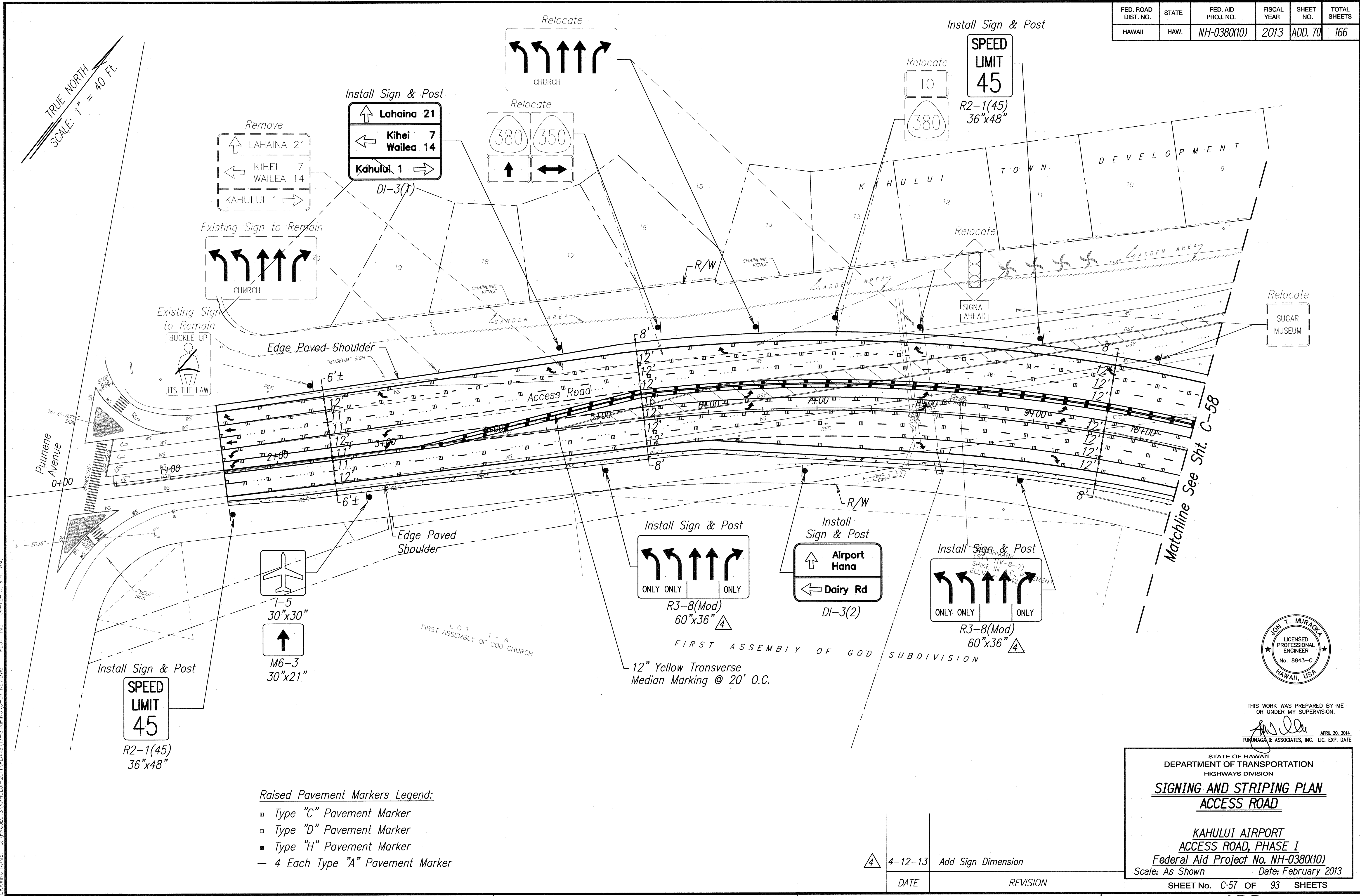


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 70	166



DESIGNED BY	DATE
TRACED BY	
NOTED BY	
CHECKED BY	
NO.	

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\PLANS\17-STRIPING\0-57 REV.DWG PLOT TIME: 04-12-13, 9:40 AM

- Raised Pavement Markers Legend:**
- Type "C" Pavement Marker
 - Type "D" Pavement Marker
 - Type "H" Pavement Marker
 - 4 Each Type "A" Pavement Marker

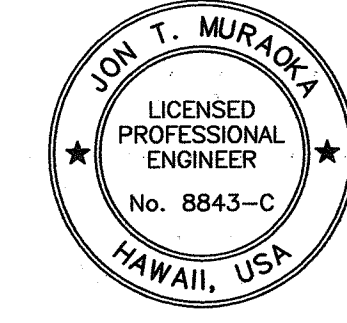
4	4-12-13	Add Sign Dimension
DATE	REVISION	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING AND STRIPING PLAN
ACCESS ROAD

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. C-57 OF 93 SHEETS



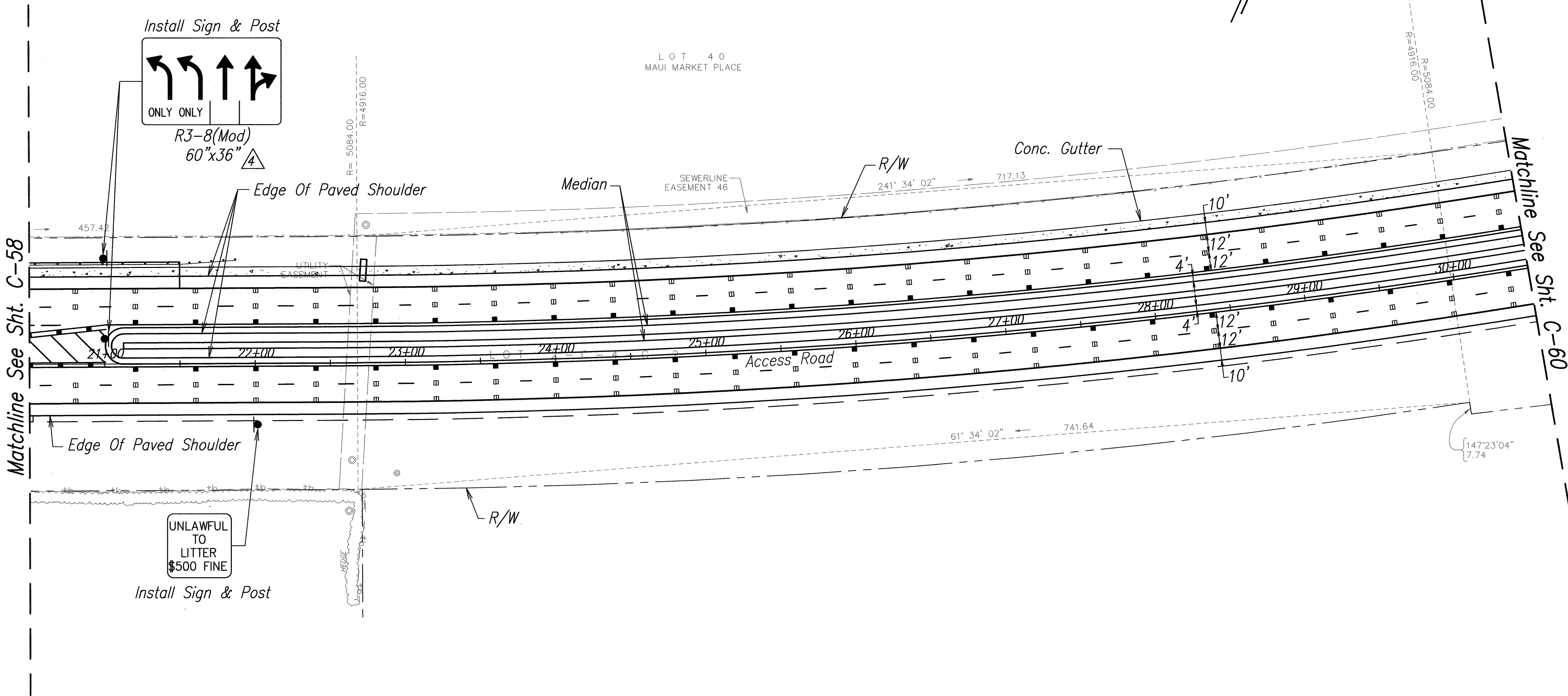
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

[Signature]
APR 30, 2014
FUKUNAGA & ASSOCIATES, INC. LIC. EXP. DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 72	166

Raised Pavement Markers Legend:

- ▣ Type "C" Pavement Marker
- ▣ Type "D" Pavement Marker
- Type "H" Pavement Marker
- 4 Each Type "A" Pavement Marker



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

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\PLANS\17-STRIPING\C-59 REV.DWG PLOT TIME: 04-12-13, 9:47 AM



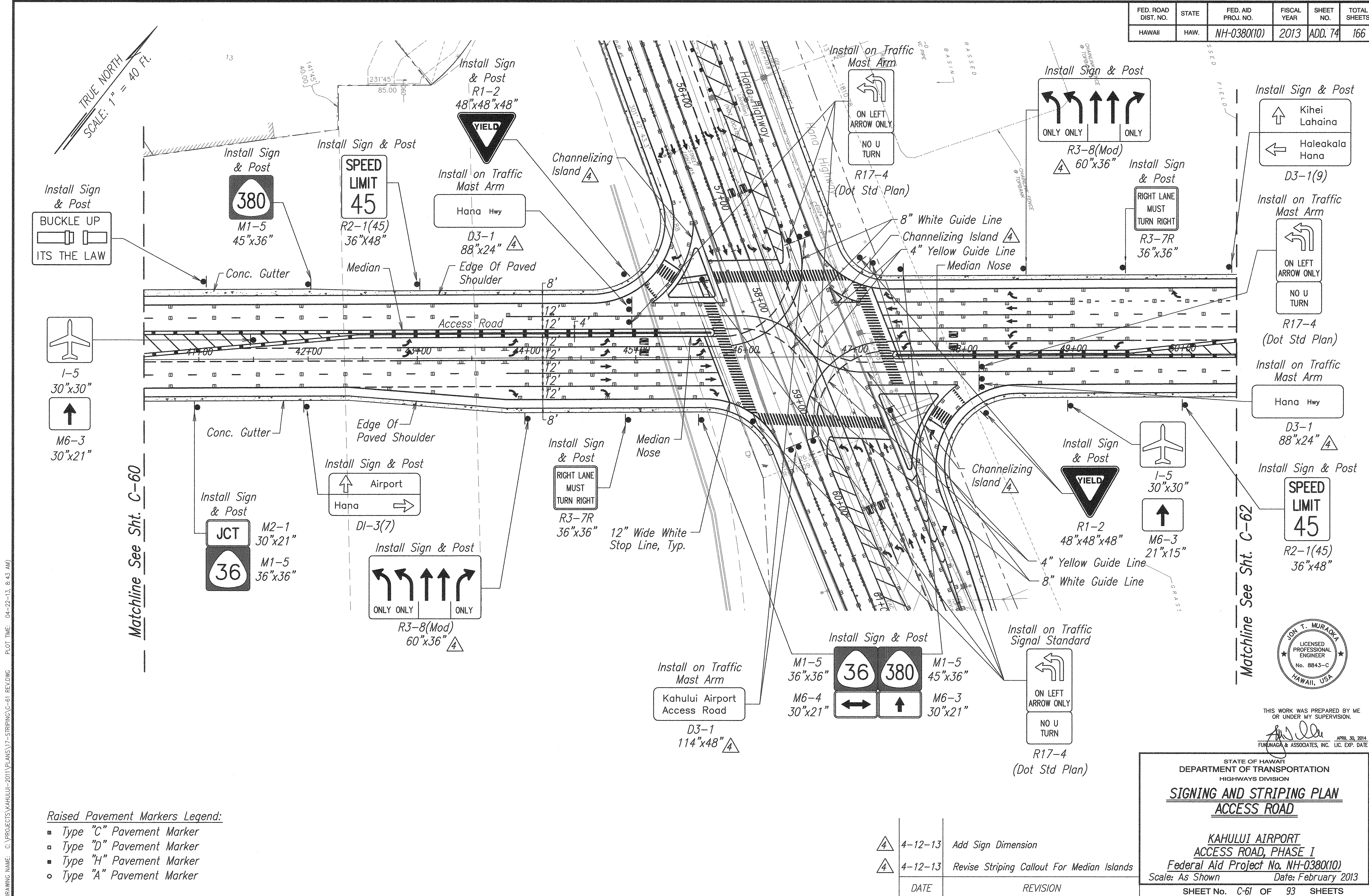
THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
[Signature]
APRIL 30, 2014
FUKUNAGA & ASSOCIATES, INC. LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SIGNING AND STRIPING PLAN
ACCESS ROAD

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013
SHEET No. C-59 OF 93 SHEETS

4-12-13	Add Sign Dimension
DATE	REVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 74	166



- Raised Pavement Markers Legend:
- Type "C" Pavement Marker
 - Type "D" Pavement Marker
 - Type "H" Pavement Marker
 - Type "A" Pavement Marker

DATE	REVISION
4-12-13	Add Sign Dimension
4-12-13	Revise Striping Callout For Median Islands

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING AND STRIPING PLAN
ACCESS ROAD

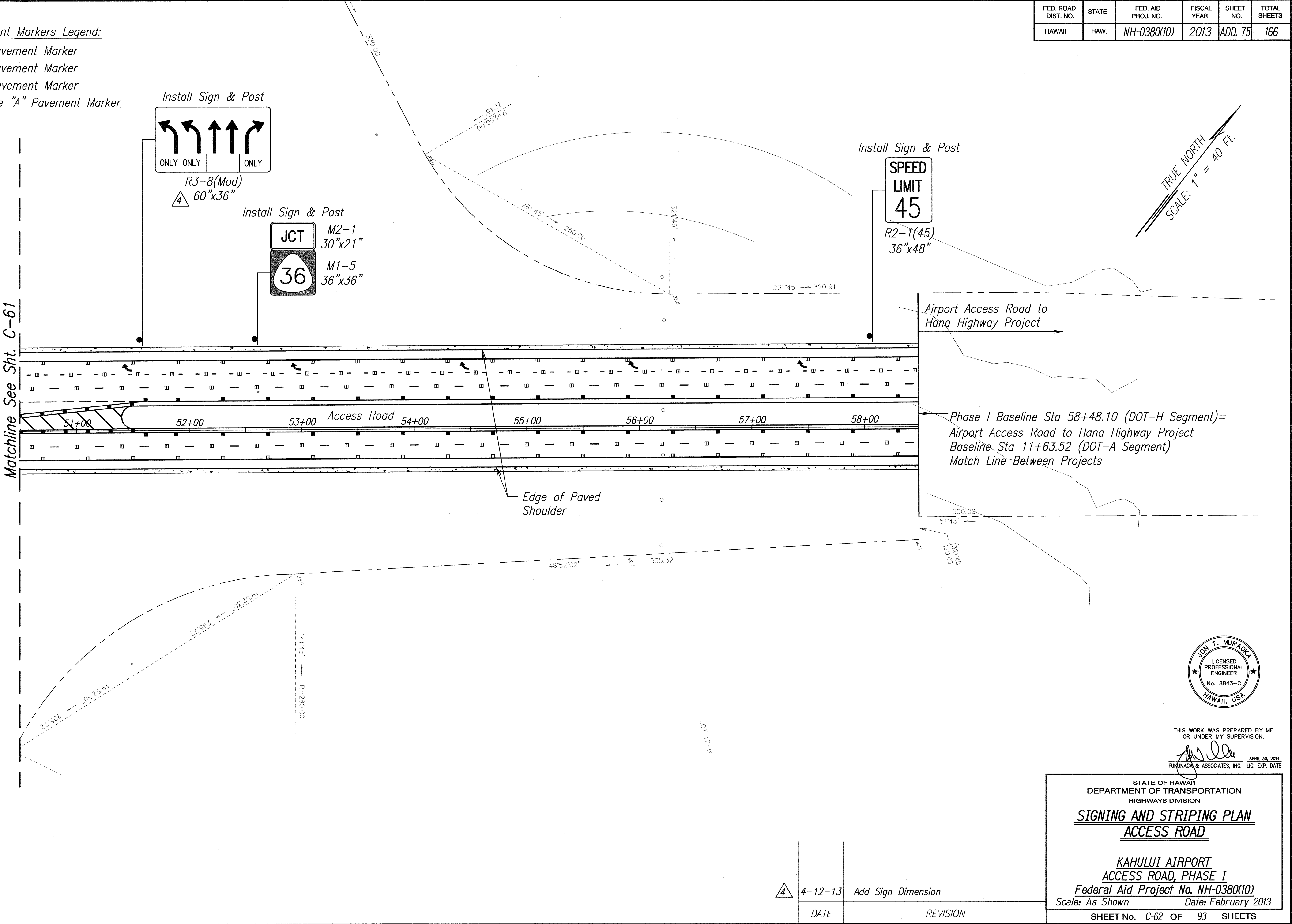
KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. C-61 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 75	166

Raised Pavement Markers Legend:

- ▣ Type "C" Pavement Marker
- ▣ Type "D" Pavement Marker
- Type "H" Pavement Marker
- 4 Each Type "A" Pavement Marker



DRAWING NAME: C:\PROJECTS\KAHULUI-2011\PLANS\17-STRIPING\C-62 REV.DWG PLOT TIME: 04-12-13, 9:52 AM

DATE	SURVEY PLOTTED BY
DATE	DRAWN BY
DATE	DESIGNED BY
DATE	CHECKED BY

4	4-12-13	Add Sign Dimension
	DATE	REVISION

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Jon T. Murakami
APRIL 30, 2014
FUKUNAGA & ASSOCIATES, INC. LIC. EXP. DATE

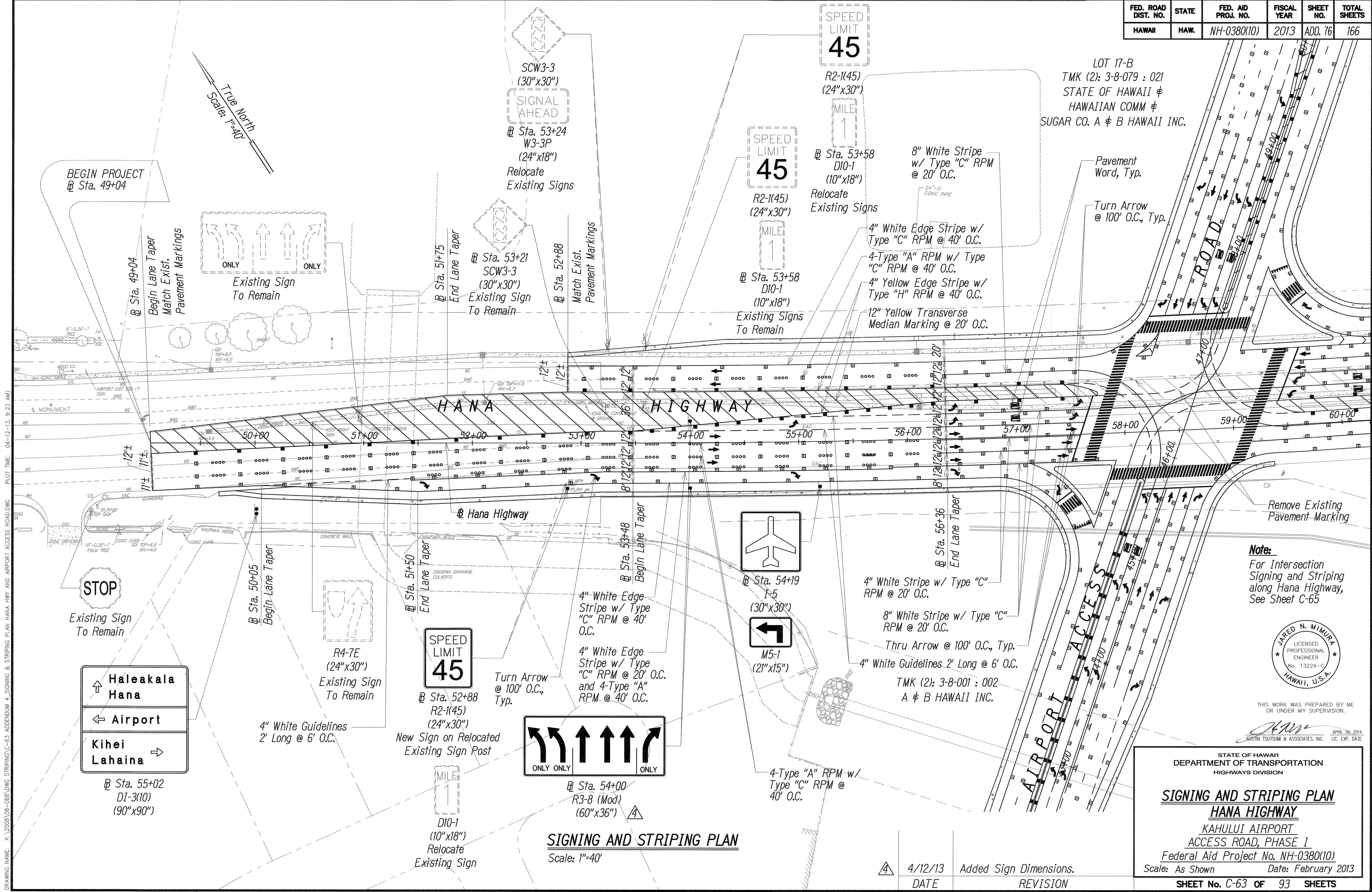
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING AND STRIPING PLAN
ACCESS ROAD

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

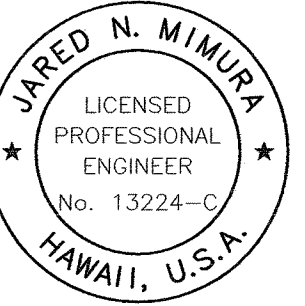
SHEET No. C-62 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 76	166



LOT 17-B
TMK (2): 3-8-079 : 021
STATE OF HAWAII &
HAWAIIAN COMM &
SUGAR CO. A & B HAWAII INC.

