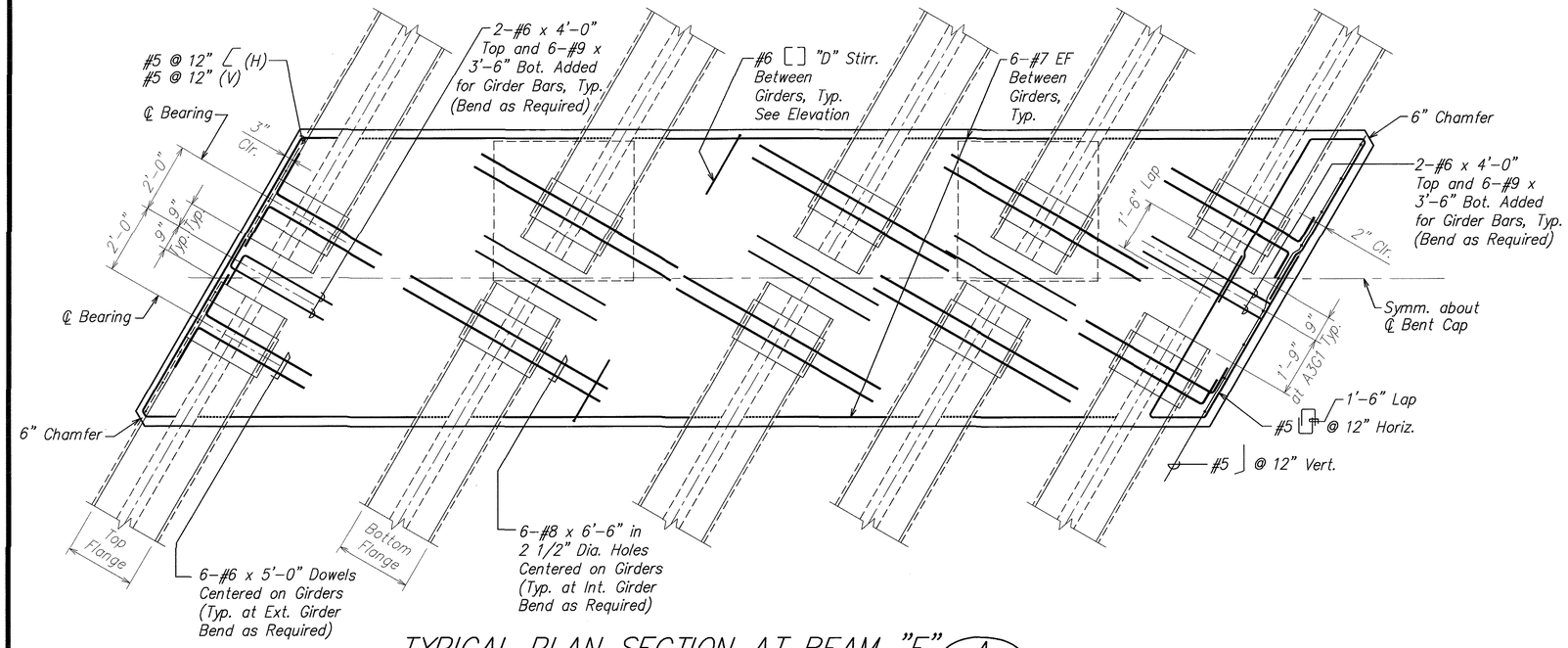
SHEET No. AS11.9 OF 150 SHEETS

ADD. 489

WV-AS1109.DWG
1 = 1

\\Cad1\vsf\2001\0066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1109.dwg, AS11.9, 6/18/2003 11:57:41 AM, KSFinc.pc3

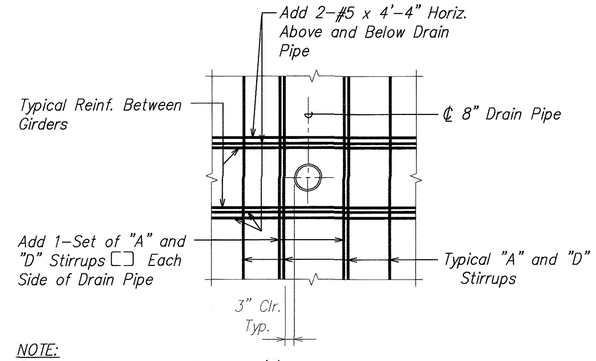
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 490 | 816 |




## TYPICAL PLAN SECTION AT BEAM "F"

SCALE: 1/2" = 1'-0"

A AS11.9 | AS11.10

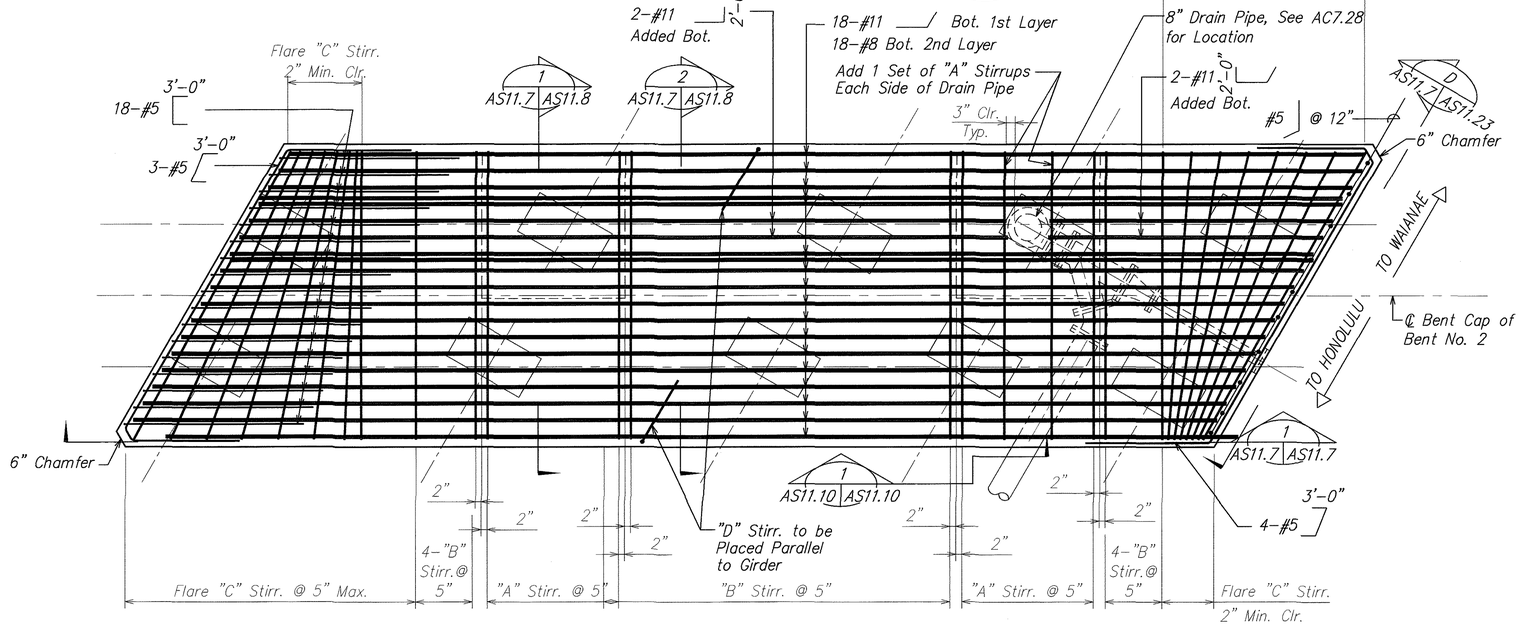



NOTE:
See viaduct general note no. 5 (F).

## 3 TYP. ADDED REINFORCING AT 8" DRAIN PIPE

SCALE: 1/2" = 1'-0"

1 AS11.10 | AS11.10




## 3 BENT CAP PLAN – BENT NO. 2 BOT. LONGITUDINAL REINFORCING AND STIRRUP CONFIGURATION

SCALE: 1/2" = 1'-0"

B AS11.10 | AS11.10

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Added Details |

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NO. 8104-S
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL PLAN SECTION BEAM "F"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

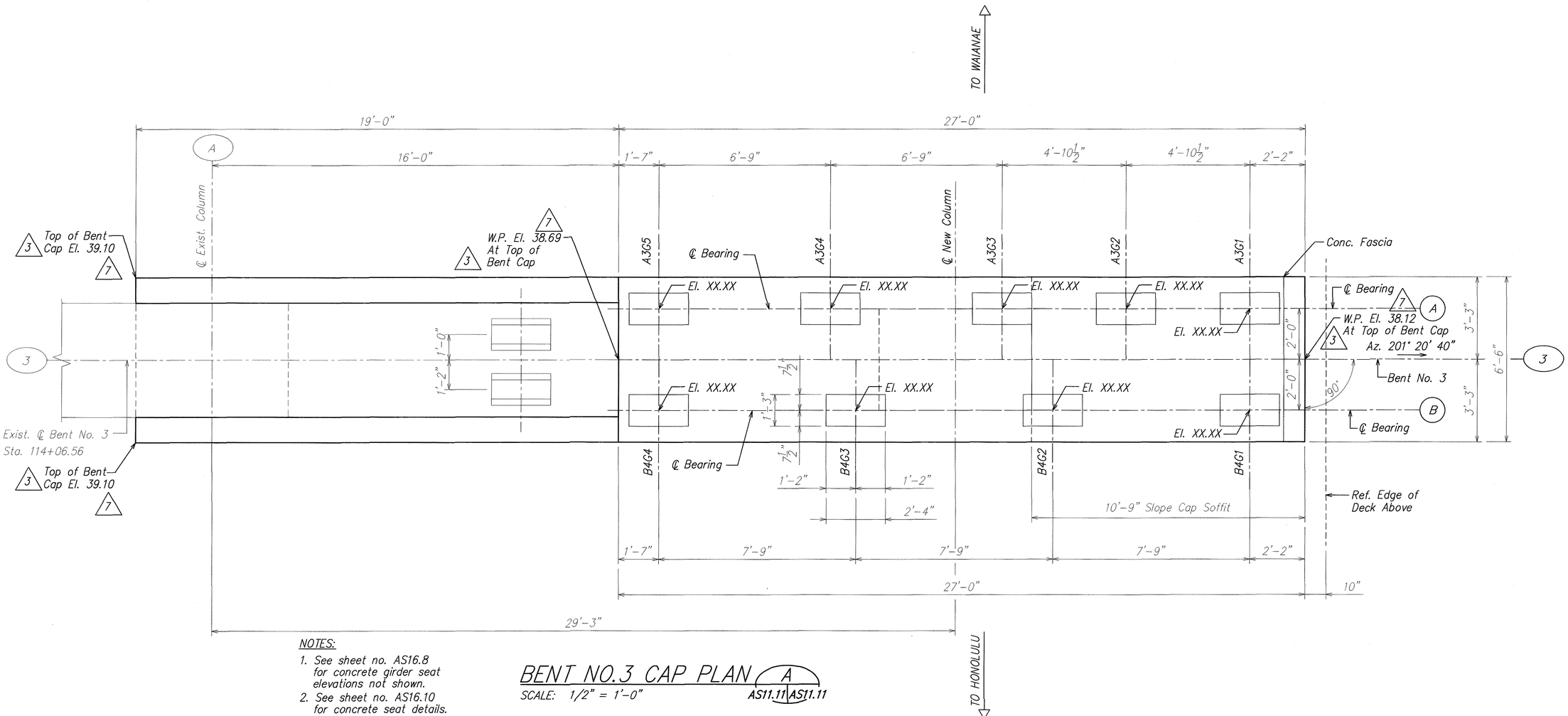
SHEET No. AS11.10 OF 150 SHEETS

ADD. 490

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1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 491 | 816 |




NOTES:

1. See sheet no. AS16.8 for concrete girder seat elevations not shown.
2. See sheet no. AS16.10 for concrete seat details.
3. All points on a line perpendicular to the ℄ of the bent cap, shall be at the same elevation.
4. Creep and hinge blocks not shown for clarity (See sht. nos. AS14.6, AS14.7, and AS16.9)

## BENT NO.3 CAP PLAN (A)

SCALE: 1/2" = 1'-0"

AS11.11 | AS11.11

| DATE | REVISION |
|---|---|
| 10/31/03 | 7 Revise Top of Bent Cap Elevation. |
| 6/20/03 | 3 Clarify Bent Notation |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NO. 3 CAP PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

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

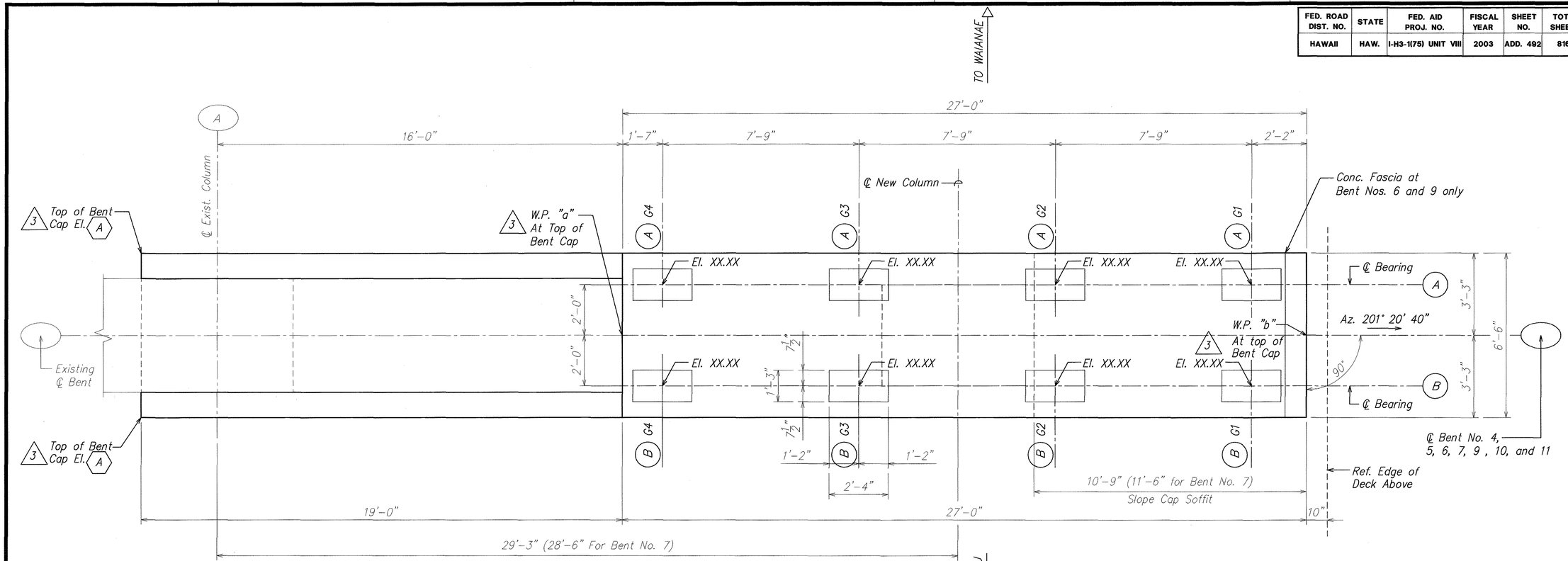
SHEET No. AS11.11 OF 150 SHEETS

ADD. 491

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 492 | 816 |




# BENT NOS. 4, 5, 6, 7, 9, 10 AND 11 CAP PLAN

SCALE: 1/2" = 1'-0"

A AS11.12 | AS11.12

| Bent Nos. | (A) | W.P. "a" Elevation* | W.P. "b" Elevation* |
|---|---|---|---|
| 4 | 41.98 | 41.69 | 41.28 |
| 5 | 45.65 | 45.36 | 44.95 |
| △7 6 | 49.55 | 49.26 | 48.85 |
| 7 | 53.81 | 53.52 | 53.11 |
| △7 9 | 61.54 | 61.31 | 60.98 |
| 10 | 65.86 | 65.58 | 65.18 |
| △7 11 | 69.87 | 69.59 | 69.19 |

NOTES:

1. See sheet no. AS16.8 for concrete girder seat elevations not shown.
2. See sheet no. AS16.10 for concrete seat details.
3. All points on a line perpendicular to the ℄ of the bent cap, shall be at the same elevation.
4. For bent nos. 6 and 9 creep and hinge blocks not shown for clarity (See sht. nos. AS14.6, AS14.7, and AS16.9)

| DATE | REVISION |
|---|---|
| 10/31/03 | △7 Revise Top of Bent Cap Elevation. |
| 6/20/03 | △3 Clarify Bent Notation |

ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BENT NOS. 4, 5, 6, 7, 9, 10 AND 11 CAP PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

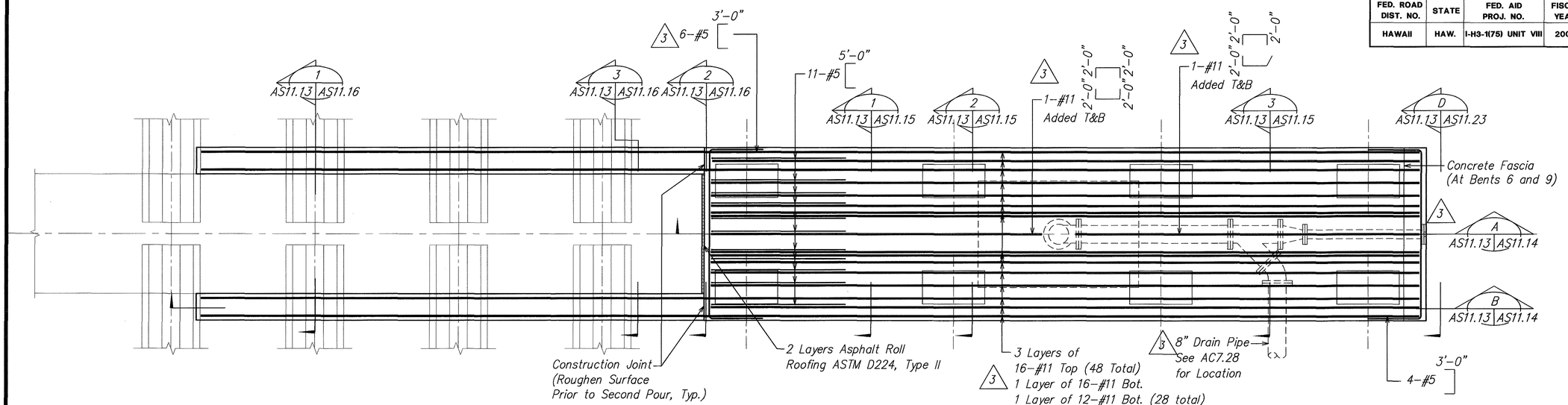
SHEET No. AS11.12 OF 150 SHEETS

ADD. 492

W:\-AS1112.DWG
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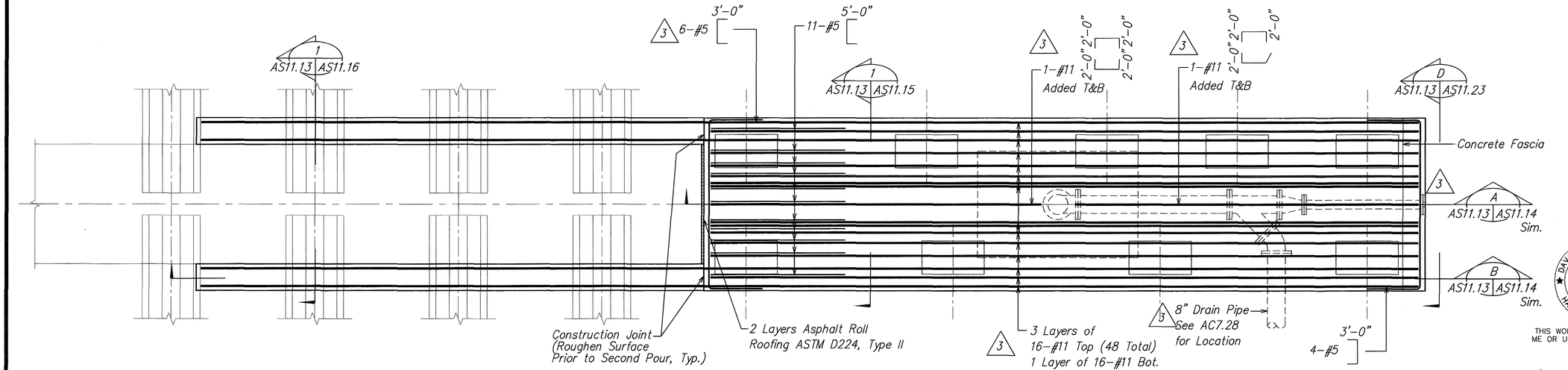
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 493 | 816 |




## BENT CAP PLAN – BENT NOS. 4, 5, 10, AND 11 (SIMILAR AT BENT NOS. 6, 7, 9 UNLESS OTHERWISE NOTED) B AS11.13 AS11.13

SCALE: 1/2" = 1'-0"

NOTE:
See Viaduct General Note No. 5(F).




## BENT CAP PLAN – BENT NO. 3 A AS11.13 AS11.13

SCALE: 1/2" = 1'-0"

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Reinforcing Modification and Added Drain Pipe |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NOS. 3, 4, 5, 6, 7, 9, 10 AND 11 PLANS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS11.13 OF 150 SHEETS

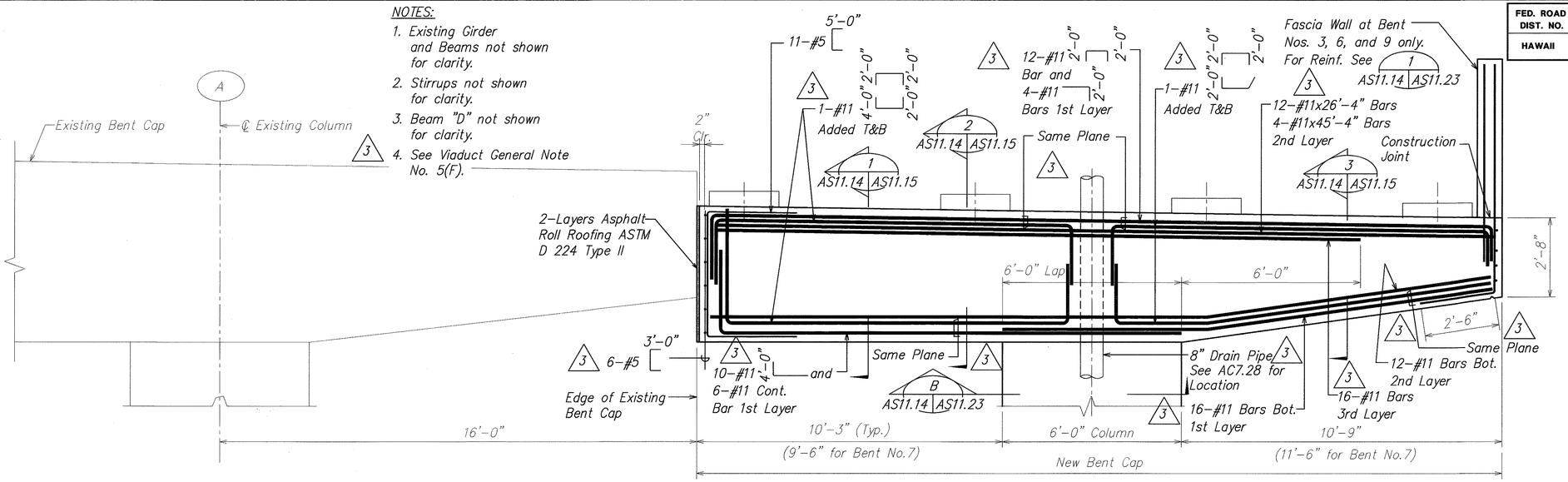
ADD. 493

WV-AS1113.DWG
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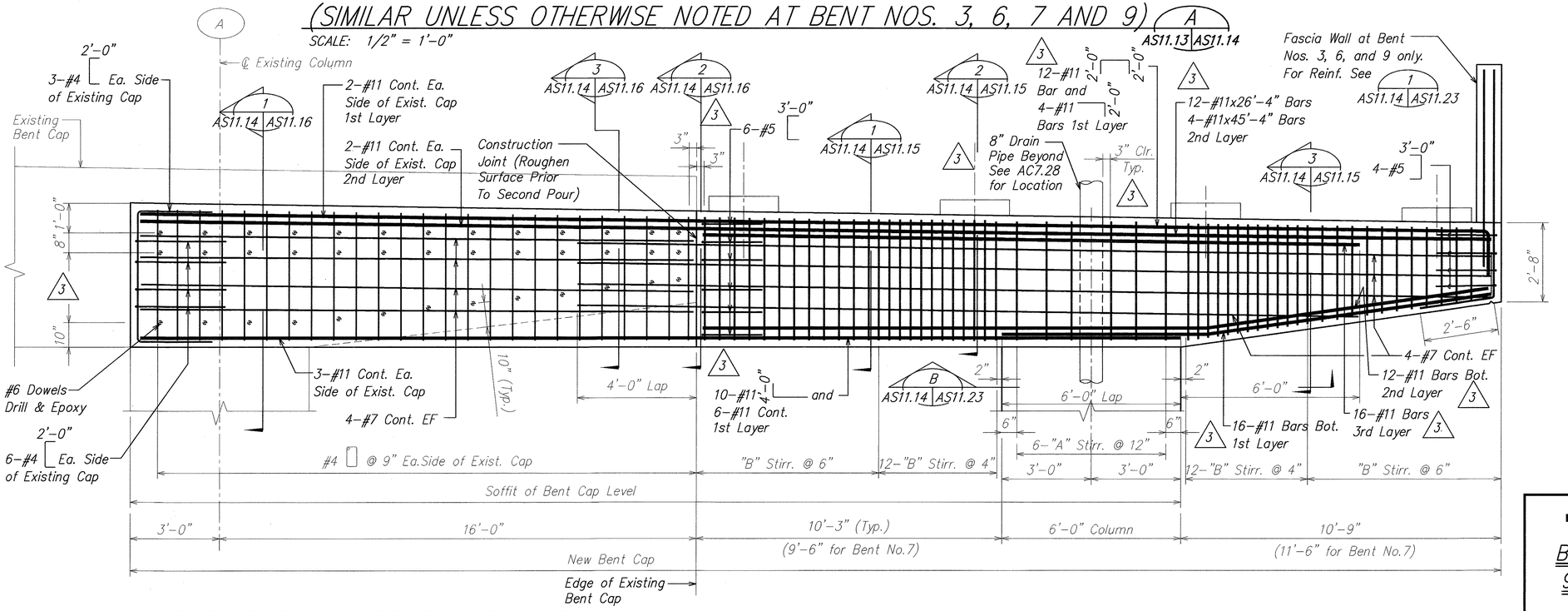
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 494 | 816 |

NOTES:
1. Existing Girder and Beams not shown for clarity.
2. Stirrups not shown for clarity.
3. Beam "D" not shown for clarity.
4. See Viaduct General Note No. 5(F).




## BENT SECTION – BENT NOS. 4, 5, 10 AND 11 (SIMILAR UNLESS OTHERWISE NOTED AT BENT NOS. 3, 6, 7 AND 9)

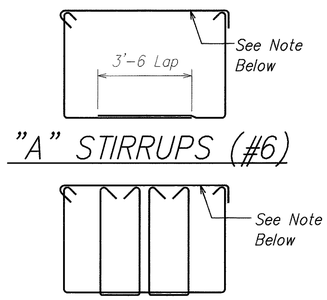
SCALE: 1/2" = 1'-0"




## BENT SECTION – BENT NOS. 4, 5, 10 AND 11 (SIMILAR, UNLESS OTHERWISE NOTED, AT BENT NOS. 3, 6, 7 AND 9)

SCALE: 1/2" = 1'-0"

B AS11.13 | AS11.14



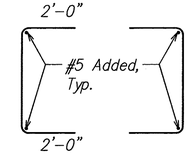

## "A" STIRRUPS (#6)



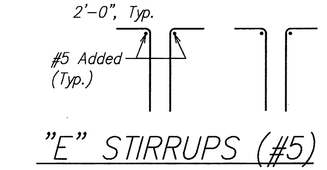

## "B" STIRRUPS (#6)

NOTE:

Cap bars shall have a 135° hook on one end and a 90° on the opposite end. Cap bars shall be placed so 90° and 135° hooks of adjacent ties are alternated.




## "D" STIRRUPS (#6)




## "E" STIRRUPS (#5)

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NOS. 3, 4, 5, 6, 7, 9, 10, AND 11 SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS11.14 OF 150 SHEETS

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Reinforcing Modification and Added Notes, and Added Drain Pipe |

ADD. 494

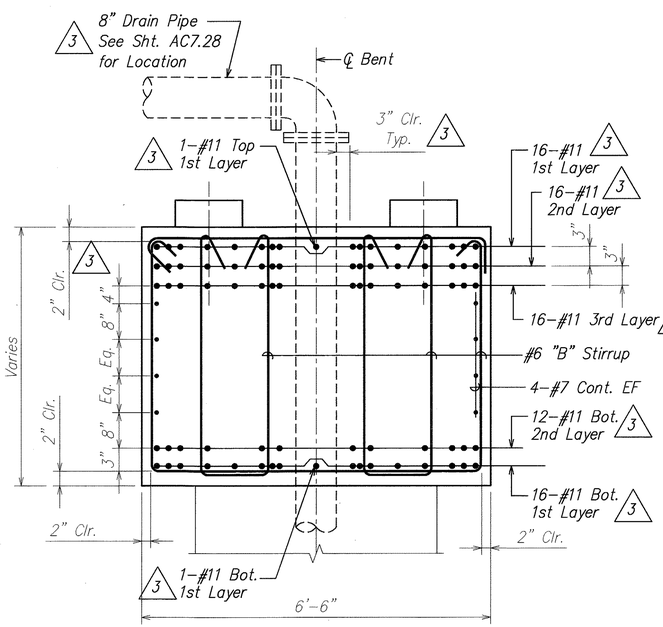
\\Cad1\Vol\2001\0066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1114.dwg, AS11.14, 6/18/2003 11:59:24 AM, KSFinc.pc3

WV-AS1114.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 495 | 816 |

NOTE:

Refer to Sht. Nos. AS14.6 to AS14.10 for Beam "C" and Beam "C1" at Bent Nos. 3, 6 and 9.

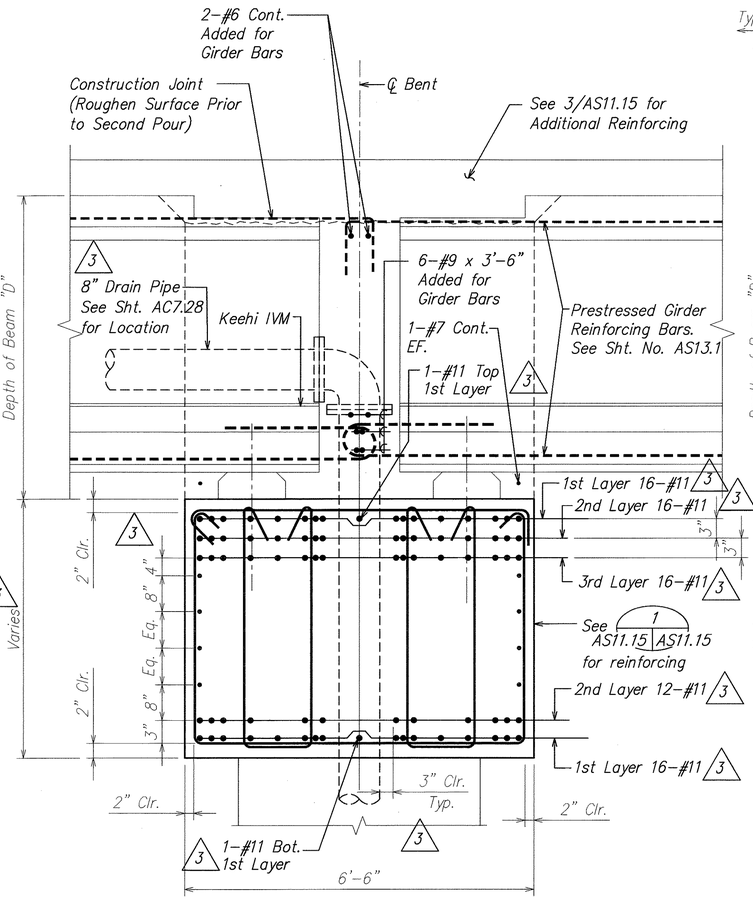



## SECTION AT GIRDERS AT BENT NOS. 3, 6, AND 9

SCALE: 3/4" = 1'–0"

AS11.13 | AS11.15 (1)

AS11.14, AS11.17

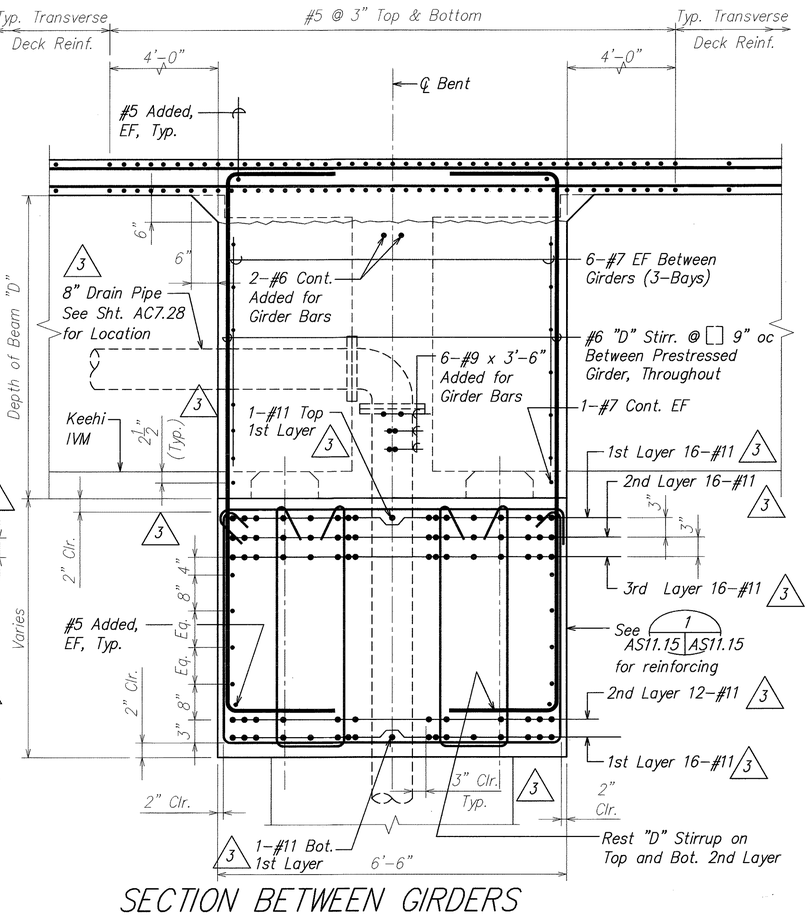



## SECTION AT GIRDERS AT BENT NOS. 4, 5, 7, 10, AND 11

SCALE: 3/4" = 1'–0"

AS11.13 | AS11.15 (2)

AS11.14, AS11.17




## SECTION BETWEEN GIRDERS AT BENT NOS. 4, 5, 7, 10, AND 11

SCALE: 3/4" = 1'–0"

AS11.13 | AS11.15 (3)

AS11.14, AS11.17

NOTE:

See Viaduct General Note No. 5(F).

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104–S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara — SIGNATURE

4-30-04 — EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Reinforcing Modification and Added Notes, and Added Drain Pipe |

ORIGINAL PLAN / NOTE BOOK No. ____

SURVEY PLOTTED BY ____ DRAWN BY ____ TRACED BY ____ DESIGNED BY ____ QUANTITIES BY ____ CHECKED BY ____ DATE ____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NOS. 3, 4, 5, 6, 7, 9, 10, AND 11 SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

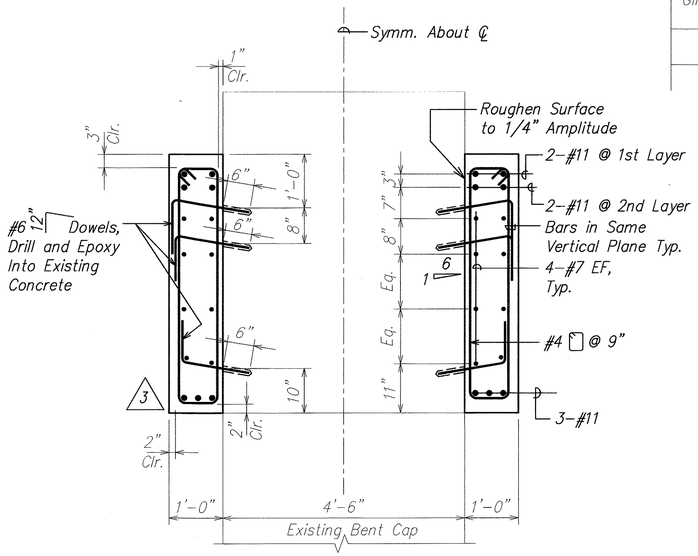
SHEET No. AS11.15 OF 150 SHEETS

ADD. 495

WV-AS1115.DWG 1 = 1

...\06-20-03 AS ADD3\WV-AS1115.dwg, AS11.15, 6/19/2003 2:52:32 PM,

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 496 | 816 |

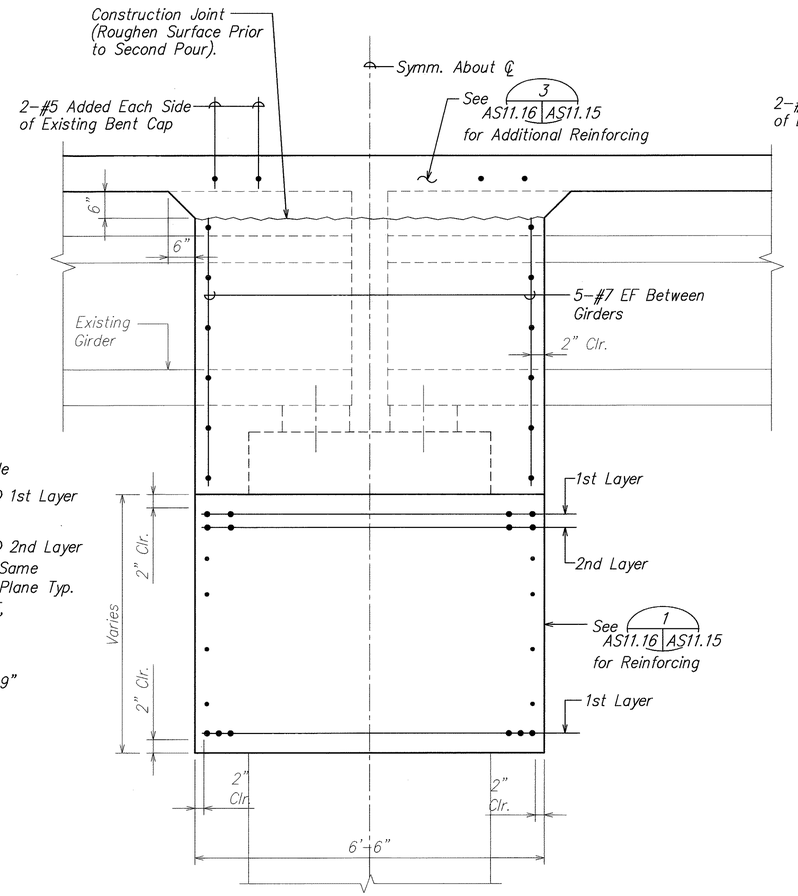



## SECTION AT GIRDERS AT BENT NOS. 3, 4, 5, 6, 7, 9, 10, AND 11 SECTION 1

SCALE: 3/4" = 1'-0"

AS11.13 | AS11.16

AS11.14, AS11.16, AS11.7

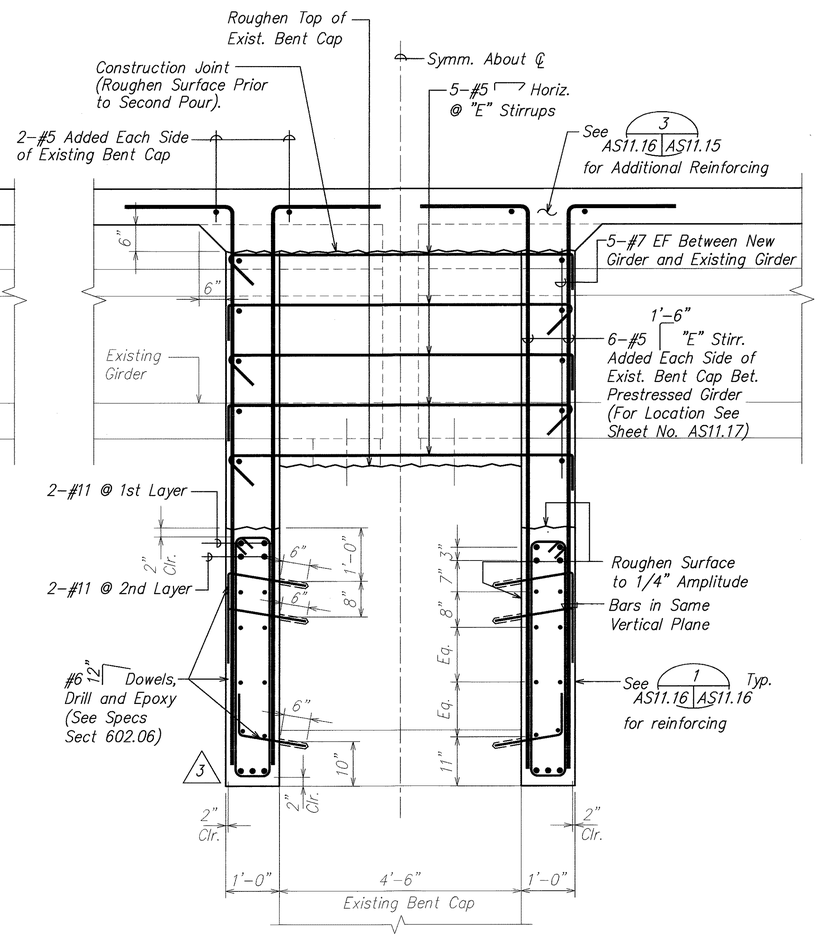



## SECTION AT GIRDERS AT BENT NOS. 4, 5, 7, 10, AND 11 2

SCALE: 3/4" = 1'-0"

AS11.13 | AS11.16

AS11.14, AS11.17




## SECTION BETWEEN GIRDERS AT BENT NOS. 4, 5, 7, 10, AND 11 3

SCALE: 3/4" = 1'-0"

AS11.13 | AS11.16

AS11.14, AS11.17

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

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Reinforcing Modification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NOS. 3, 4, 5, 6, 7, 9, 10, AND 11 SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

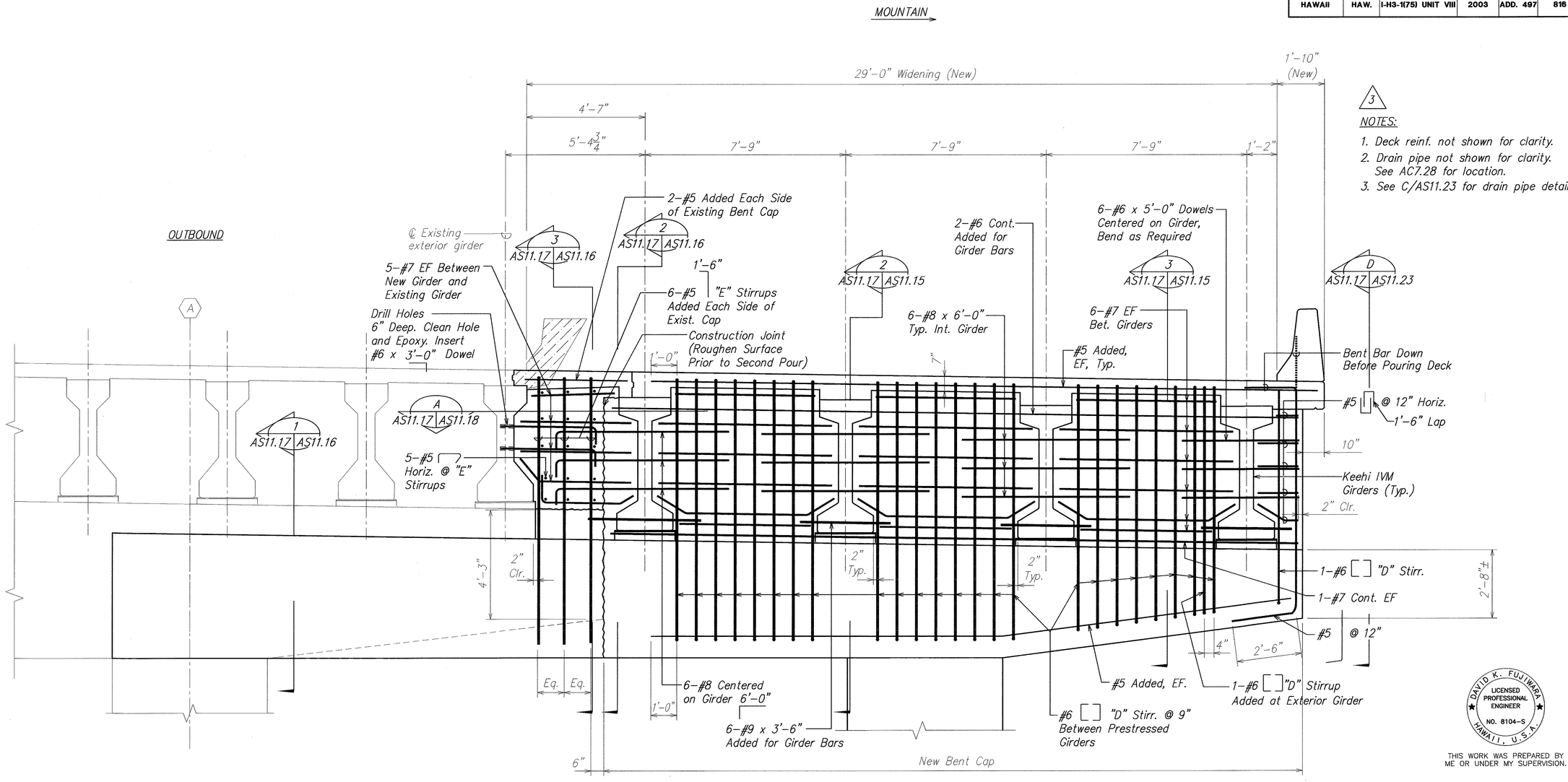
SHEET No. AS11.16 OF 150 SHEETS

ADD. 496

WV-AS1116.DWG
1 = 1

\\Cad1\vol1\2001\0066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1116.dwg, AS11.16, 6/18/2003 12:00:04 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 497 | 816 |




△3 NOTES:

1. Deck reinf. not shown for clarity.
2. Drain pipe not shown for clarity. See AC7.28 for location.
3. See C/AS11.23 for drain pipe detail.

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

## ELEVATION – TYPICAL TRANSVERSE BEAM "D" AT BENT NOS. 4, 5, 7, 10, AND 11 (A AS11.17 | AS11.17)

SCALE: 1/2" = 1'-0"

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

| DATE | REVISION |
|---|---|
| 6/20/03 | △3 Added Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRANSVERSE BEAM "D" ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

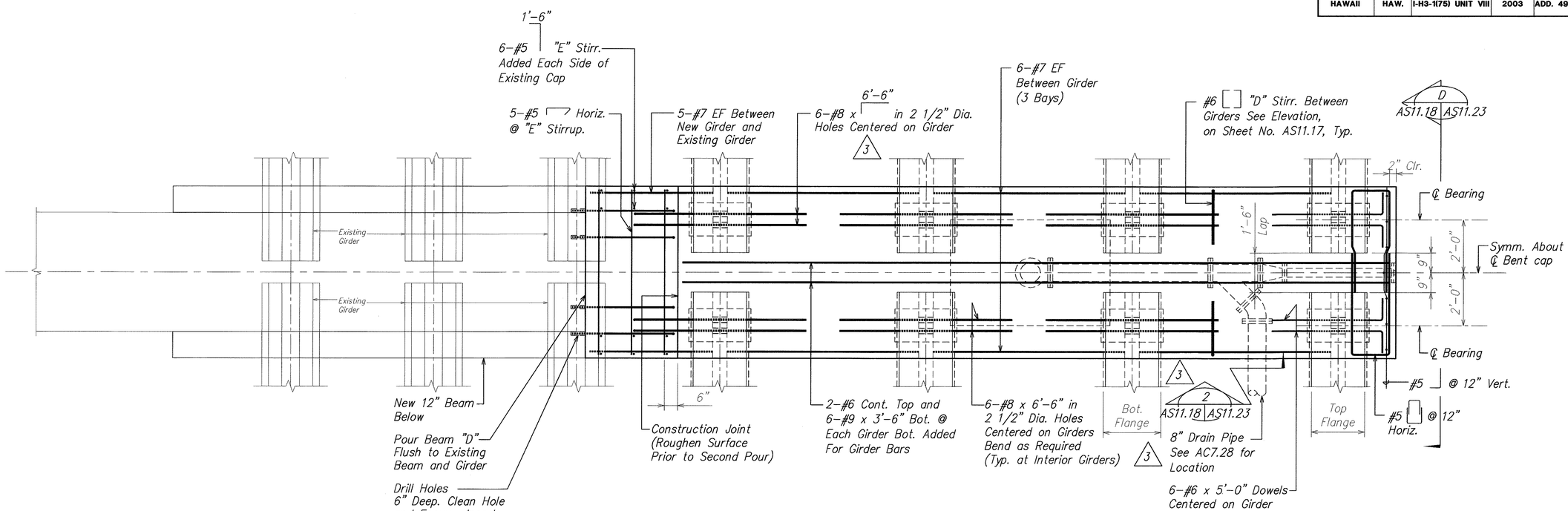
SHEET No. AS11.17 OF 150 SHEETS

ADD. 497

WV-AS1117.DWG
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 498 | 816 |




## TYPICAL BEAM "D" PLAN SECTION (A AS11.17 | AS11.18)

SCALE: 1/2" = 1'-0"

△3 NOTE:
See Viaduct General Note No. 5(F).

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

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SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | △3 Added Bent Notation, Added Notes, and Added Drain Pipe |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TYPICAL PLAN SECTION BEAM "D"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

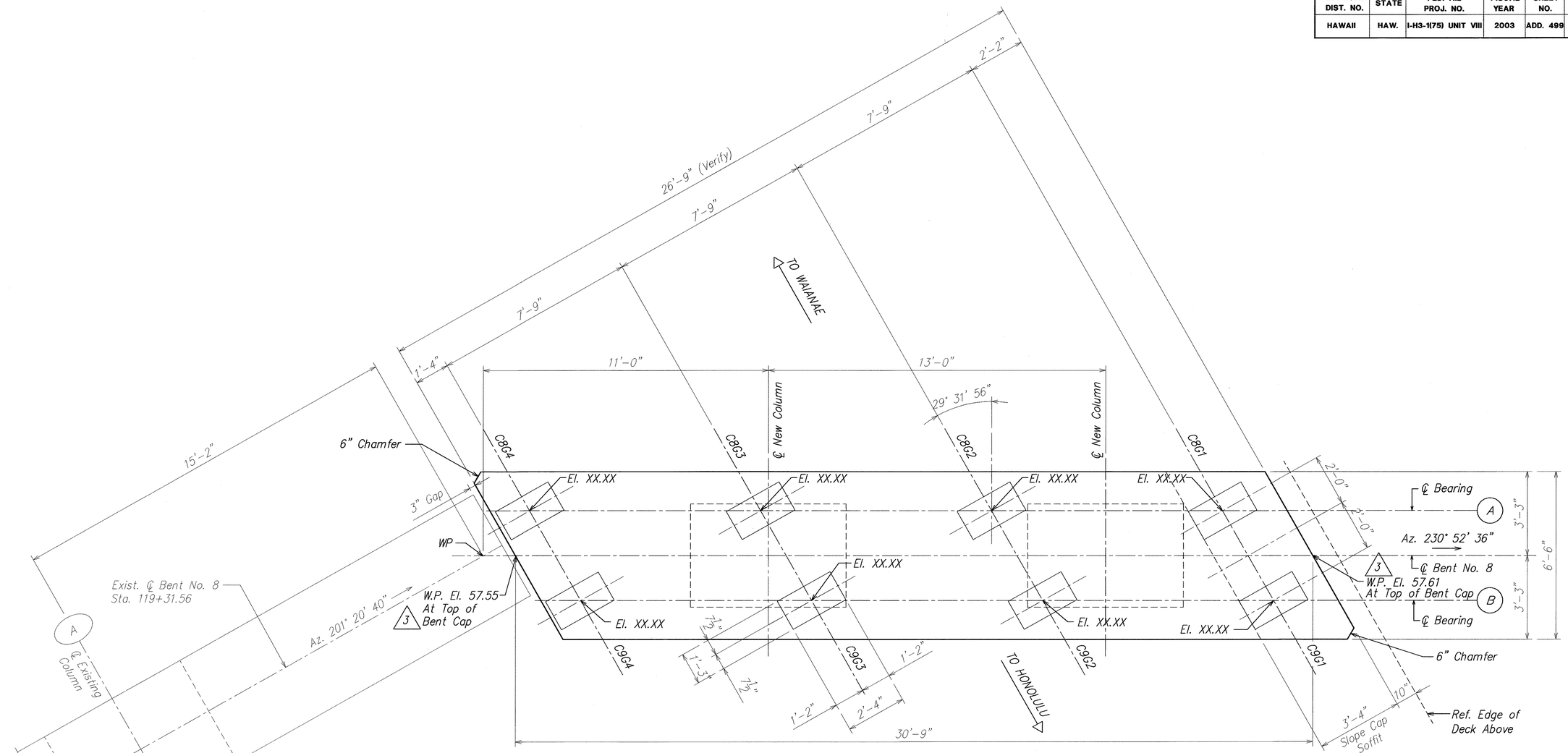
SHEET No. AS11.18 OF 150 SHEETS

ADD. 498

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 499 | 816 |




NOTES:

1. See sheet no. AS16.8 for concrete girder seat elevations not shown.
2. See sheet no. AS16.10 for concrete seat details.
3. All points on a line perpendicular to the ℄ of the bent cap, shall be at the same elevation.

## BENT NO. 8 CAP PLAN (A)

SCALE: 1/2" = 1'-0"

AS11.19 | AS11.19

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

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LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Bent Notation |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NO. 8 CAP PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

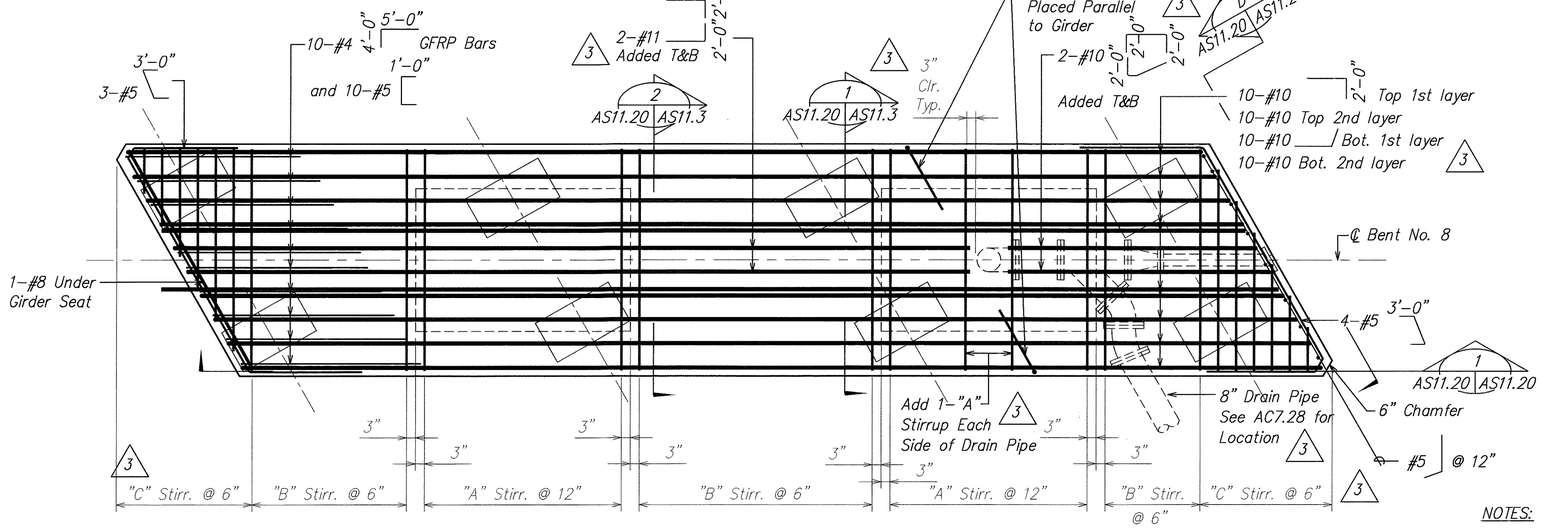
SHEET No. AS11.19 OF 150 SHEETS

ADD. 499

WV-AS1119.DWG
1 = 1

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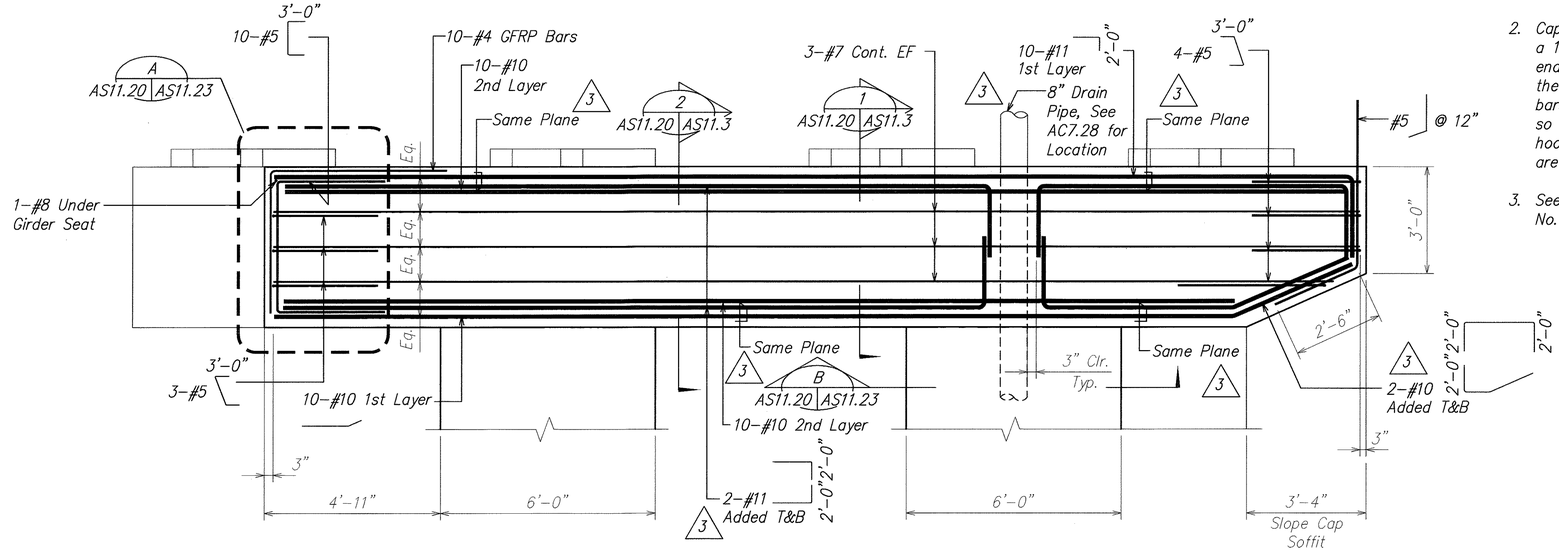
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 500 | 816 |




## 3 BENT CAP PLAN – BENT NO. 8 LONGITUDINAL REINFORCING AND STIRRUP CONFIGURATION

SCALE: 1/2" = 1'-0"

A AS11.20 AS11.20




NOTE:

Stirrups not shown for Clarity.

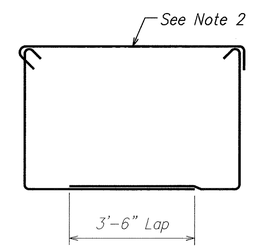
## BENT SECTION – BENT NO. 8

SCALE: 1/2" = 1'-0"

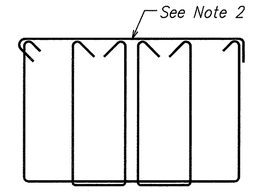
1 AS11.20 AS11.20

NOTES:

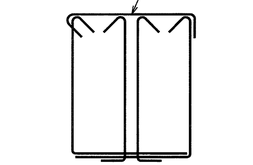
1. For "D" Stirrups See Sheet Nos. AS11.3 and AS11.21 for Number and Location. See Sheet No. AS11.22 for Plan Layout.
2. Cap bars shall have a 135° hook on one end and a 90° hook on the opposite end. Cap bars shall be placed so that 90° and 135° hooks of adjacent ties are alternated.
3. See Viaduct General Note No. 5(F).



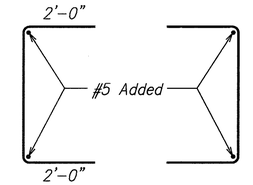

"A" STIRRUPS (#6)




"B" STIRRUPS (#6)




"C" STIRRUPS (#6)




"D" STIRRUPS (#6)

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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David K. Fujiwara 4-30-04

SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Reinforcing Modification and Added Drain Pipe |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BENT NO. 8
PLAN AND SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS11.20 OF 150 SHEETS

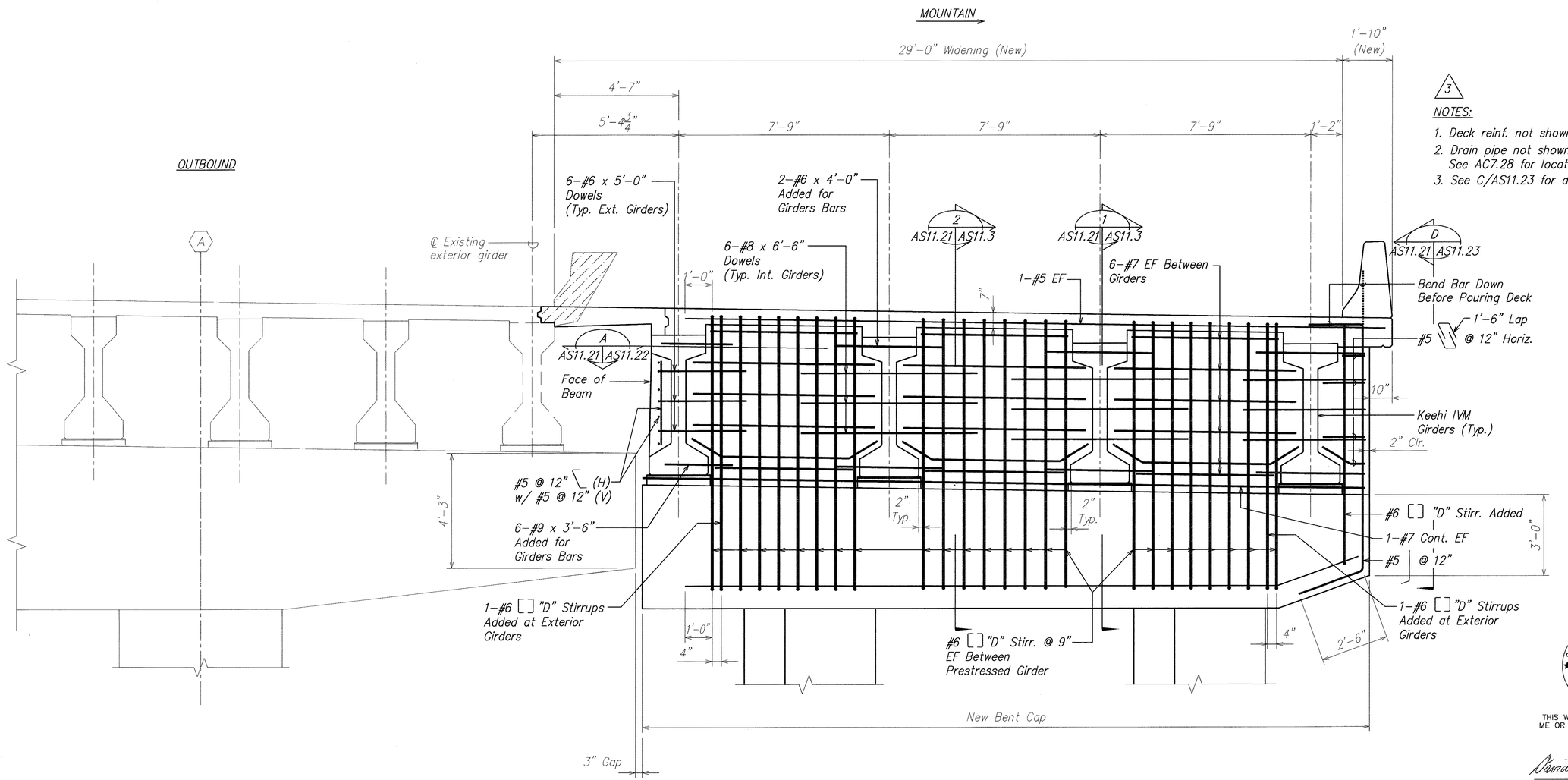
ADD. 500

| ORIGINAL PLANS BY | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
| No. | QUANTITIES BY | |
| | CHECKED BY | |

WV-AS1120.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 501 | 816 |




3

NOTES:

1. Deck reinf. not shown for clarity.
2. Drain pipe not shown for clarity. See AC7.28 for location.
3. See C/AS11.23 for drain pipe detail.

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David K. Fujiwara — 4-30-04
SIGNATURE — EXPIRATION DATE OF THE LICENSE

# ELEVATION – BENT NO. 8 TRANSVERSE BEAM "E"

SCALE: 1/2" = 1'-0"

A AS11.21 AS11.21

| ORIGINAL PLANS BY | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
| No. | QUANTITIES BY | |
| | CHECKED BY | |

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Added Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BENT NO. 8 TRANSVERSE BEAM " E" ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

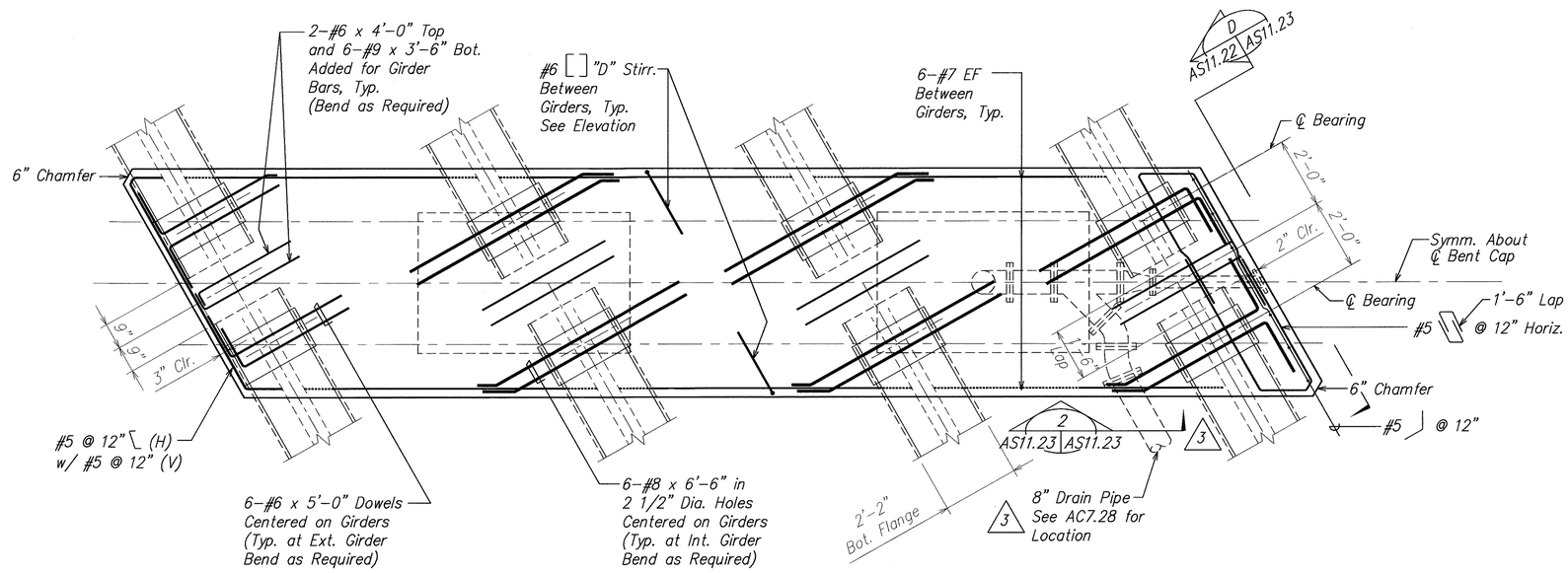
SHEET No. AS11.21 OF 150 SHEETS

ADD. 501

WV-AS1121.DWG
1 = 1

\\Cost1\ksf\2001\10066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1121.dwg, AS11.21, 6/18/2003 12:01:41 PM, KSFinc pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 502 | 816 |




## TYPICAL PLAN SECTION A

SCALE: 1/2" = 1'-0" AS11.21 | AS11.22

3 NOTE:

See Viaduct General Note No. 5(F).

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

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David K. Fujiwara 4-30-04

SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Added Bent Notation, Added Notes, and Added Drain Pipe |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NO. 8 TYPICAL PLAN SECTION BEAM "E"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

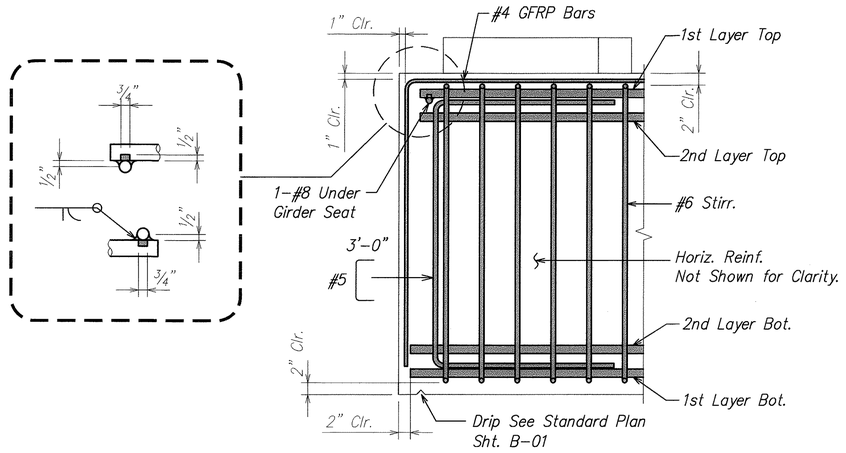
SHEET No. AS11.22 OF 150 SHEETS

ADD. 502

WV-AS1122.DWG
1 of 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 503 | 816 |

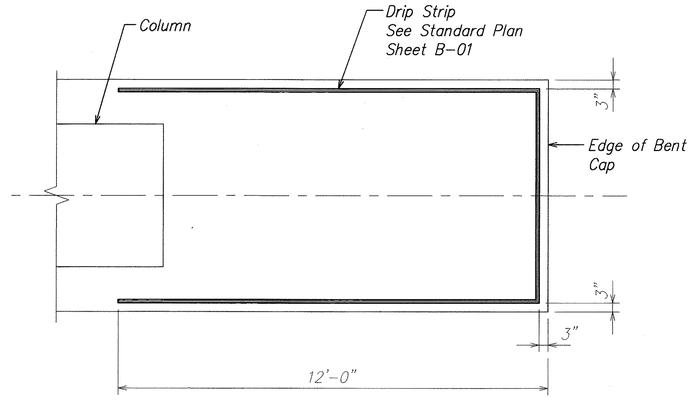



## SECTION DETAIL A

SCALE: 1" = 1'-0"

AS11.2 | AS11.23

AS11.7, AS11.20

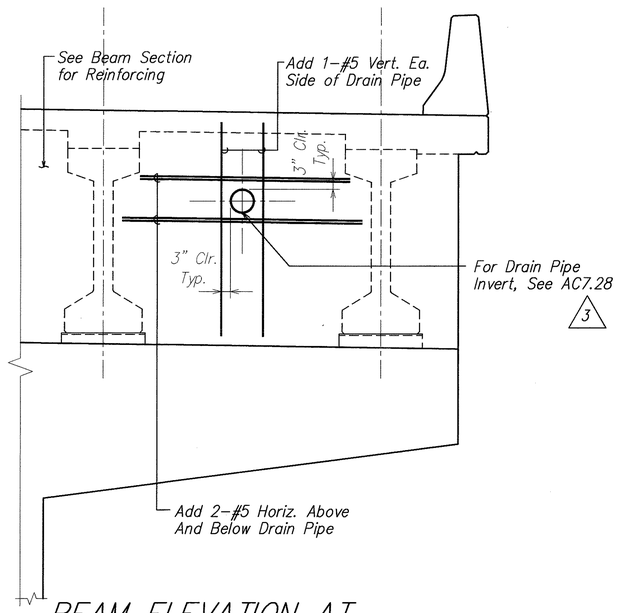



## DRIP STRIP DETAIL – TYPICAL (LOOKING AT SOFFIT) B

SCALE: 1/2" = 1'-0"

AS11.2 | AS11.23

AS11.7 , AS11.14, AS11.20



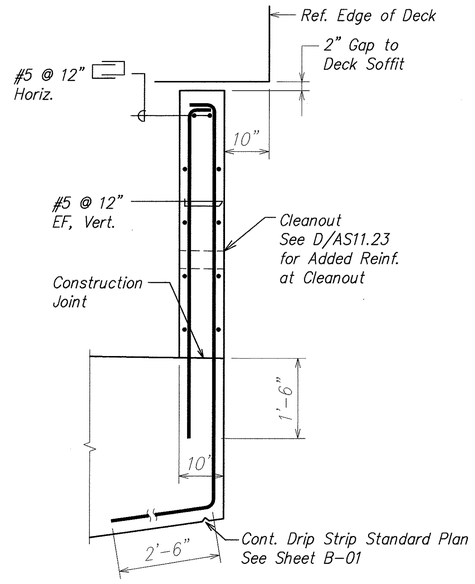

## BEAM ELEVATION AT DRAIN PIPE PENETRATION C

SCALE: 1/2" = 1'-0"

AS11.5 | AS11.23

3 AS11.18, AS11.22

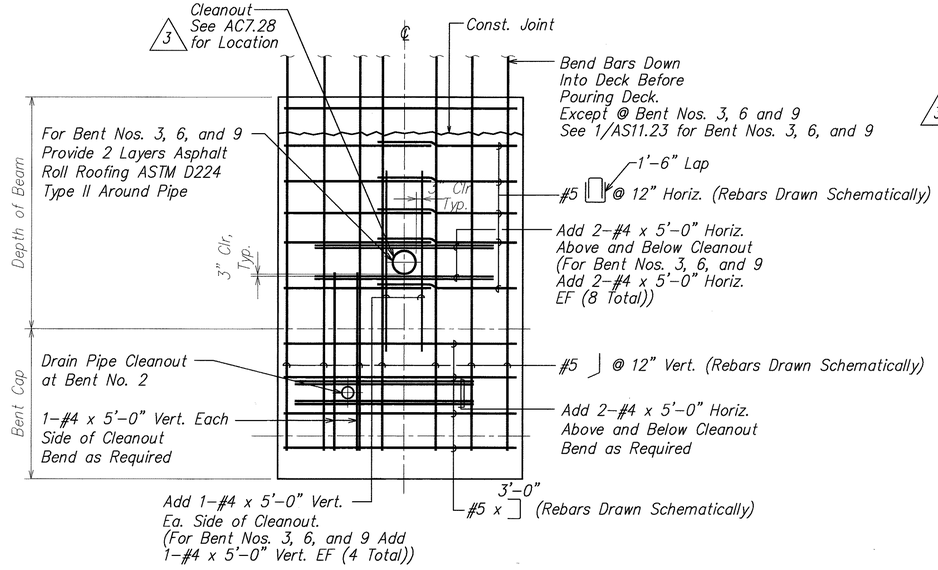
3 NOTE:
See viaduct general note no. 5(F).




## CONCRETE FASCIA SECTION AT BENT NOS. 3, 6, AND 9 1

SCALE: 3/4" = 1'-0"

AS11.14 | AS11.23




## 3 BEAM END ELEVATION D

SCALE: 1/2" = 1'-0"

AS11.2 | AS11.23

AS11.4 , AS11.5, AS11.7, AS11.9, AS11.13, AS11.17 , AS11.18, AS11.20, AS11.21, AS11.22

| ORIGINAL DRAWN BY | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| | TRACED BY | |
| NOTE BOOK | DESIGNED BY | |
| | QUANTITIES BY | |
| No. | CHECKED BY | |

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David K. Fujimara 4-30-04

SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Rebar Detailing and Added Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT CAP SECTION AND DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

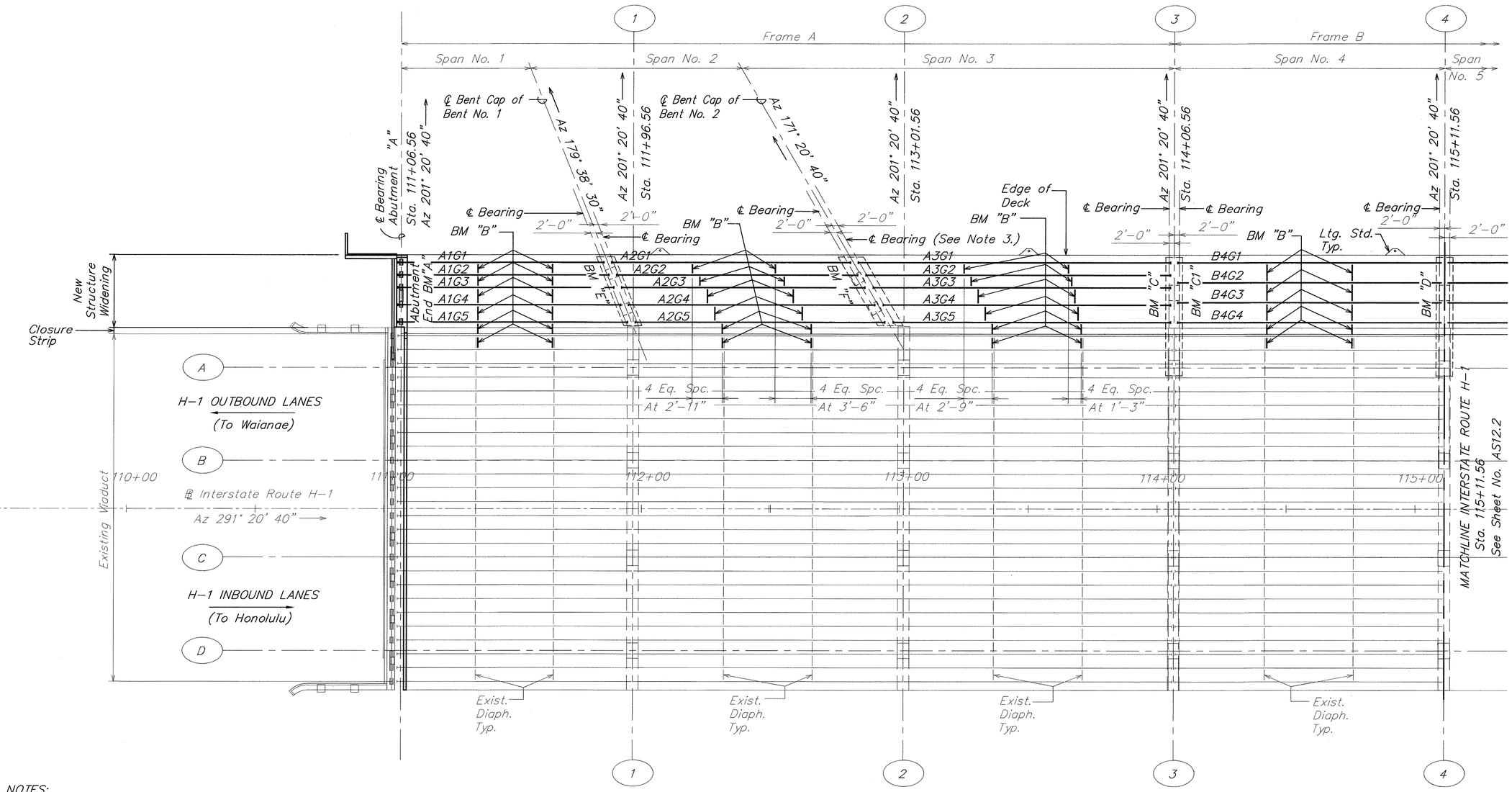
SHEET No. AS11.23 OF 150 SHEETS

ADD. 503

WV-AS1123.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 504 | 816 |




NOTES:

1. Refer to Sheet No. AS14.4 for Layout of Beam "B" in Relation to the Existing Diaphragms for Location of 2 1/2" Dia. Holes and Insert in the Prestressed Girders.
2. The Contractor shall Survey the Location of Existing Diaphragm Prior to Locating the New Beam "B".
3. Centerling bearing for girder A3G1 at Bent No. 2 is 3'-0" from centerline Bent Cap.

N

## PARTIAL DECK FRAMING PLAN – ABUTMENT "A" TO BENT NO. 4

A
AS12.1 | AS12.1

SCALE: 1" = 20'-0"

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

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NO. 8104-S
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DECK FRAMING PLAN ABUTMENT "A" TO BENT NO. 4

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

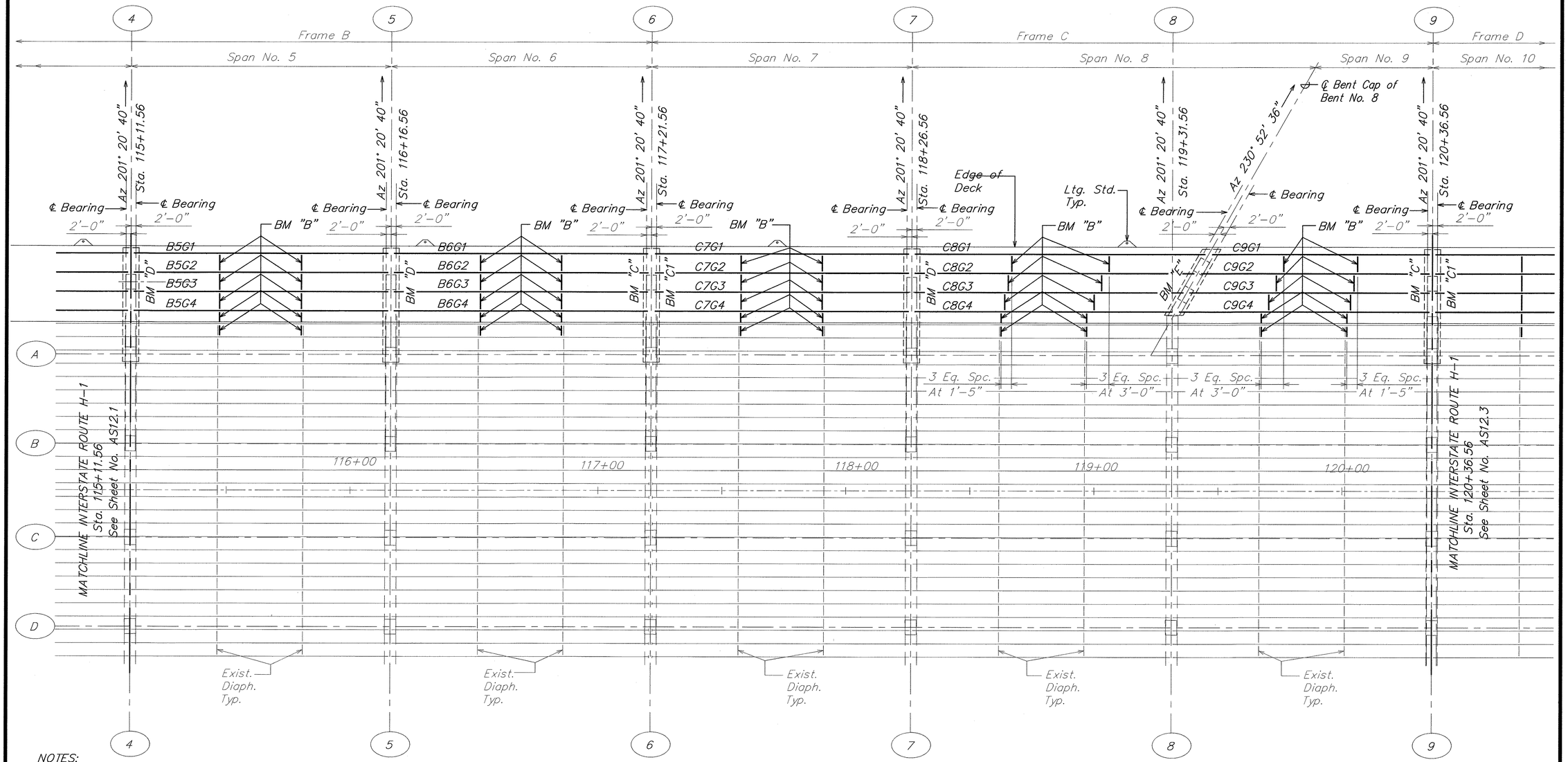
SHEET No. AS12.1 OF 150 SHEETS

WV-AS1201.DWG
1 = 1



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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 505 | 816 |




NOTES:

1. Refer to Sheet No. AS14.4 for Layout of Beam "B" in Relation to the Existing Diaphragms for Location of 2 1/2" Dia. Holes and Insert in the Prestressed Girders.
2. The Contractor shall Survey the Location of Existing Diaphragm Prior to Locating the New Beam "B".

N

PARTIAL DECK FRAMING PLAN BENT NO. 4 TO BENT NO. 9 (A AS12.2 | AS12.2)

SCALE: 1" = 20'-0"

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SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DECK FRAMING PLAN
BENT NO. 4 TO BENT NO. 9

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS12.2 OF 150 SHEETS

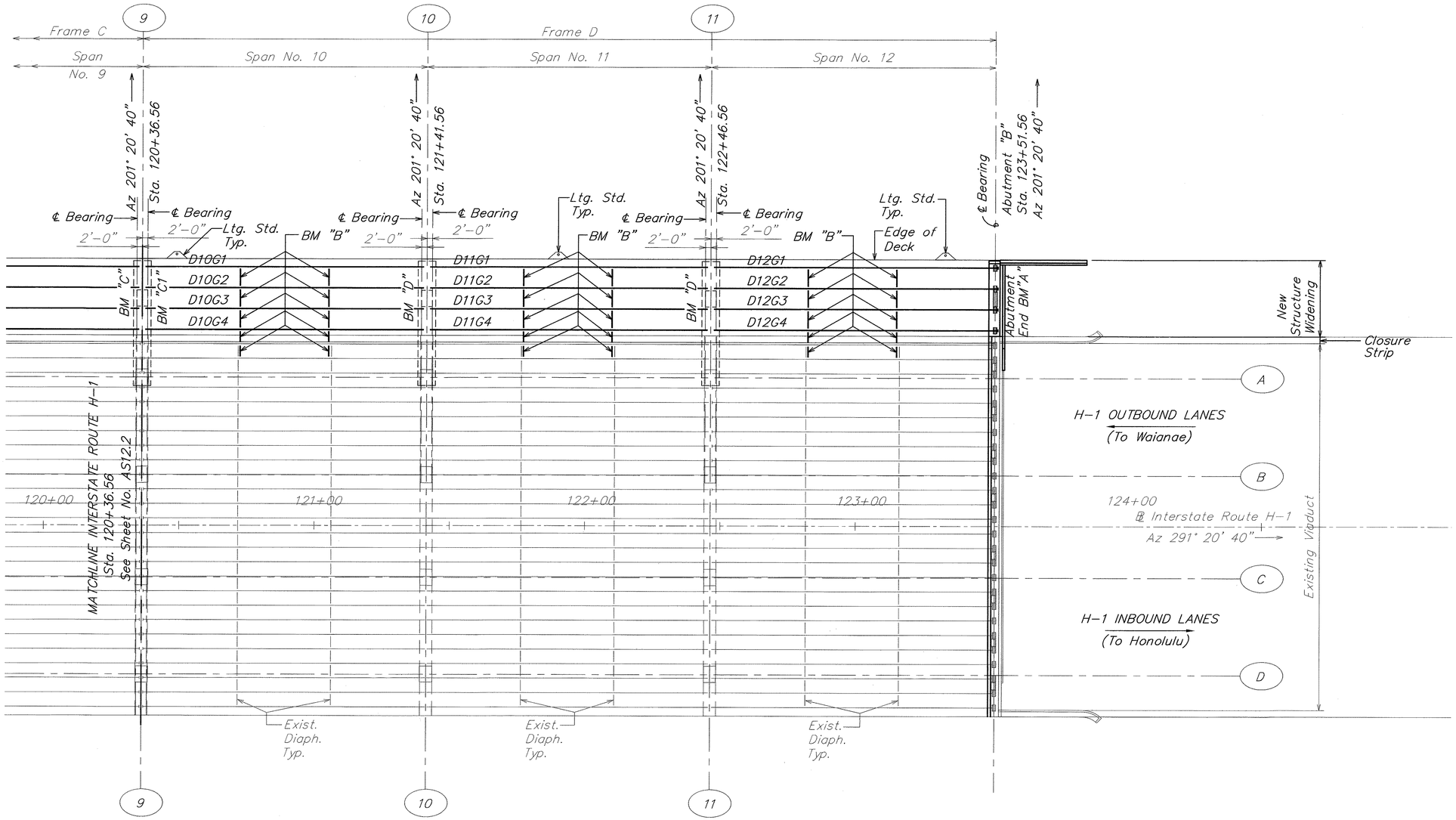
505

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

WV-AS1201.DWG
1 of 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 506 | 816 |




NOTES:

1. Refer to Sheet No. AS14.4 for Layout of Beam "B" in Relation to the Existing Diaphragms for Location of 2 1/2" Dia. Holes and Insert in the Prestressed Girders.
2. The Contractor shall Survey the Location of Existing Diaphragm Prior to Locating the New Beam "B".

N

## PARTIAL DECK FRAMING PLAN BENT NO. 9 TO ABUTMENT "B"

SCALE: 1" = 20'-0"

A
AS12.3 | AS12.3

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

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NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DECK FRAMING PLAN
BENT NO. 9 TO ABUTMENT "B"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

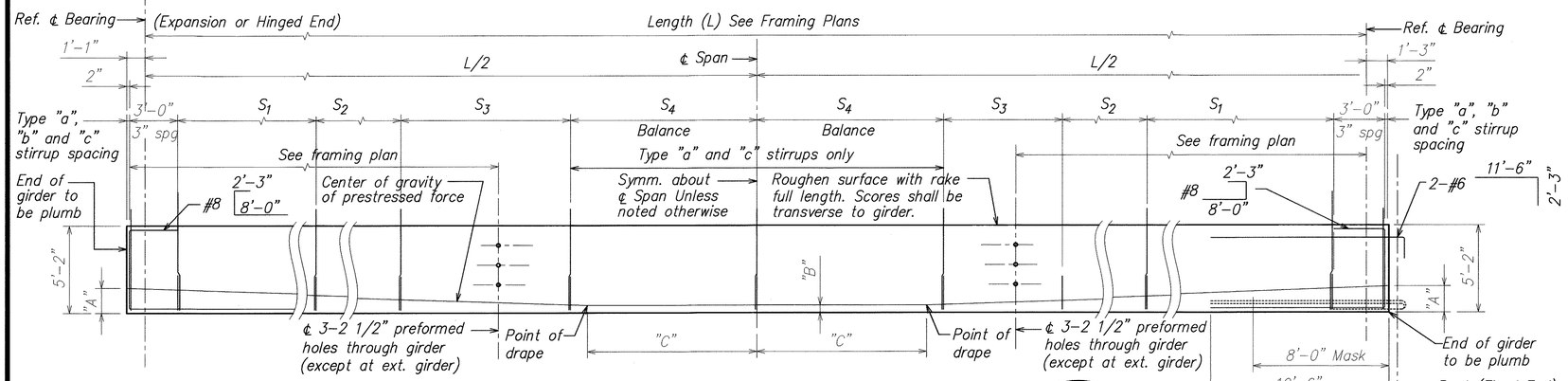
SHEET No. AS12.3 OF 150 SHEETS

WV-AS1201.DWG
1 of 1



\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\04-07-03 AS\WV-AS1201.dwg, AS12.3, 4/4/2003 7:53:14 AM, KSFinc.pc3

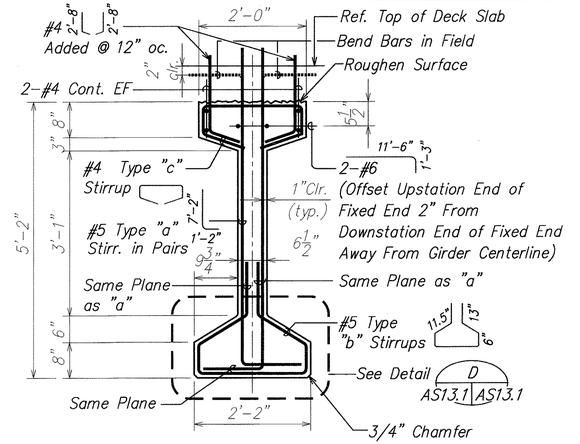
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(175) UNIT VIII | 2003 | ADD. 507 | 816 |




## TYPICAL PRESTRESSED GIRDER MODIFIED (KEEHI IVM) ELEVATION – TYPE IVMA

SCALE: N.T.S

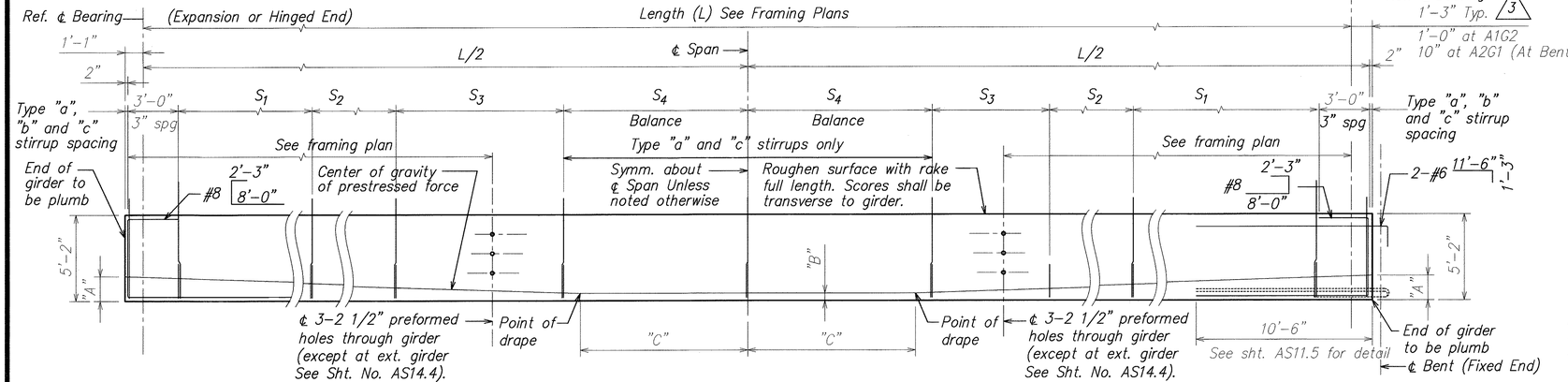
A AS13.1 | AS13.1




## TYPICAL GIRDER SECTION

SCALE: 3/4" = 1'-0"

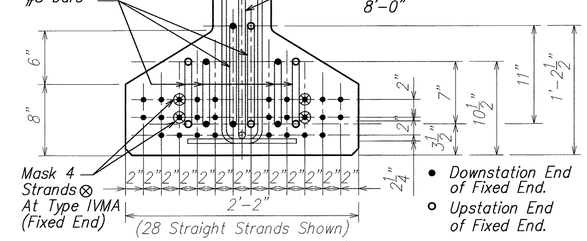
C AS13.1 | AS13.1




## TYPICAL PRESTRESS GIRDER MODIFIED (KEEHI IVM) ELEVATION – TYPE IVMB, IVMC, IVMD, IVME, IVMF

SCALE: N.T.S.

B AS13.1 | AS13.1



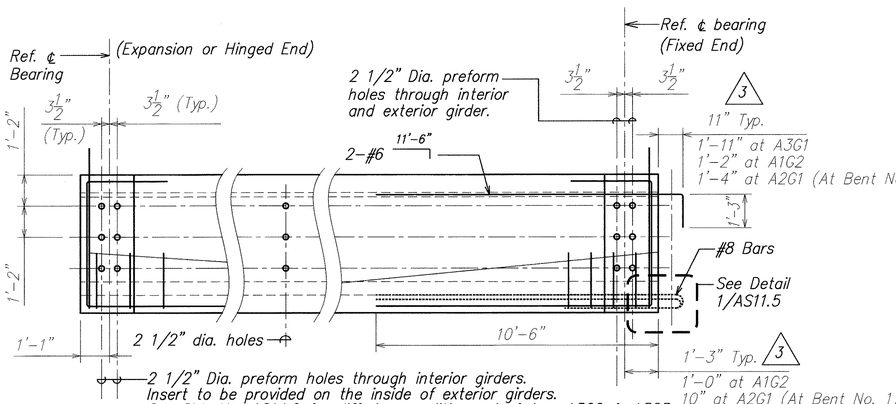

## DETAIL AT FIXED END

SCALE: 1 1/2" = 1'-0"

D AS13.1 | AS13.1

### PRESTRESSED GIRDER NOTES:

1. Prestressed steel shall be uncoated seven wire low-relaxation strand 1/2" dia. (Area = 0.1531 in.) with an ultimate strength of 270 ksi.
2. See framing plans for location of diaphragms, ℄ bearing to ℄ bearing length of girder (L), Sheet Nos. AS12.1 to AS12.3 and sheet no. AS13.2.
3. Strand pattern shall be symmetrical about the longitudinal ℄ of the girder.
4. Strand release sequence shall not induce any lateral deflection of the girder.
5. The Contractor shall submit the proposed strand pattern and releasing sequence to the Engineer for approval.
6. The Contractor shall incorporate all holes, insert, and other embedded items required in girders during fabrication of the girders.
7. All 2 1/2" dia. pre-formed holes shall be packed with non-shrink grout after placement of #8 dowels.
8. Lifting devices shall be placed as close as possible to the center line bearing of the girder. Details and locations of lifting devices shall be submitted to the Engineer for approval. Such approval does not relieve the Contractor of his responsibilities if the girder is damaged due to failure of lifting device.
9. Prior to casting girder Contractor shall field verify span lengths at each bent.
10. Contractor shall inspect all lifting devices for damage prior to delivery and immediately before installation.
11. Contractor shall submit alternative method to lift girder if lifting devices are damaged for review and acceptance.
12. See sht. no. AS14.4 for typical insert detail at exterior girders.
13. See sht. no. AS16.11 for flange "block-out" in girder.




## TYPICAL GIRDER SECTION

SCALE: 3/8" = 1'-0"

E AS13.1 | AS13.1

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PRESTRESS GIRDER DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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SHEET No. AS13.1 OF 150 SHEETS

ADD. 507

WV-AS1301.DWG 1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 508 | 816 |

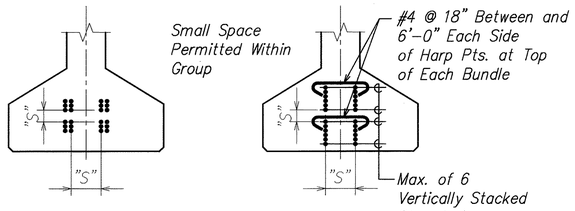
## GIRDER TYPE, CAMBER AND DEAD LOAD DEFLECTION SCHEDULE

NOTE: Girder Length Given is the Horizontal Distance Between ℄ Bearing in Feet.

| | GIRDER MARK | GIRDER LENGTH ℄ TO ℄ BRG | GIRDER TYPE | INITIAL CAMBER | DEAD LOAD DEFLECTION |
|---|---|---|---|---|---|
| SPAN NO. 1 | A1G1 | 78.12 | IVMF | 0.91" | −0.24" |
| | A1G2 | 80.06 | IVMF | 0.93" | −0.19" |
| | A1G3 | 82.00 | IVMF | 0.95" | −0.24" |
| | A1G4 | 84.68 | IVMF | 0.97" | −0.31" |
| | A1G5 | 87.37 | IVMF | 0.98" | −0.20" |
| SPAN NO. 2 | A2G1 | 93.56 | IVMF | 1.00" | −0.39" |
| | A2G2 | 94.44 | IVMF | 0.99" | −0.29" |
| | A2G3 | 95.31 | IVME | 1.31" | −0.34" |
| | A2G4 | 96.52 | IVME | 1.32" | −0.41" |
| | A2G5 | 97.73 | IVME | 1.32" | −0.25" |
| SPAN NO. 3 | A3G1 | 117.32 | IVMA | 2.18" | −1.22" |
| | A3G2 | 115.51 | IVMA | 2.18" | −0.82" |
| | A3G3 | 112.69 | IVMB | 1.74" | −0.85" |
| | A3G4 | 108.79 | IVMB | 1.75" | −0.84" |
| | A3G5 | 104.90 | IVMC | 1.54" | −0.43" |
| SPAN NO. 4 | B4G1 | 101.00 | IVMB | 1.81" | −0.78" |
| | B4G2 | 101.00 | IVMB | 1.81" | −0.70" |
| | B4G3 | 101.00 | IVMB | 1.81" | −0.70" |
| | B4G4 | 101.00 | IVMC | 1.54" | −0.39" |
| SPAN NO. 5 | B5G1 | 101.00 | IVMD | 1.60" | −0.66" |
| | B5G2 | 101.00 | IVMD | 1.60" | −0.56" |
| | B5G3 | 101.00 | IVMD | 1.60" | −0.56" |
| | B5G4 | 101.00 | IVMD | 1.60" | −0.31" |
| SPAN NO. 6 | B6G1 | 101.00 | IVMB | 1.81" | −0.78" |
| | B6G2 | 101.00 | IVMB | 1.81" | −0.70" |
| | B6G3 | 101.00 | IVMB | 1.81" | −0.70" |
| | B6G4 | 101.00 | IVMC | 1.54" | −0.39" |

| | GIRDER MARK | GIRDER LENGTH ℄ TO ℄ BRG | GIRDER TYPE | INITIAL CAMBER | DEAD LOAD DEFLECTION |
|---|---|---|---|---|---|
| SPAN NO. 7 | C7G1 | 101.00 | IVMC | 1.54" | −0.78" |
| | C7G2 | 101.00 | IVMC | 1.54" | −0.70" |
| | C7G3 | 101.00 | IVMC | 1.54" | −0.70" |
| | C7G4 | 101.00 | IVMC | 1.54" | −0.39" |
| SPAN NO. 8 | C8G1 | 115.54 | IVMA | 2.18" | −1.07" |
| | C8G2 | 111.15 | IVMA | 2.18" | −0.82" |
| | C8G3 | 106.76 | IVMC | 1.54" | −0.69" |
| | C8G4 | 102.37 | IVMD | 1.60" | −0.33" |
| SPAN NO. 9 | C9G1 | 86.46 | IVME | 1.25" | −0.43" |
| | C9G2 | 90.85 | IVME | 1.29" | −0.45" |
| | C9G3 | 95.24 | IVMD | 1.56" | −0.55" |
| | C9G4 | 99.63 | IVMD | 1.59" | −0.38" |
| SPAN NO. 10 | D10G1 | 101.00 | IVMB | 1.81" | −0.78" |
| | D10G2 | 101.00 | IVMB | 1.81" | −0.70" |
| | D10G3 | 101.00 | IVMB | 1.81" | −0.70" |
| | D10G4 | 101.00 | IVMC | 1.54" | −0.39" |
| SPAN NO. 11 | D11G1 | 101.00 | IVMD | 1.60" | −0.66" |
| | D11G2 | 101.00 | IVMD | 1.60" | −0.56" |
| | D11G3 | 101.00 | IVMD | 1.60" | −0.56" |
| | D11G4 | 101.00 | IVMD | 1.60" | −0.31" |
| SPAN NO. 12 | D12G1 | 103.00 | IVMB | 1.74" | −0.85" |
| | D12G2 | 103.00 | IVMB | 1.74" | −0.75" |
| | D12G3 | 103.00 | IVMB | 1.74" | −0.75" |
| | D12G4 | 103.00 | IVMC | 1.54" | −0.43" |

1. Strands may be Bundled in Groups as Shown.
2. The Minimum Distance "S" Between Groups or Individual Strands : 2" for 1/2" Strands.
3. "S" is Measured Between Centers of Adjacent Strands.




CASE I CASE II

## BUNDLING OF PRESTRESSING REINFORCEMENT

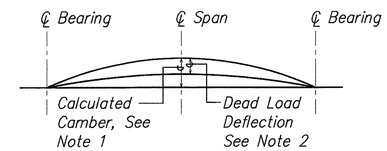
SCALE: 1" = 1'−0"

## PRESTRESSED GIRDER SCHEDULE

| GIRDER MARK | GIRDER TYPE | WORKING FORCE (KIPS) | CONCRETE STRENGTH AT TRANSFER (PSI) | LOCATION OF CENTER OF GRAVITY OF PRESTRESS FORCE AND DRAPE POINTS "A" | "B" | "C" | GIRDER STIRRUPS SIZE AND SPACING (TYPE "a" & "b" STIRRUP − #5) (TYPE "c" STIRRUPS − #4) $S_1$ | $S_2$ | $S_3$ | $S_4$ | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| A3G1, A3G2, C8G1, C8G2 | IVMA | 1296 | 5800 | 20.62" | 8.0" | 12'−0" | 50@6" | 20@7" | 16@9" | BAL @12" | Mask 4 Straight Strands. See Sht. No. AS14.6 for differing conditions of preformed holes and inserts for Beam "C" at girders A3G1 and A3G2. |
| D12G1, D12G2, D12G3, A3G3, A3G4, B4G1 to B4G3, B6G1 to B6G3, D10G1 to D10G3, | IVMB | 1296 | 5500 | 20.62" | 10.62" | 10'−0" | 44@6" | 20@7" | 16@9" | BAL @12" | See Sht. No. AS14.6 for differing conditions of preformed holes and inserts for Beam "C" at girder A3G3. |
| A3G5, B4G4 B6G4, C7G1 to C7G4, C8G3, D10G4, D12G4 | IVMC | 1200 | 5000 | 21.62" | 10.62" | 10'−0" | 44@6" | 20@7" | 16@9" | BAL @12" | |
| B5G1 to B5G4, C8G4, C9G3, C9G4 D11G1 to D11G4 | IVMD | 1008 | 5000 | 19.62" | 6.62" | 10'−0" | 44@6" | 20@7" | 16@9" | BAL @12" | |
| A2G3, A2G4, A2G5, C9G1, C9G2 | IVME | 912 | 5000 | 19.62" | 6.62" | 10'−0" | 36@6" | 20@7" | 12@9" | BAL @12" | |
| A1G1 to A1G5, A2G1, A2G2 | IVMF | 816 | 5000 | 18.62" | 7.62" | 9'−0" | 30@6" | 20@7" | 12@9" | BAL @12" | See Sht. No. AS14.4 for differing conditions of preformed holes and inserts for Beam "B" at girders A1G1 and A1G2. |

## GIRDER CAMBER NOTES:

1. The initial camber includes the effect of the initial prestress force and the weight of the girder after removal from the bed. Positive values shown for initial camber indicate a net upward deflection. The maximum camber immediately prior to erection of girders shall not exceed the initial camber multiplied by a factor of 2 plus a one−inch tolerance. (3)
2. The dead load deflection includes the combined effects of the weight of slab, drop panels, and diaphragms. (3)
3. Contractor shall camber the deck form work as required to account for the calculated dead load deflection in order to provide the specified finish deck elevations.
4. All cambers and deflections are in inches.




## GIRDER CAMBER DIAGRAM

SCALE: NONE

| DATE | REVISION |
|---|---|
| 6/20/03 | (3) Clarify Notes and Revise Dead Load Deflections |

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104−S HAWAII, U.S.A.

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SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GIRDER TYPE, CAMBER AND DEAD LOAD DEFLECTION SCHEDULE

INTERSTATE ROUTE H−3
H−3 FINISH (UNIT VIII)
F.A.I. Proj. No. I−H3−1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS13.2 OF 150 SHEETS

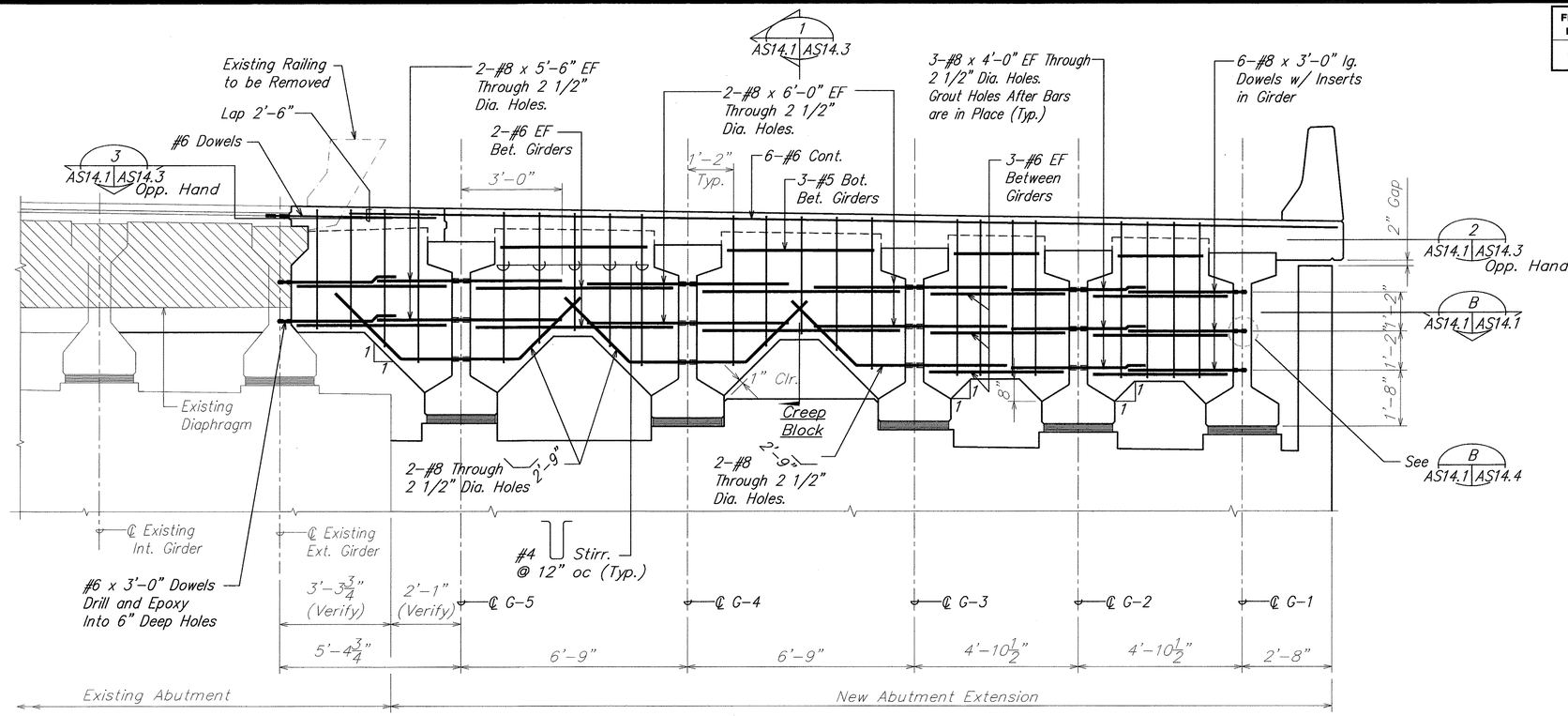
ADD. 508

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGN BY | QUANTITIES BY | CHECKED BY | DATE
NOTE BOOK | No.

\\Cad1\vsf\2001\0066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1302.dwg, AS13.2, 6/19/2003 2:49:48 PM, KSFinc.pc3

WV-AS1302.DWG
1 = 1

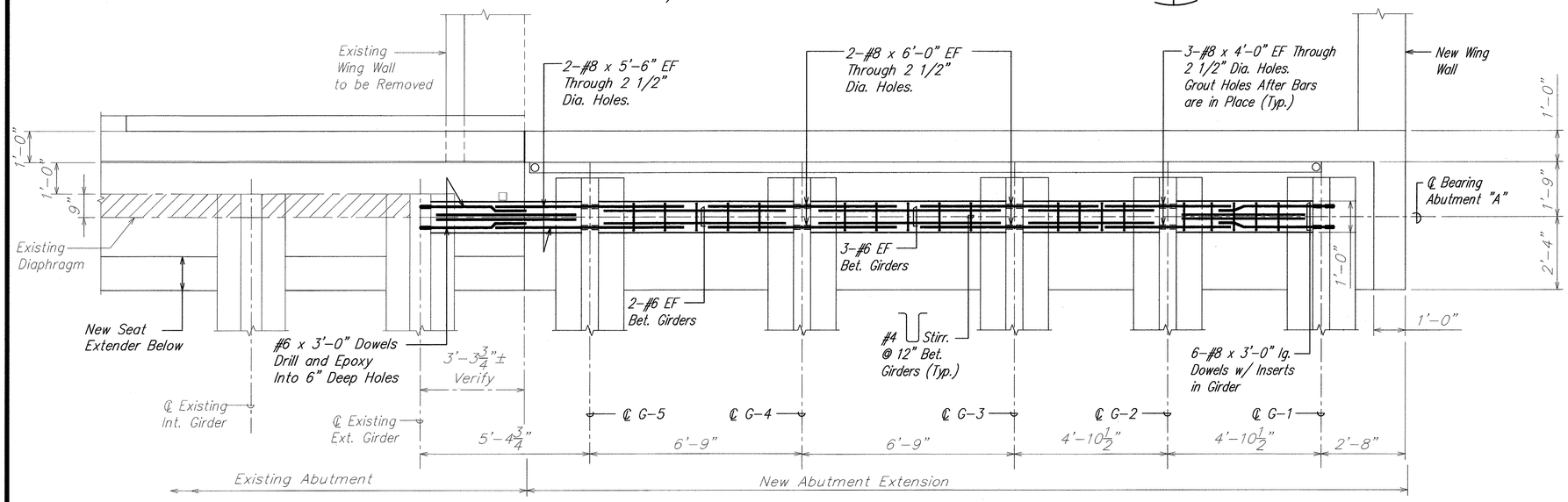
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 509 | 816 |




## BEAM "A" ELEVATION AT ABUTMENT "A"

SCALE: 1/2" = 1'-0"

A AS14.1 AS14.1




## PLAN SECTION – BEAM "A" AT ABUTMENT "A"

SCALE: 1/2" = 1'-0"

B AS14.1 AS14.1

NOTE:

1. Railing and deck reinforcing not shown for clarity.

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BEAM "A" AT ABUT. "A" ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

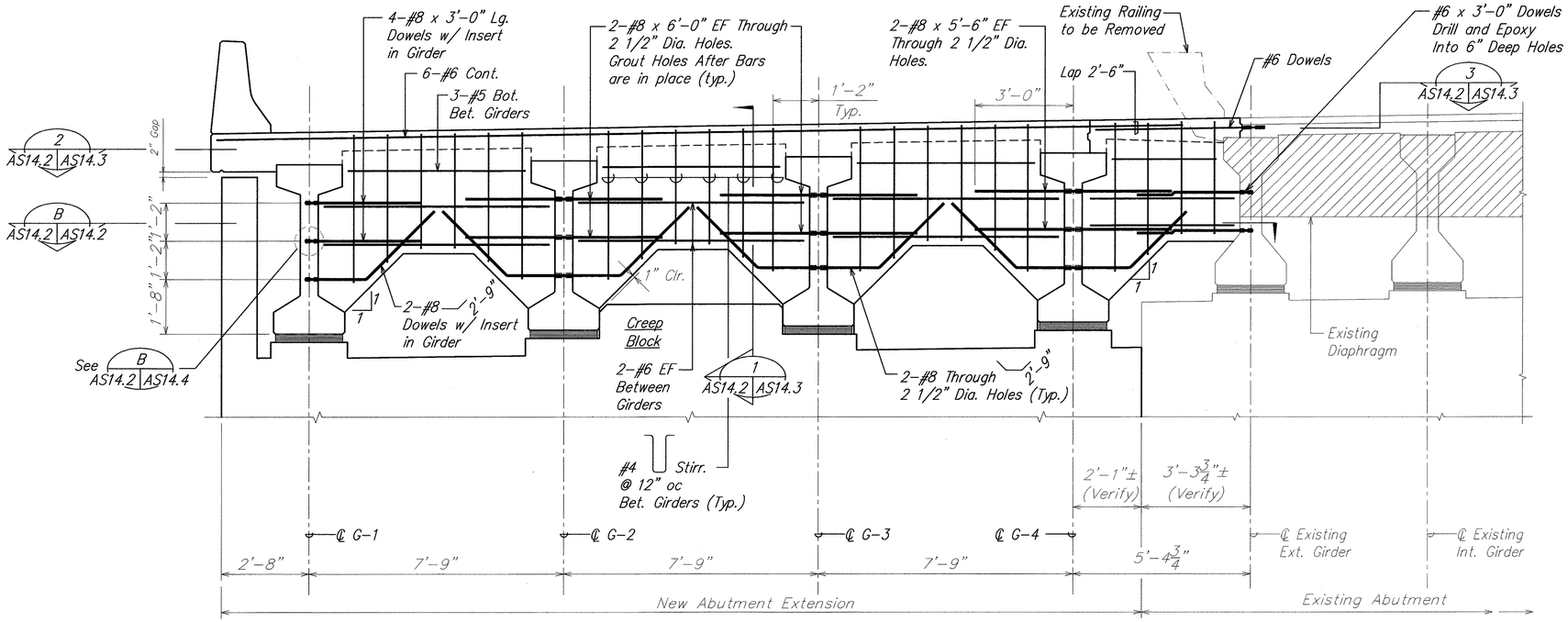
SHEET No. AS14.1 OF 150 SHEETS

509

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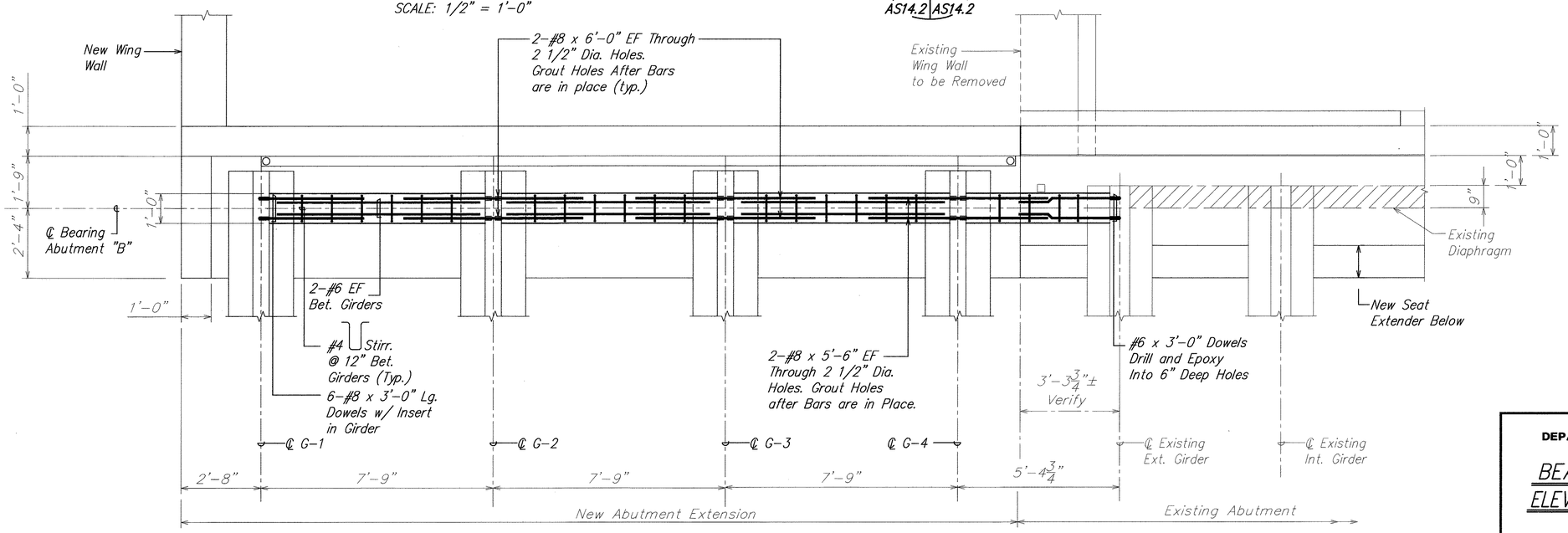
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 510 | 816 |




## BEAM "A" ELEVATION AT ABUTMENT "B" (A AS14.2 AS14.2)

SCALE: 1/2" = 1'-0"




## PLAN SECTION – BEAM "A" AT ABUTMENT "B" (B AS14.2 AS14.2)

SCALE: 1/2" = 1'-0"

NOTE:

1. Railing and deck reinforcing not shown for clarity.

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HIGHWAYS DIVISION

# BEAM "A" AT ABUT. "B" ELEVATION AND PLAN SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

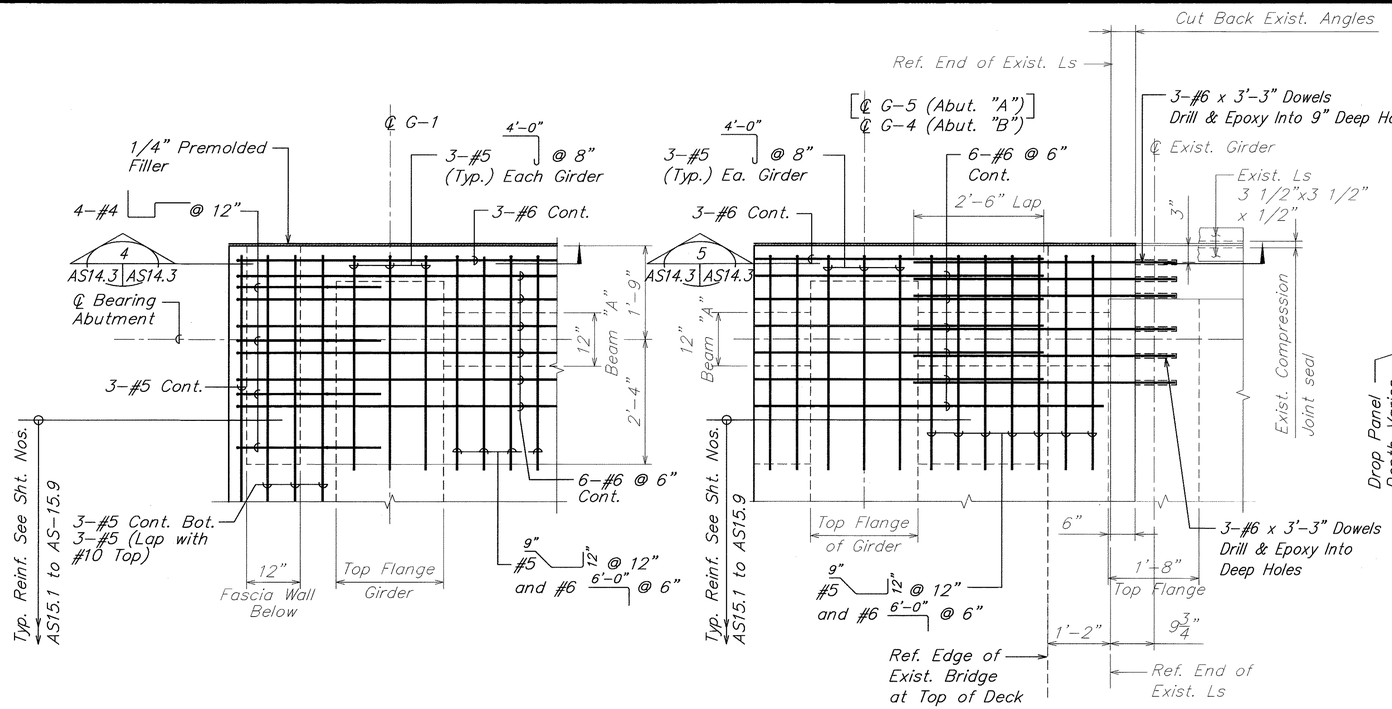
SHEET No. AS14.2 OF 150 SHEETS

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

WV-AS1402.DWG
1 = 1

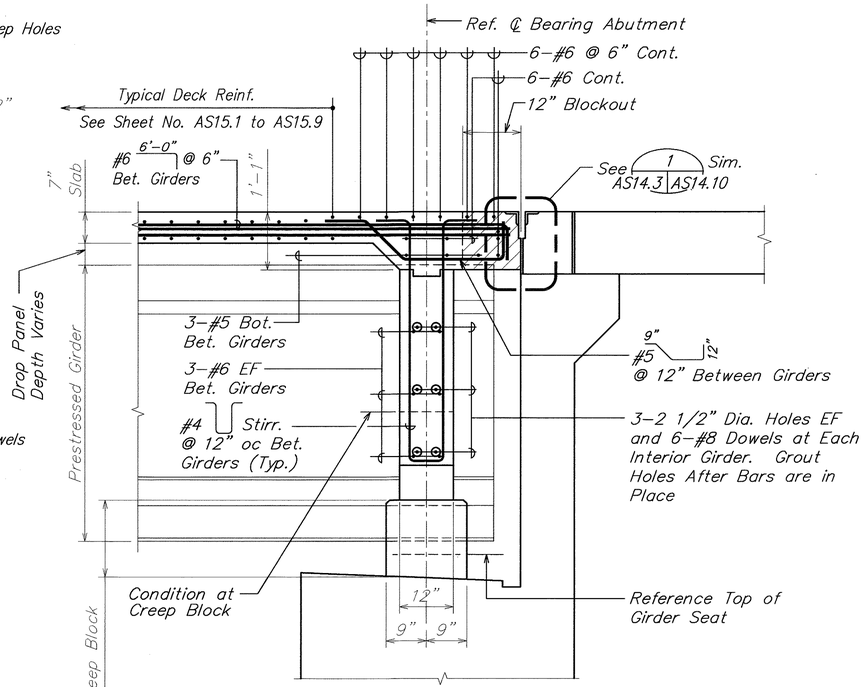
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 511 | 816 |

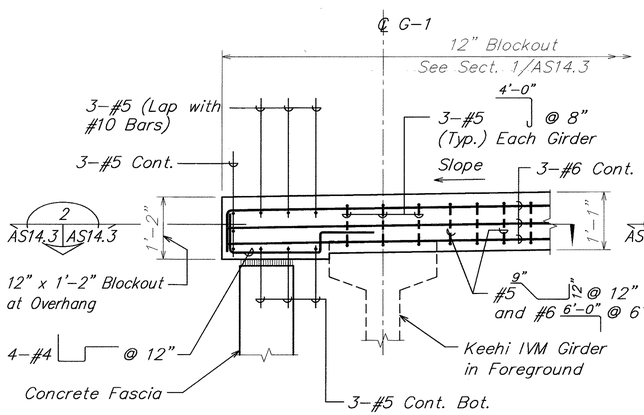



## SECTION 2
SCALE: 3/4" = 1'-0" AS14.1 | AS14.3 AS14.2, AS14.3

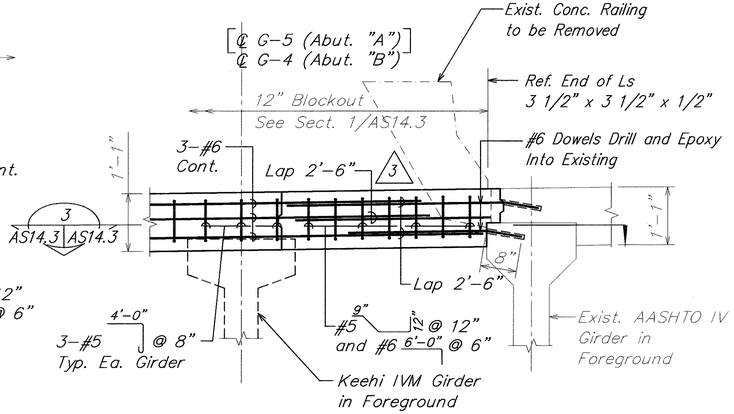
## SECTION 3
SCALE: 3/4" = 1'-0" AS14.1 | AS14.3 AS14.2, AS14.3




## SECTION AT GIRDERS 1
SCALE: 3/4" = 1'-0" AS14.1 | AS14.3 AS14.2




## SECTION 4
SCALE: 3/4" = 1'-0" AS14.3 | AS14.3




## SECTION 5
SCALE: 3/4" = 1'-0" AS14.3 | AS14.3

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification of Rebar in Closure Pour |

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

# BEAM "A" SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

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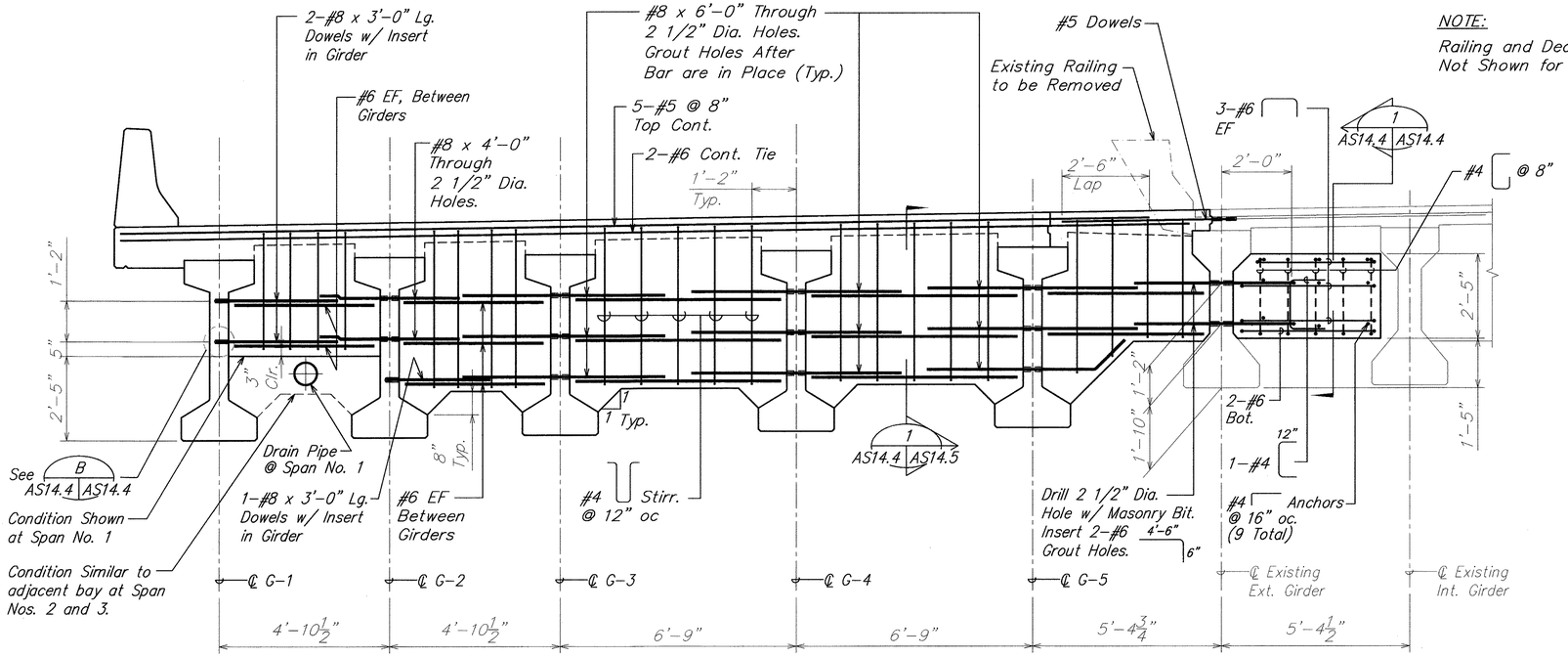
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

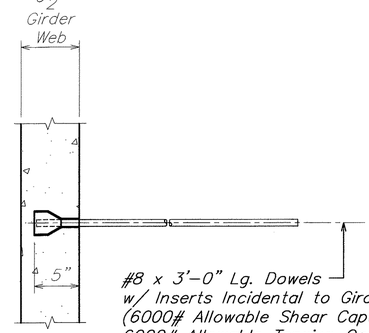
WV-AS1403.DWG
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 512 | 816 |




NOTE:
Railing and Deck Reinforcing Not Shown for Clarity.



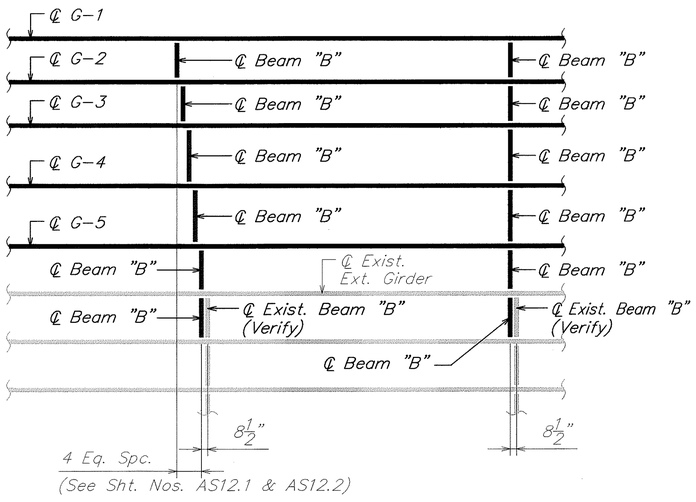

## TYPICAL INSERT DETAIL B AS14.4 | AS14.4

SCALE: 1 1/2" = 1'-0"

AS14.1, AS14.2, AS14.5, AS14.6, AS14.7

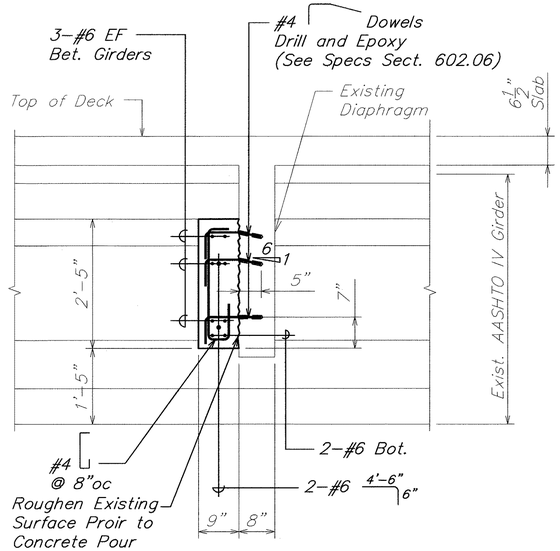
## BEAM "B" ELEVATION – FRAME A A AS14.4 | AS14.4

SCALE: 1/2" = 1'-0"



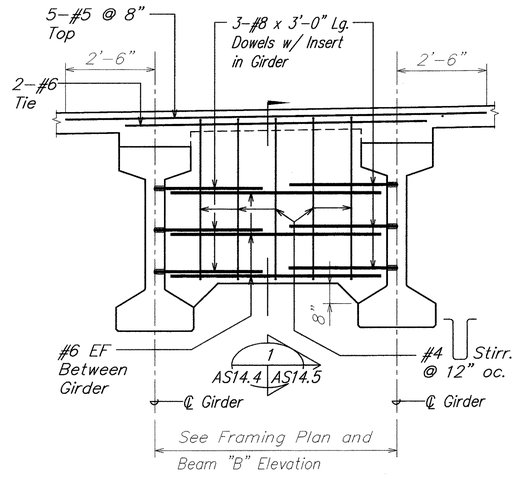

## DETAIL OF TYPICAL AND SKEWED CONDITION OF BEAM "B" 2 AS12.1 | AS14.4 AS12.2, AS12.3

SCALE: 1/8" = 1'-0"




## SECTION AT EXISTING GIRDERS 1 AS14.4 | AS14.4 AS14.5

SCALE: 3/4" = 1'-0"




## BEAM "B" ELEVATION – SPANS 2, 3, 8, & 9 C AS14.4 | AS14.4

SCALE: 1/2" = 1'-0"

NOTES:

1. Refer to Beam "B" Elevation A/AS14.4 and A/AS14.5 for girder spacing and stirrups.
2. Refer to Deck Framing Plan Sheet AS12.1 to AS12.3 for Beam "B" Layout to determine which side of existing diaphragm the new Beam "B" occurs.

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HIGHWAYS DIVISION

## BEAM "B" ELEV. AND SECTION FRAME A

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

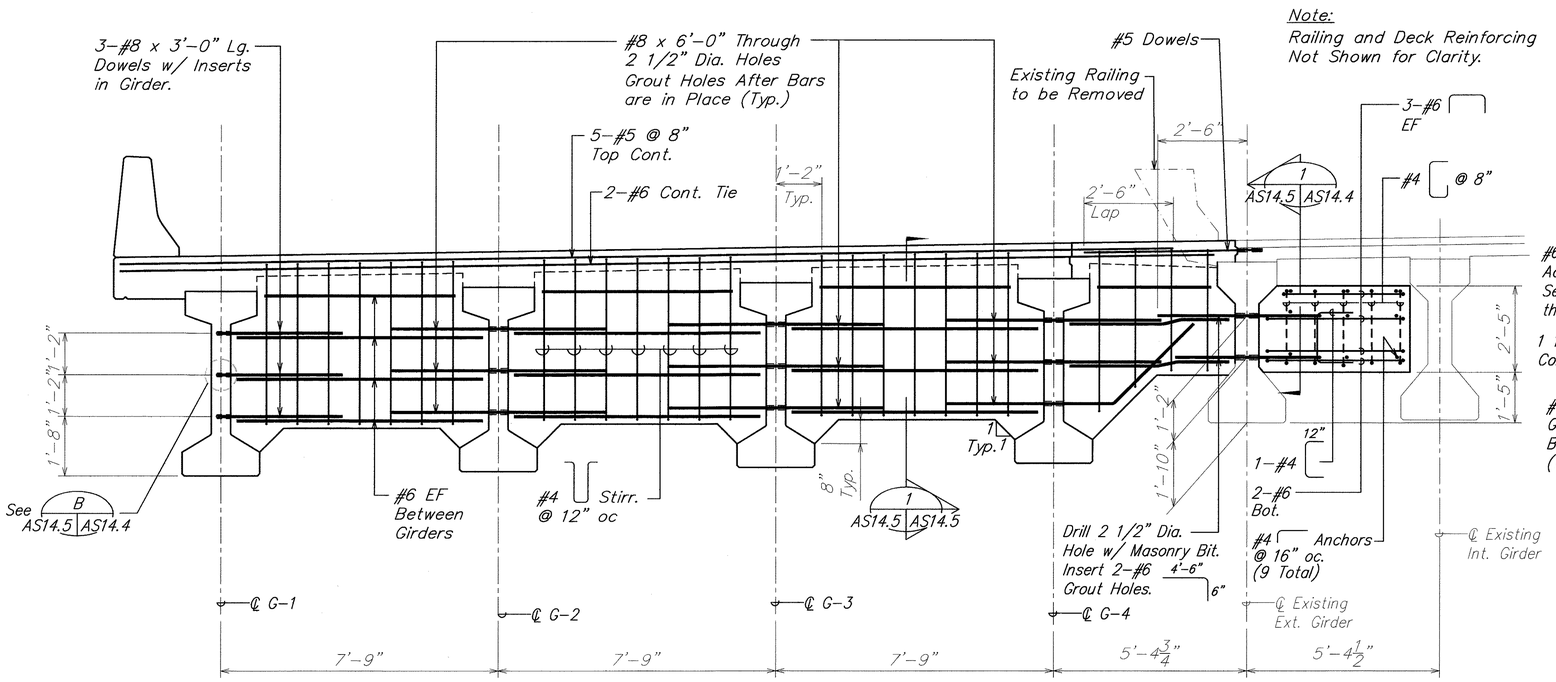
SHEET No. AS14.4 OF 150 SHEETS

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

\\Coat\tsf\2001\10066-WAIMALU VIADUCT\04-07-03 AS\WV-AS1404.dwg, AS14.4, 4/4/2003 7:57:47 AM, KSFinc.pc3

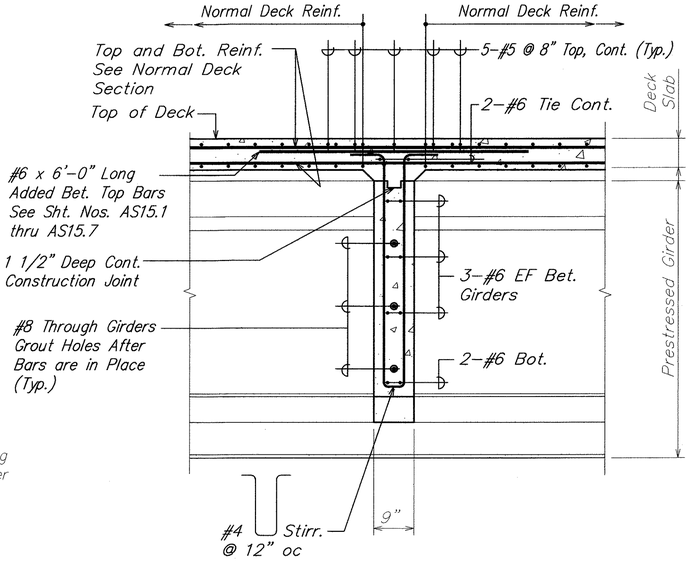
WV-AS1404.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 513 | 816 |




BEAM "B" ELEVATION – FRAMES B, C AND D (A AS14.5 AS14.5)

SCALE: 1/2" = 1'–0"




SECTION AT GIRDERS (1 AS14.4 AS14.5 / AS14.5)

SCALE: 3/4" = 1'–0"

ORIGINAL PLAN | NOTE BOOK No. ____

SURVEY PLOTTED BY ____ DATE ____
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BEAM "B" ELEV. AND SECTION
FRAMES B, C AND D

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS14.5 OF 150 SHEETS

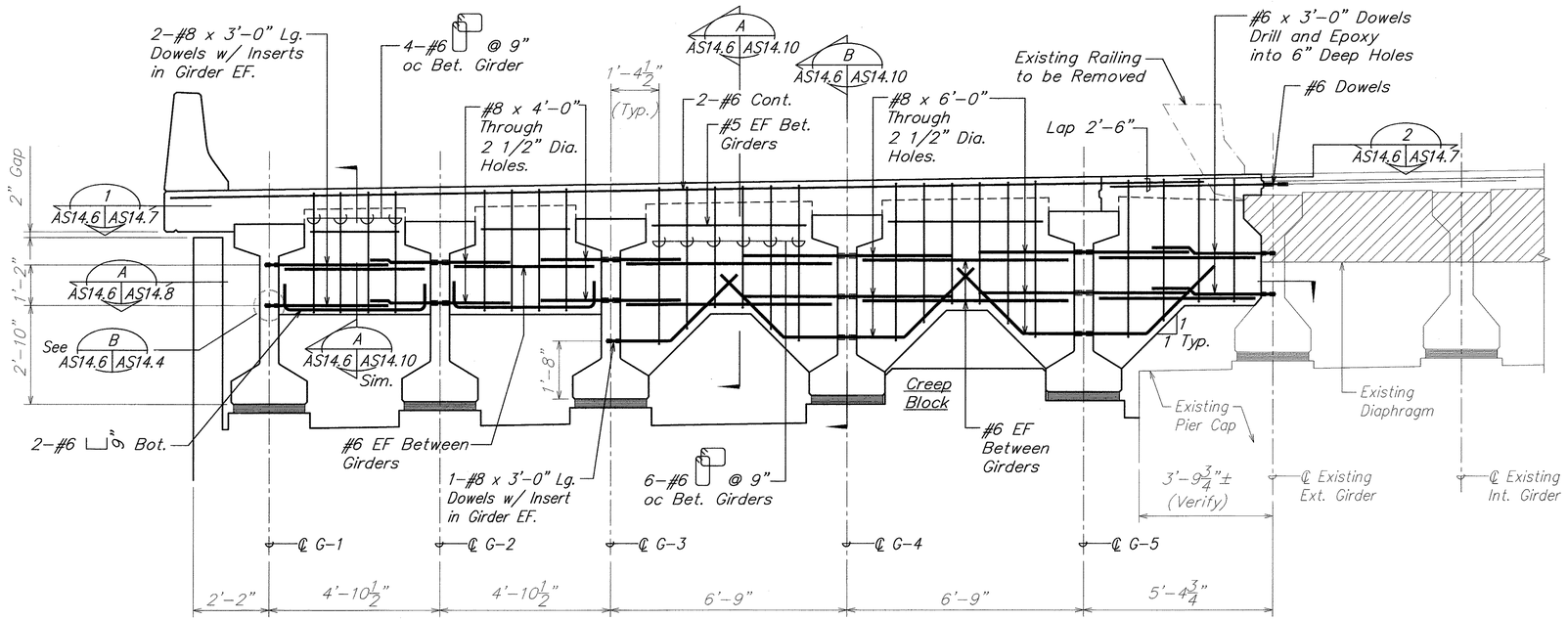
WV–AS1405.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 514 | 816 |

NOTE:

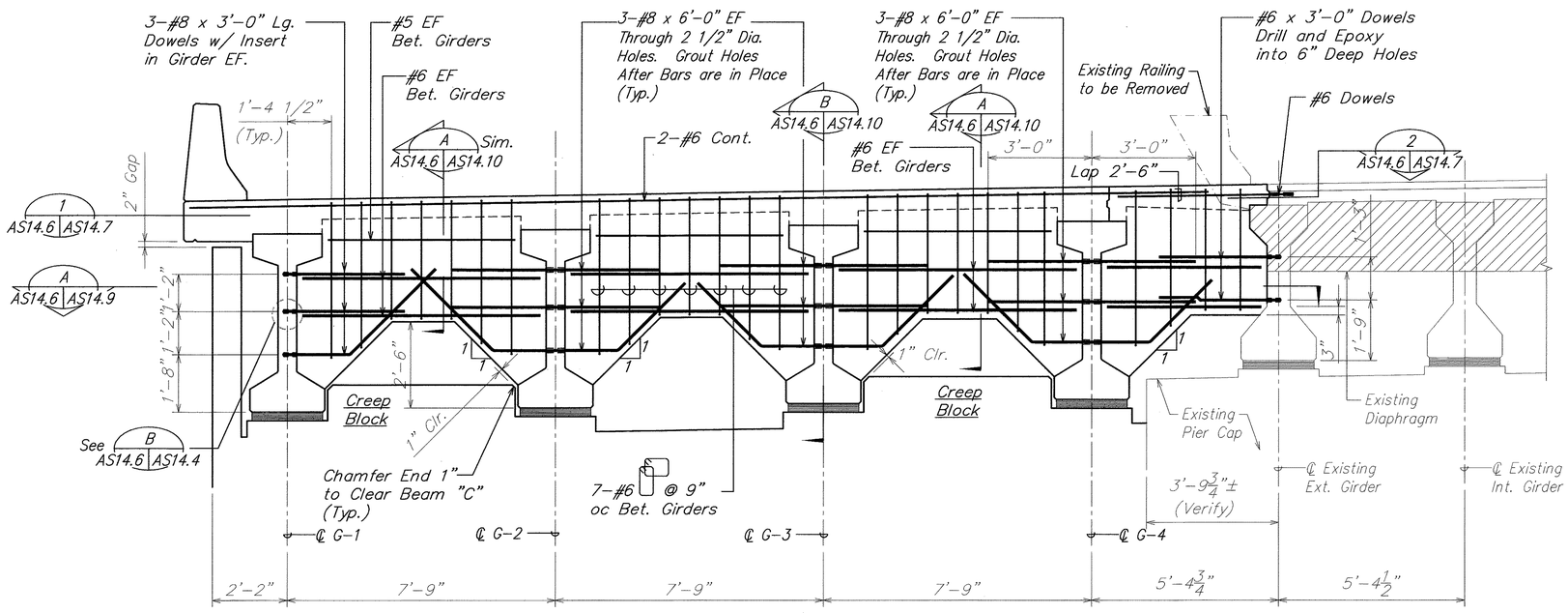
1. Railing and deck reinforcing not shown for clarity.




## BEAM "C" ELEVATION AT BENT NO. 3

SCALE: 1/2" = 1'-0"

A AS14.6 AS14.6




## BEAM "C" ELEVATION AT BENT NOS. 6 AND 9

SCALE: 1/2" = 1'-0"

B AS14.6 AS14.6

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BEAM "C" AT BENT NOS. 3, 6, AND 9 ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

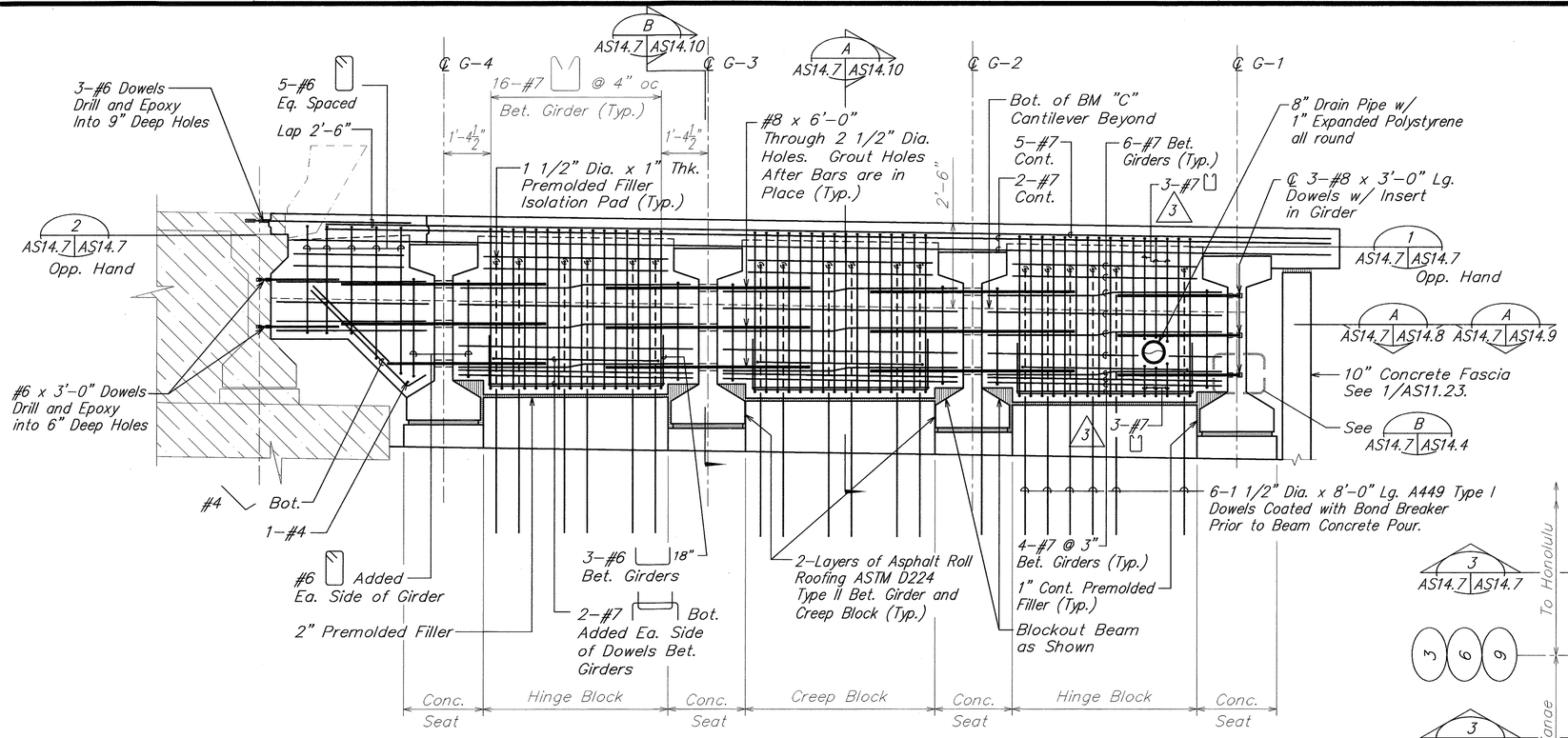
SHEET No. AS14.6 OF 150 SHEETS

514

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WV-AS1406.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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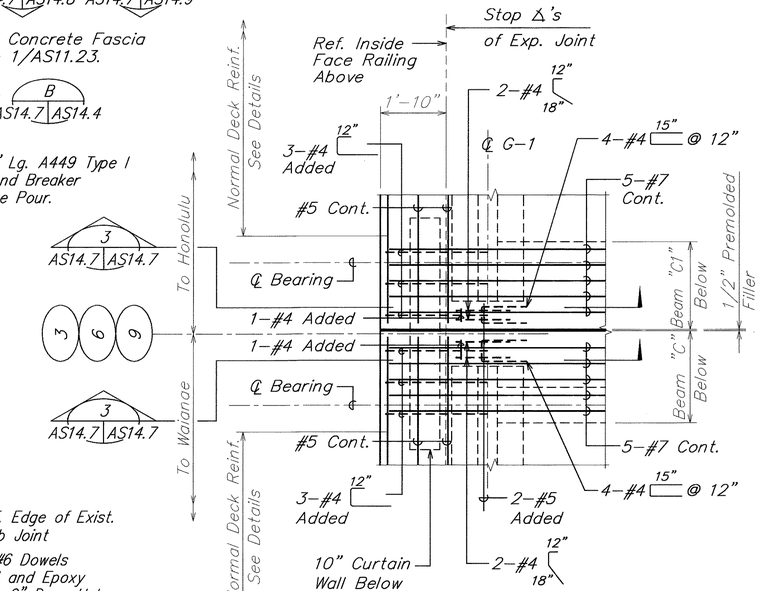



## BEAM "C1" ELEVATION AT BENT NOS. 3, 6 AND 9 (A AS14.7 | AS14.7)

SCALE: 1/2" = 1'–0"

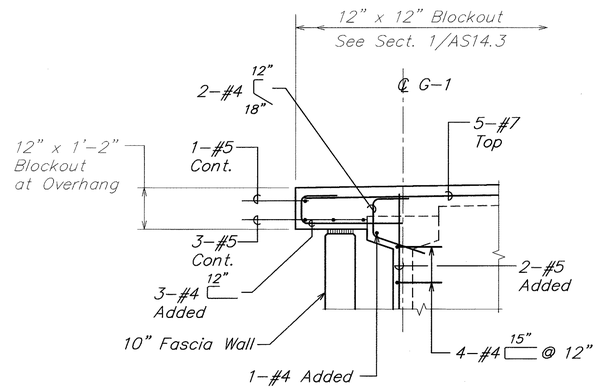
NOTES:

1. Remove all concrete from face of premolded joint filler.
2. Railing and deck reinforcing not shown for clarity.
3. (3) See viaduct general note no. 5 (F).




## SECTION 1 (AS14.6 | AS14.7 | AS14.7)

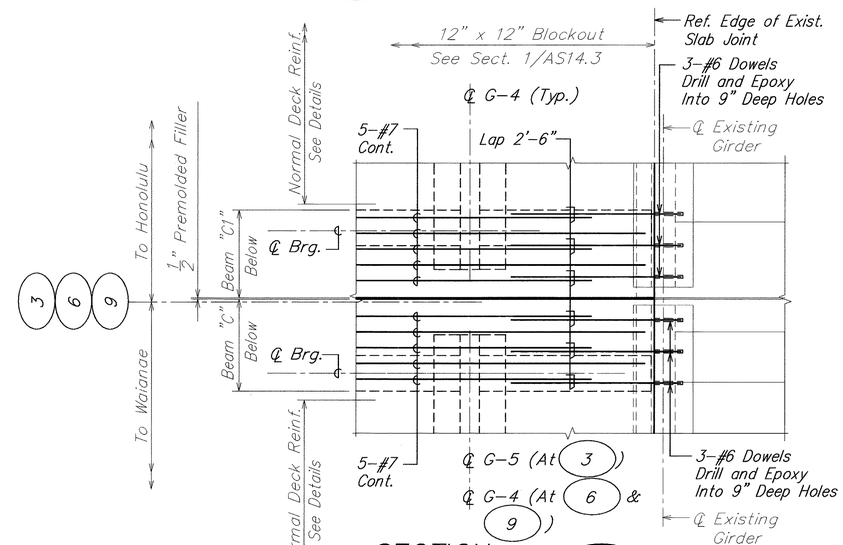
SCALE: 1/2" = 1'–0"




Note:
Railing and Deck Reinf. Not Shown for Clarity.

## SECTION 3 (AS14.7 | AS14.7)

SCALE: 1/2" = 1'–0"




## SECTION 2 (AS14.6 | AS14.7 | AS14.7)

SCALE: 1/2" = 1'–0"

| DATE | REVISION |
|---|---|
| 6/20/03 | (3) Rebar Clarification and Added Note |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BEAMS "C AND C1" AT BENT NOS. 6 AND 9 – ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

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SHEET No. AS14.7 OF 150 SHEETS

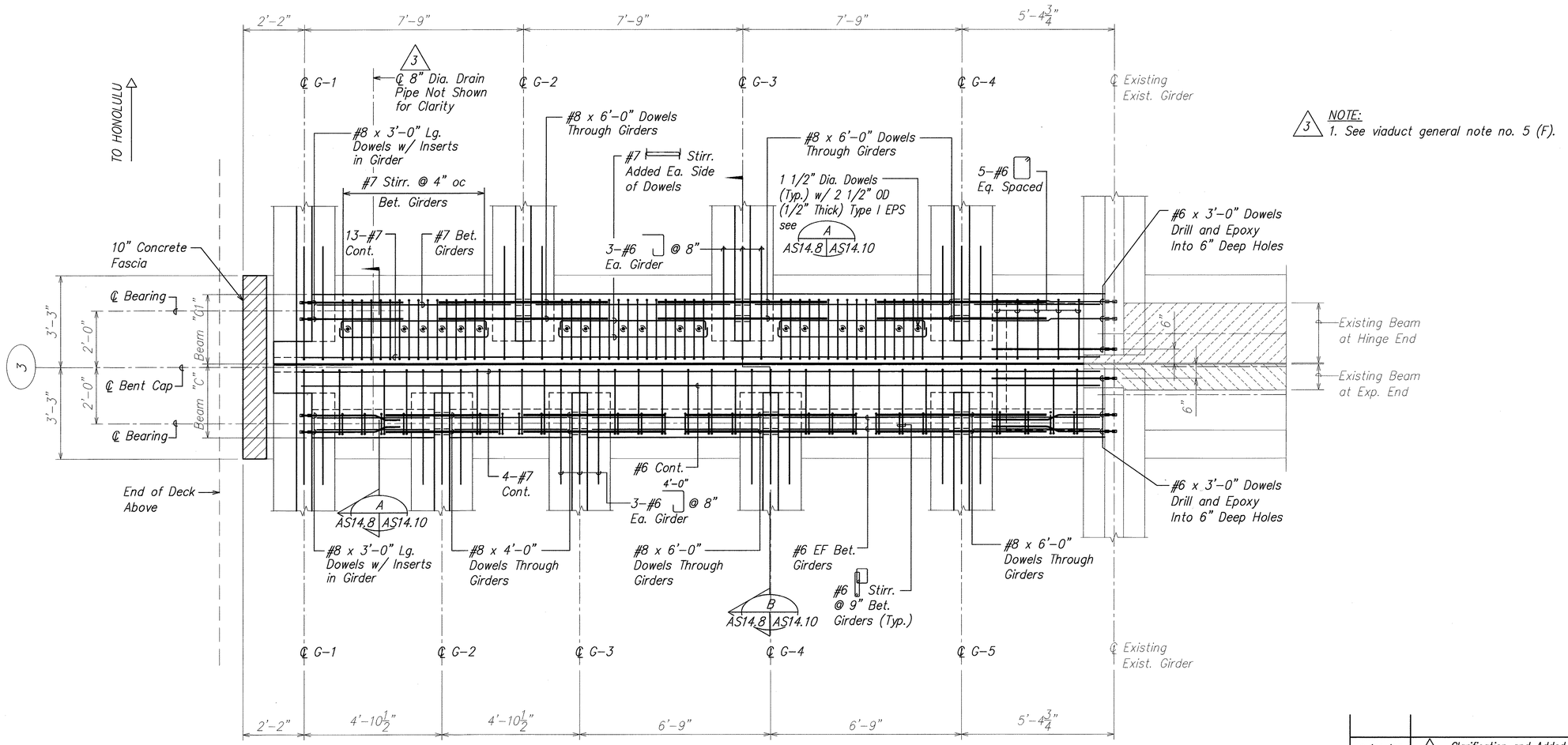
ADD. 515

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

WV-AS1407.DWG
1 = 1

\\Cad\vsf\2001\00066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1407.dwg, AS14.7, 6/18/2003 1:01:57 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 516 | 816 |




3 NOTE:
1. See viaduct general note no. 5 (F).

## TYPICAL PLAN SECTION – AT BENT NO. 3

SCALE: 1/2" = 1'-0"

A AS14.6 AS14.8 AS14.7

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

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SIGNATURE — 4-30-04 EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification and Added Note |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BENT NO. 3
TYPICAL PLAN SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

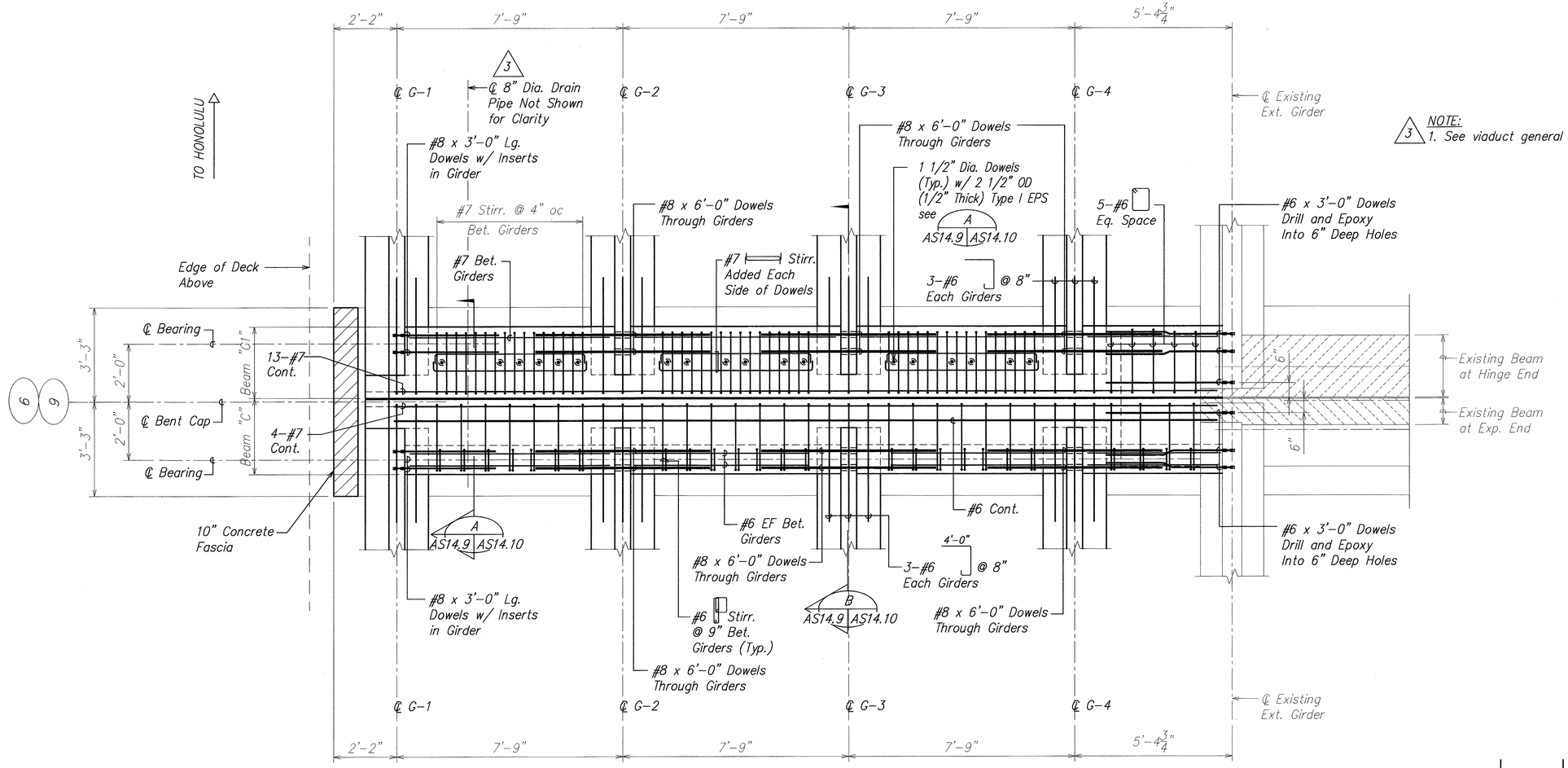
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ADD. 516

WV-AS1408.DWG 1 = 1

\\Cad1\sd\2001\0066-WAIMALU VIADUCT\07-07-03 AS ADD3\ADD3 WV-AS1406.dwg, AS14.8, 7/8/2003 2:08:41 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 517 | 816 |




3 NOTE:
1. See viaduct general note no. 5 (F).

## TYPICAL PLAN SECTION – AT BENT NOS. 6 AND 9

SCALE: 1/2" = 1'-0"

A AS14.6 AS14.9 AS14.7

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

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David K. Fujiwara 4-30-04
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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification and Added Note |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BENT NOS. 6 AND 9 TYPICAL PLAN SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

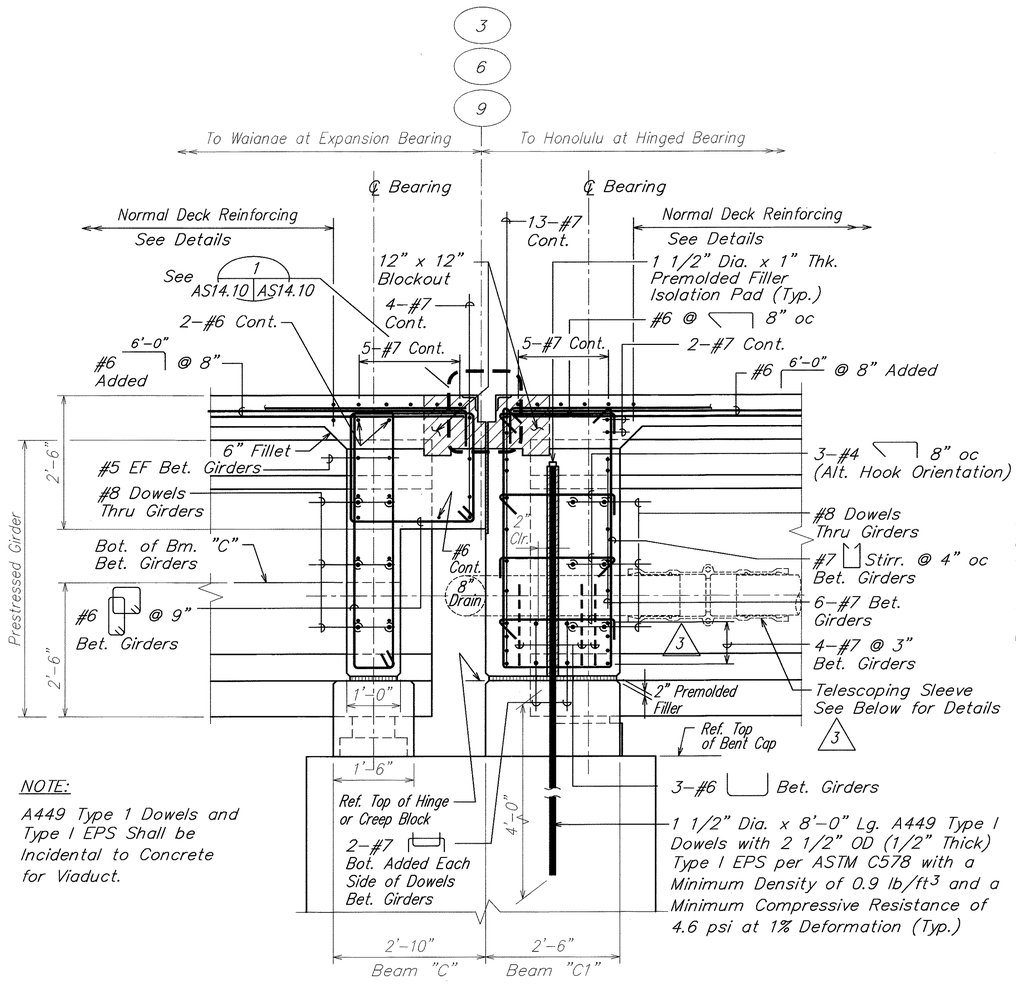
SHEET No. AS14.9 OF 150 SHEETS

ADD. 517

WV-AS1409.DWG
1 = 1

\\Cad1\kst\2001\10066-WAIAKALU VIAD-JCT\06-20-03 AS ADD3\WV-AS1409.dwg, AS14.9, 6/18/2003 1:02:50 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 518 | 816 |




NOTE:

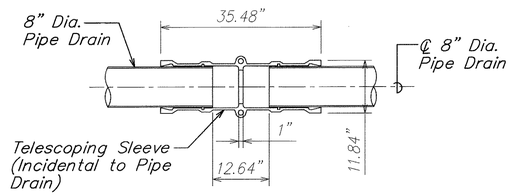
A449 Type 1 Dowels and Type I EPS Shall be Incidental to Concrete for Viaduct.

## SECTION BETWEEN GIRDERS A

SCALE: 3/4" = 1'–0"

AS14.6 | AS14.10

AS14.7, AS14.8, AS14.9, AS4.10



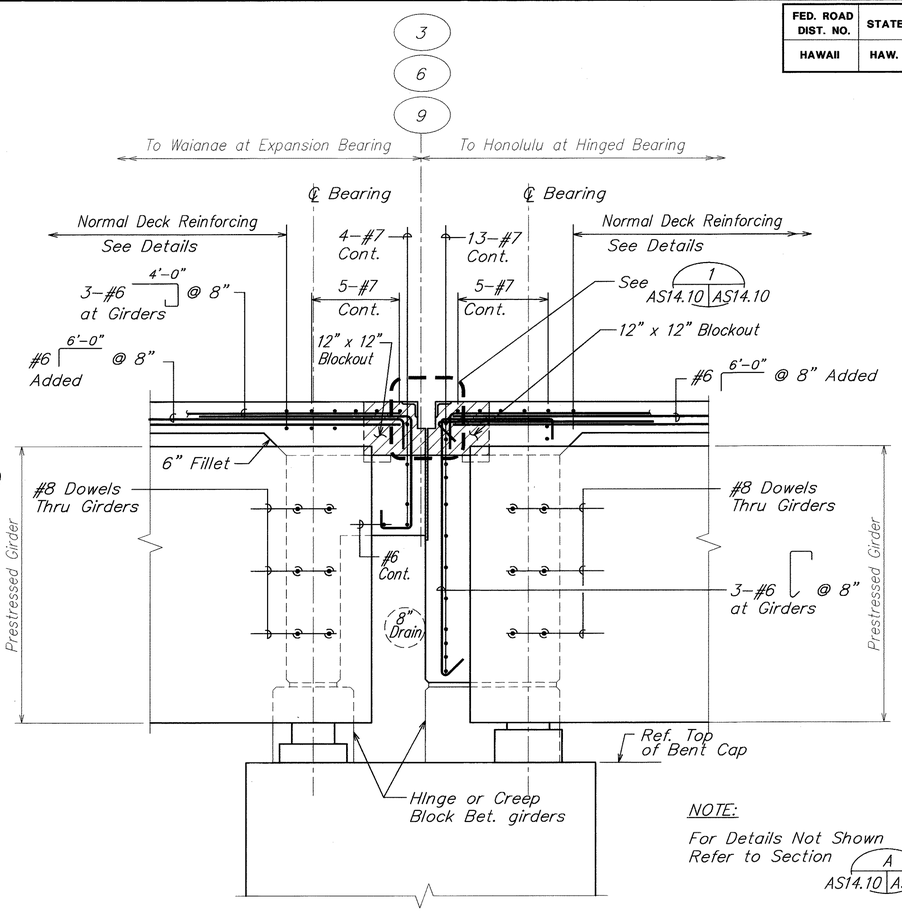

## 3 TELESCOPING SLEEVE DETAIL 2

SCALE: 3/4" = 1'–0"

AS14.10 | AS14.10

3 NOTE:

See viaduct general note no. 5 (F).




NOTE:

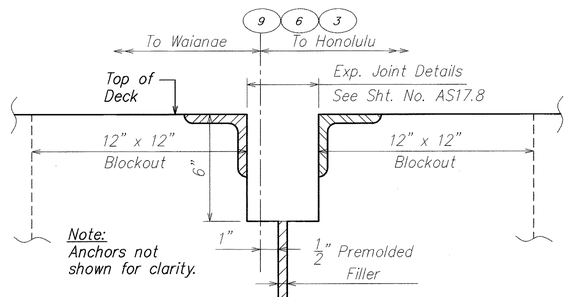
For Details Not Shown Refer to Section A AS14.10 | AS14.10

## SECTION AT GIRDERS B

SCALE: 3/4" = 1'–0"

AS14.6 | AS14.10

AS14.7, AS14.8, AS14.9




## DETAIL 1

SCALE: 3" = 1'–0"

AS6.3 | AS14.10

AS7.3, AS14.3, AS14.10


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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Drain Clarification and Added Note |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# BEAMS "C" AND "C1" SECTIONS

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS14.10 OF 150 SHEETS

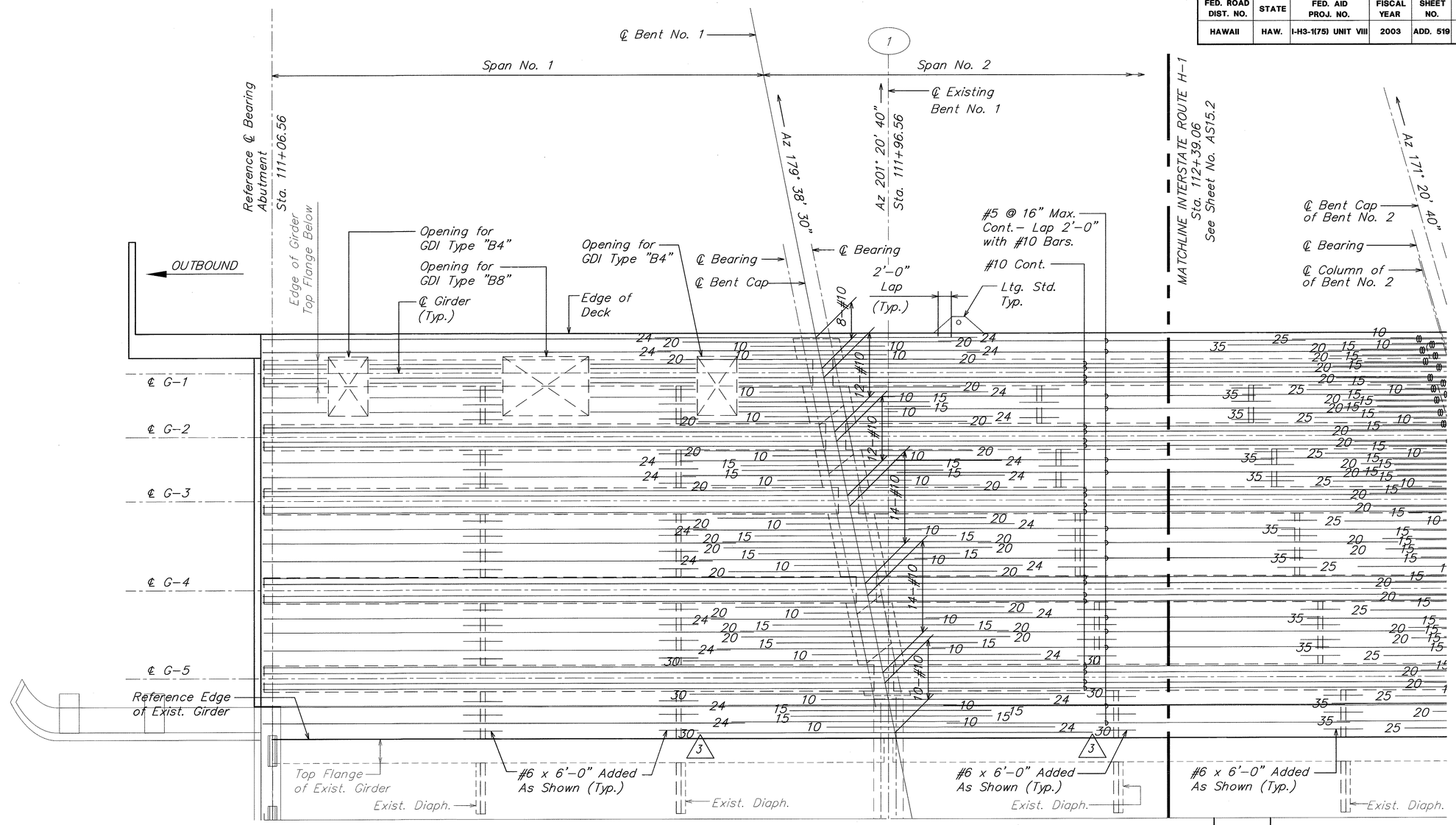
ADD. 518

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

WV–AS1410.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 519 | 816 |




N

## STEEL PLACEMENT DIAGRAM - DECK SLAB TOP LONGITUDINAL REINFORCEMENT SPAN NO. 1 AND NO. 2

SCALE: LONGITUDINAL 1/8" = 1'-0"
TRANSVERSE 1/4" = 1'-0"

A
AS15.1 | AS15.1

NOTES:

1. Numbers at ends of #10 rebars indicate distance from ℄ bent cap in feet.
2. All rebars shall be #10 unless noted otherwise.
3. Refer to sheets AS16.14 and AS16.15 for additional reinforcement at deck drains.

