

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56D-01-83M	1983	2	22

GENERAL NOTES

DESIGN SPECIFICATIONS:

Standard Specification for Highway Bridges (12th Edition) with subsequent Interim Specifications. (AASHTO).

DESIGN LOADS: H20-44

MATERIALS:

- Reinforced Concrete - Class A $f_c = 3,000$ psi
- Reinforcing Steel - ASTM A615 Grade 40
- Prestressed Concrete - See prestressing notes.
- Epoxy Grout shall conform to Section 712.04 of the Special Provisions.
- Epoxy binder shall conform to Section 712.02
- Epoxy - Resin System of the Special Provisions.
- Steel Shapes & Plates - ASTM A-36.
- All anchor bolts & structural steel shapes and plates shall be hot dip galvanized after fabrication.

GENERAL:

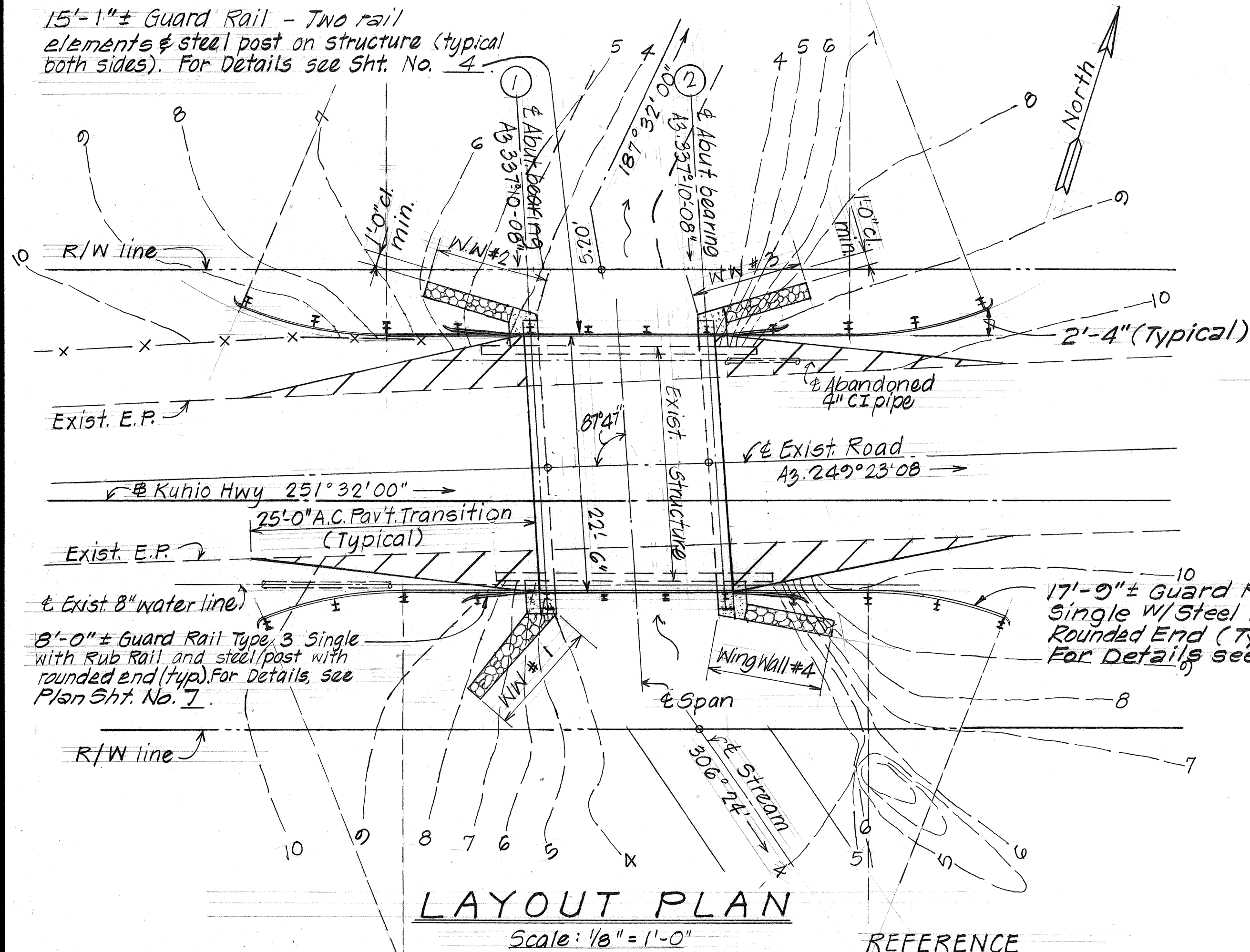
- All items noted incidental will not be paid for separately.
- The Contractor shall verify all dimensions, grades and elevations in the field before commencing with the work.
- The Contractor shall verify the locations of all existing utilities at or near the bridge and notify their respective owners before commencing work.
- Road closures, if necessary, will conform to Section 104.04 of Special Provisions.
- All construction work necessary to complete the project shall be done within the State's right-of-way and no exceptions shall be made.
- Guard rail post spacing shall be 6'-3" in roadway section or as otherwise noted in the plans.

PRESTRESSING NOTES:

See sheet 5.

CONSTRUCTION METHODS:

- See Standard Specifications for Road and Bridge Construction, 1976 Edition (Hawaii) & Special Provisions.
- Drilling of holes into abutments and the grouting of dowels should be done in one operation.
- Top of seats at abutments shall receive slush grout immediately prior to placing of prestressed concrete slab panels.
- Existing subbase and pavement on the structure shall be removed to at least seat level prior to placement of the prestressed planks. This work shall be incidental to Item - 202.0441 "Removal of a Portion of Existing Concrete Parapet."