Note:
For Intersection
Signing and Striping
along Hana Highway,
See Sheet C-65



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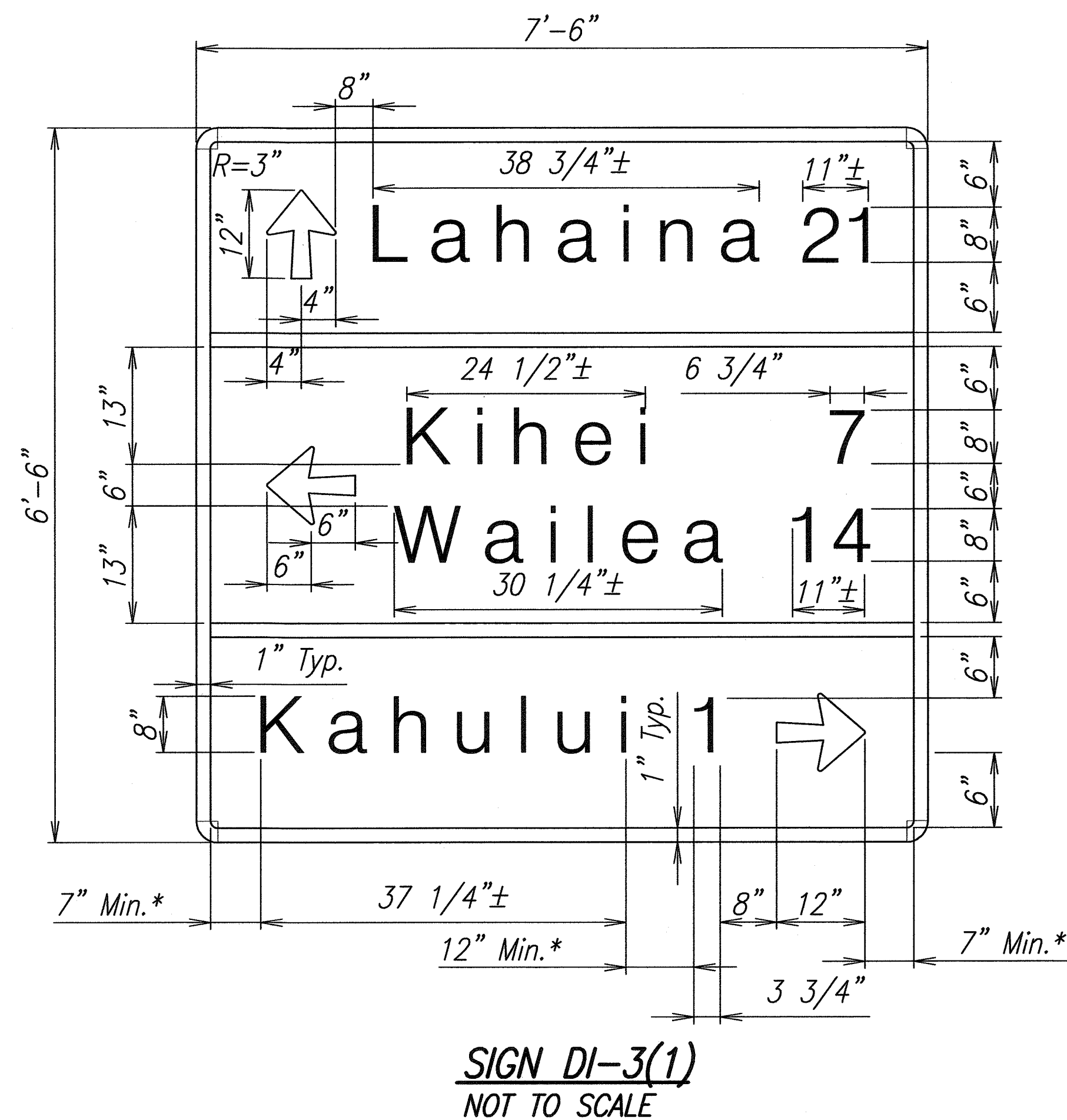
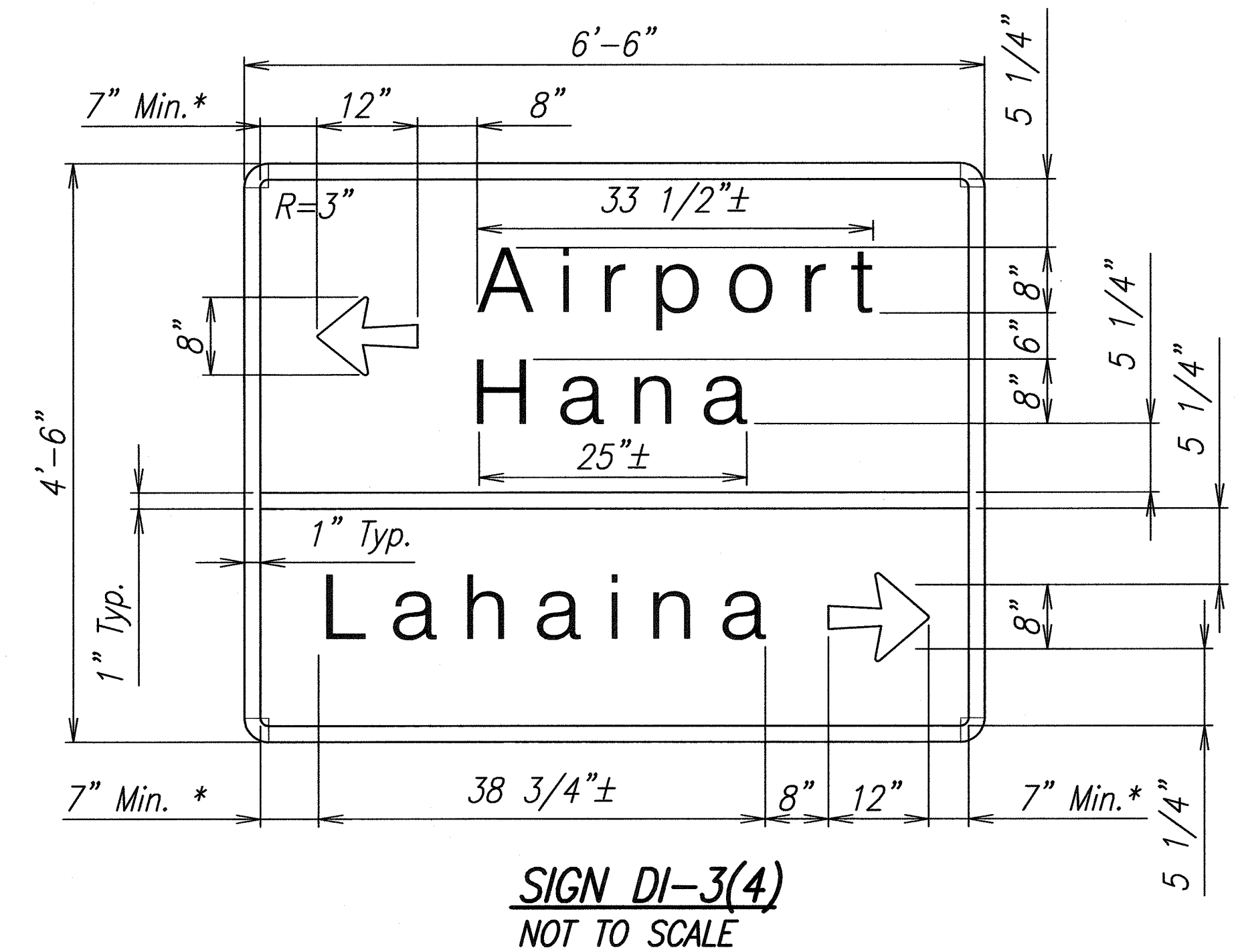
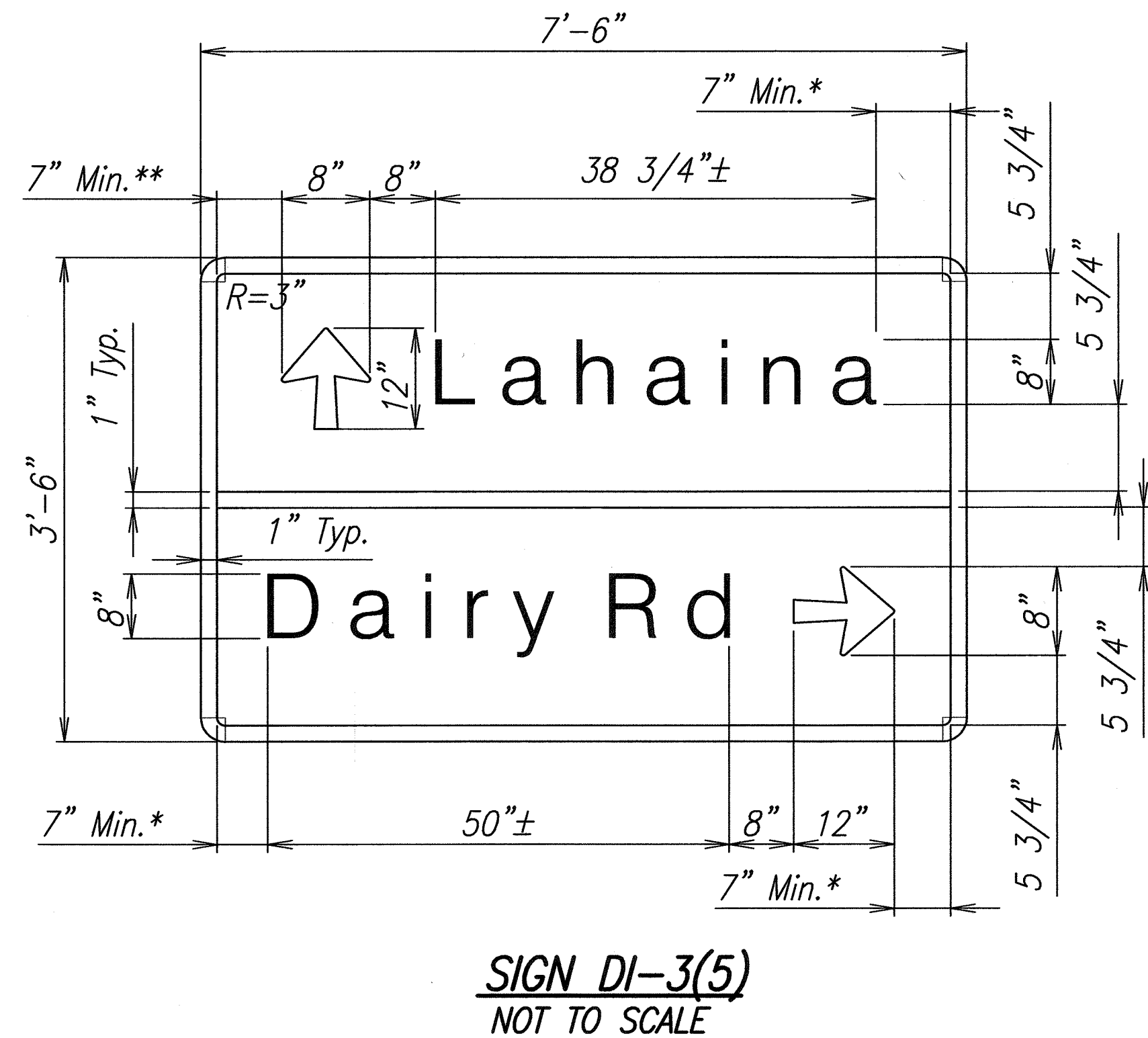
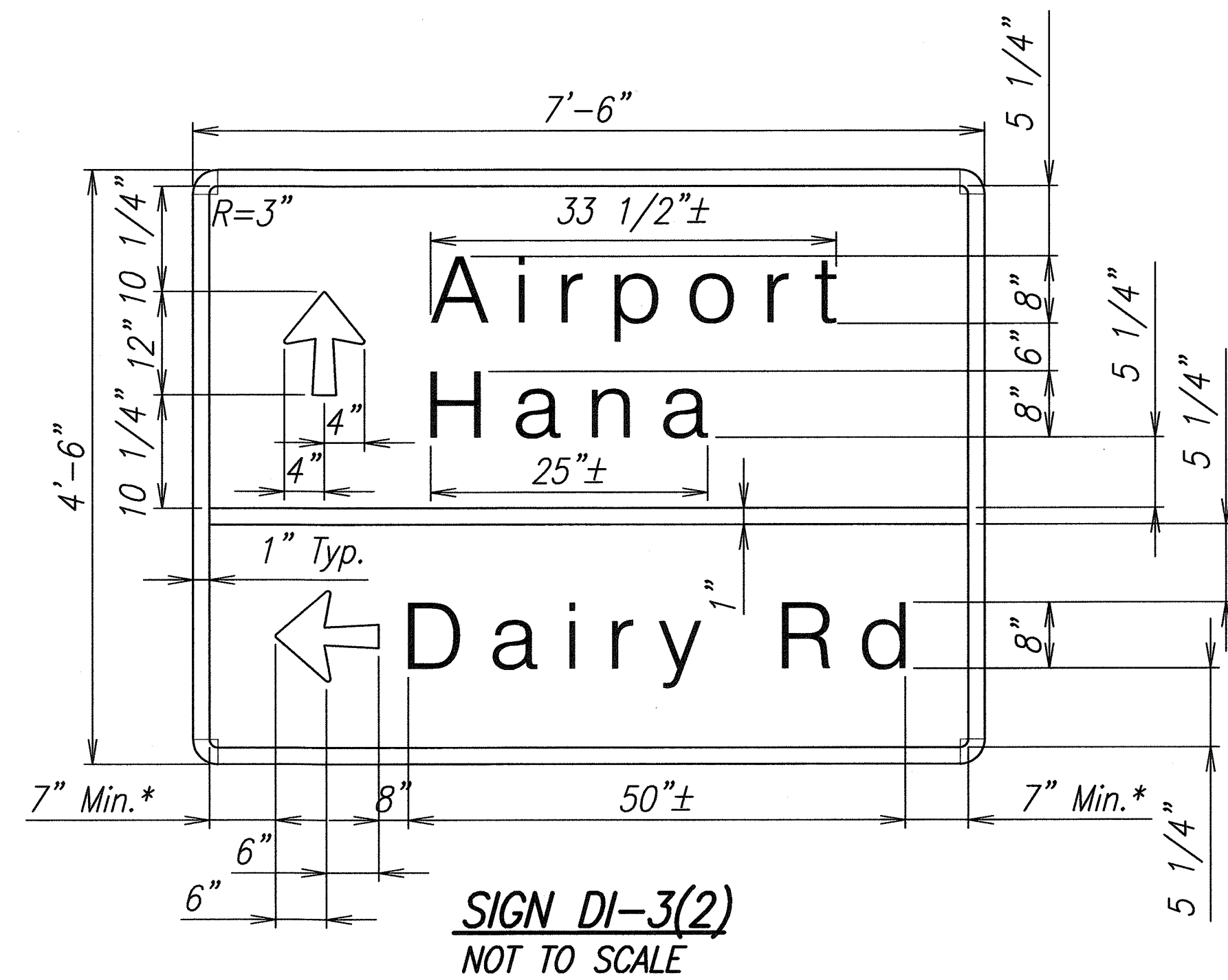
APR 30, 2014
JARED N. MINURA & ASSOCIATES, INC. LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING AND STRIPING PLAN
HANA HIGHWAY
KAHULUI AIRPORT
ACCESS ROAD, PHASE 1
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. C-63 OF 93 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 80	166



Destination (D1) Sign Notes

1. The contractor shall verify the locations and dimensions of existing sign panels and supports.
2. New sign panels shall be laminated aluminum or extruded aluminum.
3. Letter size:
 - A. When letters are all uppercase, use series "D", letter height = 8".
4. Destination sign posts shall be per State Standard Plan TE-20.
5. Incidental parts and services not shown on the plans or specified but deemed necessary for the sign installation, shall be furnished and installed by the contractor as part of the work contracted.
6. Removal and disposal of existing sign panels, posts with foundation, luminaries and supports will not be paid for separately, but shall be considered incidental to the various signing items.
7. The Contractor shall submit sheet drawings for approval prior to fabrication.
8. Sign details shall conform to the latest edition of FHWA publication "Manual on Uniform Traffic Control Devices for Streets and Highways" and "Standard Highway Signs".

- * Space shall be equal.
** Optically space Non-Controlling line.



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APRIL 30, 2014
FUKUNAGA & ASSOCIATES, INC. LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN PANEL DETAILS

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013
SHEET No. C-67 OF 93 SHEETS

4	4-12-13	Revise Note 4
DATE	REVISION	

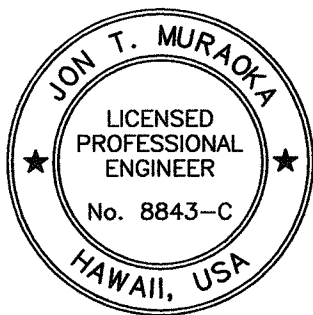
ADD. 80

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 107	166

GENERAL NOTES

1. All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
2. Where conditions require, special post lengths in increments of 6 inches may be specified.
3. All fasteners, posts, and rail elements (i.e. FBB03, PWE01, RWM02b, etc.) shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Subcommittee On New Highway Materials, Task Force 13 Report. Dimensions of fastners, posts and rail elements have been converted from metric units into their present form.
4. The Recycled Plastic Block or Offset Block shall be approved by the State.
5. All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
6. After the guardrail posts are installed in the paved area, the Contractor shall fill/seal around each guardrail post and all cracks in the paved area caused during the guardrail post installation. If required by the inspector/engineer, the Contractor shall tamper the paved area around the guardrail post prior to filling/sealing. All costs associated with this work shall not be paid for separately, but shall be considered incidental to the various guardrail items.
7. When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
8. New A.C. pavement at guardrails shall extend 6 feet longi- tudinally beyond terminal ends.
9. Reflector Markers (RM-5) mounted on guardrails shall be spaced every 25 feet. RM-5's shall not be installed on Terminal Sections. Furnishing and installing of each RM-5 shall be considered incidental to the adjacent guardrail system.

GUARDRAIL TYPE	DIMENSION	
	H	A
Strong Post w/W Beam	1'-9 5/8"	1'-6"
Strong Post Rubrail	2'-0"	1'-6"
Modified Thrie Beam	2'-0"	2'-0"



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OR UNDER MY SUPERVISION.

[Signature]
FUKUNAGA & ASSOCIATES, INC. APRIL 30, 2014
LIC. EXP. DATE

4

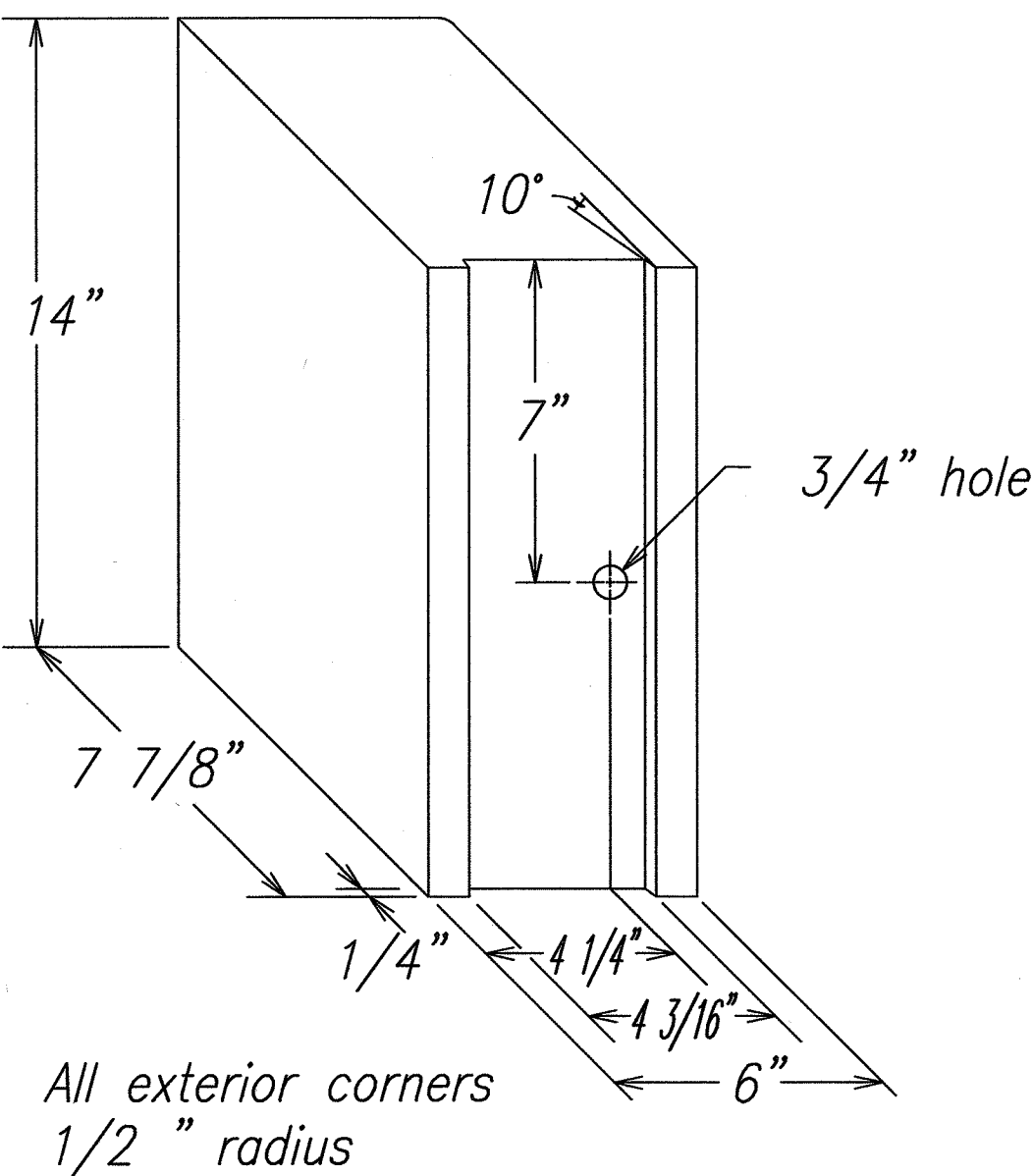
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL DETAILS & NOTES

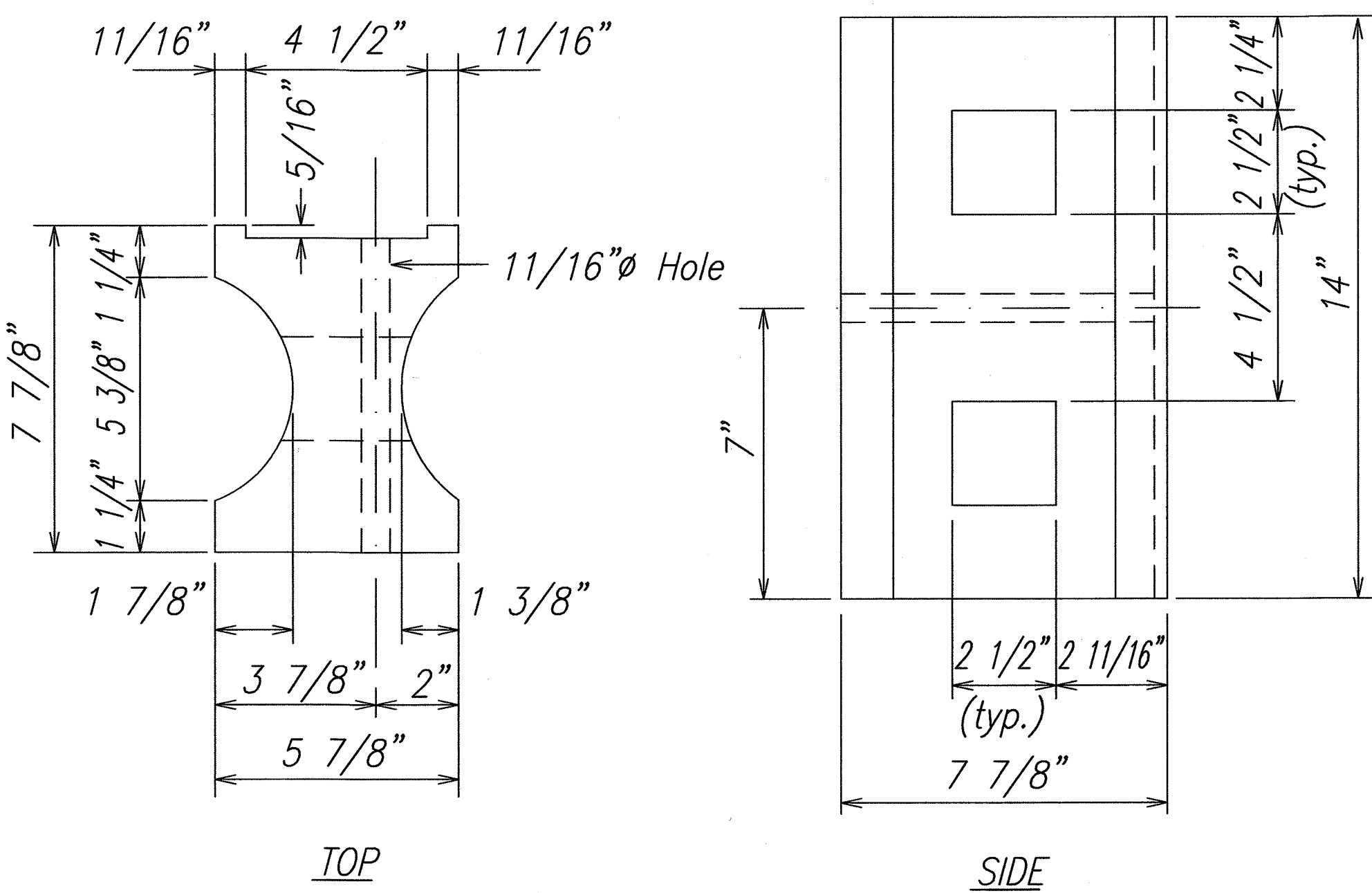
**KAHULUI AIRPORT
ACCESS ROAD, PHASE I**
Federal Aid Project No. NH-0380(10)
Scale: None Date: February 2013