LEGEND:

⓪ Indicates Bundled Bars

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised Rebar Lengths |

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# STEEL PLACEMENT DIAGRAM SPAN NO. 1 AND NO. 2

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS15.1 OF 150 SHEETS

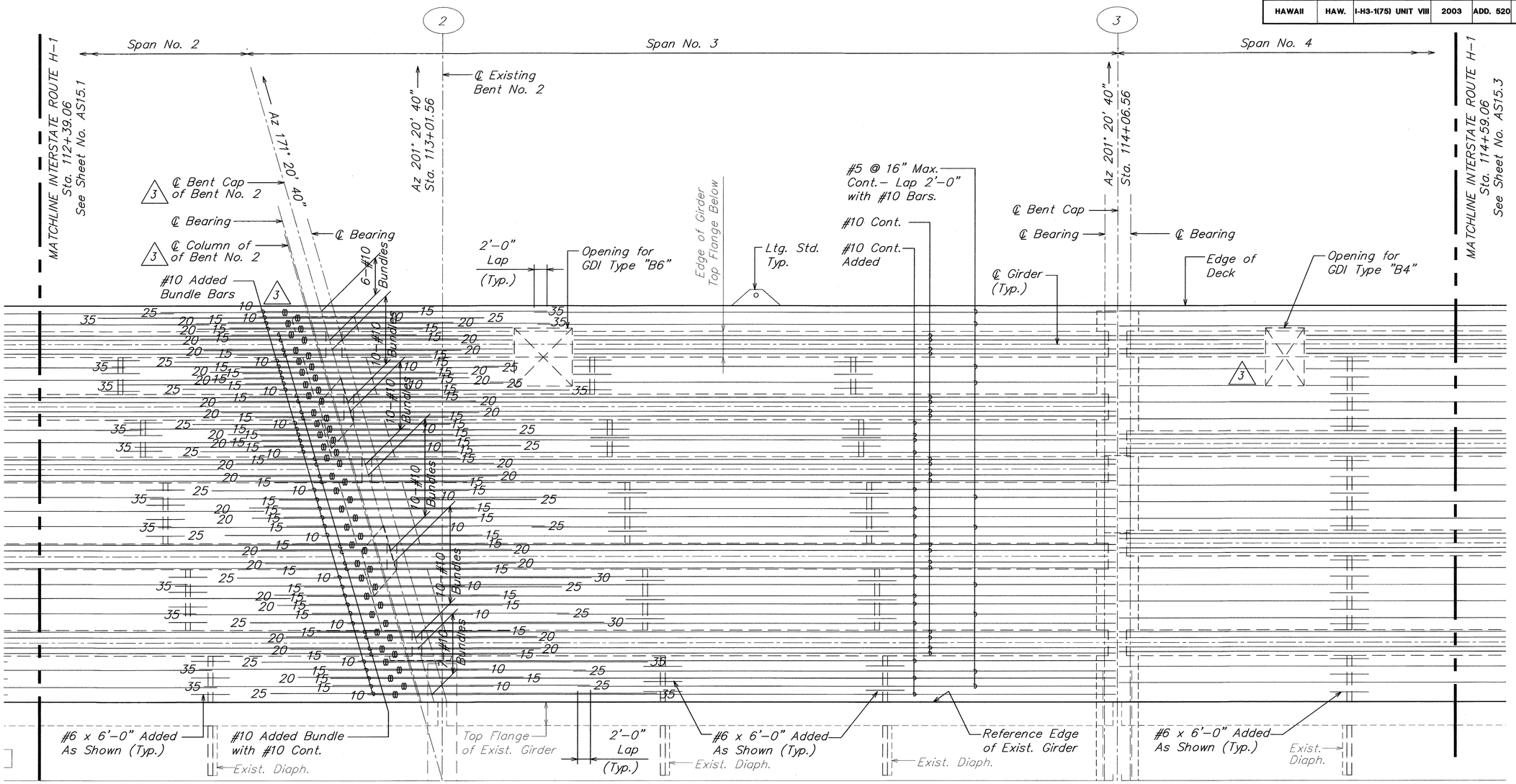
ADD. 519

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| No. | DESIGNED BY | |
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1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 520 | 816 |




## STEEL PLACEMENT DIAGRAM - DECK SLAB TOP LONGITUDINAL REINFORCEMENT SPAN NO. 2 , NO. 3 AND NO. 4

SCALE: LONGITUDINAL 1/8" = 1'-0"
TRANSVERSE 1/4" = 1'-0"

A
AS15.2 | AS15.2

LEGEND:

(0) Indicates Bundled Bars

NOTES:

1. Numbers at ends of #10 rebars indicate distance from ℄ bent cap in feet.
2. All rebars shall be #10 unless noted otherwise.
3. Refer to sheets AS16.14 and AS16.15 for additional reinforcement at deck drains.

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised Reinforcing and Relocate Drain |

STATE OF HAWAII
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HIGHWAYS DIVISION

STEEL PLACEMENT DIAGRAM
SPAN NO. 2, NO. 3 AND NO. 4

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS15.2 OF 150 SHEETS

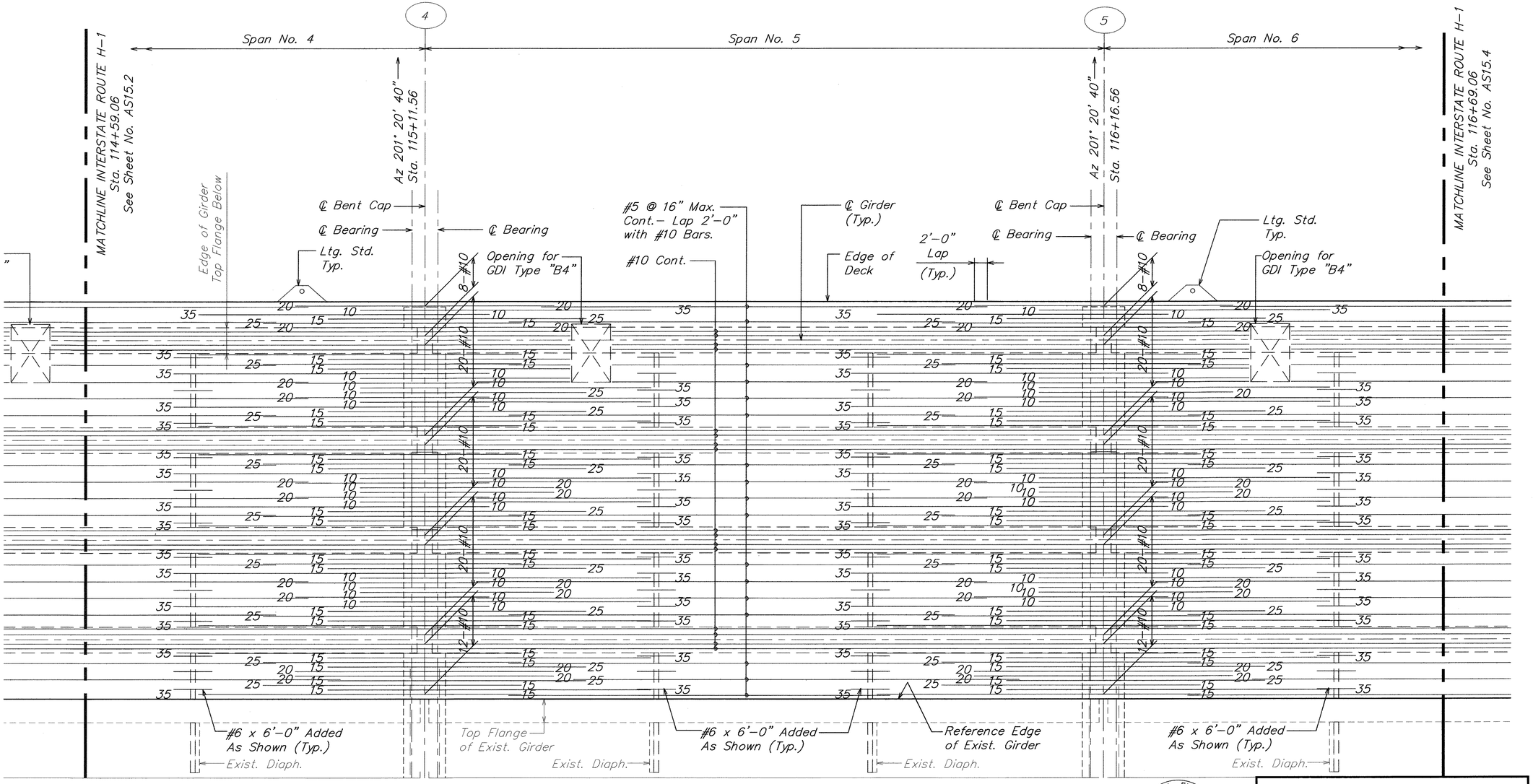
ADD. 520

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

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1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 521 | 816 |




# STEEL PLACEMENT DIAGRAM - DECK SLAB TOP LONGITUDINAL REINFORCEMENT SPAN NO. 4, NO. 5 AND NO. 6

SCALE: LONGITUDINAL 1/8" = 1'-0"
TRANSVERSE 1/4" = 1'-0"

A
AS15.3 | AS15.3

NOTES:

1. Numbers at ends of #10 rebars indicate distance from ℄ bent cap in feet.
2. All rebars shall be #10 unless noted otherwise.
3. Refer to sheets AS16.14 and AS16.15 for additional reinforcement at deck drains.

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STATE OF HAWAII
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HIGHWAYS DIVISION

STEEL PLACEMENT DIAGRAM
SPAN NO. 4, NO. 5 AND NO. 6

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS15.3 OF 150 SHEETS

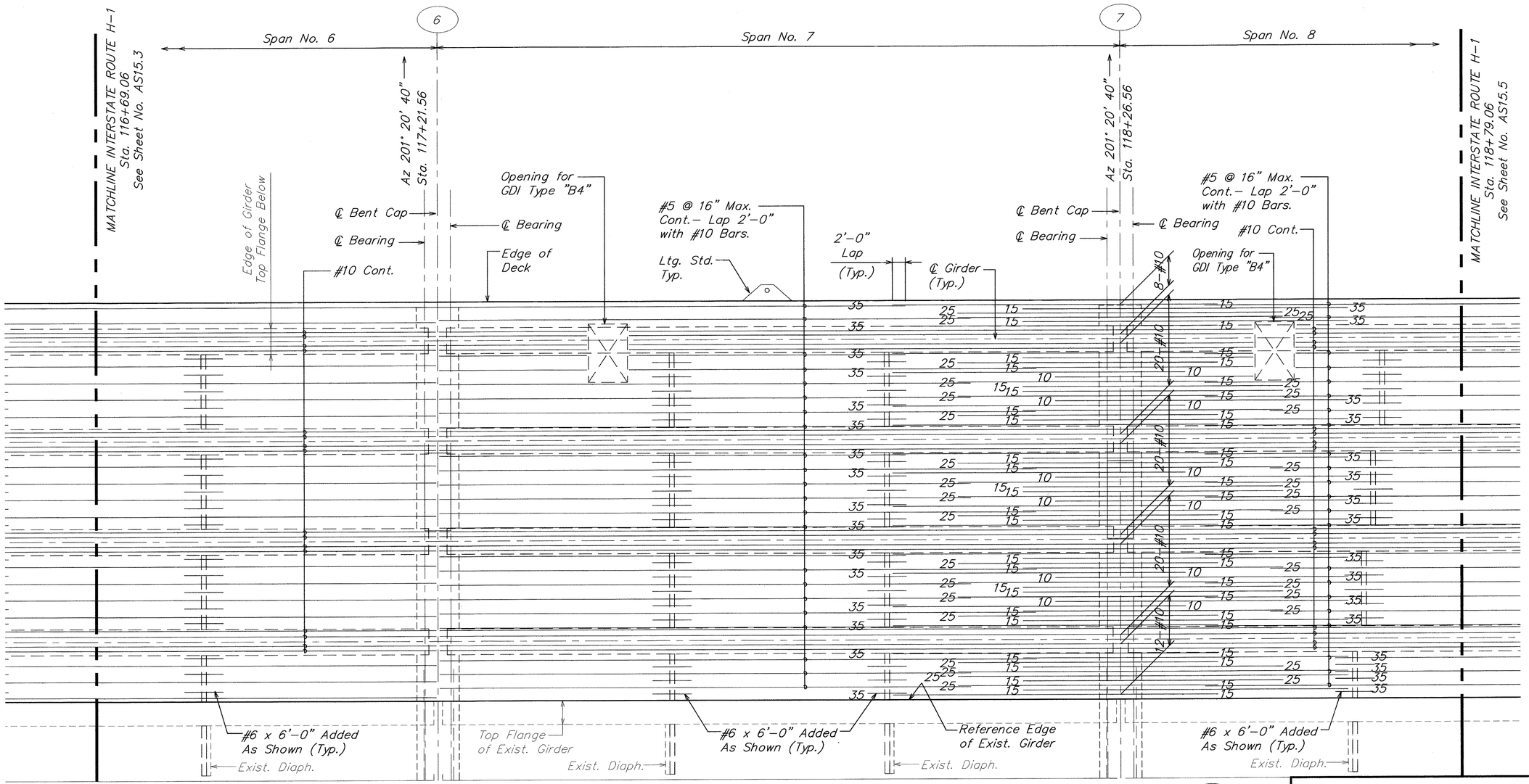
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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WV-AS1501.DWG
1 of 1

521

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 522 | 816 |




N

## STEEL PLACEMENT DIAGRAM – DECK SLAB TOP LONGITUDINAL REINFORCEMENT SPAN NO. 6, NO, 7 AND NO. 8

A
AS15.4 | AS15.4

SCALE: LONGITUDINAL 1/8" = 1'–0"
TRANSVERSE 1/4" = 1'–0"

NOTES:

1. Numbers at ends of #10 rebars indicate distance from ℄ bent cap in feet.
2. All rebars shall be #10 unless noted otherwise.
3. Refer to sheets AS16.14 and AS16.15 for additional reinforcement at deck drains.

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STEEL PLACEMENT DIAGRAM
SPAN NO. 6, NO. 7 AND NO. 8

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

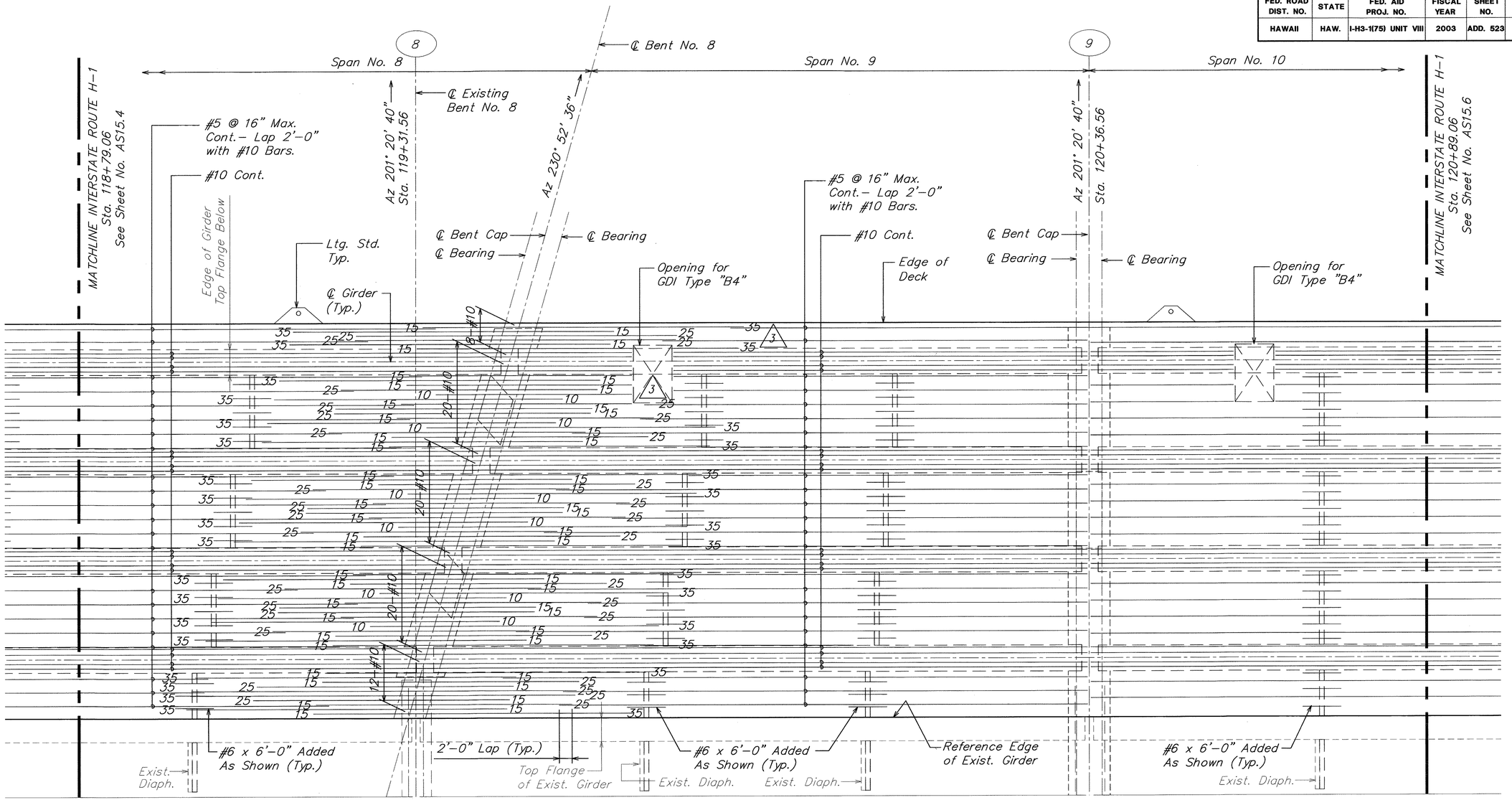
SHEET No. AS15.4 OF 150 SHEETS

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| NOTE BOOK | DRAWN BY | * * * * |
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1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 523 | 816 |




## STEEL PLACEMENT DIAGRAM - DECK SLAB TOP LONGITUDINAL REINFORCEMENT SPAN NO. 8, NO. 9 AND NO. 10

SCALE: LONGITUDINAL 1/8" = 1'-0"
TRANSVERSE 1/4" = 1'-0"

A
AS15.5 | AS15.5

NOTES:

1. Numbers at ends of #10 rebars indicate distance from ℄ bent cap in feet.
2. All rebars shall be #10 unless noted otherwise.
3. Refer to sheets AS16.14 and AS16.15 for additional reinforcement at deck drains.

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Rebar Clarification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STEEL PLACEMENT DIAGRAM
SPAN NO. 8, NO. 9 AND NO. 10

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS15.5 OF 150 SHEETS

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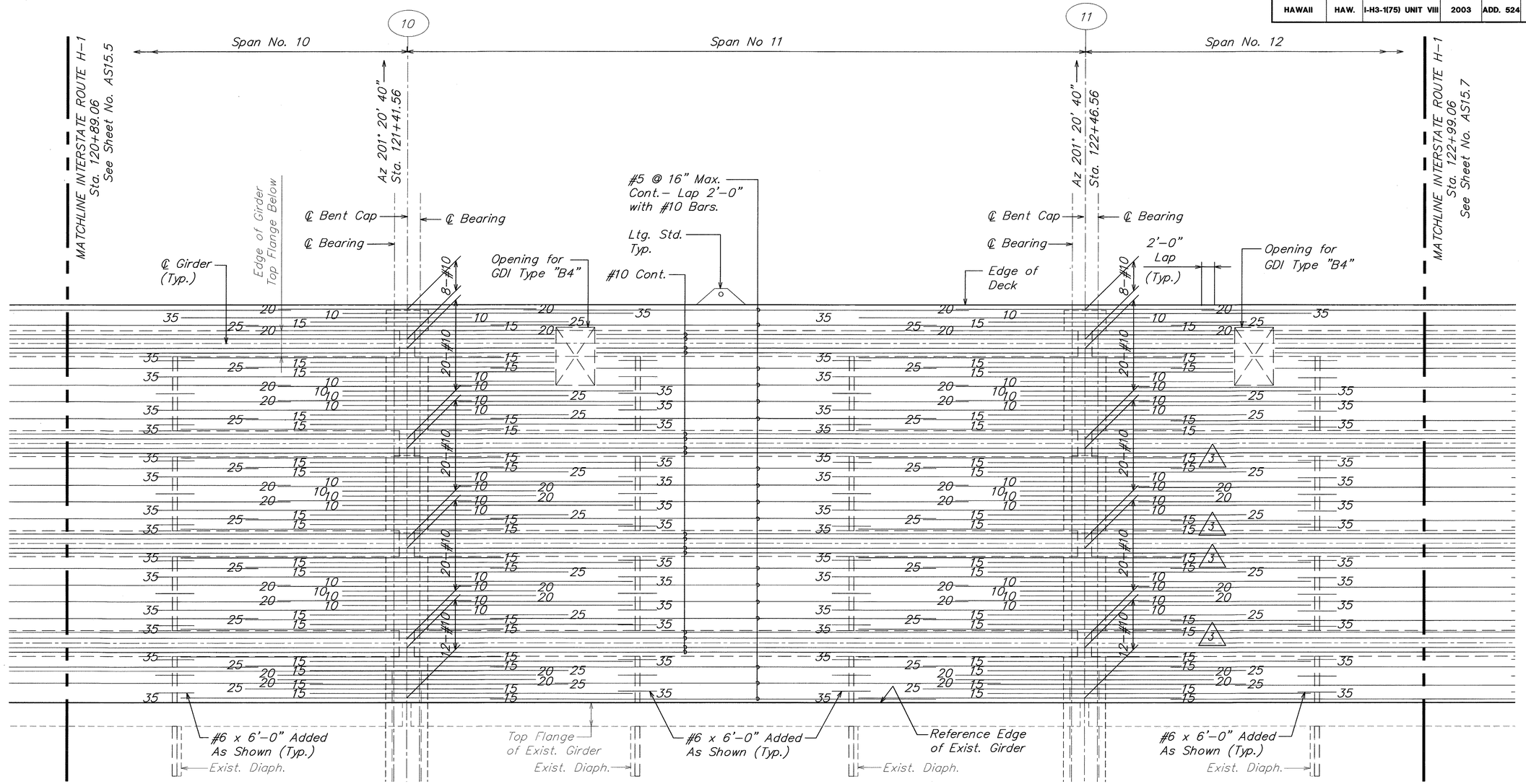
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE
NOTE BOOK | No.

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1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 524 | 816 |




## STEEL PLACEMENT DIAGRAM – DECK SLAB TOP LONGITUDINAL REINFORCEMENT SPAN NO. 10, NO. 11 AND NO. 12

SCALE: LONGITUDINAL 1/8" = 1'–0"
TRANSVERSE 1/4" = 1'–0"

A
AS15.6 | AS15.6

NOTES:

1. Numbers at ends of #10 rebars indicate distance from ℄ bent cap in feet.
2. All rebars shall be #10 unless noted otherwise.
3. Refer to sheets AS16.14 and AS16.15 for additional reinforcement at deck drains.

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Rebar Clarification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STEEL PLACEMENT DIAGRAM
SPAN NO. 10, NO. 11 AND NO. 12

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS15.6 OF 150 SHEETS

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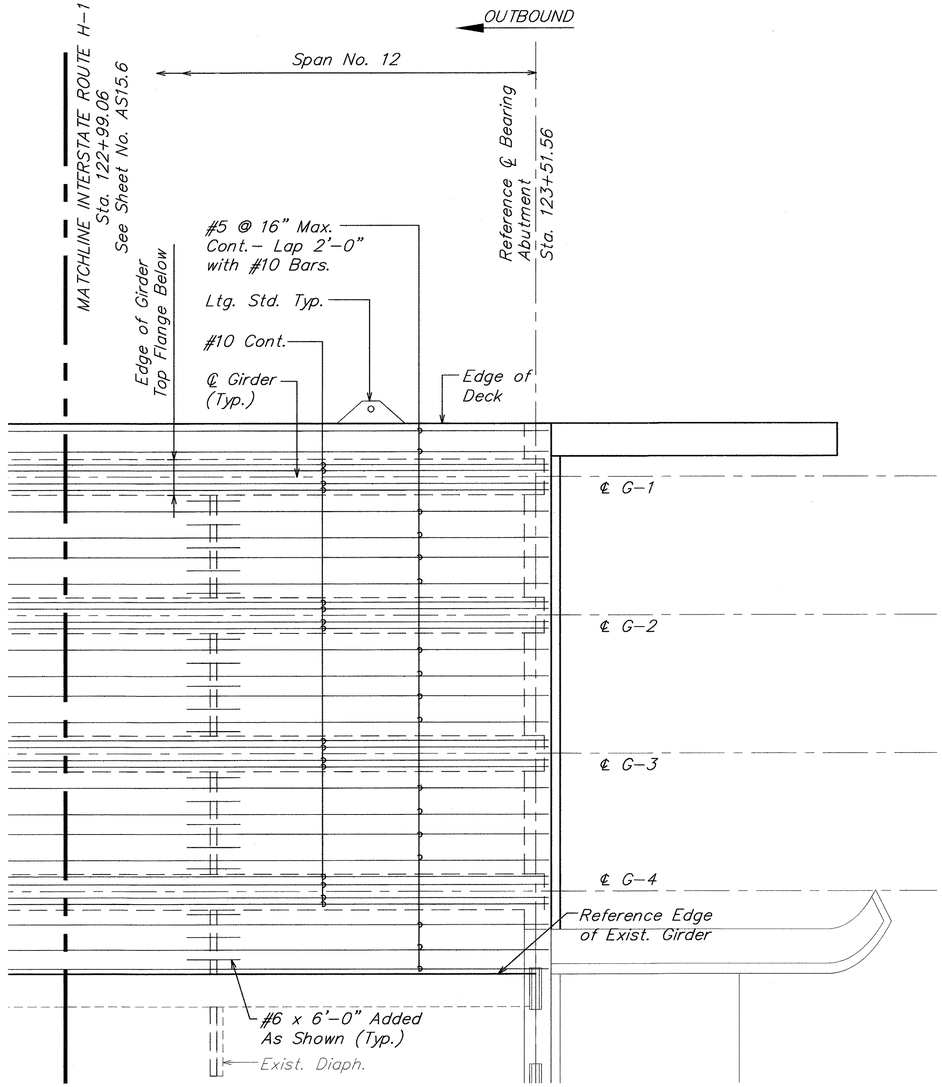
ORIGINAL PLAN
NOTE BOOK
No.
SHEET PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

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1 = 1

ADD. 524

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 525 | 816 |




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

## STEEL PLACEMENT DIAGRAM – DECK SLAB TOP LONGITUDINAL REINFORCEMENT SPAN NO. 12

SCALE: LONGITUDINAL 1/8" = 1'-0"
TRANSVERSE 1/4" = 1'-0"

A
AS15.7 | AS15.7

NOTES:

1. Numbers at ends of #10 rebars indicate distance from ℄ bent cap in feet.
2. All rebars shall be #10 unless noted otherwise.
3. Refer to sheets AS16.14 and AS16.15 for additional reinforcement at deck drains.

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STATE OF HAWAII
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HIGHWAYS DIVISION

STEEL PLACEMENT DIAGRAM
SPAN NO. 12

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

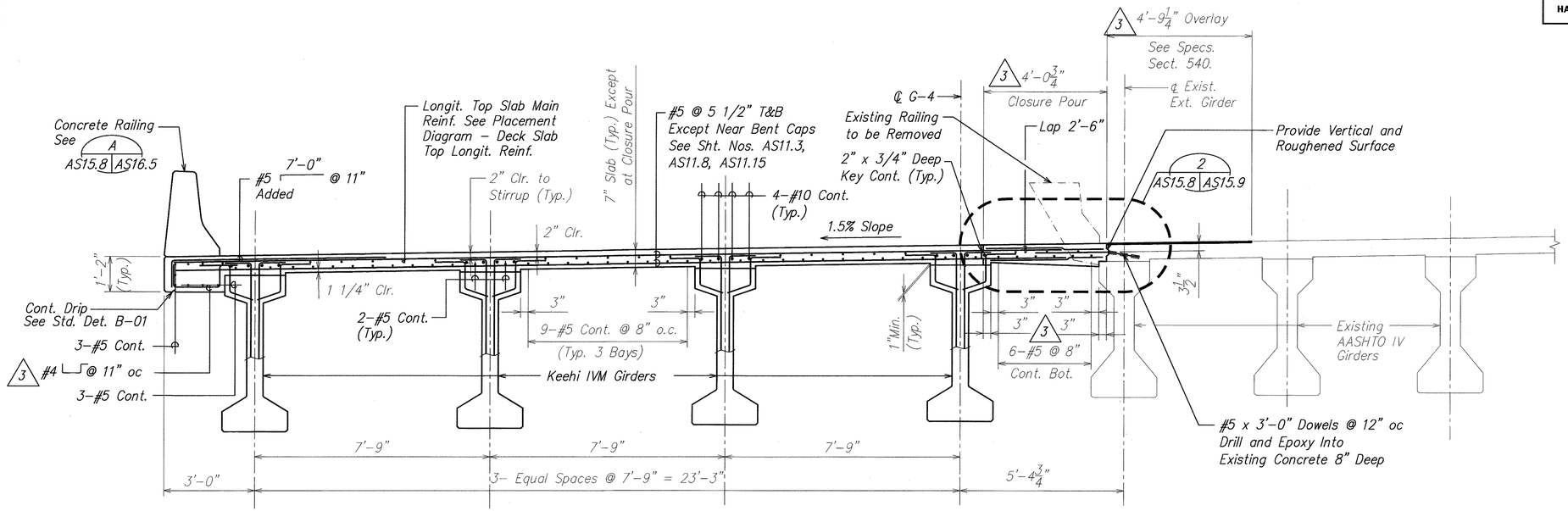
SHEET No. AS15.7 OF 150 SHEETS

525

WV-AS1501.DWG
1 = 1

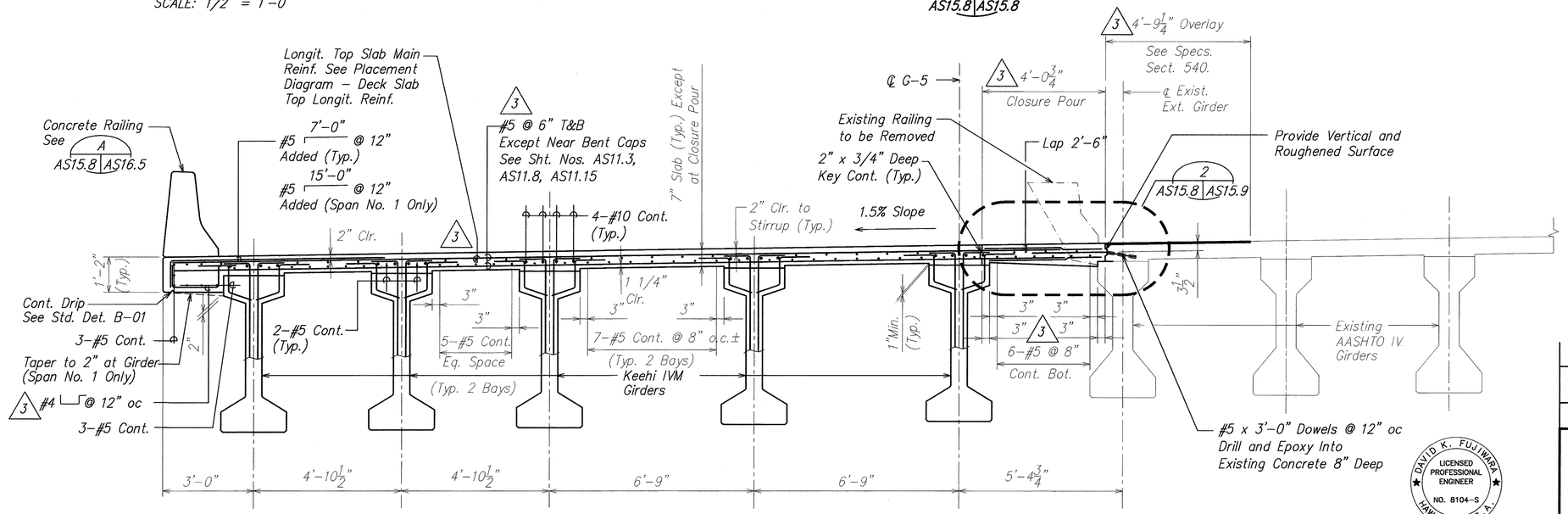
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 526 | 816 |




## NORMAL DECK REINFORCING SECTION – FRAMES B, C AND D (1 AS15.8 AS15.8)

SCALE: 1/2" = 1'-0"




## NORMAL DECK REINFORCING SECTION – FRAME A (2 AS15.8 AS15.8)

SCALE: 1/2" = 1'-0"

NOTES:

1. Refer to Detail 3/AS15.9 for rebars at Bent Nos. 1, 2, and 8.
2. See sheet no. AS15.9 for added reinforcing in each drop panel.

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification and Revised Dimension |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NORMAL DECK REINFORCING SECTIONS
# FRAMES A, B, C AND D

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

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David K. Fujiwara 4-30-04
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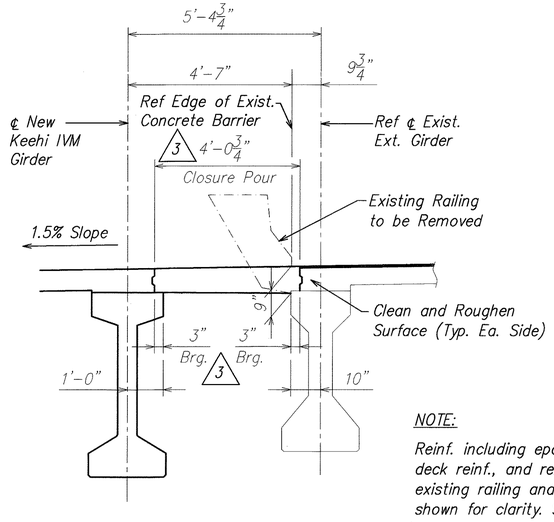
SHEET No. AS15.8 OF 150 SHEETS

ADD. 526

WV-AS1508.DWG 1 = 1

\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1508.dwg, AS15.8, 6/18/2003 1:07:14 PM, KSF inc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 527 | 816 |

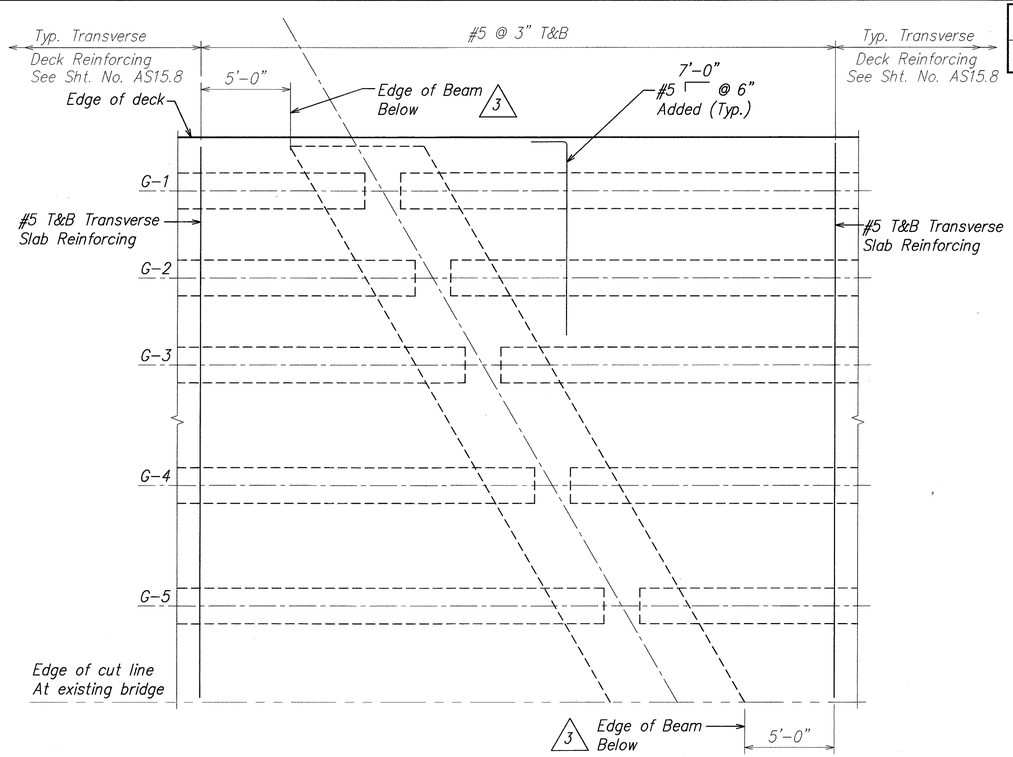



NOTE:

Reinf. including epoxy dowels at right, deck reinf., and rebar extension from existing railing and existing deck not shown for clarity. See Sht. 2/AS15.9 Below.

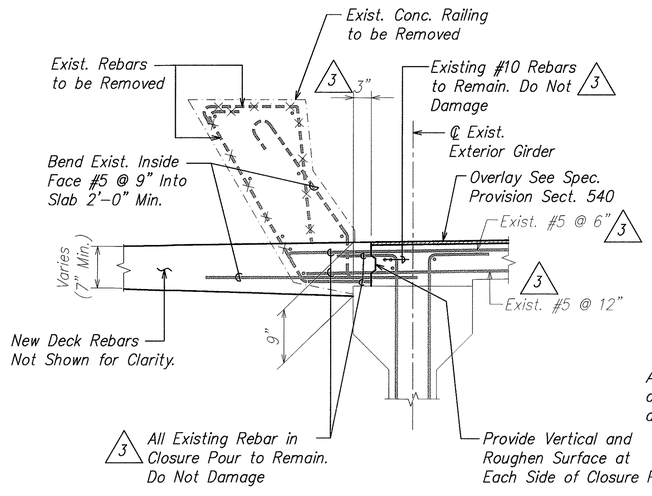
## CLOSURE POUR SECTION 1 AS15.9|AS15.9

SCALE: 1/2" = 1'-0"

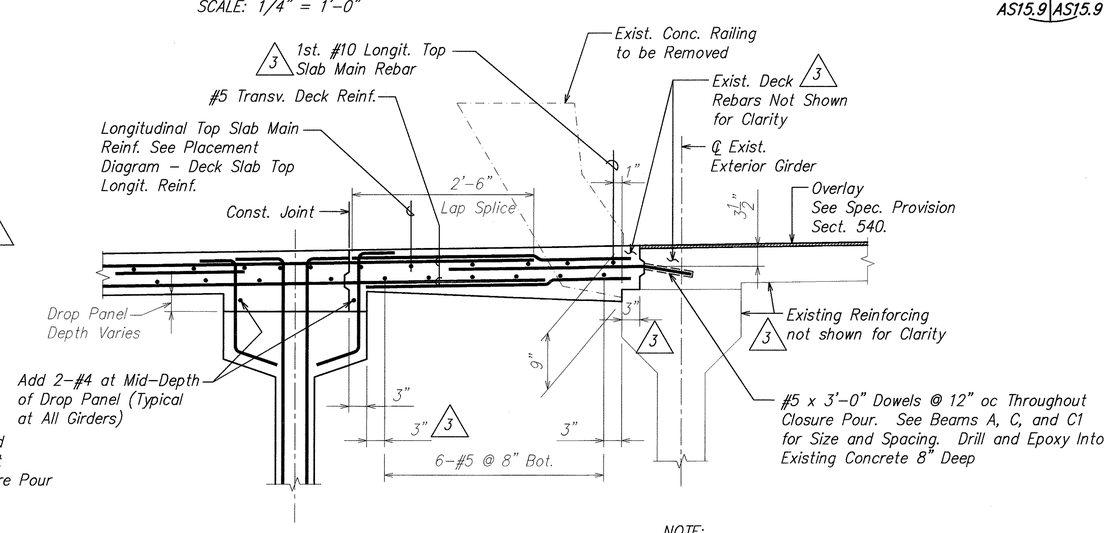



## TRANSVERSE DECK REINF. AT BENT NOS. 1, 2, AND 8 3 AS15.9|AS15.9

SCALE: 1/4" = 1'-0"




DEMOLITION WORK




NEW WORK

## SECTION 2 AS15.8|AS15.9

SCALE: 1" = 1'-0"

NOTE:

Closure Pour and Overlay shall Extend From H-1 ℄ Sta. 111+04.81 to H-1 ℄ Sta. 123+53.31

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CLOSURE POUR SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS15.9 OF 150 SHEETS

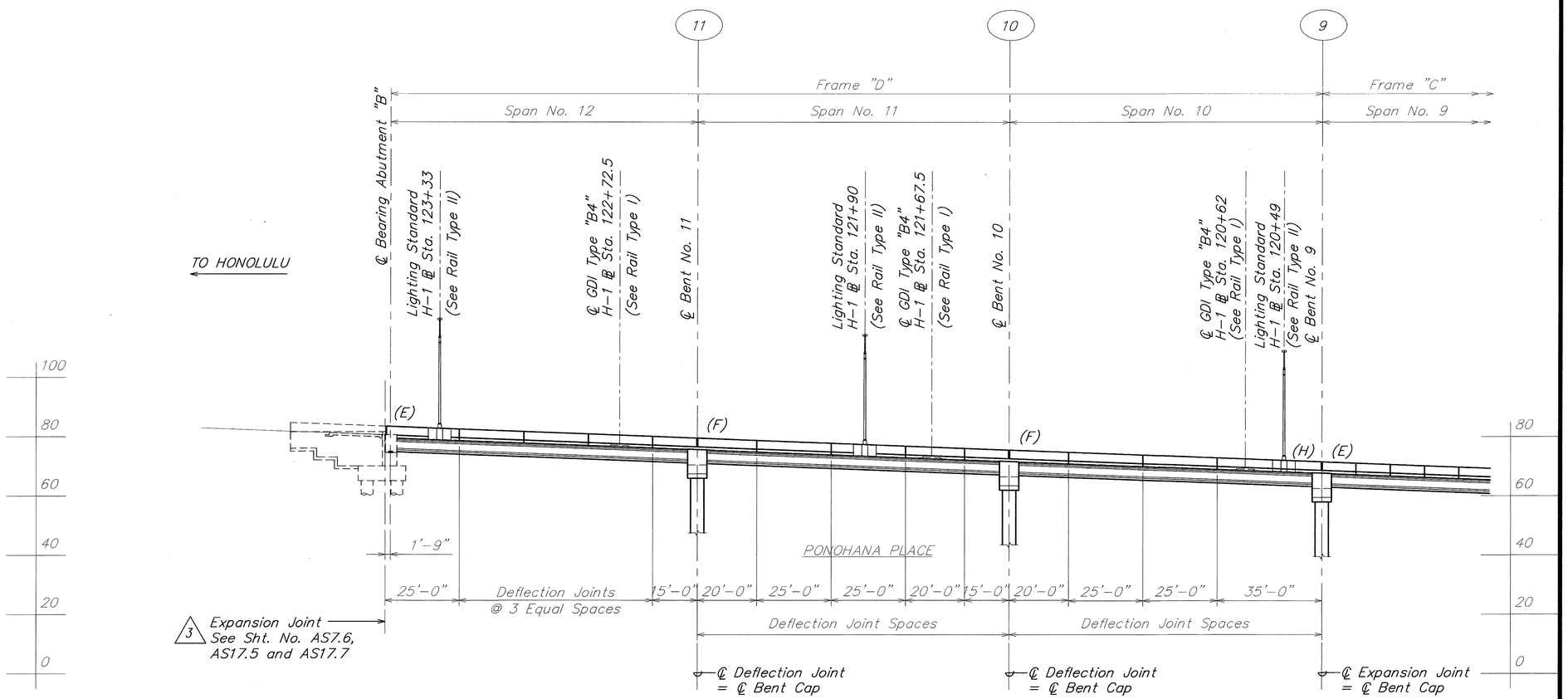
ADD. 527

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

WV-AS1508.DWG 1 = 1

\Cad1\fsf\2001\0065-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1508.dwg, AS15.9, 6/18/2003 1:07:46 PM, SFmc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 528 | 816 |




LEGEND:

(E) Expansion Joint

(F) Fixed Joint

(H) Hinged Joint

NOTE:

See Rail Type III and Rail Type IV on sheet no. AS16.4 for pullboxes in bridge rail reinforcing and location requirements.

## RAILING LAYOUT – ABUTMENT "B" TO BENT NO. 9

SCALE: 1" = 20'-0"

A AS16.1 | AS16.1

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

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarify Reference Sheets |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAILING LAYOUT
ABUTMENT "B" TO BENT NO. 9

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

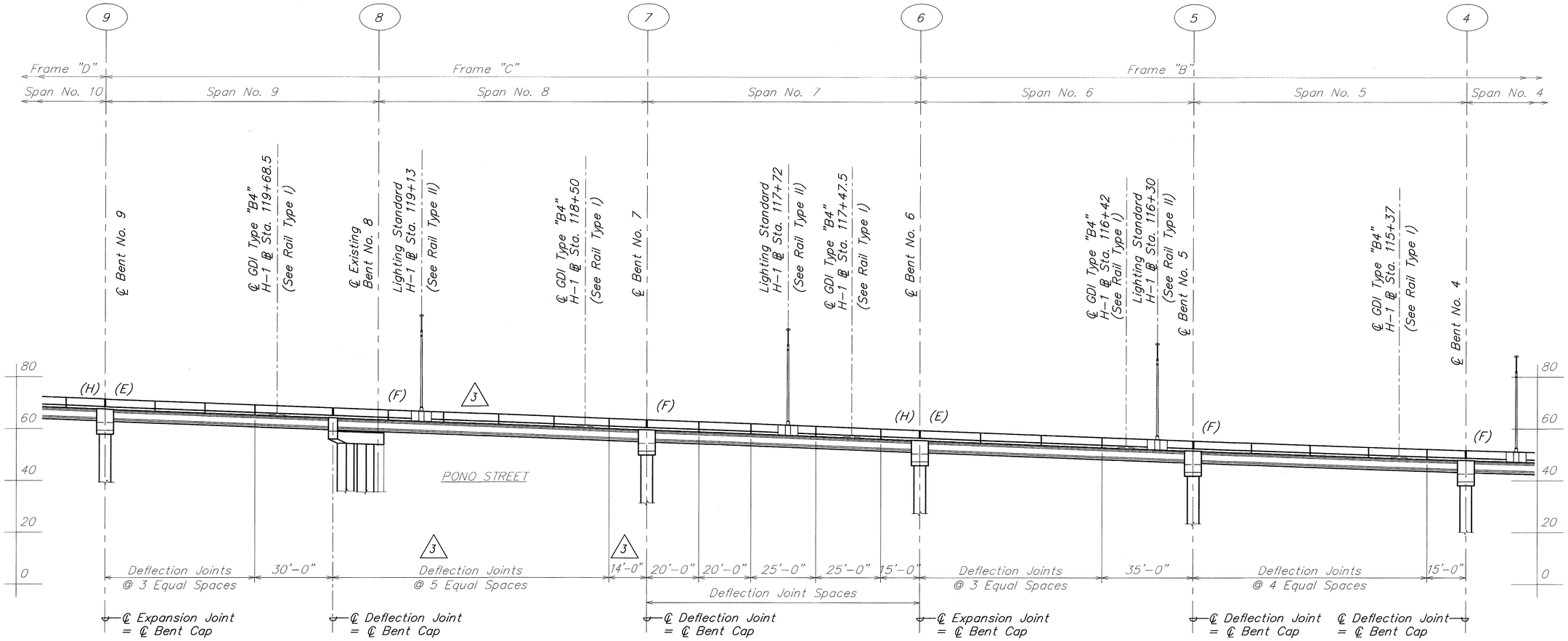
SHEET No. AS16.1 OF 150 SHEETS

ADD. 528

\\Cad\vsf\2001\10066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1601.dwg, AS16.1, 6/18/2003 1:08:26 PM, KSFinc.pc3

WV-AS1601.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 529 | 816 |




LEGEND:

(E) Expansion Joint

(F) Fixed Joint

(H) Hinged Joint

NOTE:

See Rail Type III and Rail Type IV on sheet no. AS16.4 for pullboxes in bridge rail reinforcing and location requirements.

## RAILING LAYOUT – BENT NO. 9 TO BENT NO. 4

SCALE: 1" = 20'-0"

A
AS16.2 | AS16.2

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

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NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara
SIGNATURE

4-30-04
EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revise Deflection Joint |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAILING LAYOUT
BENT NO. 9 TO BENT NO. 4

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

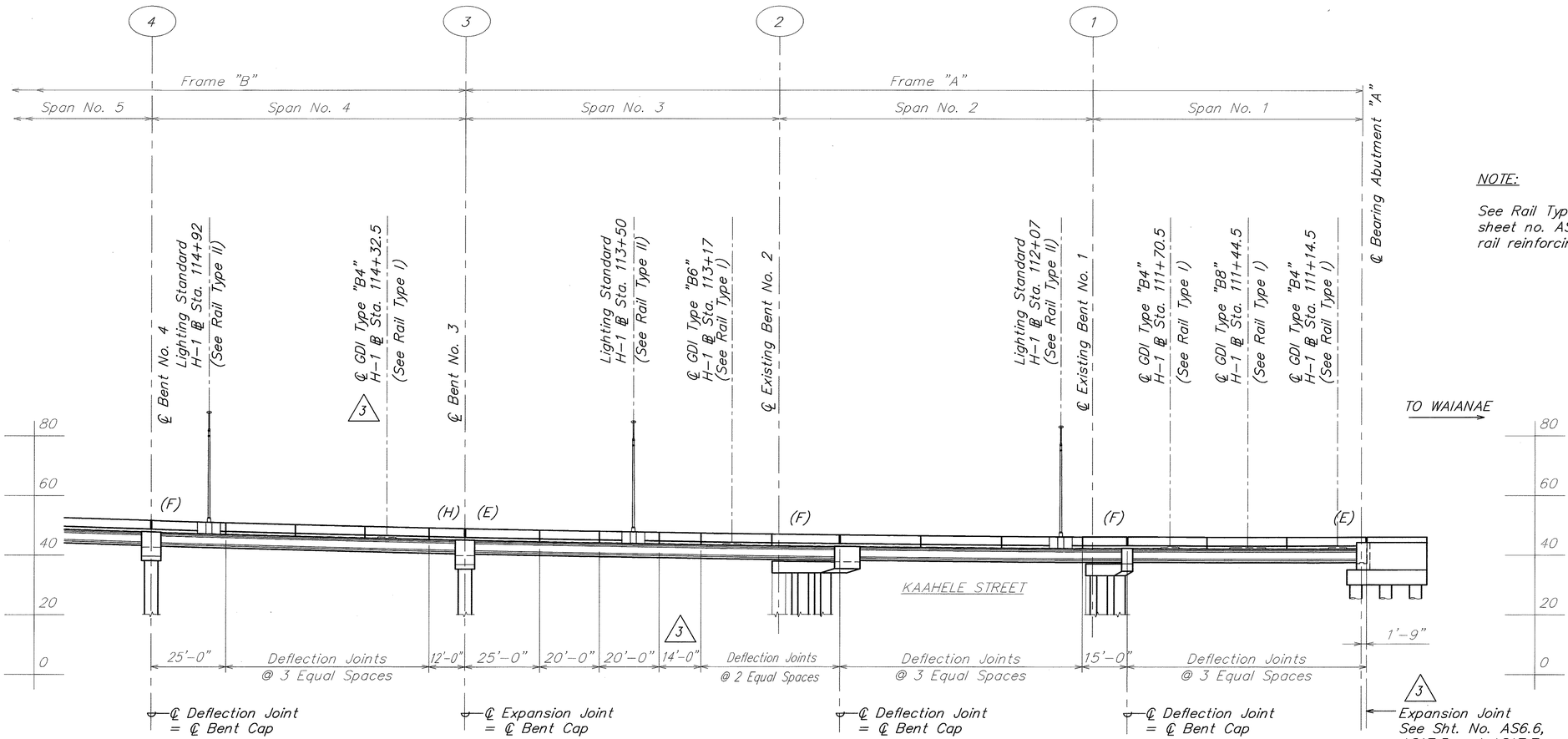
SHEET No. AS16.2 OF 150 SHEETS

ADD. 529

WV-AS1601.DWG
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\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1601.dwg, AS16.2, 6/18/2003 1:08:39 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 530 | 816 |




NOTE:

See Rail Type III and Rail Type IV on sheet no. AS16.4 for pullboxes in bridge rail reinforcing and location requirements.

LEGEND:

(E) Expansion Joint

(F) Fixed Joint

(H) Hinged Joint

## RAILING LAYOUT – BENT NO. 4 TO ABUTMENT "A"

SCALE: 1" = 20'-0"

A
AS16.3 | AS16.3

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

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Relocate Drain and Revise Deflection Joint |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAILING LAYOUT
BENT NO. 4 TO ABUTMENT "A"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

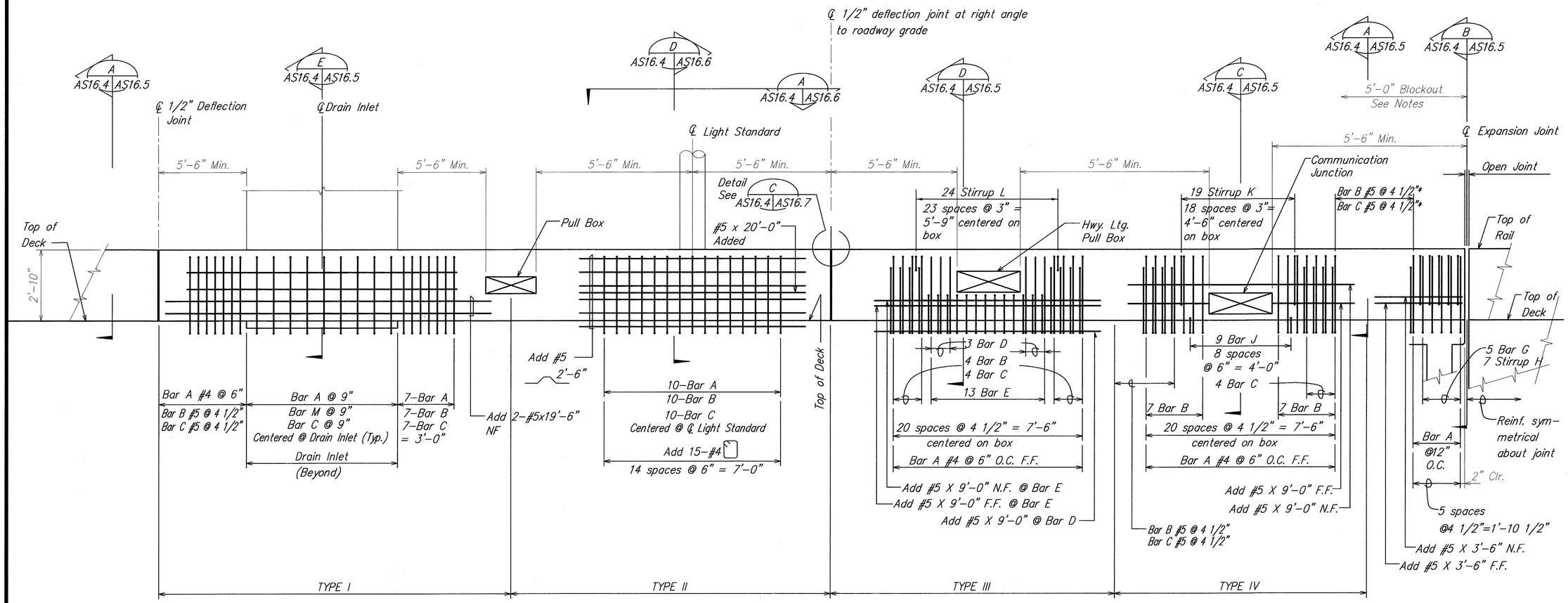
SHEET No. AS16.3 OF 150 SHEETS

ADD. 530

WV-AS1601.DWG
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\\Cad\vsf\2001\10066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1601.dwg, AS16.3, 6/18/2003 1:09:00 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 531 | 816 |




## CONCRETE RAILING ELEVATION @ EXTERIOR EDGE OF DECK

A AS16.4 AS16.4

SCALE: NONE

* Reinforcing at Pullbox Adjacent to Expansion Joint.

NOTES:

1. See Construction Stage 19 on sheet no. AS18.3
2. Blockout on both sides of expansion joint at piers.
3. Blockout on bridge side of expansion joint at abutments.
4. See sheet no. AS 16.7 for limits of blockout.
5. For balance of reinforcing, See sections on sht. nos. AS15.5 and AS16.6.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE RAILING ELEVATIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS16.4 OF 150 SHEETS

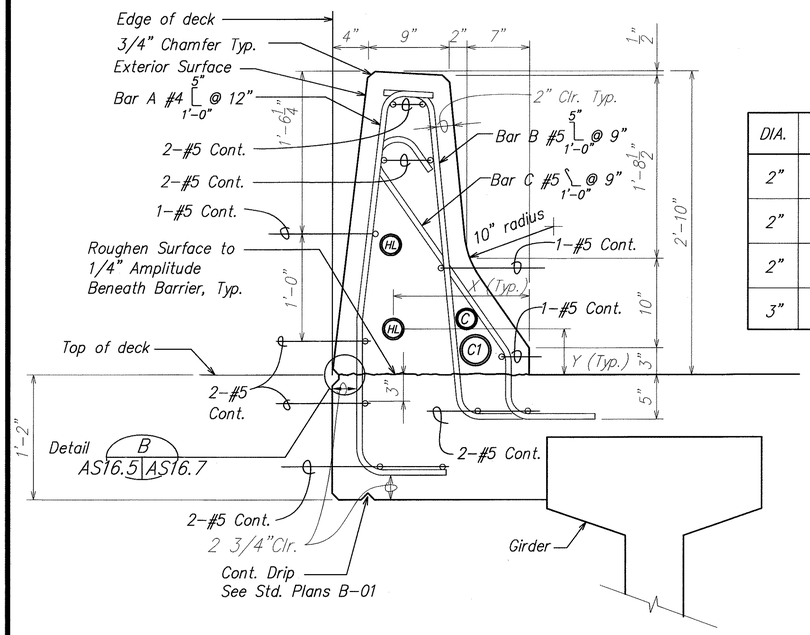
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

WV-AS1604.DWG 1 = 1

531

\\Cad\vsf\2001\10066-WAIMALU VIADUCT\04-07-03 AS\WV-AS1604.dwg, AS16.4, 4/4/2003 8:12:12 AM, K.SFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 532 | 816 |




## TYPICAL SECTION AT EXTERIOR EDGE OF DECK (A)

SCALE: 1 1/2" = 1'-0"

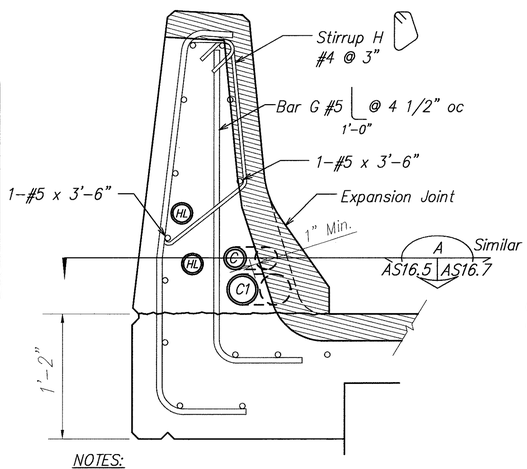
AS16.4 | AS16.5 | AS15.8

CONDUIT PLACEMENT

| DIA. | TYPE | X | Y |
|---|---|---|---|
| 2" | HL | 16 1/8" | 12 1/4" |
| 2" | HL | 15 3/16" | 5 1/8" |
| 2" | C | 7" | 6 1/4" |
| 3" | C1 | 6" | 2 3/4" |

NOTE:

1. Work this drawing with Sheet Nos. AS16.4, AS16.6 and AS16.7.
2. See Sheet Nos. AS15.1 to AS15.8 for deck reinforcing.



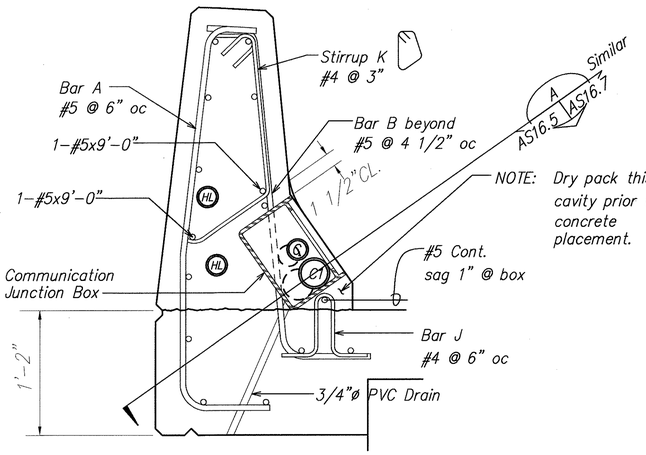

NOTES:

1. All dimensions, reinforcement and conduits are same as Section A unless noted otherwise.
2. Bars shown beyond expansion joint.
3. Contractor shall coordinate location of ducts with expansion joint manufacturers.

## SECTION AT EXPANSION JOINT (B)

SCALE: 1 1/2" = 1'-0"

AS16.4 | AS16.5

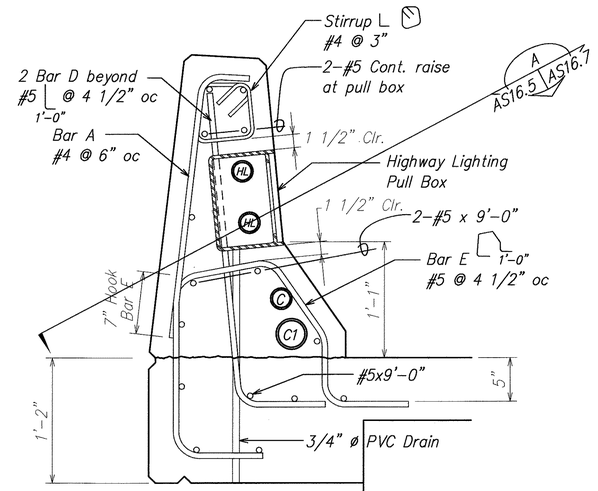



NOTE: All dimensions, reinforcement and conduits are same as Section A unless noted otherwise.

## SECTION AT COMMUNICATION JUNCTION BOX (C)

SCALE: 1 1/2" = 1'-0"

AS16.4 | AS16.5

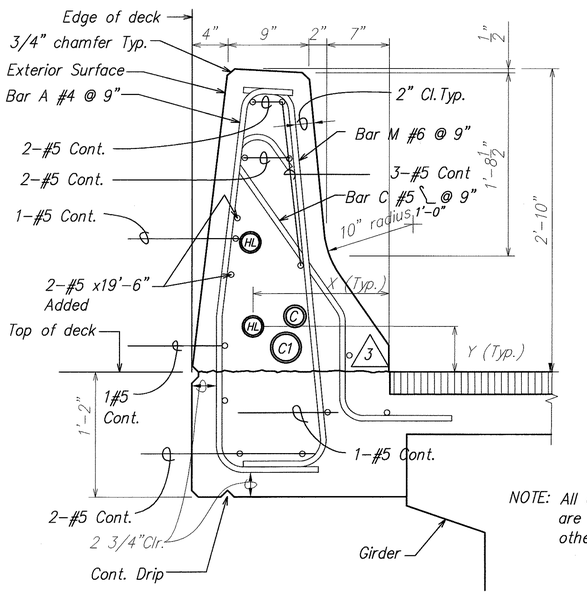



NOTE: All dimensions, reinforcement and conduits are same as Section A unless noted otherwise.

## SECTION AT HIGHWAY LIGHTING PULLBOX (D)

SCALE: 1 1/2" = 1'-0"

AS16.4 | AS16.5




NOTE: All dimensions, reinforcement and conduits are same as Section A unless noted otherwise.

## TYPICAL SECTION AT DRAIN OPENING (E)

SCALE: 1 1/2" = 1'-0"

AS16.4 | AS16.5

CONDUIT OFFSET DIMENSIONS AT DRAIN OPENING

| CONDUIT | OFFSET | RADIUS | LENGTH | ANGLE |
|---|---|---|---|---|
| 2" C | 4 1/2" | 12" | 18" | 24.5° |
| 3" C | 5 1/2" | 12" | 18" | 24.5° |

See Section A/AS16.5 for similar diagram.

3 TYPICAL NOTES:

1. Deck reinforcing not shown for clarity.
2. See electrical sheets for pull box information.

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Added Notes and Clarified Detail. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE RAILING SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS16.5 OF 150 SHEETS

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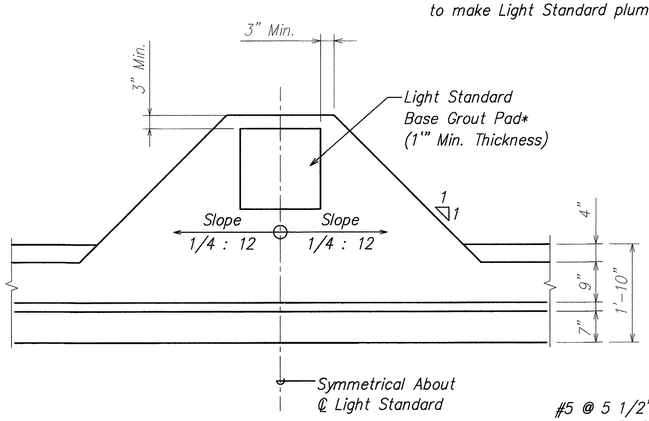
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE
NOTE BOOK | No.

\\Cad1\xsf\2001\10066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS1605.dwg, AS16.5, 6/18/2003 1:09:36 PM, KSFinc.pc3

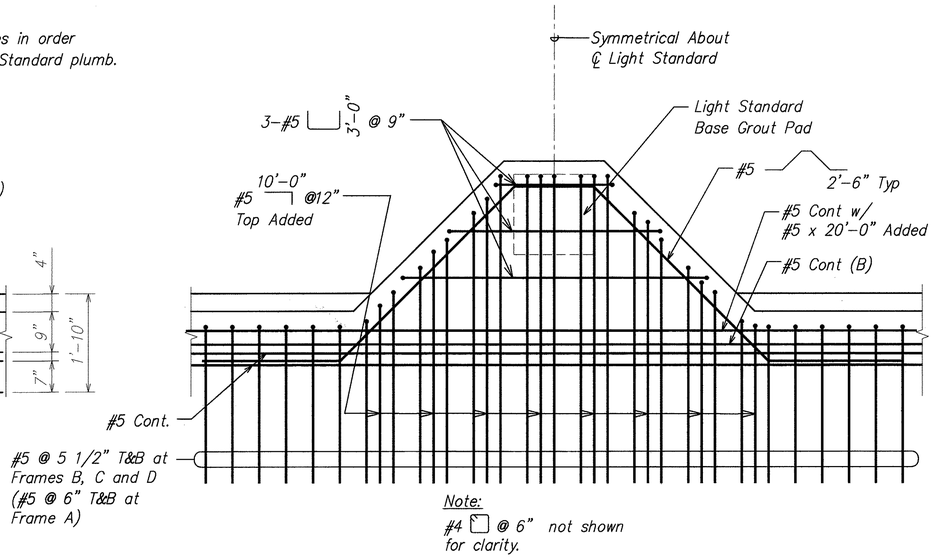
WV-AS1605.DWG
1 = 1

ADD. 532

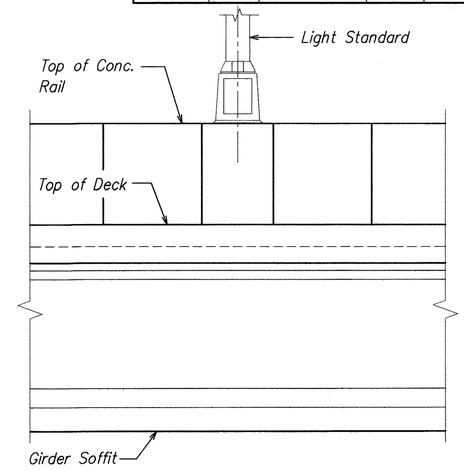
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 533 | 816 |



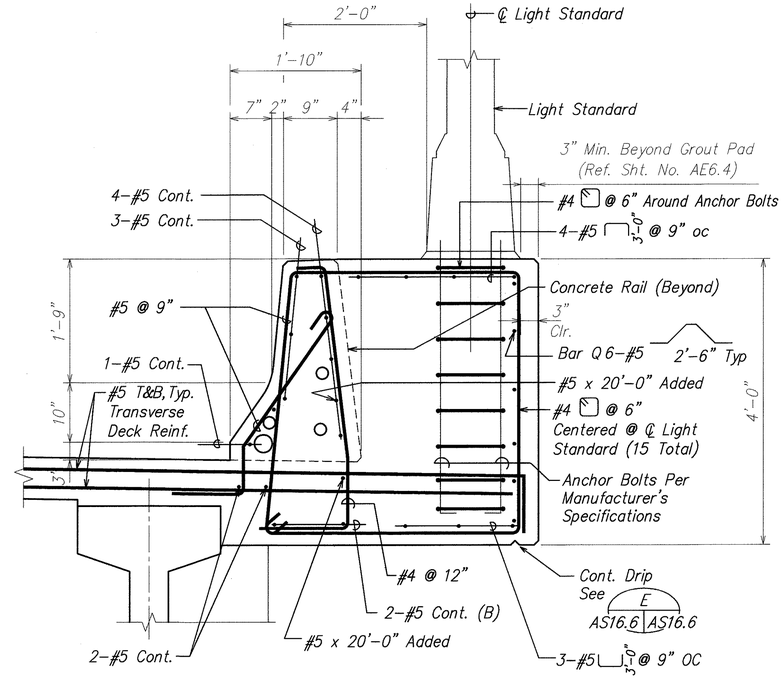

PLAN – THICKENED PARAPET AT LIGHT STANDARD (A)
SCALE: 3/4" = 1'-0"
AS16.4 | AS16.6



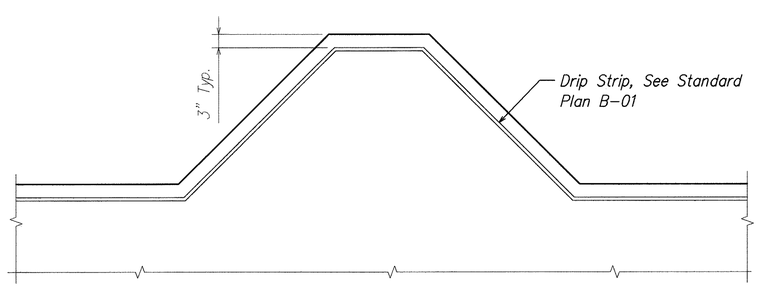

DECK REINFORCING AT LIGHT STANDARD (B)
SCALE: 3/4" = 1'-0"
AS16.6 | AS16.6




ELEVATION – THICKENED PARAPET AT LIGHT STANDARD (C)
SCALE: 1/2" = 1'-0"
AS16.6 | AS16.6




TYPICAL THICKENED PARAPET AT LIGHT STANDARD (D)
SCALE: 1" = 1'-0"
AS16.4 | AS16.6




DRIP STRIP DETAIL AT LIGHT STANDARD (LOOKING AT SOFFIT) (E)
SCALE: 3/4" = 1'-0"
AS16.6 | AS16.6

TYPICAL NOTE:
Deck reinforcing not shown for clarity.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
| No. | TRACED BY | |
| | DESIGNED BY | |
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| | CHECKED BY | |

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

THICKENED PARAPET AT LIGHT STANDARD SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS16.6 OF 150 SHEETS

533

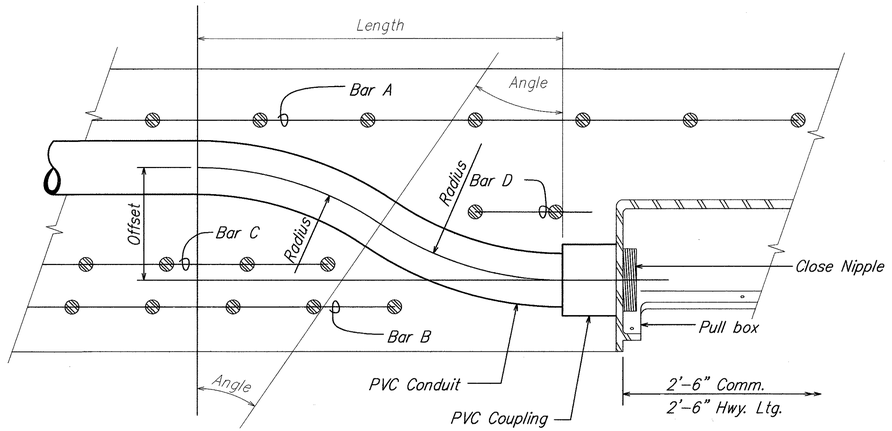
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1 = 1

\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\04-07-03 AS\WV-AS1606.dwg, AS16.6, 4/4/2003 4:38:21 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 534 | 816 |

CONDUIT OFFSET DIMENSIONS

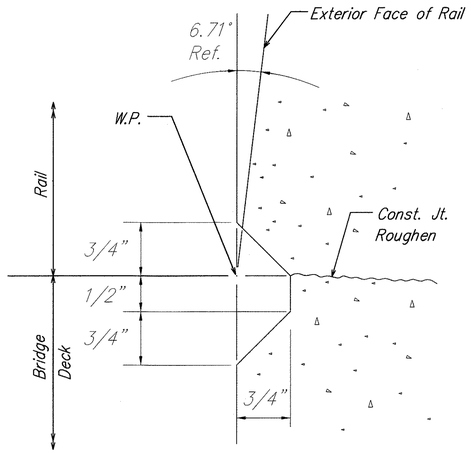
| PULL BOX | CONDUIT DIA. | OFFSET | RADIUS | LENGTH | ANGLE |
|---|---|---|---|---|---|
| HL | 2" | 11" | 18" | 25 7/8" | 46.02° |
| C | 2" | 1 1/16" | 12" | 7 1/16" | 17.11° |
| | 3" | 2 3/16" | 12" | 10" | 24.65° |
| Expansion Joint Similar | 2" | 3 7/16" | 12" | 12 3/8" | 31.04° |




## SECTION–CONDUIT OFFSET AT PULLBOX (A)

SCALE: 1 1/2" = 1'-0"

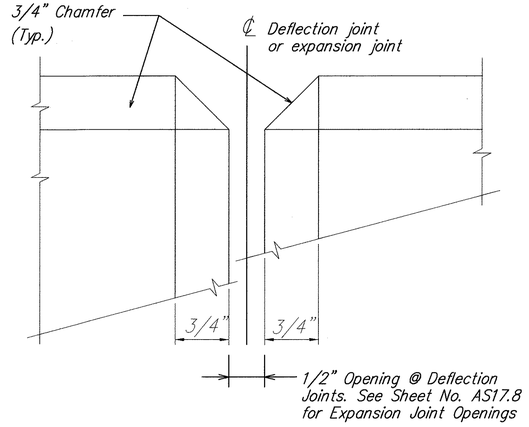
AS16.5 | AS16.7




## DETAIL (B)

FULL SCALE

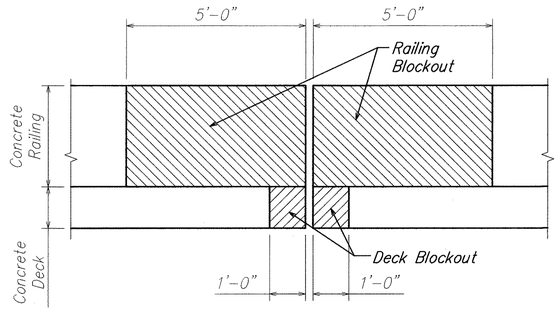
AS16.5 | AS16.7




## DETAIL (C)

FULL SCALE

AS16.4 | AS16.7




## RAILING BLOCKOUT

SCALE: 1/2" = 1'-0"

Note:
Railing Blockout shall not be poured until deck concrete has attained its 28 days compressive strength.

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

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TYPICAL CONCRETE RAILING DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS16.7 OF 150 SHEETS

WV-AS1606.DWG
1 = 1



\\Cad\ksf\2001\10066-WAIMALU VIADUCT\04-07-03 AS\WV-AS1606.dwg, AS16.7, 4/4/2003 8:46:25 AM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 535 | 816 |

# TOP GIRDER CONCRETE SEAT ELEVATION AND SLOPE SCHEDULE

| | ABUT. "A" ELEV. (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | ℄ Bent Cap of Bent No. 1 A (7) | B (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | ℄ Bent Cap of Bent No. 2 A (7) | B (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | 3 A (7) | B (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | 4 A (7) | B (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | 5 A (7) | B (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | 6 A (7) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G-1 | 36.15 | (+) | 0 :12 | (+) | 36.44 | 36.45 | (+) | 1/8 :12 | (+) | 36.98 | 36.98 | (+) | 3/16 :12 | (+) | 38.71 | 39.12 | (+) | 5/16:12 | (+) | 41.91 | 42.06 | (+) | 7/16 :12 | (+) | 45.61 | 45.72 | (+) | 1/2 :12 | (+) | 49.40 |
| G-2 | 36.22 | | | | 36.52 | 36.53 | | | | 37.08 | 37.08 | | | | 38.78 | 39.23 | | | | 42.03 | 42.18 | | | | 45.73 | 45.84 | | | | 49.52 |
| G-3 | 36.29 | | | | 36.59 | 36.56 | | | | 37.30 | 37.27 | | | | 38.94 | 39.35 | | | | 42.14 | 42.29 | | | | 45.84 | 45.96 | | | | 49.63 |
| G-4 | 36.38 | | | | 36.69 | 36.66 | | | | 37.49 | 37.47 | | | | 39.09 | 39.49 | | | | 42.29 | 42.41 | | | | 45.96 | 46.10 | | | | 49.78 |
| G-5 | 36.47 | | | | 36.80 | 36.77 | | | | 37.67 | 37.67 | | | | 39.24 | – | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | 6 B (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | 7 A (7) | B (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | ℄ Bent Cap of Bent No. 8 A (7) | B (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | 9 A (7) | B (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | 10 A (7) | B (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | 11 A (7) | B (7) | DIRECTION | TOP SEAT SLOPE | DIRECTION | ABUT. "B" ELEV. (7) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G-1 | 49.74 | (+) | 7/16 :12 | (+) | 53.74 | 53.83 | (+) | 7/16 :12 | (+) | 58.22 | 58.38 | (+) | 1/2 :12 | (+) | 61.59 | 61.81 | (+) | 7/16 :12 | (+) | 65.83 | 66.00 | (+) | 7/16 :12 | (+) | 69.90 | 70.03 | (+) | 7/16 :12 | (+) | 73.71 |
| G-2 | 49.86 | | | | 53.85 | 53.96 | | | | 58.18 | 58.25 | | | | 61.70 | 61.93 | | | | 65.95 | 66.12 | | | | 70.01 | 70.14 | | | | 73.83 |
| G-3 | 49.97 | | | | 54.01 | 54.16 | | | | 58.28 | 58.43 | | | | 61.77 | 62.05 | | | | 66.06 | 66.24 | | | | 70.13 | 70.26 | | | | 73.95 |
| G-4 | 50.09 | | | | 54.13 | 54.27 | | | | 58.22 | 58.37 | | | | 61.87 | 62.19 | | | | 66.21 | 66.35 | | | | 70.25 | 70.41 | | | | 74.09 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Note:
The elevations are based on a field survey of the grade control points which have a tolerance of more than ± 0.01 feet. See Viaduct General Notes 8A and 8B.

| | |
|---|---|
| 10/31/03 | 7 Revise Seat Elevations. |
| DATE | REVISION |

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TOP GIRDER CONCRETE SEAT ELEVATION AND SLOPE SCHEDULE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS16.8 OF 150 SHEETS

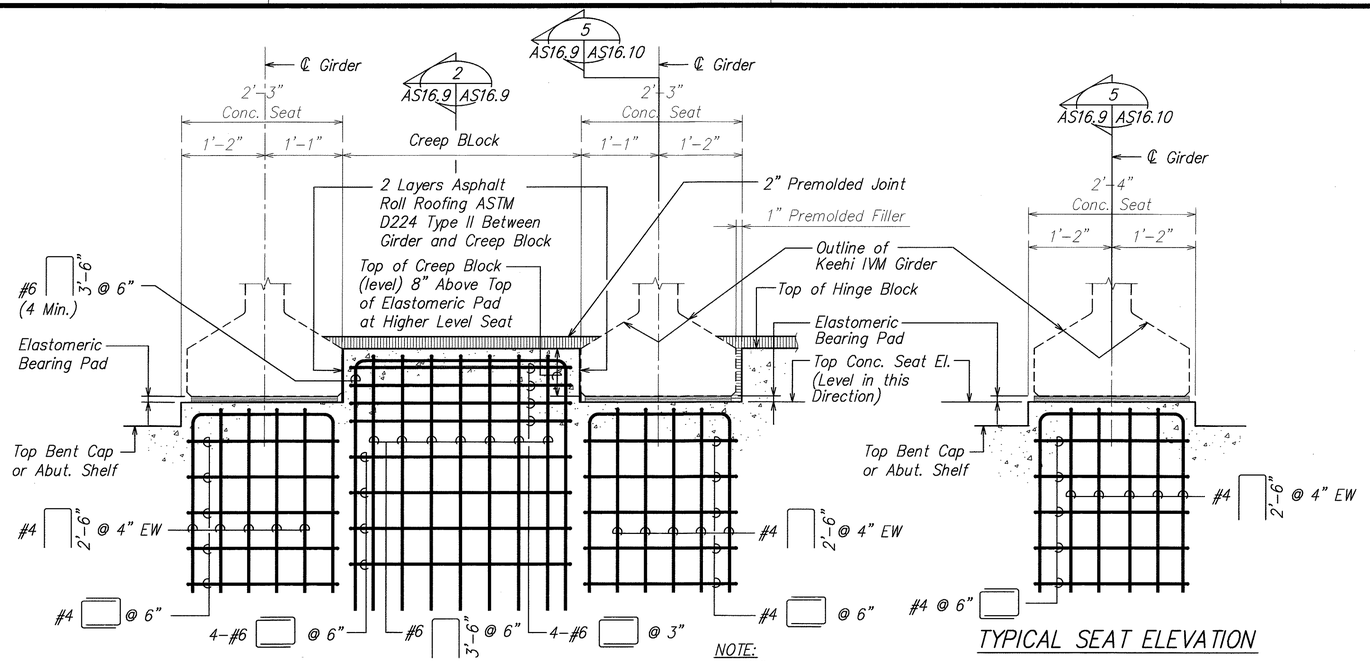
ADD. 535

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

WV-AS1608.DWG
1 = 1

C:\LSCS\SAFN\10585-44-V1.J - 2:\ACTIVE\31-02 -S - 2\SYL\137 #--AS1608.dwg Wed, 10/29/2003 2:42:41 PM

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 536 | 816 |

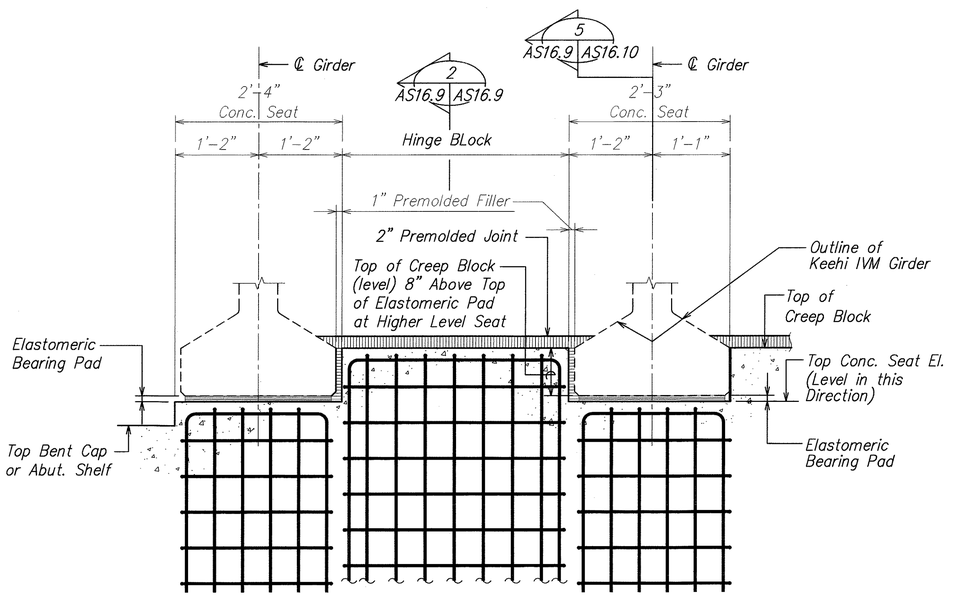



SEAT ELEVATION AT CREEP BLOCK




TYPICAL SEAT ELEVATION

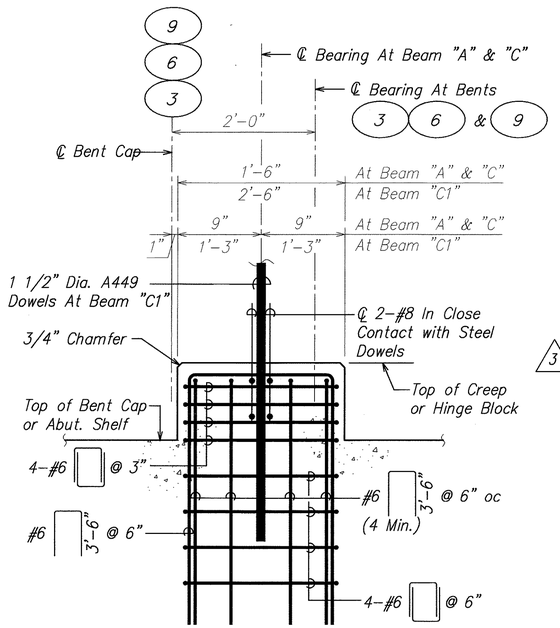
NOTE:
1 1/2" Dia. Dowels at Hinge End Not Shown for Clarity.



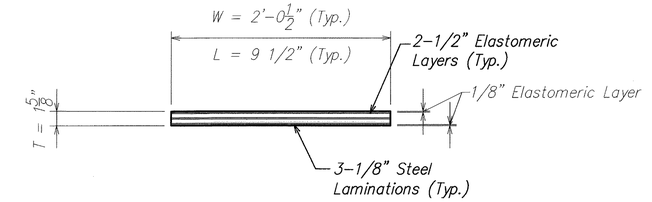

SEAT ELEVATION AT HINGE BLOCK

NOTE:
1 1/2" Dia. Dowels at Hinge End Not Shown for Clarity.

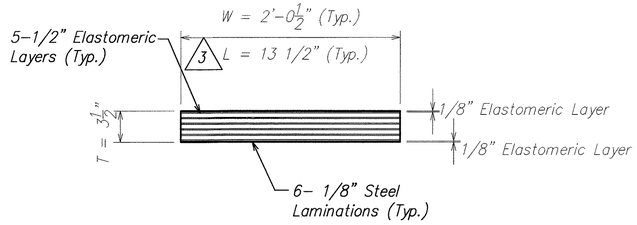
TYPICAL SECTION (1)
SCALE: 1" = 1'-0"
AS16.10 | AS16.9



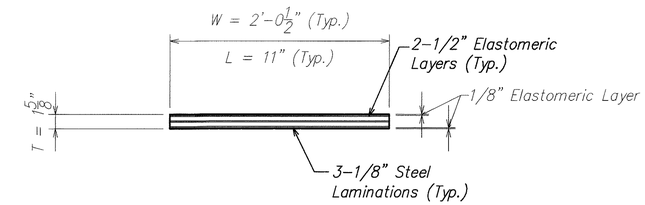

TYPICAL SECTION (2)
SCALE: 1" = 1'-0"
AS16.9 | AS16.9




TYPE I – ELASTOMERIC BEARING PAD DETAIL AT SEAT EXTENDERS (3)
SCALE: 1 1/2" = 1'-0"
AS16.9 | AS16.9




TYPE II – ELASTOMERIC BEARING PAD DETAIL AT EXPANSION ENDS (4)
SCALE: 1 1/2" = 1'-0"
AS16.9 | AS16.9




3 TYPE III – ELASTOMERIC BEARING PAD DETAIL AT HINGED ENDS (5)
SCALE: 1 1/2" = 1'-0"
AS16.9 | AS16.9

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised Type I & II Bearing Pads, Added Type III Bearing Pad |

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NO. 8104-S
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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 6-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CREEP BLOCK, HINGE BLOCK AND BEARING PAD SECTIONS AND DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS16.9 OF 150 SHEETS

ADD. 536

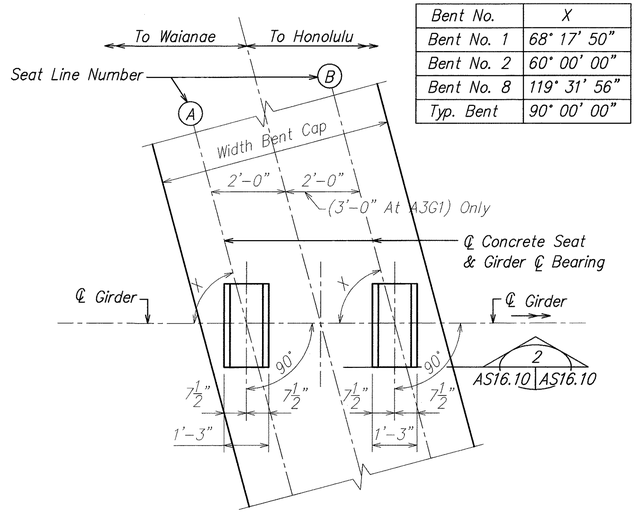
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
| No. | TRACED BY | |
| | DESIGNED BY | |
| | QUANTITIES BY | |
| | CHECKED BY | |

WV-AS1609.DWG
1 = 1

\\Cad1\sf\2001\0066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS 609.dwg, AS16.9, 6/18/2003 1:10:03 PM, KSFinc.pc3

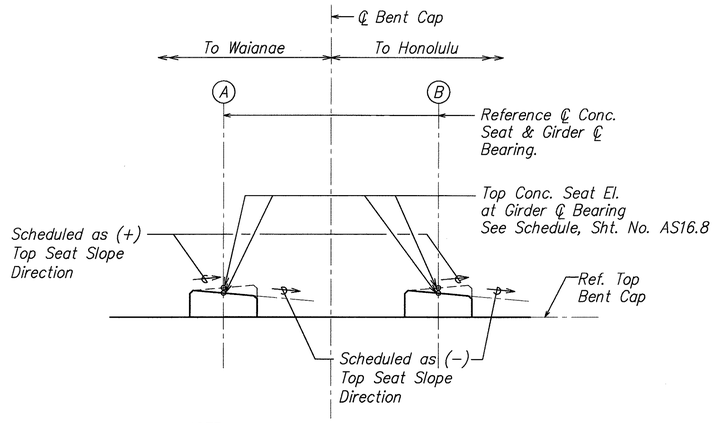
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 537 | 816 |

| Bent No. | X |
|---|---|
| Bent No. 1 | 68° 17' 50" |
| Bent No. 2 | 60° 00' 00" |
| Bent No. 8 | 119° 31' 56" |
| Typ. Bent | 90° 00' 00" |




PLAN – TYPICAL BENT CAP CONCRETE SEAT DETAIL (1 / AS16.10 | AS16.10)

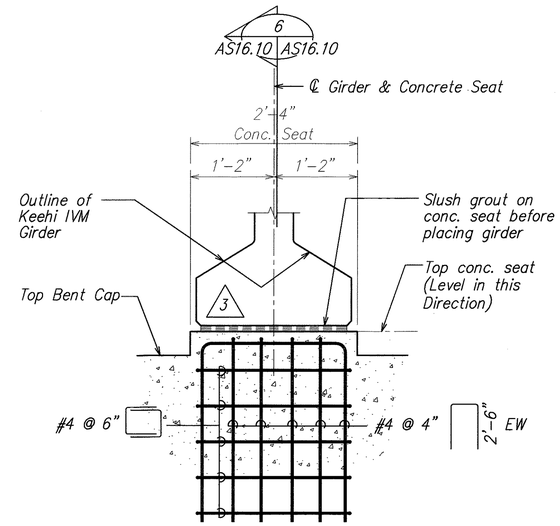
SCALE: 1/2" = 1'-0"




NOTE:
Top seat slope direction normal to concrete seat.

DIAGRAM – VARIOUS CONDITION OF TOP CONCRETE SEAT SLOPE AND DESIGNATIONS (2 / AS16.10 | AS16.10)

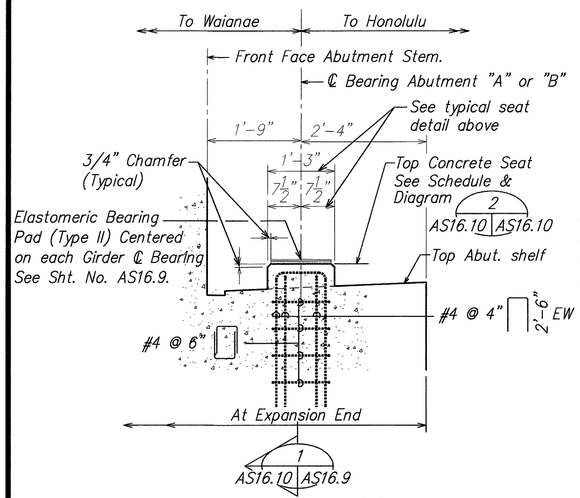
SCALE: 3/4" = 1'-0"




NOTE:
Refer to Sheet No. AS16.8 for seat elevation, schedule and slope.

SECTION (3 / AS16.10 | AS16.10)

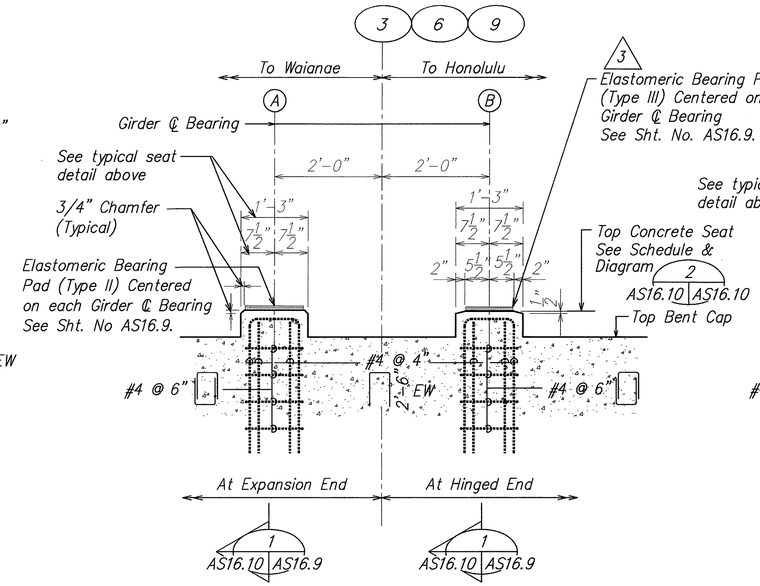
SCALE: 1" = 1'-0"




NORMAL SECTION (4 / AS7.3 AS16.10 | AS6.3)

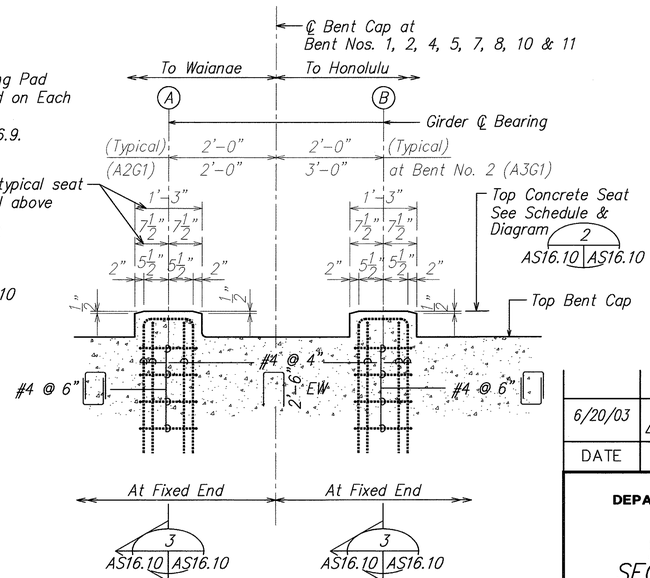
SCALE: 3/4" = 1'-0"

ABUTMENT "A" AS SHOWN. ABUTMENT "B" SIMILAR EXCEPT OPPOSITE HAND




NORMAL SECTION (5 / AS16.9 AS16.10)

SCALE: 3/4" = 1'-0"




NORMAL SECTION (6 / AS16.10 AS16.10)

SCALE: 3/4" = 1'-0"

TYPICAL CONCRETE SEAT DETAILS

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE SEAT SECTIONS AND DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS16.10 OF 150 SHEETS

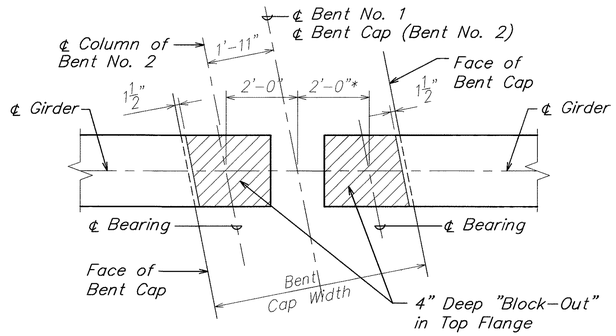
ADD. 537

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

WV-AS1609.DWG 1 = 1

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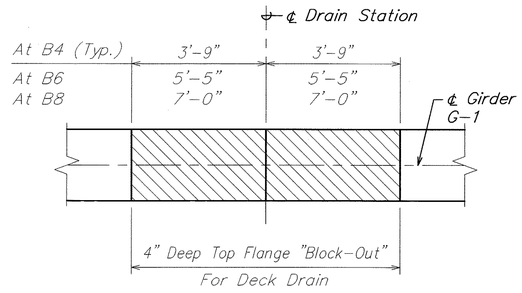
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 538 | 816 |




* 3'-0" at Bent No. 2 (A3G1)

PLAN – GIRDER END TOP FLANGE "BLOCK-OUT" AT BENT NOS. 1 AND 2 — 1 AS16.11|AS16.11

NOT TO SCALE

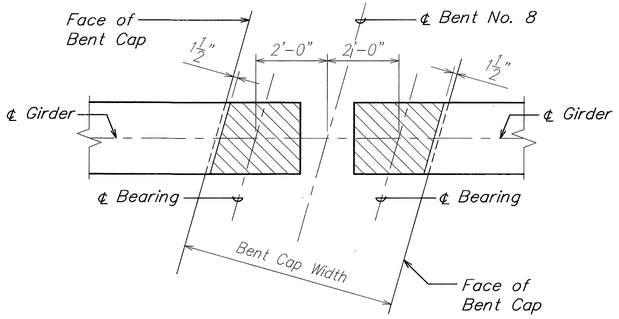



PLAN – TYPICAL TOP FLANGE "BLOCK-OUT" FOR DRAIN — 4 AS16.11|AS16.11

NOT TO SCALE

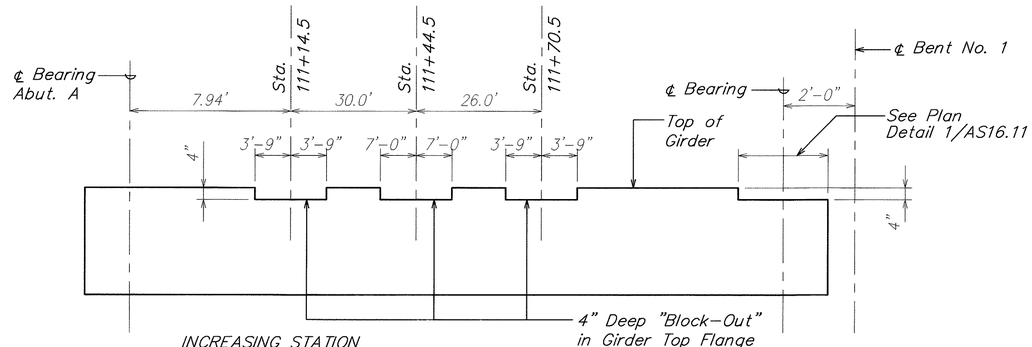
| SPAN NUMBER | DISTANCE FROM EXIST. ℄ BENT ** NO. FOR DECK DRAIN "BLOCK-OUT" | | | GIRDER END TOP FLANGE "BLOCK-OUT" FOR BENT "FIXED " CONDITION | | |
|---|---|---|---|---|---|---|
| | DECK DRAIN STATIONS* | "A" | "B" | 4" Deep "Block-Out" at Girder Down Station | 4" Deep "Block-Out" at Girder Up Station | Remarks |
| 2 | – | – | – | DETAIL 1 | DETAIL 1 | GIRDERS A2G1 to A2G5 |
| 3 | 113+17.0 | – | 89.56' | DETAIL 1 | NO "BLOCK-OUT" | GIRDERS A3G1 to A3G5 |
| 4 | 114+32.5 | 25.94' | – | NO "BLOCK-OUT" | DETAIL 3 | GIRDERS B4G1 to B3G4 |
| 5 | 115+37.0 | 25.44' | – | DETAIL 3 | DETAIL 3 | GIRDERS B5G1 to B5G4 |
| 6 | 116+42.0 | 25.44' | – | DETAIL 3 | NO "BLOCK-OUT" | GIRDERS B6G1 to B6G4 |
| 7 | 117+47.5 | 25.94' | – | NO "BLOCK-OUT" | DETAIL 3 | GIRDERS C7G1 to C7G4 |
| 8 | 118+50 | 23.44' | – | DETAIL 3 | DETAIL 2 | GIRDERS C8G1 to C8G4 |
| 9 | 119+68.5 | – | 68.06' | DETAIL 2 | NO "BLOCK-OUT" | GIRDERS C9G1 to C9G4 |
| 10 | 120+62.0 | 25.44' | – | NO "BLOCK-OUT" | DETAIL 3 | GIRDERS D10G1 to D10G4 |
| 11 | 121+67.5 | 25.94' | – | DETAIL 3 | DETAIL 3 | GIRDERS D11G1 to D11G4 |
| 12 | 122+72.5 | 25.94' | – | DETAIL 3 | NO "BLOCK-OUT" | GIRDERS D12G1 to D12G4 |

* REFER TO SHEET NO. AC7.9 to AC7.11 TO VERIFY DECK DRAIN LOCATIONS AND TYPE
* * DIMENSIONS "A" & "B" ARE HORIZONTAL DISTANCES



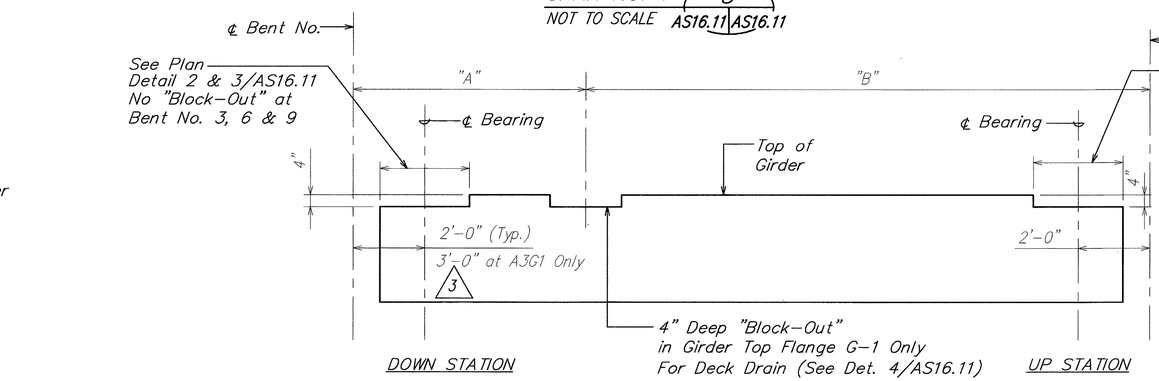

PLAN – GIRDER END TOP FLANGE "BLOCK-OUT" AT BENT NO. 8 — 2 AS16.11|AS16.11

NOT TO SCALE



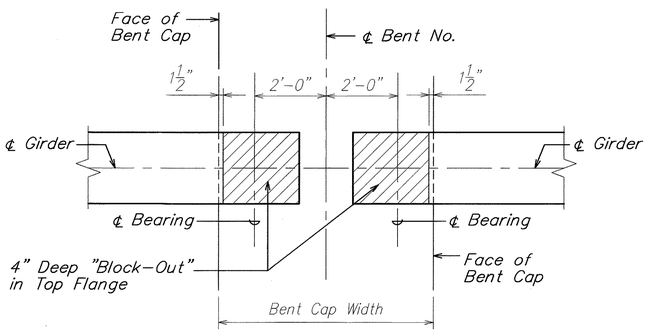

SPAN NO. 1 — 5 AS16.11|AS16.11

NOT TO SCALE




SPAN NOS. 2 to 12 — 6 AS16.11|AS16.11

NOT TO SCALE




PLAN – TYPICAL GIRDER END TOP FLANGE "BLOCK-OUT" — 3 AS16.11|AS16.11

NOT TO SCALE

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

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Relocate Drain and Clarification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# FLANGE BLOCKOUT DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

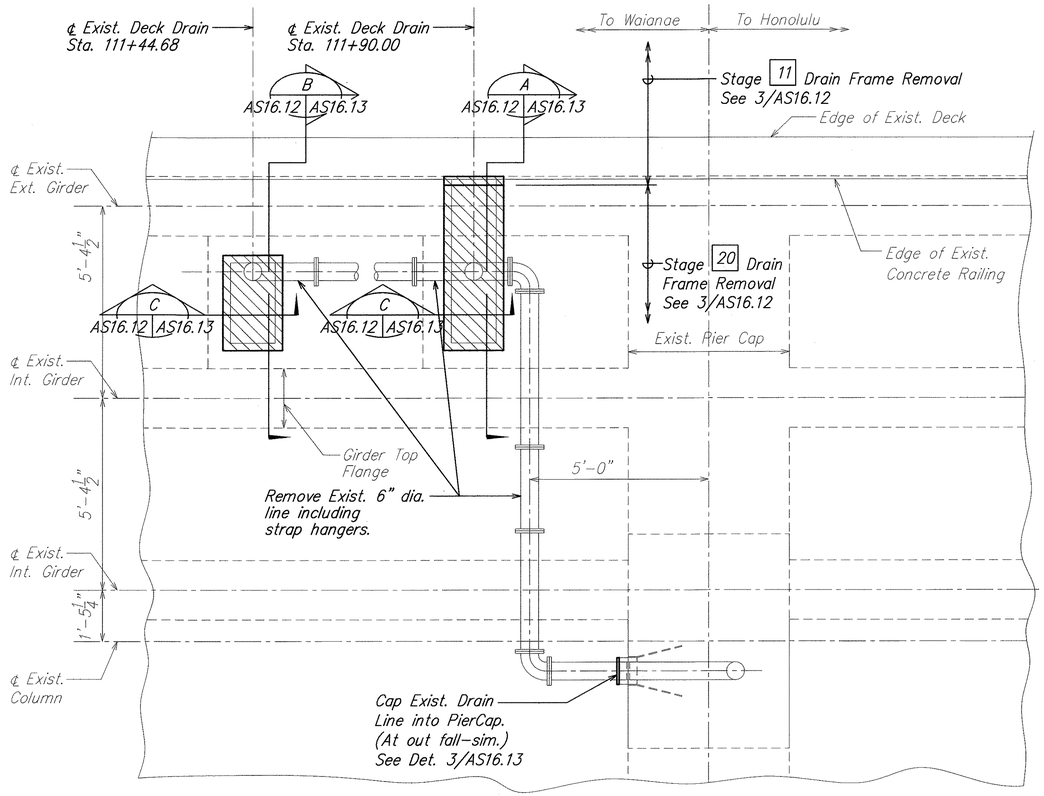
SHEET No. AS16.11 OF 150 SHEETS

ADD. 538

WV-AS1611.DWG
1 = 1

\\Cad1\xsf\2001\10066-WAIMALU VIADUCT\06-20-03 AS ADD3\WV-AS161.dwg, AS16.11, 6/18/2003 1:10:48 PM, KSFinc.pc3

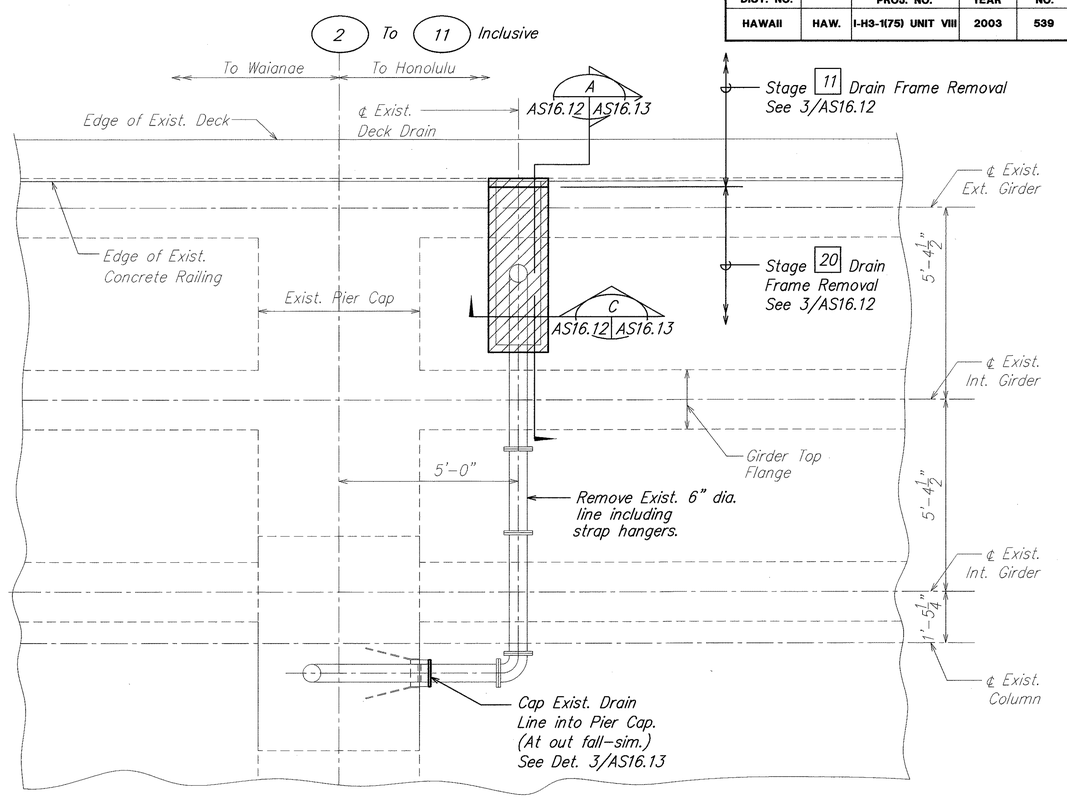
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 539 | 816 |




## PLAN – SPAN NO. 1 – LOCATION OF EXIST. DECK DRAIN REMOVAL AND PLUG

1 AS16.12 | AS16.12

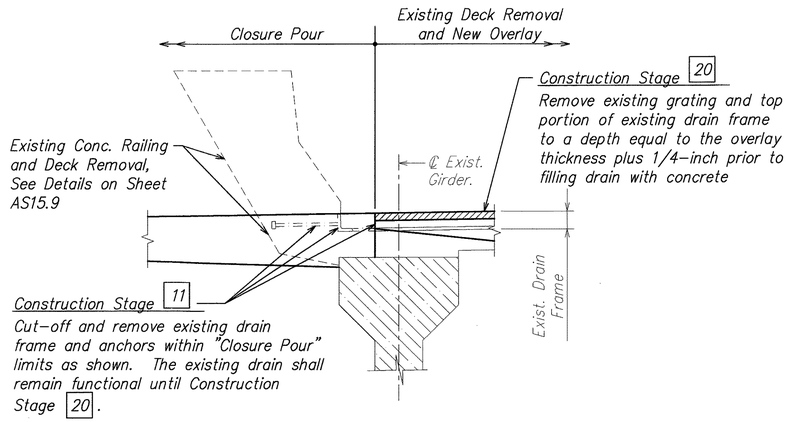
SCALE: 1/2" = 1'-0"




## PLAN – TYPICAL LOCATION OF EXIST. DECK DRAIN REMOVAL AND PLUG

2 AS16.12 | AS16.12

SCALE: 1/2" = 1'-0"




## DETAIL

3 AS16.13 | AS16.12

SCALE: 1" = 1'-0"

NOTES:

1. Existing 6" drain line includes lead containing materials. Comply with Spec. Section 107 and Section 690 regarding work with hazardous materials.
2. The work to clean, maintain, remove and plug all existing viaduct deck drains shall be incidental to concrete for viaduct deck. See Viaduct General Note 8 (u) for additional requirements.
3. [*] designates Construction Stages. See sheet AS18.3.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
| No. | TRACED BY | |
| | DESIGNED BY | |
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David K. Fujiwara 4-30-04

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# EXISTING DECK DRAIN REMOVAL AND PLUG

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

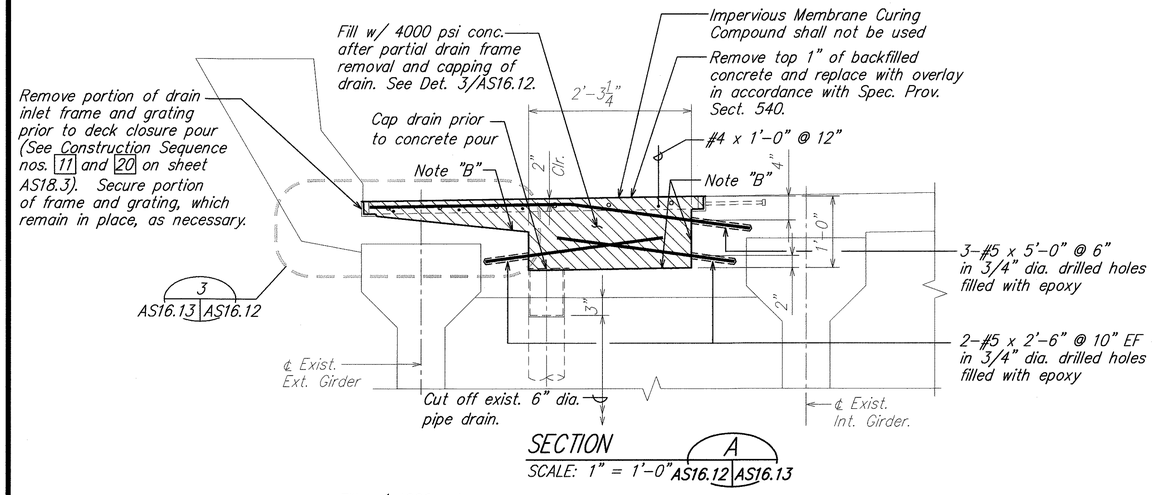
SHEET No. AS16.12 OF 150 SHEETS

WV-AS1611.DWG
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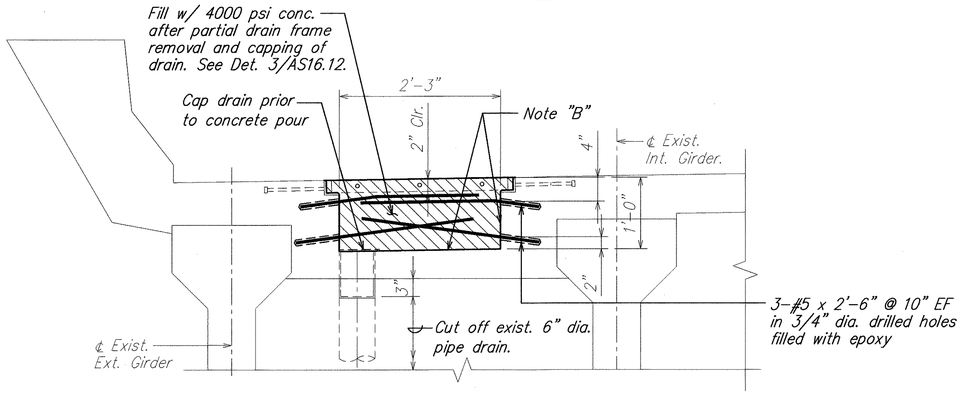


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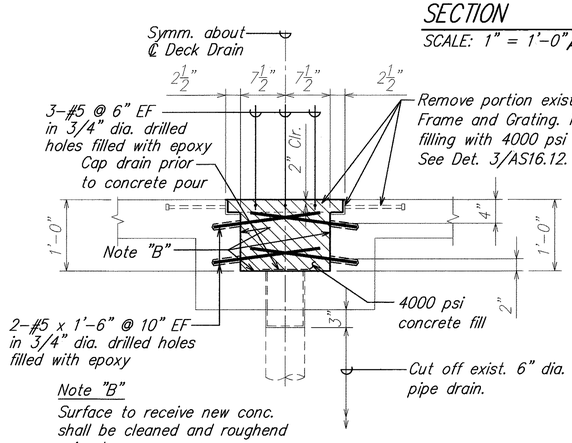
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 540 | 816 |




SECTION A
SCALE: 1" = 1'-0" AS16.12 AS16.13

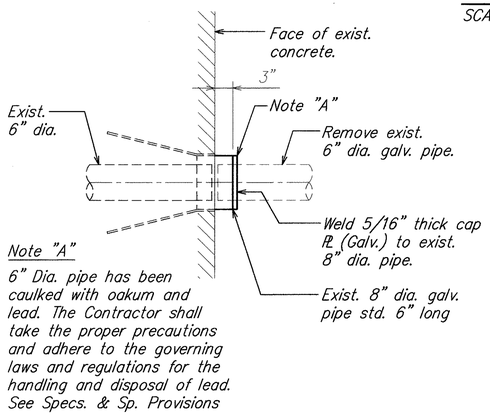



SECTION B
SCALE: 1" = 1'-0" AS16.12 AS16.13



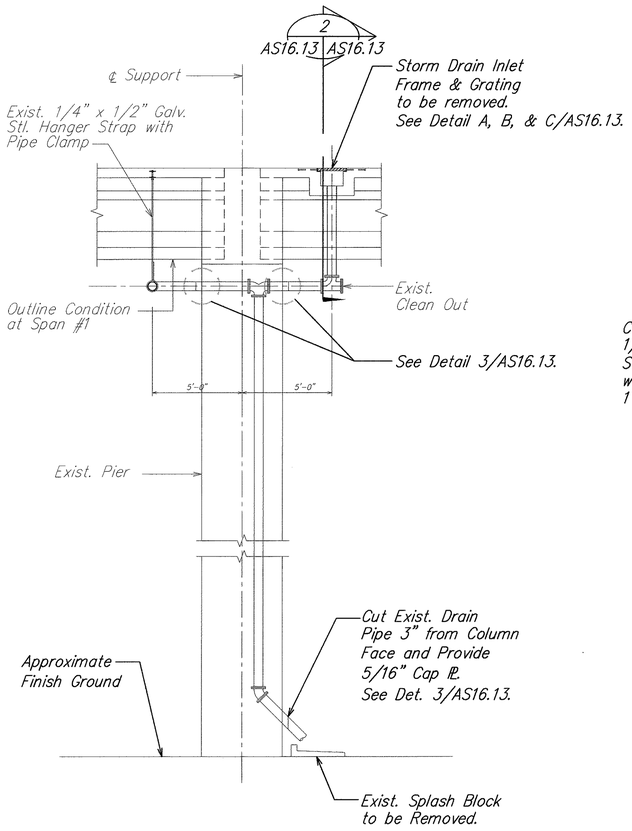

Note "B"
Surface to receive new conc. shall be cleaned and roughend prior to conc. pour.

SECTION C
SCALE: 1" = 1'-0" AS16.12 AS16.13

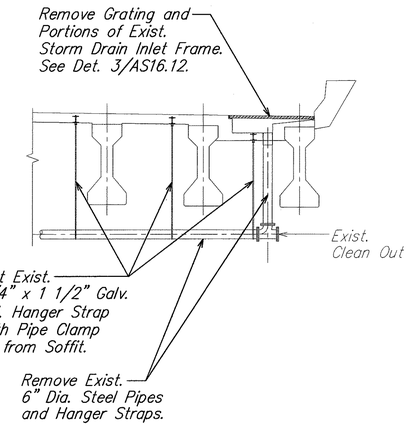



Note "A"
6" Dia. pipe has been caulked with oakum and lead. The Contractor shall take the proper precautions and adhere to the governing laws and regulations for the handling and disposal of lead. See Specs. & Sp. Provisions

DETAIL 3
SCALE: 1" = 1'-0" AS16.13 AS16.13




ELEVATION EXIST STORM DRAIN LEADER 1
SCALE: 1/4" = 1'-0" AS16.13 AS16.13




SECTION 2
SCALE: 1/4" = 1'-0" AS16.13 AS16.13

NOTE:
Existing 6" drain line includes lead containing materials. See Specifications and Special Provisions.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
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NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# EXISTING DECK DRAIN SECTION AND DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

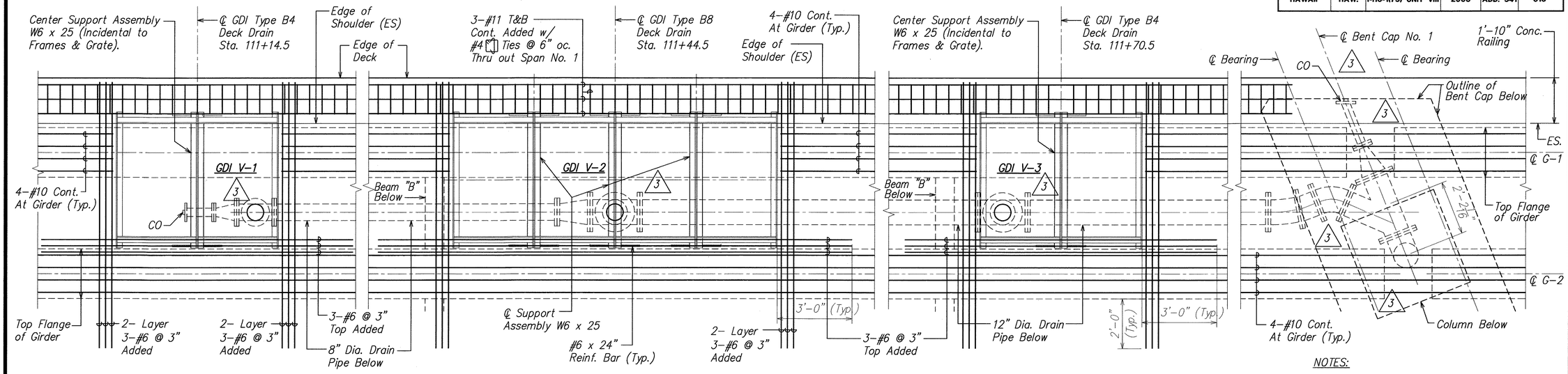
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SHEET No. AS16.13 OF 150 SHEETS

WV-AS1611.DWG
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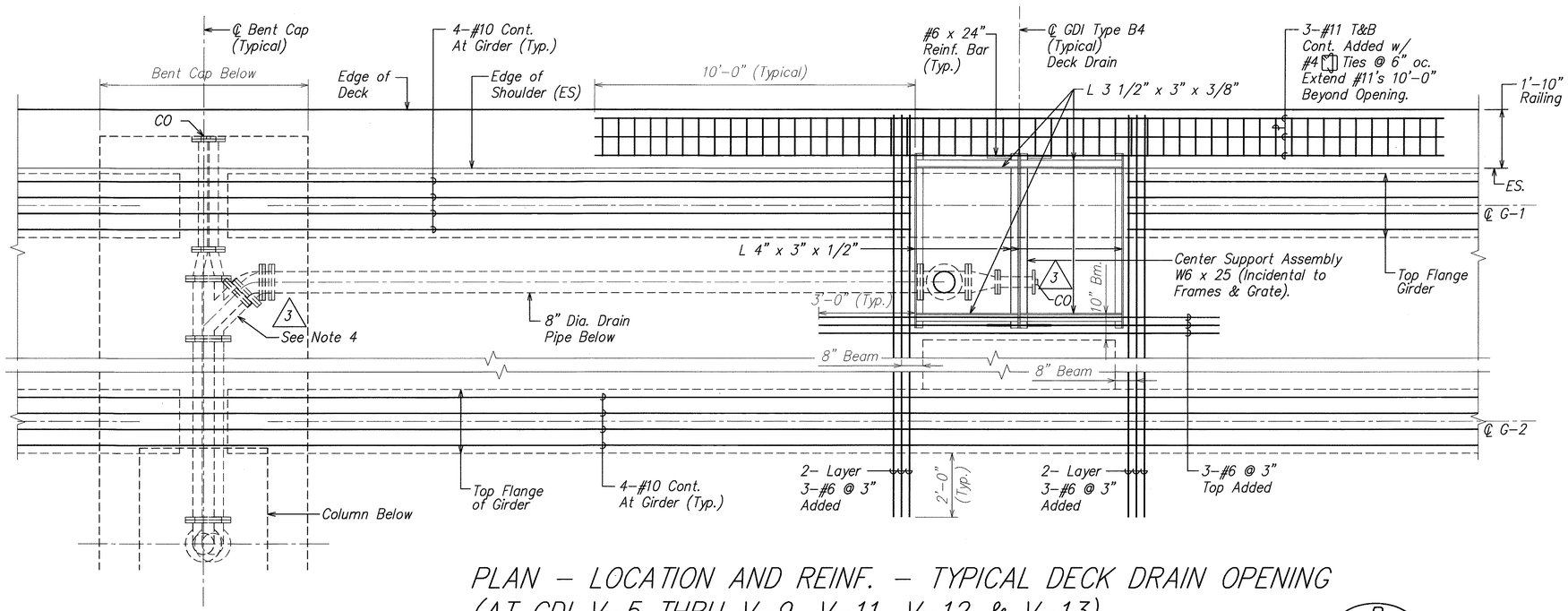
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 541 | 816 |




## PLAN – LOCATION AND REINF. – DECK DRAIN OPENING AT SPAN NO. 1 (A)

SCALE: 1/2" = 1'–0"

AS16.14 | AS16.14




## PLAN – LOCATION AND REINF. – TYPICAL DECK DRAIN OPENING (AT GDI V–5 THRU V–9, V–11, V–12 & V–13)

SCALE: 1/2" = 1'–0"

B

AS16.14 | AS16.14

NOTES:

1. Deck rebars not shown for clarity.
2. Rebars shown are in addition to deck reinf.
3. Terminate rebars at drain opening.
4. (3) Offset drain pipe as shown on plan sheet no. AS14.10 at columns 3, 6, and 9. adjust column verticals and ties about the column centerline as required to clear the drain pipe.
5. (3) Refer to sheet no. AS17.12 for pipe support details. Contractor shall submit shop drawings of pipe support locations and details for approval by the Engineer.

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104–S HAWAII, U.S.A.

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David K. Fujiwara 4–30–04

SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | (3) Revised Drain, Drain Location, and Added Note. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DECK DRAIN OPENING

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS16.14 OF 150 SHEETS

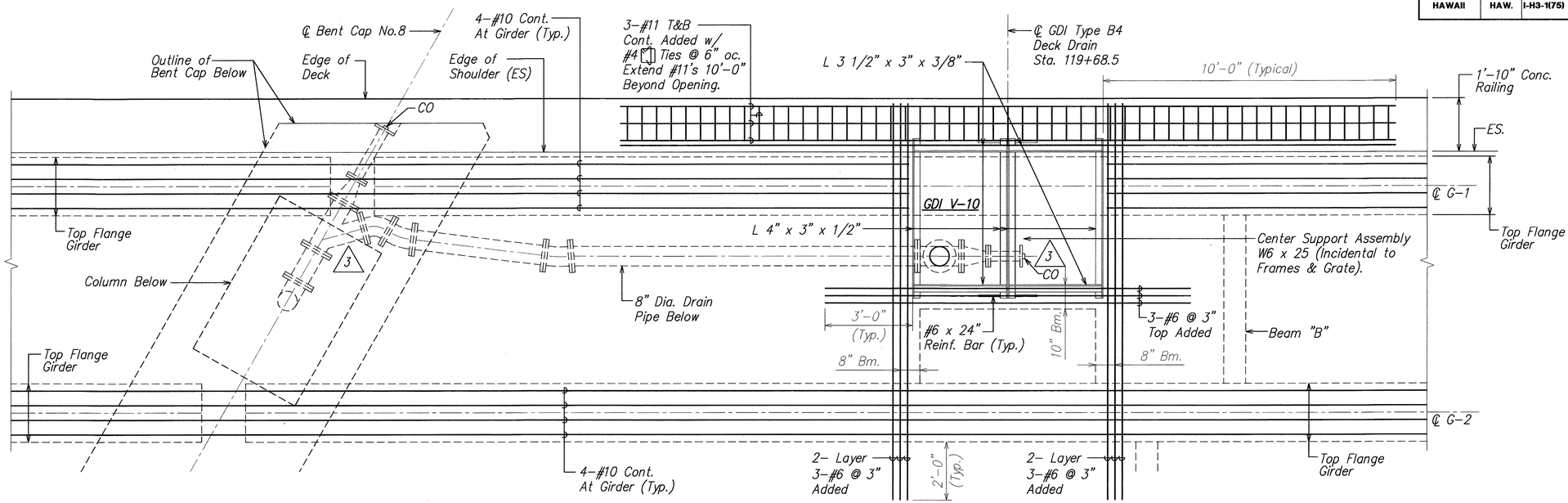
ADD. 541

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
| No. | QUANTITIES BY | |
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WV–AS1614.DWG 1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 542 | 816 |



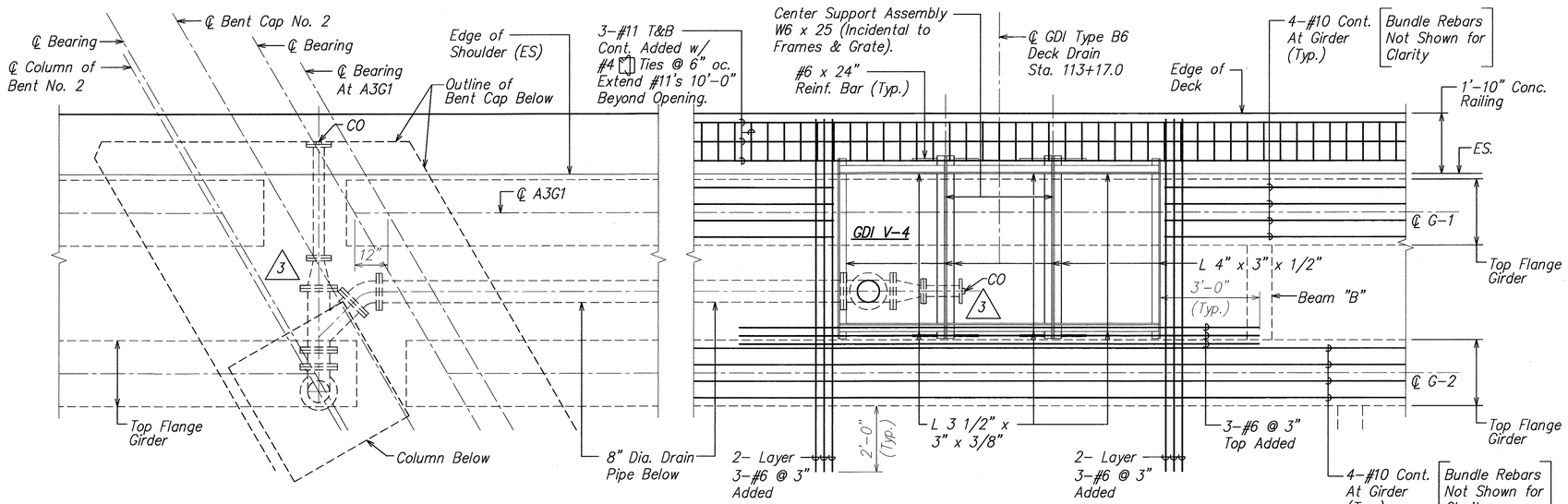

## PLAN – LOCATION AND REINF. – DECK DRAIN OPENING AT SPAN NO. 9 (A)

SCALE: 1/2" = 1'–0"

AS16.15 | AS16.15

NOTE:

1. Deck Rebars Not Shown for Clarity.
2. Rebars Shown are in Addition to Deck Reinf.
3. Terminate Rebars at Drain Opening.




## PLAN – LOCATION AND REINF. – DECK DRAIN OPENING AT SPAN NO. 3 (B)

SCALE: 1/2" = 1'–0"

AS16.15 | AS16.15

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HAWAII, U.S.A.

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised Drain |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DECK DRAIN OPENING

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS16.15 OF 150 SHEETS

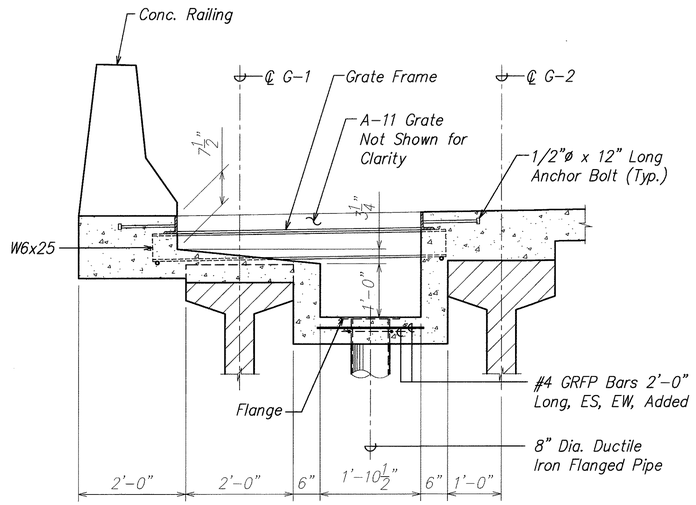
ADD. 542

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

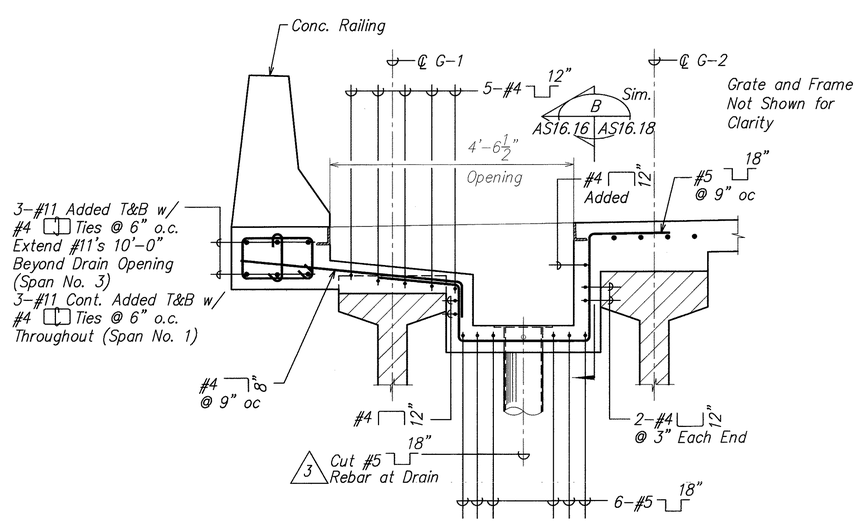
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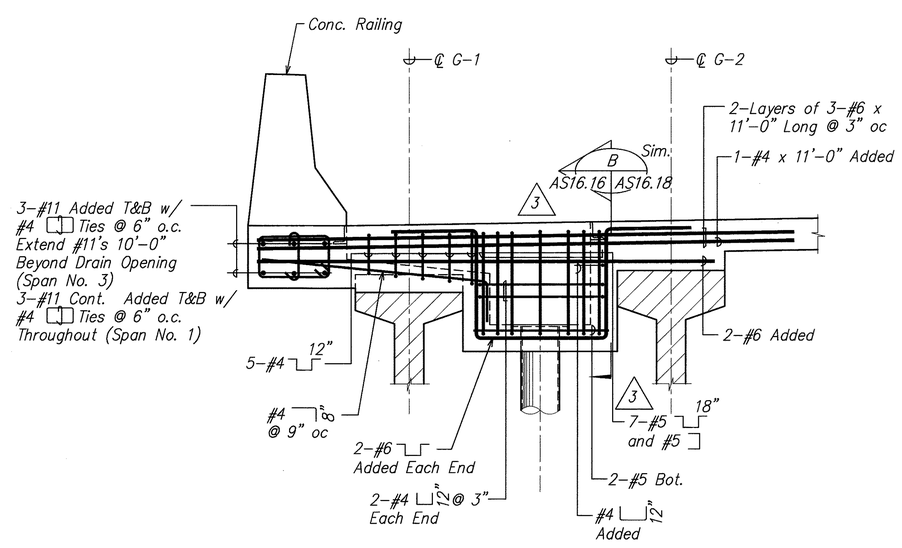
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 543 | 816 |




SECTION AT DRAIN (CONFIGURATION) 1
AS16.16 | AS16.16




SECTION THROUGH DRAIN (REINFORCING) A
AS16.18 | AS16.16




SECTION AT DRAIN END (REINFORCING) B
AS16.18 | AS16.16

SECTION AT DRAIN (CONDITION AT FRAME A)
SCALE: 3/4" = 1'-0"

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

| DATE | REVISION |
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| 6/20/03 | 3 Clarification |

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DAVID K. FUJIWARA
NO. 8104-S
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DECK DRAIN REINFORCING SECTIONS AND DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

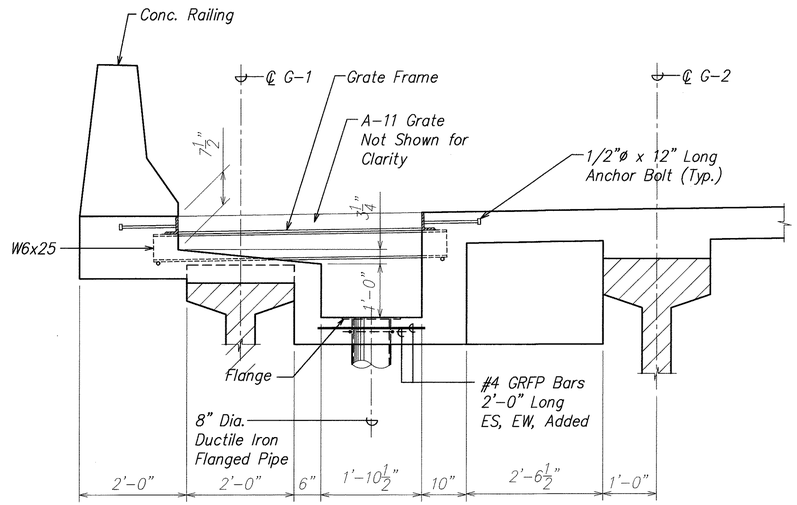
SHEET No. AS16.16 OF 150 SHEETS

ADD. 543

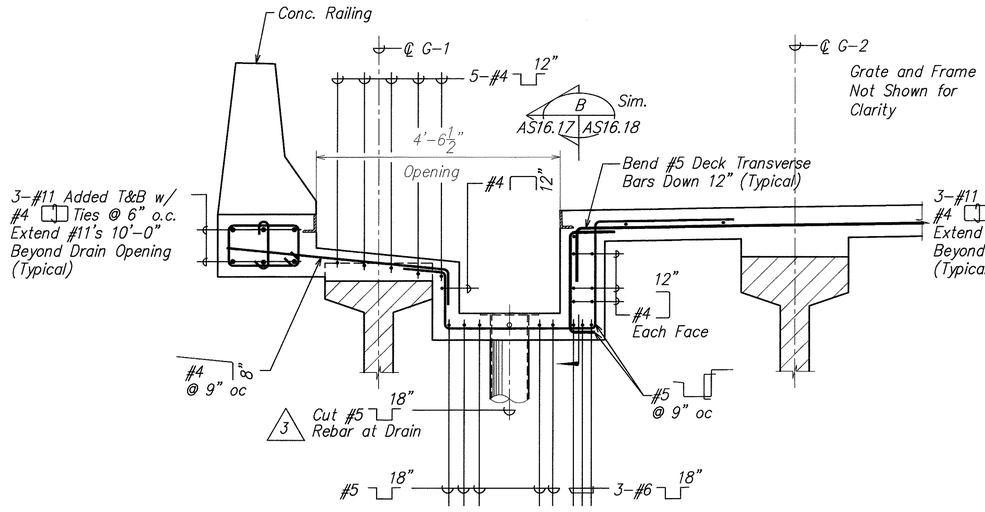
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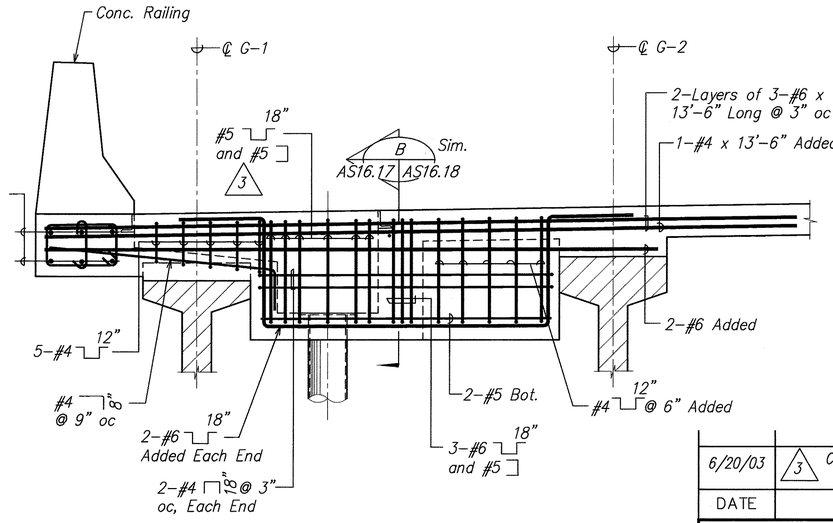
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 544 | 816 |




SECTION AT DRAIN (CONFIGURATION) 1
AS16.17 | AS16.17




SECTION THROUGH DRAIN (REINFORCING) A
AS16.18 | AS16.17




SECTION AT DRAIN END (REINFORCING) B
AS16.18 | AS16.17

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SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DECK DRAIN REINFORCING SECTIONS AND DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS16.17 OF 150 SHEETS

ADD. 544

## SECTION AT DRAIN (CONDITION AT FRAMES B, C, AND D)

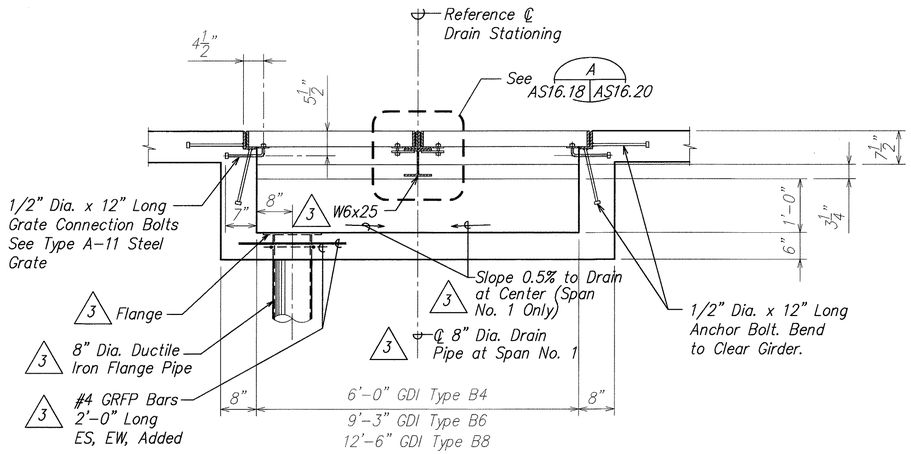
SCALE: 3/4" = 1'-0"

ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY
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DESIGNED BY
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DATE

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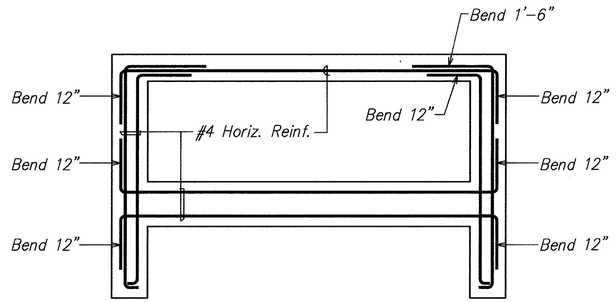
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 545 | 816 |



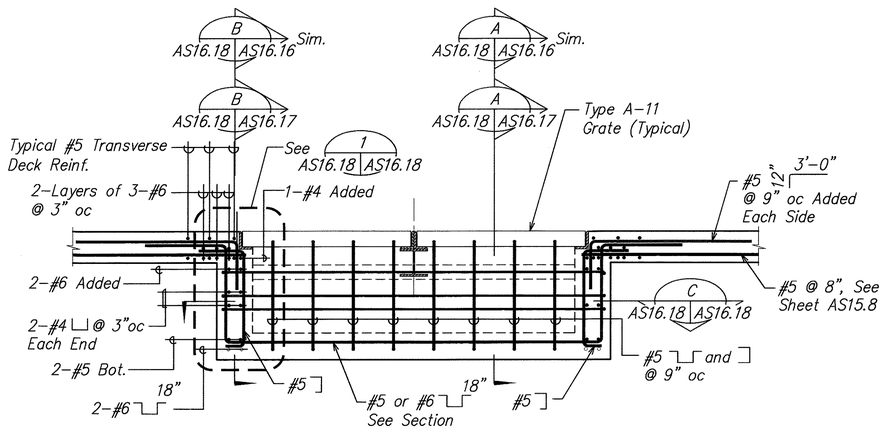

## SECTION AT TYPE B4 GDI (CONDITION AT GDI TYPE B6 & B8 Sim.) A AS16.18 | AS16.18

SCALE: 3/4" = 1'-0"



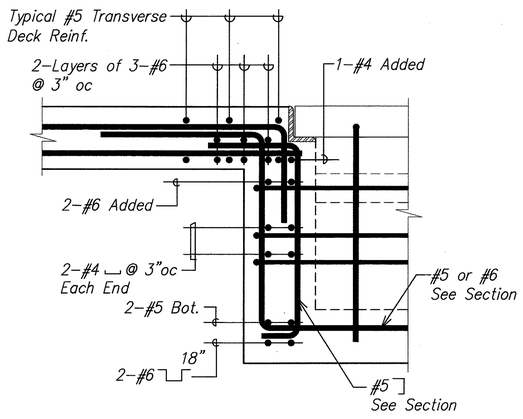

## SECTION – HORIZ. REINF. DETAIL C AS16.18 | AS16.18

SCALE: 3/4" = 1'-0"




## SECTION B AS16.18 | AS16.18 / AS16.17

SCALE: 3/4" = 1'-0"




## SECTION 1 AS16.18 | AS16.18

SCALE: 3/4" = 1'-0"

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

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification |

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David K. Fujiwara — 4-30-04

SIGNATURE — EXPIRATION DATE OF THE LICENSE

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

# DECK DRAIN REINFORCING SECTIONS AND DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

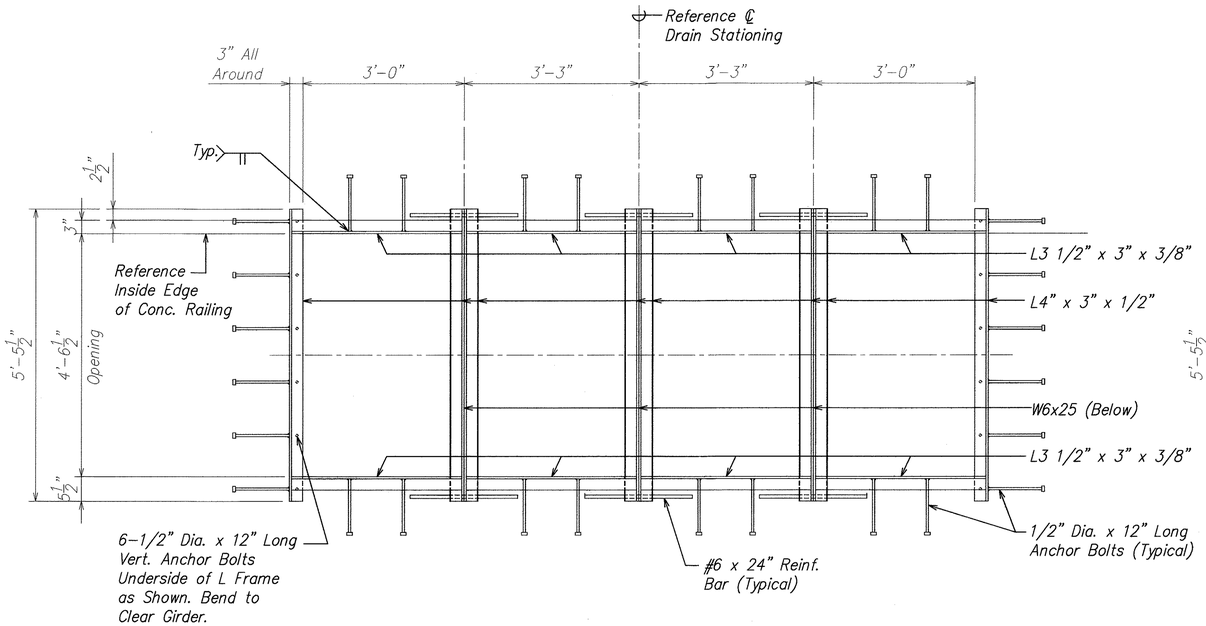
**SHEET No. AS16.18 OF 150 SHEETS**

ADD. 545

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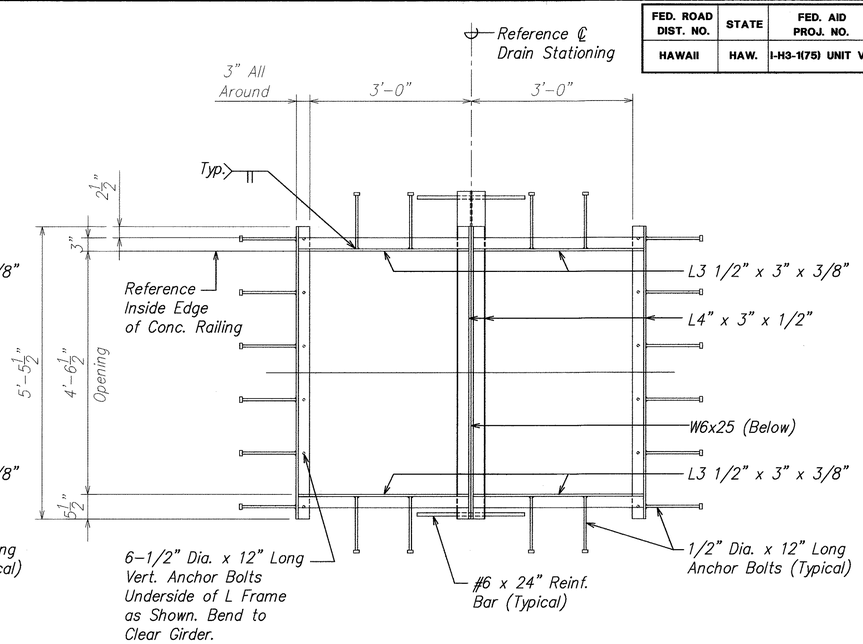
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 546 | 816 |




TYPE B8 GDI FRAME PLAN (1)

SCALE: 3/4" = 1'-0"

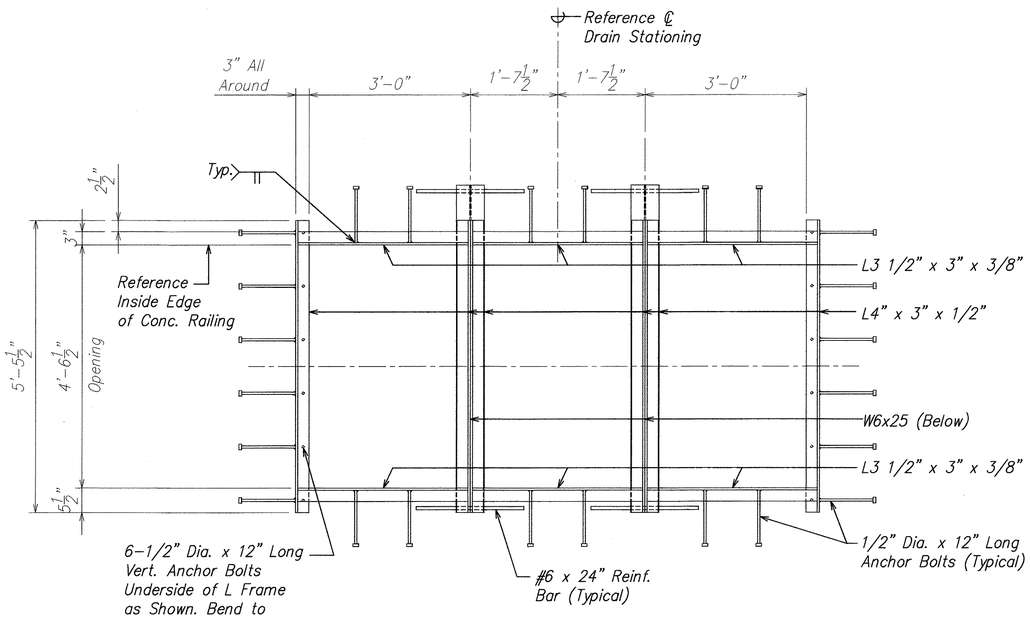
AS16.19 | AS16.19




TYPE B4 GDI FRAME PLAN (3)

SCALE: 3/4" = 1'-0"

AS16.19 | AS16.19




TYPE B6 GDI FRAME PLAN (2)

SCALE: 3/4" = 1'-0"

AS16.19 | AS16.19

NOTE:

1. Refer to Std. Plans sheets H-09 and H-10 for welding of grate frame members.

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GDI FRAME PLANS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

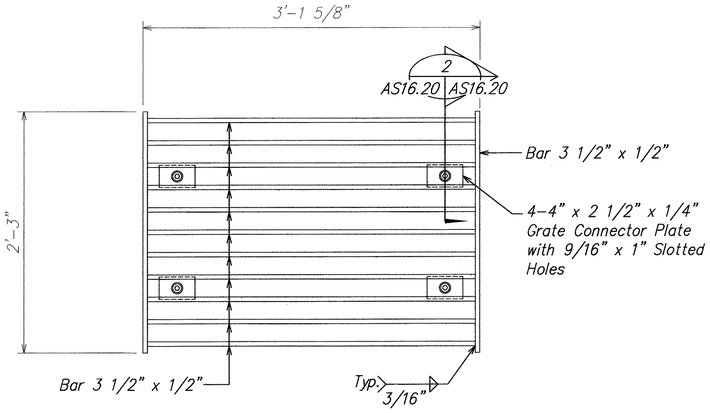
SHEET No. AS16.19 OF 150 SHEETS

546

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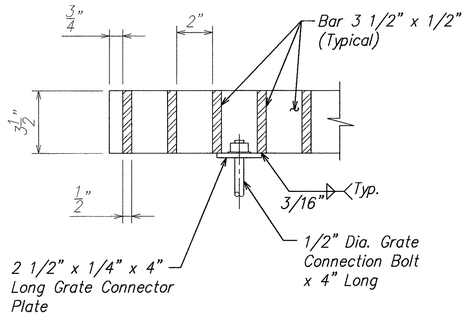
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## TYPICAL A-11 STEEL GRATE (1 / AS16.20 AS16.20)

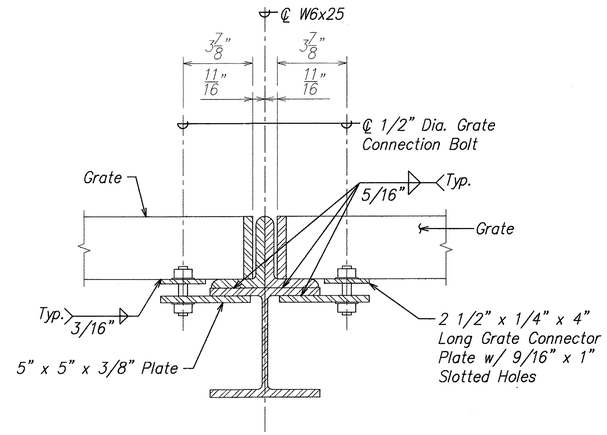
SCALE: 1 1/2" = 1'-0"




NOTE:
Shop drawings for frame and grating shall be submitted to the Engineer for acceptance.

## SECTION (2 / AS16.20 AS16.20)

SCALE: 3" = 1'-0"




## SECTION (A / AS16.18 AS16.20 AS16.20)

SCALE: 3" = 1'-0"

NOTE:

1. Refer to Std. Plans sheets H-09 and H-10 for welding of grate frame members.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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GDI GRATE DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

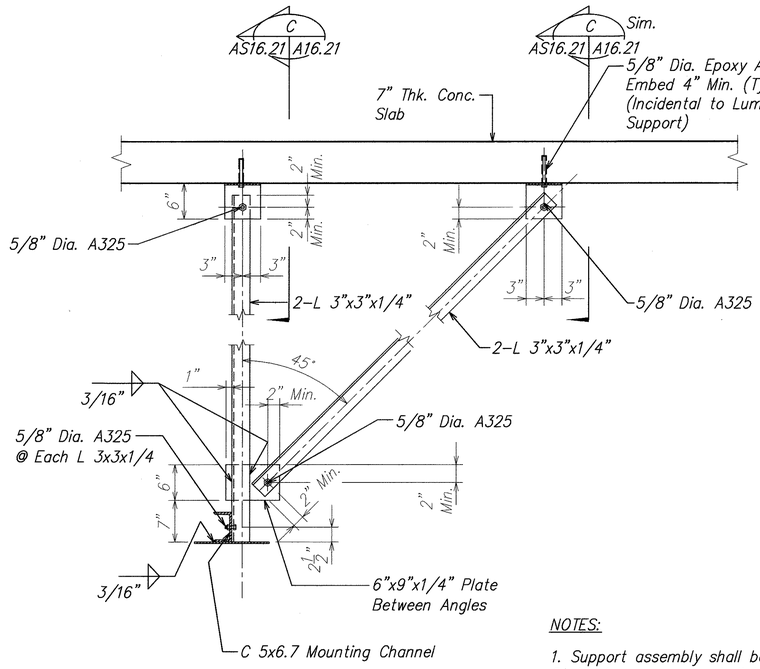
SHEET No. AS16.20 OF 150 SHEETS

547

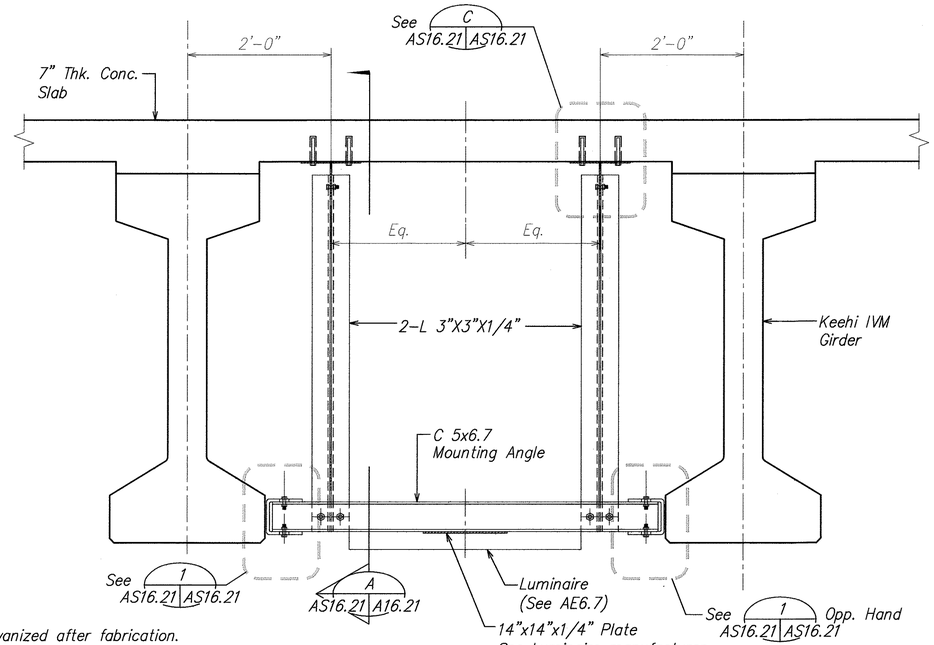
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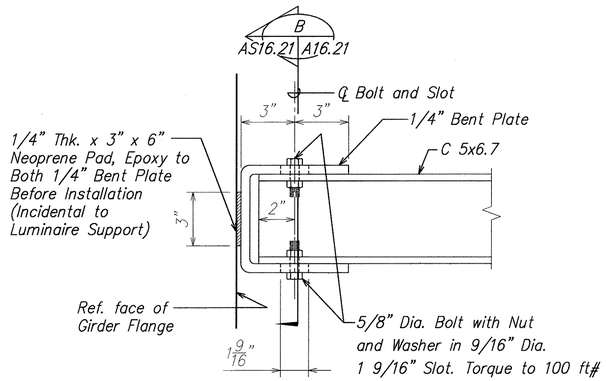

SECTION A
SCALE: 1" = 1'-0" AS16.21 AS16.21



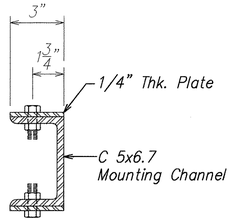

NOTES:

1. Support assembly shall be hot dip galvanized after fabrication.
2. All damage areas shall be cleaned and painted with two coats of zinc oxide-zinc dust paint.
3. For luminaire and luminaire connection to luminaire support, See Electrical.
4. Bottom of mounting channel shall match the soffit of the lowest adjacent girder.
5. See sheet nos. AE3.12 and AE3.14 for locations.

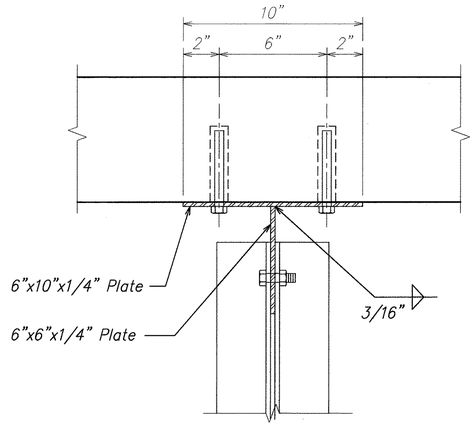
ELEVATION
SCALE: 1" = 1'-0"




DETAIL 1
SCALE: 3" = 1'-0" AS16.21 AS16.21




SECTION B
SCALE: 3" = 1'-0" AS16.21 AS16.21




SECTION C
SCALE: 3" = 1'-0" AS16.21 AS16.21

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# LUMINAIRE SUPPORT

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

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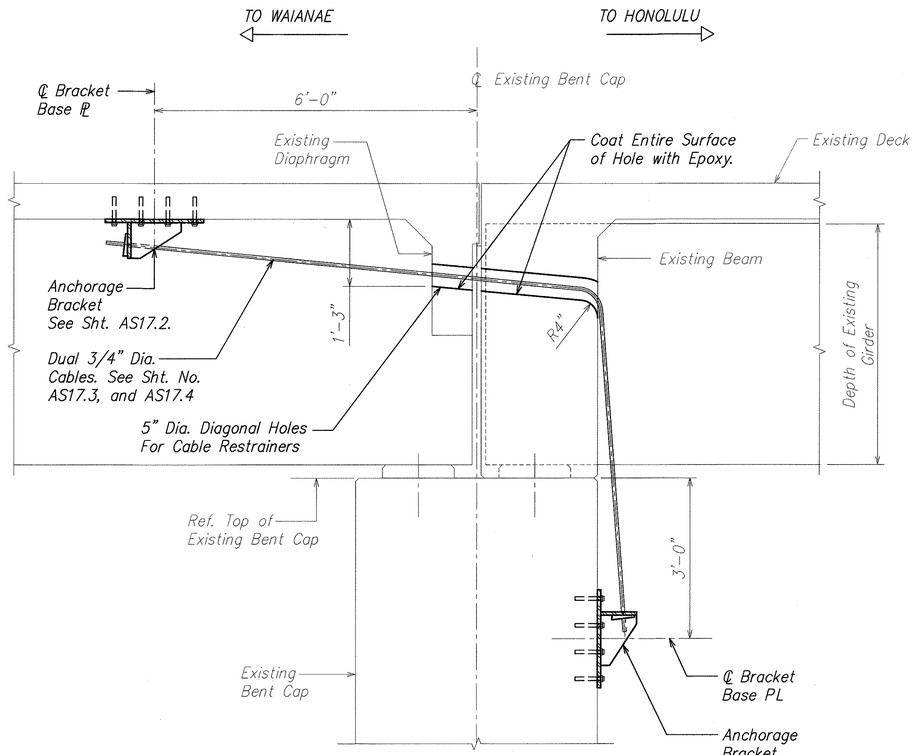
SHEET No. AS16.21 OF 150 SHEETS

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NOTE:

For Additional Details and Reinforcing of the Existing Structure, See Viaduct General Note 9 (D).

# TYPICAL RESTRAINER LAYOUT AT BENT NOS. 3, 6, AND 9

SCALE: 3/4" = 1'-0"

A
AS4.5 | AS17.1
AS4.8, AS4.11

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RESTRAINER LAYOUT

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

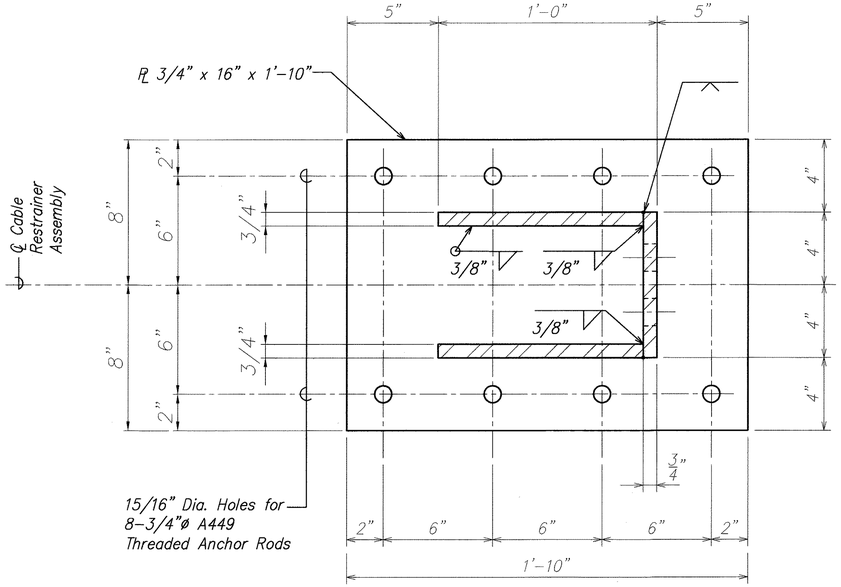
**SHEET No. AS17.1 OF 150 SHEETS**

549

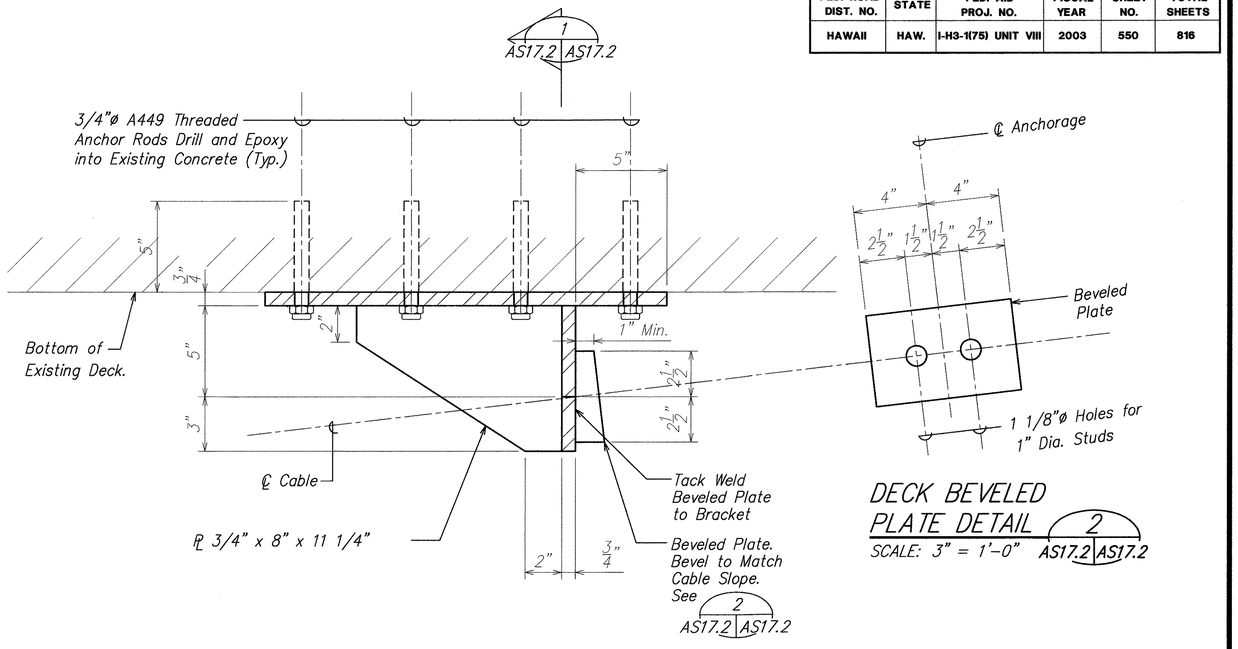
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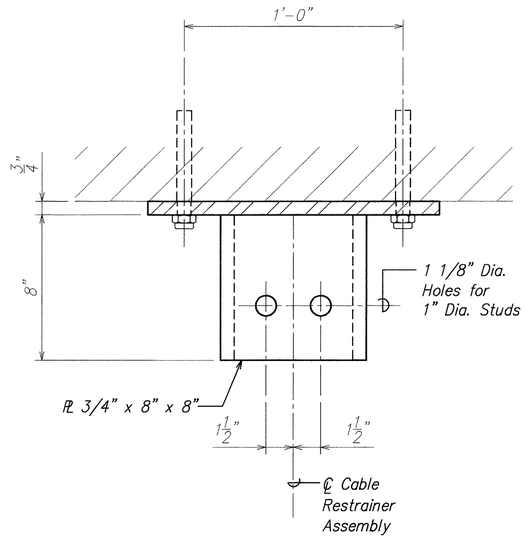



PLAN

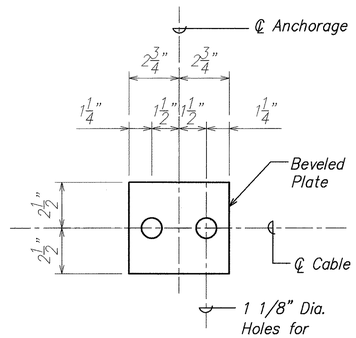



ELEVATION

DECK BEVELED PLATE DETAIL 2
SCALE: 3" = 1'-0" AS17.2 AS17.2




SECTION 1
Scale: 3" = 1'-0" AS17.2 AS17.2

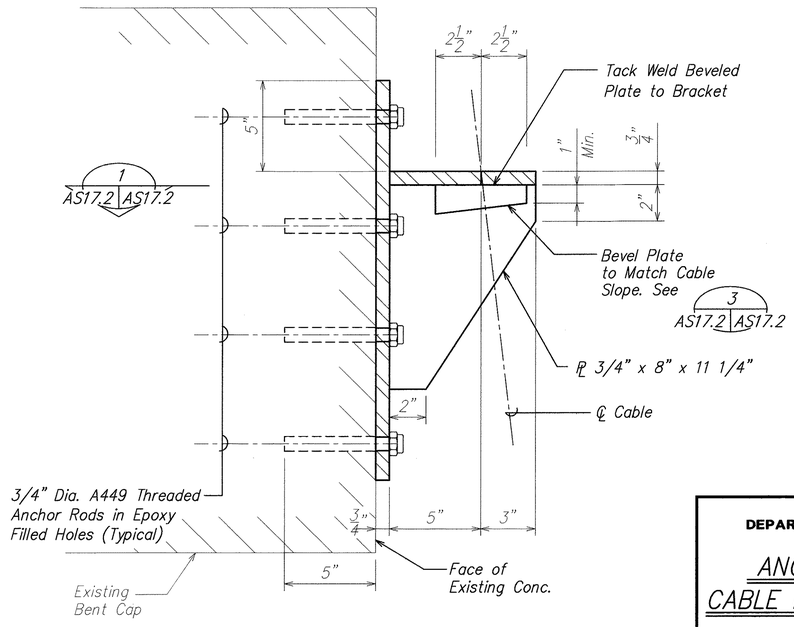



PIER CAP BEVELED PLATE DETAIL 3
SCALE: 3" = 1'-0" AS17.2 AS17.2

NOTES:

1. The Contractor Shall Verify All Controlling Field Dimensions Before Ordering or Fabricating Material.
2. Location of Drilled Dowel Holes Shown in Plans are Approximate. Prior to Placing Holes in Concrete, the Contractor Shall Locate All Reinforcing Steel and Adjust the Location of the Holes to Clear All Reinforcing Bars. Final Hole Locations are Subject to the Approval of the Engineer.

ANCHORAGE BRACKET
CABLE RESTRAINER ASSEMBLY
Scale: 3" = 1'-0"




ELEVATION

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# ANCHORAGE BRACKET CABLE RESTRAINER ASSEMBLY

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

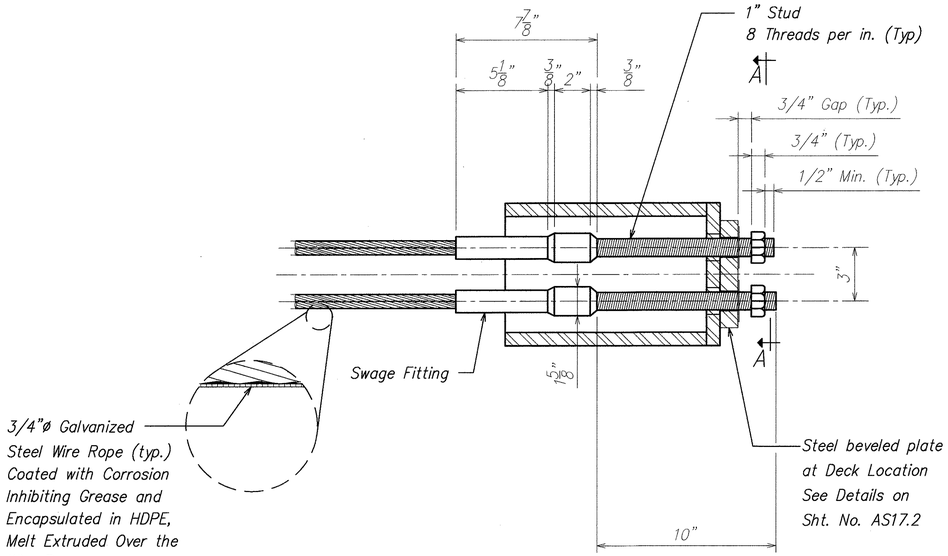
SHEET No. AS17.2 OF 150 SHEETS

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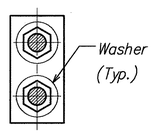
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 551 | 816 |




CABLE RESTRAINER ASSEMBLY AT BOTTOM OF DECK

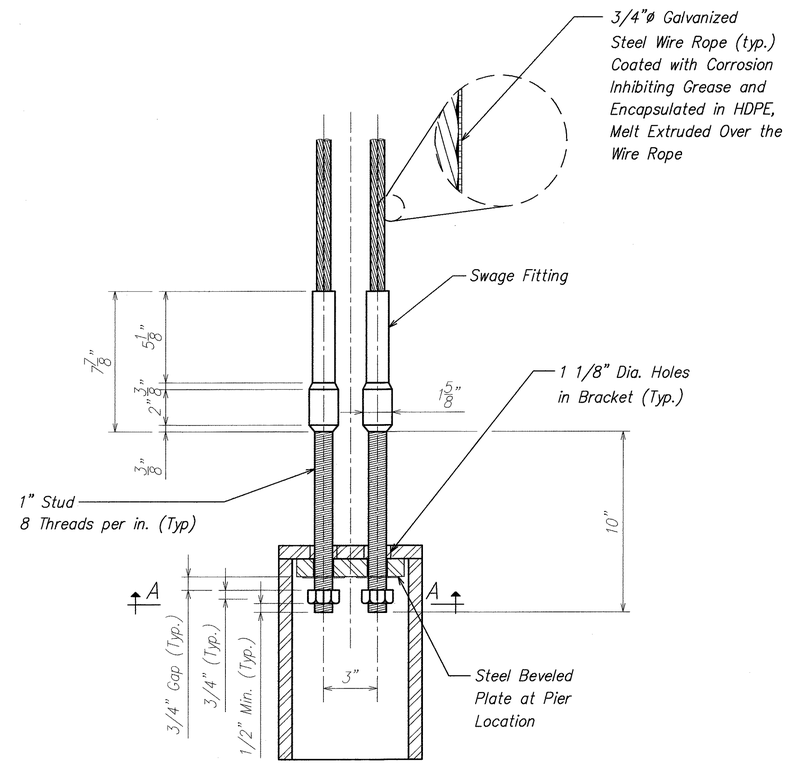
SCALE: 3" = 1'-0"

1 AS17.3 | AS17.3




SECTION A-A

SCALE: 3" = 1'-0"




CABLE RESTRAINER ASSEMBLY AT PIER CAP

SCALE: 3" = 1'-0"

2 AS17.3 | AS17.3

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# CABLE RESTRAINER ASSEMBLY

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS17.3 OF 150 SHEETS

WV-AS1703.DWG
1 = 1



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# CABLE RESTRAINER MATERIAL SPECIFICATIONS

## PERFORMANCE SPECIFICATION FOR CORROSION INHIBITING GREASE

| TEST | TEST METHOD | ACCEPTANCE CRITERIA |
|---|---|---|
| 1. DROPPING POINT | ASTM D-566 OR<br>ASTM D-2265 | Minimum 300<br>Degree F. |
| 2. OIL SEPARATION<br>@ 160 Degree Fahrenheit<br>% By Weight | FTMS 791B<br>Method 321.2 | Maximum 0.5 |
| 3. WATER, % MAXIMUM | ASTM D-95 | 0.1 |
| 4. FLASH POINT<br>(Refers to oil component) | ASTM D-92 | Minimum 300<br>Degree F. |
| 5. CORROSION TEST<br>5% Salt fog @ 100 degree F<br>5 mils, Minimum Hours<br>(Q Panel Type S) | ASTM B-117 | For normal environments: Rust Grade 7 or better after 720 hours of exposure according to ASTM D-610. For corrosive environments: Rust Grade 7 or better after 1000 hours of exposure according to ASTM D-610. |
| 6. WATER SOLUBLE IONS (2)<br>A. Chlorides, PPM Maximum<br>B. Nitrates, PPM Maximum<br>C. Sulfides, PPM Maximum | ASTM D-512<br>ASTM D-992<br>APHA 427D(15TH ED.) | 10<br>10<br>10 |
| 7. SOAK TEST<br>5% Salt Fog @ 100 Degree F<br>5 mils Coating, Q Panels, Type S.<br>Immerse panels 50 % in a 5 % salt solution and expose to salt fog | ASTM B-117<br>(MODIFIED) | No emulsion of the coating after 720 hours of exposure. |
| 8. COMPATIBILITY WITH SHEATHING<br>A. Hardness and volume change of polymer after exposure to grease, 40 days @ 150 degree F.<br>B. Tensile strength change of polymer after exposure to grease, 40 days @ 150 degree F. | ASTM D-4289<br><br>ASTM D-638 | Permissible change in hardness 15%<br>Permissible change in volume 10%<br><br>Permissible change in tensile strength 30% |

(1) Extension of exposure time to 1000 hours for greases used in corrosive environments requires use of more or better corrosion inhibiting additives.

(2) Procedure: The inside (bottom and sides) of a 1l pyrex breaker, approximate O.D. 105mm, height 145mm, is thoroughly coated with 100 +/- 10g of corrosion preventive coating material. The coated breaker is filled with approximately 900cc of distilled water and heated in an oven at a controlled temperature of 100 degree F for 4 hours. The water extraction is tested by the noted test procedures for the appropriate water soluble ions. Results are reported as Parts Per Million in the extracted water.