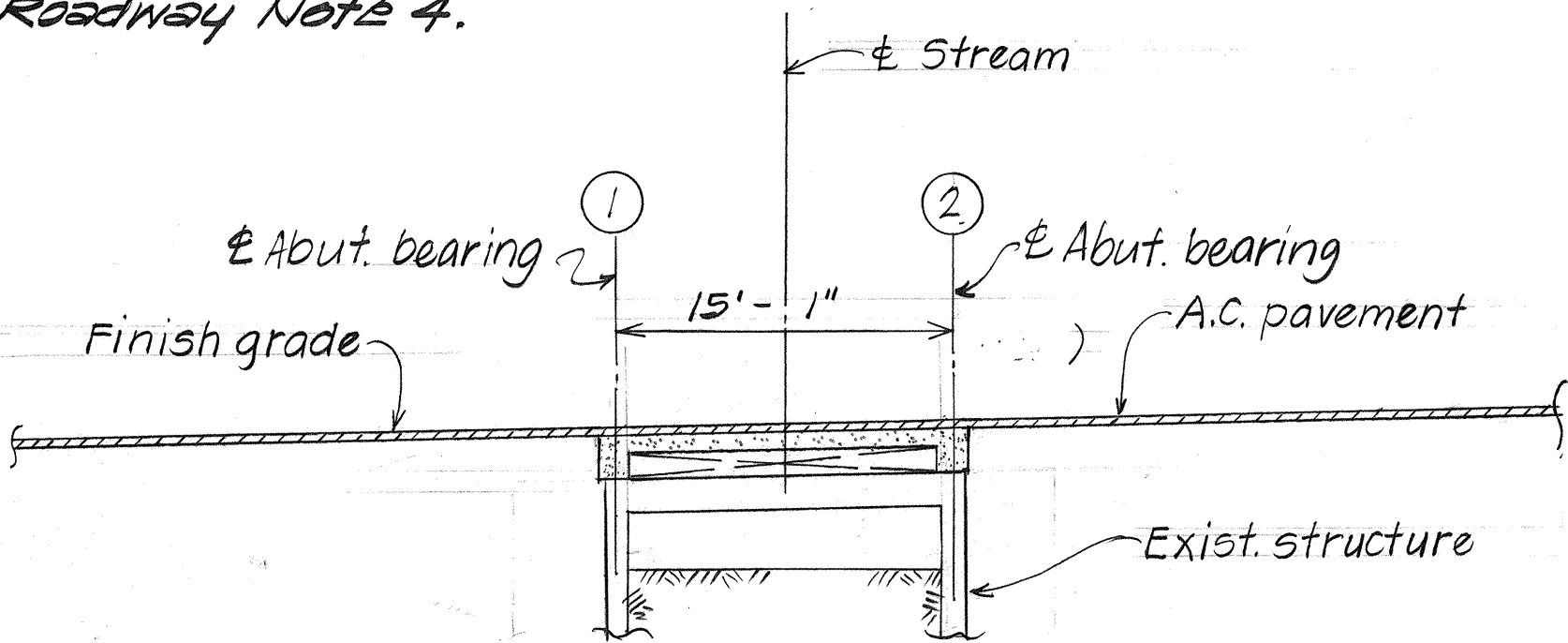


LEGEND

/// New Pavement Transitions
For Pavement Design see
Roadway Note 4.

REFERENCE

Abutment Detail - see sht. 2
Wingwall Detail - see sht. 3
Deck Details - see sht. 4 & 5



ROADWAY NOTES:

- Normal roadway cross slopes within the pavement transition shall be 1 1/2%.
- Taper rate on approach transitions to Haena Structure #2 shall be 1 inch vertical to 10 feet horizontal and shall be constructed with A.C. Mix I.
- Dressing of shoulders shall alleviate all hazardous transverse drops between pavement and roadway shoulders and shall provide fairly gradual finish shoulder slopes as directed by the Engineer.
- Pavement design for pavement transition shall be:
A.C. Mix I - 3 1/2 inches thick
Aggregate Base - 6 1/2 inches thick
Aggregate Subbase - 16 inches thick
- Hydro-Mulch graded or cleared roadway shoulders in the vicinity of structure abutments and wingwalls. Approximate total quantity 300 sq. yd.

ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY
202.0441	REMOVAL OF A PORTION OF EXISTING CONCRETE PARAPET	LUMP SUM	()
206.6001	STRUCTURE EXCAVATION FOR STRUCTURE SEATS & C.R.M. RETAINING WALLS	C.Y.	34 C.Y.
206.7201	STRUCTURE BACKFILL FOR STRUCTURE SEATS & C.R.M. RETAINING WALLS	C.Y.	4 C.Y.
206.8000	FILTER MATERIAL	C.Y.	1 C.Y.
503.1301	CONCRETE IN SEATS FOR HAENA #2 STRUCTURE	C.Y.	5 C.Y.
504.7411	PRESTRESSED CONCRETE PLANKS FOR HAENA #2 STRUCTURE	S.F.	367 S.F.
508.0100	CEMENT RUBBLE MASONRY	C.Y.	26 C.Y.
602.0301	REINFORCING STEEL IN HAENA #2 STRUCTURE	L.B.	1,200 L.B.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