SHEET No. **BJ** OF **10** SHEETS

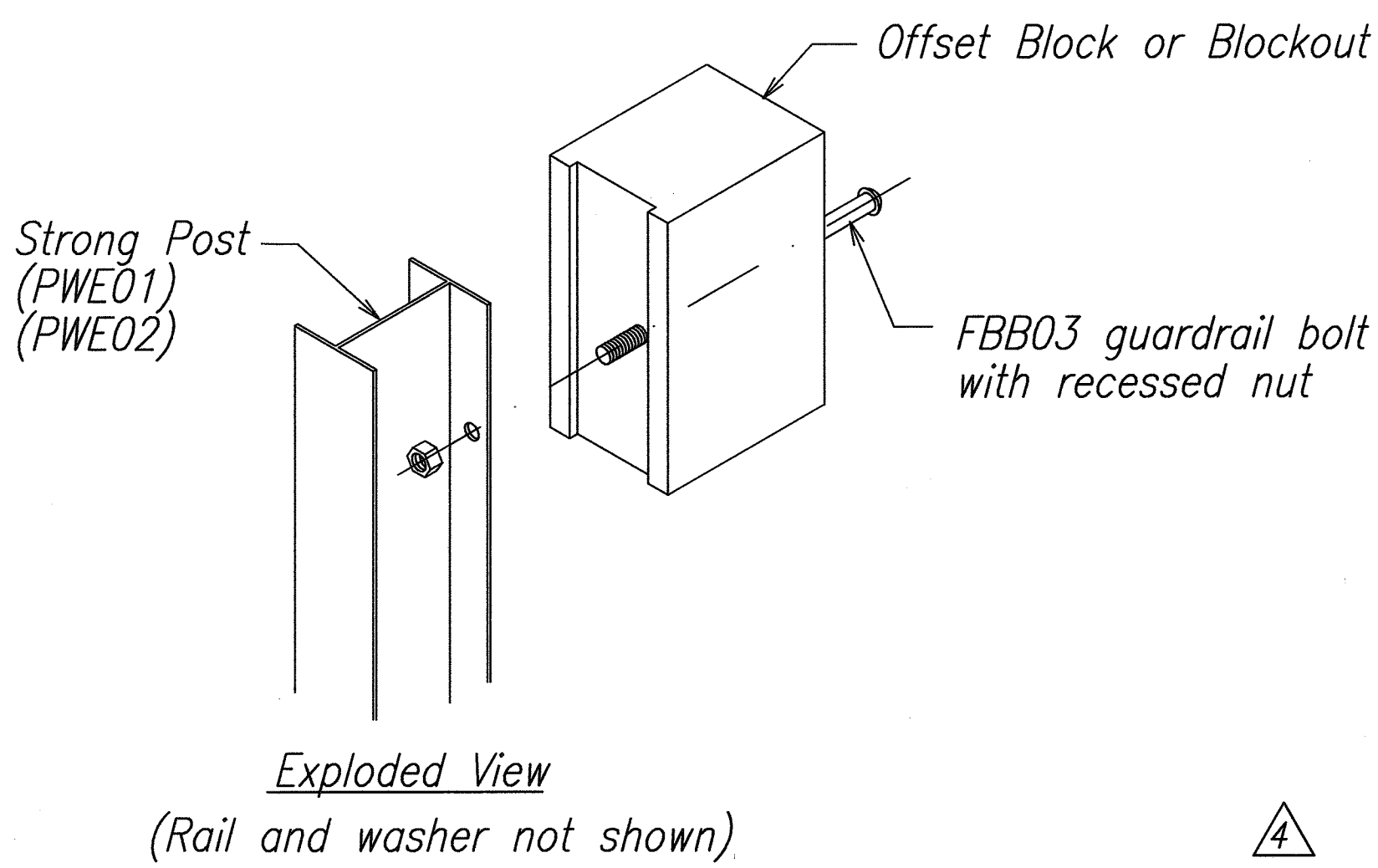
DATE	REVISION
4-12-13	Delete Graphic Scale
4-12-13	Revise Per Latest DOT Guardrail Details



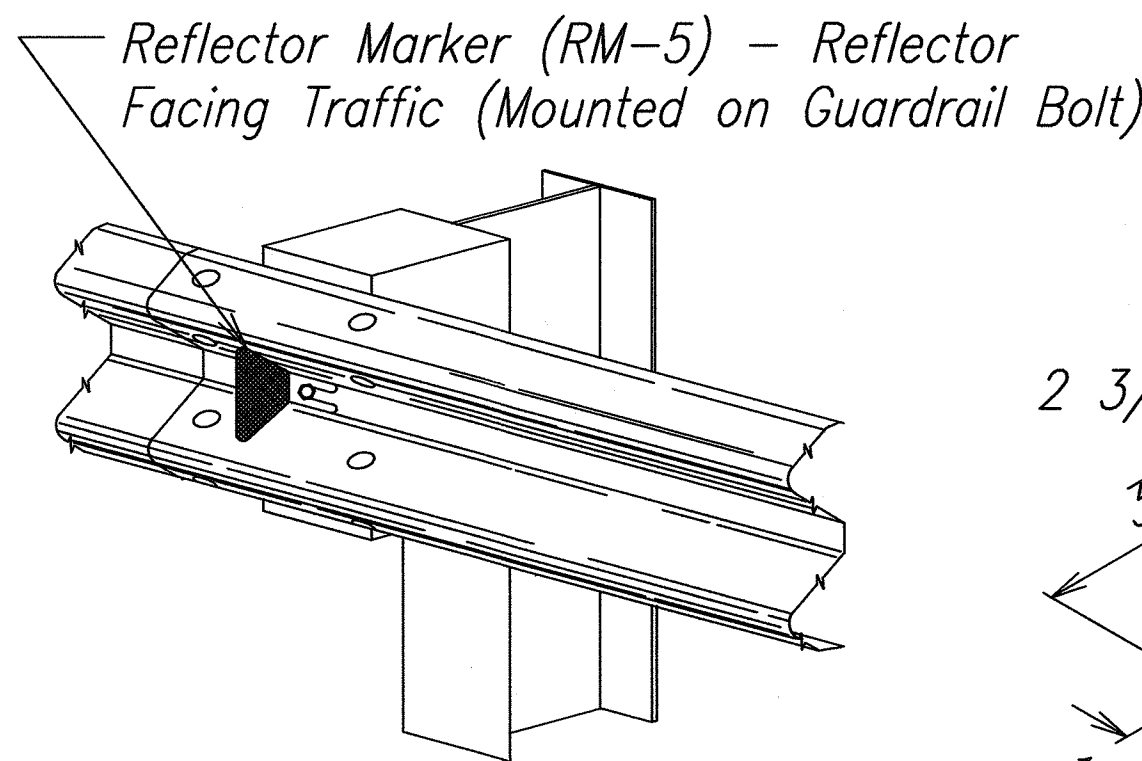
RECYCLED POLYETHYLENE
OFFSET BLOCK (TYPE II)



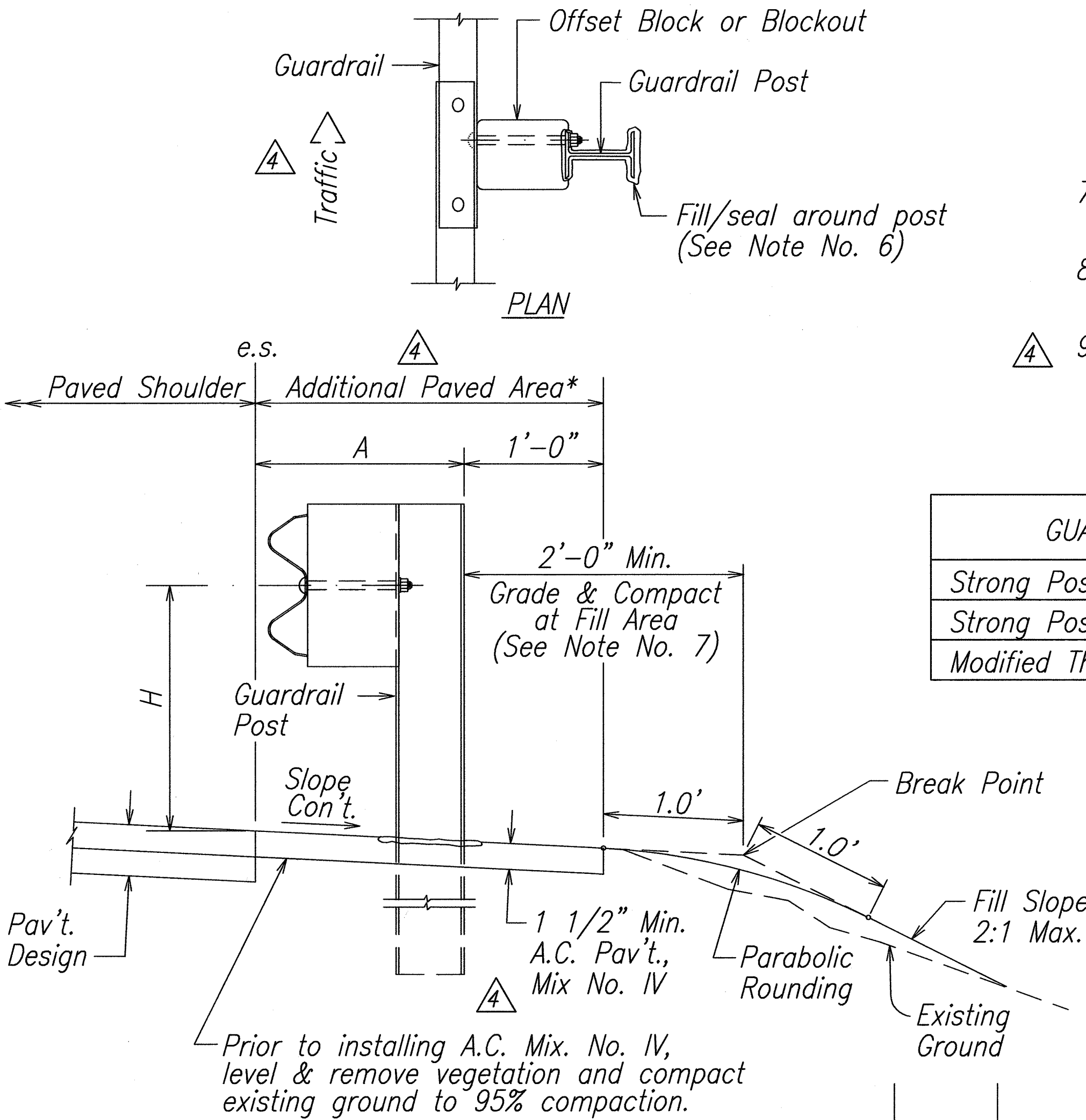
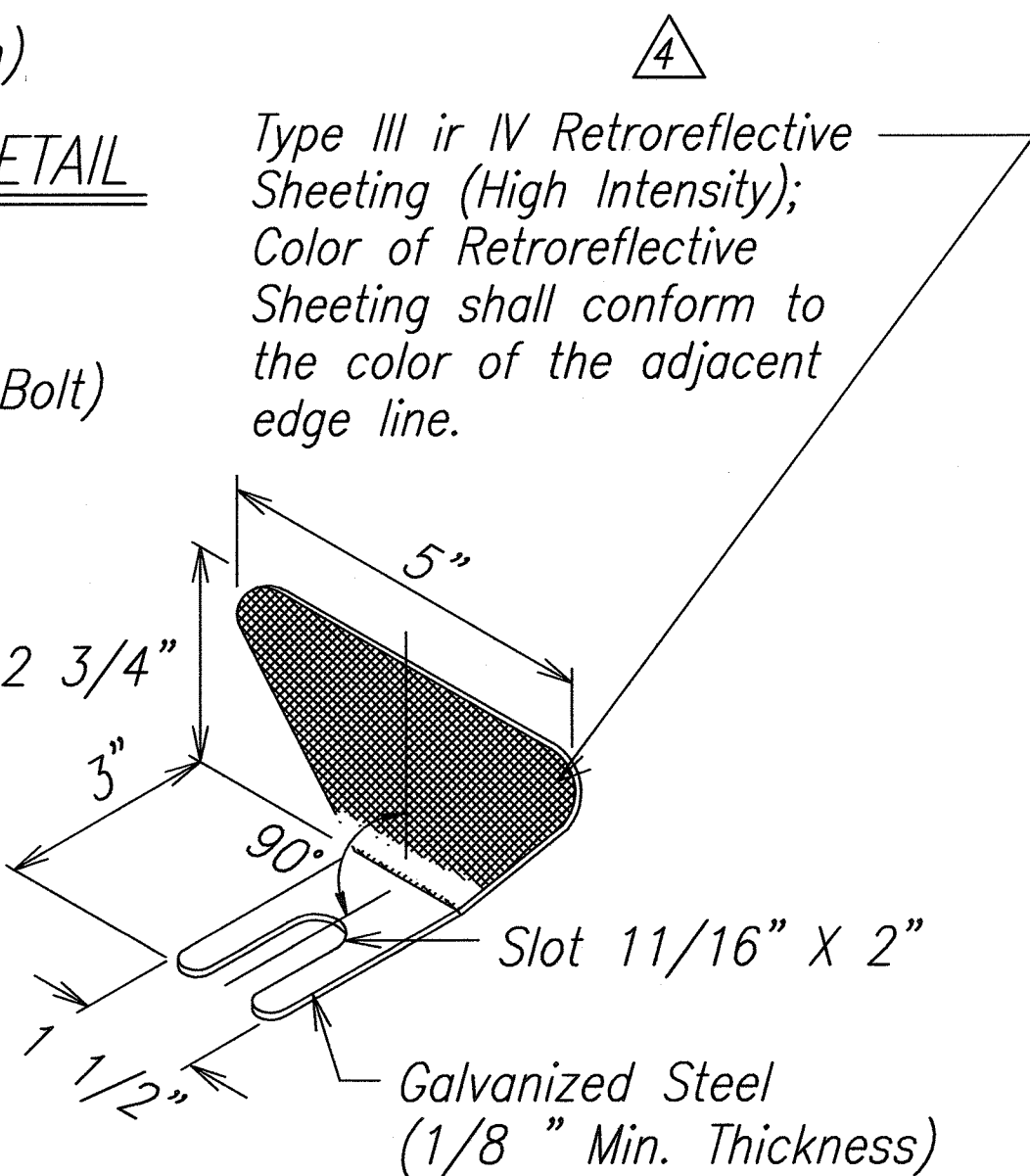
RECYCLED PLASTIC BLOCKOUT (TYPE I)



STEEL POST AND BLOCK DETAIL



REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION

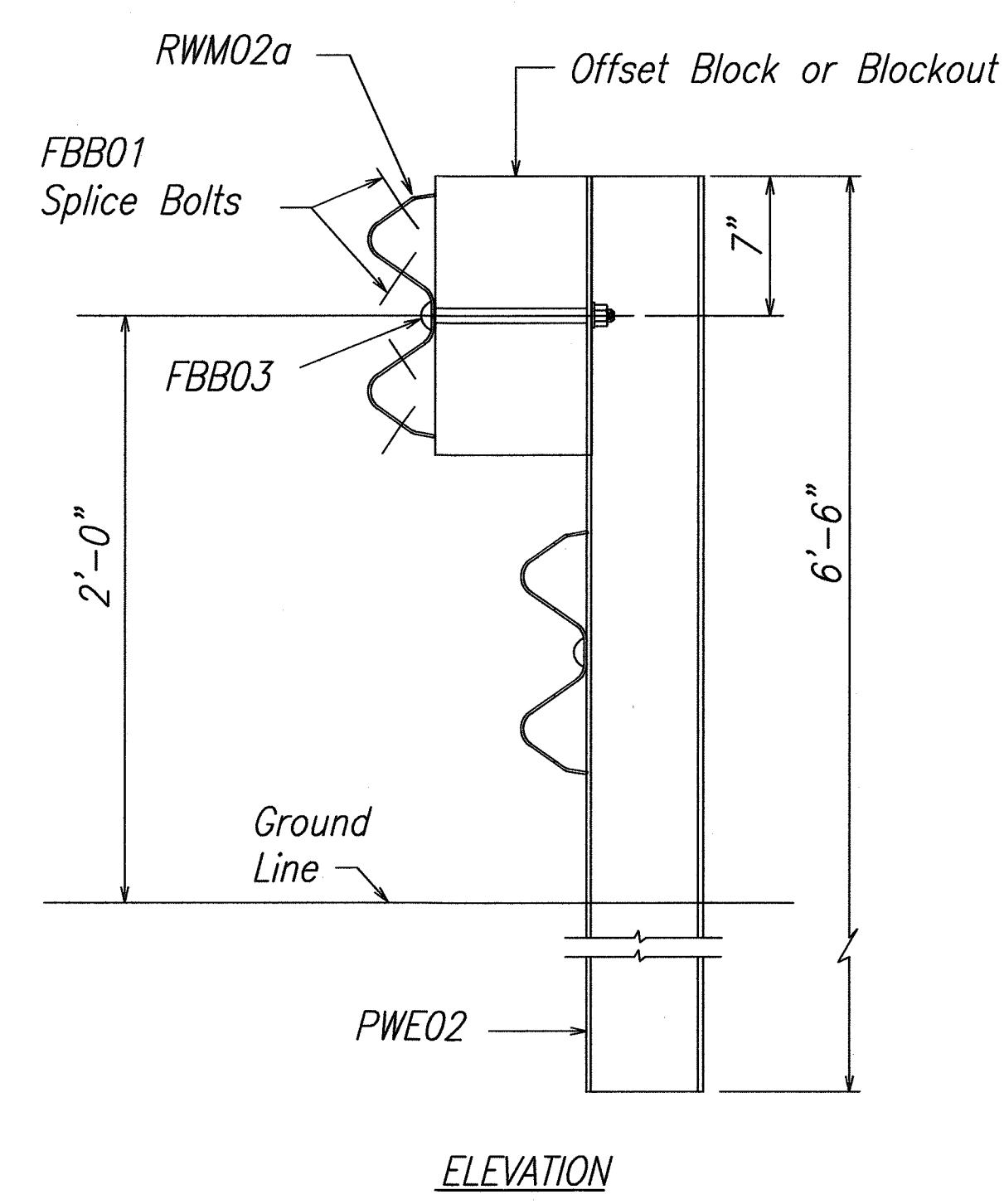


ELEVATION
TYPICAL GUARDRAIL INSTALLATION

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\PLANS\28-GUARDRAIL DETAILS\BJ.DWG PLOT TIME: 04-23-13, 1:54 PM

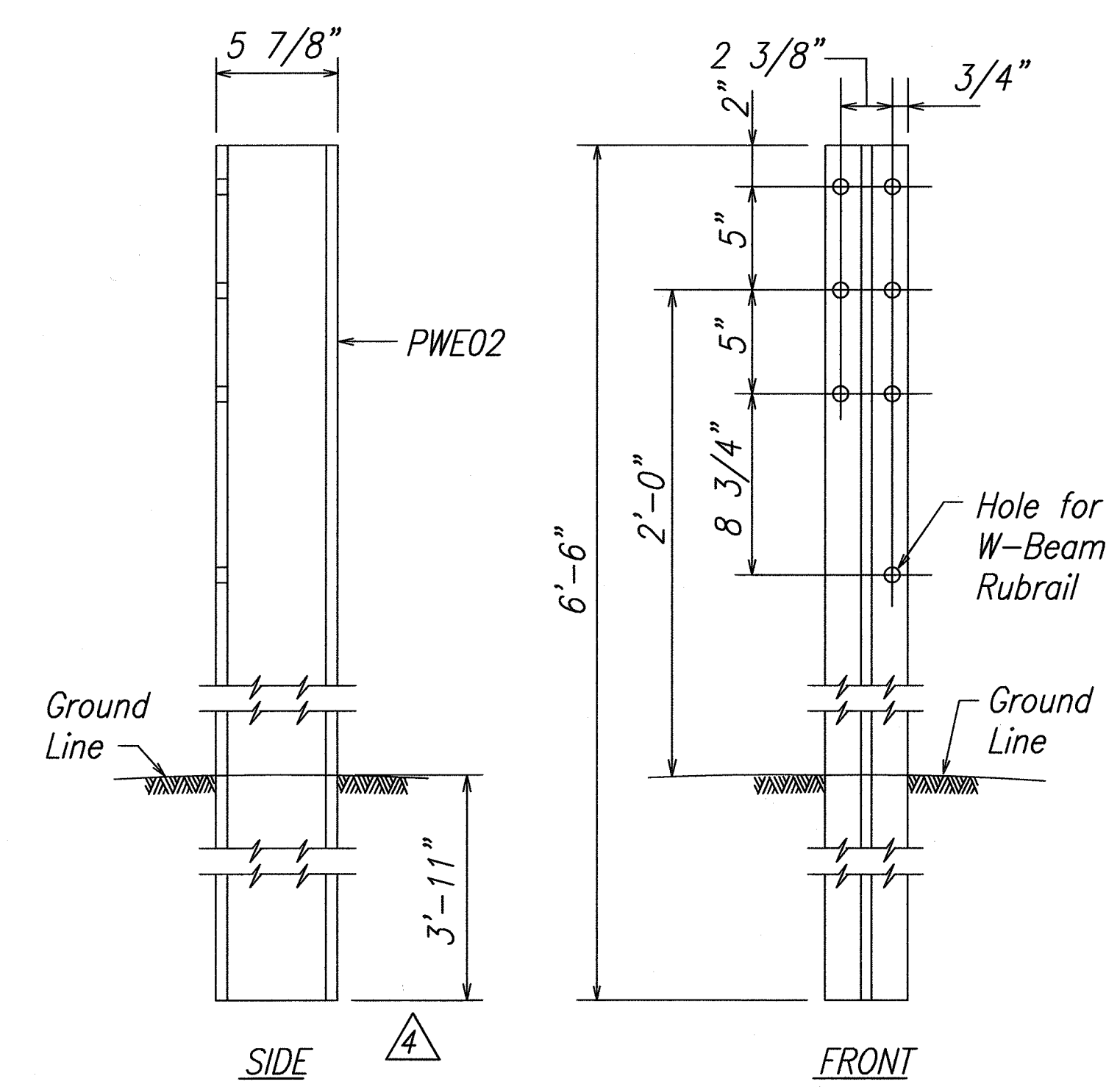
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 110	166

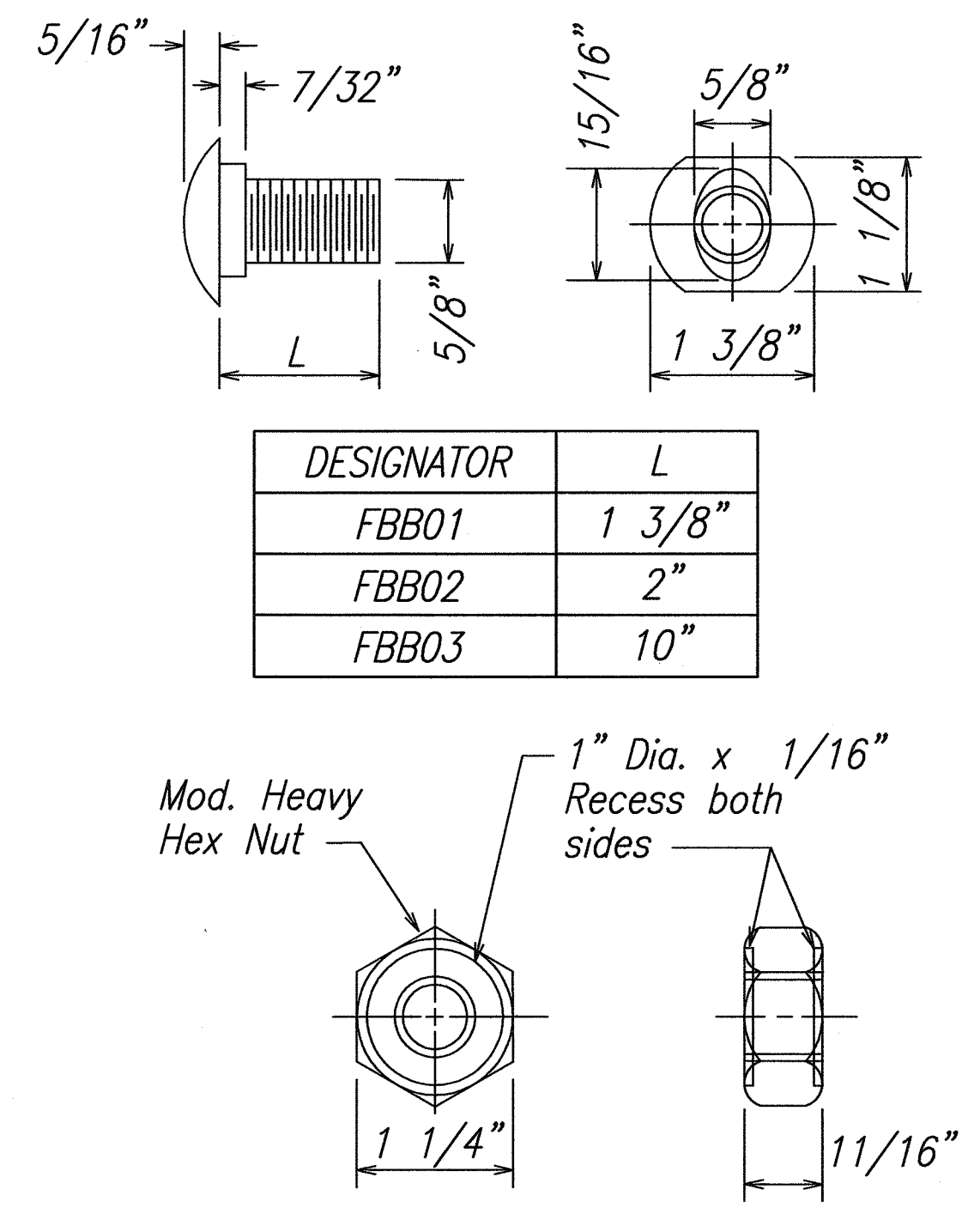


STRONG POST RUBRAIL
(W-BEAM) GUARDRAIL

NOTE:
All Holes are 3/4" Dia.