WIRE ROPE

Wire rope shall be 6 x 19 Inner Wire Rope Core galvanized in accordance with Fed spec. RR-W-41od, right regular lay with a minimum breaking strength at 46 kips.

SWAGE FITTING

The swage fitting shall be machined from 1-5/8" diameter C1035 hot rolled annealed bar stock suitable for cold swaging galvanized per ASTM A153.

THREADED ROD

Threaded rod of the restrainer system shall be 1" diameter (8 Threads per inch) x 10" long A449 threaded rod, Class 2A thread before galvanizing per ASTM 153.

NUTS AND WASHERS

Nuts and washers shall conform to ASTM A325, galvanized.

SHEATHING

The sheathing covering the wire rope shall be high density polyethylene with ultraviolet protection. The polyethylene shall be Cell Classification 334413 by ASTM D 3350. The sheathing shall be hot melt extruded over the grease coated wire rope. No other methods of applying the HDPE sheathing over the wire rope will be allowed. The minimum thickness of the HDPE sheathing shall not be less than 0.060 inches.

CORROSION INHIBITING GREASE

The corrosion inhibiting grease shall provide corrosion protection to the wire rope, provide a continuous non-brittle film at the lowest anticipated temperature of exposure and shall be chemically stable and non-reactive with the wire rope, the sheathing and other components of the restrainer cable system. The grease shall be an organic coating with appropriate polar, moisture displacing and corrosion preventive additives.
The amount of corrosion inhibiting grease used on the wire rope shall be sufficient to ensure essentially complete filling the annular space between the wire rope and the HDPE sheathing.
Test results in accordance with the performance specification shall be provided for the corrosion inhibiting grease.

ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
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CABLE RESTRAINER NOTES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

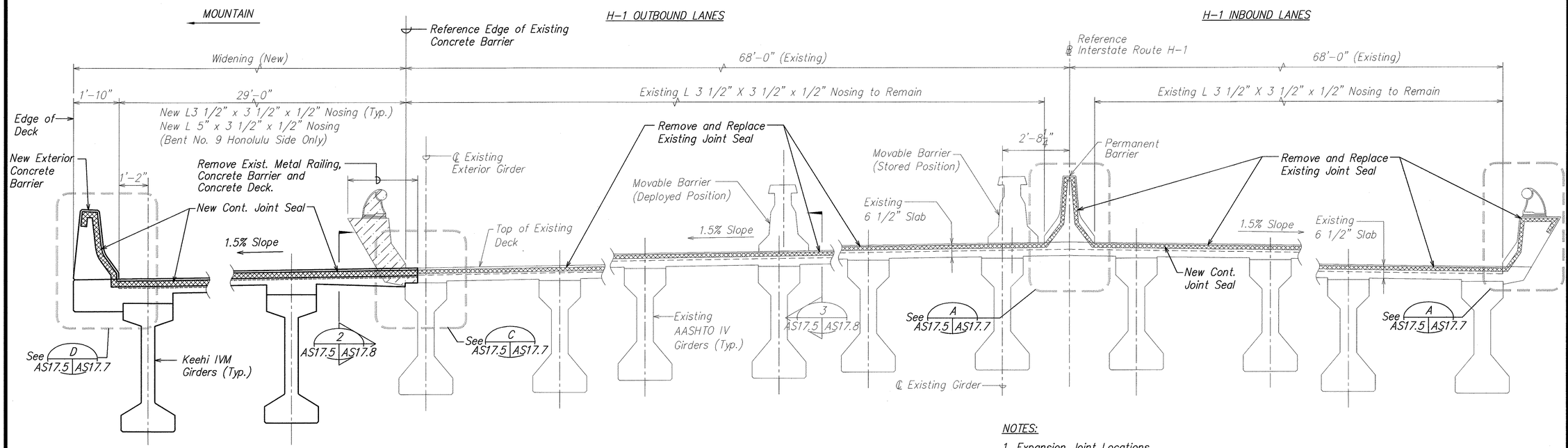
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SHEET No. AS17.4 OF 150 SHEETS



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## NORMAL DECK SECTION AT EXPANSION JOINT LOCATIONS (A AS17.5 AS17.5)

SCALE: 1/2" = 1'-0"

NOTES:

1. Expansion Joint Locations are at Abutments "A" and "B" and Bent No. 3, 6, and 9. Joint widths vary. See sheet no. AS17.8 for Details.
2. For Additional Details on Honolulu Side of Bent No. 9. See sheet no. AS17.6.
3. Installation of 1 1/2" x 3 1/2" plate and reconstruction of the south exterior barrier and slab and the median barrier and slab at Bent No. 9 shall be done in phase 3F of the Construction Phasing Notes on sheet no. AC13.2.
4. Removal and replacement of the Expansion Joint Seals in the existing bridge shall be done in phase 3F of the Construction Phasing Notes on sheet no. AC13.2.
5. Installation of the Expansion Joint Seal in the widening portion shall be done in phase 3G of the Construction Phasing Notes on sheet no. AC13.2 and after stage 19 on sheet no. AS18.3 is complete.

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NORMAL DECK SECTION AT EXPANSION JOINT LOCATIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

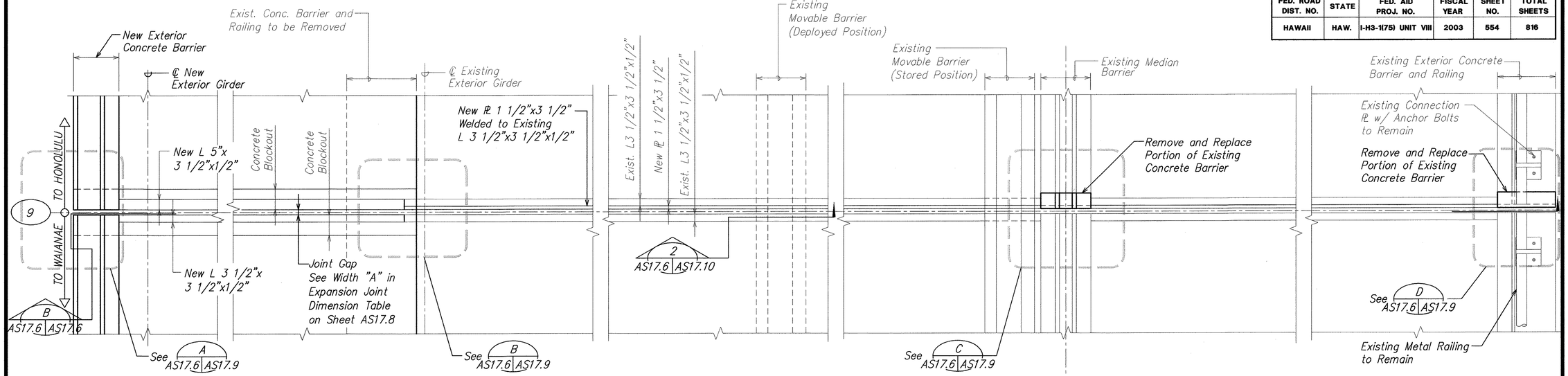
SHEET No. AS17.5 OF 150 SHEETS

ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
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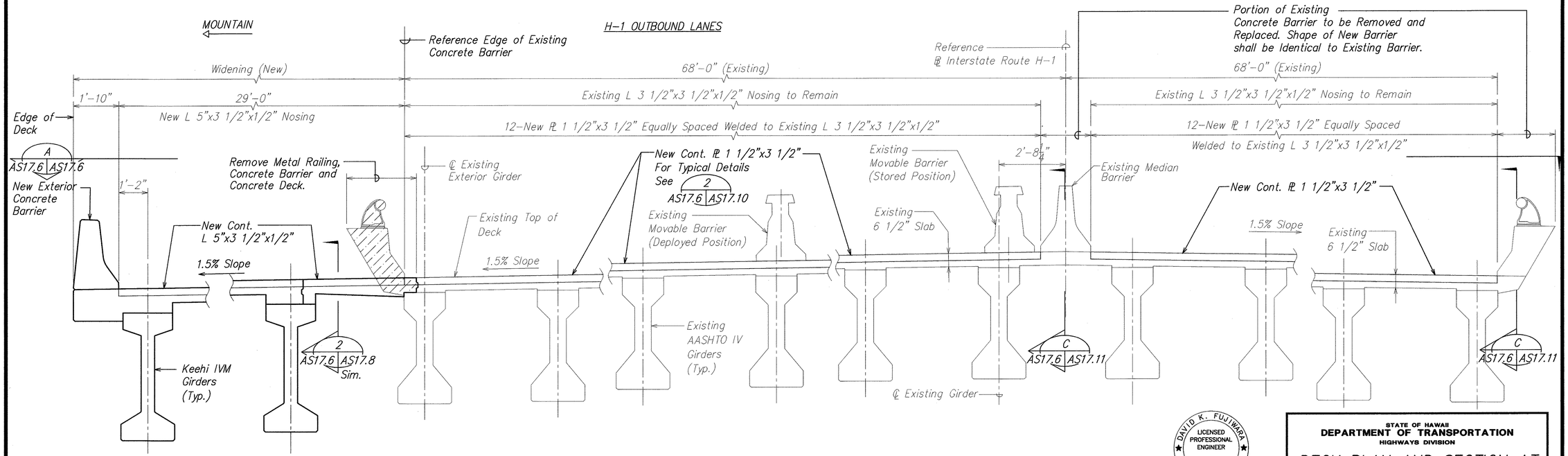
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 554 | 816 |




## PARTIAL DECK PLAN AT BENT NO. 9 EXPANSION JOINT A AS17.6 AS17.6

SCALE: 1/2" = 1'-0"




NOTE:
Joint Seal Not Shown for Clarity.

## NORMAL DECK SECTION AT BENT NO. 9 EXPANSION JOINT B AS17.6 AS17.6

SCALE: 1/2" = 1'-0"

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
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DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DECK PLAN AND SECTION AT BENT NO. 9 EXPANSION JOINT

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

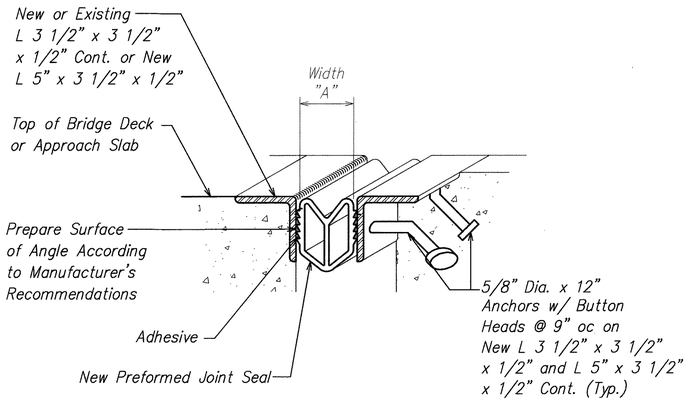
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554

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 556 | 816 |




## DECK EXPANSION JOINT ISOMETRIC

SCALE: 3" = 1'-0"

1 / AS17.8 | AS17.8

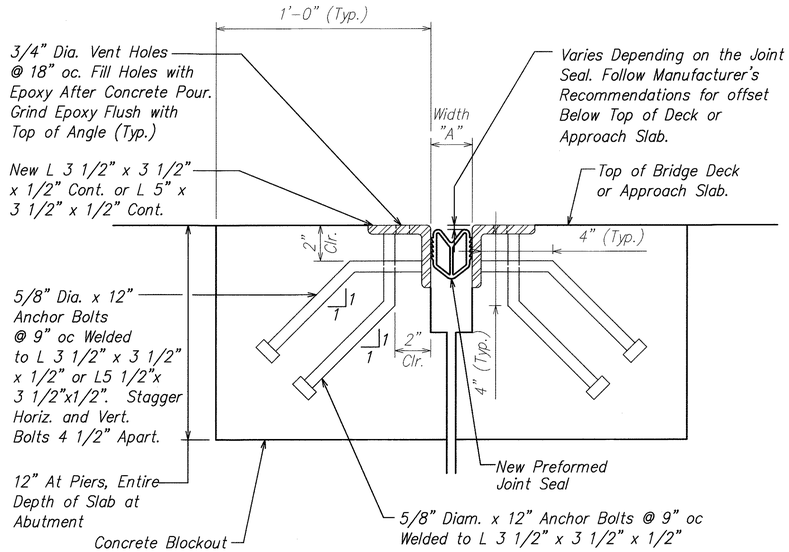
| LOCATION (EXISTING AND NEW) | WIDTH "A" AT INSTALLATION | HORIZONTAL MOVEMENT | | |
|---|---|---|---|---|
| | | Closing | Opening | TOTAL |
| | Inches | Inches | Inches | Inches |
| Abutment "A" | 1 5/8" | 3/4" | 3/4" | 1 1/2" |
| Bent 3 | 2" | 1/2" | 1 1/2" | 2" |
| Bent 6 | 2 1/2" | 1 1/4" | 1 1/4" | 2 1/2" |
| Bent 9 | * 2 1/2" | 3/4" | 1 3/4" | 2 1/2" |
| Abutment "B" | 2 1/4" | 1" | 1 1/4" | 2 1/4" |

## EXPANSION JOINT DIMENSION TABLE

*Width "A" Dimension is after installation of 1 1/2"x3 1/2" Plate.

NOTES:

1. Width "A" of the widening shall match Width "A" of the existing structure.
2. Installation width dimensions are approximate. The contractor shall field verify the width "A" dimension before ordering expansion joint system.
3. Installation width will vary depending on the date and time the expansion joint system is installed.
4. All manufacturer's recommendations shall be followed for installation, materials, and all related work for the expansion joint system.
5. All welding connecting the new angle nosing to the angle nosing and plate on the existing side shall be done before the expansion joint blockouts are poured and a minimum of 7 days after the closure pour.

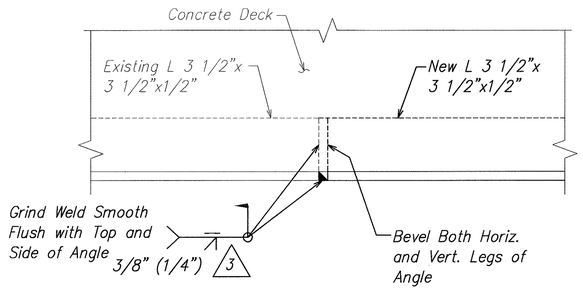



## TYPICAL DECK EXPANSION JOINT SECTION AT WIDENING

SCALE: 3" = 1'-0"

2 / AS6.3 | AS17.8

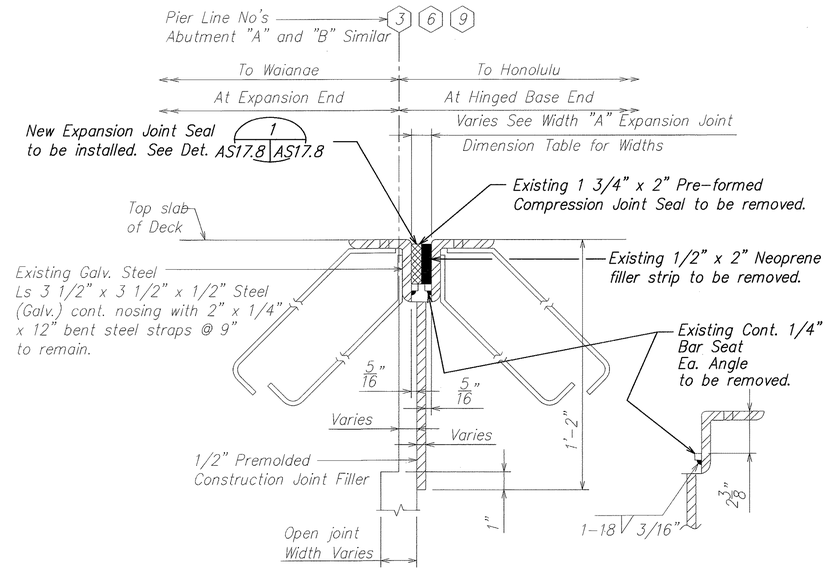
AS7.3, AS14.3, AS17.5, AS17.6




## TYPICAL ANGLE NOSING CONNECTION

SCALE: 3" = 1'-0"

4 / AS17.7 | AS17.8




## TYPICAL EXISTING DECK EXPANSION JOINT

SCALE: 3" = 1'-0"

3 / AS17.5 | AS17.8

| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised Weld Symbol |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## EXPANSION JOINT SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS17.8 OF 150 SHEETS

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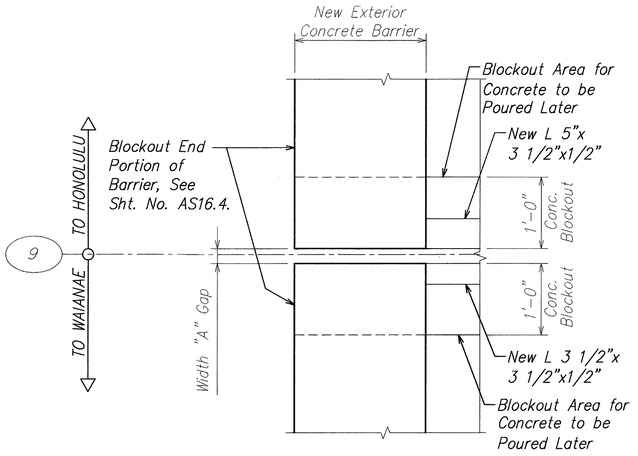
ORIGINAL PLAN | NOTE BOOK | No. | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

WV-AS1708.DWG
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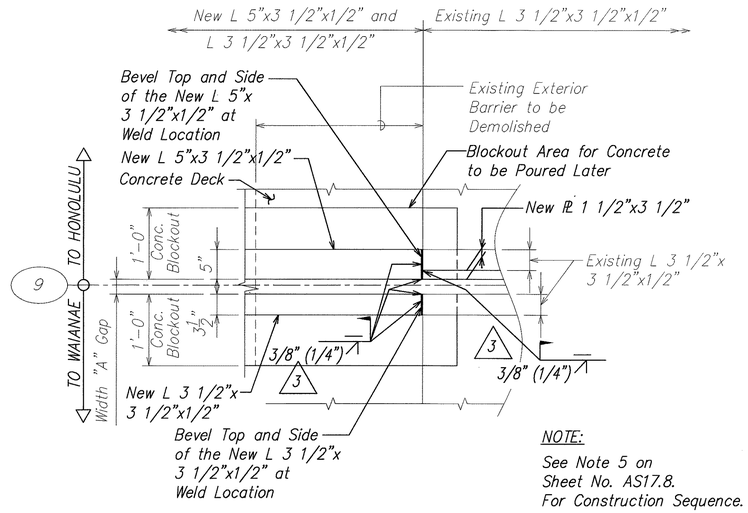
ADD. 556

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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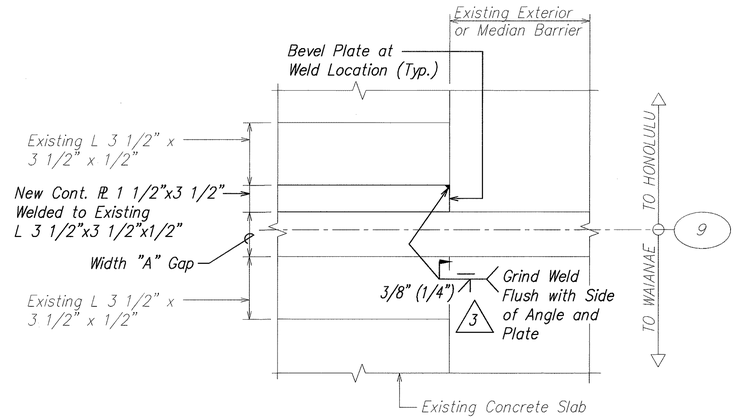



PLAN A
SCALE: 1" = 1'-0" AS17.6 | AS17.9

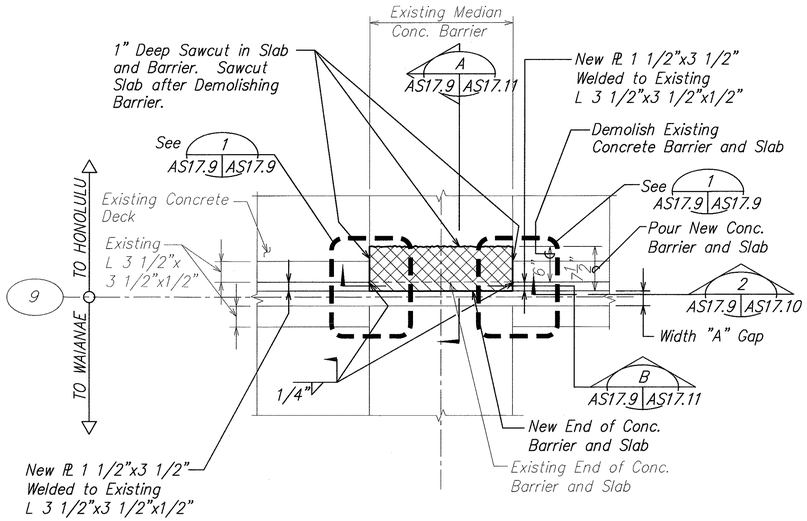



NOTE:
See Note 5 on Sheet No. AS17.8. For Construction Sequence.

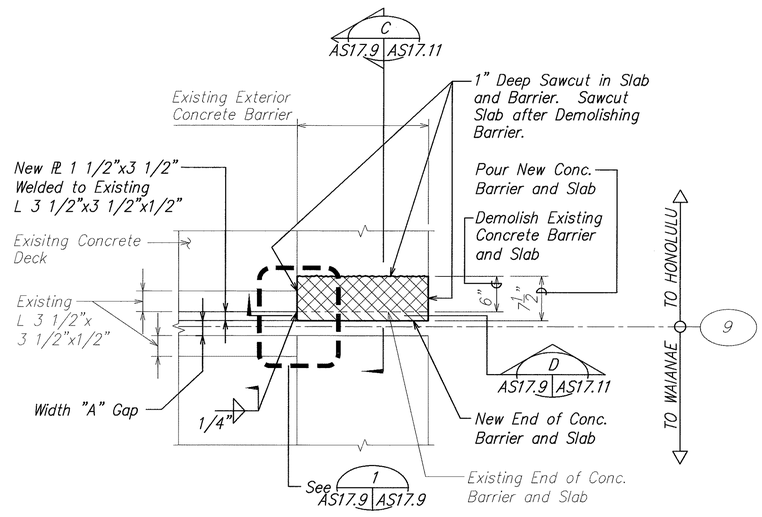
PLAN B
SCALE: 1" = 1'-0" AS17.6 | AS17.9 | AS17.7




TYPICAL DETAIL AT EXISTING CONCRETE BARRIER 1
SCALE: 3" = 1'-0" AS17.9 | AS17.9




PLAN C
SCALE: 1" = 1'-0" AS17.6 | AS17.9




PLAN D
SCALE: 1" = 1'-0" AS17.6 | AS17.9

NOTE:
For Width "A" Gap See Sheet No. AS17.8.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revised Weld Symbols |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PLAN DETAILS AT BENT NO. 9 EXPANSION JOINT

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII
Scale: As Noted Date: Mar. 31, 2003

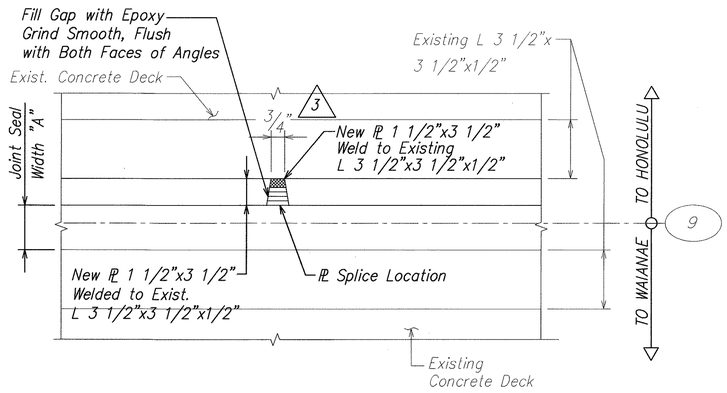
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ADD. 557

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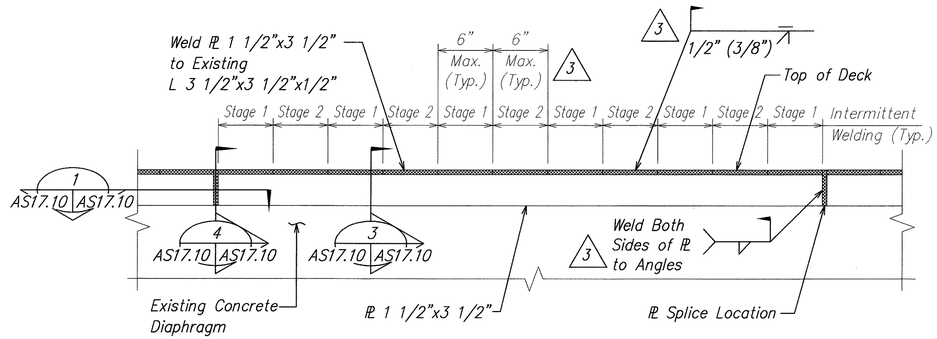
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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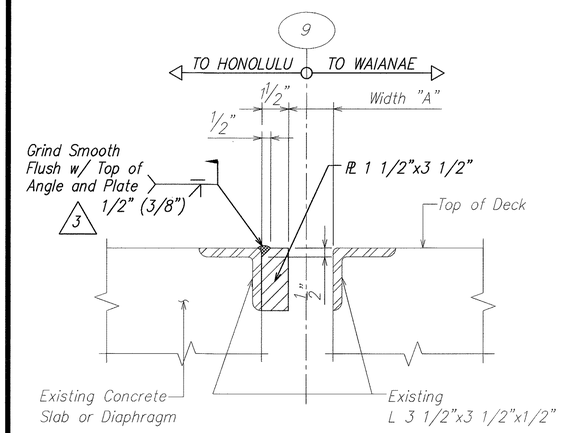

PLAN (1) AS17.10 | AS17.10

SCALE: 3" = 1'-0"



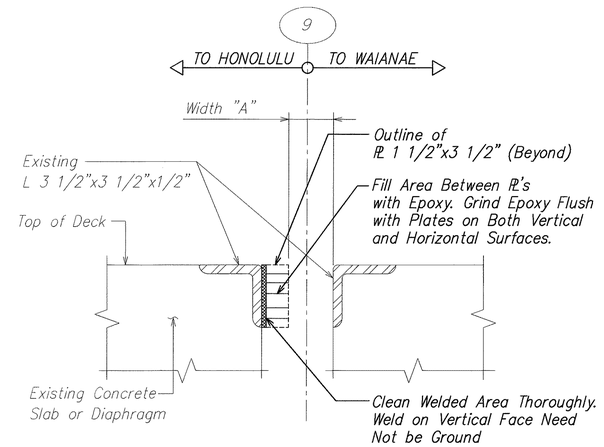

TYPICAL PLATE CONNECTION AND SPLICE (2) AS17.6 | AS17.10 / AS17.9

SCALE: 1 1/2" = 1'-0"




SECTION (3) AS17.10 | AS17.10

SCALE: 3" = 1'-0"




SECTION AT VERTICAL WELD (4) AS17.10 | AS17.10

SCALE: 3" = 1'-0"

3 NOTES:

1. Joint seal not shown for clarity.
2. Steel angles and plates, welded connections, epoxy and joint seals shall form a water tight seal across the expansion joint.
3. The Contractor shall weld the plate in such a way (Control the heat and speed of the welding, etc.) that no damage is caused to the existing concrete and warping of the plate and existing angles are minimized.
4. The Contractor shall submit a work plan showing measures to be used to minimize the detrimental effects of the welding to the Engineer for approval prior to commencing work.
5. Vertical welds on each side of plate shall be done before the horizontal weld at the top of the plate.
6. Welding shall be done intermittently in no less than 2 stages. The previous stage shall be completed before proceeding with the next stage.
7. All welds shall be ground smooth and flush with the members that are being welded unless otherwise noted.
8. The Contractor shall repair the galvanizing in all areas of the structural steel members in which the galvanizing has been damaged and galvanize all welds except for those surfaces in contact with the epoxy. The field galvanizing shall be done before installing the joint seals.
9. The Engineer will consider the price for installing the 1 1/2" x 3 1/2" plate and epoxy as incidental to the various Contract items. This includes equipment, tools, labor, materials, and incidentals necessary to complete the work.
10. Follow all manufacturer's recommendations for epoxy.

DAVID K. FUJIMARA
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NO. 8104-S
HAWAII, U.S.A.

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David K. Fujimara 4-30-04

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Revise Weld Symbols and Add Notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PLAN AND SECTIONS AT BENT NO. 9 EXPANSION JOINT

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS17.10 OF 150 SHEETS

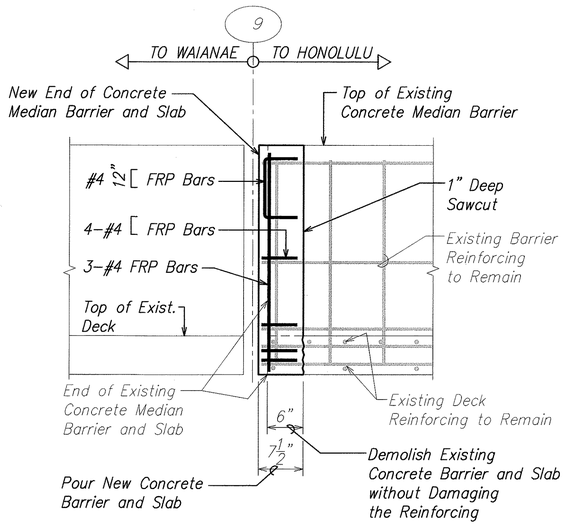
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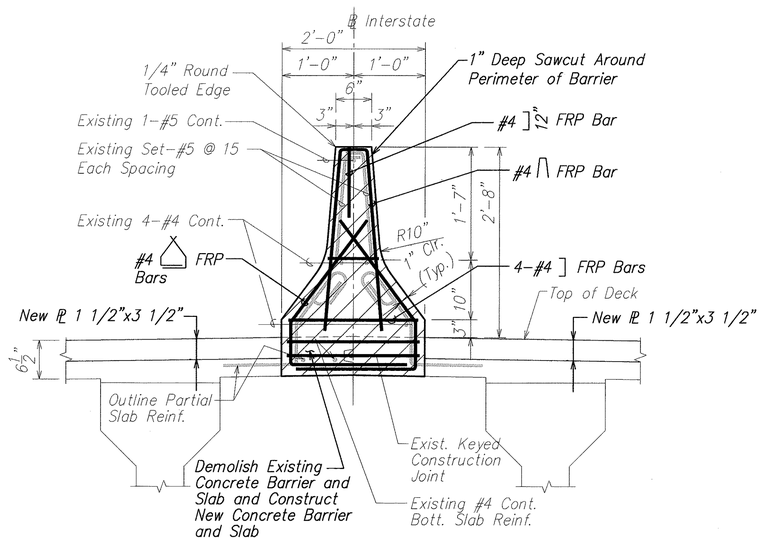
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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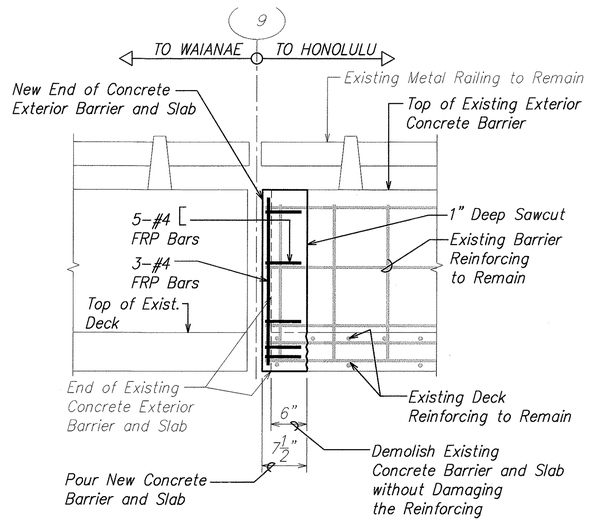

SECTION A
SCALE: 1" = 1'-0" AS17.9 AS17.11



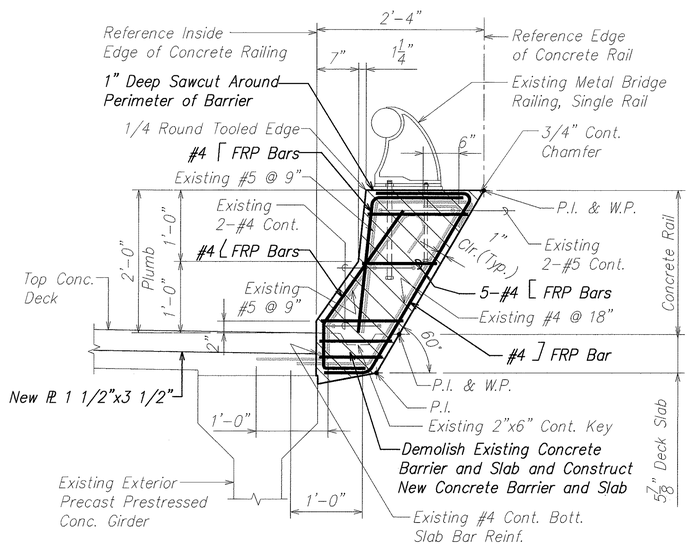

SECTION B
SCALE: 1" = 1'-0" AS17.9 AS17.11

NOTES:

The Engineer will consider the price for demolition and reconstruction of the existing concrete barrier and deck as incidental to the various Contract items. This includes equipment, tools, labor, materials, and incidentals necessary to complete the work.




SECTION C
SCALE: 1" = 1'-0" AS17.9 AS17.11




SECTION D
SCALE: 1" = 1'-0" AS17.9 AS17.11

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
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STATE OF HAWAII
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HIGHWAYS DIVISION

# SECTIONS AT BENT NO. 9
# EXPANSION JOINT

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

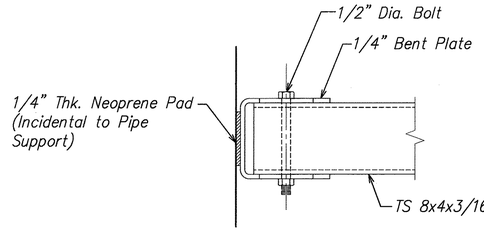
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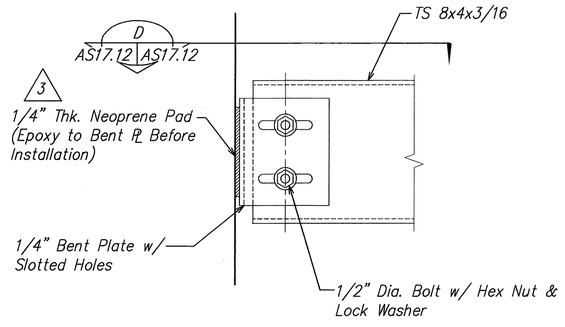


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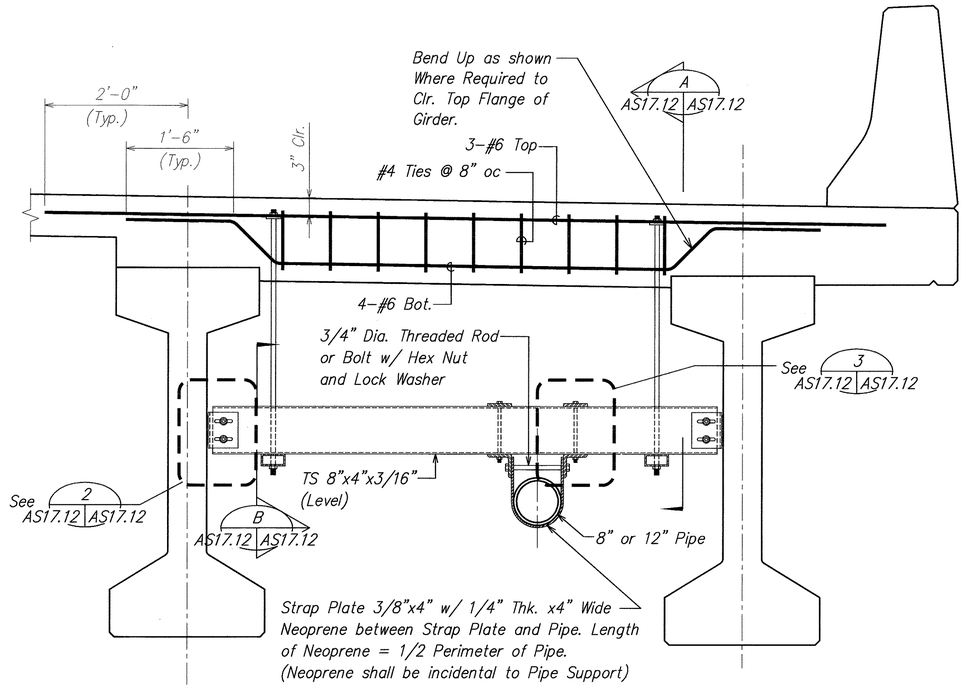
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 560 | 816 |




SECTION D
SCALE: 3" = 1'-0" AS17.12|AS17.12

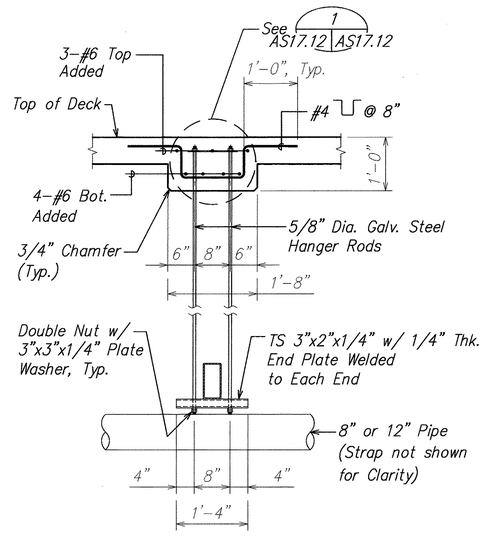



DETAIL 2
SCALE: 3" = 1'-0" AS17.12|AS17.12

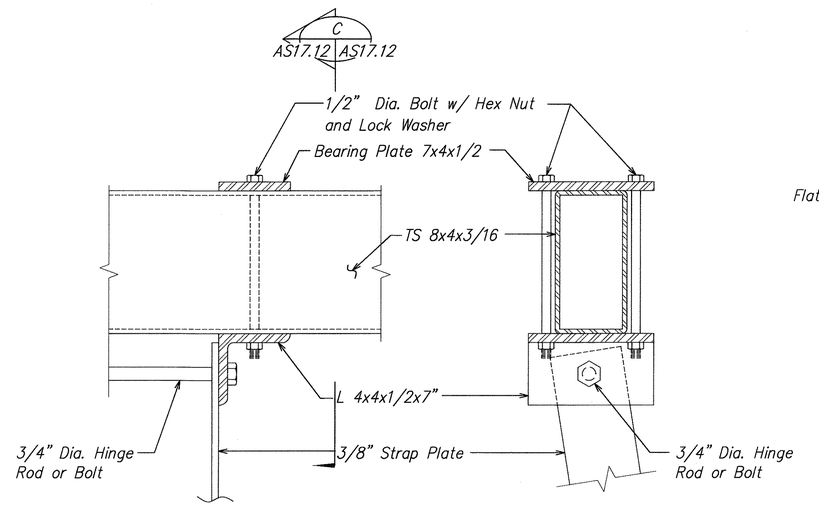



Notes:
1. Pipe supports shall be spaced @ 8'-0" oc max. verify location with pipe manufacturer.
2. Support assembly shall be hot dip galvanized after fabrication.

PIPE SUPPORT DETAIL
SCALE: 1" = 1'-0"

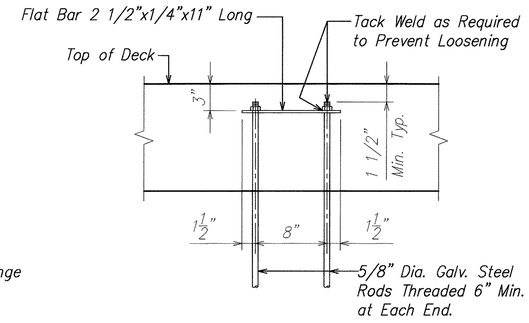



SECTION A
SCALE: 3/4" = 1'-0" AS17.12|AS17.12

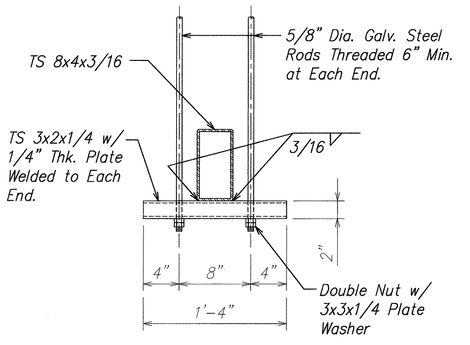



DETAIL 3
SCALE: 3" = 1'-0" AS17.12|AS17.12

SECTION C
SCALE: 3" = 1'-0" AS17.12|AS17.12




DETAIL 1
SCALE: 1 1/2" = 1'-0" AS17.12|AS17.12




SECTION B
SCALE: 1 1/2" = 1'-0" AS17.12|AS17.12

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| DATE | REVISION |
|---|---|
| 6/20/03 | 3 Clarification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PIPE SUPPORT DETAIL

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS17.12 OF 150 SHEETS

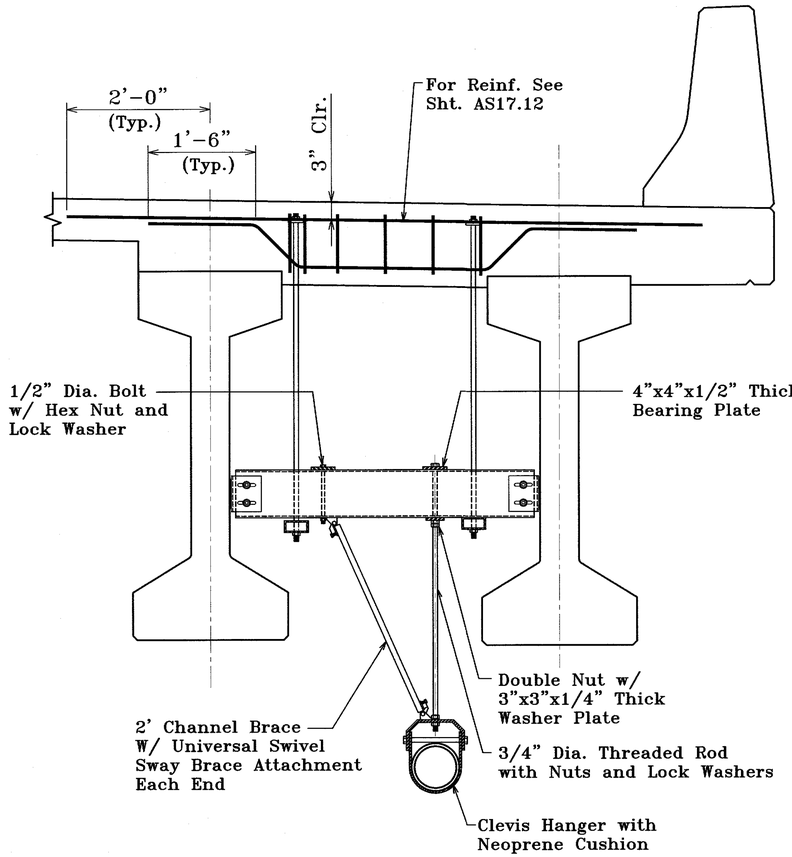
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NOTE BOOK | No.

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 560S-1 | 816 |




Notes:

1. Pipe supports shall be spaced @ 8'-0" oc max. verify location with pipe manufacturer.
2. Support assembly shall be hot dip galvanized after fabrication.
3. See Sht. AS17.12 for details not shown.

# PIPE SUPPORT DETAIL - SPAN NO. 3

**NOT TO SCALE**

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

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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SIGNATURE 4-30-04 EXPIRATION DATE OF THE LICENSE

| LEGEND FOR AS-BUILT POSTINGS | |
|---|---|
| ~~~~ | Squiggly line for as-built deletion |
| ~~100.00~~ | Double line for as-built deletion |
| Roadway | Text for as-built posting |

| DATE | REVISION |
|---|---|
| | New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PIPE SUPPORT DETAIL

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AS17.12A OF 150 SHEETS

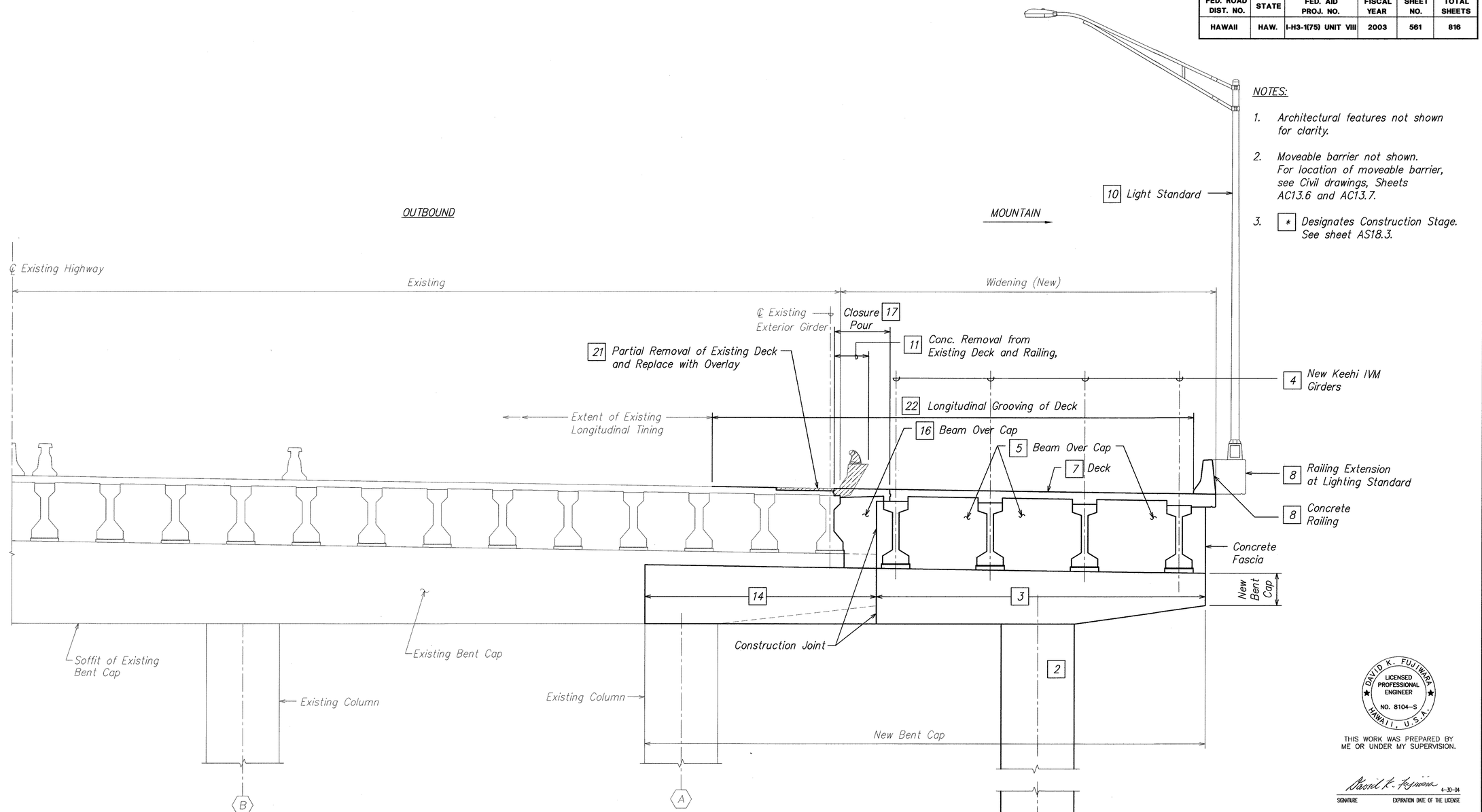
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560S-1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 561 | 816 |

NOTES:

1. Architectural features not shown for clarity.
2. Moveable barrier not shown. For location of moveable barrier, see Civil drawings, Sheets AC13.6 and AC13.7.
3. [*] Designates Construction Stage. See sheet AS18.3.




## CONSTRUCTION SEQUENCE SCHEMATIC ELEVATION OF BENT

NOT TO SCALE

A
AS18.1 | AS18.1

DAVID K. FUJIWARA
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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# VIADUCT CONSTRUCTION SEQUENCE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

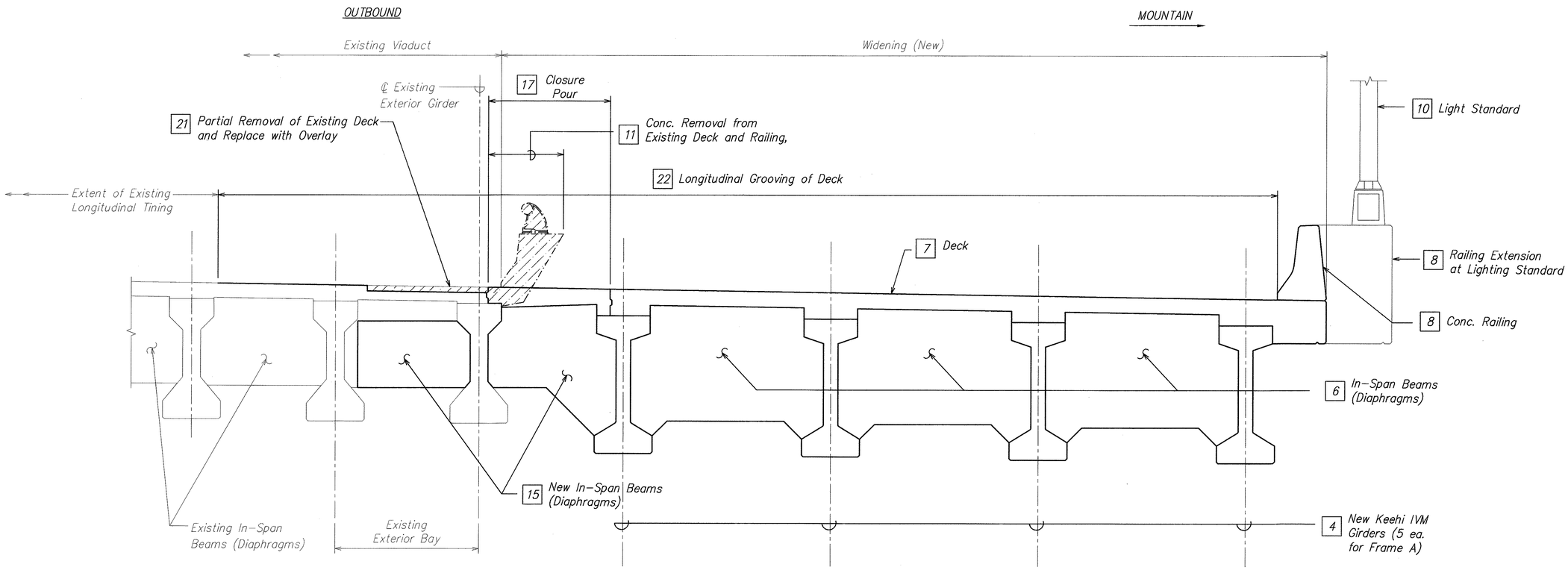
SHEET No. AS18.1 OF 150 SHEETS

ORIGINAL PLAN
NOTE BOOK No.
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 562 | 816 |




NOTES:

1. Moveable barrier not shown. For location of moveable barrier, see Civil drawings, sheets AC13.6 and AC13.7.
2. [*] Designates Construction Stage, see sheet AS18.3.

## CONSTRUCTION SEQUENCE
## SECTION – IN-SPAN AT FRAMES B, C, AND D (SIMILAR FOR FRAME A)

NOT TO SCALE

A
AS18.2 | AS18.2

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

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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Daniel K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

VIADUCT
CONSTRUCTION SEQUENCE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AS18.2 OF 150 SHEETS

562

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 563 | 816 |

# VIADUCT CONSTRUCTION SEQUENCE:

STAGE

1 — Construct foundation. Foundation may or may not include drilled shafts. Complete field survey and comply with revisions by the Engineer as specified in Viaduct General Note 8.(A).

2 — Construct columns, abutments, wing walls, retaining walls, and restrainers (sheet nos. AS17.1 TO AS17.4).

3 — Construct new bent caps to tip of existing bent caps.

4 — Erect girders at least fourteen (14) days after bent cap pour or until bent cap concrete has attained a compressive strength of 6000 psi, whichever occurs later.

NOTE: Existing light standards may be temporarily removed if girders are lifted from the existing deck provided that the light standards are restored to original conditions (see Specifications) for use during hours of darkness.

3 5 — Construct beams above bent caps and abutments except between the existing exterior girder and adjacent new girder.

6 — Construct in-span beams (diaphragms) except between the existing exterior grider and adjacent new girder.

7 — Pour deck except at "closure pour" strip and blockouts at expansion joints (Refer to sheets AS14.3, AS14.10 and AS17.8) at least seven (7) days after the concrete pour in stages 5 and 6 or until the concrete in stages 5 and 6 have attained a compressive strength equal to the 28-day f'c of stages 5 and 6, whichever occurs later.

For live loading requirements, refer to Section 503.03 (E) of the Specifications.

8 — Construct railing and railing extension at light standard except at railing blockouts at expansion joints (Refer to sheet AS16.4) fifteen (15) days after stage 7.

9 — Complete installation of new deck drains from inlet to outlet.

10 — Erect light standard at least fourteen (14) days after railing and railing extension at light standard pour or until the concrete has attained a compressive strength of 4,000 psi, whichever occurs later.

Note: Stages 11 and 12 shall be done concurrently.

11 — For full length of viaduct, remove existing concrete and metal railing, light standard, portion of deck and part of existing drain inlet frame and grating. For drain inlet details, see sheet nos. AS16.12 and AS16.13.

12 — Install sand bags or other appropriate measures along edge of existing deck to prevent storm water runoff or any other materials from going over existing bridge deck. See Civil sheet nos. AC16.6 to AC16.8. Sand bags may be removed after stage 19.

5

STAGE

13 — Disconnect existing drain line and remove drain line along existing bent cap. Plug existing drain line entering existing bent cap. For temporary connection of flex hose to existing drain inlet, see Civil sheet no. AC16.7.

7 14 — Construct remaining bent cap connecting existing and new bent cap at least thirty (30) days after concrete pour in stage 3 or twenty-one (21) days after the deck pour in stage 7, whichever occurs later. (Note: This stage does not apply to Bents No. 1, No. 2 and No. 8).

Note: Stages 15 and 16 may be done concurrently.

15 — Construct in-span beams (diaphragms) between existing exterior girder and adjacent new girder and at existing exterior bay at least three (3) days after the concrete pour in stage 14.

3 16 — Construct beams over bent caps and abutments connecting existing to new. (Note: This stage does not apply to Bents No. 1, No. 2 and No. 8).

17 — Pour concrete in "Closure pour" strip except at expansion joint blockouts at least four (4) days after the concrete pour in stages 15 and 16.

Note: Speed of construction vehicles on viaduct shall not exceed 5 mph during concrete pour and concrete setting of closure pour. Submit schedule and sequence of construction vehicles on viaduct for review and acceptance by the Engineer.

18 — Install structural steel angles and pour deck blockouts at expansion joints including within the "closure pour" strip at least seven (7) days after the concrete pour in stage 17 or until the concrete in stage 17 has attained a compressive strength of 4000 psi, whichever occurs later. See sheets AS14.3, AS14.10 and AS17.8.

19 — Pour railing blockouts at expansion joints after the concrete in stage 18 has attained a compressive strength of 5000 psi. See sheets AS16.4 and AS16.7.

20 — Remove remainder of existing drain inlet frame and plug drain on existing deck. For details, see sheet nos. AS16.12 and AS16.13. Install expansion joint seal in widening portion during Construction Phase 3G.

21 — Partially remove existing deck and pour concrete overlay at least fourteen (14) days after the concrete pour in stage 20 or twenty-one (21) days after the concrete pour in stage 18 or until the concrete in stages 20 and 18 have attained a compressive strength of 4000 psi, whichever occurs later.

22 — Texture by mechanical grooving in the following sequence: new deck, closure pour, overlay and, lastly, existing deck.

5

## TABLE

| VIADUCT CONSTRUCTION STAGE | COMMENTS |
|---|---|
| 14, 15 & 16 | Concrete pours shall occur during the H1 lane closures stated under Construction Phase 3E. The concrete shall be completely placed at least three hours prior to reopening the lanes to traffic. Also, see note 6 on sheet AC13.1. |
| 17 | Work shall begin at 9:30 pm and concrete shall be completely placed by 12:00 midnight. Re-open the viaduct to traffic at 4:00 am. |
| Construction of First Phase of Approach Slab | Refer to Note A.9 under Jet Grouting Notes on sheet AG3.1 for construction sequence. 3 |
| Construction of Second Phase of Approach Slab and Supporting Corbel | Pour approach slab at least six (6) hours after corbel pour or until the corbel concrete has attained a compressive strength of 4,000 psi whichever occurs later. Approach slab may be opened for traffic at least six (6) hours after approach slab pour or until the approach slab concrete has attained a compressive strength of 4,000 psi whichever occurs later. |
| Remove and Replace Existing Expansion Joints | May be constructed during any full closure of freeway except during the field survey as stated under Viaduct General Note 8. (A) on sheet no. AS0.4. 5 |

# VIADUCT CONSTRUCTION SEQUENCE NOTES:

1. Stages 1 through 10 apply separately to each Frame, i.e., Frames A, B, C, and D.
2. Stages 1 through 10 shall be completed for all four Frames prior to proceeding with stage 11.
3. Stages 11 through 17 shall be completed for all four Frames, before proceeding to stage 18.
4. Order of construction sequence shall not be changed.
5. Each viaduct sequence stage shall be completely finished before proceeding to the next stage unless otherwise noted. The Engineer will be the sole judge of whether the sequence stage is complete, and may direct the Contractor to stop work on a sequence stage to complete work on the preceeding sequence stage.
6. Contractor shall submit overweight vehicular details for approval prior to their use.
7. For Construction Phasing, see sheets AC13.1 through AC13.3
8. During stages 11 through 22, refer to Civil sheet no. AC13.7 for location of moveable barrier at stored position.

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — EXPIRATION DATE OF THE LICENSE: 4-30-04

| DATE | REVISION |
|---|---|
| 10/31/03 | 7 Removed Note |
| 10/16/03 | 5 Revised Notes |
| 6/20/03 | 3 Revised Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## VIADUCT CONSTRUCTION SEQUENCE AND NOTES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None — Date: Mar. 31, 2003

SHEET No. AS18.3 OF 150 SHEETS

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

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# INDEX TO SITE STRUCTURES DRAWINGS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 564 | 816 |


| SHT. NO. | DESCRIPTION |
|---|---|
| AW0.1 | INDEX TO SITE STRUCTURES |
| AW0.2 | SITE STRUCTURES ESTIMATED QUANTITIES |
| AW0.3 | SITE STRUCTURES ESTIMATED QUANTITIES |
| AW0.4 | SITE STRUCTURES STRUCTURAL GENERAL NOTES |
| AW0.5 | SITE STRUCTURES STRUCTURAL GENERAL NOTES |
| AW0.6 | SITE STRUCTURES STRUCTURAL GENERAL NOTES |
| AW0.7 | PARTIAL KEY PLAN / STA. 82+00 to STA. 111+00 |
| AW0.8 | PARTIAL KEY PLAN / STA. 109+00 to STA. 138+00 |
| AW0.9 | TYPICAL SOIL NAIL RETAINING WALL (SNRW)-SECTION IN CUT SLOPE- WEST OF WAIMALU VALLEY |
| AW0.10 | TYPICAL NOISE BARRIER WALL (NBW) OVER SOIL NAIL RETAINING WALL - SECTION EAST OF WAIMALU VALLEY |
| AW0.11 | SITE STRUCTURES CONSTRUCTION SEQUENCE NOTES |
| | |
| | |
| AW1.1 | PARTIAL ENLARGED PLAN / STA. 82+00 to STA. 88+00 |
| AW1.2 | PARTIAL ENLARGED PLAN / STA. 87+00 to STA. 93+00 |
| AW1.3 | PARTIAL ENLARGED PLAN / STA. 92+00 to STA. 98+00 |
| | |
| | |
| AW2.1 | ELEVATION - TIEBACK WALL AW1 |
| AW2.2 | TOP TIEBACK LAYOUT PLAN - TIEBACK WALL AW1 |
| AW2.3 | BOTTOM TIEBACK LAYOUT PLAN - TIEBACK WALL AW1 |
| AW2.4 | WALL-BARRIER SECTION WAIANAE END 5 |
| AW2.5 | WALL-BARRIER SECTION HONOLULU END |
| AW2.6 | TYPICAL WALER AND STRESSING BLOCK SECTIONS |
| AW2.7 | TYPICAL STRESSING BLOCK AND WALL BARRIER SECTION AND ANCHORAGE DETAILS |
| AW2.8 | TIEBACK ANCHOR DETAILS |
| AW2.9 | ELEVATION-DOWEL LOCATION TIEBACK WALL AW1 |
| AW2.10 | ELEVATION-DOWEL LOCATION WING WALL AW1 |
| AW2.11 | SECTION-DOWEL LOCATION AND PILASTER REINFORCING |
| AW2.12 | TIEBACK WALL AW1 EXCAVATION AND BACKFILL PAY LIMITS AND CONSTRUCTION SEQUENCE |
| AW2.13 | TIEBACK PAY LIMITS |
| | |
| | |
| | |
| AW3.1 | PARTIAL ENLARGED PLAN / STA. 96+00 to STA. 101+00 |
| | |
| | |
| | |
| AW4.1 | PARTIAL ENLARGED PLAN / STA. 101+00 to STA. 106+00 |
| AW4.2 | PARTIAL ENLARGED PLAN / STA. 106+00 to STA. 111+00 |
| | |
| | |
| | |
| AW5.1 | PARTIAL ENLARGED PLAN / STA. 121+00 to STA. 126+00 |
| AW5.2 | PARTIAL ENLARGED PLAN / STA. 126+00 to STA. 131+00 |
| AW5.3 | PARTIAL ENLARGED PLAN / STA. 131+00 to STA. 136+00 |
| | |
| | |
| | |
| AW6.1 | NOISE BARRIER WALL NBW-1 PROFILE NO. 1 |
| AW6.2 | NOISE BARRIER WALL NBW-1 PROFILE NO.2 |
| AW6.3 | NOISE BARRIER WALL NBW-1 SCHEDULE |
| AW6.4 | NOISE BARRIER WALL SECTIONS |
| AW6.5 | NOISE BARRIER WALL DETAILS 5 |
| AW6.5A | NOISE BARRIER WALL DETAILS 5 |
| AW6.5B | NOISE BARRIER WALL DETAILS 5 |
| AW6.5C | NOISE BARRIER WALL EXCAVATION PAY LIMITS 5 |
| AW6.5D | NOISE BARRIER WALL NBW-1 DETAILS 5 |

| SHT. NO. | DESCRIPTION |
|---|---|
| AW7.1 | NOISE BARRIER WALL NBW-2 PROFILE |
| AW7.2 | NOISE BARRIER WALL NBW-2 SCHEDULE |
| AW7.2A | NOISE BARRIER WALL NBW-2 DETAILS 5 |
| AW7.2B | NOISE BARRIER WALL NBW-2 DETAILS 5 |
| AW7.2C | NOISE BARRIER WALL NBW-2 DETAILS 5 |
| | |
| | |
| AW8.1 | NOISE BARRIER WALL NBW-3 PROFILE |
| AW8.2 | NOISE BARRIER WALL NBW-3 SCHEDULE |
| AW8.2A | NOISE BARRIER WALL NBW-3 DETAILS 5 |
| AW8.2B | NOISE BARRIER WALL NBW-3 DETAILS 5 |
| | |
| AW9.1 | SEGMENTAL RETAINING WALL SRW-1 PROFILE |
| AW9.2 | SEGMENTAL RETAINING WALL SRW-1 PROFILE |
| AW9.3 | SRW-1 & SRW-2 TYPICAL DETAILS |
| AW9.4 | SRW-1 & SRW-2 TYPICAL DETAILS |
| AW9.5 | SRW-1 SECTION AND DETAIL |
| AW9.6 | SRW-1 SECTIONS |
| AW9.7 | SRW-1 PLAN |
| AW9.8 | INLET STRUCTURE No. 1 PLAN & SECTION 5 |
| | |
| | |
| AW10.1 | SEGMENTAL RETAINING WALL SRW-2 PROFILE |
| AW10.2 | SEGMENTAL RETAINING WALL SRW-2 PROFILE |
| AW10.3 | SRW-2 SECTION AND DETAIL |
| AW10.4 | SRW-2 SECTION AND PLAN |
| AW10.5 | SRW-2 SECTION AND PLAN |
| AW10.6 | SRW-2 SECTIONS |
| AW10.7 | SRW-2 PLAN |
| AW10.8 | SRW-2 SECTION |
| AW10.9 | SRW-2 SECTION |
| AW10.10 | SRW-2 SECTION |
| AW10.11 | SRW-2 SECTION |
| AW10.12 | SRW-2 SECTION |
| AW10.13 | SRW-2 SECTION |
| AW10.13A | SRW-2 SECTION 5 |
| AW10.13B | HEADWALL DETAILS 5 |
| AW10.14 | SRW-2 SECTION |
| AW10.15 | SRW-2 DETAIL AND SECTIONS |
| | |
| | |
| AW11.1 | REINFORCED SOIL SLOPE LAYOUT AND SCHEDULE |
| AW11.2 | REINFORCED SOIL SLOPE CROSS SECTION |
| AW11.3 | REINFORCED SOIL SLOPE CROSS SECTION |
| | |
| | |
| | |
| AW12.1 | SOIL NAIL RETAINING WALL SNRW-1 PROFILE |
| AW12.2 | SOIL NAIL RETAINING WALL SNRW-2 PROFILE No. 1 |
| AW12.3 | SOIL NAIL RETAINING WALL SNRW-2 PROFILE No. 2 |
| AW12.4 | SOIL NAIL RETAINING WALL SNRW-3 PROFILE |
| AW12.5 | SOIL NAIL RETAINING WALL SNRW-4 PROFILE |
| AW12.6 | SOIL NAIL RETAINING WALL SCHEDULE |
| AW12.7 | SOIL NAIL RETAINING WALL TYPICAL DETAILS |
| AW12.8 | TYPICAL SOIL NAIL RETAINING WALL SECTIONS |
| AW12.9 | SOIL NAIL RETAINING WALL PLAN AND SECTION AT GDI |
| AW12.10 | SOIL NAIL RETAINING WALL SECTIONS AND DETAILS |
| AW12.10A | SOIL NAIL RETAINING WALL SECTIONS AND DETAILS 5 |
| AW12.10B | SNRW EXCAVATION AND BACKFILL PAY LIMITS 5 |
| | |

| SHT. NO. | DESCRIPTION |
|---|---|
| AW13.1 | CONCRETE BARRIER WALL CBW-1 PROFILE No. 1 |
| AW13.2 | CONCRETE BARRIER WALL CBW-1 PROFILE No. 2 |
| AW13.3 | CONCRETE BARRIER WALL CBW-1 PROFILE No. 3 |
| AW13.4 | CONCRETE BARRIER WALL CBW-2 PROFILE NO. 1 |
| AW13.5 | CONCRETE BARRIER WALL CBW-2 PROFILE NO. 2 |
| AW13.6 | CONCRETE BARRIER WALL CBW-3 PROFILE |
| AW13.7 | CONCRETE BARRIER WALL CBW-4 PROFILE |
| AW13.8 | CONCRETE BARRIER WALL CBW-5 PROFILE NO. 1 |
| AW13.9 | CONCRETE BARRIER WALL CBW-5 PROFILE NO. 2 |
| AW13.10 | CONCRETE BARRIER WALL CBW- 1 DETAILS |
| AW13.11 | CONCRETE BARRIER WALL CBW-2 DETAIL |
| AW13.12 | CONCRETE BARRIER WALL CBW-2 DETAILS |
| AW13.13 | CONCRETE BARRIER WALL CBW-2 ELEVATION AND SECTION |
| AW13.13A | CONCRETE BARRIER WALL CBW-2 ELEVATION AND SECTION 5 |
| AW13.14 | CONCRETE BARRIER WALL CBW-2 SECTION |
| AW13.15 | CONCRETE BARRIER WALL CBW-3 SECTION AND PLAN |
| AW13.16 | CONCRETE BARRIER WALL CBW-3 SECTIONS |
| AW13.17 | CONCRETE BARRIER WALL CBW-3 ELEVATION |
| AW13.18 | CONCRETE BARRIER WALL CBW-4 SECTION |
| AW13.19 | CONCRETE BARRIER WALL CBW-5 SECTIONS |
| AW13.19A | CONCRETE BARRIER WALL CBW-5 SECTIONS 5 |
| AW13.20 | CONCRETE BARRIER WALL AT LIGHT PEDESTAL |
| AW13.21 | CONCRETE BARRIER WALL AT LIGHT PEDESTAL |
| AW13.22 | CONCRETE BARRIER WALL AT LIGHT PEDESTAL |
| AW13.23 | CONCRETE BARRIER WALL DRILLED SHAFT DETAILS |
| AW13.24 | CONCRETE BARRIER WALL JOINT DETAILS |
| AW13.25 | CONCRETE BARRIER WALL TYPICAL DETAILS |
| AW13.26 | CONCRETE BARRIER WALL EXCAVATION AND BACKFILL PAY LIMITS |
| AW13.27 | CONCRETE BARRIER WALL EXCAVATION AND BACKFILL PAY LIMITS |
| | |
| | |
| AW14.1 | AT GRADE LUMINAIRE FOUNDATION DETAILS |
| | |
| AW15.1 | FIXED MESSAGE SIGN PANEL ELEVATION |
| AW15.2 | FIXED MESSAGE LUMINAIRE SUPPORT |
| AW15.3 | FIXED MESSAGE LUMINAIRE SUPPORT DETAILS |
| AW15.4 | FIXED MESSAGE SIGN PANEL DETAILS |
| | |
| AW16.1 | WIM STRUCTURE SECTION, PLAN AND ELEVATION |
| AW16.2 | DRAINAGE STRUCTURE TYPICAL DETAILS |
| AW16.3 | GRATED DROP INLET-TYPE A1 GDI - A-1, G-1, H-2, J-2, K-2 & E-11 5 |
| AW16.3A | GRATED DROP INLET-TYPE A1 GDI - H-1, J-1, & K-1 5 |
| AW16.3B | GRATED DROP INLET-TYPE A1 GDI - M-2, M-3, M-8 & M-9 5 |
| AW16.4 | GRATED DROP INLET TYPE A2 GDI A-5, A-6, A-9, A-10, A-11, E-6, E-7, E-8, AND E-9 |

| SHT. NO. | DESCRIPTION |
|---|---|
| AW16.5 | GRATED DROP INLET TYPE A2 GDI E-3, AND E-5 5 |
| AW16.6 | GRATED DROP INLET TYPE A2 GDI M-1 |
| AW16.7 | GRATED DROP INLET TYPE A3 GDI A-8, B-1, AND C-1 |
| AW16.8 | GRATED DROP INLET TYPE A3 GDI E-2, AND E-4. 5 |
| AW16.9 | GRATED DROP INLET TYPE A4 GDI D-1 |
| AW16.10 | GRATED DROP INLET TYPE A5 GDI E-1 |
| AW16.11 | DRAINAGE STRUCTURE DETAILS SPECIAL SDMH I-2 REINFORCING |
| AW16.12 | DRAINAGE STRUCTURE DETAILS SPECIAL SDMH M-4 REINFORCING |
| AW16.13 | DRAINAGE STRUCTURE DETAILS SPECIAL SDMH N-1 REINFORCING |
| AW16.14 | DRAINAGE STRUCTURE DETAILS SPECIAL SDMH N-2 REINFORCING |
| AW16.15 | DRAINAGE STRUCTURE DETAILS SPECIAL SDMH N-3 REINFORCING |
| AW16.16 | DRAINAGE STRUCTURE DETAILS SPECIAL SDMH N-4 REINFORCING |
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| SURVEY PLOTTED BY | DATE |
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| ORIGINAL PLAN | |
| NOTE BOOK | |
| No. | |

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| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Corrected Titles at AW2.4, AW16.5, AW16.8, and AW18.1, Added Sheets |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INDEX TO SITE STRUCTURES DRAWINGS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None — Date: Mar. 31, 2003

SHEET No. AW0.1 OF 140 SHEETS

RMTC JOB NO.: 1-19369-0E

ADD. 564

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 565 | 816 |

# SITE STRUCTURES ESTIMATED QUANTITIES

(See AW0.3 for Continuation of Site Structures Estimated Quantities)

| ITEM NO. | ITEM | EST. QUAN. | UNIT |
|---|---|---|---|
| 202.0207 | Removal of Existing Inlet at STA. 89+10 | L.S. | L.S. |
| 202.0208 | Removal of Portion of Existing Abutment Footing for AW-1 | L.S. | L.S. |
| 206.5001 | Structure Excavation for Noise Barrier Wall-1 | 480 △5 | C.Y. |
| 206.5002 | Structure Excavation for Noise Barrier Wall-2 | 330 △5 | C.Y. |
| 206.5003 | Structure Excavation for Noise Barrier Wall-3 | 240 △5 | C.Y. |
| 206.5004 | Structure Excavation for AW-1 | 500 | C.Y. |
| 206.5005 | Structure Excavation for Soil Nail Retaining Wall-1 | 410 | C.Y. |
| 206.5006 | Structure Excavation for Soil Nail Retaining Wall-2 | 4,400 | C.Y. |
| 206.5007 | Structure Excavation for Soil Nail Retaining Wall-3 | 2,000 | C.Y. |
| 206.5008 | Structure Excavation for Soil Nail Retaining Wall-4 | 780 | C.Y. |
| 206.5009 | Structure Excavation for Concrete Barrier Wall-1 | 1,060 | C.Y. |
| 206.5010 | Structure Excavation for Concrete Barrier Wall-2 | 590 | C.Y. |
| 206.5011 | Structure Excavation for Concrete Barrier Wall-3 | 150 | C.Y. |
| 206.5012 | Structure Excavation for Concrete Barrier Wall-4 | 350 | C.Y. |
| 206.5013 | Structure Excavation for Concrete Barrier Wall-5 | 1,600 | C.Y. |
| △5 | | | |
| 206.7254 | Structure Backfill for AW-1 | 25 | C.Y. |
| 206.7255 | Structure Backfill for AW-1 (Class 'D' Concrete) | 40 | C.Y. |
| 206.7256 | Structure Backfill for Soil Nail Retaining Wall-1 | 40 | C.Y. |
| 206.7257 | Structure Backfill for Soil Nail Retaining Wall-2 | 400 | C.Y. |
| 206.7258 | Structure Backfill for Soil Nail Retaining Wall-3 | 220 | C.Y. |
| 206.7259 | Structure Backfill for Soil Nail Retaining Wall-4 | 110 | C.Y. |
| 206.7260 | Structure Backfill for Concrete Barrier Wall-1 | 420 | C.Y. |
| 206.7261 | Structure Backfill for Concrete Barrier Wall-2 | 300 | C.Y. |
| 206.7262 | Structure Backfill for Concrete Barrier Wall-3 | 58 | C.Y. |
| 206.7263 | Structure Backfill for Concrete Barrier Wall-4 | 215 | C.Y. |
| 206.7264 | Structure Backfill for Concrete Barrier Wall-5 | 514 | C.Y. |
| | | | △5 |
| 206.8202 | Filter Material for Concrete Barrier Walls | 90 | C.Y. △5 |
| 211.1000 | Reinforced Soil Slope △5 | L.S. | L.S. |
| 501.0211 | Structural Steel for Overhead Sign Support | L.S. | L.S. |
| 503.1401 | Concrete for AW-1 | L.S. | L.S. |
| 503.1402 | Concrete for Barrier-Wall at Austin-Bishop Separation | L.S. | L.S. |
| 503.1403 | Concrete for Soil Nail Retaining Wall-1 | L.S. | L.S. |
| 503.1404 | Concrete for Soil Nail Retaining Wall-2 | L.S. | L.S. |
| 503.1405 | Concrete for Soil Nail Retaining Wall-3 | L.S. | L.S. |
| 503.1406 | Concrete for Soil Nail Retaining Wall-4 | L.S. | L.S. |
| 503.1407 | Concrete for Concrete Barrier Walls-1 and 2 | L.S. | L.S. |
| 503.1408 | Concrete for Concrete Barrier Walls-3, 4, and 5 | L.S. | L.S. |
| 503.1409 | Concrete for Noise Barrier Wall-1 Footing | L.S. | L.S. |
| 503.1410 | Concrete for Noise Barrier Wall-2 Footing | L.S. | L.S. |
| 503.1411 | Concrete for Noise Barrier Wall-3 Footing | L.S. | L.S. |
| △5 | | | |

Note: See Sheet No. AW0.3 for Continuation of Site Structures Estimated Quantities.

| DATE | REVISIONS |
|---|---|
| 10/16/03 | △5 Deleted Structure Backfill for Noise Barrier Walls. Coordinated Filter Mat'l. Item Numbers. Deleted Conc. for Soil Nail Retaining Wall Ftgs. Revised Quantities. |

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE STRUCTURES ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AW0.2 OF 140 SHEETS

ORIGINAL PLAN | NOTE BOOK | No. ____

SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

RMTC JOB NO.: 1-19369-0E

ADD. 565

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 566 | 816 |

# SITE STRUCTURES ESTIMATED QUANTITIES

(Continued From AW0.2 Site Structures Estimated Quantities)

| ITEM NO. | ITEM | EST. QUAN. | UNIT |
|---|---|---|---|
| 5 | | | |
| 503.1416 | Concrete for Concrete Barrier Walls-1 and 2 Footings | L.S. | L.S. |
| 503.1417 | Concrete for Concrete Barrier Walls-3, 4, and 5 Footings | L.S. | L.S. |
| 511.0500 | Permanent Casing (27-Inch ID Corrugated Aluminium Pipe) | 200 | L.F. |
| 511.0800 | Standard 5 Shaft Excavation (20-Inch. Diameter) | 450 | L.F. |
| | | | 5 |
| 511.1100 5 | Drilled Shaft (Type 20) 5 | 450 | L.F. |
| | | | 5 |
| 511.1200 5 | Drilled Shaft (Type 27) 5 | 200 | L.F. |
| 513.0101 | CMU Noise Barrier Walls 5 | 1,900 | S.Y. |
| | | | 5 |
| 530.0101 | Segmental Retaining Wall No. 1 | L.S. | L.S. |
| 530.0102 | Segmental Retaining Wall No. 2A | L.S. | L.S. |
| 530.0103 | Segmental Retaining Wall No. 2B | L.S. | L.S. |
| 530.0104 | Segmental Retaining Wall No. 2C | L.S. | L.S. |
| 602.0050 | Reinforcing Steel for AW-1 | L.S. | L.S. |
| 602.0051 | Reinforcing Steel for Barrier-Wall at Austin-Bishop Separation | L.S. | L.S. |
| 602.0052 | Reinforcing Steel for Soil Nail Retaining Walls | L.S. | L.S. |
| 602.0053 | Reinforcing Steel for Concrete Barrier Walls | L.S. | L.S. |
| 602.0054 | Reinforcing Steel for Concrete Barrier Wall Footings | L.S. | L.S. |
| 602.0055 | Reinforcing Steel for Noise Barrier Walls | L.S. | L.S. |
| 602.0056 | Reinforcing Steel for Noise Barrier Wall Footings | L.S. | L.S. |
| 628.0100 | Shotcrete | 2,700 | S.Y. |
| 655.0001 | Drilling Holes and Installing Dowel Reinforcing Bars for AW-1 | 24 | Each |
| 656.0001 | Furnishing Specialty Equipment (1 Set) | L.S. | L.S. 5 |
| 656.0100 | Soil Nails (No. 9 Bar) 5 | 1,400 | L.F. |
| 656.0101 | Soil Nails (No. 10 Bar) 5 | 4,800 | L.F. |
| 656.0102 | Soil Nails (No. 11 Bar) 5 | 7,600 | L.F. |
| 663.1000 | Erosion Control Matting | 1,600 | S.Y. |
| 681.1000 | Furnishing Specialty Equipment (1 Set) | L.S. | L.S. |
| 681.1001 | Tie Back Anchors for AW-1 | 24 | Each 5 |
| 681.1002 | Reinstallation of Tieback Anchors due to Grout Loss and Additional Performance Tests for AW-1 | F.A. | F.A. |

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

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LICENSED PROFESSIONAL ENGINEER
No. 3908-S
HAWAII, U.S.A.

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| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Deleted Conc. for Soil Nail Retaining Wall Ftgs. Clarified CMU Noise Barrier Wall Sizes. Coordinated Item 656.0001 Revised Quantities. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE STRUCTURES ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AW0.3 OF 140 SHEETS

RMTC JOB NO.: 1-19369-0E

ADD. 566

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 567 | 816 |

# SITE STRUCTURES STRUCTURAL GENERAL NOTES

(Continued on Sheet No. AW0.5 and Sheet No. AW0.6)

I. Site Structures:

(A) All work shall be in accordance with the Hawaii Department of Transportation Standard Specifications for Road, Bridge and Public Works Construction, 1994, together with Special Provisions prepared for this Contract.

(B) The Contractor shall verify the locations of all existing utility lines and notify the owners before commencing with the work.

(C) The Contractor shall provide all measures necessary to protect the public during the work. Such measures shall include, but shall not be limited to; bracing, shoring for loads due to construction equipment, wind loads, seismic loads and vehicular crash loads, etc.

5 (D) The Contractor shall refer to Sheet No. AW0.11 for Site Structures Construction Sequence.

II. Design Criteria:

(A) AASHTO LRFD Bridge Design Specifications, 2nd Edition, 1998, and including subsequent Interim Revisions, supplements and modifications by the Highways Division, Department of Transportation, State of Hawaii.

(B) AASHTO Manual for Condition Evaluation of Bridges, 2nd Edition including subsequent Interim Revisions.

(C) AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 4th Edition, 2001 Including Subsequent Interim Revisions. Design parameters shall be as follows:

(1) Basic Wind Speed: 105 mph.
(2) Recurrence Interval: 100 years.
(3) Height and Exposure Factor: For Highway Sign and Luminaire support structures on bridges, the height and exposure factor shall be determined based on the maximum height above the surrounding ground.
(4) Fatigue Importance Factors: Highway Sign and Luminaire support structures shall be based on the following:
a. Fatigue Category I – For all structures where failure would result in the structure falling into the travel way.
b. Fatigue Category II – For all others.
(5) Galloping: Highway Sign support shall be designed for galloping-induced cyclic loads.
(6) Natural Wind Gust: Highway Sign and Luminaire support structures shall be designed to resist on equivalent static natural wind gust pressure.
(7) Truck-Induced Gust: Highway Sign and Luminaire support structures shall be designed to resist on equivalent static truck gust pressure range based on a truck speed of 65 mph.

(D) AASHTO Guide Specifications for Structural Design of Sound Barriers, 1989, including subsequent Interim Revisions. Design parameters shall be as follows:

5 (1) Basic Wind Speed: . . . . . 80 mph
(2) Recurrence Interval: . . . . . 50 years
(3) Gust Speed Increase: . . . . . 30%
(4) Exposure Category. . . . . B2
(5) Drag Coefficient:. . . . . 1.2
(6) Height, Exposure and Location Coefficient . . . . . 0.59
(7) Minimum Wind Pressure: . . . . . 19.6 psf
(8) Seismic Loads:
a. Acceleration Coefficient: . . . . . 0.18
b. Dead Load Coefficient: . . . . . 0.75
c. Seimic Dead Load Coefficient: . . 0.135

III. (Not Used)

IV. Materials:

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

| Item No. | Structural Parts | Classes of Concrete | Compressive Strength f'c (28 Days) |
|---|---|---|---|
| (1) | Segmental Retaining Wall (SRW) | | |
| | a. Concrete Headwall | – | 3,000 PSI 5 |
| | b. Concrete Cap | – | 3,000 PSI 5 |
| | c. Concrete Leveling Pad | D | – |
| | d. Low-Density Concrete Backfill | – | 80 PSI (Min.) |
| | e. Segmental Concrete Facing Units | – | (See Notes VII) |
| (2) 5 | Tieback Wall AW1 | | |
| | a. Structure Backfill | D | – |
| | b. Grout | – | 4,000 PSI (See Specifications) 5 |
| | c. Except as noted otherwise | – | 5,000 PSI |
| (3) | Soil Nail Retaining Wall (SNRW) | | |
| | a. Shotcrete Construction Facing | – | 3,000 PSI 5 |
| | b. Permanent Cast-In-Place Concrete Facing | – | 4,000 PSI |
| | c. Grout | – | (See Notes X) |

IV. Materials: (Continued)

(4) Concrete Barrier Wall (CBW)
a. Wall and foundation – 4,000 PSI 5
b. CBW Drilled Shafts – 4,500 PSI
(5) Noise Barrier Wall (NBW) Foundation – 4,000 PSI
5 (6) All Others, unless Noted otherwise – 5 3,000 PSI

All concrete noted above with the exception of Class A and D concrete shall have a maximum W/C Ratio of 0.45. The W/C Ratio for Class A and D concrete shall follow the Specifications.

(B) For Tieback Anchors, refer to Section 681 of the Special Provisions
(C) For Reinforced Soil Slope, refer to Section 211 of the Special Provisions.
(D) The use of any calcium chloride in any concrete is prohibited.
(E) All reinforcing steel shall be ASTM A615 Grade 60 unless otherwise noted.
(F) Reinforcing steel shall be ASTM A706 where welded connections are required. 5
(G) All structural steel shapes and plates shall be ASTM A36 hot dip galvanized after fabrication, unless otherwise noted.
(H) 5 All anchor bolts, bolts, washers and nuts shall be ASTM A 325 Type I hot dip galvanized after fabrication, unless otherwise specified.
(J) Low-density concrete backfill shall be an engineered fill with a 5 maximum wet plastic density of 35 pcf and with a minimum compressive strength (at 28 days) of 80 psi.
(K) Expanded polystyrene geofoam shall conform to ASTM C-578 and Shall be Type I with a minimum density of 0.9 lb/ft$^3$ and a minimum compressive resistance of 4.6 PSI at 1% deformation.
5 (L) Concrete Masonry Unit Wall Materials shall conform to the following:
(1) Hollow Concrete Masonry Units shall be normal weight load bearing units and shall meet the requirements of ASTM C90.
a. The compressive strength of hollow units based on minimum net area shall attain not less than 2,000 psi 28-day compressive strength. Refer to AASHTO Guide Specifications for Structural Design of Sound Barriers, 1989, Including subsequent Interim Revisions-Sections 1-6.3.2, 1-6.3.3 A, C, D and 2-2.2 for required Prism Testing. Prism Test requirements may be adjusted only per Note XII.(C)(1) and only with the Engineers approval.
b. The specified compressive strength of masonry (f'm) at the age of 28-days shall be based upon the provisions of the above referenced AASHTO Guide Specification including subsequent interim revisions – Sections 1-6.3.2, and 1-6.3.3. The specified compressive strength of masonry (f'm) at the age of 28-days shall attain not less than 1,500 psi.
(2) Mortar shall be Type M and shall attain not less than 2,500 psi 28-day compressive strength. Unless approved otherwise by the Engineer, Hydrated lime shall conform to ASTM designation: C207, Type S. (Masonry cement and plastic cement are prohibited.)
(3) Grout shall attain not less than 3,000 psi 28-day compressive strength.
(4) Horizontal Joint reinforcing shall conform to ASTM A82.
(5) Waterbased, water repellent penetrating sealer for masonry shall contain between 10 percent and 20 percent solids and shall be emulsions especially formulated for use on porous masonry.

V. Reinforcement:

(A) The covering measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as otherwise shown:
(1) Concrete cast against and permanently exposed to earth = 3"
(2) All others unless otherwise noted = 2".

(B) Reinforcing bars shall be detailed in accordance with the latest edition of the A.C.I. Detailing Manual unless otherwise noted.

(C) Minimum clear spacing between parallel bars shall be 1 1/2 times the diameter of bars (for non bundled bars). In no case shall the clear distance between the bars be less than 1 1/2 times the maximum size of the coarse size of the coarse aggregate or 1 1/2".

V. Reinforcement (Continued):

(D) All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.

(E) Reinforcing bars shall be securely tied at all intersections and lap splices except where the spacing of intersections is less than one foot in each direction, in which case alternate intersections shall be tied.

VI. Glass Fiber Reinforced Polymer Bar

(A) Glass Fiber Reinforced Polymer (GFRP) rebar shall have a minimum tensile strength of 110 ksi for #4 bar and smaller. All others shall have a minimum tensile strength of 95 ksi. The allowable Tensile stress is equal to 20% of the minimum ultimate tensile strength.
(B) The modulus of elasticity of the GFRP bar shall be a minimum 5,900,000 psi.
(C) Minimum concrete cover for the GFRP bars shall be 3/4" unless otherwise noted.
(D) Minimum lap splice lengths for the GFRP bars shall be 42 bar diameters unless otherwise noted.
(E) All GFRP bars shall be securely tied in place.
(F) The GFRP bars may be cut in the field with a masonry or diamond blade.
(G) All work including materials and bends shall follow manufacturer's recommendations.

Segmental Retaining Wall

VII. (A) Segmentol concrete facing units:
(1) Units shall have a 28-day compressive strength of not less than 4,000 psi. 5
(2) Absorption = 8% maximum for standard weight aggregates
(3) Unit depth = 12 inches minimum;
(4) Unit width to height ratio = 2.25 : 1
(5) Unit weight = 75 lbs/unit minimum for standard weight aggregates
(6) Inter-unit shear strength = 400 plf minimum at 2 psi normal pressure.

(B) Shear connectors
(1) Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to + 100 degrees F. Shear connectors shall be 1/2 inch diameter thermoset isopthalic polyester resin-pultruded fiberglass reinforcement rods. Connectors shall have a minimum flexural strength of 128,000 psi and short beam shear strength of 6,400 psi. 5
(2) Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.
5 (3) The connection strength between the geogrid and the concrete facing units shall be greater than the long-term design strength of the geogrid, exclusive of friction between the concrete facing units.

(C) Geogrid
(1) Geogrid structure shall consist of select high-density polyethylene. 5 Geogrid shall be a geosynthetic reinforcement material having regular 5 and defined open areas, and shall have a long-term design strength of 3,200 lbs/ft as determined by GRI GG4.

(D) Drainage Collection pipe (6" Perforated Pipe)
(1) Install drainage collection pipe to maintain gravity flow of water from reinforced soil zone.
2) Daylight drainage collection pipe at storm sewer manhole or along face of wall. Daylight drainage collection pipe at face of wall at a maximum distance of 40 feet.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| | DESIGNED BY | |
| | QUANTITIES BY | |
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| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Added Notes I.(D); II.(D)(I) thru II.(D)(8), IV.(L),VII.(D). Revised Notes IV.(A),IV.(G), IV.(H), IV.(J), VII.(A),(B),(C). |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE STRUCTURES
STRUCTURAL GENERAL NOTES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AW0.4 OF 140 SHEETS

RMTC JOB NO.: 1-19369-OE

ADD. 567

# SITE STRUCTURES STRUCTURAL GENERAL NOTES

(Continued from Sheet No. AW0.4–Refer to Sheet No. AW0.6 for Continuation)

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 568 | 816 |

VIII. Reinforced Soil Slope (RSS) Notes:

(A) Reinforced soil slopes shall be performed in accordance with Section 211 of the Specifications entitled "Reinforced Soil Slope."

(B) Construction of the reinforced soil slopes shall not commence until the deep soil stabilization work has been completed and the Engineer has provided written approval to commence with the reinforced soil slope construction.

(C) Construction sequence of reinforced soil slopes shall be as described in Section 211 of the Specifications entitled "Reinforced Soil Slope."

(D) The geosynthetic reinforcements shall consist of a reinforced slope geo-grid or a reinforced slope geotextile as specified in Section 211 of the Specifications. The maximum vertical spacing of the geosynthetic reinforcements shall not be greater than 2 feet.

(E) The requirements for select granular fill and general fill are specified in Section 211 of the Specifications.

(F) Fills and backfills shall be placed in 8-inch maximum uncompacted lifts, where heavy compaction equipment is to be used, and 6-inch maximum uncompacted lifts, where hand operated equipment will be used. Fills shall be compacted to not less than 95% relative compaction (per AASHTO T-180).

(G) The following design parameters were used in the design of the reinforced soil slopes.

| Type of Fill | Unit Weight | Friction Angle | Cohesion |
|---|---|---|---|
| Reinforced Fill | 130 pcf | 34 degrees | 0 psf |
| General Fill | 110 pcf | 30 degrees | 0 psf |

| | |
|---|---|
| Primary Reinforcements | Long-Term Design Strength in Aggregate= 4270 lbs/ft |
| Secondary Reinforcements | Long-Term Design Strength in Aggregate= 400 lbs/ft |
| Traffic Surcharge Loading | Live Load= 250 psf |
| Seismic Design | Horizontal acceleration coefficient= 0.17g |

5 (H) Corrugated Aluminum Pipe (CAP) forms for the foundations of the concrete barrier wall structures located within the reinforced zone of the reinforced soil slope shall be installed at the correct locations as the reinforced fill is placed and compacted. Care shall be exercised when compacting fill materials around the forms for foundations to avoid dislodging the form from its correct position and location. The drilled shaft foundations of the concrete barrier wall structures located within the reinforced zone of the reinforced soil slope, shall be drilled after completion of the slope. 5

(I) Refer to the "Drainage and Grading Plans" for the finished grades of the reinforced soil slopes.

(J) Erosion control matting as specified in Section 663 of the Specifications shall be provided at the face of reinforced soil slopes. All slopes and exposed areas shall be sodded, planted, or hydromulched, as soon as final grades have been established.

(K) Excavation into the existing embankment shall comply with Section 206.03(A) of the Special Provisions.

IX. Expressway Sign Supports

(A) Expressway sign support members; sheet metal siding and edgings; connection bolts; nuts and washers; to be structural steel. All surfaces shall be hot-dipped galvanized after fabrication prior to painting.

(B) Galvanized surfaces of expressway sign frame and supports, Note IX.(A) above, shall be painted. See specifications. 5

(C) Aluminum members and surfaces in contact with structural steel shall be isolated with neoprene material as directed by the Engineer.

(D) All welding shall conform to the latest ANSI/AASHTO/AWS D1.5 Bridge Welding Code. Unless noted otherwise, all welding shall be shielded arc welding done with E70 electrodes.

(E) Before preparation of shop drawings for the sign support frame structures, the contractor shall verify in the field the exact location of each anchor bolt and the elevation at the top of supports.

(F) Refer to civil drawings for location layout plans of the various expressway signs.

(G) Highway Sign supports shall be designed in accordance with AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 4th Edition with subsequent interim revisions.

(H) Design parameters shall be as indicated at Note II. (C) Above.

X. Soil Nail Retaining Wall (SNRW) Notes:

(A) All work related to the soil nail retaining walls required for this project shall be performed in accordance with Specification Section 656. entitled Soil Nail Retaining Wall. 5

(B) Materials

(1) The shotcrete construction facing shall develop a minimum 28-day compressive strength of 3,000 psi. 5

(2) All reinforcing bars for soil nails shall consist of ASTM A615 Grade 60 continuous deformed bars and shall be fully encapsulated, as shown on the plans. Thread a minimum of 6 inches on the anchor-age end to allow for proper attachment of bearing plate and nut.

(3) Encapsulation of the reinforcing bars shall consist of minimum 0.1-inch thick corrugated HDPE (AASHTO M252) or corrugated PVC (ASTMD1784). Encapsulation shall provide at least 0.25 inches of grout cover over the reinforcing bar. Encapsulation shall be resistant to ultra violet light degradation, normal handling stresses, and grouting pressures. The encapsulation shall be fabricated in the factory with a proper end cap on one side.

(4) Soil nail grout shall comply with Specification Section 656. 5

(5) Structural steel shapes and plates shall meet the requirements of ASTM A36.

(C) Soil Nail Retaining Wall (SNRW) Foundation Design Parameters–See Note XV on Sheet No. AW0.6.

(D) The Contractor shall provide and maintain a stable slope above and below the soil nail retaining walls.

(E) Excavation behind the soil nail retaining wall shall be performed with extra care to avoid damaging the soil nails and/or shotcrete construction facing. Backfill of excavations made directly behind the soil nail retaining wall Shall consist of Controlled Low Strength Material (CLSM)

(F) The Contractor shall anticipate the presence of soft, collapsible materials and also hard materials in the form of cobbles, boulders and hard rock during drilling for the soil nails.

(G) The Contractor has the option to make adjustments in the size of the drilled hole of the soil nail (shown on the Plans as 12 inches) provided that the soil nail is capable of sustaining a minimum load of 3.2 kips per lineal foot of soil nail length based on the acceptance criteria stated in the Specifications. However, the drilled hole for the soil nail shall not be less than 6 inches in diameter.

XI. Typical Soil Nail Retaining Wall (SNRW) Construction Sequence:

(A) Soil nail retaining walls shall be constructed from the top down in accordance with the staged excavation lifts shown on the plans.

(B) Pre-production verification tests on sacrificial test nails shall be installed in the vicinity of Station 96+50, Station 101+50, Station 126+00, and Station 129+50 of the project prior to ordering materials for the soil nail retaining wall. The minimum lengths of the sacrificial test nails shall be 25 feet. Submit data and test results obtained from the pre-production verification tests on sacrificial test nails to the Engineer for review and evaluation 30 days prior to ordering materials for soil nail retaining wall. The Engineer may adjust the lengths of the soil nails based on the of the pre-production verification test nails.

(C) The following soil nail retaining wall construction sequence for each excavation lift shall be completed prior to initiating work on the next excavation lift unless otherwise approved by the Engineer.

(1) Excavate to Stage 1 rough grade. Refer to Sheet No. AW0.9 for Stages. 5

(2) Trim to final wall face excavation line using extra care.

(3) Drill, install and grout nails.

(4) Install geocomposite drainage strips and ensure that the drainage strips are hydraulically connected from the top to the bottom of the soil nail retaining wall.

(5) Place reinforcing and apply shotcrete construction facing. No excavation, which will expose wall face, shall be left in an unstable condition without shotcrete at the end of each workday unless otherwise approved by the Engineer.

(6) Perform soil nail pullout proof and/or performance tests per the Specifications after shotcrete & soil nail grout have attained the specified strength. 5

(7) Repeat steps (1) through (6) until the soil nail retaining wall con-struction facing is completed to the elevations shown on the Plans.

(D) Install PVC connector pipes for weep holes at the bottom of the geocomposite drainage strips during construction of the permanent wall facing to provide drainage of the geocomposite drainage strips.

(E) Place reinforcing and construct the permanent cast-in-place concrete facing.

5 (F) SNRW-1 and SNRW-2 at the junctions with Tieback Wall AW-1 shall be constructed only after Construction Sequence Stage 8 on Sheet No. AW2.12 has been completed.

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

NOTE BOOK | No.

RMTC JOB NO.: 1-19369-OE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Clarified General Notes. Added Note XI.(F). |

5 STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908-S — HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE STRUCTURES
STRUCTURAL GENERAL NOTES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AW0.5 OF 140 SHEETS

ADD. 568

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 569 | 816 |

# SITE STRUCTURES STRUCTURAL GENERAL NOTES

(Continued from Sheet No. AW0.5)

5 XII. Noise Barrier Wall Notes:

(A) Construction shall conform to AASHTO Guide Specification for Structural Design of Sound Barriers, 1989, including subsequent interim revisions; Specification Section 513; applicable subsections of Section 503 – Concrete Structures; Building Code Requirements for Masonry Structures (ACI 530); Specifications for Masonry Structures (ACI 530.1); and Chapters 17 and 21 of the Uniform Building Code as amended by the City and County of Honolulu.

(B) Special Inspection is required and will be performed by the Engineer. Special inspections shall be in accordance with Chapter 17 of the Uniform Building Code as amended by the City and County of Honolulu, Section 1701.5, Item 7, Structural Masonry.

(1) Special inspections shall be performed during the preparation and taking of prism or test specimens; at the start of laying units; after placement of reinforcing steel; for inspection of grout space prior to each grouting operation; immediately prior to closing of cleanouts; and during all grouting operations.

(C) Prism test requirements: The specified compressive strength of masonry at the age of 28-days (f'm) shall be verified on the basis of prisms tested 28-days after fabrication. Unless approved otherwise by the Engineer and only as specified in Section 2105.3.3 of the Uniform Building Code as amended by the City and County of Honolulu, verification by masonry prism testing shall meet the following:

(1) A set of five masonry prisms shall be built and tested prior to the start of construction. Materials used for the construction shall be taken from those specified to be used in the project. Prisms shall be constructed under the observation of the Engineer and tested by an agency approved by the Engineer. Refer to Note XV.(L)(i) for additional requirements.

(2) Full allowable stresses are used in this design. A set of three prisms shall be built and tested during construction for each 5,000 square feet (555.6 square yards) of wall area. Refer to Note XV.(L)(i) for additional requirements.

(D) All walls shall be continuously braced. See Specification Section 513.03 (A).

(E) Concrete masonry units shall be manufactured with natural aggregates of basalt and limestone. Proportions shall be determined by the manufacturer.

(1) Size: 8"x8"x16" and units for jamb, corner and other special shapes as required.

(2) Color: Color shall be standard with manufacturer.

(3) Texture: Split face, smooth and in combinations Specified in Specification Section 513.02 (A).

(F) The allowable tolerances for walls shall be:

(1) From plumb: 1/4 inch for every 10 foot height or proportion thereof.

(2) From Level: 1/4 inch for any 20 foot length or proportion thereof.

(G) Unless approved otherwise by the Engineer, Cleanout openings shall be provided at the bottom of walls where the height of wall is in excess of 4 feet. After cell inspection the cleanouts shall be sealed before filling with grout.

(H) Mortar joints shall be straight, clean and in thickness of 3/8 inch plus or minus 1/8 inch. Joints shall be concave.

(I) Bond pattern shall be running bond.

(J) Place joint reinforcing in horizontal joints so that longitudinal wires are fully embedded in face shell mortar for their entire length. Place reinforcing in horizontal masonry unit bond beams at spacings not exceeding 4 feet. Place and tie vertical reinforcements at top and bottom and at intervals not to exceed 192 diameters of reinforcement.

a. All lap splices shall consist of reinforcements in close contact for splice lengths shown on the plans.

b. Where vertical reinforcements cannot be tied at bottoms, provide commercially available double curtain positioners or other methods approved by the Engineer.

(K) Fill all cells with grout in lifts not exceeding 8 feet.

(L) After completion of the walls, apply a water based, water repellent penetrating sealer for masonry to all exposed surfaces.

5 XIII. Construction Notes:

(A) The Contractor shall verify all dimensions and site conditions and shall report any discrepancies in writing to the Engineer before commencing work or ordering materials.

(B) The Contractor shall be solely responsible for the protection of adjacent properties, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer.

(C) The Contractor shall verify the location of all utility lines and notify the respective owners before commencing with excavation, and any temporary piling or sheeting.

(D) Except as otherwise noted, all vertical dimensions are measured plumb.

(E) For concrete finish see Standard Specifications and Special Provisions.

(F) Construction joints may be relocated or additional ones added subject to the approval of the Engineer.

(G) Unless otherwise noted, all exposed concrete edges shall be chamfered 3/4"x3/4".

(H) The Contractor shall refer to the existing drawings for the approximate location and size of all existing reinforcing bars prior to drilling.

(J) Drilled holes in existing concrete shall be cleaned, filled with epoxy, and reinforcing bar set in place within an eight (8) hour work day. Holes in which existing reinforcement is encountered during drilling before the specified depth is attained shall be rejected. See specification Section 5 655 for additional construction requirements.

(K) Requirements for Public Access; ADA Compliance.

(1) Subject to the Engineers review and approval, the Contractor shall Sequence all work so as to provide and/or Maintain Pedestrian Walkway/Sidewalk/Roadway Access.

(2) Such Access shall be safe and shall be ADA Compliant.

(3) Access shall be throughout the Conduct of the Work, 24 hours a day, 7 days a week.

(4) Such Sequencing and Access/Equipment/Work/Requirements shall be incidental to the various Project Pay Items.

(L) Aluminum in Contact with Concrete and/or dissimilar Metals shall be Separated by neoprene sheets. Such Costs shall be Incidental to the Various Items of Work.

5 XIV. General:

(A) All items noted incidental will not be paid for separately.

(B) Standard detail drawings refer to all structures in general, except for modifications as may be required for special conditions. For such modifications refer to the corresponding detail drawings.

(C) For electrical conduit and light standard location details see electrical drawings.

5 (D) See Sheet No. AW0.11 for additional Site Structures Construction Sequence Notes.

5 XV. Foundation:

(A) For boring logs and other geotechnical information, see Geotechnical Engineering Exploration, Interstate Route H-1 Widening, Waimalu Viaduct Westbound, Pearl City Off-Ramp to Kaonohi Street, Pearl City to Aiea, Oahu, Hawaii by Geolabs, Inc., dated March 31, 2003 and sheet nos. AG0.1 to AG3.9.

(B) Design Soil Parameters:

(1) Segmental Retaining Walls (SRW)

a. Bearing pressure
(i) Extreme event limit state = 10.0 KSF
(ii) Strength limit state = 6.0 KSF
(iii) Service limit state = 3.0 KSF

b. Passive resistance
(i) Extreme event limit state = 350 pcf
(ii) Strength limit state = 175 pcf

c. Coefficient of Sliding Friction for On-Site/General Fill Bearing Materials 5
(i) Extreme event limit state = .42
(ii) Strength limit state = .36

d. Coefficient of Sliding Friction for Aggregate Subbase Bearing Materials 5
(i) Extreme event limit state = .54
(ii) Strength limit state = .46

e. Dynamic lateral earth pressure
(i) Active condition, level backfill = 40 pcf

f. Dynamic lateral earth pressure
(i) Active condition, level backfill = $6.5H^2$ (rectangular distribution)
5

XV. Foundation: (Continued)

(B) Design Soil Parameters: (Continued)

(3) Concrete Barrier Wall (CBW)

a. Bearing pressure
(i) Extreme event limit state = 8.5 KSF
(ii) Strength limit state = 5.1 KSF
(iii) Service limit state = 2.5 KSF

b. Passive resistance
(i) Extreme event limit state = 450 pcf
(ii) Strength limit state = 225 pcf 5

c. Coefficient of Friction
(i) Extreme event limit state = .42
(ii) Strength limit state = .36

d. Static lateral earth pressure
(i) Active condition, level backfill = 40 pcf
(ii) Active condition, Max 2H:1V Sloping Backfill = 64 pcf Horizontal, 32 pcf Vertical.

e. Dynamic lateral earth pressure $H^2$ 5
(i) Active condition, level backfill = 7H (rectangular distribution)
(ii) Active condition, Max 2H:1V Sloping Backfill = 5 12H (rectangular distribution).

(4) Soil Nail Retaining Wall (SNRW)

a. Residual Soils/Saprolitic Soils/Waethered Basalt Formation
(i) Unit Weight = 110 pcf
(ii) Friction Angle = 30 degrees
(iii) Cohesion = 100 psf
(iii) Pull-Out Resistance Bond Stress = 7 psi (1,008 psf)

5 b. The Pull-Out Resistance Bond Stress is variable depending on the type of soil and grout, the over burden stress, and the construction procedures used in installing the grouted reinforcing bars. An average Bond Stress of 1,000 psf and 2,500 psf has been used for the on-site clayey silt soils and the basalt rock formation respectively The Bond Stress used in the Design will be confirmed in the field during construction.

c. Seismic Horizontal Acceleration Coefficient = 0.17g

(5) Noise Barrier Walls 5
a. Bearing pressure – See Note XV.(B)(3)a.
b. Coefficient of Sliding Friction – See Note XV.(B)(3)c.

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| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Added Noise Barrier Wall Notes. Renumbered Construction Notes, General and Foundation Notes. Added Note XIV.(D), Revised Note XIII.(J) and Note XV.(B), Added Note XV.(B)5 |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE STRUCTURES
STRUCTURAL GENERAL NOTES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AW0.6 OF 140 SHEETS

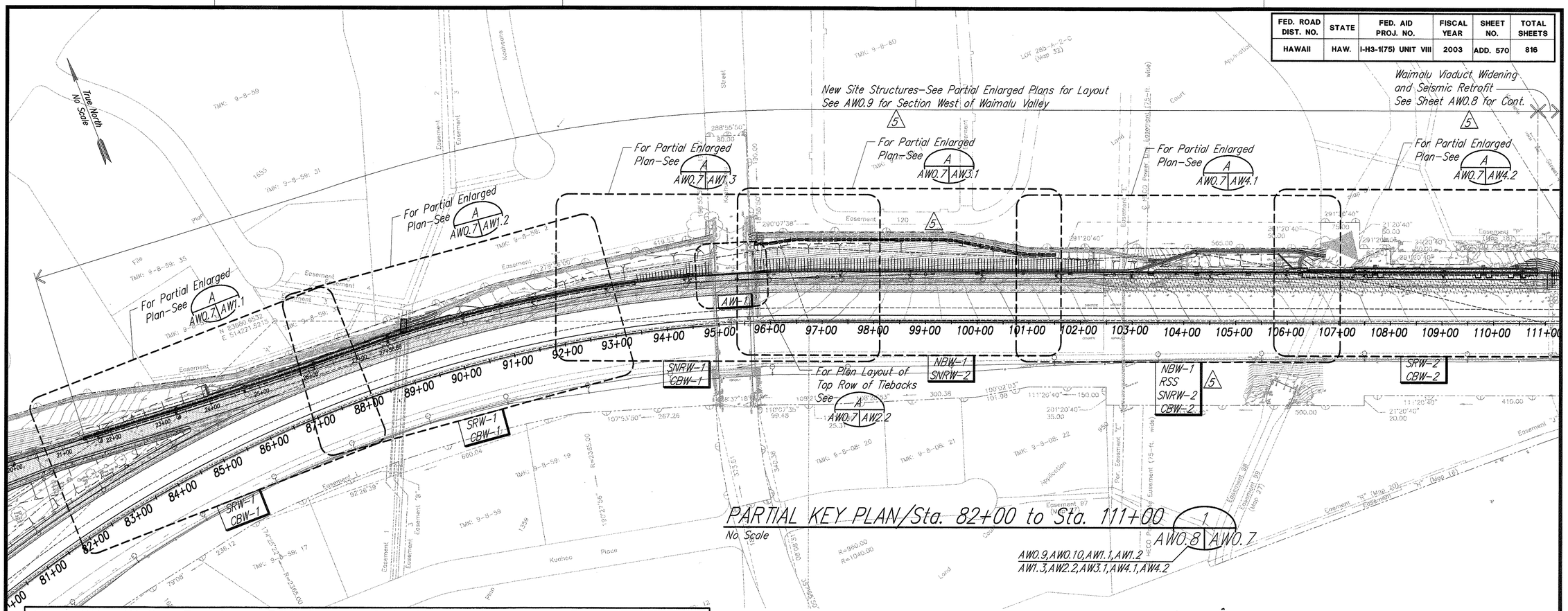
ORIGINAL PLAN

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| No. | CHECKED BY |

RMTC JOB NO.: 1-19369-0E

ADD. 569

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 570 | 816 |




## PARTIAL KEY PLAN/Sta. 82+00 to Sta. 111+00

No Scale

AW0.8 | AW0.7

AW0.9, AW0.10, AW1.1, AW1.2
AW1.3, AW2.2, AW3.1, AW4.1, AW4.2

## New Site Walls, Barriers, Reinforced Soil Slope, Sequence References 5

| Mark | Enlarged Plan | Profiles 5 | Approximate Stationing Begin | Approximate Stationing End | Site Structure Construction Stage AW0.11 SS–1 | SS–2 | SS–3 | SS–4 | SS–5 | SS–6 | SS–7 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW–1 | AW1.3 | AW2.1 5 | H–1 ℄ Sta. 94+89.75 | H–1 ℄ Sta. 95+70.12 | | (1) | ● | | | | |
| NBW–1 | AW3.1, AW4.1 | AW6.1, AW6.2 5 | H–1 ℄ Sta. 95+76.32 | H–1 ℄ Sta. 101+49.77 | ● | | | | | | |
| NBW–2 | AW5.1, AW5.2 | AW7.1 5 | H–1 ℄ Sta. 125+04 | H–1 ℄ Sta. 129+39.26 | ● | | | | | | |
| NBW–3 | AW5.2, AW5.3 | AW8.1 | H–1 ℄ Sta. 129+24 | H–1 ℄ Sta. 132+45 | ● | | | | | | |
| SRW–1 | AW1.1, AW1.2 | AW9.1, AW9.2 5 | Ramp "E" ℄ Sta.24+00 | H–1 ℄ Sta. 90+00 | | | | | ● | | |
| SRW–2 | AW4.1, AW4.2 | AW10.1, AW10.2 5 | H–1 ℄ Sta. 105+81.5 5 | H–1 ℄ Sta. 110+84.81 | | | | | ● | | |
| RSS 5 | AW4.1 | AW11.1 5 | H–1 ℄ Sta. 103+40 | H–1 ℄ Sta. 106+10 | | | | | ● | | |
| SNRW–1 | AW1.3 | AW12.1 | H–1 ℄ Sta. 93+50 | H–1 ℄ Sta. 94+89.75 | | (1) | | ◐(2) | | | ◑(3) |
| SNRW–2 | AW3.1, AW4.1 | AW12.2, AW12.3 | H–1 ℄ Sta. 95+70.12 | H–1 ℄ Sta. 102+40 | | (1) | | ◐(2) | | | ◑(3) |
| SNRW–3 | AW5.1, AW5.2 | AW12.4 | H–1 ℄ Sta. 124+27 | H–1 ℄ Sta. 128+00 | | (1) | | ◐(2) | | | ◑(3) |
| SNRW–4 | AW5.2 | AW12.5 | H–1 ℄ Sta. 129+07 | H–1 ℄ Sta. 131+00 | | (1) | | ◐(2) | | | ◑(3) |
| CBW–1 | AW1.1, AW1.2, AW1.3 | AW13.1, AW13.2, AW13.3 | Ramp "E" ℄ Sta.21+47.6 | H–1 ℄ Sta. 93+50 | | (1) | | | ● | | |
| CBW–2 | AW4.1, AW4.2 | AW13.4, AW13.5 5 | H–1 ℄ Sta. 102+40 | H–1 ℄ Sta. 110+84.81 | | (1) | | | ● | | |
| CBW–3 | AW5.1 | AW13.6 | H–1 ℄ Sta. 123+85.39 | H–1 L Sta. 124+27 | | (1) | | | | ● | |
| CBW–4 | AW5.2 | AW13.7 | H–1 ℄ Sta. 128+00 | H–1 ℄ Sta. 129+07 | | (1) | | | | ● | |
| CBW–5 | AW5.2, AW5.3 | AW13.8, AW13.9 | H–1 ℄ Sta. 131+00 | H–1 ℄ Sta. 136+50 | | (1) | | | | ● | |

Notes: (1) See Sheet No. AW0.11, Stage Mark SS–2 for Structure Excavation Bracing Required.
(2) ◐–Indicates SNRW work exclusive of permanent cast–in–place facing walls. See Sheet No. AW0.11
(3) ◑–Indicates permanent cast–in–place facing walls constructed 30 days min. after adjacent CBW backfill.

Notes to Partial Key Plan/Sta. 82+00 to Sta. 111+00:
1. See Partial Enlarged Plans AW1.1, AW1.2, AW1.3, AW2.2, AW3.1, AW4.1, AW4.2 for New Site Structures. (See AS Sheets for Viaduct Structure Work – See BS Sheets for Austin–Bishop Separation and Waiau Interchange Seismic Retrofit Work).
2. See AW0.9 for Section West of Waimalu Valley

Legend:

1. AW–1, SRW–1, SNRW–1, 5 RSS, CBW–1
: Indicates: New Tieback Wall (AW–1)
New Segmental Retaining Wall (SRW–1)
New Soil Nail Retaining Wall (SRNW–1)
New Reinforced Soil Slope (RSS) 5
New Concrete Barrier Wall (CBW–1)
: Indicates New Walls Referenced/Presented on Partial Enlarged Plans Indicated Above.
: Refer to Civil Drawings for Drainage Structure Locations.
: Refer to Electrical Drawings for Light Standards, Luminares, Pull Box and WIM Station Locations.

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| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised Noise Barrier Wall Layout Clarified Name of Tieback Wall and RSS. Coordinated Site Wall Stations. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PARTIAL KEY PLAN
# Sta. 82+00 to Sta. 111+00

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

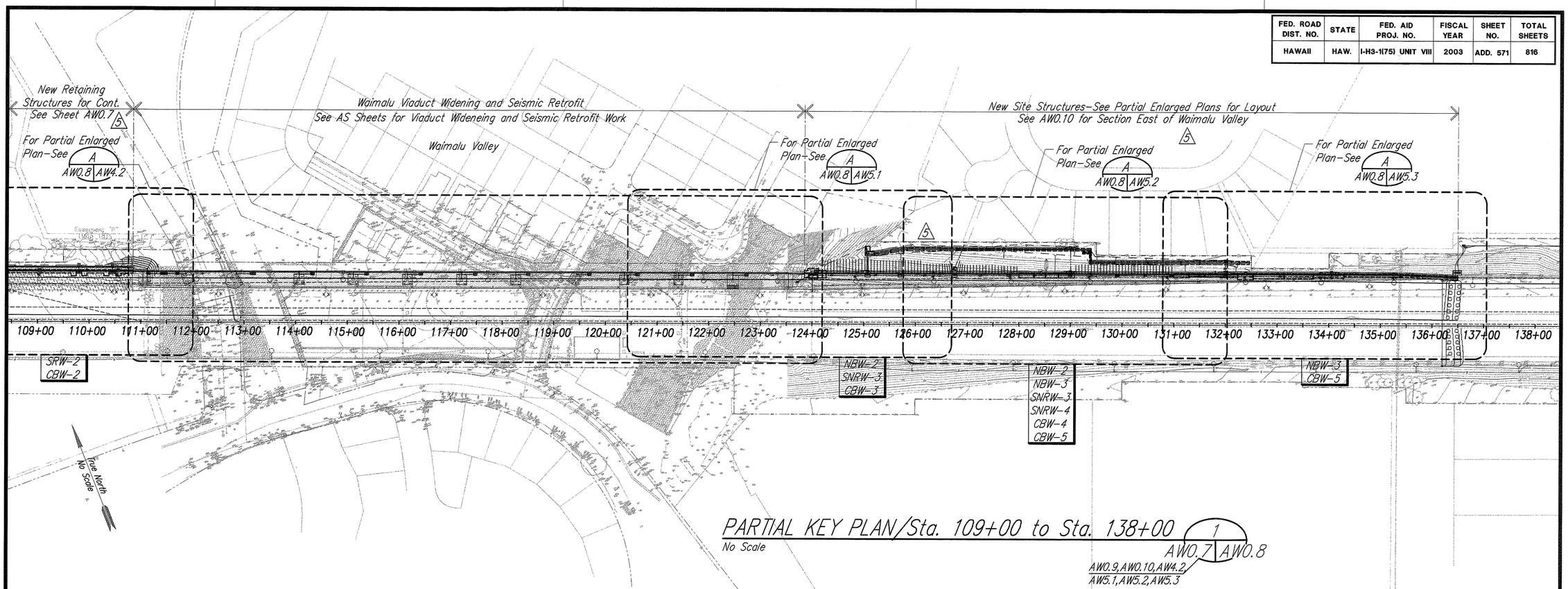
SHEET No. AW0.7 OF 140 SHEETS

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

RMTC JOB NO.: 1–19369–OE

ADD. 570

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 571 | 816 |




## PARTIAL KEY PLAN/Sta. 109+00 to Sta. 138+00

No Scale

AW0.7 | AW0.8 (1)

AW0.9, AW0.10, AW4.2, AW5.1, AW5.2, AW5.3

## New Site Walls, Barriers, Reinforced Soil Slope, Sequence References (5)

| Mark | Enlarged Plan | Profiles (5) | Approximate Stationing Begin | Approximate Stationing End | Site Structure Construction Stage AW0.11 SS–1 | SS–2 | SS–3 | SS–4 | SS–5 | SS–6 | SS–7 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AW–1 | AW1.3 | AW2.1 (5) | H–1 ℄ Sta. 94+89.75 | H–1 ℄ Sta. 95+70.12 | | (1) | ● | | | | |
| NBW–1 | AW3.1, AW4.1 | AW6.1, AW6.2 (5) | H–1 ℄ Sta. 95+76.32 | H–1 ℄ Sta. 101+49.77 | ● | | | | | | |
| NBW–2 | AW5.1, AW5.2 | AW7.1 (5) | H–1 ℄ Sta. 125+04 | H–1 ℄ Sta. 129+39.26 | ● | | | | | | |
| NBW–3 | AW5.2, AW5.3 | AW8.1 | H–1 ℄ Sta. 129+24 | H–1 ℄ Sta. 132+45 | ● | | | | | | |
| SRW–1 | AW1.1, AW1.2 | AW9.1, AW9.2 (5) | Ramp "E" ℄ Sta.24+00 | H–1 ℄ Sta. 90+00 | | | | | ● | | |
| SRW–2 | AW4.1, AW4.2 | AW10.1, AW10.2 (5) | H–1 ℄ Sta. 105+81.5 (5) | H–1 ℄ Sta. 110+84.81 | | | | | ● | | |
| RSS (5) | AW4.1 | AW11.1 (5) | H–1 ℄ Sta. 103+40 | H–1 ℄ Sta. 106+10 | | | | | ● | | |
| SNRW–1 | AW1.3 | AW12.1 | H–1 ℄ Sta. 93+50 | H–1 ℄ Sta. 94+89.75 | | (1) | | ◐(2) | | | ◑(3) |
| SNRW–2 | AW3.1, AW4.1 | AW12.2, AW12.3 | H–1 ℄ Sta. 95+70.12 | H–1 ℄ Sta. 102+40 | | (1) | | ◐(2) | | | ◑(3) |
| SNRW–3 | AW5.1, AW5.2 | AW12.4 | H–1 ℄ Sta. 124+27 | H–1 ℄ Sta. 128+00 | | (1) | | ◐(2) | | | ◑(3) |
| SNRW–4 | AW5.2 | AW12.5 | H–1 ℄ Sta. 129+07 | H–1 ℄ Sta. 131+00 | | (1) | | ◐(2) | | | ◑(3) |
| CBW–1 | AW1.1, AW1.2, AW1.3 | AW13.1, AW13.2, AW13.3 | Ramp "E" ℄ Sta.21+47.6 | H–1 ℄ Sta. 93+50 | | (1) | | | ● | | |
| CBW–2 | AW4.1, AW4.2 | AW13.4, AW13.5 (5) | H–1 ℄ Sta. 102+40 | H–1 ℄ Sta. 110+84.81 | | (1) | | | ● | | |
| CBW–3 | AW5.1 | AW13.6 | H–1 ℄ Sta. 123+85.39 | H–1 L Sta. 124+27 | | (1) | | | | ● | |
| CBW–4 | AW5.2 | AW13.7 | H–1 ℄ Sta. 128+00 | H–1 ℄ Sta. 129+07 | | (1) | | | | ● | |
| CBW–5 | AW5.2, AW5.3 | AW13.8, AW13.9 | H–1 ℄ Sta. 131+00 | H–1 ℄ Sta. 136+50 | | (1) | | | | ● | |

Notes:
(1) See Sheet No. AW0.11, Stage Mark SS–2 for Structure Excavation Bracing Required.
(2) ◐–Indicates SNRW work exclusive of permanent cast–in–place facing walls. See Sheet No. AW0.11
(3) ◑–Indicates permanent cast–in–place facing walls constructed 30 days min. after adjacent CBW backfill.

Notes to Partial Key Plan/Sta. 109+00 to Sta. 138+00:
1. See Partial Enlarged Plans AW4.2, AW5.1, AW5.2 and AW5.3 for New Site Structures. (See AS Sheets for Viaduct Structure Work).
2. See AW0.10 for Section East of Waimalu Valley

(5)

Legend:
1. (5) AW–1, SRW–1, SNRW–1, RSS, CBW–1 : Indicates: New Tieback Wall (AW–1), New Segmental Retaining Wall (SRW–1), New Soil Nail Retaining Wall (SNRW–1), New Reinforced Soil Slope (RSS) (5), New Concrete Barrier Wall (CBW–1)
: Indicates New Walls Referenced/Presented on Partial Enlarged Plans Indicated Above.
: Refer to Civil Drawings for Drainage Structure Locations.
: Refer to Electrical Drawings for Light Standards, Luminares, Pull Box and WM Station Locations.

(5) STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908–S — HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA — LICENSED PROFESSIONAL ENGINEER — No. 8104–S — HAWAII, U.S.A.

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| DATE | REVISIONS |
|---|---|
| 10/16/03 | (5) Revised Noise Barrier Wall Layout Clarified Tieback Wall AW–1 & RSS. Coordinated Site Wall Stations. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PARTIAL KEY PLAN Sta. 109+00 to Sta. 138+00

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AW0.8 OF 140 SHEETS

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

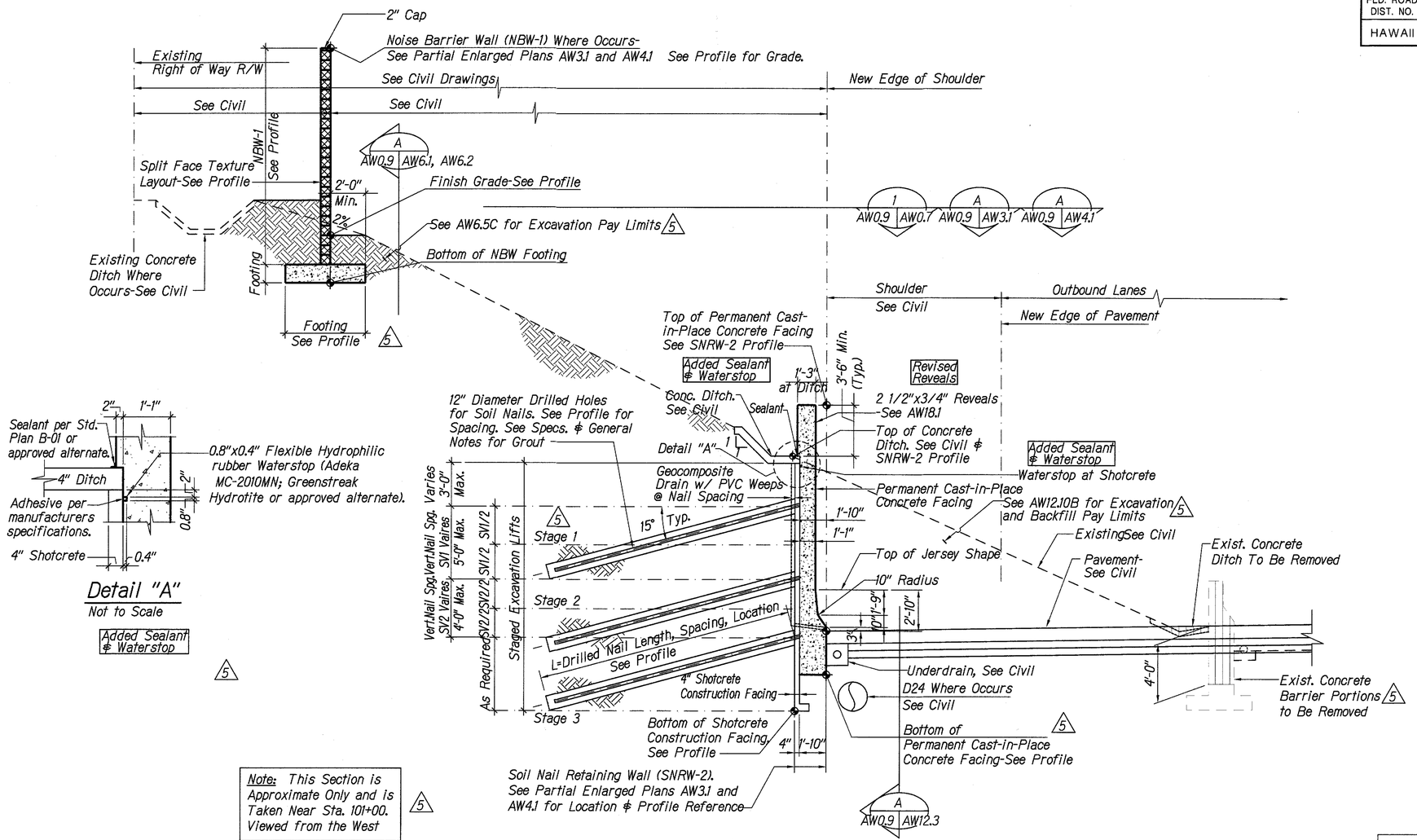
RMTC JOB NO.: 1–19369–OE

ADD. 571

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. ADD. 572 | 816 |

Revised Reveals

Added Sealant & Waterstop




# TYPICAL SOIL NAIL RETAINING WALL (SNRW) - SECTION IN CUT SLOPE - WEST OF WAIMALU VALLEY

Scale: 1/4"= 1'-0"

A AW12.3 AW0.9

AW3.1, AW6.1, AW6.2

GRAPHIC SCALE:

4 3 2 1 0 4 8

SCALE: 1/4"= 1'-0"

| DATE | REVISIONS |
|---|---|
| 2/28/05 | Added Sealant & Waterstop — Added Sealant & Waterstop at Permanent CIP Facing |
| 2/28/05 | Revised Reveals — Revised Reveals from 1 1/2" to 3/4" Deep |
| 10/16/03 | 5 Revised Noise Barrier Wall Heights and Foundation Type. Clarified SNRW Staged Excavation Lifts |

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER No. 8104-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**TYPICAL SNRW-SECTION IN CUT SLOPE-WEST OF WAIMALU VALLEY**

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1/4"=1'-0" Date: Mar. 31, 2003

SHEET No. AW0.9 OF 140 SHEETS

ORIGINAL PLAN

SURVEY PLOTTED BY ____ DATE
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
NOTE BOOK ____ QUANTITIES BY ____
No. ____ CHECKED BY ____

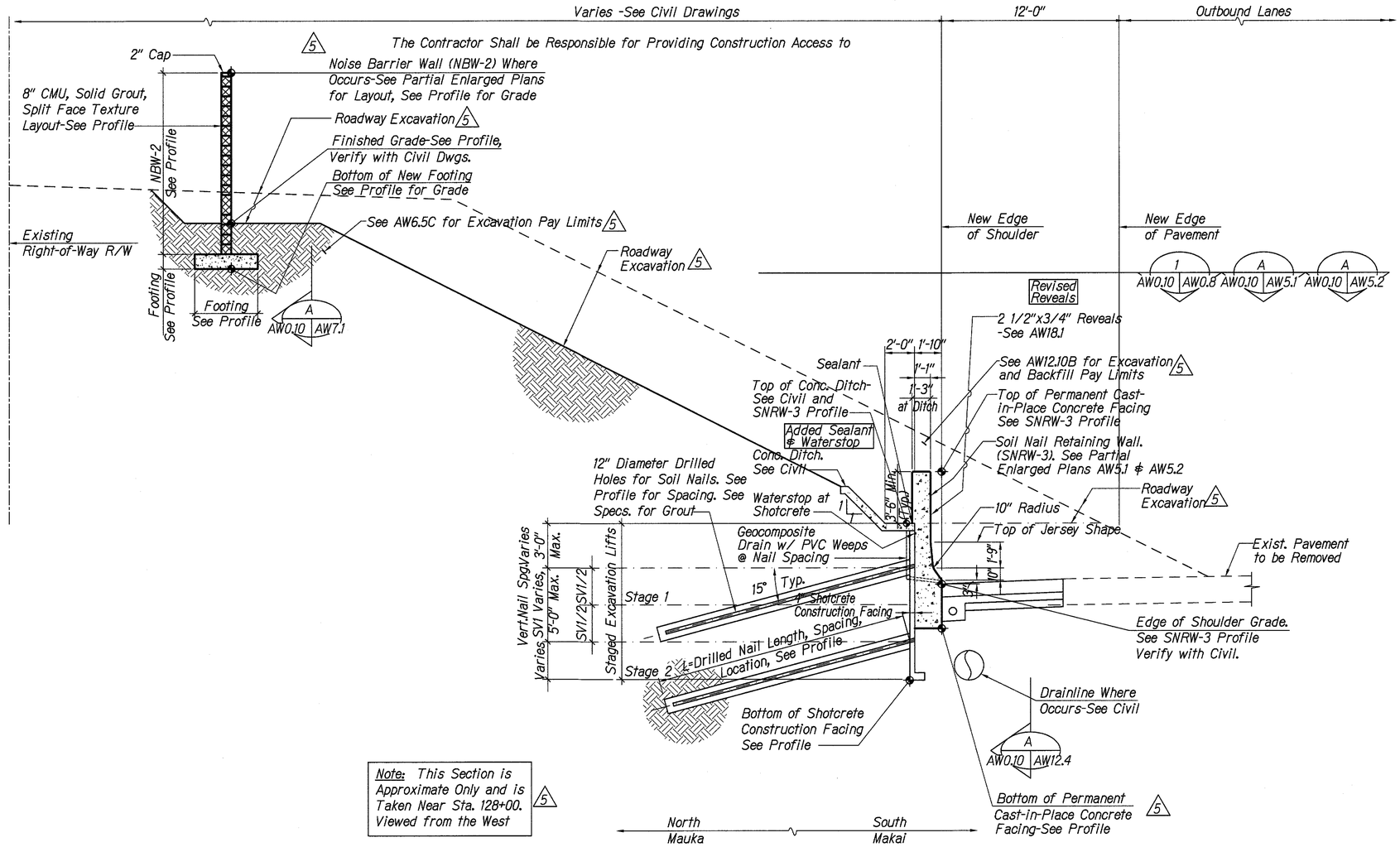
RMTC JOB NO: 1-19369-OE

C.O. ADD. 572

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | CO ADD. 573 | 816 |

Revised Reveals

Added Sealant & Waterstop




# TYPICAL NOISE BARRIER WALL (NBW) OVER SOIL NAIL RETAINING WALL (SNRW) (SECTION EAST OF WAIMALU VALLEY)

Scale: 1/4"= 1'-0"

A AW5.2 AW0.10

AW5.2,AW7.1,AW12.4

GRAPHIC SCALE:

4 3 2 1 0 4

SCALE: 1/4"= 1'-0"

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE

April 30, 2004

EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER No. 8104-S HAWAII, U.S.A.

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SIGNATURE

April 30, 2004

EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 2/28/05 | Added Sealant & Waterstop — Added Sealant & Waterstop at Permanent CIP Facing |
| 2/28/05 | Revised Reveals — Revised Reveals from 1 1/2" to 3/4" Deep |
| 10/16/03 | 5 Revised Noise Barrier Wall Heights and Foundation Type. Clarified Roadway Excavation |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**TYPICAL NBW OVER SNRW-SECTION EAST OF WAIMALU VALLEY**

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1/4"=1'-0" Date: Mar. 31, 2003

SHEET No. AW0.10 OF 140 SHEETS

ORIGINAL PLAN
NOTE BOOK
No.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

RMTC JOB NO: 1-19369-OE

C.O. ADD. 573

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 574 | 816 |

# SITE STRUCTURES CONSTRUCTION SEQUENCE NOTES

STAGE: Stage Marks Indicated as SS-# Below, Shall be Sequential Unless Approved Otherwise by the Engineer. See Sheet No's. AW0.7 and AW0.8 for Site Structures Key Plans. 5

SS-1 Construct Noise Barrier Walls-1, 2, 3 and Adjacent Site Drainage Structures:
- a. The Contractor Shall be Responsible for Providing Construction Access to Noise Barrier Wall Locations. 5
- b. See Special Provisions Section 513 for CMU Specifications and Sealer Requirements.
- c. See Site Structures General Notes for CMU "Special Inspection" Requirements.

SS-2 Provide Structure Excavation Bracing at Site Wall Transition Locations Indicated Below:
- a. Structure Excavation Bracing Shall Conform to Special Provision Section 206.03(A).
- b. Bracing is Required at Site Wall Transition at:
  1. CBW-1 to SNRW-1 : Approx. H-1 @ Sta. 93+50
  2. SNRW-1 to AW-1 : Approx. H-1 @ Sta. 94+89.75
  3. AW-1 to SNRW-2 : Approx. H-1 @ Sta. 95+70.12
  4. SNRW-2 to CBW-2 : Approx. H-1 @ Sta. 102+40
  5. CBW-3 to SNRW-3 : Approx. H-1 @ Sta. 124+27
  6. SNRW-3 to CBW-4 : Approx. H-1 @ Sta. 128+00
  7. CBW-4 to SNRW-4 : Approx. H-1 @ Sta. 129+07
  8. SNRW-4 to CBW-5 : Approx. H-1 @ Sta. 131+00
- c. Structure Excavation Bracing Shall be Approved Prior to Construction as Required by Special Provisions Section 206.03(A).
- d. Structure Excavation Bracing Shall be in Place Prior to Commencement of Structure Excavation of Either Adjacent Site Wall Structures.
- e. See Below for Removal of Structure Excavation Bracing.

SS-3 Construct Tieback Wall AW1 5
- a. Construction sequence stages for Tieback Wall AW1 shall conform to "Construction Sequence" on Sheet No. AW2.12.

SS-4 Using "Top-Down" Construction Sequence; Provide SNRW-1, 2, 3, 4 Structure Exc.; Verification Tests; Adjacent Site Drainage Structures, Soil Nails, Soil Nail Grout, Shotcrete Construction Facing and Pullout Proof and/or Performance Tests:
- a. Site Drainage Structures Occur at Both the Retained and the Roadway Faces. See Civil and Profiles for Locations.
- b. Construct Adjacent Roadway Drainage Structures and Drain Lines at SNRW-3 and SNRW-4 Only - Prior to Proceeding to Stage SS-6 (Pertaining to Structure Excavation for and Construction of CBW-3, CBW-4 and CBW-5). 5

SS-5 Construct Fill for and Construct SRW-1, SRW-2, RSS, CBW-1 and CBW-2 and Adjacent Drainage Structures:
- a. Remove SS-2 Structure Excavation Bracing at Site Wall Transitions at CBW-1 to SNRW-1 and at SNRW-2 to CBW-2 (Marks SS-2 b.1 and b.4) Only After Completion of CBW-1 and CBW-2 Fill and/or Backfill.
- b. Construct Segmental Retaining Wall SRW-2B at least 14 days after the latest culvert concrete lining and new headwall pour or until the concrete has attained a compressive strength of 4,000 psi, whichever occurs later. Refer to Civil Sheets AC7.41 through AC 7.44. 5

SS-6 Conduct Structure Excavation for and Construct CBW-3, CBW-4, CBW-5 and Adjacent Drain Lines and Drainage Structures:
- a. Uphill Structure Excavation Bracing Proposals Shall Be in Accordance with Special Provisions Section 206.03(A) and Shall be Approved Prior to SS-6
- b. Construct Adjacent Roadway Drain Lines and Drainage Structures a Minimum of 14 Days After Concrete Wall Concrete Placement and Backfill Roadway Drain Line Trenches Prior to Beginning Retained Backfill.
- c. Remove SS-2 Structure Excavation Bracing Only After Completion of CBW-3, CBW-4 and CBW-5.

SS-7 Construct SNRW-1, 2, 3, 4 Permanent Cast-in-Place Concrete Facing Walls 30 Days Min. After Adjacent CBW Backfill::
- a. Permanent Cast-in-Place Concrete Facing Walls Shall Follow the Completion of Adjacent CBW Backfill by 30 Days Minimum.
- b. The Alignment of the Roadway Face of Permanent Cast-in-Place Facing Walls Shall be Adjusted as Required to Align with Adjacent CBW-1, CBW-2, CBW-4 and CBW-5.
- c. Construct Ditches and Complete Adjacent Drain Lines and Drainage Structures.
- d. Place Backfill at Roadway Face - to Underside of Permanent Structure/ Roadway Excavation.

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

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER No. 8104-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised stages notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE STRUCTURES CONSTRUCTION SEQUENCE NOTES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

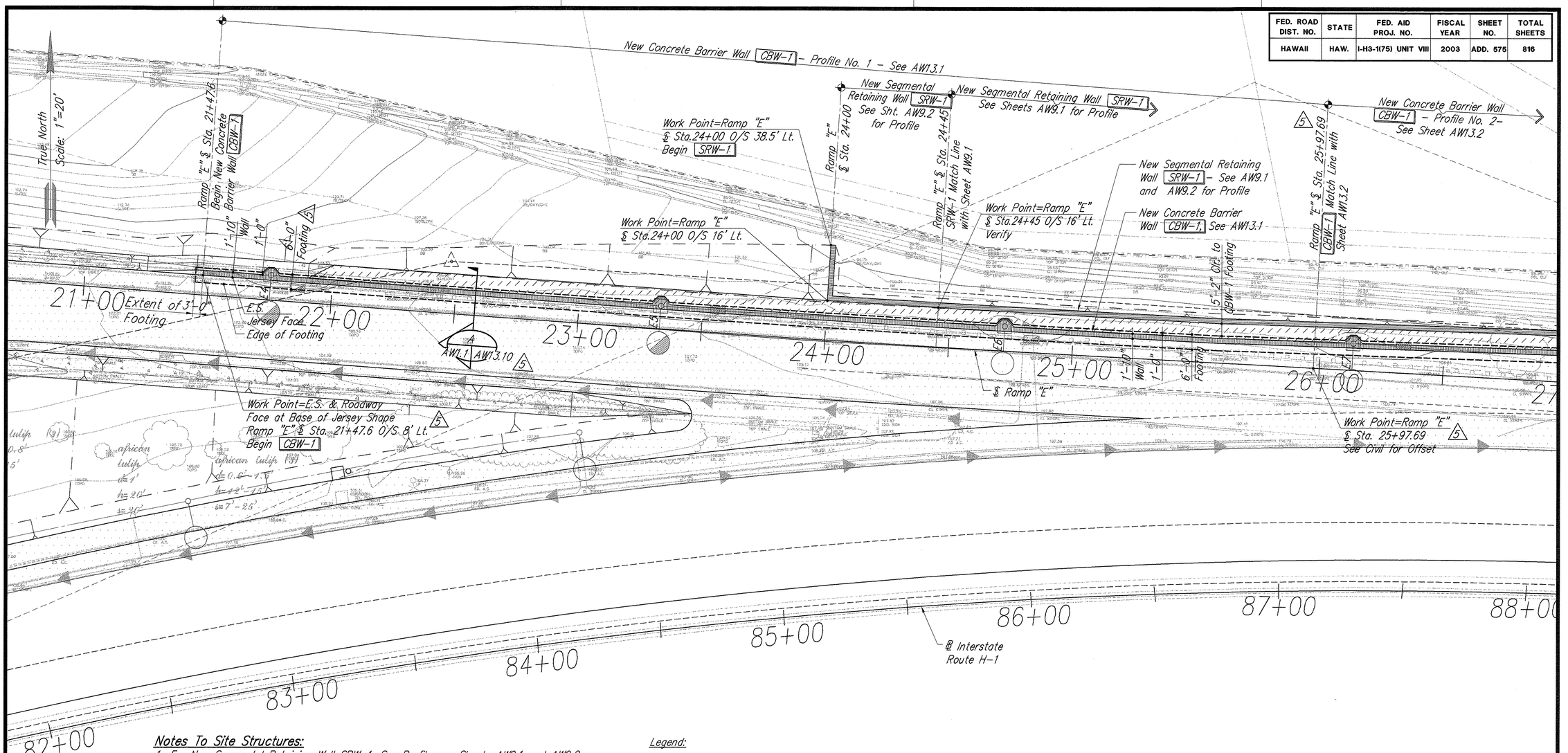
Scale: None Date: Mar. 31, 2003

SHEET No. AW0.11 OF 140 SHEETS

RMTC JOB NO.: 1-19369-OE

ADD. 574

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 575 | 816 |




## Notes To Site Structures:

1. For New Segmental Retaining Wall SRW-1, See Profiles on Sheets AW9.1 and AW9.2.
   a. SRW-1 Shall Start Construction Prior to the Adjacent Portions of CBW-1.
   b. CBW-1 Footing Construction Shall Be Sequenced with Fill and Geogrid Placements- in order to Prevent Footing Excavation Through the Geogrids System.
   c. See CBW-1 Sections and Profiles for Condition at the SRW-1 Geogrid System.

2. For New Concrete Barrier Wall CBW-1, See Profiles 1, 2 and 3 on Sheets AW1.3.1, AW1.3.2 and AW1.3.3.
   a. For Construction Joint Details, See Sheet AW1.3.24 (5)
   b. For Details of Pattern of Reveals at Roadway Face of Wall; Above the 2'-10" High Jersey Shape, See Sheet AW18.1.

Legend:

(5) E4 = Light Standard Number E4 Refer to Electrical Drawings for location, number etc. Refer to AW13.20, AW13.21, AW13.22 for Light Pedestal Configuration and Reinforcing Steel.

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

PARTIAL ENLARGED PLAN/STA. 82+00 to STA. 88+00

Scale: 1" = 20'

AW13.10 | A | AW1.1
AW0.7

GRAPHIC SCALE:

20 10 0 20 40

SCALE: 1"=20'

(5) STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

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| DATE | REVISIONS |
|---|---|
| 10/16/03 | (5) Clarified Stations, Offsets and Note 2. Added Pedestal and Legend |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PARTIAL ENLARGED PLAN STA. 82+00 to STA. 88+00

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

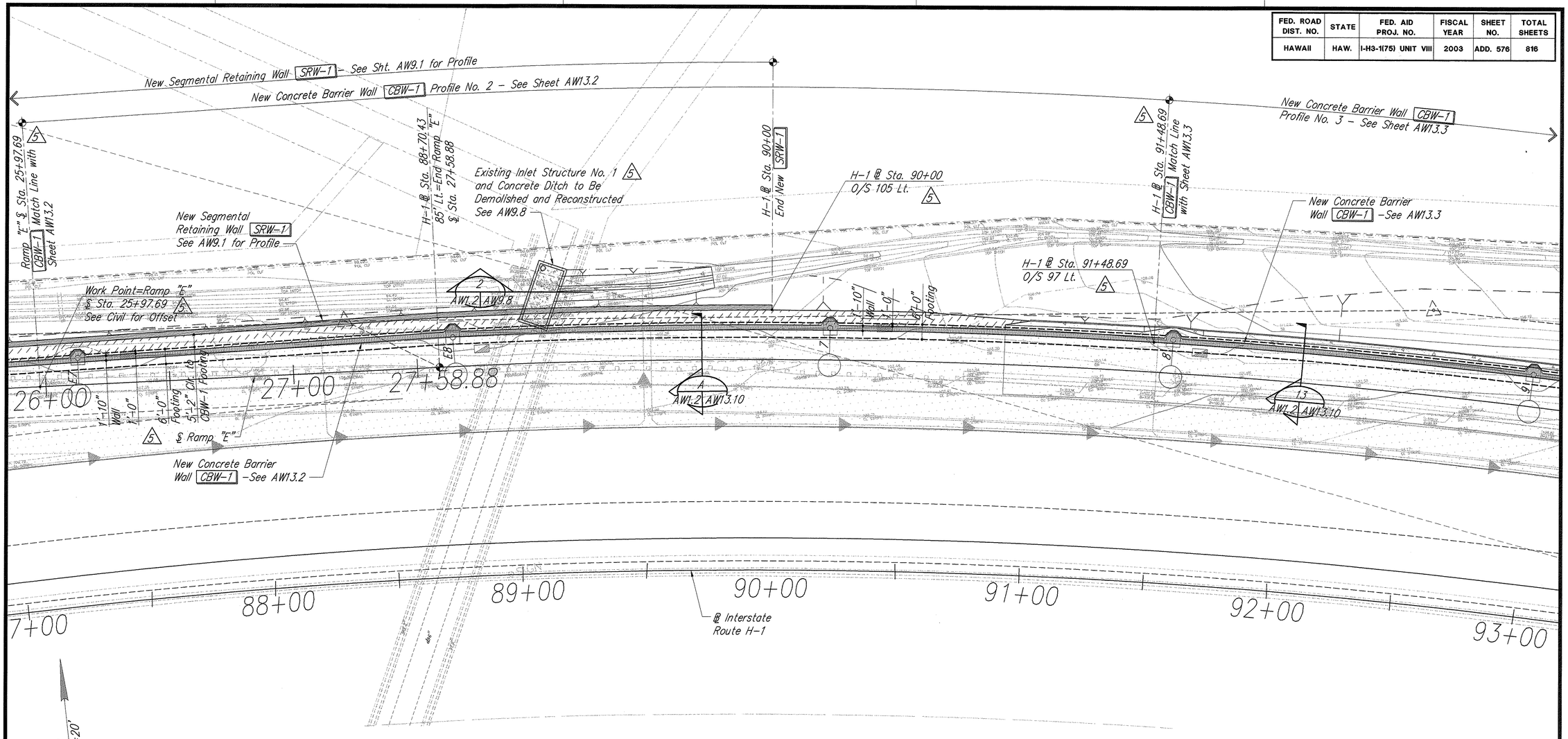
Scale: 1"=20'-0" Date: Mar. 31, 2003

SHEET No. AW1.1 OF 140 SHEETS

RMTC JOB NO.: 1-19369-OE

ADD. 575

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 576 | 816 |




True North
Scale: 1"=20'

## Notes To Site Structures:

1. For New Segmental Retaining Wall SRW-1, See Profiles on Sheets AW9.1 and AW9.2.
   a. SRW-1 Shall Start Construction Prior to the Adjacent Portions of CBW-1.
   b. CBW-1 Footing Construction Shall Be Sequenced with Fill and Geogrid Placements– in order to Prevent Footing Excavation Through the Geogrids System.
   c. See CBW-1 Sections and Profiles for Condition at the SRW-1 Geogrid System.

2. For New Concrete Barrier Wall CBW-1, See Profiles 1, 2 and 3 on Sheets AW13.1, AW13.2 and AW13.3.
   a. For Construction Joint Details, See Sheet AW13.24 (5)
   b. For Details of Pattern of Reveals at Roadway Face of Wall; Above the 2'-10" High Jersey Shape, See Sheet AW18.1.

Legend:

(5) E7 = Light Standard Number E7 Refer to Electrical Drawings for location, number etc. Refer to AW13.20, AW13.21, AW13.22 for Light Pedestal Configuration and Reinforcing Steel.

## PARTIAL ENLARGED PLAN/STA. 87+00 to STA. 93+00

Scale: 1" = 20'

A AW13.10 | AW1.2
AW0.7, AW9.8

GRAPHIC SCALE:
20 10 0 20 40
SCALE: 1"=20'

(5) STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER No. 8104-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | (5) Clarified Stations, Offsets and Note 2. Added Pedestal and Legend |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PARTIAL ENLARGED PLAN
## STA. 87+00 to STA. 93+00

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1"=20'-0" Date: Mar. 31, 2003

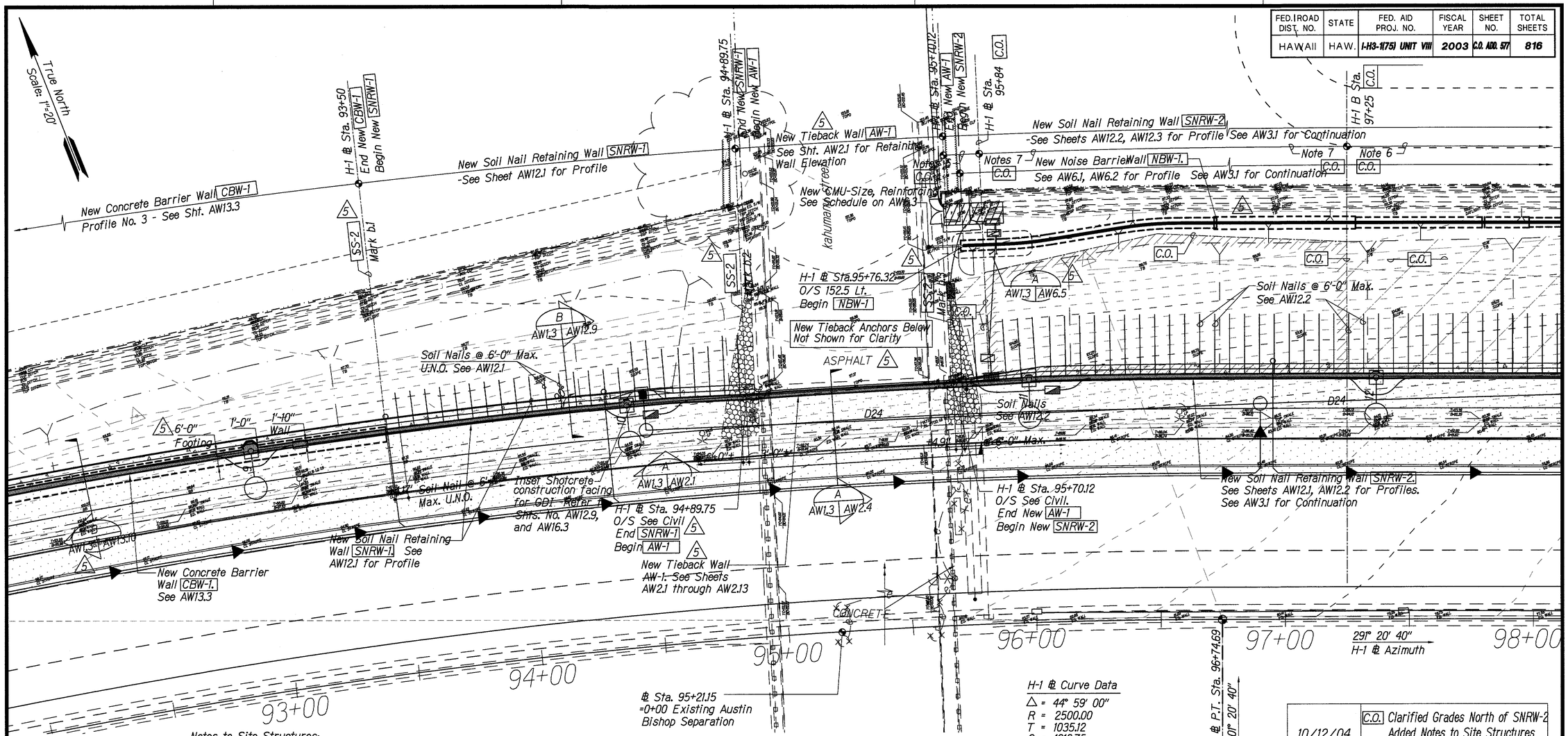
SHEET No. AW1.2 OF 140 SHEETS

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

RMTC JOB NO.: 1-19369-0E

ADD. 576

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. ADD. 577 | 816 |




**H-1 @ Curve Data**

△ = 44° 59' 00"
R = 2500.00
T = 1035.12
C = 1912.75
Lc = 1962.77

**Notes to Site Structures:**

1. Not Used.
2. For New Concrete Barrier Wall CBW-1, See Profiles 1, 2 and 3 on Sheets AW13.1, AW13.2 and AW13.3
   a. For Construction Joint Details, See Sheet AW13.24 (5)
   (5) b. For Details of Pattern of Reveals at Roadway Face of Wall; Above the 2'-10" High Jersey Shape, See Sheet AW18.1.
3. For New Soil Nail Retaining Walls SNRW-1 and SNRW-2, See AW12.1, AW12.2 and AW12.3 for Profiles. See AW3.1 for Continuation.
4. For New Tieback Wall AW-1, See Sheets AW2.1 Through AW2.13
5. For New Noise Barrier Wall NBW-1, See AW6.1 and AW6.2 for Profiles. See AW3.1 for Continuation.
6. C.O. Where Indicated on Plan, Existing Slope/Grades North of SNRW-2 and South of NBW-1 to Remain (Lower than As-Bid Grade).
7. C.O. Where Indicated on Plan, Existing Slope/Grades North of SNRW-2 and South of NBW-1 to be Cut to As-Bid Grade.

**Legend:**

(5) E9 = Light Standard Number E9 Refer to Electrical Drawings for location, number etc. Refer to AW12.10, AW13.20, AW13.21, AW13.22 for Light Pedestal Configuration and Reinforcing Steel.

SS-2 / Mark b.1 = Indicates Site Structures Construction Sequence Stage Mark - See Sheet No. AW0.11 Mark b.1 indicates bracing required at site wall transition.

= Existing Slope/Grades to Remain (Lower than As-Bid Grade). See Note 6. C.O.

= Existing Slope/Grades North of SNRW-2 to be Cut to As-Bid Grades. See Note 7. C.O.

GRAPHIC SCALE:
20 10 0 20 40
SCALE: 1"=20'

(5) STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908-S — HAWAII, U.S.A.
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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA — LICENSED PROFESSIONAL ENGINEER — No. 8104-S — HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/12/04 | C.O. Clarified Grades North of SNRW-2 Added Notes to Site Structures 6 and 7. |
| 10/16/03 | (5) Revised Noise Barrier Wall Layout. Clarified Note 2. Added Pedestals and Legend. Clarified Reference Notes and Marks. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PARTIAL ENLARGED PLAN
## STA. 92+00 to STA. 98+00
INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII
Scale: 1"=20'-0" Date: Mar. 31, 2003

SHEET No. AW1.3 OF 140 SHEETS

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

PARTIAL ENLARGED PLAN/STA. 92+00 to STA. 98+00
Scale: 1" = 20'

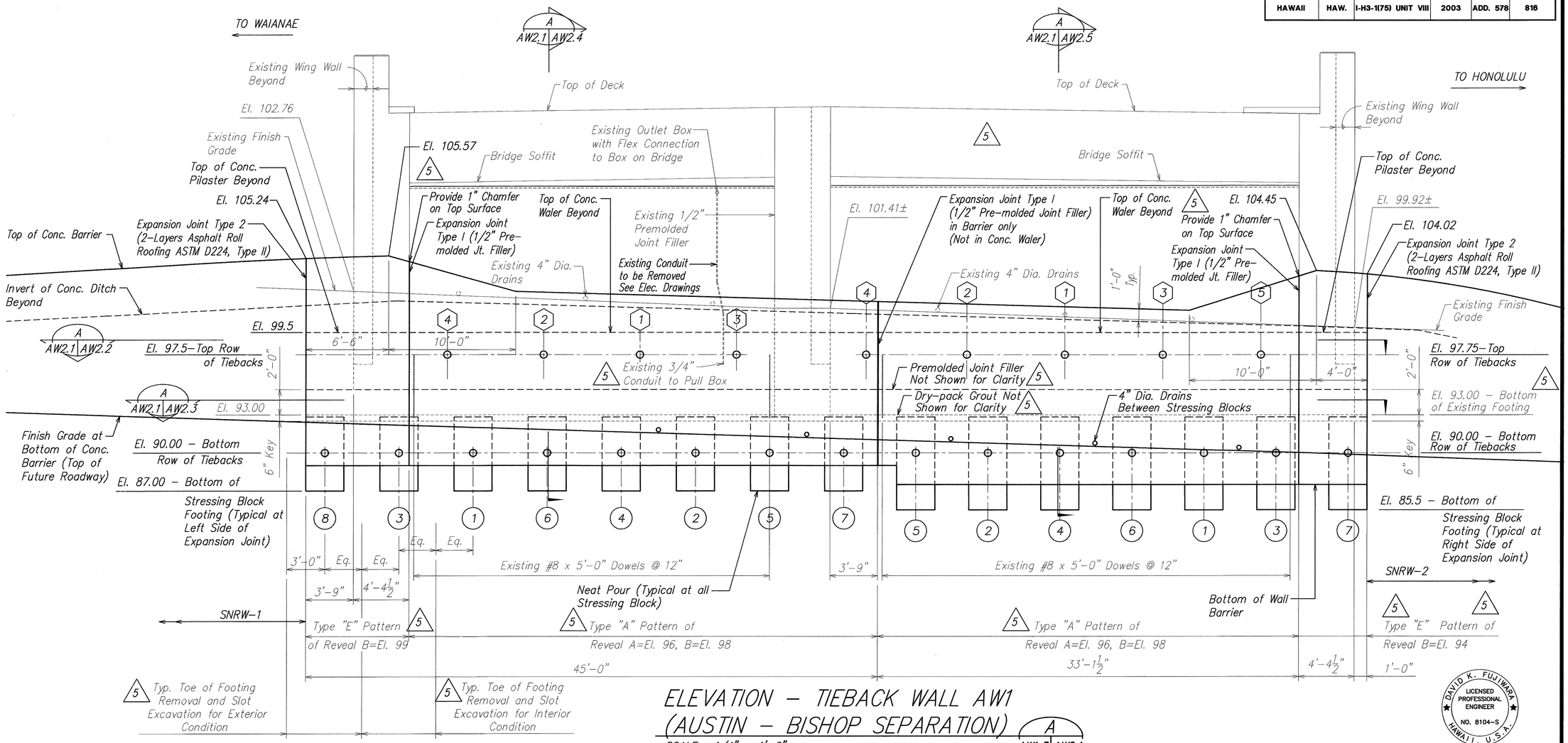
(5) AW0.7,AW2.1,AW2.4,AW6.5,AW6.5C,AW12.9

A AW13.10 AW1.3

RMTC JOB NO: 1-19369-OE

C.O. ADD. 577

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 578 | 816 |




# ELEVATION - TIEBACK WALL AW1 (AUSTIN - BISHOP SEPARATION)

A AW1.3 AW2.1

SCALE: 1/4" = 1'-0"

5

| TIEBACK TABLE | | | | |
|---|---|---|---|---|
| | Design Load (kips) 0.53 f's Max. | Maximum Test Load (kips) 0.75 f's Max. | Transfer (Lock Off) Load 0.7 f's Max. (kips) | Anchor Set Loss (in.) (Max.) |
| Top Row | 160 | 240 | 130 | 3/8" |
| Bottom Row | 160 | 240 | 130 | 3/8" |
| f's = Ultimate tensile strength of the tendon | | | | |

NOTES:

1. (*) Designates Construction Sequence for top row of tiebacks.
2. (*) Designates Construction Sequence for bottom row of tiebacks.
3. For Construction Sequence Stages, see sheet no. AW2.12.
4. For details of pattern of reveals in wall see sheet no. AW18.1.
5. Prestressing of tiebacks shall conform to Specification Section 504 and Section 681.
6. Tiebacks with higher construction sequence number shall not be constructed until final grouting up to anchor plate for lower construction sequence number has set and attained its design strength.
7. See sheet no. AW18.1 for pattern of reveal elevations.
8. Design Criteria / Definitions:
   a. Working Load = 1.0 Static Load (Static Component of Soil Pressure) plus Seismic Load (Seismic Component of Soil Pressure).
   b. Design Load = Factor of Safety (1.33) times Working Load.
   c. Lock-off Load = Factor of Safety (1.33) times Static Load.
   d. Max. Test Load = 1.5 times Design Load.

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes Revise Tieback Table |

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELEVATION
TIEBACK WALL AW1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW2.1 OF 140 SHEETS

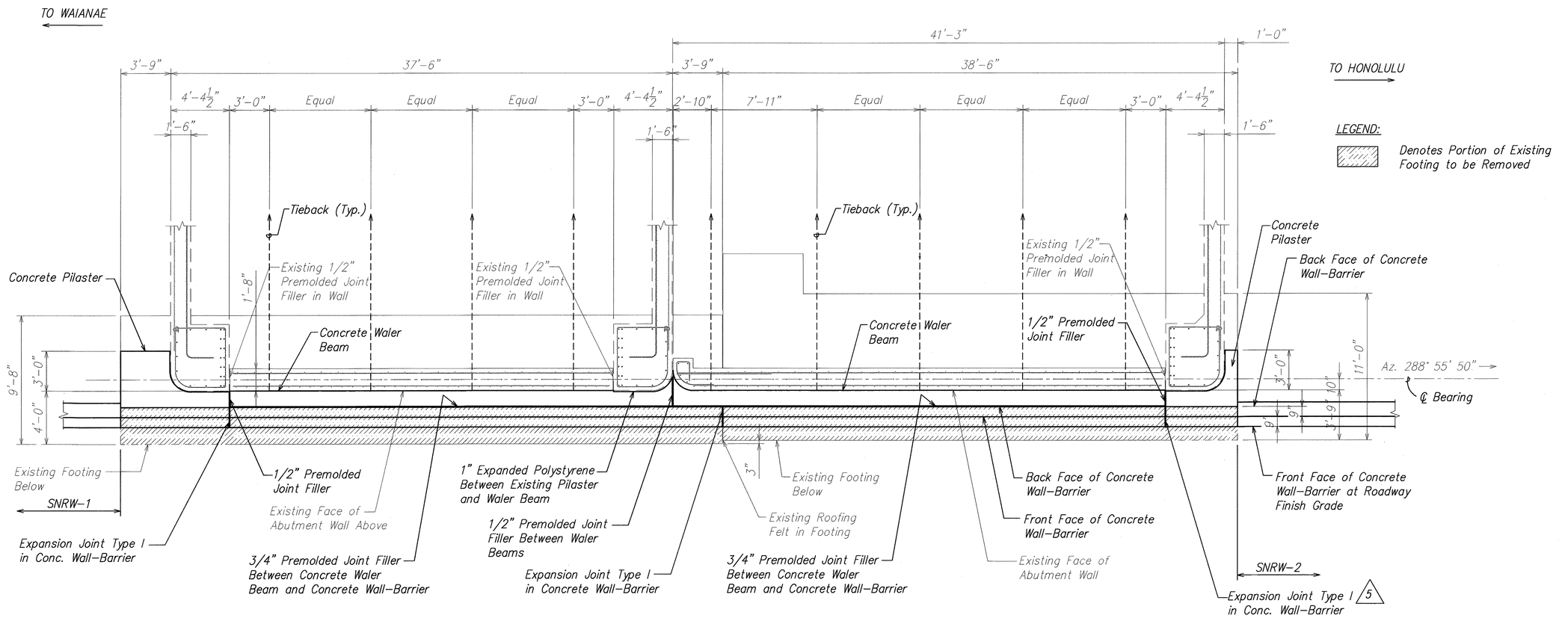
ADD. 578

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

WV-AW2.1.DWG
1 = 1

\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW0201.dwg, AW2.1, 10/14/2003 2:48:02 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 579 | 816 |




## PLAN LAYOUT OF TOP ROW OF TIEBACKS

SCALE: 1/4" = 1'-0"

A
AW0.7 | AW2.2
AW2.1
5

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

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STATE OF HAWAII
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HIGHWAYS DIVISION

# TOP TIEBACK LAYOUT PLAN
# TIEBACK WALL AW1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

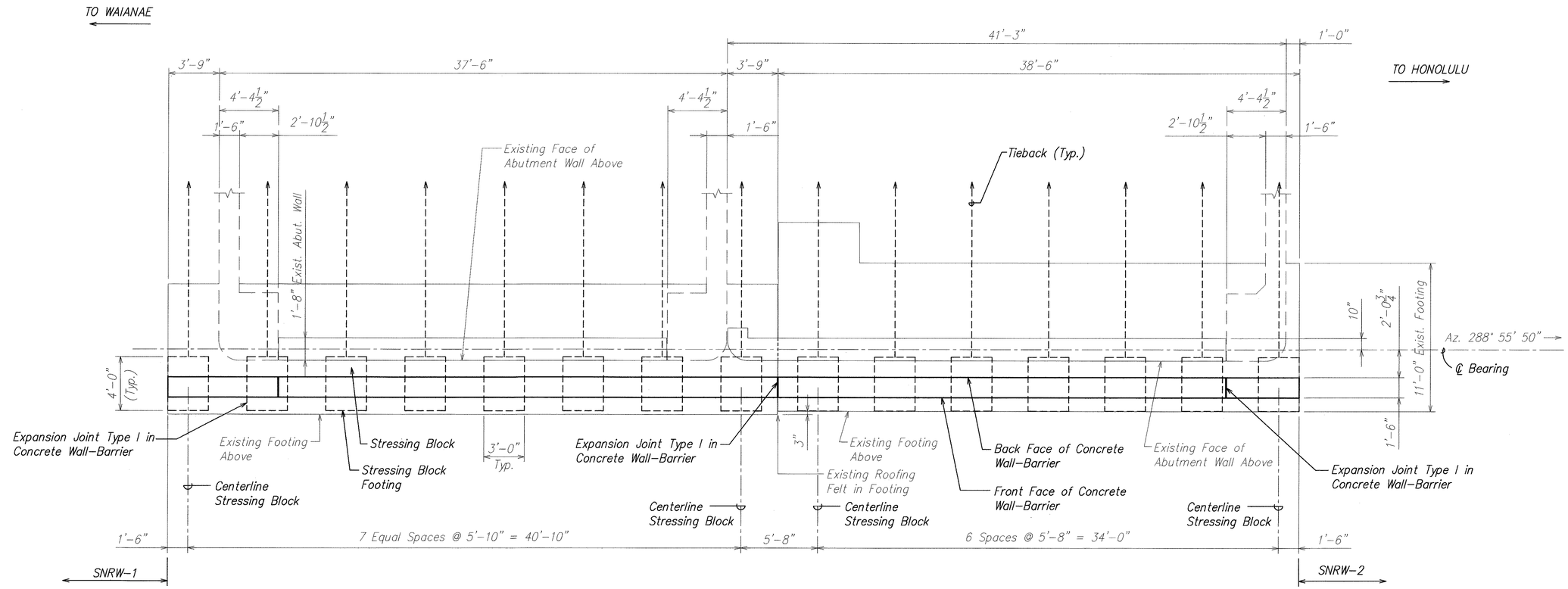
SHEET No. AW2.2 OF 140 SHEETS

ADD. 579

\\Cad1\sf\2001\10066-WAIWALU VIADUCT\10-15-03 AW AD06\AD06 AB-AW0202.dwg, AW2.2, 10/14/2003 2:48:50 PM, KSFinc.pc3

WV-AW*.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 580 | 816 |




## PLAN LAYOUT OF BOTTOM ROW OF TIEBACKS

SCALE: 1/4" = 1'-0"

A
AW2.1 | AW2.3

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


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HIGHWAYS DIVISION

# BOTTOM TIEBACK LAYOUT PLAN TIEBACK WALL AW1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

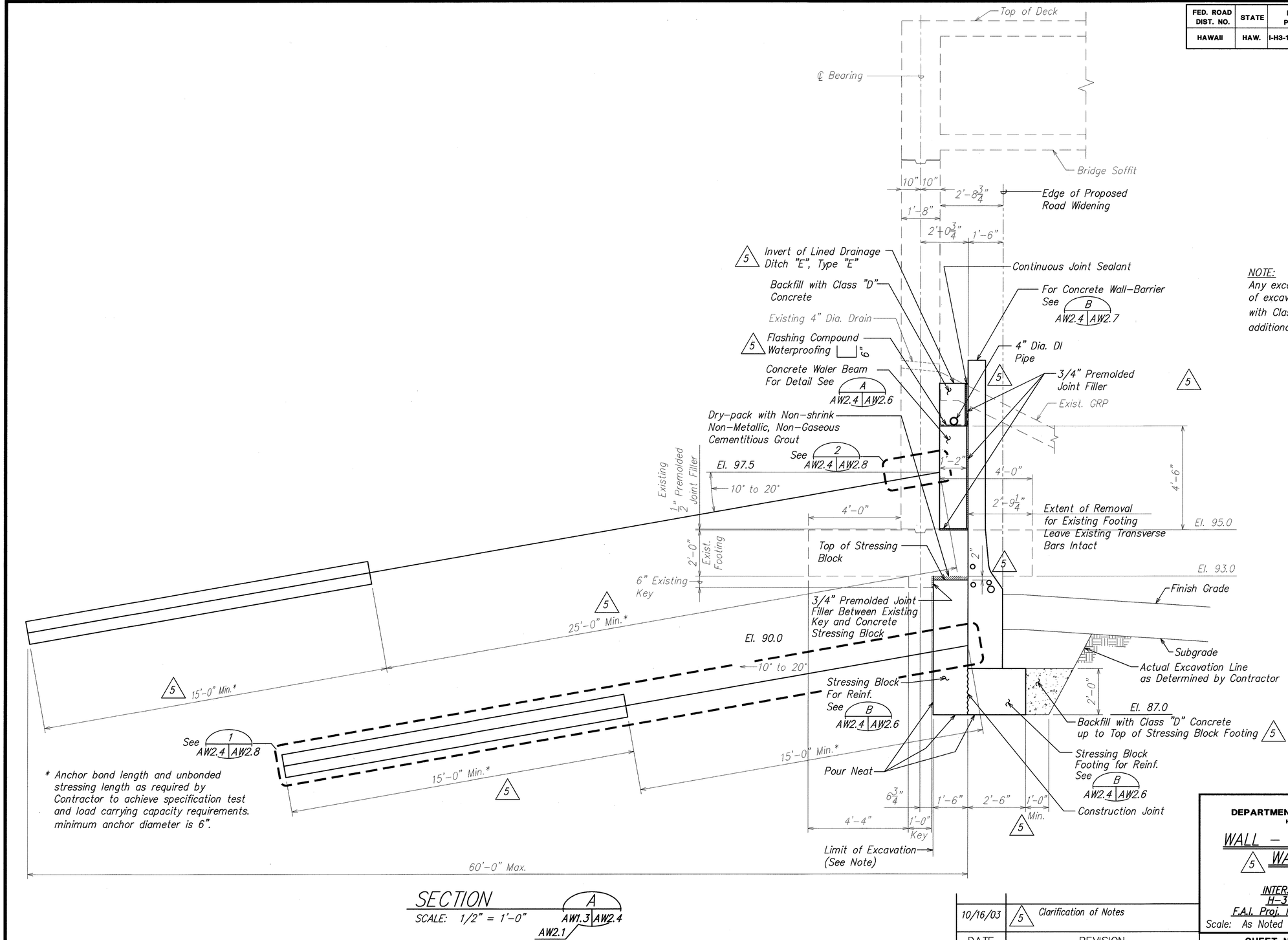
SHEET No. AW2.3 OF 140 SHEETS




C:\DOCS\DGN\19066-A-14-J-2WRT04-07-02.dgn 4/5/2003 7:35:11 PM


WV-AW23.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 581 | 816 |




* Anchor bond length and unbonded stressing length as required by Contractor to achieve specification test and load carrying capacity requirements. minimum anchor diameter is 6".

SECTION A AW1.3 AW2.4 AW2.1
SCALE: 1/2" = 1'-0"

NOTE:
Any excavation beyond pay limits of excavation shall be backfilled with Class "D" concrete at no additional cost.

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

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NOTE BOOK No.
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WALL – BARRIER SECTION
5 WAIANAE END

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW2.4 OF 140 SHEETS

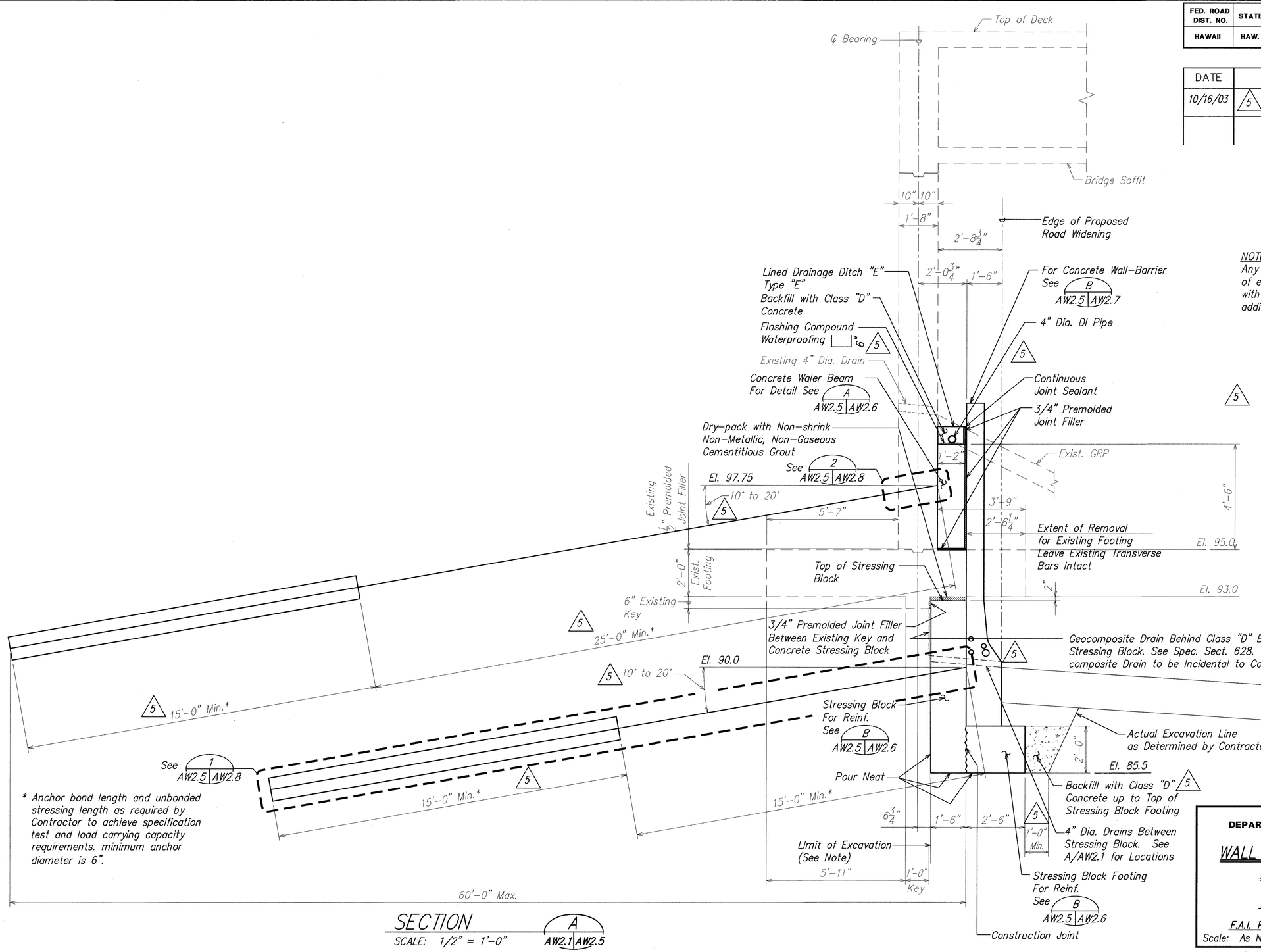
ADD. 581

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WV-AW24.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 582 | 816 |

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |
| | |




* Anchor bond length and unbonded stressing length as required by Contractor to achieve specification test and load carrying capacity requirements. minimum anchor diameter is 6".

SECTION A AW2.1 AW2.5
SCALE: 1/2" = 1'-0"

NOTE:
Any excavation beyond pay limits of excavation shall be backfilled with Class "D" concrete at no additional cost.