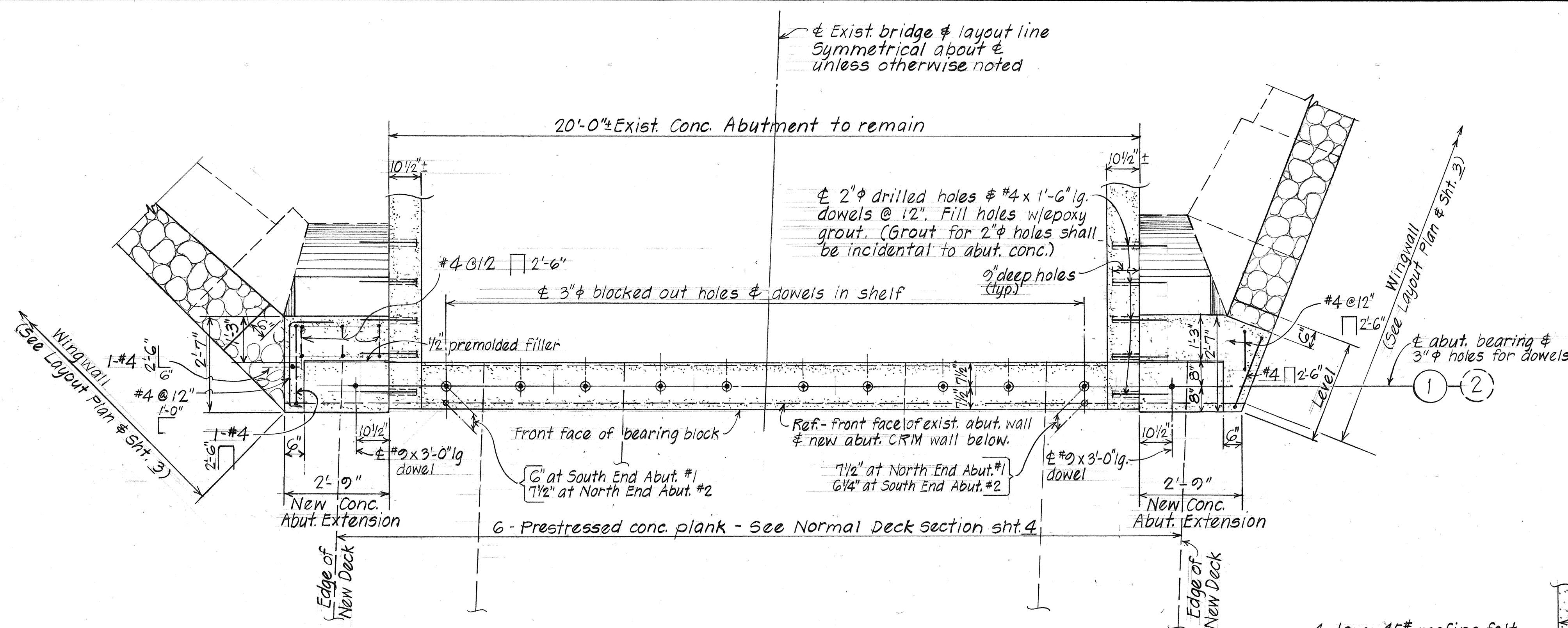
**REPAIRS TO HAENA
STRUCTURE #2**
LAYOUT PLAN, EST. QUANTITIES
GENERAL NOTES

KUHIO HIGHWAY, KAUAI
PROJ. NO. 56D-01-83M

Scale: As Noted Date: Nov. 1982

SHEET No. 1 OF 5 SHEETS

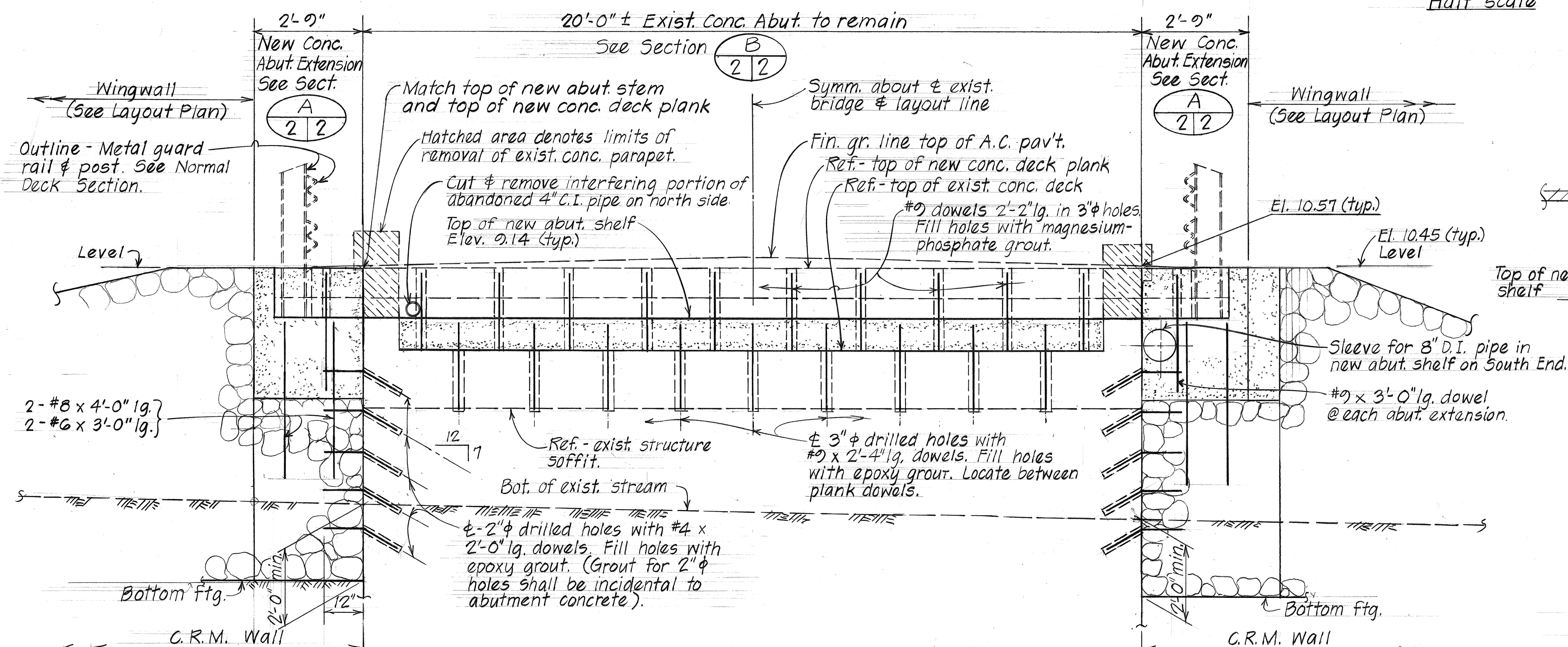
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56D-01-B3M	1983	3	22



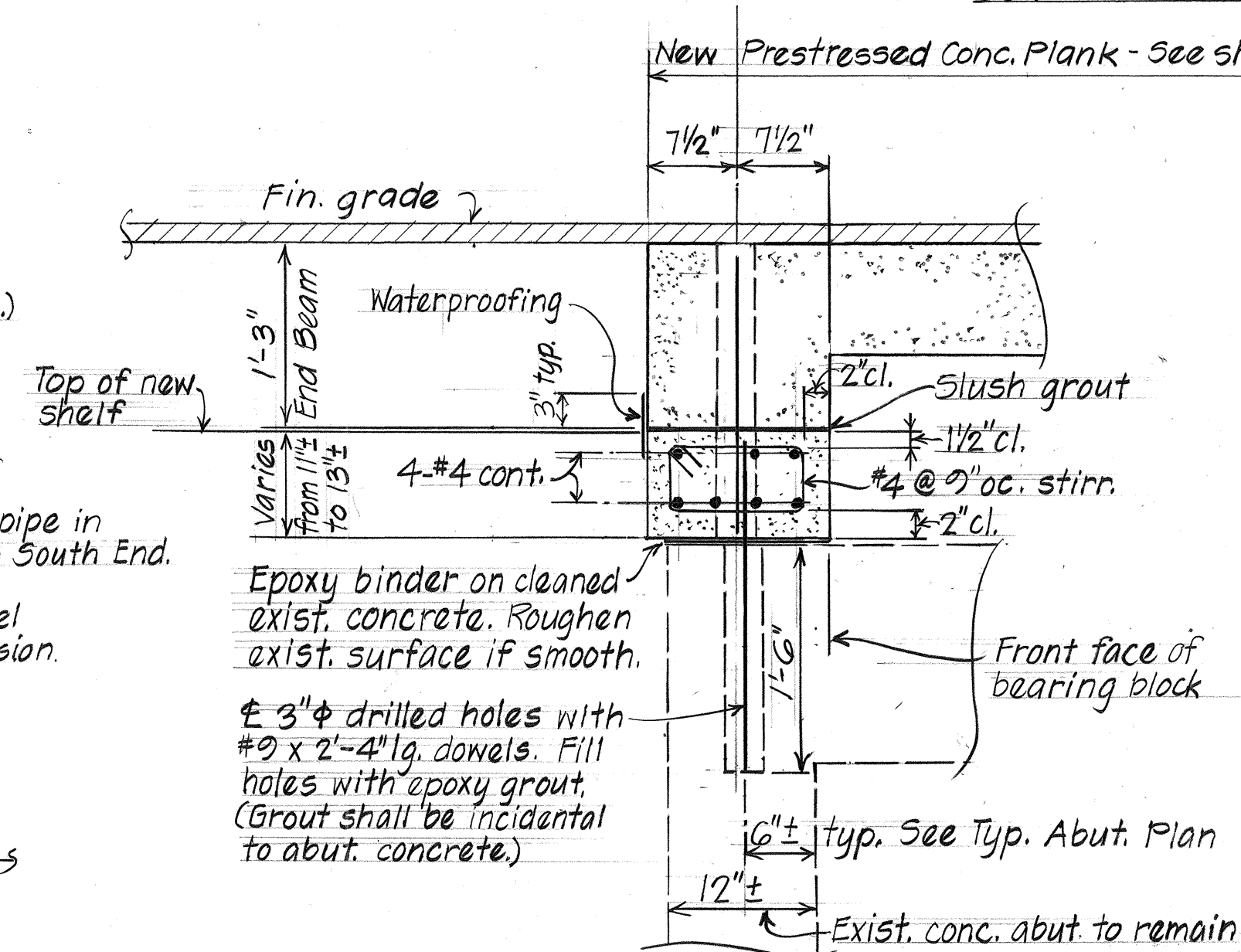
TYPICAL ABUTMENT PLAN
Scale: 1/2" = 1'-0"