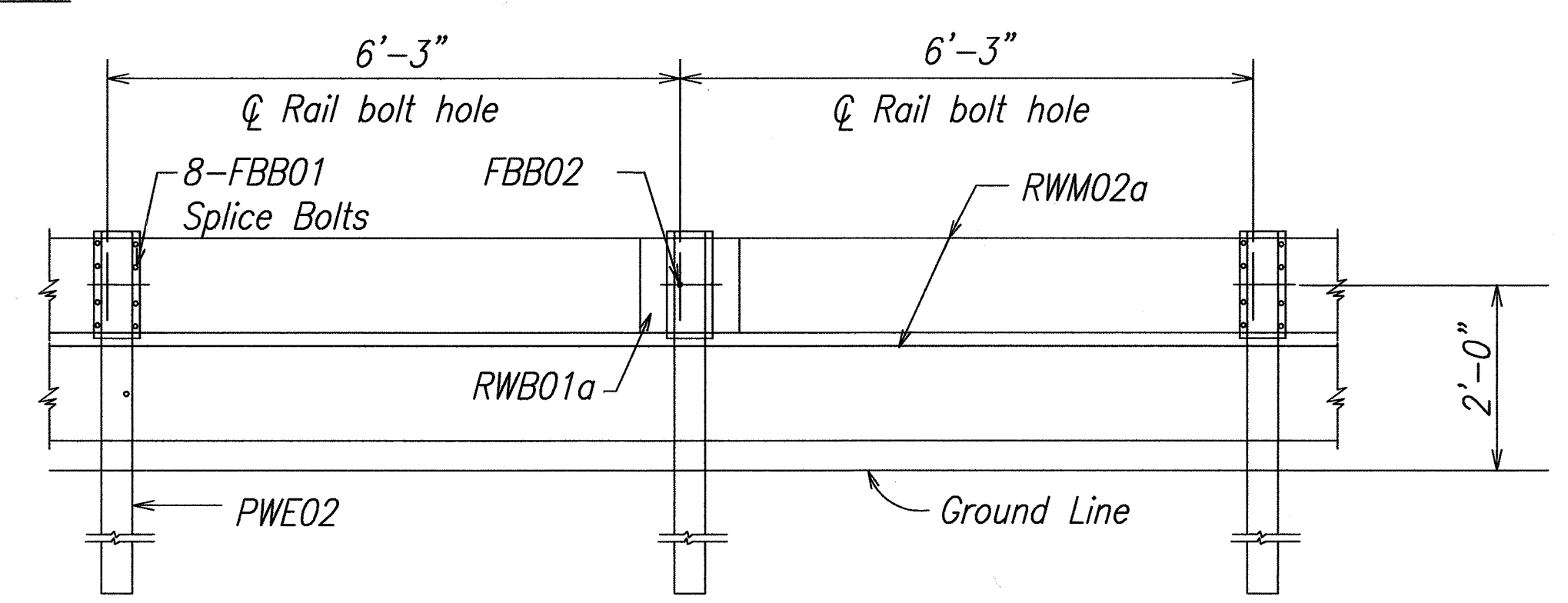


W-BEAM STRONG POST (PWE02)

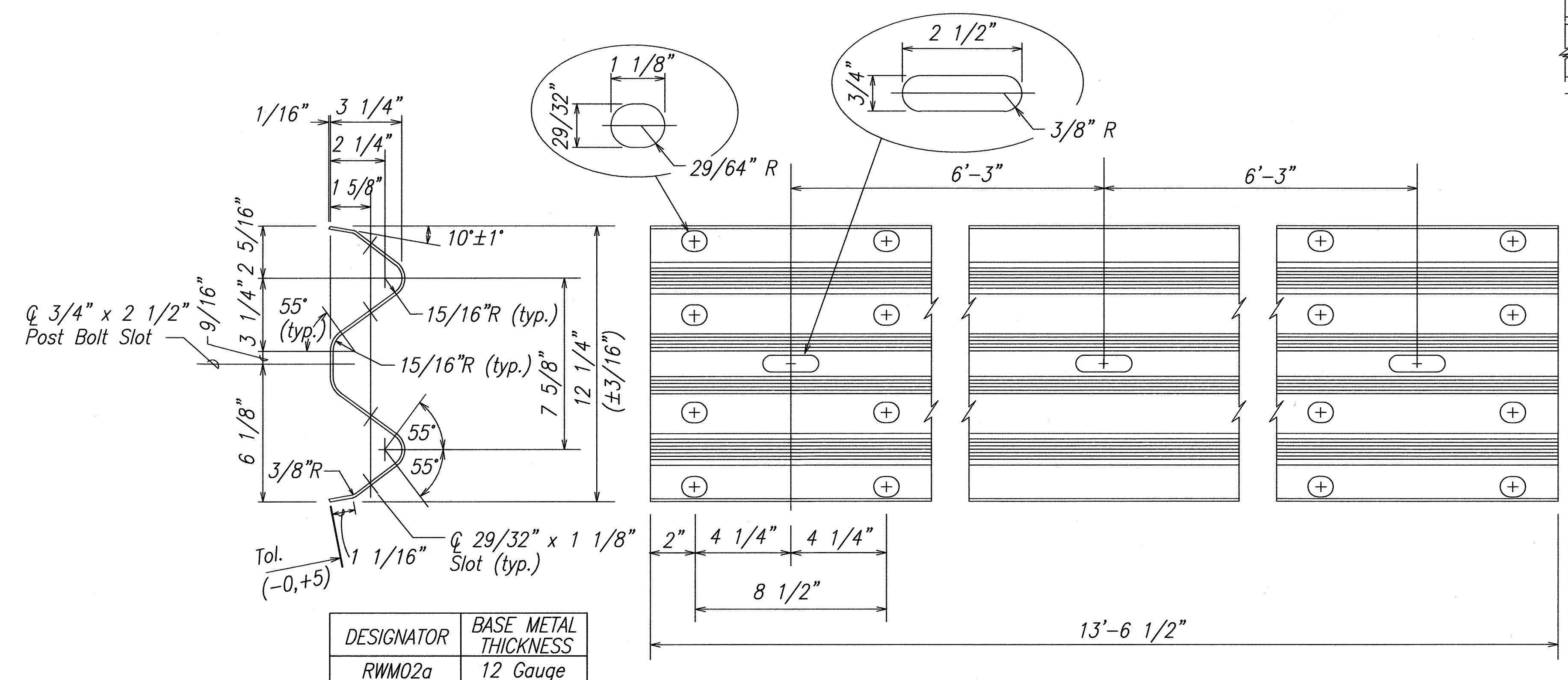


DESIGNATOR	L
FBB01	1 3/8"
FBB02	2"
FBB03	10"

GUARDRAIL BOLTS AND
RECESSED NUT

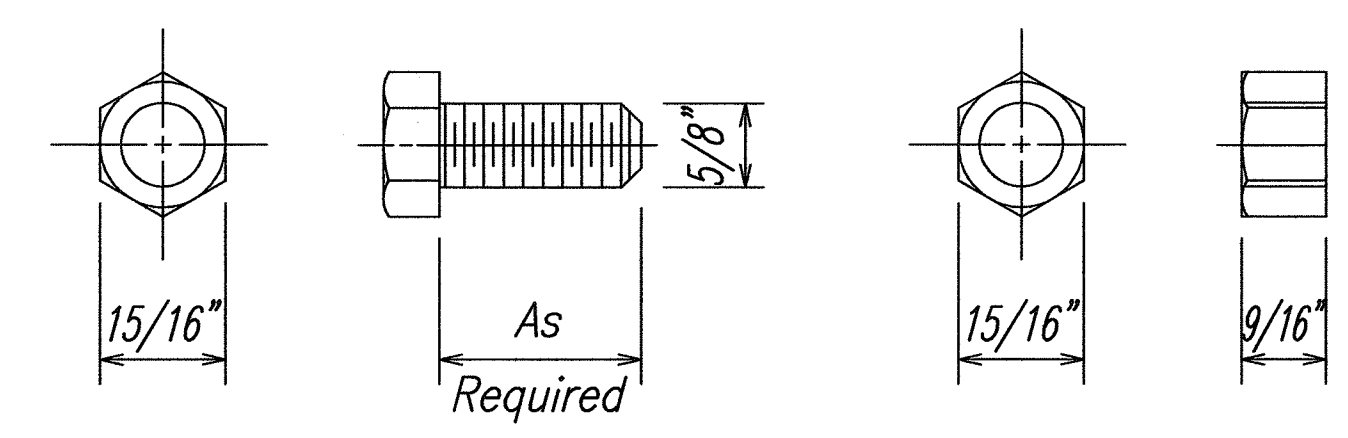


STRONG POST RUBRAIL (W-BEAM) GUARDRAIL WITH
RECYCLED OFFSET BLOCK OR PLASTIC BLOCKOUT



DESIGNATOR	BASE METAL THICKNESS
RWM02a	12 Gauge

2 SPACE W-BEAM GUARDRAIL (RWM02a)



HEX BOLT & NUT (FBX16a)

DATE	REVISION
4-12-13	Delete Graphic Scale
4-12-13	Delete Back-Up-Plate
4-12-13	Revise Per Latest DOT Guardrail Details



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OR UNDER MY SUPERVISION.
[Signature]
FUKUNAGA & ASSOCIATES, INC. APRIL 30, 2014
LIC. EXP. DATE

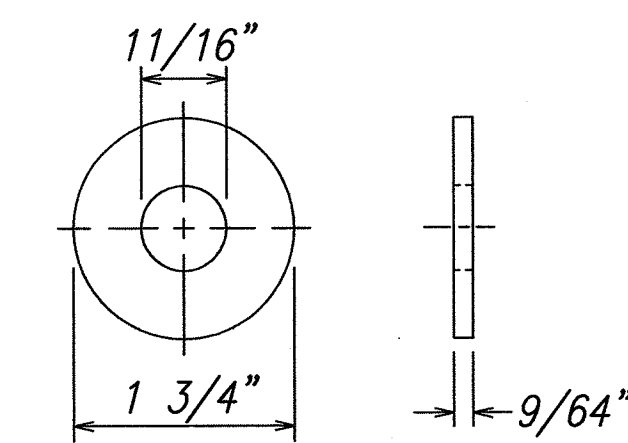
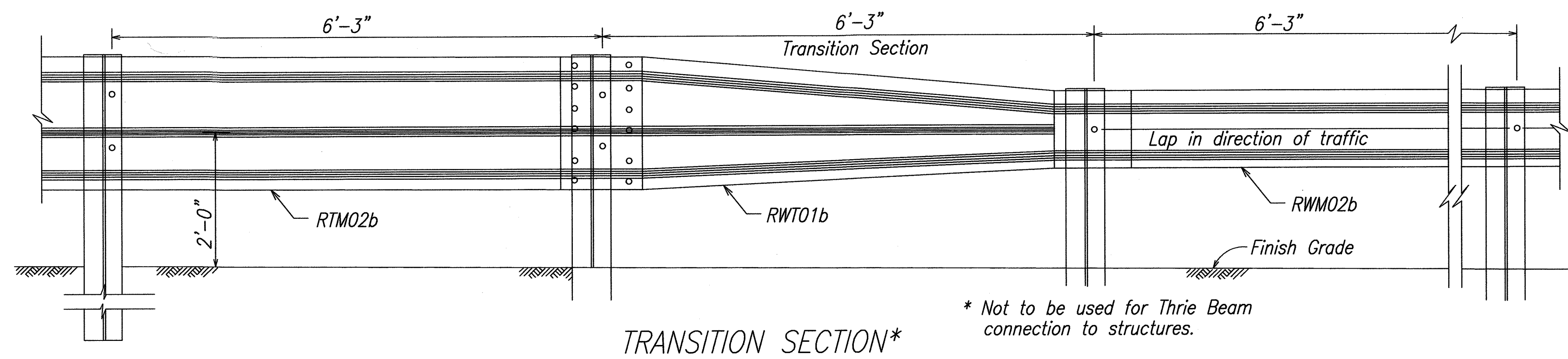
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRONG POST RUBRAIL
(W-BEAM) GUARDRAIL

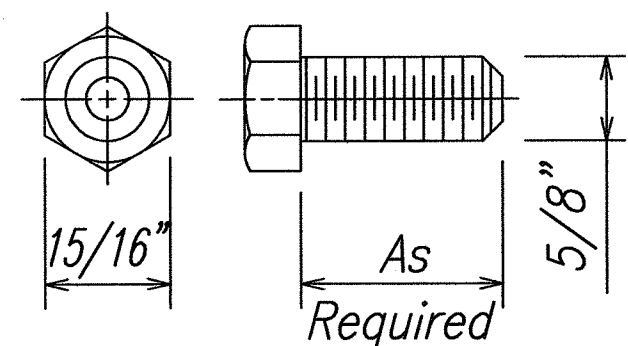
KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: None Date: February 2013

SHEET No. B4 OF 10 SHEETS

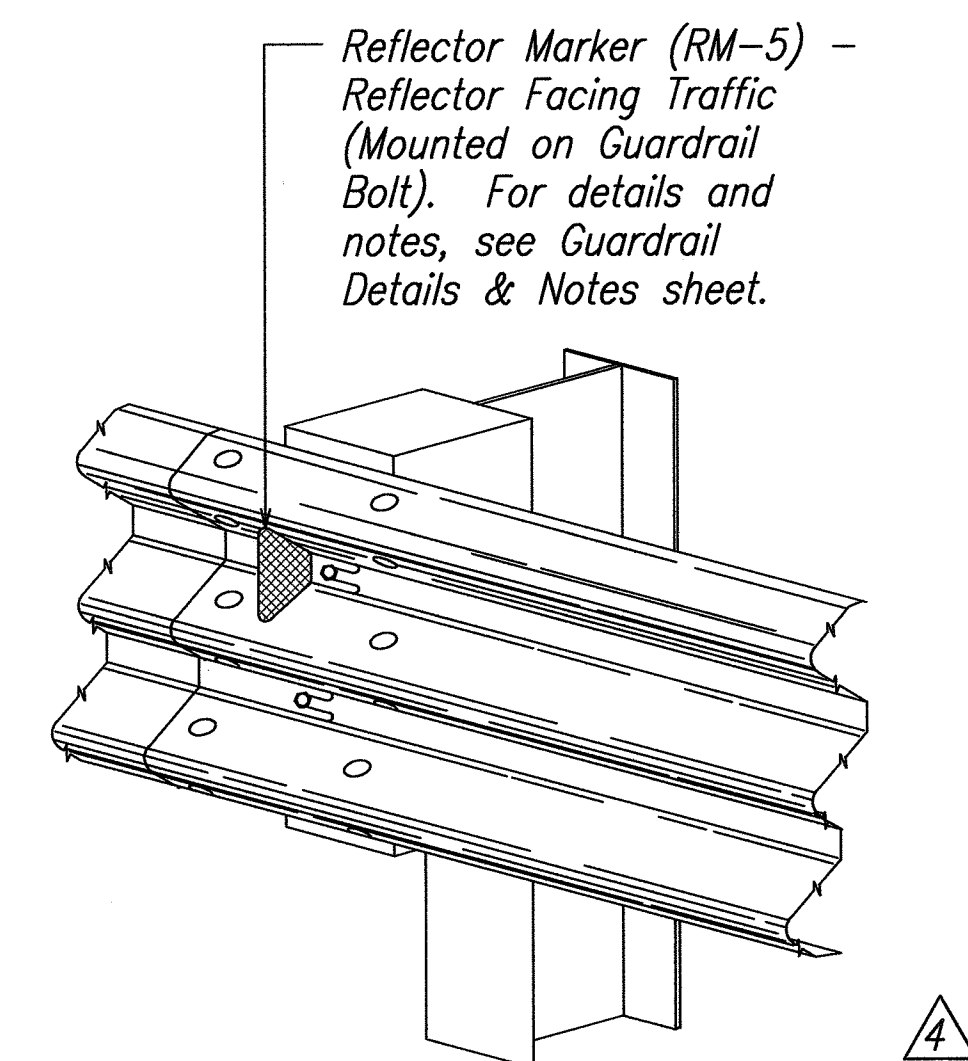
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 111	166



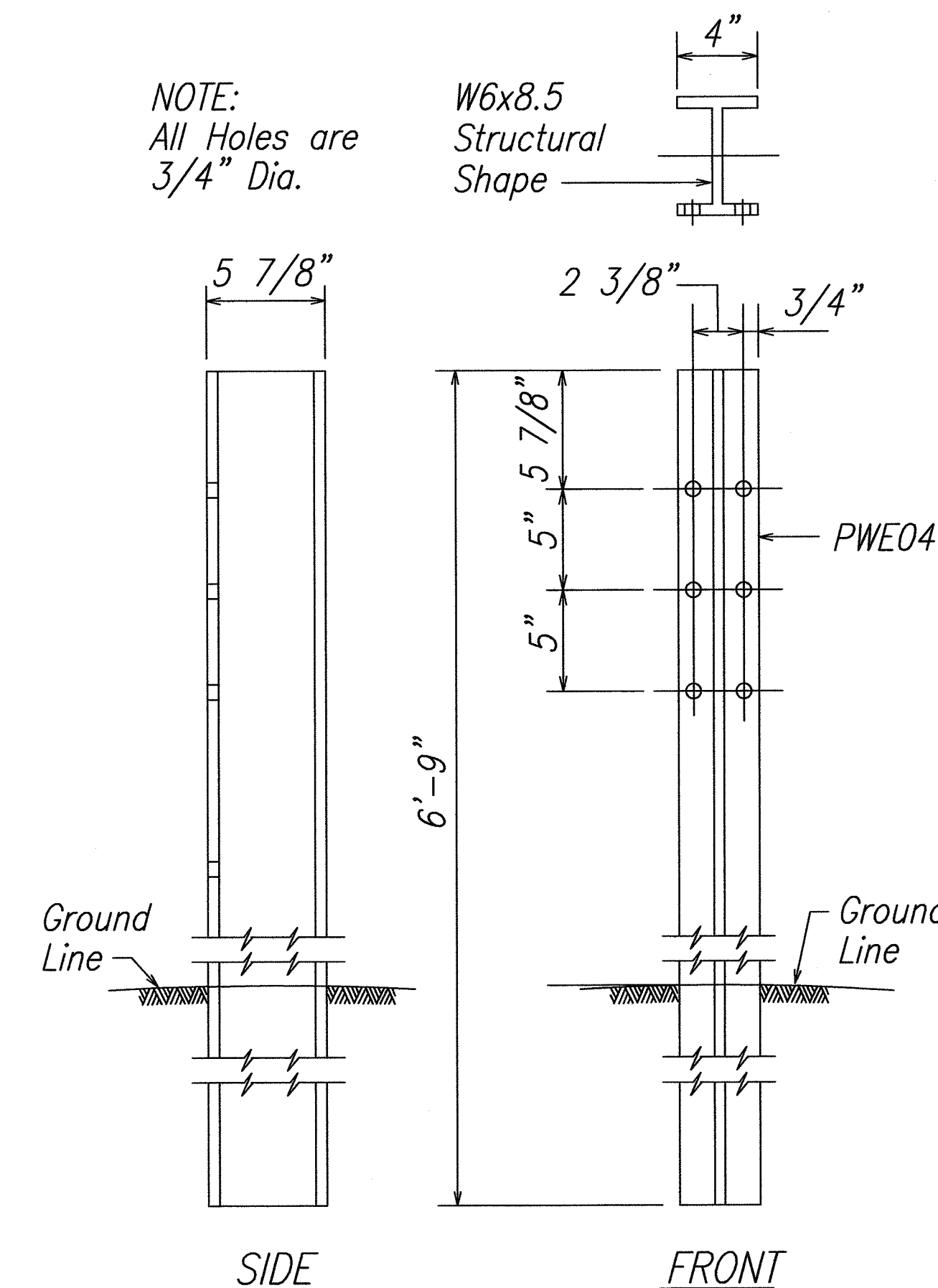
STEEL WASHER
FOR 5/8" BOLT



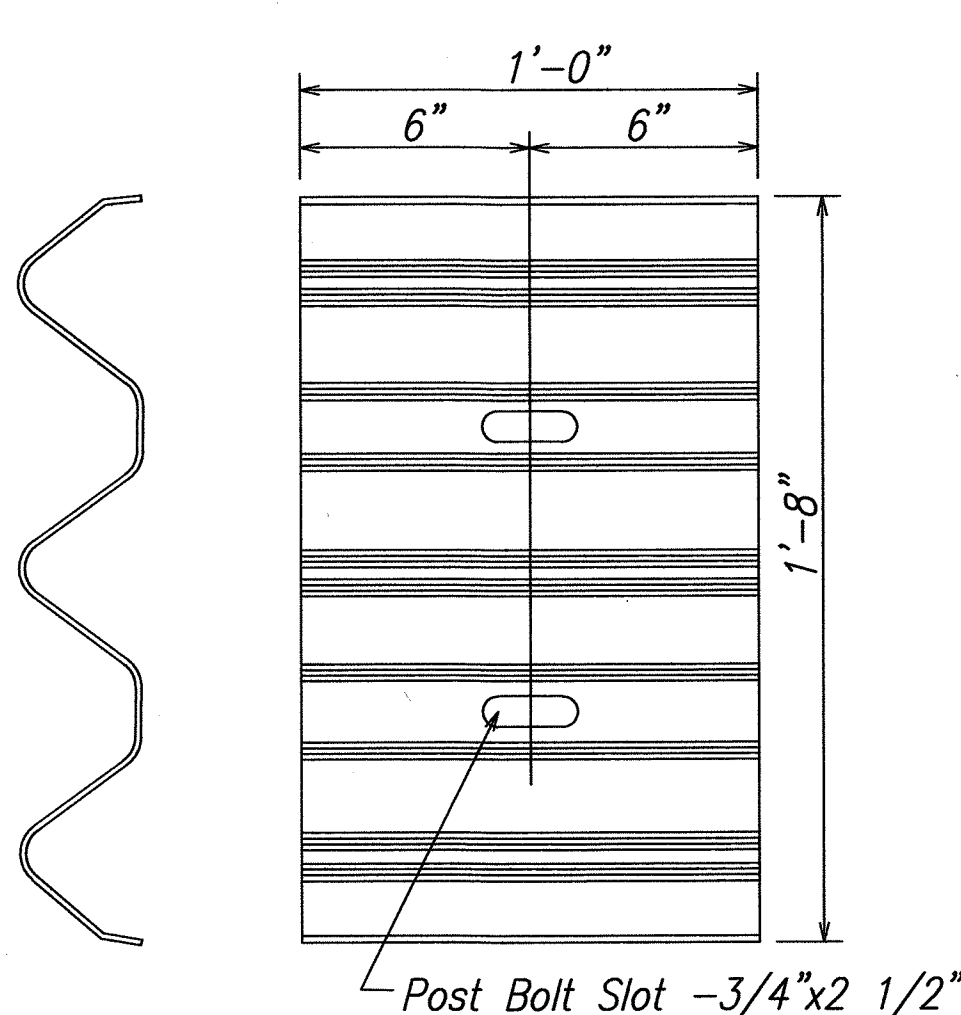
HEX BOLT & NUT
(FBX16a)