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SURVEY PLOTTED BY
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CHECKED BY
DATE
NOTE BOOK
No.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# WALL - BARRIER SECTION HONOLULU END

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

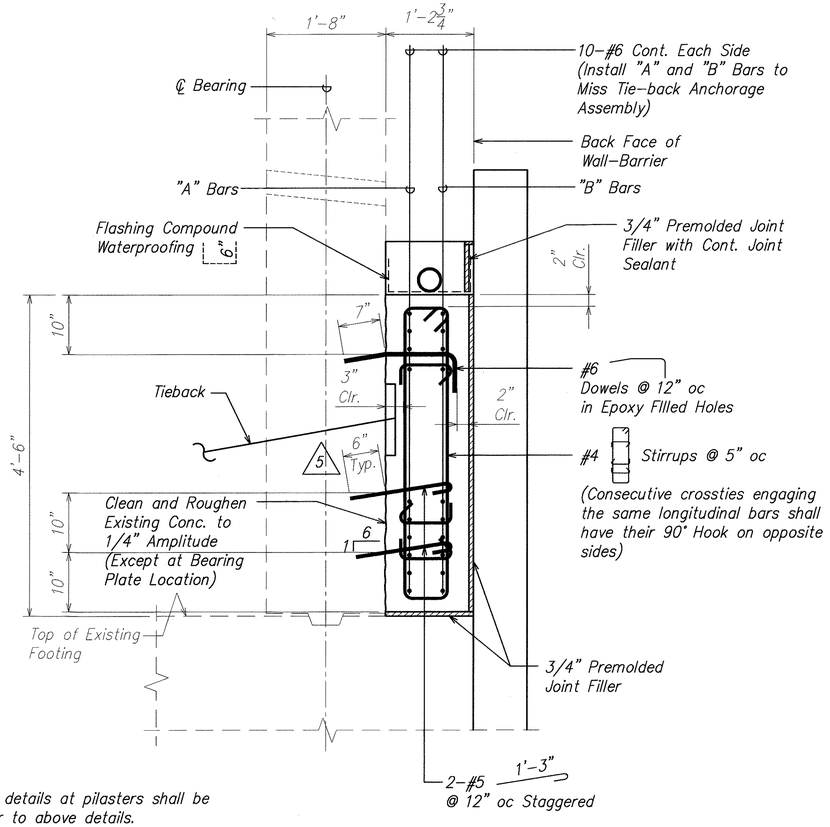
SHEET No. AW2.5 OF 140 SHEETS

ADD. 582

WV-AW25.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 583 | 816 |



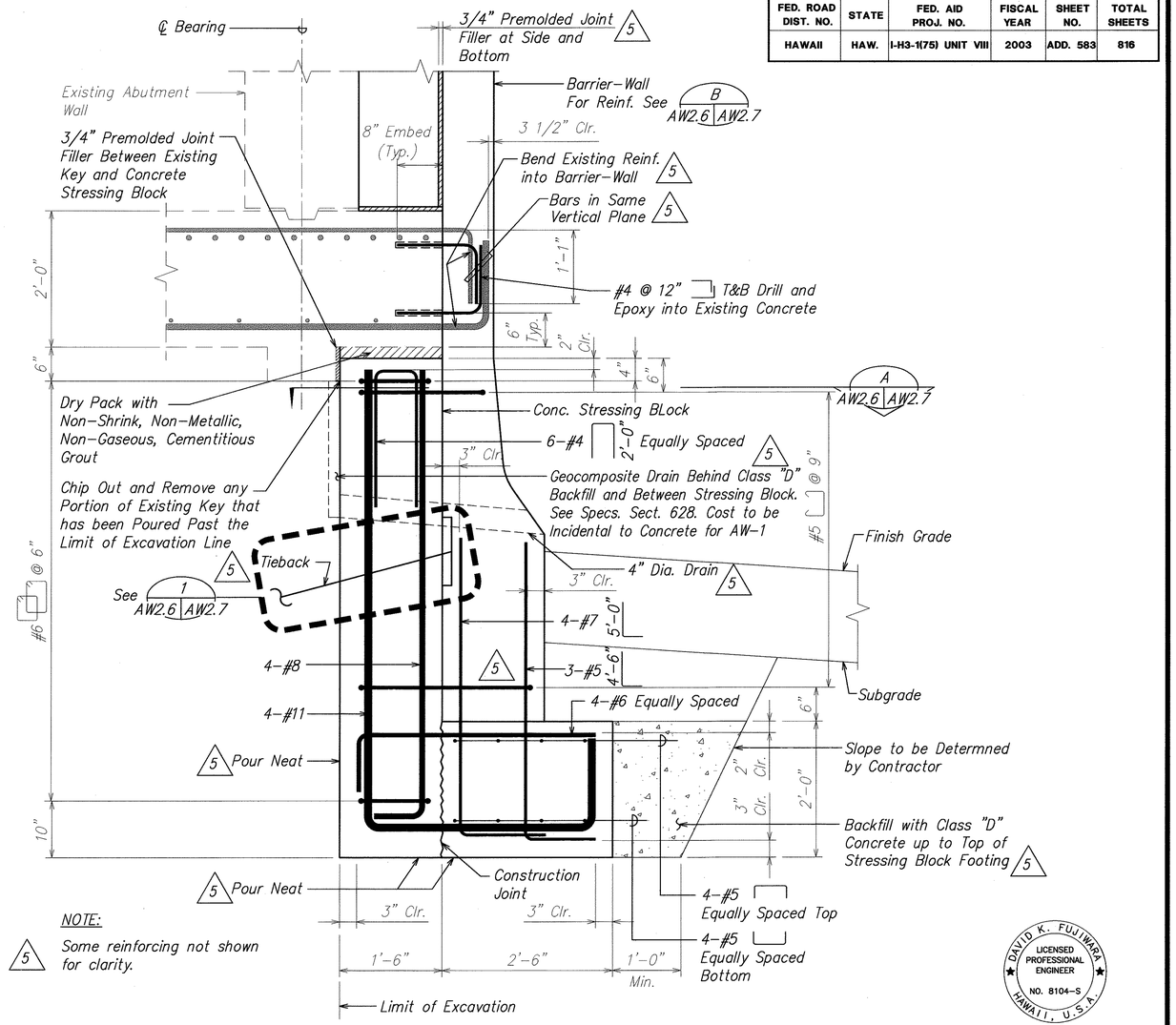

NOTE:

5 Dowel details at pilasters shall be similar to above details.

## 5 DETAIL - WALER BEAM

SCALE: 1" = 1'-0"

A — AW2.4 | AW2.6 | AW2.5




NOTE:

5 Some reinforcing not shown for clarity.

## 5 DETAIL AT STRESSING BLOCK

SCALE: 1" = 1'-0"

B — AW2.4 | AW2.6 | AW2.5

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

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DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____

ORIGINAL PLAN
NOTE BOOK ____ No. ____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TYPICAL WALER AND STRESSING BLOCK SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

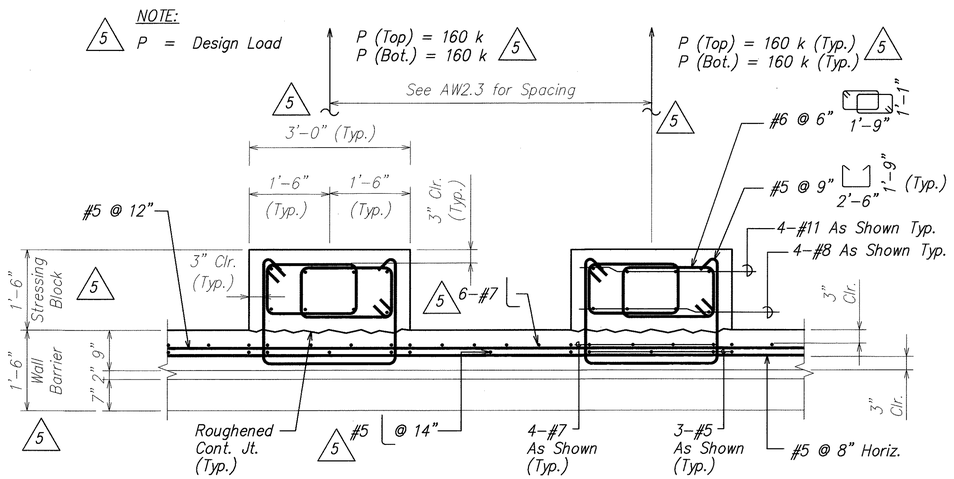
SHEET No. AW2.6 OF 140 SHEETS

ADD. 583

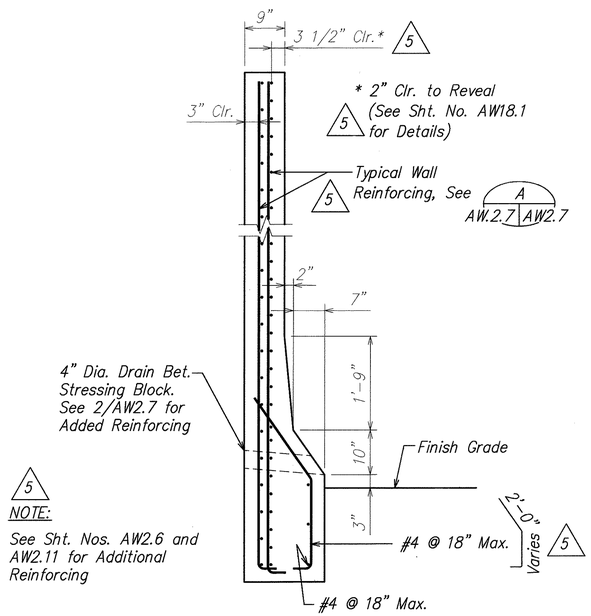
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 584 | 816 |

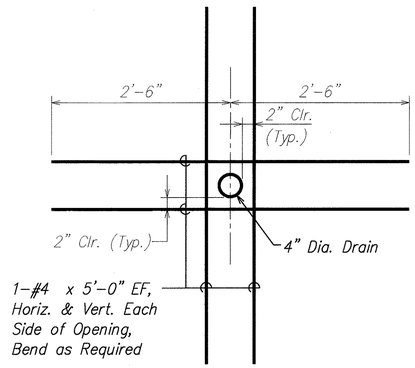



SECTION A
SCALE: 3/4" = 1'-0"
AW2.6 | AW2.7
AW2.7

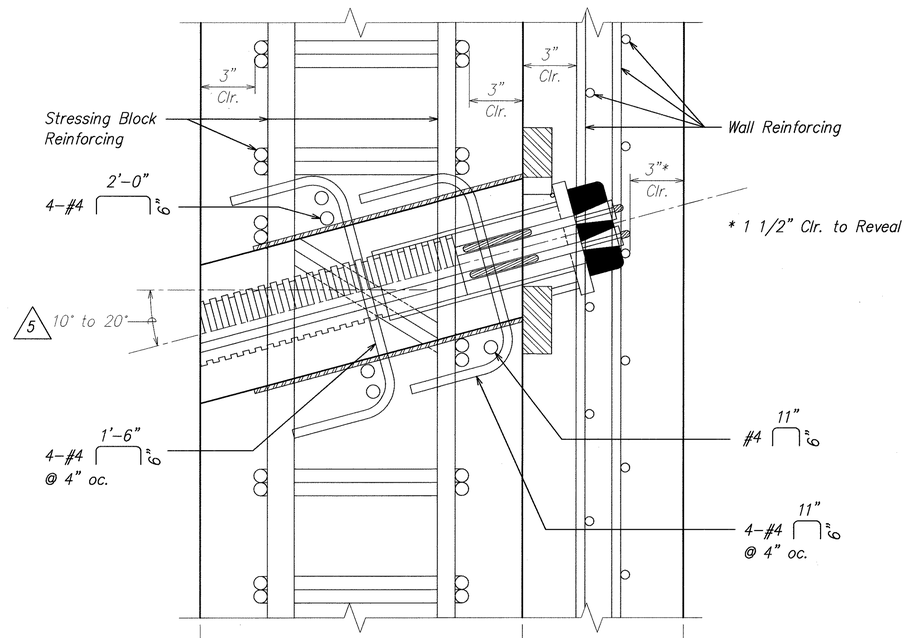



5 NOTE:
See Sht. Nos. AW2.6 and AW2.11 for Additional Reinforcing

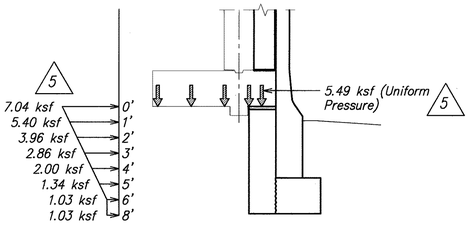
TIEBACK WALL BARRIER AND TOP OF WALL REINFORCING DETAIL 5 B
SCALE: 3/4" = 1'-0"
AW2.4 | AW2.7
AW2.5, AW2.6




ADDED REINFORCING AT DRAINS 2
SCALE: 1" = 1'-0"
AW2.7 | AW2.7




ANCHORAGE DETAIL 1
SCALE: 3" = 1'-0"
AW2.6 | AW2.7




TIE BACK WALL SURCHARGE PRESSURE DIAGRAM 5 3
SCALE: N.T.S.
AW2.7 | AW2.7

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|---|---|
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL STRESSING BLOCK AND WALL BARRIER SECTION AND ANCHORAGE DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW2.7 OF 140 SHEETS

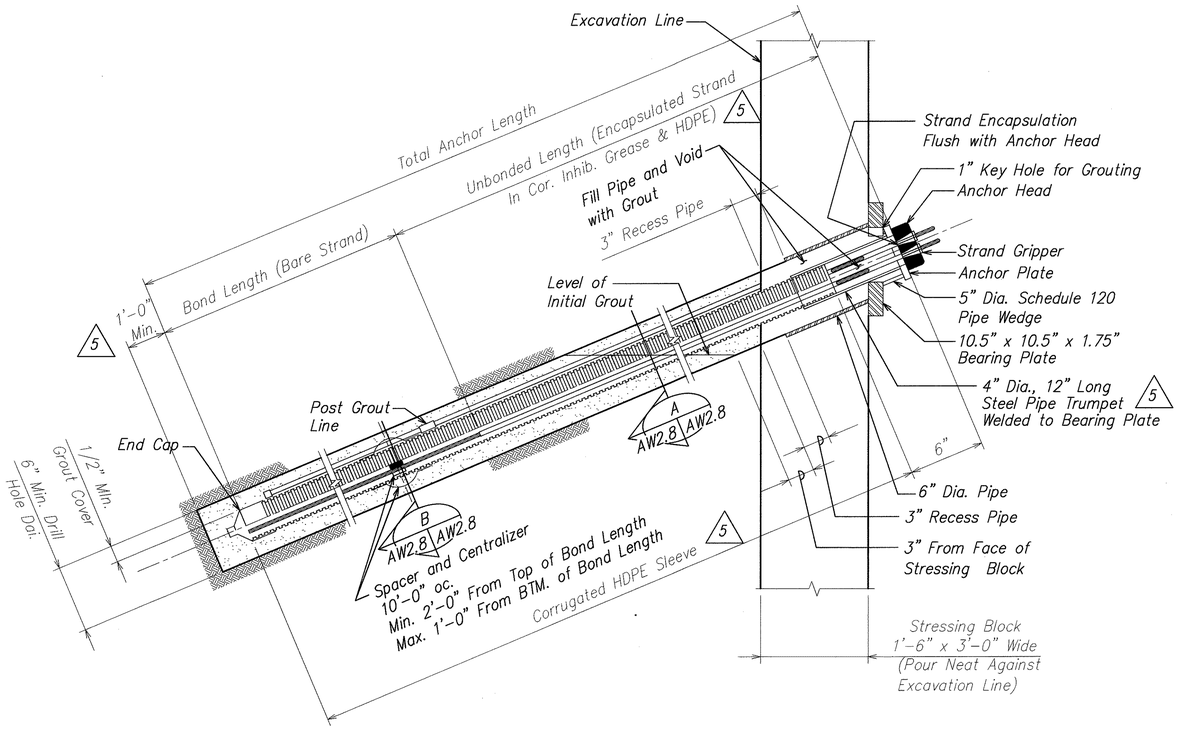
ADD. 584

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

WV-AW28.DWG
1 = 1

\\Cad1\xsf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW0207.dwg, ADD5 AW2.7 & AW2.8, 10/14/2003 2:52:03 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 585 | 816 |

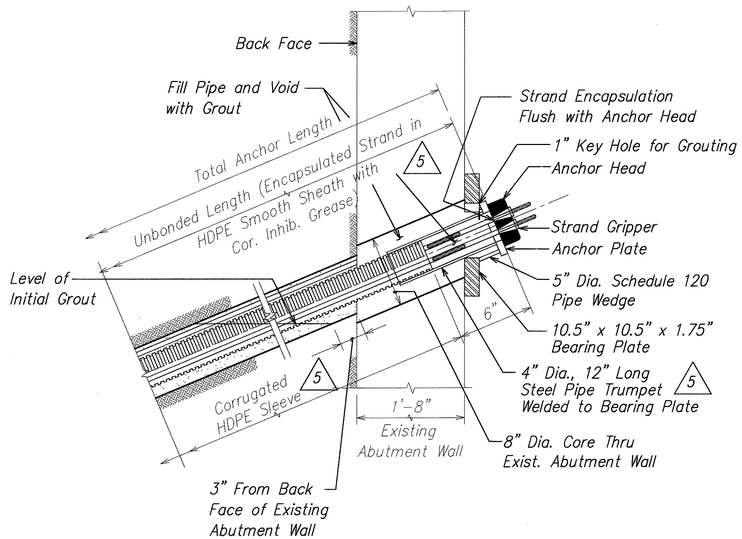



## LOWER TIE-BACK ANCHOR DETAIL (1)

SCALE: N.T.S.

AW2.4 | AW2.8

AW2.5, AW2.8



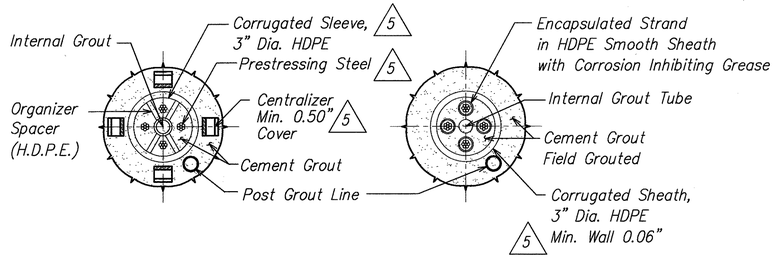

Note:
For Remainder of Details See (1) AW2.8 | AW2.8

## UPPER ANCHOR DETAIL AT EXISTING ABUTMENT WALL (2)

SCALE: N.T.S.

AW2.4 | AW2.8

AW2.5




## ANCHOR SECTION BOND LENGTH (B)

SCALE: N.T.S.

AW2.8 | AW2.8

## ANCHOR SECTION UNBONDED LENGTH (A)

SCALE: N.T.S.

AW2.8 | AW2.8

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

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| DATE | REVISION |
|---|---|
| 10/16/03 | (5) Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TIEBACK ANCHOR DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

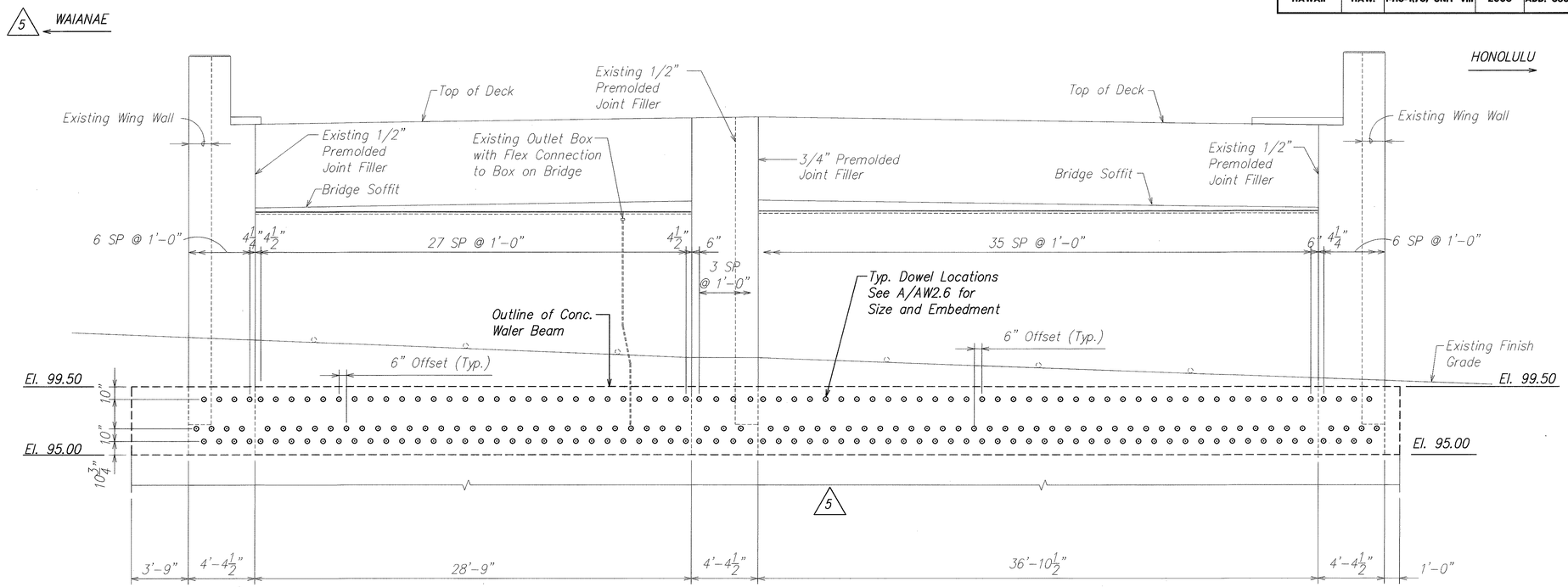
SHEET No. AW2.8 OF 140 SHEETS

ADD. 585

WV-AW27.DWG
1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 586 | 816 |




NOTES:

1. For Construction Sequence, see sheet no. AW2.12.
2. (5) See sheet no. AW18.1 for Reveal details.

## ELEVATION – DOWEL LOCATIONS FOR WALER AND PILASTER AT EXISTING ABUTMENT (AUSTIN–BISHOP SEPARATION)

SCALE: 1/4" = 1'-0"

A
AW2.9 | AW2.9

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELEVATION–DOWEL LOCATION TIEBACK WALL AW1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW2.9 OF 140 SHEETS

| DATE | REVISION |
|---|---|
| 10/16/03 | (5) Clarification of Notes |

ADD. 586

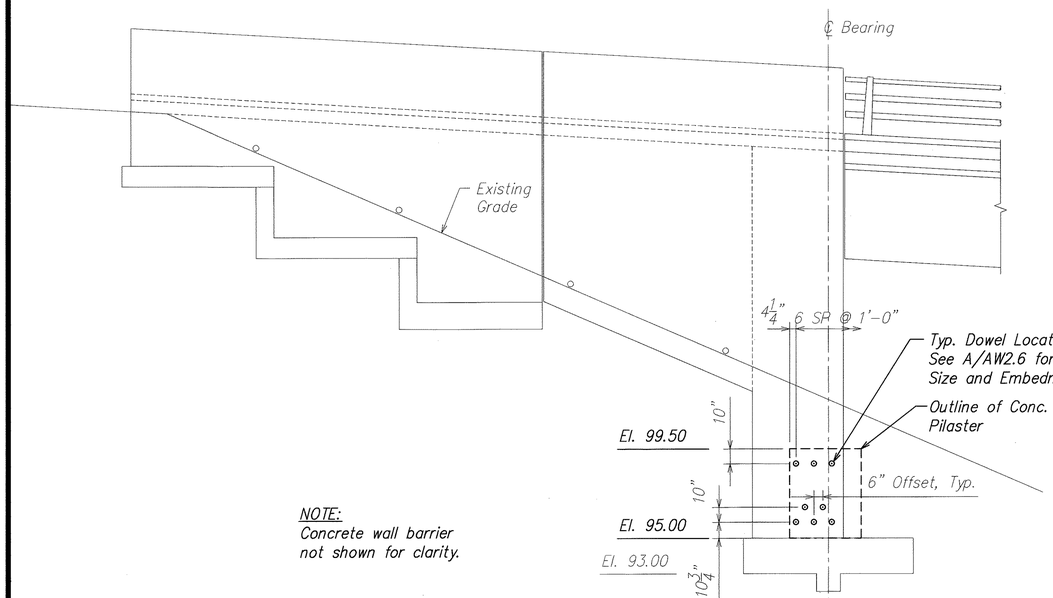
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

WV-AW29.DWG
1 = 1

\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW0209.dwg, AW2.9 & AW2.10, 10/14/2003 2:53:10 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 587 | 816 |

MOUNTAIN




NOTE:
Concrete wall barrier not shown for clarity.

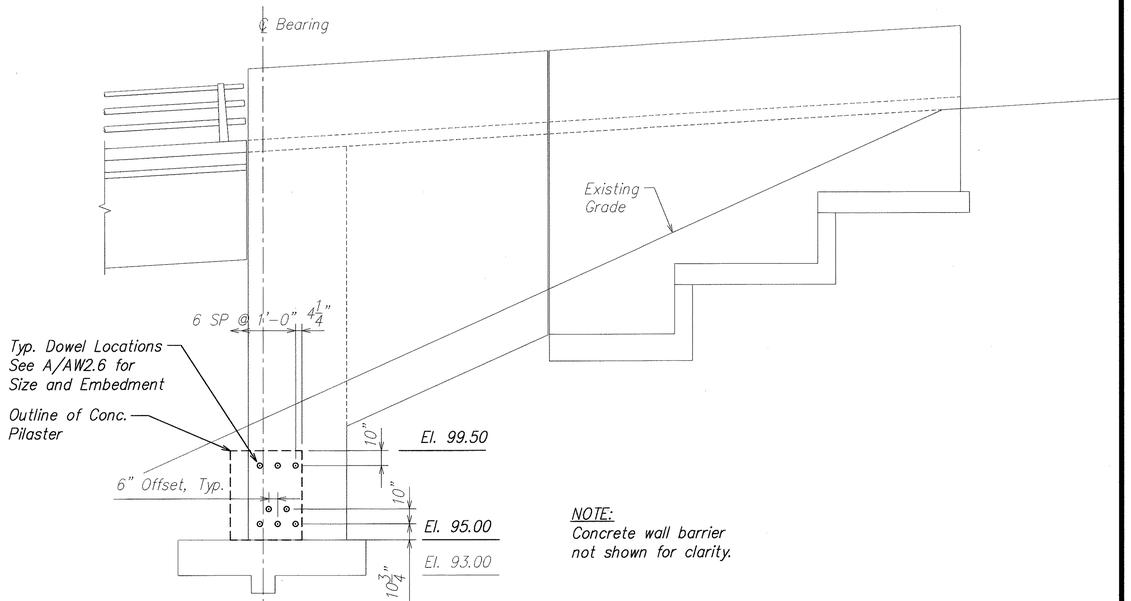
## ELEVATION – DOWEL LOCATIONS AT EXISTING WING WALL (AUSTIN–BISHOP SEPARATION – WAIANAE END)

SCALE: 1/4" = 1'-0"

5

A
AW2.10 | AW2.10

MOUNTAIN




NOTE:
Concrete wall barrier not shown for clarity.

## ELEVATION – DOWEL LOCATIONS AT EXISTING WING WALL (AUSTIN–BISHOP SEPARATION – HONOLULU END)

SCALE: 1/4" = 1'-0"

B
AW2.10 | AW2.10

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | * |
| No. | TRACED BY | * |
| | DESIGNED BY | * |
| | QUANTITIES BY | * |
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NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara — 4-30-04
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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# ELEVATION–DOWEL LOCATION WING WALL AW1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

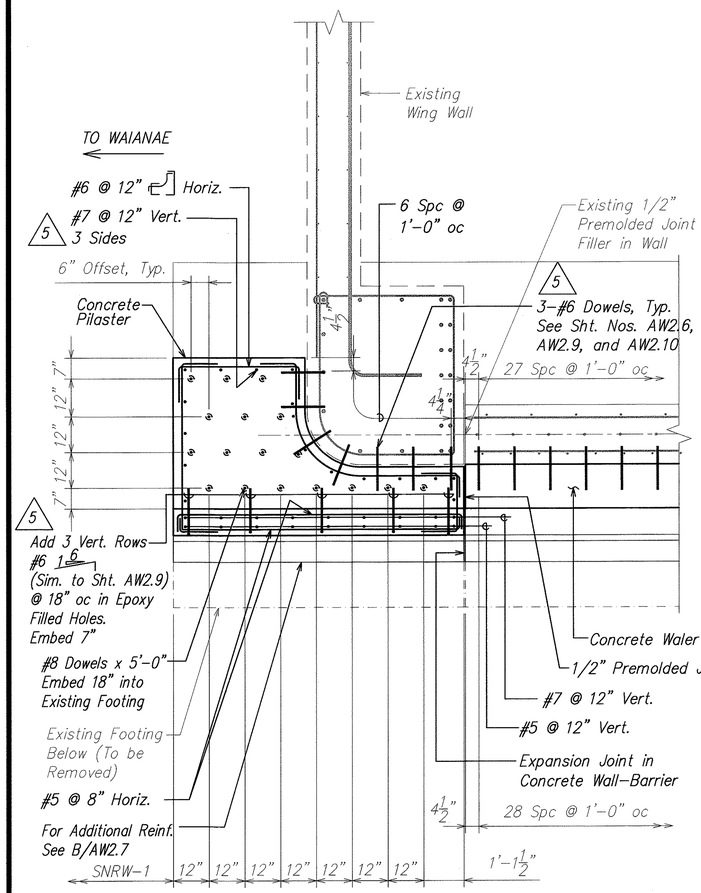
SHEET No. AW2.10 OF 140 SHEETS

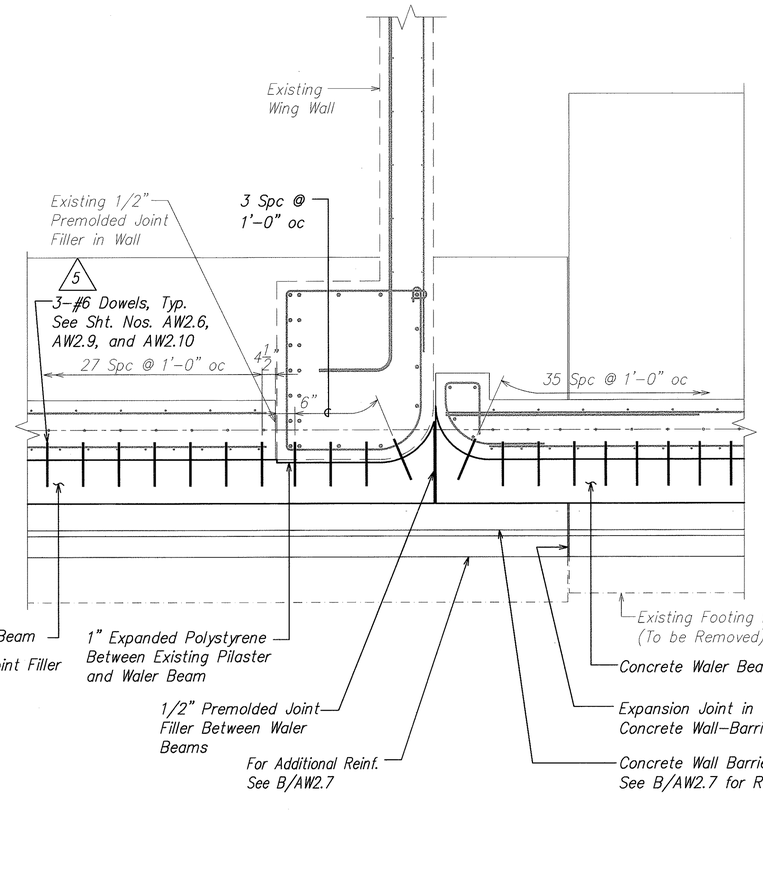
ADD. 587

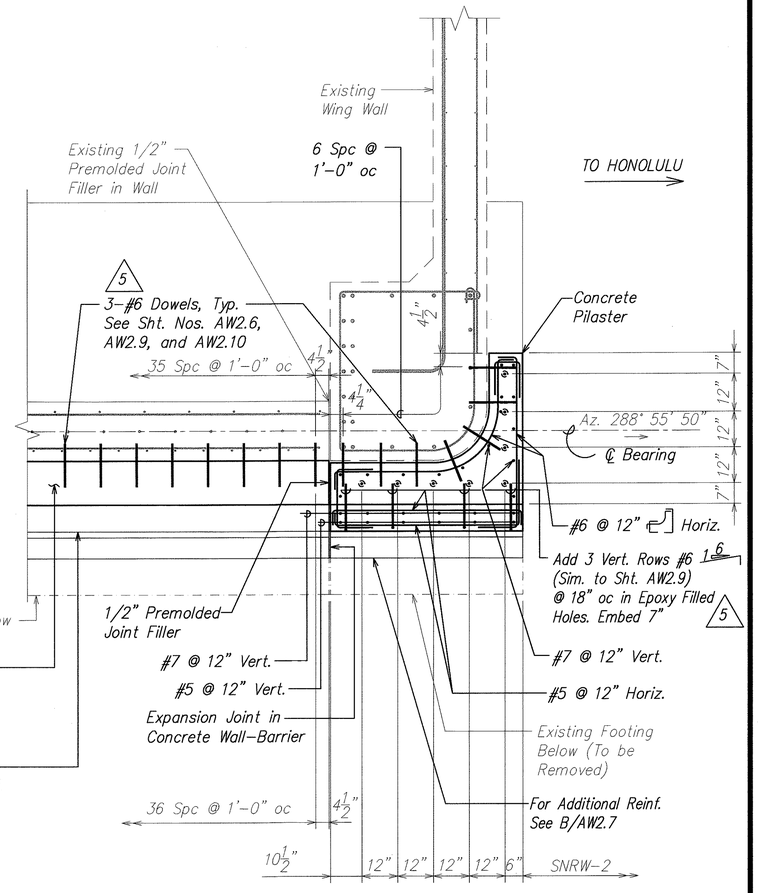
WV-AW210.DWG
1 = 1

\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW0209.dwg, AW2.9 & AW2.10, 10/14/2003 2:53:29 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 588 | 816 |




## 5 SECTION – DOWEL LOCATIONS FOR WALER AND PILASTER AT EXISTING ABUTMENT AND PILASTER REINFORCING (AUSTIN-BISHOP SEPARATION)

SCALE: 1/2" = 1'-0"

A AW2.11 AW2.11

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SECTION – DOWEL LOCATION AND PILASTER REINFORCING

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW2.11 OF 140 SHEETS

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

ADD. 588

WV-AW211.DWG
1 = 1

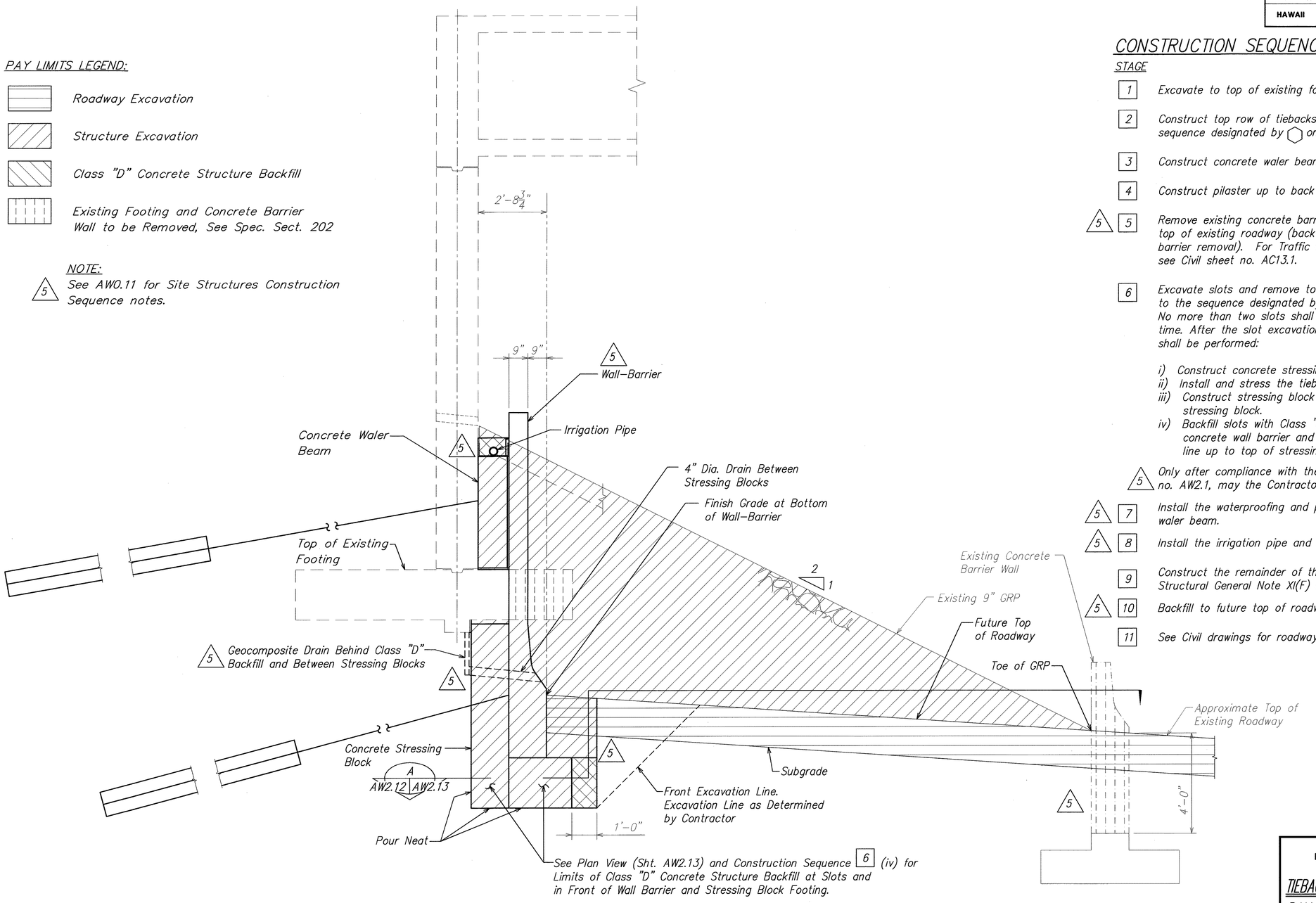
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 589 | 816 |

PAY LIMITS LEGEND:

- Roadway Excavation
- Structure Excavation
- Class "D" Concrete Structure Backfill
- Existing Footing and Concrete Barrier Wall to be Removed, See Spec. Sect. 202

NOTE:
△5 See AW0.11 for Site Structures Construction Sequence notes.




TIEBACK WALL EXCAVATION AND BACKFILL PAY LIMITS (A AW2.12 AW2.12)
SCALE: 1/2" = 1'-0"

## CONSTRUCTION SEQUENCE:

STAGE

1 Excavate to top of existing footing.

2 Construct top row of tiebacks according to the sequence designated by ⬡ on sheet no. AW2.1.

3 Construct concrete waler beam.

4 Construct pilaster up to back face of concrete wall-barrier.

△5 5 Remove existing concrete barrier wall as shown. Backfill to top of existing roadway (backfill to be incidental to concrete barrier removal). For Traffic Control Plan and H-1 lane closure, see Civil sheet no. AC13.1.

6 Excavate slots and remove toe of exist. footing according to the sequence designated by ◯ on sheet no. AW2.1. No more than two slots shall be excavated at one time. After the slot excavation, the following tasks shall be performed:

i) Construct concrete stressing block.
ii) Install and stress the tiebacks.
iii) Construct stressing block footing and dry-pack above stressing block.
iv) Backfill slots with Class "D" concrete behind and below concrete wall barrier and neat pour to front excavation line up to top of stressing block footing level.

△5 Only after compliance with these tasks and the notes on sheet no. AW2.1, may the Contractor proceed to excavate the next slot.

△5 7 Install the waterproofing and premolded filler above the waler beam.

△5 8 Install the irrigation pipe and backfill with Class "D" Concrete.

9 Construct the remainder of the wall barrier. Also see Site Structures Structural General Note XI(F) on sheet no. AW0.5.

△5 10 Backfill to future top of roadway.

11 See Civil drawings for roadway construction.

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| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
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| No. | TRACED BY | |
| | DESIGNED BY | |
| | QUANTITIES BY | |
| | CHECKED BY | |

| DATE | REVISION |
|---|---|
| 10/16/03 | △5 Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TIEBACK WALL AW1 EXCAVATION AND BACKFILL PAY LIMITS AND CONSTRUCTION SEQUENCE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

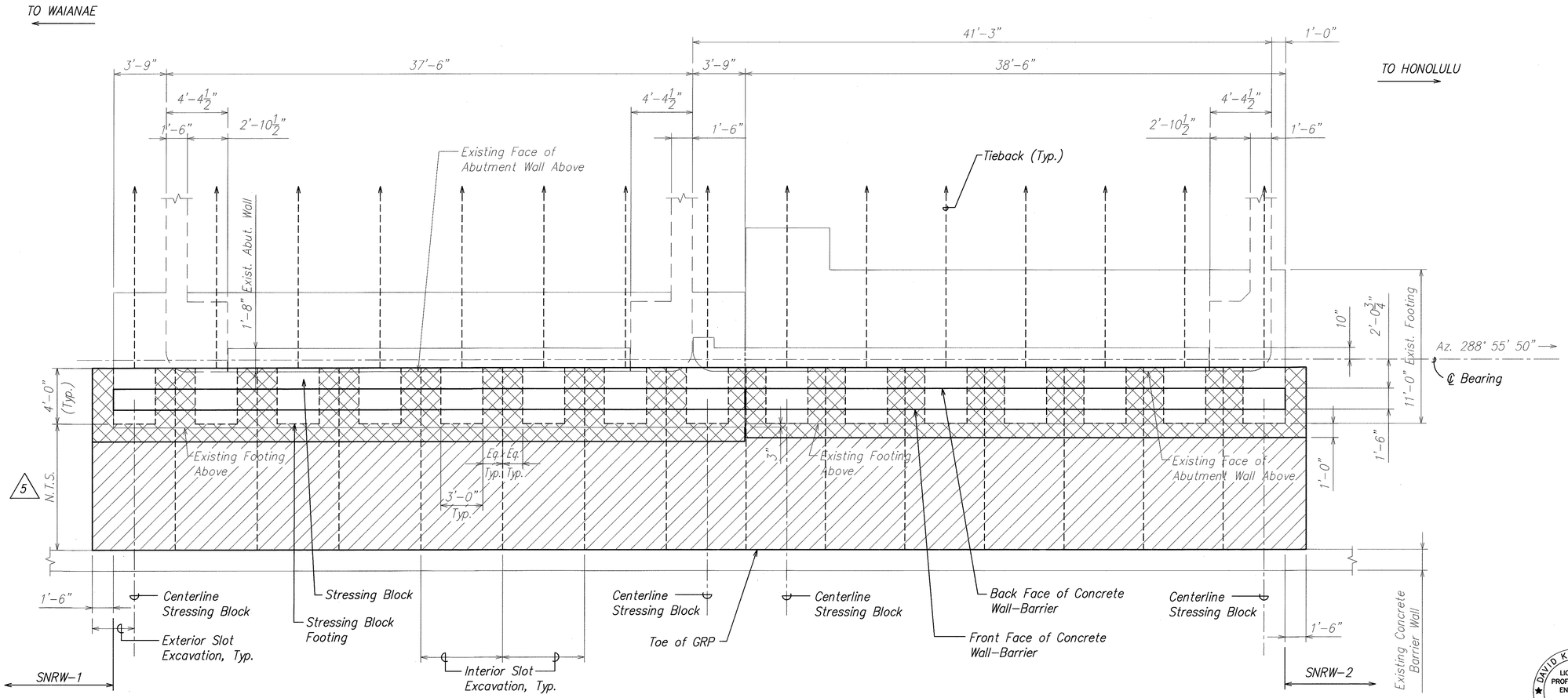
SHEET No. AW2.12 OF 140 SHEETS

ADD. 589

\\Cad1\sf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW0212.dwg, AW2.12, 10/14/2003 3:01:39 PM, KSFinc.pc3

WV-AW212.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 590 | 816 |




## TIEBACK WALL PAY LIMITS – PLAN

SCALE: 1/4" = 1'-0"

A AW2.12 | AW2.13

LEGEND:

Structure Excavation

5 Class "D" Concrete Structure Backfill

5 NOTE:
Class "D" Concrete structure backfill at irrigation pipe shall be as shown on AW2.12 and shall be continuous for the entire width of tieback wall AW1.

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NOTE BOOK No.
SURVEY PLOTTED BY
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QUANTITIES BY
CHECKED BY
DATE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TIEBACK PAY LIMITS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

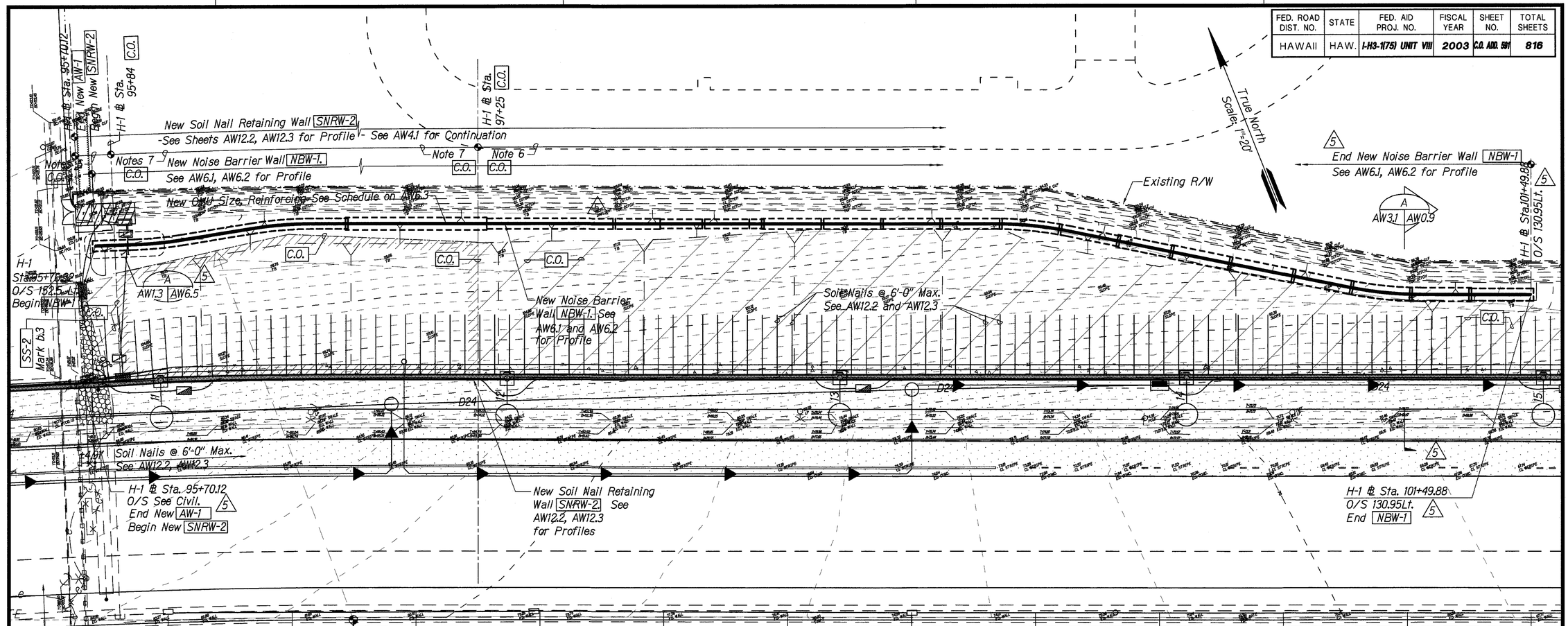
SHEET No. AW2.13 OF 140 SHEETS

ADD. 590

WV-AW23.DWG 1 = 1

\\Cad1\sf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW0213.dwg, AW2.13, 10/14/2003 3:05:02 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. ADD. 591 | 816 |




**H-1 @ Curve Data**

△ = 44° 59' 00"
R = 2500.00'
T = 1035.12'
C = 1912.75'
Lc = 1962.77'

**Notes to Site Structures:**

1. Not Used.
2. Not Used.
3. For New Soil Nail Retaining Wall SNRW-2, See AW12.2 and AW12.3 for Profiles. See AW4.1 for Continuation.
4. For New Retaining Wall AW-1, See Sheets AW2.1 Through AW2.13
5. For New Noise Barrier Wall NBW-1, See AW6.1 and AW6.2 for Profiles. See AW4.1 for Continuation.
C.O. 6. Where Indicated on Plan, Existing Slope/Grades North of SNRW-2 and South of NBW-1 to Remain (Lower than As-Bid Grade).
C.O. 7. Where Indicated on Plan, Existing Slope/Grades North of SNRW-2 and South of NBW-1 to be Cut to As-Bid Grade.

**Legend:**

5 / 11 = Light Standard Number 11 Refer to Electrical Drawings for location, number etc. Refer to AW12.10, AW13.20, AW13.21, AW13.22 for Light Pedestal Configuration and Reinforcing Steel.

SS-2 / Mark b.3 = Indicates Site Structures Construction Sequence Stage Mark - See Sheet No. AW0.11 Mark b.3 indicates bracing required at site wall transition.

= Existing Slope/Grades to Remain (Lower than As-Bid Grade). See Note 6. C.O.

= Existing Slope/Grades North of SNRW-2 to be Cut to As-Bid Grades. See Note 7. C.O.

## PARTIAL ENLARGED PLAN/STA. 96+00 to STA. 101+00

Scale: 1" = 20'

5 AW0.7,AW0.9,AW6.4,AW6.5 — A AW6.5C AW3.1

GRAPHIC SCALE:
20 10 0 20 40
SCALE: 1"=20'

| DATE | REVISIONS |
|---|---|
| 10/12/04 | C.O. Clarified Grades North of SNRW-2 Added Notes to Site Structures 6 and 7. |
| 10/16/03 | 5 Clarified Grades North of SNRW-2 Added Notes to Site Structures 6 and 7. |
| 10/16/03 | 5 Revised Noise Barrier Wall Layout. Clarified Note 2. Added Pedestals and Legend. Clarified Reference Notes and Marks. |

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PARTIAL ENLARGED PLAN

## STA. 96+00 to STA. 101+00

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1"=20'-0" Date: Mar. 31, 2003

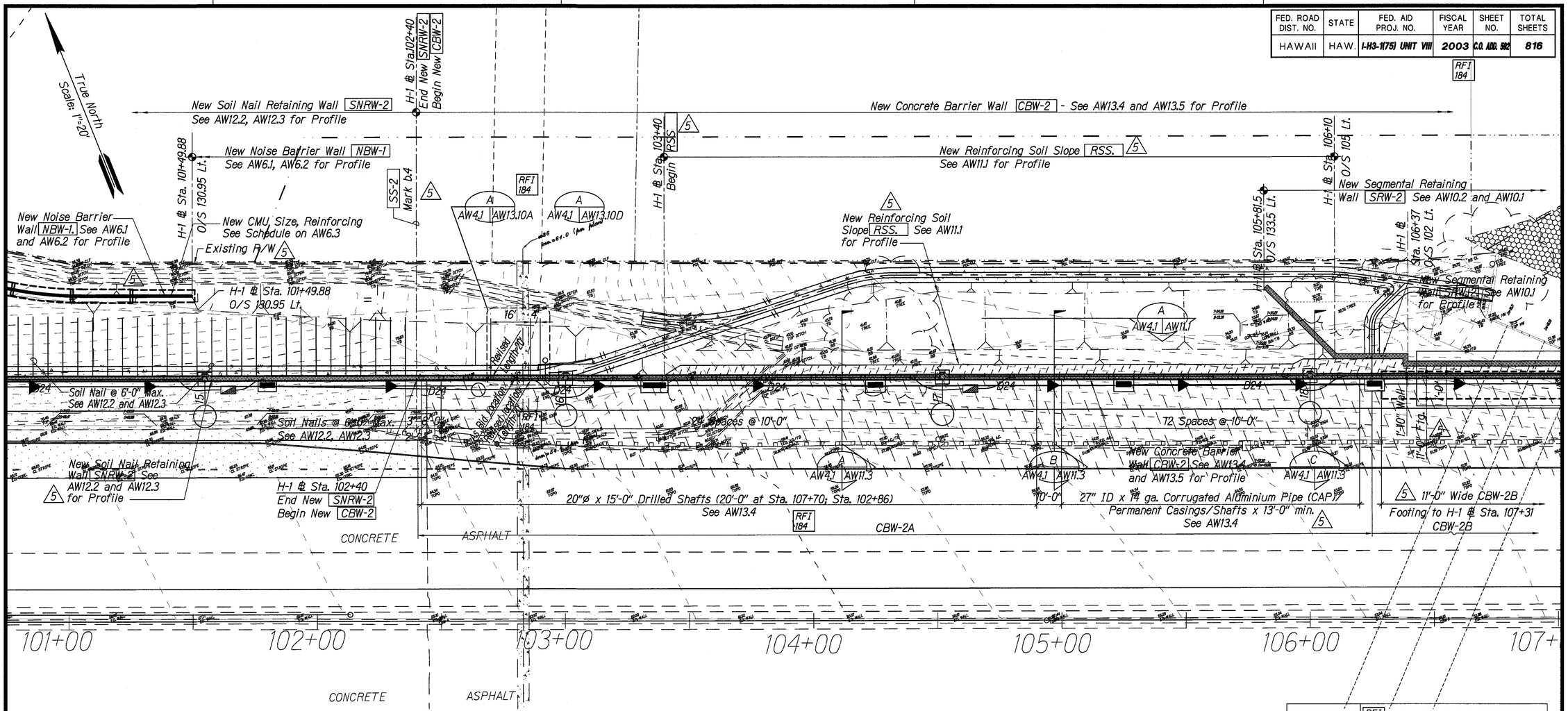
**SHEET No. AW3.1 OF 140 SHEETS**

ORIGINAL PLANS BY ____ DATE
SURVEY PLOTTED BY ____
DRAWN BY ____
TRACED BY ____
NOTE BOOK DESIGNED BY ____
QUANTITIES BY ____
No. ____ CHECKED BY ____

RMTC JOB NO: 1-19369-0E

**C.O. ADD. 591**

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 C.O. ADD. 592 | | 816 |




*Notes to Site Structures:*

1. Not Used.
2. Not Used.
3. For New Soil Nail Retaining Wall SNRW-2, See AW12.2 and AW12.3 for Profiles. See AW3.1 for Continuation.
4. Not Used.
5. For New Noise Barrier Wall NBW-1, See AW6.1 and AW6.2 for Profiles. See AW3.1 for Continuation.
6. Not Used
7. For New Concrete Barrier Wall CBW-2, See AW13.4 and AW13.5.
8. For New Reinforced Soil Slope RSS, See AW11.1 for Profile.
9. For New Segmental Retaining Wall SRW-2, See AW10.1 and AW10.2 for Profile.

*Legend:*

△5 ○ 15 = Light Standard Number 15. Refer to Electrical Drawings for location, number etc. Refer to AW12.10, AW13.20, AW13.21, AW13.22 for Light Pedestal Configuration and Reinforcing Steel.

SS-2 / Mark b.4 = Indicates Site Structures Construction Sequence Stage Mark - See Sheet No. AW0.11. Mark b.4 indicates bracing required at site wall transition.

## PARTIAL ENLARGED PLAN/STA. 101+00 to STA. 106+00

Scale: 1" = 20'

△5 AW0.7, AW0.9, AW6.4, AW6.5C, AW11.1

A AW11.3 | AW4.1

GRAPHIC SCALE:

20 10 0 20 40

SCALE: 1"=20'

| DATE | REVISIONS |
|---|---|
| 2/28/05 | RFI 184 Adjust 20" Drilled Shaft location to accommodate Exist. Concrete Jacket at Sta. 102+79 |
| 10/16/03 | △5 Revised Noise Barrier Wall Layout. Clarified RSS Title. Added Pedestals and Legend. Clarified CBW-2B footing width. |

△5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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# PARTIAL ENLARGED PLAN
## STA. 101+00 to STA. 106+00

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1"=20'-0" Date: Mar. 31, 2003

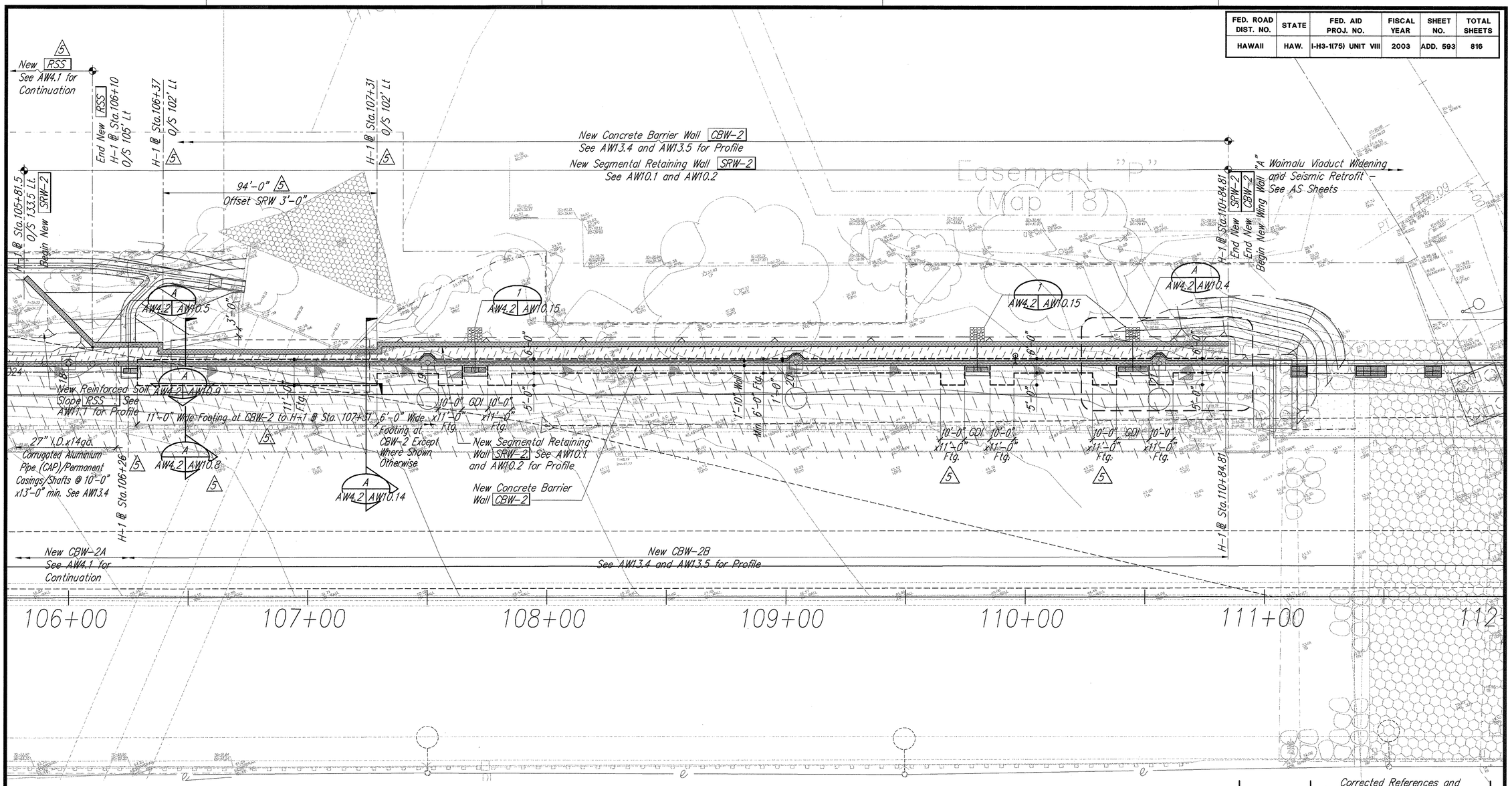
SHEET No. AW4.1 OF 140 SHEETS

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

RMTC JOB NO: 1-19369-OE

RFI 184 C.O. ADD. 592

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 593 | 816 |




| DATE | SURVEY PLOTTED BY |
|---|---|
| | DRAWN BY |
| | TRACED BY |
| NOTE BOOK | DESIGNED BY |
| | QUANTITIES BY |
| No. | CHECKED BY |

ORIGINAL PLANS

True North
Scale: 1"=20'

*Notes to Site Structures:*

1. Not Used
2. For New Concrete Barrier Wall CBW-2, See AW13.4 and AW13.5.
3. For New Reinforced Soil Slope RSS, See AW11.1 for Profile.
4. For New Segmental Retaining Wall SRW-2, See AW10.1 and AW10.2 for Profile.

*Legend:*

5 / 20 = Light Standard Number 20 Refer to Electrical Drawings for location, number etc. Refer to AW13.20, AW13.21, AW13.22 for Light Pedestal Configuration and Reinforcing Steel.

## PARTIAL ENLARGED PLAN/STA. 106+00 to STA. 111+00

Scale: 1" = 20'

5 AW0.7,AW0.8,AW10.4,AW10.5,AW10.8,AW10.9,AW10.14 — A AW10.15 | AW4.2

GRAPHIC SCALE: 20 10 0 20 40
SCALE: 1"=20'

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| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Corrected References and Stations. Added Pedestals and Legend. Clarified footings. |

STATE OF HAWAII
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HIGHWAYS DIVISION

## PARTIAL ENLARGED PLAN STA. 106+00 to STA. 111+00

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

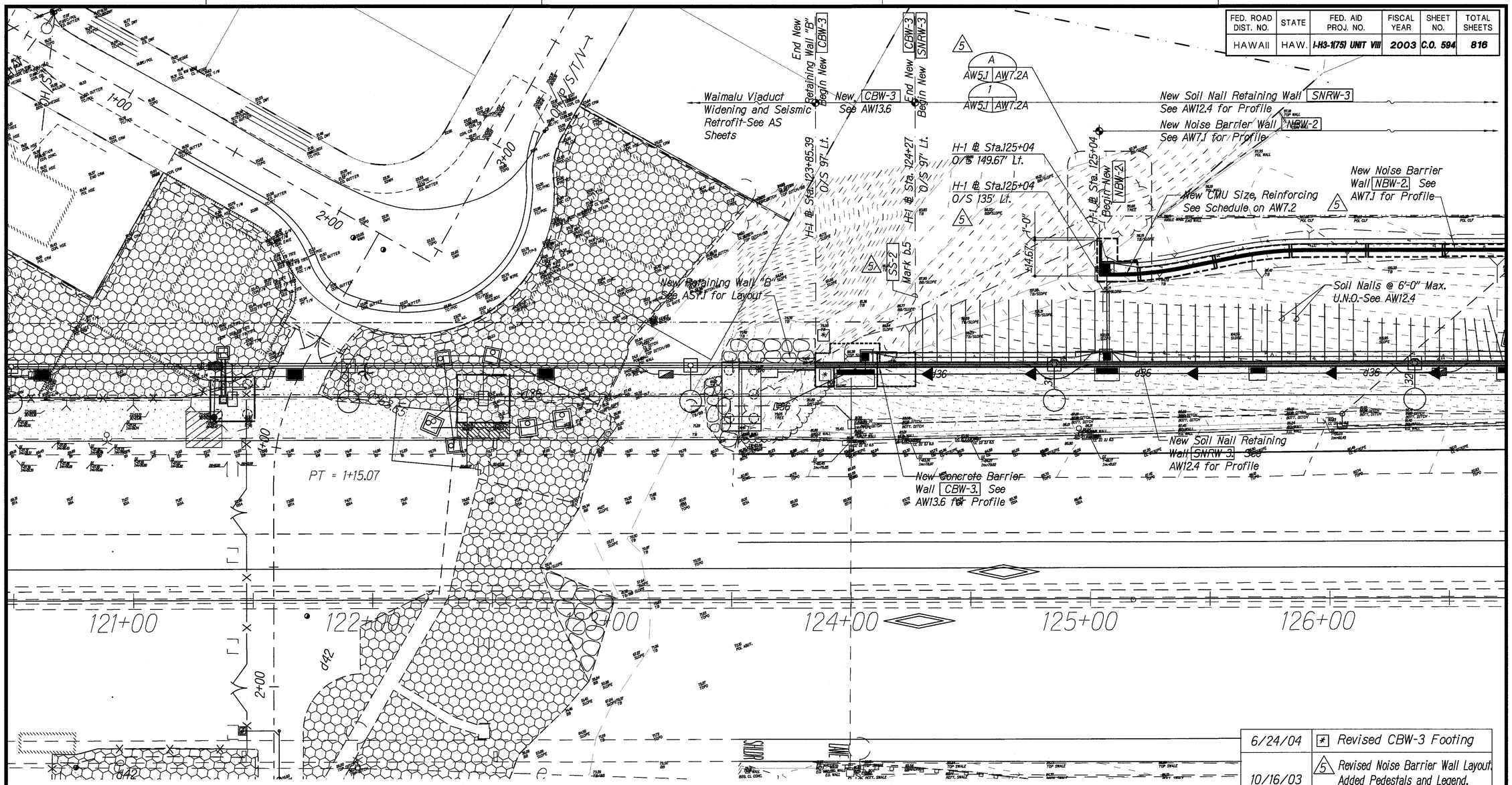
Scale: 1"=20'-0" Date: Mar. 31, 2003

SHEET No. AW4.2 OF 140 SHEETS

RMTC JOB NO.: 1-19369-OE

ADD. 593

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 594 | 816 |




*Notes to Site Structures:*

1. Not Used (5)
2. For New Noise Barrier Wall NBW-2, See AW7.1.
3. For New Soil Nail Retaining Wall SNRW-3, See AW12.4.
4. For New Concrete Barrier Wall CBW-3, See AW13.6.

*Legend:*

(5) 31 = Light Standard Number 31 Refer to Electrical Drawings for location, number etc. Refer to AW12.10, AW13.20, AW13.21, AW13.22 for Light Pedestal Configuration and Reinforcing Steel.

SS-2 Mark b.5 = Indicates Site Structures Construction Sequence Stage Mark - See Sheet No. AW0.11 Mark b.5 indicates bracing required at site wall transition.

True North
Scale: 1"=20'

## PARTIAL ENLARGED PLAN/STA. 121+00 to STA. 126+00

Scale: 1" = 20'

(5) AW0.8,AW6.4,AW6.5C

A AW7.2A AW5.1

GRAPHIC SCALE:
20 10 0 20 40
SCALE: 1"=20'

| DATE | REVISIONS |
|---|---|
| 6/24/04 | (*) Revised CBW-3 Footing |
| 10/16/03 | (5) Revised Noise Barrier Wall Layout. Added Pedestals and Legend. Clarified Notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## PARTIAL ENLARGED PLAN
## STA. 121+00 to STA. 126+00

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1"=20'-0" Date: Mar. 31, 2003

SHEET No. AW5.1 OF 140 SHEETS

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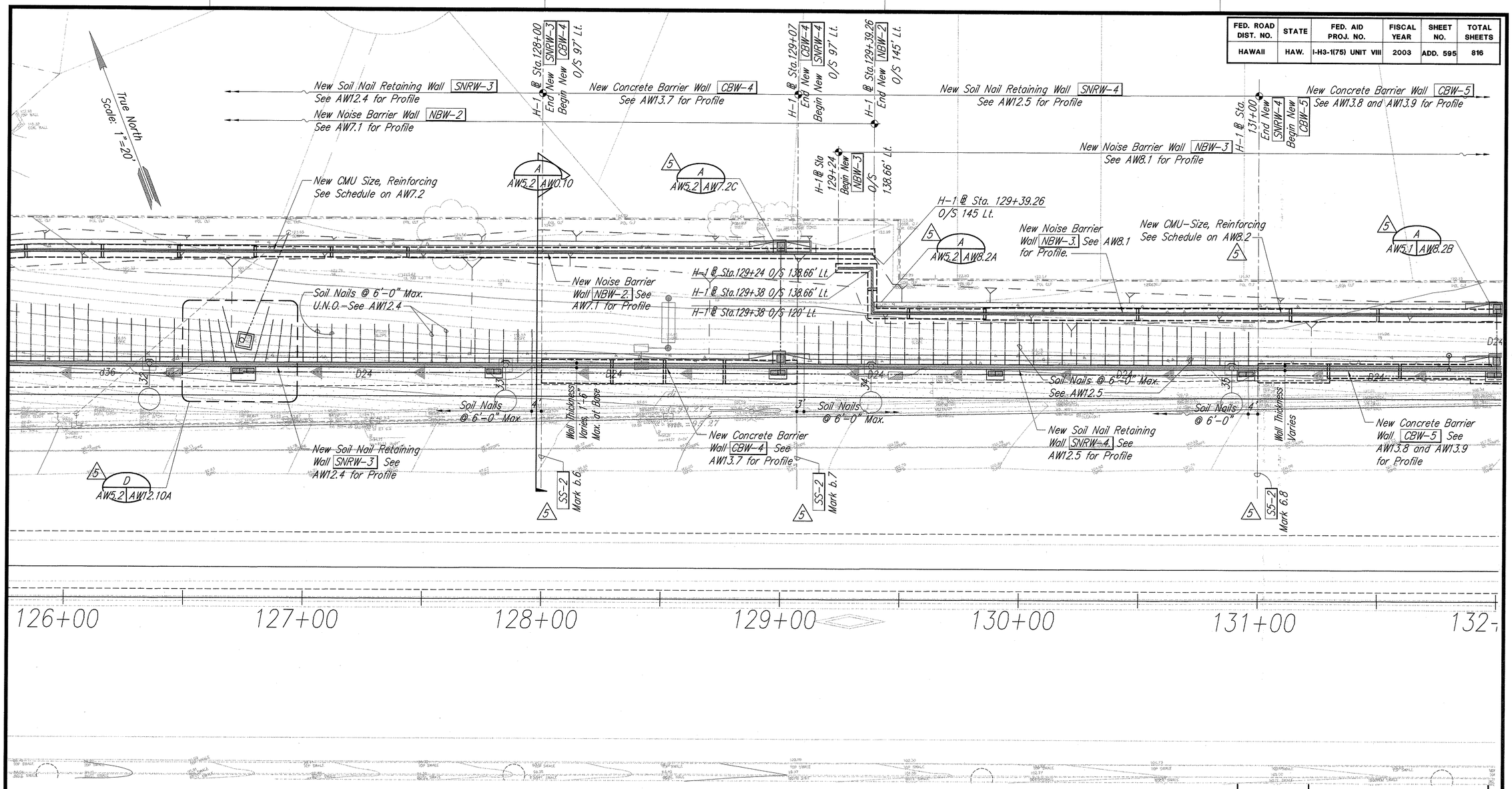
SIGNATURE — EXPIRATION DATE OF THE LICENSE: April 30, 2006

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

RMTC JOB NO: 1-19369-0E

C.O. 594

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 595 | 816 |




Notes to Site Structures:

1. Not Used 5
2. For New Noise Barrier Wall NBW-2, See AW7.1 for Profile.
3. For New Noise Barrier Wall NBW-3, See AW8.1 for Profile.
4. For New Soil Nail Retaining Wall SNRW-3, See AW12.4 for Profile.
5. For New Soil Nail Retaining Wall SNRW-4, See AW12.5 for Profile.
6. For New Concrete Barrier Wall CBW-4, See AW13.7 for Profile.
7. For New Concrete Barrier Wall CBW-5, See AW13.8 and AW13.9 for Profile.

Legend:

5 / 32 = Light Standard Number 32
Refer to Electrical Drawings for location, number etc. Refer to AW12.10, AW13.20, AW13.21, AW13.22 for Light Pedestal Configuration and Reinforcing Steel.

SS-2 / Mark b.7 = Indicates Site Structures Construction Sequence Stage Mark - See Sheet No. AW0.11
Mark b.7 indicates bracing required at site wall transition.

## PARTIAL ENLARGED PLAN/STA. 126+00 to STA. 131+00

Scale: 1" = 20'

A AW12.10A | AW5.2

5 AW0.8, AW0.10, AW6.4, AW6.5C, AW7.2C, AW8.2A, AW8.2B

GRAPHIC SCALE:
20 10 0 20 40
SCALE: 1"=20'

5 STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908-S — HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 — EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA — LICENSED PROFESSIONAL ENGINEER — No. 8104-S — HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 — EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised Noise Barrier Wall Layout. Corrected References |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PARTIAL ENLARGED PLAN
## STA. 126+00 to STA. 131+00

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1"=20'-0" Date: Mar. 31, 2003

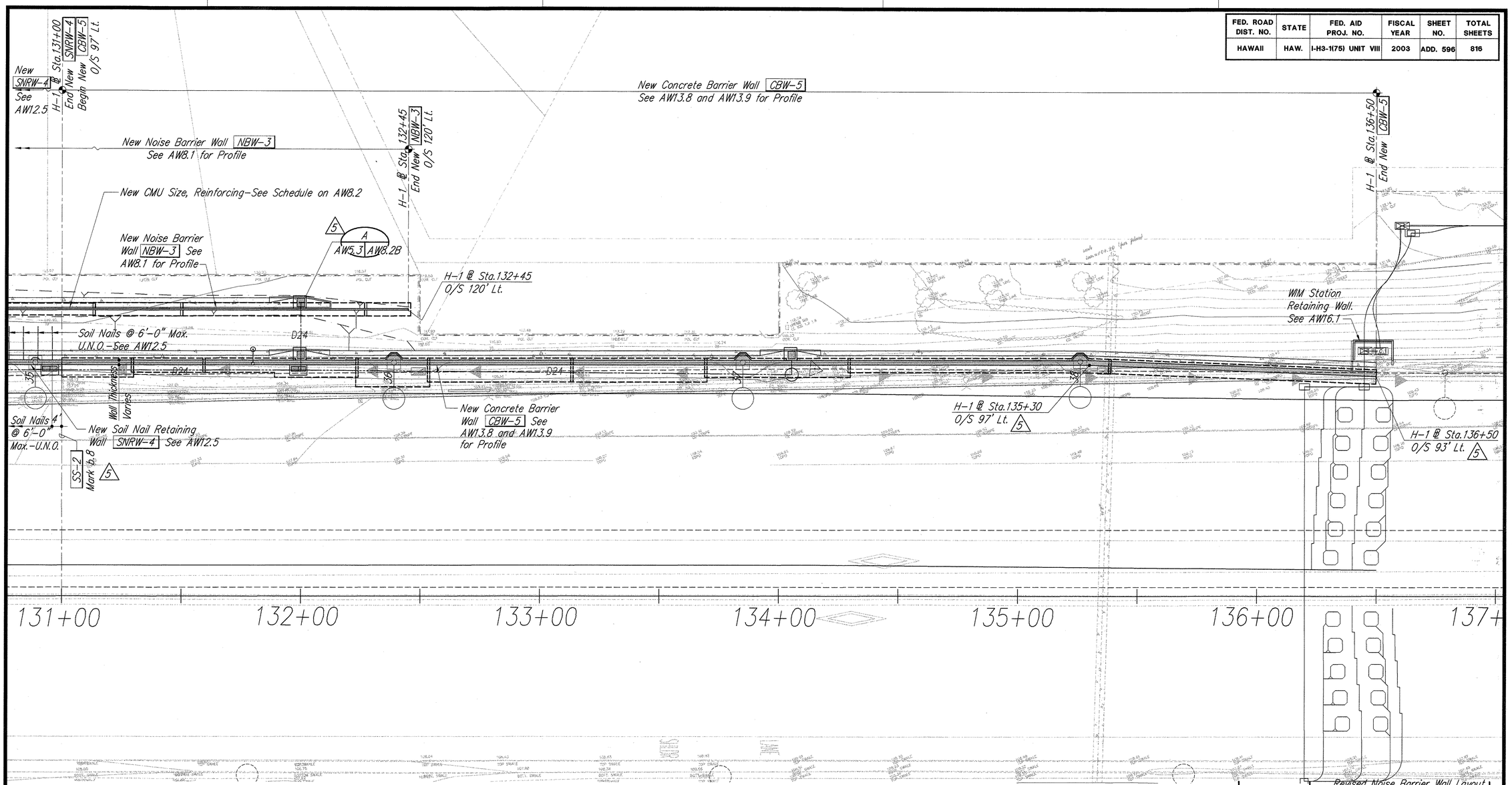
SHEET No. AW5.2 OF 140 SHEETS

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

RMTC JOB NO.: 1-19369-0E

ADD. 595

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 596 | 816 |




| ORIGINAL PLAN | SUNKY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
| No. | QUANTITIES BY | |
| | CHECKED BY | |

*Notes to Site Structures:*

1. Not Used 5
2. For New Noise Barrier Wall NBW-3, See AW8.1 for Profile.
3. For New Soil Nail Retaining Wall SNRW-4, See AW12.5 for Profile.
4. For New Concrete Barrier Wall CBW-5, See AW13.8 and AW13.9 for Profile.

*Legend:*

5 / 35 = Light Standard Number 35. Refer to Electrical Drawings for location, number etc. Refer to AW12.10, AW13.20, AW13.21, AW13.22 for Light Pedestal Configuration and Reinforcing Steel.

SS-2 / Mark b.8 = Indicates Site Structures Construction Sequence Stage Mark - See Sheet No. AW0.11 Mark b.8 indicates bracing required at site wall transition.

True North
Scale: 1"=20'

## PARTIAL ENLARGED PLAN/STA. 131+00 to STA. 136+00

Scale: 1" = 20'

A AW8.2B | AW5.3

5 AW0.8, AW6.4, AW6.5C

GRAPHIC SCALE:

20 10 0 20 40

SCALE: 1"=20'

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised Noise Barrier Wall Layout. Clarified CBW-5 Layout. Added Pedestals and Legend |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# PARTIAL ENLARGED PLAN
# STA. 131+00 to STA. 136+00

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

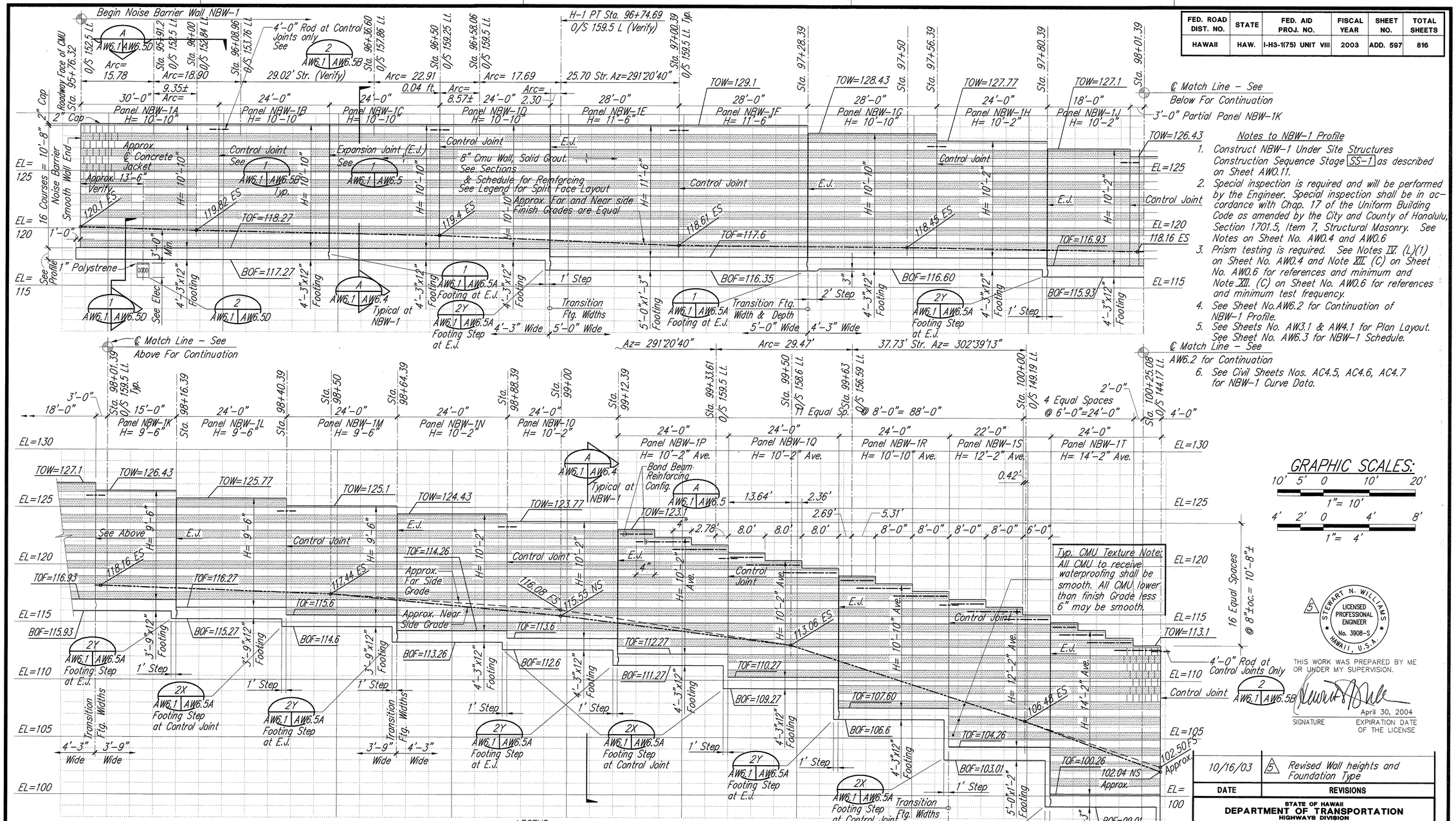
Scale: 1"=20'-0" Date: Mar. 31, 2003

SHEET No. AW5.3 OF 140 SHEETS

RMTC JOB NO.: 1-19369-OE

ADD. 596

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 597 | 816 |




# NOISE BARRIER WALL NBW-1 PROFILE

A AW6.5D AW6.1

Scale: Horizontal 1"= 10'
Vertical 1"= 4'

AW0.9, AW6.4, AW6.5, AW6.5A, AW6.5B, AW6.5C

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised Wall heights and Foundation Type |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## NOISE BARRIER WALL NBW-1 PROFILE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

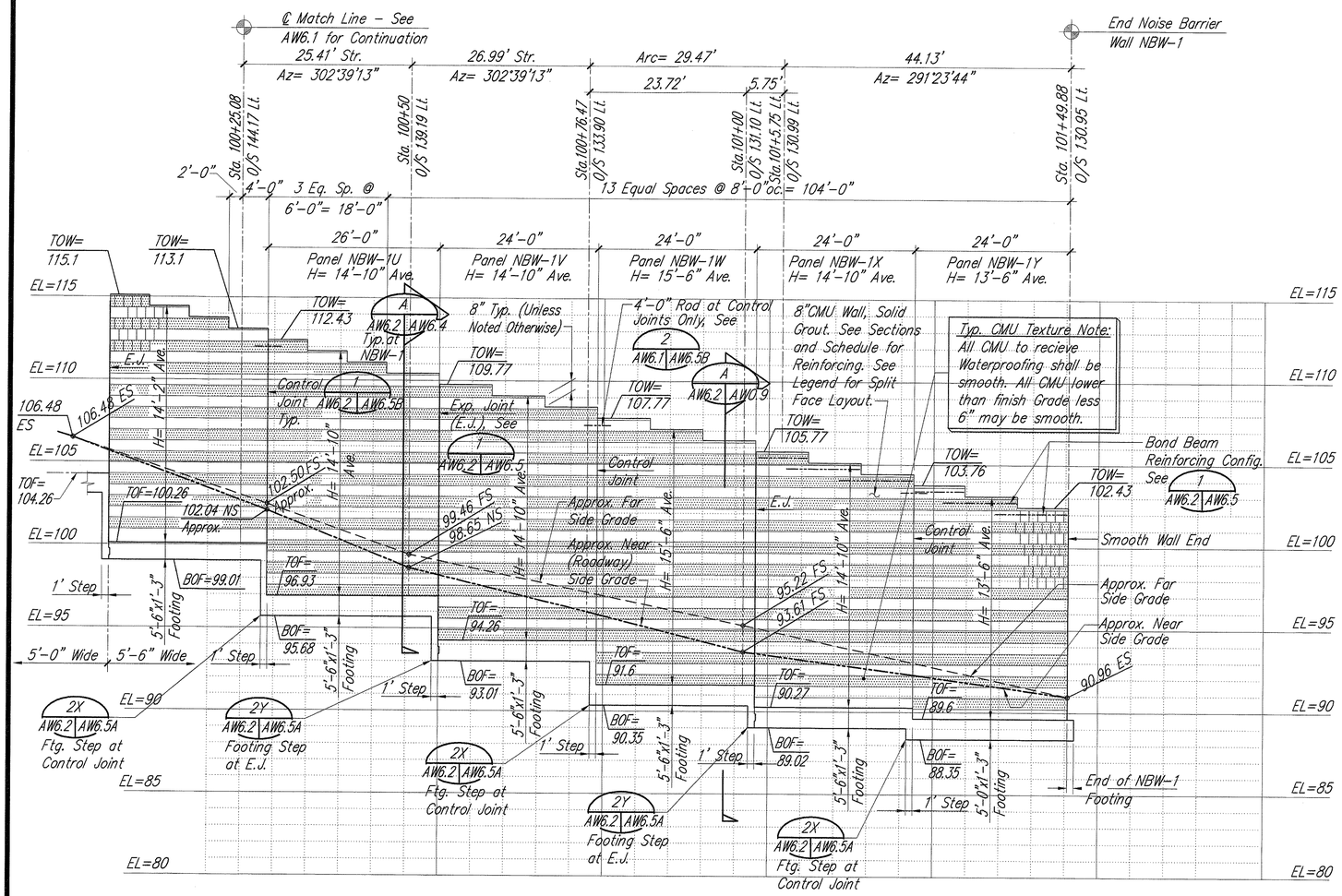
SHEET No. AW6.1 OF 140 SHEETS

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

RMTC JOB NO.: 1-19369-0E

ADD. 597

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 598 | 816 |




## NOISE BARRIER WALL NBW-1 PROFILE (A)

Scale: Horizontal 1"= 10'
Vertical 1"= 4'

AW6.5B | AW6.2
AW0.9, AW6.4, AW6.5, AW6.5A

LEGEND:

TOW = Top of Wall Elevation
FS = Far Side Finished Grade Elevation
NS = Near Side Finished Grade Elevation
ES = Each Side Finished Grade
TOF = Top of Footing Elevation
BOF = Bottom of Footing Elevation
E.J. = Expansion Joint
Az = Azimuth

Arc = Roadway Face of CMU length measured along circumference for raduis R shown on plans
Str. = Roadway Face of CMU length measured along Straight ray at Azimuth indicated on plan.
H = Height of CMU including 2" top cap.
Ave. = Top of wall elevation varies and indicates the height of CMU used for structural design.

16" 8" 8" 8" 8" = Layout of running bond with alternate courses of smooth near face/split far face with course of split near face/ smooth far face.

= Split near face w/ smooth far face

Near Face = Roadway Face

GRAPHIC SCALES:

10' 5' 0 10' 20'
1"= 10'

4' 2' 0 4' 8'
1"= 4'

Notes to NBW-1 Profile

Construct NBW-1 Under Site Structures Construction Sequence Stage SS-1 as described on Sheet AW0.11.

2. Special inspection is required and will be performed by the Engineer. Special inspection shall be in accordance with Chap. 17 of the Uniform Building Code as amended by the City and County of Honolulu, Section 1701.5, Item 7, Structural Masonry. See Notes on Sheet No. AW0.4 and AW0.6.
3. Prism testing is required. See Notes IV (L)(1) on Sheet No. AW0.4 and Note XII (C) on Sheet No. AW0.6 for references and minimum test frequency.
4. See Sheet No. AW6.1 for Continuation of NBW-1 Profile.
5. See Sheets No. AW3.1 and AW4.1 for plan layout. See Sheet No. AW6.3 for NBW-1 Schedule.
6. See Civil Sheets Nos. AC4.5, AC4.6, AC4.7 for NBW-1 Curve Data.

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

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised Wall heights and Foundation Type |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL NBW-1 PROFILE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE April 30, 2004 EXPIRATION DATE OF THE LICENSE

SHEET No. AW6.2 OF 140 SHEETS

RMTC JOB NO.: 1-19369-0E

ADD. 598

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 599 | 816 |

## NOISE BARRIER WALL NBW-1 SCHEDULE (Continued Below)

| WALL PANEL-Ref. AW6.1 | | NBW-1A | NBW-1B | NBW-1C | NBW-1D | NBW-1E | NBW-1F | NBW-1G | NBW-1H | NBW-1J | NBW-1K | NBW-1L | NBW-1M | NBW-1N | NBW-1O | NBW-1P | NBW-1Q | NBW-1R | NBW-1S | NBW-1T | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panel Length | | 30'-0" | 24'-0" | 24'-0" | 24'-0" | 28'-0" | 28'-0" | 28'-0" | 24'-0" | 18'-0" | 18'-0" | 24'-0" | 24'-0" | 24'-0" | 24'-0" | 24'-0" | 24'-0" | 24'-0" | 22'-0" | 24'-0" | |
| CMU Wall | : Top Elevation | 129.1 | 129.1 | 129.1 | 129.1 | 129.1 | 129.1 | 128.43 | 127.77 | 127.1 | 126.43 | 125.77 | 125.1 | 124.43 | 123.77 | 123.1 MAX | 121.1 MAX | 119.1 MAX | 117.1 Max. | 115.1 Max. | |
| | : Thickness | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | |
| | : H | 10'-10" | 10'-10" | 10'-10" | 10'-10" | 11'-6" | 11'-6" | 10'-10" | 10'-2" | 10'-2" | 9'-6" | 9'-6" | 9'-6" | 10'-2" | 10'-2" | 10'-2" Ave. | 10'-2" Ave. | 10'-10" Ave. | 12'-2" Ave. | 14'-2" Ave. | |
| | : Plan Geometry | Arc. | Arc/Str. | Arc/Str. | Arc. | Arc/Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Arc/Str. | Arc/Str. | Arc/Str. | Str. | Str. | |
| | : Azimuth | – | – | – | – | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | – | – | – | 302°39'13" | 302°39'13" | Verify with Civil Dwgs. |
| | : Vert. Reinf. "b" | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | – | – | – | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | |
| | : Vert. Reinf. "a" | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@8 VEF | #5@8 VEF | |
| | : Ref. Section | A/AW6.4 Typ. A/AW6.60 | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | |
| Footing | : Top Elevation | 118.27 | 118.27 | 118.27 | 118.27 | 117.6 | 117.6 | 117.6 | 117.6 | 116.93 | 116.93 | 116.27 | 115.6 | 114.26 | 113.60 | 112.27 | 110.27 | 107.60 | 104.26 | 100.26 | |
| | : Size | 4'-3"x12" | 4'-3"x12" | 4'-3"x12" | 4'-3"x12" | 5'-0"x1'-3 | 5'-0"x1'-3 | 4'-3"x12" | 4'-3"x12" | 4'-3"x12" | 3'-9"x12" | 3'-9"x12" | 3'-9"x12" | 4'-3"x12" | 4'-3"x12" | 4'-3"x12" | 4'-3"x12" | 4'-3"x12" | 5'-0"x1'-3 | 5'-6"x1'-3 | |
| | : Bottom Elevation | 117.27 | 117.27 | 117.27 | 117.27 | 116.35 | 116.35 | 116.6 | 116.6 | 115.93 | 115.93 | 115.27 | 114.6 | 113.26 | 112.60 | 111.27 | 109.27 | 106.60 | 103.01 | 99.01 | |
| | : Bottom Reinf. "c" | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | |

## NOISE BARRIER WALL NBW-1 SCHEDULE (Continued from Above)

| WALL PANEL-Ref. AW6.2 | | NBW-1U | NBW-1V | NBW-1W | NBW-1X | NBW-1Y | REMARKS |
|---|---|---|---|---|---|---|---|
| Panel Length | | 26'-0" | 24'-0" | 24'-0" | 24'-0" | 24'-0" | |
| CMU Wall | : Top Elevation | 112.43 Max | 109.77 Max | 107.77 Max | 105.77 Max | 103.76 Max | |
| | : Thickness | 8" | 8" | 8" | 8" | 8" | |
| | : H | 14'-10" Ave. | 14'-10" Ave. | 15'-6" Ave. | 14'-10" Ave. | 13'-6" Ave. | |
| | : Plan Geometry | Str. | Arc/Str. | Arc. | Arc/Str. | Str. | |
| | : Azimuth | 307°39'13" | – | – | 291°23'44" | 291°23'44" | Verify with Civil Dwgs. |
| | : Vert. Reinf. "b" | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16" VEF | |
| | : Vert. Reinf. "a" | #5@8 VEF | #5@8 VEF | #5@8 VEF | #5@8 VEF | #5@8 VEF | |
| | : Ref. Section | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | A/AW6.4 Typ. | |
| Footing | : Top Elevation | 96.93 | 94.26 | 91.60 | 90.27 | 89.60 | |
| | : Size | 5'-6"x1'-3 | 5'-6"x1'-3 | 5'-6"x1'-3 | 5'-6"x1'-3 | 5'-0"x1'-3 | |
| | : Bottom Elevation | 95.68 | 93.01 | 90.35 | 89.02 | 88.35 | |
| | : Bottom Reinf. "c" | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | |

Notes to NBW-1 Schedule

1. Construct NBW-1 Under Site Structures Construction Sequence Stage SS-1 as described on Sheet AW0.11.
2. Special inspection is required and will be performed by the Engineer. Special inspection shall be in accordance with Chap. 17 of the Uniform Building Code as amended by the City and County of Honolulu, Section 1701.5, Item 7, Structural Masonry. See Notes on Sheet No. AW0.4 and AW0.6.
3. Prism testing is required. See Notes IV. (L)(1) on Sheet No. AW0.4 and Note XII. (C) on Sheet No. AW0.6 for references and minimum test frequency.
4. See Sheet No. AW3.1 and AW4.1 for Plan Layout. See Sheets No. AW6.1 and AW6.2 for Profile.
5. See Civil Sheets Nos. AC4.5, AC4.6, AC4.7 for NBW-1 Curve Data.

Legend:

1. NBW-1A = Noise Barrier Wall NBW-1 Panel 1A
2. H = Height of CMU including 2" top cap measured from top of footing to top of wall elevation. Refer to Sheets AW6.1 and AW6.2.
3. Arc Indicates wall and footing layouts are curved – See plan for curve data. See AW6.1 and AW6.2 for Roadway face wall-plan dimensions.
4. Str. Indicates wall and footing layouts are Straight – See AW6.1 and AW6.2 for Roadway face wall-plan dimensions.
5. VEF Indicates reinforcement is vertical, each face.
6. B Indicates reinforcement is horizontal, at bottom of footing (3" Clear cover to bottom and sides of footing).
7. Ave. Indicates top of wall elevation varies. H= 10'-2" Ave. Indicates the height of CMU used for structural design.

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

5 STEWART N. WILLIAMS * LICENSED PROFESSIONAL ENGINEER * No. 3908-S * HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised Wall height and Foundation Type |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOISE BARRIER WALL
NBW-1 SCHEDULE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

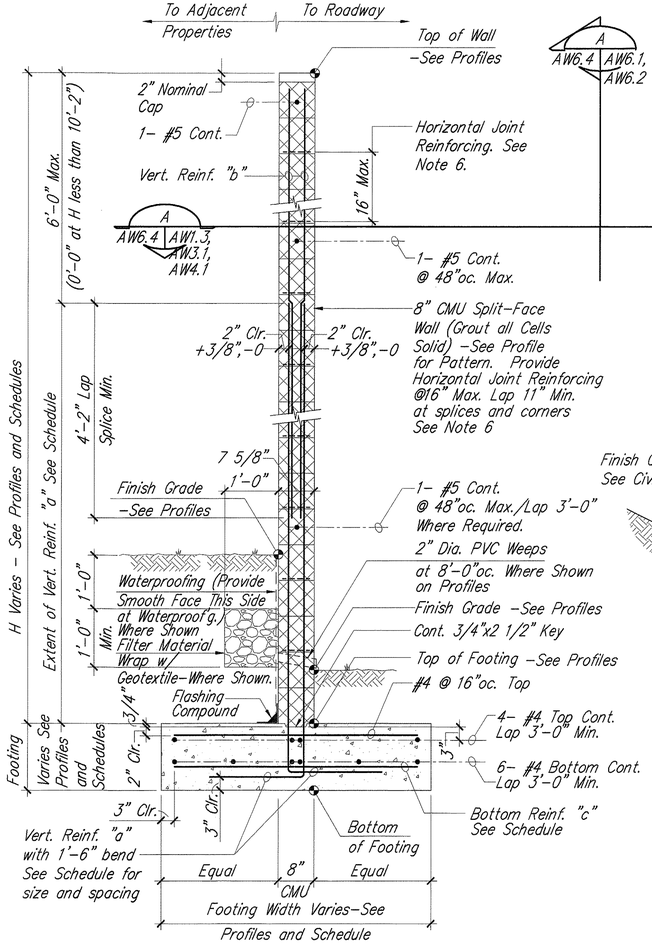
Scale: None Date: Mar. 31, 2003

SHEET No. AW6.3 OF 140 SHEETS

RMTC JOB NO.: 1-19369-0E

ADD. 599

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 600 | 816 |



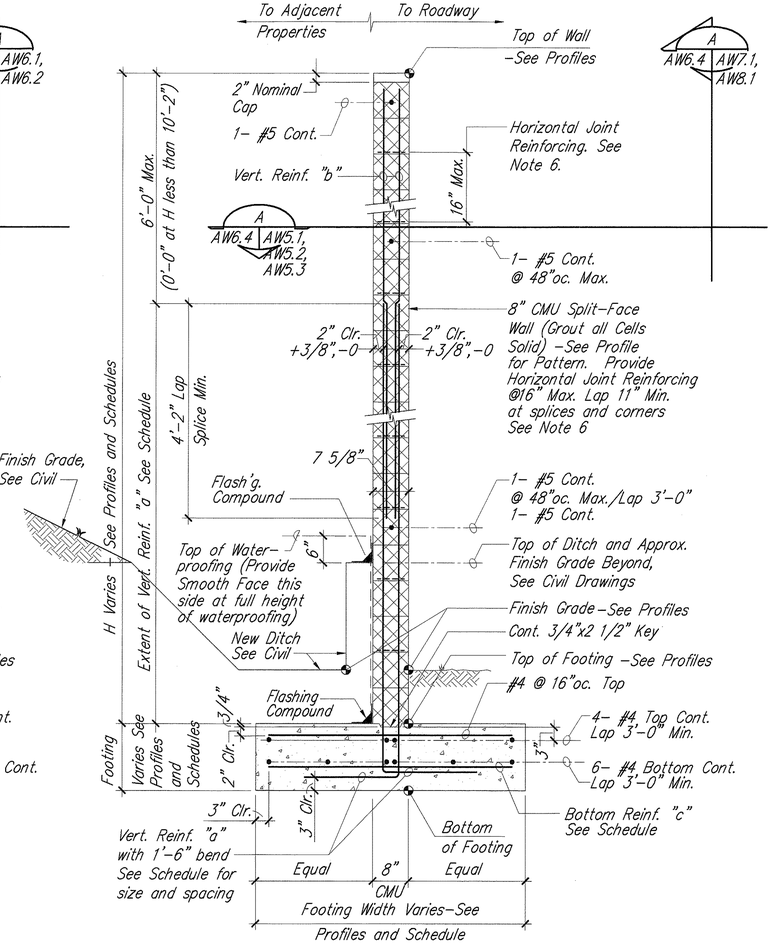

Note: Excavate and pour NBW footings to neat line at undisturbed ground where occurs. At drainage structures excavations, provide Class D concrete structure backfill (incidental to structure excavation) where required.

## NOISE BARRIER WALL SECTION 5 A

SC: 3/4"= 1'-0"

AW6.5D | AW6.4

AW1.3, AW3.1, AW4.1, AW6.1, AW6.2, AW6.5




Note: At ditch/CMU interface, provide 2 layer Building Paper or 1/4" Thick joint filler prior to Constructing Concrete ditch.

## NOISE BARRIER WALL SECTION 5 B

SC: 3/4"= 1'-0"

AW8.1 | AW6.4

AW5.1, AW5.2, AW5.3, AW7.1, AW7.2A, AW7.2C

Notes to Noise Barrier Wall CMU Construction: 5

1. Noise Barrier Wall CMU shall be laid using a Running Bond pattern Typical Unless Noted Otherwise.
2. The Contractor shall Schedule/Sequence Noise Barrier Wall CMU Construction to all Allow Access for CMU Special Inspectors as required by the City and County of Honolulu Building Code. Special Inspection will be Preformed by the Engineer.
3. See Profiles and Schedules for reinforcing sizes and spacings.
4. Filter material and 2" Dia. PVC weeps shall be incidental to Structure Excavation.
5. See AW6.5C for Excavation Pay Limits.
6. Horizontal Joint Reinforcing shall be of Ladder Design Consisting of No. 9 gage (minimum) deformed side rods and Welded No. 12 gage or larger cross rods. The cross rods shall be at 16" spacings. All rods shall Conform to ASTM A82 and shall be hot dipped galvanized for exterior applications in accordance with ASTM A153 Class B2 or greater (1.5 oz/ft² or greater).

| ORIGINAL PLANS | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
| No. | QUANTITIES BY | |
| | CHECKED BY | |

RMTC JOB NO.: 1-19369-OE

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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April 30, 2004
SIGNATURE — EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised Wall Thickness to 8". Revised Foundation Type |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL SECTIONS

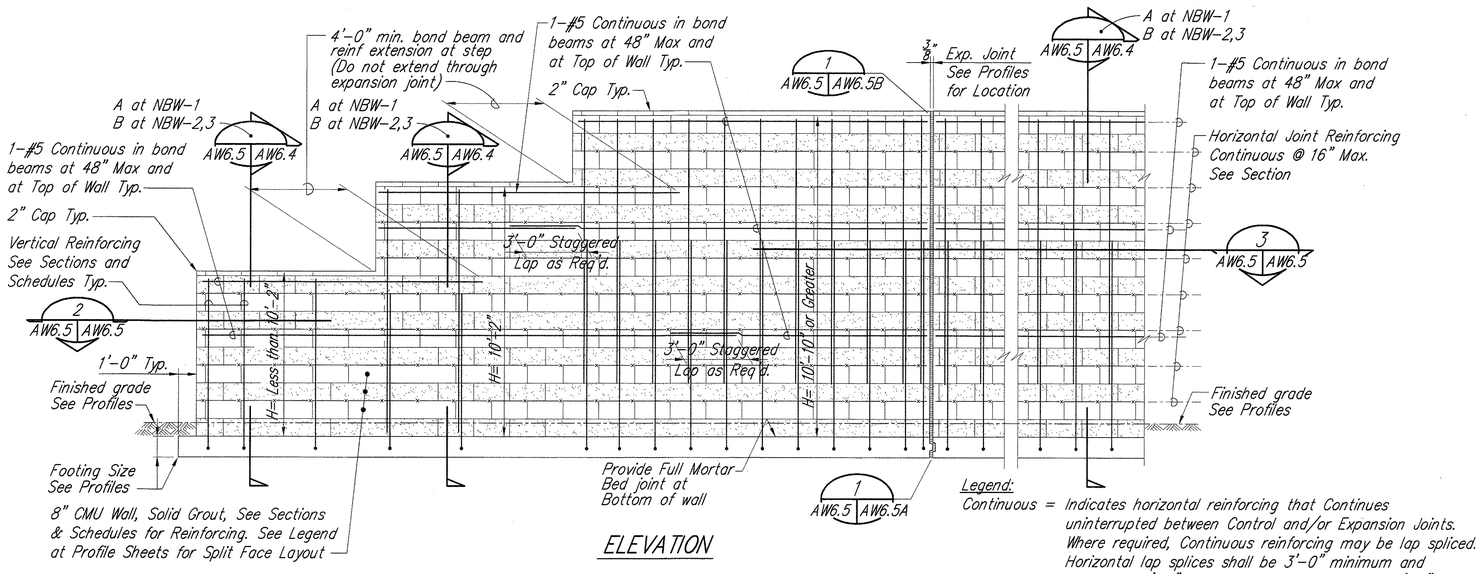
INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None — Date: Mar. 31, 2003

SHEET No. AW6.4 OF 140 SHEETS

ADD. 600

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 601 | 816 |



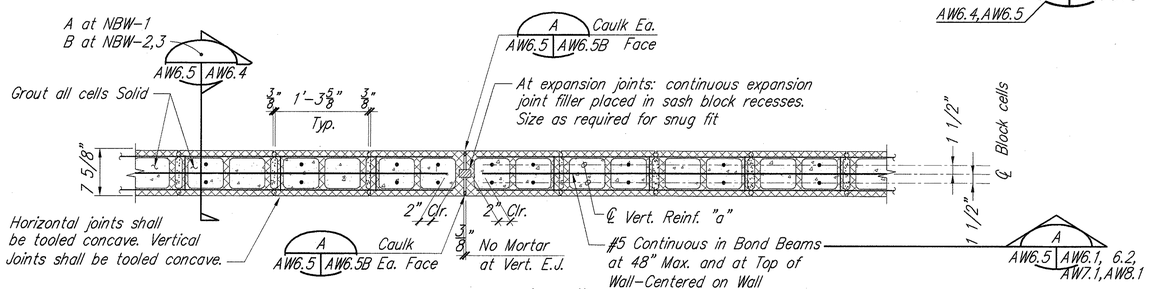

ELEVATION

**Legend:**
Continuous = Indicates horizontal reinforcing that Continues uninterrupted between Control and/or Expansion Joints. Where required, Continuous reinforcing may be lap spliced. Horizontal lap splices shall be 3'-0" minimum and staggered 3'-0". Vertical lap splices shall be 4'-2" min.

## TYPICAL NOISE BARRIER WALL VERTICAL REINFORCING DETAIL

1 AW6.5A | AW6.5
AW6.4,AW6.5

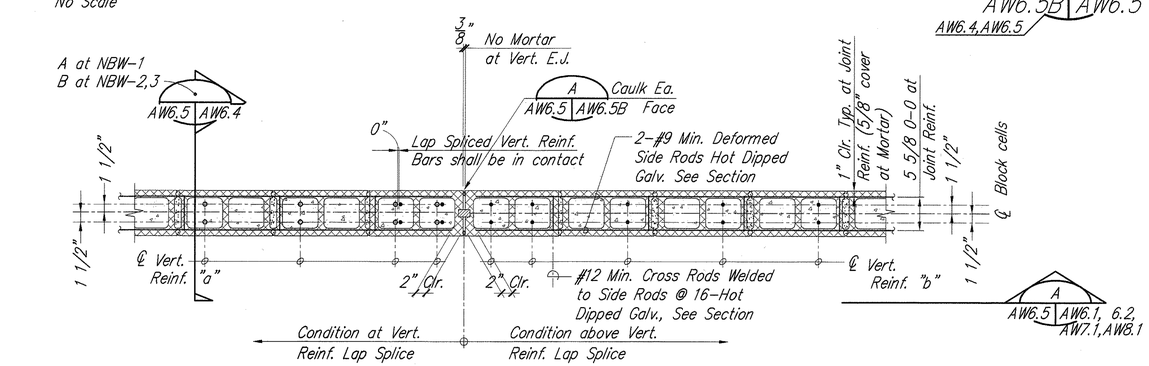
No Scale




## DETAIL PLAN AT H=LESS THAN 10'-2" at HORIZ. BOND BEAM

2 AW6.5B | AW6.5
AW6.4,AW6.5

No Scale




## DETAIL PLAN AT H=10'-2" and GREATER at HORIZ. JOINT REINF.

3 AW6.5B | AW6.5
AW6.4,AW6.5

No Scale

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

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised Foundation Type |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE

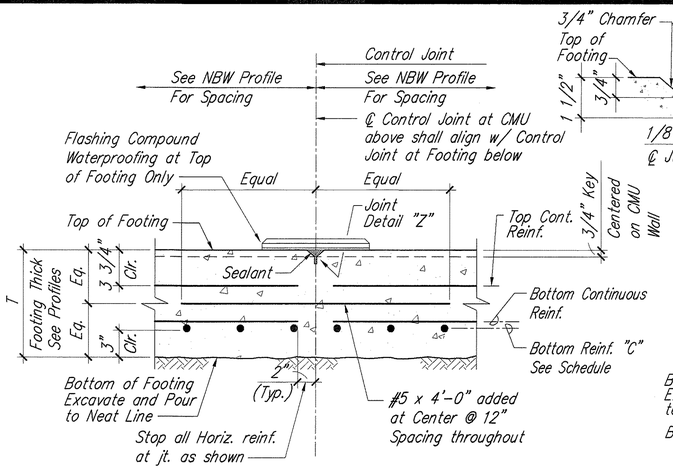
April 30, 2004
EXPIRATION DATE OF THE LICENSE

**SHEET No. AW6.5 OF 140 SHEETS**

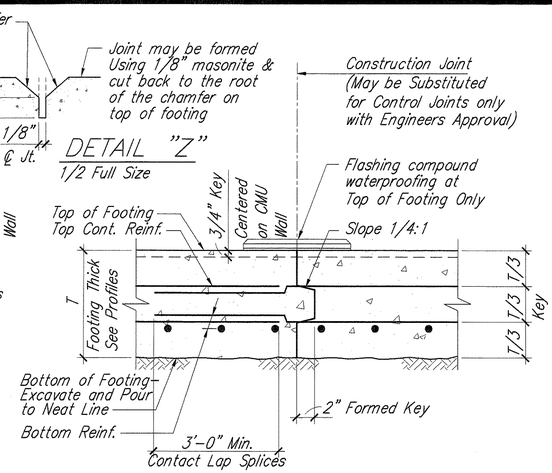
RMTC JOB NO.: 1-19369-OE

ADD. 601

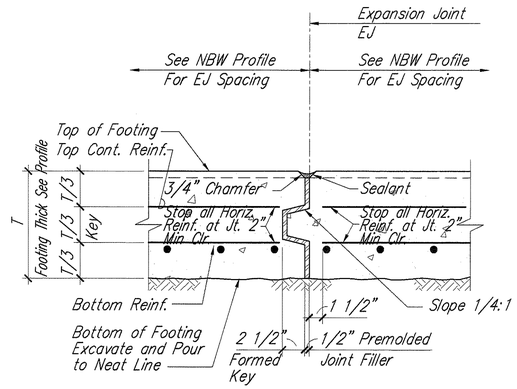
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 601S-1 | 816 |




AT CONTROL JOINT




AT CONSTRUCTION JOINT



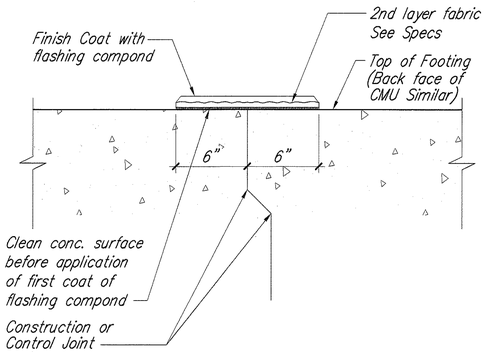

AT EXPANSION JOINT

## TYPICAL FOOTING JOINT DETAILS

No Scale

1 / AW8.1 | AW6.5A

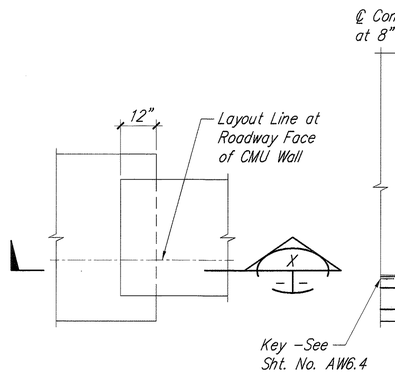
AW6.1, AW6.2, AW6.5, AW6.5A, AW7.1



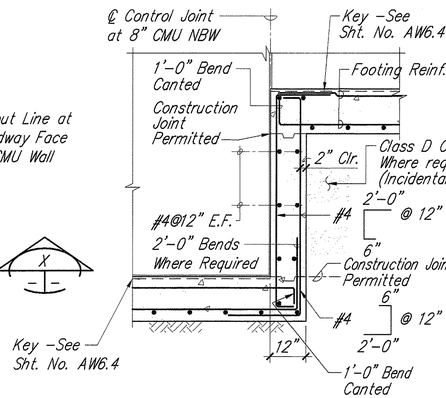

## TYPICAL FLASHING COMPOUND WATERPROOFING DETAIL

No Scale

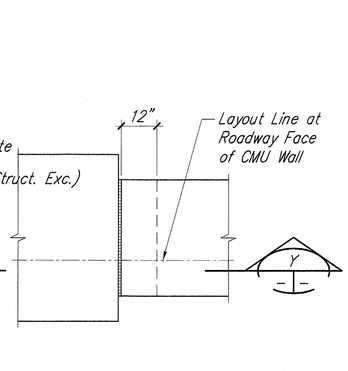
3 / AW6.5A | AW6.5A



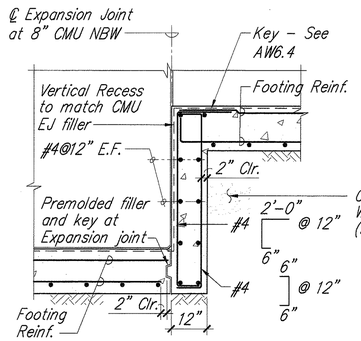

PLAN AT CONTROL JOINT STEP




SECTION AT CONTROL JOINT X-X




PLAN AT EXPANSION JOINT STEP




SECTION AT EXPANSION JOINT Y-Y

## TYPICAL FOOTING STEP-UP DETAILS

No Scale

2 / AW8.1 | AW6.5A

AW6.1, AW6.2, AW6.5A, AW7.1

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

RMTC JOB NO.: 1-19369-OE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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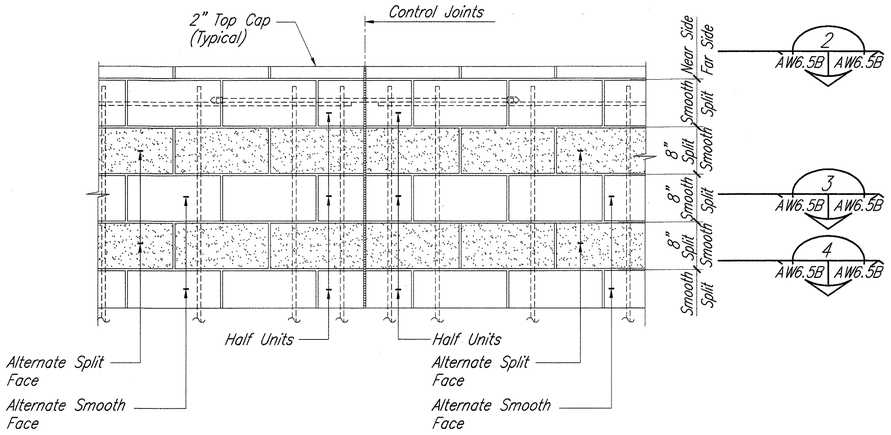
SIGNATURE

April 30, 2004
EXPIRATION DATE OF THE LICENSE

SHEET No. AW6.5A OF 140 SHEETS

ADD. 601S-1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 601S-2 | 816 |

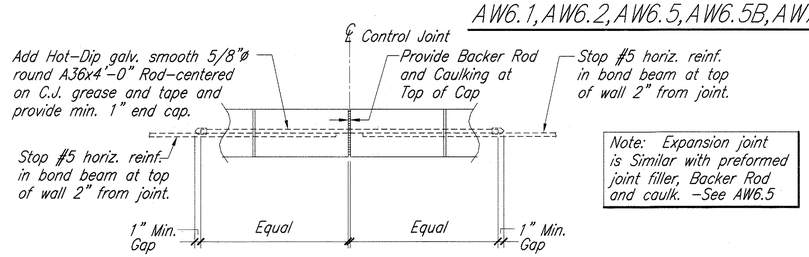



## 8" CMU NOISE BARRIER WALL ELEVATION AT CONTROL JOINT

No Scale

1 — AW8.1 | AW6.5B

AW6.1, AW6.2, AW6.5, AW6.5B, AW7.1

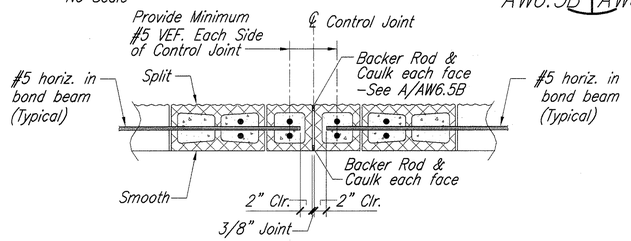



Note: Expansion joint is Similar with preformed joint filler, Backer Rod and caulk. -See AW6.5

## CONDITION AT TOP OF WALL

No Scale

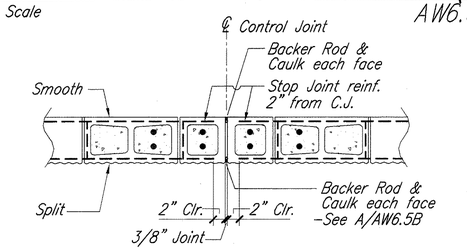
2 — AW6.5B | AW6.5B




## CONDITION AT BOND BEAM

No Scale

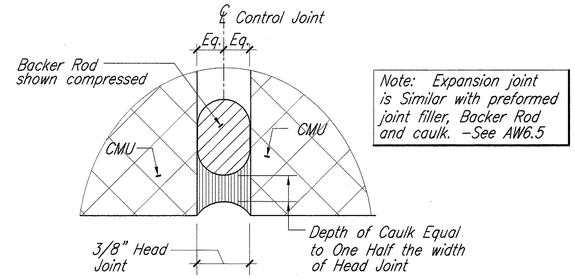
3 — AW6.5B | AW6.5B




## CONDITION AT JOINT REINFORCING

No Scale

4 — AW6.5B | AW6.5B




Note: Expansion joint is Similar with preformed joint filler, Backer Rod and caulk. -See AW6.5

## CAULKING DETAIL

No Scale

A — AW6.5B | AW6.5B

AW6.5

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

RMTC JOB NO.: 1-19369-OE

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April 30, 2004

SIGNATURE — EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL DETAIL

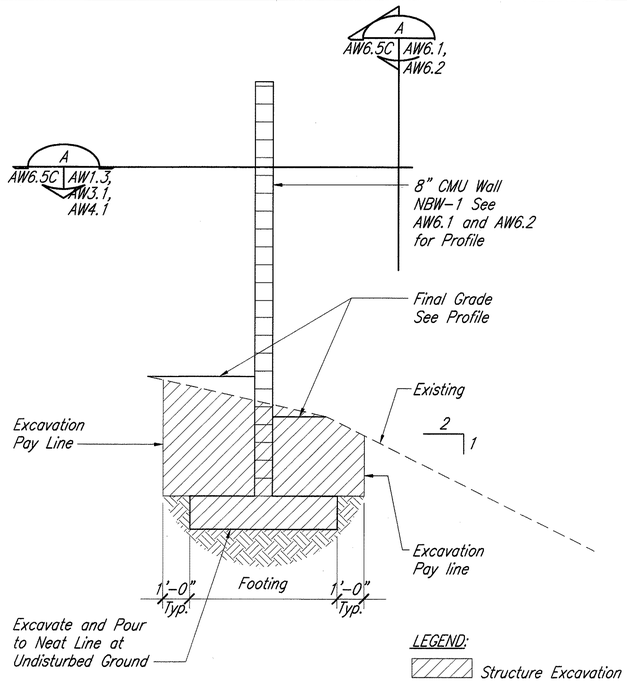
INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1/4"=1'-0" Date: Mar. 31, 2003

SHEET No. AW6.5B OF 140 SHEETS

ADD. 601S-2

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD.601S-3 | 816 |



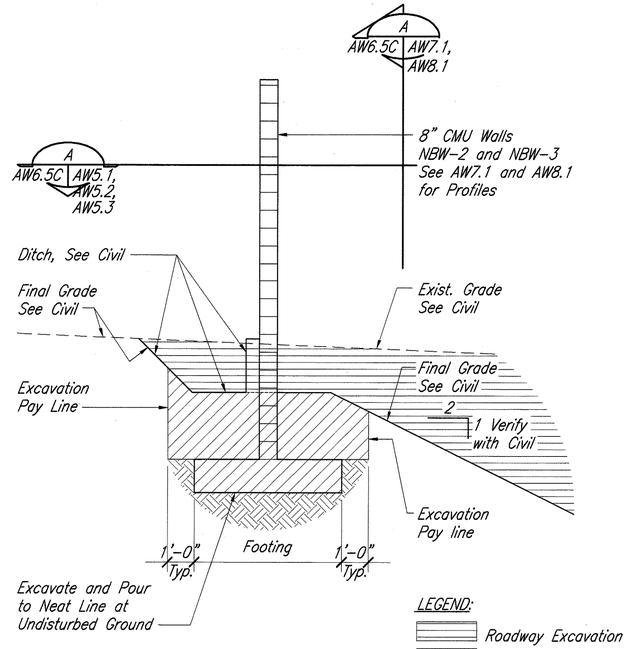

NOTES:
See AW0.11 for Construction Sequence.
See AW6.1 and AW6.2 for Profiles.
See AW6.3 for Schedule.

## NBW-1 EXCAVATION PAY LIMITS

Scale: 3/8"=1'-0"

A | AW6.2 | AW6.5C

AW1.3, AW3.1, AW4.1, AW6.1




Notes:
At Drainage structure overexcavations, provide Class "D" structure Backfill (Incidental to Structure Excavation) where required.

NOTES:
See AW0.11 for Construction Sequence.
See AW7.1 and AW8.1 for Profiles.
See AW7.2 and AW8.2 for Schedules.

## NBW-2 and NBW-3 EXCAVATION PAY LIMITS

Scale: 3/8"=1'-0"

B | AW8.1 | AW6.5C

AW5.1, AW5.2, AW5.3, AW7.1

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

2 0 2 4FT

SCALE: 3/8"= 1'-0"

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April 30, 2004
EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL EXCAVATION PAY LIMITS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

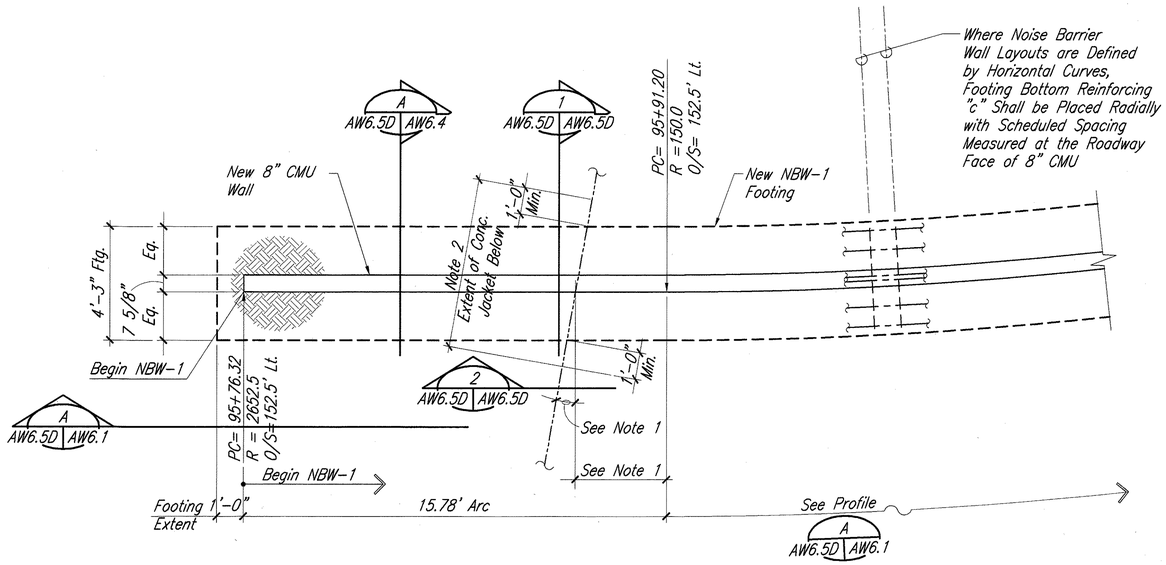
Scale: None Date: Mar. 31, 2003

SHEET No. AW6.5C OF 140 SHEETS

RMTC JOB NO.: 1-19369-0E

ADD. 601S-3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD.601S-4 | 816 |

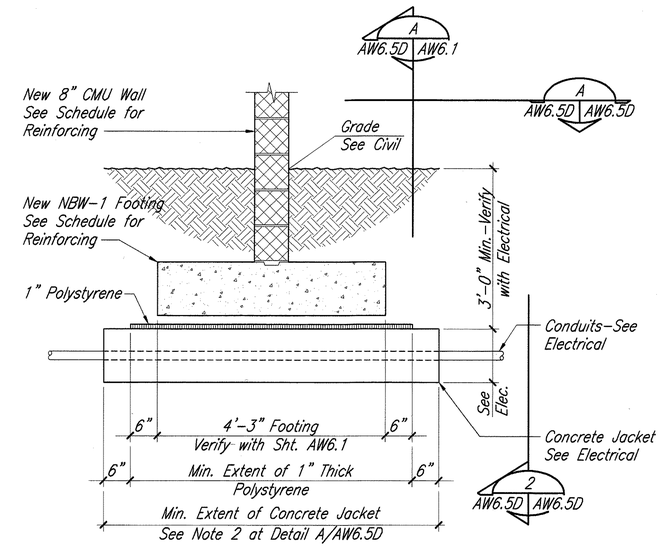



Notes:
1. See AC4.5 for Layout at Highway Lighting Controller Equipment.
2. See AE3.4, AE4.1 for Conduits Under NBW-1 Footing. Provide Concrete Jacket Under NBW-1 Footing. See Above for Extent. See AE6.18 for Jacket Configuration and Minimum Coverage.

## NBW-1 PLAN DETAIL

Scale: 3/8"=1'-0"

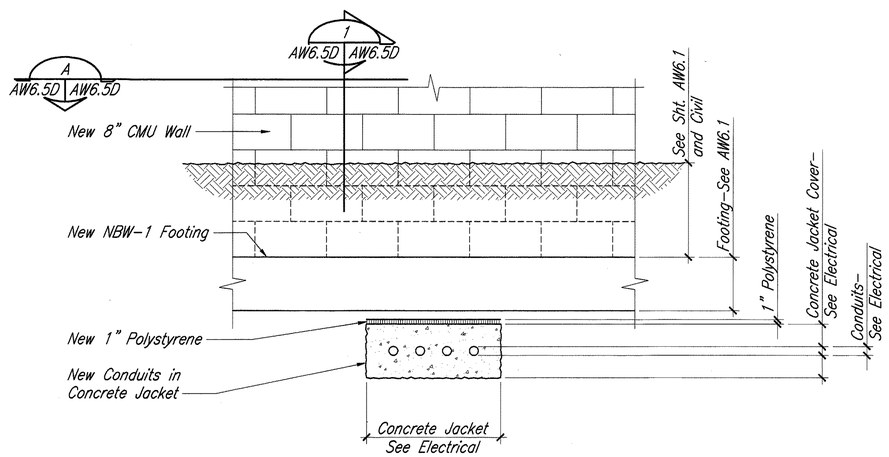
A AW6.5D AW6.5D
AW1.3, AW3.1
AW6.1, AW6.4




## SECTION

Scale: 3/4"=1'-0"

1 AW6.5D AW6.5D
AW6.1




## SECTION

Scale: 3/4"=1'-0"

2 AW6.5D AW6.5D

## GRAPHIC SCALE:

4' 3' 2' 1' 0 2' 4'
3/8"-1'-0"

1' 6" 0 1' 2' 3'
3/4"-1'-0"

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April 30, 2004
EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL NBW-1 DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

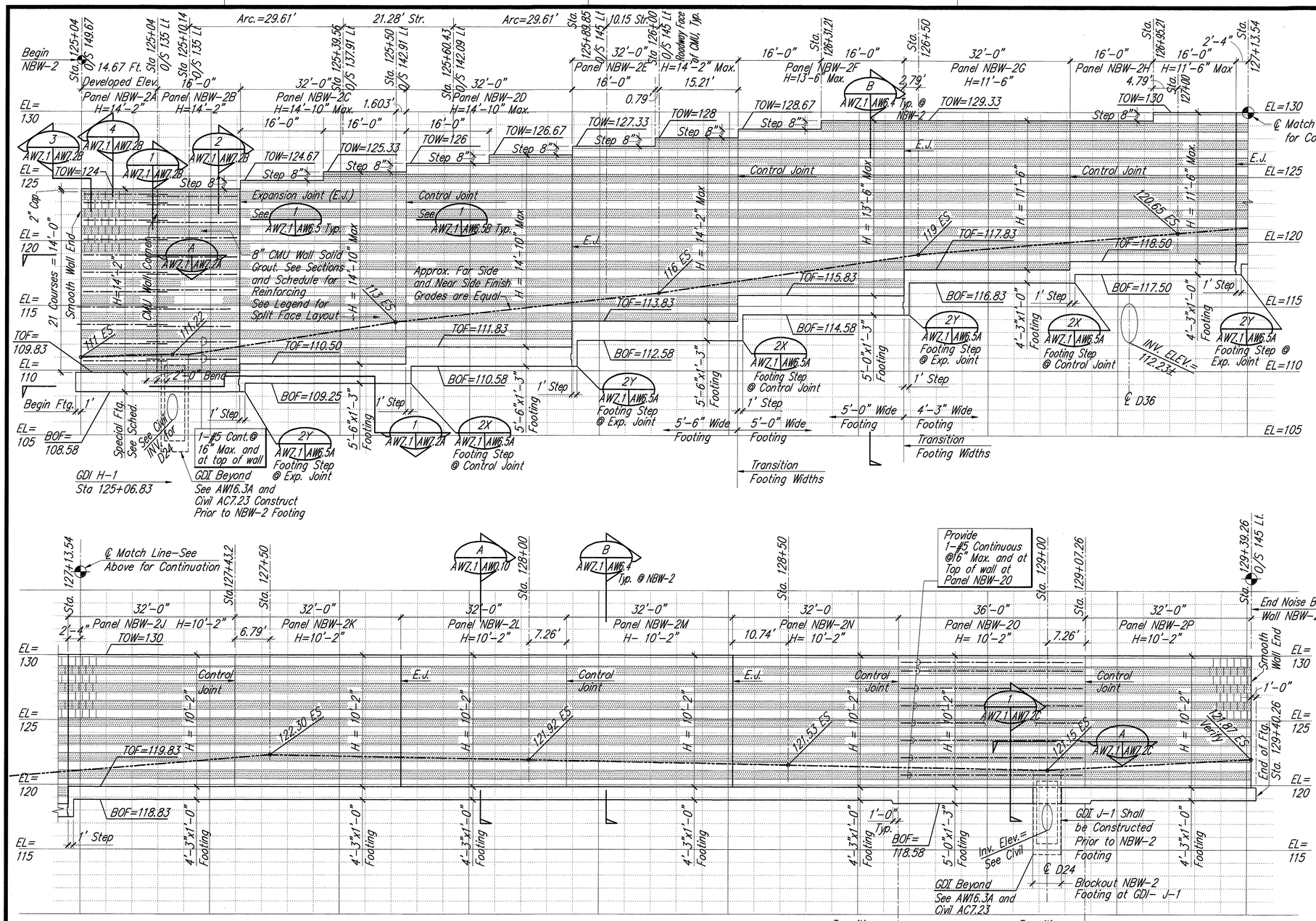
SHEET No. AW6.5D OF 140 SHEETS

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

RMTC JOB NO.: 1-19369-0E

ADD. 601S-4

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 602 | 816 |







## Notes to NBW-2 Profile

1. Construct NBW-2 Under Site Structures Construction Sequence Stage SS-1 as described on Sheet AW0.11.
2. Special inspection is required and will be performed by the Engineer. Special inspection shall be in accordance with Chap. 17 of the Uniform Building Code as amended by the City and County of Honolulu, Section 1701.5, Item 7, Structural Masonry. See Notes on Sheet No. AW0.4 and AW0.6
3. Prism testing is required. See Notes IV. (L)(1) on Sheet No. AW0.4 and Note XII. (C) on Sheet No. AW0.6 for references and minimum and Note XII. (C) on Sheet No. AW0.6 for references and minimum test frequency.
4. See Sheets No. AW5.1 & AW5.2 for Plan Layout. See Sheet No.AW7.2 for NBW-2 Schedule.
5. See Civil Sheets Nos. AC4.11 and AC4.12 for NBW-2 Curve Data.

## LEGEND:

TOW = Top of Wall Elevation
FS = Far Side Finished Grade Elevation
NS = Near Side Finished Grade Elevation
ES = Each Side Finished Grade
TOF = Top of Footing Elevation
BOF = Bottom of Footing Elevation
E.J. = Expansion Joint
Az = Azimuth
Arc = Roadway Face of CMU length measured along circumference for raduis R shown on plan.
Str. = Roadway Face of CMU length measured along Straight ray at Azimuth indicated on plan.
H = Height of CMU including 2" top cap
Max = Tof of wall elevation varies and indicates the height of CMU used for structural design.




= Layout of running bond with alternate courses of smooth near face/split far face with course of split near face/ smooth far face.

= Split near face w/ smooth far face

Near Face = Roadway Face

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised Wall heights and Foundation Type |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL NBW-2 PROFILE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW7.1 OF 140 SHEETS

# NOISE BARRIER WALL NBW-2 PROFILE

Scale: Horizontal 1" = 10'
Vertical 1" = 4'

A AW7.2C AW7.1

AW0.10, AW6.4, AW6.5, AW6.5A, AW6.5B, AW7.1, AW7.2A, AW7.2B

10' 5' 0 10' 20'
1"= 10'

4' 2' 0 4' 8'
1"= 4'

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SIGNATURE

April 30, 2004
EXPIRATION DATE OF THE LICENSE

| ORIGINAL PLANS | SURVEY PLOTTED BY | DATE |
|---|---|---|
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| No. | QUANTITIES BY | |
| | CHECKED BY | |

RMTC JOB NO.: 1-19369-0E

ADD. 602

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 603 | 816 |

# NOISE BARRIER WALL NBW-2 SCHEDULE

| WALL PANEL-Ref AW7.1 | NBW-2A | NBW-2B | NBW-2C | NBW-2D | NBW-2E | NBW-2F | NBW-2G | NBW-2H | NBW-2J | NBW-2K | NBW-2L | NBW-2M | NBW-2N | NBW-2O | NBW-2P | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panel Length | 14.67' | 16'-0" | 32'-0" | 32'-0" | 32'-0" | 32'-0" | 32'-0" | 32'-0" | 32'-0" | 32'-0" | 32'-0" | 32'-0" | 32'-0" | 36'-0" | 32'-0" | |
| CMU Wall: Top Elevation | 124 | 124 | 125.33 max. | 126.67 max. | 128.00 max. | 129.33 max. | 129.33 | 130.00 max. | 130 | 130 | 130 | 130 | 130 | 130 | 130 | |
| : Thickness | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | |
| : H | 14'-2" | 14'-2" | 14'-10" max. | 14'-10" max. | 14'-2" max. | 13'-6" max. | 11'-6" | 11'-6" max. | 10'-2" | 10'-2" | 10'-2" | 10'-2" | 10'-2" | 10'-2" | 10'-2" | |
| : Plan Geometry | Str. | Arc. | Arc. | Arc. | Arc./Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | |
| : Azimuth | 201°20'40" | – | – | – | – | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | |
| : Vert. Reinf. "b" | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | |
| : Vert. Reinf. "a" | #7@8 VEF | #7@8 VEF | #5@8 VEF | #5@8 VEF | #5@8 VEF | #5@8 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@8 VEF | #5@16 VEF | |
| : Ref. Section | 1/AW7.2A | 1/AW7.2A | B/AW6.4 Typ. | B/AW6.4 Typ. | B/AW6.4 Typ. | B/AW6.4 Typ. | B/AW6.4 Typ. | B/AW6.4 Typ. | B/AW6.4 Typ. | B/AW6.4 Typ. | B/AW6.4 Typ. | B/AW6.4 Typ. | B/AW6.4 Typ. | B/AW6.4 Sim. A/AW7.2C | B/AW6.4 Typ. | |
| : Horiz. Reinf. | 1-#5@16 | 1-#5@16 | 1-#5@48 | 1-#5@48 | 1-#5@48 | 1-#5@48 | 1-#5@48 | 1-#5@48 | 1-#5@48 | 1-#5@48 | 1-#5@48 | 1-#5@48 | 1-#5@48 | 1-#5@16 | 1-#5@48 | |
| Footing : Top Elevation | 109.83 | 109.83 | 110.50 | 111.83 | 113.83 | 115.83 | 117.83 | 118.50 | 119.83 | 119.83 | 119.83 | 119.83 | 119.83 | 119.83 | 119.83 | |
| : Size | 1/AW7.2A | 1/AW7.2A | 5'-6"x1'-3" | 5'-6"x1'-3" | 5'-6"x1'-3" | 5'-0"x1'-3" | 4'-3"x12" | 4'-3"x12" | 4'-3"x12" | 4'-3"x12" | 4'-3"x12" | 4'-3"x12" | 4'-3"x12" | 5'-0"x1'-3" A/AW7.2 C | 4'-3"x12" | |
| : Bottom Elevation | 108.58 | 108.58 | 109.25 | 110.58 | 112.58 | 114.58 | 116.83 | 117.50 | 118.83 | 118.83 | 118.83 | 118.83 | 118.83 | 118.58 | 118.83 | |
| : Bottom Reinf. "c" | 1,2,3,4/AW7.2B | 1,2,3,4/AW7.2B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12B | 1,2/AW7.2C | #4@12B | |

Notes to NBW-2 Schedule

1. Construct NBW-2 Under Site Structures Construction Sequence Stage SS-1 as described on Sheet AW0.11.
2. Special inspection is required and will be performed by the Engineer. Special inspection shall be in accordance with Chap. 17 of the Uniform Building Code as amended by the City and County of Honolulu, Section 1701.5, Item 7, Structural Masonry. See Notes on Sheet No. AW0.4 and AW0.6.
3. Prism testing is required. See Notes IV. (L)(1) on Sheet No. AW0.4 and Note XII. (C) on Sheet No. AW0.6 for references and minimum test frequency.
4. See Sheet No. AW5.1 and AW5.2 for Plan Layout. See Sheet No. AW7.1 for Profile.
5. See Civil Sheets Nos. AC4.11 and AC4.12 for NBW-2 Curve Data.

Legend:

1. NBW-2A = Noise Barrier Wall NBW-2 Panel 2A
2. H = Height of CMU including 2" top cap measured from top of footing to top of wall elevation. Refer to Sheet AW7.1.
3. Arc Indicates wall and footing layouts are curved - See plan for curve data. See AW7.1 for Roadway face wall-plan dimensions.
4. Str. Indicates wall and footing layouts are Straight - See AW7.1 for Roadway face wall-plan dimensions.
5. VEF Indicates reinforcement is vertical, each face.
6. B Indicates reinforcement is horizontal, at bottom of footing (3" Clear cover to bottom and sides of footing).
7. H= 14'-10" max. Indicates top of wall elevation varies. H=14'-10" max. Indicates the height of CMU used for structural design.

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
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SIGNATURE

April 30, 2004
EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised Wall heights and Foundation Type |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOISE BARRIER WALL
NBW-2 SCHEDULE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

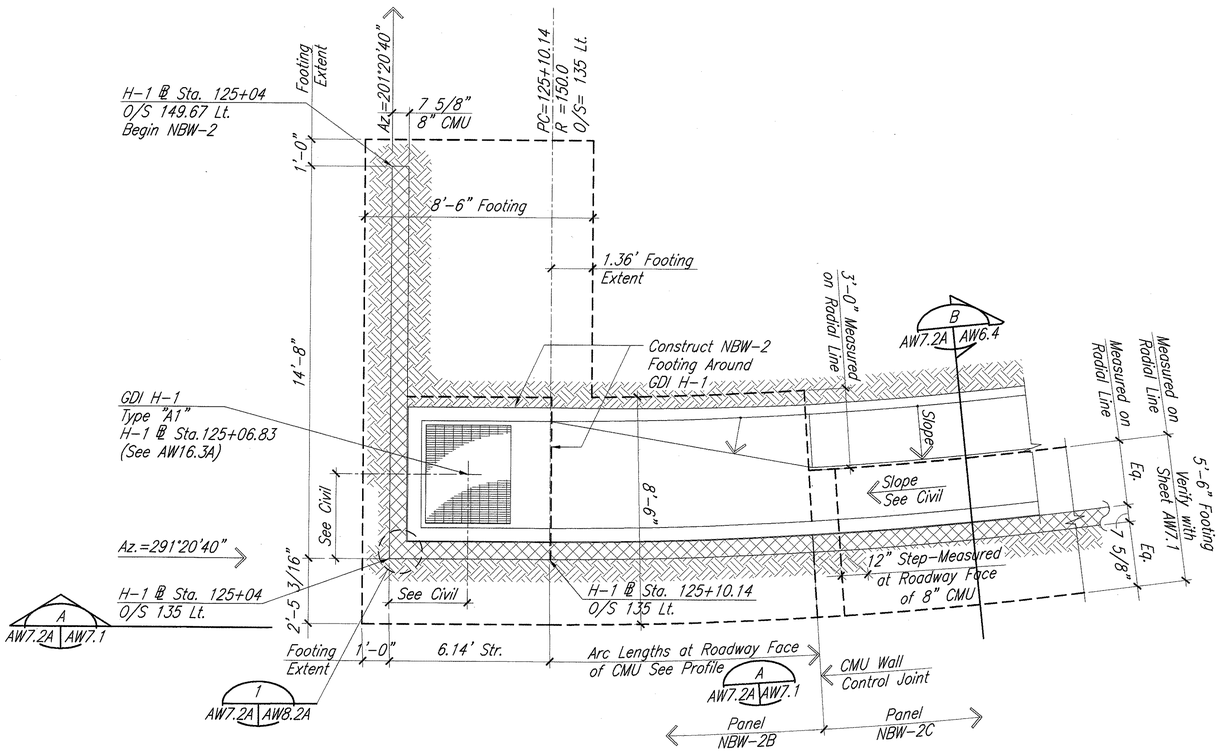
Scale: None Date: Mar. 31, 2003

SHEET No. AW7.2 OF 140 SHEETS

RMTC JOB NO.: 1-19369-0E

ADD. 603

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD.603S-1 | 816 |

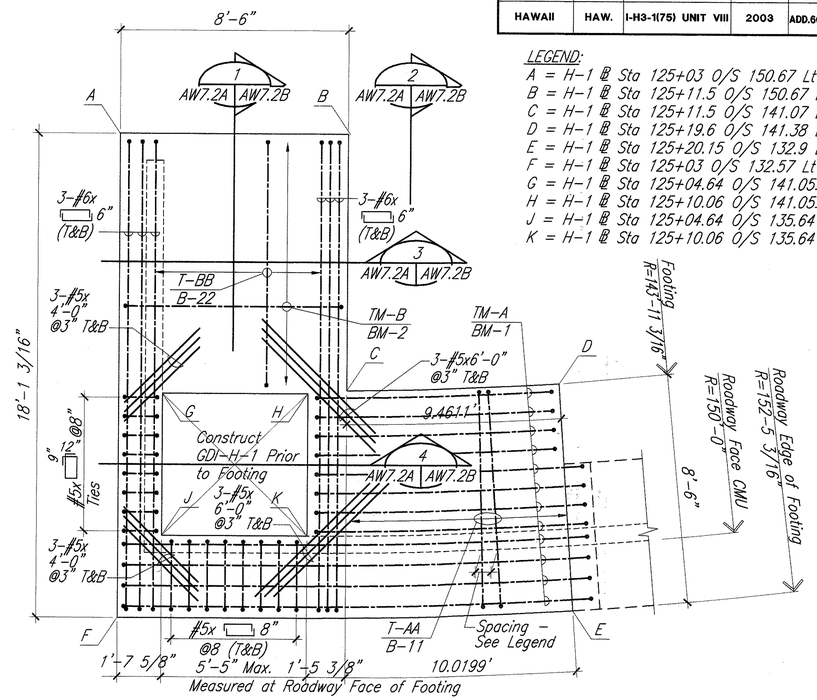



## NBW-2 PLAN DETAIL at STA 125+04

Scale: 3/8"=1'-0"

A AW7.2B AW7.2A

AW5.1,AW6.4,AW7.1,AW7.2A AW8.2A




LEGEND:

A = H-1 @ Sta 125+03 O/S 150.67 Lt
B = H-1 @ Sta 125+11.5 O/S 150.67 Lt
C = H-1 @ Sta 125+11.5 O/S 141.07 Lt
D = H-1 @ Sta 125+19.6 O/S 141.38 Lt
E = H-1 @ Sta 125+20.15 O/S 132.9 Lt
F = H-1 @ Sta 125+03 O/S 132.57 Lt
G = H-1 @ Sta 125+04.64 O/S 141.05± Lt
H = H-1 @ Sta 125+10.06 O/S 141.05± Lt
J = H-1 @ Sta 125+04.64 O/S 135.64 Lt
K = H-1 @ Sta 125+10.06 O/S 135.64 Lt

Reinforcing Legend:

TM-A = Top Most Reinforcing #4x ⌐ 8"@8" - Circumferential Bars
TM-B = Top Most Reinforcing #4x ⌐ 8"@8" - Straight Bars
T-AA = Top Reinforcing #4x ⌐ 6"@8" - Place Radially
T-BB = Top Reinforcing #4x ⌐ 6"@8" - Straight Bars
B-11 = Bottom Reinforcing #4x ⌐ 6"@8" - Place Radially
B-22 = Bottom Reinforcing #4x ⌐ 6"@8" - Straight Bars
BM-1 = Bottom Most Reinforcing #4x ⌐ 8"@8" - Circumferential Bars
BM-2 = Bottom Most Reinforcing #4x ⌐ 8"@8" - Straight Bars

## NBW-2 FOOTING LAYOUT DETAIL

Scale: 3/8"=1'-0"

1 AW7.2B AW7.2A

AW5.1,AW7.1

GRAPHIC SCALE:

4' 3' 2' 1' 0 2' 4'

3/8"-1'-0"

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|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL
# NBW-2 DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

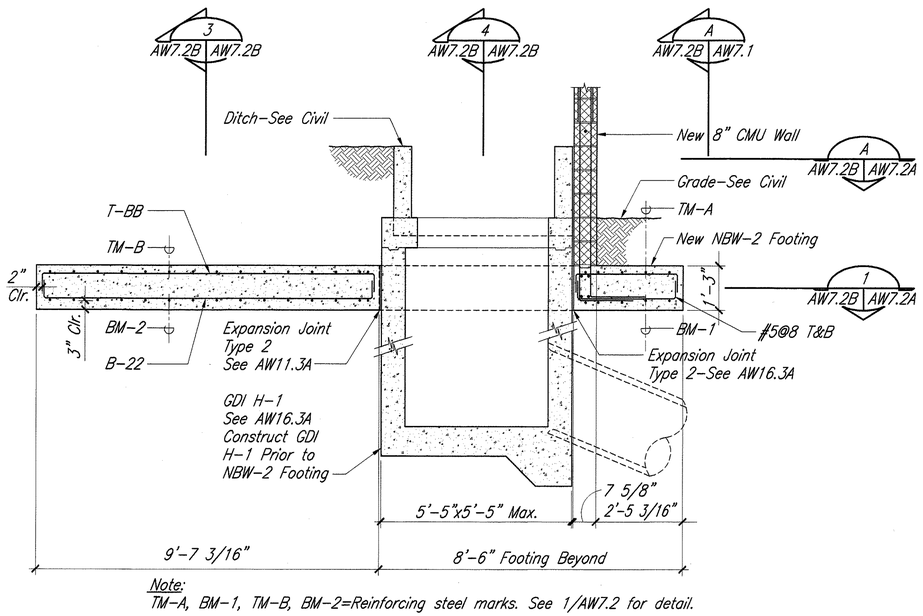
SHEET No. AW7.2A OF 140 SHEETS

ORIGINAL PLAN
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DATE

RMTC JOB NO.: 1-19369-0E

ADD. 603S-1

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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD.603S-2 | 816 |

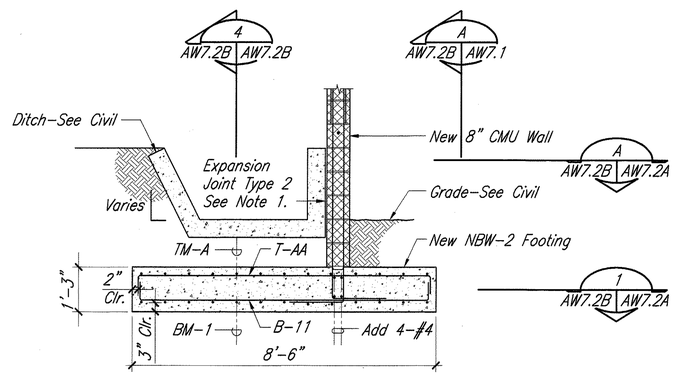



Note:
TM-A, BM-1, TM-B, BM-2=Reinforcing steel marks. See 1/AW7.2 for detail.

## SECTION

Scale: 1/2"=1'-0"

1 AW7.2B AW7.2B
AW7.1,AW7.2A

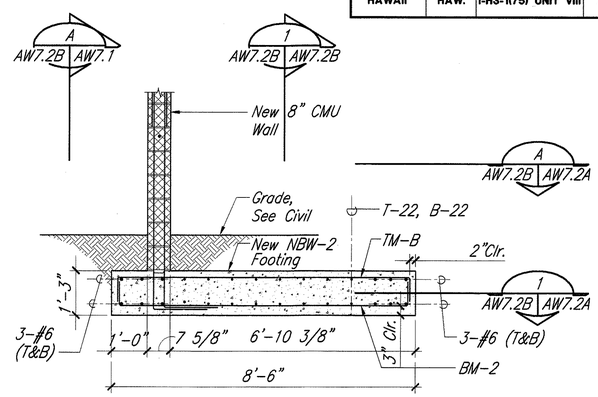



## SECTION

Scale: 1/2"=1'-0"

2 AW7.2B AW7.2B
AW7.1,AW7.2A

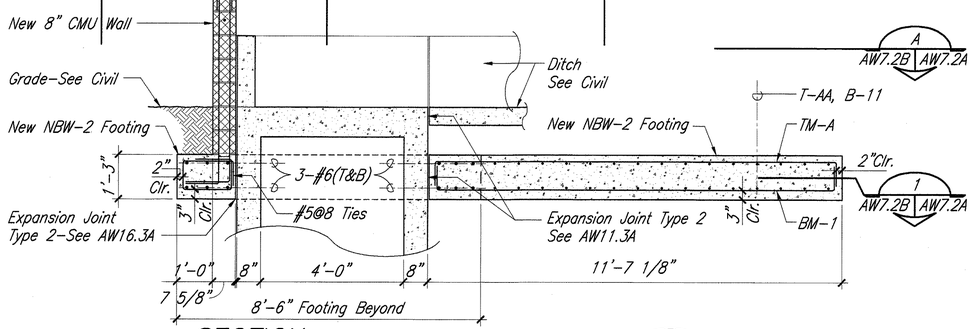
Note:
1. Expansion Joint Type 2 = 2-Layers Ashphalt Roll Roofing ASTM D224 Type II. Refer to Sheet AC7.31




## SECTION

Scale: 1/2"=1'-0"

3 AW7.2B AW7.2B
AW7.1,AW7.2A




## SECTION

Scale: 1/2"=1'-0"

4 AW7.2B AW7.2B
AW7.1,AW7.2A

## GRAPHIC SCALE:

2' 1'6" 0 1' 2' 3' 4'
1/2"-1'-0"

| ORIGINAL PLANS BY | SURVEY PLOTTED BY | DATE |
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| | DRAWN BY | |
| | TRACED BY | |
| NOTE BOOK | DESIGNED BY | |
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| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL NBW-2 DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

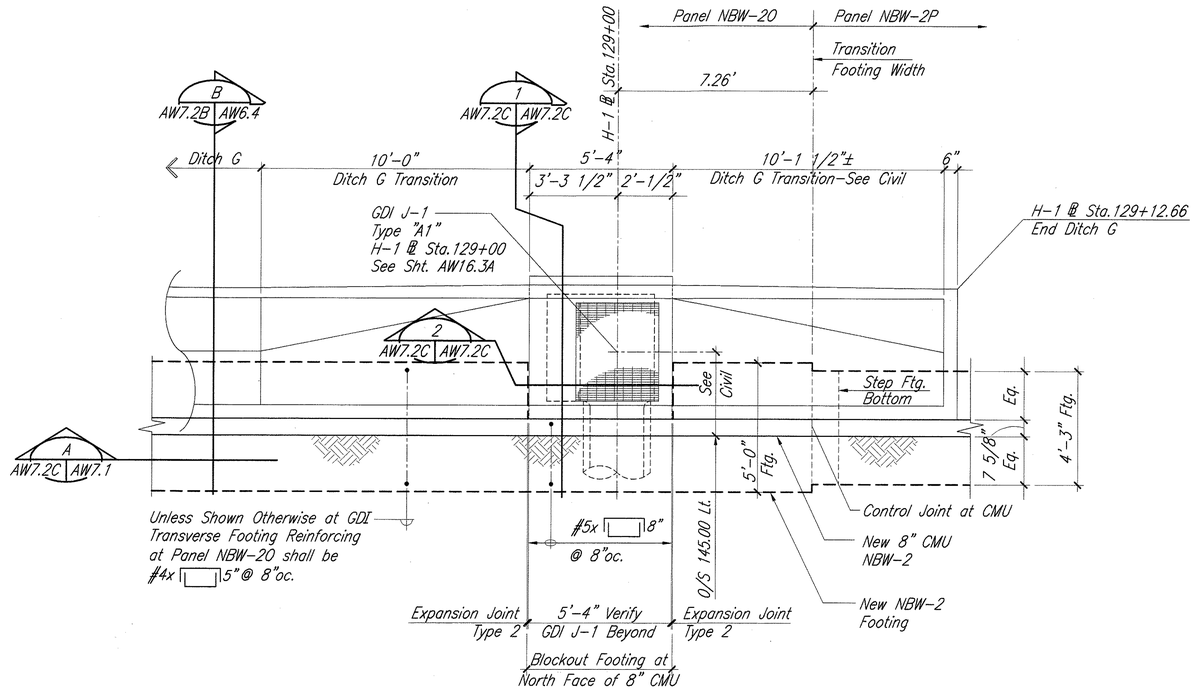
Scale: As Noted — Date: Mar. 31, 2003

**SHEET No. AW7.2B OF 140 SHEETS**

RMTC JOB NO.: 1-19369-OE

ADD. 603S-2

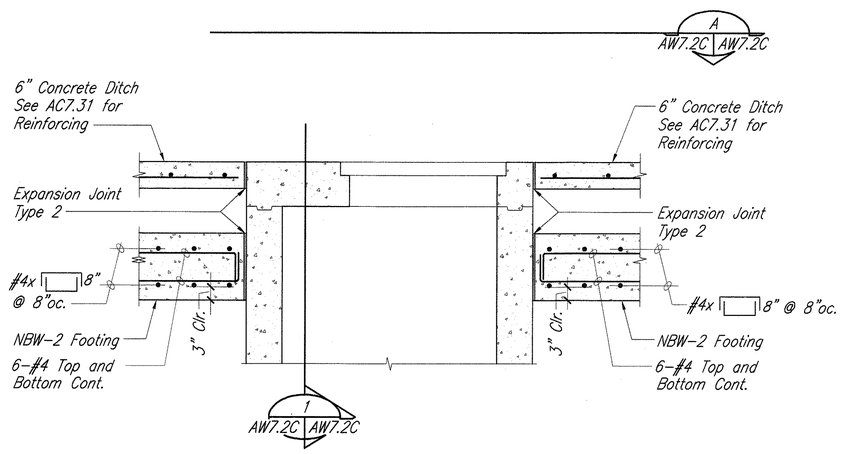
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD.603S-3 | 816 |




## NBW-2 PLAN DETAIL at STA. 129+00

Scale: 3/8"=1'-0"

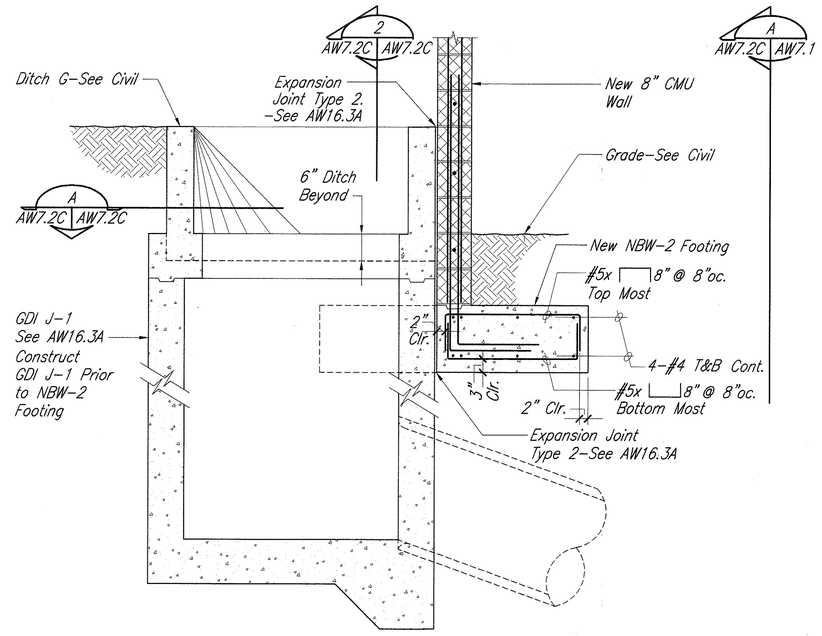
A AW7.2C AW7.2C
AW6.4, AW7.1




## SECTION

Scale: 3/4"=1'-0"

2 AW7.2C AW7.2C




## SECTION

Scale: 3/4"=1'-0"

1 AW7.2C AW7.2C
AW7.1

## GRAPHIC SCALE:

4' 3' 2' 1' 0 2' 4'
3/8"-1'-0"

1' 6" 0 1' 2' 3'
3/4"-1'-0"

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April 30, 2004
EXPIRATION DATE OF THE LICENSE

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| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL
# NBW-2 DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

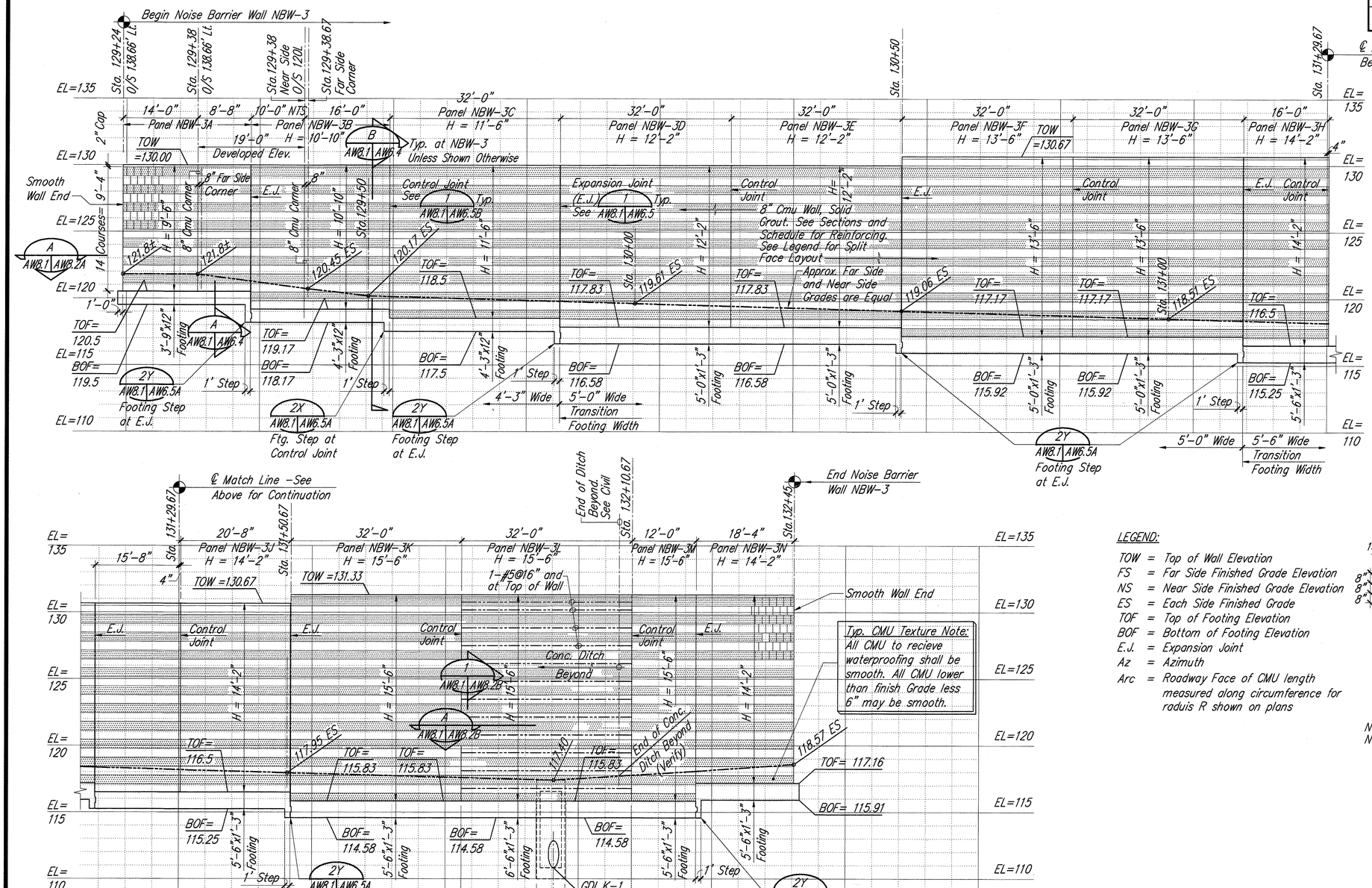
**SHEET No. AW7.2C OF 140 SHEETS**

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RMTC JOB NO.: 1-19369-OE

ADD. 603S-3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 604 | 816 |




LEGEND:

- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- E.J. = Expansion Joint
- Az = Azimuth
- Arc = Roadway Face of CMU length measured along circumference for raduis R shown on plans

16" 8" 8" 8" 8" = Layout of running bond with alternate courses of smooth near face/split far face with course of split near face/ smooth far face.

= Split near face w/ smooth far face

- Str. = Roadway Face of CMU length measured along Straight ray at Azimuth indicated on plan.
- H = Height of CMU including 2" top cap. and indicates the height of CMU used for Structural design.
- Near Side, Near Face = Refers to the Roadway (South Facing) Side/Face of 8" Cmu wall

GRAPHIC SCALES:

10' 5' 0 10' 20'
1"= 10'

4' 2' 0 4' 8'
1"= 4'

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

# NOISE BARRIER WALL NBW-3 PROFILE

Scale: Horizontal 1"= 10'
Vertical 1"= 4'

A AW8.2B AW8.1
AW6.4, AW6.5, AW6.5A
AW6.5B, AW8.2A

RMTC JOB NO.: 1-19369-0E

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Revised Wall heights and Foundation Type |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## NOISE BARRIER WALL
## NBW-3 PROFILE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW8.1 OF 140 SHEETS

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ADD. 604

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 605 | 816 |

# NOISE BARRIER WALL NBW-3 SCHEDULE

| WALL PANEL-Ref AW8.1 | NBW-3A | NBW-3B | NBW-3C | NBW-3D | NBW-3E | NBW-3F | NBW-3G | NBW-3H | NBW-3J | NBW-3K | NBW-3L | NBW-3M | NBW-3N | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panel Length | 22'-8"/Corner | 26'/Corner | 32'-0" | 32'-0" | 32'-0" | 32'-0" | 32'-0" | 16'-0" | 20'-8" | 32'-0" | 32'-0" | 12'-0" | 18'-4" | |
| CMU Wall: Top Elevation | 130 | 130 | 130 | 130 | 130 | 130.67 | 130.67 | 130.67 | 130.67 | 131.33 | 131.33 | 131.33 | 131.33 | |
| : Thickness | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | 8" | |
| : H | 9'-6" | 10'-10" | 11'-6" | 12'-2" | 12'-2" | 13'-6" | 13'-6" | 14'-2" | 14'-2" | 15'-6" | 15'-6" | 15'-6" | 14'-2" | |
| : Plan Geometry | 90° Corner | 90° Corner | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | Str. | |
| : Azimuth | – | – | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | 291°20'40" | |
| : Vert. Reinf. "b" | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | |
| : Vert. Reinf. "a" | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@16 VEF | #5@8 VEF | #5@8 VEF | #5@8 VEF | #7@8 VEF | #5@8 VEF | #5@8 VEF | |
| : Ref. Section | A/AW6.4 | A&B/AW6.4 | B/AW6.4 | B/AW6.4 | B/AW6.4 | B/AW6.4 | B/AW6.4 | B/AW6.4 | B/AW6.4 | B/AW6.4 Typ. | B/AW6.4 Sim. 1/AW8.2B | B/AW6.4 Typ. | B/AW6.4 Typ. | |
| : Horiz. Reinf. | 1-#5 @ 48" | 1-#5 @ 48" | 1-#5 @ 48" | 1-#5 @ 48" | 1-#5 @ 48" | 1-#5 @ 48" | 1-#5 @ 48" | 1-#5 @ 48" | 1-#5 @ 48" | 1-#5 @ 48" | 1-#5 @ 16" | 1-#5 @ 48" | 1-#5 @ 48" | |
| Footing : Top Elevation | 120.5 | 119.17 | 118.5 | 117.83 | 117.83 | 117.17 | 117.17 | 116.5 | 116.5 | 115.83 | 115.83 | 115.83 | 117.16 | |
| : Size | 3'-9"x12" | 4'-3"x12" | 4'-3"x12" | 5'-0"x1'-3" | 5'-0"x1'-3" | 5'-0"x1'-3" | 5'-0"x1'-3" | 5'-6"x1'-3" | 5'-6"x1'-3" | 5'-6"x1'-3" | 6'-6"x1'-3" | 5'-6"x1'-3" | 5'-6"x1'-3" | |
| : Bottom Elevation | 119.5 | 118.17 | 117.5 | 116.58 | 116.58 | 115.92 | 115.92 | 115.25 | 115.25 | 114.58 | 114.58 | 114.58 | 115.91 | |
| : Bottom Reinf. "c" | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | #4@12 B | A/AW8.2B 1/AW8.2B | #4@12 B | #4@12 B | |

Notes to NBW-2 Schedule

1. Construct NBW-2 Under Site Structures Construction Sequence Stage SS-1 as described on Sheet AW0.11.
2. Special inspection is required and will be performed by the Engineer. Special inspection shall be in accordance with Chap. 17 of the Uniform Building Code as amended by the City and County of Honolulu, Section 1701.5, Item 7, Structural Masonry. See Notes on Sheet No. AW0.4 and AW0.6.
3. Prism testing is required. See Notes IV. (L)(1) on Sheet No. AW0.4 and Note XII. (C) on Sheet No. AW0.6 for references and minimum test frequency.
4. See Sheet No. AW5.2 and AW5.3 for Plan Layout. See Sheet No. AW8.1 for Profile.

Legend:

1. NBW-3A = Noise Barrier Wall NBW-3 Panel 3A
2. H = Height of CMU including 2" top cap measured from top of footing to top of wall elevation. Refer to Sheet AW8.1.
3. Arc Indicates wall and footing layouts are curved – See plan for curve data. See AW8.1 for Roadway face wall-plan dimensions.
4. Str. Indicates wall and footing layouts are Straight – See AW8.1 for Roadway face wall-plan dimensions.
5. VEF Indicates reinforcement is vertical, each face.
6. B Indicates reinforcement is horizontal, at bottom of footing (3" Clear cover to bottom and sides of footing).
7. H= 14'-10" max. Indicates top of wall elevation varies. H=14'-10" max. Indicates the height of CMU used for structural design.
8. 22'-8"/Corner Indicates Noise Barrier Wall panel length includes a 90° corner.

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

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| DATE | REVISIONS |
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| 10/16/03 | 5 Revised Wall heights and Foundation Type |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NOISE BARRIER WALL
NBW-3 SCHEDULE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

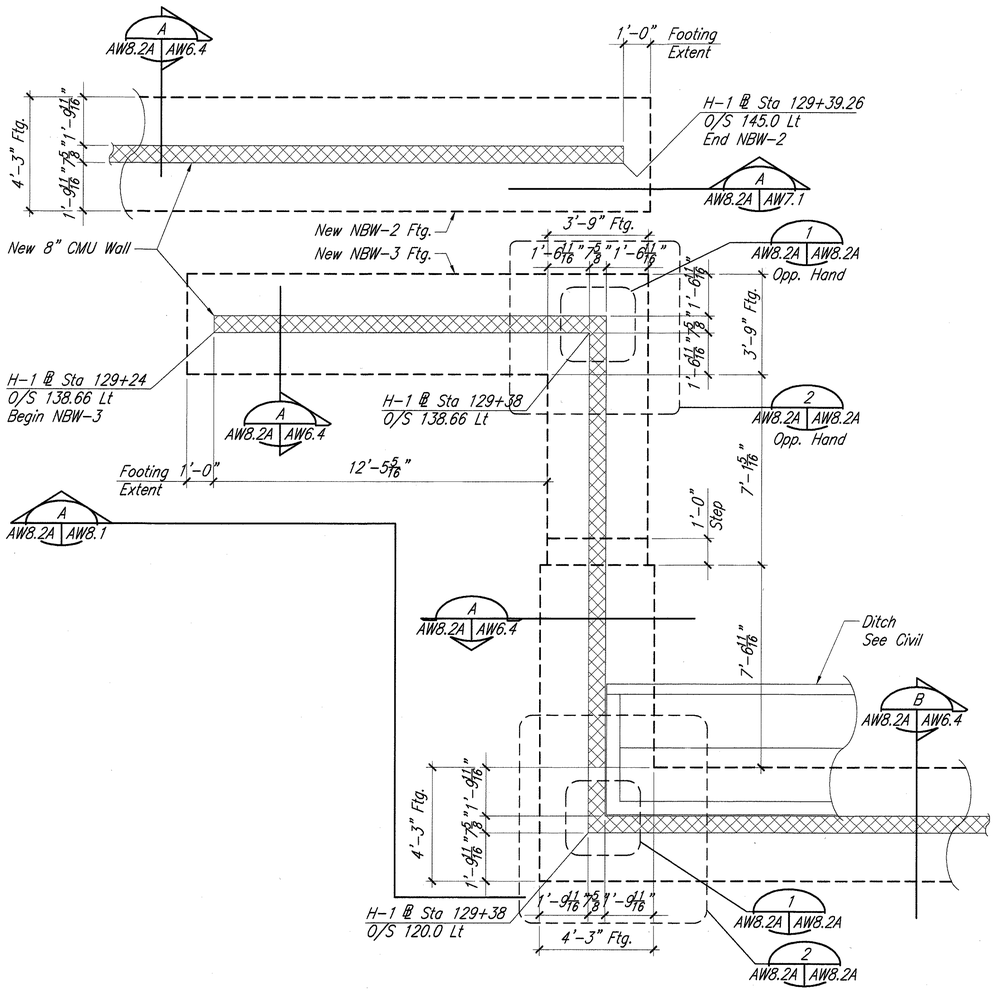
Scale: None Date: Mar. 31, 2003

SHEET No. AW8.2 OF 140 SHEETS

RMTC JOB NO.: 1-19369-0E

ADD. 605

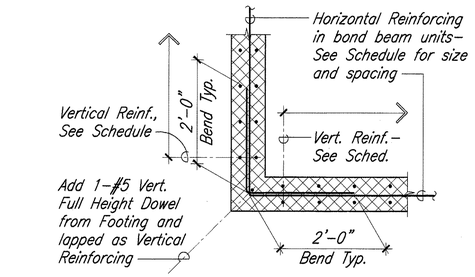
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD.605S-1 | 816 |




## NBW-3 PLAN DETAIL at STA 129+38

A AW8.1 AW8.2A
AW5.2,AW6.4,AW7.1

Scale: 3/8"=1'-0"

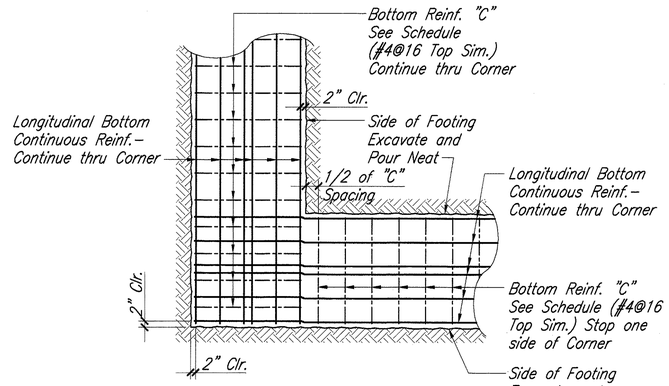



PLAN AT CMU CORNER

## CMU WALL CORNER REINFORCING DETAIL

1 AW8.2A AW8.2A AW7.2A

No Scale




PLAN AT BOTTOM REINF.
(TOP REINF. SIM.)