WATERPROOFING DETAIL
Half scale

TYPICAL SECTION THRU NEW CONC. ABUT. EXTENSION
Scale: 1" = 1'-0"



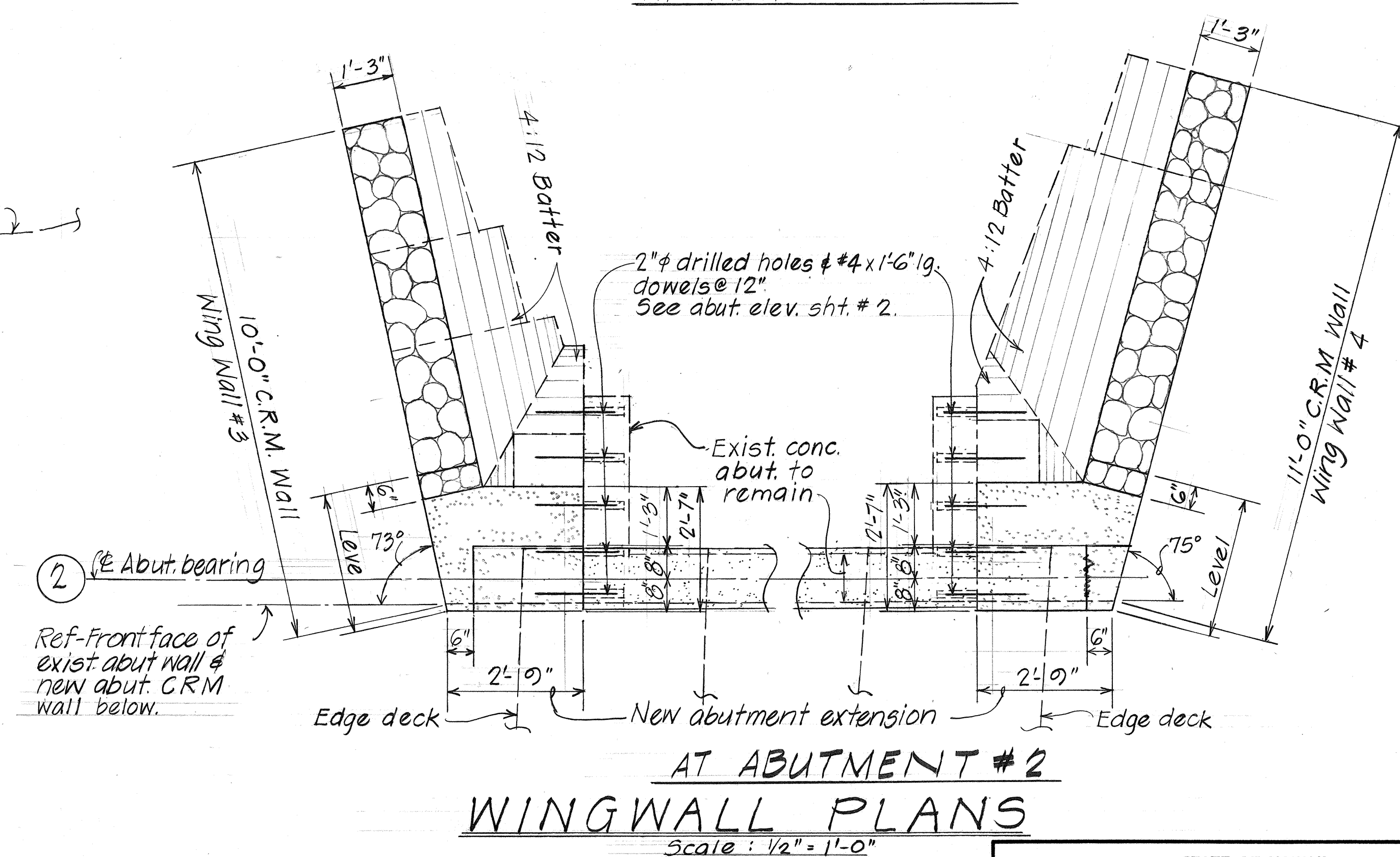