TYPICAL INSTALLATION OF
REFLECTOR MARKER (RM-5)

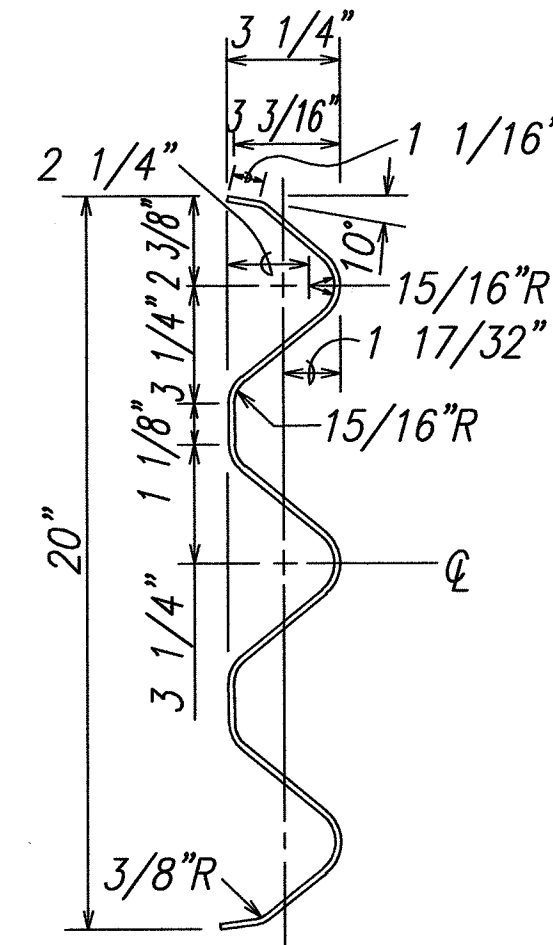


W-BEAM STRONG POST (PWE04)

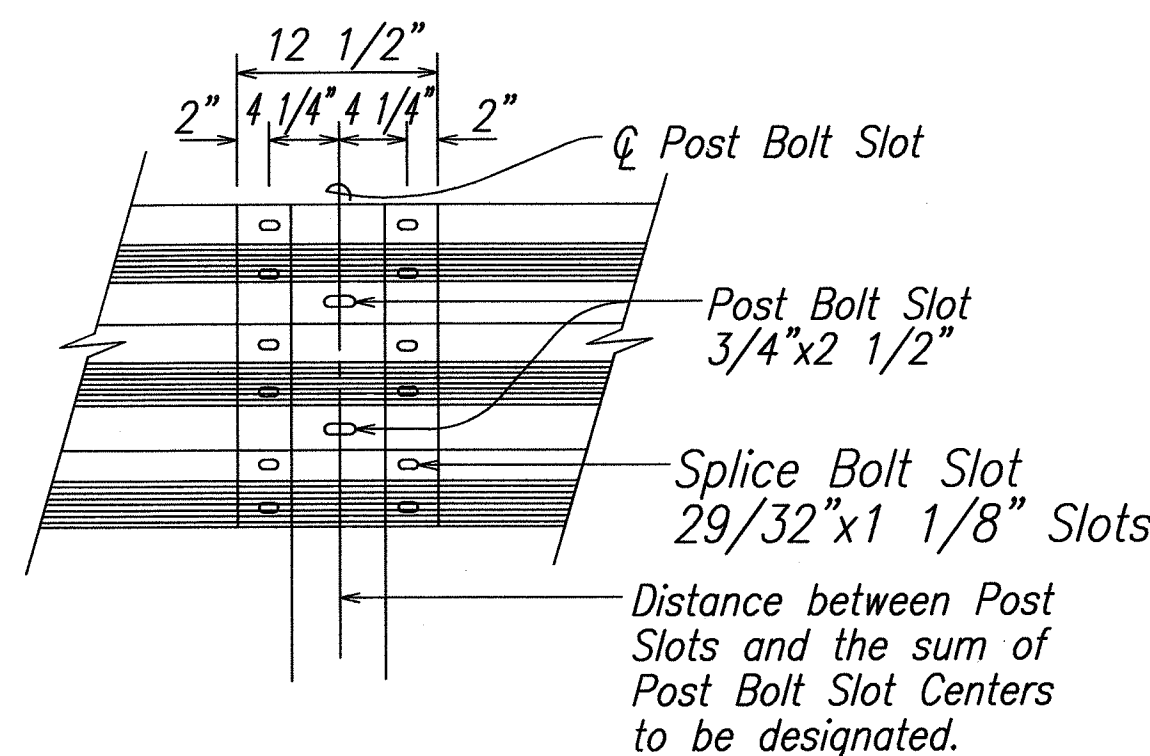


BACKUP PLATE
(RTB01b)

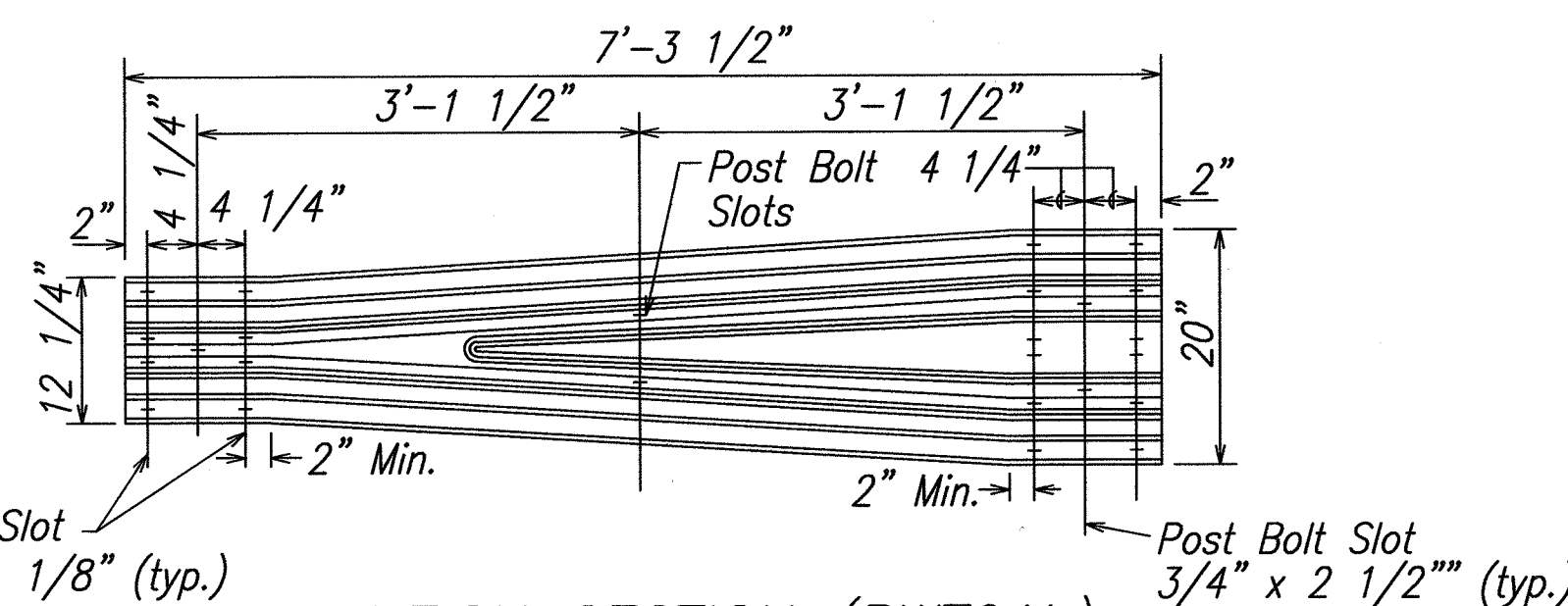
(Use at Posts where
Splices do not occur)



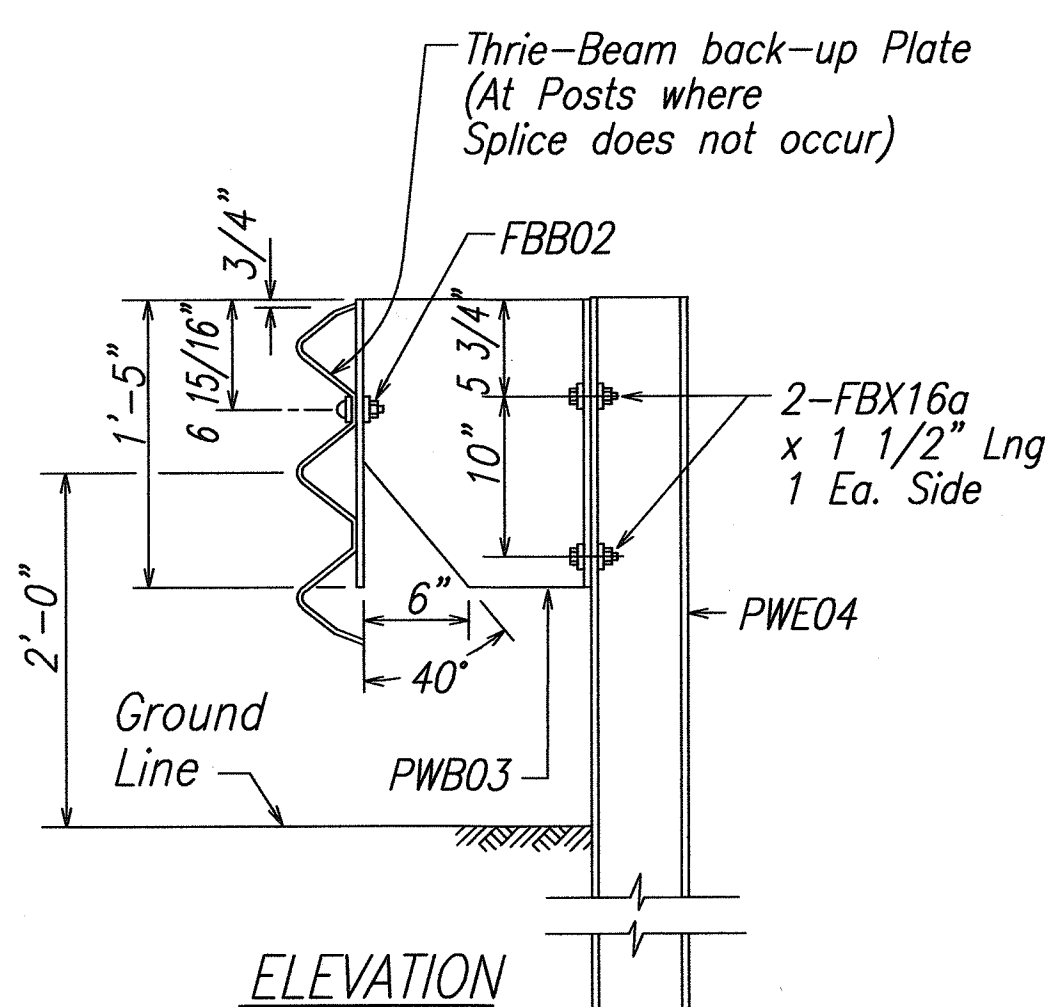
SECTION THRU
RAIL ELEMENT
(RTM02b)



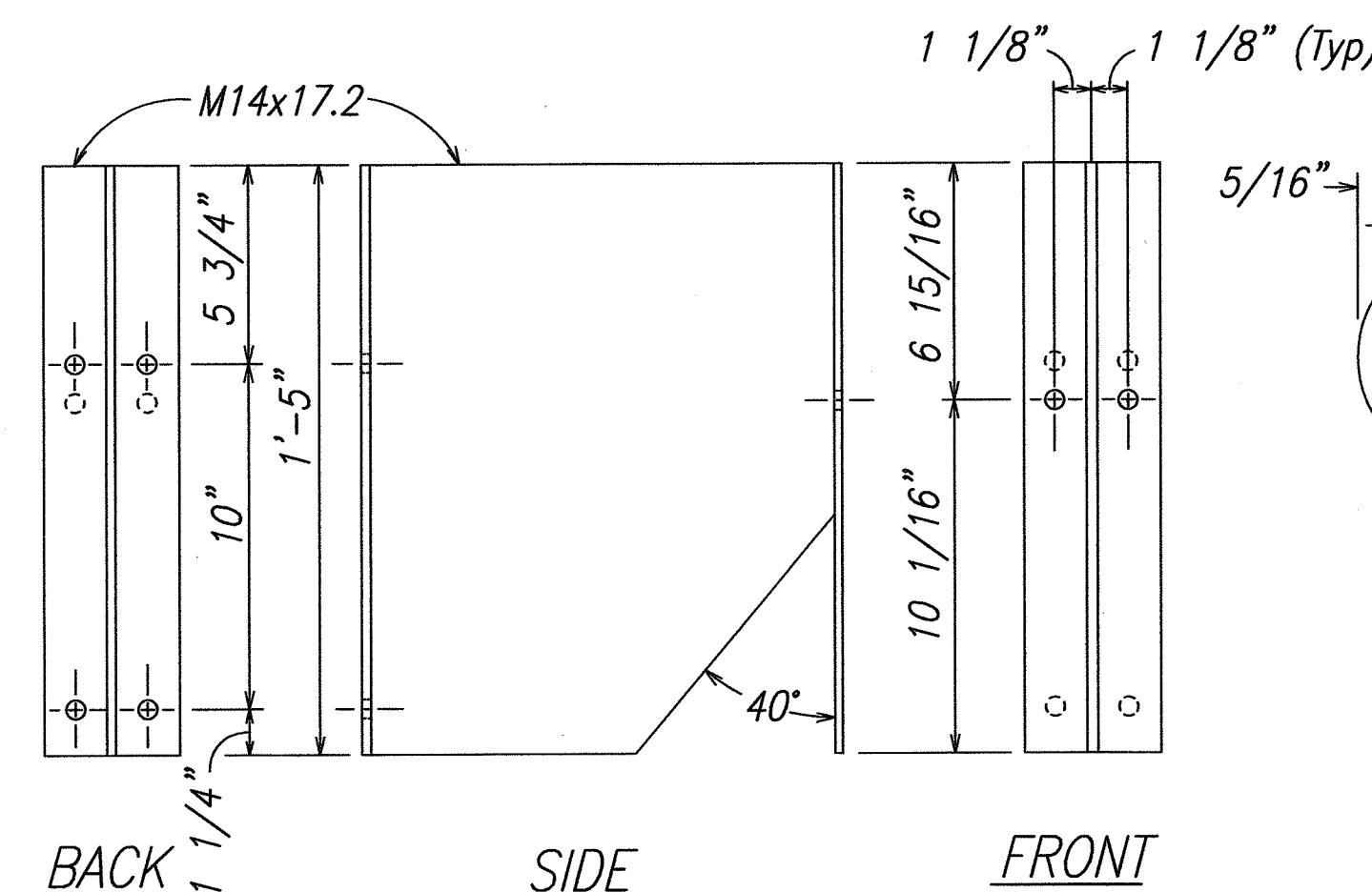
RAIL SPLICE



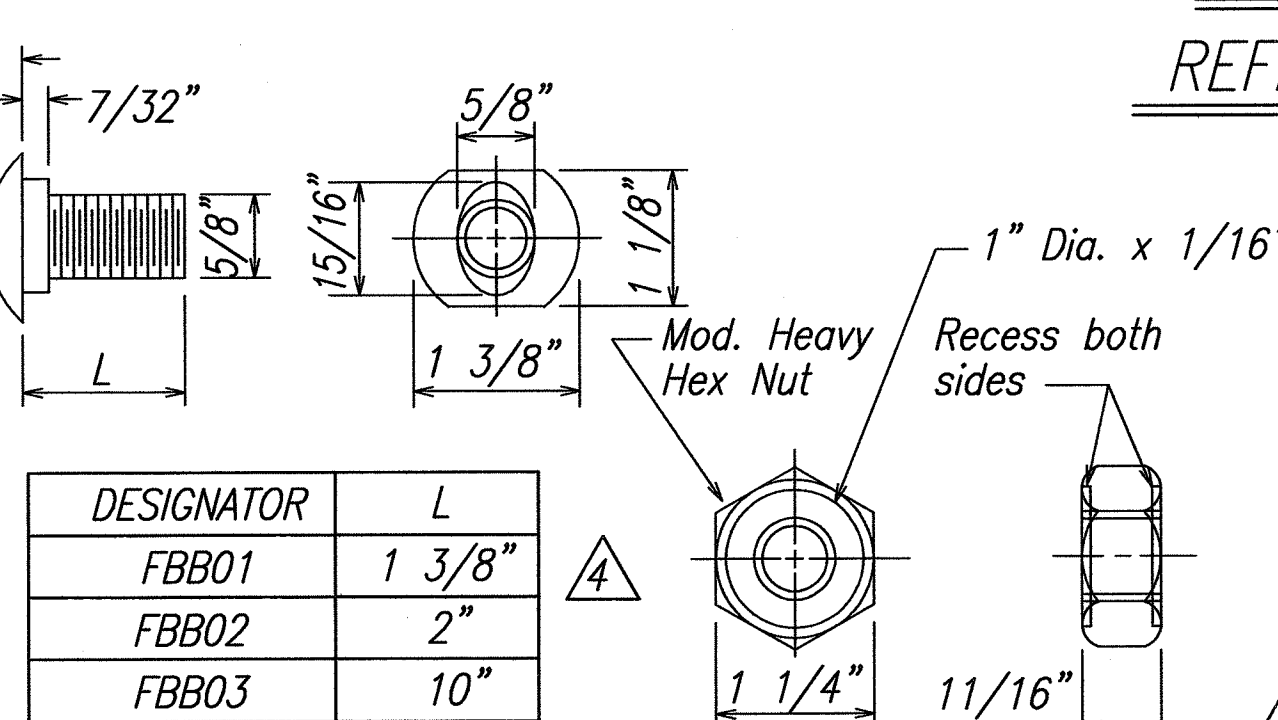
TRANSITION SECTION (RWT01b)



STRONG POST MODIFIED
THRIE-BEAM GUARDRAIL
(SGR09b)



SPACER BLOCK PWB03



DESIGNATOR	L
FBX01	1 3/8"
FBX02	2"
FBX03	10"

GUARDRAIL BOLTS AND RECESSED NUT

DATE	REVISION
4-12-13	Delete Graphic Scale
4-12-13	Revise Per Latest DOT Guardrail Details