## FOOTING CORNER REINFORCING DETAIL

2 AW8.2A AW8.2A

No Scale

| ORIGINAL PLANS | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
| No. | QUANTITIES BY | |
| | CHECKED BY | |

GRAPHIC SCALE:

4' 3' 2' 1' 0 2' 4'

3/8"–1'–0"

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908–S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

April 30, 2004
EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL
# NBW-3 DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

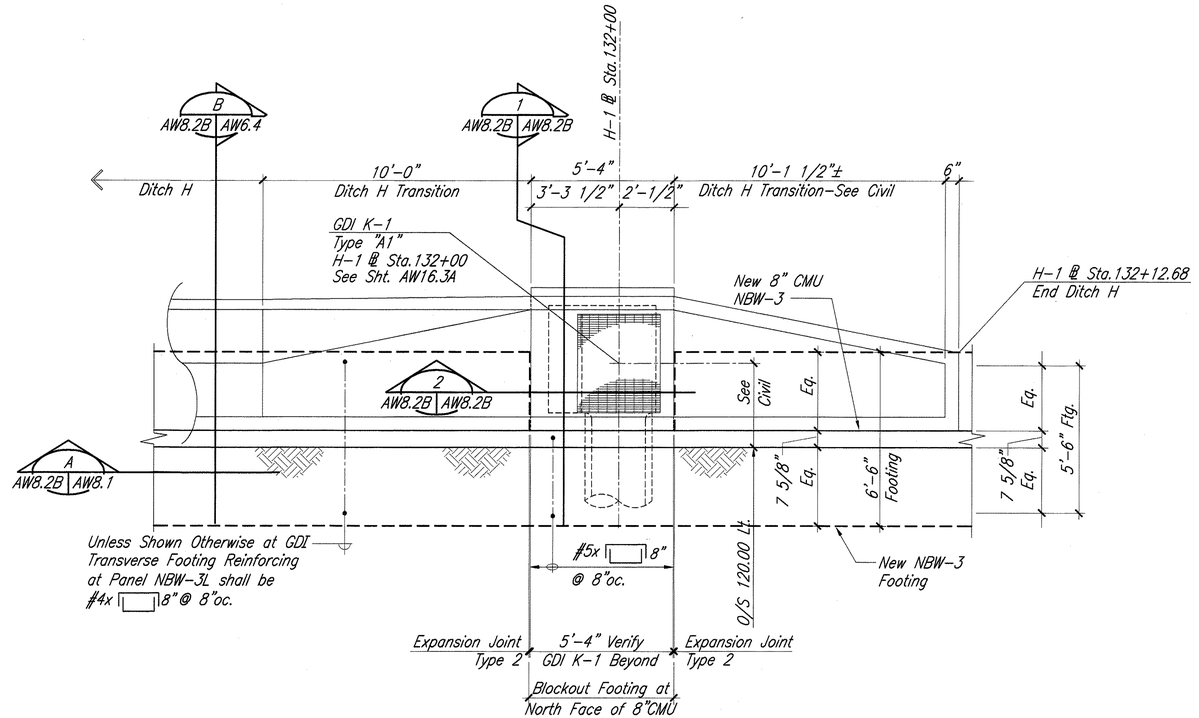
Scale: As Noted Date: Mar. 31, 2003

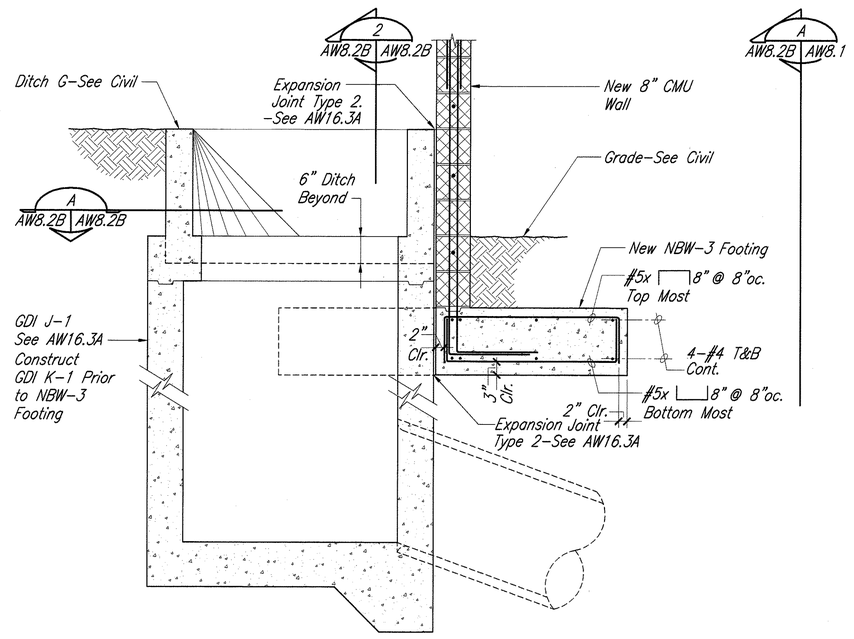
SHEET No. AW8.2A OF 140 SHEETS

RMTC JOB NO.: 1–19369–OE

ADD. 605S–1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD.605S-2 | 816 |

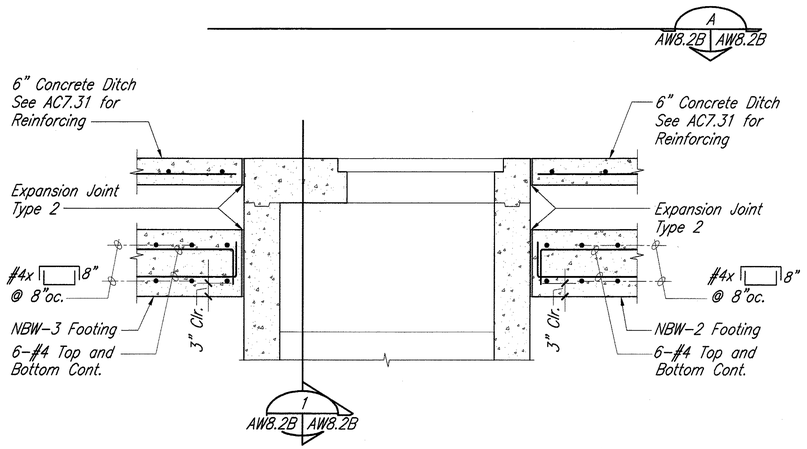



## NBW-3 PLAN DETAIL at STA. 132+00

Scale: 3/8"=1'-0"

A AW8.2B AW8.2B AW6.4




## SECTION

Scale: 3/4"=1'-0"

2 AW8.2B AW8.2B

## SECTION

Scale: 3/4"=1'-0"

1 AW8.2B AW8.2B AW8.1

GRAPHIC SCALE:

4' 3' 2' 1' 0 2' 4'
3/8"-1'-0"

1' 6" 0 1' 2' 3'
3/4"-1'-0"

STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

April 30, 2004
EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NOISE BARRIER WALL
# NBW-3 DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

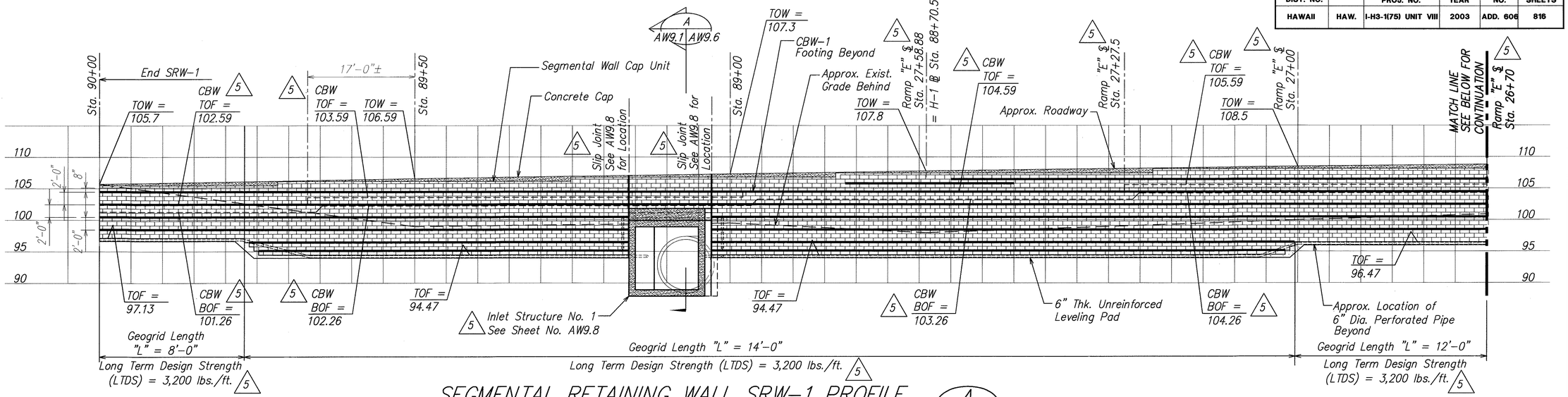
**SHEET No. AW8.2B OF 140 SHEETS**

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

RMTC JOB NO.: 1-19369-OE

ADD. 605S-2

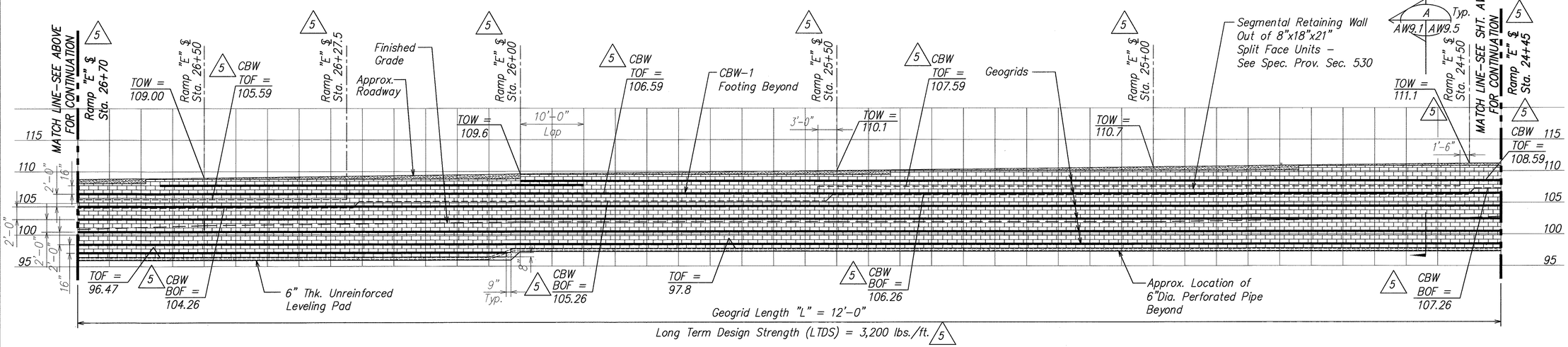
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 606 | 816 |




## SEGMENTAL RETAINING WALL SRW-1 PROFILE

SCALE: 1/8" = 1'-0"

A AW9.1 AW9.1




## SEGMENTAL RETAINING WALL SRW-1 PROFILE

SCALE: 1/8" = 1'-0"

B AW9.1 AW9.1

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

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — 4-30-04 EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SEGMENTAL RETAINING WALL SRW-1 PROFILE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

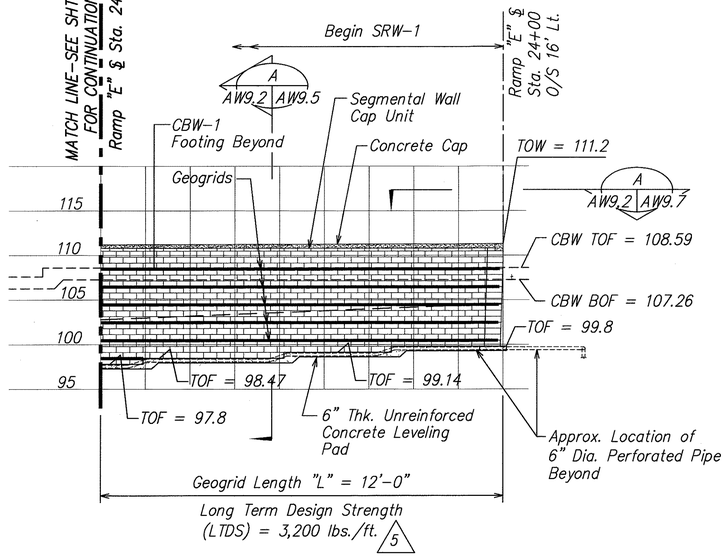
SHEET No. AW9.1 OF 140 SHEETS

ADD. 606

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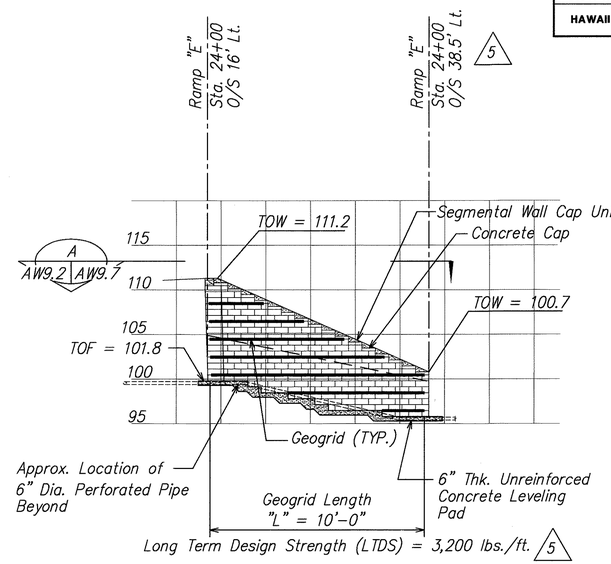
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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 607 | 816 |




## SEGMENTAL RETAINING WALL SRW-1 PROFILE

SCALE: 1/8" =1'-0"

A AW9.2 AW9.2




## SEGMENTAL RETAINING WALL SRW-1 PROFILE (WALL RETURN FOR SRW-1)

SCALE: 1/8" = 1'-0"

B AW9.2 AW9.2

5 NOTE:

Offset (O/S) is measured to top of wall at backface of unit.

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04

SIGNATURE EXPIRATION DATE OF THE LICENSE

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SEGMENTAL RETAINING WALL SRW-1 PROFILE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

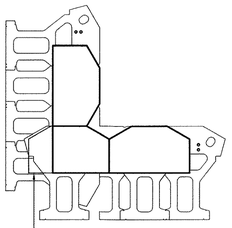
SHEET No. AW9.2 OF 140 SHEETS

ADD. 607

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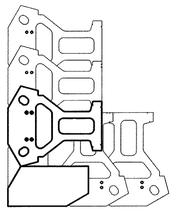
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 608 | 816 |




## INSIDE CORNER CAP COURSE (1 AW9.3 | AW9.3)

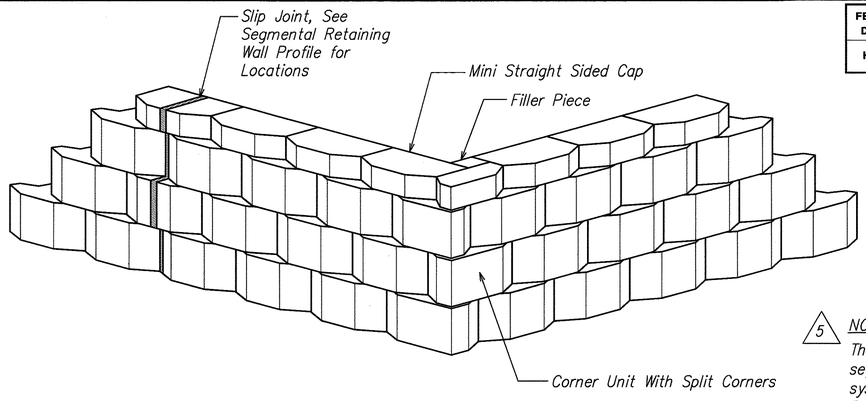
SCALE: 3/4" = 1'-0"



Corner Unit is a Solid Unit 8"W x 9"D x 18"W with a Split Surface on Two Sides. The Size of the Unit will have to be Modified to Fit as Wall Height Increases. The Amount of Reduction in Size of the Corner Unit is Controlled by the Batter (i.e. 8.8° vs. Near Vertical)

## OUTSIDE CORNER ADDITIONAL COURSE (4 AW9.3 | AW9.3)

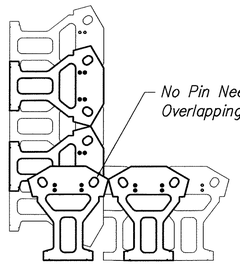
SCALE: 3/4" = 1'-0"




## 90° OUTSIDE CORNER (7 AW9.3 | AW9.3)

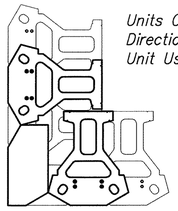
SCALE: 1" = 1'-0"

△5 NOTE:
The Contractor may submit an alternate segmental retaining wall system other than the system shown on the contract documents. See Spec. Section 530 for requirements.




## INSIDE CORNER SECOND COURSE (2 AW9.3 | AW9.3)

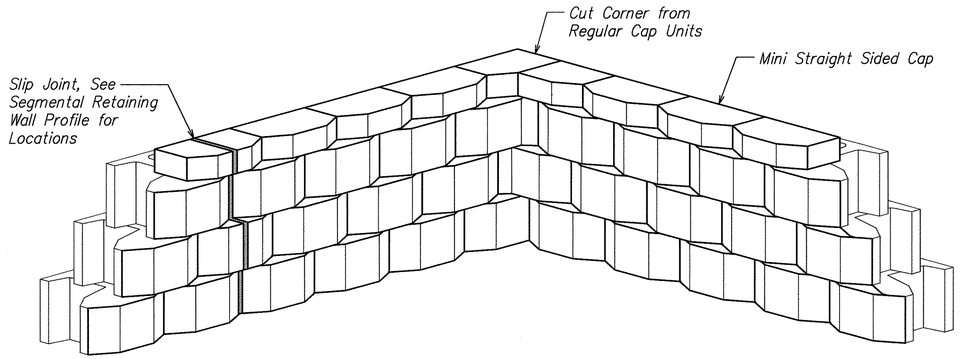
SCALE: 3/4" = 1'-0"



Units Overlap in Opposite Direction. Secure Corner Unit Using Adhesive

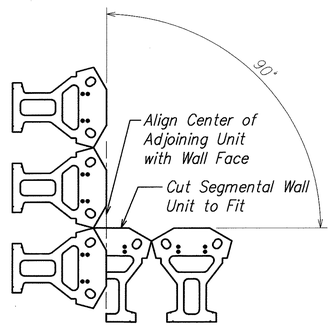
## OUTSIDE CORNER SECOND COURSE (5 AW9.3 | AW9.3)

SCALE: 3/4" = 1'-0"



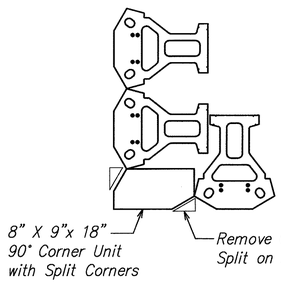

## 90° INSIDE CORNER (8 AW9.3 | AW9.3)

SCALE: 1" = 1'-0"



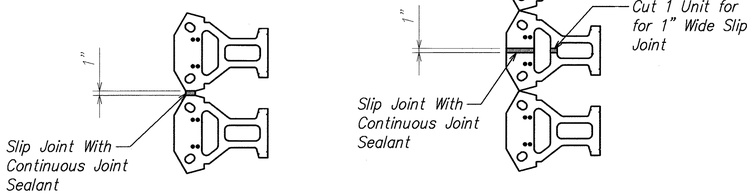

## INSIDE CORNER FIRST COURSE (3 AW9.3 | AW9.3)

SCALE: 3/4" = 1'-0"




## OUTSIDE CORNER FIRST COURSE (6 AW9.3 | AW9.3)

SCALE: 3/4" = 1'-0"




FIRST COURSE SECOND COURSE

## SLIP JOINT DETAIL (9 AW9.3 | AW9.3)

SCALE: 3/4" = 1'-0"

| DATE | REVISION |
|---|---|
| 10/16/03 | △5 Clarification of Note |

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SRW-1 & SRW-2 TYPICAL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW9.3 OF 140 SHEETS

ADD. 608

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

\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW0903.dwg, ADD5 AW9.3, 10/14/2003 3:07:24 PM, KSFinc.pc3

*.DWG 1 = 1

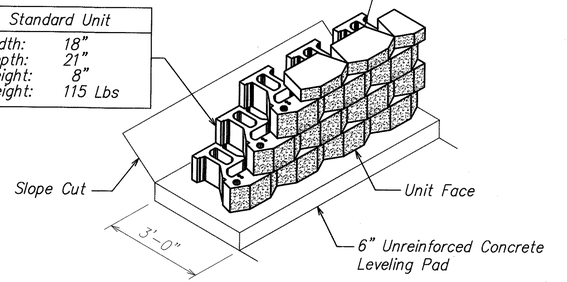
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 609 | 816 |

Base Leveling Pad Notes:

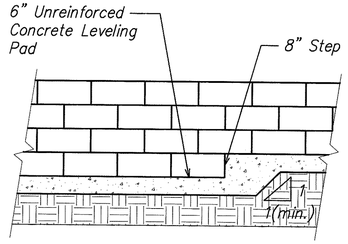
1. The leveling pad is to be constructed of Class D unreinforced concrete.
2. The base foundation is to be approved by the site Geotechnical Engineer prior to placement of the leveling pad.
3. Segmental wall units shall not be paced on leveling pad until 24 Hours after concrete pour or until leveling pad has attained a concrete strength of 500 psi.

| Standard Unit | |
|---|---|
| Width: | 18" |
| *Depth: | 21" |
| Height: | 8" |
| *Weight: | 115 Lbs |

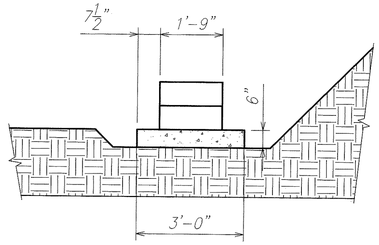
| Mini Cap Unit | |
|---|---|
| Width: | 18" |
| *Depth: | 10" |
| Height: | 4" |
| *Weight: | 45 Lbs |




*Dimensions & Weight May Vary If Approved by the Engineer.



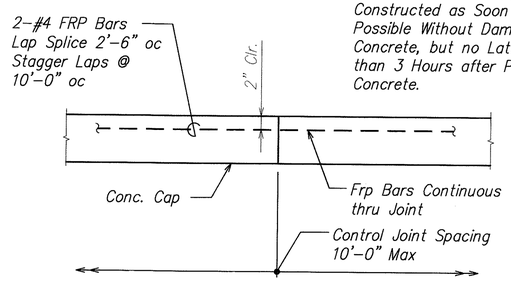

ELEVATION




SECTION

5 NOTE:
The Contractor may submit an alternate segmental retaining wall system other than the system shown on the contract documents. See Spec. Section 530 for requirements.

## LEVELING PAD DETAIL (1)
SCALE: 1/2" = 1'-0"
AW9.4 | AW9.4

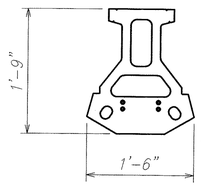



Note:
Control Joint Shall be Constructed as Soon as Possible Without Damaging Concrete, but no Later than 3 Hours after Pouring Concrete.

## TYPICAL CONCRETE CAP JOINT DETAIL (2)
Not to Scale
AW9.5 | AW9.4
AW9.6, AW10.3, AW10.6, AW10.8, AW10.10

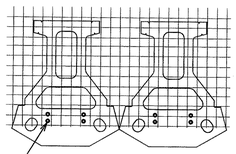



STANDARD ELEVATION




STANDARD PLAN

## STANDARD UNIT (3)
SCALE: 1" = 1'-0"
AW9.4 | AW9.4



Geogrid is to be Placed on Level Backfill and Extended over the Fiberglass Pins. Place Next Unit. Pull Grid Taught and Backfill. Stake as Required.

## GRID AND PIN CONNECTION (4)
SCALE: 1" = 1'-0"
AW9.4 | AW9.4

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Note |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SRW-1 & SRW-2 TYPICAL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

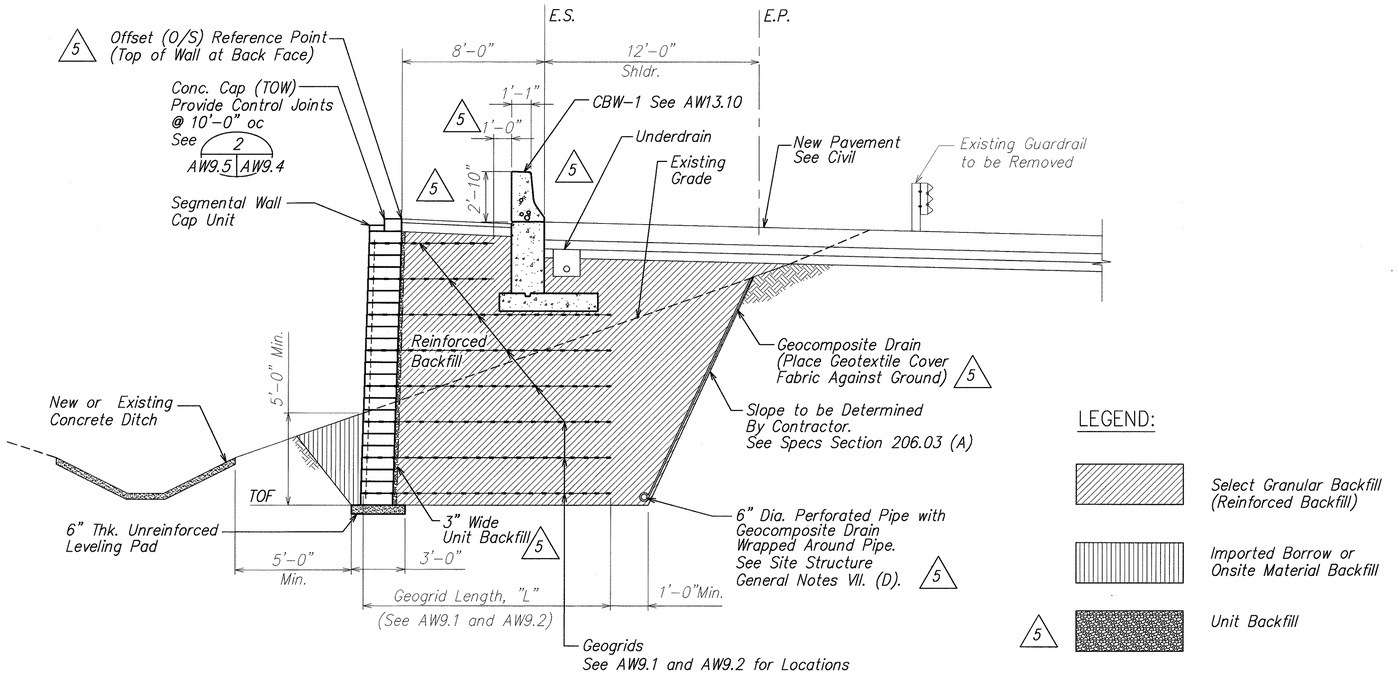
SHEET No. AW9.4 OF 140 SHEETS

ADD. 609

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 610 | 816 |




## SEGMENTAL RETAINING WALL SRW-1 SECTION

SCALE: 1/4" = 1'-0"

A AW9.1 AW9.5 AW9.2

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Added Unit Backfill and Offset Revised Wall and Slope |

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara — 4-30-04

SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-1 SECTION AND DETAIL

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

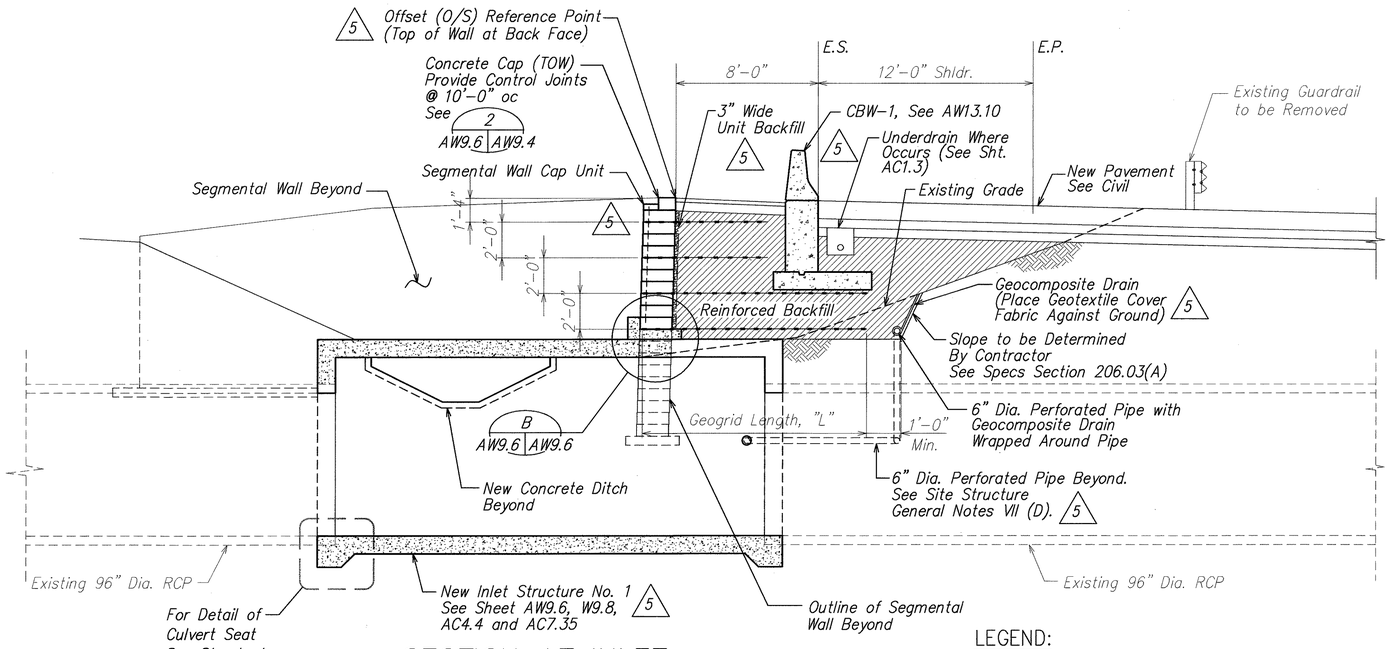
SHEET No. AW9.5 OF 140 SHEETS

ADD. 610

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 611 | 816 |



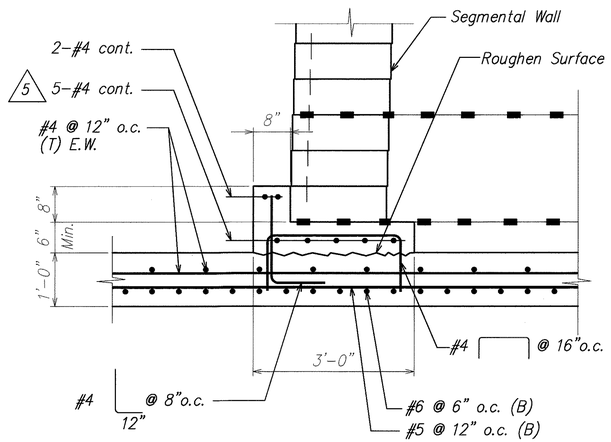

## SECTION AT INLET STRUCTURE NO.1 (A)

SCALE: 1/4" = 1'-0" AW9.1 AW9.6

LEGEND:

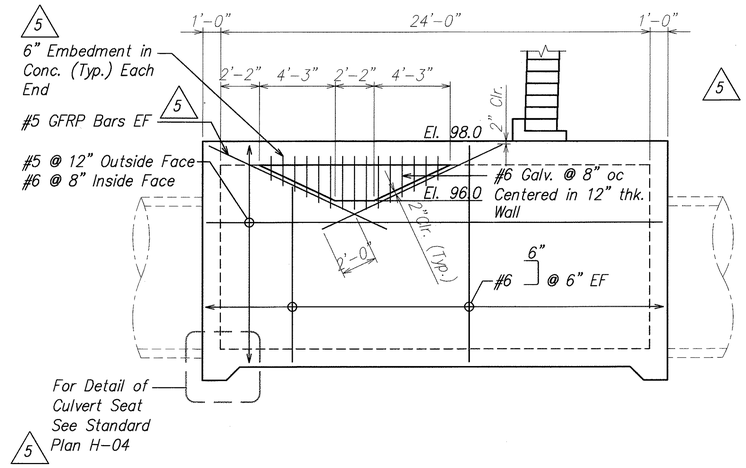
Select Granular Backfill

5 Unit Backfill



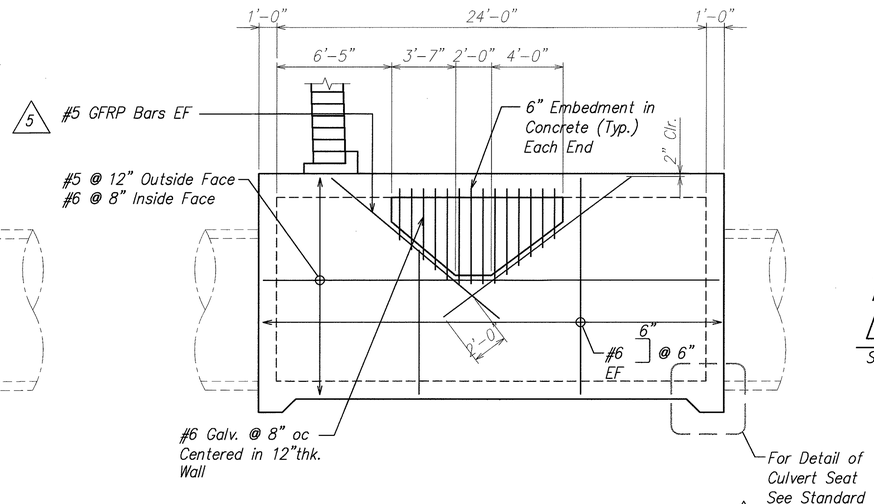

## SECTION B

SCALE: 3/4" =1'-0" AW9.6 AW9.6



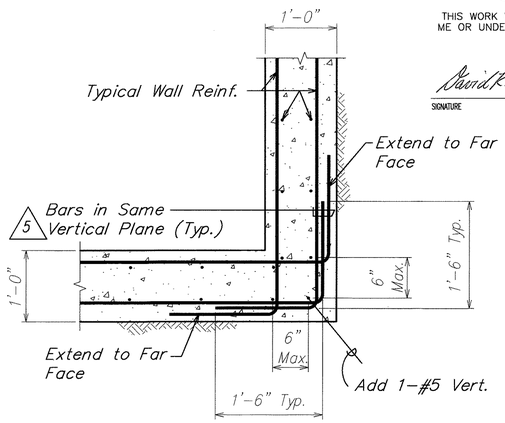

## SECTION AT INLET STRUCTURE NO.1 (WAIANAE SIDE) (C)

SCALE: 1/4" = 1'-0" AW9.8 AW9.6




## SECTION AT INLET STRUCTURE NO.1 (HONOLULU SIDE) (D)

SCALE: 1/4" = 1'-0" AW9.8 AW9.6




## TYPICAL CORNER REINFORCEMENT LAPPING (DOUBLE CURTAIN) (E)

SCALE: 1" = 1'-0" AW9.6 AW9.6 5

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SIGNATURE 4-30-04 EXPIRATION DATE OF THE LICENSE

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Added Unit Backfill and Offset |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-1 SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

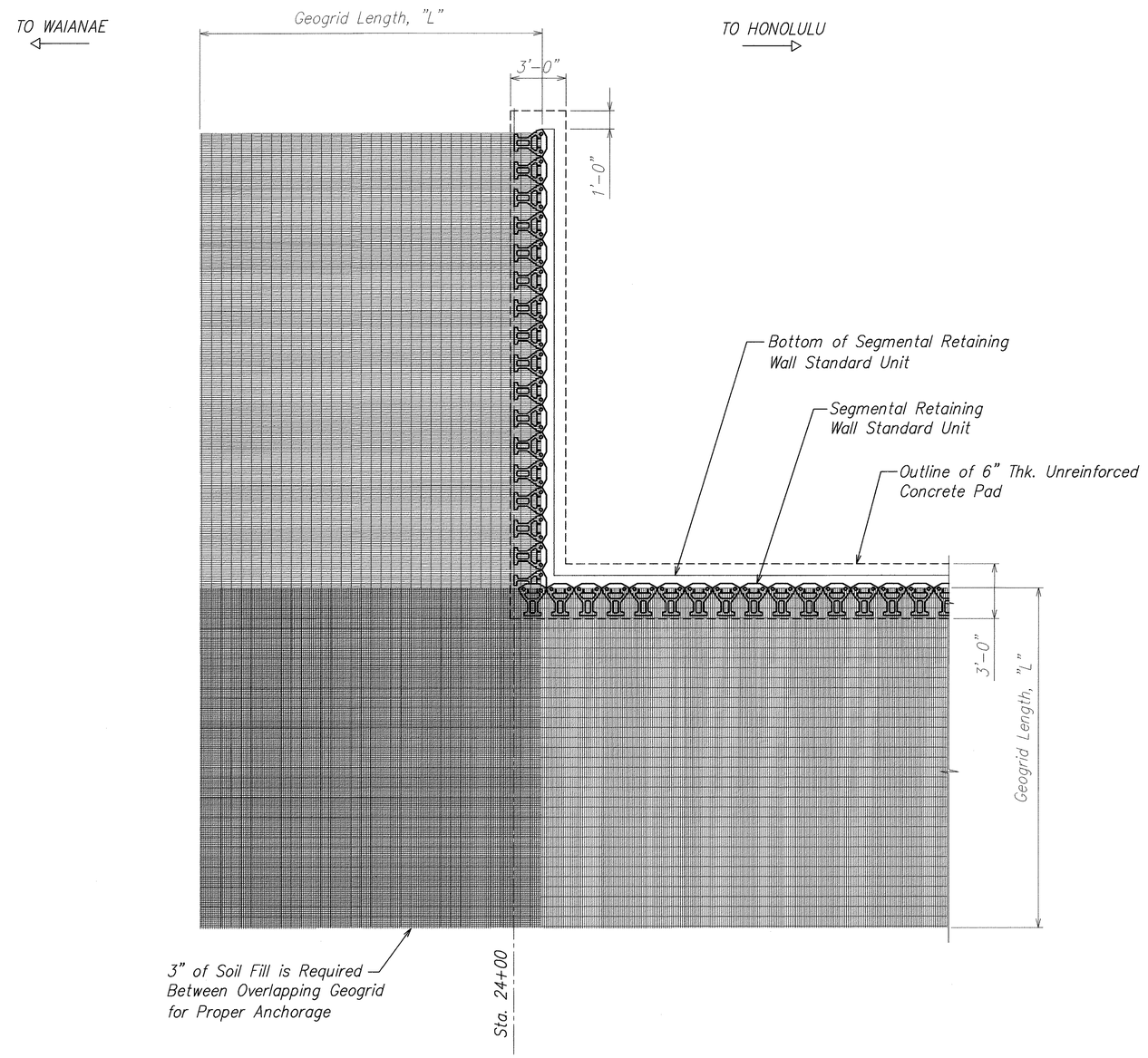
SHEET No. AW9.6 OF 140 SHEETS

ADD. 611

\\Cad1\vol1\2001\10066-WAIWALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW0906.dwg, AW9.6, 10/14/2003 3:10:11 PM, KSFinc.pc3

AB-AW0906.DWG 1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 612 | 816 |




# SEGMENTAL RETAINING WALL SRW-1 SECTION/PLAN AT CORNER (STA. 24+00)

SCALE: 1/4" = 1'-0"

A
AW9.2 | AW9.7

ORIGINAL PLAN
NOTE BOOK No.

SURVEY PLOTTED BY DATE
DRAWN BY
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QUANTITIES BY
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NO. 8104-S
HAWAII, U.S.A.

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HIGHWAYS DIVISION

SRW-1 PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

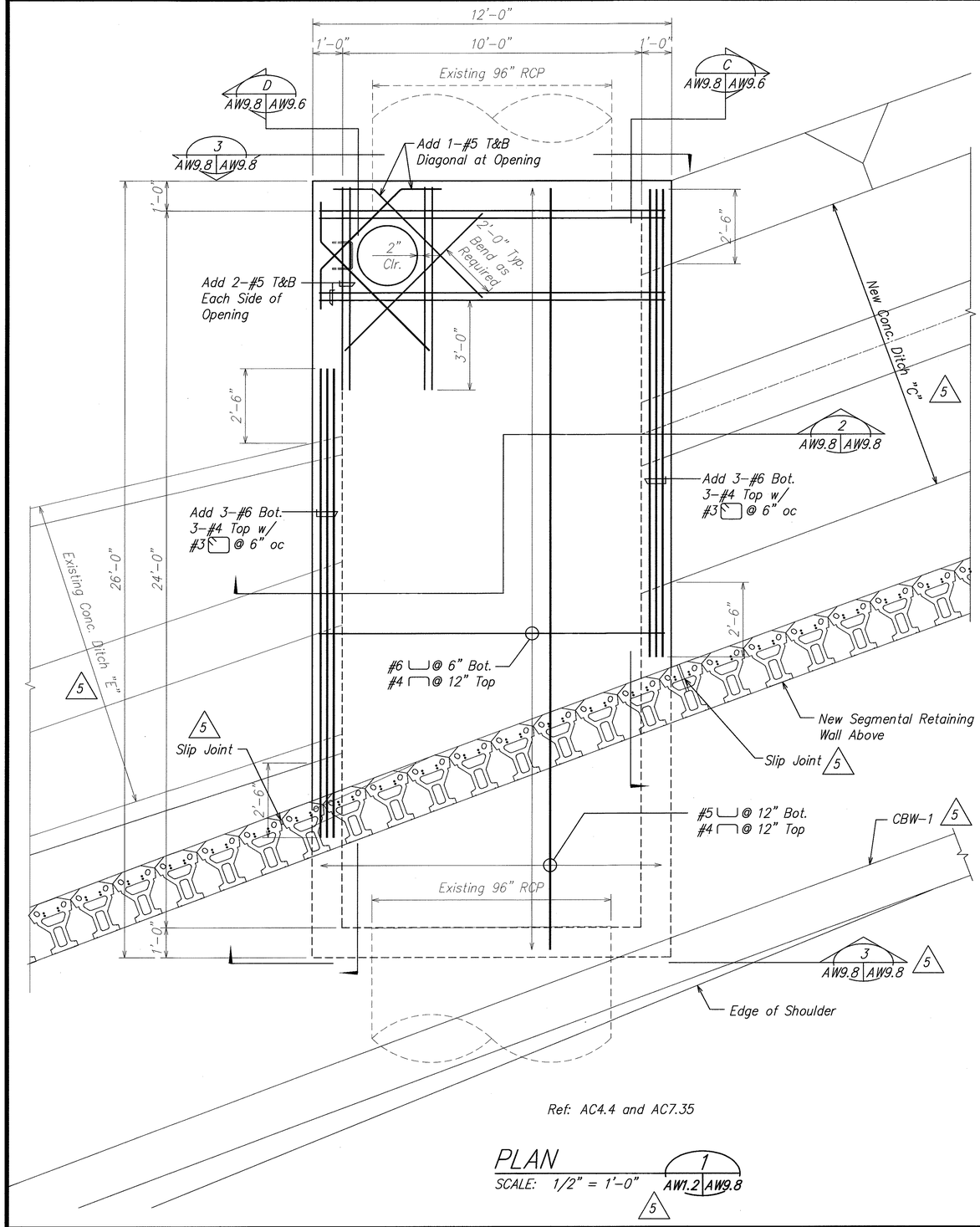
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612

*.DWG
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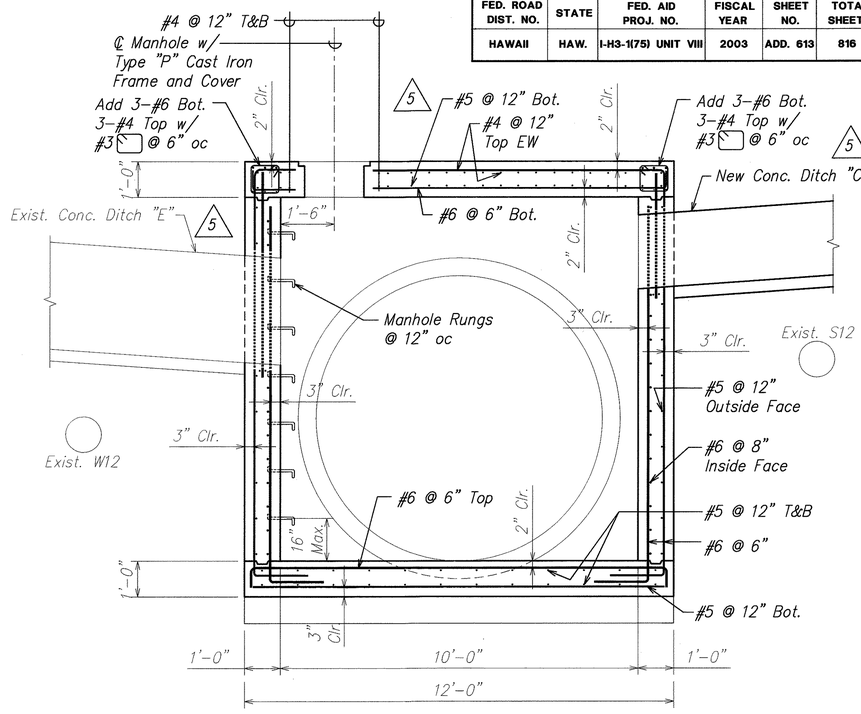
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 613 | 816 |

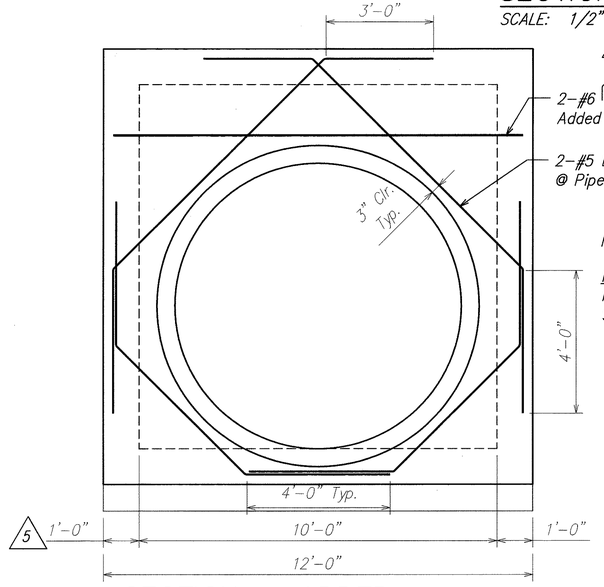



Ref: AC4.4 and AC7.35

PLAN 1 AW1.2 AW9.8
SCALE: 1/2" = 1'-0"
5




SECTION 2 AW9.8 AW9.8
SCALE: 1/2" = 1'-0"
5 AW1.2




Ref.: AC4.4 and AC7.35

Note:
For Typical Wall Reinf.
See 2/AW9.8.

SECTION - ADDED REINFORCING AT OPENING 3 AW9.8 AW9.8
SCALE: 1/2" = 1'-0"

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

5 INLET STRUCTURE NO. 1
PLAN & SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW9.8 OF 140 SHEETS

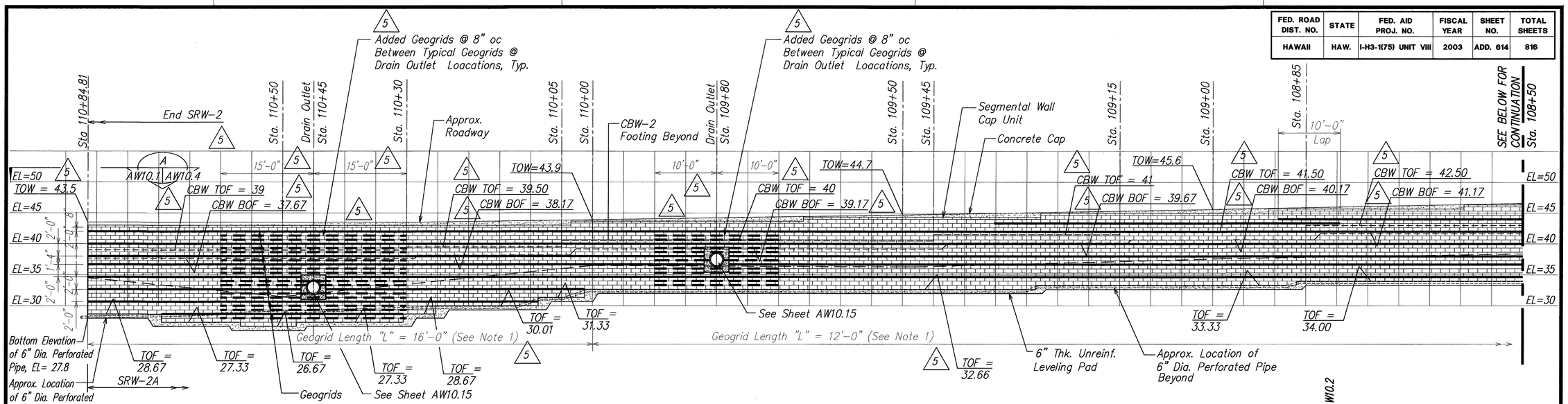
ADD. 613

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

\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\10-15-03 AW AD06\AD06 AB-AW0908.dwg, AW9.8, 10/14/2003 3:10:46 PM, KSFinc.pc3

AW-**.DWG
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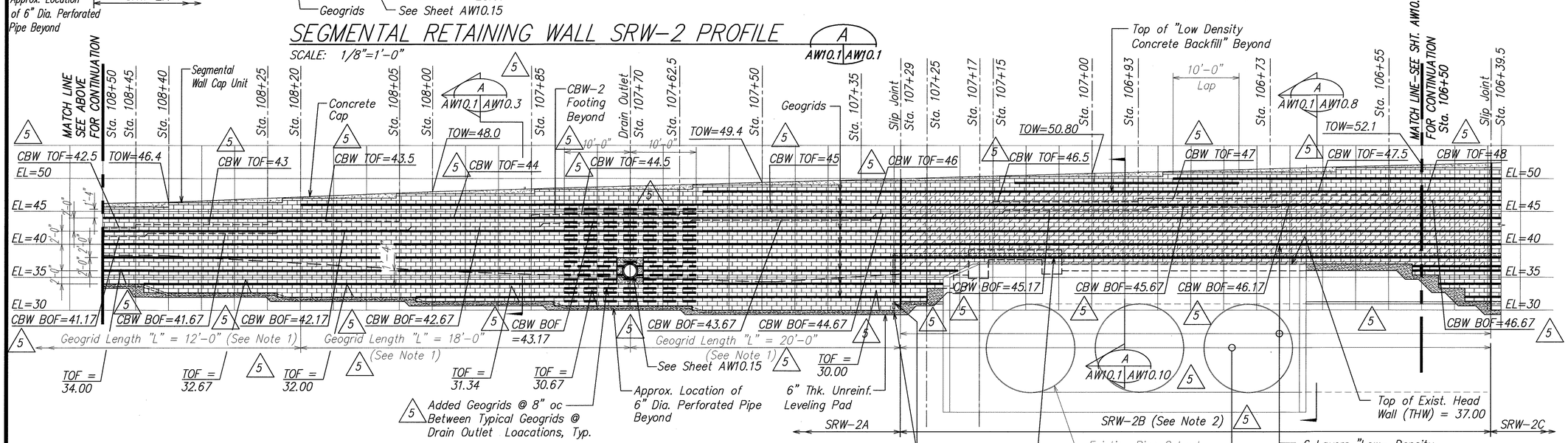
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 614 | 816 |




## SEGMENTAL RETAINING WALL SRW-2 PROFILE

SCALE: 1/8"=1'-0"

A AW10.1 AW10.1




## SEGMENTAL RETAINING WALL SRW-2 PROFILE

SCALE: 1/8" =1'-0"

B AW10.1 AW10.1

5 NOTES:

1. Geogrid Long Term Design Strength (LTDS) = 3,200 lbs./ft.
2. Construct Segmental Retaining Wall SRW-2B at least 14 days after the latest culvert concrete lining and new headwall pour or until the concrete has attained a compressive strength of 4,000 psi, whichever occurs later. Refer to Civil sheets AC7.41 to AC7.44 and Site Structure Construction Sequence sheet AW0.11

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
| No. | TRACED BY | |
| | DESIGNED BY | |
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SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes, Revised Limits of Low-Density Conc. Backfill, Added Section Cut |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SEGMENTAL RETAINING WALL
SRW-2 PROFILE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

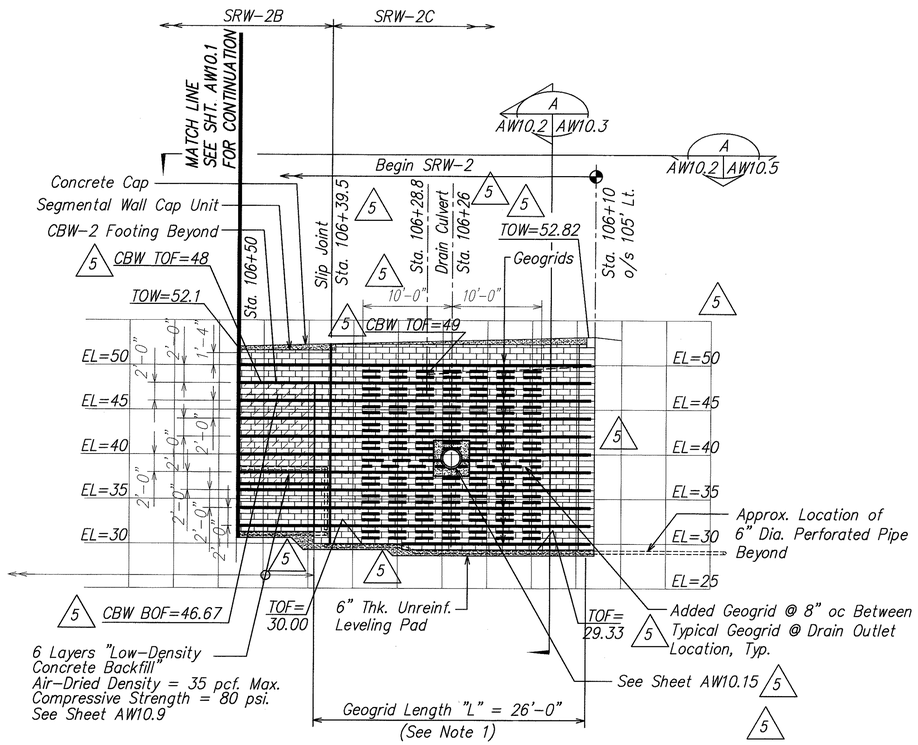
SHEET No. AW10.1 OF 140 SHEETS

ADD. 614

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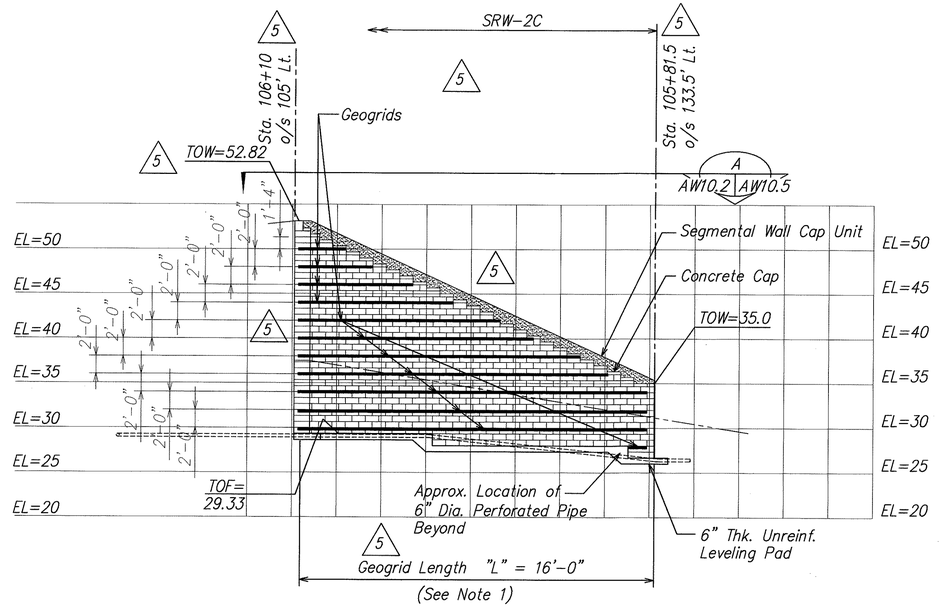
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 615 | 816 |




## SEGMENTAL RETAINING WALL SRW-2 PROFILE

SCALE: 1/8" = 1'-0"

A AW10.2 AW10.2




## SEGMENTAL RETAINING WALL SRW-2 PROFILE (WALL RETURN FOR SRW-2)

SCALE: 1/8" = 1'-0"

B AW10.2 AW10.2

5 NOTES:

1. Geogrid Long Term Design Strength (LTDS) = 3,200 lbs./ft.
2. Offset (O/S) is measured to top of wall at backface of unit.

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes, Revised Limits of Low-Density Conc. Backfill |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SEGMENTAL RETAINING WALL
SRW-2 PROFILE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

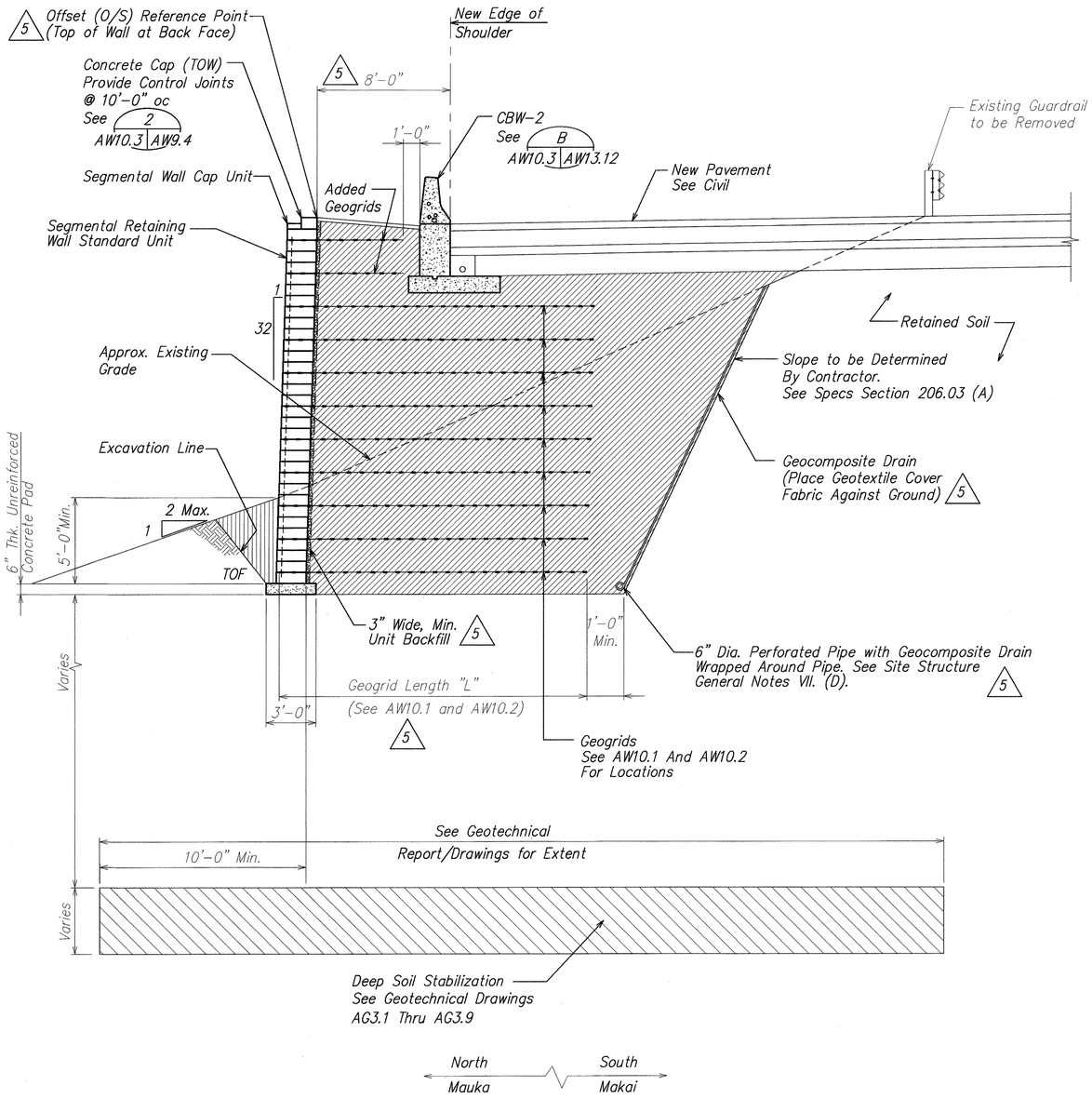
SHEET No. AW10.2 OF 140 SHEETS

ADD. 615

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 616 | 816 |




## SEGMENTAL RETAINING WALL SRW-2 SECTION

SCALE: 1/4" = 1'-0"

A AW10.1 | AW10.3

5 AW10.2 & AW10.7

LEGEND:

- Select Granular Backfill
- Imported Borrow or Onsite Material Backfill
- 5 Unit Backfill

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Notes, Added Unit Backfill Revised Slope |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-2 SECTION AND DETAIL

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

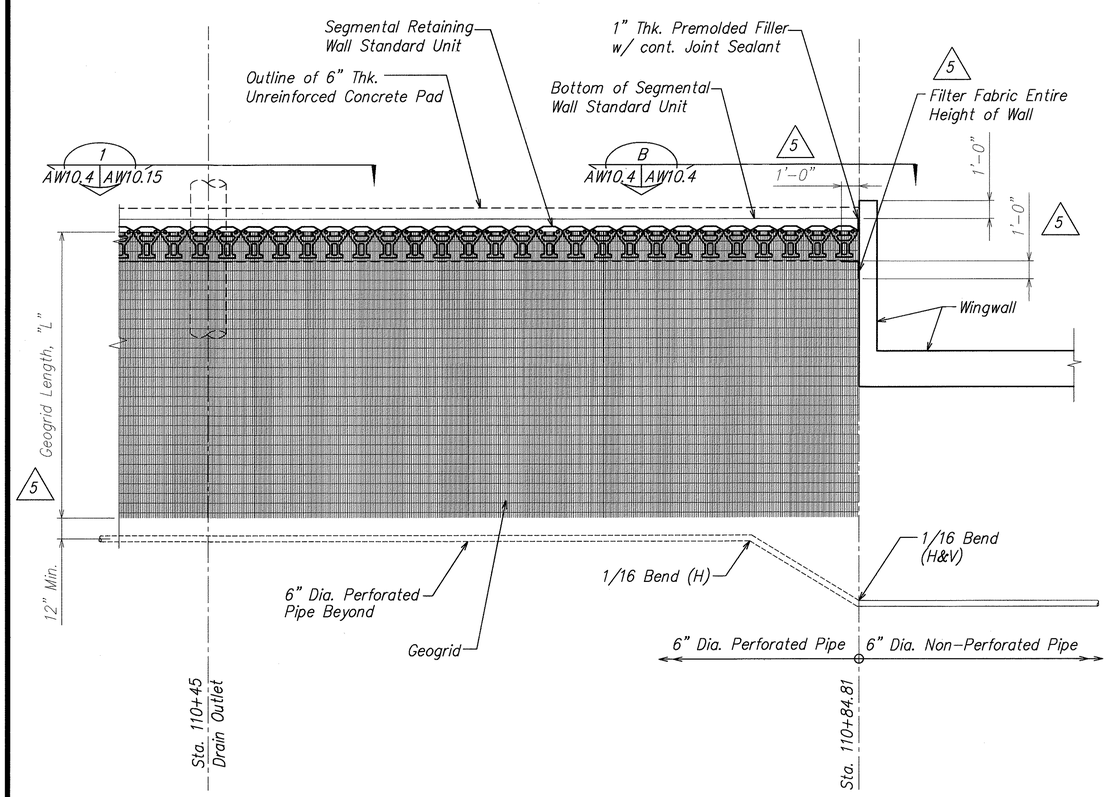
SHEET No. AW10.3 OF 140 SHEETS

ADD. 616

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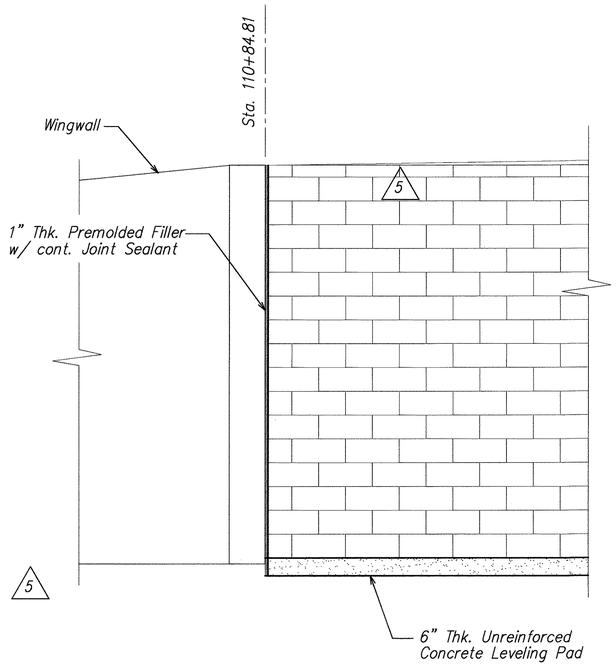
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 617 | 816 |




## SEGMENTAL RETAINING WALL SRW-2
## SECTION / PLAN AT STA. 110+84.81 (A AW10.1 AW10.4)

SCALE: 1/4" = 1'-0"

5 AW4.2




## SECTION AT CORNER (B AW10.4 AW10.4)

SCALE: 1/2" = 1'-0"

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
| No. | TRACED BY | |
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HIGHWAYS DIVISION

# SRW-2 SECTION AND PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Added Filter Fabric, Revised Wingwall and Geogrid |

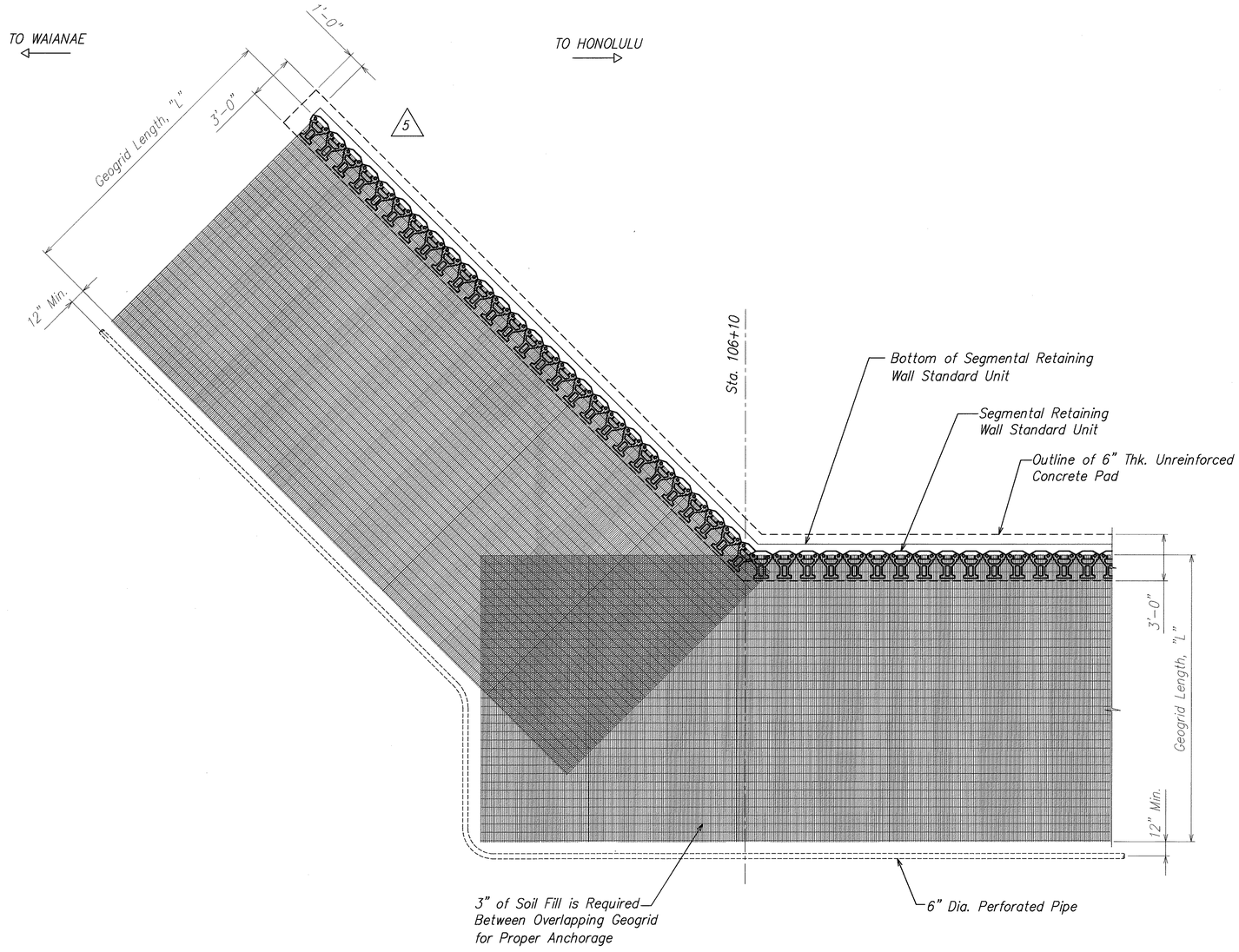
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ADD. 617

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 618 | 816 |




# SEGMENTAL RETAINING WALL SRW-2 SECTION/PLAN AT CORNER STA. 106+10

SCALE: 1/4" = 1'-0"

5 AW4.2 — A AW10.2 | AW10.5

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | " |
| NOTE BOOK | TRACED BY | " |
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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Sheet Reference |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-2 SECTION & PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

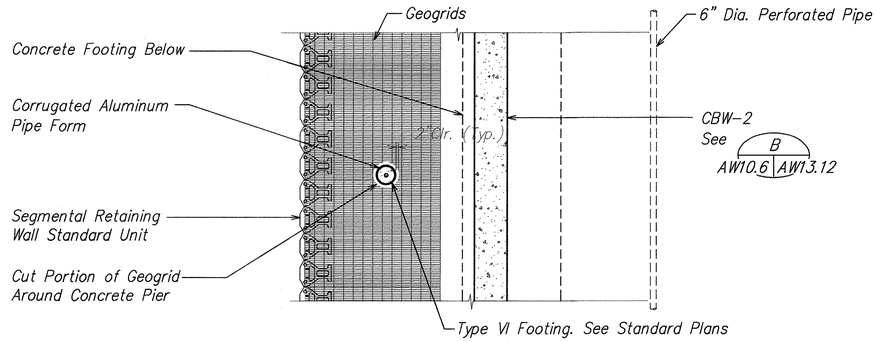
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ADD. 618

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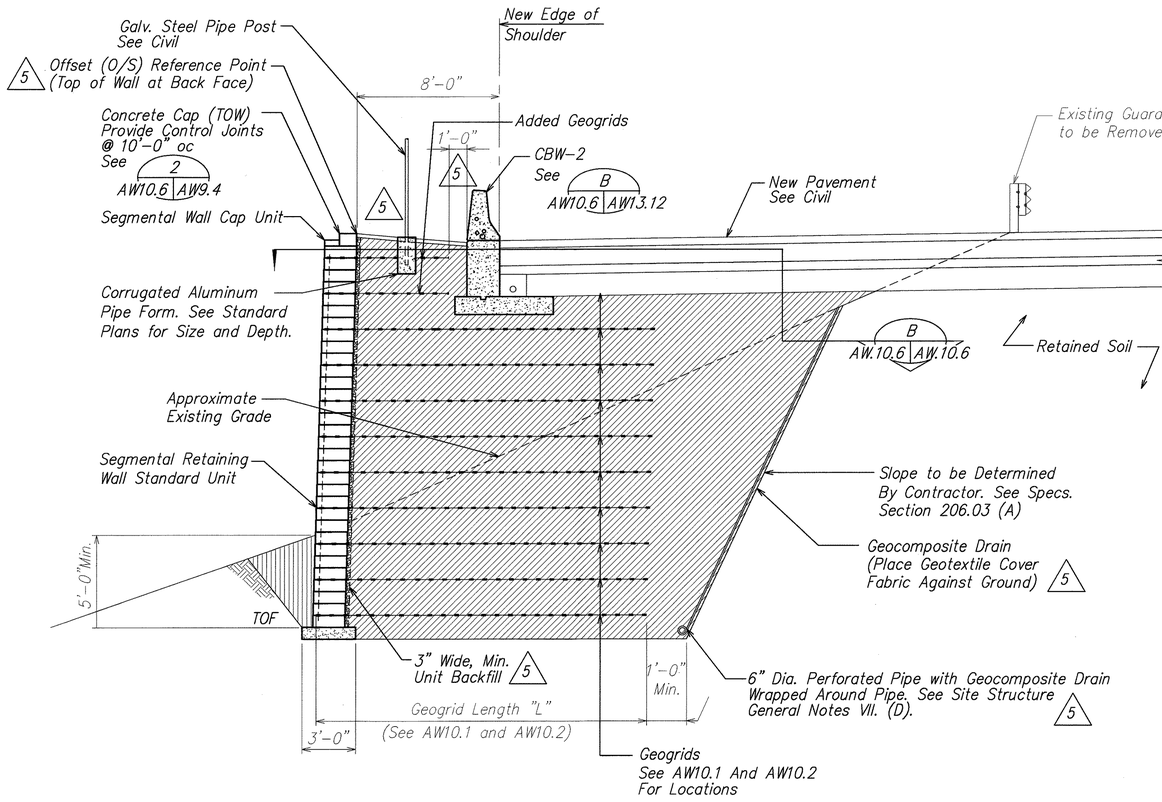
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 619 | 816 |




## SEGMENTAL RETAINING WALL SRW-2 SECTION / PLAN

SCALE: 1/4" = 1'-0"

B AW10.6 | AW10.6




## SEGMENTAL RETAINING WALL SRW-2 SECTION WHERE SIGN POST SUPPORT OCCUR

SCALE: 1/4" = 1'-0"

A AW10.6 | AW10.6

LEGEND:

- Select Granular Backfill
- Imported Borrow or Onsite Material Backfill
- 5 Unit Backfill

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Added Unit Backfill |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-2 SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

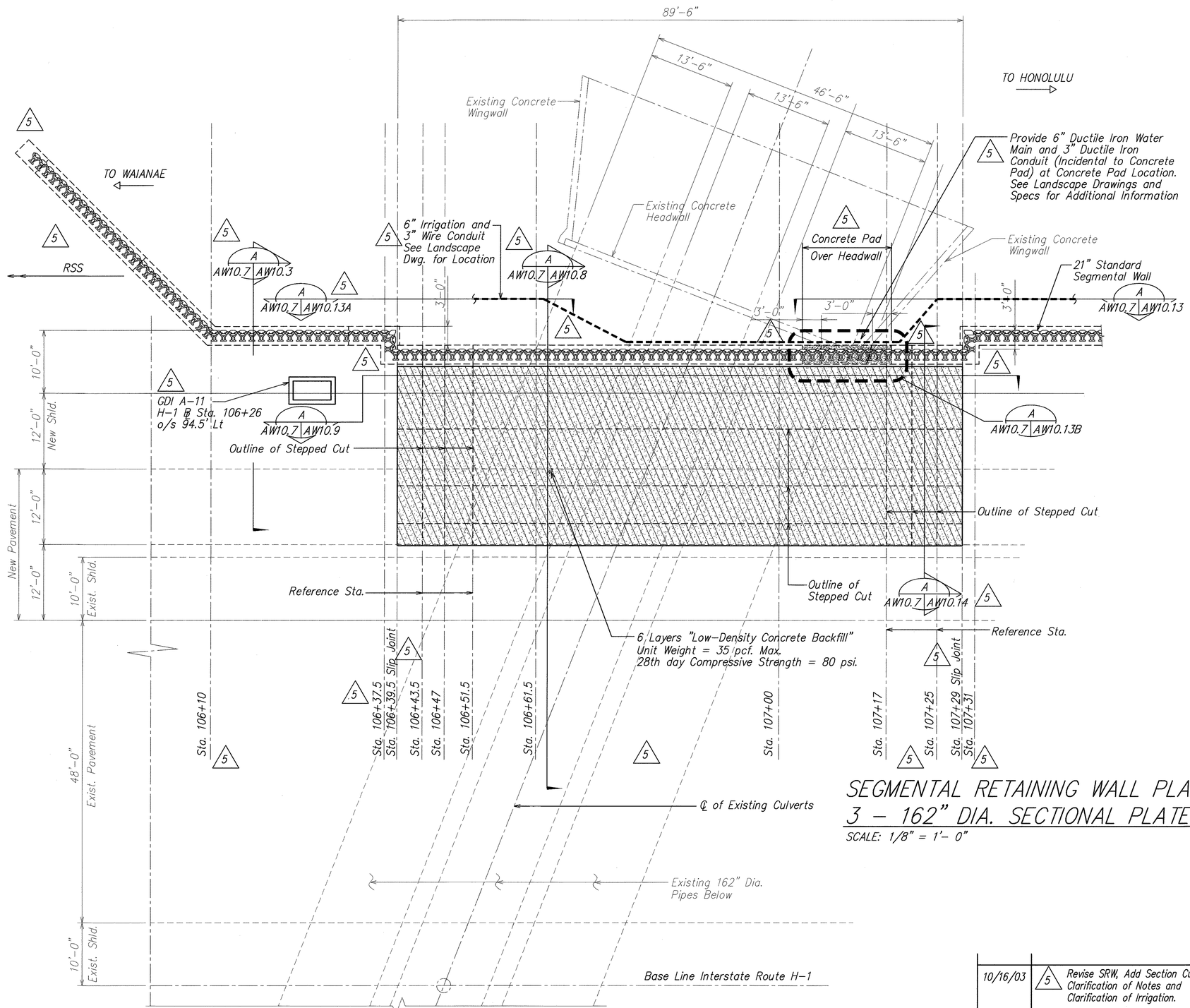
SHEET No. AW10.6 OF 140 SHEETS

ADD. 619

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 620 | 816 |




# SEGMENTAL RETAINING WALL PLAN AT EXISTING 3 – 162" DIA. SECTIONAL PLATE PIPE CULVERT

A AW10.7 AW10.7

SCALE: 1/8" = 1'- 0"

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DESIGNED BY
QUANTITIES BY
CHECKED BY

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revise SRW, Add Section Cuts, Clarification of Notes and Clarification of Irrigation. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-2 PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

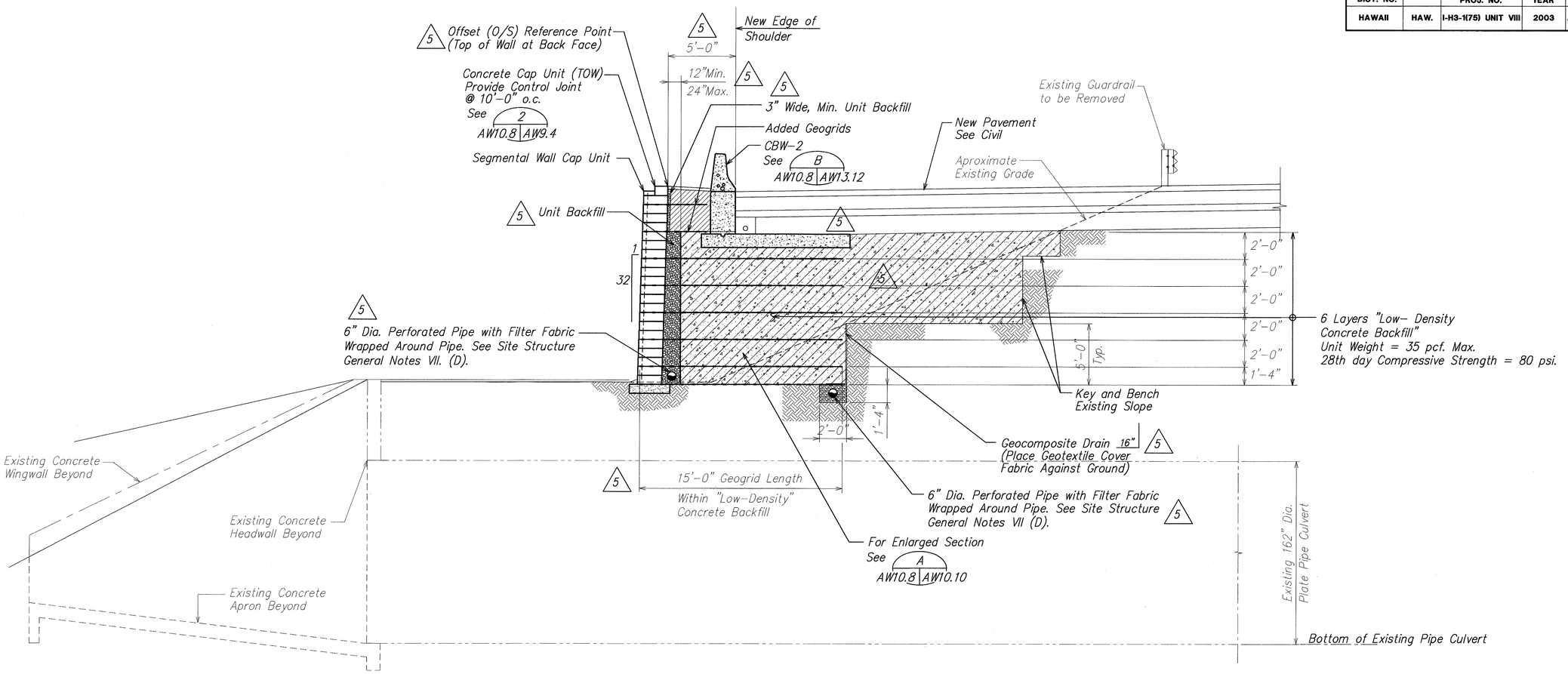
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW10.7 OF 140 SHEETS

AB-AW1007.DWG
1 = 1

ADD. 620

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 621 | 816 |




NOTES:

1. Low density concrete backfill shall be formed and placed at 2'-0" maximum lifts.
2. Low density concrete backfill lifts shall be placed no less than 24 hours. after the completion of the previous low density concrete backfill lift. Backfill above low density concrete shall not occur until 30 days after last concrete backfill lift.
3. Roughen low density concrete surfaces to 1/4" minimum roughness at top of each lift.

5 4. Construct Segmental Retaining Wall SRW-2B at least 14 days after the latest culvert concrete lining and new headwall pour or until the concrete has attained a compressive strength of 4,000 psi, whichever occurs later. Refer to Civil sheets AC7.41 to AC7.44 and Site Structure Construction Sequence sheet AW0.11

LEGEND:

- Select Granular Backfill
- Low – Density Concrete Backfill
- 5 Unit Backfill

# SEGMENTAL RETAINING WALL (SRW-2) SECTION AT EXISTING 3 – 162" DIA. SECTIONAL PLATE PIPE CULVERT

SCALE: 1/4" = 1'- 0"

A AW4.2 AW10.8
AW10.1 & AW10.7 5

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-2 SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW10.8 OF 140 SHEETS

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Added Unit Backfill, Geogrids and Geocomposite Drain |

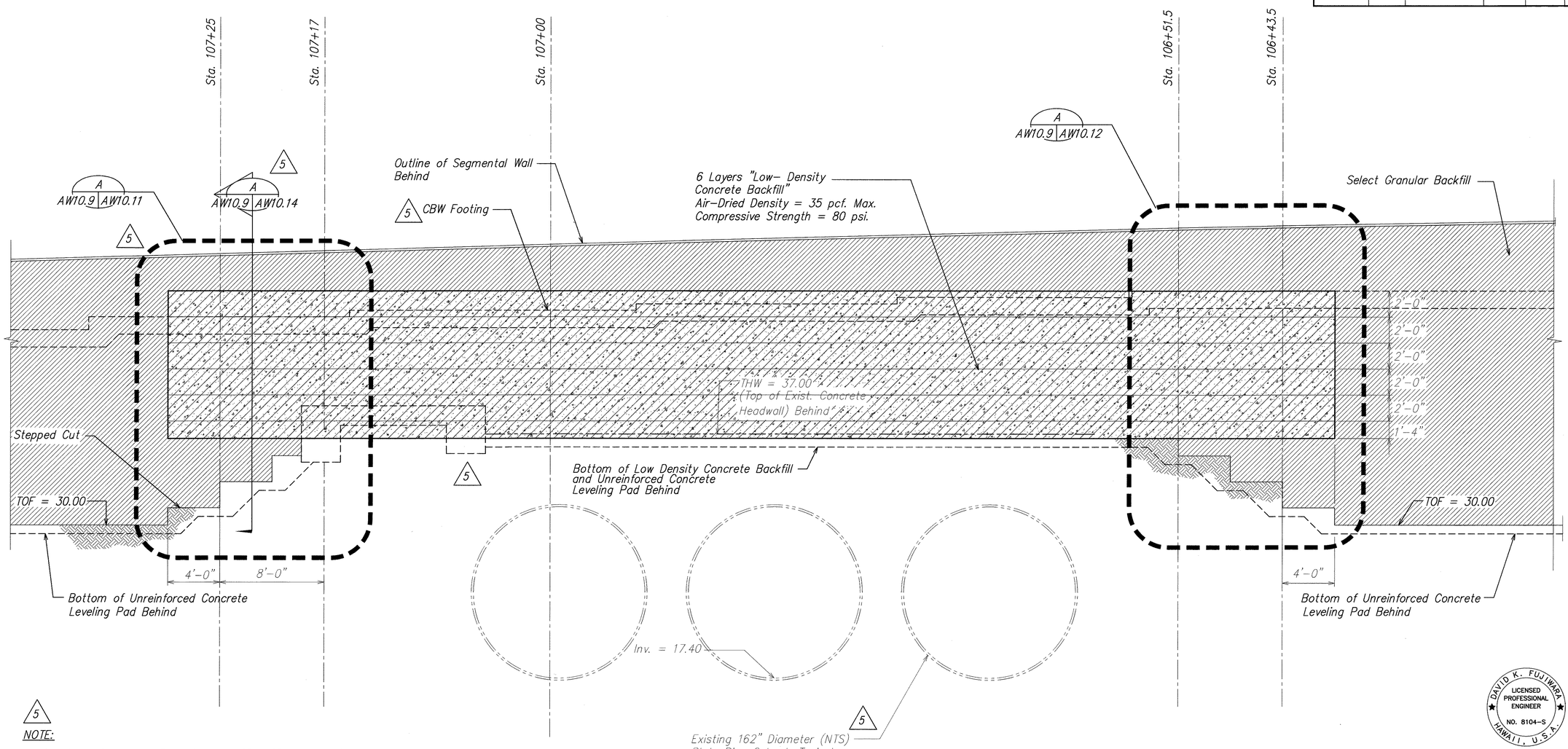
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

AB-AW1008.DWG 1 = 1

\\Cad1\sf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1008.dwg, AW10.8, 10/14/2003 3:18:06 PM, KSFinc.pc3

ADD. 621

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 622 | 816 |




5

NOTE:

1. Construct Segmental Retaining Wall SRW-2B at least 14 days after the latest culvert concrete lining and new headwall pour or until the concrete has attained a compressive strength of 4,000 psi, whichever occurs later. Refer to Civil sheets AC7.41 to AC7.44 and Site Structure Construction Sequence sheet AW0.11

## SECTION AT EXISTING SECTIONAL PLATE PIPE CULVERT

SCALE: 1/4" = 1'-0"

A AW4.2 AW10.9 AW10.7 5

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes, Revised Footing |

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-2 SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

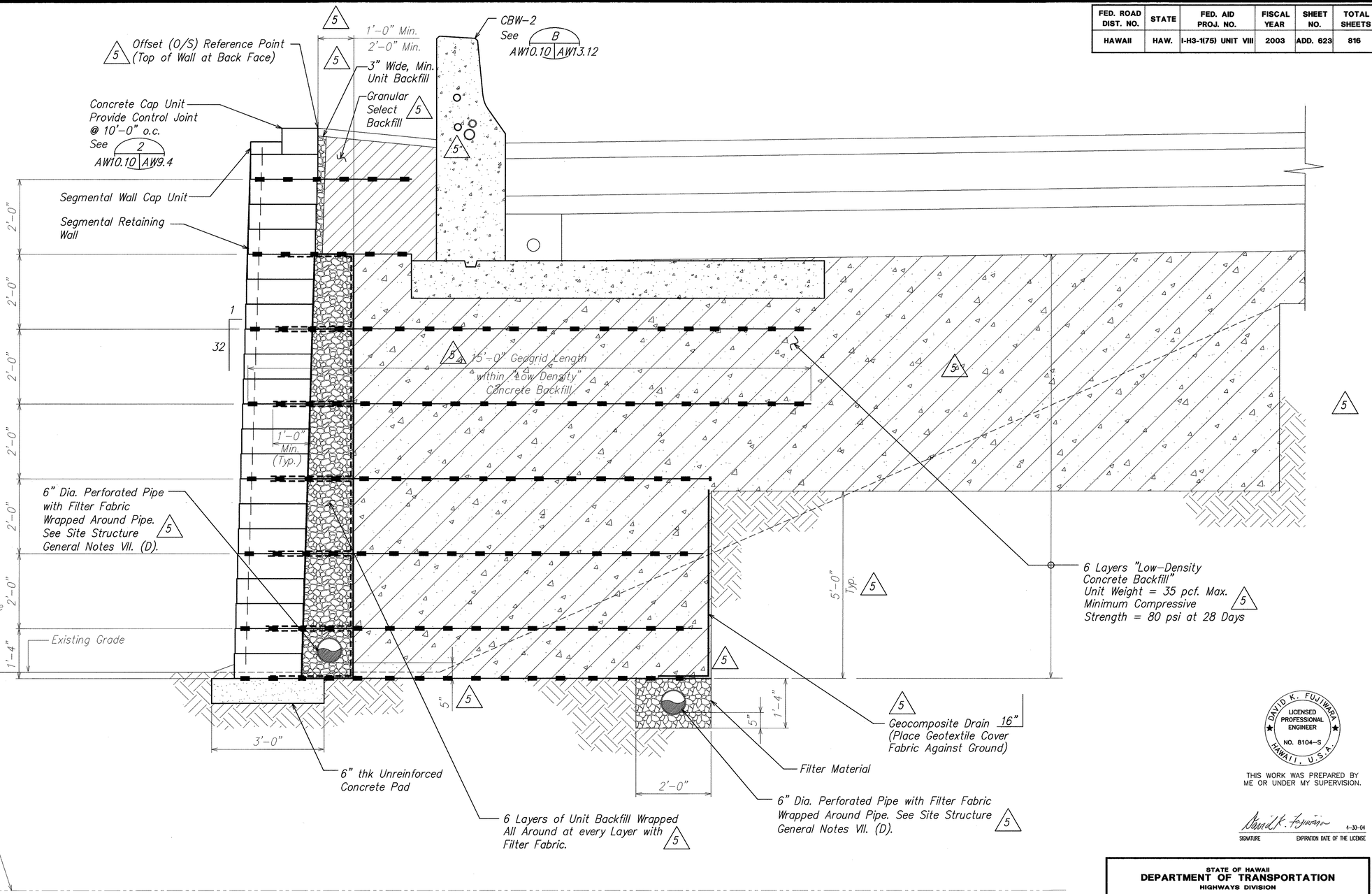
SHEET No. AW10.9 OF 140 SHEETS

ADD. 622

\\Cad1\vsf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1009.dwg, AW10.9, 10/14/2003 3:18:34 PM, KSFinc.pc3

AB-AW1009.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 623 | 816 |




## SEGMENTAL RETAINING WALL (SRW-2) SECTION AT EXISTING SECTIONAL PIPE CULVERT

SCALE: 3/4" = 1'-0"

5 AW10.1 — A AW10.8 AW10.10

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Low-Density Backfill, Unit Backfill and Clarification of Notes |

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NO. 8104-S
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-2 SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

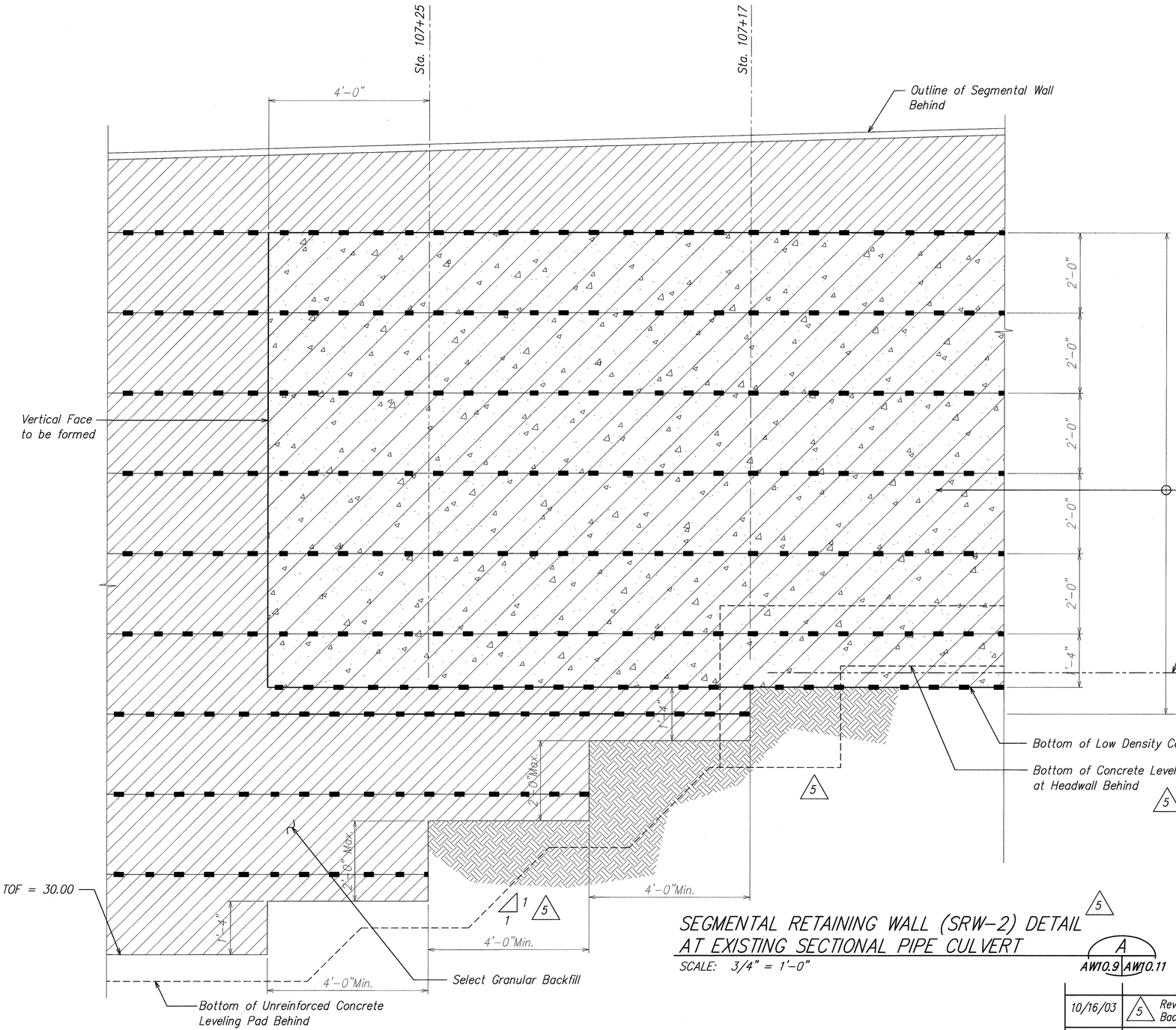
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW10.10 OF 140 SHEETS

AB-AW1010.DWG
1 = 1

ADD. 623

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 624 | 816 |




SEGMENTAL RETAINING WALL (SRW-2) DETAIL AT EXISTING SECTIONAL PIPE CULVERT

SCALE: 3/4" = 1'-0"

5

A

AW10.9 | AW10.11

| SURVEY PLOTTED BY | DATE |
|---|---|
| DRAWN BY | |
| TRACED BY | |
| DESIGNED BY | |
| QUANTITIES BY | |
| CHECKED BY | |

ORIGINAL PLAN

NOTE BOOK

No.

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Low-Density Backfill, Unit Backfill and Clarification of Notes |

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SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-2 SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

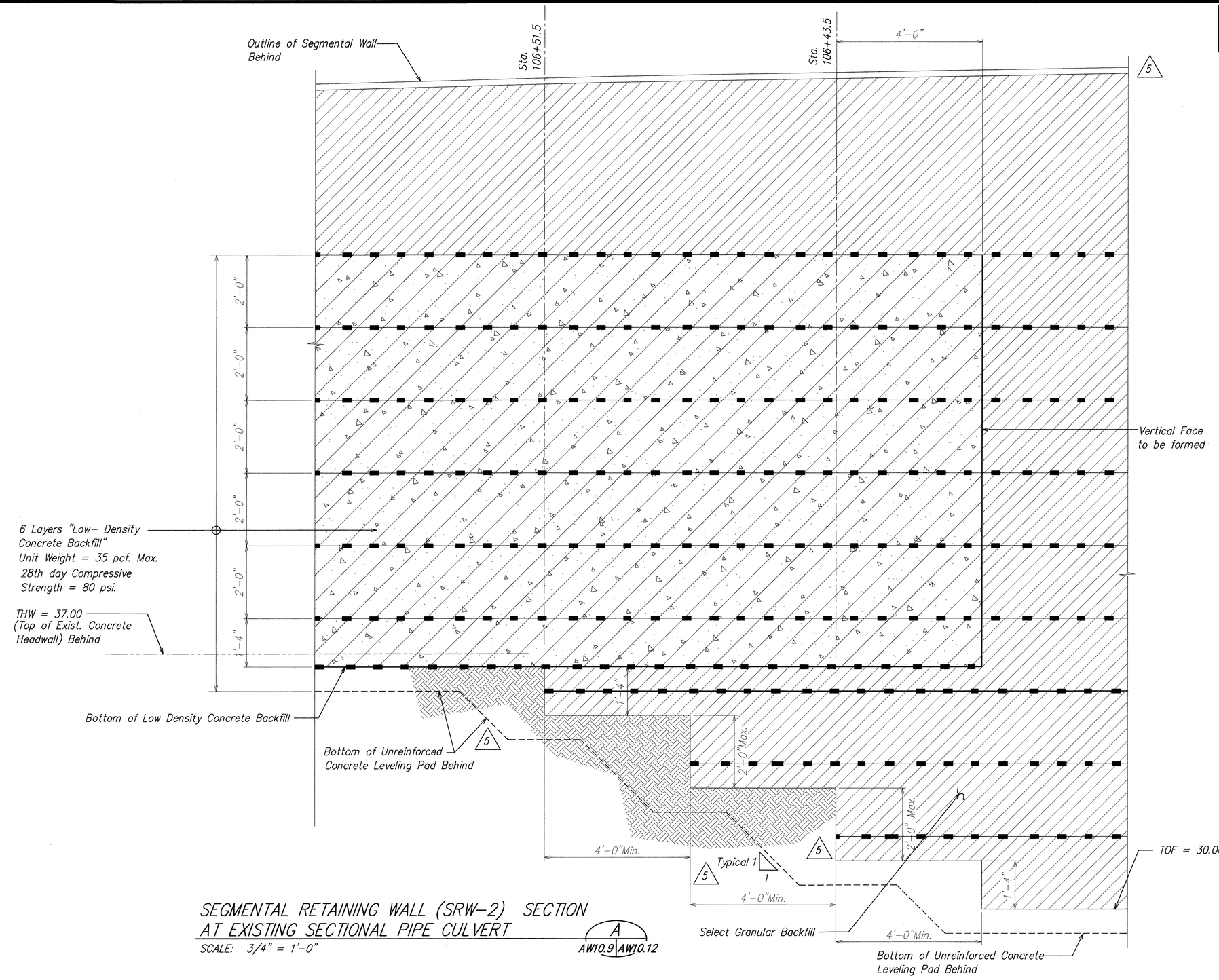
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ADD. 624

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AB-AW1011.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 625 | 816 |




SEGMENTAL RETAINING WALL (SRW-2) SECTION AT EXISTING SECTIONAL PIPE CULVERT

SCALE: 3/4" = 1'-0"

A
AW10.9 | AW10.12

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

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes, Revised Top of Wall |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-2 SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

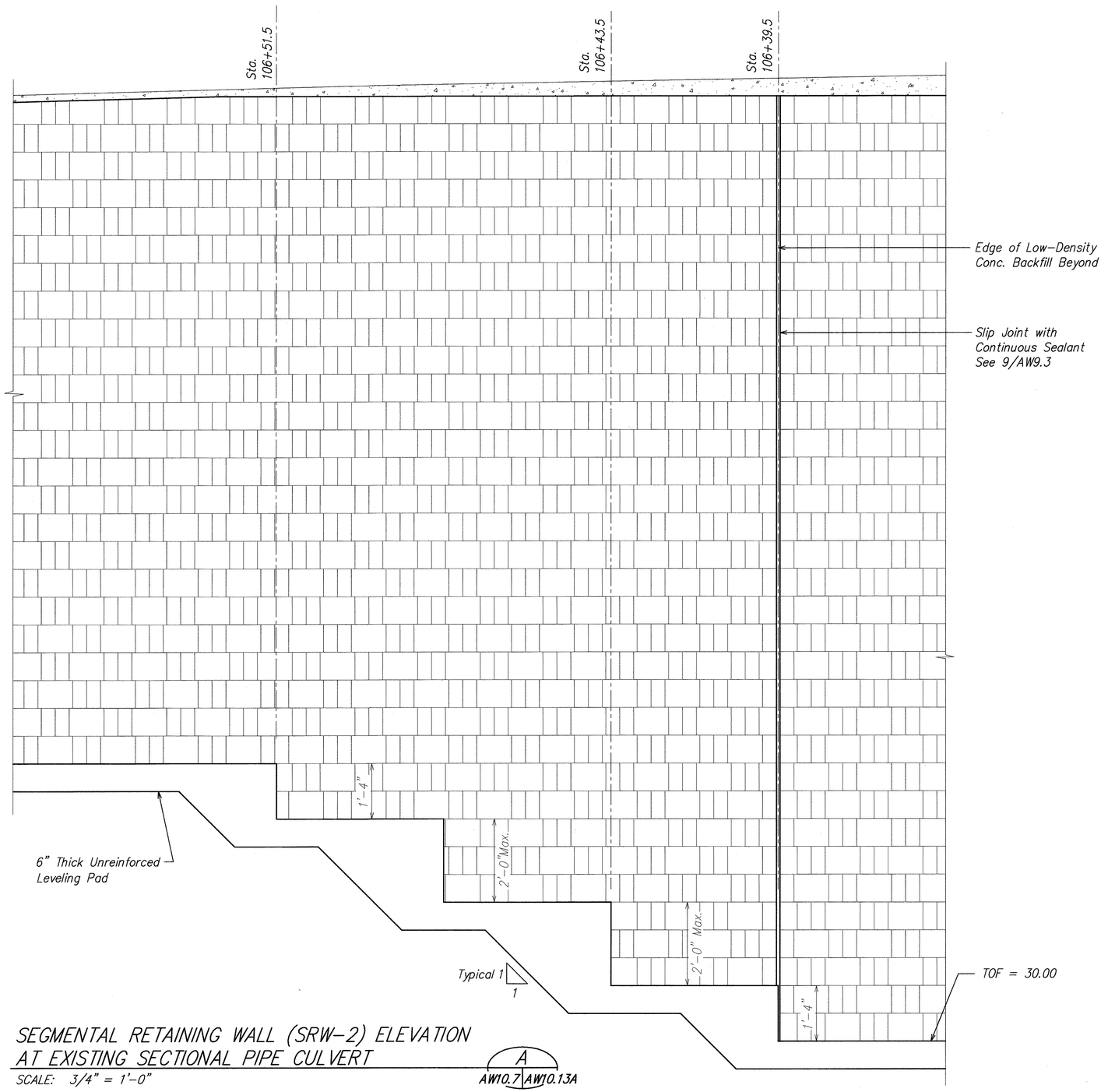
SHEET No. AW10.12 OF 140 SHEETS

ADD. 625

\\Ccal\vsf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1012.dwg, AW10.12, 10/14/2003 3:22:49 PM, KSFinc.pc3

AB-AW1012.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 626S-1 | 816 |




SEGMENTAL RETAINING WALL (SRW-2) ELEVATION AT EXISTING SECTIONAL PIPE CULVERT

SCALE: 3/4" = 1'-0"

A
AW10.7 | AW10.13A

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

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-2 SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

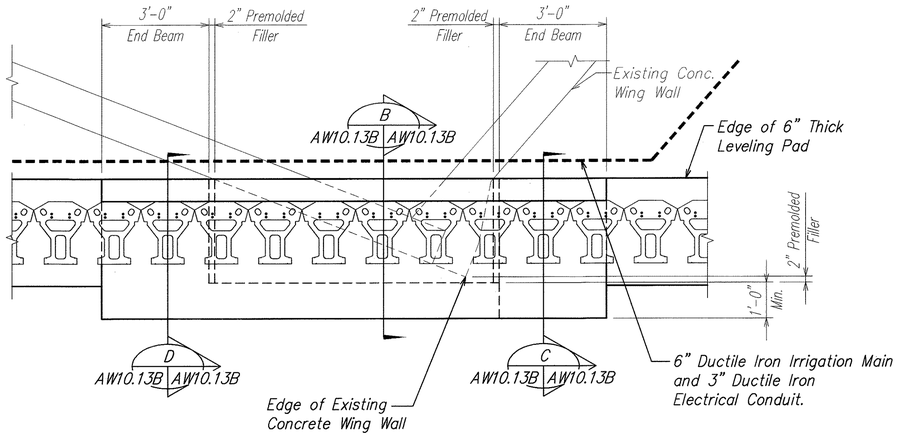
SHEET No. AW10.13A OF 140 SHEETS

ADD. 626S-1

AB-AW013A.DWG
1 = 1

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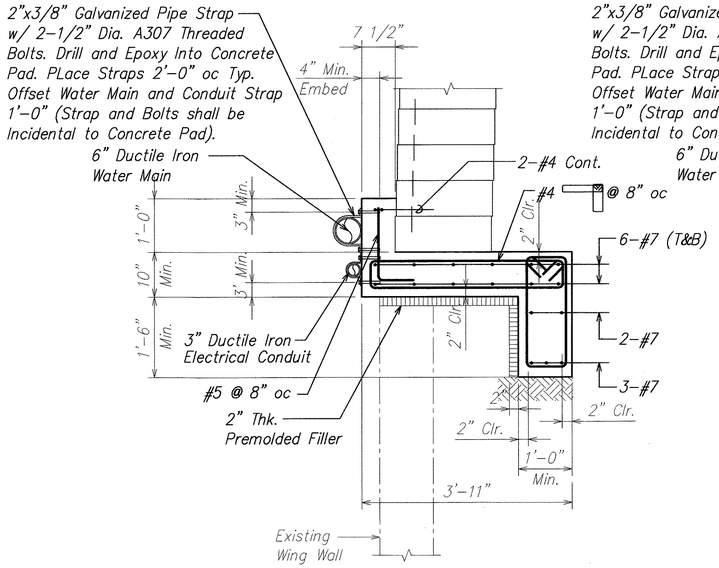
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 626S-2 | 816 |




## CONC. PAD AT HEADWALL DETAIL A

SCALE: 1/2" = 1'-0"

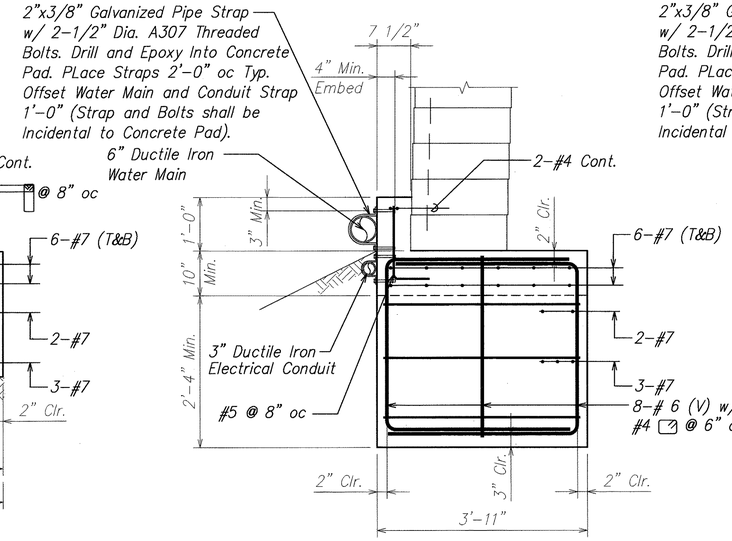
AW10.7 | AW10.13B




## SECTION B

SCALE: 3/4" = 1'-0" AW10.13 | AW10.13B

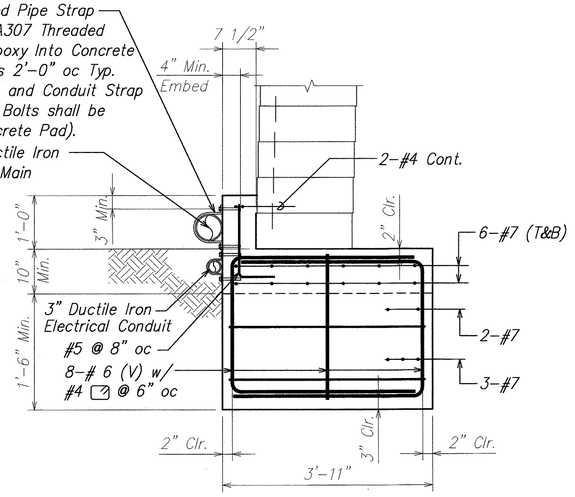
AW10.13B




## SECTION C

SCALE: 3/4" = 1'-0" AW10.13 | AW10.13B

AW10.13B




## SECTION D

SCALE: 3/4" = 1'-0" AW10.13 | AW10.13B

AW10.13B

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| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
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| | DESIGNED BY | |
| | QUANTITIES BY | |
| | CHECKED BY | |

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

# HEADWALL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

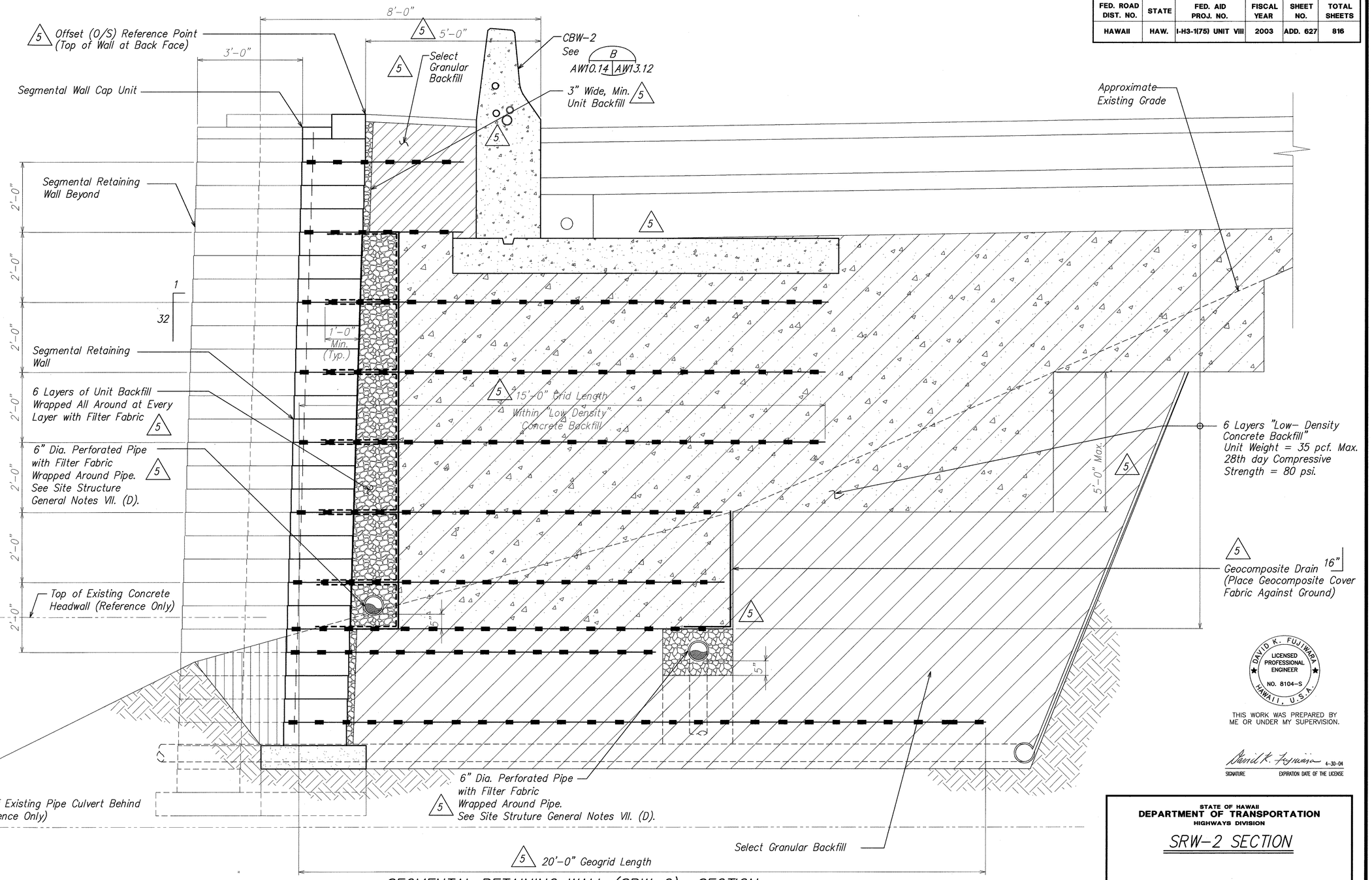
**SHEET No. AW10.13B OF 140 SHEETS**

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 New Sheet |

ADD. 626S-2


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AB-AW013B.DWG
1 = 1
SFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 627 | 816 |




SEGMENTAL RETAINING WALL (SRW-2) SECTION AT EXISTING SECTIONAL PIPE CULVERT

SCALE: 3/4" = 1'-0"

A AW4.2 | AW10.14

AW10.7, AW10.9

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes, Added Unit Backfill, Revised Geogrid |

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SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SRW-2 SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

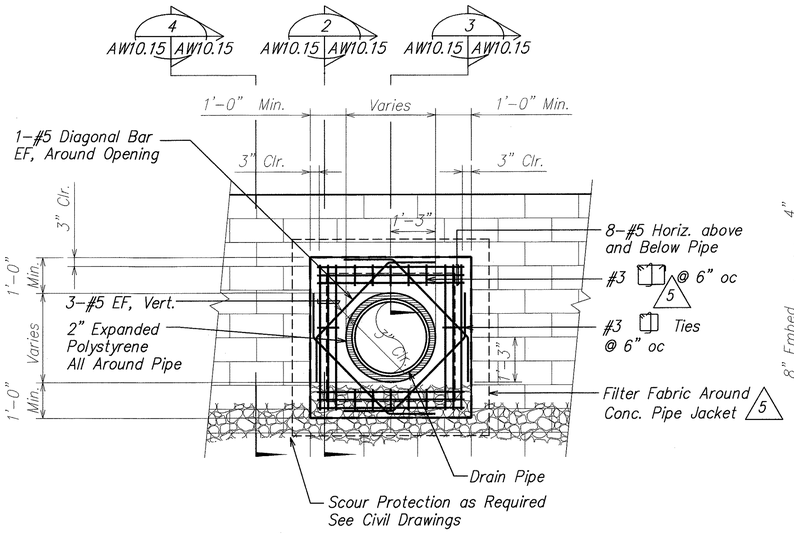
SHEET No. AW10.14 OF 140 SHEETS

ADD. 627

\\Ca1\vsf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1014.dwg, AW10.14, 10/14/2003 3:26:41 PM, KSFinc.pc3

AB-AW1014.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 628 | 816 |



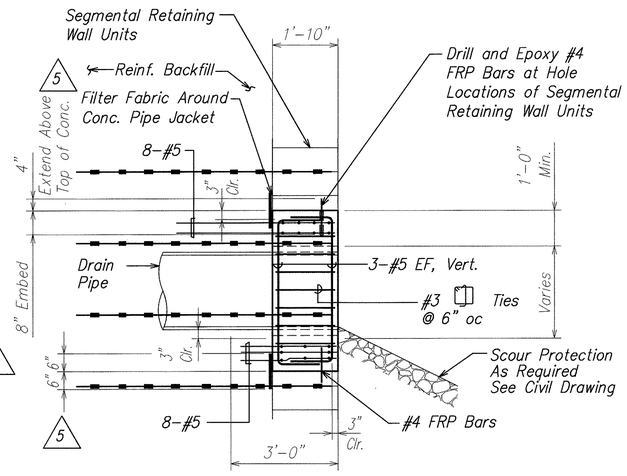

## TYPICAL PIPE OUTLET DETAIL (1)

SCALE: 1/2" = 1'-0"

AW4.2 | AW10.15

5

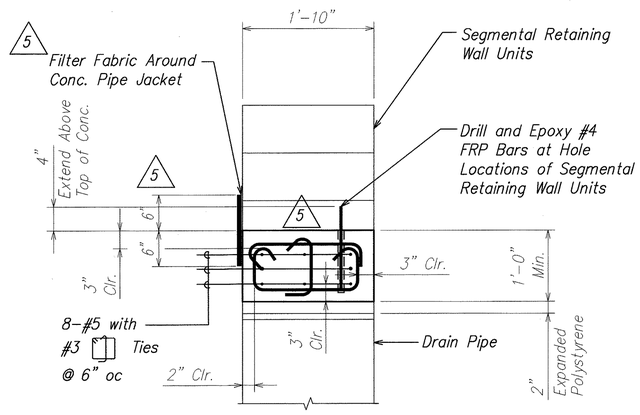
AW10.4




## SECTION (2)

SCALE: 1/2" = 1'-0"

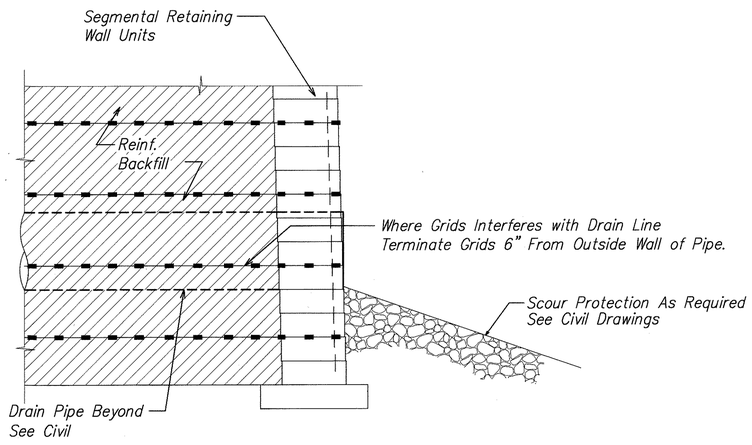
AW10.15 | AW10.15




## SECTION (3)

SCALE: 1" = 1'-0"

AW10.15 | AW10.15




## SECTION (4)

SCALE: 1/2" = 1'-0"

AW10.15 | AW10.15

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
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| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
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David K. Fujiwara 4-30-04

SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SRW-2 DETAIL AND SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

SHEET No. AW10.15 OF 140 SHEETS

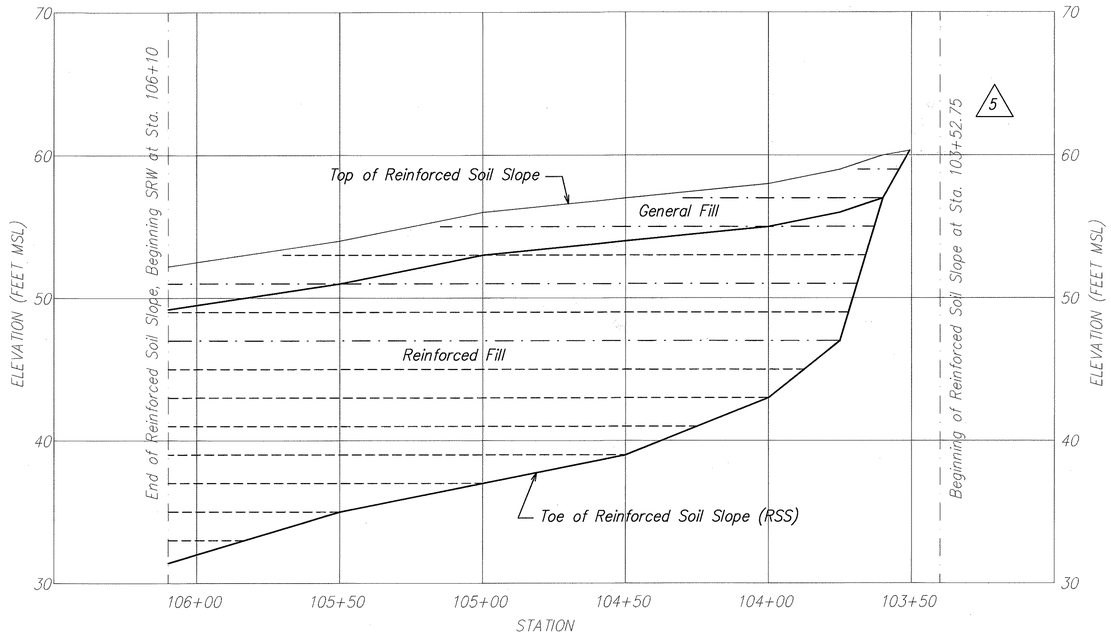
| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes, Added Filter Fabric |

ADD. 628

\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\10-15-03 AW AD06\AD06 AB-AW1015.dwg, AW10.15, 10/14/2003 3:29:42 PM, KSFinc.pc3

AB-AW1015.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 629 | 816 |




LEGEND:

- - - - - Primary Reinforcement

— · — Secondary Reinforcement

## REINFORCED SOIL SLOPE LAYOUT (A)

SCALE: HORIZ. 1" = 25'
VERT. 1" = 5'

AW4.1 | AW11.1

AW11.1

## REINFORCED SOIL SLOPE – REINFORCEMENT SCHEDULE

| ELEV. (FEET MSL) | PRIMARY REINFORCEMENT EMBEDMENT LENGTH (FEET) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FROM TO | 5 STA. 103+52.75 STA. 103+60 | STA. 103+60 STA. 103+75 | STA. 103+75 STA. 104+00 | STA. 104+00 STA. 104+25 | STA. 104+25 STA. 104+50 | STA. 104+50 STA. 104+75 | STA. 104+75 STA. 105+00 | STA. 105+00 STA. 105+25 | STA. 105+25 STA. 105+50 | STA. 105+50 STA. 105+85 | STA. 105+85 STA. 106+10 | TYPE OF REINFORCEMENT |
| +59' | | – | 4 | – | – | – | – | – | – | – | – | – | SECONDARY |
| +57' | | – | 4 | 4 | 4 | – | – | – | – | – | – | – | SECONDARY |
| +55' | | – | 4 | 4 | 4 | 4 | 4 | 4 | 4 | – | – | – | SECONDARY |
| +53' | | – | 14 | 14 | 14 | 12 | 12 | 12 | 14 | 20 | – | – | PRIMARY |
| +51' | | – | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | SECONDARY |
| +49' | | – | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 20 | 20 | 20 | PRIMARY |
| +47' | | – | – | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | SECONDARY |
| +45' | | – | – | 14 | 14 | 14 | 14 | 14 | 14 | 20 | 20 | 20 | PRIMARY |
| +43' | | – | – | – | 14 | 14 | 14 | 14 | 14 | 20 | 20 | 20 | PRIMARY |
| +41' | | – | – | – | – | 14 | 14 | 14 | 14 | 20 | 20 | 20 | PRIMARY |
| +39' | | – | – | – | – | – | 14 | 14 | 14 | 20 | 20 | 20 | PRIMARY |
| +37' | | – | – | – | – | – | – | – | 14 | 20 | 20 | 20 | PRIMARY |
| +35' | | – | – | – | – | – | – | – | – | – | 20 | 20 | PRIMARY |
| +33' | | – | – | – | – | – | – | – | – | – | – | 20 | PRIMARY |
| | | | | | | | | | | | | | |

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LICENSED PROFESSIONAL ENGINEER
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HAWAII, U.S.A.

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GEOLABS, INC.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

REINFORCED SOIL SLOPE LAYOUT AND SCHEDULE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW11.1 OF 140 SHEETS

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Station. |

ADD. 629

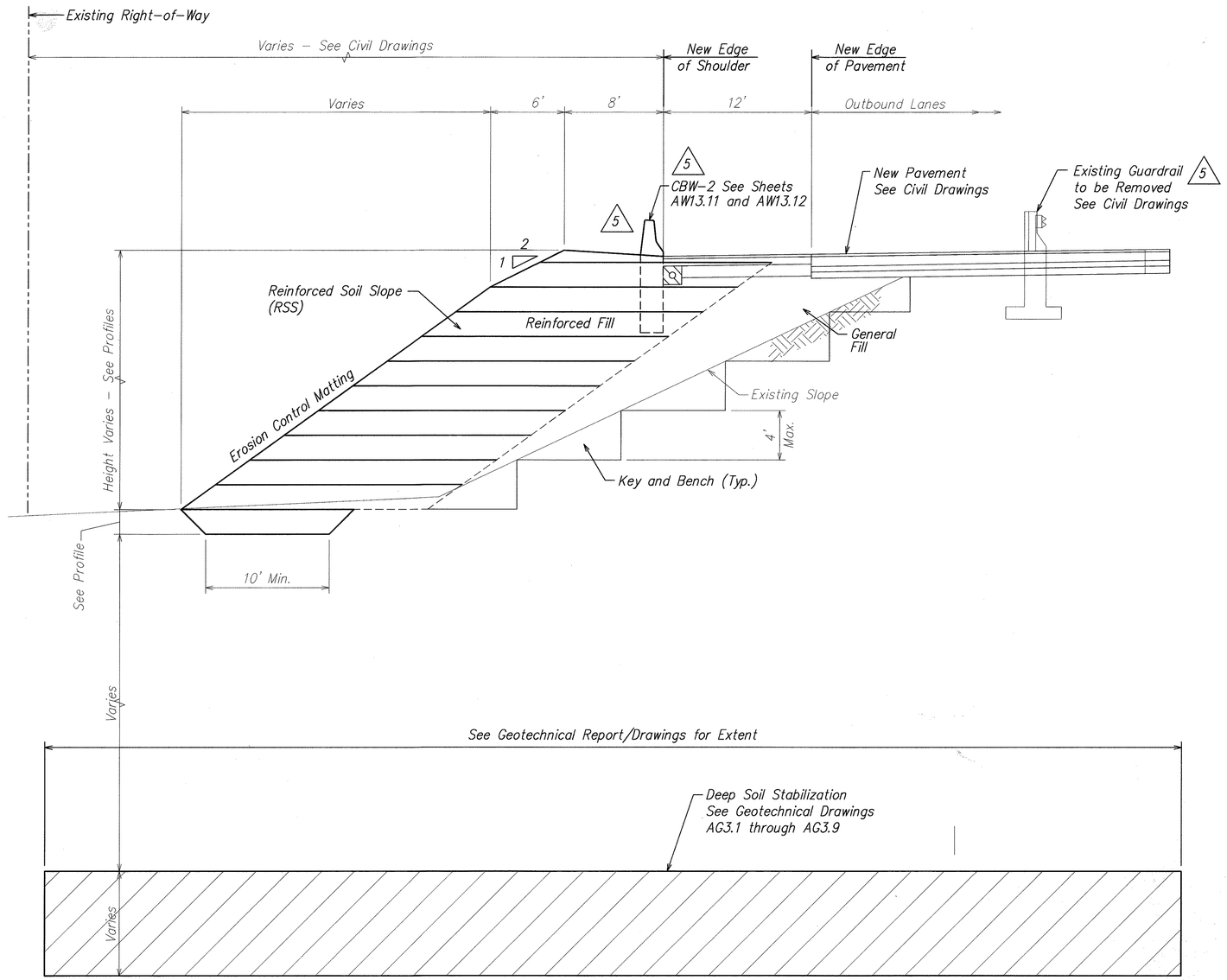
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DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLANS
NOTE BOOK
No.

AB-AW1101.DWG
1 = 1

\\Coa1\vol\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1101.dwg, AW11.1 to AW11.3, 10/14/2003 11:33:43 AM, KSF inc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 630 | 816 |




# TYPICAL REINFORCED SOIL SLOPE (RSS) SECTION AT FILL SLOPE (VIEWED FROM WEST)

SCALE: HORIZ. 1" = 5'

A
AW11.2 | AW11.2

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | " |
| NOTE BOOK | TRACED BY | " |
| No. | DESIGNED BY | " |
| | QUANTITIES BY | " |
| | CHECKED BY | " |

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Addition of Notes, Revised Guardrail |

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LICENSED PROFESSIONAL ENGINEER
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HAWAII, U.S.A.

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SIGNATURE — EXPIRATION DATE OF THE LICENSE 4-30-04

GEOLABS, INC.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

REINFORCED SOIL SLOPE CROSS SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

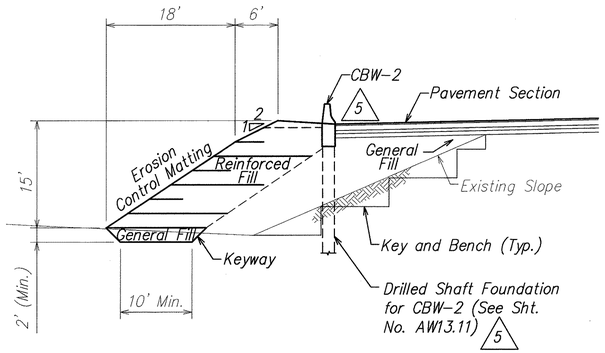
SHEET No. AW11.2 OF 140 SHEETS

ADD. 630

WV-AW1103.DWG
1 = 1

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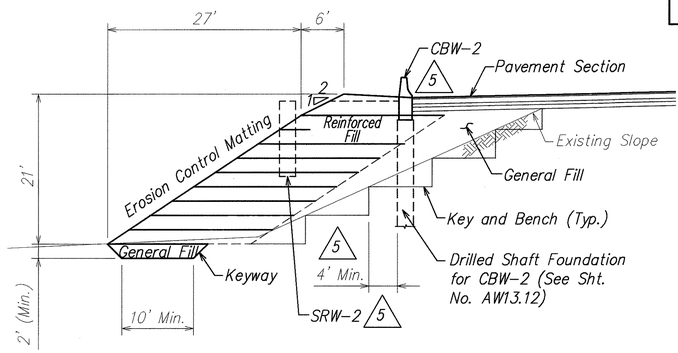
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 631 | 816 |




## REINFORCED SOIL SLOPE CROSS SECTION (NEAR STA. 104+00)

SCALE: HORIZ. 1" = 10'

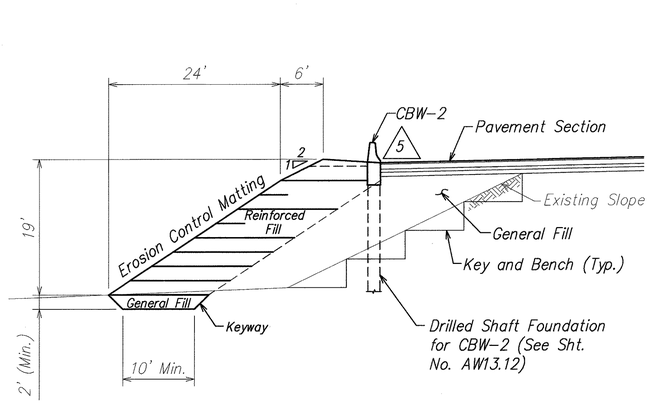
A AW4.1 AW11.3




## REINFORCED SOIL SLOPE CROSS SECTION (NEAR STA. 106+00)

SCALE: HORIZ. 1" = 10'

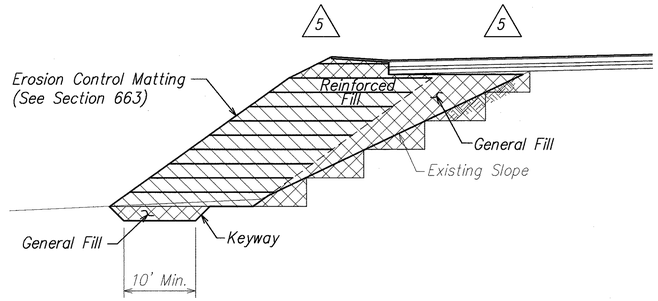
C AW4.1 AW11.3




## REINFORCED SOIL SLOPE CROSS SECTION (NEAR STA. 105+00)

SCALE: HORIZ. 1" = 10'

B AW4.1 AW11.3




5 Legend:

Reinforced Soil Slope

General Fill

## REINFORCED SOIL SLOPE WORK

5

SCALE: HORIZ. 1" = 10'

D AW11.3 AW11.3

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ORIGINAL PLAN

SURVEY PLOTTED BY ____ DATE

DRAWN BY ____

NOTE BOOK TRACED BY ____

DESIGNED BY ____

No. ____ QUANTITIES BY ____

CHECKED BY ____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# REINFORCED SOIL SLOPE CROSS SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes, Revised Guardrail Footing |

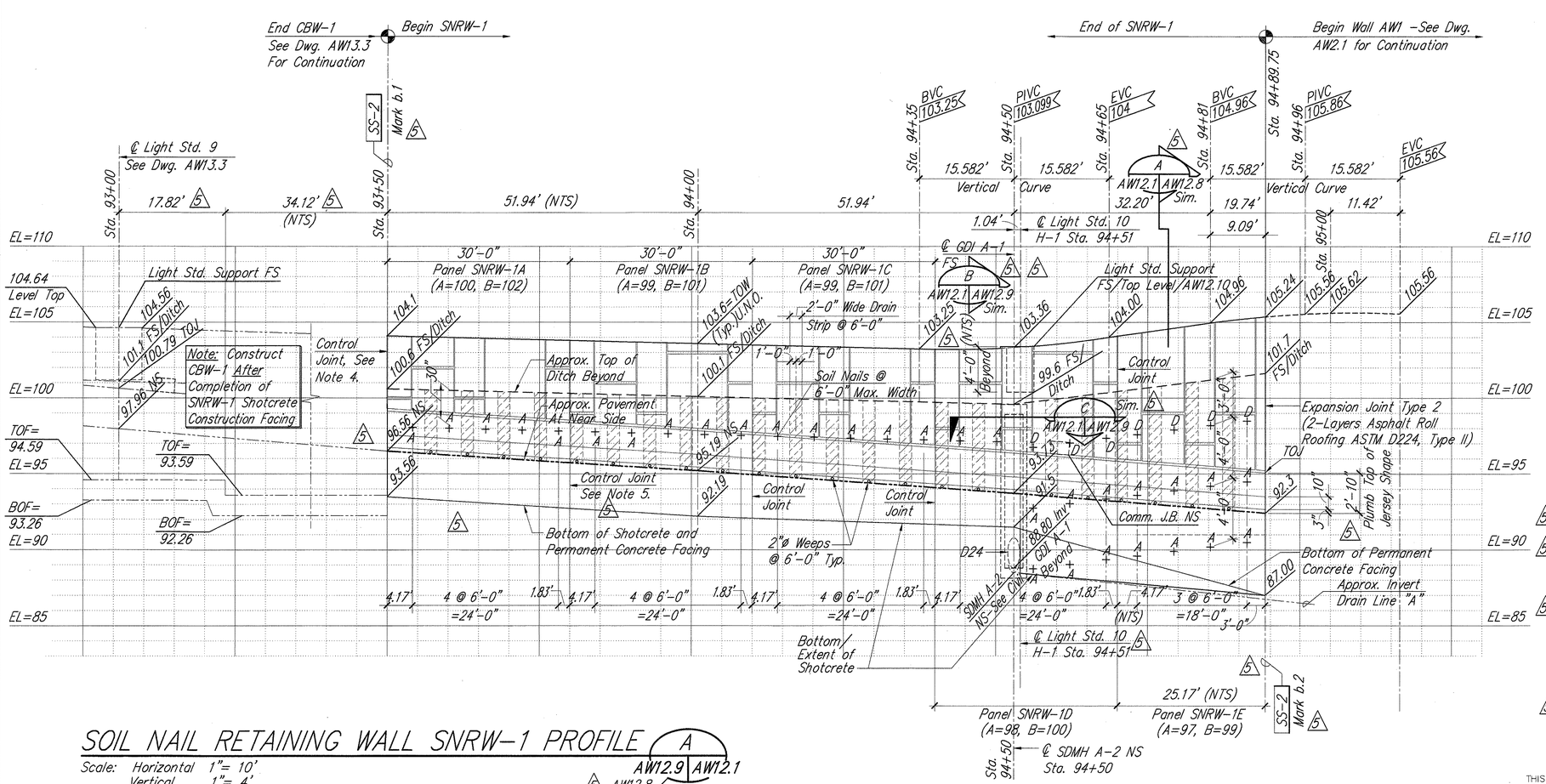
SHEET No. AW11.3 OF 140 SHEETS

ADD. 631

WV–AW1103.DWG
1 = 1

\\Cad1\ksf\2001\10066–WAIMALU VIADUCT\10–15–03 AW ADD6\ADD6 AB–AW1101.dwg, AW11.1 to AW11.3, 10/14/2003 3:45:12 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 632 | 816 |




## SOIL NAIL RETAINING WALL SNRW-1 PROFILE

Scale: Horizontal 1"= 10'
Vertical 1"= 4'

A
AW12.9 | AW12.1
AW12.8

### SOIL NAIL SCHEDULE

| Type | Length (ft.) | Hole Diameter (inch) | Rebar Size | Max.Design Load (kips) |
|---|---|---|---|---|
| A | 14 | 12 | #9 | 28.2 |
| B | 16 | 12 | #10 | 35.2 |
| C | 18 | 12 | #10 | 35.7 |
| D | 24 | 12 | #10 | 31.4 |
| E | 24 | 12 | #11 | 45.7 |
| F | 26 | 12 | #11 | 43.6 |
| | | | | |

Notes to Schedule:
1. 1 kip = 1000 Pounds Force.
2. Soil Nail Rebar, Size, Grade, Encapsulation, Grout etc. Shall Conform to Section 656 of the Specifications and Notes on Sheets AW0.4, AW0.5, AW0.6.
3. "Typ." = Typical
4. "U.N.O." = Unless Noted (Or Shown) Otherwise

### WALL PANEL SCHEDULE

| | | SNRW-1A | SNRW-1B | SNRW-1C | SNRW-1D | | SNRW-1E | REMARKS |
|---|---|---|---|---|---|---|---|---|
| Panel Length | | 30'-0" | 30'-0" | 30'-0" | 30'-0" | | 25.17' | Arc Lengths: Roadway Face of Permanent Concrete Facing R=2597. |
| Ref. Elev. for Reveals A | | 100 | 99 | 99 | 98 | | 97 | See AW18.1 |
| Ref. Elev. for Reveals B | | 102 | 101 | 101 | 5 100 | | 99 | See AW18.1 |
| Light Std. Mark/Sta. | | N.A. | N.A. | N.A. | Std. 10 / 94+51 | | N.A. | Light Std. Support Approx. 9.63' Above |
| Stage 1/Upper Row Nails | No.-Type | 5-Type A | 5-Type A | 5-Type A | 2-Type A | 3-Type D | 4-Type D | 1. See Above for Spacing-6'-0" Typ. U.N.O. 2. Upper Row Shall be 2'-6" or 3'-0" as Shown Below FS Finish/Except at 45° Return 3. See Specifications for Test Load. |
| 5 | Hole ø, Bar Size | 12", #9 | 12", #9 | 12", #9 | 12", #9 | 12", #10 | 12", #10 | |
| | Drilled Length L | 14' | 14' | 14' | 14' | 24' | 24' | |
| Stage 2/Mid Row Nails | No.-Type | N.A. | N.A. | N.A. | 3-Type A | | 4-Type A | 1. See Above for Spacing-6'-0" Typ. U.N.O. 2. Mid Row Shall be 4'-0" Below Upper Row Nails. 3. See Specifications for Test Load. |
| 5 | Hole ø, Bar Size | ↓ | ↓ | ↓ | 12", #9 | | 12", #9 | |
| | Drilled Length L | ↓ | ↓ | ↓ | 14' | | 14' | |
| Stage 3/Lower Row Nails | No.-Type | N.A. | N.A. | N.A. | 3-Type A | | 4-Type A | 1. See Above for Spacing-6'-0" Typ. U.N.O. 2. Mid Row Shall be 4'-0" Below Mid Row Nails. 3. See Specifications for Test Load. |
| 5 | Hole ø, Bar Size | ↓ | ↓ | ↓ | 12", #9 | | 12", #9 | |
| | Drilled Length L | ↓ | ↓ | ↓ | 14' | | 14' | |
| Adjacent Wall | | CBW-1 | – | – | – | | AW1 | |

LEGEND:
- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- BVC = Begin Vertical Curve
- EVC = End Vertical Curve
- VC = Vertical Curve
- TOJ = Top of Jersey shape
- \+ = Soil Nails @ 6'-0" Max. (Mark A U.N.O.)
- A to F = Soil Nail Type-See Soil Nail Sched. this Sheet
- (A=100, B=102) = Reference Elevation for Reveal Patterns (See AW18.1)
- ——·—— = Finish Grade at Near Side/Roadway Face of Jersey Shape 5

Notes to Soil Nail Retaining Wall - SNRW-1:
1. See "Soil Nail Retaining Wall (SNRW) Notes:" on Site Structures Structural General Notes on Sheet No. AW0.5 for Materials, Design Parameters, Excavations Behind Soil Nail Retaining Walls, Etc.
2. See "Typical Soil Nail Retaining Wall (SNRW) Construction Sequence:" on Site Structures Structural General Notes on Sheet No. AW0.5 for "Top-Down" Staged Construction Sequencing, Pre-Production Verification Test on Sacrificial Test Nails, Etc.
5 3. No Pre-Production Verification Tests Required at SNRW-1.
5 4. Vertical Control Joint at Sta.93+50 shall be reinforced per F/AW12.7 except joint chamfer configuration at and below the 2'-10" Jersey Shape shall be similar to 1Z/AW6.5A.
5 5. Typical Vertical control Joint shall be per A/AW12.7 except joint chamfer configuration at and below the 2'-10" Jersey Shape shall be similar to 1Z/AW6.5A.

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

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

GRAPHIC SCALES:
10' 5' 0 10' 20'
1"= 10'
4' 2' 0 4' 8'
1"= 4'

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Clarified notes. Coordinated dimensions. Deleted 12" Base note. Corrected Light Std. number |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SOIL NAIL RETAINING WALL SNRW-1 PROFILE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

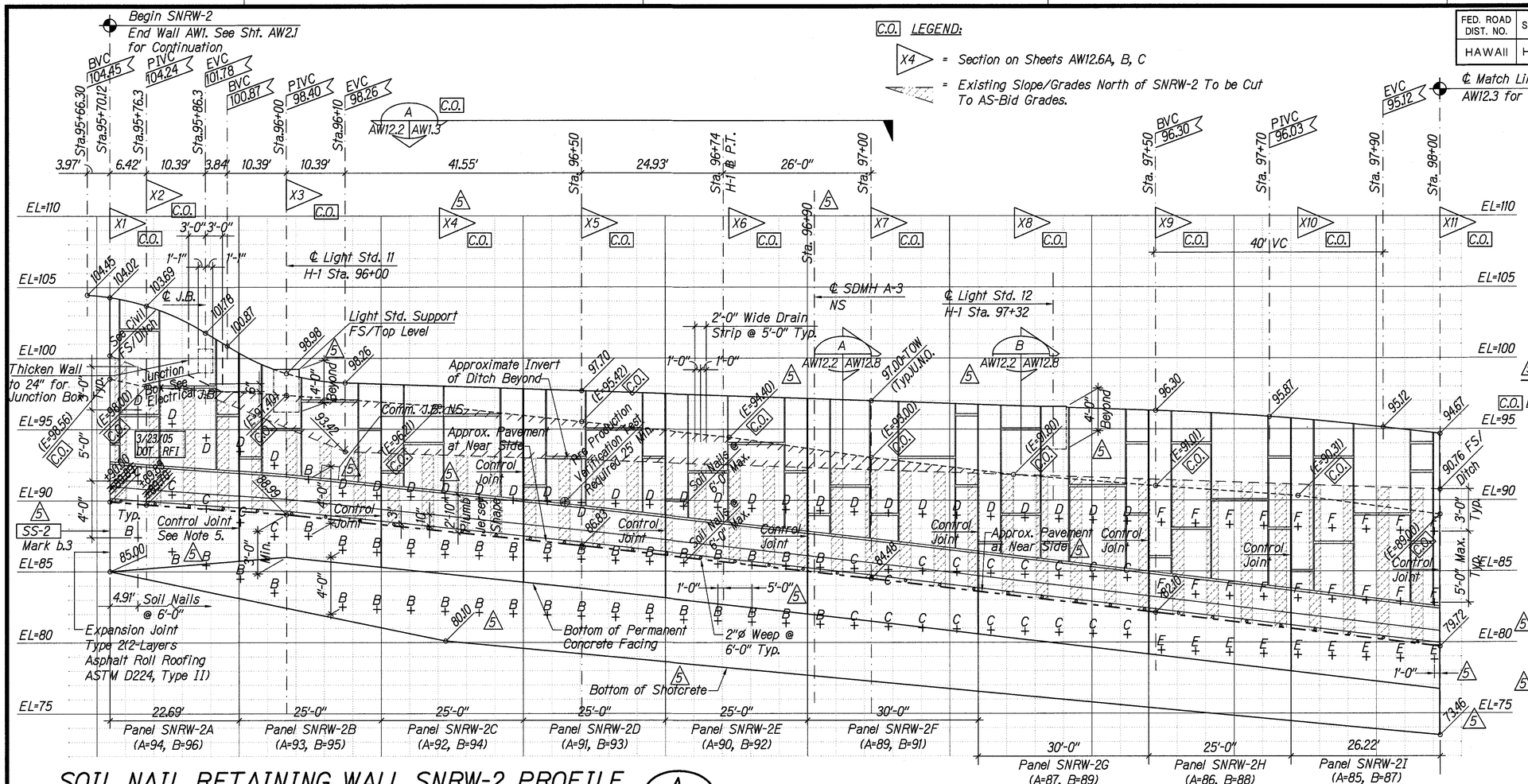
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW12.1 OF 140 SHEETS

RMTC JOB NO.: 1-19369-OE

ADD. 632

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. ADD. 633 | 816 |




LEGEND:
- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- BVC = Begin Vertical Curve
- EVC = End Vertical Curve
- VC = Vertical Curve (A=94,B=96)
- = Reference Elevations for Reveal Patterns (See AW18.1)
- + = Soil Nails @ 6'-0" Max.
- A to F = Soil Nail Type-See Soil Nail Schedule
- ⊕ = Location of Sacrificial Soil Nail for Pre-Production Verification Tests
- 5 - — = Finish grade at Near Side/Roadway Face of Jersey Shape
- C.O. E=98.56 = Existing Grade at Uphill face of SNRW-2.

Notes to Soil Nail Retaining Wall-SNRW-2:
1. See "Soil Nail Retaining Wall (SNRW) Notes:" on Site Structures Structural General Notes on Sheet No. AW0.5 for Materials, Design Parameters, Excavations Behind Soil Nail Retaining Walls, Etc.
2. See "Typical Soil Nail Retaining Wall (SNRW) Construction Sequence:" on Site Structures Structural General Notes on Sheet No. AW0.5 for "Top-Down" Staged Construction Sequencing, Pre-Production Verification Test on Sacrificial Test Nails, Etc.
3. (5) One Pre-Production Verification Test Required at Panel SNRW-2D.
4. See Sheet AW12.6 for Continuation of SNRW-2 Wall Panel Schedule.
5. (5) Typical Vertical control Joints shall be per A/AW12.7 except joint chamfer configuration at and below the 2'-10" Jersey Shape shall be similar to 1Z/AW6.5A.

# SOIL NAIL RETAINING WALL SNRW-2 PROFILE

Scale: Horizontal 1"= 10'
Vertical 1"= 4'

A AW12.8 | AW12.2

C.O. AW12.6A, AW12.6B, (5) AW12.6C

## SOIL NAIL SCHEDULE

| Type | Length (ft.) | Hole Diameter (inch) | Rebar Size | Max.Design Load (kips) |
|---|---|---|---|---|
| A | 14 | 12 | #9 | 28.2 |
| B | 16 | 12 | #10 | 35.2 |
| C | 18 | 12 | #10 | 35.7 |
| D | 24 | 12 | #10 | 31.4 |
| E | 24 | 12 | #11 | 45.7 |
| F | 26 | 12 | #11 | 43.6 |

Notes to Schedule:
1. 1 kip = 1000 Pounds Force.
2. Soil Nail Rebar, Size, Grade, Encapsulation, Grout etc. Shall Conform to Section 656 (5) of the Specifications and Notes on Sheets AW0.4, AW0.5, AW0.6.
3. "Typ." = Typical
4. "U.N.O." = Unless Noted (Or Shown) Otherwise

## WALL PANEL SCHEDULE

| | | SNRW-2A | SNRW-2B | SNRW-2C | SNRW-2D | SNRW-2E | SNRW-2F | SNRW-2G | SNRW-2H | SNRW-2I | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Panel Length | | 22.69' | 25'-0" | 25'-0" | 25'-0" | 25'-0" | 30'-0" | 30'-0" | 25'-0" | 26.22' | Arc Lengths Sta.95+70.12 to Sta.96+74 |
| Ref. Elev. for Reveals A | | 94 | 93 | 92 | 91 | 90 | 89 | 87 | 86 | 85 | See AW18.1 |
| Ref. Elev. for Reveals B | | 96 | 95 | 94 | 93 | 92 | 91 | 89 | 88 | 87 | See AW18.1 |
| Light Std. Mark/Sta. | | N.A. | Std.11/96+00 | N.A. | N.A. | N.A. | N.A. | Std.12/97+32 | N.A. | N.A. | Heights Above Grade-See Profile. |
| Stage 1/Upper Row Nails | No.-Type | 3-Type D | (5) 1-B,4-D | 4-Type D | 4-Type D | 4-Type D | 5-Type D | 5-Type D | 4-Type F | 5-Type F | 1. See Above for Spacing 2. Upper Row Shall be 3'-0" Below FS Finish 3. See Specifications for Test Load. |
| (5) | Hole ø, Bar Size | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12", #11 | 12", #10 | 12", #11 | 12", #11 | |
| | Drilled Length L | 24' | 16',24' | 24' | 24' | 24' | 24' | 24' | 26' | 26' | |
| Stage 2/Mid Row Nails | No.-Type | 3-Type C | 3-B,2-C | 4-Type B | 4-Type B | 4-Type B | 1-B,4-C | 5-Type C | 4-Type F | 5-Type F | 1. See Above for Spacing 2. Mid Row Shall be 4'-0"/5'-0" Below Upper Row Nails. See Profile 3. See Specifications for Test Load. |
| (5) | Hole ø, Bar Size | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12",#10,#10 | 12", #10 | 12", #11 | 12", #11 | |
| | Drilled Length L | 18' | 16',18' | 16' | 16' | 16' | 16',18' | 18' | 26' | 26' | |
| Stage 3/Lower Row Nails | No.-Type | 3-Type B | 4-Type B | 4-Type B | 4-Type B | 4-Type B | 1-B,4-C | 5-Type C | 4-Type E | 5-Type E | 1. See Above for Spacing 2. Lower Row Shall be 4'-0" Below Mid Row Nails. 3. See Specifications for Test Load. |
| (5) | Hole ø, Bar Size | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12",#10,#10 | 12", #10 | 12", #11 | 12", #11 | |
| | Drilled Length L | 16' | 16' | 16' | 16' | 16' | 16',18' | 18' | 24' | 24' | |
| Adjacent Wall | | AW1 | - | - | - | - | - | - | - | SNRW-2J | See AW12.3 |
| No.of Pre-Production Verification Tests Req'd. (5) | | - | - | - | 1@96+47 | - | - | - | - | - | See Notes on Sheets AW0.4, AW0.5, AW0.6. Note to Wall Panel Schedule: See Sheet AW12.6 for Continuation of SNRW-2 Wall Panel Schedule |

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER No. 8104-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2006 EXPIRATION DATE OF THE LICENSE

(5) STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2006 EXPIRATION DATE OF THE LICENSE

10' 5' 0 10' 20'
1"= 10'
4' 2' 0 4' 8'
1"= 4'

3/23/05 DOT RFI

| DATE | REVISIONS |
|---|---|
| 03/23/05 | Corrected Finish Grade at Roadway Face at Sta. 95+70.12 per Telcom DOT RFI |
| 10/12/04 | C.O. Clarified Finish Grades At Uphill face of SNRW-2 |
| 10/16/03 | (5) Clarified notes. Coordinated dimensions. Deleted 12" Base note. Corrected SDMH A-3 |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SOIL NAIL RETAINING WALL

## SNRW-2 PROFILE NO. 1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

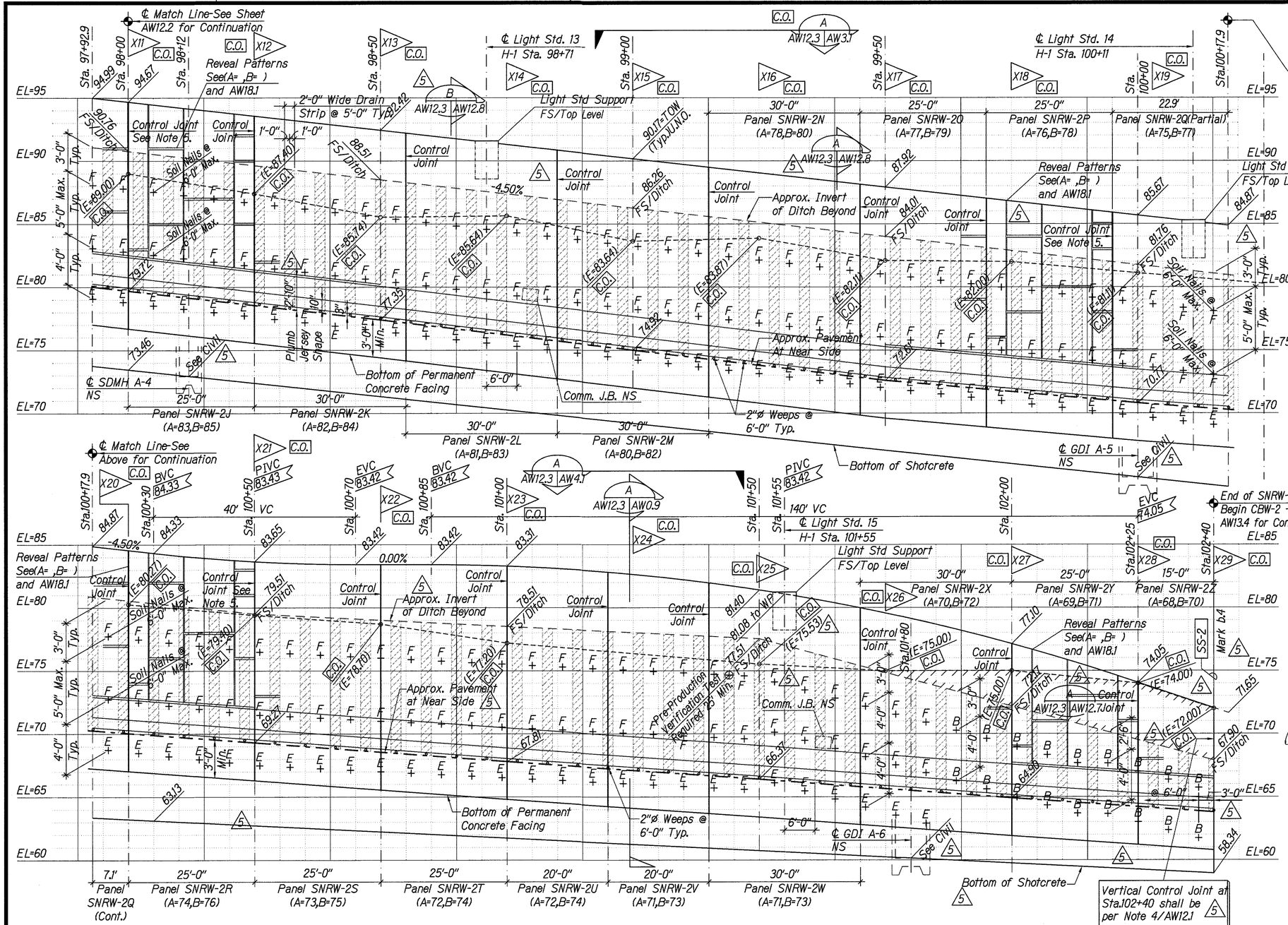
SHEET No. AW12.2 OF 140 SHEETS

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

RMTC JOB NO: 1-19369-OE

C.O. ADD. 633

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. ADD. 634 | 816 |




## SOIL NAIL RETAINING WALL SNRW-2 PROFILE

Scale: Horizontal 1"= 10'
Vertical 1"= 4'

See Sheet AW12.6 for Wall Panel Schedule AW12.8 | AW12.3

C.O. AW12.6C, AW12.6D, AW12.6E, AW12.6F, AW12.6G 5 AW0.7

C.O. LEGEND:

X4 = Section on Sheets AW12.6C, D, E, F, G.

= Existing Slope/Grades North of SNRW-2 To be Cut To AS-Bid Grades.

GRAPHIC SCALES:

10' 5' 0 10' 20'
1"= 10'

4' 2' 0 4' 8'
1"= 4'

LEGEND:

TOW = Top of Wall Elevation
FS = Far Side Finished Grade Elevation
NS = Near Side Finished Grade Elevation
ES = Each Side Finished Grade
TOF = Top of Footing Elevation
BOF = Bottom of Footing Elevation
BVC = Begin Vertical Curve
EVC = End Vertical Curve
VC = Vertical Curve
(A=78,B=80) = Reference Elevations for Reveal Patterns (See AW18.1)
+ = Soil Nails @ 6'-0" Max.
A to F= Soil Nail Type-See Soil Nail Schedule
⊕ = Location of Sacrificial Soil Nail for Pre-Production Verification Tests
5 - - - = Finish Grade at Near Side/Roadway Face of Jersey Shape
5 E=89.00 = Approximate Existing Grade at Uphill face of SNRW-2.

Notes to Soil Nail Retaining Wall - SNRW-2:

1. See "Soil Nail Retaining Wall (SNRW) Notes:" on Site Structures Structural General Notes on Sheet No. AW0.5 for Materials, Design Parameters, Excavations Behind Soil Nail Retaining Walls, Etc.
2. See "Typical Soil Nail Retaining Wall (SNRW) Construction Sequence:" on Site Structures Structural General Notes on Sheet No. AW0.5 for "Top-Down" Staged Construction Sequencing, Pre-Production Verification Test on Sacrificial Test Nails, Etc.
3. 5 One Pre-Production Verification Test Required at Panel SNRW-2W.
4. See Sheet AW12.6 for SNRW-3 Wall Panel Schedule.
5. 5 Typical Vertical control Joints A/AW12.7 except joint chamfers at and below the 2'-10" Jersey Shape shall be similar to 1Z/AW6.6A.

STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908-S — HAWAII, U.S.A.

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| DATE | REVISIONS |
|---|---|
| 10/12/04 | C.O. Clarified Finish Grades At Uphill face of SNRW-2. |
| 10/16/03 | 5 Clarified notes. Coordinated dimensions. Deleted 12" Base note. Revised nails at Sta. 101+50 to Sta. 102+40. Coordinate Drainage Structure Locations |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SOIL NAIL RETAINING WALL

## SNRW-2 PROFILE NO. 2

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

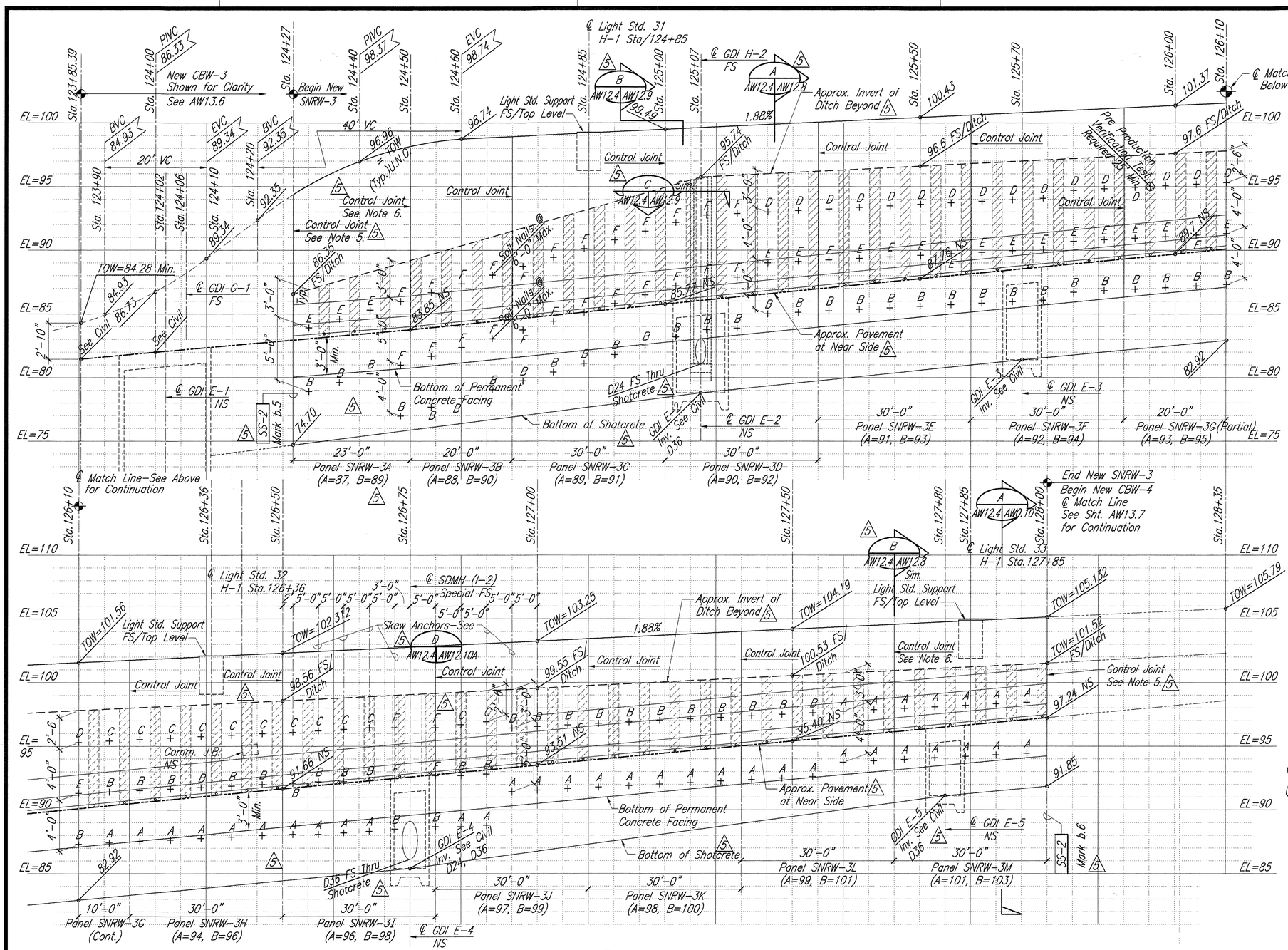
SHEET No. AW12.3 OF 140 SHEETS

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

RMTC JOB NO: 1-19369-OE

C.O. ADD. 634

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD 635 | 816 |




## SOIL NAIL RETAINING WALL SNRW-3 PROFILE

Scale: Horizontal 1" = 10'
Vertical 1" = 4'

See AW12.6 for Wall Panel Schedule AW12.10A | AW12.4

5 AW0.10, AW12.8, AW12.9

1"= 10' 10' 5' 0 10' 20'

1"= 4' 4' 2' 0 4' 8'

*LEGEND:*

- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- BVC = Begin Vertical Curve
- EVC = End Vertical Curve
- VC = Vertical Curve
- (A=97,B=99) = Reference Elevations for Reveal Patterns (See AW18.1)
- + = Soil Nails @ 6'-0" Max.
- A to F = Soil Nail Type-See Soil Nail Schedule
- ⊕ = Location of Sacrificial Soil Nail for Pre-Production Verification Tests
- 5 ——— = Finish Grade at Near Side/Roadway Face of Jersey Shape

*Notes to Soil Nail Retaining Wall - SNRW-3:*

1. See "Soil Nail Retaining Wall (SNRW) Notes:" on Site Structures Structural General Notes on Sheet No. AW0.5 for Materials, Design Parameters, Excavations Behind Soil Nail Retaining Walls, Etc.
2. See "Typical Soil Nail Retaining Wall (SNRW) Construction Sequence:" on Site Structures Structural General Notes on Sheet No. AW0.5 for "Top-Down" Staged Construction Sequencing, Pre-Production Verification Test on Sacrificial Test Nails, Etc.
3. 5 One Pre-Production Verification Test Required at Panel SNRW-3G.
4. See Sheet AW12.6 for SNRW-3 Wall Panel Schedule.
5. 5 Vertical Control Joints at Sta.124+27 and Sta.128+00 shall be reinforced per F/AW12.7 except joint chamfer configuration at and below the 2'-10" Jersey Shape shall be similar to 1Z/AW6.5A.
6. 5 Typical Vertical Control Joints shall be per A/AW12.7 except joint chamfers at and below the 2'-10" Jersey Shape shall be similar to 1Z/AW6.5A.

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| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Clarified notes. Coordingted dimensions. Deleted 12" Base note. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

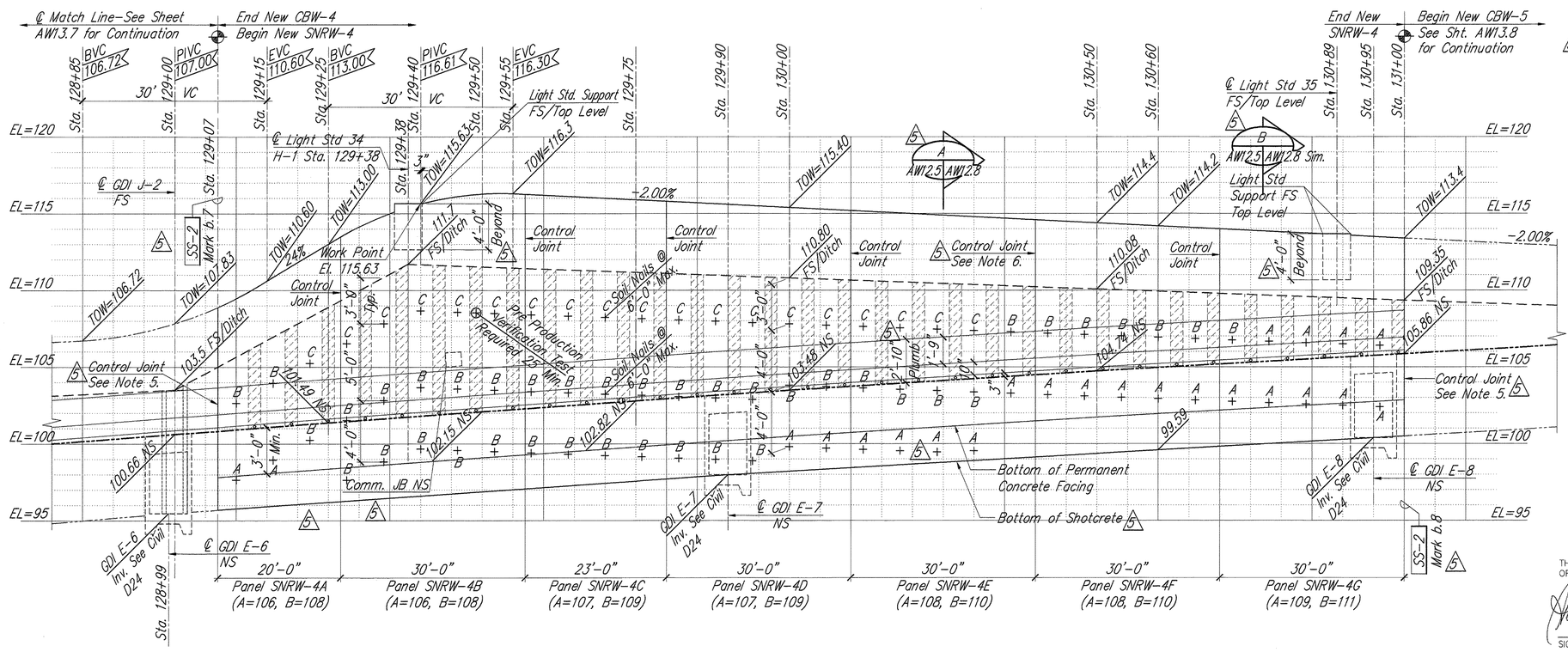
SHEET No. AW12.4 OF 140 SHEETS

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| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
| No. | QUANTITIES BY | |
| | CHECKED BY | |

RMTC JOB NO.: 1-19369-0E

ADD 635

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD 636 | 816 |




## SOIL NAIL RETAINING WALL SNRW–4 PROFILE

Scale: Horizontal 1" = 10'
Vertical 1" = 4'

See AW12.6 for Wall Panel Schedule (5) A AW12.8 | AW12.5

1"= 10' 10' 5' 0 10' 20'

1"= 4' 4' 2' 0 4' 8'

*LEGEND:*

- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- BVC = Begin Vertical Curve
- EVC = End Vertical Curve
- VC = Vertical Curve
- (A=106,B=108) = Reference Elevations for Reveal Patterns (See AW18.1)
- + = Soil Nails @ 6'–0" Max.
- A to F = Soil Nail Type–See Soil Nail Schedule
- ⊕ = Location of Sacrificial Soil Nail for Pre–Production Verification Tests
- (5) ------ = Finish Grade at Near Side/Roadway Face of Jersey Shape

*Notes to Soil Nail Retaining Wall – SNRW–4:*

1. See "Soil Nail Retaining Wall (SNRW) Notes:" on Site Structures Structural General Notes on Sheet No. AW0.5 for Materials, Design Parameters, Excavations Behind Soil Nail Retaining Walls, Etc.
2. See "Typical Soil Nail Retaining Wall (SNRW) Construction Sequence:" on Site Structures Structural General Notes on Sheet No. AW0.5 for "Top–Down" Staged Construction Sequencing, Pre–Production Verification Test on Sacrificial Test Nails, Etc.
3. (5) One Pre–Production Verification Test Required at Panel SNRW–4B.
4. See Sheet AW12.6 for SNRW–4 Wall Panel Schedule.
5. (5) Vertical Control Joints at Sta.129+07 and Sta.131+00 shall be reinforced per F/AW12.7 except joint chamfer configuration at and below the 2'–10" Jersey Shape shall be similar to 1Z/AW6.5A.
6. (5) Typical Vertical Control Joints shall be per A/AW12.7 except joint chamfers at and below the 2'–10" Jersey Shape shall be similar to 1Z/AW6.5A.