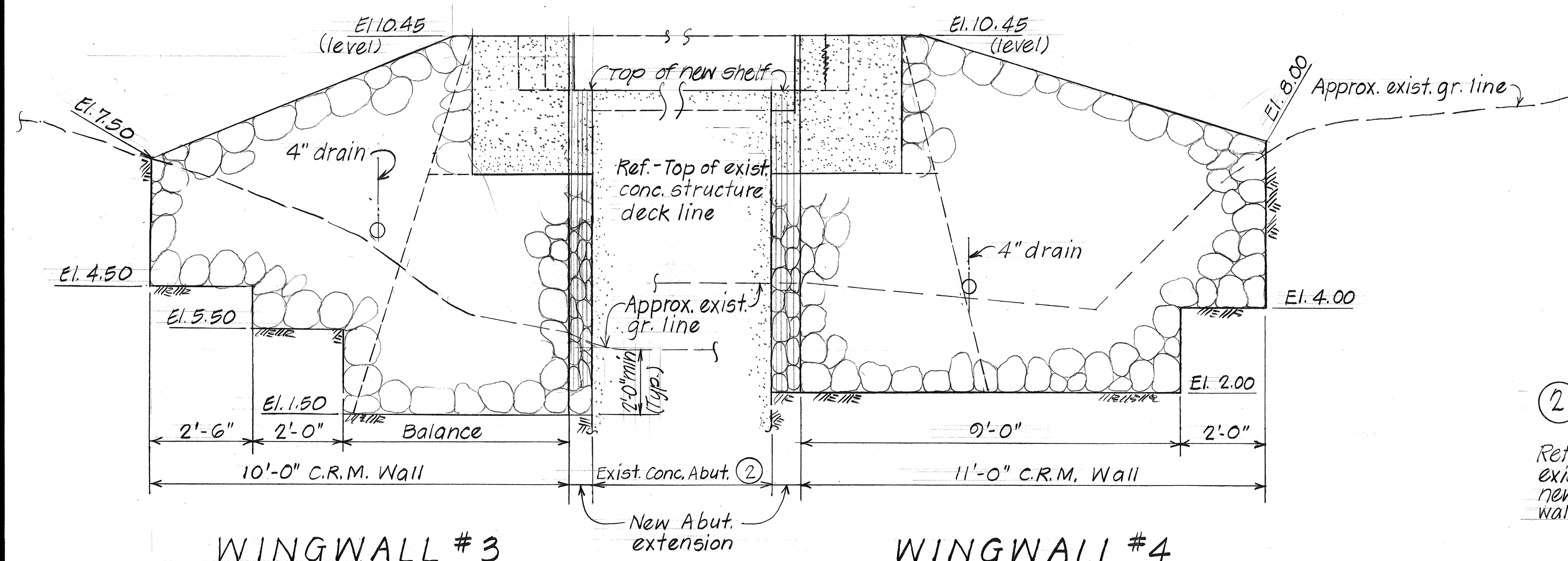
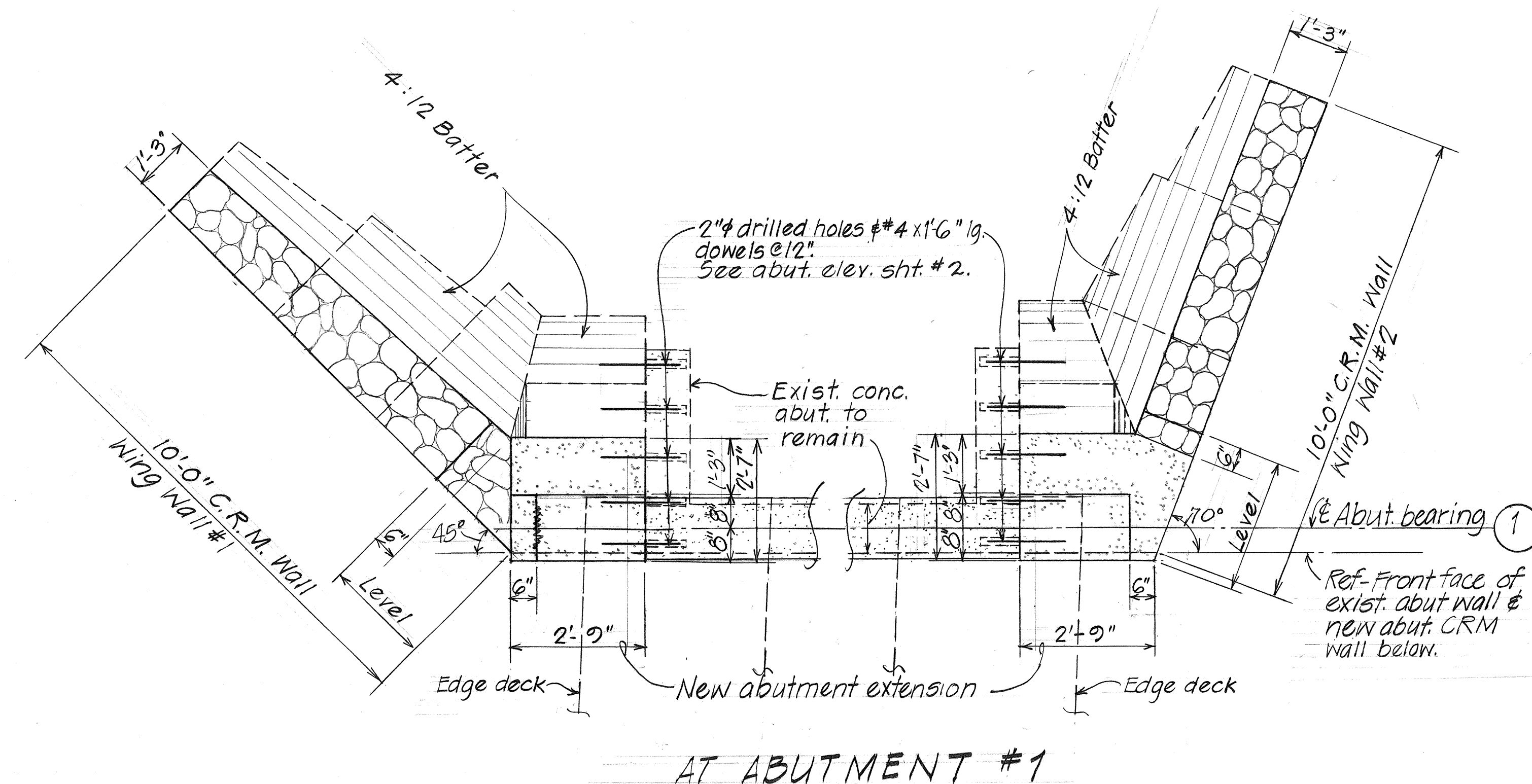
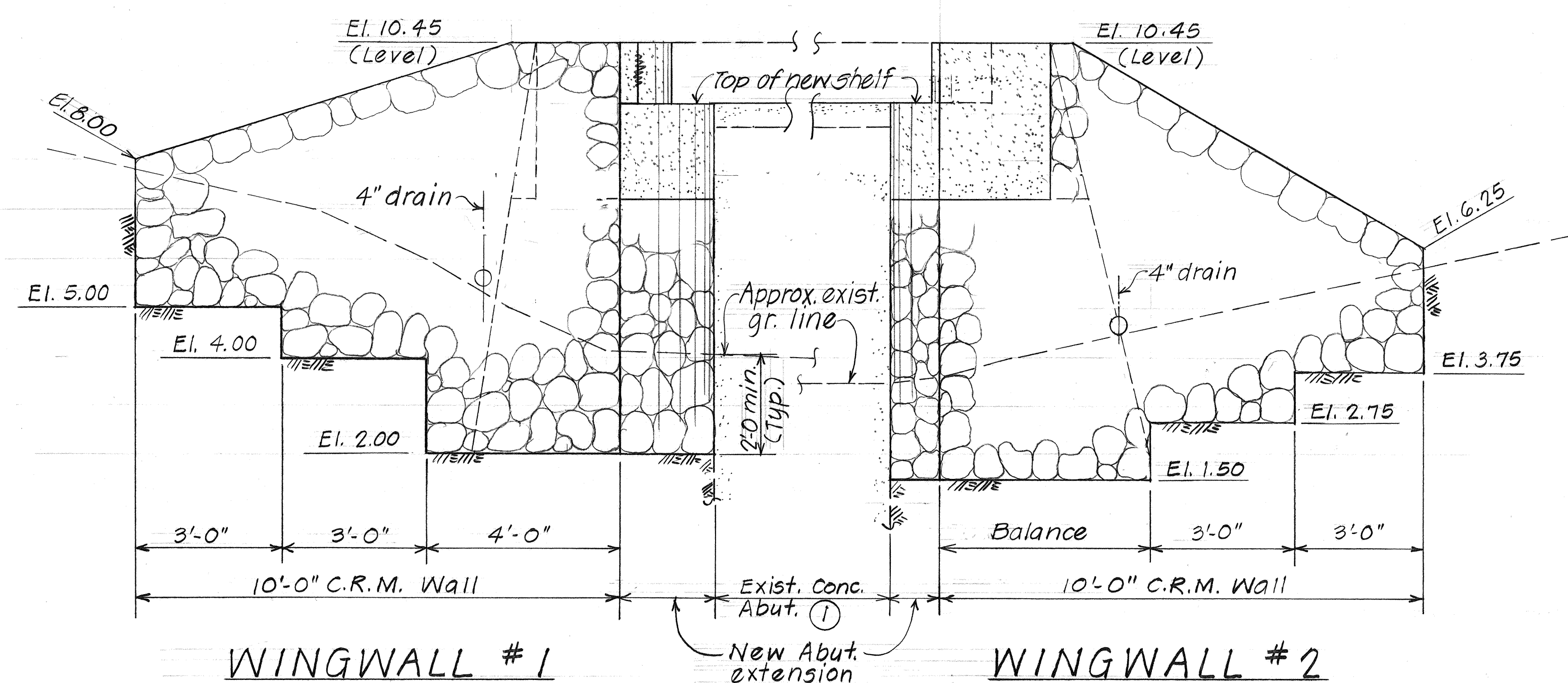
TYPICAL ABUTMENT ELEVATION
Scale: 1/2" = 1'-0"