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STRONG POST MODIFIED
THRIE-BEAM GUARDRAIL**

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: None Date: February 2013

SHEET No. B5A OF 10 SHEETS

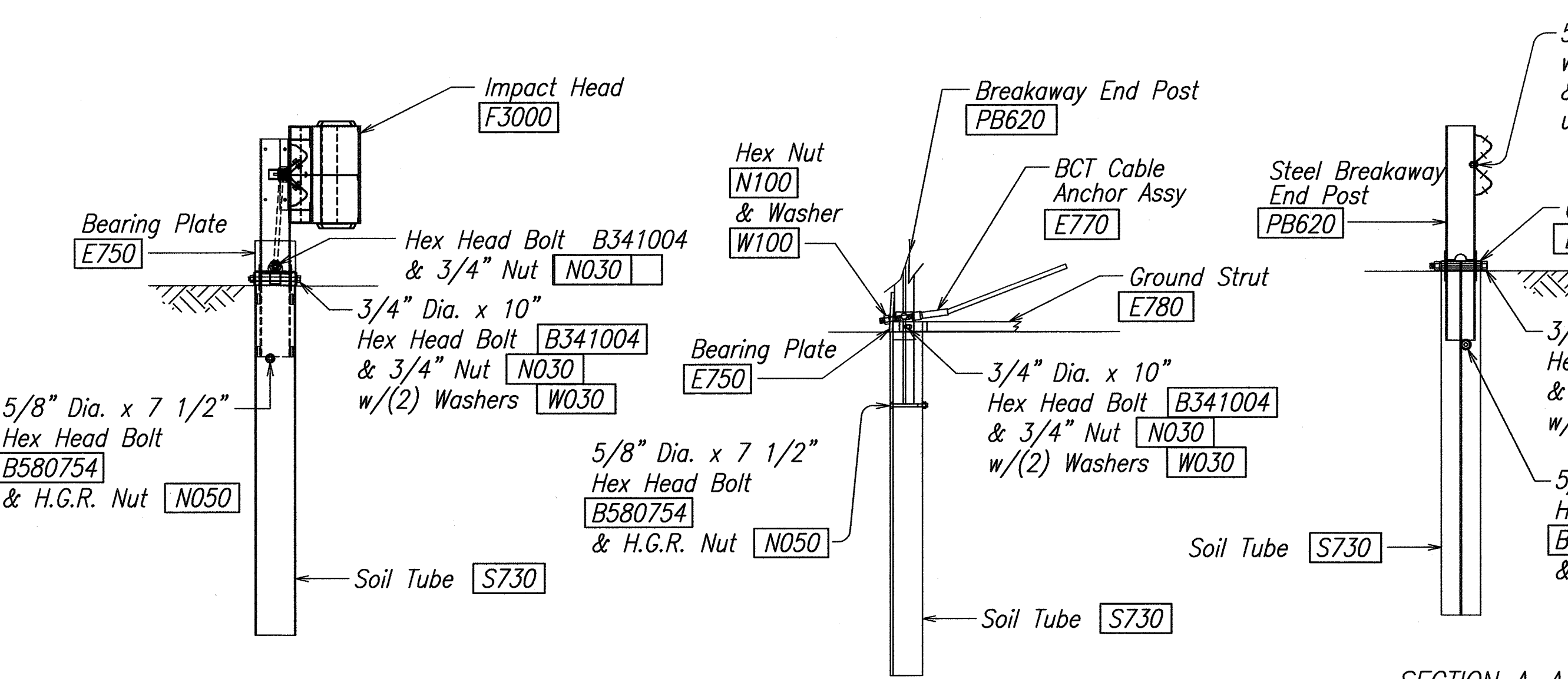
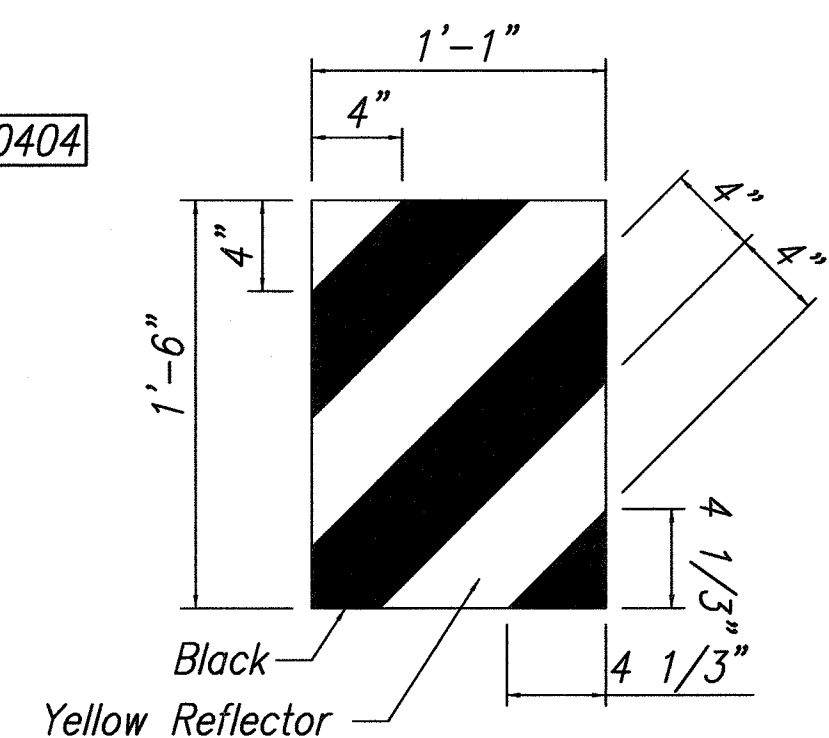
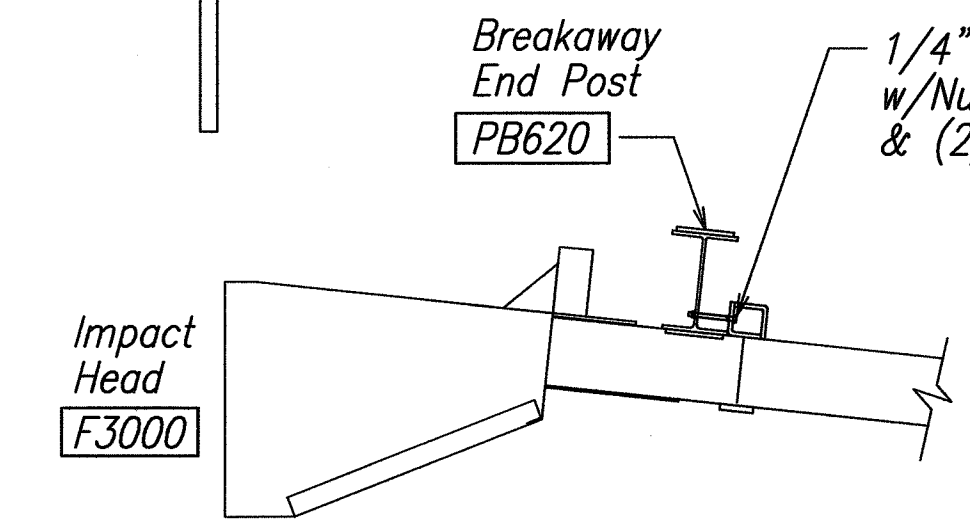
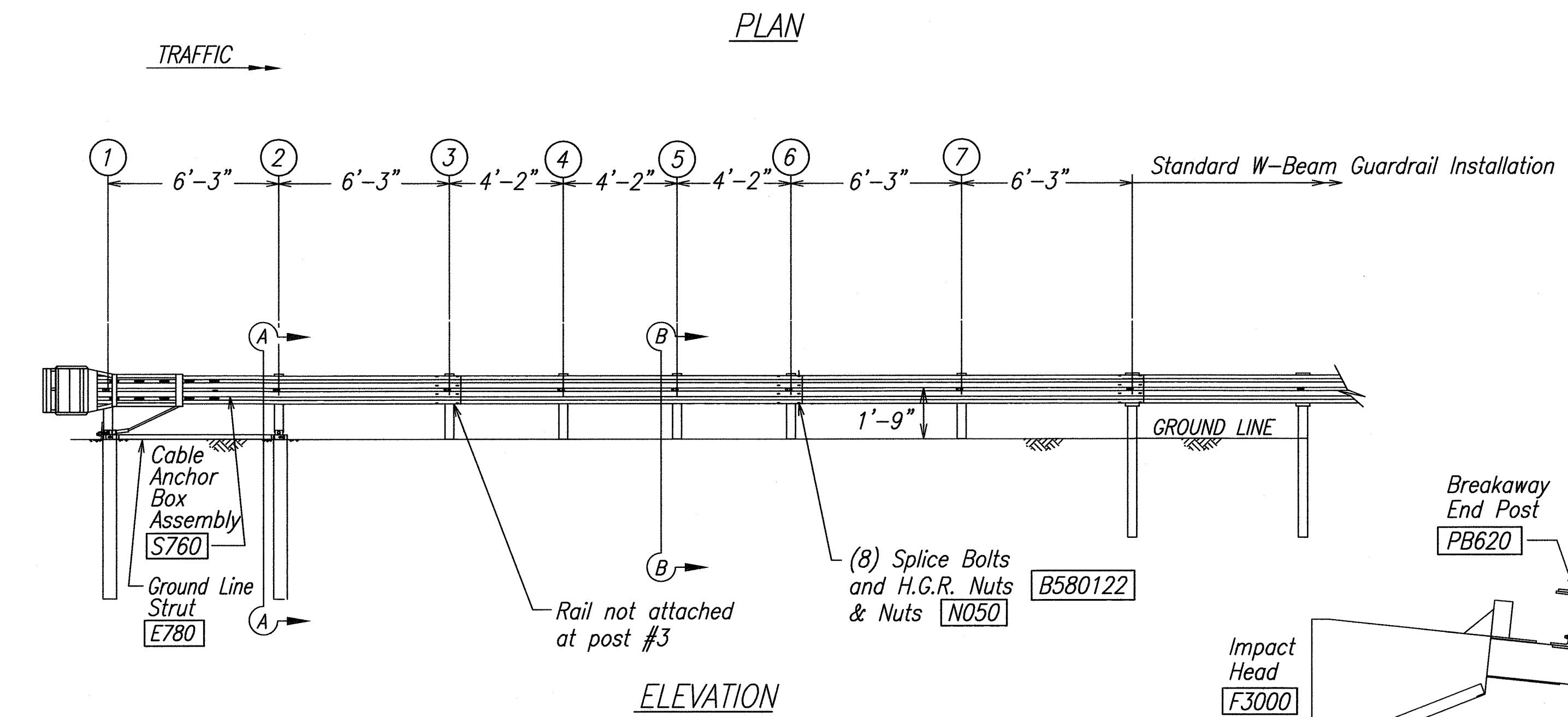
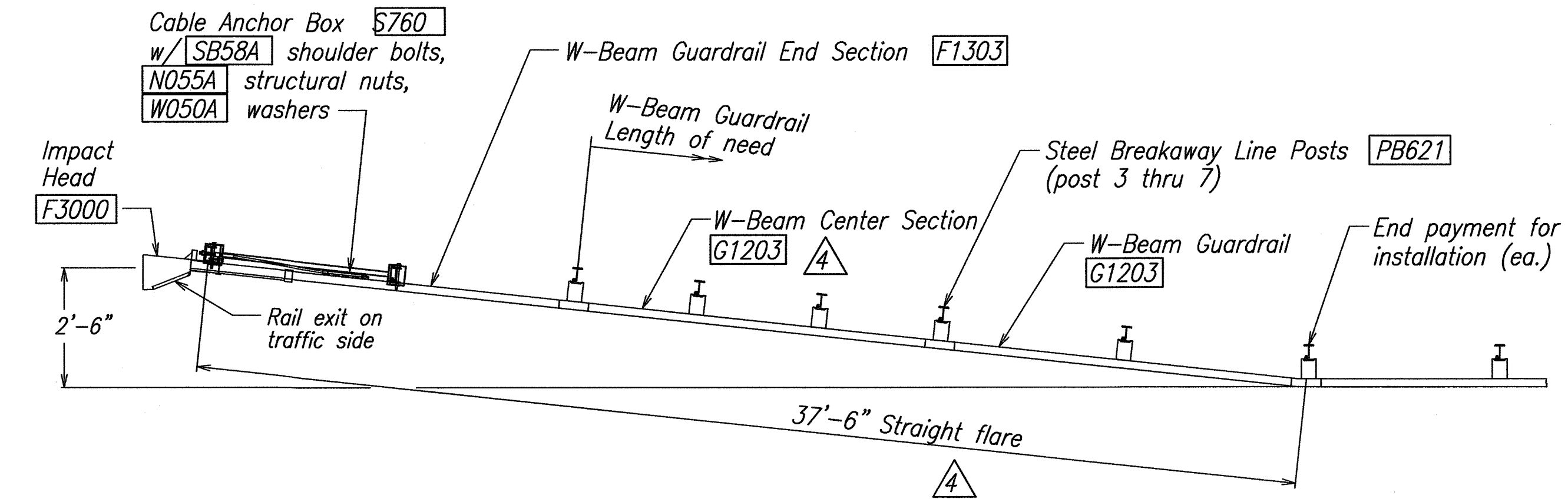
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 115	166

ITEM NO.	QTY.	BILL OF MATERIALS
F3000	1	IMPACT HEAD
F1303	1	W-BEAM GUARDRAIL END SECTION, 12 GA.
G1203	2	W-BEAM GUARDRAIL, 12 GA.
S730	2	*FOUNDATION SOIL TUBE, 6" x 8" x 72"
E750	1	BEARING PLATE
S760	1	CABLE ANCHOR BOX
E770	1	BCT CABLE ANCHOR ASSEMBLY
E780	1	GROUND STRUT
PB620	2	STEEL BREAKAWAY END POST
PB621	5	STEEL BREAKAWAY LINE POST
	5	RECYCLED PLASTIC BLOCKOUT OR OFFSET BLOCK
	1	IMPACT HEAD REFLECTOR MARKER - IHRM(R) OR (L)
HARDWARE		
B580122	25	5/8" Dia. x 1 1/4" SPLICE BOLT, POST #2
B580754	2	5/8" Dia. x 7 1/2" HEX BOLT
B341004	2	3/4" Dia. x 10" HEX BOLT
B581002	5	5/8" Dia. x 10" H.G.R. BOLT (POST 3 THRU 7)
N050	32	5/8" Dia. H.G.R. NUT (SPLICE 24, SOIL TUBES 2, POST 2 THRU 7, 6)
N030	2	3/4" Dia. HEX NUT
W050	6	H.G.R. WASHER
W030	4	3/4" ID WASHER
N100	2	1" ANCHOR CABLE HEX NUT
W100	2	1" ANCHOR CABLE WASHER
B140404	2	1/4" x 4" HEX BOLT
N014	2	1/4" HEX NUT
W014	4	1/4" WASHER
SB58A	8	CABLE ANCHOR BOX SHOULDER BOLT
N055A	8	1/2" A325 STRUCTURAL NUT
W050A	16	1 1/16" OD x 9/16" ID A325 STR. WASHER

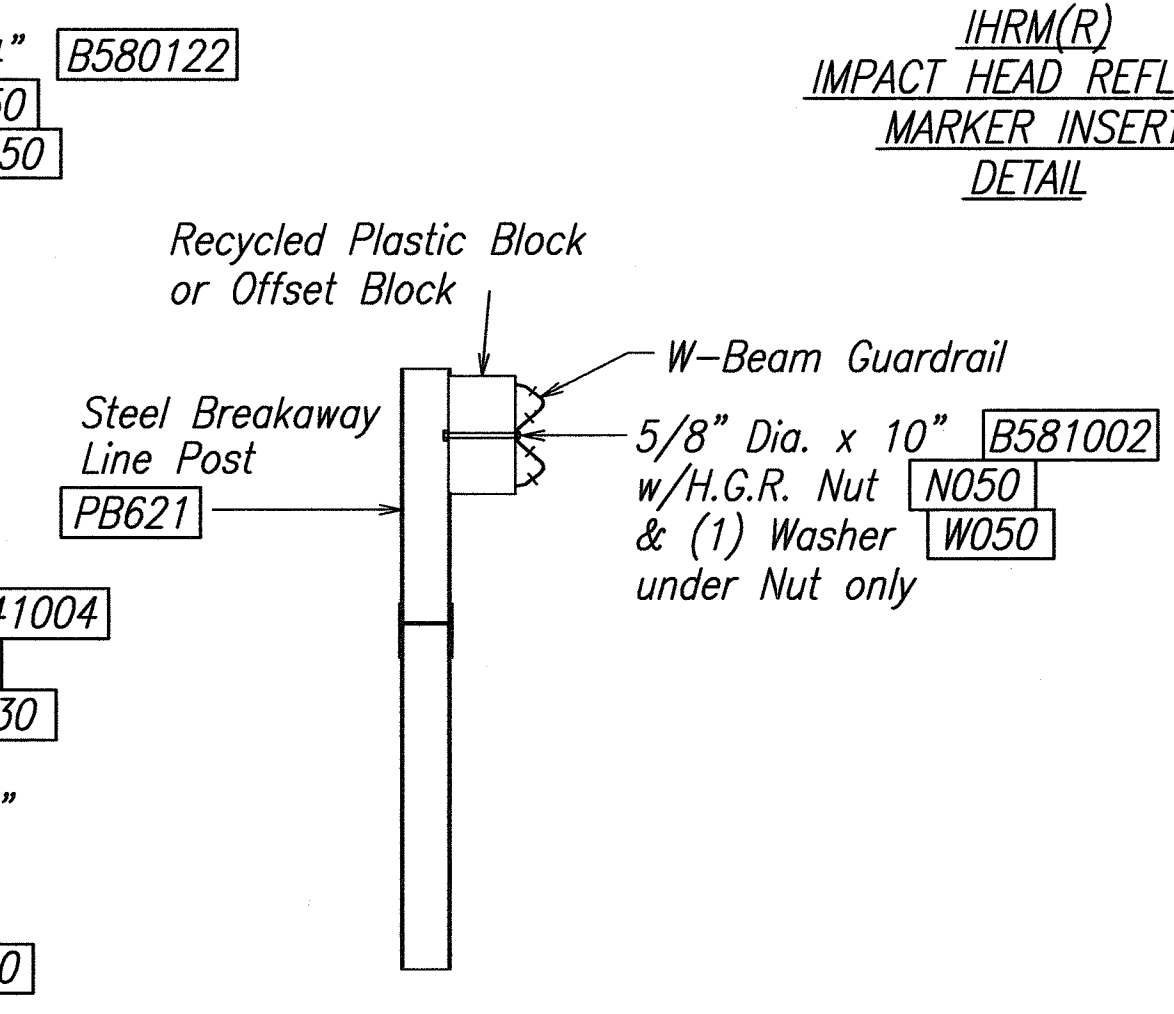
Foundation Tube Options For Posts 1 & 2
 *6'-0" Split Foundation Tubes S730
 *6'-0" Solid Foundation Tubes E731
 *5'-0" Foundation Tubes S735 W/Soil Plates SP600
 *4'-6" Foundation Tubes E735 W/Soil Plates SP600

GENERAL NOTES

1. Breakaway steel posts are required with the FLEAT Terminal.
2. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
3. The soil tubes shall not protrude more than 4" above ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
4. The soil tubes may be driven with an approved driving head. Soil tubes shall not be driven with the post in the tube. If the tubes are placed in drilled holes, the backfill material must be satisfactorily compacted to prevent settlement.
5. When rock is encountered during excavation, a 12" Dia. post hole, 20" deep may be used if approved by the engineer. Granular material will be placed in the bottom of the hole approx. 2 1/2" deep to provide drainage. The soil tubes will be field cut to length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
6. The breakaway cable assembly must be taut. A locking device, (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.
7. (R) or (L) indicates right or left Impact Head Reflector Marker (IHRM). Providing and installing of IHRM shall be considered incidental to end treatment.
8. The stripes for IHRM shall slope downward at an angle of 45° towards the side of the end treatment that traffic is to pass.



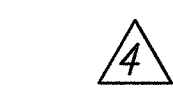
SECTION A-A (@ Post #2)



DATE	REVISION
4-12-13	Delete Graphic Scale
4-12-13	Revise Per Latest DOT Guardrail Details



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 APRIL 30, 2014
 FUKUNAGA & ASSOCIATES, INC. LIC. EXP. DATE



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
**FLEAT-350
 FLARED ENERGY
 ABSORBING TERMINAL**
 KAHULUI AIRPORT
 ACCESS ROAD, PHASE I
 Federal Aid Project No. NH-0380(10)
 Scale: None Date: February 2013
 SHEET No. B11 OF 10 SHEETS

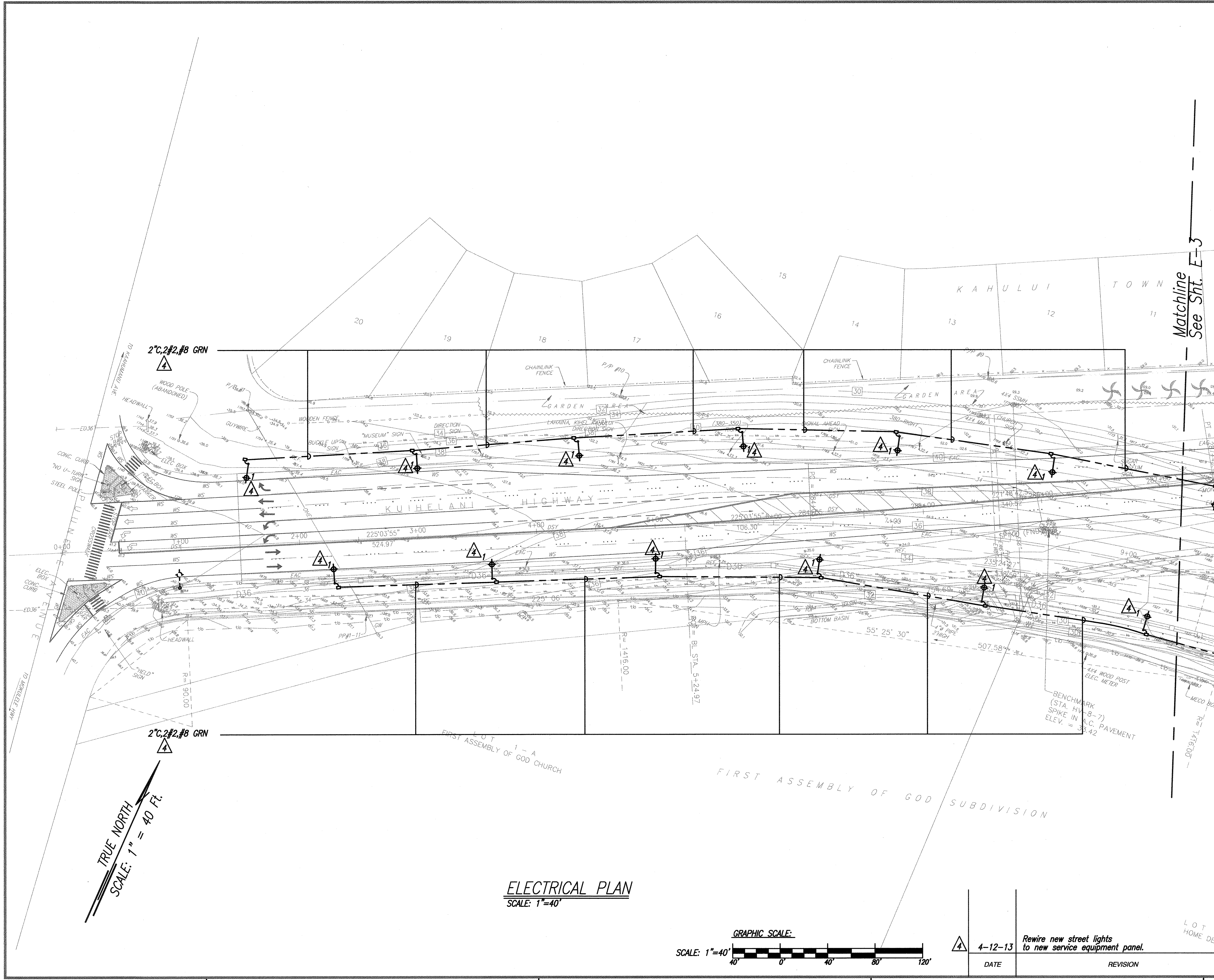
DATE	DESIGNED BY	CHECKED BY
NO.	DESIGNED BY	CHECKED BY
NO.	DESIGNED BY	CHECKED BY

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\PLANS\26-GUARDRAIL DETAILS\B11.DWG PLOT TIME: 04-23-13, 1:59 PM

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD.142	166

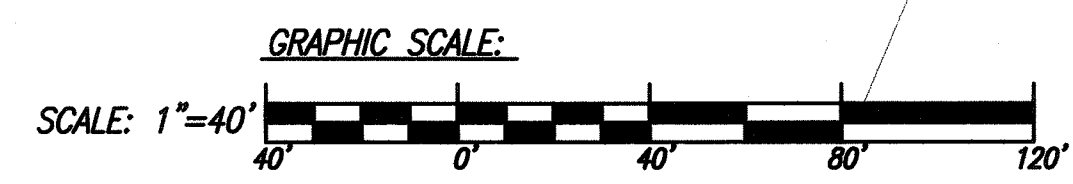
LEGEND & ABBREVIATIONS:

- 5 Contour
- Top bank
- Bottom bank
- Chain link fence unless noted.
- ED_{36"} Drainline w/ size
- EW_{12"} Waterline w/ size
- ES_{8"} Sewerline w/ size
- EOH_{12"} Overhead electric and telephone
- FH Fire hydrant and water valve
- PP Power pole w/ guy wire
- PP Power pole
- TP Telephone pole w/ guy wire
- TP Telephone pole
- HTEL Hawaiian telephone box
- MECO Maui electric co. box
- CATV Cable TV box
- SMH Sewer manhole
- DMH Drain manhole
- WVH Water valve manhole
- WM Water meter
- EAC Edge of A.C. pavement
- 38.5 Spot elevation
- * Traverse station with elevation



DATE	_____
DESIGNED BY	_____
DRAWN BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
QUANTITIES BY	_____
CHECKED BY	_____
No.	_____

ELECTRICAL PLAN
SCALE: 1"=40'