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| DATE | REVISIONS |
|---|---|
| 10/16/03 | (5) Clarified notes. Coordingted dimensions. Deleted 12" Base note. Revised nails. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## SOIL NAIL RETAINING WALL SNRW–4 PROFILE

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW12.5 OF 140 SHEETS

ORIGINAL PLAN | NOTE BOOK | No.
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CHECKED BY
DATE

RMTC JOB NO.: 1–19369–0E

ADD 636

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75)_UNIT VIII | 2003 | ADD 637 | 816 |

## SOIL NAIL RETAINING WALL SNRW-2 (CONTINUED FROM AW12.2-REFER to AW12.3) 5

| WALL PANEL SCHEDULE | | SNRW-2J | SNRW-2K | SNRW-2L | SNRW-2M | SNRW-2N | SNRW-2O | SNRW-2P | SNRW-2Q | SNRW-2R | SNRW-2S | SNRW-2T | SNRW-2U | SNRW-2V | SNRW-2W | SNRW-2X | SNRW-2Y | SNRW-2Z | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panel Length | | 25'-0" | 30'-0" | 30'-0" | 30'-0" | 30'-0" | 25'-0" | 25'-0" | 30'-0" | 25'-0" | 25'-0" | 25'-0" | 20'-0" | 20'-0" | 30'-0" | 30'-0" | 25'-0" | 15'-0" | | Lengths-See AW12.3 |
| Ref. Elev. for Reveals A | | 83 | 82 | 81 | 80 | 78 | 77 | 76 | 75 | 74 | 73 | 72 | 72 | 71 | 71 | 70 | 69 | 68 | | See AW18.1 |
| Ref. Elev. for Reveals B | | 85 | 84 | 83 | 82 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 74 | 73 | 73 | 72 | 71 | 70 | | See AW18.1 |
| Light Std. Mark/Sta. | | N.A. | N.A. | Std. 13/98+71 | N.A. | N.A. | N.A. | N.A. | Std. 14/100+11 | N.A. | N.A. | N.A. | N.A. | N.A. | Std. 15/101+55 | N.A. | N.A. | N.A. | | Height Above Grade - See AW12.3 |
| Stage 1/Upper Row Nails 5 | No.-Type | 4-Type F | 5-Type F | 5-Type F | 5-Type F | 5-Type F | 4-Type F | 4-Type F | 5-Type F | 4-Type F | 5-Type F | 4-Type F | 3-Type F | 3-Type F | 5-F | 3-F,2-B | 5-B | 2-Type B | | 1. See AW12.3 for Spacing<br>2. Upper Row Shall be 2'-6" or 3'-0" Below FS Finish<br>3. See Specifications for Test Load. |
| | Hole Ø, Bar Size | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12",#11, | 12",#11,#10 | 12",#10 | 12", #10 | | |
| | Drilled Length L | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26',16' | 16' | 16' | | |
| Stage 2/Mid Row Nails 5 | No.-Type | 4-Type F | 5-Type F | 5-Type F | 5-Type F | 5-Type F | 4-Type F | 4-Type F | 5-Type F | 4-Type F | 5-Type F | 4-Type F | 3-Type F | 3-Type F | 5-F | 3-F,2-B | 5-Type B | 2-Type B | | 1. See AW12.3 for Spacing<br>2. Mid Row Shall be 4'-0" or 5'-0" Below Upper Row, See Profile<br>3. See Specifications for Test Load. |
| | Hole Ø, Bar Size | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12",#11 | 12",#11,#10 | 12",#10 | 12",#10 | | |
| | Drilled Length L | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26' | 26',16' | 16' | 16' | | |
| Stage 3/Lower Row Nails 5 | No.-Type | 4-Type E | 5-Type E | 5-Type E | 5-Type E | 5-Type E | 4-Type E | 4-Type E | 5-Type E | 4-Type E | 5-Type E | 4-Type E | 3-Type E | 3-Type E | 5-E | 3-Type E | N.A. | N.A. | | 1. See AW12.3 for Spacing<br>2. Lower Row Shall be 4'-0" Below Mid Row<br>3. See Specifications for Test Load. |
| | Hole Ø, Bar Size | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12",#11 | 12",#11 | ↓ | ↓ | | |
| | Drilled Length L | 24' | 24' | 24' | 24' | 24' | 24' | 24' | 24' | 24' | 24' | 24' | 24' | 24' | 24' | 24' | | | | |
| Adjacent Wall | | SNRW-2I | - | - | - | - | - | - | - | - | - | - | - | - | 5 - | 5 - | 5 - | 5 CBW-2 | | See AW12.2 and AW13.4 for Adjacent |
| No.of Pre-Production Verification Tests Req'd. | | - | - | - | - | - | - | - | - | - | - | - | - | - | 1@101+44 | - | - | - | | See Notes on Sheet AW0.4, AW0.5, AW0.6 |

## SOIL NAIL RETAINING WALL SNRW-3 (REFER to AW12.4) 5

| WALL PANEL SCHEDULE | | SNRW-3A | SNRW-3B | SNRW-3C | SNRW-3D | SNRW-3E | SNRW-3F | SNRW-3G | SNRW-3H | SNRW-3I 5 Ref: D/AW12.10A | SNRW-3J 5 Ref: D/AW12.10A | SNRW-3K | SNRW-3L | SNRW-3M | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panel Length | | 5 23'-0" | 20'-0" | 30'-0" | 30'-0" | 30'-0" | 30'-0" | 30'-0" | 30'-0" | 30'-0" | 30'-0" | 30'-0" | 30'-0" | 30'-0" | | Lengths-See AW12.4 |
| Ref. Elev. for Reveals A | | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 96 | 97 | 98 | 99 | 101 | | See AW18.1 |
| Ref. Elev. for Reveals B | | 5 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 98 | 99 | 100 | 101 | 103 | | See AW18.1 |
| Light Std. Mark/Sta. | | N.A. | N.A. | Std. 31/124+85 | N.A. | N.A. | N.A. | N.A. | Std. 32/126+36 | N.A. | N.A. | N.A. | N.A. | Std. 33/127+85 | | Height Above Grade - See AW12.4 |
| Stage 1/Upper Row Nails 5 | No.-Type | 3-E,1-F | 3-Type F | 5-Type F | 3-F,2-D | 5-Type D | 5-Type D | 4-D,1-C | 5-Type C | 4-C,2-F | 2-C,3-B | 5-Type B | 3-B,2-A | 5-Type A | | 1. See AW12.4 for Spacing<br>2. Upper Row Shall be 2'-6" or 3'-0" Below FS Finish<br>3. See Specifications for Test Load. |
| | Hole Ø, Bar Size | 12", #11 | 12", #11 | 12", #11 | 12",#11,#10 | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12",#10,#11 | 12", #10 | 12", #10 | 12",#10,#9 | 12", #9 | | |
| | Drilled Length L | 24',26' | 26' | 26' | 26', 24' | 24' | 24' | 24', 18' | 18' | 18',26' | 18',16' | 16' | 16', 14' | 14' | | |
| Stage 2/Mid Row Nails 5 | No.-Type | 3-B,1-F | 3-Type F | 5-Type F | 3-F,2-E | 5-Type E | 5-Type E | 4-E,1-B | 5-Type B | 4-B,2-F | 2-B,3-A | 5-Type A | 5-Type A | 5-Type A | | 1. See AW12.4 for Spacing<br>2. Mid Row Shall be 4'-0" or 5'-0" Below Upper Row, See Profile<br>3. See Specifications for Test Load. |
| | Hole Ø, Bar Size | 12",#10,#11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12", #11 | 12",#11,#10 | 12", #10 | 12",#10,#11 | 12", #10,#9 | 12", #9 | 12", #9 | 12", #9 | | |
| | Drilled Length L | 16',26' | 26' | 26' | 26', 24' | 24' | 24' | 24', 16' | 16' | 16',26' | 16',14' | 16' | 14' | 14' | | |
| Stage 3/Lower Row Nails 5 | No.-Type | 1-Type B | 3-Type B | 5-Type B | 5-Type B | 5-Type B | 5-Type B | 4-B,1-A | 5-Type A | 4-A,2-B | 5-Type A | N.A. | N.A. | N.A. | | 1. See AW12.4 for Spacing<br>2. Lower Row Shall be 4'-0" Below Mid Row<br>3. See Specifications for Test Load. |
| | Hole Ø, Bar Size | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12",#10,#9 | 12", #9 | 12",#9,#10 | 12",#9 | ↓ | ↓ | ↓ | | |
| | Drilled Length L | 16' | 16' | 16' | 16' | 16' | 16' | 16', 14' | 14' | 14',16' | 14' | | | | | |
| Adjacent Wall | | CBW-3 | - | - | - | - | - | - | - | 5 - | 5 - | - | - | 5 CBW-4 | | See AW13.6 and AW13.7 for Adjacent |
| No.of Pre-Production Verification Tests Req'd. | | - | - | - | - | - | - | 1@125+95 | - | - | - | - | - | - | | See Notes on Sheet AW0.4, AW0.5, AW0.6 |

## SOIL NAIL RETAINING WALL SNRW-4 (REFER to 5 AW12.5)

| WALL PANEL SCHEDULE | | SNRW-4A | 5 SNRW-4B | SNRW-4C | SNRW-4D | SNRW-4E | SNRW-4F | SNRW-4G | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| Panel Length | | 20'-0" | 30'-0" | 23'-0" | 30'-0" | 30'-0" | 30'-0" | 30'-0" | | Lengths-See AW12.5 |
| Ref. Elev. for Reveals A | | 106 | 106 | 107 | 107 | 108 | 108 | 109 | | See AW18.1 |
| Ref. Elev. for Reveals B | | 108 | 108 | 109 | 109 | 110 | 110 | 111 | | See AW18.1 |
| Light Std. Mark/Sta. | | N.A. | Std. 34/129+38 | N.A. | N.A. | N.A. | N.A. | Std. 35/130+89 | | Height Above Grade - See AW12.5 |
| Stage 1/Upper Row Nails 5 | No.-Type | 2-B,1-C | 5-Type C | 4-Type C | 5-Type C | 4-C,1-B | 5-Type B | 5 1-B,4-A | | 1. See AW12.5 for Spacing<br>2. Upper Row Shall be 3'-0" Below FS Finish<br>3. See Specifications for Test Load. |
| | Hole Ø, Bar Size | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12", #10 | 12",#10,#9 | | |
| | Drilled Length L | 16', 18' | 18' | 18' | 18' | 18', 16' | 16' | 16', 14' | | |
| Stage 2/Mid Row Nails 5 | No.-Type | 2-A,1-B | 5-Type B | 4-Type B | 5-Type B | 4-B,1-A | 5-Type A | 5-Type A | | 1. See AW12.5 for Spacing<br>2. Mid Row Shall be 4'-0" or 5'-0" Below Upper Row, See Profile<br>3. See Specifications for Test Load. |
| | Hole Ø, Bar Size | 12",#9,#10 | 12", #10 | 12", #10 | 12", #10 | 12",#10,#9 | 12", #9 | 12", #9 | | |
| | Drilled Length L | 14', 16' | 16' | 16' | 16' | 16', 14' | 14' | 14' | | |
| Stage 3/Lower Row Nails 5 | No.-Type | N.A. | 5 5-Type B | 4-Type B | 3-B,2-A 5 | 4-Type A | N.A. | N.A. | | 1. See AW12.5 for Spacing<br>2. Lower Row Shall be 4'-0" Below Mid Row<br>3. See Specifications for Test Load. |
| | Hole Ø, Bar Size | | 12", #10 5 | 12", #10 5 | 12",#10,#9 5 | 12", #9 | | | | |
| | Drilled Length L | | 16' | 16' | 16', 14' | 14' | | | | |
| Adjacent Wall | | CBW-4 | - | - | - | - | - | CBW-5 5 | | See AW13.7 and AW13.8 for Adjacent |
| No.of Pre-Production Verification Tests Req'd. | | - | 1@129+49 | - | - | - | - | - | | See Notes on Sheet AW0.4, AW0.5, AW0.6 |

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE — EXPIRATION DATE OF THE LICENSE: April 30, 2004

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SIGNATURE — EXPIRATION DATE OF THE LICENSE: April 30, 2004

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Coordinated Nail Count and Type. Clarified Notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SOIL NAIL RETAINING WALL SCHEDULE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None — Date: Mar. 31, 2003

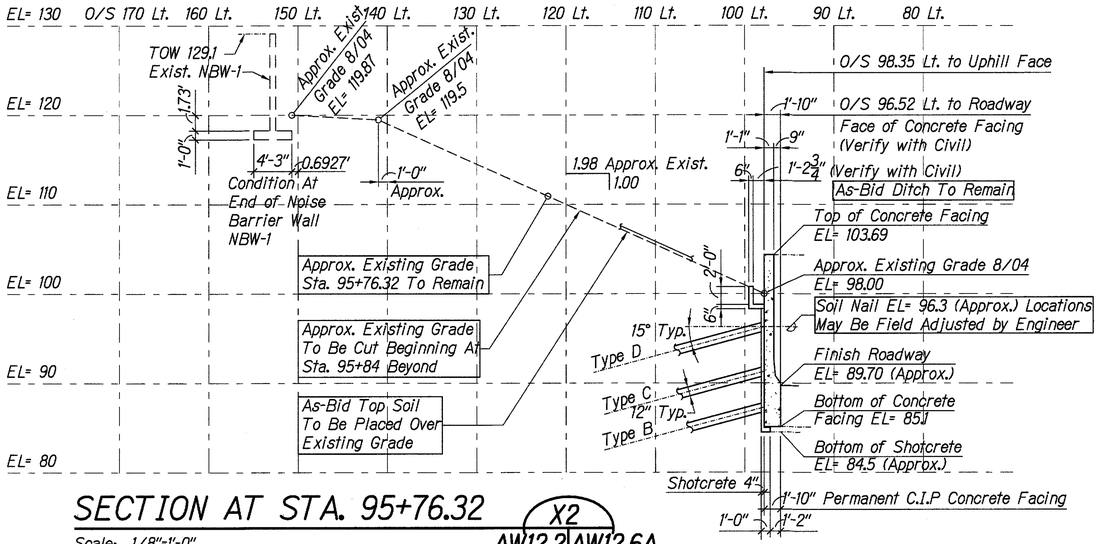
SHEET No. AW12.6 OF 140 SHEETS

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RMTC JOB NO.: 1-19369-0E

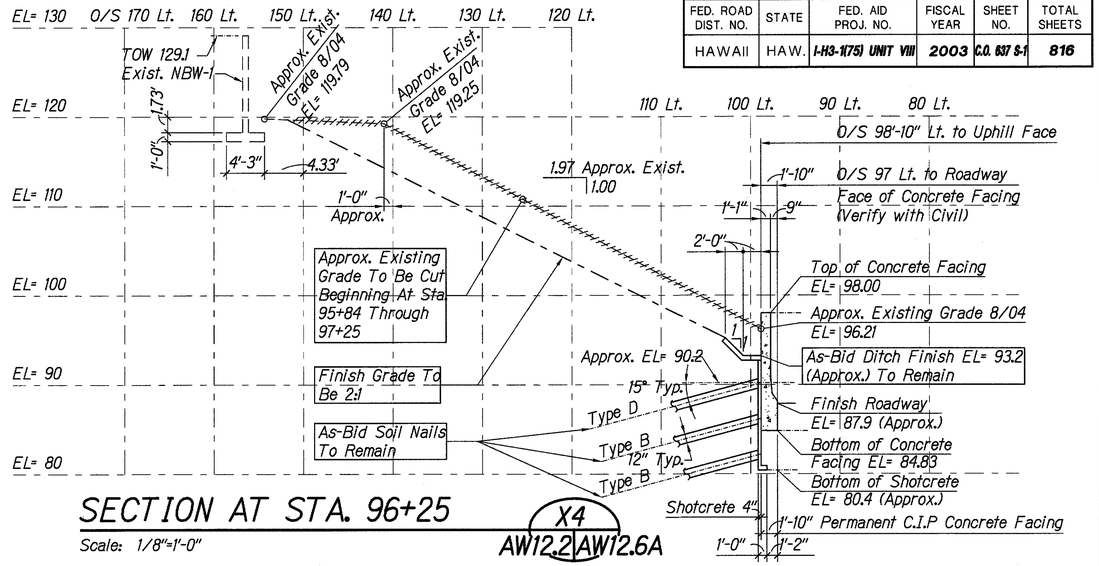
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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 637 S-1 | 816 |




## SECTION AT STA. 95+76.32

X2 AW12.2 | AW12.6A

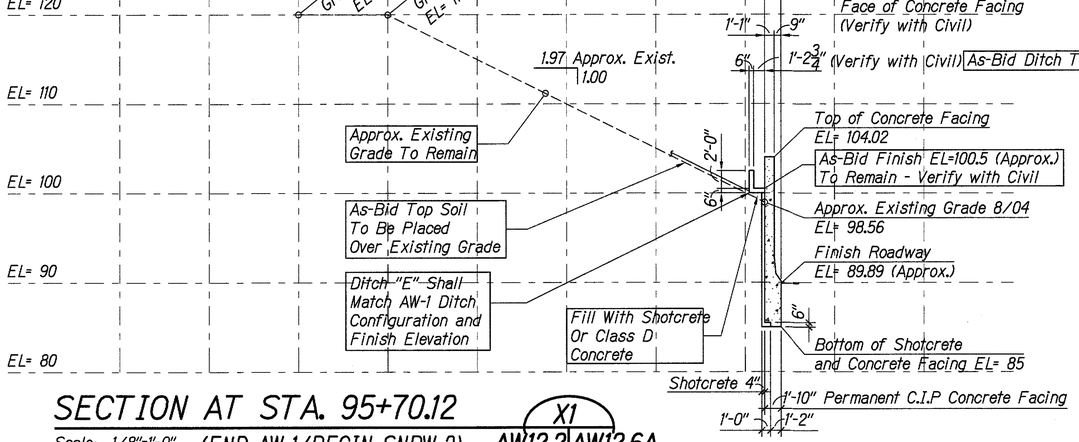
Scale: 1/8"=1'-0"




## SECTION AT STA. 96+25

X4 AW12.2 | AW12.6A

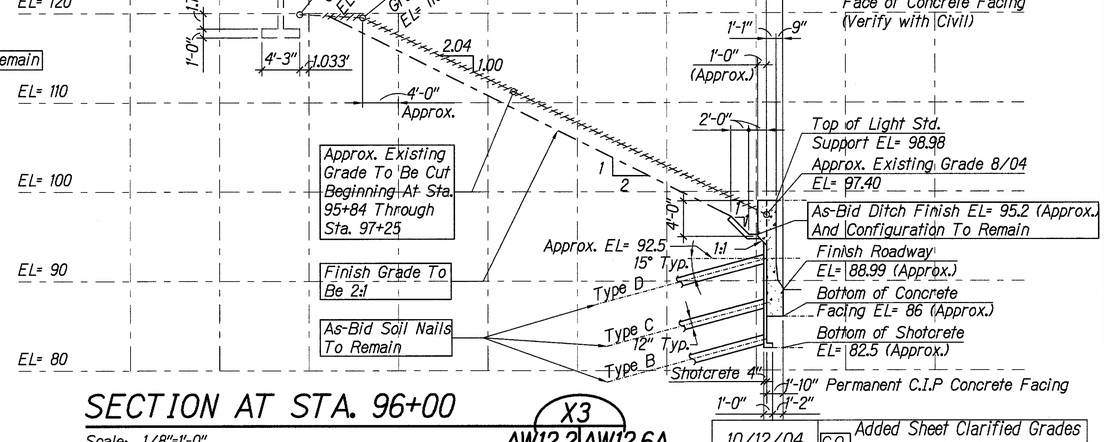
Scale: 1/8"=1'-0"




## SECTION AT STA. 95+70.12

X1 AW12.2 | AW12.6A

Scale: 1/8"=1'-0" (END AW-1/BEGIN SNRW-2)




## SECTION AT STA. 96+00

X3 AW12.2 | AW12.6A

Scale: 1/8"=1'-0"

| DATE | REVISIONS |
|---|---|
| 10/12/04 | C.O. Added Sheet Clarified Grades North of SNRW-2. |

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

GRAPHIC SCALES:

8 6 4 2 0 8 16

SCALE: 1/8"= 1'-0"

STEWART N. WILLIAMS
LICENSED PROFESSIONAL ENGINEER
No. 3908-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

April 30, 2006
SIGNATURE EXPIRATION DATE OF THE LICENSE.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SNRW-2 SECTIONS

## STA. 95+70.12 to STA. 96+25

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

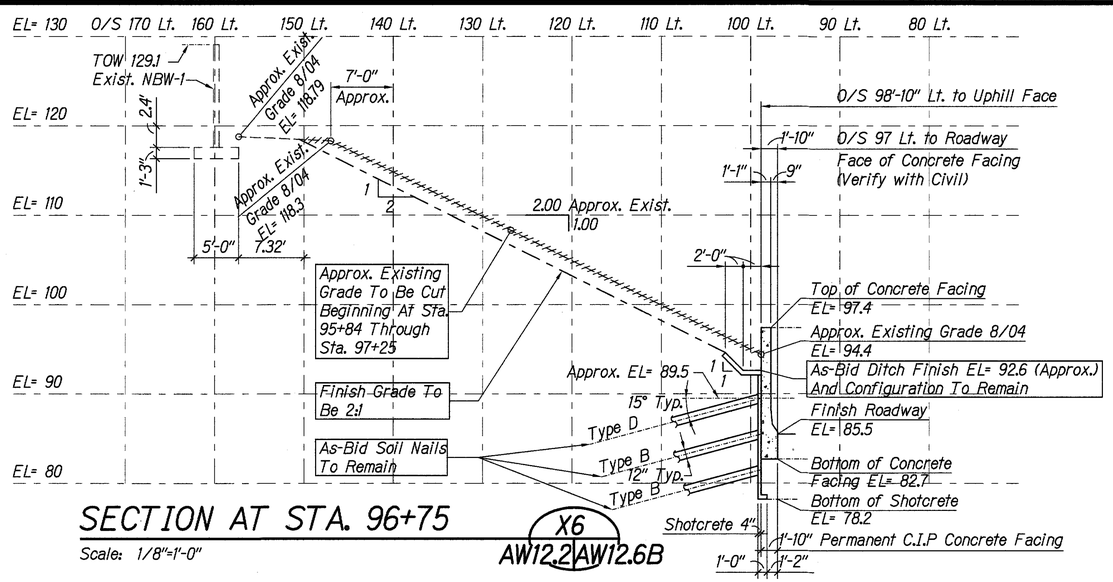
Scale: 1/8"=1'-0" Date: Mar. 31, 2003

SHEET No. AW12.6A OF 140 SHEETS

RMTC JOB NO: 1-19369-OE

C.O. 637 S-1

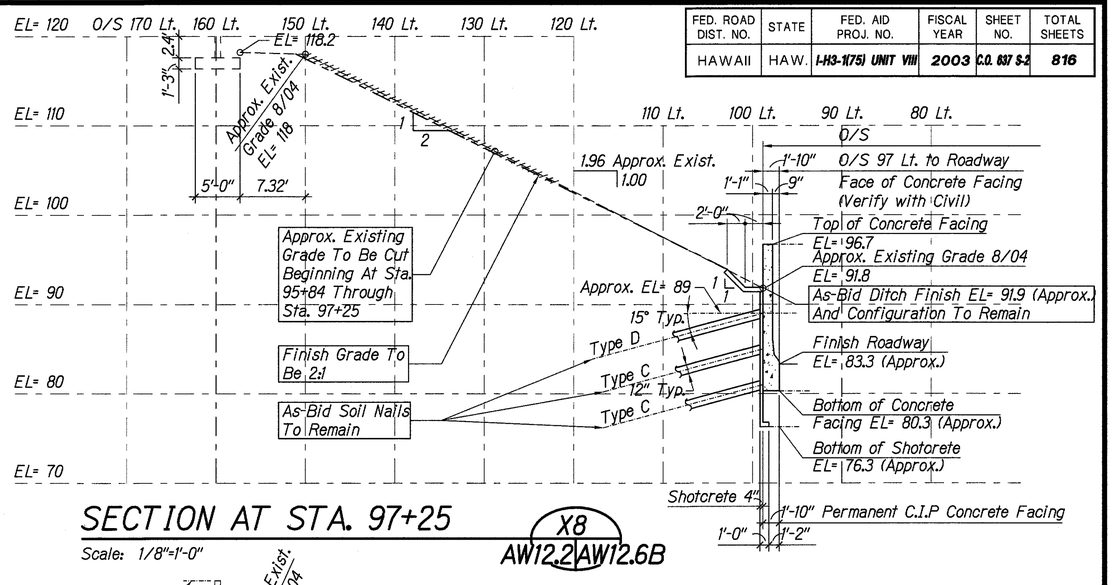
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 637 S-2 | 816 |




## SECTION AT STA. 96+75

Scale: 1/8"=1'-0"

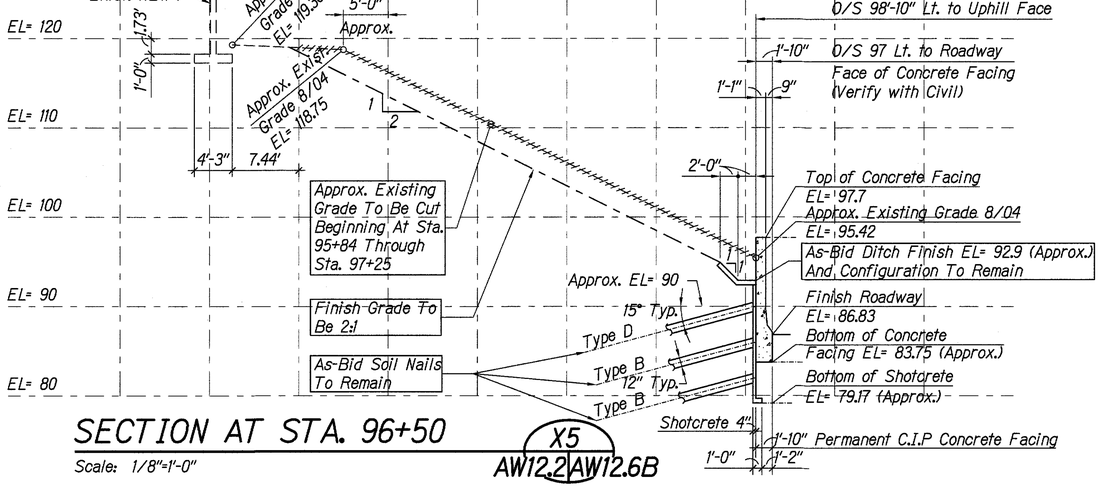
X6
AW12.2 AW12.6B




## SECTION AT STA. 97+25

Scale: 1/8"=1'-0"

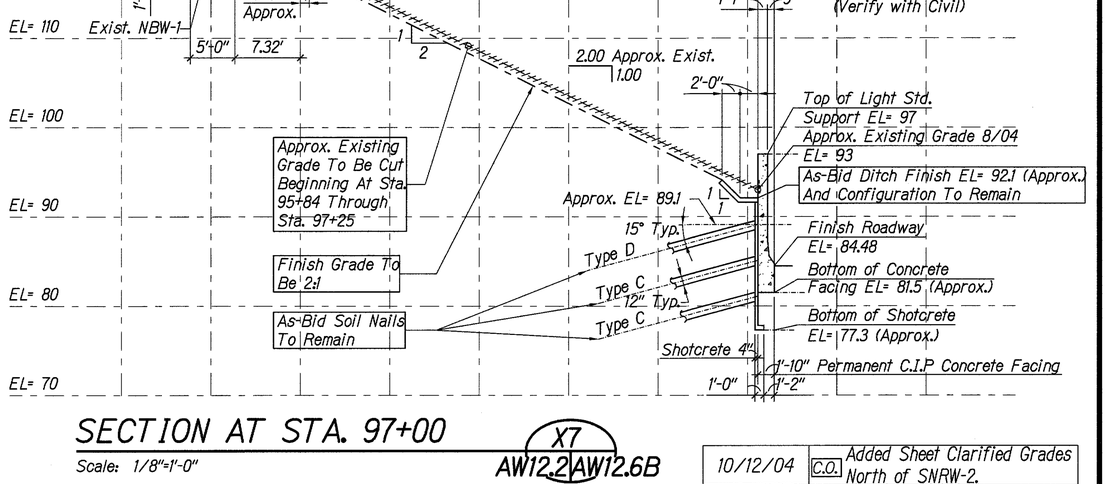
X8
AW12.2 AW12.6B




## SECTION AT STA. 96+50

Scale: 1/8"=1'-0"

X5
AW12.2 AW12.6B




## SECTION AT STA. 97+00

Scale: 1/8"=1'-0"

X7
AW12.2 AW12.6B

| DATE | REVISIONS |
|---|---|
| 10/12/04 | C.O. Added Sheet Clarified Grades North of SNRW-2. |

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

GRAPHIC SCALES:

8 6 4 2 0 8 16

SCALE: 1/8"= 1'-0"

STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE

April 30, 2006
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SNRW-2 SECTIONS

## STA. 96+50 to STA. 97+25

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

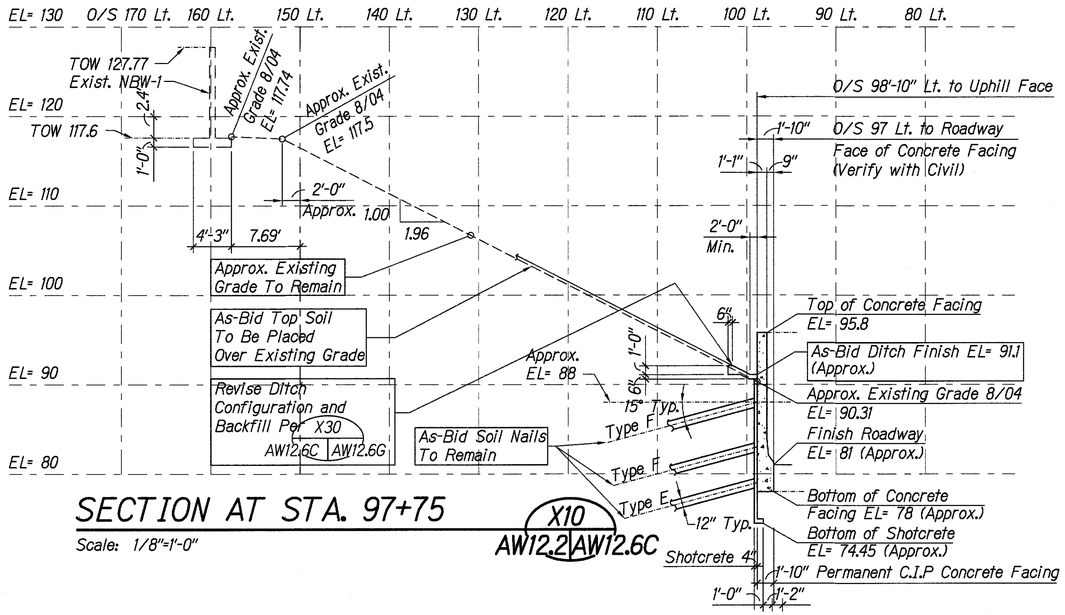
Scale: 1/8"=1'-0" Date: Mar. 31, 2003

SHEET No. AW12.6B OF 140 SHEETS

RMTC JOB NO: 1-19369-OE

C.O. 637 S-2

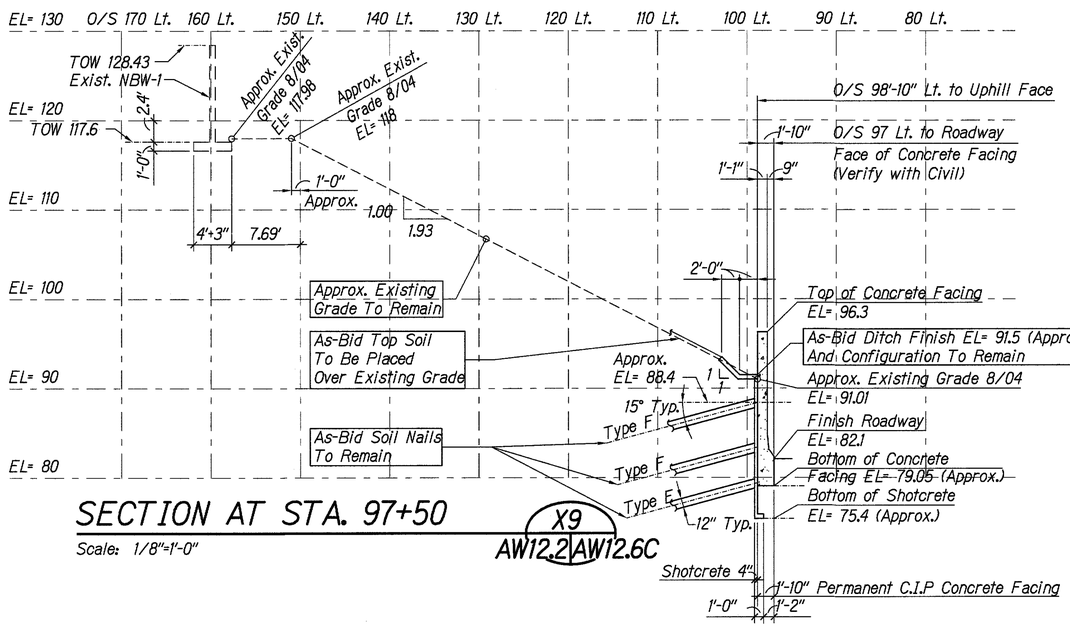
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 637 S-3 | 816 |




## SECTION AT STA. 97+75

X10
AW12.2 AW12.6C

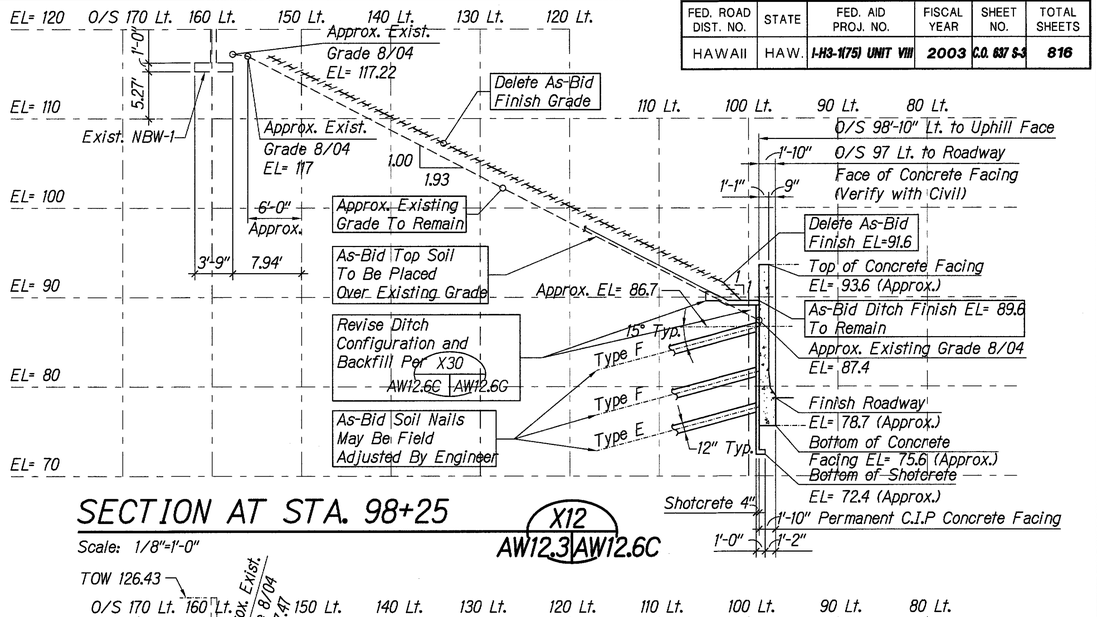
Scale: 1/8"=1'-0"




## SECTION AT STA. 97+50

X9
AW12.2 AW12.6C

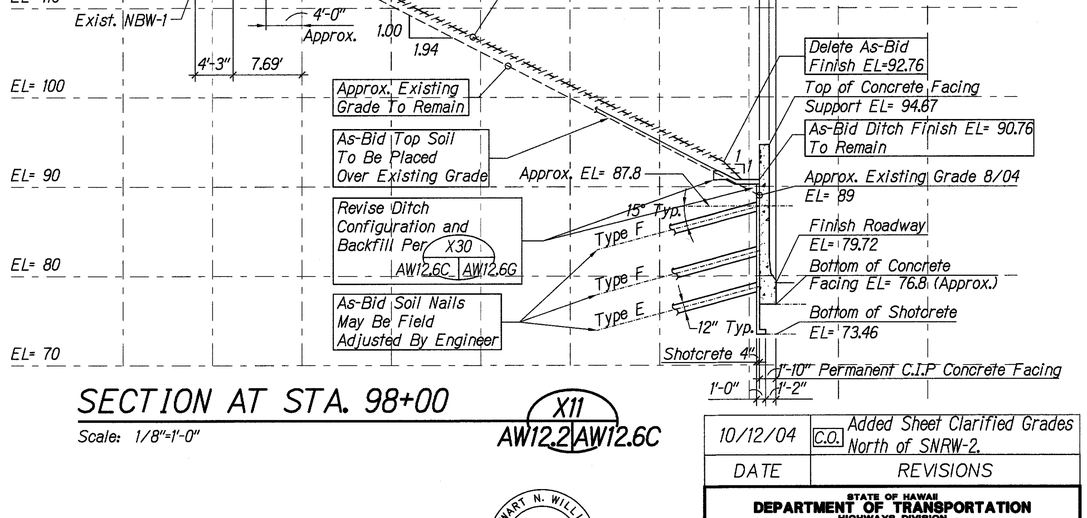
Scale: 1/8"=1'-0"




## SECTION AT STA. 98+25

X12
AW12.3 AW12.6C

Scale: 1/8"=1'-0"




## SECTION AT STA. 98+00

X11
AW12.2 AW12.6C

Scale: 1/8"=1'-0"

| DATE | REVISIONS |
|---|---|
| 10/12/04 | C.O. Added Sheet Clarified Grades North of SNRW-2. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SNRW-2 SECTIONS

## STA. 97+50 to STA. 98+25

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1/8"=1'-0" Date: Mar. 31, 2003

SHEET No. AW12.6C OF 140 SHEETS

GRAPHIC SCALES:

8 6 4 2 0 8 16

SCALE: 1/8"= 1'-0"

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SIGNATURE

April 30, 2006
EXPIRATION DATE OF THE LICENSE

ORIGINAL PLAN

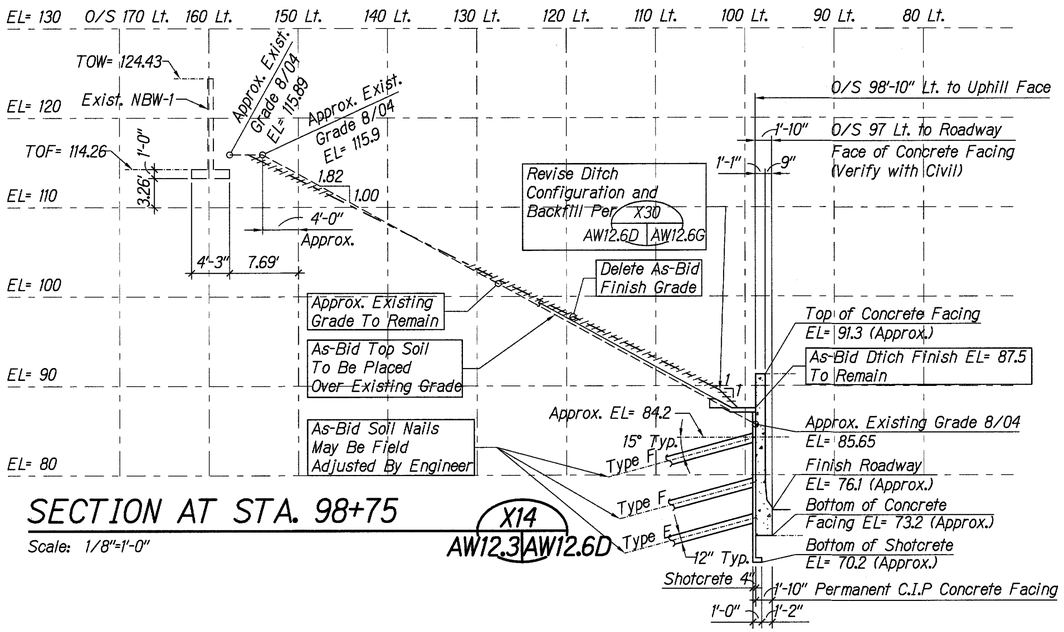
NOTE BOOK No.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

RMTC JOB NO.: 1-19369-OE

C.O. 637 S-3

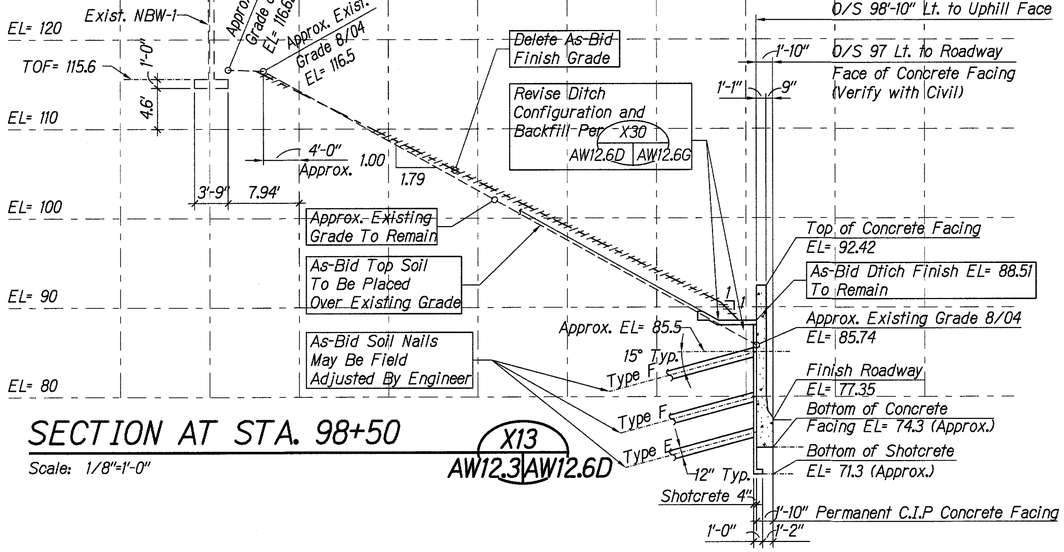
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 637 S-4 | 816 |




## SECTION AT STA. 98+75

Scale: 1/8"=1'-0"

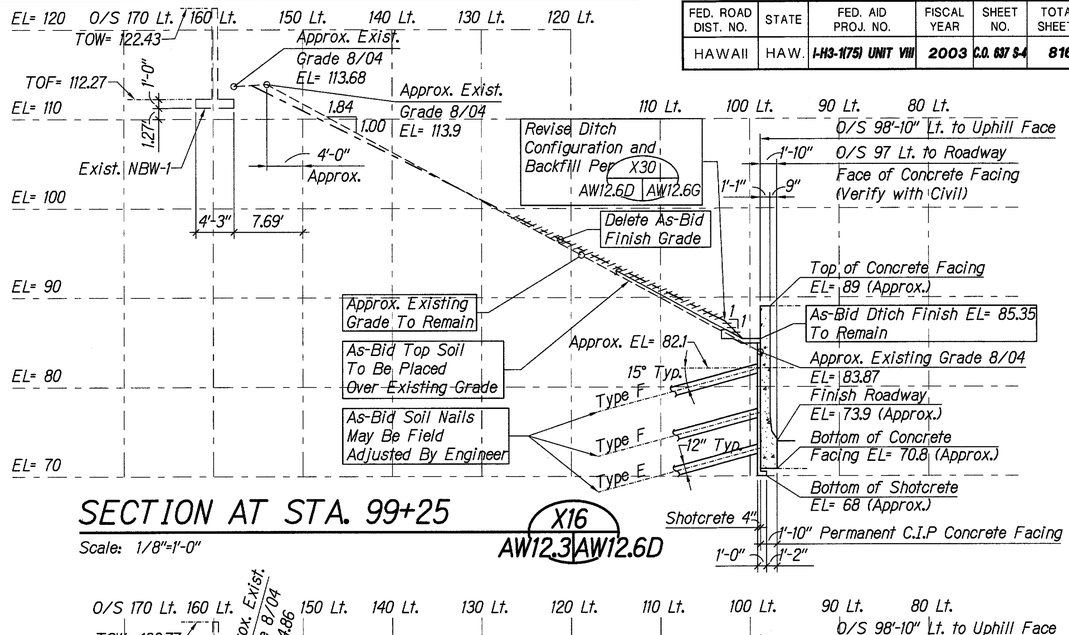
X14
AW12.3 AW12.6D




## SECTION AT STA. 98+50

Scale: 1/8"=1'-0"

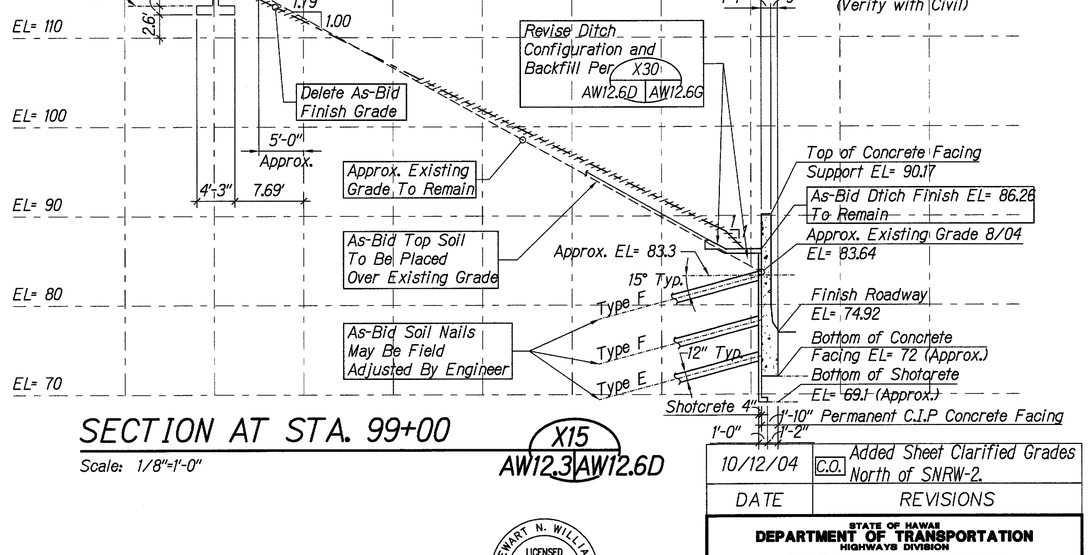
X13
AW12.3 AW12.6D




## SECTION AT STA. 99+25

Scale: 1/8"=1'-0"

X16
AW12.3 AW12.6D




## SECTION AT STA. 99+00

Scale: 1/8"=1'-0"

X15
AW12.3 AW12.6D

| DATE | REVISIONS |
|---|---|
| 10/12/04 | C.O. Added Sheet Clarified Grades North of SNRW-2. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SNRW-2 SECTIONS

## STA. 98+50 to STA. 99+25

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1/8"=1'-0" Date: Mar. 31, 2003

SHEET No. AW12.6D OF 140 SHEETS

GRAPHIC SCALES:

8 6 4 2 0 8 16

SCALE: 1/8"= 1'-0"

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HAWAII, U.S.A.

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SIGNATURE

April 30, 2006
EXPIRATION DATE OF THE LICENSE

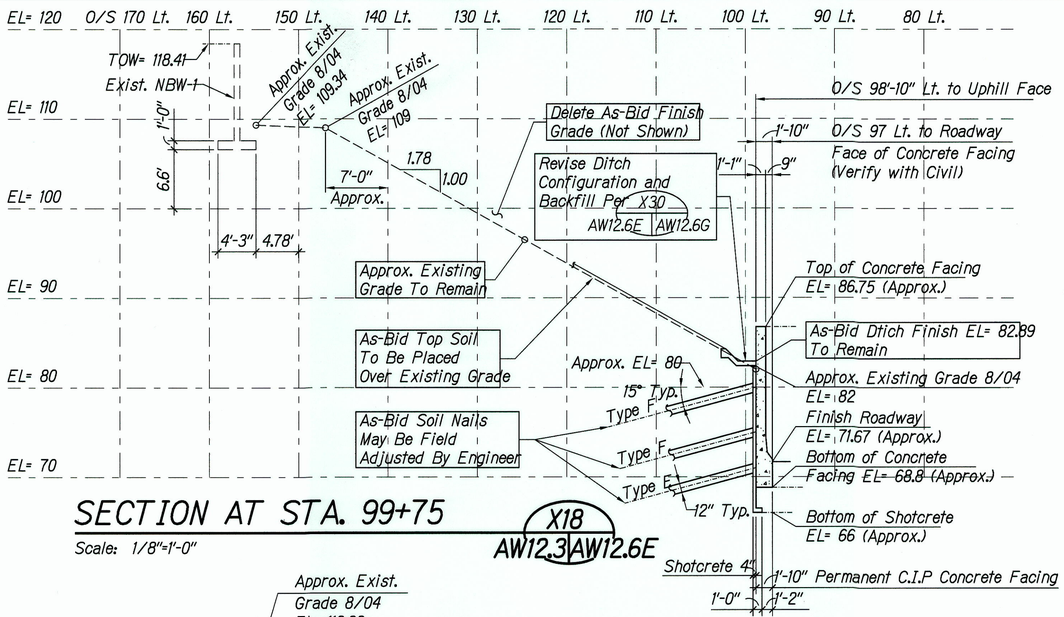
ORIGINAL PLAN
NOTE BOOK
No.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

RM7C JOB NO: 1-19369-OE

C.O. 637 S-4

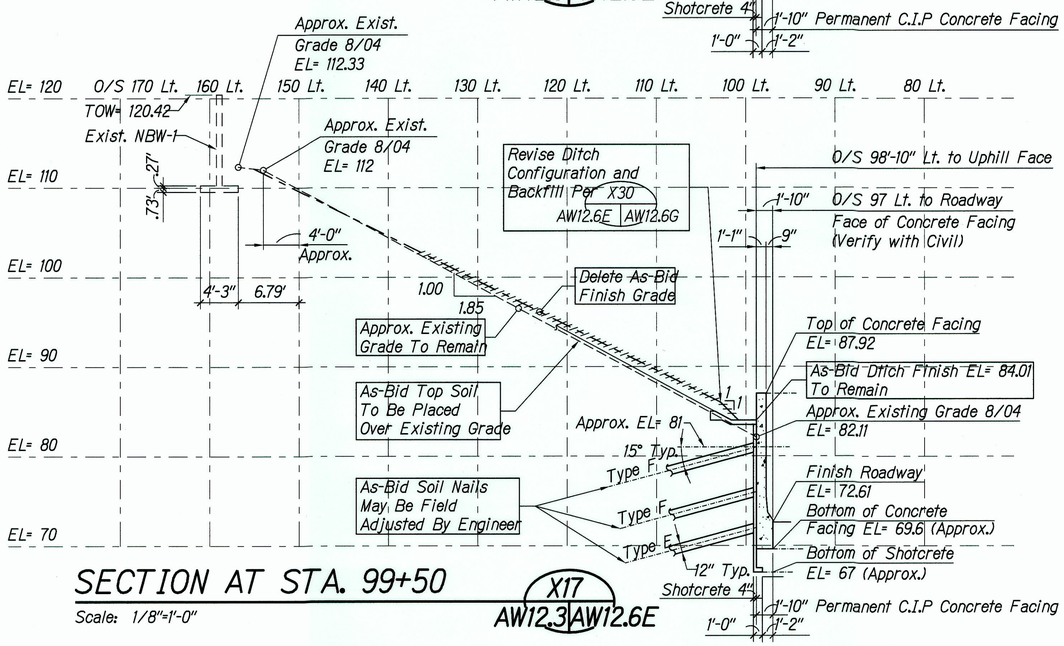
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 637 S-5 | 816 |




## SECTION AT STA. 99+75

Scale: 1/8"=1'-0"

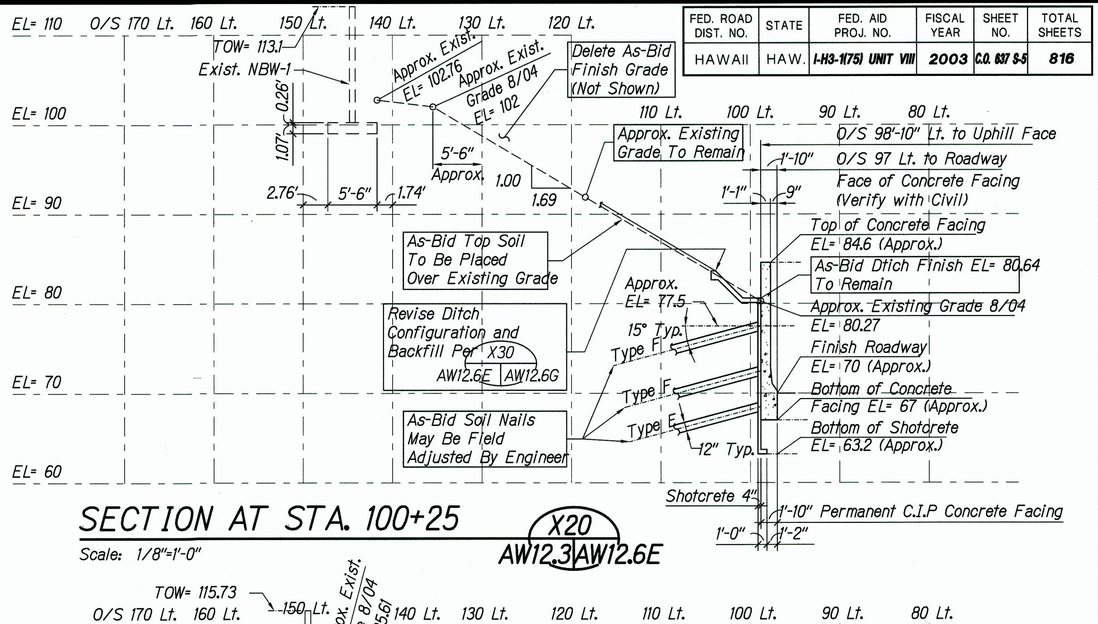
X18 AW12.3|AW12.6E




## SECTION AT STA. 99+50

Scale: 1/8"=1'-0"

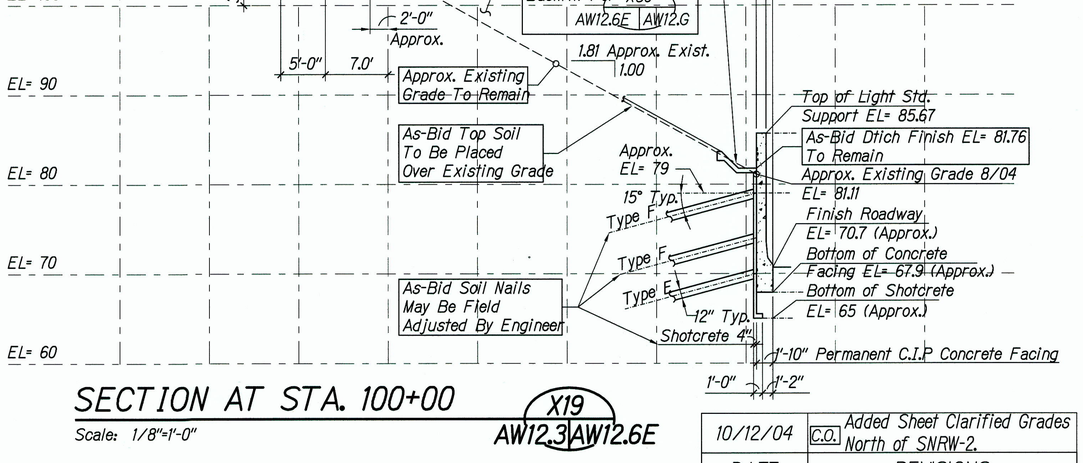
X17 AW12.3|AW12.6E




## SECTION AT STA. 100+25

Scale: 1/8"=1'-0"

X20 AW12.3|AW12.6E




## SECTION AT STA. 100+00

Scale: 1/8"=1'-0"

X19 AW12.3|AW12.6E

| DATE | REVISIONS |
|---|---|
| 10/12/04 | C.O. Added Sheet Clarified Grades North of SNRW-2. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SNRW-2 SECTIONS

## STA. 99+50 to STA. 100+25

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1/8"=1'-0" Date: Mar. 31, 2003

SHEET No. AW12.6E OF 140 SHEETS

GRAPHIC SCALES:

8 6 4 2 0 8 16

SCALE: 1/8"= 1'-0"

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HAWAII, U.S.A.

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SIGNATURE

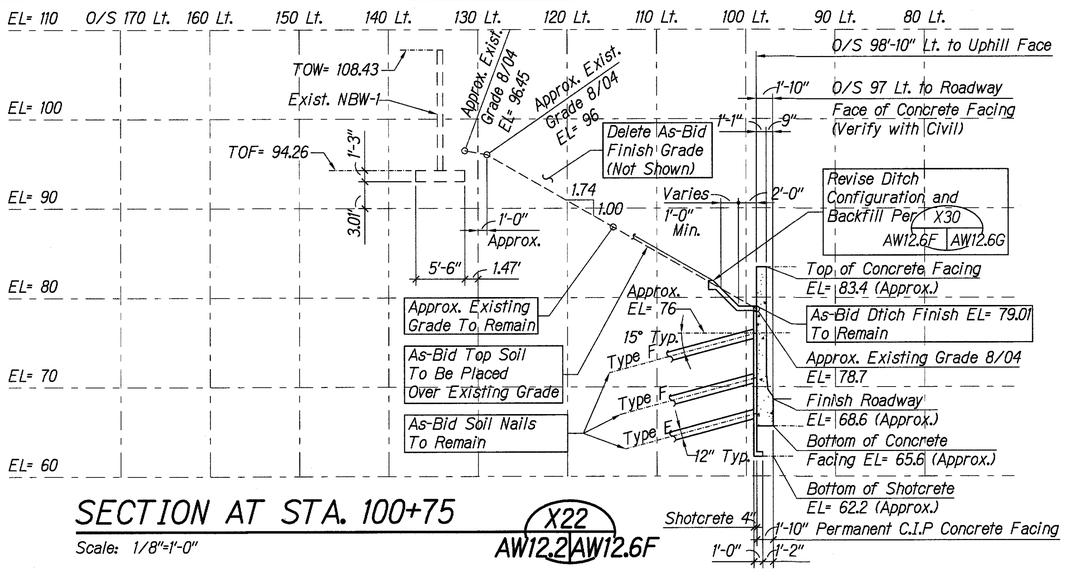
April 30, 2006
EXPIRATION DATE OF THE LICENSE

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

RMTC JOB NO.: 1-19369-OE

C.O. 637 S-5

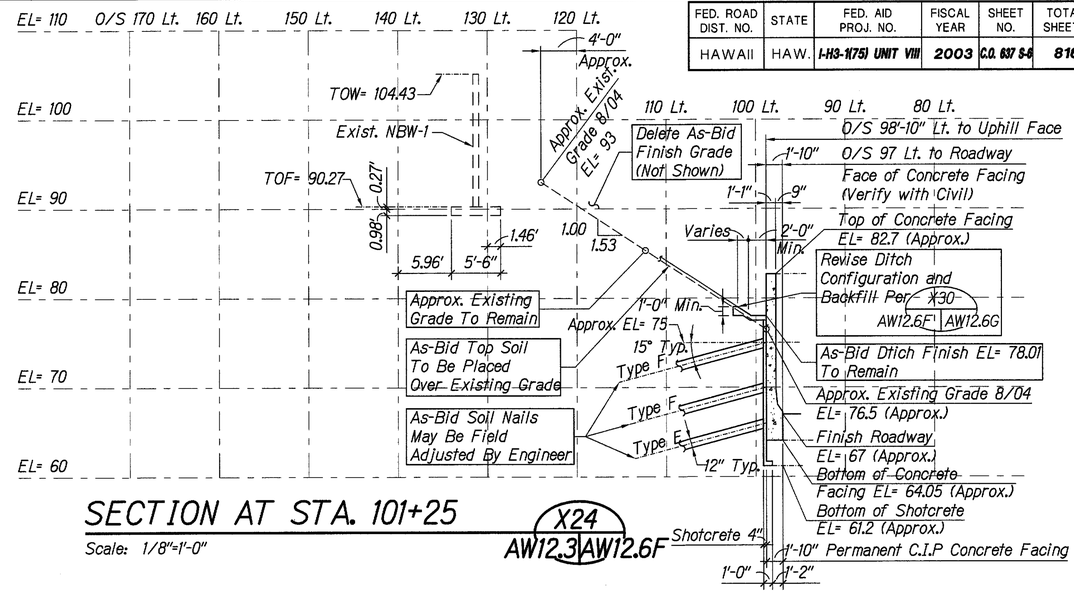
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 637 S-6 | 816 |




## SECTION AT STA. 100+75

Scale: 1/8"=1'-0"

X22
AW12.2 AW12.6F




## SECTION AT STA. 101+25

Scale: 1/8"=1'-0"

X24
AW12.3 AW12.6F




## SECTION AT STA. 100+50

Scale: 1/8"=1'-0"

X21
AW12.2 AW12.6F




## SECTION AT STA. 101+00

Scale: 1/8"=1'-0"

X23
AW12.2 AW12.6F

| DATE | REVISIONS |
|---|---|
| 10/12/04 | C.O. Added Sheet Clarified Grades North of SNRW-2. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SNRW-2 SECTIONS

## STA. 100+50 to STA. 101+25

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1/8"=1'-0" Date: Mar. 31, 2003

SHEET No. AW12.6F OF 140 SHEETS

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SIGNATURE

April 30, 2006
EXPIRATION DATE OF THE LICENSE

GRAPHIC SCALES:

8 6 4 2 0 8 16

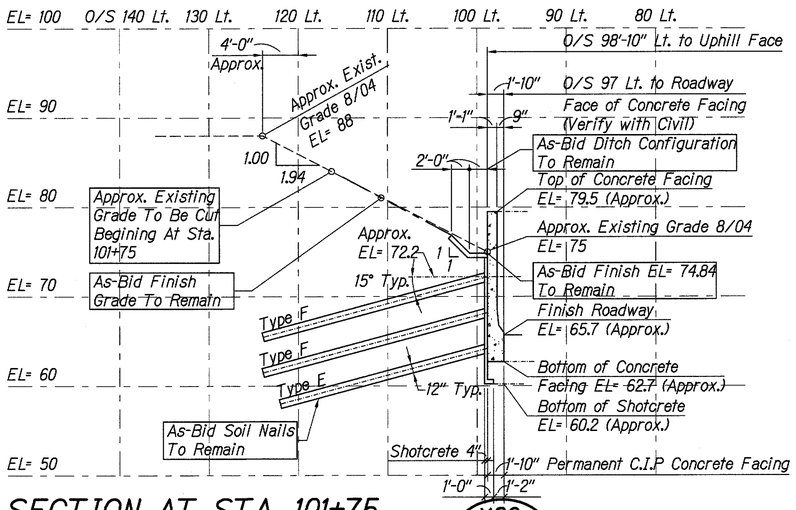
SCALE: 1/8"= 1'-0"

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

RMTC JOB NO: 1-19369-0E

C.O. 637 S-6

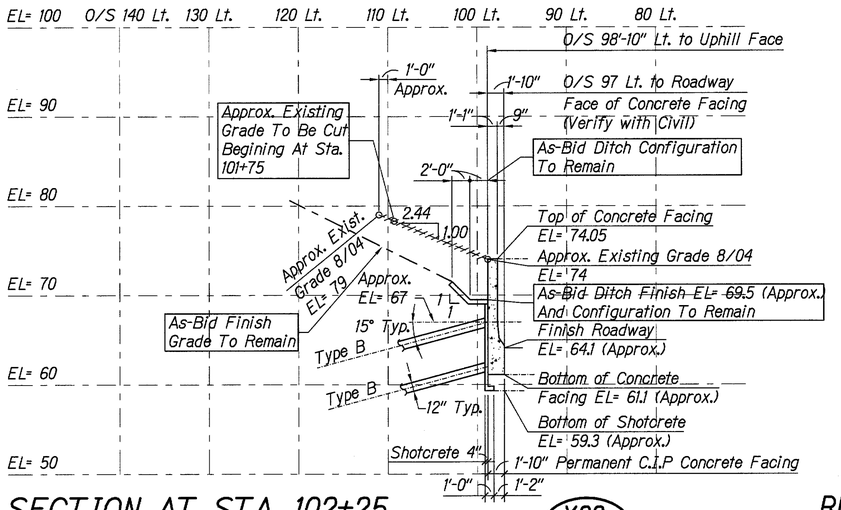
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 637 S-7 | 816 |




## SECTION AT STA. 101+75

X26 AW12.3 AW12.6G

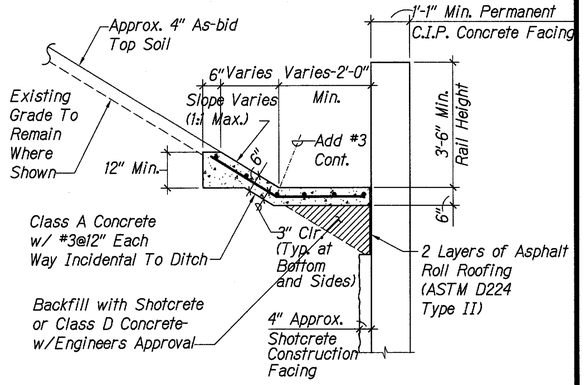
Scale: 1/8"=1'-0"




## SECTION AT STA. 102+25

X28 AW12.3 AW12.6G

Scale: 1/8"=1'-0"

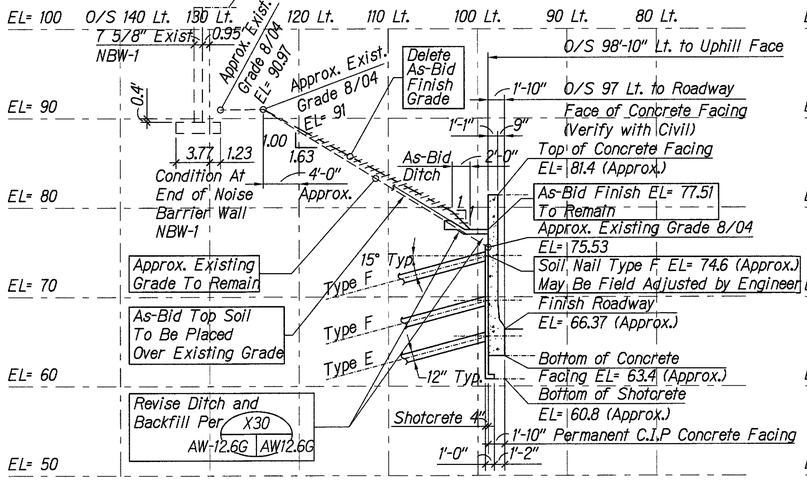



## REVISED DITCH CONFIGURATION AND BACKFILL

X30 AW12.6G AW12.6G

Scale: 1/2"=1'-0"

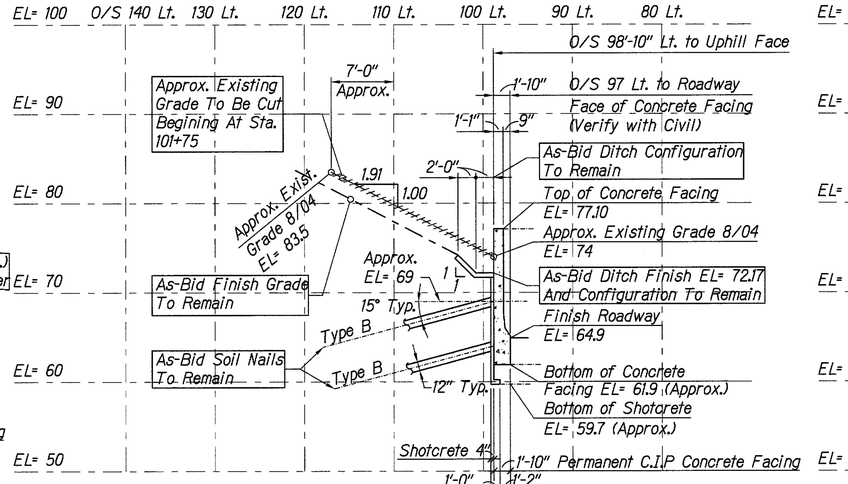
AW12.6C, AW12.6D, AW12.6E, AW12.6F




## SECTION AT STA. 101+49.88

X25 AW12.3 AW12.6G

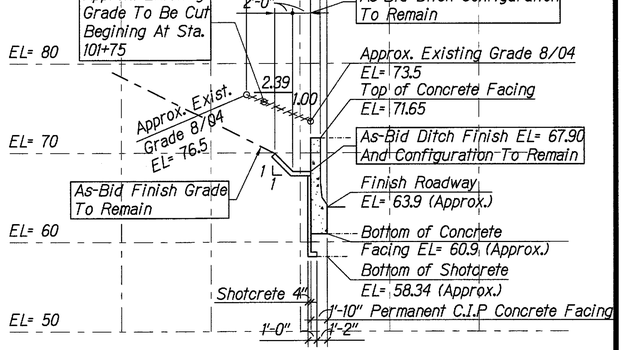
Scale: 1/8"=1'-0"




## SECTION AT STA. 102+00

X27 AW12.3 AW12.6G

Scale: 1/8"=1'-0"




## SECTION AT STA. 102+40

X29 AW12.3 AW12.6G

Scale: 1/8"=1'-0" (END SNRW-2/BEGIN CBW-2)

| DATE | REVISIONS |
|---|---|
| 10/12/04 | C.O. Added Sheet Clarified Grades North of SNRW-2. |

ORIGINAL PLAN | NOTE BOOK No.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

GRAPHIC SCALES:

8 6 4 2 0 8 16
SCALE: 1/8"= 1'-0"

2 1 0 2 4
SCALE: 1/2"= 1'-0"

STEWART N. WILLIAMS
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SIGNATURE

April 30, 2006
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SNRW-2 SECTIONS

## STA. 101+49.88 to STA. 102+40

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

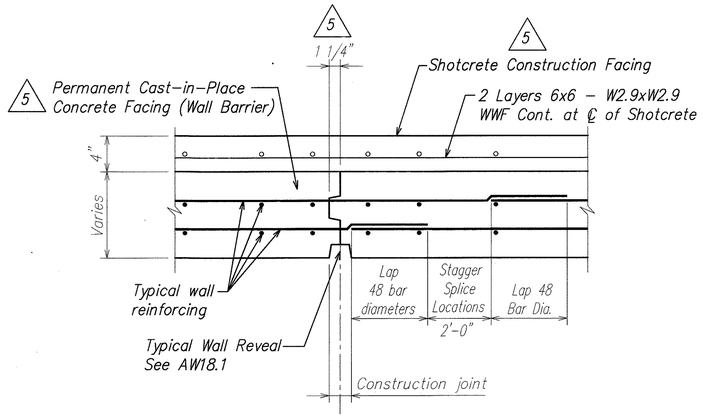
Scale: 1/8"=1'-0" Date: Mar. 31, 2003

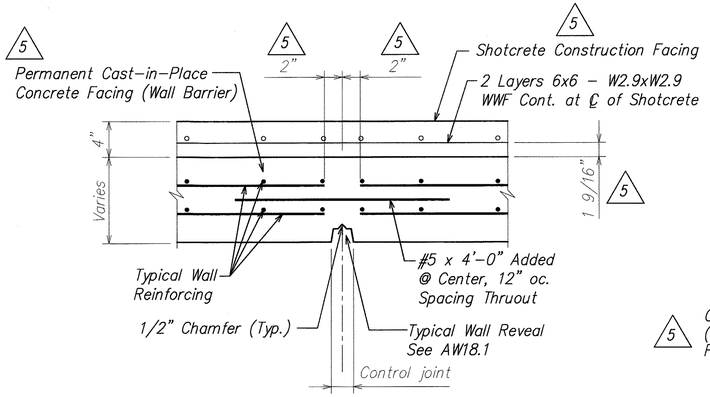
SHEET No. AW12.6G OF 140 SHEETS

RWTC JOB NO.: 1-19369-OE

C.O. 637 S-7

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 638 | 816 |

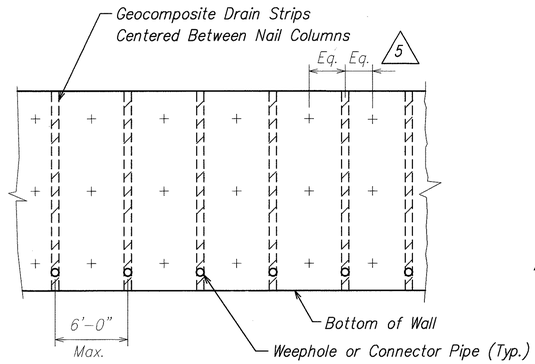



## TYPICAL CONSTRUCTION AND CONTROL JOINTS

NOT TO SCALE

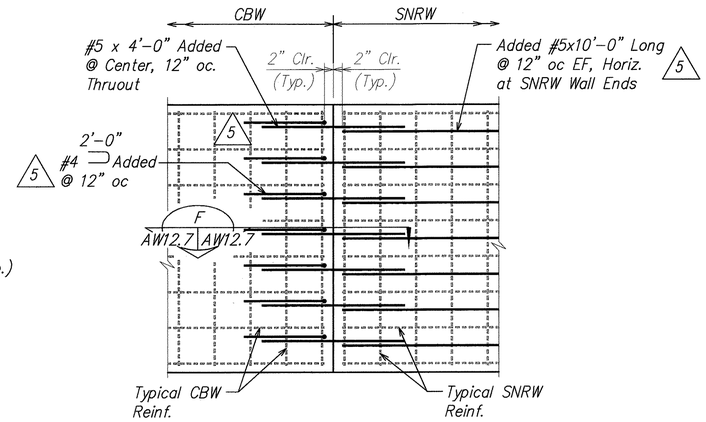
A AW12.7 | AW12.7




## GEOCOMPOSITE DRAINAGE STRIP DETAIL

NOT TO SCALE

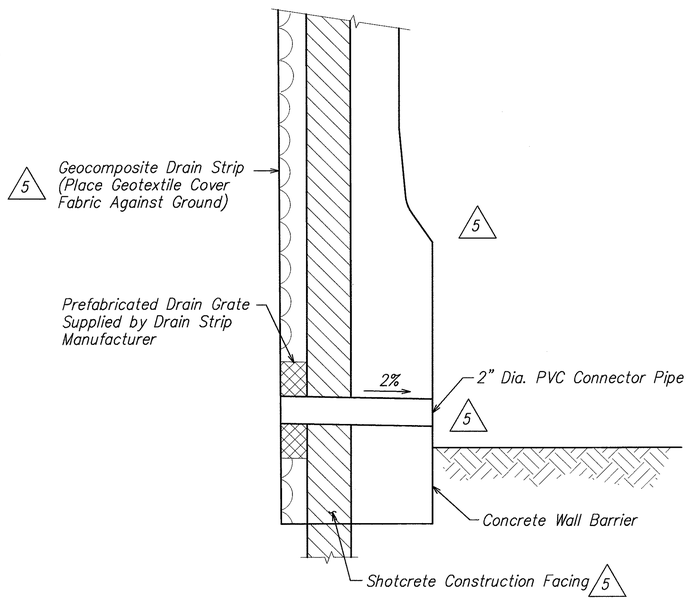
C AW12.7 | AW12.7




## WALL ELEVATION AT CBW/SNRW INTERFACE

NOT TO SCALE

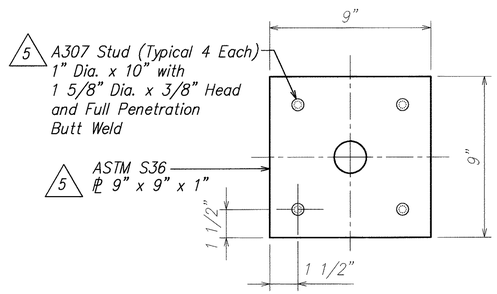
E AW12.7 | AW12.7




## TRAFFIC BARRIER AND PVC CONNECTOR PIPE DETAIL

NOT TO SCALE

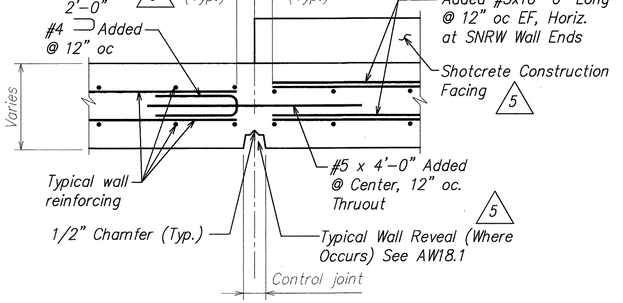
D AW12.7 | AW12.7




## CONNECTION PLATE WITH STUD DETAIL

NOT TO SCALE

B AW12.7 | AW12.7




## TYPICAL WALL VERTICAL CONTROL JOINT AT CBW/SNRW INTERFACE

NOT TO SCALE

F AW12.7 | AW12.7

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David K. Fujiwara
SIGNATURE

4-30-04
EXPIRATION DATE OF THE LICENSE

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes, Revised Connection Plate with Stud Detail. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SOIL NAIL RETAINING WALL TYPICAL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

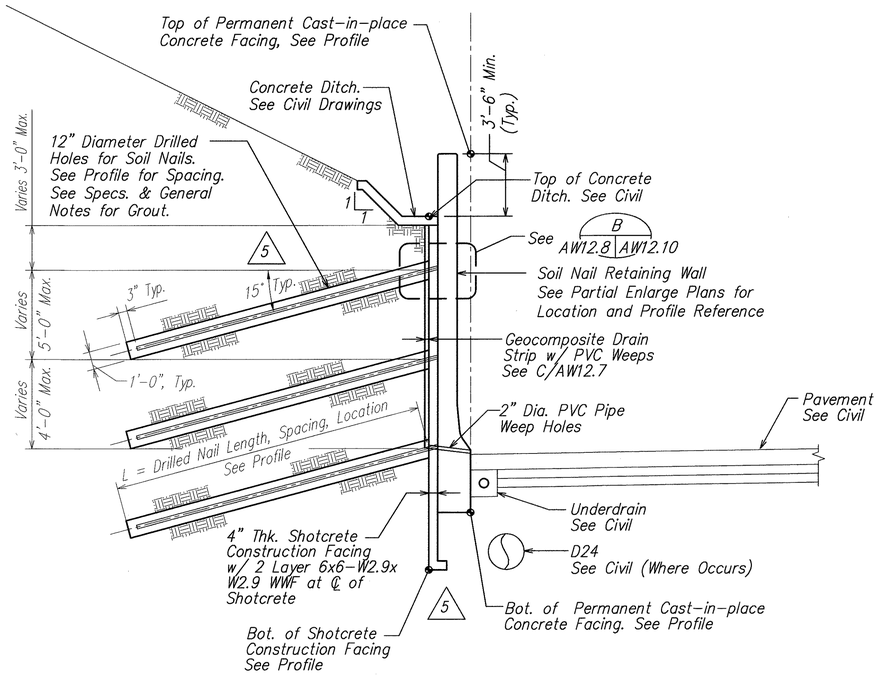
SHEET No. AW12.7 OF 140 SHEETS

ADD. 638

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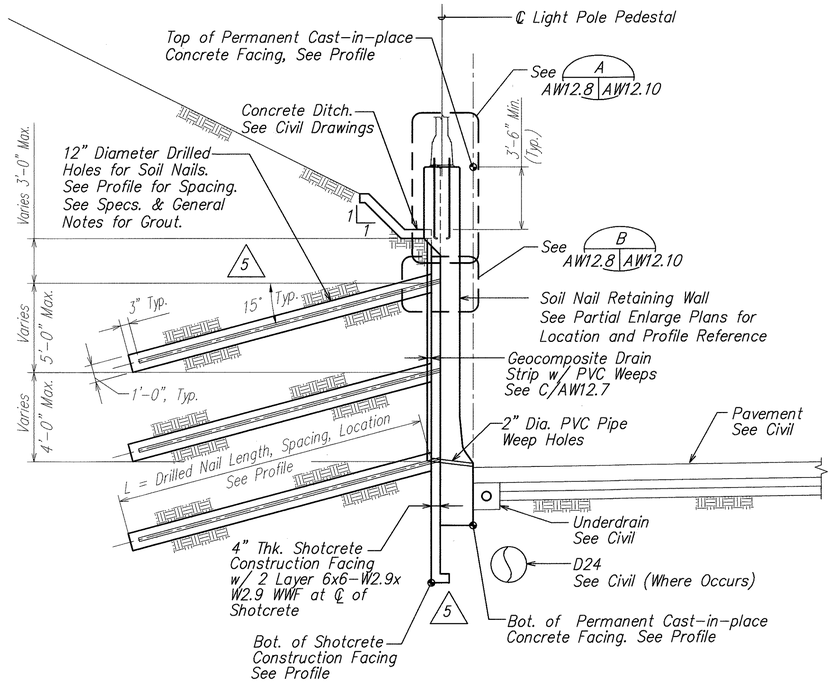
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 639 | 816 |




## TYPICAL SOIL NAIL RETAINING WALL SECTION A

SCALE: 1/4" = 1'-0"

AW12.8 | AW12.8




## SOIL NAIL RETAINING WALL SECTION AT LIGHT POLE B

SCALE: 1/4" = 1'-0"

AW12.8 | AW12.8

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


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David K. Fujiwara 4-30-04

SIGNATURE EXPIRATION DATE OF THE LICENSE


| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Added 12" Base |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# TYPICAL SOIL NAIL RETAINING WALL SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

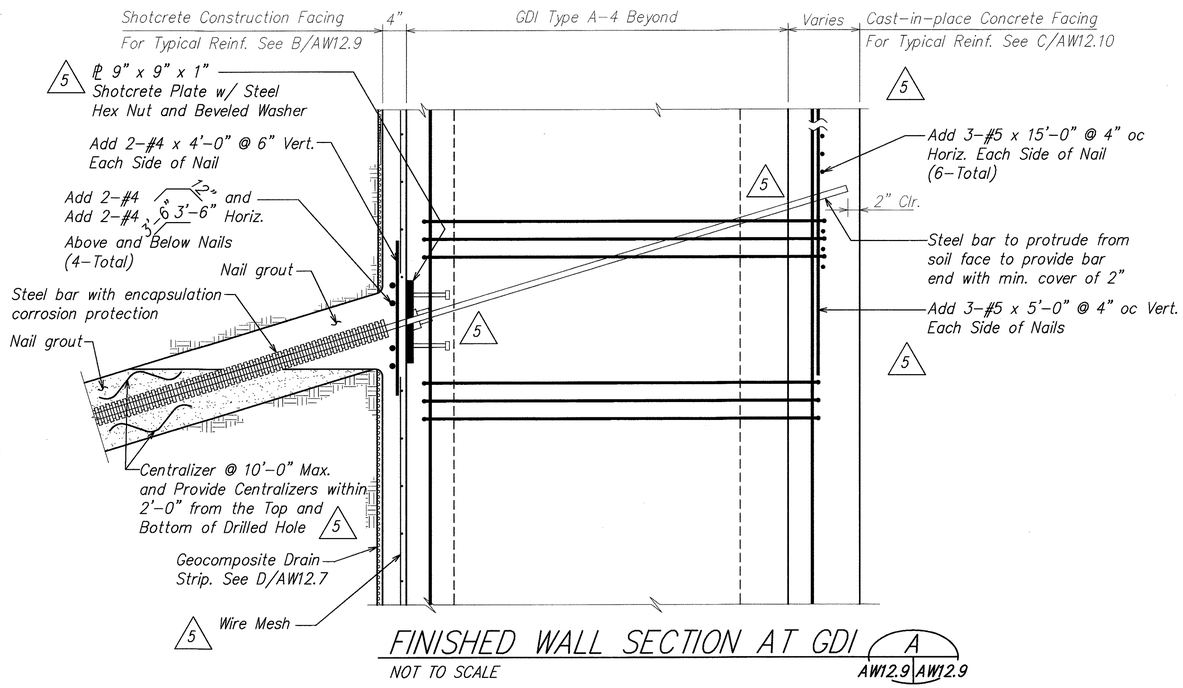
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ADD. 639

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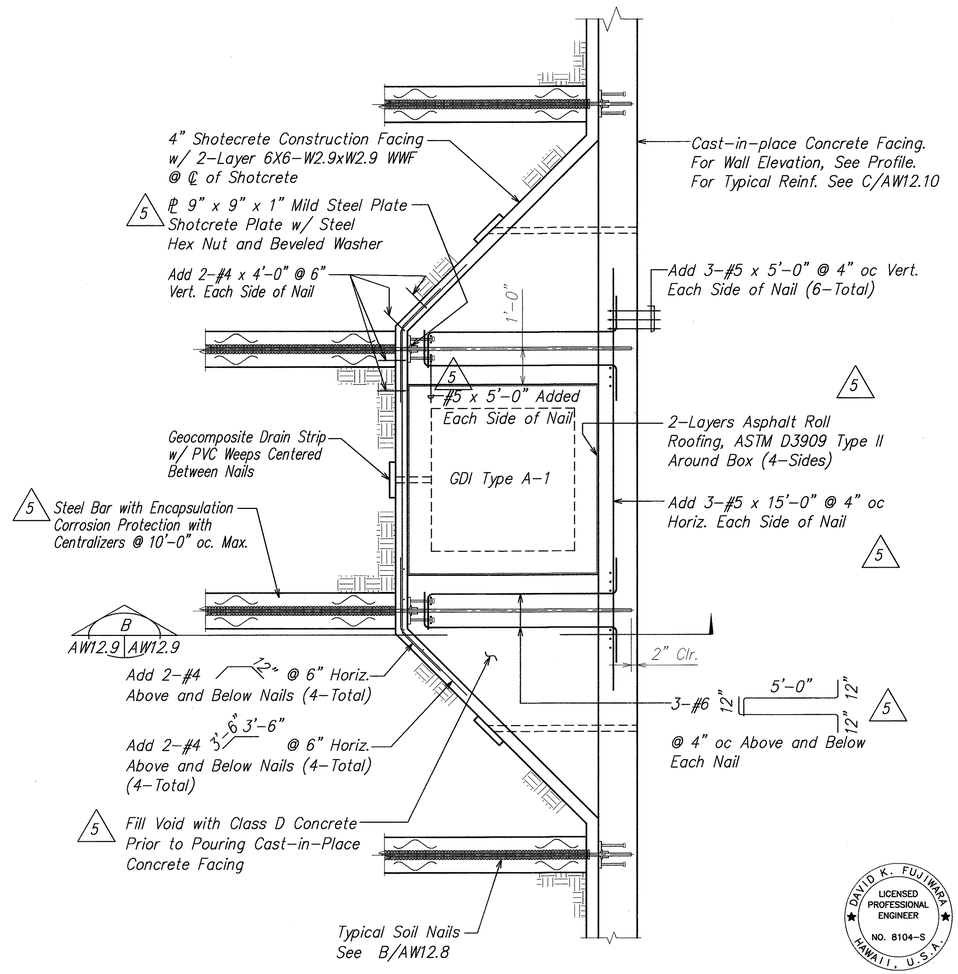
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 640 | 816 |




## FINISHED WALL SECTION AT GDI (A)

NOT TO SCALE

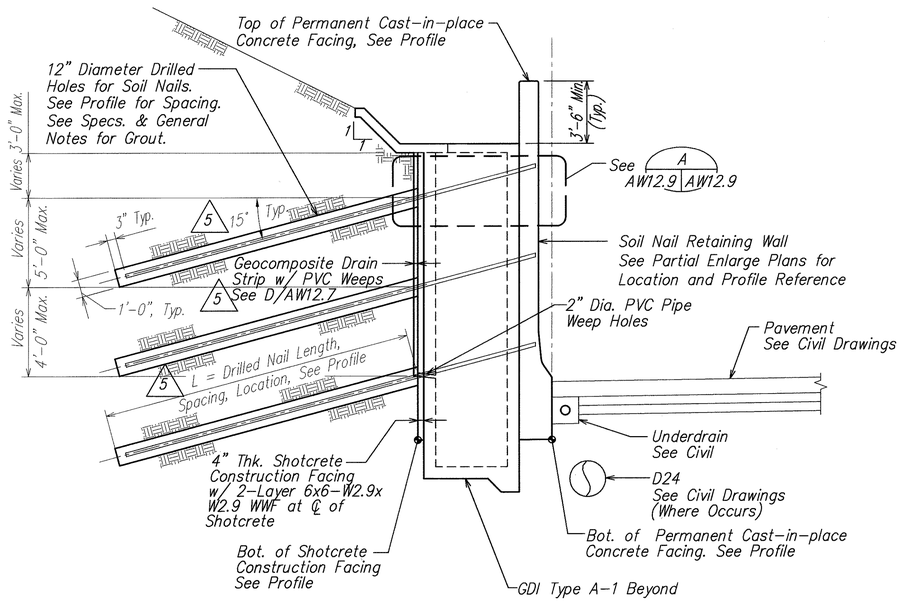
AW12.9 | AW12.9




## SOIL NAIL RETAINING WALL PLAN AT GDI (C)

SCALE: 1/2" = 1'-0"

AW12.9 | AW12.9




## SOIL NAIL RETAINING WALL SECTION AT GDI (B)

SCALE: 1/4" = 1'-0"

AW12.9 | AW12.9

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SOIL NAIL RETAINING WALL PLAN AND SECTION AT GDI

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

SHEET No. AW12.9 OF 140 SHEETS

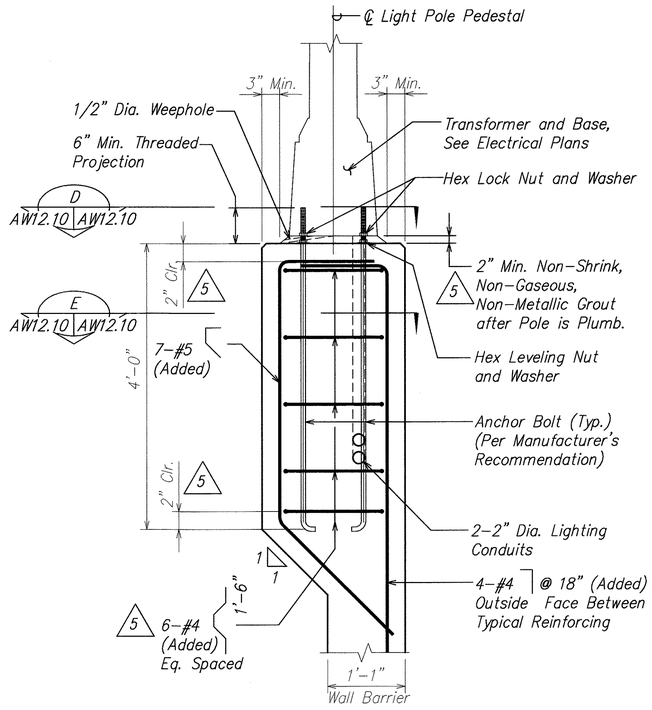
| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Added Reinforcing, Revised Slope of Soil Nail. |

ADD. 640

AB-AW1209.DWG
1 = 1

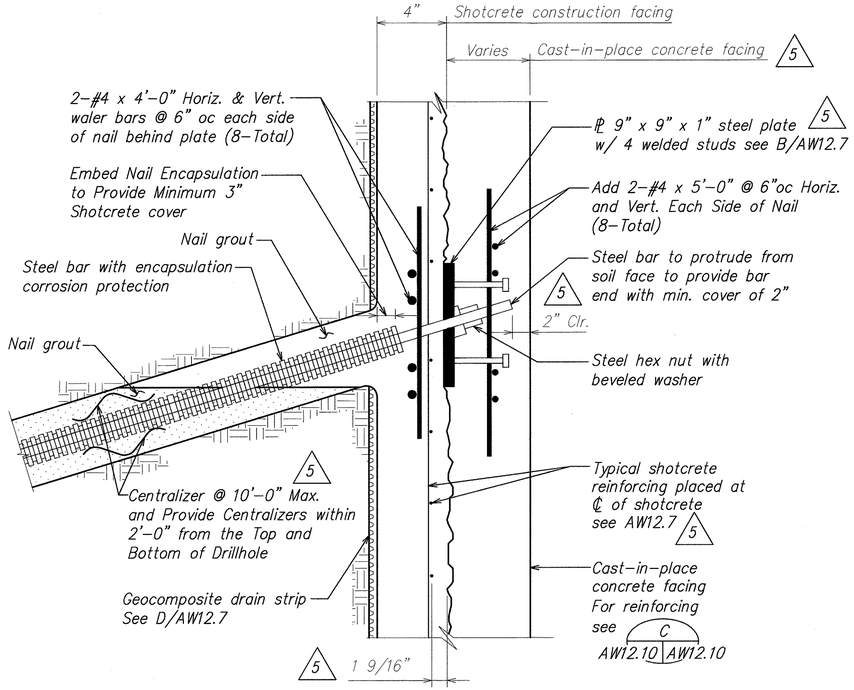
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 641 | 816 |



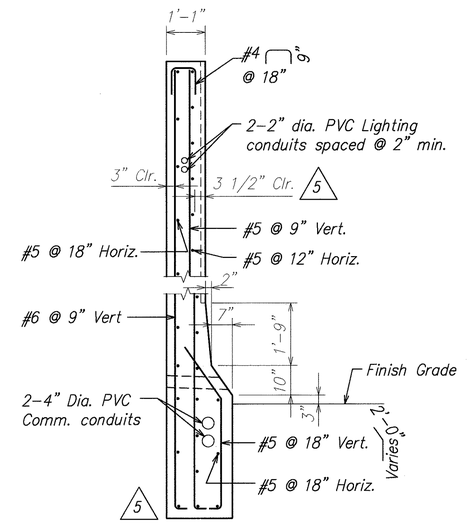

## SECTION A

SCALE: 1" = 1'-0" AW12.8 | AW12.10



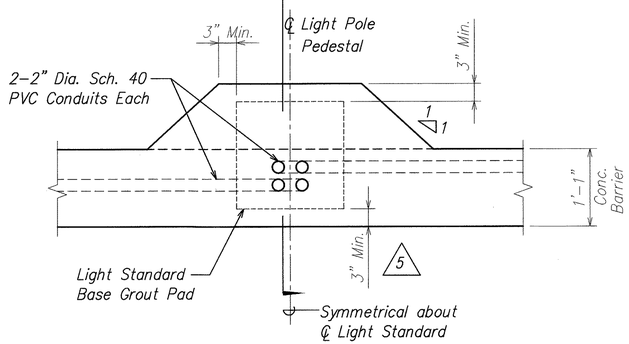

## FINISHED WALL SECTION B

NOT TO SCALE AW12.8 | AW12.10




## 5 CAST-IN-PLACE CONCRETE FACING (WALL BARRIER) REINF. DETAIL C

SCALE: 1/2" = 1'-0" AW12.10 | AW12.10

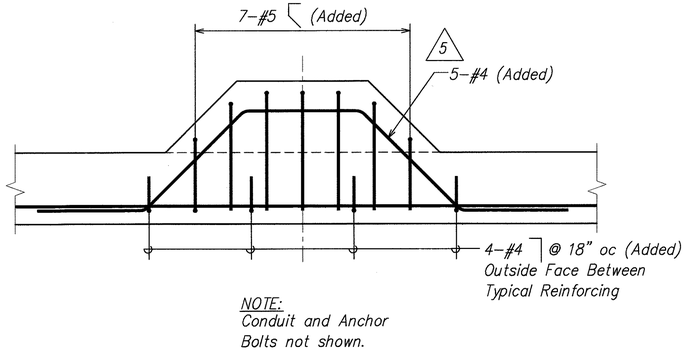



## SECTION A

SCALE: 1" = 1'-0" AW12.8 | AW12.10

5 AW12.10

A AW12.10 | AW12.10




NOTE:
Conduit and Anchor Bolts not shown.

## PLAN D

SCALE: 1" = 1'-0" AW12.10 | AW12.10

## PLAN - SECTION E

SCALE: 1" = 1'-0" AW12.10 | AW12.10

DAVID K. FUJIWARA
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David K. Fujiwara 4-30-04
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SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
NOTE BOOK
No.

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SOIL NAIL RETAINING WALL SECTIONS AND DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

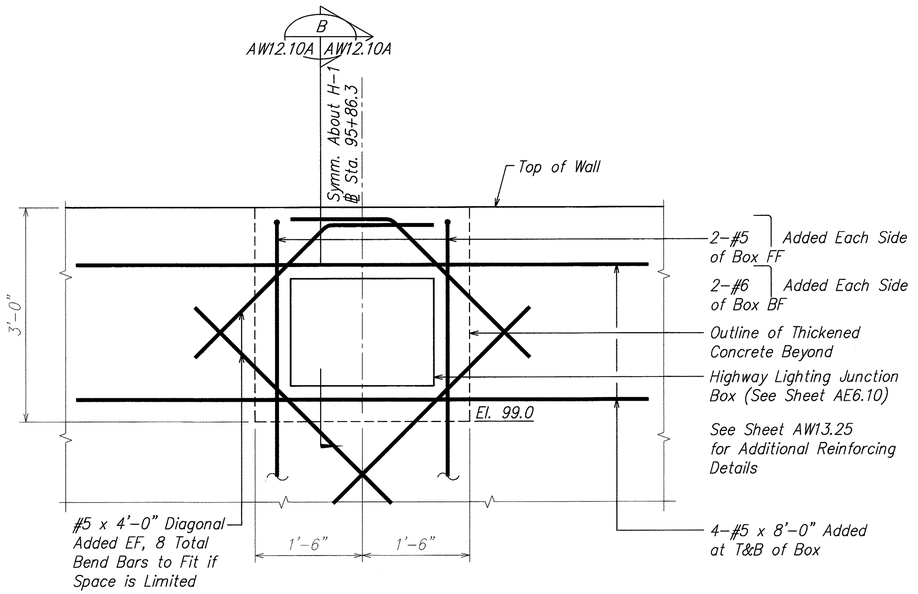
SHEET No. AW12.10 OF 140 SHEETS

ADD. 641

AW-AB1210.DWG
1 = 1

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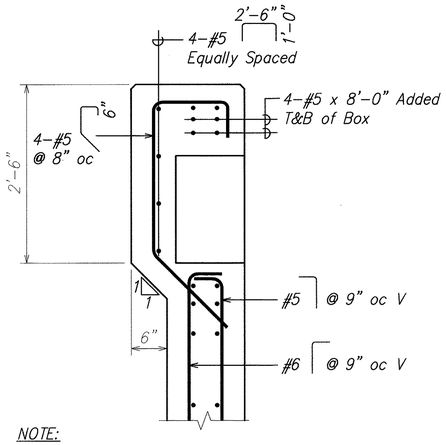
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 641S-1 | 816 |




## DETAIL OF SNRW-2 AT JUNCTION BOX AT STA. 95+86.3

SCALE: 1" = 1'-0"

1 AW12.10A | AW12.10A



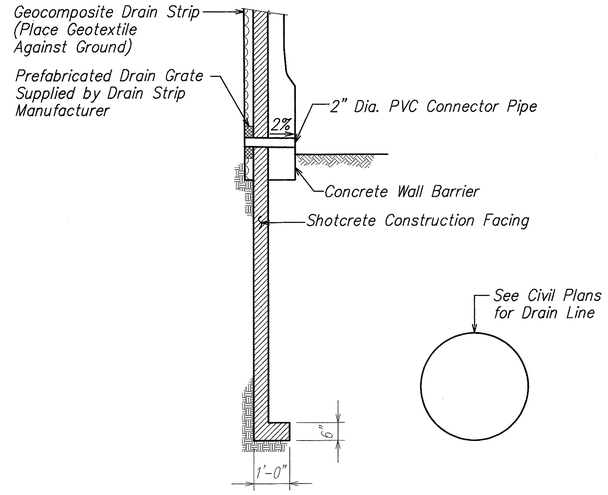

NOTE:

See Sheet AW12.10 for Typical Wall Reinforcing

## SECTION

SCALE: 1" = 1'-0"

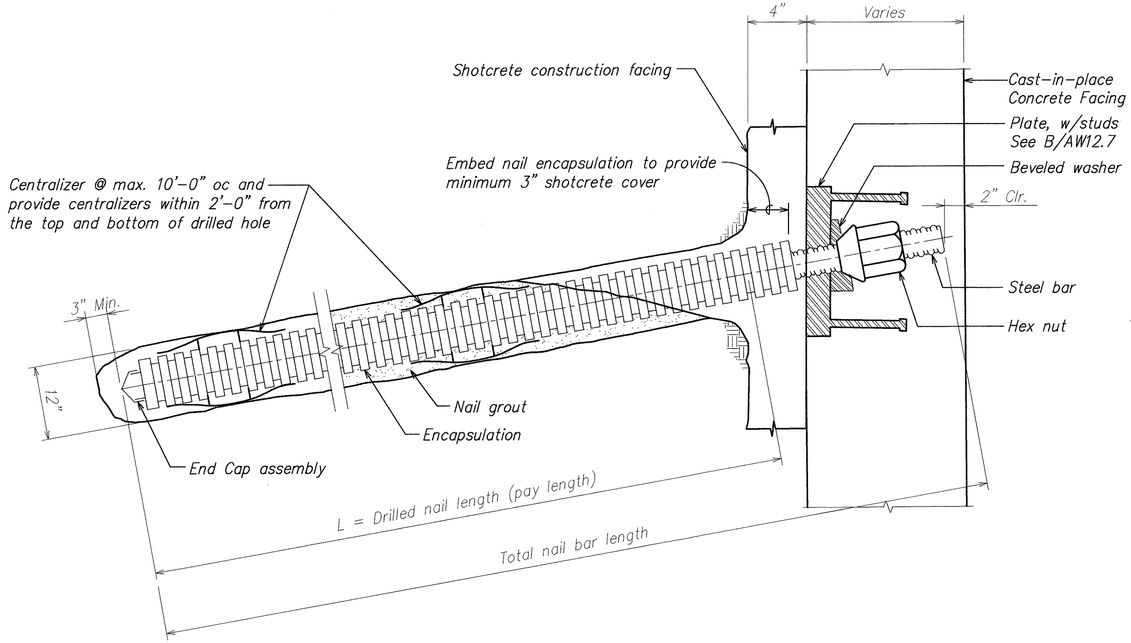
B AW12.10A | AW12.10A




## SHOTCRETE TEMPORARY FACING AT DRAINLINE LOCATION

SCALE: 1/2" = 1'-0"

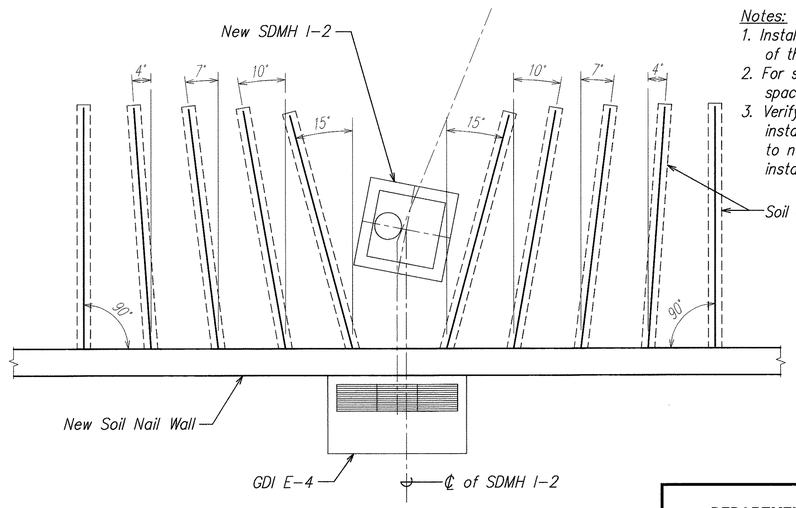
C AW12.10A | AW12.10A




## ENCAPSULATED PRODUCTION SOIL NAIL DETAIL

NOT TO SCALE

A AW12.10A | AW12.10A




Notes:

1. Install SDMH I-2 prior the construction of the soil nail wall.
2. For soil nail length, location, and spacing see profile and schedule.
3. Verify location of SDMH I-2 prior to installing soil nails. Care shall be taken to not damage SDMH I-2, when installing soil nails.

## SOIL NAIL PATTERN @ SDMH I-2

SCALE: 3/16" = 1'-0"

D AW5.2 | AW12.10A

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## SOIL NAIL RETAINING WALL SECTIONS AND DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

SHEET No. AW12.10A OF 140 SHEETS

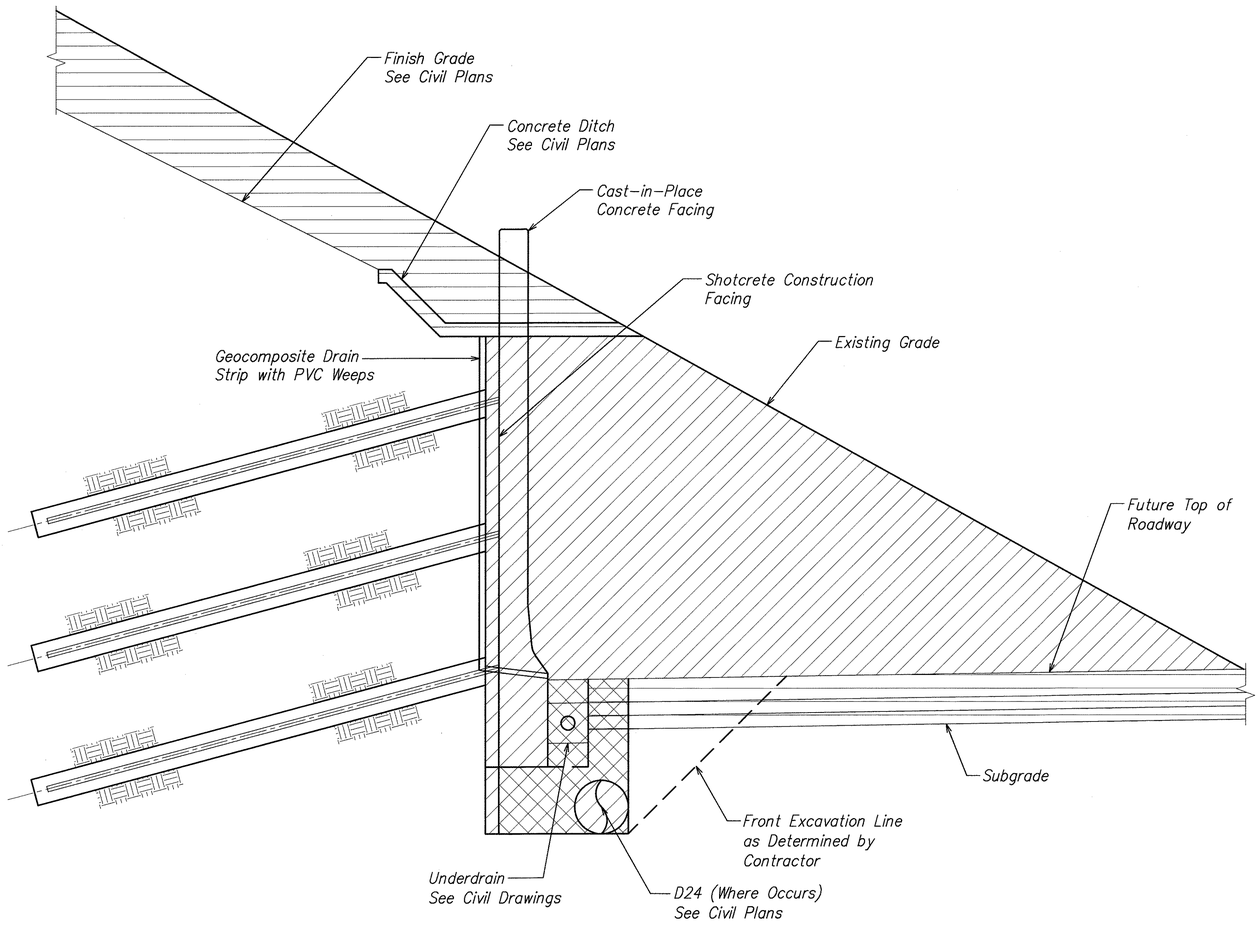
| DATE | REVISION |
|---|---|
| 10/16/03 | 5 New Sheet |

ADD. 641S-1

AW-AB1210.DWG
1 = 1

\\Cost\ksf\2001\10066-WAIMALU VIADUCT\10-15-03 AW AD06\AD06 AB-AW1210.dwg, AW12.10, 10/14/2003 3:33:47 PM, kSFinc.p3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 641S-2 | 816 |




PAY LIMITS LEGEND:

- Roadway Excavation
- Structure Excavation
- Structure Backfill

NOTE:
See AW0.11 for site structures construction sequence notes.

## SNRW EXCAVATION AND BACKFILL PAY LIMITS

NOT TO SCALE

A
AW12.10B | AW12.10B

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

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HAWAII, U.S.A.

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SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SNRW EXCAVATION AND BACKFILL PAY LIMITS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW12.10B OF 140 SHEETS

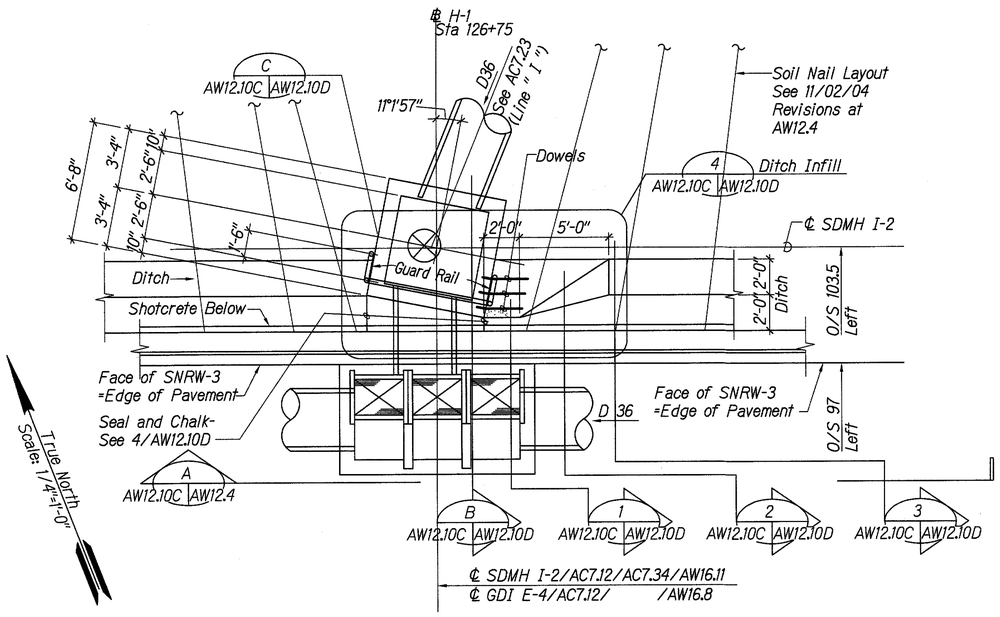
ADD. 641S-2

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KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 641 S-3 | 816 |

RFI 147



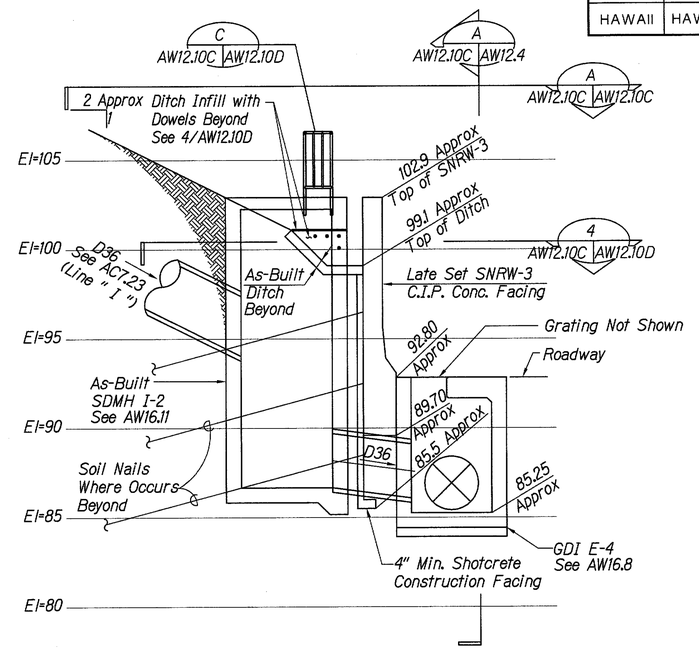

## AS BUILT LAYOUT AT H-1 ℄ STA 126+75 O/S LEFT

Scale: 1/4"=1'-0"

A — AC7.12, AC7.23, AC7.34 | AW12.10C

AW12.4, AW12.10C, AW12.10D, AW16.8, AW16.11

RFI 147



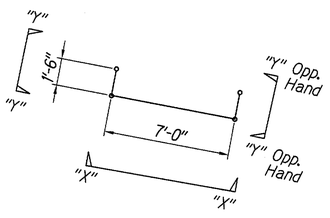

## SECTION

Scale: 1/4"=1'-0"

B — AW7.23, AW16.8 | AW12.10C

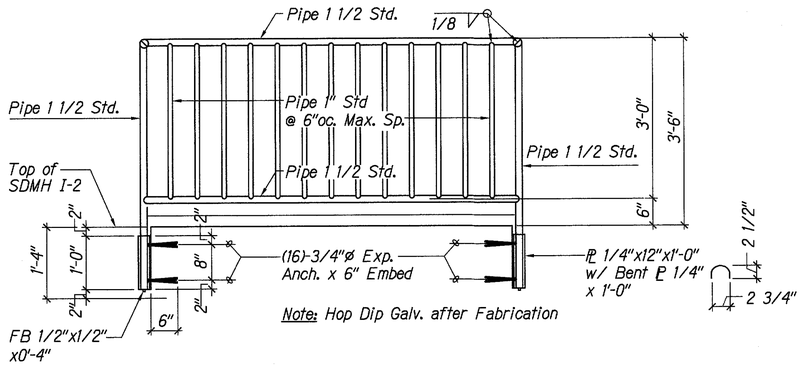
AW12.4, AW12.10C, AW12.10D

RFI 147




## LAYOUT

Scale: 1/4"=1'-0"




## SECTION XX

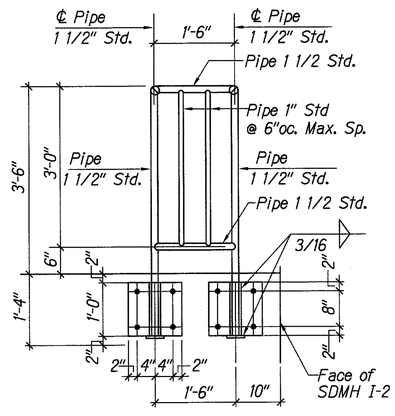
Scale: 3/4"=1'-0"

## GUARDRAIL DETAIL

Scale As Noted

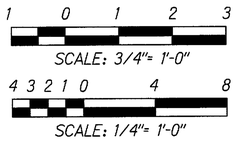
C — AW12.10C | AW12.10C

RFI 147




## SECTION YY

Scale: 3/4"=1'-0"




STEWART N. WILLIAMS
LICENSED PROFESSIONAL ENGINEER
No. 3908-S
HAWAII, U.S.A.

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SIGNATURE — April 30, 2006 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 12/10/04 | RFI 147 New Sheet Clarifying Ditch Configuration at As Built SDMH I-2. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SOIL NAIL RETAINING WALL

## SECTIONS and DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003 RFI 147

SHEET No. AW12.10C OF 140 SHEETS

ORIGINAL PLAN

| | DATE |
|---|---|
| SURVEY PLOTTED BY | |
| DRAWN BY | |
| TRACED BY | |
| DESIGNED BY | |
| QUANTITIES BY | |
| CHECKED BY | |

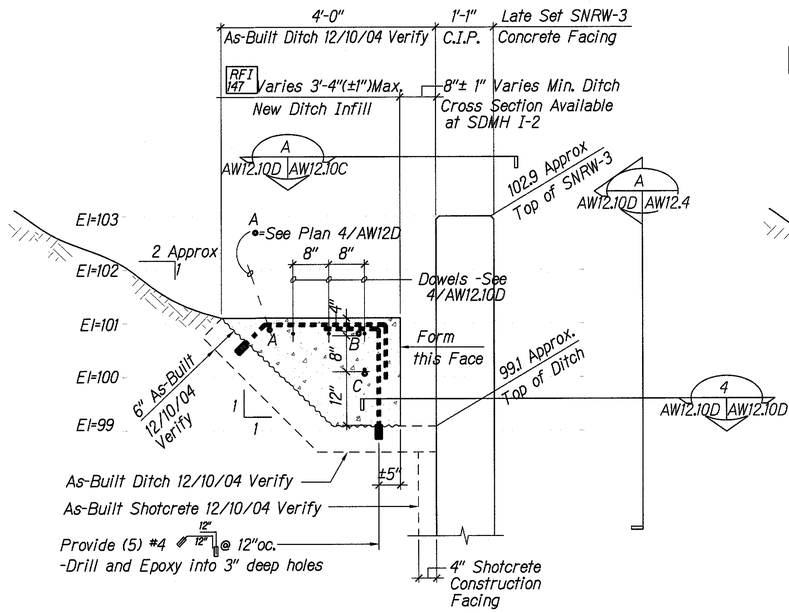
NOTE BOOK
No.

RMTC JOB NO: 1-19369-OE

C.O. 641 S-3 RFI 147

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 641 S-4 | 816 |

RFI 147

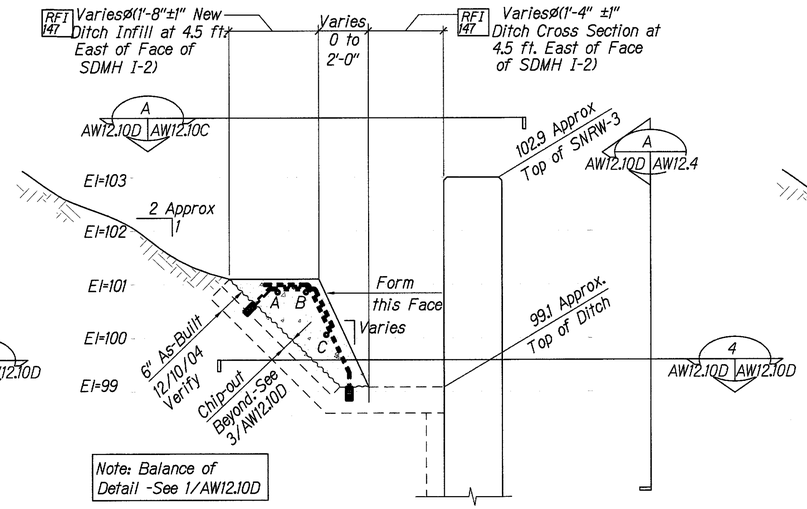



## DETAIL at DITCH INFILL 1

Scale: 3/4"=1'-0"

AW12.10C | AW12.10D

AW12.4, AW12.10D

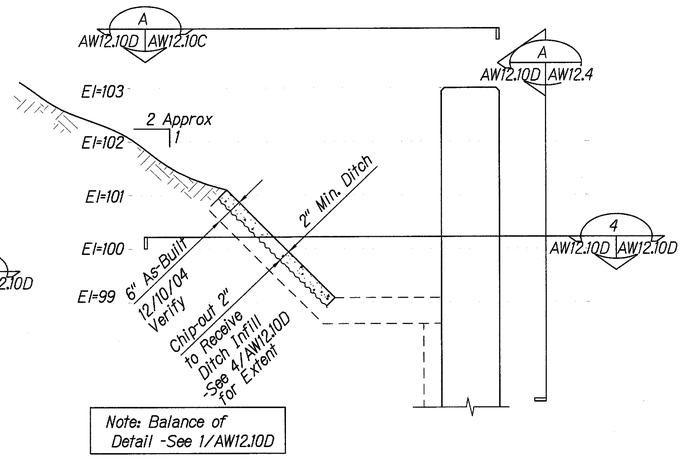



## DETAIL at DITCH INFILL 2

Scale: 3/4"=1'-0"

AW12.10C | AW12.10D

AW12.4, AW12.10D

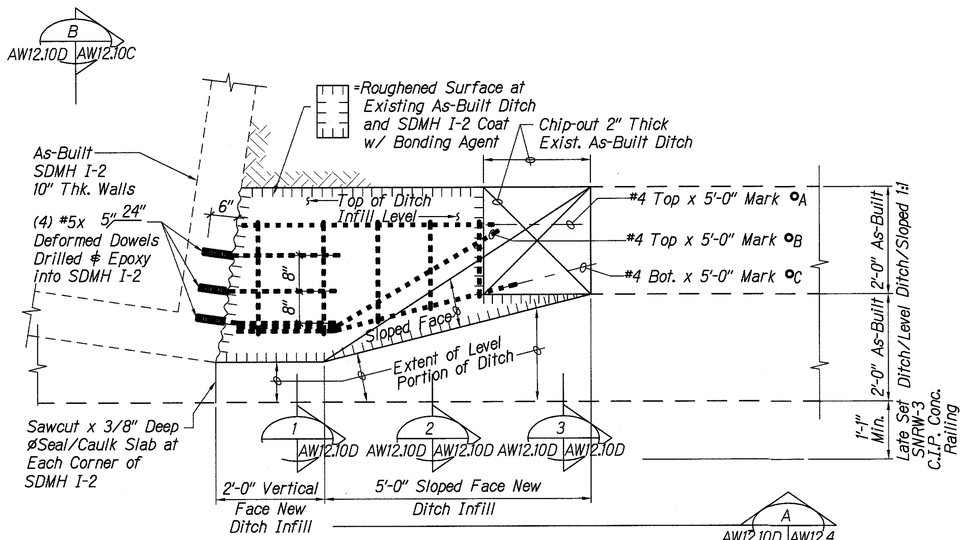



## DETAIL at DITCH INFILL 3

Scale: 3/4"=1'-0"

AW12.10C | AW12.10D

AW12.4, AW12.10D




## DITCH INFILL PLAN 4

Scale: 3/4"=1'-0"

AW12.4, AW12.10C, AW12.10D | AW12.10D

RFI 147

*Notes to Ditch Infill at SDMH I-2 at SNRW-3*

1. Ditch Infill is required to redirect Ditch Flow at As-Built SDMH I-2 / SNRW-3 Interface.
2. Ditch Infill shall be Class A Concrete.
3. Alternative materials shall be with Engineers approval only.
4. New Drawings AW12.10C and AW12.10D (C.0.641S-3 and C.0.641S-4) are provided in response to RFI 147.

RFI 147

1 0 1 2FT

SCALE: 3/4"= 1'-0"

STEWART N. WILLIAMS * LICENSED PROFESSIONAL ENGINEER * No. 3908-S * HAWAII, U.S.A.

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SIGNATURE

April 30, 2006
EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 12/10/04 | RFI 147 New Sheet Clarifying Ditch Configuration at As Built SDMH I-2. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# SOIL NAIL RETAINING WALL
# SECTIONS and DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII RFI 147

Scale: As Noted Date: Mar. 31, 2003

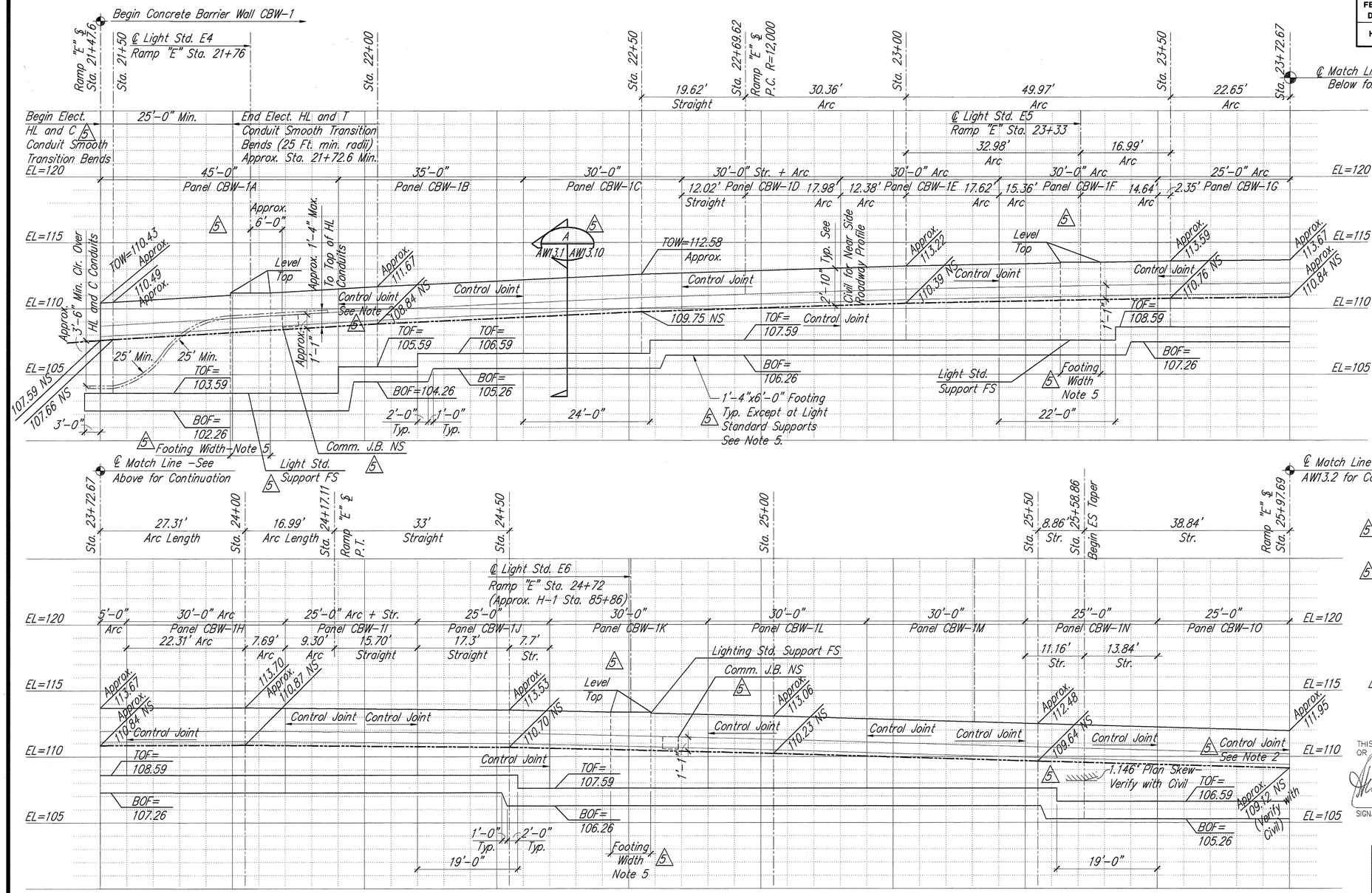
SHEET No. AW12.10D OF 140 SHEETS

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

RMTC JOB NO: 1-19369-OE

C.O. 641 S-4 RFI 147

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75)_UNIT VIII | 2003 | ADD 642 | 816 |




LEGEND:

- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- J.B. = Highway Lighting/Communications Junction Boxes
- Str. = Straight
- Arc = Arc Length
- 5 HL = Highway Lighting
- 5 C = Communication (Conduits)
- ----- = Finish grade at Near side/Roadway Face of Jersey Shape

Notes: 5

1. For CBW Sections -See Sht. No. AW13.10
2. 5 For Control Joint Details -See Sht. No. AW13.24 except joint chamfer configuration at and below the Jersey Shape shall be similar to 1Z/AW6.5A.
3. 5 For Footing Step Detail -See Sht. No. AW13.25 and 1/AW6.5
4. For added reinforcing at pull boxes, -See Sheet No. AW13.25
5. For wall at Luminaire -See Sht. Nos. AW13.20 through AW13.22

5 STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908-S — HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA — LICENSED PROFESSIONAL ENGINEER — No. 8104-S — HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Clarified Luminaire Supports and notes. Added notes. |

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL CBW-1 PROFILE NO. 1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

## CONCRETE BARRIER WALL CBW-1 PROFILE No. 1

A AW13.10 | AW13.1

Scale: Horizontal 1" = 10'
Vertical 1" = 4'

1"= 10' 10' 5' 0 10' 20'

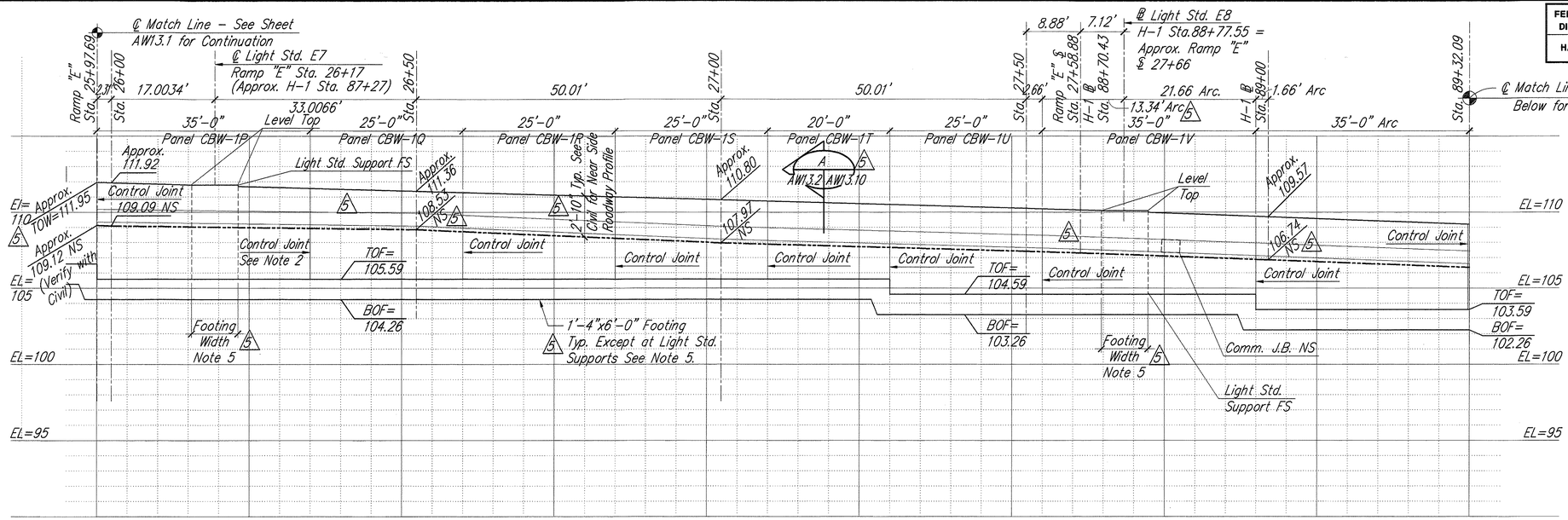
1"= 4' 4' 2' 0 4' 8'

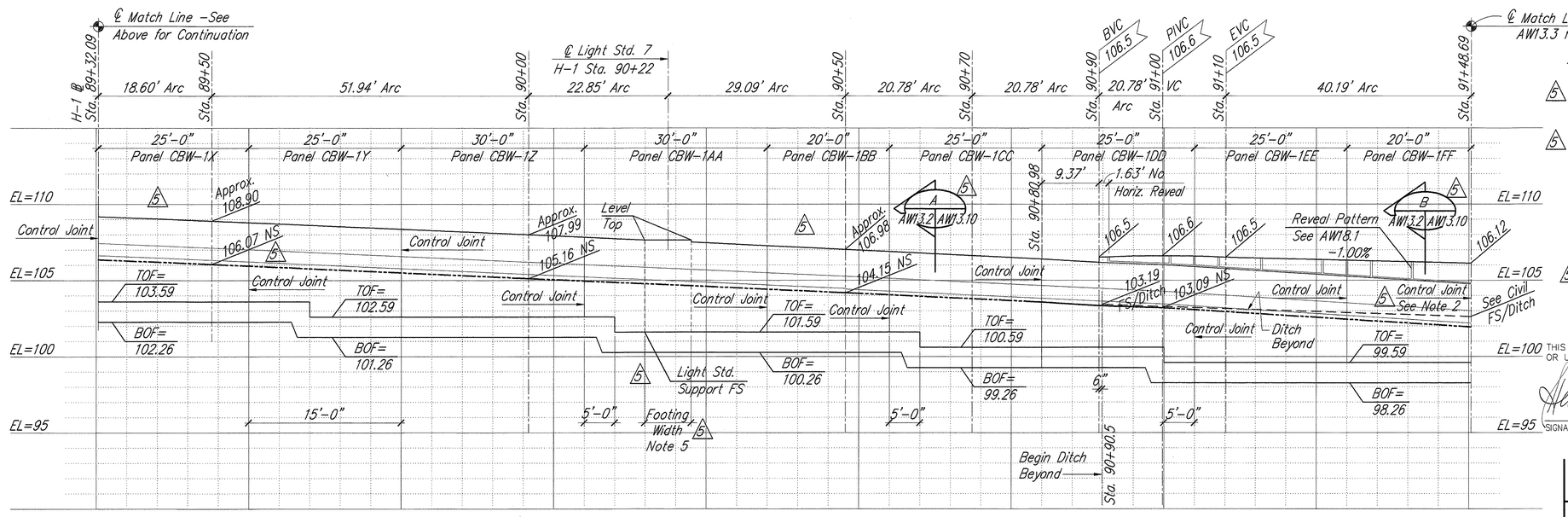
SHEET No. AW13.1 OF 140 SHEETS

RMTC JOB NO.: 1-19369-0E

ADD 642

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD 643 | 816 |




*LEGEND:*

- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- J.B. = Highway Lighting/Communications Junction Boxes
- 5 HL = Highway Lighting
- 5 C = Communication (Conduits)
- ----- = Finish grade at Near Side/Roadway Face of Jersey Shape

*Notes:* 5

1. For CBW Sections –See Sht. No. AW13.10
2. For Control Joint Details –See Sht. No. AW13.24 except joint chamfer configuration at and below the Jersey Shape shall be similar to 1Z/AW6.5A.
3. For Footing Step Detail –See Sht. No. AW13.25 and 1/AW6.5A
4. For added reinforcing at pull boxes, –See Sheet No. AW13.25
5. For wall at Luminaire –See Sht. Nos. AW13.20 through AW13.22

5 STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908-S — HAWAII, U.S.A.

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DAVID K. FUJIWARA — LICENSED PROFESSIONAL ENGINEER — No. 8104-S — HAWAII, U.S.A.

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## CONCRETE BARRIER WALL CBW-1 PROFILE No. 2

A — AW13.10 | AW13.2

Scale: Horizontal 1" = 10'
Vertical 1" = 4'

1"= 10' 10' 5' 0 10' 20'

1"= 4' 4' 2' 0 4' 8'

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Clarified Luminaire Supports and notes. Added notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## CONCRETE BARRIER WALL CBW-1 PROFILE NO. 2

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

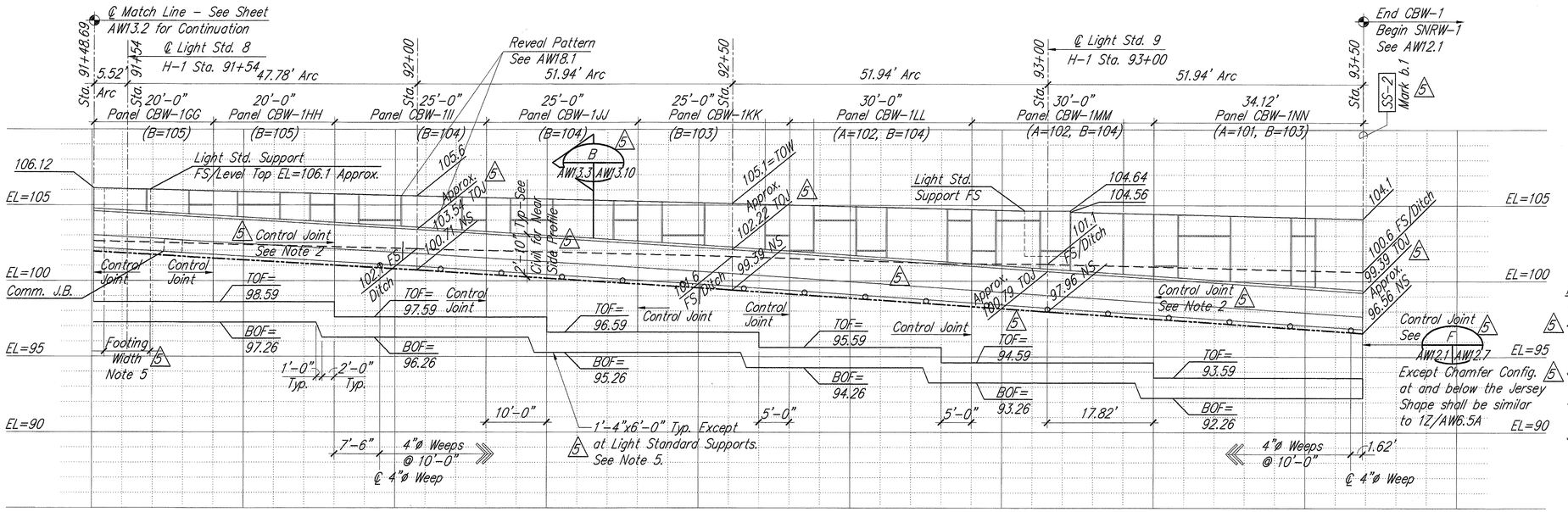
SHEET No. AW13.2 OF 140 SHEETS

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

RMTC JOB NO.: 1-19369-OE

ADD 643

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD 644 | 816 |




LEGEND:

- TOJ = Top of 2'-10" Jersey Shape
- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- J.B. = Highway Lighting/Communications Junction Boxes
- (A=105) = Reference Elevation for Reveal Patterns (See AW18.1)
- 5 HL = Highway Lighting
- 5 C = Communication (Conduits)
- ----- = Finish grade at Near Side/Roadway Face of Jersey Shape

Notes: 5

1. For CBW Sections –See Sht. No. AW13.10
2. 5 For Control Joint Details –See Sht. No. AW13.24 except joint chamfer configuration at and below the Jersey Shape shall be similar to 1Z/AW6.5A.
3. 5 For Footing Step Detail –See Sht. No. AW13.25 and 1/AW6.5A
4. For added reinforcing at pull boxes, –See Sheet No. AW13.25
5. For wall at Luminaire –See Sht. Nos. AW13.20 through AW13.22

## CONCRETE BARRIER WALL CBW–1 PROFILE A

Scale: Horizontal 1" = 10'
Vertical 1" = 4'

AW13.10 | AW13.3

5 AW12.7

1"= 10' 10' 5' 0 10' 20'

1"= 4' 4' 2' 0 4' 8'

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER No. 8104-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Clarified Luminaire Supports and notes. Added notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE BARRIER WALL
CBW–1 PROFILE NO. 3

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

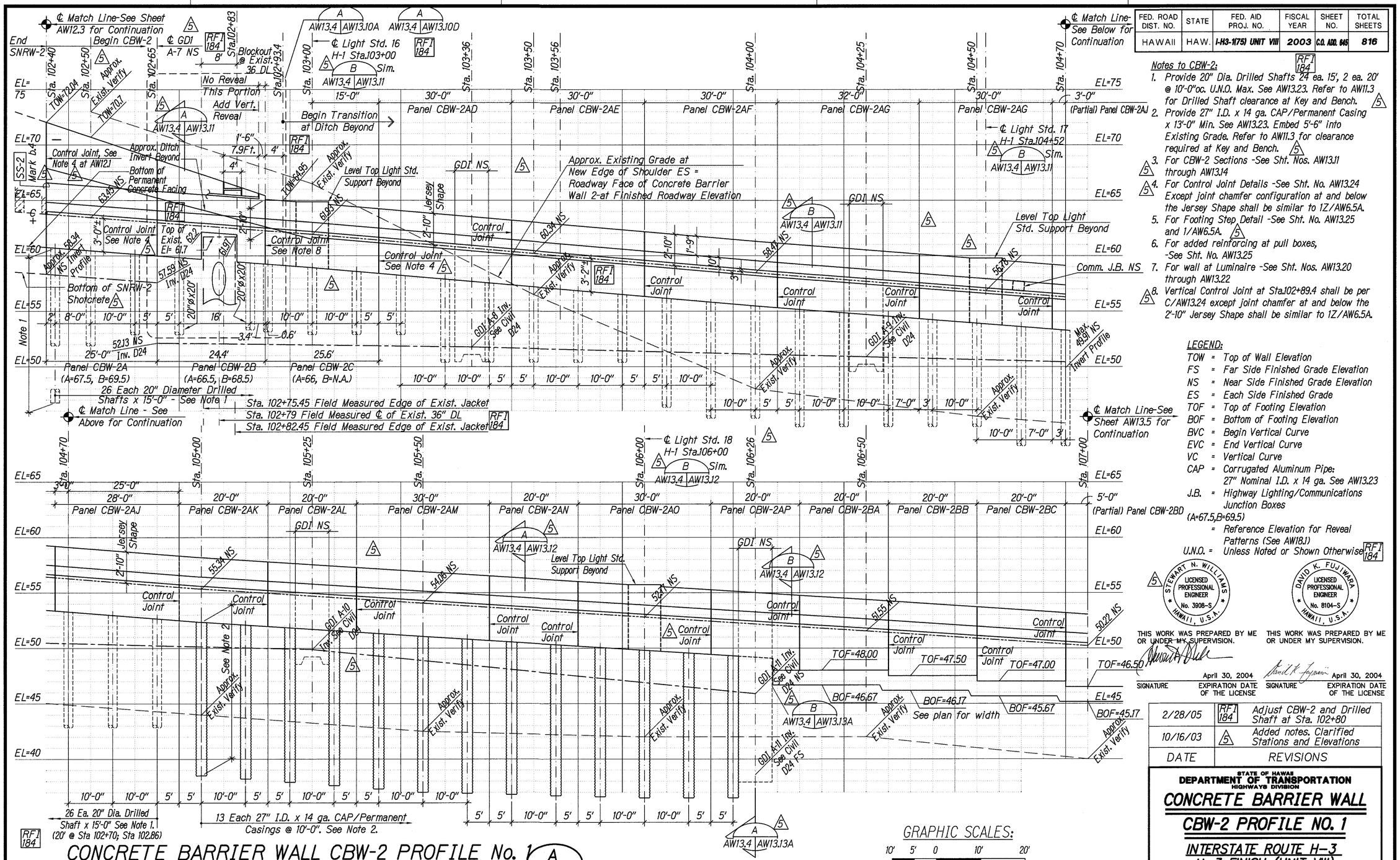
SHEET No. AW13.3 OF 140 SHEETS

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

RMTC JOB NO.: 1–19369–0E

ADD 644

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. ADD. 645 | 816 |




## CONCRETE BARRIER WALL CBW-2 PROFILE No. 1

Scale: Horizontal 1"= 10'
Vertical 1"= 4'

A AW13.13A AW13.4

5 AW13.11, AW13.12
AW13.10A, AW13.10D RFI 184

GRAPHIC SCALES:

10' 5' 0 10' 20'
1"= 10'

4' 2' 0 4' 8'
1"= 4'

Notes to CBW-2:

1. Provide 20" Dia. Drilled Shafts 24 ea. 15', 2 ea. 20' @ 10'-0"oc. U.N.O. Max. See AW13.23. Refer to AW11.3 for Drilled Shaft clearance at Key and Bench. 5
2. Provide 27" I.D. x 14 ga. CAP/Permanent Casing x 13'-0" Min. See AW13.23. Embed 5'-6" into Existing Grade. Refer to AW11.3 for clearance required at Key and Bench. 5
3. 5 For CBW-2 Sections -See Sht. Nos. AW13.11 through AW13.14
4. 5 For Control Joint Details -See Sht. No. AW13.24 Except joint chamfer configuration at and below the Jersey Shape shall be similar to 1Z/AW6.5A.
5. For Footing Step Detail -See Sht. No. AW13.25 and 1/AW6.5A. 5
6. For added reinforcing at pull boxes, -See Sht. No. AW13.25
7. For wall at Luminaire -See Sht. Nos. AW13.20 through AW13.22
8. 5 Vertical Control Joint at Sta.102+89.4 shall be per C/AW13.24 except joint chamfer at and below the 2'-10" Jersey Shape shall be similar to 1Z/AW6.5A.

RFI 184

LEGEND:

TOW = Top of Wall Elevation
FS = Far Side Finished Grade Elevation
NS = Near Side Finished Grade Elevation
ES = Each Side Finished Grade
TOF = Top of Footing Elevation
BOF = Bottom of Footing Elevation
BVC = Begin Vertical Curve
EVC = End Vertical Curve
VC = Vertical Curve
CAP = Corrugated Aluminum Pipe: 27" Nominal I.D. x 14 ga. See AW13.23
J.B. = Highway Lighting/Communications Junction Boxes
(A=67.5,B=69.5) = Reference Elevation for Reveal Patterns (See AW18.1)
U.N.O. = Unless Noted or Shown Otherwise RFI 184

5 STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908-S — HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 2/28/05 | RFI 184 Adjust CBW-2 and Drilled Shaft at Sta. 102+80 |
| 10/16/03 | 5 Added notes. Clarified Stations and Elevations |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL

## CBW-2 PROFILE NO. 1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

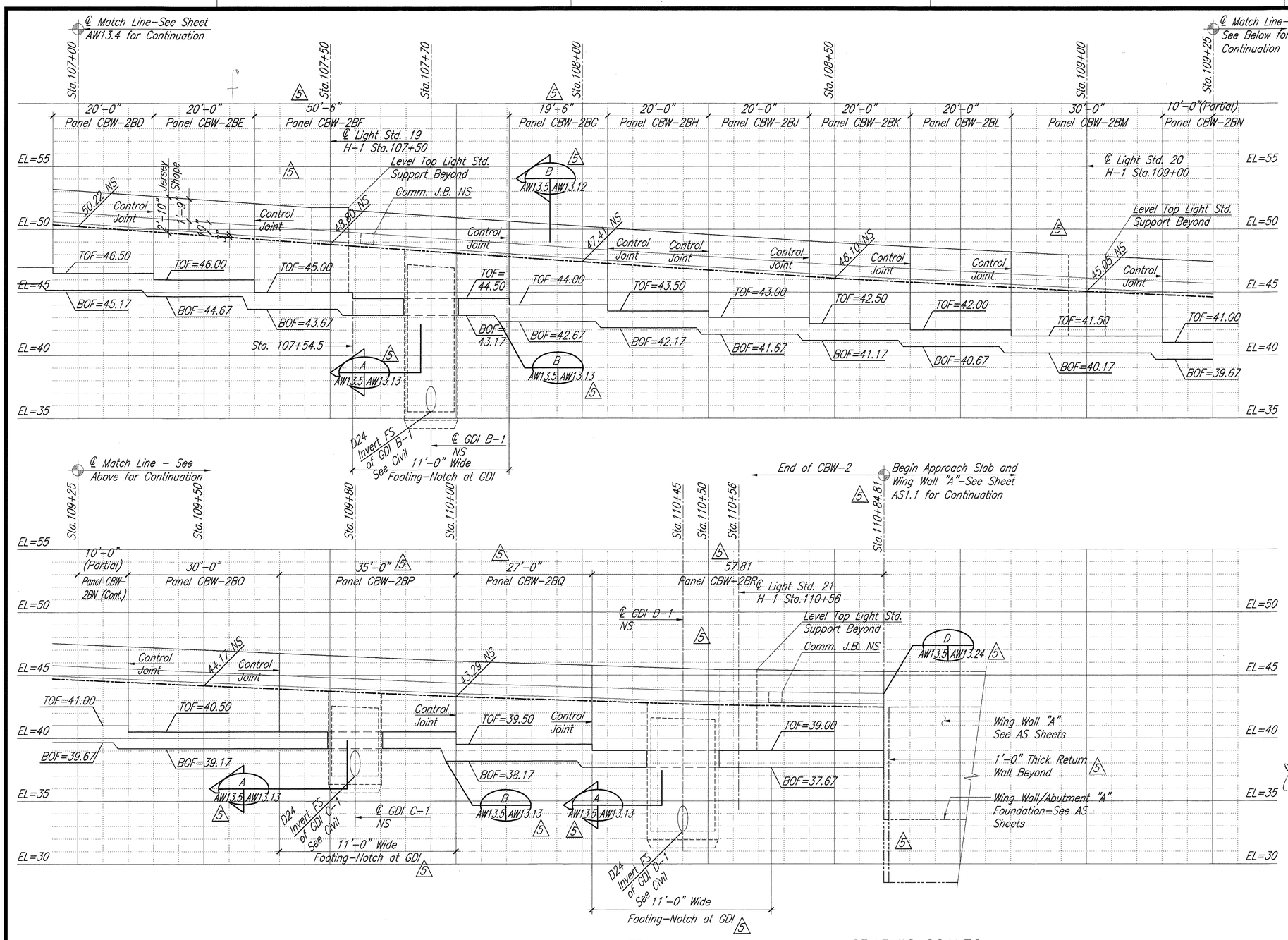
SHEET No. AW13.4 OF 140 SHEETS

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

RWTC JOB NO: 1-19369-OE

RFI 184 C.O. ADD. 645

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75)_UNIT VIII | 2003 | ADD 646 | 816 |




LEGEND:

- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- BVC = Begin Vertical Curve
- EVC = End Vertical Curve
- VC = Vertical Curve
- J.B. = Highway Lighting/Communications Junction Boxes (A=67.5,B=69.5)
- △5 = Reference Elevation for Reveal Patterns (See AW18.1)
- HL = Highway Lighting
- C = Communication (Conduits)

△5 Notes to CBW–2

1. For CBW–2 Sections –See Sht. Nos. AW13.11 through AW13.14
2. For Control Joint Details –See Sht. No. AW13.24 except joint chamfer configuration at and below the Jersey Shape shall be similar to 1℄/AW6.5A
3. For Footing Step Detail –See Sht. No. AW13.25 and 1/AW6.5A
4. For added reinforcing at pull boxes, –See Sht. No. AW13.25
5. For wall at Luminaire –See Sht. Nos. AW13.20 through AW13.22

△5 STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908–S — HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA — LICENSED PROFESSIONAL ENGINEER — No. 8104–S — HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | △5 Clarified Luminaire Supports. Added Notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL CBW–2 PROFILE No. 2

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW13.5 OF 140 SHEETS

ADD 646

## CONCRETE BARRIER WALL CBW–2 PROFILE No. 2

Scale: Horizontal 1"= 10'
Vertical 1"= 4'

A AW13.24 AW13.5
△5 AW13.12, AW13.3

GRAPHIC SCALES:

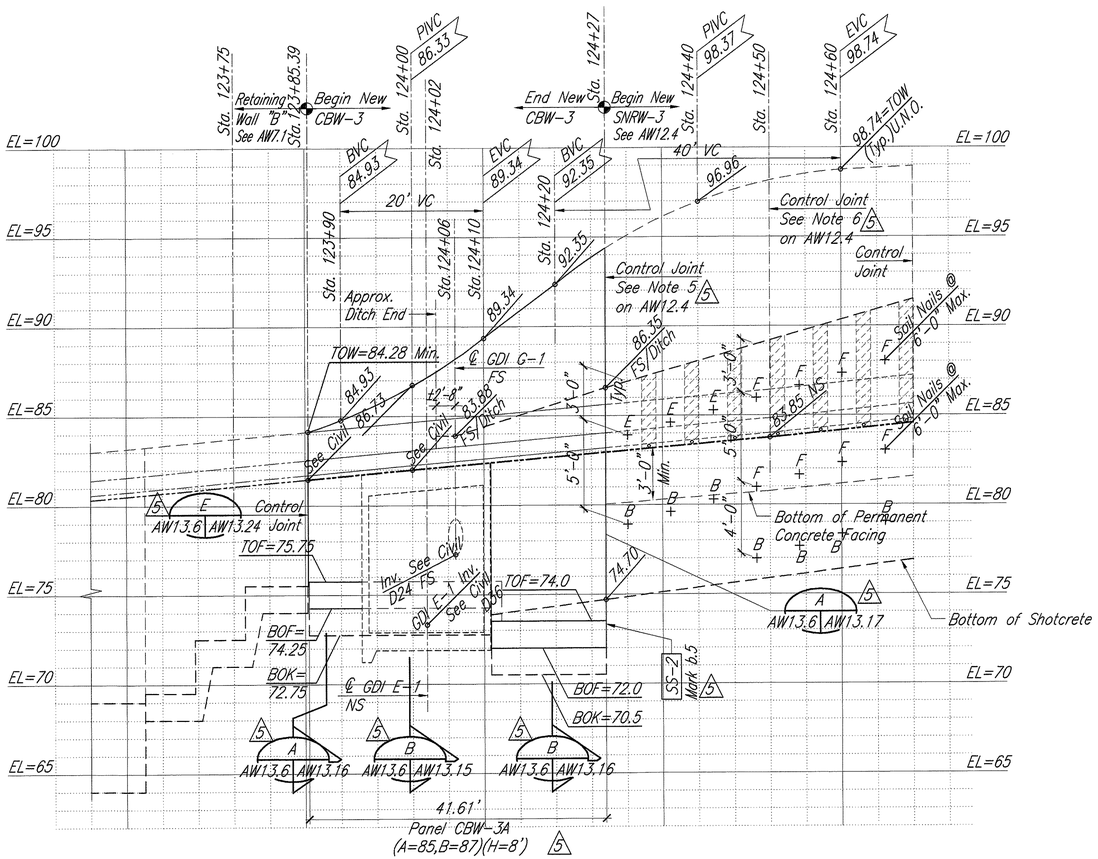
10' 5' 0 10' 20'
1"= 10'

4' 2' 0 4' 8'
1"= 4'

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

RMTC JOB NO.: 1–19369–0E

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD 647 | 816 |




## CONCRETE BARRIER WALL CBW-3 PROFILE (A)

Scale: Horizontal 1" = 10'
Vertical 1" = 4'

(A) AW13.24 | AW13.6

(5) AW13.15, AW13.16, AW13.17

LEGEND:
- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- BVC = Begin Vertical Curve
- EVC = End Vertical Curve
- VC = Vertical Curve
- J.B. = Highway Lighting/Communications Junction Boxes (A=67.5,B=69.5)
- (5) = Reference Elevation for Reveal Patterns (See AW18.1)

(5) Notes to CBW-3
1. For CBW-3 Sections -See Sht. Nos. AW13.15 through AW13.17
2. For Control Joint Details -See Sht. No. AW13.24 except joint chamfer configuration at and below the Jersey Shape shall be similar to 1Z/AW6.5A.
3. For Footing Step Detail -See Sht. No. AW13.25
4. For added reinforcing at pull boxes, -See Sht. No. AW13.25
5. For wall at Luminaire -See Sht. Nos. AW13.20 through AW13.22

(5) STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908-S — HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 — EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA — LICENSED PROFESSIONAL ENGINEER — No. 8104-S — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2004 — EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | (5) Added Notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL CBW-3 PROFILE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

1"= 10' 10' 5' 0 10' 20'

1"= 4' 4' 2' 0 4' 8'

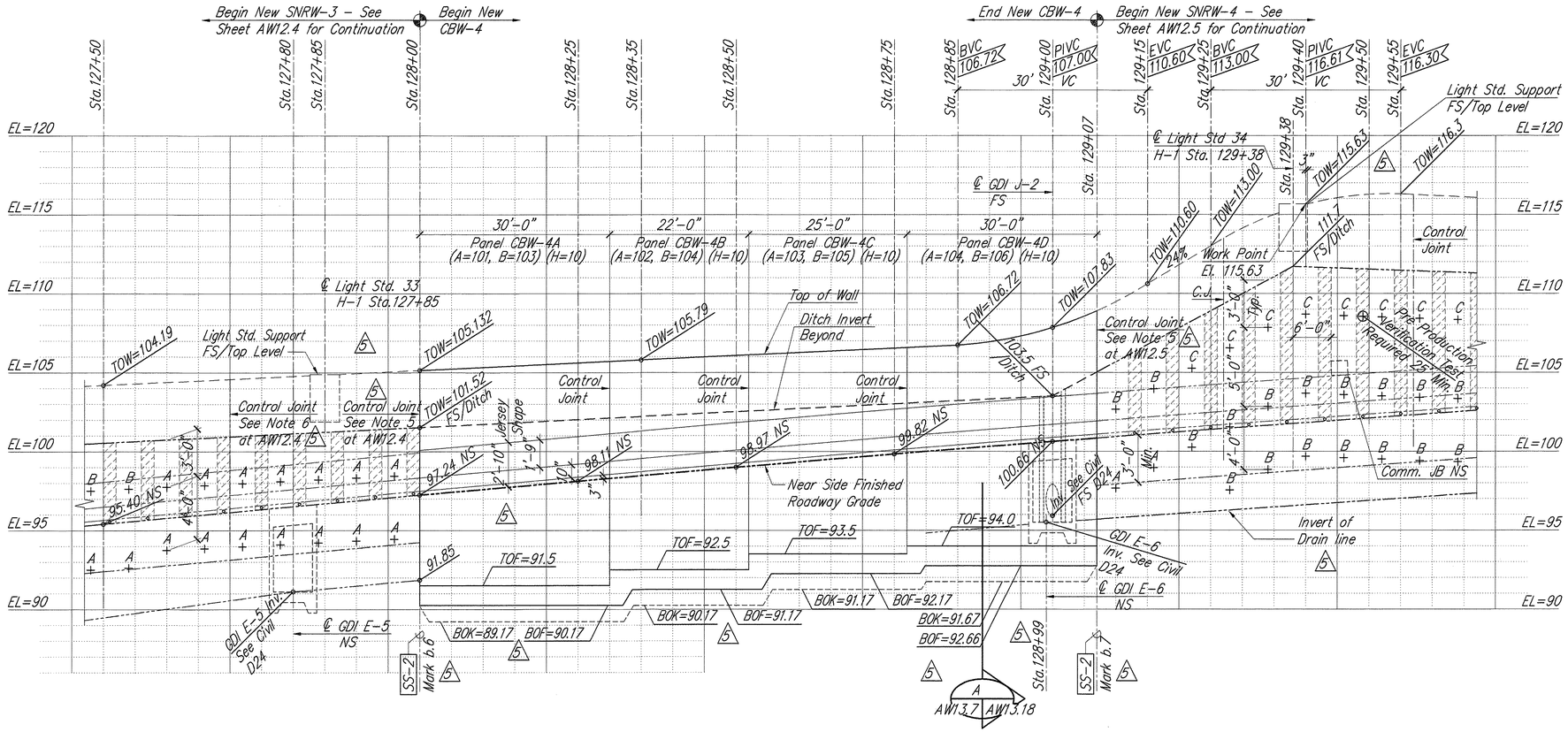
SHEET No. AW13.6 OF 140 SHEETS

ADD 647

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

RMTC JOB NO.: 1-19369-OE

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD 648 | 816 |




## CONCRETE BARRIER WALL CBW-4 PROFILE (A)

Scale: Horizontal 1" = 10'
Vertical 1" = 4'

△5 AW13.18 AW13.7

1"= 10' 10' 5' 0 10' 20'

1"= 4' 4' 2' 0 4' 8'

LEGEND:
- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- C.J. = Control Joint
- BVC = Begin Vertical Curve
- EVC = End Vertical Curve
- VC = Vertical Curve
- J.B. = Highway Lighting/Communications Junction Boxes (A=67.5,B=69.5)
- △5 = Reference Elevation for Reveal Patterns (See AW18.1)
- HL = Highway Lighting
- C = Communication (Conduits)

△5 Notes to CBW-4
1. For CBW-4 Sections –See Sht. No. AW13.18
2. △5 For Control Joint Details –See Sht. No. AW13.24 except joint chamfer configuration at and below the Jersey Shape shall be similar to 1Z/AW6.5A.
3. △5 For Footing Step Detail –See Sht. No. AW13.25 and 1/AW6.5A
4. For added reinforcing at pull boxes, –See Sheet No. AW13.25
5. For wall at Luminaire –See Sht. Nos. AW13.20 through AW13.22

△5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER No. 8104-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 10/16/03 | △5 Coordinated dimensions. Added Section |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL CBW-4 PROFILE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

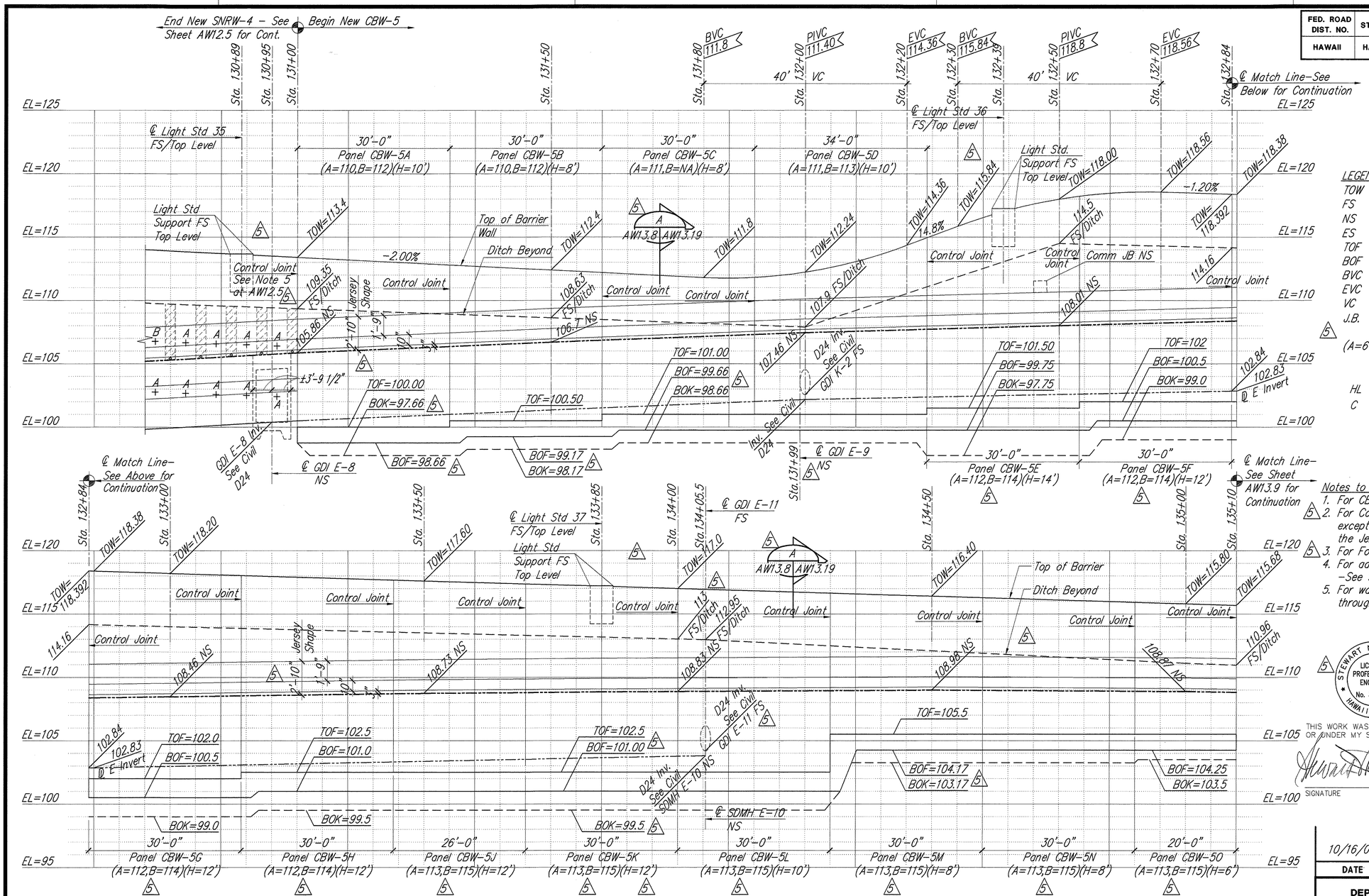
SHEET No. AW13.7 OF 140 SHEETS

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

RMTC JOB NO.: 1-19369-OE

ADD 648

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(175) UNIT VIII | 2003 | ADD 649 | 816 |




LEGEND:

- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- BVC = Begin Vertical Curve
- EVC = End Vertical Curve
- VC = Vertical Curve
- J.B. = Highway Lighting/Communications Junction Boxes (A=67.5,B=69.5)
- 5 = Reference Elevation for Reveal Patterns (See AW18.1)
- HL = Highway Lighting
- C = Communication (Conduits)

Notes to CBW-5 5

1. For CBW-5 Sections –See Sht. Nos. AW13.19
2. 5 For Control Joint Details –See Sht. No. AW13.24 except joint chamfer configuration at and below the Jersey Shape shall be similar to 1Z/AW6.5A.
3. 5 For Footing Step Detail –See Sht. No. AW13.25
4. For added reinforcing at pull boxes, –See Sht. No. AW13.25
5. For wall at Luminaire –See Sht. Nos. AW13.20 through AW13.22

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908–S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER No. 8104–S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

## CONCRETE BARRIER WALL CBW–5 PROFILE No. 1

5 A AW13.19 AW13.8

Scale: Horizontal 1" = 10'
Vertical 1" = 4'

1"= 10' 10' 5' 0 10' 20'

1"= 4' 4' 2' 0 4' 8'

| DATE | REVISIONS |
|---|---|
| 10/16/03 | 5 Clarified Luminaires Supports. Added notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## CONCRETE BARRIER WALL CBW–5 PROFILE NO. 1

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW13.8 OF 140 SHEETS

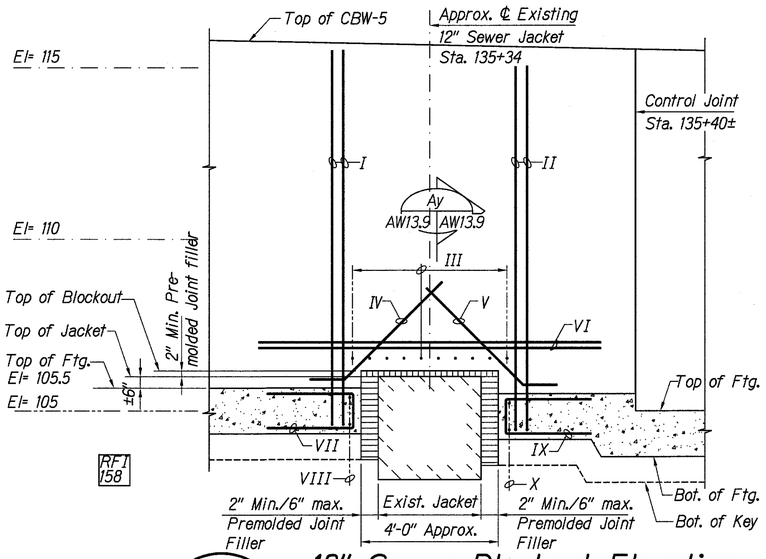
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

RMTC JOB NO.: 1–19369–OE

ADD 649

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. ADD. 650 | 816 |

RFI 158

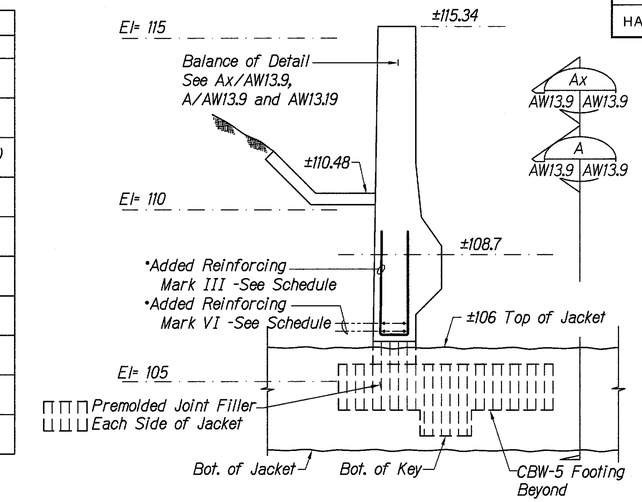



| ADDED REINF. AT CBW-5 BLOCKOUT | |
|---|---|
| MARK | DESCRIPTION |
| I | (2) #5 x 12" @ 4" E.F. (4 Pcs. Total) |
| II | (2) #5 x 12" @ 4" E.F. (4 Pcs. Total) |
| III | (10) #5 x 36" @ 6" Max. (10 Pcs. Total) |
| IV | (2) #5 x 12" 48" #1 Bar E.F.℄ (2 Pcs. Total) |
| V | (2) #5 x 48" #1 Bar E.F.℄ 12" (2 Pcs. Total) |
| VI | (2) #5 x 10'-0" @ 4" E.F. (4 Pcs. Total) |
| VII | (7) #5 x 30" @ 12" (7 Pcs. Total) |
| VIII | (2) #5 x 5'-9" (2 Pcs. Total) |
| IX | (7) #5 x 30" @ 12" (7 Pcs. Total) |
| X | (2) #5 x 5'-9" (2 Pcs. Total) |

Note: Balance of Reinforcing -See A/AW13.9 and Schedule and A/AW13.19 and B/AW13.19

## 12" Sewer Blockout Elevation

Ax AW13.9 AW13.9 Not to Scale

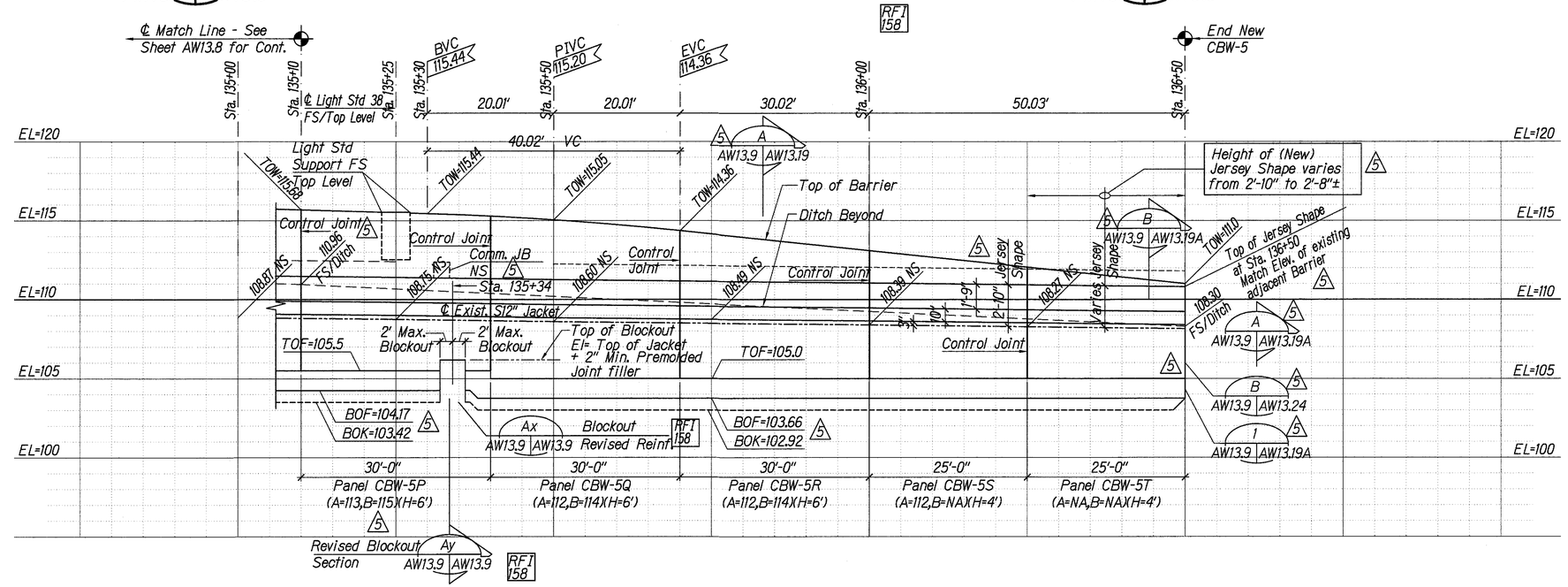



LEGEND:

- TOW = Top of Wall Elevation
- FS = Far Side Finished Grade Elevation
- NS = Near Side Finished Grade Elevation
- ES = Each Side Finished Grade
- TOF = Top of Footing Elevation
- BOF = Bottom of Footing Elevation
- BVC = Begin Vertical Curve
- EVC = End Vertical Curve
- VC = Vertical Curve
- J.B. = Highway Lighting/Communications Junction Boxes (A=67.5,B=69.5)
- △5 = Reference Elevation for Reveal Patterns (See AW18.1)
- HL = Highway Lighting
- C = Communication (Conduits)

## Blockout Section - Sta. 135+34 ℄

Ay AW13.9 AW13.9 Not to Scale




## CONCRETE BARRIER WALL CBW-5 PROFILE No. 2

Scale: Horizontal 1" = 10'
Vertical 1" = 4'

△5 A AW13.24 AW13.9
△5 AW13.19,AW13.19A

1"= 10' 10' 5' 0 10' 20'

1"= 4' 4' 2' 0 4' 8'

△5 Notes to CBW-5

1. For CBW-5 Sections -See Sht. No. AW13.19
2. △5 For Control Joint Details -See Sht. No. AW13.24 except joint chamfer configuration at and below the Jersey Shape shall be similar to 1Z/AW6.5A.
3. △5 For Footing Step Detail -See Sht. No. AW13.25 and 1/AW6.5A
4. For added reinforcing at pull boxes, -See Sheet No. AW13.25
5. For wall at Luminaire -See Sht. Nos. AW13.20 through AW13.22

△5 STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908-S — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2006 EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA — LICENSED PROFESSIONAL ENGINEER — No. 8104-S — HAWAII, U.S.A.

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RFI 158

| DATE | REVISIONS |
|---|---|
| 11/16/04 | RFI 158 Revised Section ℄ Reinf. @ CBW-5 Conflict w/ 12" Sewer @ 135+34 |
| 10/16/03 | △5 Clarified Luminaires Supports. Added notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL

## CBW-5 PROFILE NO. 2

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003 RFI 158

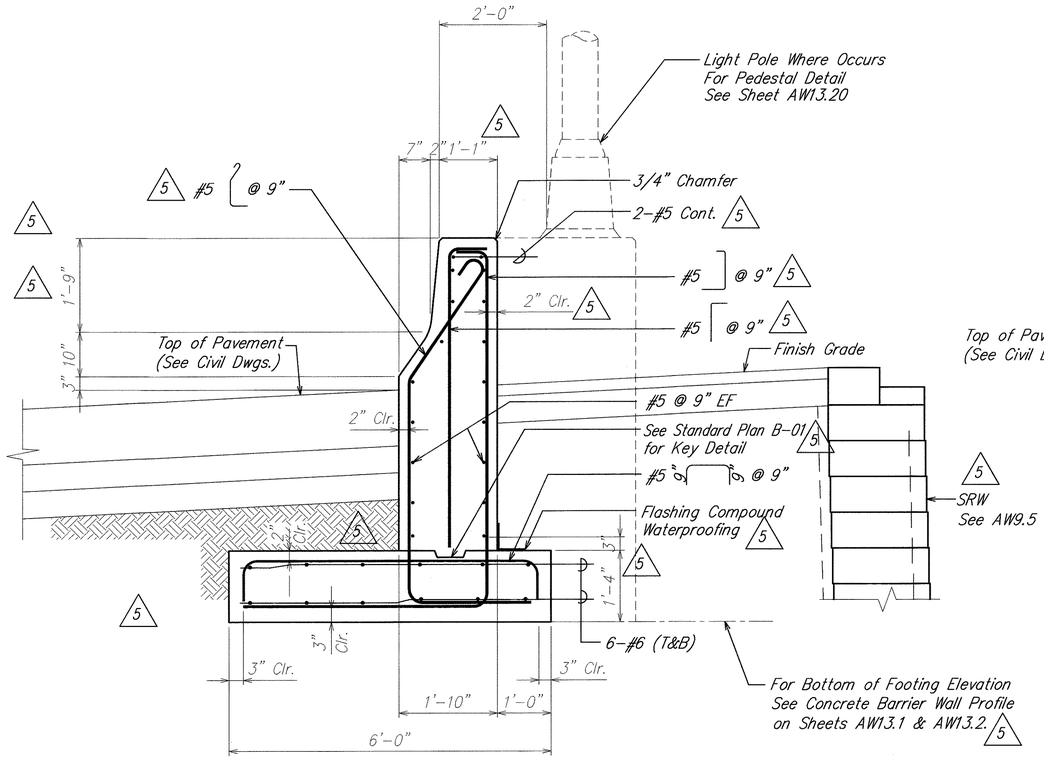
SHEET No. AW13.9 OF 140 SHEETS

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

RMTC JOB NO: 1-19369-OE

C.O. ADD. 650 RFI 158

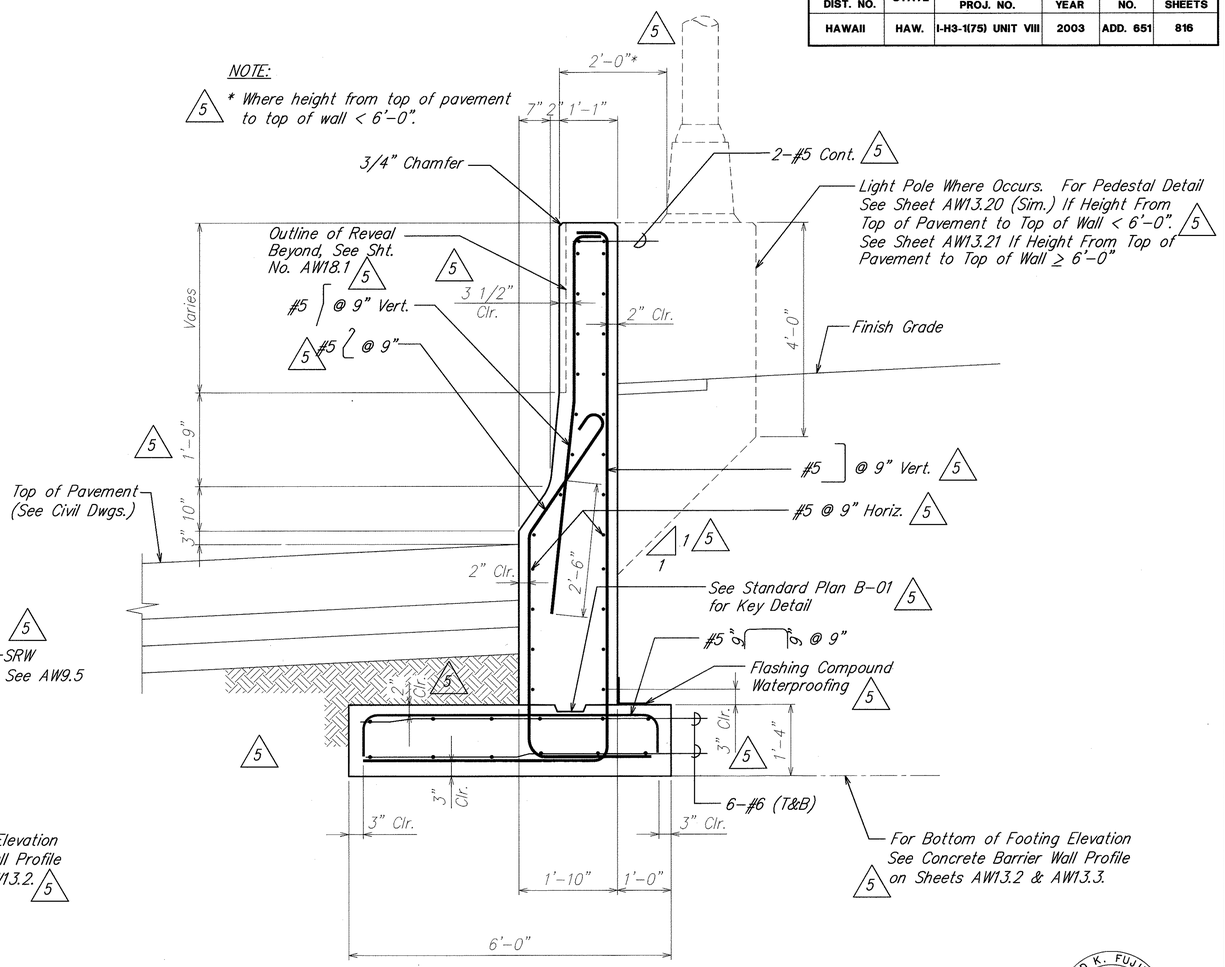
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 651 | 816 |




TYPICAL CONCRETE BARRIER WALL (CBW-1) SECTION
(℄ STA. 21+47.6 TO ℄ STA. 27+58.88 AND
℄ STA. 88+70.43 TO ℄ STA. 90+90)

SCALE: 3/4" = 1'-0"

A AW13.10|AW13.10




TYPICAL CONCRETE BARRIER WALL (CBW-1) SECTION
AT REVEAL (STA. 90+90 TO STA. 93 +50 )

SCALE: 3/4" = 1'-0"

B AW13.10|AW13.10

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Barrier Reinforcing Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL
## CBW-1 DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW13.10 OF 140 SHEETS

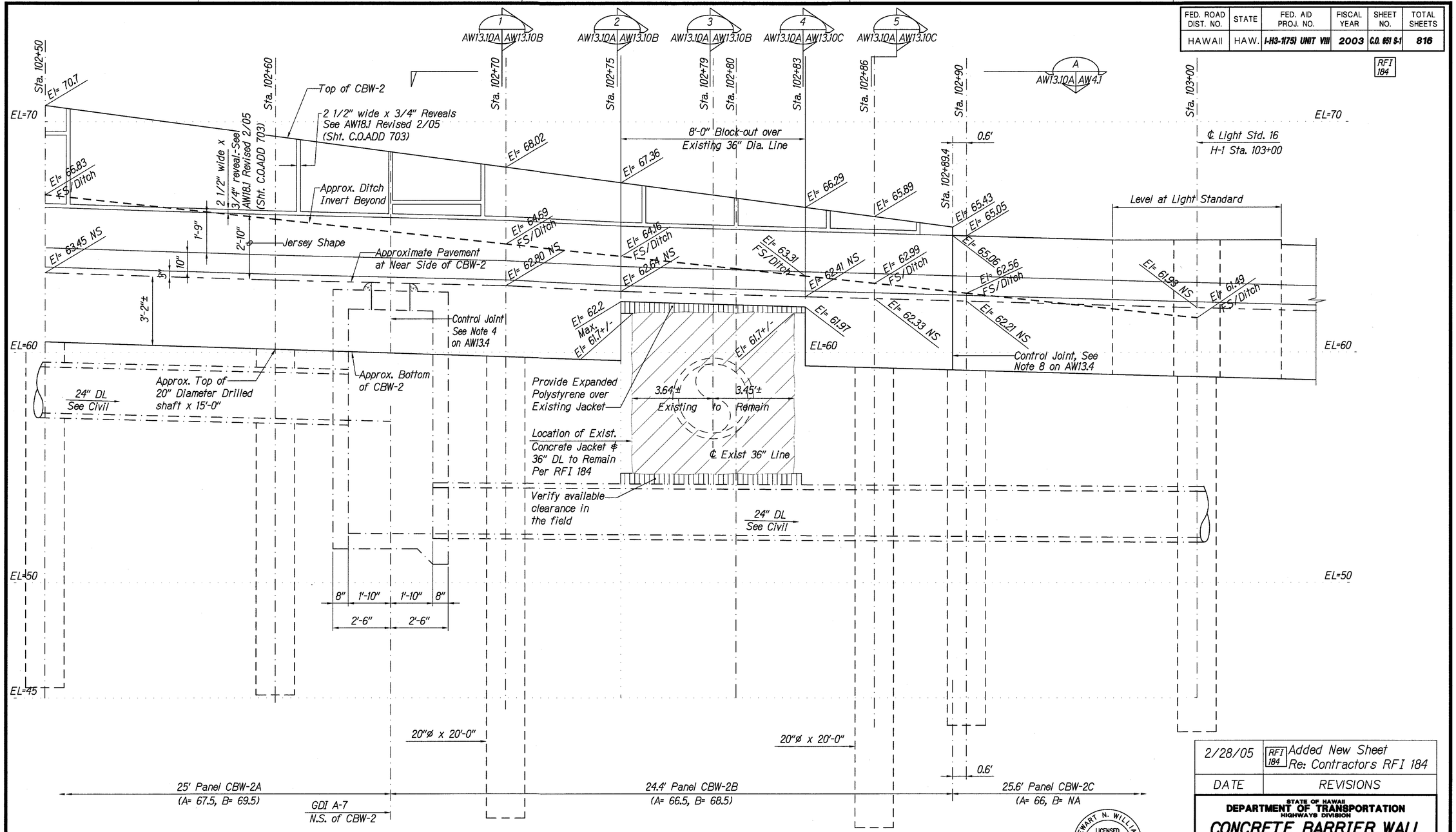
ADD. 651

*.DWG
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 651 S-1 | 816 |

RFI 184




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

**Notes to A/AW13.10A:**

1. DL indicates Drain Line.
2. RFI 184 indicates Kiewit Pacific Co. (General Contractor). Request for Information dated 2/8/05.
3. A/AW13.10A Clarifies the blockout required at CBW-2 over Existing Concrete Jacket at Existing 36" line.
4. See A/AW13.10D for Reinforcing Steel at the Blockout centered at Sta. 102+79.

## CBW-2 ELEVATION AT EXISTING 36" DRAINLINE

Scale: 1/2"= 1'-0"

A AW13.10C | AW13.10A

AW4.1, AW13.4, AW13.10B, AW13.10D

2 1 0 2 4

SCALE: 1/2"= 1'-0"

STEWART N. WILLIAMS * LICENSED PROFESSIONAL ENGINEER * No. 3908-S * HAWAII, U.S.A.

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SIGNATURE — April 30, 2006 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 2/28/05 | RFI 184 Added New Sheet Re: Contractors RFI 184 |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**CONCRETE BARRIER WALL**

**CBW-2 ELEVATION**

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

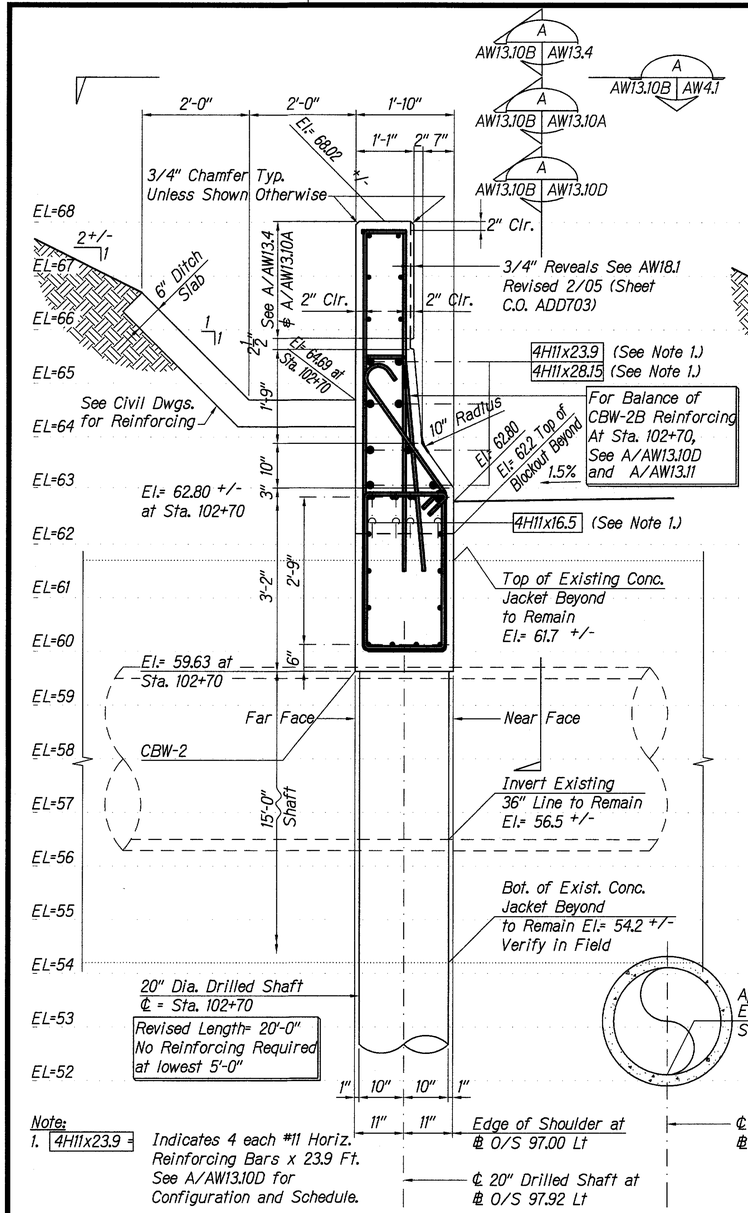
**SHEET No. AW13.10A OF 140 SHEETS**

RMTC JOB NO: 1-19369-OE

**C.O. 651 S-1** RFI 184

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 651 S-2 | 816 |

RFI 184



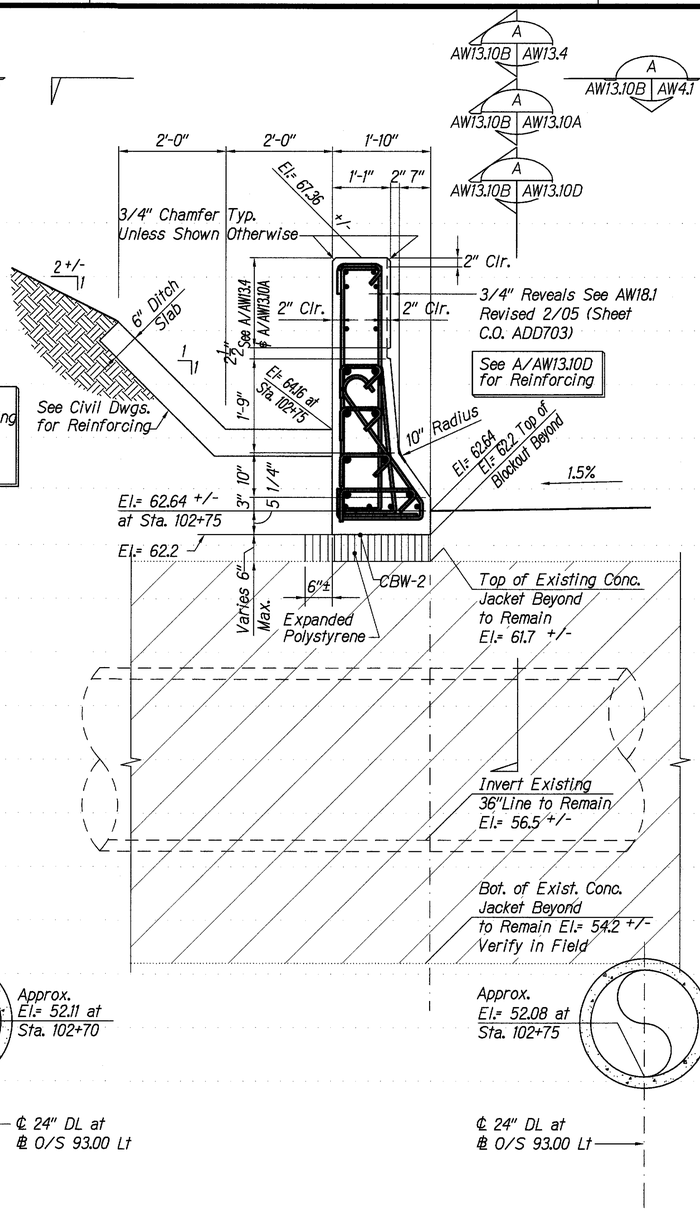

Note:
1. 4H11x23.9 = Indicates 4 each #11 Horiz. Reinforcing Bars x 23.9 Ft. See A/AW13.10D for Configuration and Schedule.