TYP. SECTION THRU EXISTING ABUTMENT
Scale: 1" = 1'-0"

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION LAND TRANSPORTATION FACILITIES DIVISION
REPAIRS TO HAENA STRUCTURE #2
TYPICAL ABUT. DETAILS
KUHIO HIGHWAY - KAUAI PROJ. NO. 56D-01-B3M
Scale: As Noted Date: Nov. 1982
SHEET NO. 2 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56D-01-B3M	1983	4	22

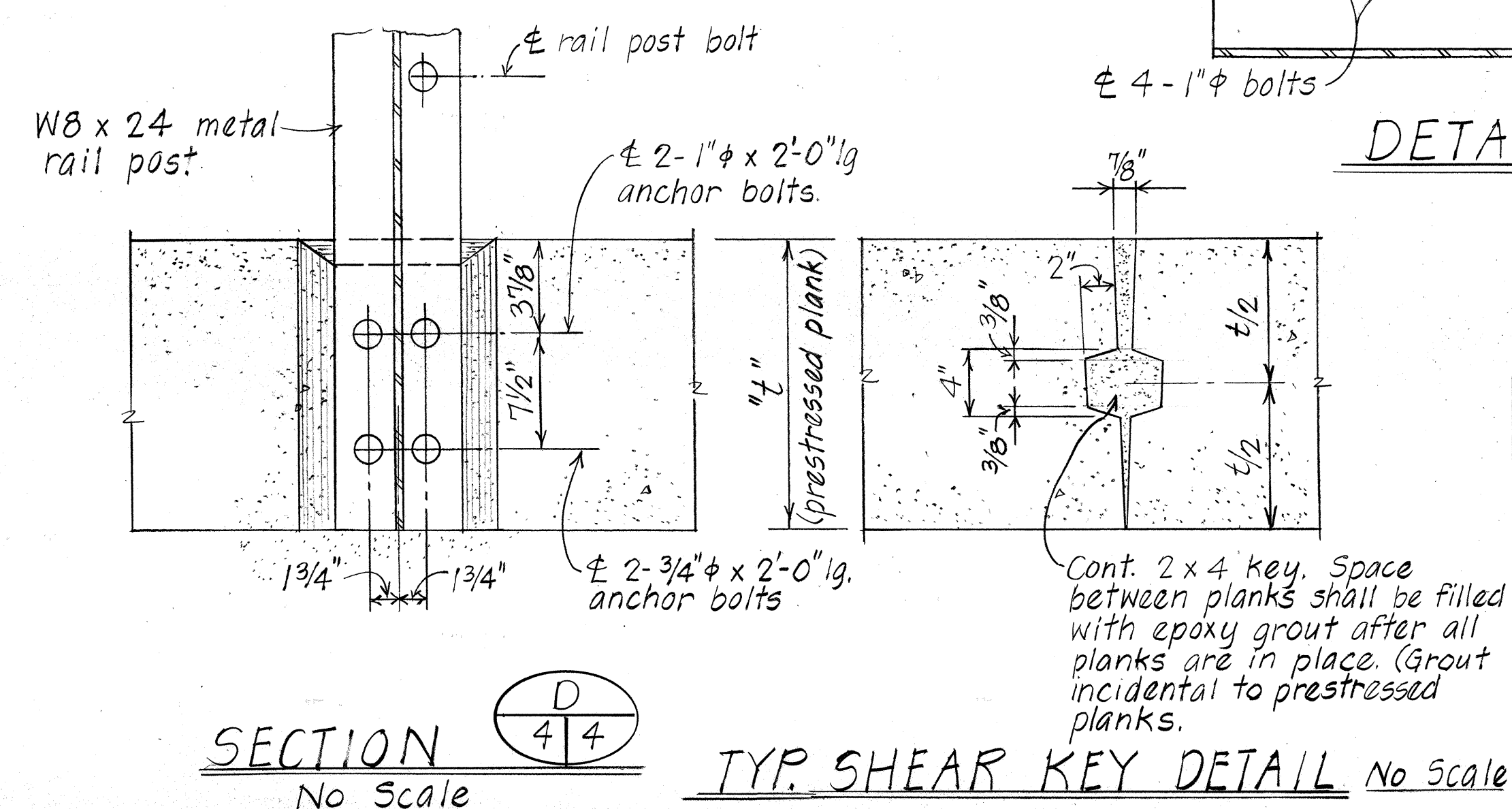
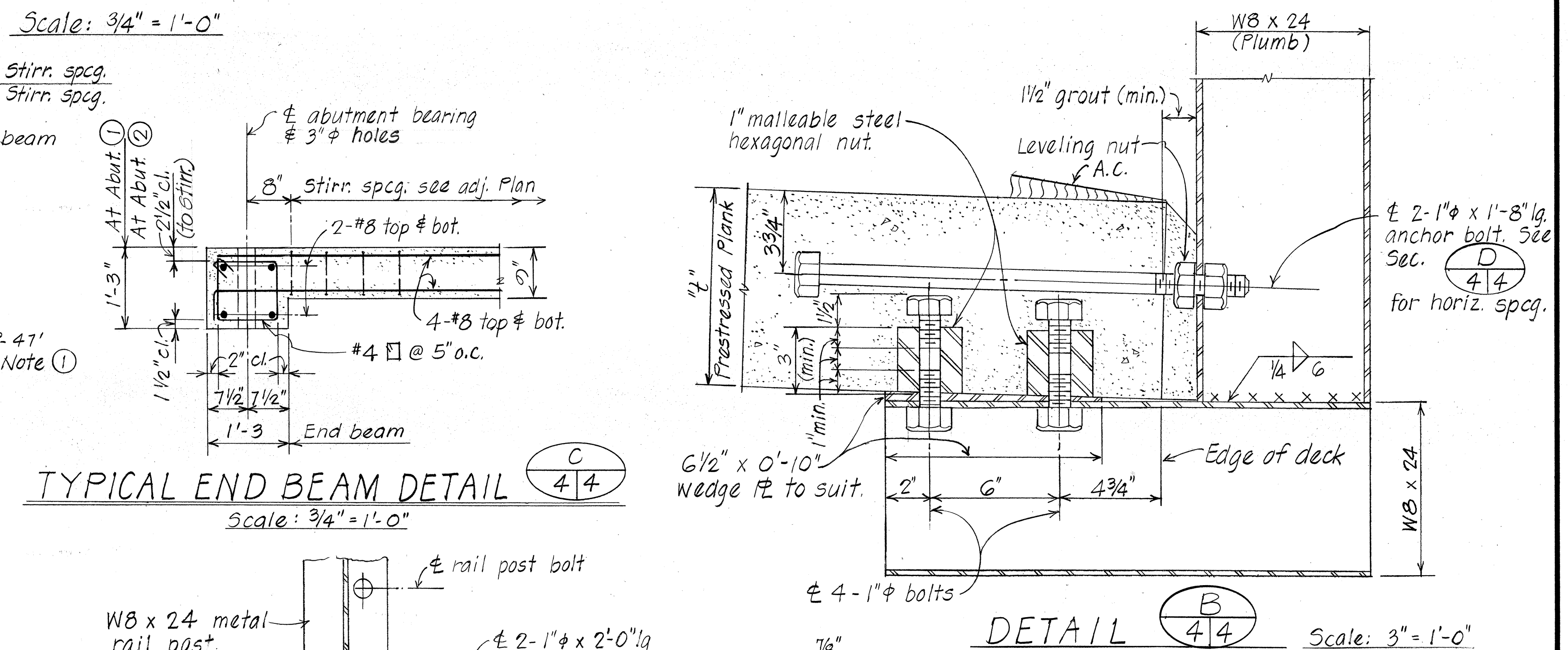
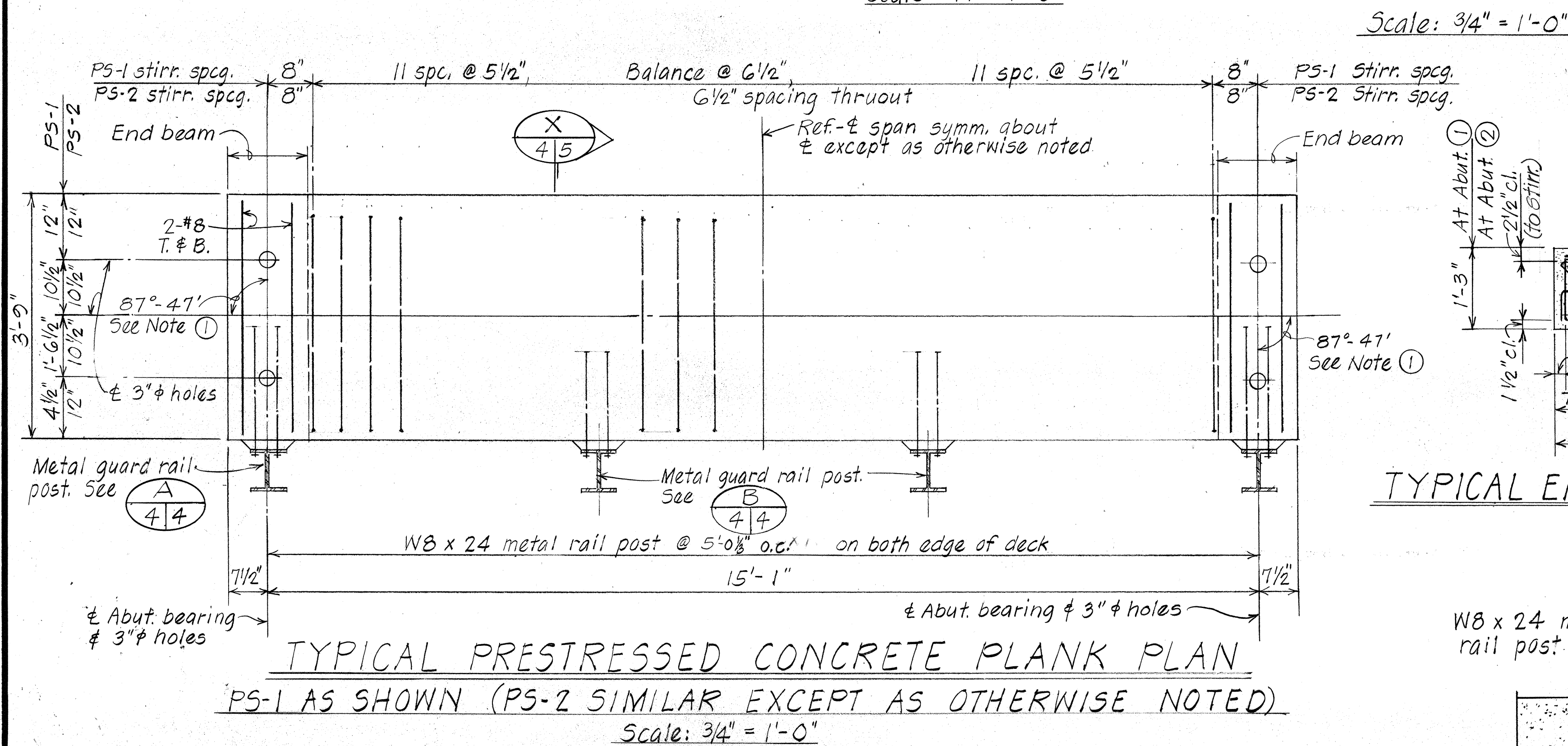
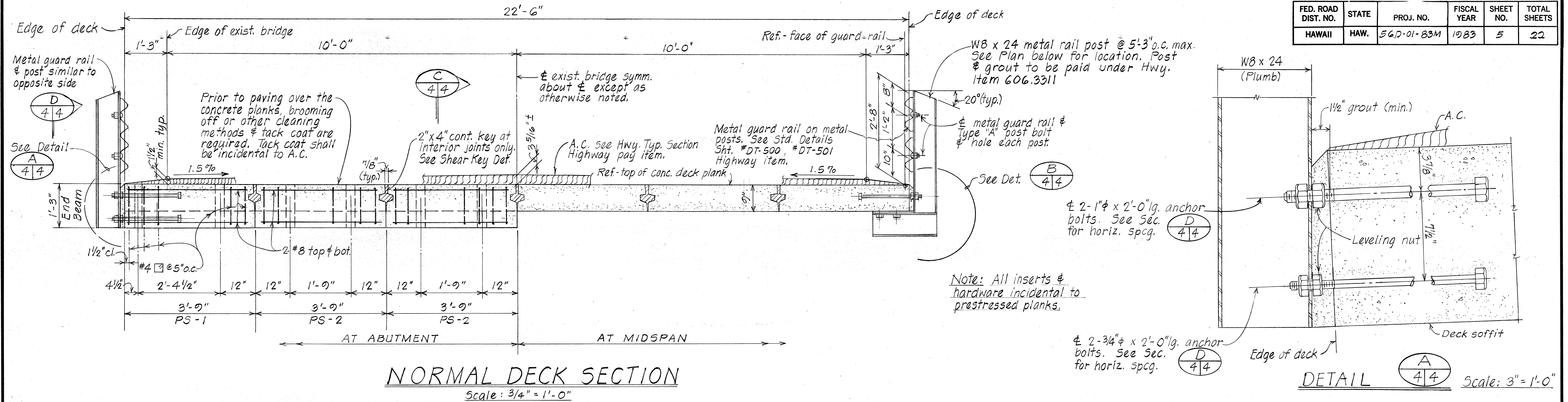