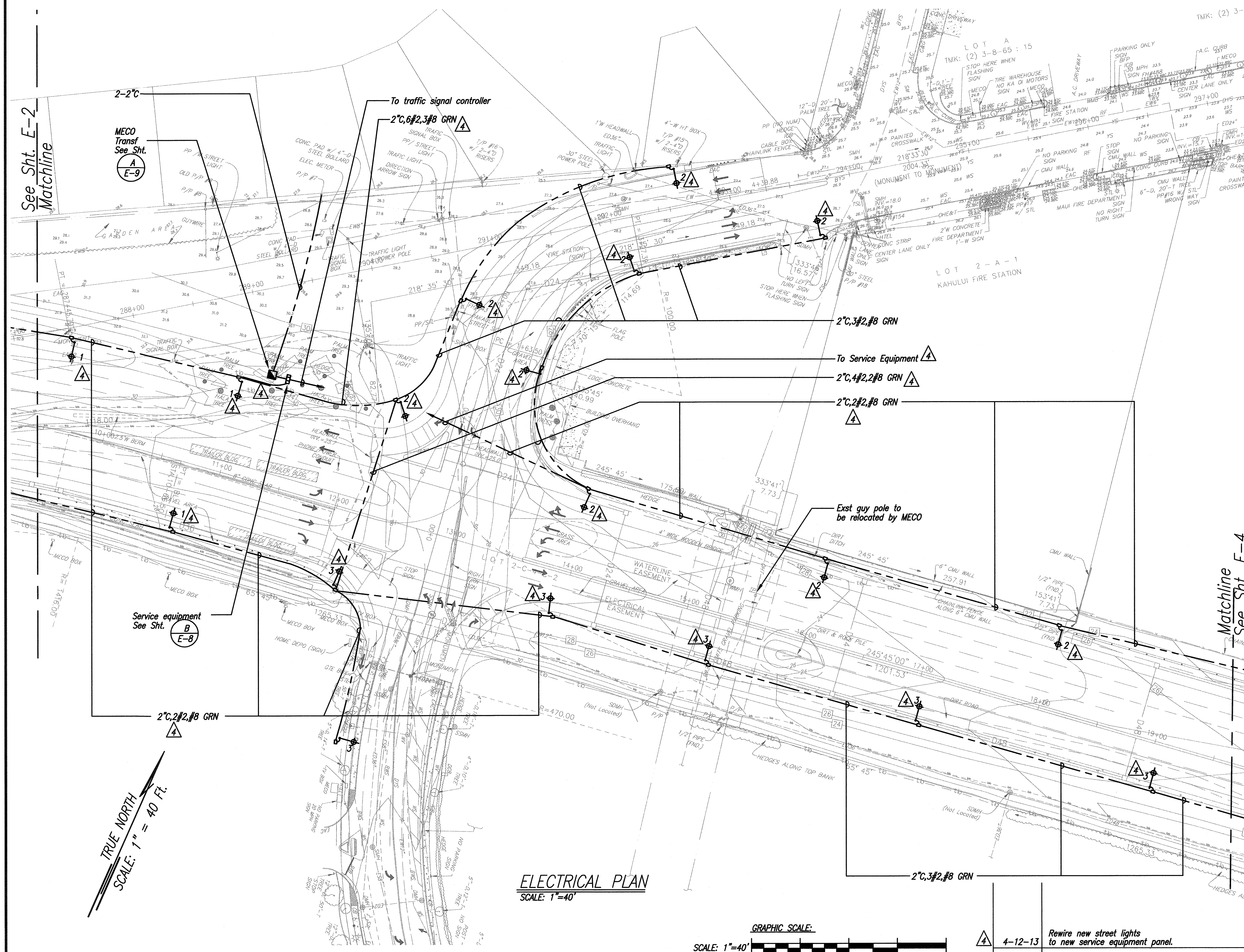
DATE	4-12-13	REVISION	Rewire new street lights to new service equipment panel.
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ELECTRICAL PLAN

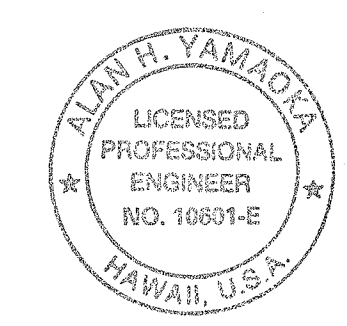
**KAHULUI AIRPORT
ACCESS ROAD, PHASE I**
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. E-2 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD.143	166



DATE	_____
SURVEY PLANNED BY	_____
DESIGNED BY	_____
NOTED BY	_____
CHECKED BY	_____



exp. 4/30/14
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Alan H. Yamaguchi
NAKAMURA, OYAMA & ASSOC., INC.
CONSULTING ENGINEERS

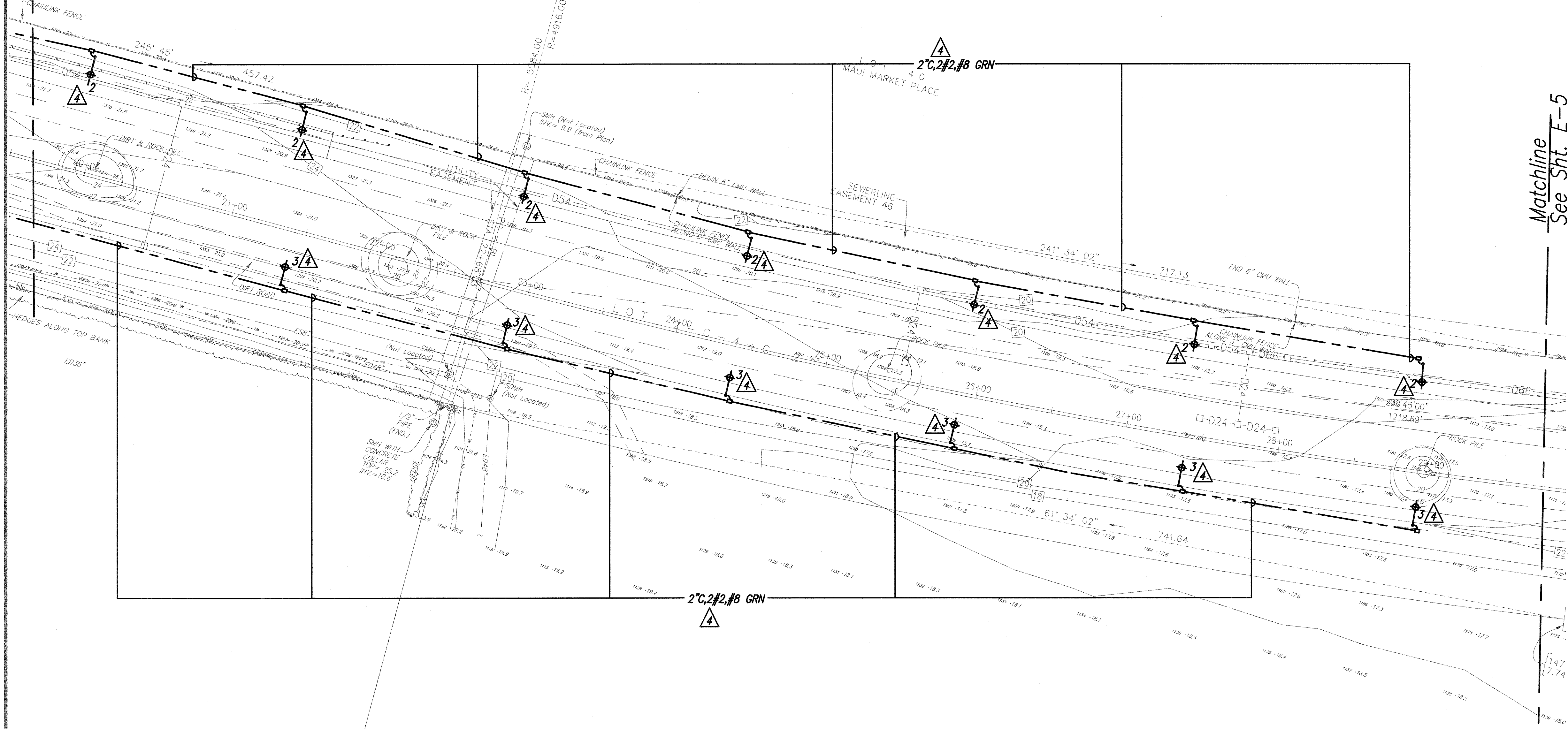
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ELECTRICAL PLAN

KAHULUI AIRPORT
ACCESS ROAD, PHASE 1
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. E-3 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD.144	166

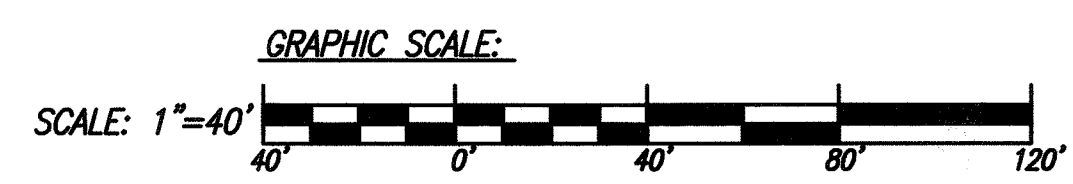
See Sht. E-3
Matchline



Matchline
See Sht. E-5

TRUE NORTH
SCALE: 1" = 40 FT.

ELECTRICAL PLAN
SCALE: 1"=40'



4-12-13	Rewire new street lights to new service equipment panel.
DATE	REVISION

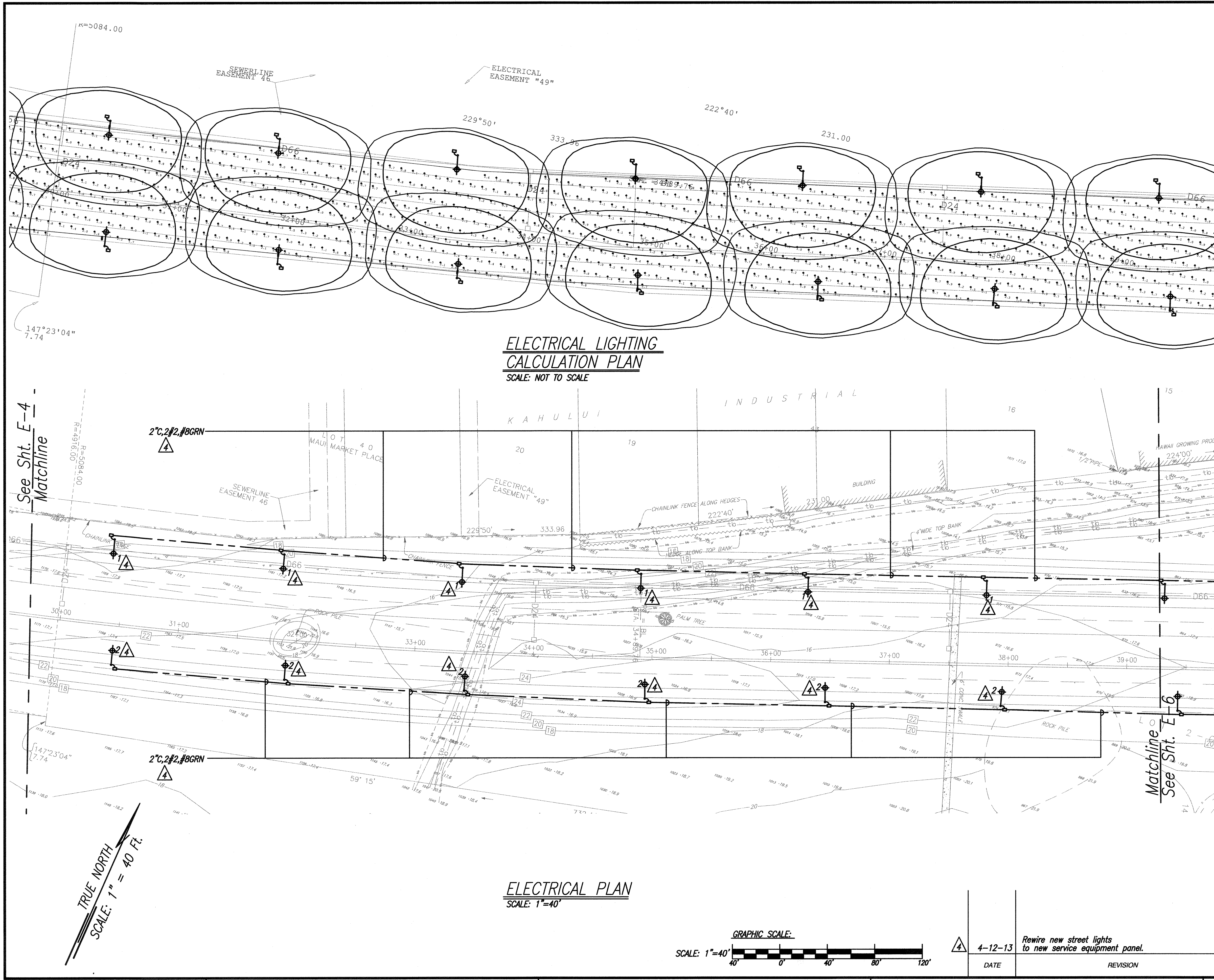
exp. 4/30/14
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CONSULTING ENGINEERS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ELECTRICAL PLAN

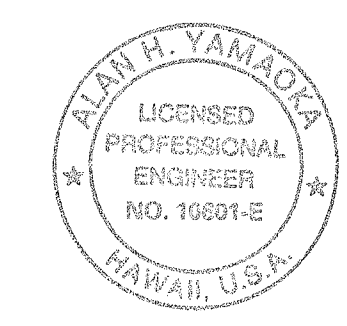
**KAHULUI AIRPORT
ACCESS ROAD, PHASE I**
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. E-4 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD.145	166



DATE	_____
DESIGNED BY	_____
DRAWN BY	_____
CHECKED BY	_____
NOTED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
QUANTITY BY	_____
CHECKED BY	_____

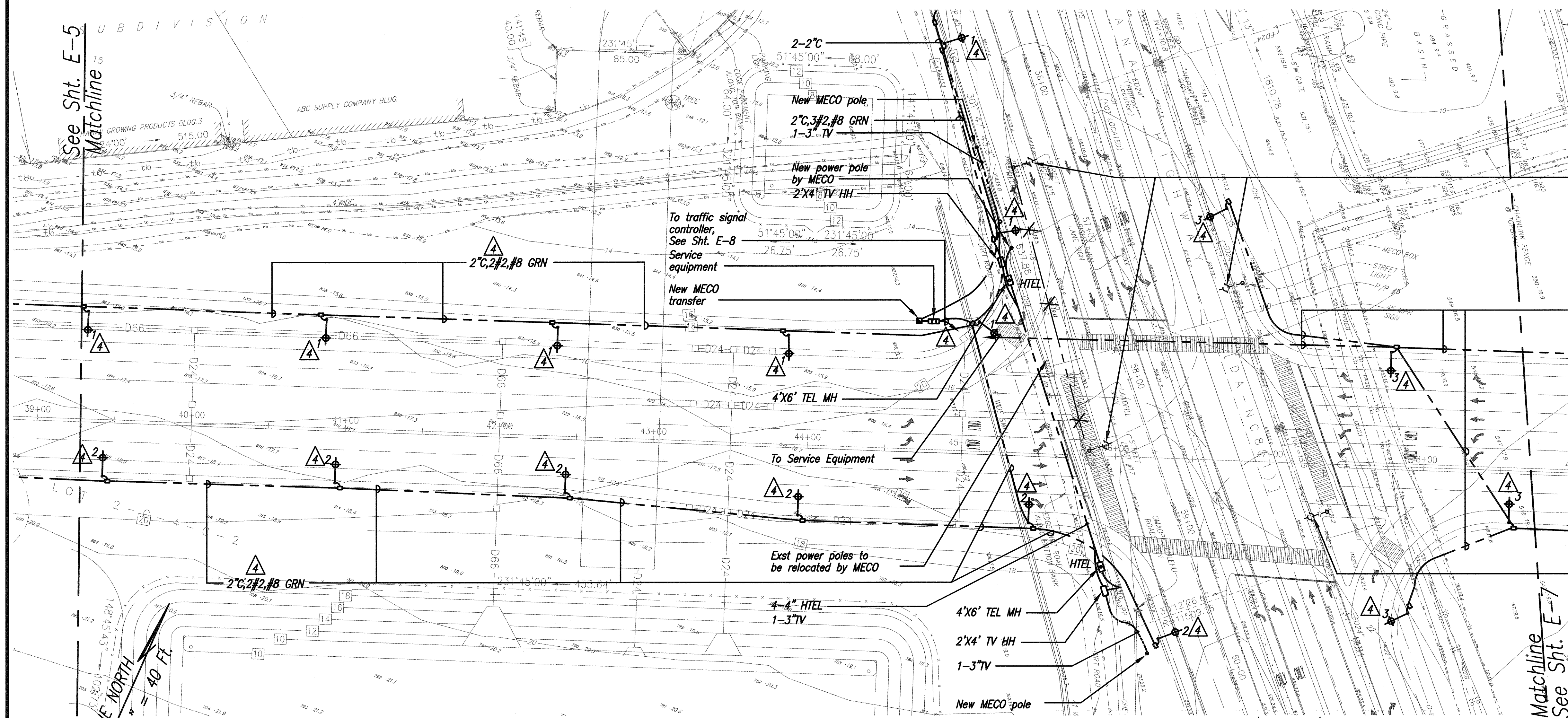


exp. 4/30/14
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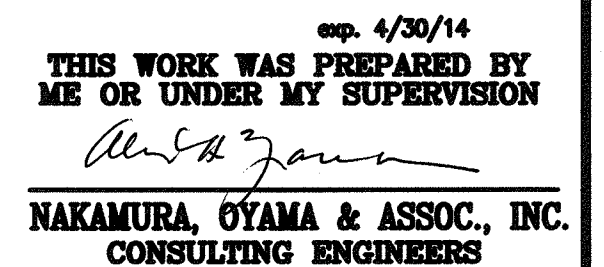
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ELECTRICAL PLAN

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013
SHEET No. E-5 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	<i>NH-0380(10)</i>	<i>2013</i>	<i>ADD. 146</i>	<i>166</i>



— Remove roadway
light (by MECO)
demolish footing & PB



ELECTRICAL PLAN

SHEET No. *E-6* OF *10* SHEETS

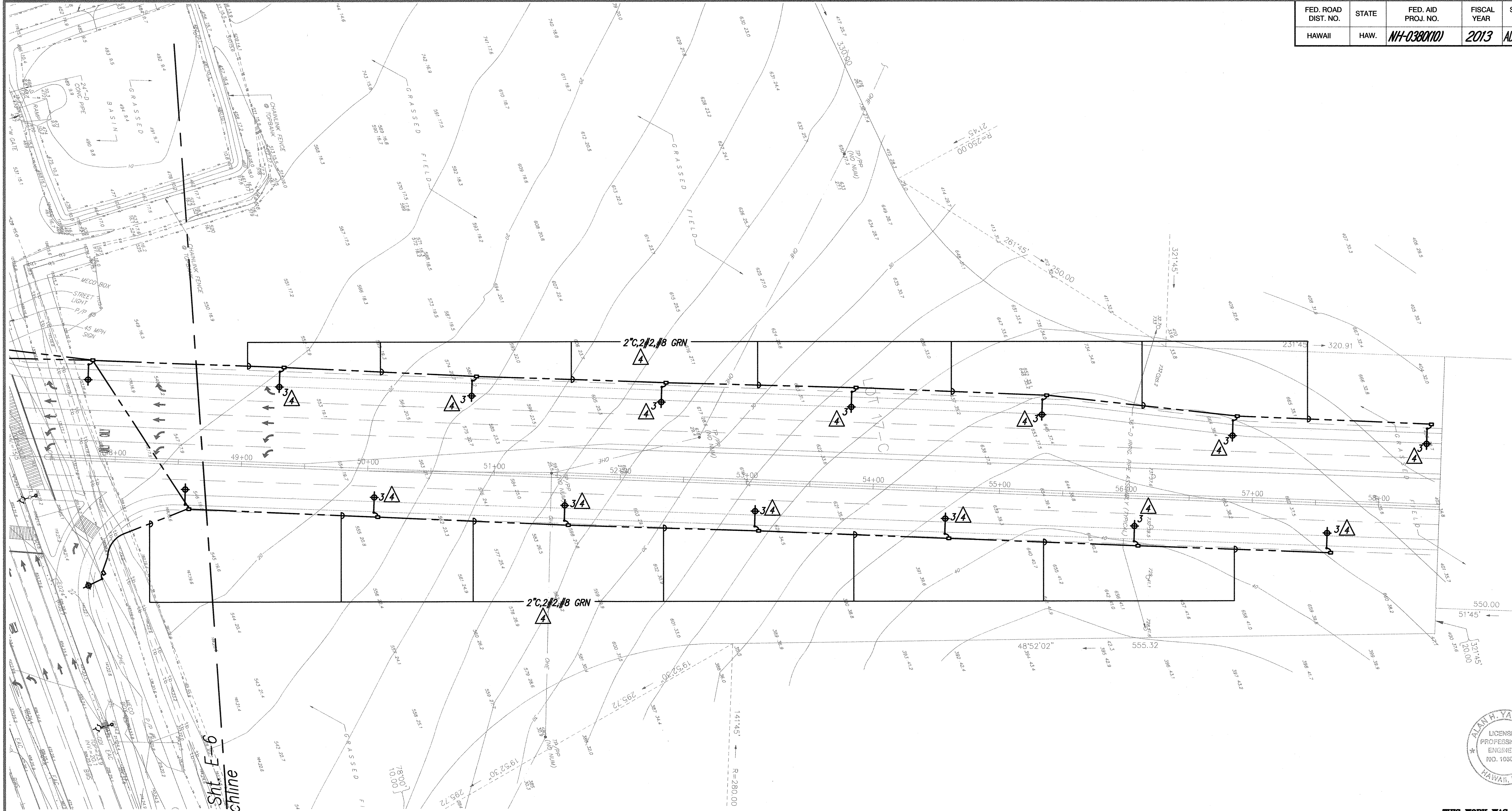
d. GRAPHIC SCALE:

SCALE: 1"=40'

A horizontal graphic scale bar with alternating black and white segments. The bar is divided into three equal sections of 40 feet each. Below the bar, tick marks are labeled 40', 0', 40', 80', and 120'.

4	4-12-13	Rewire new street lights to new service equipment panel.
	DATE	REVISION

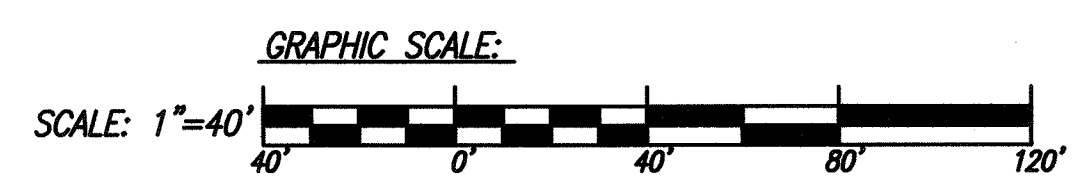
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD.147	166



See Sht. E-6
Matchline

TRUE NORTH
SCALE: 1" = 40 Ft.

ELECTRICAL PLAN
SCALE: 1"=40'

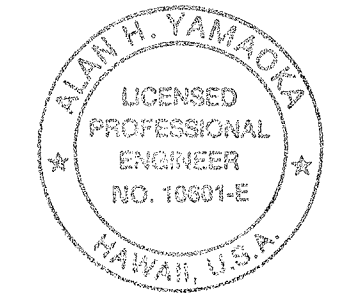


4-12-13

Rewire new street lights
to new service equipment panel.