## SECTION at STA. 102+70 (1)

Scale: 3/4"= 1'-0"

AW13.10A | AW13.10B

AW4.1, AW13.4, AW13.10D

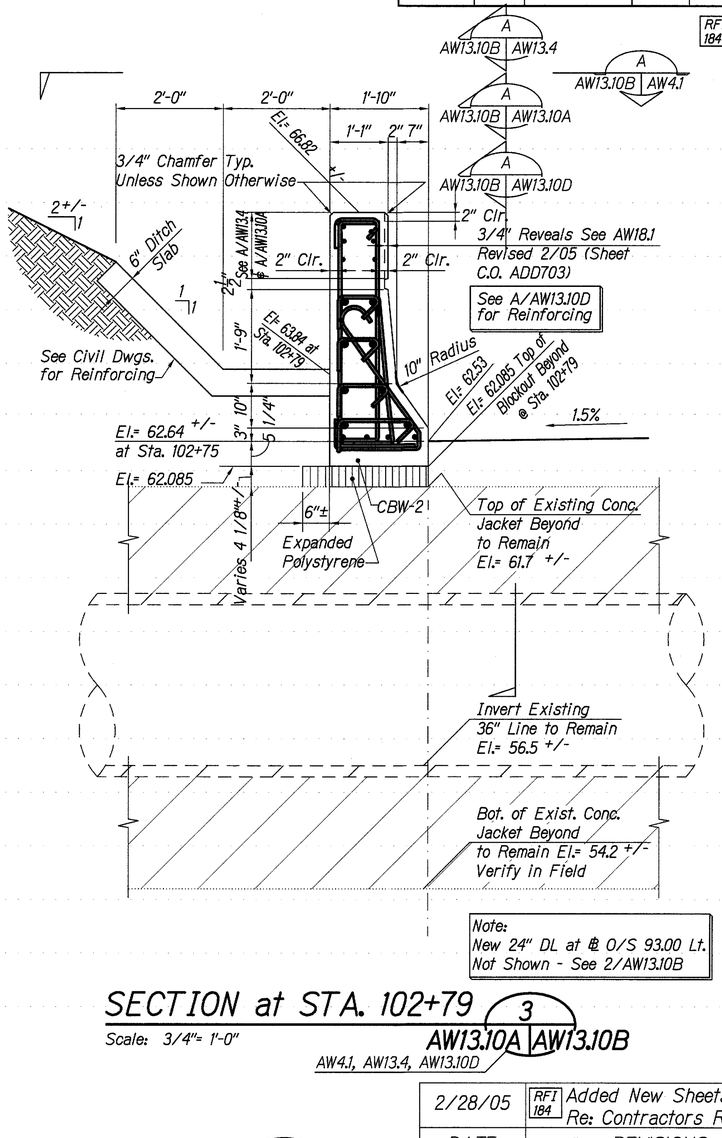



## SECTION at STA. 102+75 (2)

Scale: 3/4"= 1'-0"

AW13.10A | AW13.10B

AW4.1, AW13.4, AW13.10D




## SECTION at STA. 102+79 (3)

Scale: 3/4"= 1'-0"

AW13.10A | AW13.10B

AW4.1, AW13.4, AW13.10D

| DATE | REVISIONS |
|---|---|
| 2/28/05 | RFI 184 Added New Sheets Re: Contractors RFI 184 |

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

NOTE BOOK | No.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AW13.10B OF 140 SHEETS

LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

April 30, 2006
EXPIRATION DATE OF THE LICENSE

GRAPHIC SCALE:

1 0 1 2FT

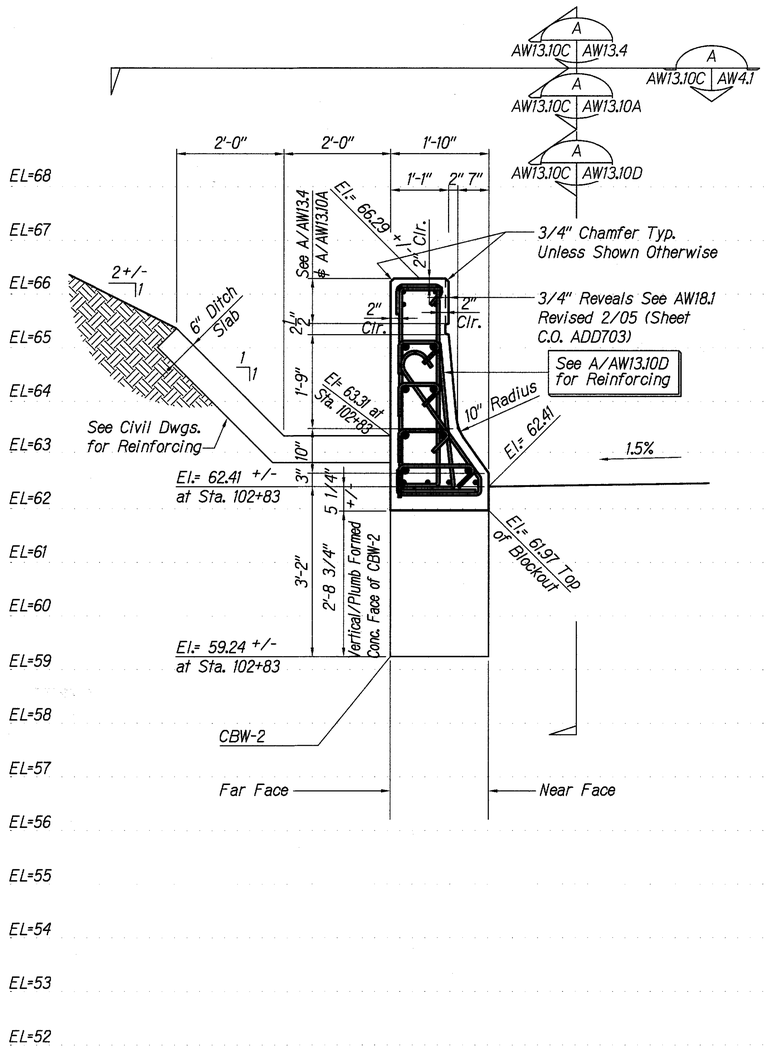
SCALE: 3/4"= 1'-0"

RMTC JOB NO: 1-19369-OE

C.O. 651 S-2

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 651 S-3 | 816 |

RFI 184

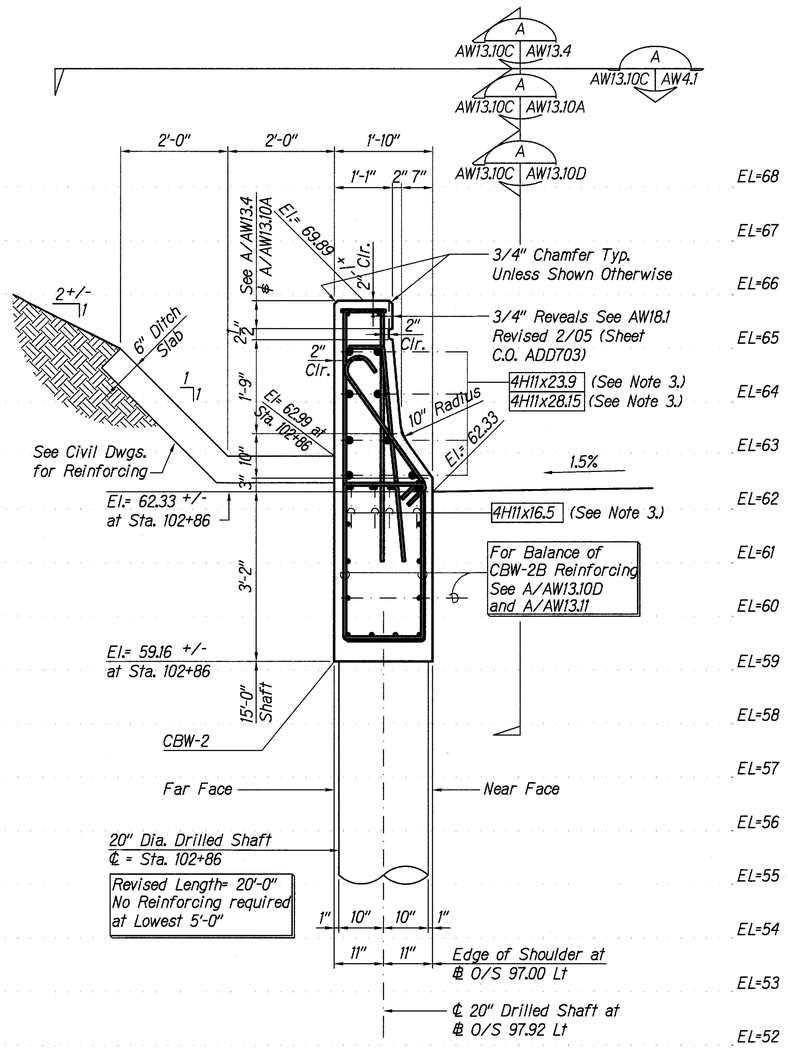



## SECTION at STA. 102+83 (4)

Scale: 3/4"= 1'-0"

AW13.10A | AW13.10C

AW4.1, AW13.4, AW13.10D




## SECTION at STA. 102+86 (5)

Scale: 3/4"= 1'-0"

AW13.10A | AW13.10C

AW4.1, AW13.4, AW13.10D

**Notes:**

1. RFI 184 indicates Kiewit Pacific Company (General Contractor) Request for Information dated 2/8/05.
2. See AW13.10D for reinforcing steel at the CBW-2 Blockout centered at Sta. 102+79.
3. 4H11x23.9 = Indicates 4 each #11 Horizontal Reinforcing Bars positioned as shown at Far Face of CBW-2B. See Reinforcing Schedule at AW13.10D.

1 0 1 2FT

SCALE: 3/4"= 1'-0"

STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908-S — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

April 30, 2006
EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 2/28/05 | RFI 184 Added New Sheets Re: Contractors RFI 184 |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

SHEET No. AW13.10C OF 140 SHEETS

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

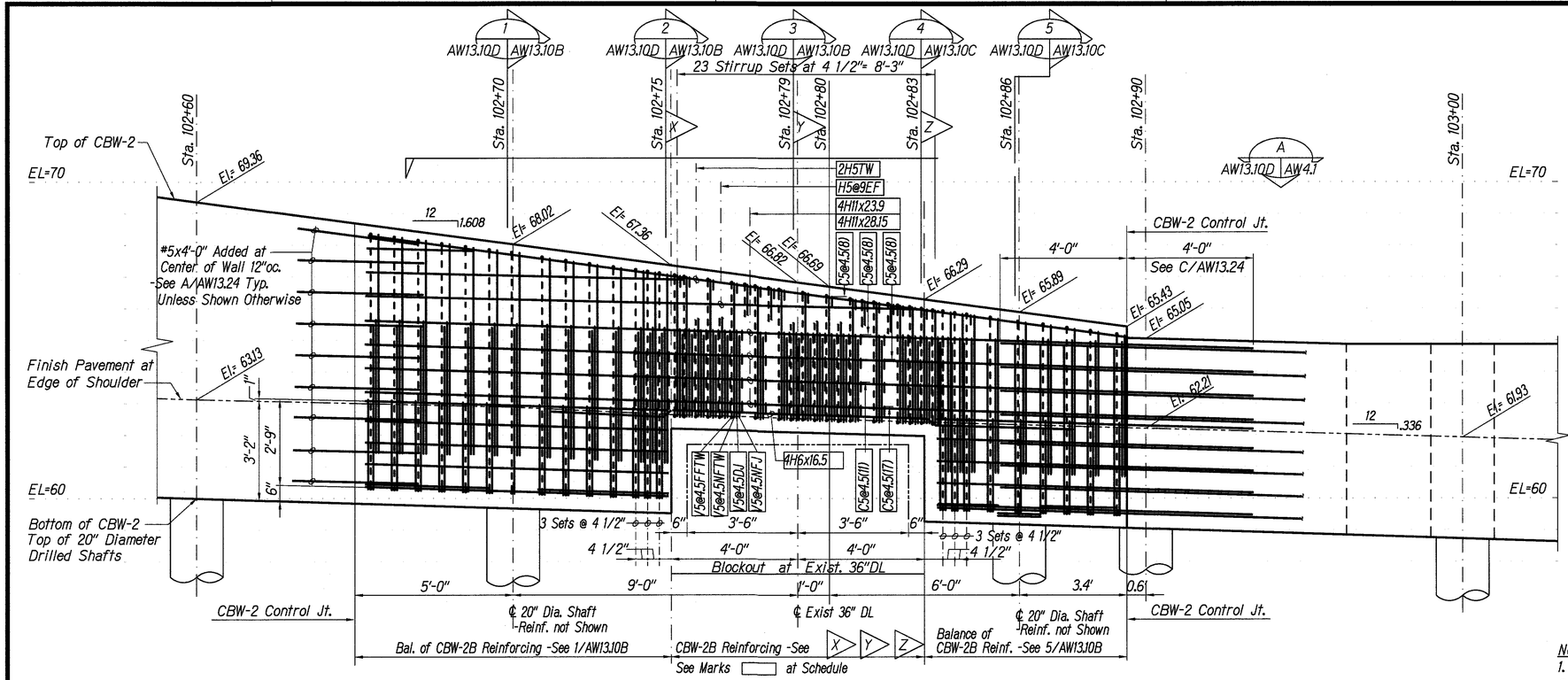
ORIGINAL PLAN
NOTE BOOK
No.

RMTC JOB NO: 1-19369-OE

C.O. 651 S-3 RFI 184

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 651 S-4 | 816 |

RFI 184

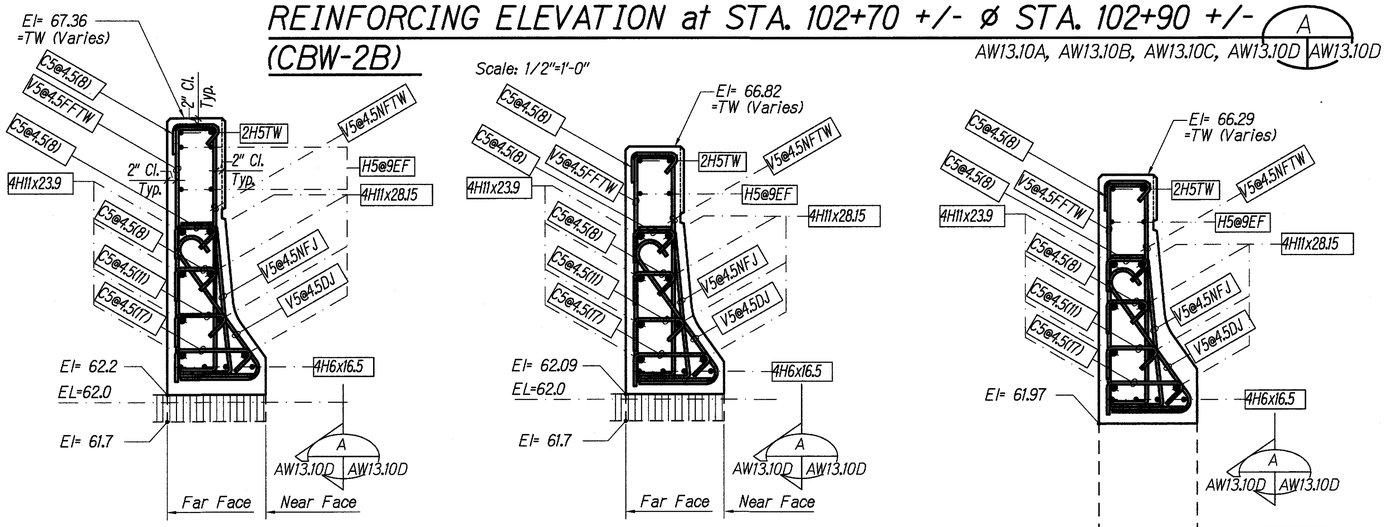



## CBW-2B REINFORCING SCHEDULE

| Mark | Type: Vert. | Type: Horiz. | Type: Cap | Reinforcing Bar: Size | Reinforcing Bar: Spac'g. | Reinforcing Bar: Face | Configuration |
|---|---|---|---|---|---|---|---|
| V5@4.5FFTW | ● | — | — | #5 | 4 1/2" | FF | varies 8" / 16" |
| V5@4.5NFTW | ● | — | — | #5 | 4 1/2" | NF | 8" / varies / 8" |
| V5@4.5DJ | ● | — | — | #5 | 4 1/2" | DJ | 6" / 2'-6" / 2'-8" |
| V5@4.5NFJ | ● | — | — | #5 | 4 1/2" | NF | 8" / 2'-8" / 8" |
| 2H5TW | — | ● | — | (2)-#5 | — | — | 24'-1 1/2" / 1.608 / 12 |
| H5@9EF | — | ● | — | #5 | 9" | EF | Varies / .336 / 12 |
| 4H11x23.9 | — | ● | — | (4)-#11 | — | FF | 23.9' / .336 / 12 |
| 4H11x28.15 | — | ● | — | (4)-#11 | — | NF | 28.15' / .336 / 12 |
| 4H6x16.5 | — | ● | — | (4)-#6 | — | — | 16.5' / .336 / 12 |
| C5@4.5(8) | — | — | ● | #5 | 4 1/2" | — | 6" / 8" |
| C5@4.5(11) | — | — | ● | #5 | 4 1/2" | — | 6" / 11" |
| C5@4.5(17) | — | — | ● | #5 | 4 1/2" | — | 6" / 17" |

## REINFORCING ELEVATION at STA. 102+70 +/- ø STA. 102+90 +/- (CBW-2B)

A AW13.10A, AW13.10B, AW13.10C, AW13.10D AW13.10D




Note: V5@4.5FFTW = Indicates Vertical #5 Reinf. @ 4 1/2"oc. at Far Face to Top of Wall. See Reinforcing Schedule on this sheet.

Note: 4H6x16.5 = Indicates 4 each #6 Horizontal Reinforcing Bars positioned as shown above. See Reinforcing Schedule on this sheet.

Note: C9@4.5(8) = Indicates #5 Stirrups Cap Reinforcing @ 4 1/2"oc. -See Reinforcing Schedule on this sheet.

Ref: A/AW13.10D
REINFORCING SECTION at STA. 102+75 X Scale: 3/4"=1'-0"

Ref: A/AW13.10D
REINFORCING SECTION at STA. 102+79 Y Scale: 3/4"=1'-0"

Ref: A/AW13.10D
REINFORCING SECTION at STA. 102+83 Z Scale: 3/4"=1'-0"

Notes to Schedule:

1. Vert. = Vertical Reinforcing (Gr 60)
2. Horiz. = Horizontal Reinforcing (Gr 60)
3. Cap = Stirrup Cap Reinforcing (Gr 60)
4. Reinforcing Bar Size - #5= 5/8 Diam. Deformed; #6= 6/8 Diam. Deformed; #11= 11/8 Diam. Deformed
5. Spacing = Center to Center Spacing for Reinforcing bar placement. May vary per CRSI approx. 2" such that average spacing meets specified spacing.
6. Face = Indicates location of reinforcing bar at Near Face (NF= Roadway Face) or Far Face (FF= Northern Face) of CBW-2B.
7. TW = Top of Wall
8. DJ = Diagonal X Jersey Height
9. EF = Each Face (NF and FF)
10. (2) = 2 Each Required

1 0 1 2FT
SCALE: 3/4"= 1'-0"

2 1 0 2 4
SCALE: 1/2"= 1'-0"

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| DATE | REVISIONS |
|---|---|
| 2/28/05 | RFI 184 Added New Sheet Re: Contractors RFI 184 |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL

## CBW-2 ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: None Date: Mar. 31, 2003

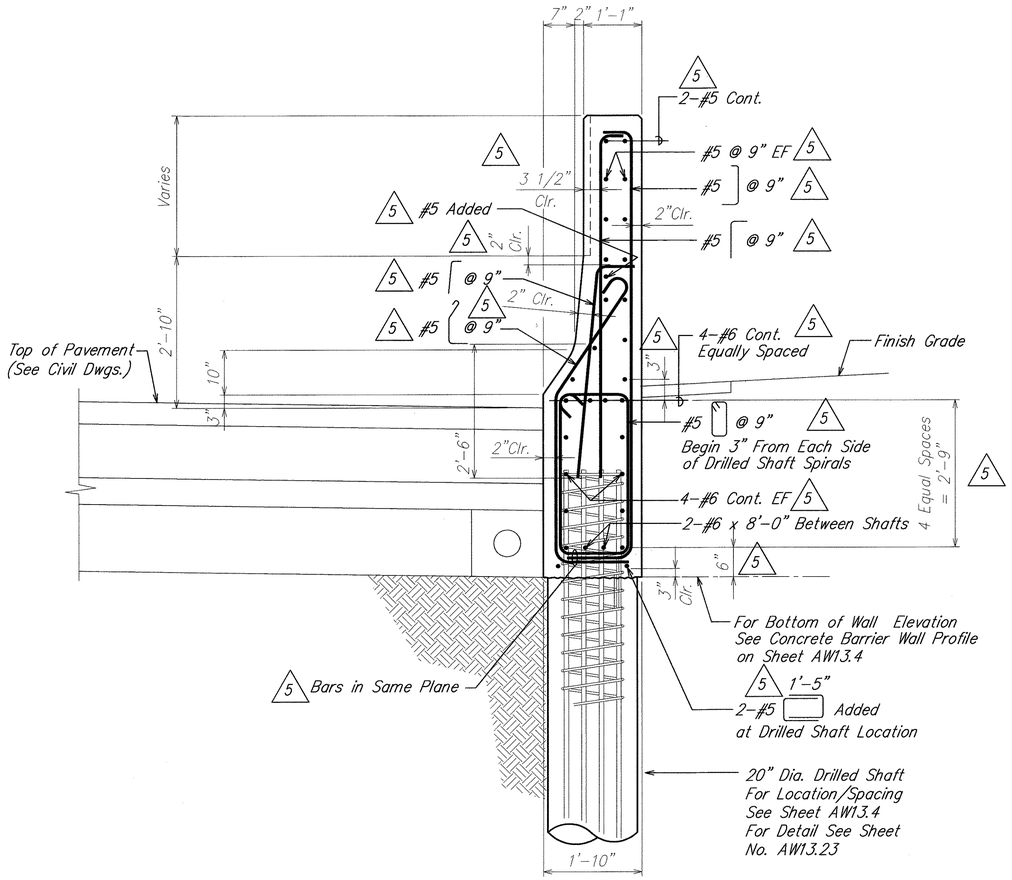
SHEET No. AW13.10D OF 140 SHEETS

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

RMTC JOB NO: 1-19369-OE

C.O. 651 S-4 RFI 184

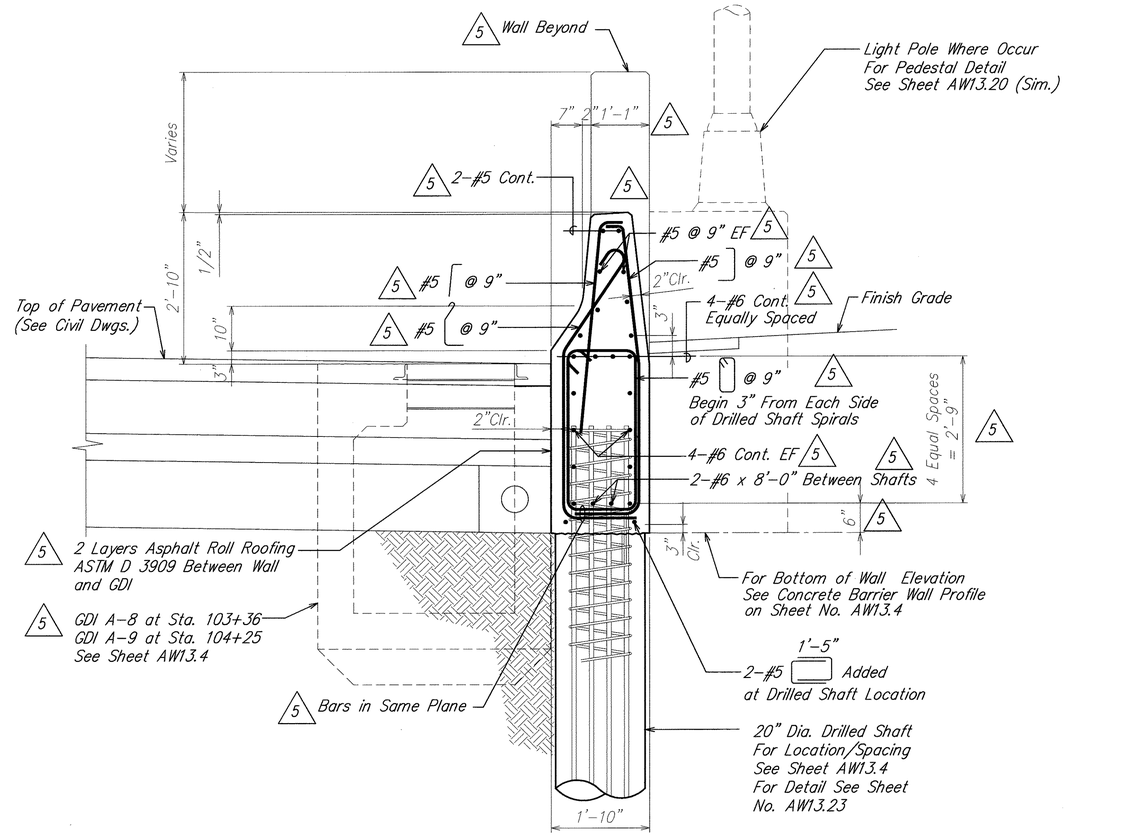
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 652 | 816 |




TYPICAL CONCRETE BARRIER WALL (CBW-2) SECTION W/ DRILLED SHAFT
STA. 102+40 TO STA. 102+89.4

SCALE: 3/4" = 1'-0"

A
AW13.11 | AW13.11




TYPICAL CONCRETE BARRIER WALL (CBW-2) SECTION W/ DRILLED SHAFT
STA. 102+89.4 TO STA. 104+95

SCALE: 3/4" = 1'-0"

5

B
AW13.11 | AW13.11

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NO. 8104-S
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| No. | TRACED BY | |
| | DESIGNED BY | |
| | QUANTITIES BY | |
| | CHECKED BY | |

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Barrier Reinforcing Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL
# CBW-2 DETAIL

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

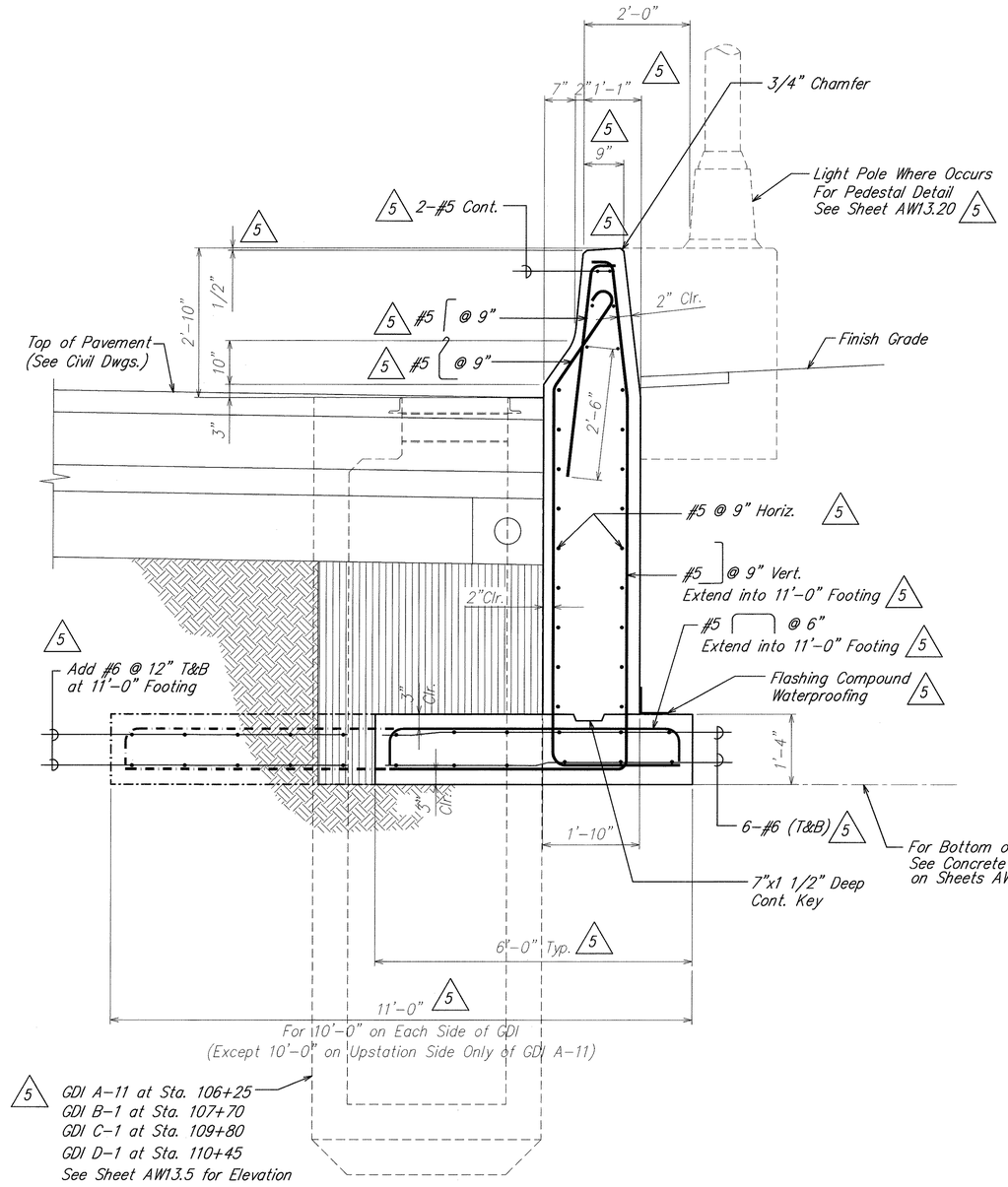
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW13.11 OF 140 SHEETS

ADD. 652

AB-AW1.311.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 653 | 816 |

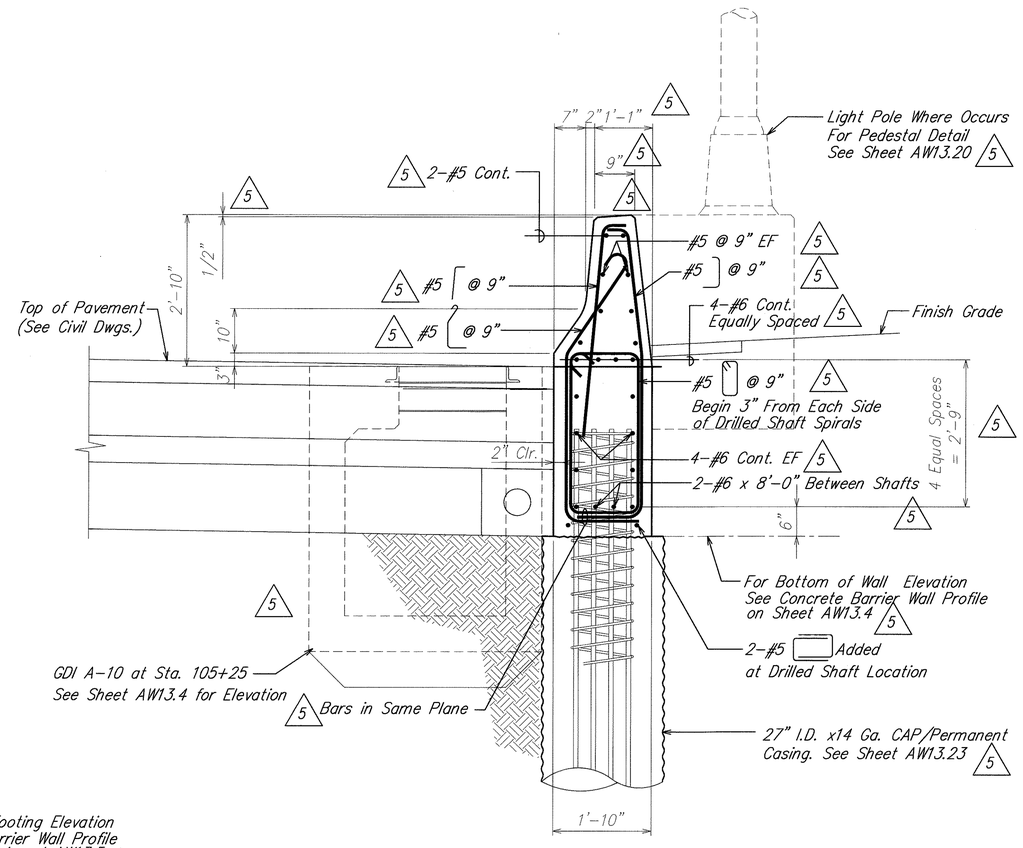



## TYPICAL CONCRETE BARRIER WALL (CBW-2) SECTION W/O DRILLED SHAFT STA. 106+29.67 TO STA. 106+37 & STA. 107+31 TO STA. 110+84.81

SCALE: 3/4" = 1'-0"

B — AW10.3 | AW13.12

AW10.6, AW10.8, AW10.10, AW10.14, AW13.13A




## TYPICAL CONCRETE BARRIER WALL (CBW-2) SECTION W/ 27" I.D. x 14 GA. CAP / PERMANENT CASING STA. 104+95 TO STA. 106+21.33

SCALE: 3/4" = 1'-0"

A — AW13.12 | AW13.12

AW13.13A

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
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David K. Fujiwara — 4-30-04

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Barrier Reinforcing Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL
## CBW-2 DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

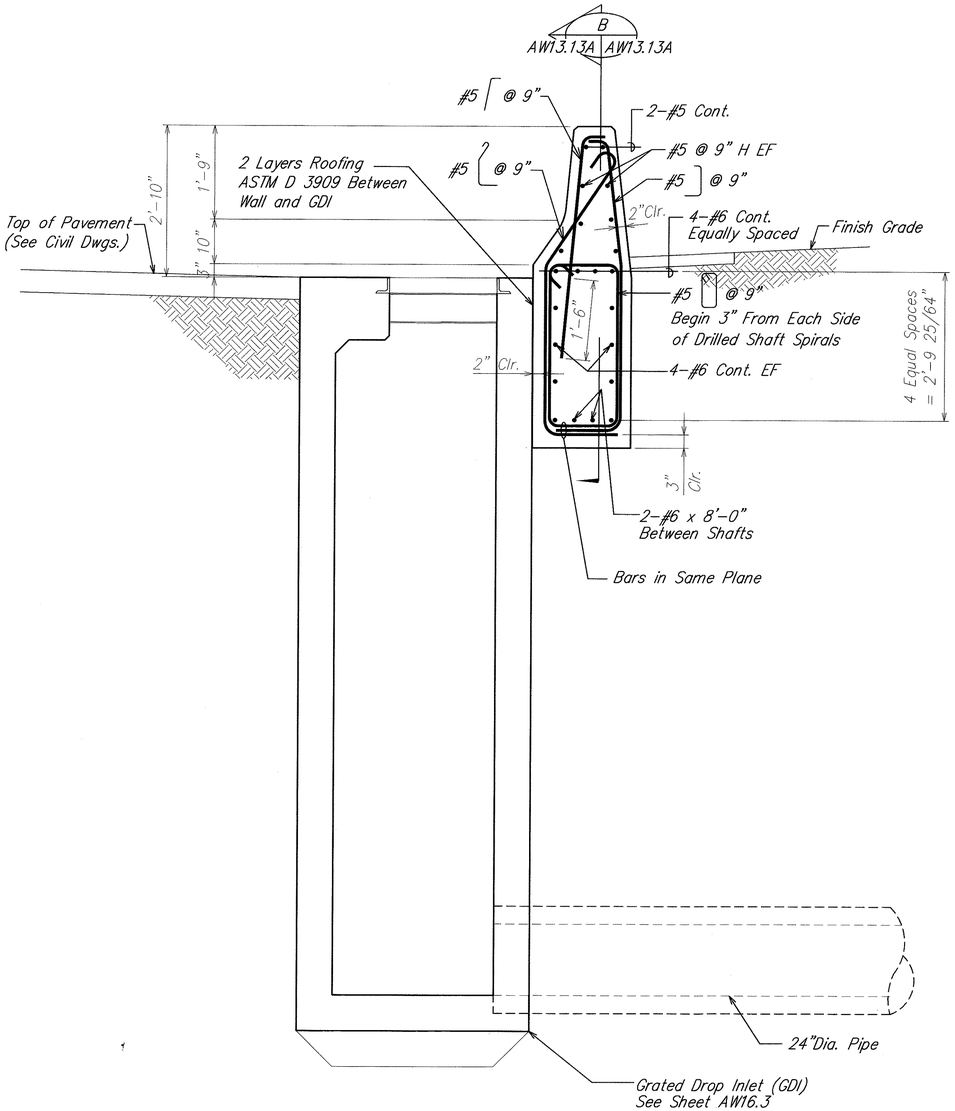
SHEET No. AW13.12 OF 140 SHEETS

ADD. 653

AB-AW1312.DWG
1 of 1

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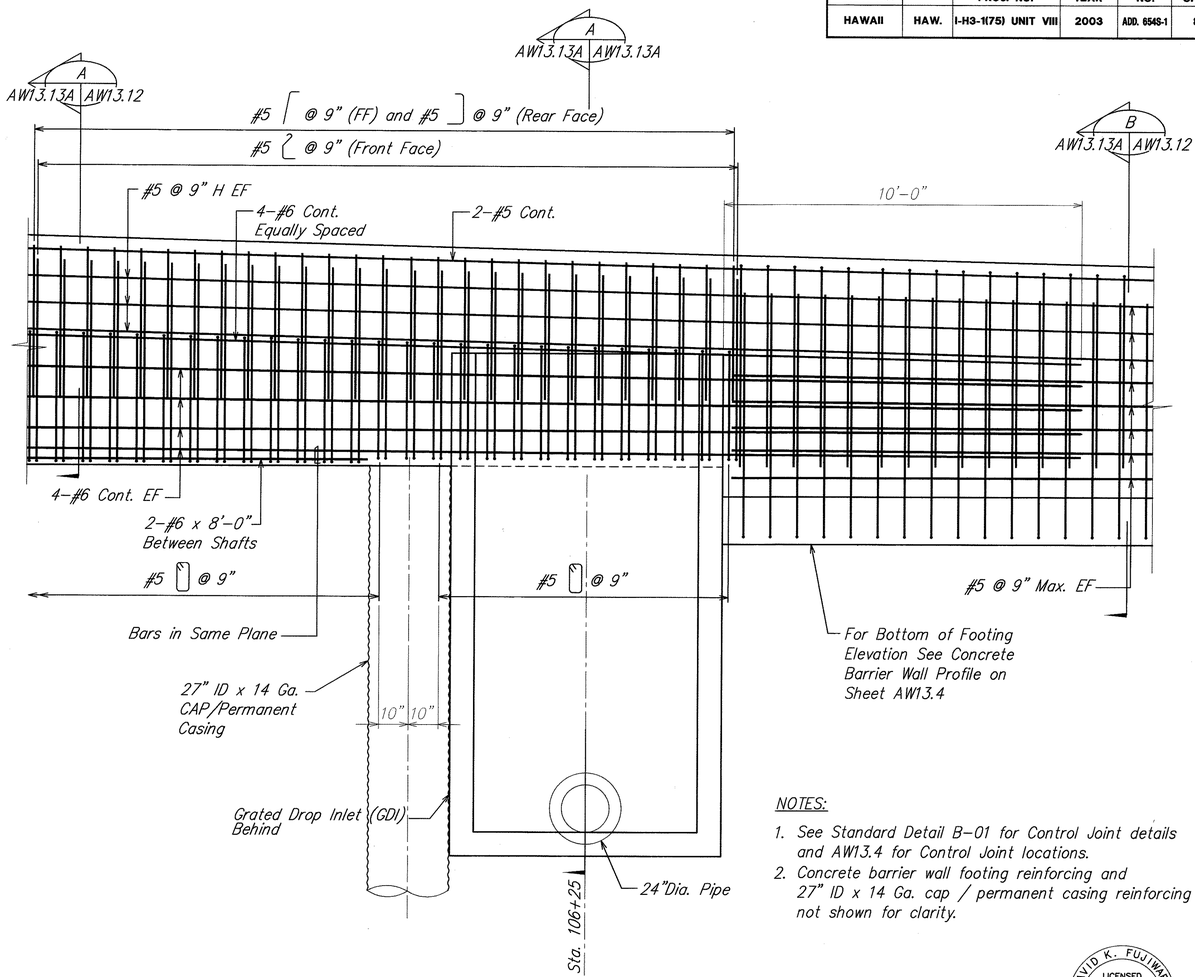
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 654S-1 | 816 |




TYPICAL CONCRETE BARRIER WALL (CBW-2) SECTION AT STA. 106+25

SCALE: 3/4" = 1'-0"

A AW13.13A AW13.13A




TYPICAL CONCRETE BARRIER WALL (CBW-2) ELEVATION STA. 106+25

SCALE: 1/2" = 1'-0"

B AW13.13A AW13.13A

NOTES:

1. See Standard Detail B-01 for Control Joint details and AW13.4 for Control Joint locations.
2. Concrete barrier wall footing reinforcing and 27" ID x 14 Ga. cap / permanent casing reinforcing not shown for clarity.

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE BARRIER WALL
CBW-2 ELEVATION AND SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

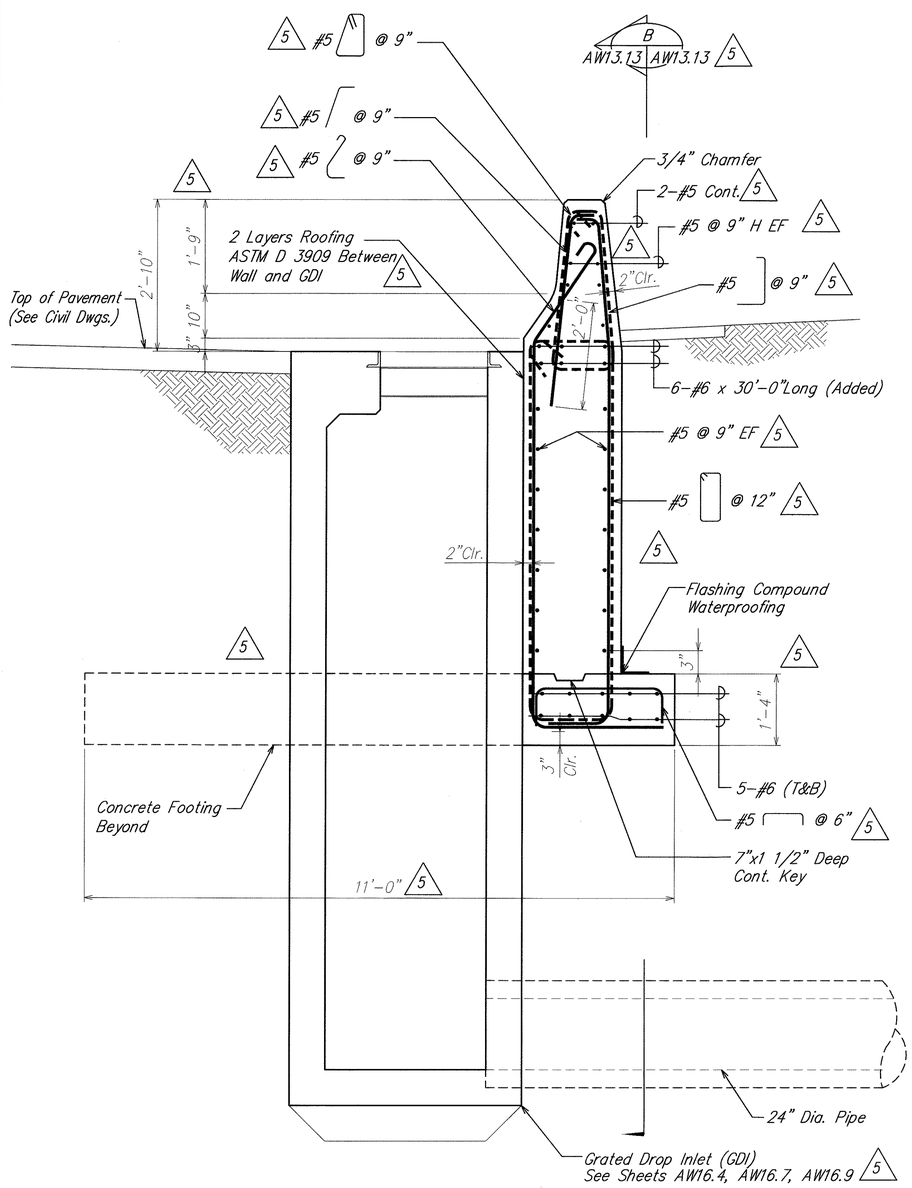
SHEET No. AW13.13A OF 140 SHEETS

ADD. 654S-1

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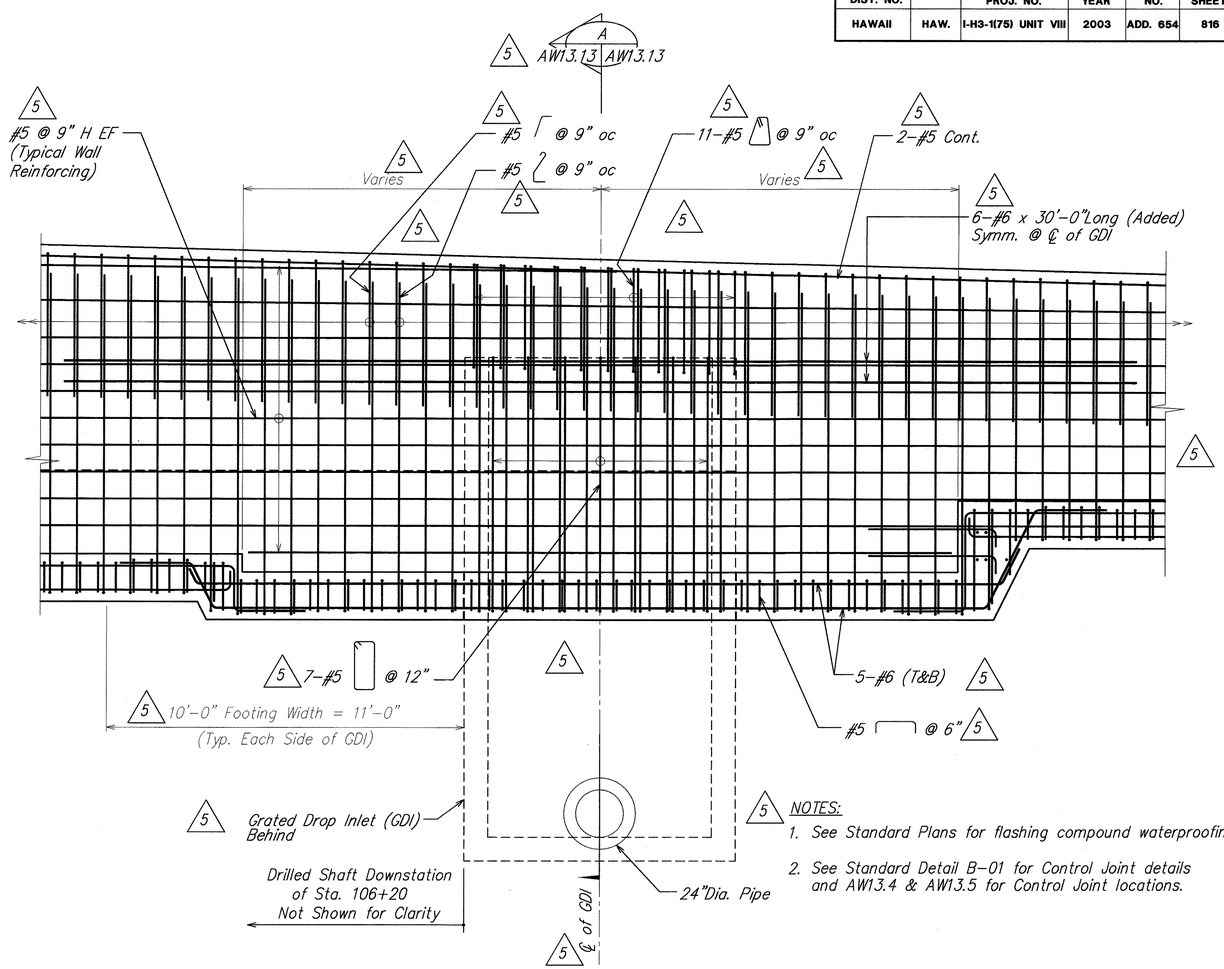
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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 654 | 816 |




5 TYPICAL CONCRETE BARRIER WALL (CBW-2) SECTION AT GDI
BETWEEN STA. 106+20 TO STA. 110+84.81 (EXCEPT AT STA. 106+25) A AW13.13 AW13.13

SCALE: 3/4" = 1'-0"




5 NOTES:
1. See Standard Plans for flashing compound waterproofing.
2. See Standard Detail B-01 for Control Joint details and AW13.4 & AW13.5 for Control Joint locations.

5 TYPICAL CONCRETE BARRIER WALL (CBW-2) ELEVATION AT GDI
BETWEEN STA. 106+20 AND STA. 110+84.81 (EXCEPT AT STA. 106+25) B AW13.13 AW13.13

SCALE: 1/2" = 1'-0"

ORIGINAL PLAN
NOTE BOOK
No.

SURVEY PLOTTED BY DATE
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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Barrier Reinforcing Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE BARRIER WALL
CBW-2 ELEVATION AND SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

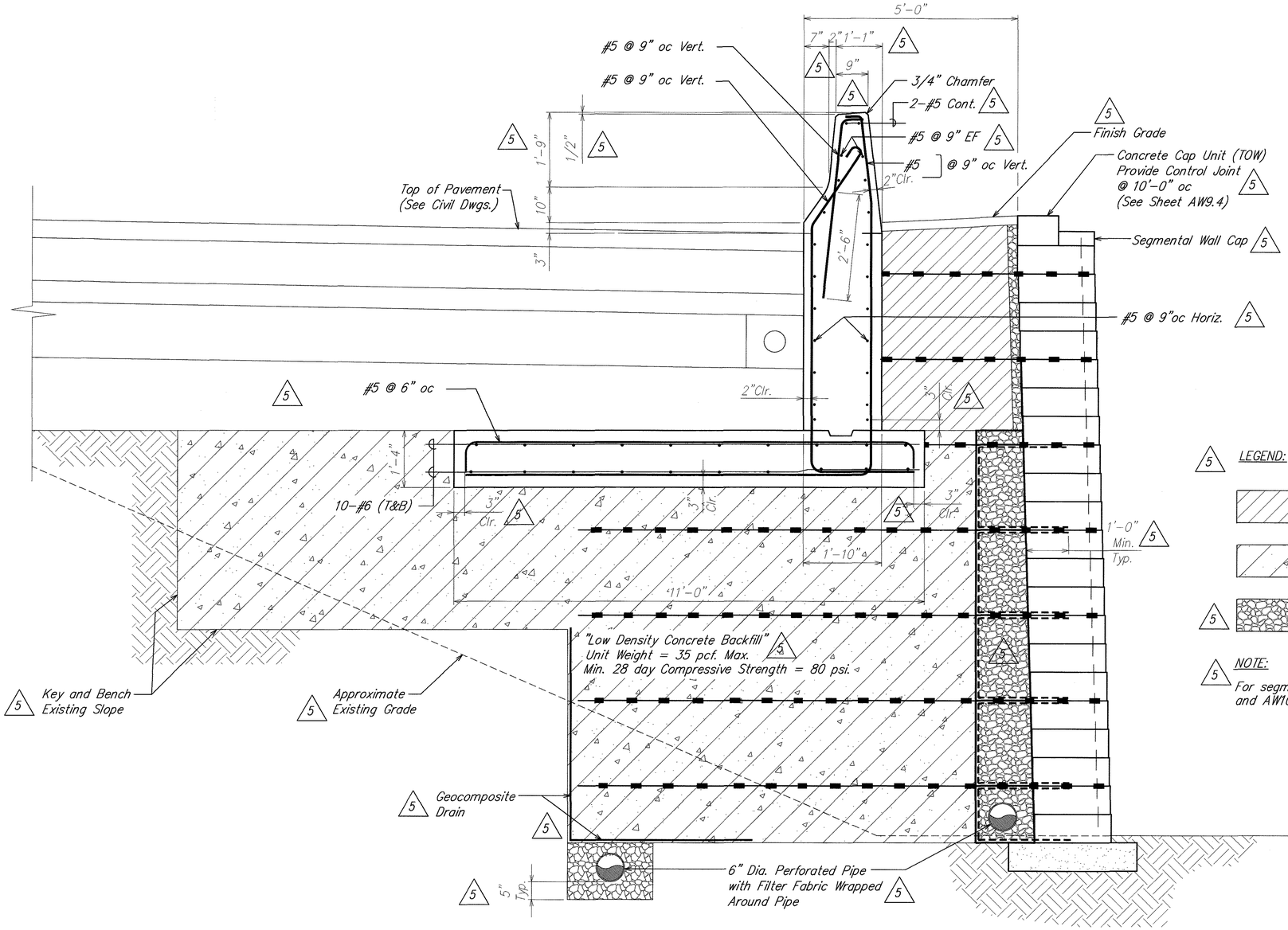
SHEET No. AW13.13 OF 140 SHEETS

ADD. 654

AB-AW1.313.DWG 1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 655 | 816 |




5 TYPICAL CONCRETE BARRIER WALL (CBW-2) SECTION
STA. 106+37 TO STA. 107+31

SCALE: 3/4" = 1'-0"

A
AW13.14 | AW13.14

5 LEGEND:

- Select Granular Backfill
- Low – Density Concrete Backfill
- 5 Unit Backfill

5 NOTE:

For segmental wall see sheets AW10.7 to AW10.10 and AW10.14.

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HAWAII, U.S.A.

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| NOTE BOOK | DRAWN BY | |
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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Geogrid, Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE BARRIER WALL
CBW-2 SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

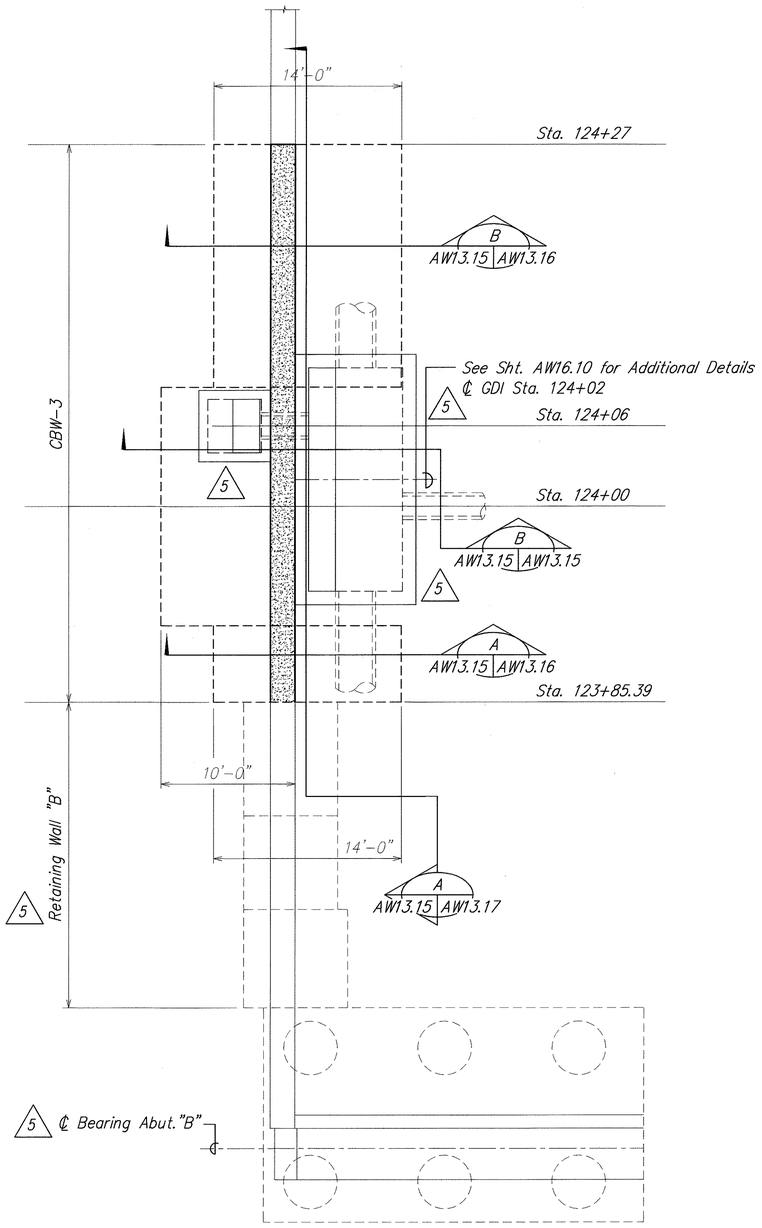
SHEET No. AW13.14 OF 140 SHEETS

ADD. 655

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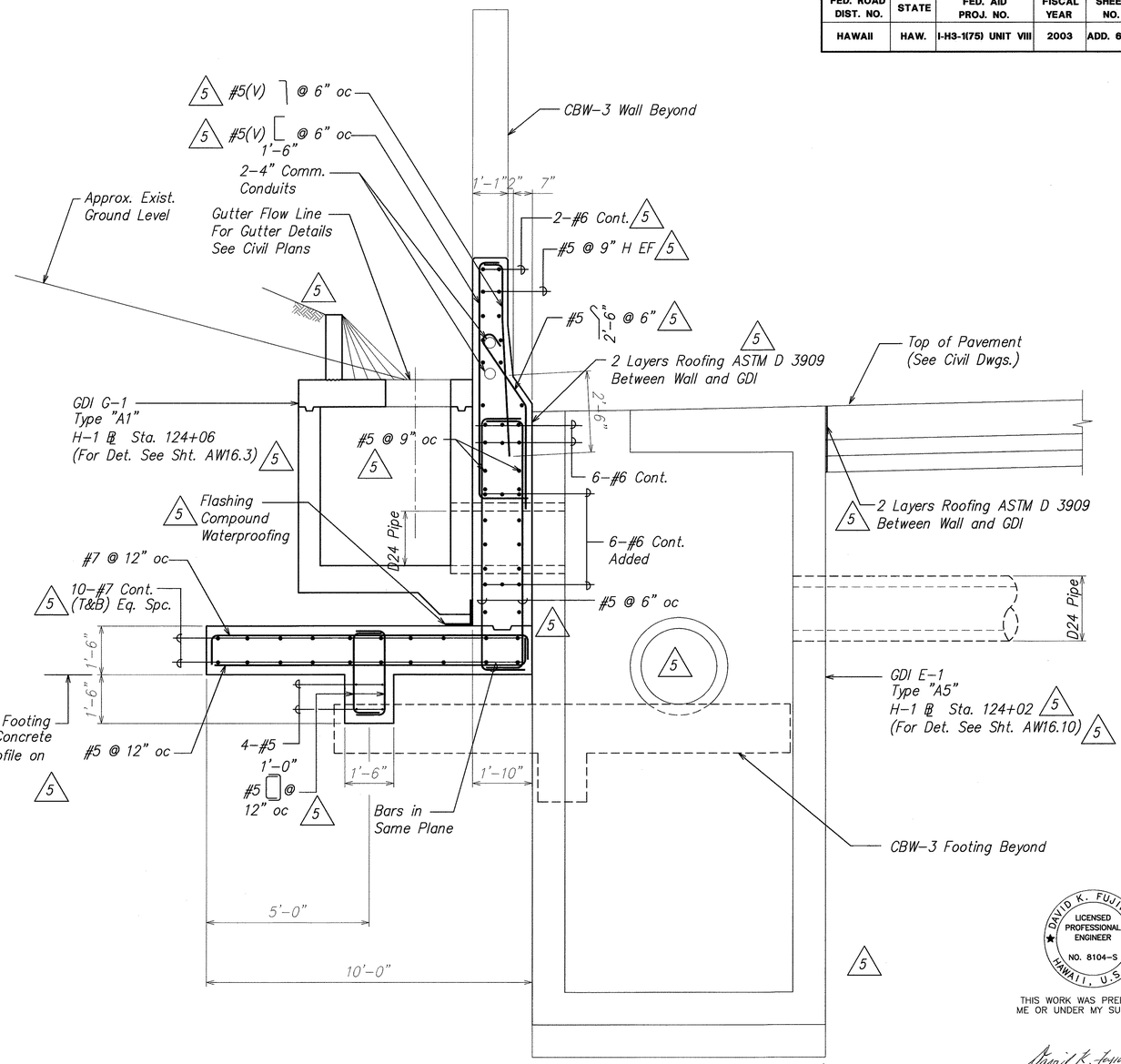
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 656 | 816 |




CBW-3 WALL PLAN (A) AW13.15 AW13.15

SCALE: 3/16" = 1'-0"




CBW-3 WALL SECTION (Sta. 124+00) (B) AW13.15 AW13.15

SCALE: 1/2" = 1'-0"

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes, Revised Barrier Reinforcing & Joint |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL
# CBW-3 SECTION AND PLAN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

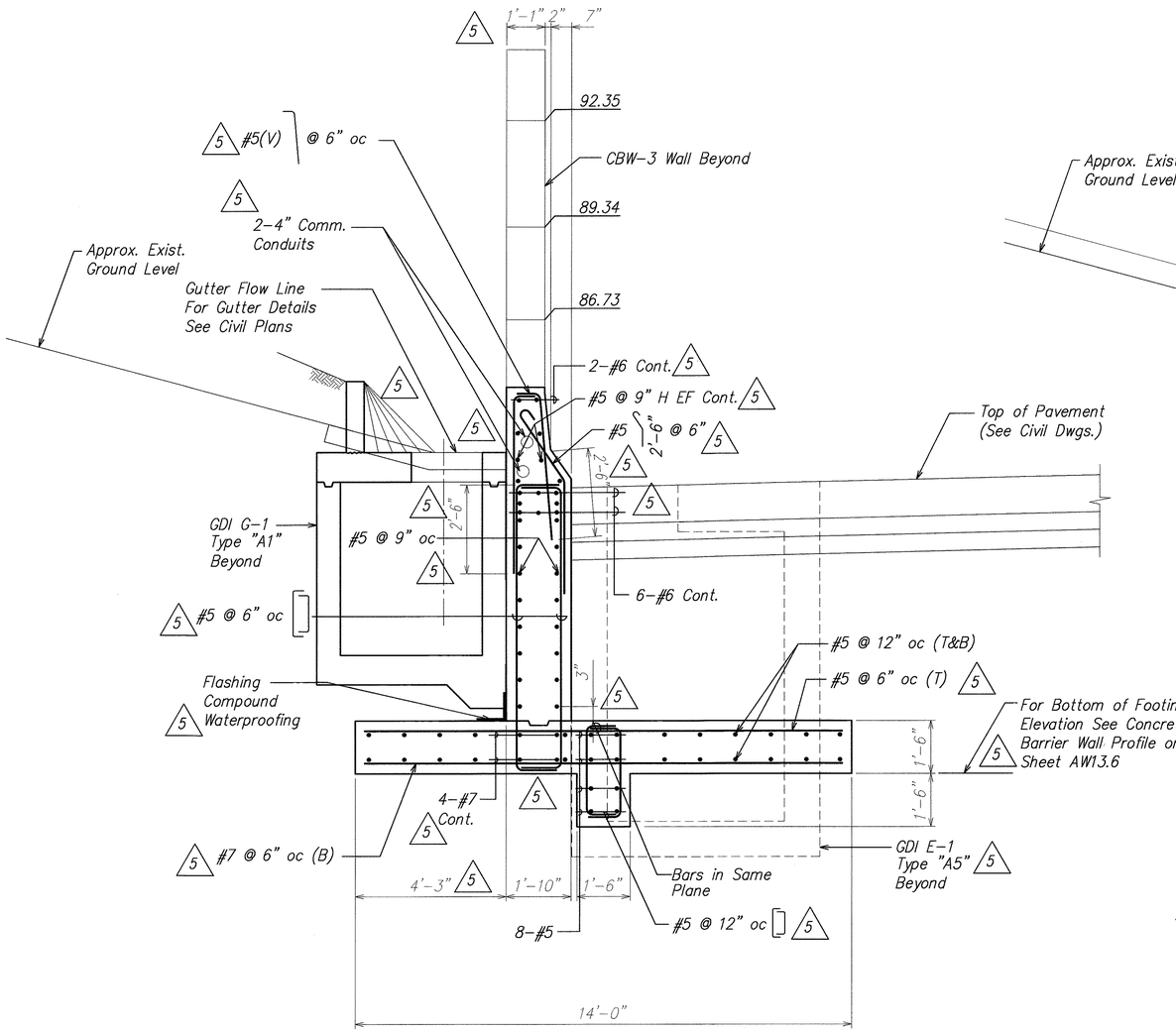
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW13.15 OF 140 SHEETS

ADD. 656

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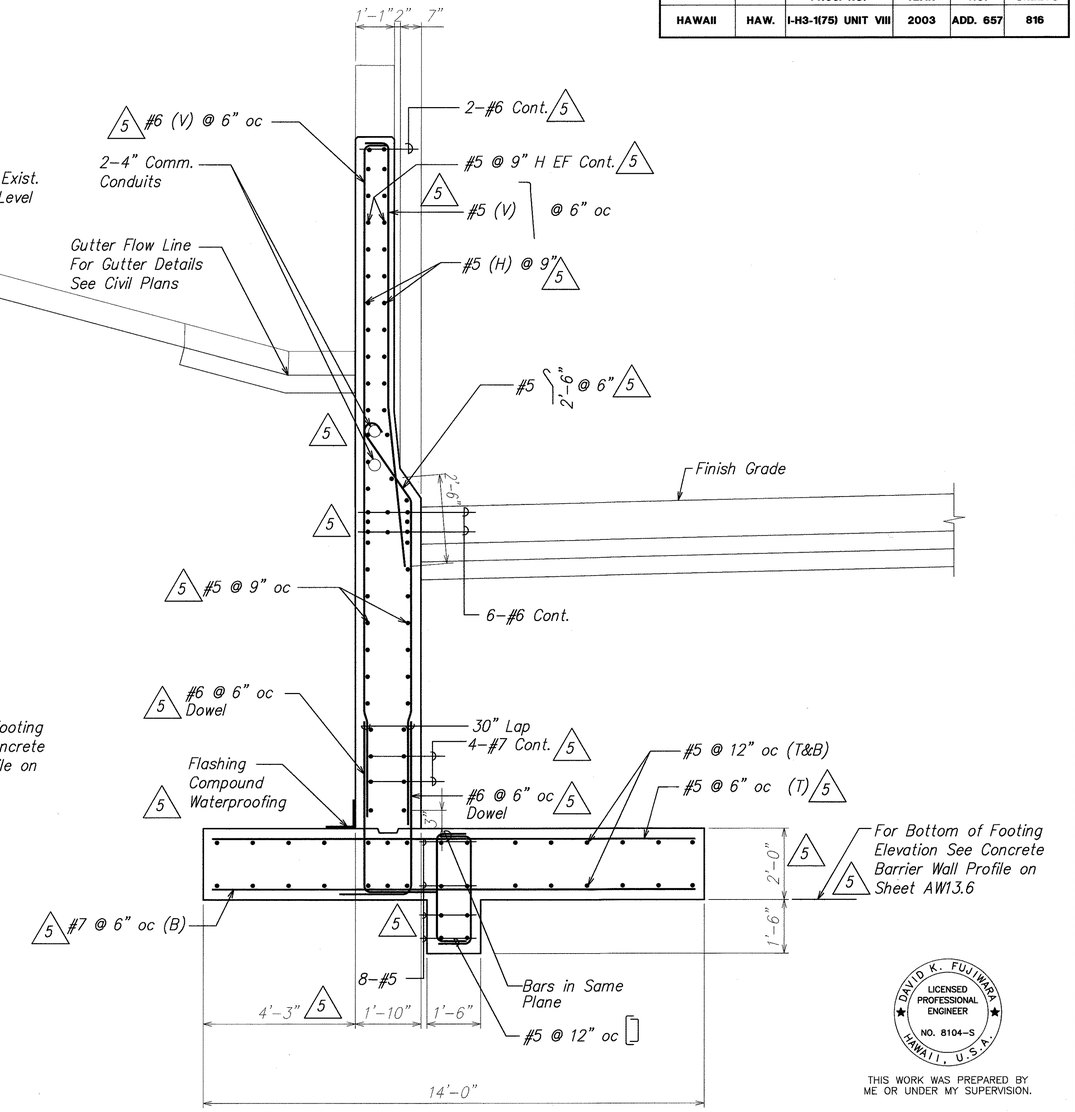
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 657 | 816 |




CBW-3 WALL SECTION A

SCALE: 1/2" = 1'-0"

AW13.15 | AW13.16




CBW-3 WALL SECTION B

SCALE: 1/2" = 1'-0"

AW13.15 | AW13.16

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NO. 8104-S
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| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| No. | DESIGNED BY | |
| | QUANTITIES BY | |
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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes, Revised Barrier Reinforcing & Joint |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL
## CBW-3 SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

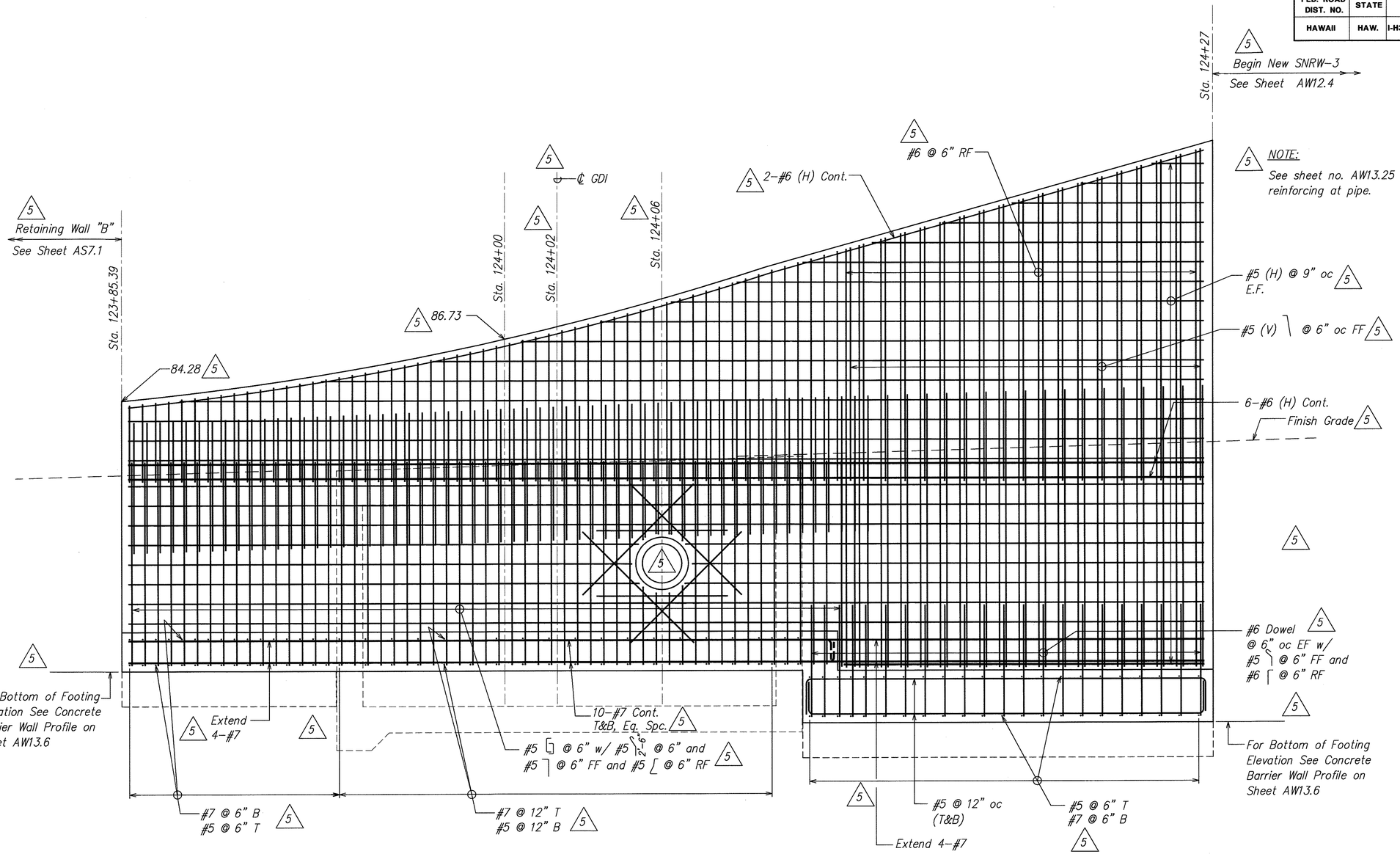
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW13.16 OF 140 SHEETS

AB-AW316.DWG
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ADD. 657

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 658 | 816 |




CBW-3 WALL REINFORCING ELEVATION (A)

SCALE: 1/2" = 1'-0"

AW3.15 | AW3.17

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Wall Reinforcing, GDI, Clarification of Notes |

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

AB-AW13.17.DWG
1 = 1

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STATE OF HAWAII
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HIGHWAYS DIVISION

# CONCRETE BARRIER WALL
## CBW-3 ELEVATION

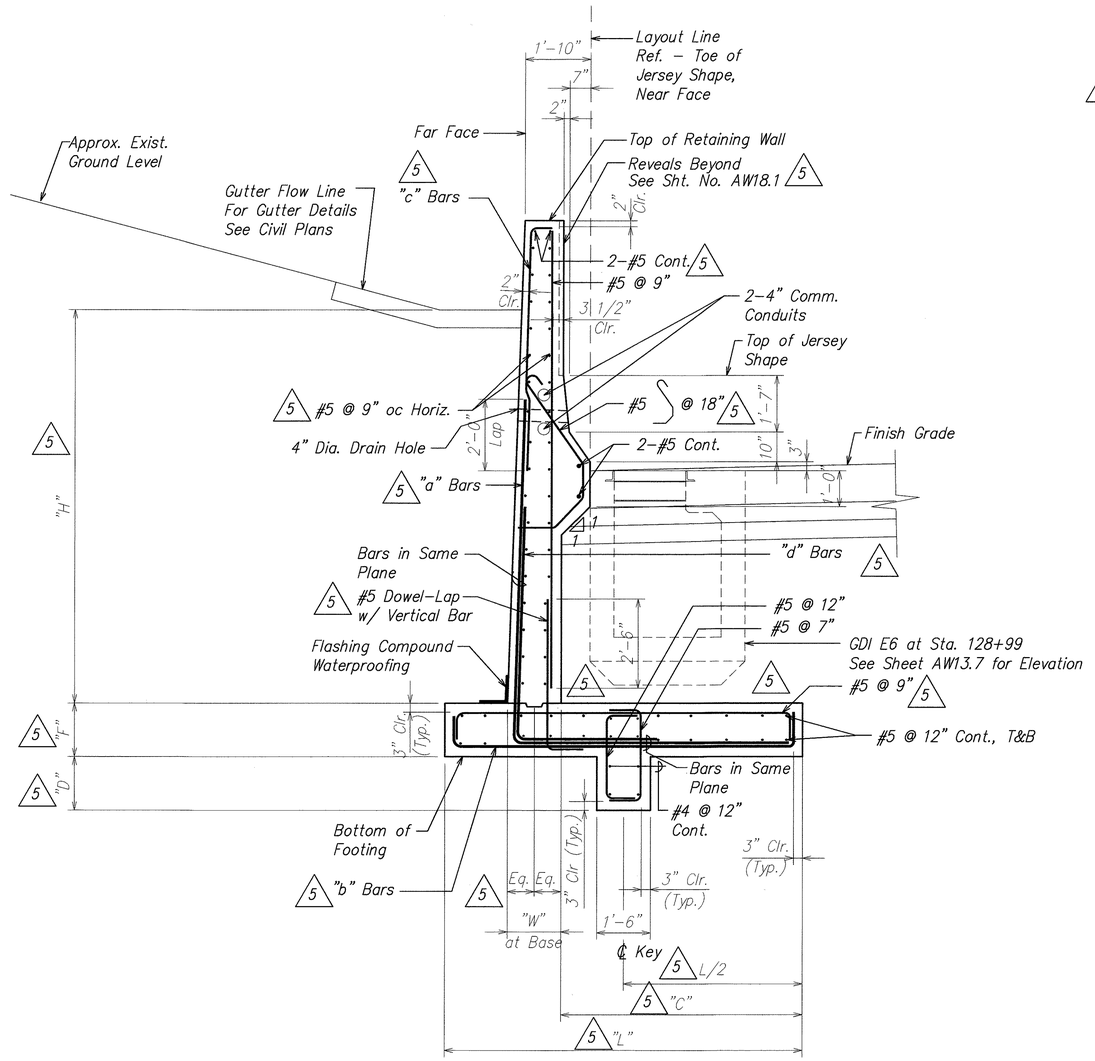
INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW13.17 OF 140 SHEETS

ADD. 658

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 659 | 816 |




## TYPICAL CBW–4 WALL SECTION A

SCALE: 1/2" = 1'-0"

AW13.18 | AW13.18

## 5 DIMENSIONS AND REINFORCING STEEL FOR CBW–4 WALL

| Stem Design Height – "H" | 4'–0" | 6'–0" | 8'–0" | 10'–0" | 12'–0" | 14'–0" |
|---|---|---|---|---|---|---|
| Stem Thickness (at Base) – "W" | 1'–2" | 1'–3" | 1'–4" | 1'–5" | 1'–6" | 1'–7" |
| Toe to Stem Face – "C" | 3'–10" | 4'–0" | 4'–2" | 5'–7" | 6'–9" | 7'–11" |
| Footing Depth – "F" | 1'–4" | 1'–4" | 1'–4" | 1'–4" | 1'–9" | 2'–0" |
| Footing Width – "L" | 6'–0" | 6'–3" | 6'–6" | 8'–0" | 9'–3" | 11'–6" |
| Key Depth – "D" | 0'–9" | 0'–9" | 1'–0" | 1'–0" | 1'–6" | 2'–0" |
| "a" Bars | #5 @ 9" | #5 @ 9" | #6 @ 12" | #7 @ 12" | #7 @ 12" | #7 @ 12" |
| "d" Bars | – | – | – | – | #7 @ 12" | #7 @ 12" |
| "b" Bars | #5 @ 12" | #5 @ 12" | #6 @ 12" | #7 @ 12" | #8 @ 12" | #8 @ 12" |
| "c" Bars | – | – | #5 @ 12" | #5 @ 12" | #5 @ 12" | #5 @ 12" |
| | | | | | | |

5 NOTES:

1. Spacing of "a" bars and "d" bars given in table is at base of stem with repeating placement pattern as indicated.
2. Number above "a" and "d" bars indicates distance from top of footing to upper end of bars.
3. See AW13.25 for reinforcing around opening.




## 5 VERTICAL REINFORCING STEEL ARRANGEMENT B

NOT TO SCALE

AW13.19 | AW13.19

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Wall Reinforcing, Add Table and Detail |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL
# CBW–4 SECTION

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

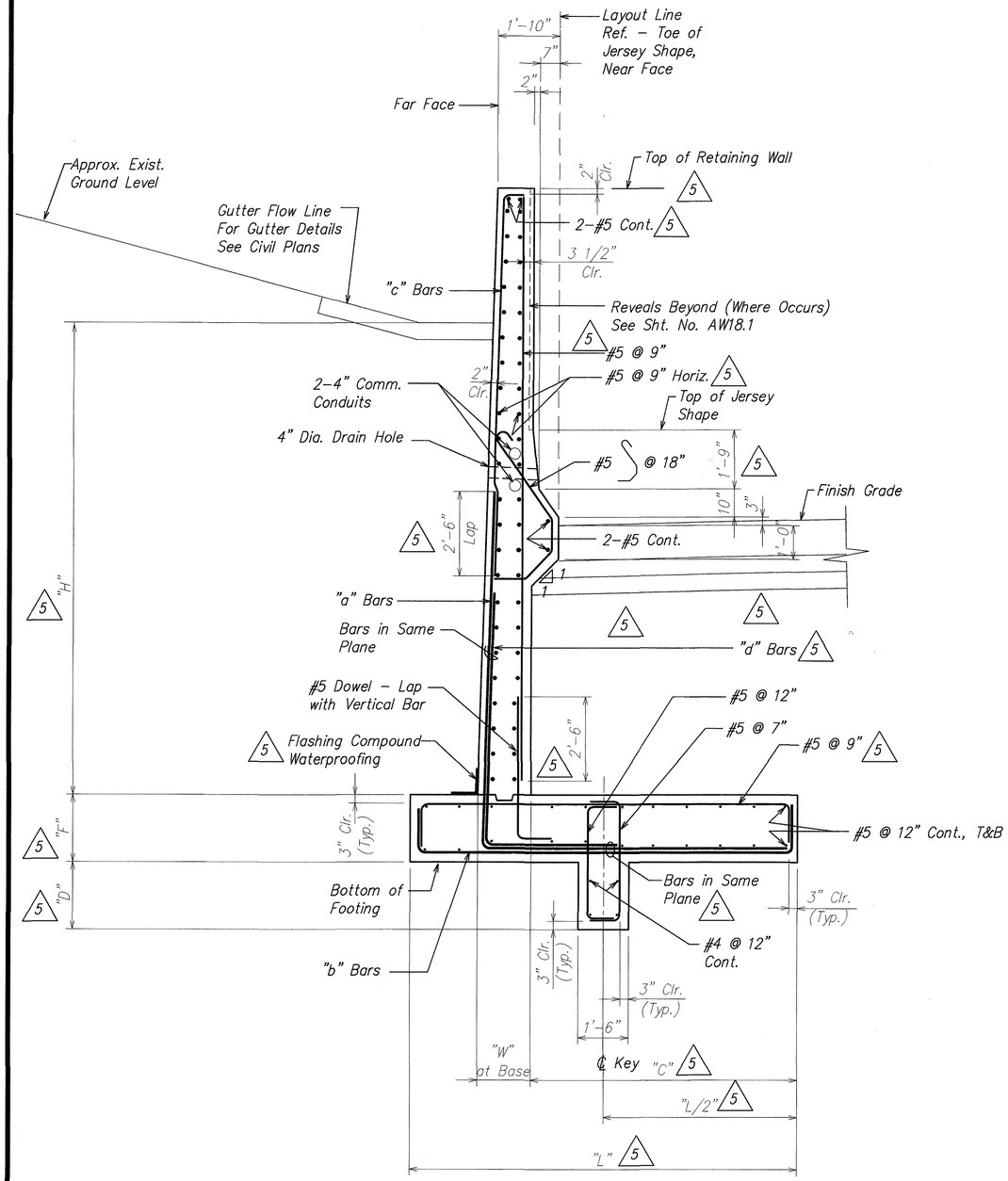
SHEET No. AW13.18 OF 140 SHEETS

ADD. 659

AB–AW1318.DWG
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\\Cad1\vol1\2001\10066–WAIMALU VIADUCT\10–15–03 AW AD36\AD06 AB–AW1318.dwg, AW13.18, 10/15/2003 9:27:59 AM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 660 | 816 |



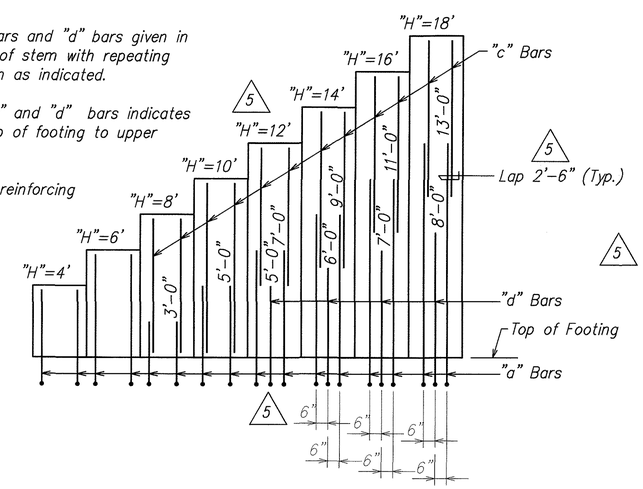

5 TYPICAL CBW–5 WALL SECTION A
SCALE: 1/2" = 1'-0"
AW13.3.19 | AW13.3.19

## DIMENSIONS AND REINFORCING STEEL FOR CBW–5 WALL

| Stem Design Height – "H" | 4'–0" | 6'–0" | 8'–0" | 10'–0" | 12'–0" | 14'–0" |
|---|---|---|---|---|---|---|
| Stem Thickness (at Base) – "W" | 1'–2" | 1'–3" | 1'–4" | 1'–5" | 1'–6" | 1'–7" |
| Toe to Stem Face – "C" | 3'–10" | 4'–0" 5 | 4'–2" 5 | 5'–7" | 6'–9" | 7'–11" |
| Footing Depth – "F" | 1'–4" 5 | 1'–4" 5 | 1'–4" 5 | 1'–4" 5 | 1'–9" 5 | 2'–0" 5 |
| Footing Width – "L" | 6'–0" 5 | 6'–3" 5 | 6'–6" 5 | 8'–0" | 9'–3" | 11'–6" |
| Key Depth – "D" | 0'–9" | 0'–9" | 1'–0" | 1'–0" | 1'–6" | 2'–0" |
| "a" Bars | #5 @ 9" | #5 @ 9" | #6 @ 12" | #7 @ 12" | #7 @ 12" 5 | #7 @ 12" |
| "d" Bars | – | – | – | – | #7 @ 12" 5 | #7 @ 12" |
| "b" Bars | #5 @ 12" | #5 @ 12" | #6 @ 12" 5 | #7 @ 12" 5 | #8 @ 12" 5 | #8 @ 12" |
| "c" Bars | – | – | #5 @ 12" | #5 @ 12" | #5 @ 12" | #5 @ 12" |
| | | | | | | |

NOTES:

1. Spacing of "a" bars and "d" bars given in table is at base of stem with repeating placement pattern as indicated.
2. Number above "a" and "d" bars indicates distance from top of footing to upper end of bars.
3. 5 See AW13.25 for reinforcing around opening.




5 VERTICAL REINFORCING STEEL ARRANGEMENT B
NOT TO SCALE
AW13.3.19 | AW13.3.19

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Wall Reinforcing and Table Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL
## CBW–5 SECTIONS

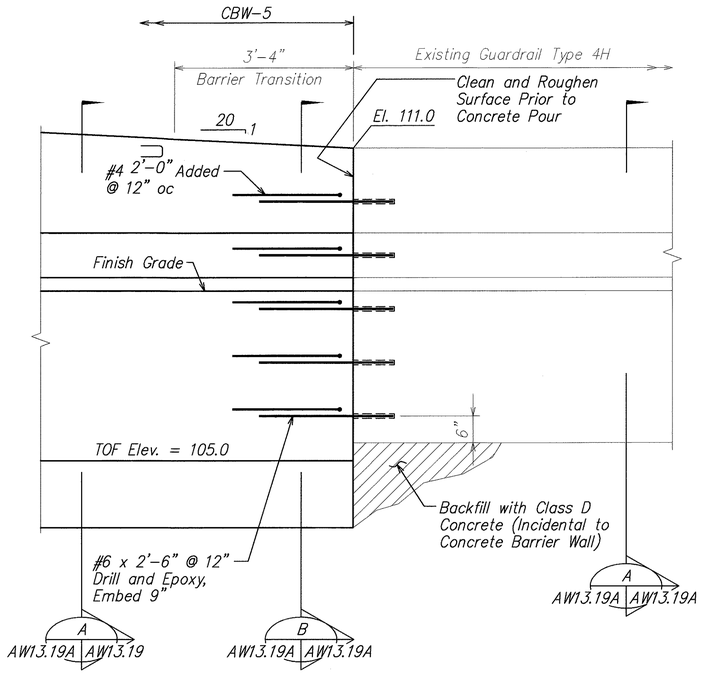
INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW13.19 OF 140 SHEETS

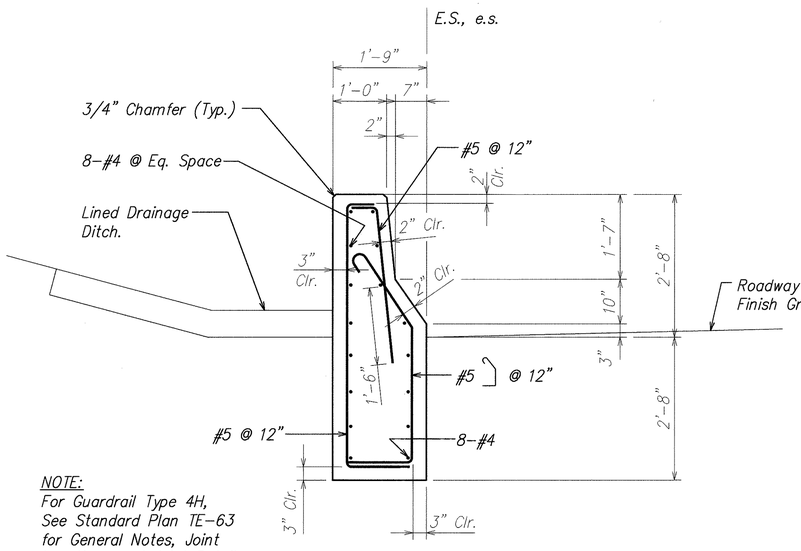
AB–AW13.19.DWG
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ADD. 660

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 660S-1 | 816 |

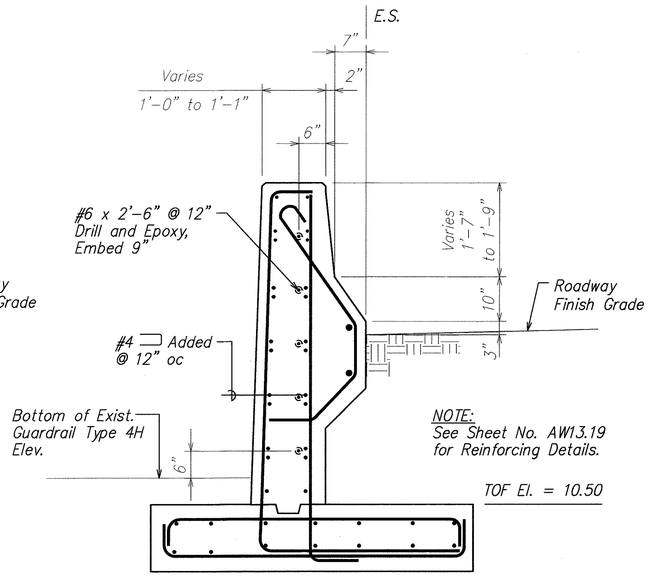



DETAIL 1
SCALE: 3/4" = 1'-0" AW13.19A | AW13.19A




NOTE:
For Guardrail Type 4H, See Standard Plan TE-63 for General Notes, Joint Locations and Joint Details.

EXISTING GUARDRAIL TYPE 4H A
SCALE: 3/4" = 1'-0" AW13.19A | AW13.19A




NOTE:
See Sheet No. AW13.19 for Reinforcing Details.

SECTION B
SCALE: 3/4" = 1'-0" AW13.19A | AW13.19A

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL
## CBW-5 SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

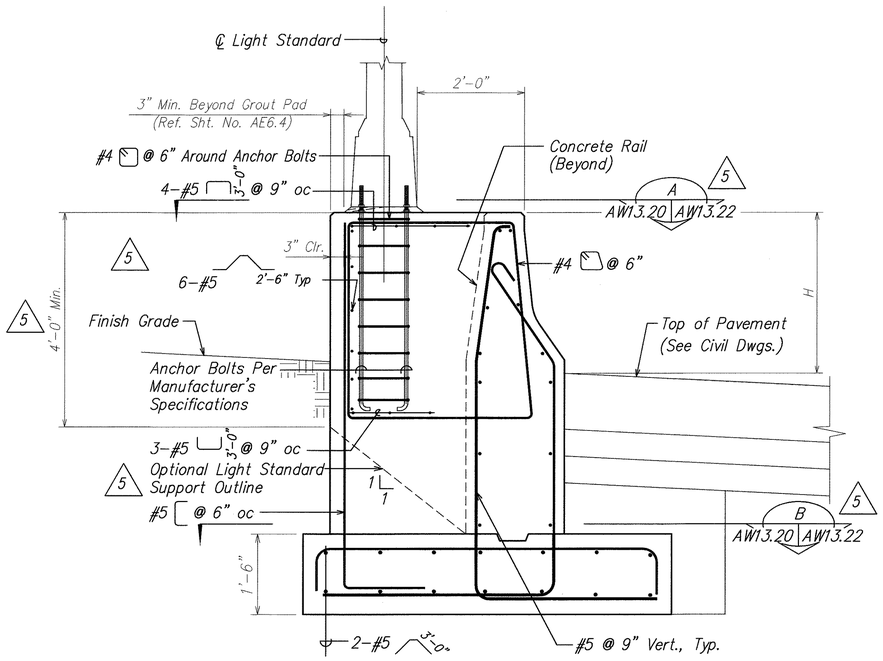
SHEET No. AW13.19A OF 140 SHEETS

ADD. 660S-1

AB-AW13.19A.DWG
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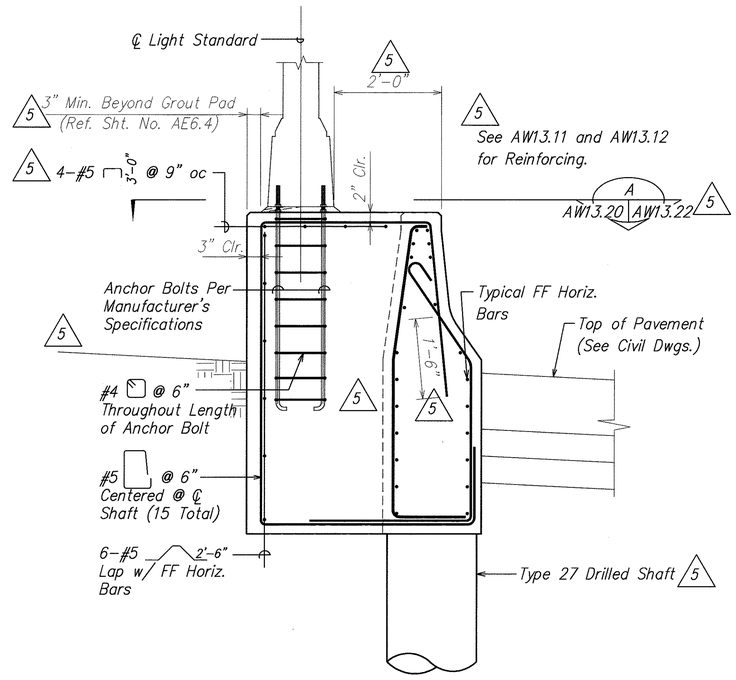
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 661 | 816 |




TYPICAL THICKENED BARRIER AT
LIGHT STANDARD (WHERE H < 6'-0" HIGH) A
SCALE: 3/4" = 1'-0" AW13.20 AW13.20

NOTES:

5
1. Wall dimensions and reinforcing not shown for clarity.
2. For thickened barrier at light standard on drilled shaft, See section B on this sheet.
3. For thickened barrier at light standard where H ≥ 6'-0" high, See section A on sheet AW13.21.
4. See sheet AW13.22 for plan view of thickened barrier at light standard.




TYPICAL THICKENED BARRIER AT CBW-2
WITH DRILLED SHAFT OF 27" I.D. CASING B
SCALE: 3/4" = 1'-0" AW13.20 AW13.20

5 NOTE:
See sheet AW13.23 for drilled shaft details.

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Details and Added Notes. |

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David K. Fujiwara 4-30-04
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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL AT LIGHT PEDESTAL

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW13.20 OF 140 SHEETS

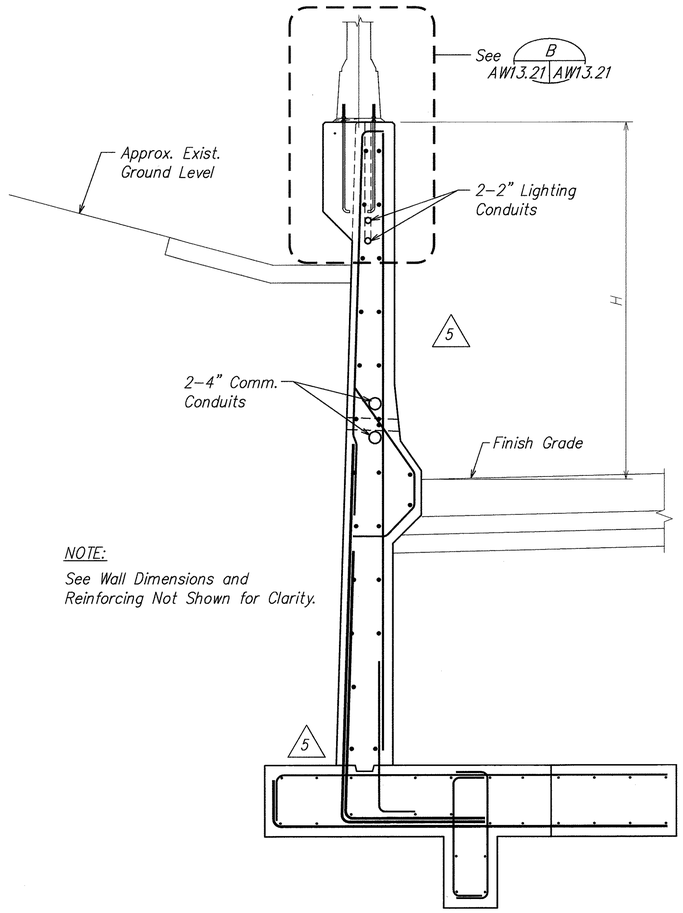
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY
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CHECKED BY
DATE

AW1320.DWG
1 = 1

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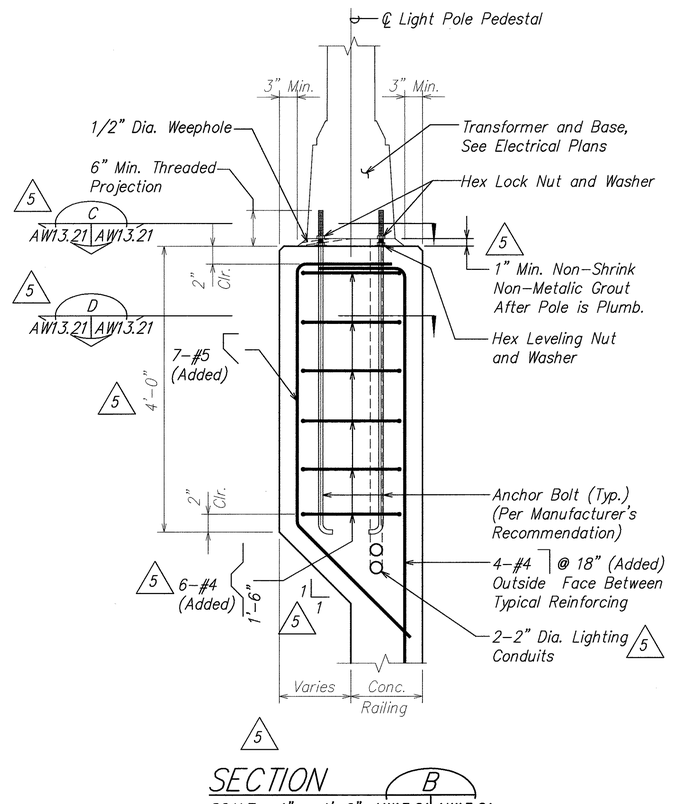
ADD. 661

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 662 | 816 |



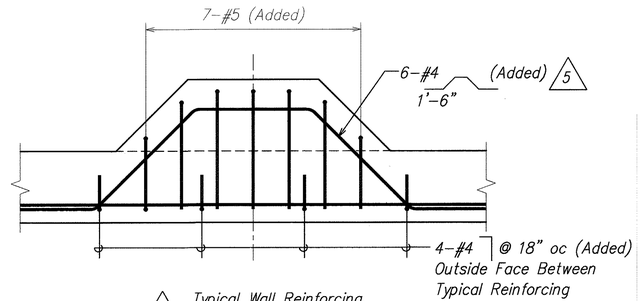

TYPICAL THICKENED BARRIER AT LIGHT STANDARD (WHERE H ≥ 6'–0") A AW13.21 AW13.21

SCALE: 1/2" = 1'–0"



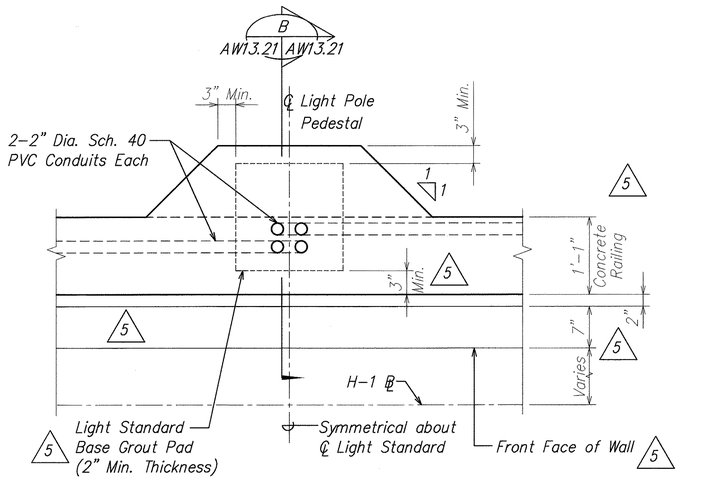

SECTION B AW13.21 AW13.21

SCALE: 1" = 1'–0"




SECTION D AW13.21 AW13.21

SCALE: 1" = 1'–0"




PLAN (THICKENED BARRIER AT 5 LIGHT STANDARD (WHERE H ≥ 6'–0") C AW13.21 AW13.21

SCALE: 1" = 1'–0"

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| No. | DESIGNED BY | |
| | QUANTITIES BY | |
| | CHECKED BY | |

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Details and Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL AT LIGHT PEDESTAL

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

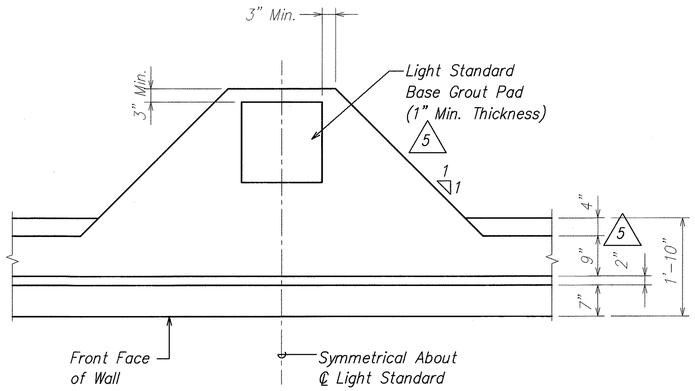
SHEET No. AW13.21 OF 140 SHEETS

ADD. 662

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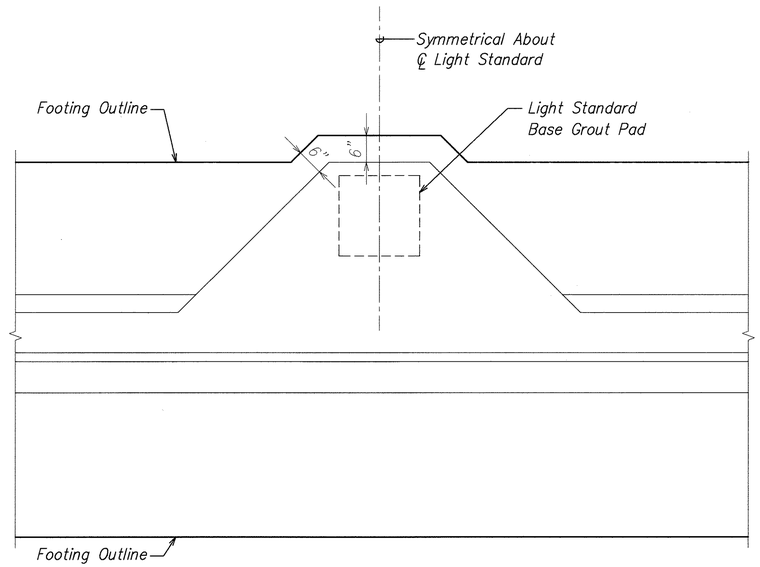
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 663 | 816 |




PLAN – THICKENED BARRIER AT LIGHT STANDARD (WHERE H < 6'-0") A

SCALE: 3/4" = 1'-0"

AW13.20 AW13.22 AW13.22

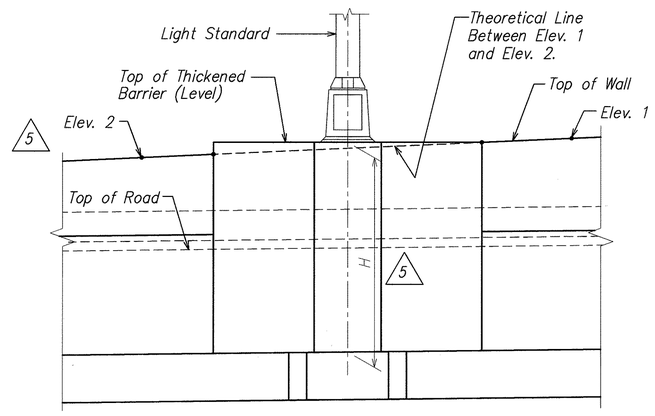



FOOTING AT LIGHT STANDARD (WHERE H < 6'-0") B

SCALE: 3/4" = 1'-0"

AW13.20 AW13.22 AW13.22

5




NOTE:
5
Similar for Walls with H ≥ 6

ELEVATION – THICKENED BARRIER AT LIGHT STANDARD C

SCALE: 1/2" = 1'-0"

AW13.22 AW13.22

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SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Concrete Barrier Wall at Light Pedestal Elevation. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL AT LIGHT PEDESTAL

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW13.22 OF 140 SHEETS

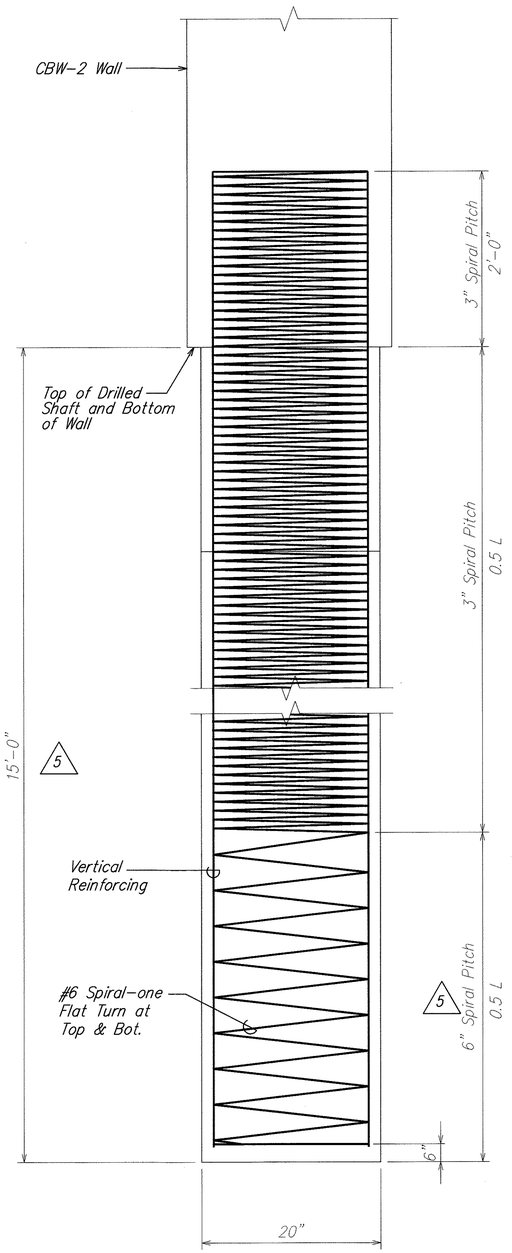
ADD. 663

ORIGINAL PLAN
NOTE BOOK No.
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QUANTITIES BY
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AW1322.DWG
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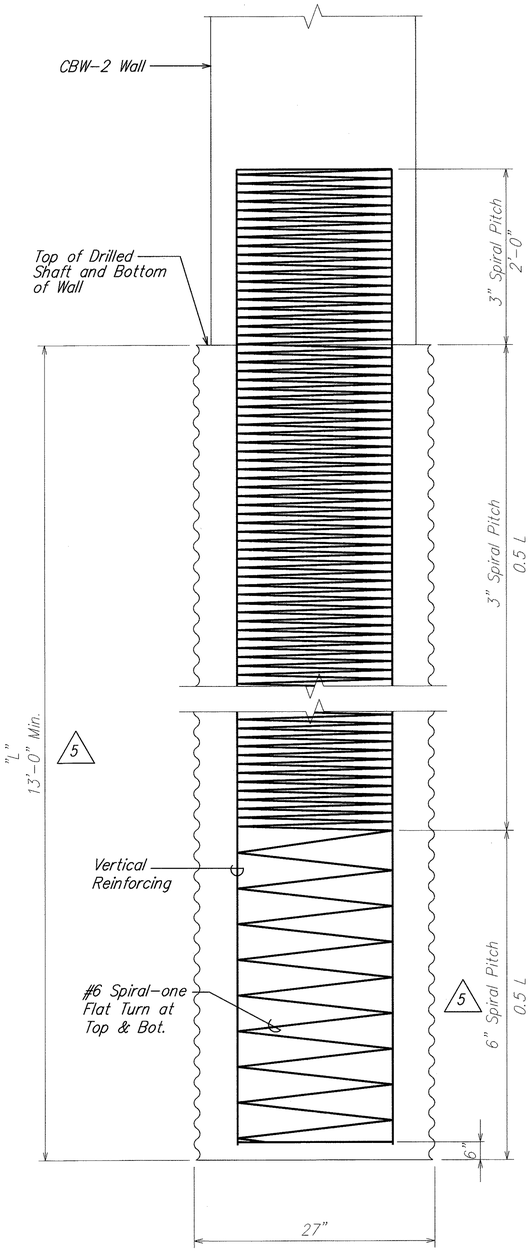
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 664 | 816 |




5

## TYPICAL TYPE 20 DRILLED SHAFT ELEVATION

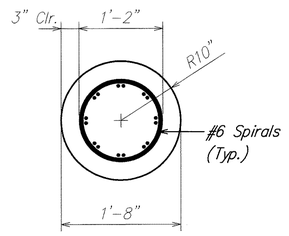
Scale : NOT TO SCALE




5

## TYPICAL TYPE 27 DRILLED SHAFT ELEVATION

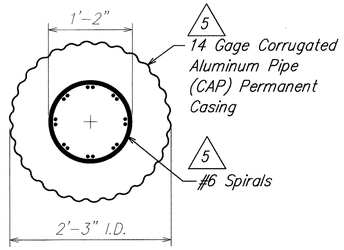
Scale : NOT TO SCALE




16-#6 (2 x 8 Bundles)

## TYPE 20

SCALE: 1" = 1'-0"




16-#6 (2 x 8 Bundles)

## TYPE 27

SCALE: 1" = 1'-0"

## NOTES:

1. Concrete or other non-corrosive spacing devices shall be used to maintain the reinforcement cage in position within the shaft.
2. 5 Spirals may be discontinuous at footing reinforcement to allow for placing footing reinforcement. The discontinuous spirals shall be terminated with a 135° hook around vertical reinforcement.
3. 5 Vertical bar splices shall be lapped spliced only in the bottom third of the drilled shaft.
4. Staggered splice points not more than 33% of total at one point.
5. Minimum of 30" vertically between splice points.
6. Individual bar splices within a bundle shall not overlap. Entire bundle shall not be lap spliced.
7. 5 The Contractor shall also refer to the Specifications Section 511, Drilled Shafts, in addition to these notes.
8. All excavation and drilling operations for foundations shall be monitored by the Engineer.
9. Bottom of pilecap and drilled shaft tip elevations shall be verified by the Engineer prior to placing reinforcement and concrete.
10. Concrete shall be placed promptly after drilling (within 24 hours) and shall not be placed without approval of the Engineer.
11. Construction of drilled shaft piles shall be done in such a manner and sequence to prevent collapse of drilled shafts due to premature loading of poured drilled shafts before its 28-day concrete strength and other mishaps that may reduce its capacity.
12. Drilling of adjacent shafts shall be staggered in such a manner that the shaft concrete shall have cured a minimum of 24 hours prior to drilling adjacent shafts.
13. 5 For "L" dimension, see wall profiles.

| BAR | Drilled Shafts Lap Splice Lengths | |
|---|---|---|
| | Single and 2-Bar Bundles | Spiral |
| #6 | 3'-0" | 4'-0" |
| | | |
| | | |

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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David K. Fujiwara 4-30-04

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| No. | TRACED BY |
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| | QUANTITIES BY |
| | CHECKED BY |
| | DATE |

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Drilled Shaft Detail and Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# CONCRETE BARRIER WALL DRILLED SHAFT DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

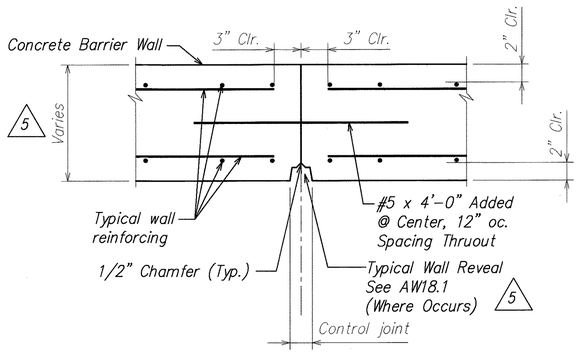
SHEET No. AW13.23 OF 140 SHEETS

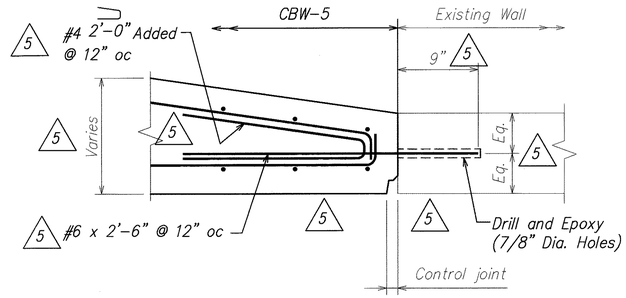
ADD. 664

AB-AW1323.DWG 1 = 1

\\Cad\fsf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1323.dwg, AW13.23, 10/15/2003 9:38:48 AM, KSFinc.pc3

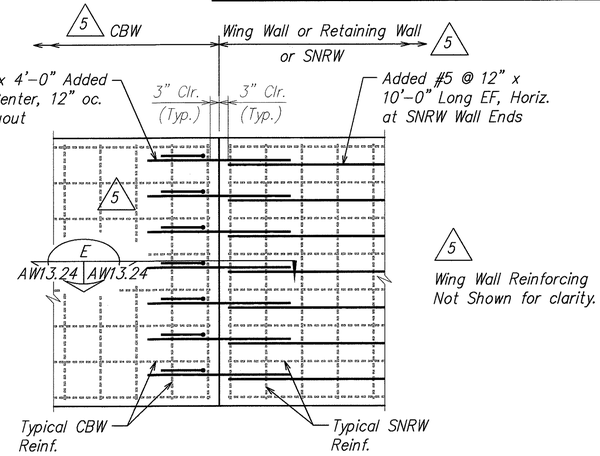
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 665 | 816 |



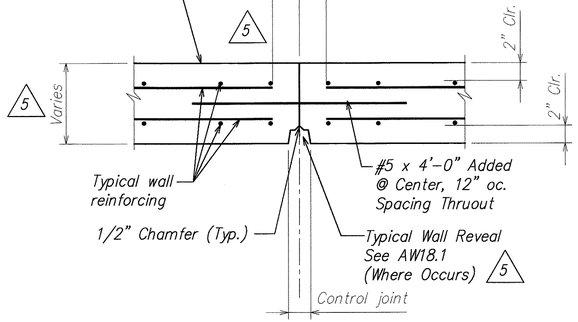

5 JOINT AT STA. 136+50 (B) AW13.24 | AW13.24

NOT TO SCALE



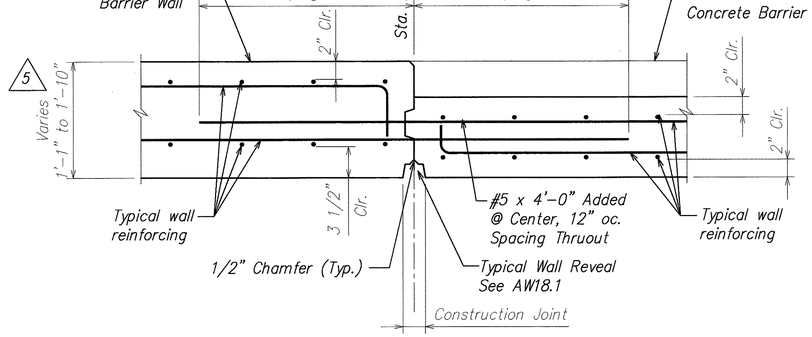

WALL ELEVATION AT CBW/SNRW INTERFACE (D) AW13.24 | AW13.24

NOT TO SCALE




TYPICAL CONTROL JOINTS (A) AW13.24 | AW13.24

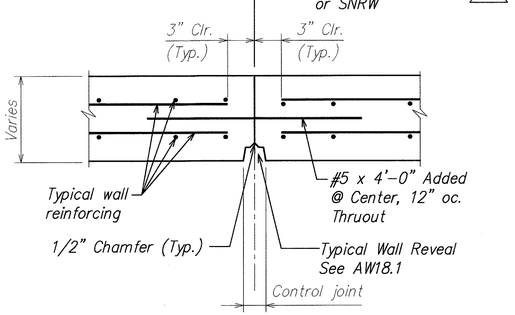
NOT TO SCALE




CONSTRUCTION JOINT DETAIL AT STA. 102+89.4 (C) AW13.4 | AW13.24

NOT TO SCALE

5




TYPICAL WALL VERTICAL CONTROL JOINT AT CBW/WING WALL INTERFACE (E) AW13.24 | AW13.24

NOT TO SCALE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE BARRIER WALL
JOINT DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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SHEET No. AW13.24 OF 140 SHEETS

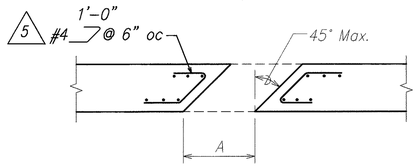
ADD. 665

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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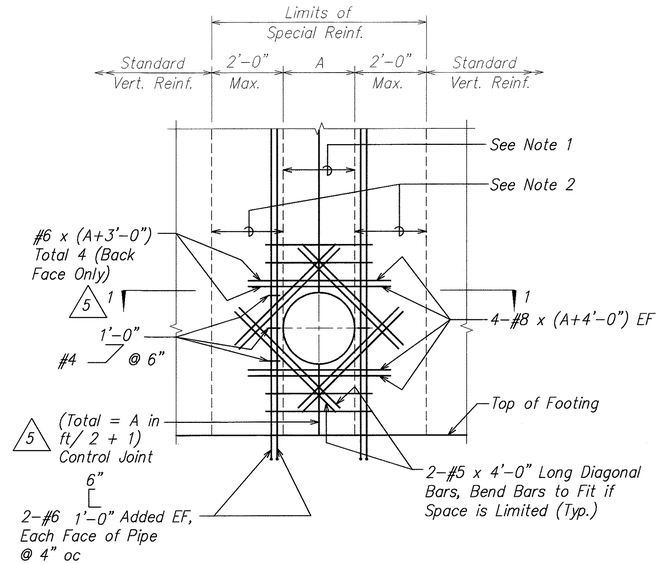
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 666 | 816 |



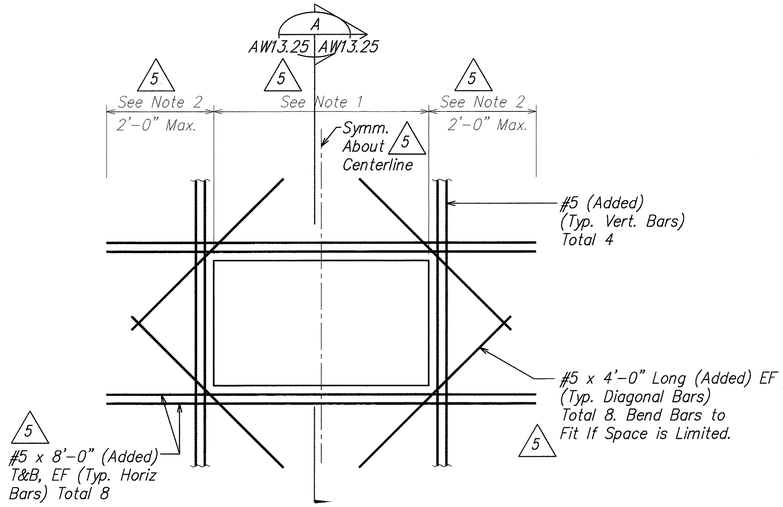

5 SECTION 1-1




Notes:

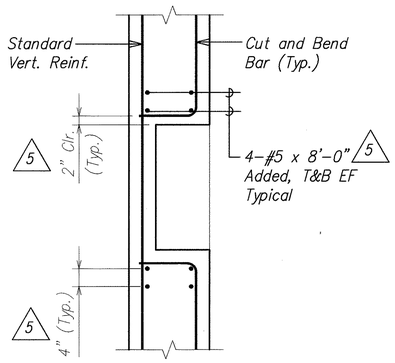
1. Standard vertical reinforcing above and below opening. (both faces)
2. Standard vertical reinforcing plus additional bars corresponding in size and number to bars cut by the opening. Place half on each side. Extend the additional bars into the footing the same as other wall reinforcement and to a minimum of 60 bar diameter above the top of utility opening if wall height permits. Bundle bars as required.
3. Horizontal reinforcing to be standard except as shown.
4. All reinforcing to clear opening by 2" minimum.
5. Expansion joints shall not be located within the limits of special reinforcing.

## RETAINING WALL UTILITY OPENING



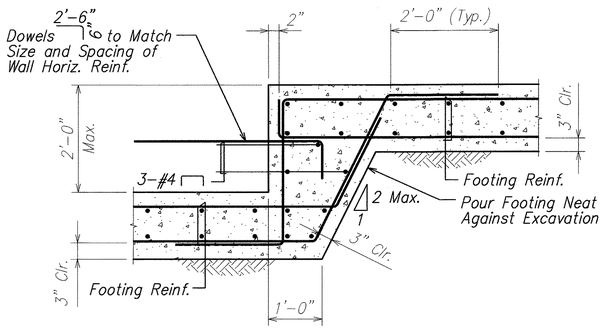

## RETAINING WALL OPENING FOR COMM. & SIGNAL PULLBOX

SCALE: 3/4" = 1'-0"




## SECTION A

SCALE: 3/4" = 1'-0" AW13.25 | AW13.25




5 TYPICAL WALL STEP FOOTING B

SCALE: 3/4" = 1'-0" AW13.25 | AW13.25

5

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| NOTE BOOK | DRAWN BY | |
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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Added Typical Wall Step Footing Detail |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## CONCRETE BARRIER WALL TYPICAL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

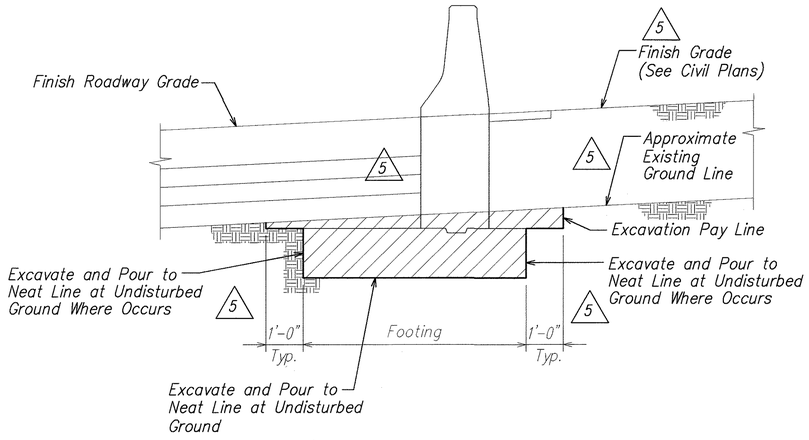
SHEET No. AW13.25 OF 140 SHEETS

ADD. 666

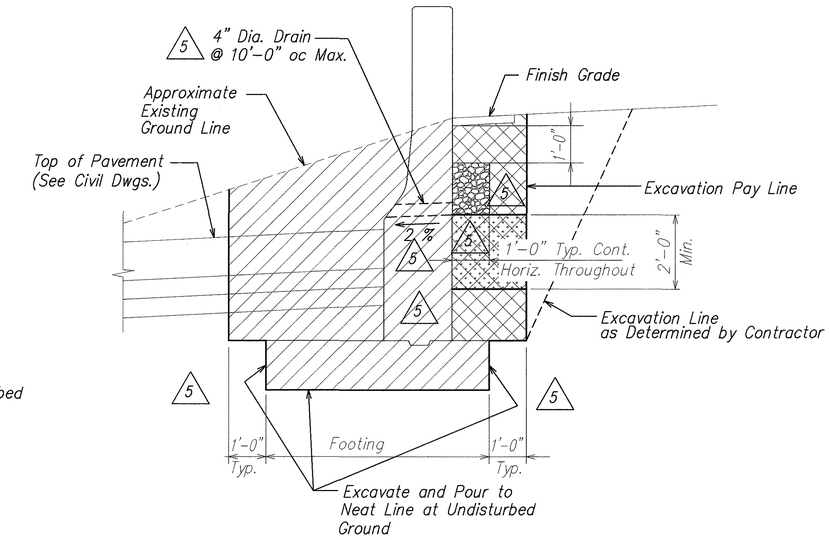
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1 = 1

\\Cad\vol\200\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW325.dwg, AW13.25, 10/15/2003 9:41:00 AM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 667 | 816 |




5 TYP. CBW-1 SECTION
(Ramp "E" ℄ Sta. 21+47.6 TO Ramp "E" ℄ Sta. 24+00




5 CBW-1 SECTION AT REVEAL
(H-1 ℄ Sta. 90+00 to H-1 ℄ Sta. 93+50)

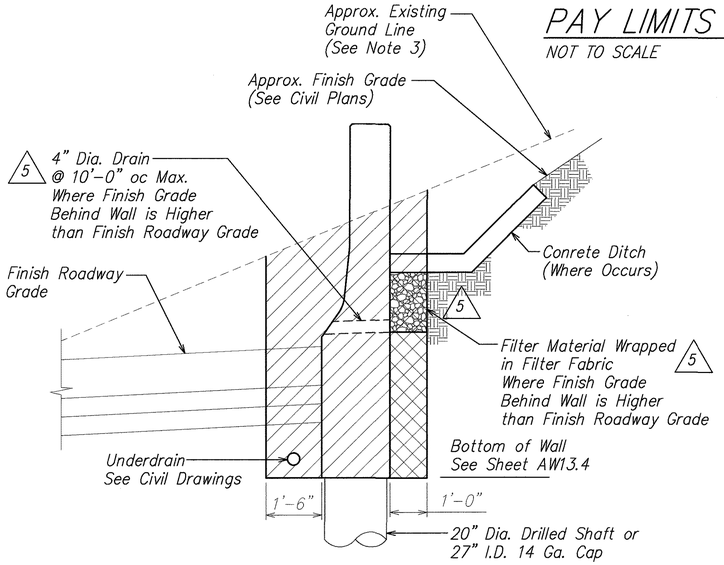
PAY LIMITS LEGEND:

- Structure Excavation
- Structure Backfill
  See Specs. Sect. 703.20
- 5 Filter Material Wrapped in Filter Fabric (Filter Fabric is incidental to Filter Material)
- 5 Impervious Material
  (See Note 1)

## STRUCTURAL EXCAVATION AND BACKFILL PAY LIMITS AT CONCRETE BARRIER WALL CBW-1 (5) (A)

NOT TO SCALE

AW13.26 | AW13.26




## (5) STRUCTURE EXCAVATION AND BACKFILL PAY LIMITS FOR CBW-2 (BETWEEN H-1 ℄ STA. 102+40 AND H-1 ℄ STA. 106+21.21 (B)

NOT TO SCALE

AW13.26 | AW13.26

(5) NOTES:

1. Impervious material as selected by the Engineer shall be made as impervious as possible by pneumatic tamping or other approved methods and shall be incidental to structure backfill.
2. Any structure excavation and backfill quantities for the walls listed below are included in segmental retaining wall quantities.
   a. CBW-1 between Ramp "E" ℄ sta. 24+00 and H-1 ℄ sta. 90+00.
   b. CBW-2 between H-1 ℄ sta. 106+21.21 and H-1 ℄ sta. 110+84.81.
3. Where existing ground line is below bottom of wall, these are no structure excavation quantities for the concrete barrier wall.
4. For additional details and pay limits, See standard plans B-03.

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SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | (5) Clarification and Added Notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE BARRIER WALL EXCAVATION AND BACKFILL PAY LIMITS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW13.26 OF 140 SHEETS

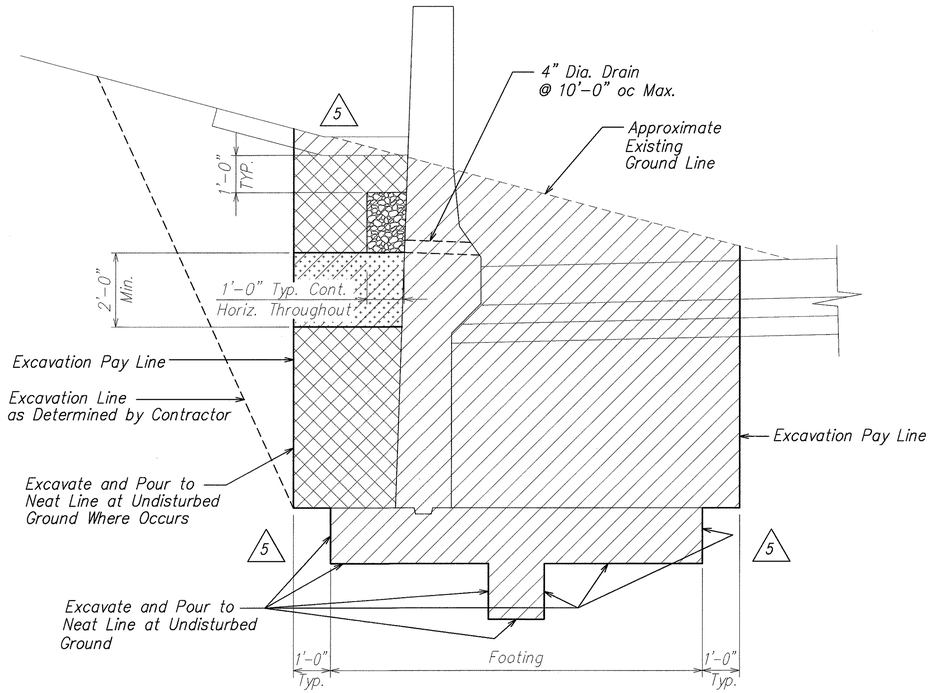
ADD. 667

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AW1326.DWG
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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 668 | 816 |




PAY LIMITS LEGEND:

- Structure Excavation
- Structure Backfill
  See Specs. Sect. 703.20
- Filter Material Wrapped in Filter Fabric (Filter Fabric is incidental to Filter Material) 5
- Impervious Material (See Note 1) 5

5 NOTES:

1. Impervious material as selected by the Engineer shall be made as impervious as possible by pneumatic tamping or other approved methods and shall be incidental to structure backfill.
2. Where existing ground line is below bottom of wall, these are no structure excavation quantities for the concrete barrier wall.
3. For additional details and pay limits, See standard plans B-03.

STRUCTURAL EXCAVATION AND BACKFILL
PAY LIMITS AT CONCRETE BARRIER WALL CBW-3, CBW-4 & CBW-5 (A)

NOT TO SCALE

AW13.27 AW13.27

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
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HAWAII, U.S.A.

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Backfill Pay Limits and Clarification of Notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE BARRIER WALL
EXCAVATION AND BACKFILL PAY LIMITS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

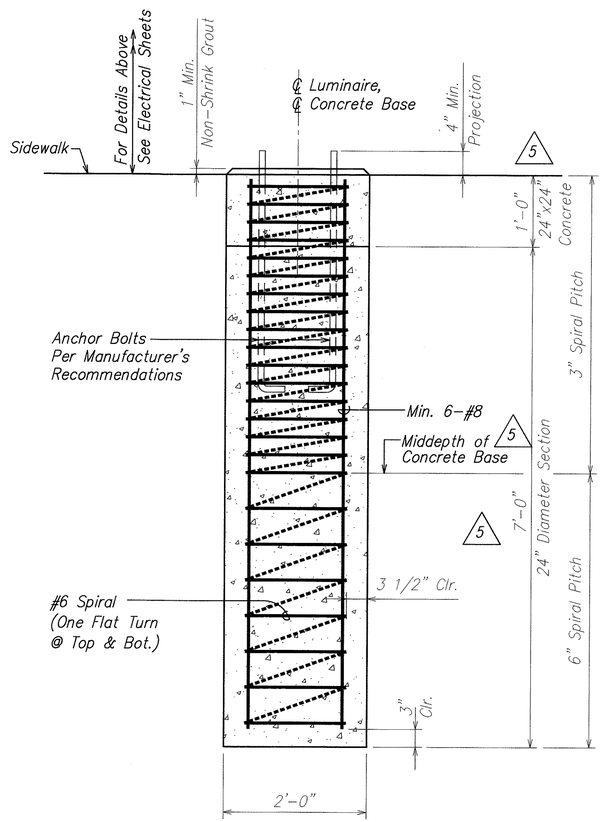
SHEET No. AW13.27 OF 140 SHEETS

ADD. 668

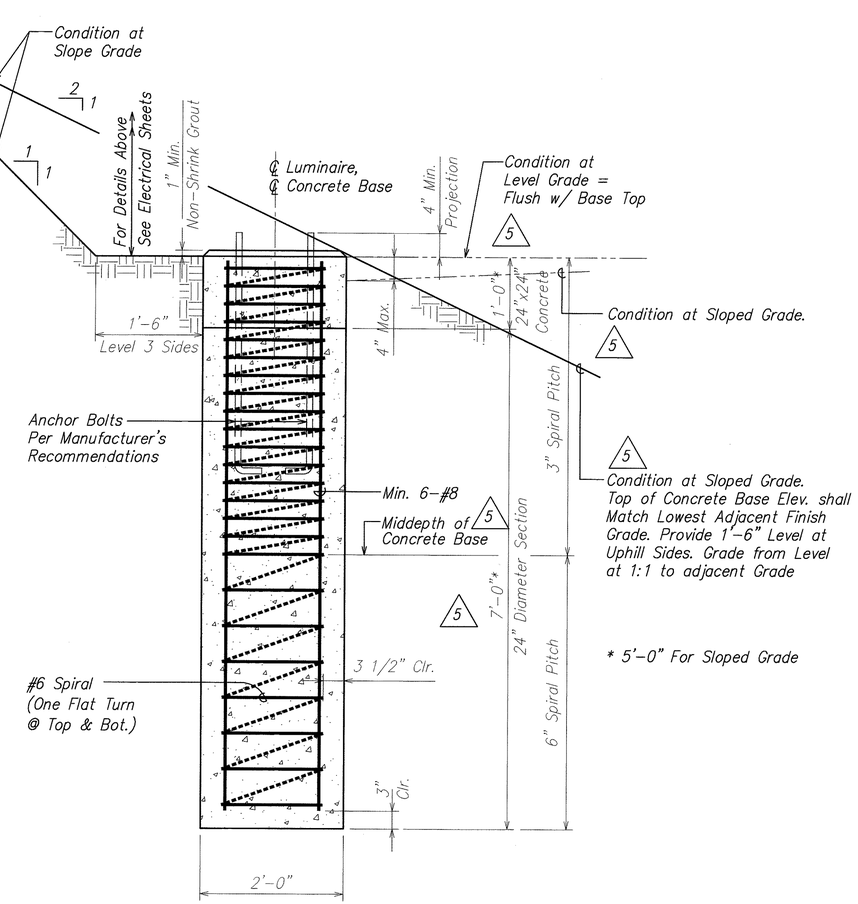
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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 669 | 816 |




CONDITION AT SIDEWALK




CONDITION AT OTHER LOCATION

Condition at Sloped Grade. Top of Concrete Base Elev. shall Match Lowest Adjacent Finish Grade. Provide 1'-6" Level at Uphill Sides. Grade from Level at 1:1 to adjacent Grade

* 5'-0" For Sloped Grade

NOTES:

1. Reinforcing Shall be Grade 60.
2. Concrete shall be minimum 4500 psi at 28 days.
3. See AE6.12 for grounding and weeps.
4. Loading Criteria:
   Highway Sign supports shall be designed in accordance with AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 4th Edition with subsequent interim revisions. Design parameters shall be in accordance with the following requirements.
   (1) Basic Wind Speed: 105 mph.
   (2) Recurrence Interval: 100 years.
   (3) Height and Exposure Factor: For Highway Sign support structures on bridges, the height and exposure factor shall be determined based on the maximum height above the surrounding ground.
   (4) Fatigue Importance Factors: Highway Sign support structures shall be based on the following:
      a. Fatigue Category I – For all structures where failure would result in the structure falling into the travel way.
      b. Fatigue Category II – For all others.
   (5) Galloping: Highway Sign support shall be designed for galloping-induced cyclic loads.
   (6) Vortex Shedding: Nontapered lighting structures shall be designed to resist vortex shedding loads including lighting structures that have tapers less than 0.14 in./ft.
   (7) Natural Wind Gust: Highway Sign support structures shall be designed to resist an equivalent static natural wind gust pressure.
   (8) Truck-Induced Gust: Highway Sign support structures shall be designed to resist on equivalent static truck gust pressure range based on a truck speed of 65 mph.
   (9) See electrical sheets for locations.

# LUMINAIRE CONCRETE BASE (AT RAMP "E", H-1 FREEWAY, AND PONOHALE ST.)

SCALE: 1" = 1'-0"

A
AW14.1 | AW14.1

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | | REVISION |
|---|---|---|
| 10/16/03 | 5 | Revised Dimension |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

AT GRADE LUMINAIRE FOUNDATION DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

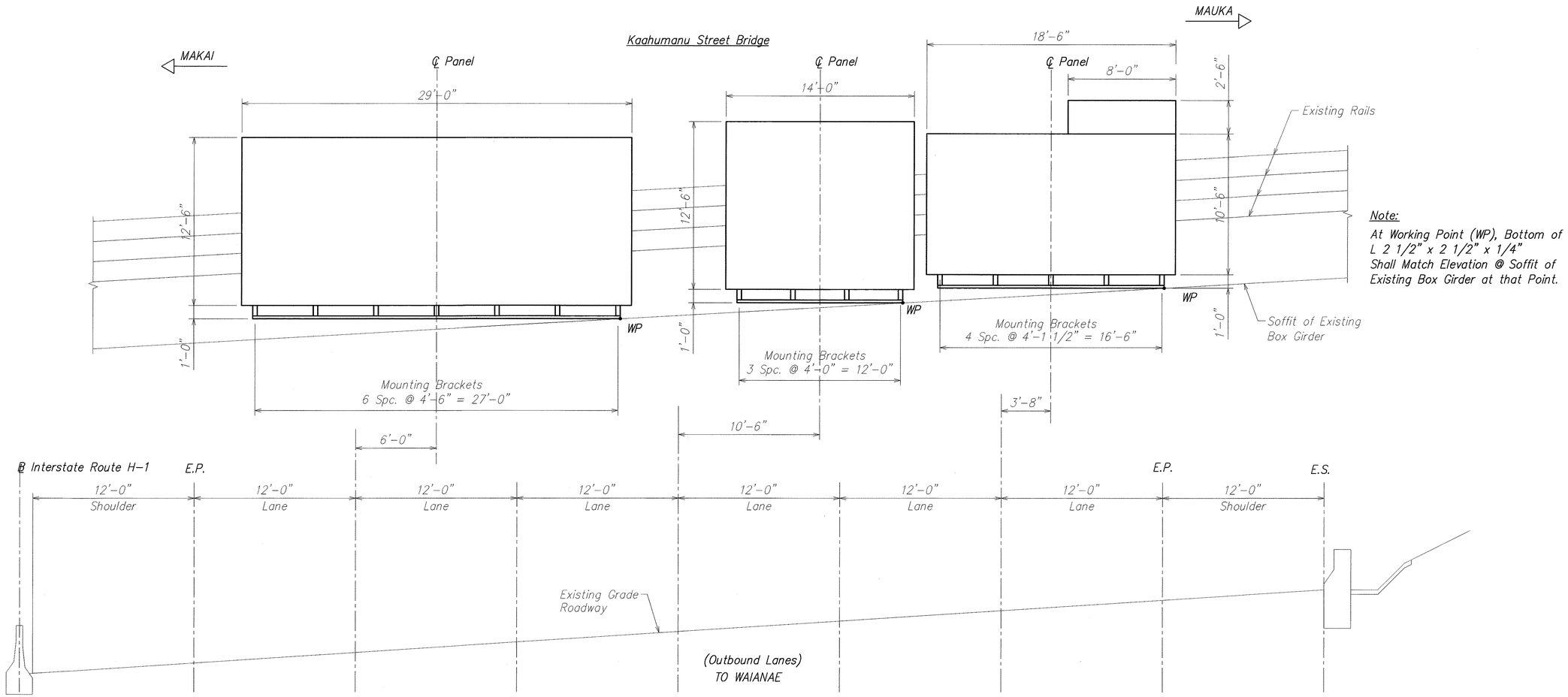
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ADD. 669

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|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 670 | 816 |




Note:
At Working Point (WP), Bottom of L 2 1/2" x 2 1/2" x 1/4" Shall Match Elevation @ Soffit of Existing Box Girder at that Point.

Note:
1. For Locations of Luminaires, See AE6.22.
2. See AC9.5, AC9.11 and AC9.12 for additional information.

## SIGN PANEL ELEVATIONS

SCALE: 1/4" = 1'-0"

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| | CHECKED BY | |

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HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FIXED MESSAGE SIGN PANEL ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

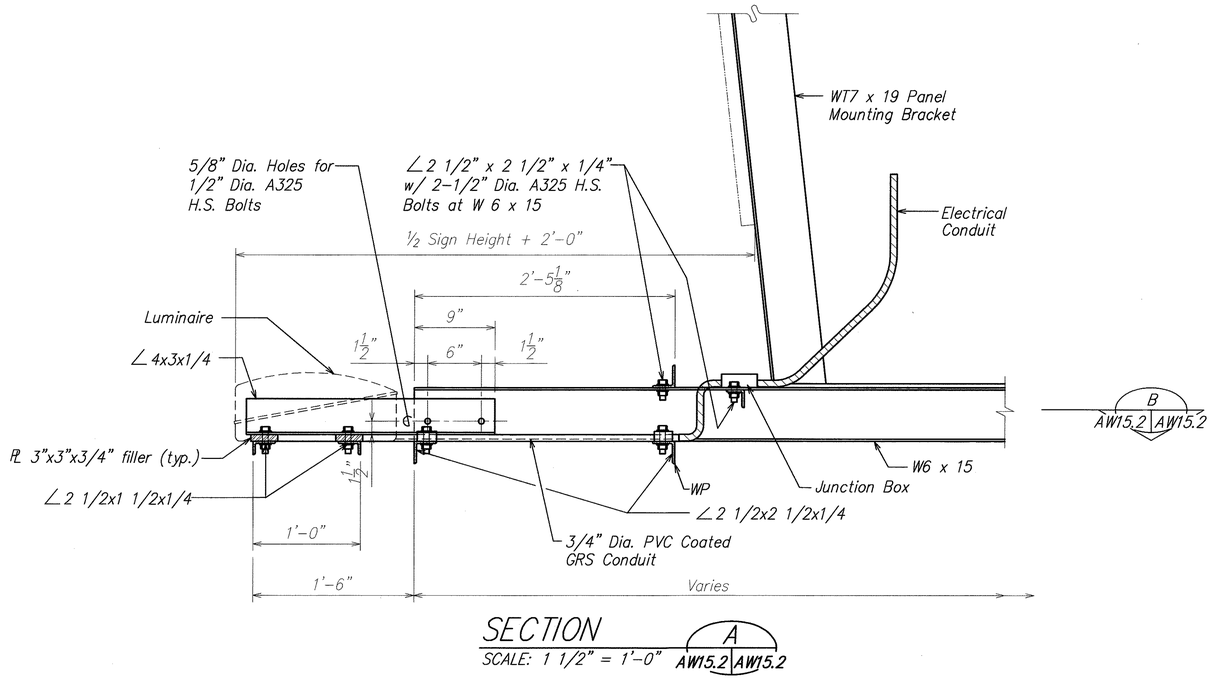
SHEET No. AW15.1 OF 140 SHEETS

670

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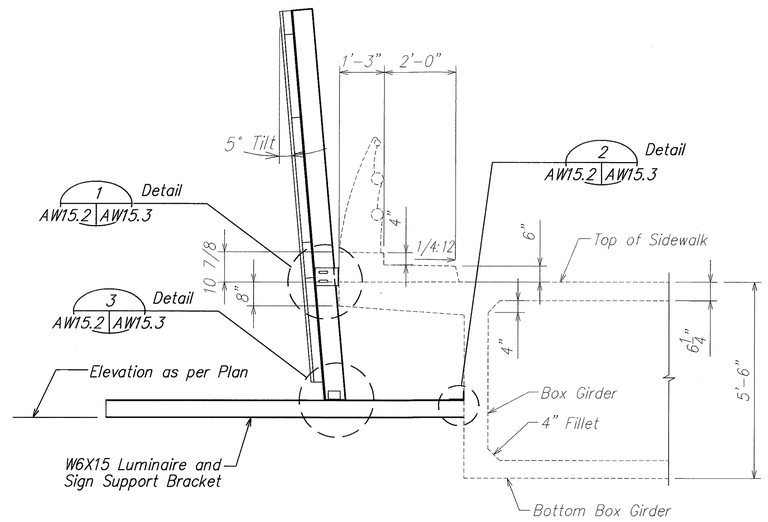
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 671 | 816 |




SECTION B
AW15.2 | AW15.2

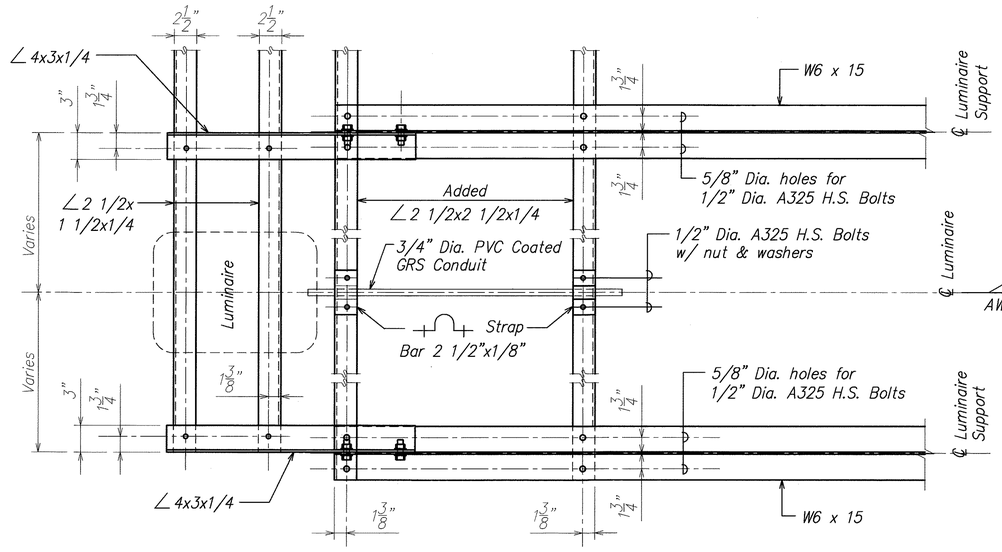
SECTION A
SCALE: 1 1/2" = 1'-0"
AW15.2 | AW15.2




## EXPRESSWAY SIGN – MOUNTING BRACKET ASSEMBLY

SCALE: 1/2" = 1'-0"

C
AW15.2 | AW15.2




PLAN – SECTION B
SCALE: 1 1/2" = 1'-0"
AW15.2 | AW15.2

A
AW15.2 | AW15.2

## FIXED MESSAGE LUMINAIRE SUPPORT

Notes:

1. All angles, beams, brackets, pipes, straps, clamps, plates, bolts & nuts shall be hot-dip galvanized after fabrication and prior to painting.
2. Galvanized surfaces of sign frames and supports shall be painted, see standard specifications.
3. All damaged areas shall be cleaned and painted with two coats of zinc oxide-zinc dust paint.
4. All damaged areas shall receive three coats of flat green enamel.
5. For additional details see sheet no. AW15.3.
6. For locations of luminaires, see electrical drawings.

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FIXED MESSAGE LUMINAIRE SUPPORT

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

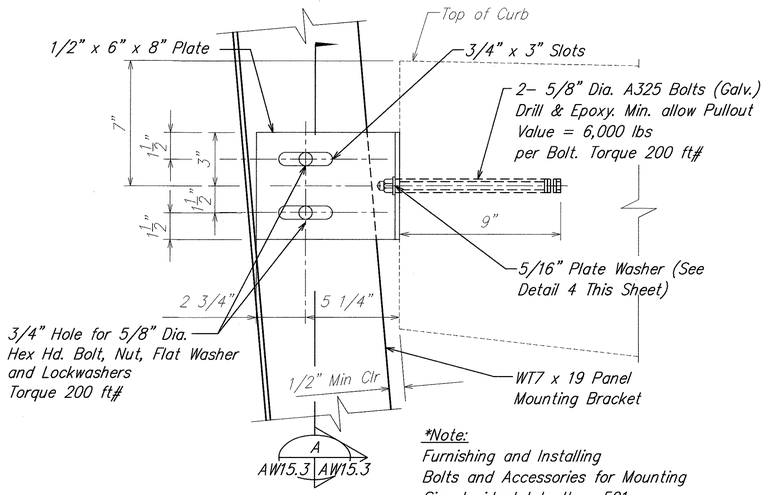
SHEET No. AW15.2 OF 140 SHEETS

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

W:\...AW15O2.DWG
1 = 1

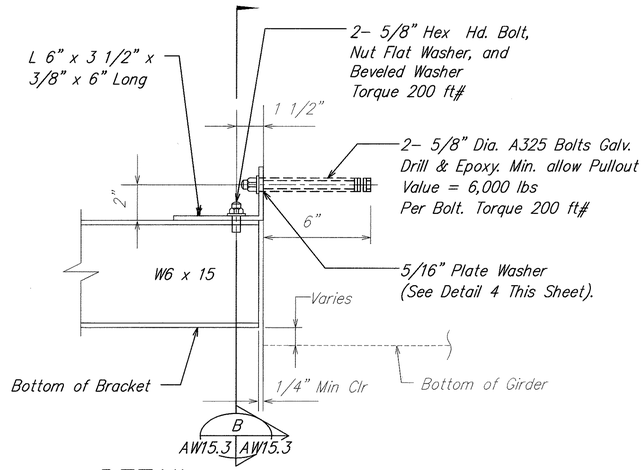
671

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 672 | 816 |

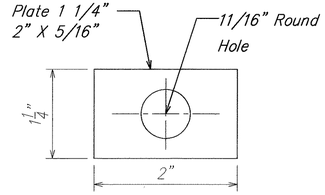



DETAIL 1
SCALE: 3" = 1'–0" AW15.2 AW15.3

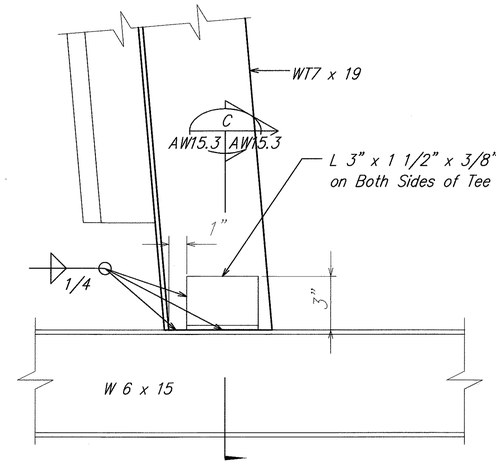
*Note:
Furnishing and Installing Bolts and Accessories for Mounting Sign Incidental to Item 501 Panel for Expressway Sign. (Applicable to Details "1" and "2").



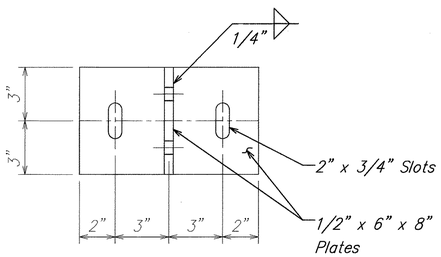

DETAIL 2
SCALE: 3" = 1'–0" AW15.2 AW15.3



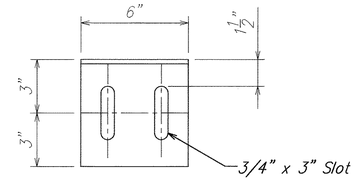

DETAIL – PLATE WASHER 4
SCALE: 1" = 1" AW15.3 AW15.3



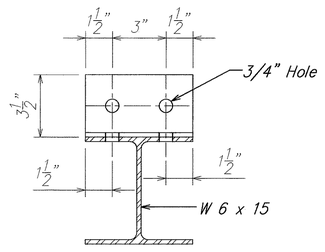

DETAIL 3
SCALE: 3" = 1'–0" AW15.2 AW15.3



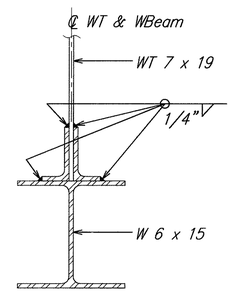

SECTION A
SCALE: 3" = 1'–0" AW15.3 AW15.3




TOP VIEW




SECTION B
SCALE: 3" = 1'–0" AW15.3 AW15.3




SECTION C
SCALE: 3" = 1'–0" AW15.3 AW15.3

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

WV–AW1503.DWG
1 = 1

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104–S
HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# FIXED MESSAGE LUMINAIRE SUPPORT DETAILS

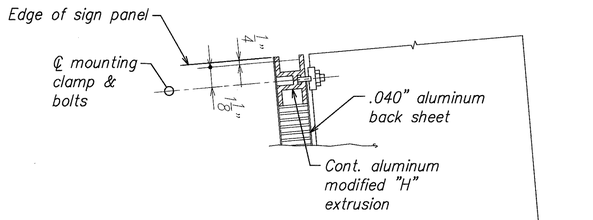
INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

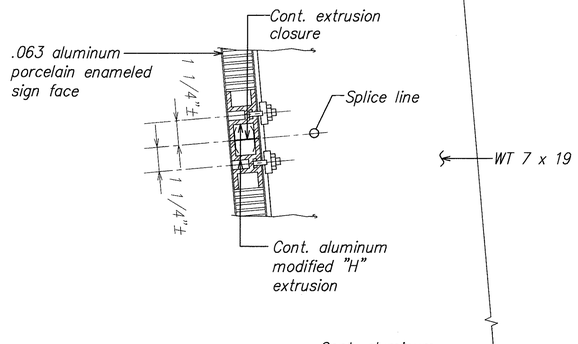
Scale: As Noted Date: Mar. 31, 2003

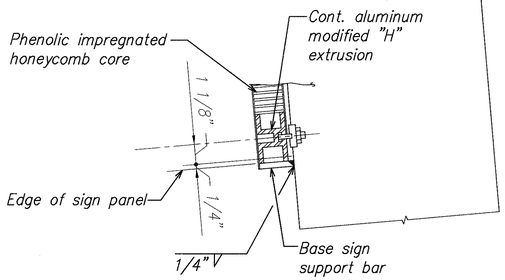
SHEET No.AW15.3 OF 140 SHEETS

672

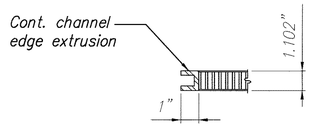
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 673 | 816 |



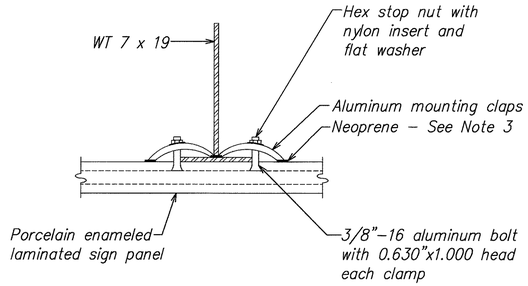



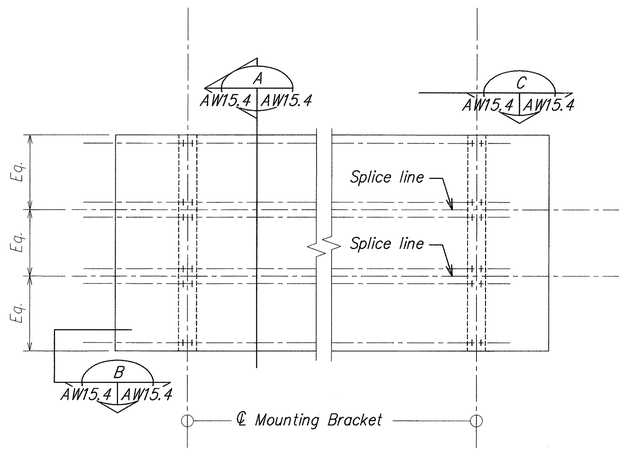

SECTION A
SCALE: 3" = 1'-0" AW15.4 | AW15.4




SECTION B
SCALE: 3" = 1'-0" AW15.4 | AW15.4




SECTION C
SCALE: 3" = 1'-0" AW15.4 | AW15.4




SIGN PANEL D
SCALE: N.T.S. AW15.4 | AW15.4

NOTES:

1. Laminated panel sign depths more than 60" require additional mounting clamps located 1 1/4"± each side of panel splice line. Exact location is dependent on sign panel manufacturer.
2. Torque aluminum sign panel mounting bolt to 100 inch–lbs.
3. Aluminum members and surfaces in contact with structural steel shall be isolated with neoprene material as directed by Engineer.

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

AB-W1504.DWG
1 = 1

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara
SIGNATURE

4-30-04
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# FIXED MESSAGE SIGN PANEL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

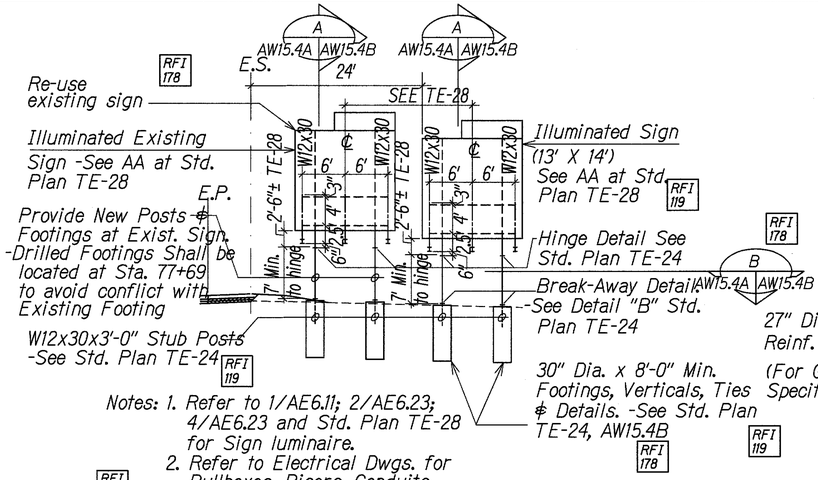
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW15.4 OF 140 SHEETS

673

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 673 S-1 | 816 |

RFI 178 RFI 119

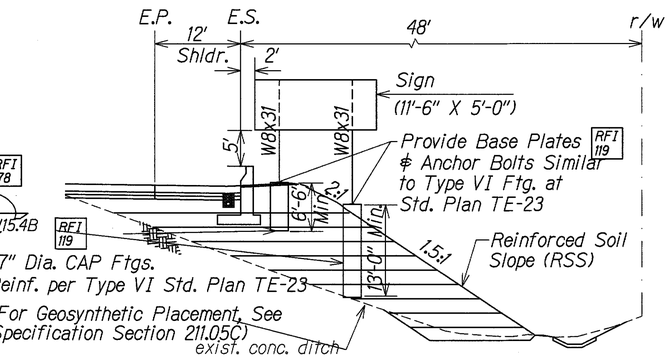



Notes: 1. Refer to 1/AE6.11; 2/AE6.23; 4/AE6.23 and Std. Plan TE-28 for Sign luminaire.
2. Refer to Electrical Dwgs. for Pullboxes, Risers, Conduits.

RFI 178

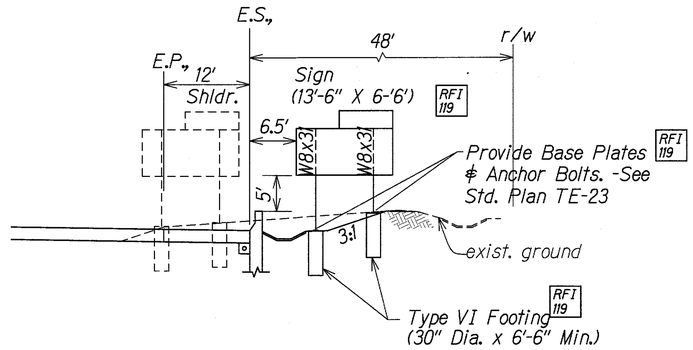
## Sign Layout H-1 ℄ Sta. 77+69±

Scale: 1" = 10'



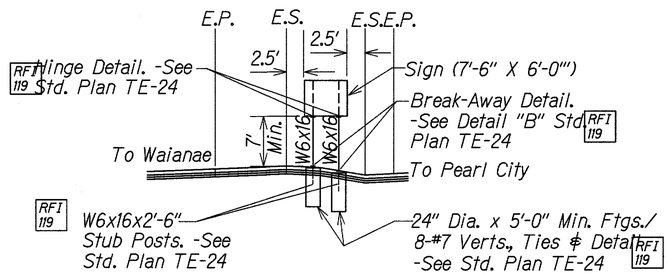

## Sign Layout H-1 ℄ Sta. 106+00±

Scale: 1" = 10'



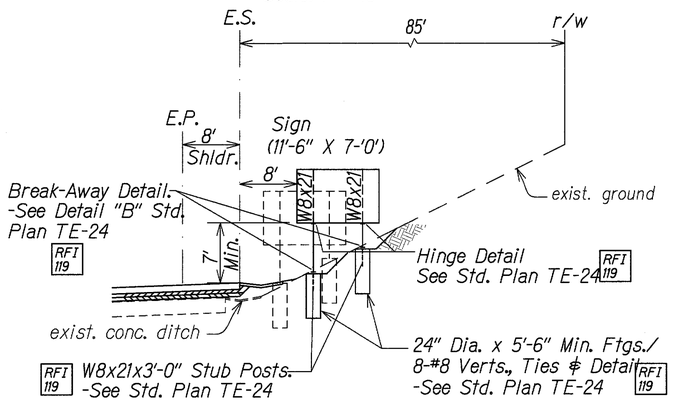

## Sign Layout H-1 ℄ Sta. 103+10±

Scale: 1" = 10'



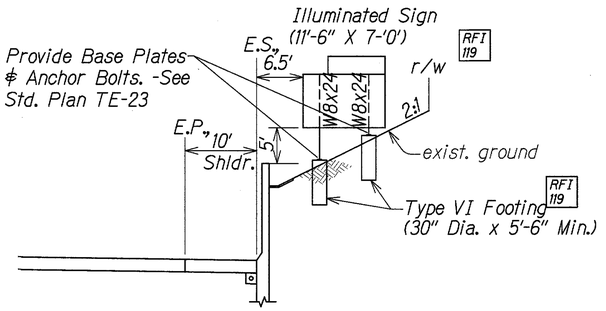

## Sign Layout H-1 ℄ Sta. 84+75±

Scale: 1" = 10'




## Sign Layout Ramp "E" ℄ Sta. 18+97±

Scale: 1" = 10'




## Sign Layout H-1 ℄ Sta. 128+50±

Scale: 1" = 10'

Graphic Scale

1" = 10' 10' 5' 0 10' 20'

Scale In Feet

Notes:

1. For Dimensions Not Shown, See AC9.X Series, TE-23, TE-24, TE-26 & TE-27. RFI 119
2. For Type VI Footing, See Standard Plan TE-23.
3. RFI 119 See AW13.23 for Corrugated Aluminum Pipe (CAP) Configuration. See Type VI Footing on Standard Plan TE-23 for Reinforcing and Anchor Bolts.
4. RFI 119 Except as Indicated at Note 4.a) Below, See Site Structures Structural General Note II.c. for Structure Design Parameters.
   a.) Recurrence Interval for Roadside Sign Structure Wind Pressures: 10 Years.

| DATE | REVISIONS |
|---|---|
| 2/28/05 | RFI 178 Re: Contractor RFI 178 Clarified Sign Layout at H-1 ℄ Sta. 77+69 +/- |
| 11/15/04 | RFI 119 New Sheet Clarifying AC9.11. Revised to Break-Away At Clearzone. Provide Post/Fig. Size |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DESTINATION SIGN LAYOUTS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: 1"=10' Date: Mar. 31, 2003

STEWART N. WILLIAMS — LICENSED PROFESSIONAL ENGINEER — No. 3908-S — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — April 30, 2006 EXPIRATION DATE OF THE LICENSE

SHEET No. AW15.4A OF 140 SHEETS

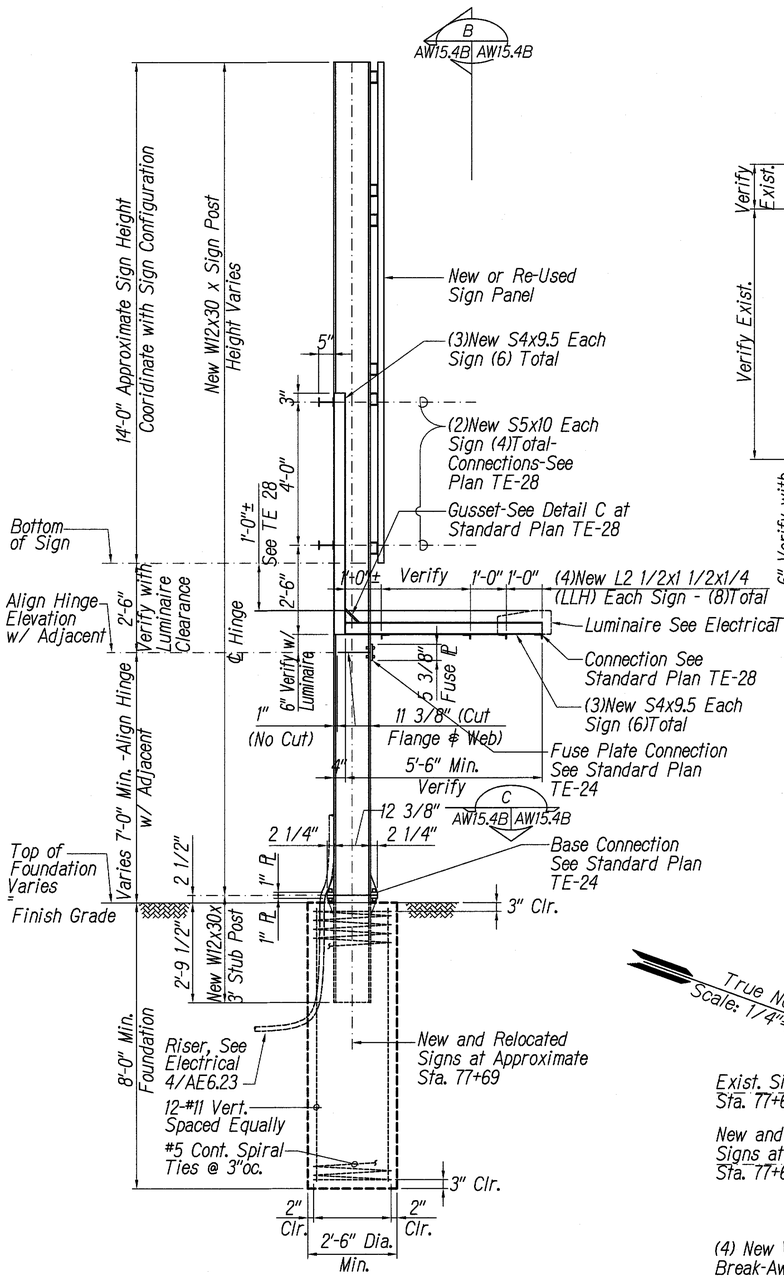
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE
NOTE BOOK | No.

RMTC JOB NO: 1-19369-OE

C.O. 673 S-1 RFI 119

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. 673 S-2 | 816 |

RFI 178

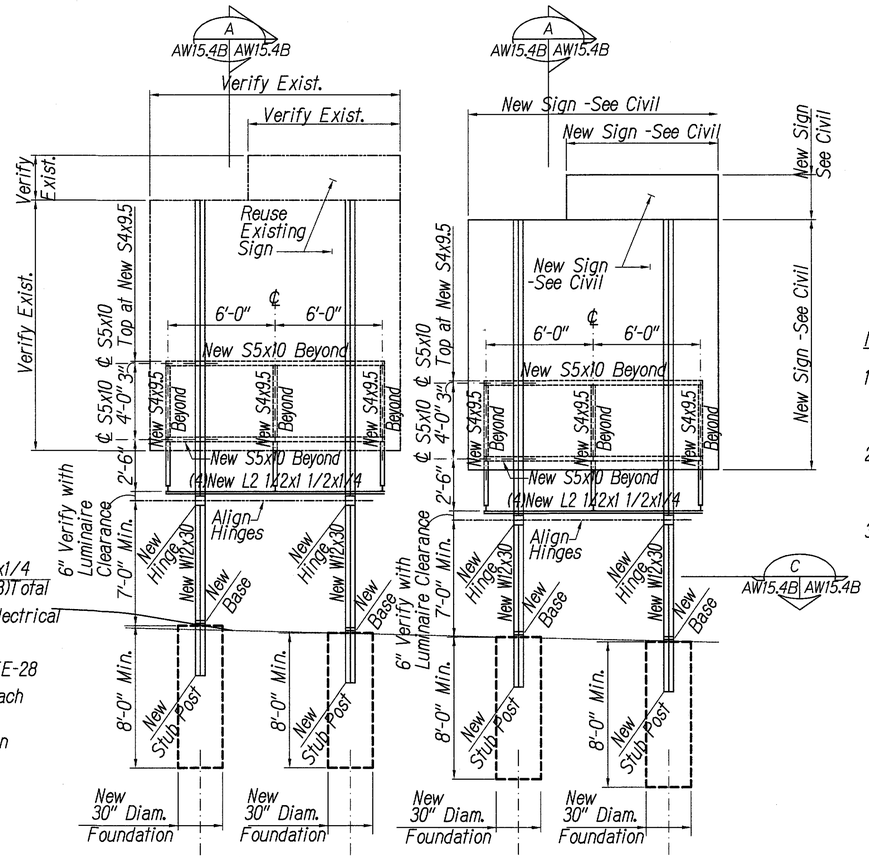



## SECTION

Scale: 1/2"= 1'-0"

A AW15.4B AW15.4B

AW15.4A




## DETAIL ELEVATION VIEWED from EAST

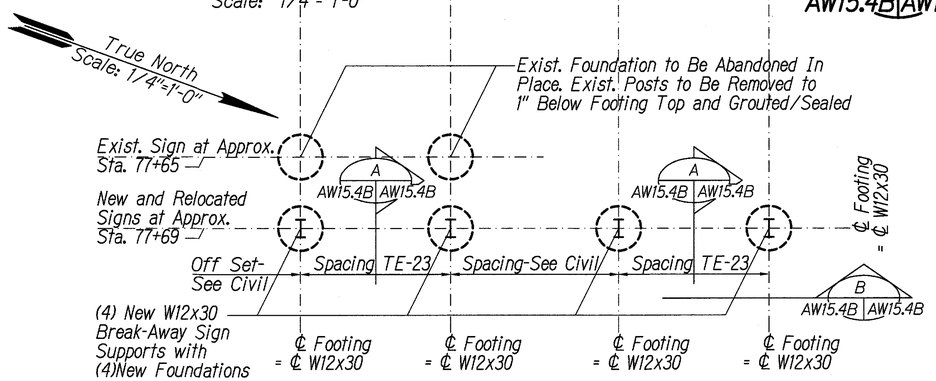
Scale: 1/4"= 1'-0"

B AW15.4B AW15.4B




## NOTES TO NEW / RELOCATED SIGNS AT APPROXIMATE STA. 77+69

1. Referenced Drawings:
   a. Civil Sheets AC9.11, AC9.12 and AC9.13.
   b. Site Structures Sheet AW15.4A
   c. Electrical Sheets 1/AE6.11, 2/AE6.23, and 4/AW6.23.
2. Referenced Standard Plans:
   a. TE-23: Sign Post Spacing, Sign Post Footing Spacing.
   b. TE-24: Break-Away Sign Supports.
   c. TE-28: Guide Signs Luminaire Mountings.
3. Refer to Electrical Drawings for Pull boxes, Riser, Conduits and grounding requirements.




## PLAN @ APPROXIMATE STA. 77+69

Scale: 1/4"= 1'-0"

C AW15.4B AW15.4B

AW15.4A

2 1 0 2 4
SCALE: 1/2"= 1'-0"

4 3 2 1 0 4 8
SCALE: 1/4"= 1'-0"

| DATE | REVISIONS |
|---|---|
| 2/28/05 | RFI 178 Added New Detail Sheet Re: Contractor RFI 178 |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DESTINATION SIGN LAYOUTS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale:
Date: Mar. 31, 2003

SHEET No. AW15.4B OF 140 SHEETS

STEWART N. WILLIAMS
LICENSED PROFESSIONAL ENGINEER
No. 3908-S
HAWAII, U.S.A.

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SIGNATURE — April 30, 2006 EXPIRATION DATE OF THE LICENSE

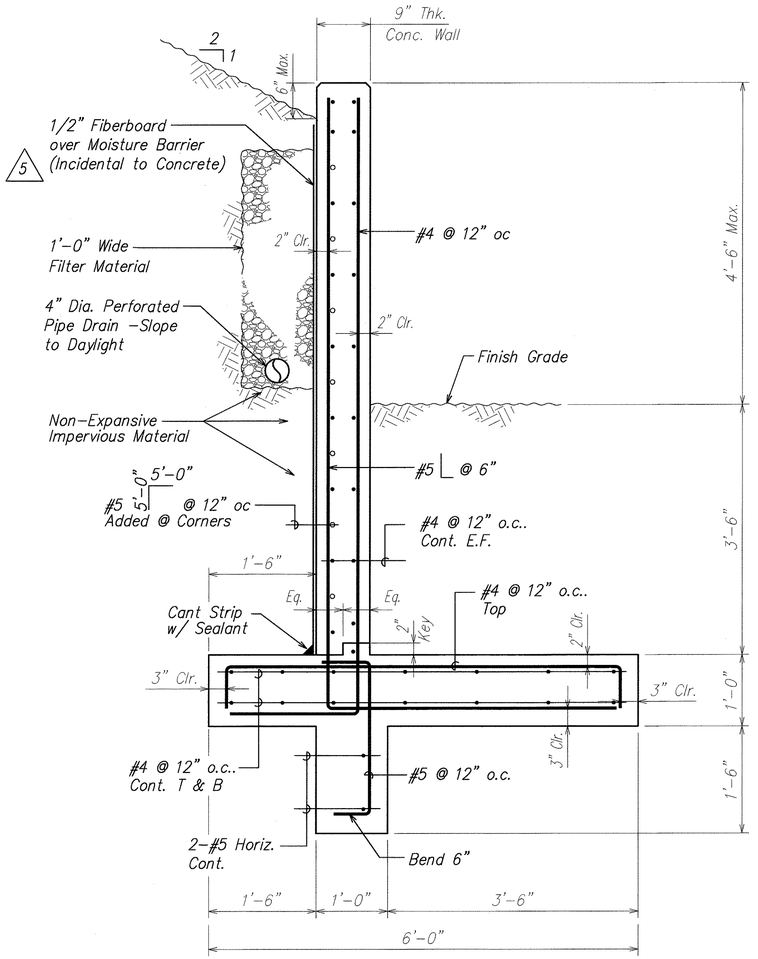
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ORIGINAL PLAN
NOTE BOOK
No.

RMTC JOB NO: 1-19369-OE

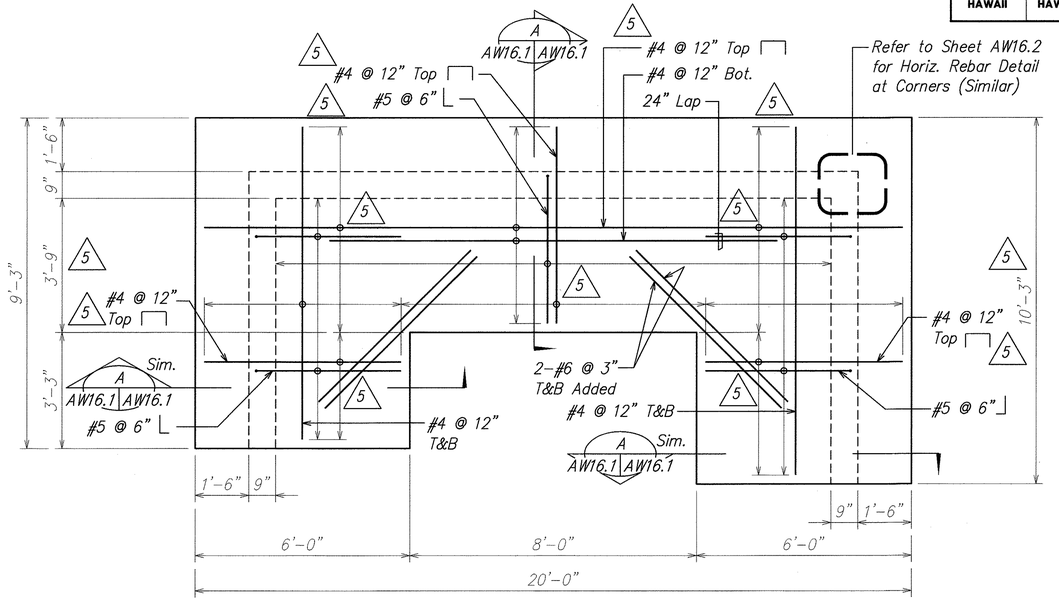
RFI 178 C.O. 673 S-2

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 674 | 816 |



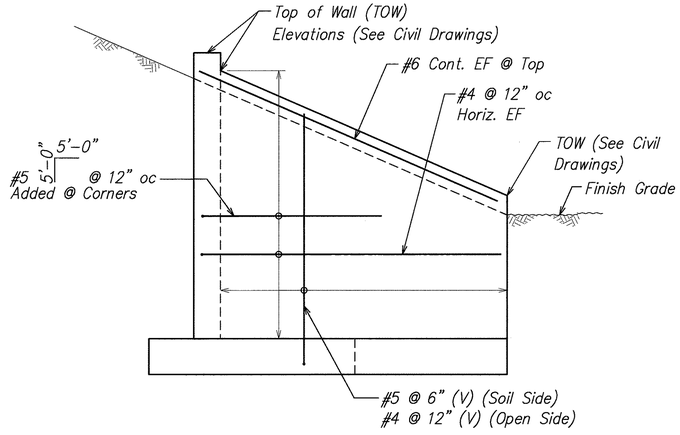

RETAINING WALL AT WIM STATION (A, AW16.1 | AW16.1)

SCALE: 1" = 1'-0"




PLAN - FOOTING REINFORCING (B, AW16.1 | AW16.1)

SCALE: 1/2" = 1'-0"




WIM - SIDEWALL REINFORCING (C, AW16.1 | AW16.1)

SCALE: 1/2" = 1'-0"

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# WIM STRUCTURE SECTION, PLAN AND ELEVATION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

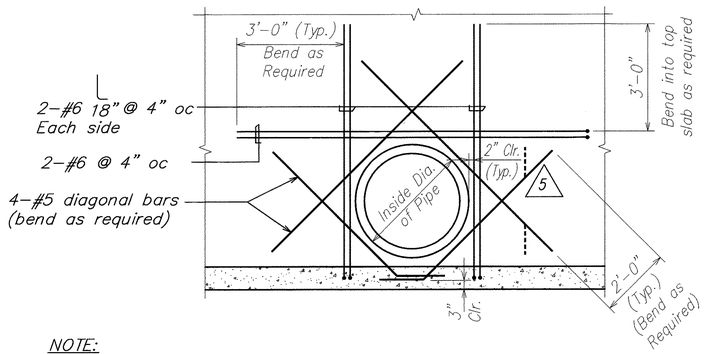
SHEET No. AW16.1 OF 140 SHEETS

ADD. 674

\\Cad\ksf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1601.dwg, ADD5 AW16.1, 10/14/2003 4:26:30 PM, KSFinc.pc3

AB-AW1601.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 675 | 816 |



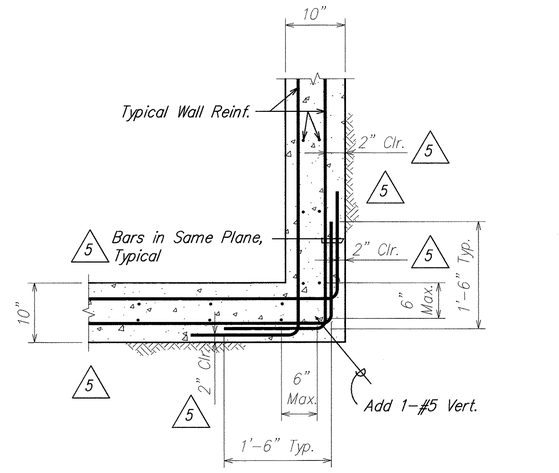

NOTE:

2" Clearance Between Pipe and Reinf.