WINGWALL ELEVATIONS

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
REPAIRS TO HAENA
STRUCTURE #2
WINGWALL DETAILS
KUHIO HIGHWAY, KAUAI
PROJ. NO. 56D-01-B3M
Scale: As Noted Date: Nov. 1982
SHEET NO. 3 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

REPAIRS TO HAENA
STRUCTURE #2
SECTIONS AND DETAILS

KUHIO HIGHWAY, KAUAI
PROJ. NO. 56D - 01 - 83M

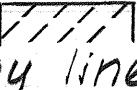
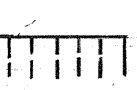
Scale: As Noted Date: Nov. 1982

SHEET NO. 4 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56D-01-83M	1983	6	22

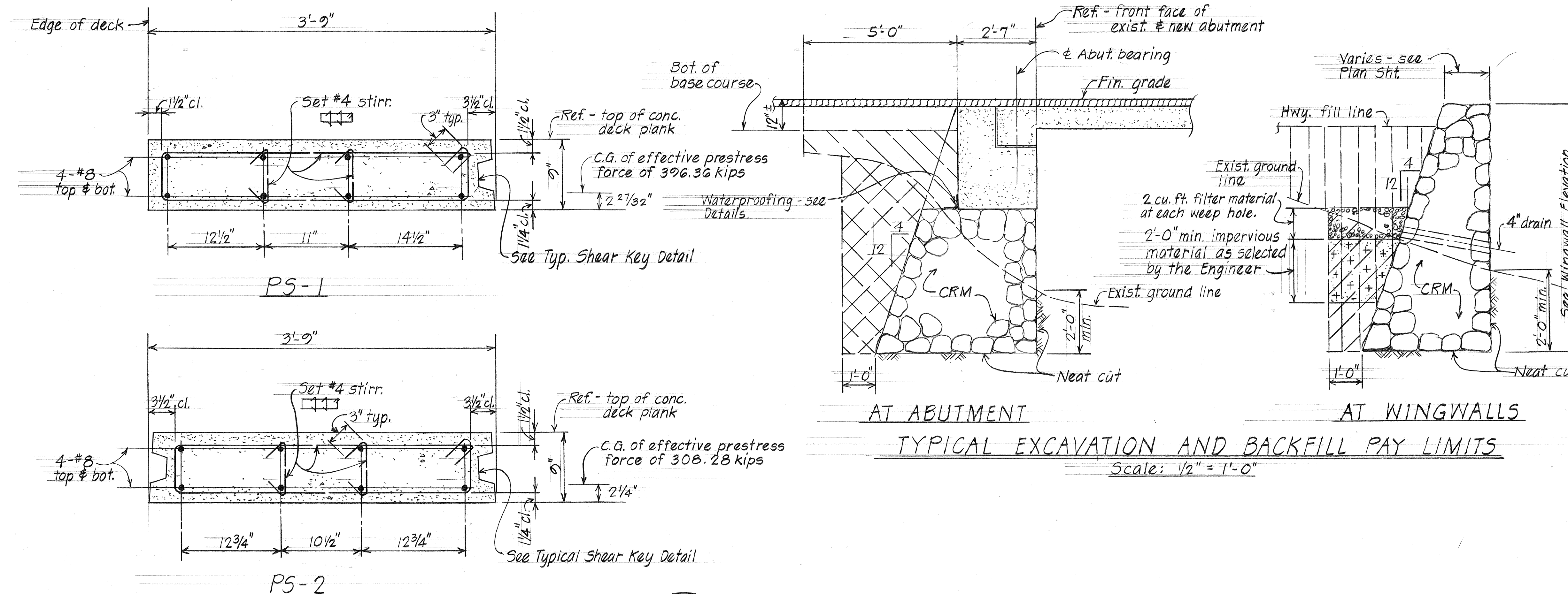
NOTES:

Hatched Area

1. Hatched area shown thus  denotes limits of structural excavation pay line.
2. Hatched area shown thus  denotes limits of structural backfill.
3. Hatched area shown thus  denotes ordinary backfill.

Impervious Material

Impervious material as selected by the Engineer shall be incidental to structure excavation. The subgrade upon which filter material is to be placed shall be made as impervious as possible by pneumatic tamping or other approved methods.



TYPICAL PRESTRESSED CONCRETE PLANKS

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

PRESTRESSING NOTES:

1. Concrete shall have a 28 day concrete strength of $f'_c = 5,500$ psi.
2. Concrete shall have a cement content of not less than 7.0 sacks, nor more than 8.5 sacks per cubic yard.
3. The concrete shall attain a compressive strength $f'_{ci} = 4,000$ psi before the strands are released.
4. Pretensioned strands shall be 7 wire, 1/2" ϕ , stress relieved steel strands (area = .153 sq. in.) with an ultimate strength of 270 ksi.
5. Total loss due to creep, shrinkage, elastic shortening and relaxation of steel = 45,000 psi.
6. Strand pattern shall be symmetrical about longitudinal ϵ of interior planks and at 20.5" from the edge of deck for the exterior plank.
7. Strand release sequence shall not induce any lateral deflection of the planks.
8. Contractor shall submit his proposed strand pattern and releasing sequence to the Engineer for approval.
9. Lifting devices shall be placed as close as possible to the center line of bearing of the plank.
10. Top surfaces of prestress concrete slab panels shall be rough with an amplitude of 1/4 inch.

STATE OF HAWAII	
DEPARTMENT OF TRANSPORTATION	
LAND TRANSPORTATION FACILITIES DIVISION	
REPAIRS TO HAENA	
STRUCTURE #2	
MISCELLANEOUS	
KUHIO HIGHWAY, KAUAI	
PROJ. NO. 56D-01-83M	
Scale: As Noted	Date: Nov. 1982
SHEET NO. 5 OF 5 SHEETS	