## TYPICAL SECTION – ADDED REINFORCING FOR PIPE OPENINGS

SCALE: 1/2" = 1'-0"

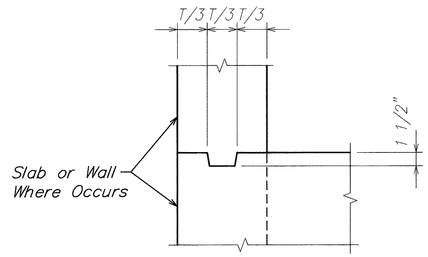
A — AW16.2 | AW16.2




## TYPICAL CORNER REINFORCEMENT LAPPING (DOUBLE CURTAIN)

SCALE: 1" = 1'-0"

C — AW16.2 | AW16.2



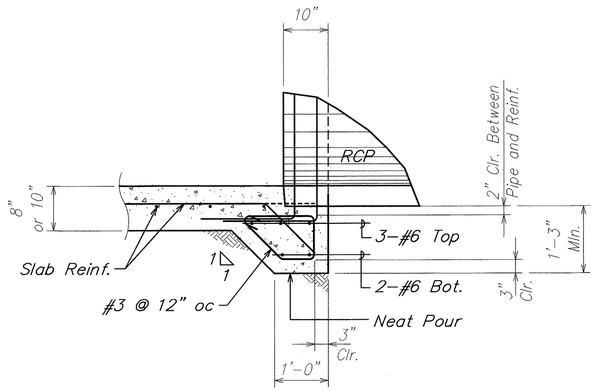

## TYPICAL KEY DETAIL

SCALE: 1 1/2" = 1'-0"

E — AW16.20 | AW16.2 | AW16.21 | 5

TYPICAL NOTES FOR DRAINAGE STRUCTURES

1. For all pre-cast portions of any drainage structure any gap left between the structure and pipe after the installation of the pipe shall be filled with concrete of equal strength as used for the pre-cast portion of the structure. No brick and mortar repairs or CMU shall be used.
2. Refer to State of Hawaii, Department of Transportation, Highways Division Standard Plans H-09 for Steel Grate and Frames.
3. Manhole rungs shall be spaced @ 12" oc, See H-08 (Std. Plans) for manhole rungs details.

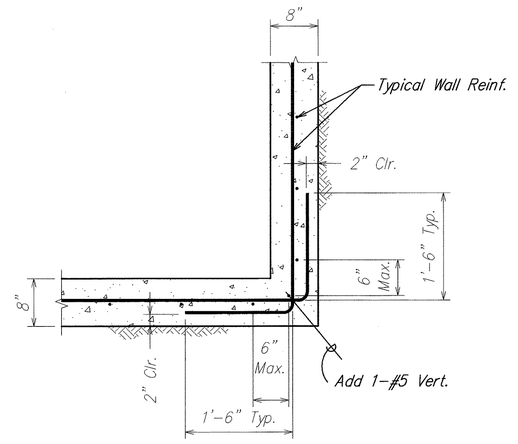



## TYPICAL SECTION – THICKENED EDGE FOR DRAIN MANHOLES AND GRATED DROP INLETS

SCALE: 3/4" = 1'-0"

B — AW16.3 | AW16.2

AW16.3A, AW16.3B, AW16.4 thru AW-A6.21 | 5




## TYPICAL CORNER REINFORCEMENT LAPPING (SINGLE CURTAIN)

SCALE: 1" = 1'-0"

D — AW16.2 | AW16.2

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | * * * * * |
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| | DESIGNED BY | |
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAINAGE STRUCTURE TYPICAL DETAILS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

SHEET No. AW16.2 OF 140 SHEETS

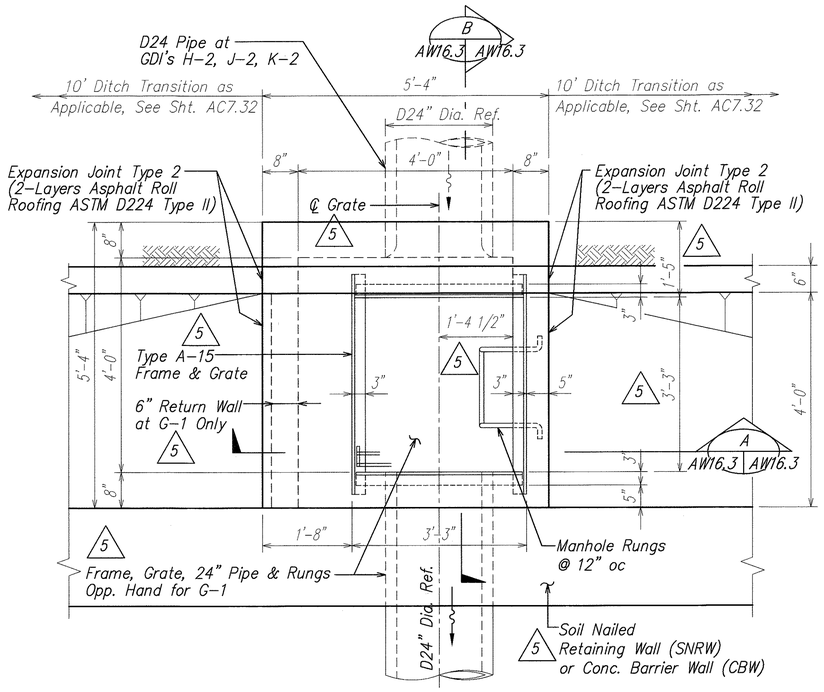
| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Reference |

ADD. 675

AB-AW16.2*.DWG
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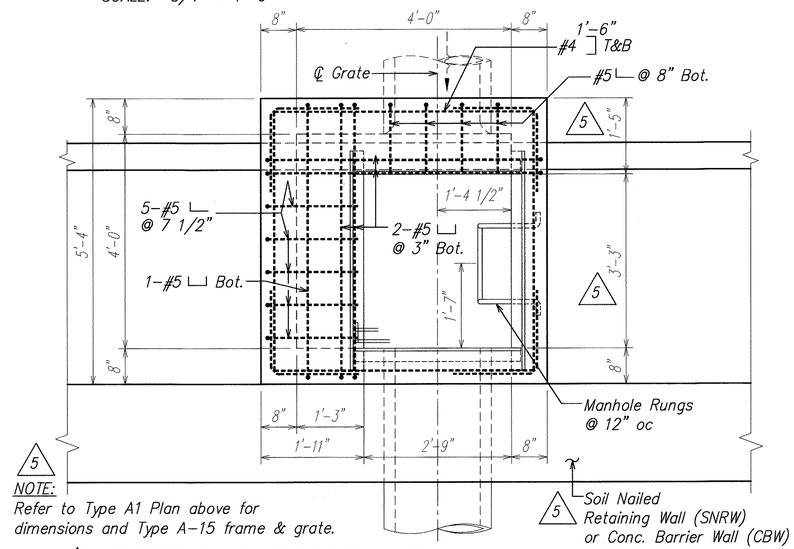
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 676 | 816 |



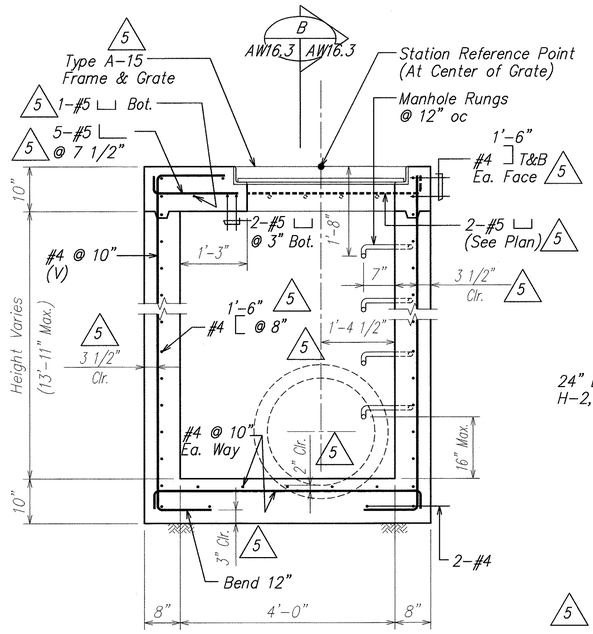

## 5 TYPE A-1 PLAN (GDI'S A-1, G-1, H-2, J-2, K-2 & E-11)

SCALE: 3/4" = 1'-0"



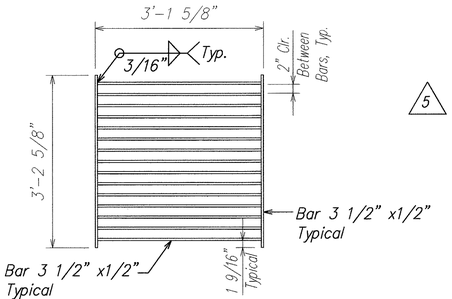

## 5 TYPE A-1 SECTION PLAN (GDI'S A-1, G-1, H-2, J-2, K-2 & E-11)

SCALE: 3/4" = 1'-0"




## SECTION A

SCALE: 3/4" = 1'-0" AW16.3 AW16.3

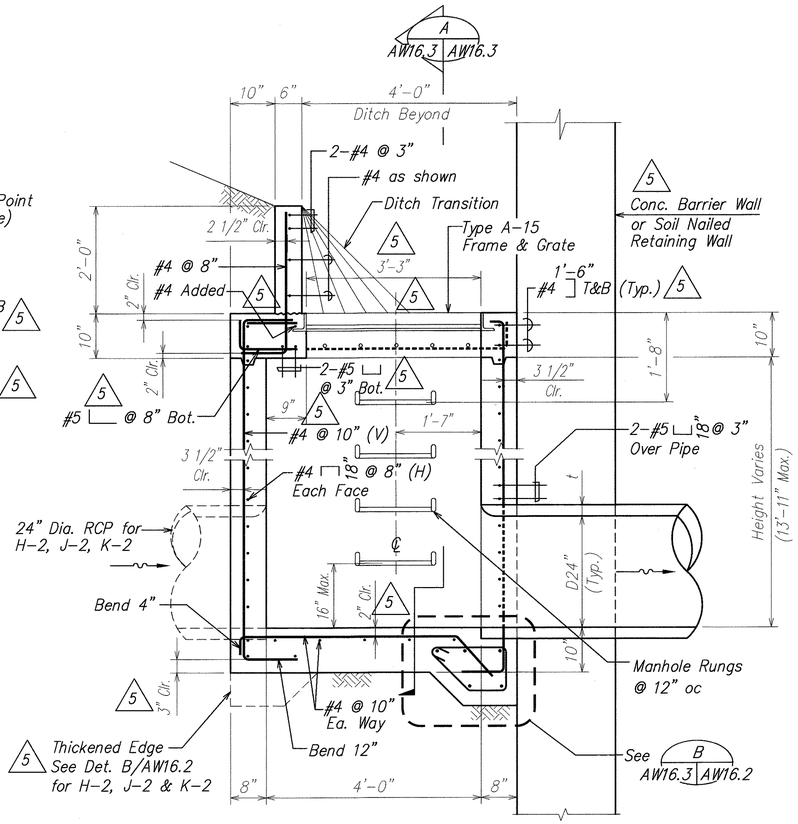



## 5 A-15 STEEL GRATE PLAN

SCALE: 3/4" = 1'-0"

## GRATED DROP INLET (GDI) -- TYPE A-1

SCALE: 3/4" = 1'-0"




## SECTION B

SCALE: 3/4" = 1'-0" AW16.3 AW16.3

NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.
2. Type A-15 frame & grate, bars, spacing and angles similar to Type A-9. See standard plan H-09.

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David K. Fujiwara 4-30-04

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NOTE BOOK | No.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# GRATED DROP INLET - TYPE A1
# GDI - A-1, G-1, H-2, J-2, K-2 & E-11

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW16.3 OF 140 SHEETS

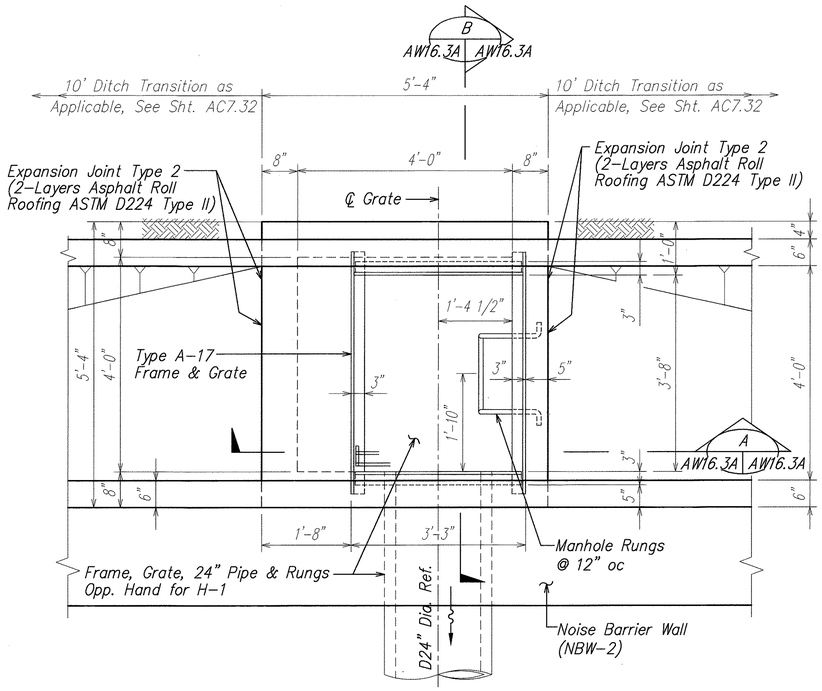
| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes |

ADD. 676

AB-AW1603.DWG 1 = 1

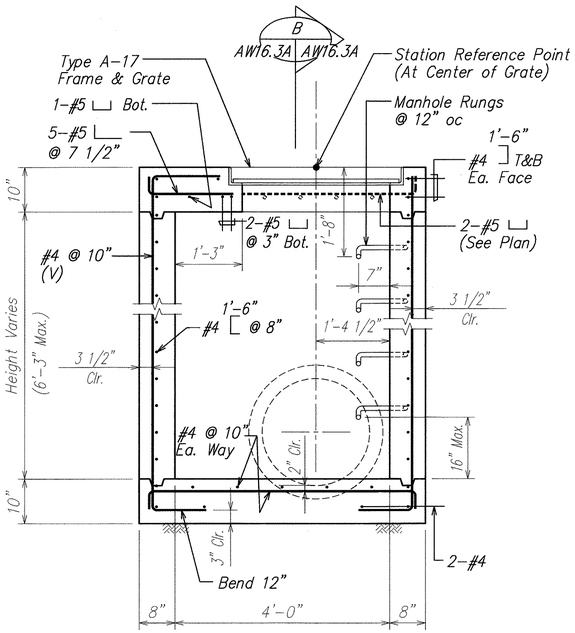
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 676S-1 | 816 |



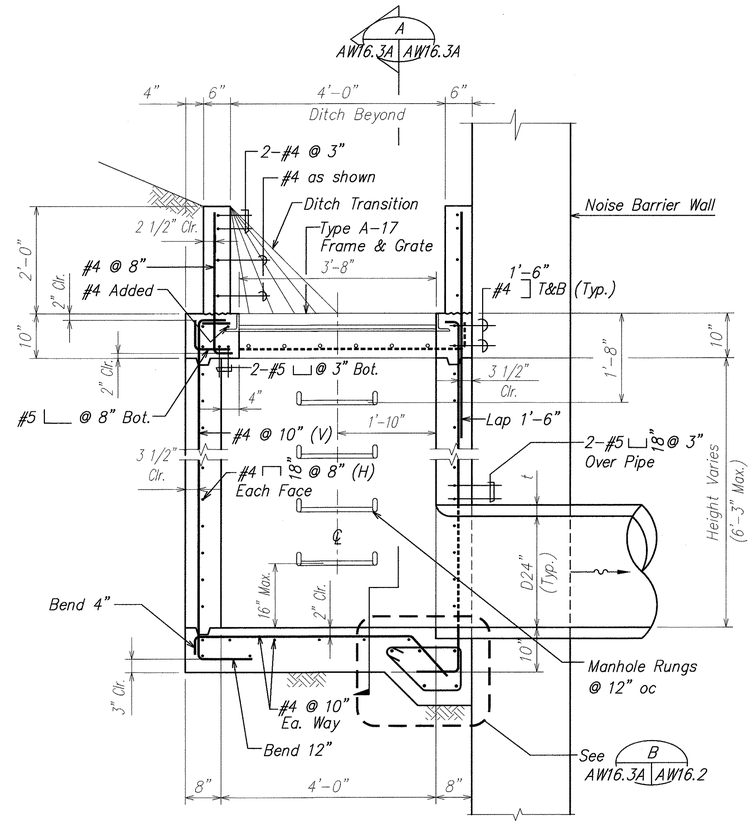

## TYPE A-1 PLAN (GDI'S H-1, J-1 & K-1)

SCALE: 3/4" = 1'-0"



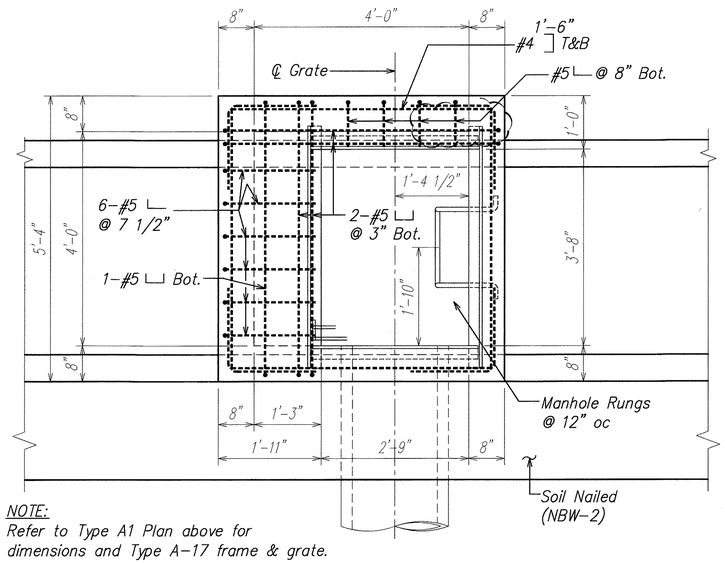

## SECTION A

SCALE: 3/4" = 1'-0" AW16.3A AW16.3A




## SECTION B

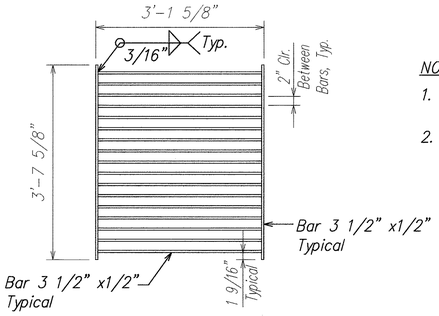
SCALE: 3/4" = 1'-0" AW16.3A AW16.3A




NOTE:
Refer to Type A1 Plan above for dimensions and Type A-17 frame & grate.

## TYPE A-1 SECTION PLAN (GDI'S H-1, J-1 & K-1)

SCALE: 3/4" = 1'-0"




## A-17 STEEL GRATE PLAN

SCALE: 3/4" = 1'-0"

## GRATED DROP INLET (GDI) - TYPE A-1

SCALE: 3/4" = 1'-0"

1 AW16.3A AW16.3A

NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.
2. Type A-17 frame & grate, bars, spacing and angles similar to Type A-9. See standard plan H-09.

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SIGNATURE EXPIRATION DATE OF THE LICENSE

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| No. | TRACED BY | |
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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 New Sheet |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GRATED DROP INLET - TYPE A1
GDI - H-1, J-1 & K-1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

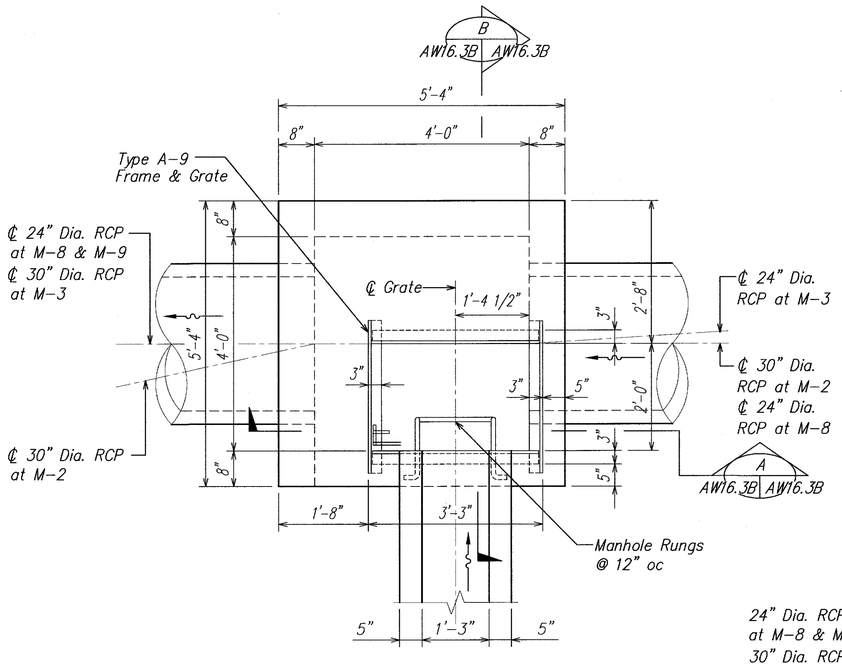
SHEET No. AW16.3A OF 140 SHEETS

ADD. 676S-1

\\Cad\xsf\200\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1603A.dwg, AW16.3, 10/14/2003 4:29:22 PM, KSFinc.pc3

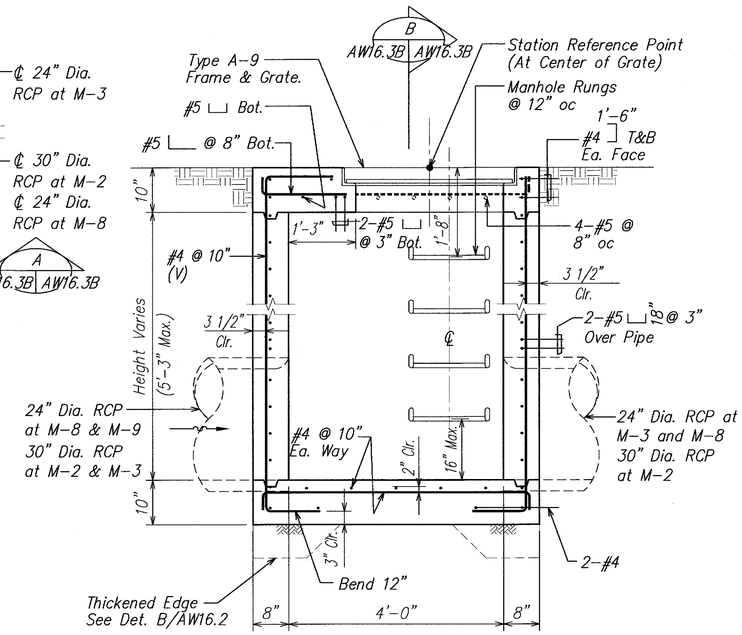
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 676S-2 | 816 |



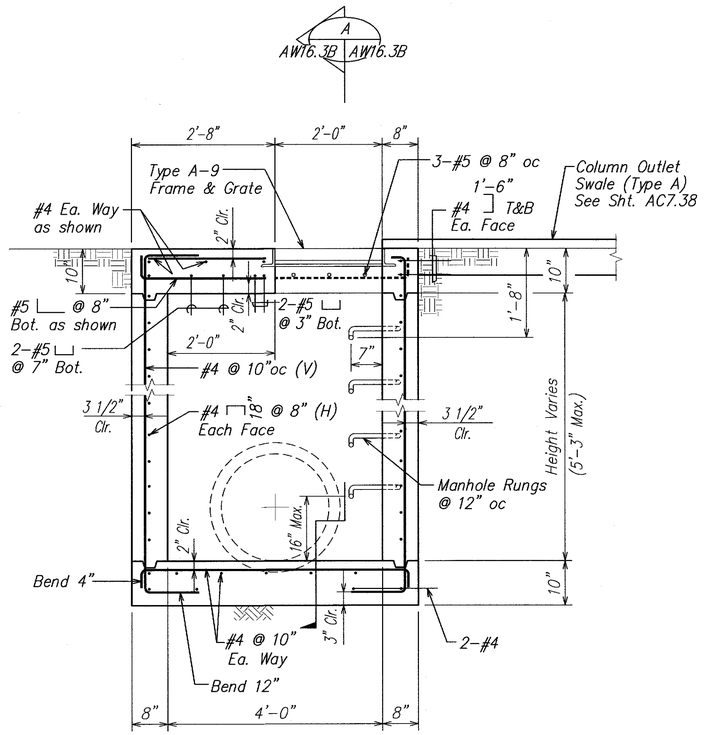

## TYPE A-1 PLAN
## (GDI'S M-2, M-3, M-8 & M-9)

SCALE: 3/4" = 1'-0"



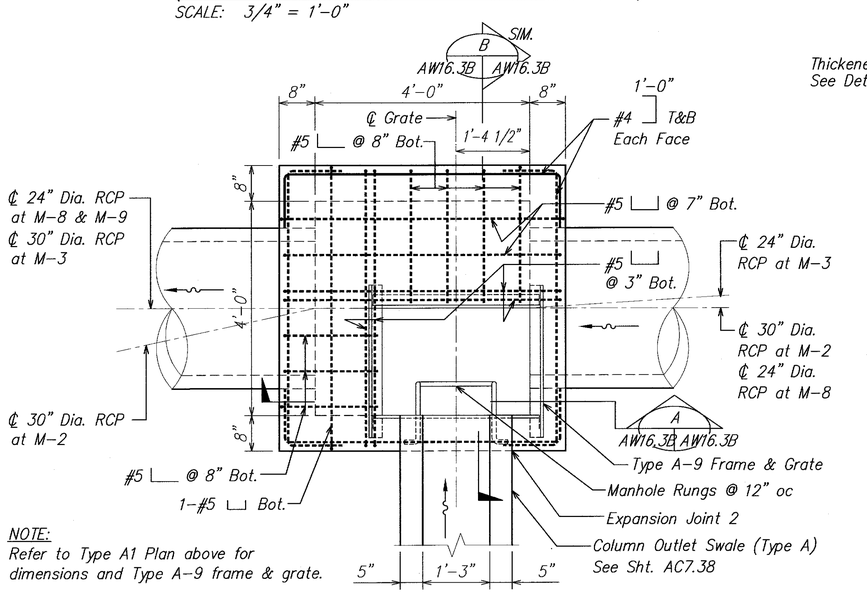

## SECTION A

SCALE: 3/4" = 1'-0" AW16.3B | AW16.3B




## SECTION B

SCALE: 3/4" = 1'-0" AW16.3B | AW16.3B




NOTE:
Refer to Type A1 Plan above for dimensions and Type A-9 frame & grate.

## TYPE A-1 SECTION PLAN (GDI'S M-2, M-3, M-8 & M-9)

SCALE: 3/4" = 1'-0"

NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.

## GRATED DROP INLET (GDI) – TYPE A-1 (1)

SCALE: 3/4" = 1'-0" AW16.3B | AW16.3B

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
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NO. 8104-S
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STATE OF HAWAII
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HIGHWAYS DIVISION

GRATED DROP INLET – TYPE A-1
GDI – M-2, M-3, M-8 & M-9

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW16.3B OF 140 SHEETS

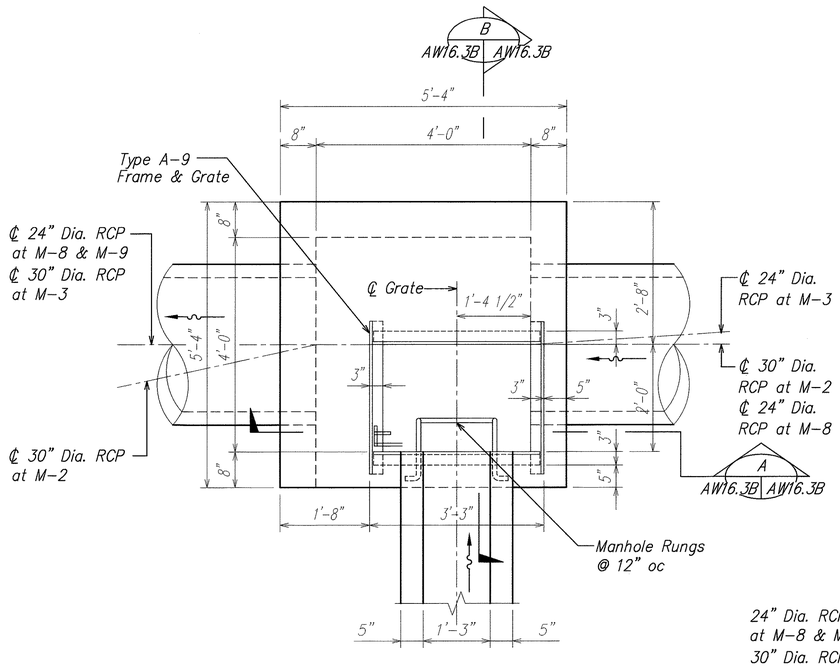
| DATE | REVISION |
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| 7/9/03 | 5 New Sheet |

AB-AW16.3B.DWG
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"AS-BUILT"

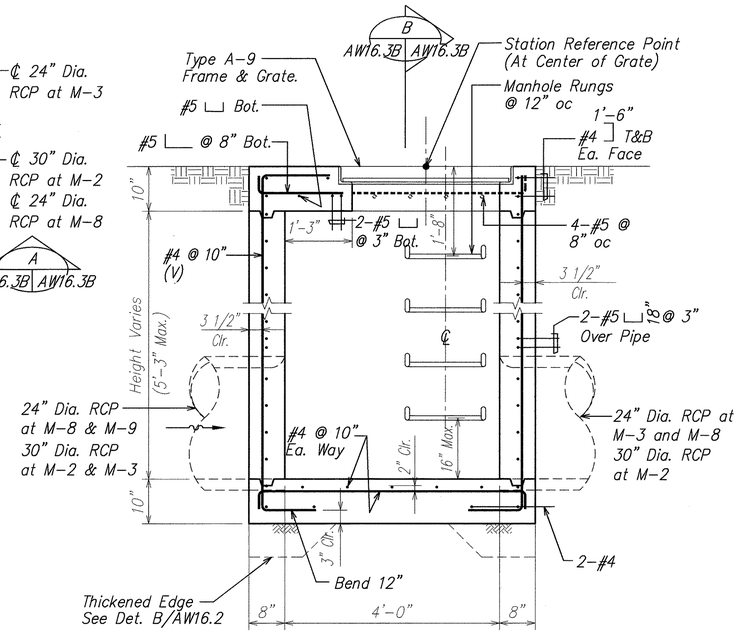
ADD. 676S-2

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 676S-2 | 816 |



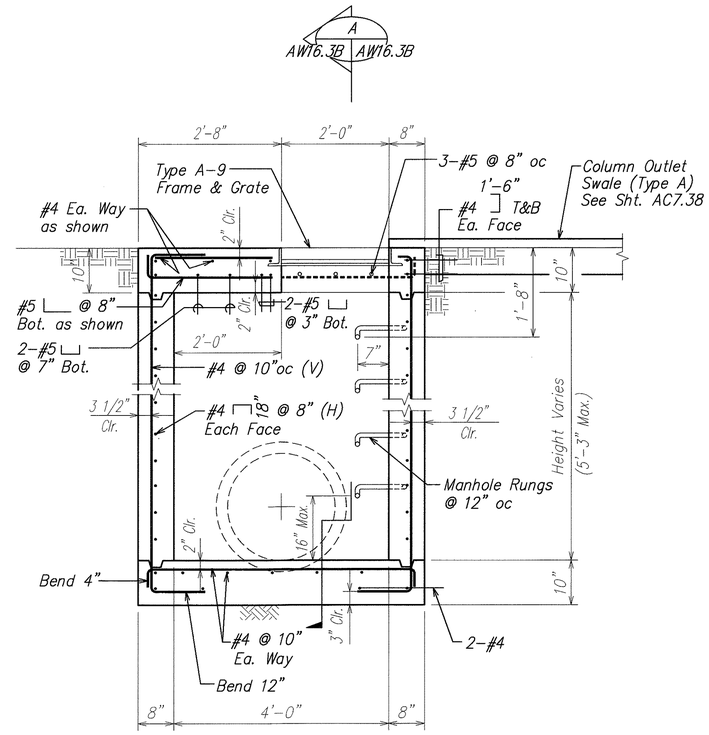

## TYPE A-1 PLAN
## (GDI'S M-2, M-3, M-8 & M-9)

SCALE: 3/4" = 1'-0"




## SECTION A

SCALE: 3/4" = 1'-0" AW16.3B AW16.3B

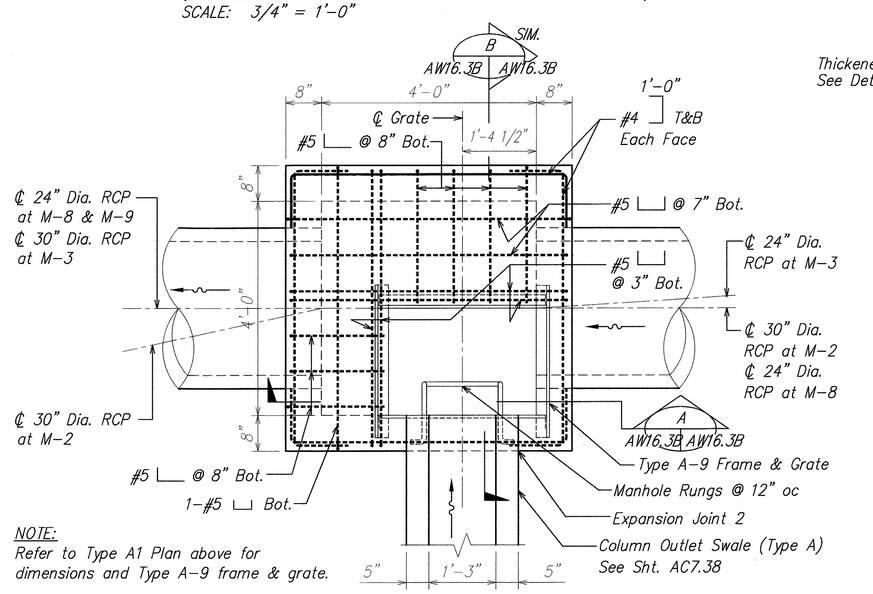



## SECTION B

SCALE: 3/4" = 1'-0" AW16.3B AW16.3B

NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.




NOTE:
Refer to Type A1 Plan above for dimensions and Type A-9 frame & grate.

## TYPE A-1 SECTION PLAN (GDI'S M-2, M-3, M-8 & M-9)

SCALE: 3/4" = 1'-0"

## GRATED DROP INLET (GDI) – TYPE A-1 (1)

SCALE: 3/4" = 1'-0" AW16.3B AW16.3B

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

| DATE | REVISION |
|---|---|
| 10/16/03 | (5) New Sheet |

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NO. 8104-S
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David K. Fujiwara 4-30-04
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GRATED DROP INLET – TYPE A-1
GDI – M-2, M-3, M-8 & M-9

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

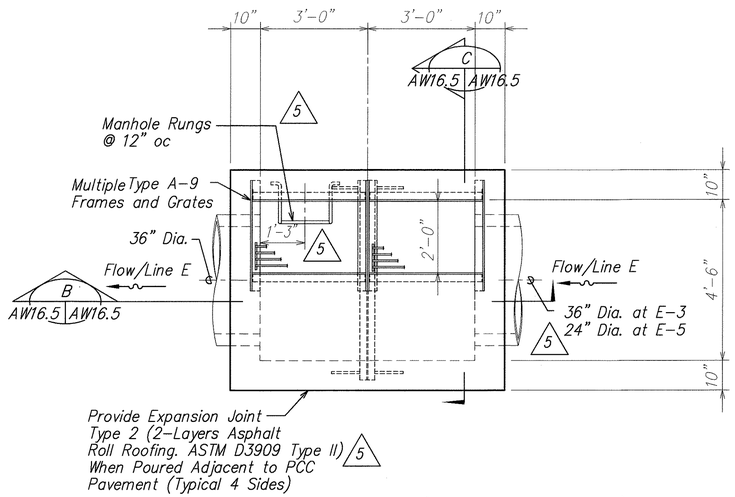
SHEET No. AW16.3B OF 140 SHEETS

ADD. 676S-2

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
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| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 678 | 816 |



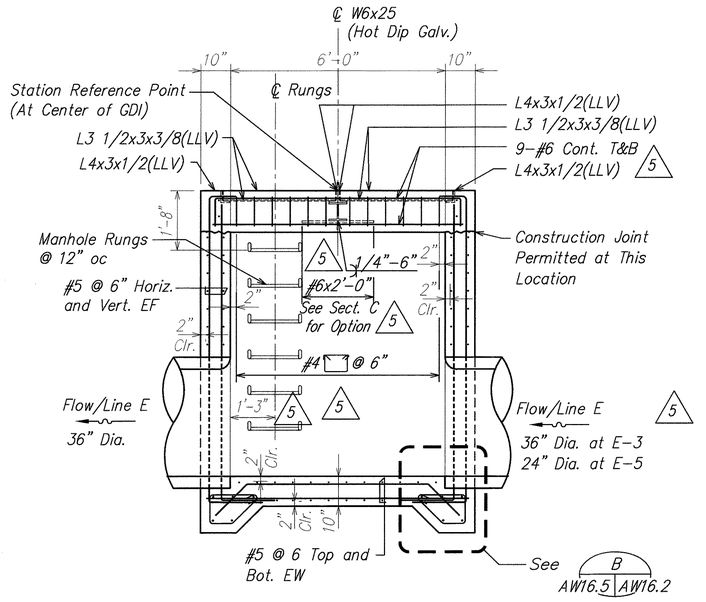

## PLAN – GRATED DROP INLET (GDI TYPE A2) A

SCALE: 1/2" = 1'-0"

AW16.5 AW16.5

NOTE:

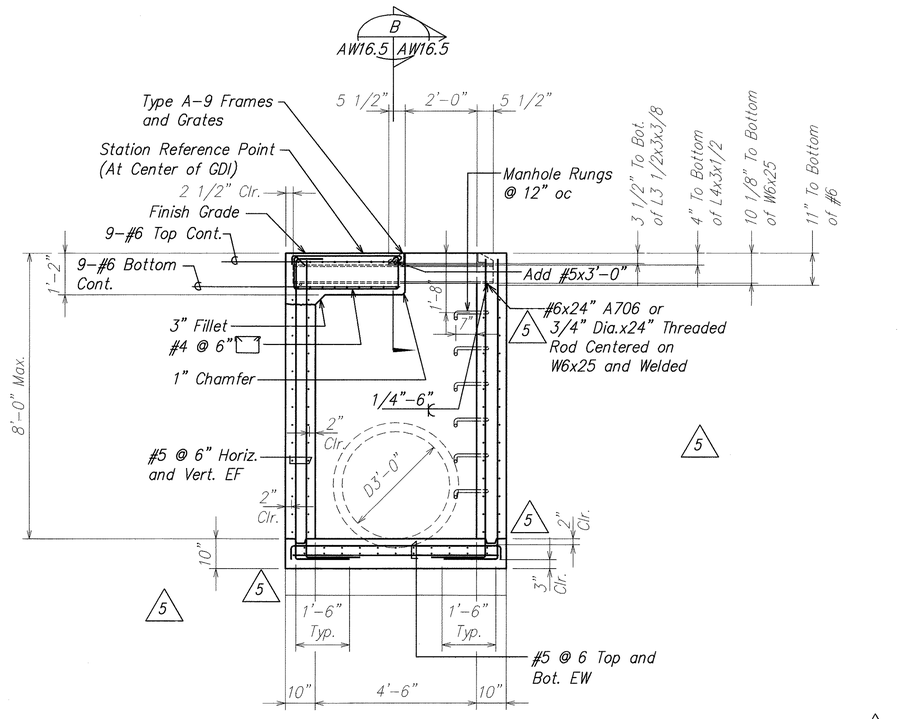
1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.




## SECTION – GRATED DROP INLET (GDI TYPE A2) B 5

SCALE: 1/2" = 1'-0"

AW16.5 AW16.5




## SECTION – GRATED DROP INLET (GDI TYPE A2) C 5

SCALE: 1/2" = 1'-0"

AW16.5 AW16.5

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| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Deleted 36" Pipe, Revised Reinf. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# GRATED DROP INLET TYPE A2
# GDI E-3 AND E-5

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW16.5 OF 140 SHEETS

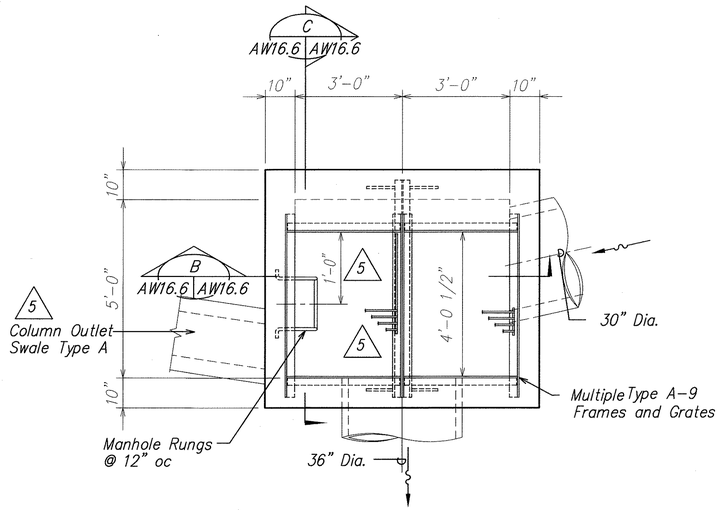
ADD. 678

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

AB-AW165.DWG 1 = 1

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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 679 | 816 |



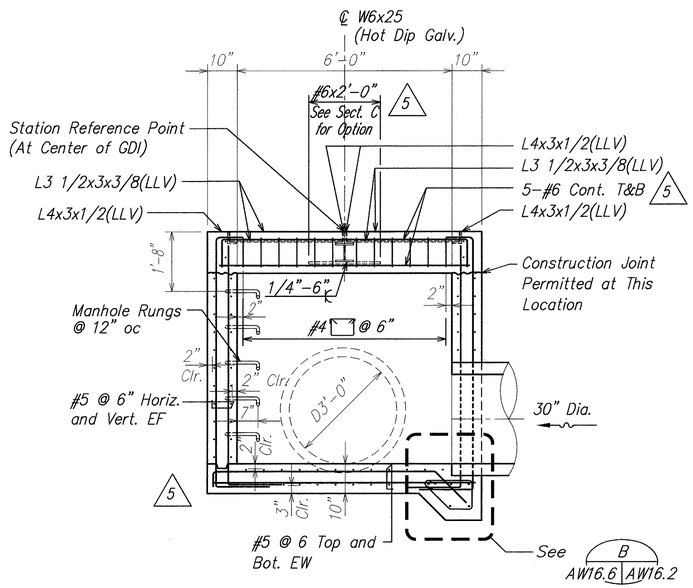

## PLAN – GRATED DROP INLET (GDI TYPE A2)

A
AW16.6 AW16.6

SCALE: 1/2" = 1'-0"

NOTE:

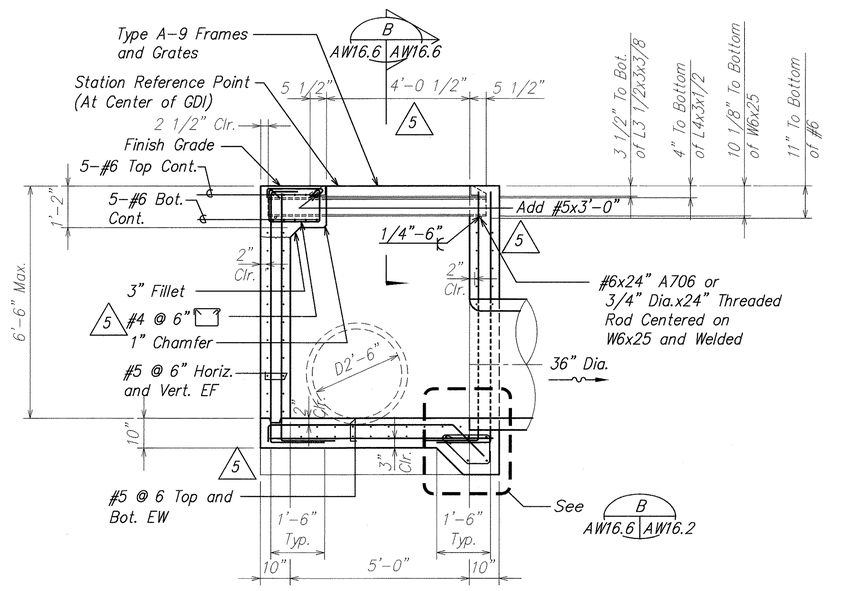
1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.




## SECTION – GRATED DROP INLET (GDI TYPE A2)

B
AW16.6 AW16.6

SCALE: 1/2" = 1'-0"




## SECTION – GRATED DROP INLET (GDI TYPE A2)

C
AW16.6 AW16.6

SCALE: 1/2" = 1'-0"




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David K. Fujiwara 4-30-04

SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | | REVISION |
|---|---|---|
| 10/16/03 | 5 | Revised Reinf. |

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

# GRATED DROP INLET TYPE A2
# GDI M-1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

**SHEET No. AW16.6 OF 140 SHEETS**

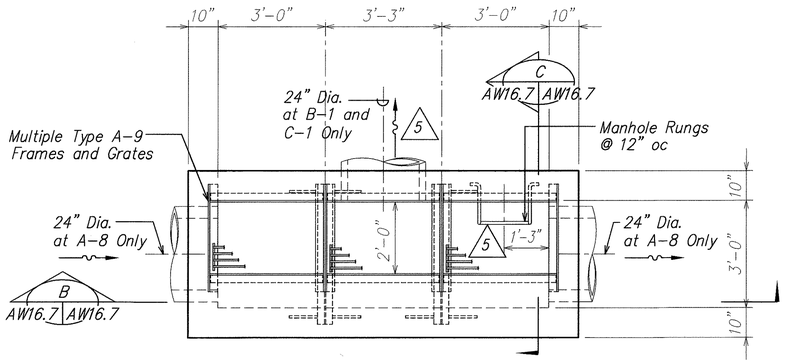
**ADD. 679**

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

AB-AW166.DWG
1 = 1

\\Cad1\vsf1_2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1606.dwg, AW16.6, 10/14/2003 4:32:37 PM, KSFmc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 680 | 816 |

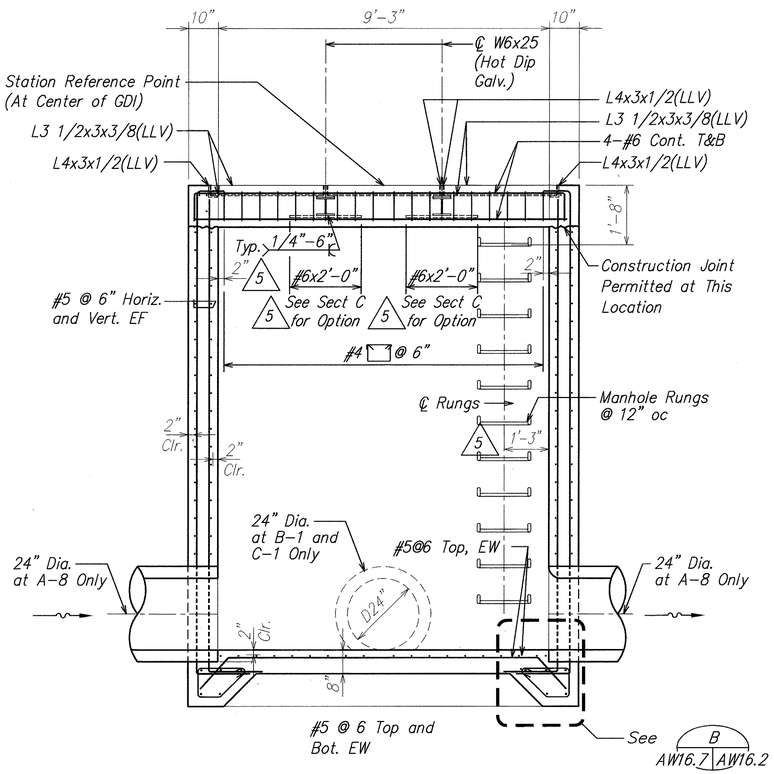



## PLAN – GRATED DROP INLET (GDI TYPE A3) A AW16.7 AW16.7

SCALE: 1/2" = 1'-0"

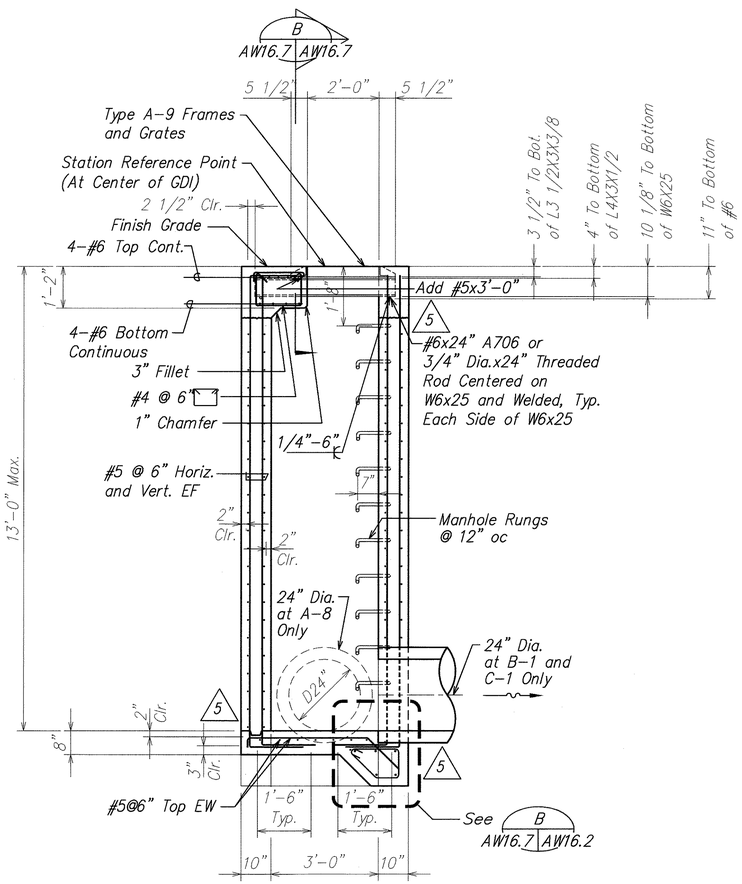
NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.




## SECTION – GRATED DROP INLET (GDI TYPE A-3) B AW16.7 AW16.7

SCALE: 1/2" = 1'-0"




## SECTION – GRATED DROP INLET (GDI TYPE A3) C AW16.7 AWA6.7

SCALE: 1/2" = 1'-0"

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Reinf. |

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

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

# GRATED DROP INLET TYPE A3

## GDI A-8, B-1, AND C-1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

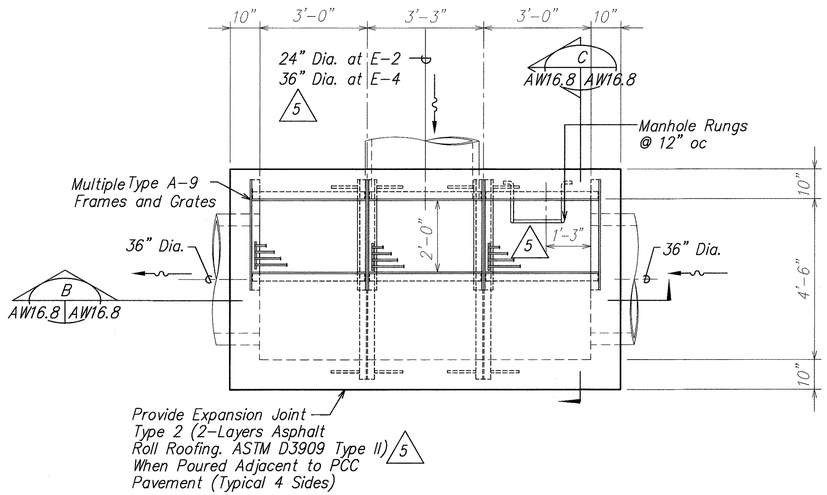
**SHEET No. AW16.7 OF 140 SHEETS**

**ADD. 680**

\\Cad\ksf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1607.dwg, AW16.7, 10/14/2003 4:33:06 PM, KSFinc.pc3

AB-AW1607.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 681 | 816 |



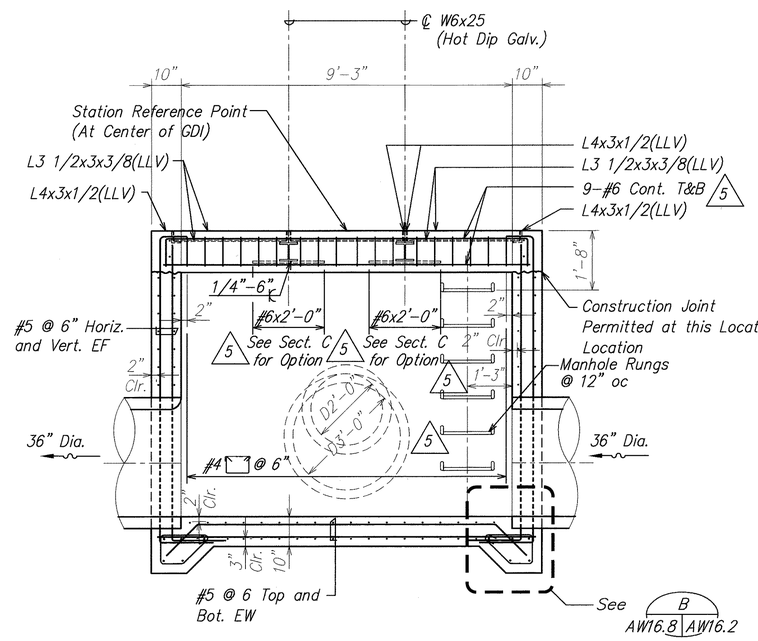

## SECTION – GRATED DROP INLET (GDI TYPE A3)

SCALE: 1/2" = 1'-0"

A
AW16.8 AW16.8

NOTE:

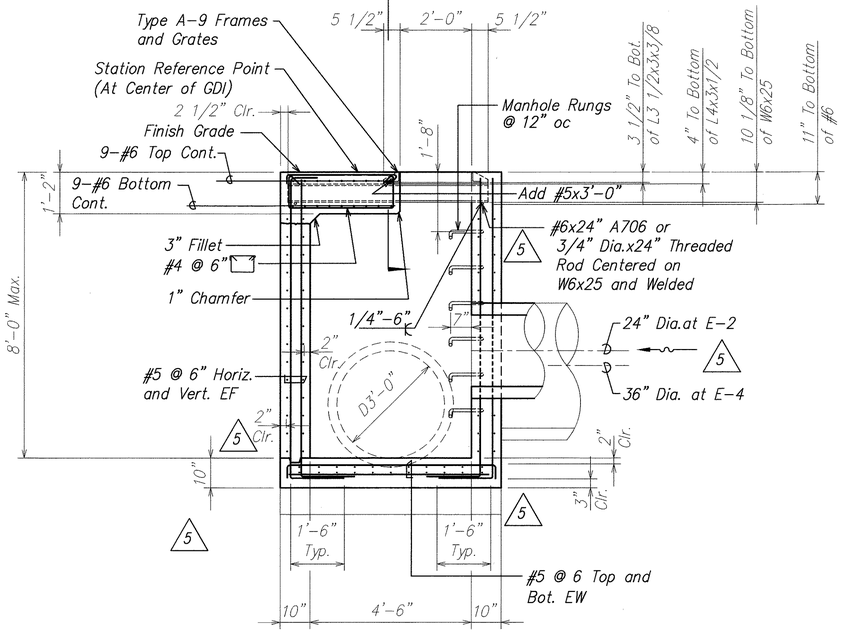
1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.




## SECTION – GRATED DROP INLET (GDI TYPE A3)

SCALE: 1/2" = 1'-0"

B
AW16.8 AW16.8




## SECTION – GRATED DROP INLET (GDI TYPE A3)

SCALE: 1/2" = 1'-0"

C
AW16.8 AW16.8

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NO. 8104-S
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| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| NOTE BOOK | TRACED BY | |
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| No. | QUANTITIES BY | |
| | CHECKED BY | |

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Reinf., Added 36" Pipe |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

5

# GRATED DROP INLET TYPE A3
# GDI E-2 AND E-4

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

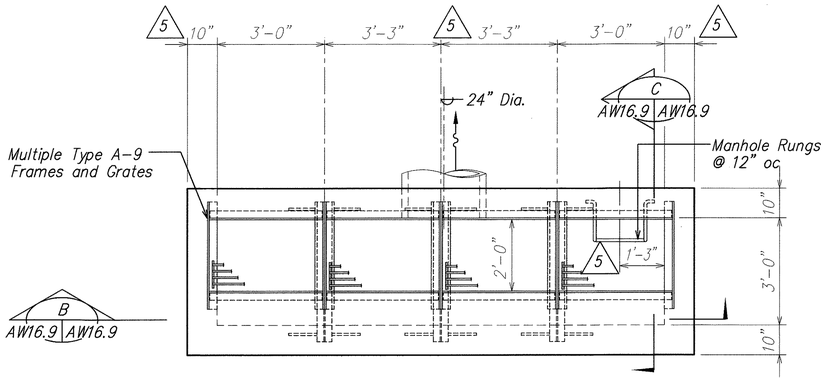
SHEET No. AW16.8 OF 140 SHEETS

ADD. 681

\\Cad1\sf\2001\10066-WAIMALU viADUCT\10-15-03 AW ADD6\ADD6 AB-AW1608.dwg, AW16.8, 10/14/2003 4:34:40 PM, KSFinc.pc3

AB-AW1608.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 682 | 816 |

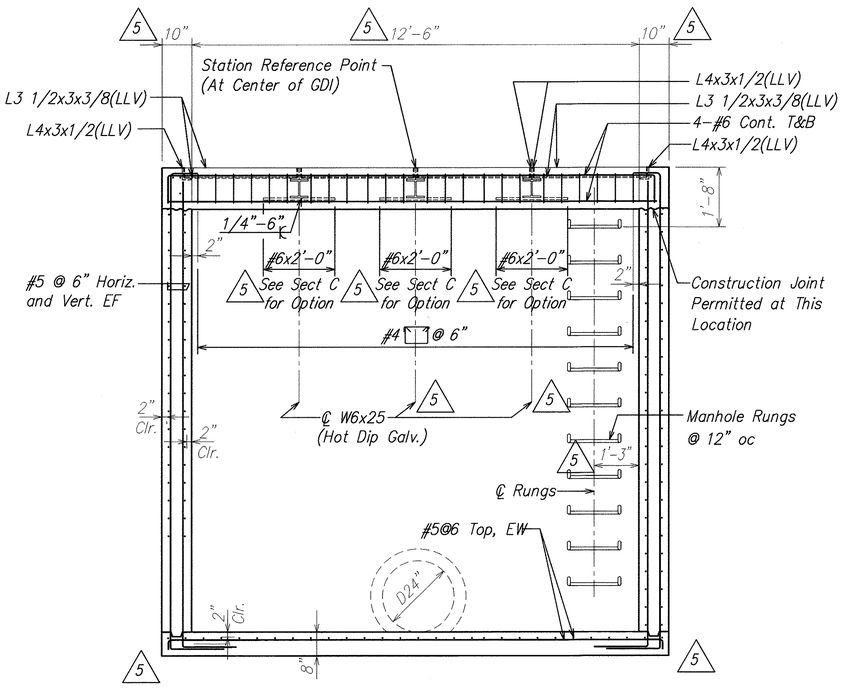



NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.

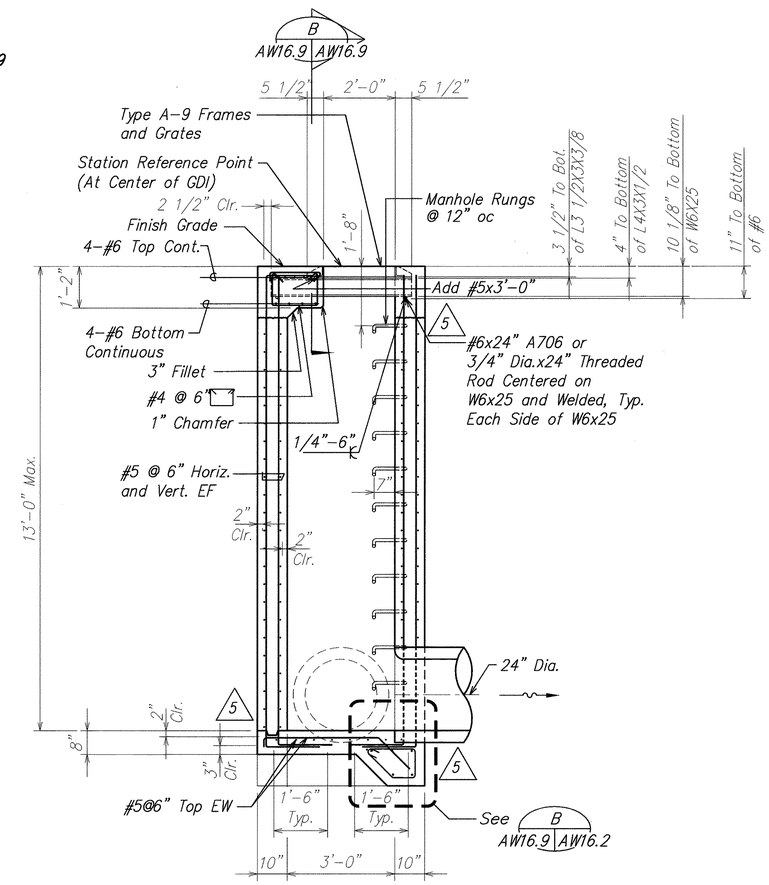
## PLAN – GRATED DROP INLET (GDI TYPE A4) A AW16.9 AW16.9

SCALE: 1/2" = 1'-0"




## SECTION – GRATED DROP INLET (GDI TYPE A4) B AW16.9 AW16.9

SCALE: 1/2" = 1'-0"




## SECTION – GRATED DROP INLET (GDI TYPE A4) B AW16.9 AW16.9

SCALE: 1/2" = 1'-0"

## SECTION – GRATED DROP INLET (GDI TYPE A4) C AW16.9 AW16.9

SCALE: 1/2" = 1'-0"

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
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| | CHECKED BY | |

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SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Reinf. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# GRATED DROP INLET TYPE A4

## GDI D-1

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

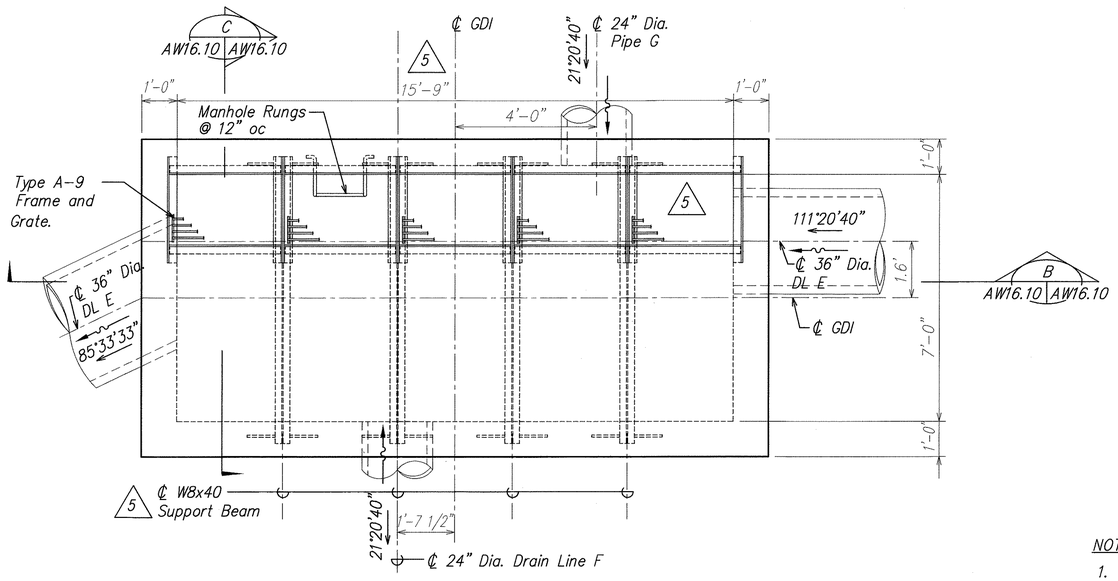
SHEET No. AW16.9 OF 140 SHEETS

ADD. 682

AB-AW1609.DWG
1 = 1

\\Ecad1\xsl\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1609.dwg, AW16.9, 10/14/2003 4:35:07 PM, KSFinc.pc3

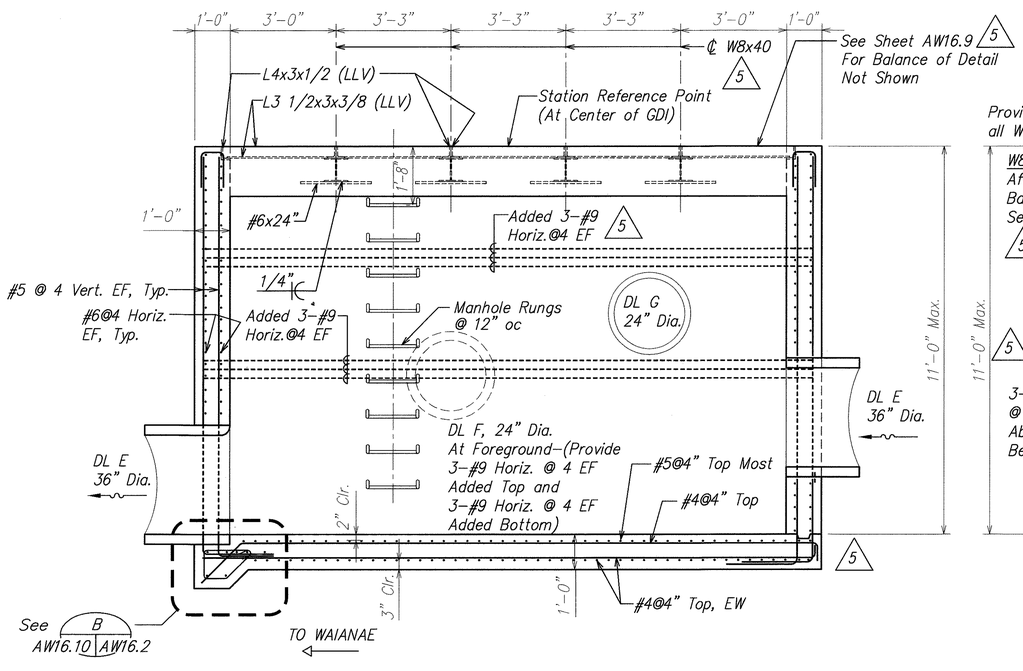
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 683 | 816 |




## PLAN – GRATED DROP INLET (GDI TYPE A5)

SCALE: 1/2" = 1'-0"

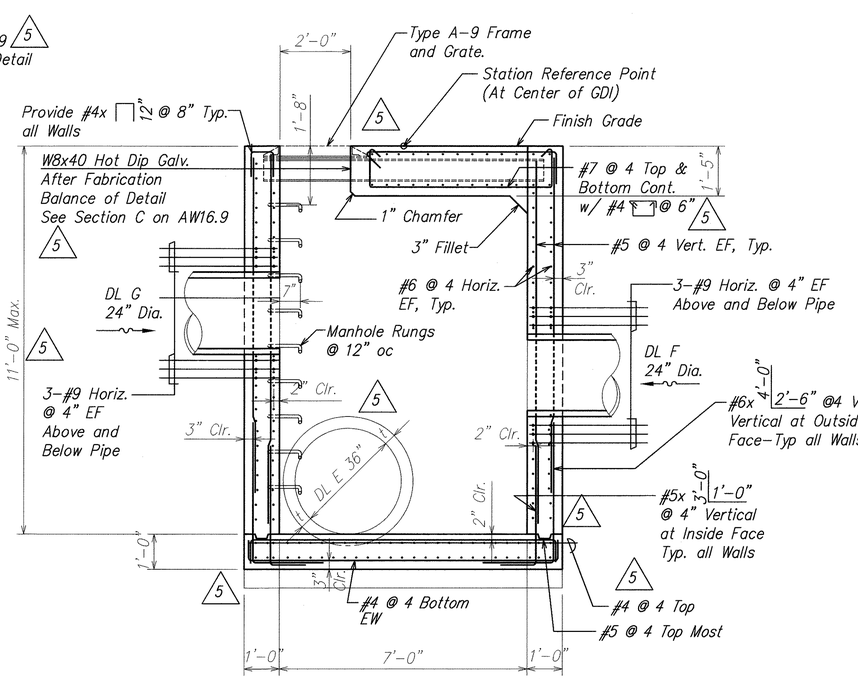
A AW16.10 AW16.10




## SECTION – GRATED DROP INLET (GDI TYPE A5)

SCALE: 1/2" = 1'-0"

B AW16.10 AW16.10




## SECTION – GRATED DROP INLET (GDI TYPE A5)

SCALE: 1/2" = 1'-0"

C AW16.10 AW16.10

NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.

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NO. 8104–S
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SIGNATURE — EXPIRATION DATE OF THE LICENSE: 4-30-04

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Reinf., Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GRATED DROP INLET TYPE A5

GDI E–1

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW16.10 OF 140 SHEETS

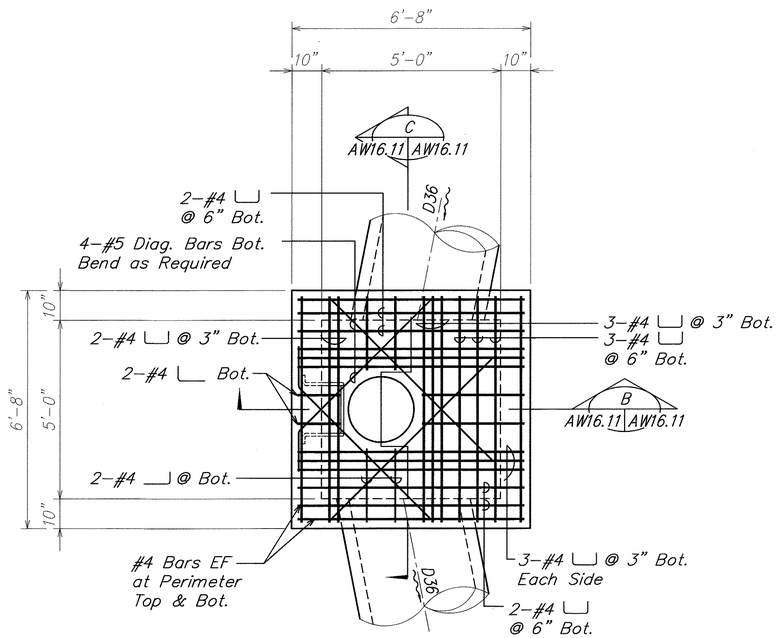
ADD. 683

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| NOTE BOOK | DRAWN BY | |
| No. | TRACED BY | |
| | DESIGNED BY | |
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| | CHECKED BY | |

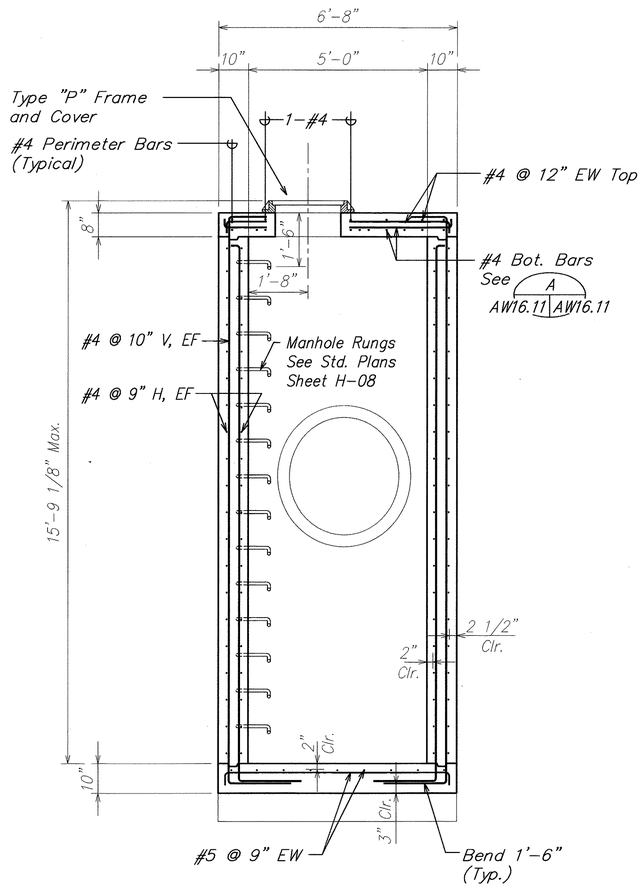
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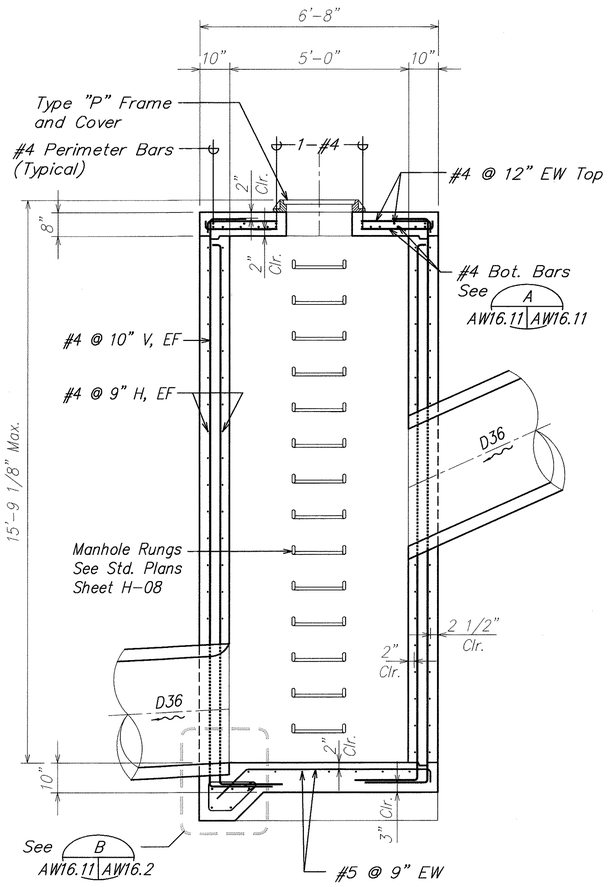
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 684 | 816 |




PLAN A
SCALE: 1/2" = 1'-0" AW16.11 AW16.11




SECTION B
SCALE: 1/2" = 1'-0" AW16.11 AW16.11




SECTION C
SCALE: 1/2" = 1'-0" AW16.11 AW16.11

NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.

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

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NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAINAGE STRUCTURE DETAILS
# SPECIAL SDMH I-2 REINFORCING

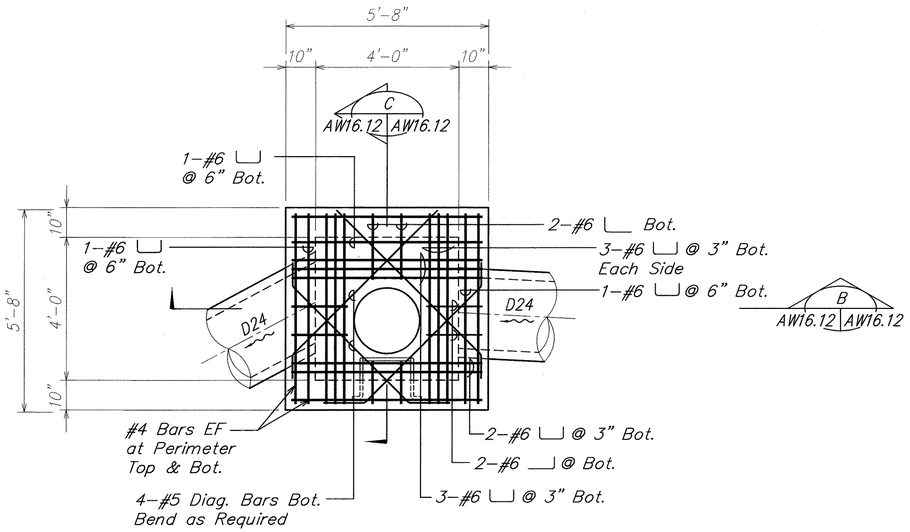
INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW16.11 OF 140 SHEETS

AB-AW1611.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 685 | 816 |

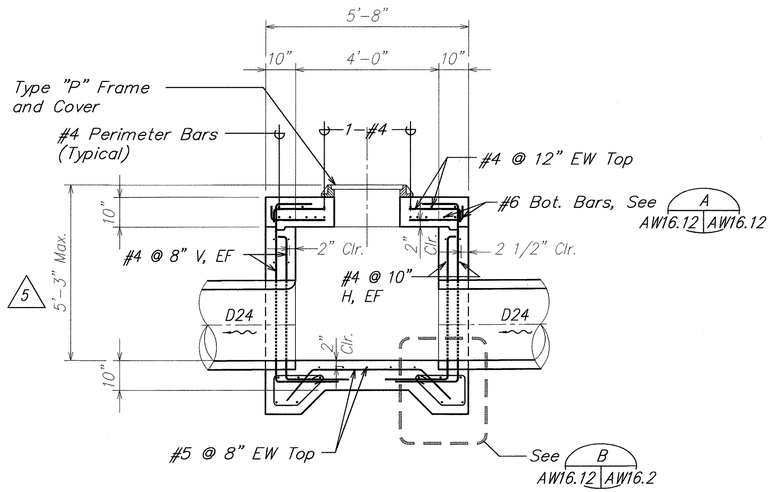



NOTE:
Top Bars Not Shown for Clarity
For Reinforcing See B AW16.12 AW16.12

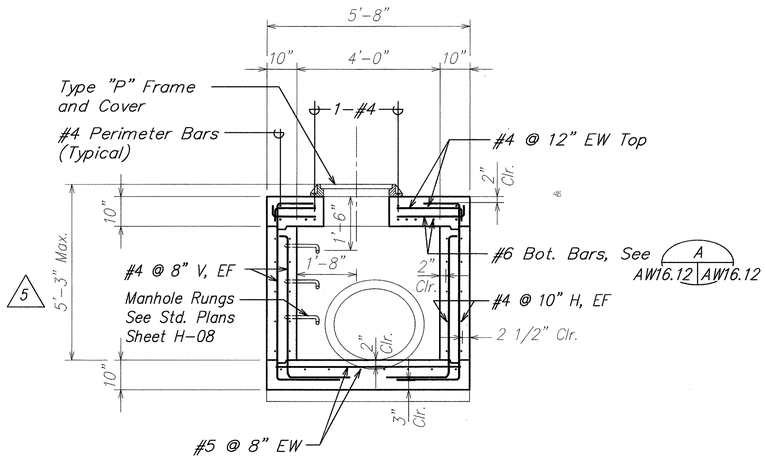
PLAN A
SCALE: 1/2" = 1'-0" AW16.12 AW16.12

NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.




SECTION B
SCALE: 1/2" = 1'-0" AW16.12 AW16.12




SECTION C
SCALE: 1/2" = 1'-0" AW16.12 AW16.12

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| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
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| | DESIGNED BY | |
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| | CHECKED BY | |

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revised Dimensions. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAINAGE STRUCTURE DETAILS
## SPECIAL SDMH M-4 REINFORCING

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

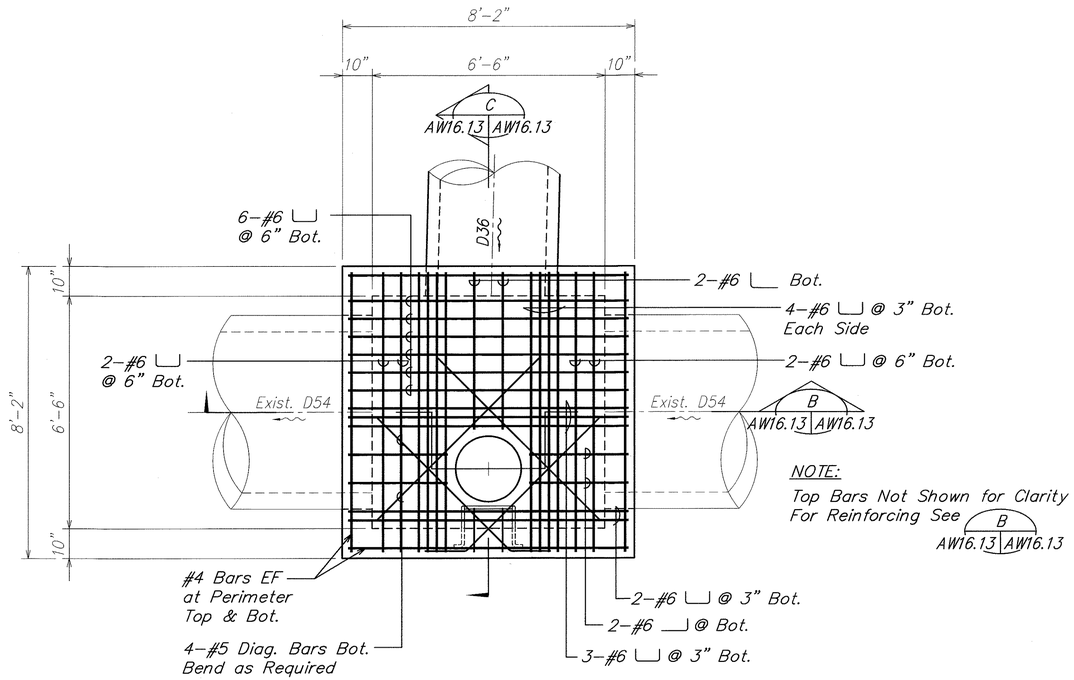
SHEET No. AW16.12 OF 140 SHEETS

ADD. 685

AB-AW612.DWG
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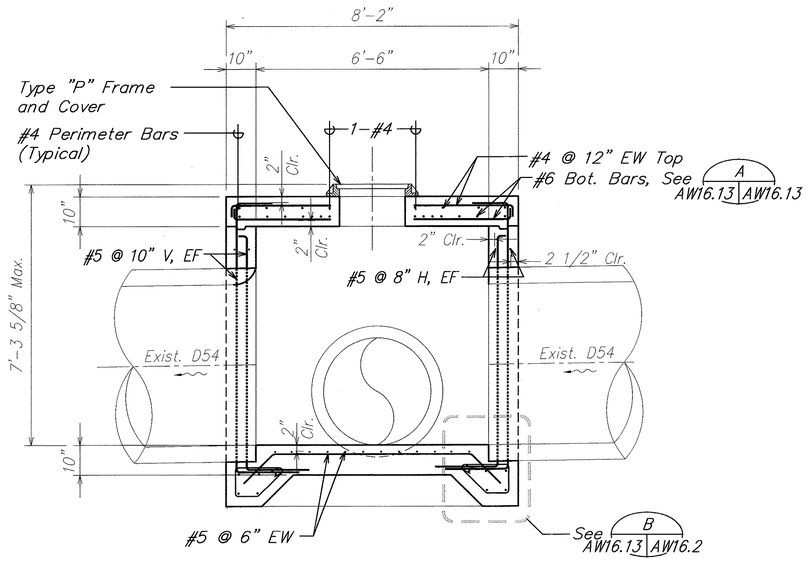
\\Cad1\xsl\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW612.dwg, ADD5 AW16.12, 10/14/2003 4:37:36 PM, KSFinc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 686 | 816 |




PLAN (A) AW16.13 AW16.13

SCALE: 1/2" = 1'-0"

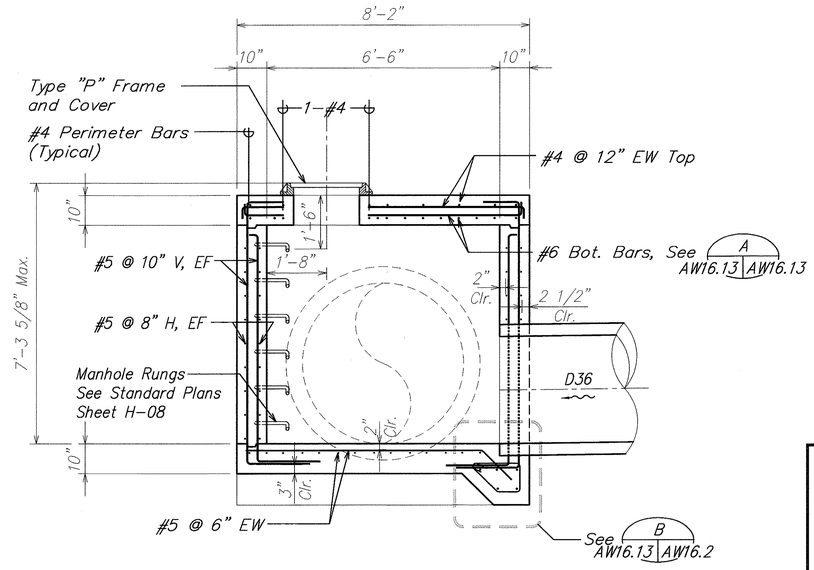



SECTION (B) AW16.13 AW16.13

SCALE: 1/2" = 1'-0"

NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.




SECTION (C) AW16.13 AW16.13

SCALE: 1/2" = 1'-0"

| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
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| | CHECKED BY | |

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David K. Fujiwara 4-30-04

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAINAGE STRUCTURE DETAILS
# SPECIAL SDMH N-1 REINFORCING

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

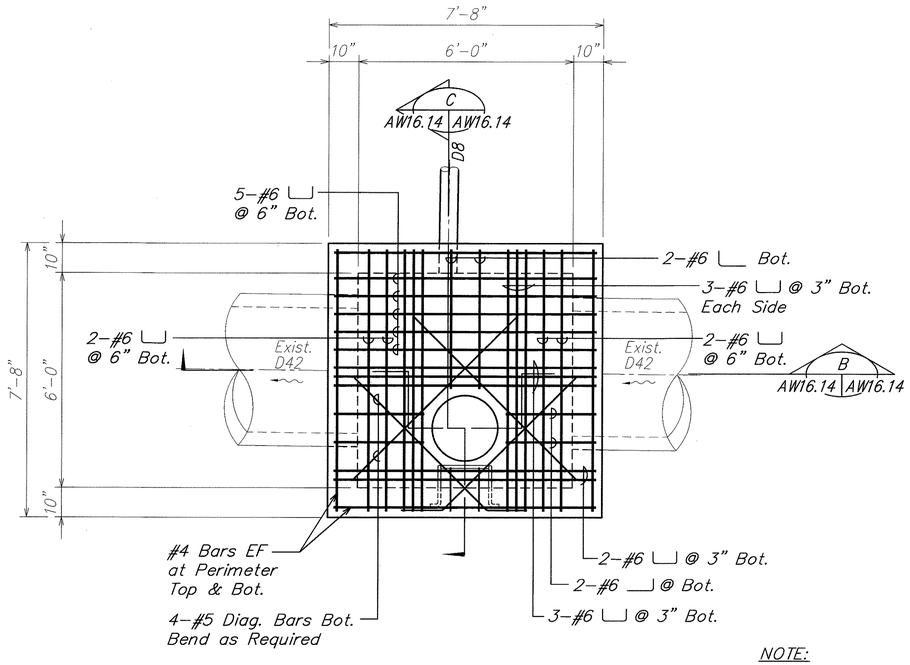
SHEET No. AW16.13 OF 140 SHEETS

686

AB-AW1613.DWG
1 = 1

C:\CADD\2001\1005\awsht.dgn 5/4/2004 08:55:16 PM

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 687 | 816 |




PLAN (A AW16.14 | AW16.14)

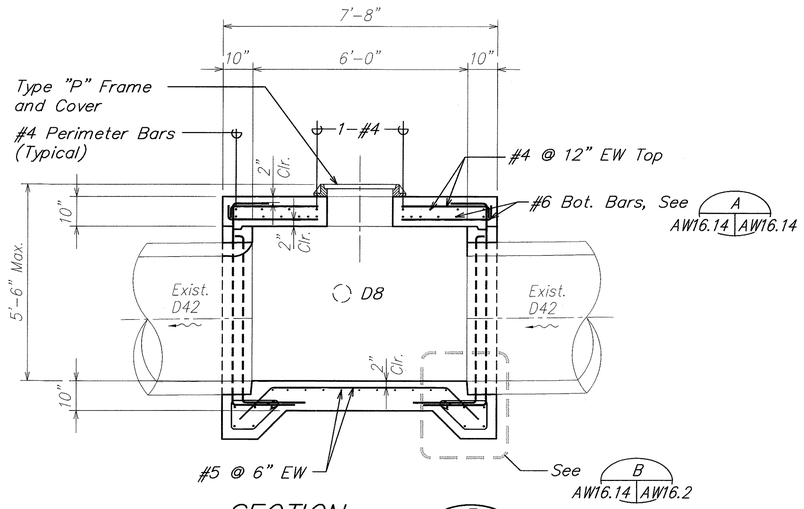
SCALE: 1/2" = 1'-0"

NOTE:

Top Bars Not Shown for Clarity For Reinforcing See (B AW16.14 | AW16.14)

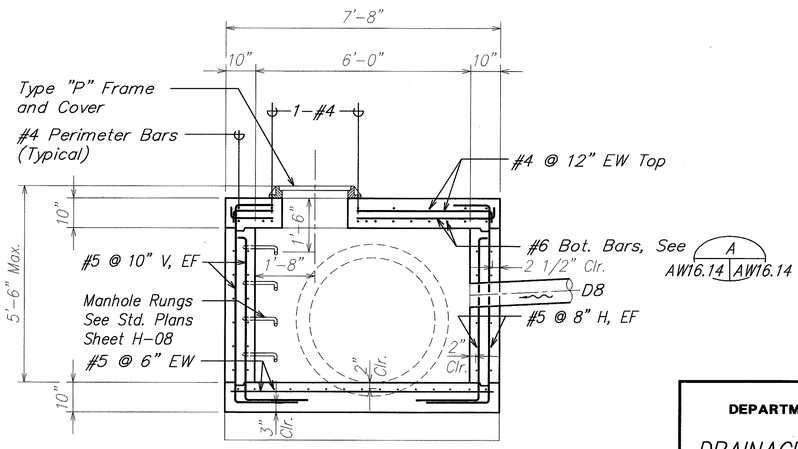
NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.




SECTION (B AW16.14 | AW16.14)

SCALE: 1/2" = 1'-0"




SECTION (C AW16.14 | AW16.14)

SCALE: 1/2" = 1'-0"

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAINAGE STRUCTURE DETAILS
# SPECIAL SDMH N-2 REINFORCING

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

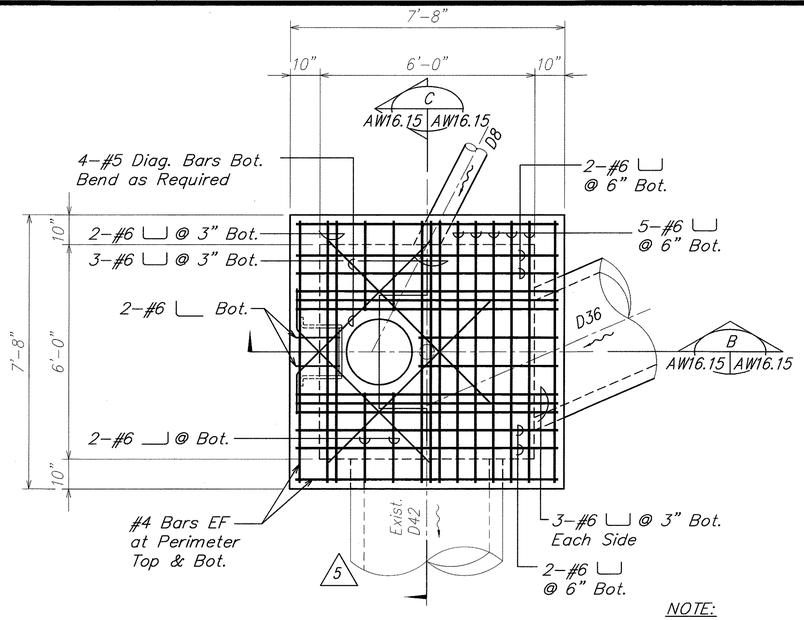
Scale: As Noted Date: Mar. 31, 2003

**SHEET No. AW16.14 OF 140 SHEETS**

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

AB-AW1614.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 688 | 816 |

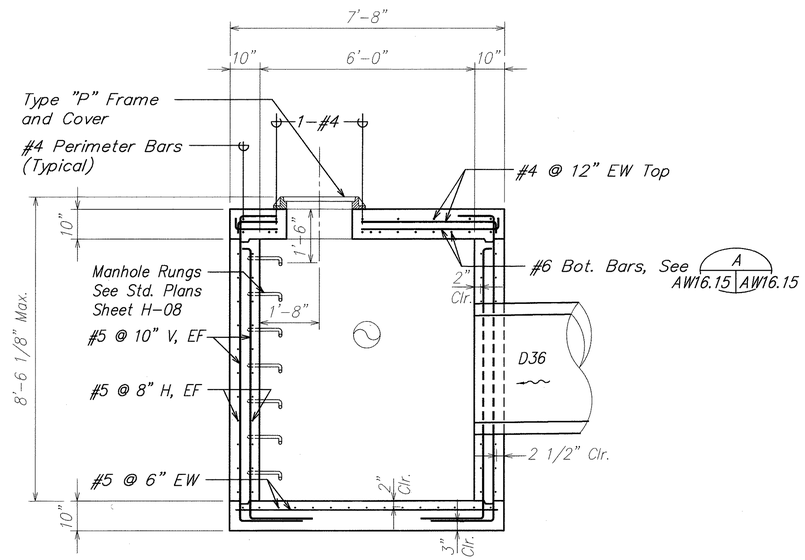



PLAN A
SCALE: 1/2" = 1'-0" AW16.15 AW16.15

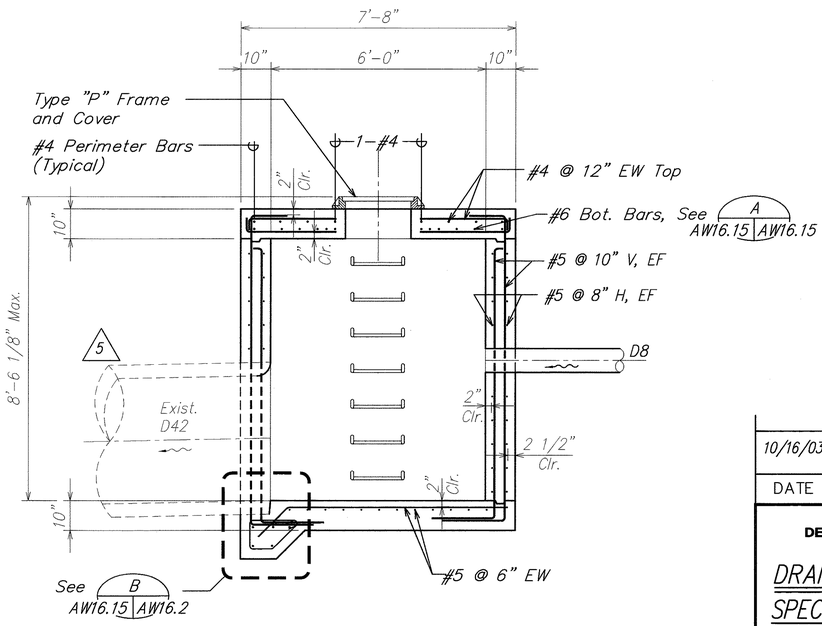
NOTE:
Top Bars Not Shown for Clarity
For Reinforcing See B
AW16.15 AW16.15

NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.




SECTION B
SCALE: 1/2" = 1'-0" AW16.15 AW16.15




SECTION C
SCALE: 1/2" = 1'-0" AW16.15 AW16.15

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NO. 8104-S
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David K. Fujiwara 6-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAINAGE STRUCTURE DETAILS
# SPECIAL SDMH N-3 REINFORCING

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW16.15 OF 140 SHEETS

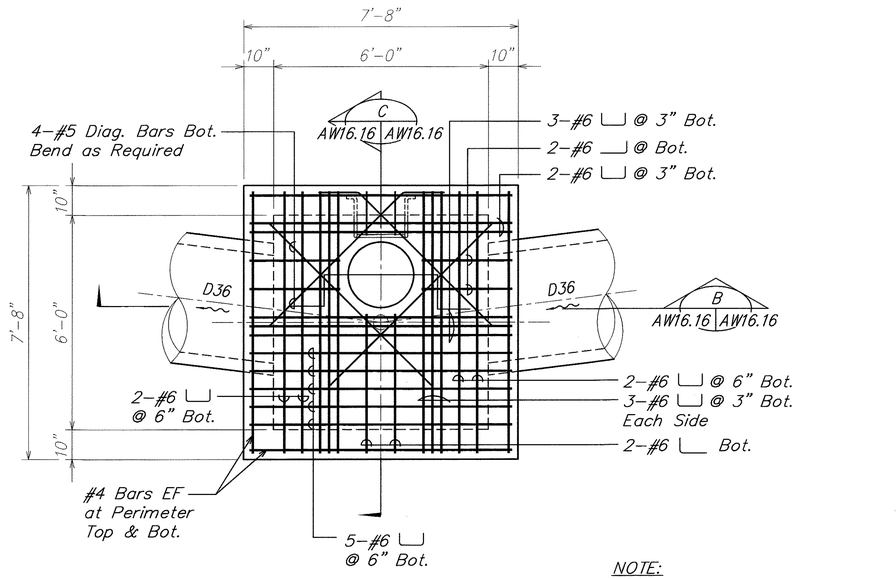
ADD. 688

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

AB-AW1615.DWG
1 = 1

\\Cad1\sf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1615.dwg, ADD5 AW16.15, 10/14/2003 4:38:05 PM, KSF.inc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 689 | 816 |




PLAN (A) AW16.16 AW16.16

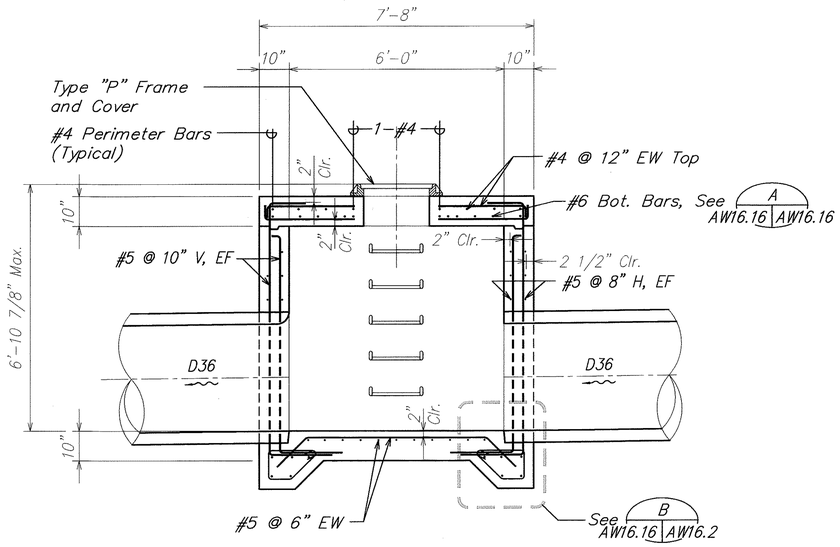
SCALE: 1/2" = 1'-0"

NOTE:

Top Bars Not Shown for Clarity
For Reinforcing See (B) AW16.16 AW16.16

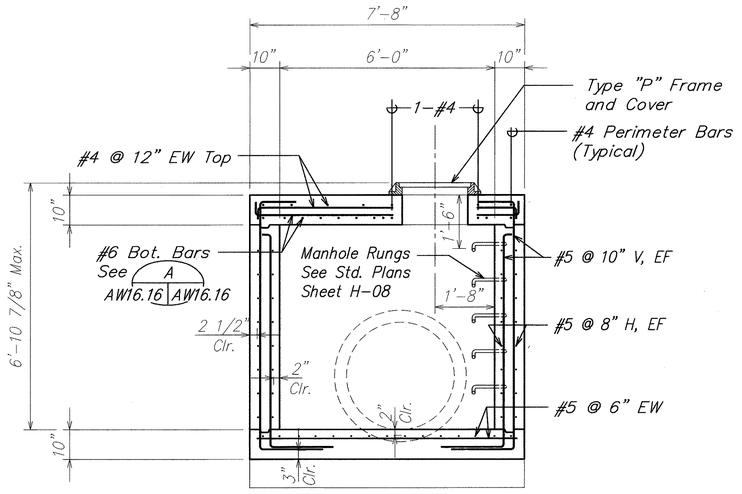
NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.




SECTION (B) AW16.16 AW16.16

SCALE: 1/2" = 1'-0"




SECTION (C) AW16.16 AW16.16

SCALE: 1/2" = 1'-0"

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

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David K. Fujiwara 4-30-04
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAINAGE STRUCTURE DETAILS
# SPECIAL SDMH N–4 REINFORCING

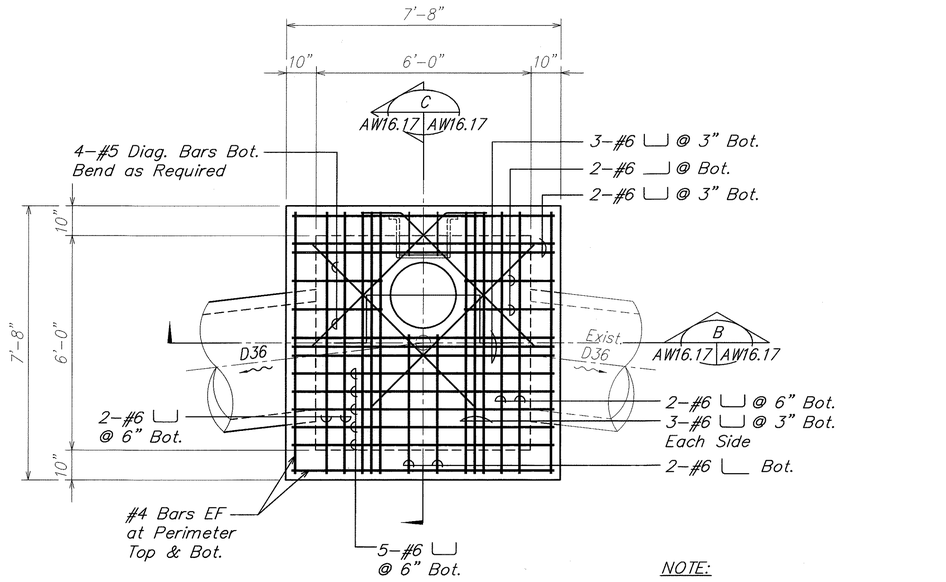
INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW16.16 OF 140 SHEETS

AB–AW1616.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 690 | 816 |




PLAN A

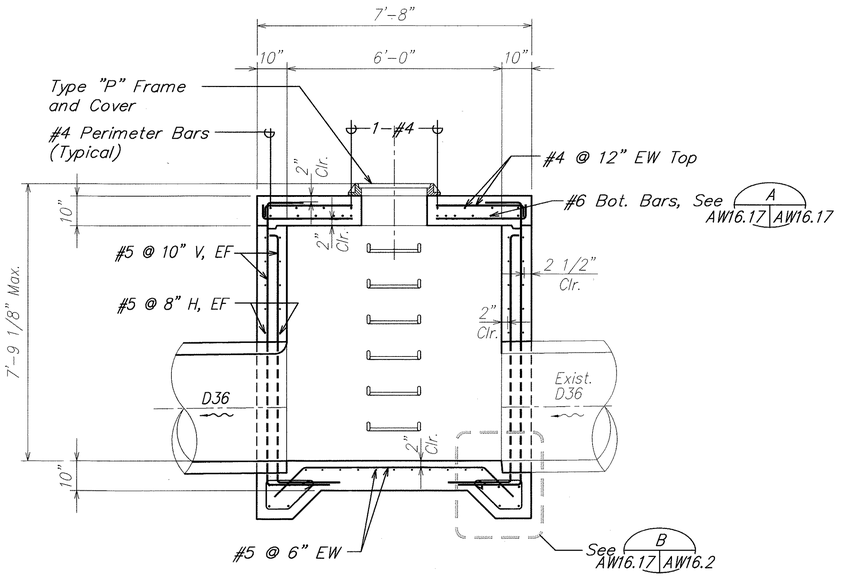
SCALE: 1/2" = 1'-0" AW16.17 AW16.17

NOTE:

Top Bars Not Shown for Clarity
For Reinforcing See B
AW16.17 AW16.17

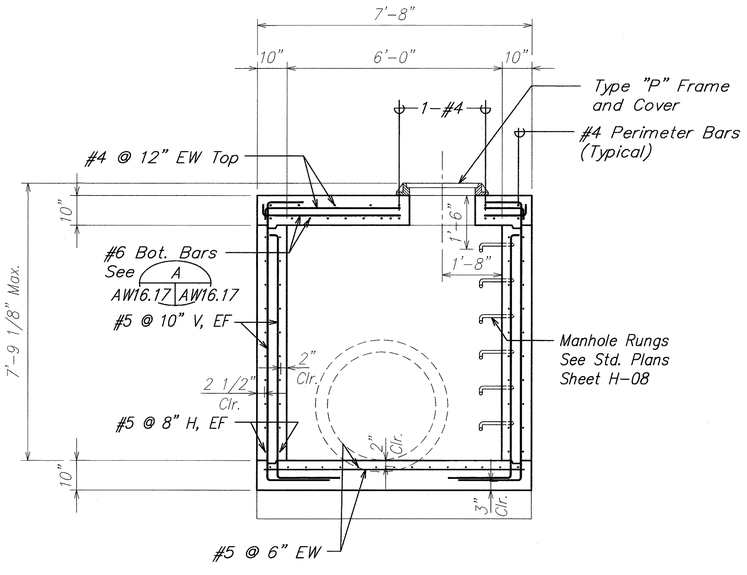
NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.




SECTION B

SCALE: 1/2" = 1'-0" AW16.17 AW16.17




SECTION C

SCALE: 1/2" = 1'-0" AW16.17 AW16.17

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

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NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAINAGE STRUCTURE DETAILS

## SPECIAL SDMH N-5 REINFORCING

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

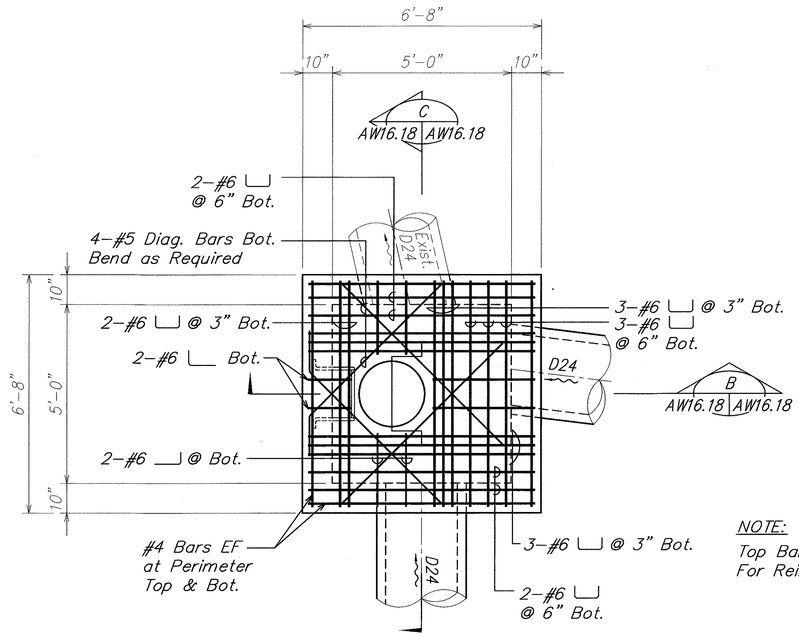
SHEET No. AW16.17 OF 140 SHEETS

690

AB-AW1617.DWG
1 = 1

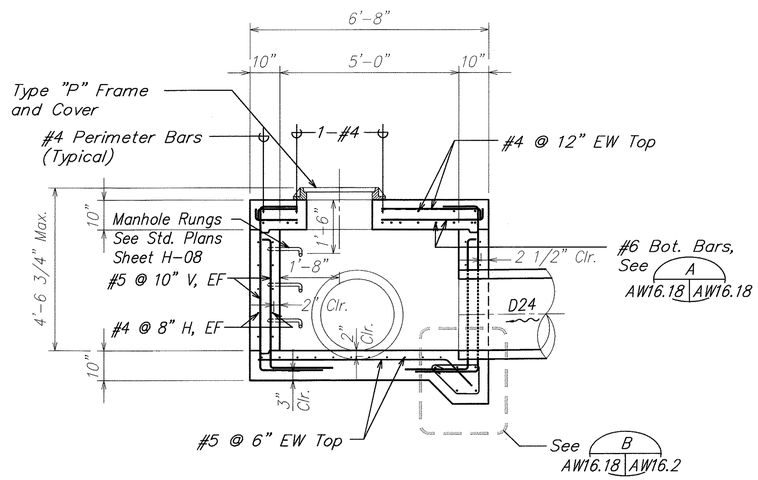
C:\SERVDATA\600ss-W\W_r_1\ACTIVE\04-10-05_HW\S-AW1617.dgn 4:45:14 PM HST 4/29/2005 9:36:04 AM

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 691 | 816 |

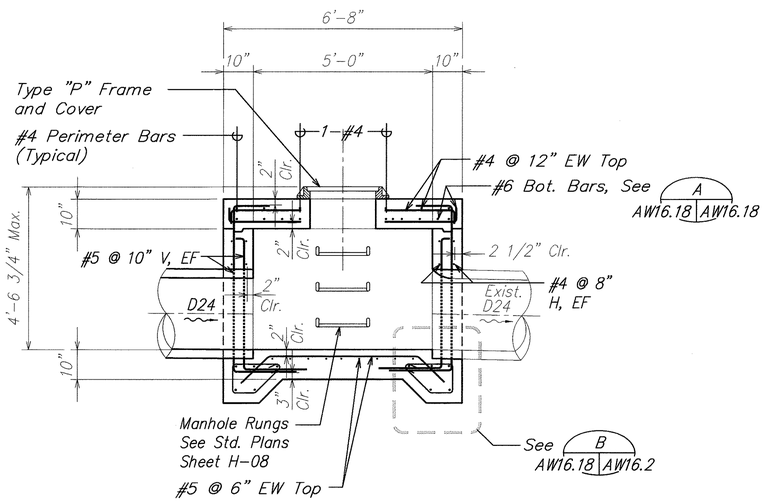



NOTE:
Top Bars Not Shown for Clarity For Reinforcing See B AW16.18 AW16.18

PLAN A
SCALE: 1/2" = 1'-0" AW16.18 AW16.18




SECTION B
SCALE: 1/2" = 1'-0" AW16.18 AW16.18




SECTION C
SCALE: 1/2" = 1'-0" AW16.18 AW16.18

NOTE:

1. Refer to sheet AW16.2 for typical details, added reinforcement at pipe openings and typical notes for drainage structures.

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAINAGE STRUCTURE DETAILS
# SPECIAL SDMH P-1 REINFORCING

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

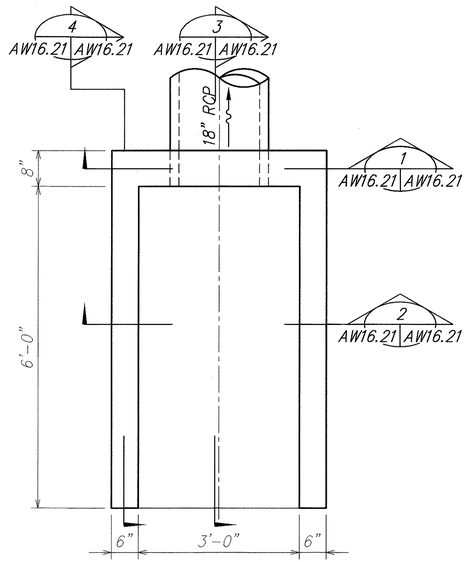
Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW16.18 OF 140 SHEETS

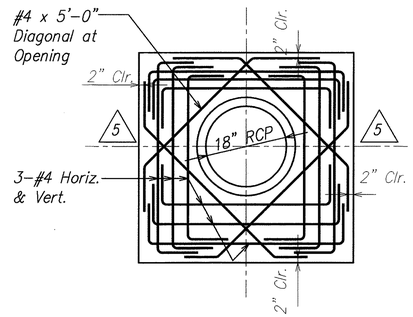
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
|---|---|---|
| | DRAWN BY | |
| NOTE BOOK | TRACED BY | |
| | DESIGNED BY | |
| No. | QUANTITIES BY | |
| | CHECKED BY | |

AB-AW1618.DWG
1 = 1

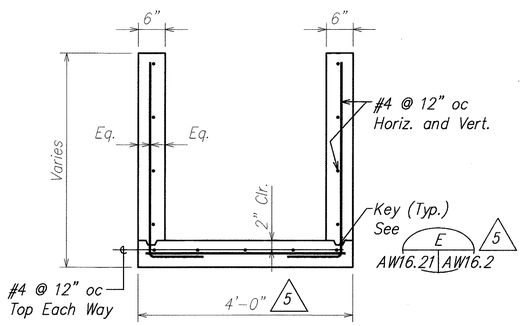
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 694 | 816 |



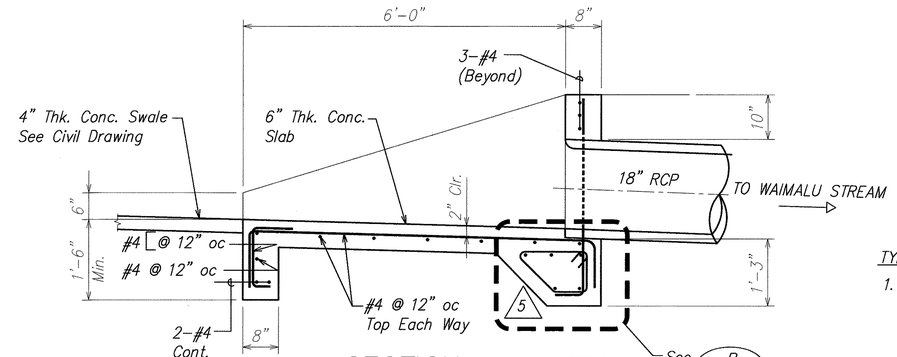

PLAN A
SCALE: 3/4" = 1'-0" AW16.21 AW16.21



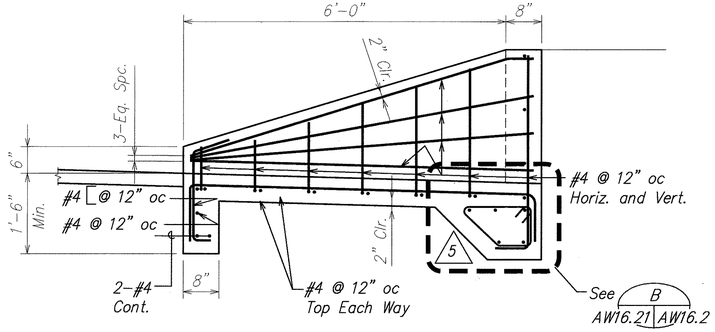

SECTION 1
SCALE: 3/4" = 1'-0" AW16.21 AW16.21




SECTION 2
SCALE: 3/4" = 1'-0" AW16.21 AW16.21




SECTION 3
SCALE: 3/4" = 1'-0" AW16.21 AW16.21




SECTION 4
SCALE: 3/4" = 1'-0" AW16.21 AW16.21

*TYPICAL NOTES FOR DRAINAGE STRUCTURES*

1. *For all pre-cast portions of any drainage structure any gap left between the structure and pipe after the installation of the pipe shall be filled with concrete of equal strength as used for the pre-cast portion of the structure. No brick and mortar repairs or CMU shall be used.*

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

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes and Revise Reinf. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAINAGE INLET STRUCTURE NO. 2

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

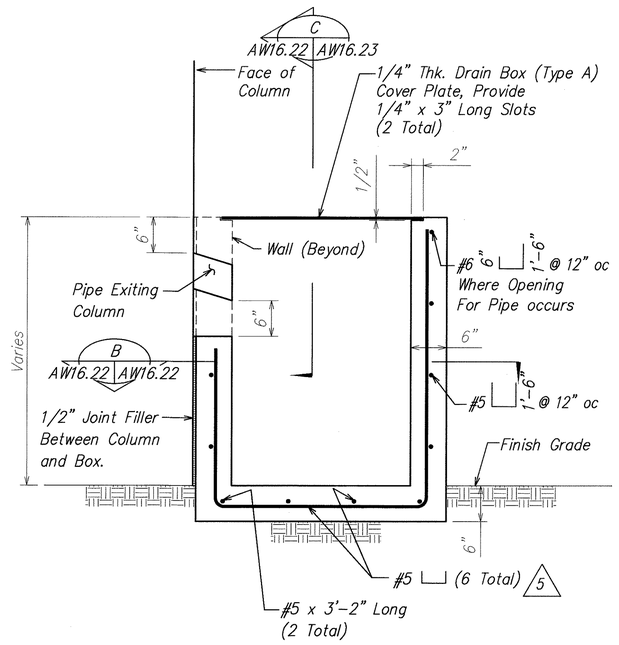
SHEET No. AW16.21 OF 140 SHEETS

ADD. 694

AW1621.DWG
1 = 1

\\Cad\ksf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1621.dwg, AW16.21, 10/14/2003 4:39:45 PM, KSFinc.pc3

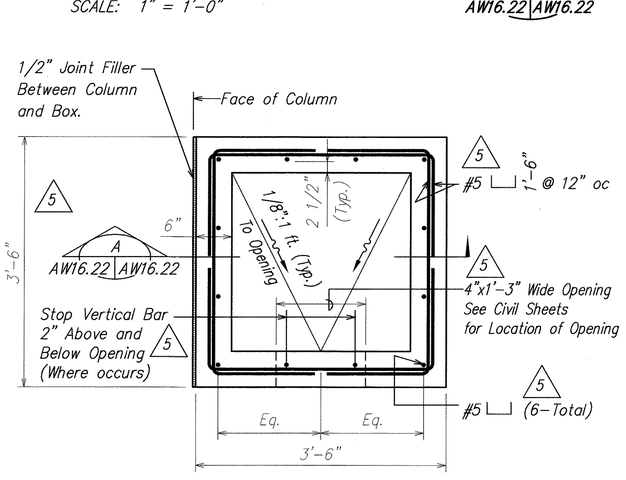
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 695 | 816 |




## COLUMN OUTLET STRUCTURE, TYPE "A"

SCALE: 1" = 1'-0"

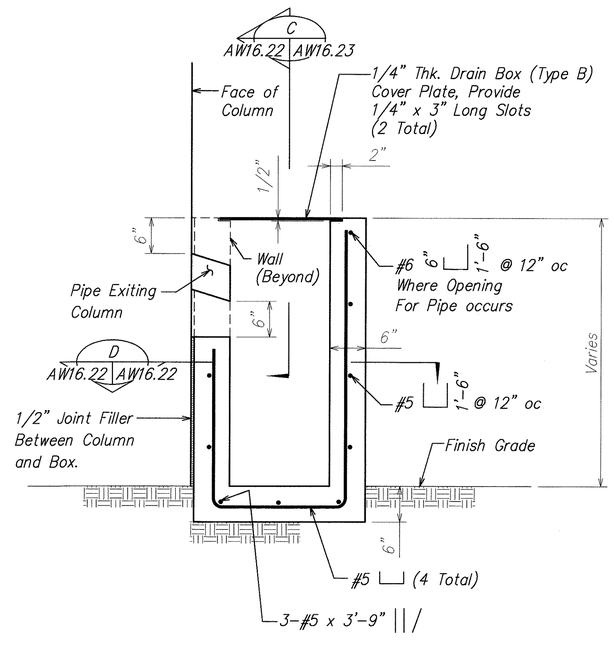
A AW16.22 | AW16.22




## COLUMN OUTLET STRUCTURE, TYPE "A" SECTION

SCALE: 1" = 1'-0"

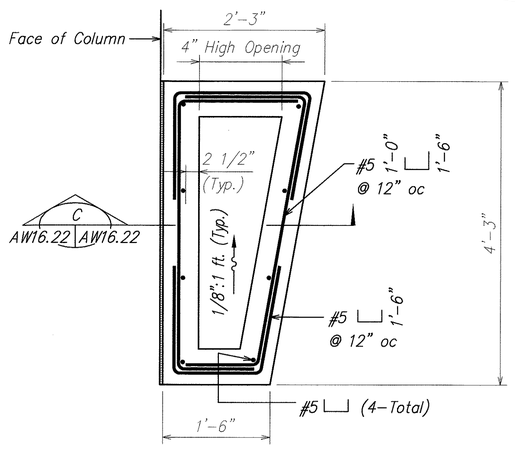
B AW16.22 | AW16.22




## COLUMN OUTLET STRUCTURE, TYPE "B"

SCALE: 1" = 1'-0"

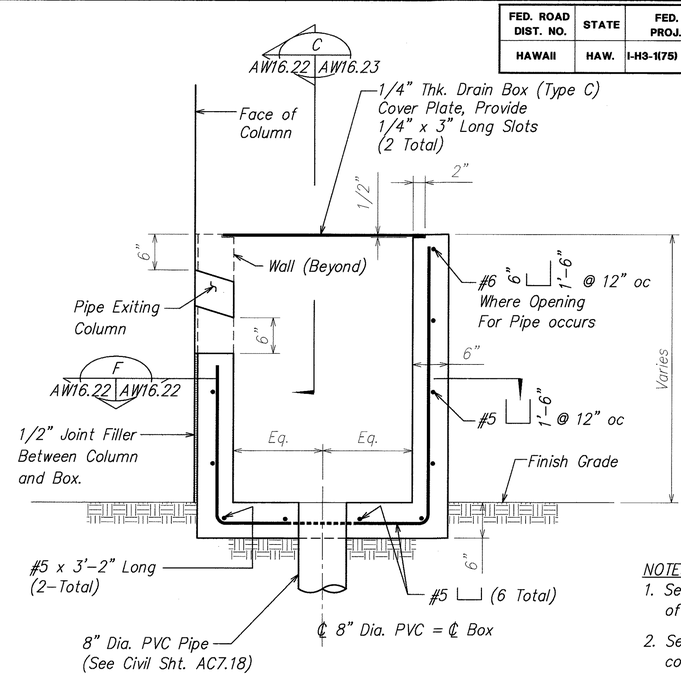
C AW16.22 | AW16.22




## COLUMN OUTLET STRUCTURE, TYPE "B" SECTION

SCALE: 1" = 1'-0"

D AW16.22 | AW16.22



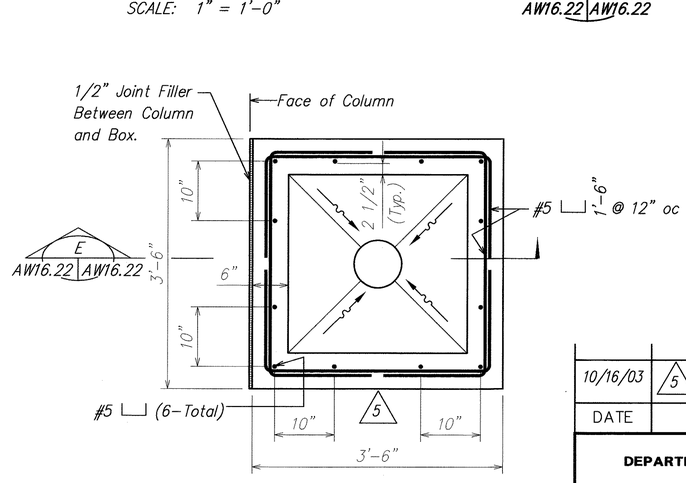

NOTES:

1. See Civil sheets for locations of drain boxes.
2. See sheet AW16.24 for cover details.

## COLUMN OUTLET STRUCTURE, TYPE "C"

SCALE: 1" = 1'-0"

E AW16.22 | AW16.22




## COLUMN OUTLET STRUCTURE, TYPE "C" SECTION

SCALE: 1" = 1'-0"

F AW16.22 | AW16.22

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HAWAII, U.S.A.

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revise Column Outlet Structure Sections. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAIN BOX
# COLUMN OUTLET STRUCTURES

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW16.22 OF 140 SHEETS

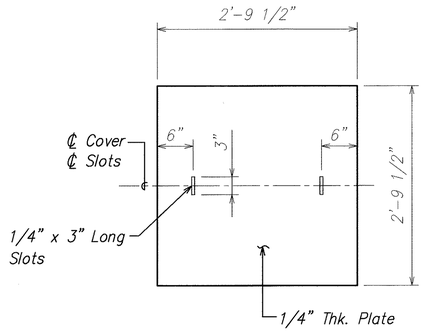
ADD. 695

| ORIGINAL PLAN | SURVEY PLOTTED BY: | DATE |
|---|---|---|
| | DRAWN BY: | |
| NOTE BOOK | TRACED BY: | |
| | DESIGNED BY: | |
| No. | QUANTITIES BY: | |
| | CHECKED BY: | |

\\Cad1\sd1\2001\10066-WAIWALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1622.dwg, ADD5 AW16.22 and ADD5 AW16.23, 10/14/2003 4:40:57 PM, KSFinc.pc3

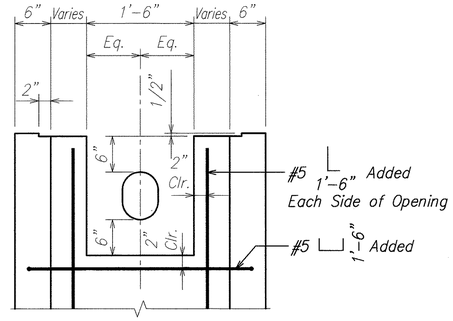
AW1622.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 696 | 816 |




## DRAIN BOX COVER
## 5 TYPE "A" AND "C" A

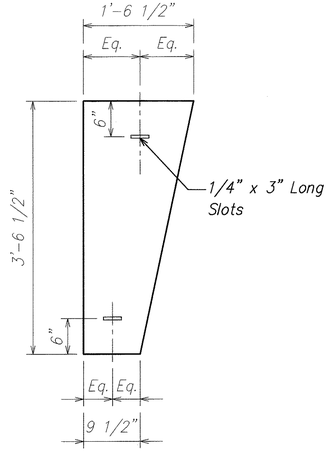
SCALE: 1" = 1'-0" AW16.22 | AW16.23




*Typical Wall Reinforcing & Drain Box Cover not shown for Clarity.*

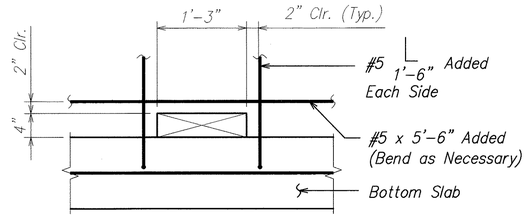
## SECTION AT PIPE C

SCALE: 1" = 1'-0" AW16.22 | AW16.23




## DRAIN BOX COVER
## 5 TYPE "B" B

SCALE: 1 1/2" = 1'-0" AW16.22 | AW16.23




## ADDED REINFORCING AT OPENING D

SCALE: 1 1/2" = 1'-0" AW16.22 | AW16.23

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

AW1623.DWG
1 = 1

\\Ccal\xsf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1622.dwg, ADD5 AW16.22 and ADD5 AW16.23, 10/14/2003 4:41:17 PM, KSFinc.pc3

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes. |

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAIN BOX COVER COLUMN OUTLET STRUCTURES

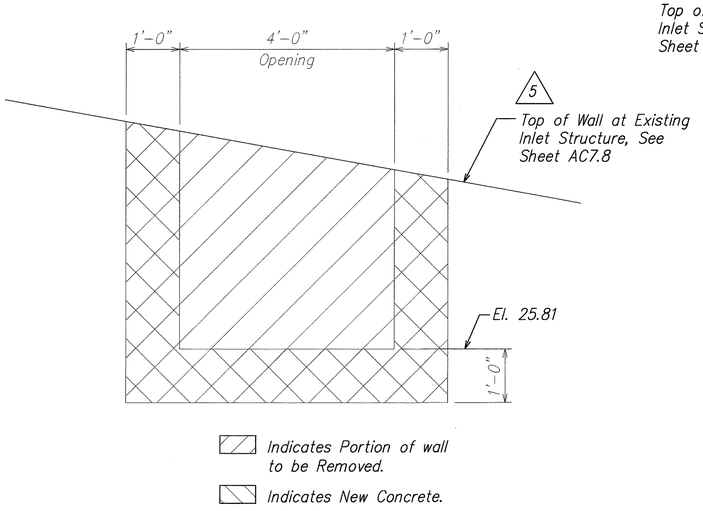
INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

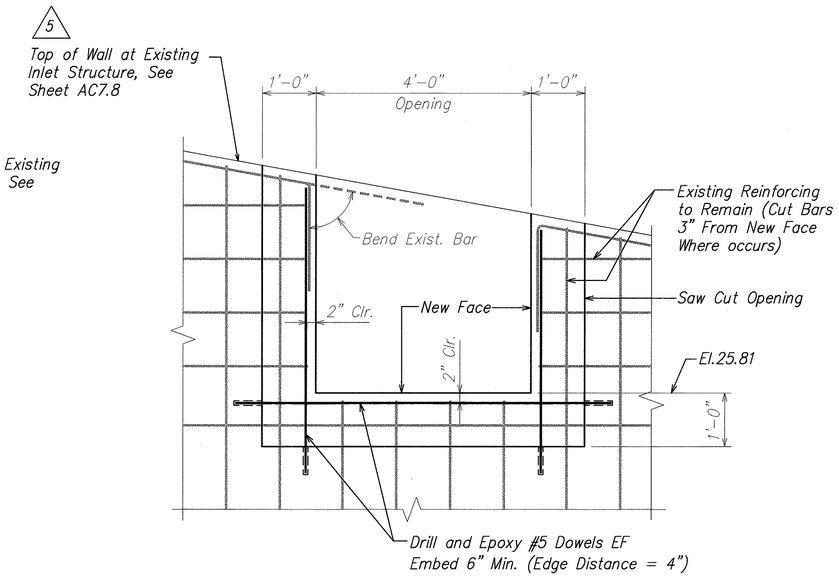
SHEET No. AW16.23 OF 140 SHEETS

ADD. 696

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 697 | 816 |




DEMOLITION A
SCALE: 3/4" = 1'-0" AW16.24 | AW16.24




ELEVATION B
SCALE: 3/4" = 1'-0" AW16.24 | AW16.24

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

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David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Clarification of Notes. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# OPENING AT INLET STRUCTURE FOR DITCH "E" TYPE "G"

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

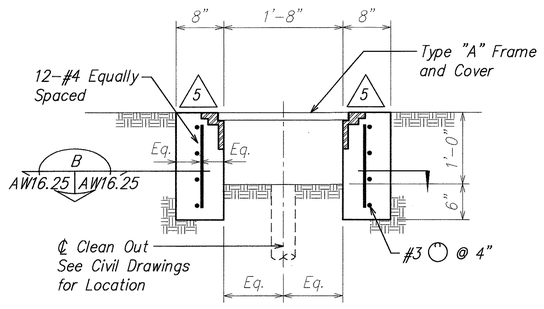
SHEET No. AW16.24 OF 140 SHEETS

ADD. 697

\\Cad\fsf\2001\10068-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1624.dwg, ADD5 AW16.24 and ADD5 AW16.25, 10/14/2003 4:42:34 PM, KSFinc.pc3

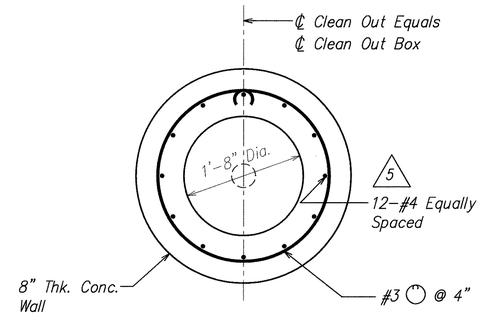
AB-AW1624.DWG
1 = 1

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 698 | 816 |




## CLEAN OUT BOX SECTION A

SCALE: 1" = 1'-0" AW16.25 AW16.25




## CLEAN OUT BOX PLAN SECTION B

SCALE: 1" = 1'-0" AW16.25 AW16.25

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

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revise Reinforcing. |

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David K. Fujiwara 4-30-04

SIGNATURE EXPIRATION DATE OF THE LICENSE

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

# MISCELLANEOUS DRAINAGE STRUCTURE

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

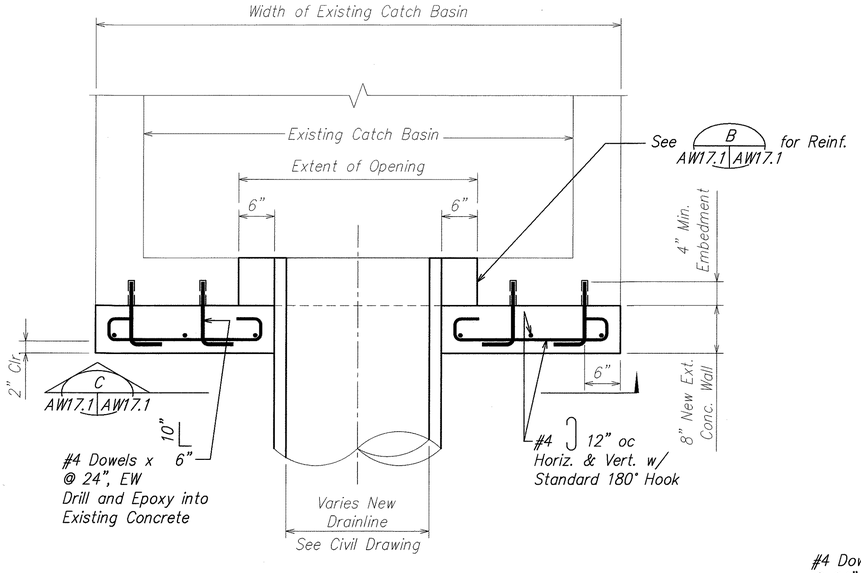
**SHEET No. AW16.25 OF 140 SHEETS**

**ADD. 698**

AB-AW1625.DWG
1 = 1

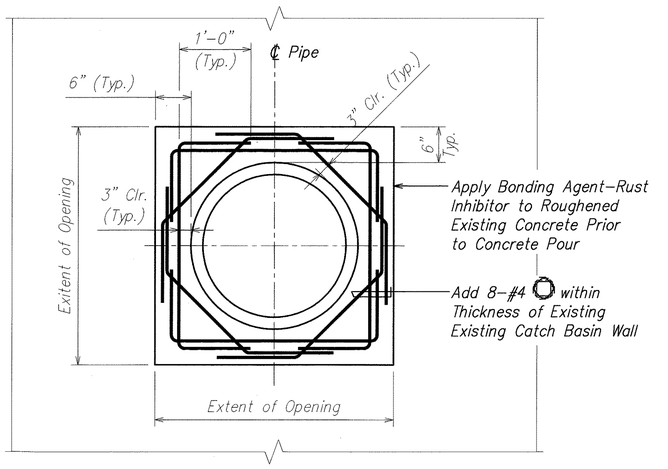
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 699 | 816 |



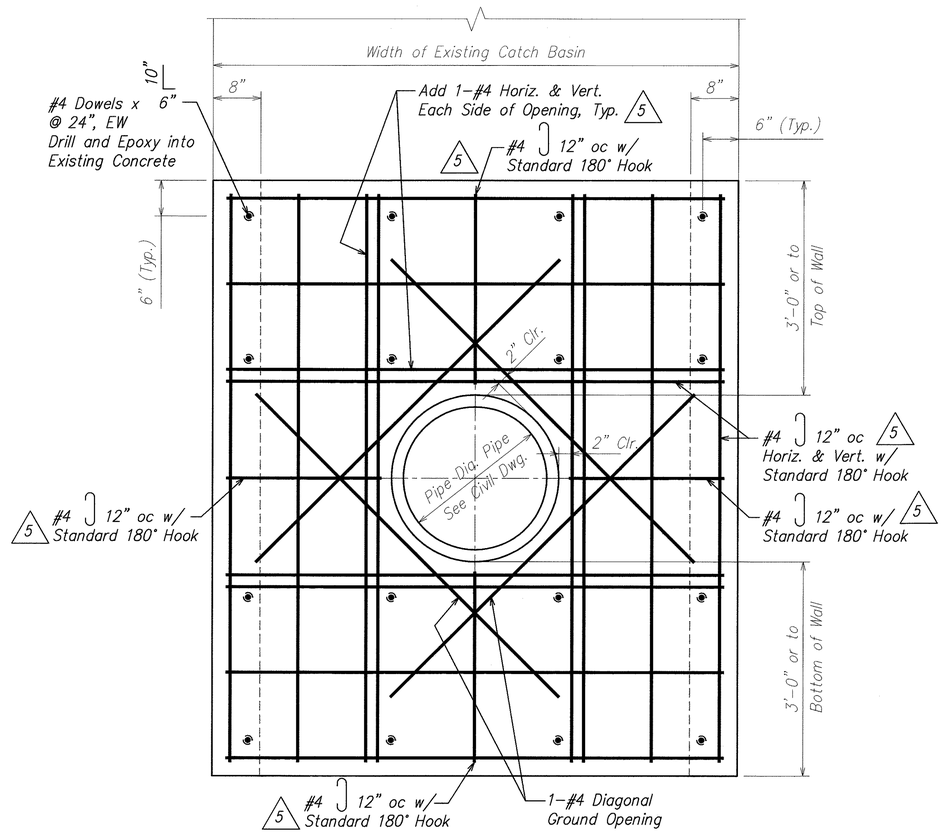

## PARTIAL PLAN AT PIPE OPENING IN CATCH BASIN — A / AW17.1 AW17.1

SCALE: 1" = 1'-0"




## ADDED REINFORCING IN EXISTING WALL — B / AW17.1 AW17.1

SCALE: 1" = 1'-0"




## NEW 8" EXTERIOR CONC. WALL ELEVATION — C / AW17.1 AW17.1 / AW17.2

SCALE: 1" = 1'-0"

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SIGNATURE — EXPIRATION DATE OF THE LICENSE: 4-30-04

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Revise Reinforcing. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NEW DRAINLINE TO EXISTING CATCH BASIN DETAIL

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted — Date: Mar. 31, 2003

SHEET No. AW17.1 OF 140 SHEETS

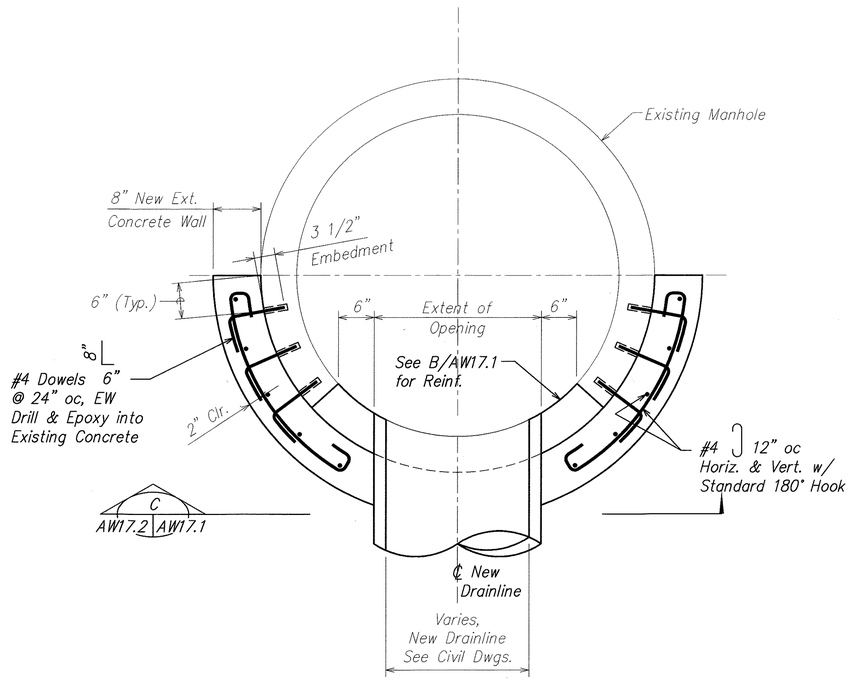
ADD. 699

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

AB-AW17.1.DWG 1 = 1

\\Cad1\ksf\2001\10066-WAIMALU VIADUCT\10-15-03 AW ADD6\ADD6 AB-AW1701.dwg, ADD5 AW17.1, 10/14/2003 4:46:30 PM, KSFmc.pc3

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 700 | 816 |




PLAN AT PIPE OPENING IN MANHOLE (A AW17.2 | AW17.2)

SCALE: 1" = 1'-0"

| | |
|---|---|
| ORIGINAL PLAN | SURVEY PLOTTED BY ____ DATE |
| NOTE BOOK | DRAWN BY * |
| No. ____ | TRACED BY * |
| | DESIGNED BY * |
| | QUANTITIES BY * |
| | CHECKED BY * |

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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

David K. Fujiwara 4-30-04
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NEW DRAINLINE TO EXISTING MANHOLE DRAIN

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

SHEET No. AW17.2 OF 140 SHEETS

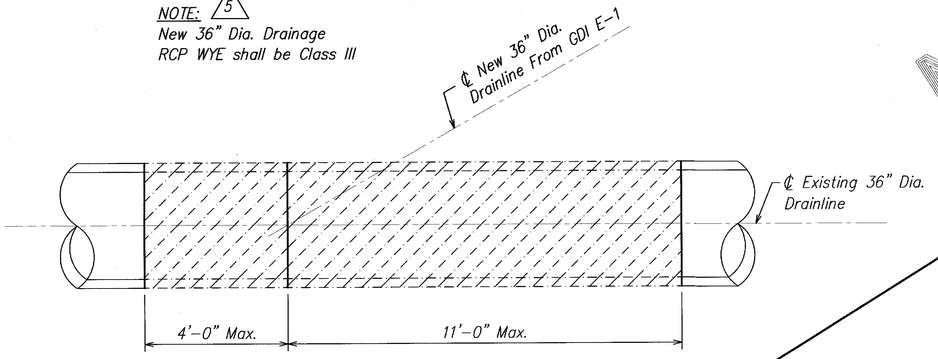
700

AB-AW17.2.DWG
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CAD-Basic Loaded, R 36.1 J5 \ Unknown, 01

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD 701 | 816 |

NOTE: (5)
New 36" Dia. Drainage
RCP WYE shall be Class III

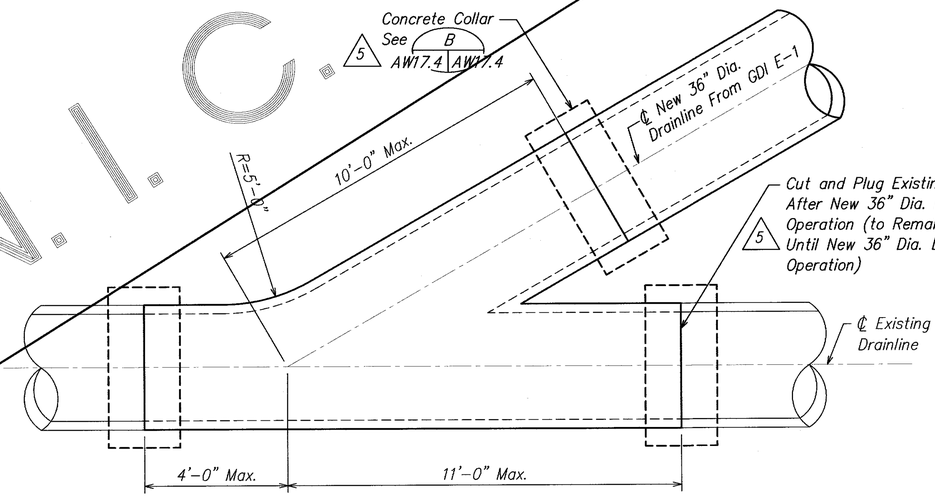



## PARTIAL DEMOLITION PLAN OF EXISTING 36" DIA. DRAINLINE (A)

SCALE: 1/2" = 1'-0"

AW17.3 | AW17.3

N.I.C.




## 36" DIA. RCP WYE CONNECTION (B)

SCALE: 1/2" = 1'-0"

AW17.3 | AW17.3

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NO. 8104-S
HAWAII, U.S.A.

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ORIGINAL PLAN
NOTE BOOK
No.

SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

| DATE | REVISION |
|---|---|
| | Not in Contract |
| 10/16/03 | (5) Clarification of Notes |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# NEW DRAINLINE TO EXISTING PIPE CONNECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

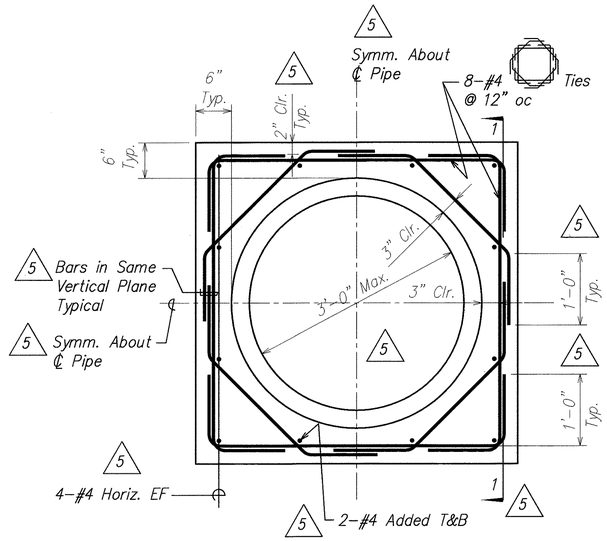
Scale: As Noted — Date: Mar. 31, 2003

SHEET No. **AW17.3** OF **140** SHEETS

"AS-BUILT"

ADD. 701

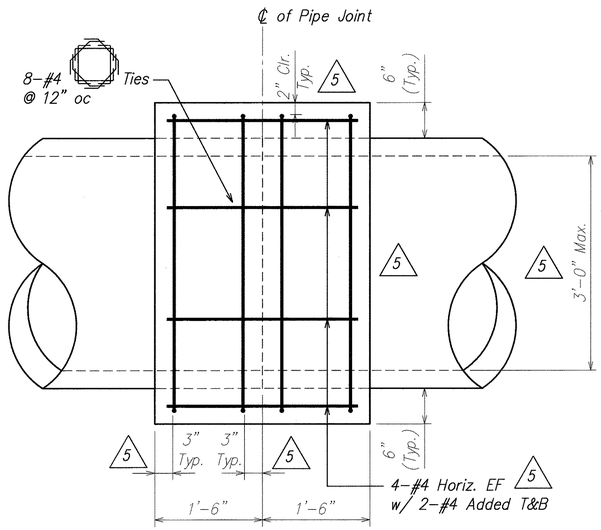
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | ADD. 702 | 816 |




TYPICAL CONCRETE COLLAR A

SCALE: 1" = 1'–0"

AW17.4 | AW17.4




SECTION 1–1 5

| DATE | REVISION |
|---|---|
| 10/16/03 | 5 Added Dimensions |

DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104–S
HAWAII, U.S.A.

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SIGNATURE — EXPIRATION DATE OF THE LICENSE: 4-30-04

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# DRAINLINE TYPICAL DETAILS

INTERSTATE ROUTE H–3
H–3 FINISH (UNIT VIII)
F.A.I. Proj. No. I–H3–1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

**SHEET No. AW17.4 OF 140 SHEETS**

ADD. 702

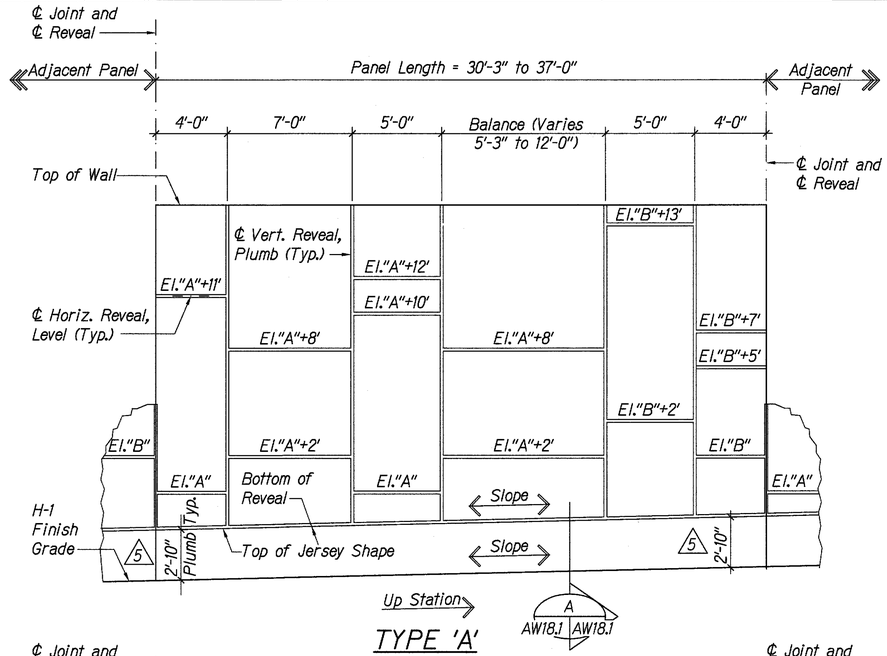
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

AB–AW174.DWG
1 = 1

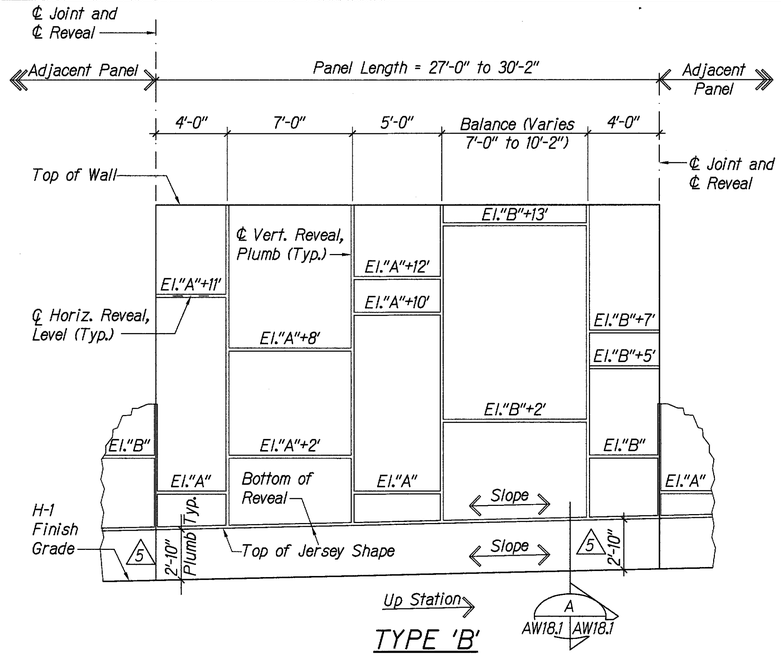
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | C.O. ADD. 703 | 816 |

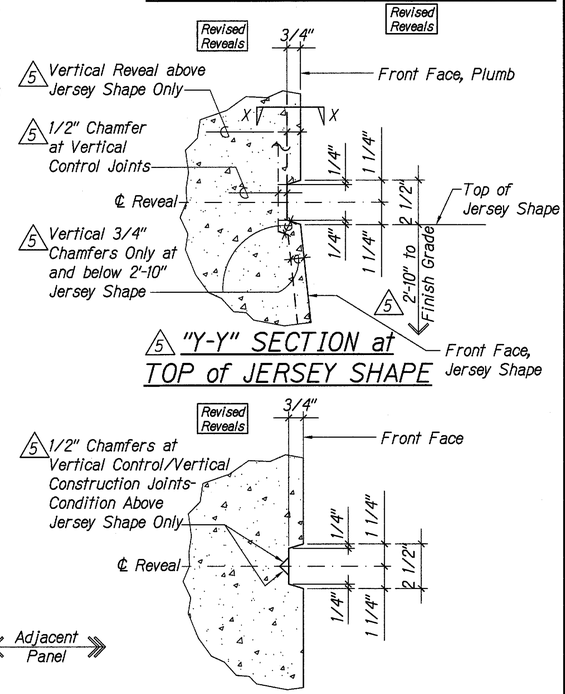
Revised Reveals




TYPE 'A'



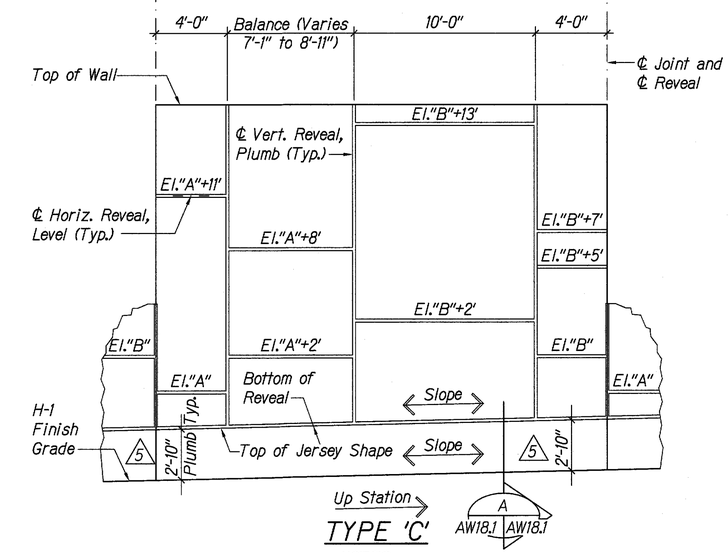

TYPE 'B'



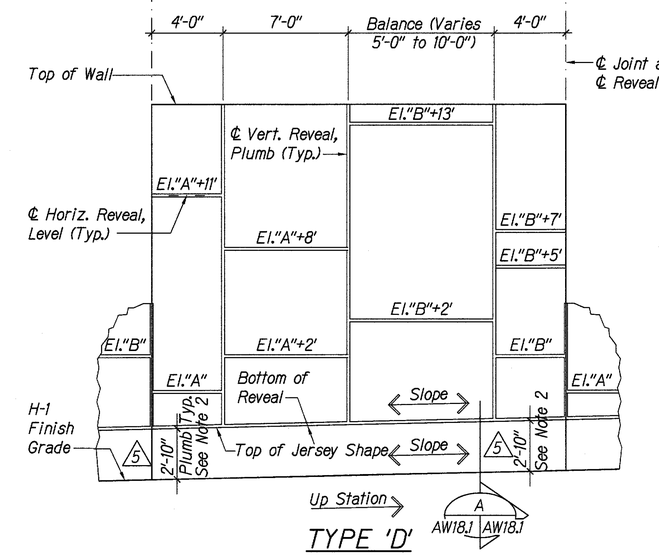

5 "Y-Y" SECTION at TOP of JERSEY SHAPE



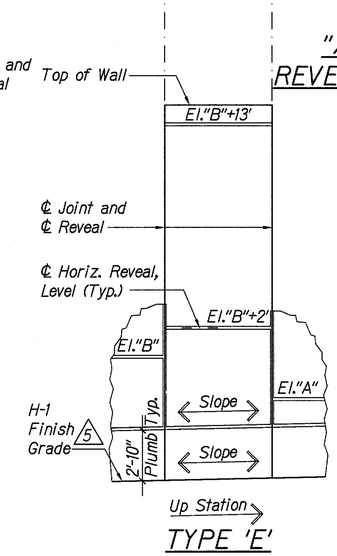

"X-X" TYP. HORIZONTAL or VERTICAL 5 REVEAL DETAIL ABOVE JERSEY SHAPE ONLY




TYPE 'C'




TYPE 'D'




TYPE 'E'

NOTES:

1. Omit the Horizontal Reveal if it is Less Than 1'-0" From Top of Wall.
2. At Wall Panel CBW-5T, height of Jersey Shape tapers from 2'-10" to Approx. 2'-8" at Sta. 136+50 - to match existing adjacent barrier height. See 1/AW13.19A and B/AW13.24.

5 PATTERN of REVEAL ELEVATION

Scale: 1/4"=1'-0"

1 AW18.1 AW18.1

4 3 2 1 0 4 8

SCALE: 1/4"= 1'-0"

6 4 2 0 6IN

SCALE: 3"= 1'-0"

REVEAL DETAIL

Scale: 3"=1'-0"

A AW18.1 AW18.1

5 STEWART N. WILLIAMS LICENSED PROFESSIONAL ENGINEER No. 3908-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER No. 8104-S HAWAII, U.S.A.

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SIGNATURE — April 30, 2004 EXPIRATION DATE OF THE LICENSE

| DATE | REVISIONS |
|---|---|
| 2/28/05 | Revised Reveals — Revised Reveals from 1 1/2" to 3/4" Deep |
| 10/16/03 | 5 Revised Sheet Title. Revised Jersey Shape Height. |

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

# MISC. DETAILS - 5

## PATTERN of REVEAL ELEV.

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Mar. 31, 2003

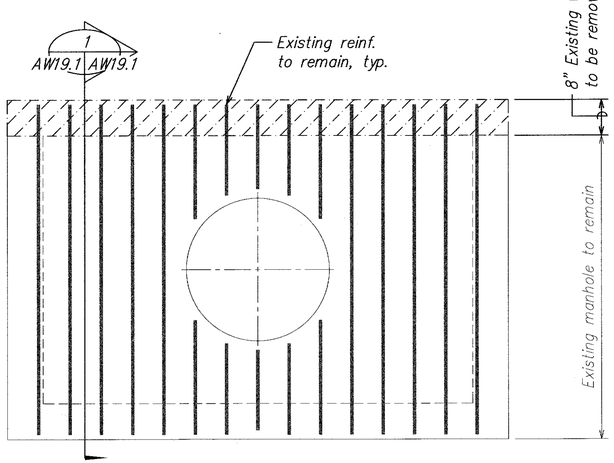
SHEET No. AW18.1 OF 140 SHEETS

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

RMTC JOB NO.: 1-19369-OE

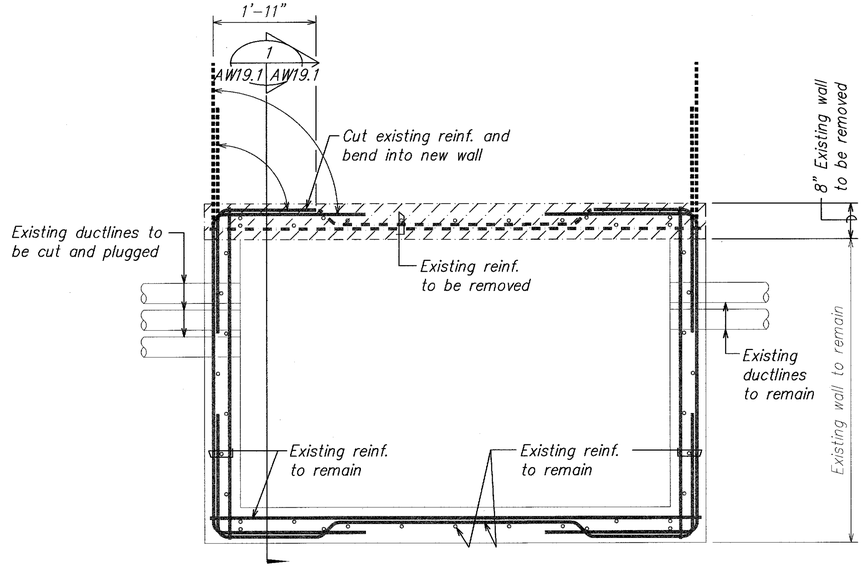
Revised Reveals C.O. ADD. 703

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| HAWAII | HAW. | I-H3-1(75) UNIT VIII | 2003 | 703S-1 | 816 |



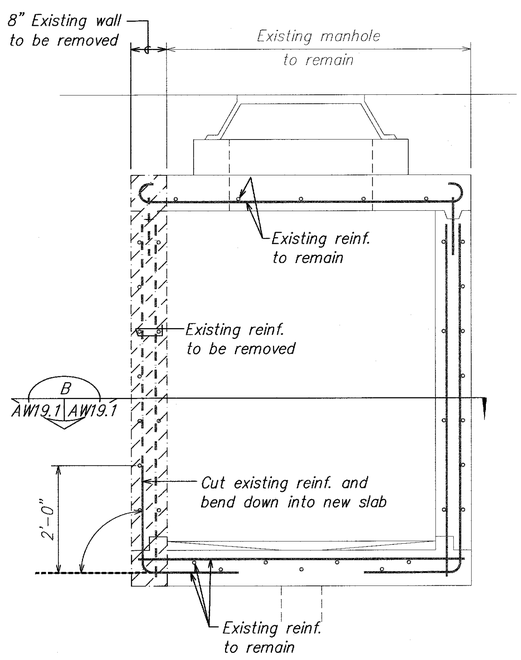

TOP SLAB – DEMOLITION PLAN (A) AW19.1 AW19.1

SCALE: 3/4" = 1'-0"




WALL – DEMOLITION PLAN (B) AW19.1 AW19.1

SCALE: 3/4" = 1'-0"




WALL – DEMOLITION SECTION (1) AW19.1 AW19.1

SCALE: 3/4" = 1'-0"

## STRUCTURAL GENERAL NOTES:

1. General Specifications: Hawaii Department of Transportation, Standard Specifications for Road, Bridge, and Public Works Construction, 1994, together with Special Provisions prepared for this contract.

2. Design Specifications: AASHTO 1998 LRFD Bridge Design Specifications (Second Edition) and its subsequent interim specifications with interim supplements and modifications by the Highways Division, Department of Transportation, State of Hawaii.

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

| Item No. | Structural Parts | Compressive Strength f'c (28 Days) | W/C Ratio |
|---|---|---|---|
| (1) | All concrete unless otherwise noted | 4000 PSI | 0.45 |

   (B) The use of any calcium chloride in any concrete is prohibited.

   (C) All reinforcing steel shall be ASTM A 615 Grade 60 unless otherwise noted.

4. Reinforcement:
   (A) The covering measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as otherwise shown:
      (1) Concrete cast against and permanently exposed to earth = 3"
      (2) All others unless otherwise noted = 2".
   (B) Reinforcing bars shall be detailed in accordance with the latest edition of the A.C.I. Detailing Manual unless otherwise noted.

## STRUCTURAL GENERAL NOTES (CONT'D.):

4. Reinforcement (Cont'd.):
   (C) Minimum clear spacing between parallel bars shall be 1 1/2 times the diameter of bars (for non bundled bars). In no case shall the clear distance between the bars be less than 1 1/2 times the maximum size of the coarse aggregate or 1 1/2".
   (D) All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.
   (E) Reinforcing bars shall be securely tied at all intersections and lap splices except where the spacing of intersections is less than one foot in each direction, in which case alternate intersections shall be tied.

5. Construction Notes:
   (A) The Contractor shall verify all dimensions and site conditions and shall report any discrepancies in writing to the Engineer before commencing work or ordering materials.
   (B) The Contractor shall be solely responsible for the protection of adjacent properties, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer.
   (C) The Contractor shall verify the location of all utility lines and notify the respective owners before commencing with excavation, and any temporary piling or sheeting.
   (D) Except as otherwise noted, all vertical dimensions are measured plumb.
   (E) For concrete finish see Standard Specifications and Special Provisions.
   (F) Construction joints may be relocated or additional ones added subject to the approval of the Engineer.
   (G) Unless otherwise noted, all exposed concrete edges shall be chamfered 3/4" x 3/4".
   (H) The Contractor shall refer to the existing drawings for the approximate location and size of all existing reinforcing bars prior to demolishing wall.

6. General:
   (A) For electrical conduit and light standard location details see electrical drawing.

| 9/30/04 | Added Sheet |
|---|---|
| DATE | REVISION |

APPROVED

Verizon Hawaii Date

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4-30-06 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURAL GENERAL NOTES AND EXISTING WALL DEMOLITION PLANS AND SECTION

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Sept. 15, 2004

SHEET No. AW19.1 OF 3 SHEETS

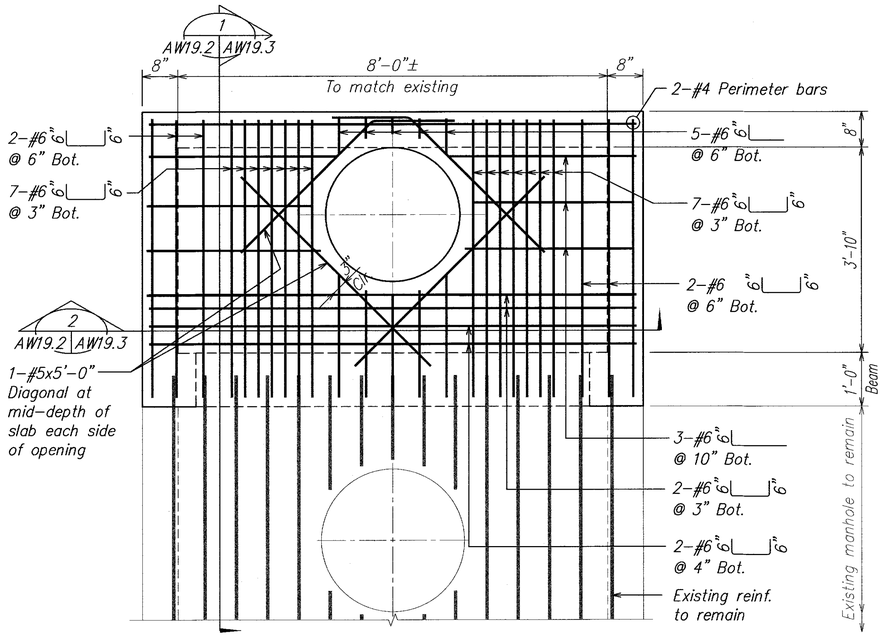
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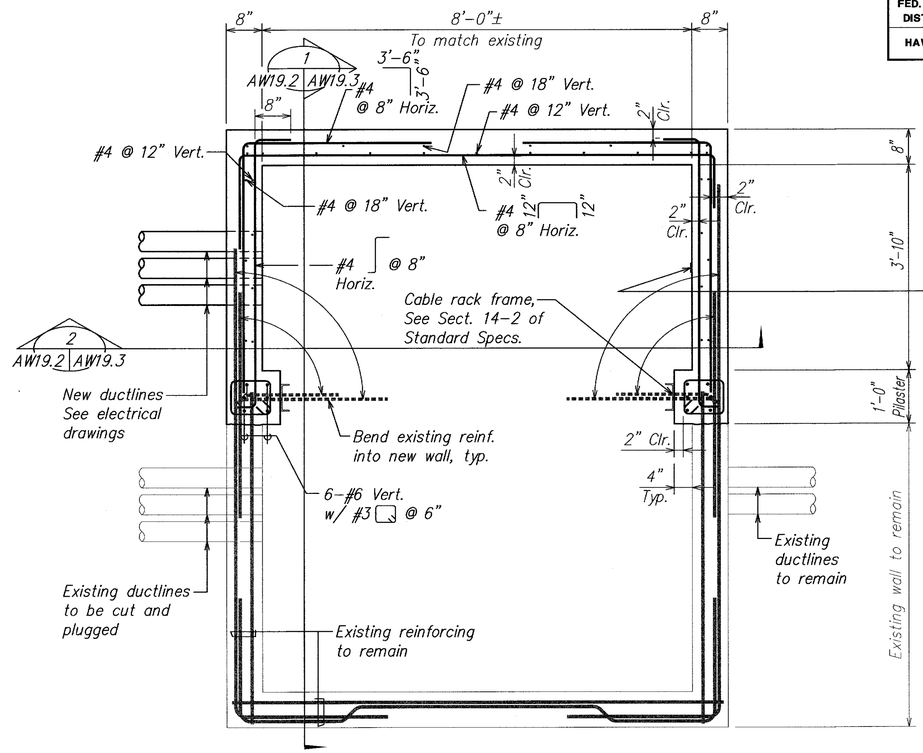
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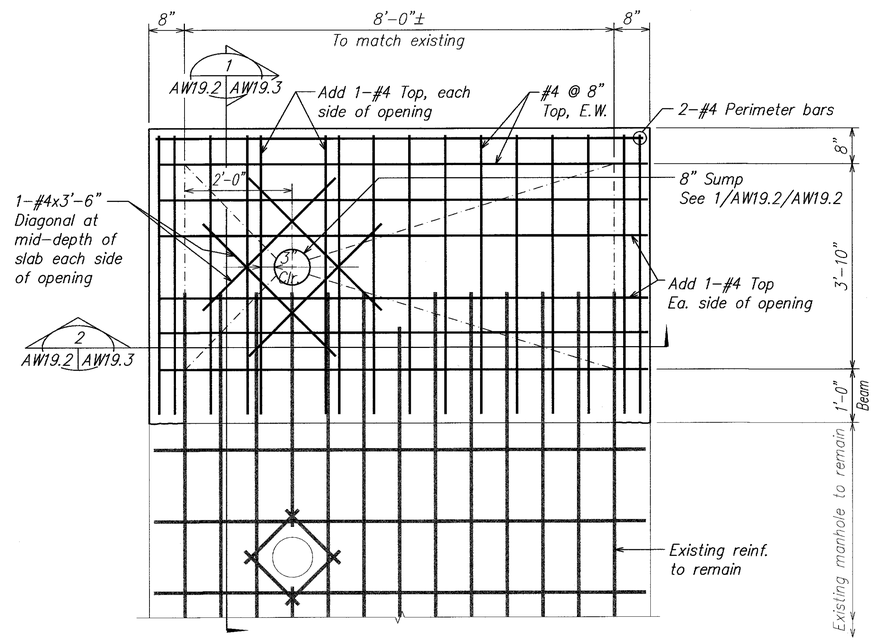

TOP SLAB – REINFORCING PLAN (A) AW19.2 | AW19.2

SCALE: 3/4" = 1'-0"



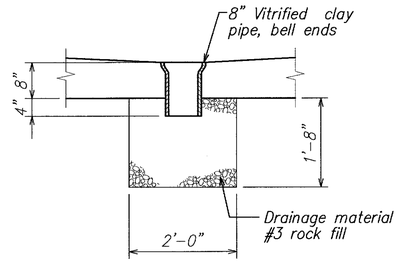

WALL – REINFORCING PLAN (B) AW19.3 | AW19.2

SCALE: 3/4" = 1'-0"




BOTTOM SLAB – REINFORCING PLAN (C) AW19.2 | AW19.2

SCALE: 3/4" = 1'-0"




MANHOLE SUMP DETAIL (1) AW19.2 | AW19.2

SCALE: 3/4" = 1'-0"

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| 9/30/04 | Added Sheet |
| DATE | REVISION |

APPROVED

Verizon Hawaii Date

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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4-30-06 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NEW MANHOLE EXTENSION
PLANS AND DETAIL

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

Scale: As Noted Date: Sept. 15, 2004

SHEET No. AW19.2 OF 150 SHEETS

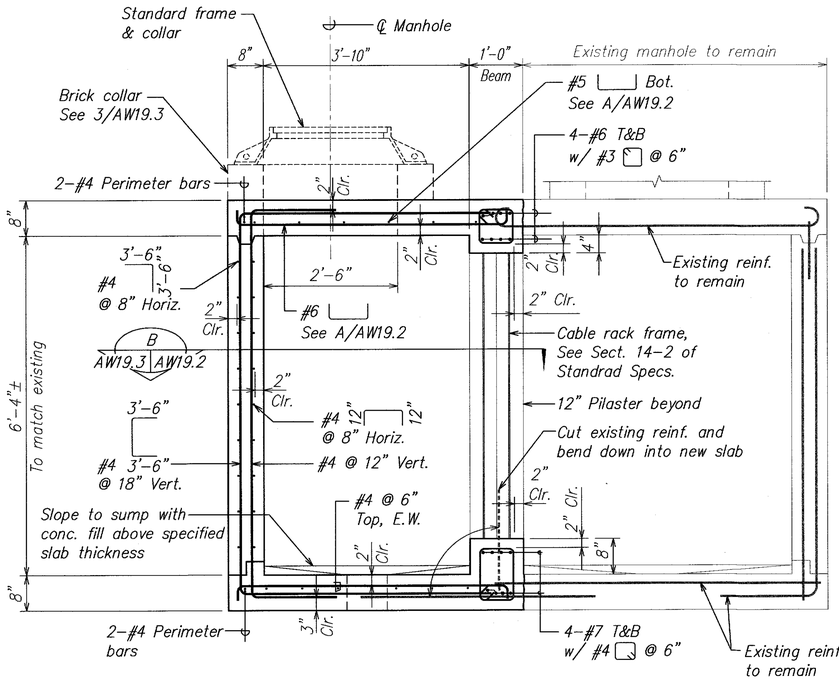
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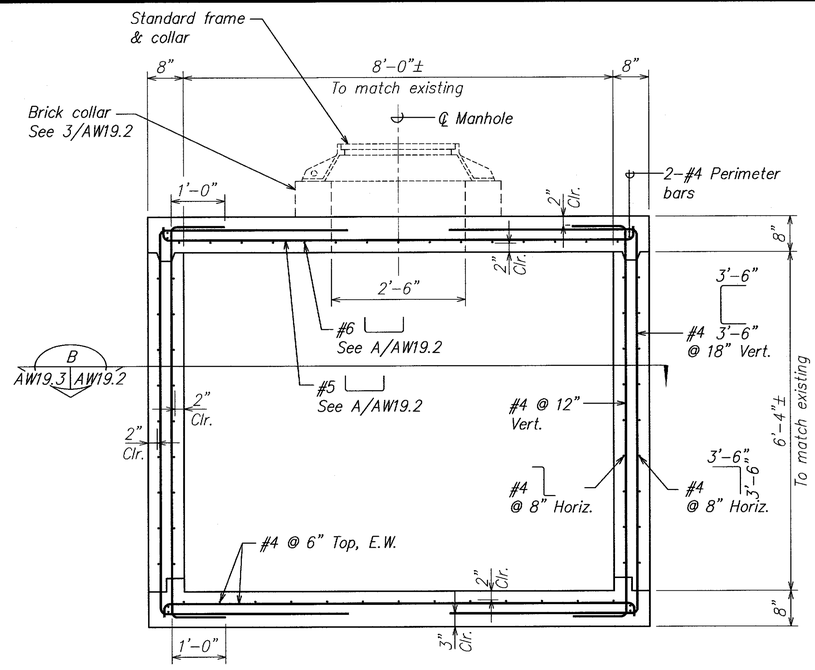
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## WALL – REINFORCING SECTION 1

SCALE: 3/4" = 1'-0"

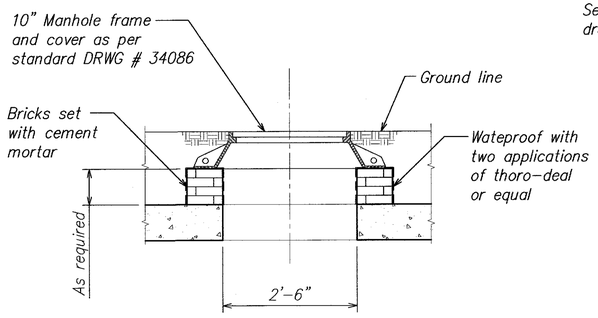
AW19.2 | AW19.3




## WALL – REINFORCING SECTION 2

SCALE: 3/4" = 1'-0"

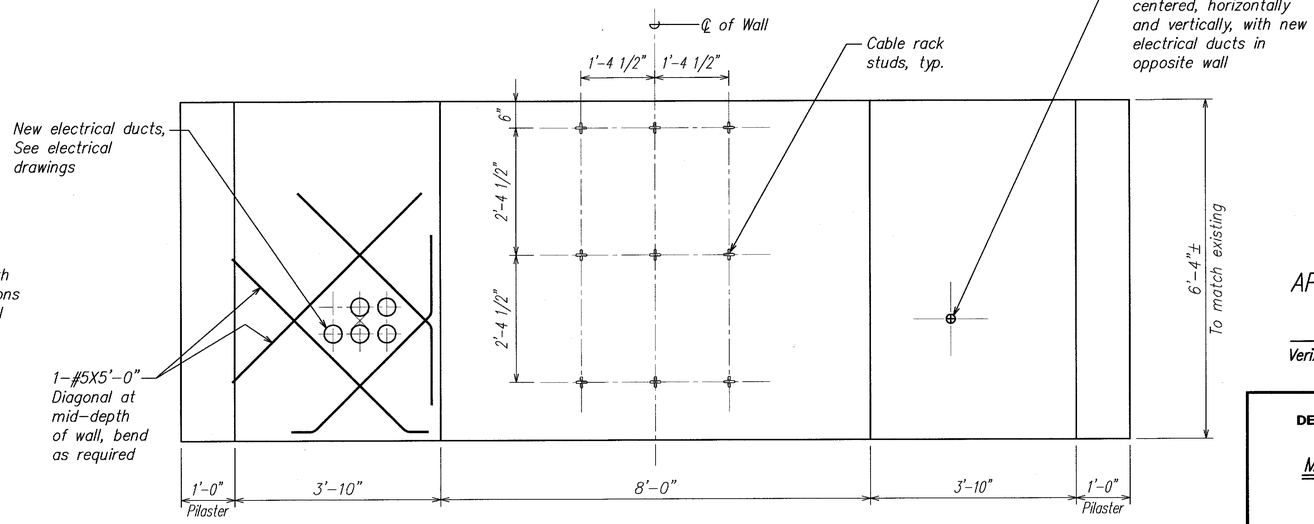
AW19.2 | AW19.3




## BRICK COLLAR DETAIL 3

SCALE: 3/4" = 1'-0"

AW19.3 | AW19.3




## ELEVATION OF MANHOLE WALLS

SCALE: 3/4" = 1'-0"

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ORIGINAL PLAN

| 9/30/04 | Added Sheet |
|---|---|
| DATE | REVISION |

DAVID K. FUJIWARA LICENSED PROFESSIONAL ENGINEER NO. 8104-S HAWAII, U.S.A.

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APPROVED

Verizon Hawaii Date

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MANHOLE EXTENSION SECTIONS

INTERSTATE ROUTE H-3
H-3 FINISH (UNIT VIII)
F.A.I. Proj. No. I-H3-1(75) Unit VIII

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