DATE

REVISION



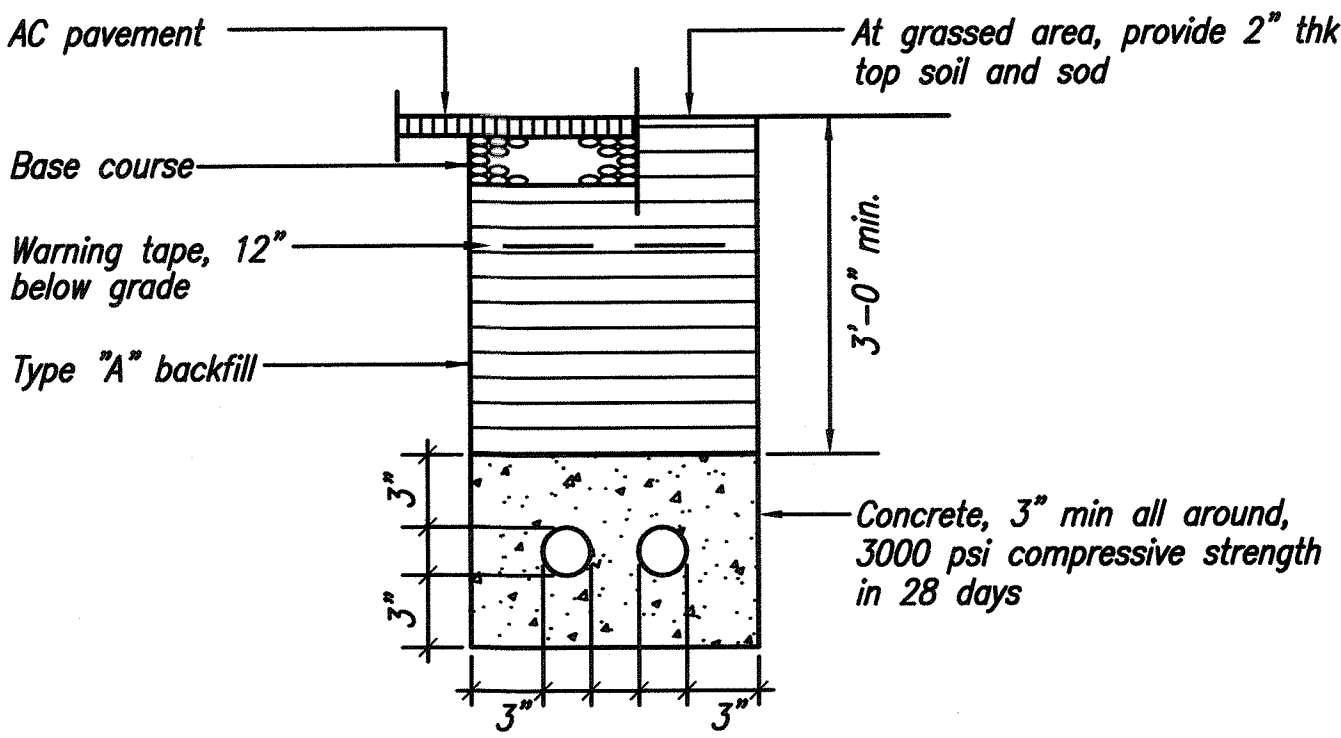
exp. 4/30/14
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Alan H. Yamada
NAKAMURA, OTAMA & ASSOC., INC.
CONSULTING ENGINEERS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ELECTRICAL PLAN

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013
SHEET No. E-7 OF 10 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD.148	166

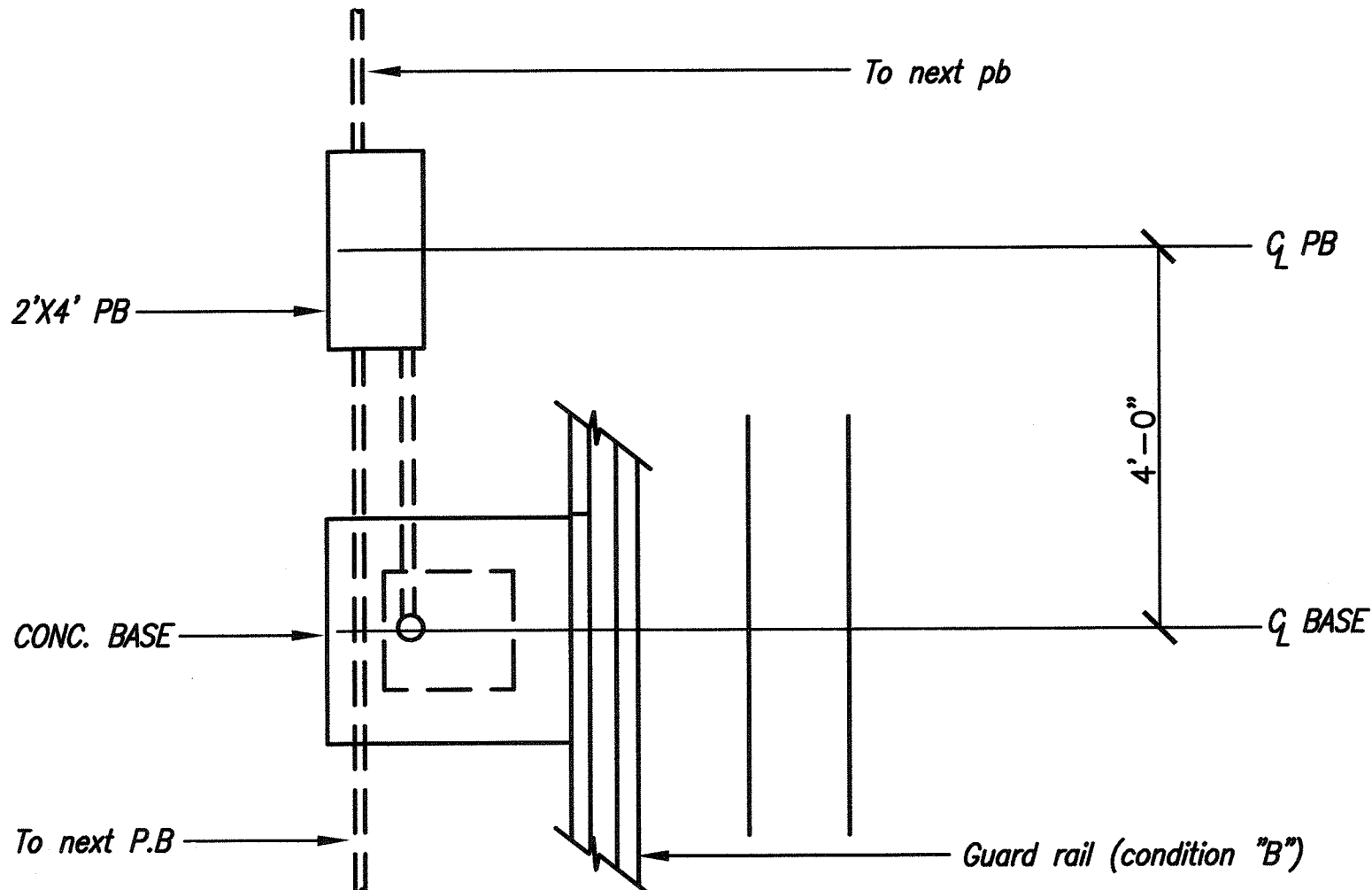


TYPICAL DUCT SECTION

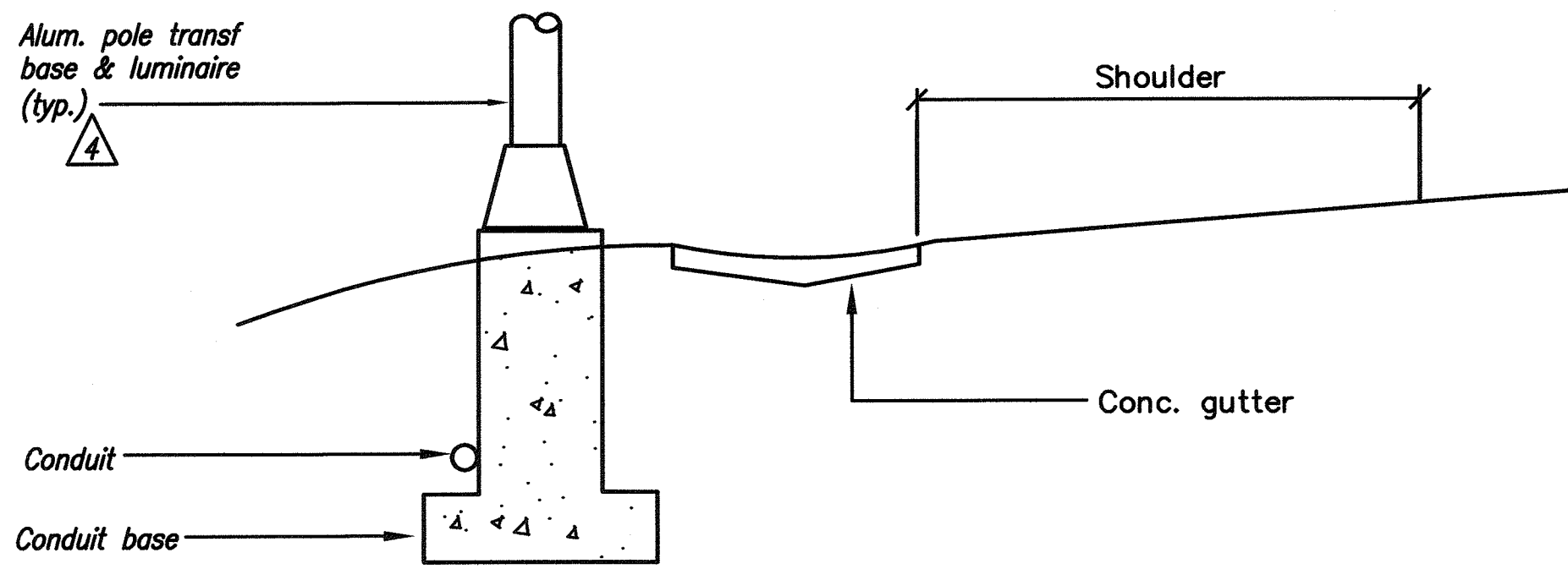
N.T.S.
NOTES

- BACKFILL DATA**
Type "A" backfill: earth and gravel, maximum rock size shall be 1" and the mixture shall contain not more than 50% by volume of rock particles, 95% compaction
Type "B" backfill: earth and gravel, mixture must pass a 1/2" mesh screen & contain not more than 20% by volume of rock particles, 95% compaction. If material at bottom of trench is not type "B", an additional 3" shall be excavated and type "B" backfill provided
- DUCT SEPARATION REQUIREMENTS**

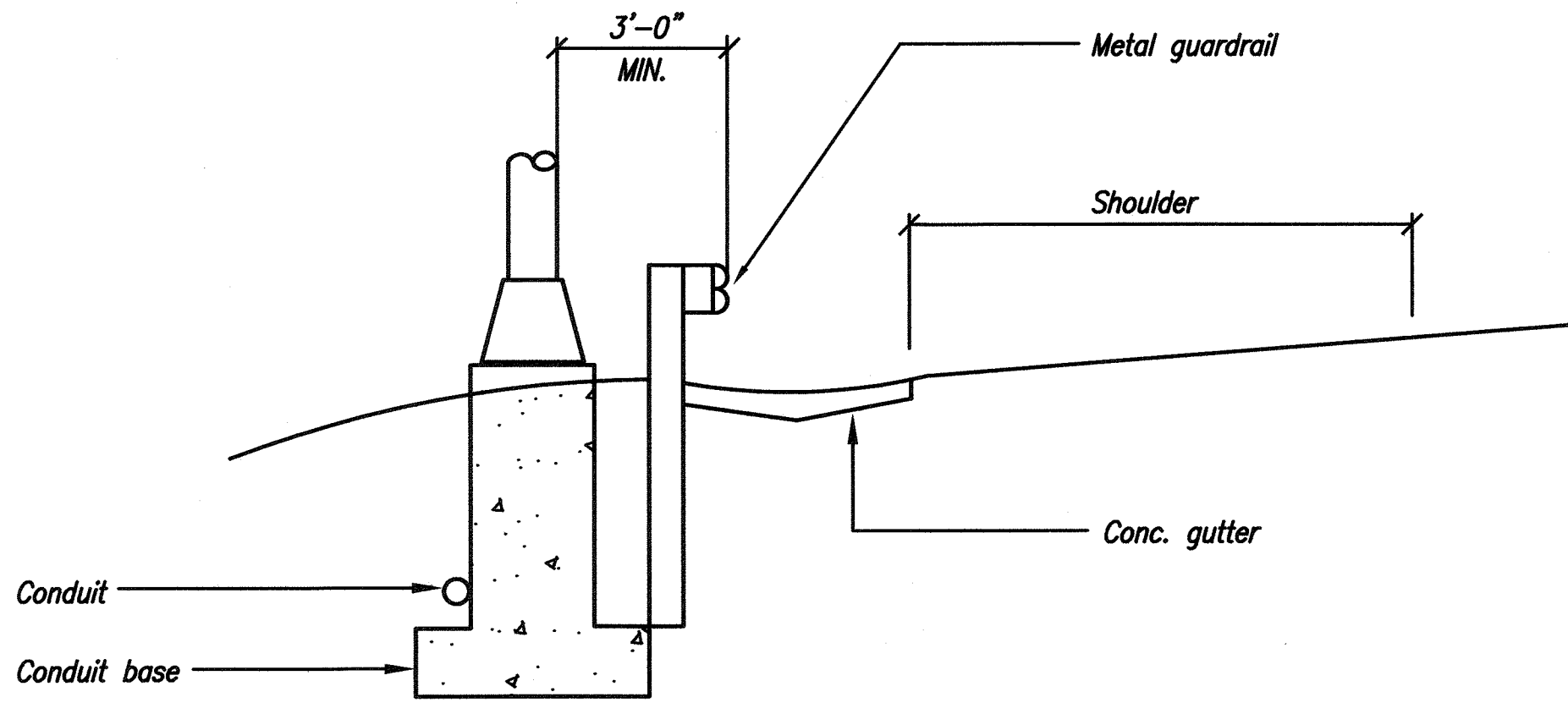
ELEC - ELEC	2"
ELEC - TEL	3"
TEL - TEL	2"
ST LT - TEL	2"
ST LT - ST LT	2"
- Asphalt pavement and/or concrete sidewalk restoration shall be equal or better than original in quality and thickness.
- Where grassed areas and plants have been damaged during construction, restore the areas to as close as their original condition as practicable.
- Comply with eia/tia 569 & applicable utility company requirements. perform a mandrel test after ducts are installed.
- Excess excavated material shall be hauled and disposed by the contractor.
- It is not the intent of these plans and specifications to imply that all existing utilities are shown on the plans. only those known to exist by the engineer from his search of records at the time of design are indicated on these plans.
- Investigate, probe, and tone traverse of new ductline. expose, locate and protect the existing underground utilities including irrigation, drainage, sewage, electrical, communication and water system lines on affected by this project.
- Operate the existing irrigation, drainage, sewage, electrical, communication and water systems to help determine the location and condition of the various systems prior to start of construction.
- The contractor to arrange with the respective utility companies to tone and mark the location and depth of the existing utilities.
- Exercise proper care by hand trenching when excavating in areas nearby existing underground facilities. the contractor to be responsible to repair and/or pay any damages to the existing facilities. damages to the existing facilities to be reported immediately to all concerned parties. all repair work shall be done within 36 hours to match its original condition and in accordance with the standards of the various utility companies and agencies.
- Pavement and/of concrete sidewalk restoration shall be equal or better than original in quality and thickness. cut pavement 6" beyond trench.
- Grassed areas and plants damaged during construction shall be restored to as close as their original condition as practicable. suitable topsoil shall be provided for top 6" of backfill.
- Contractor shall use heavy machine equipment to excavate if basalt and large rocks are encountered.
- Contractor shall shore, brace and dewater within the excavated trenches as required.



PLAN

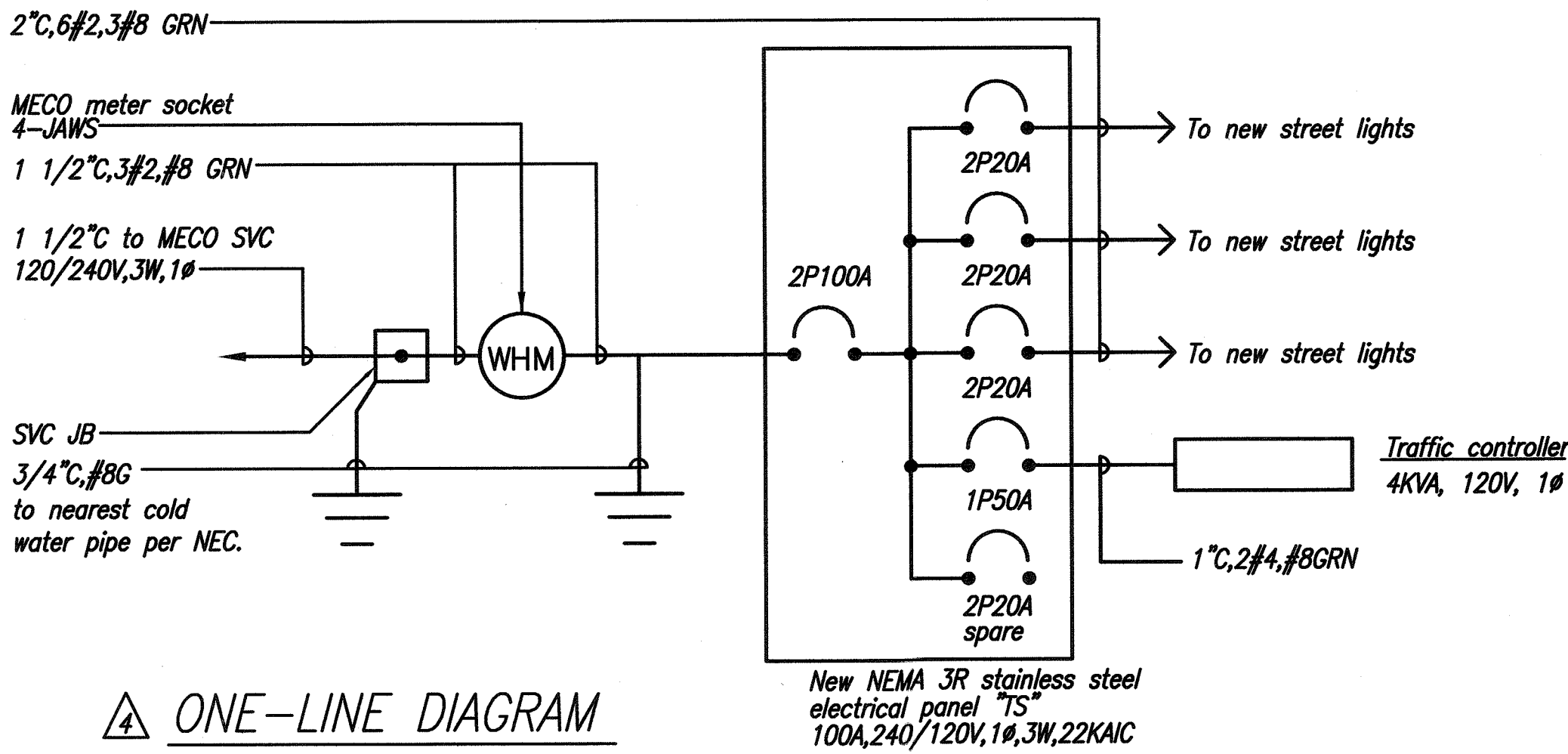


ELEVATION-SECTION (CONDITION "A")



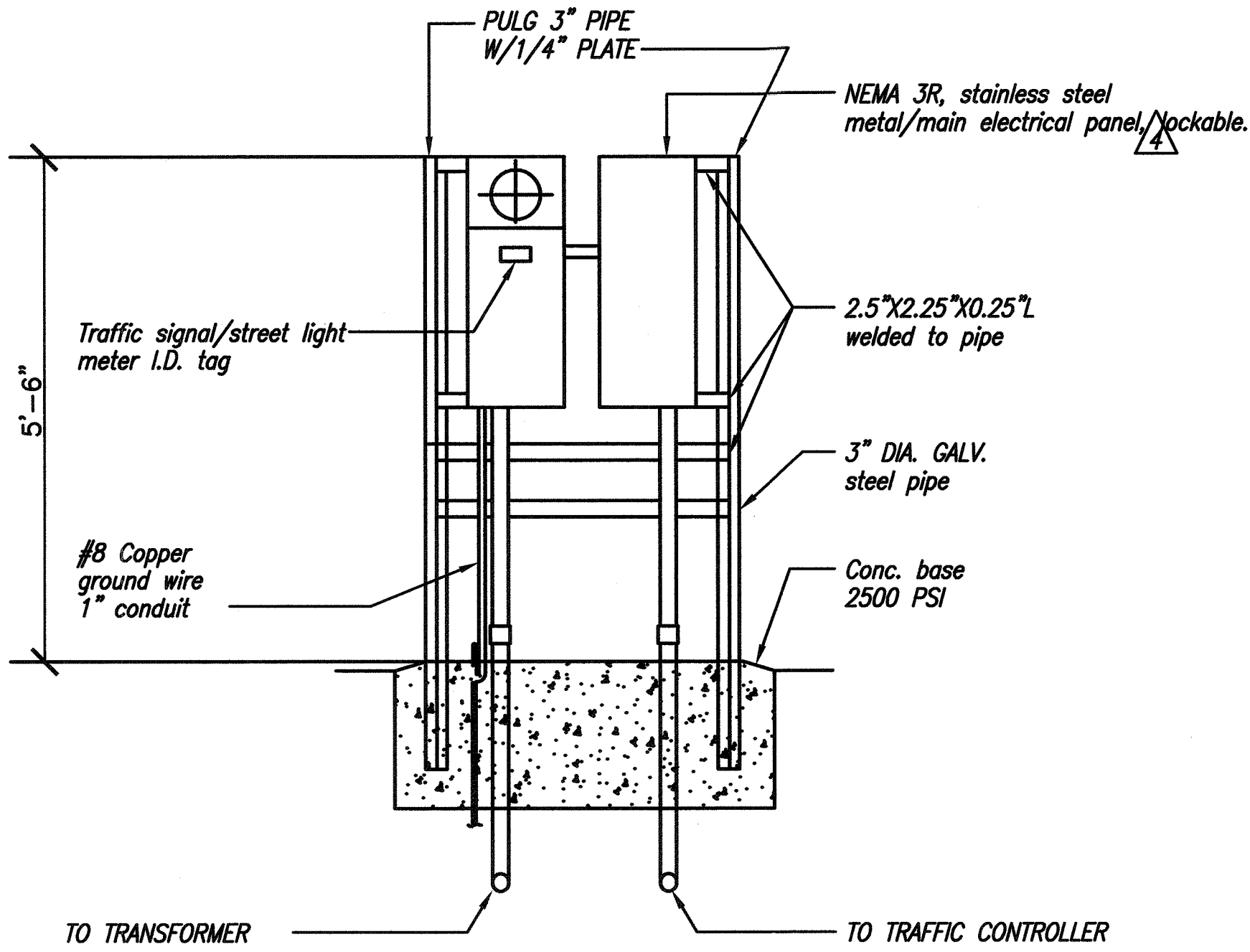
ELEVATION-SECTION (CONDITION "B")

A LIGHT POLE PLACEMENT DETAIL
E-8 N.T.S.



ONE-LINE DIAGRAM

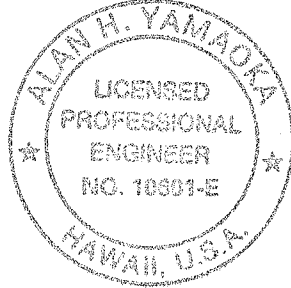
- N.T.S.
NOTES:
- Verify reqmts w/ meco
 - Verify & locate exact location of traffic signal controllers with civil



B SERVICE EQUIPMENT DETAILS (TRAFFIC SIGNALS)
E-8 N.T.S.

- NOTES
- Pedestal shall be hot dipped galv. after fabrication.
 - All fastening bolts, nuts, and washers shall be stainless steel.
 - Provide 4 ft. clearance in front of meter.
 - Verify & coordinate requirements with meco

4 4-12-13 Rewire new street lights to new service equipment panel.

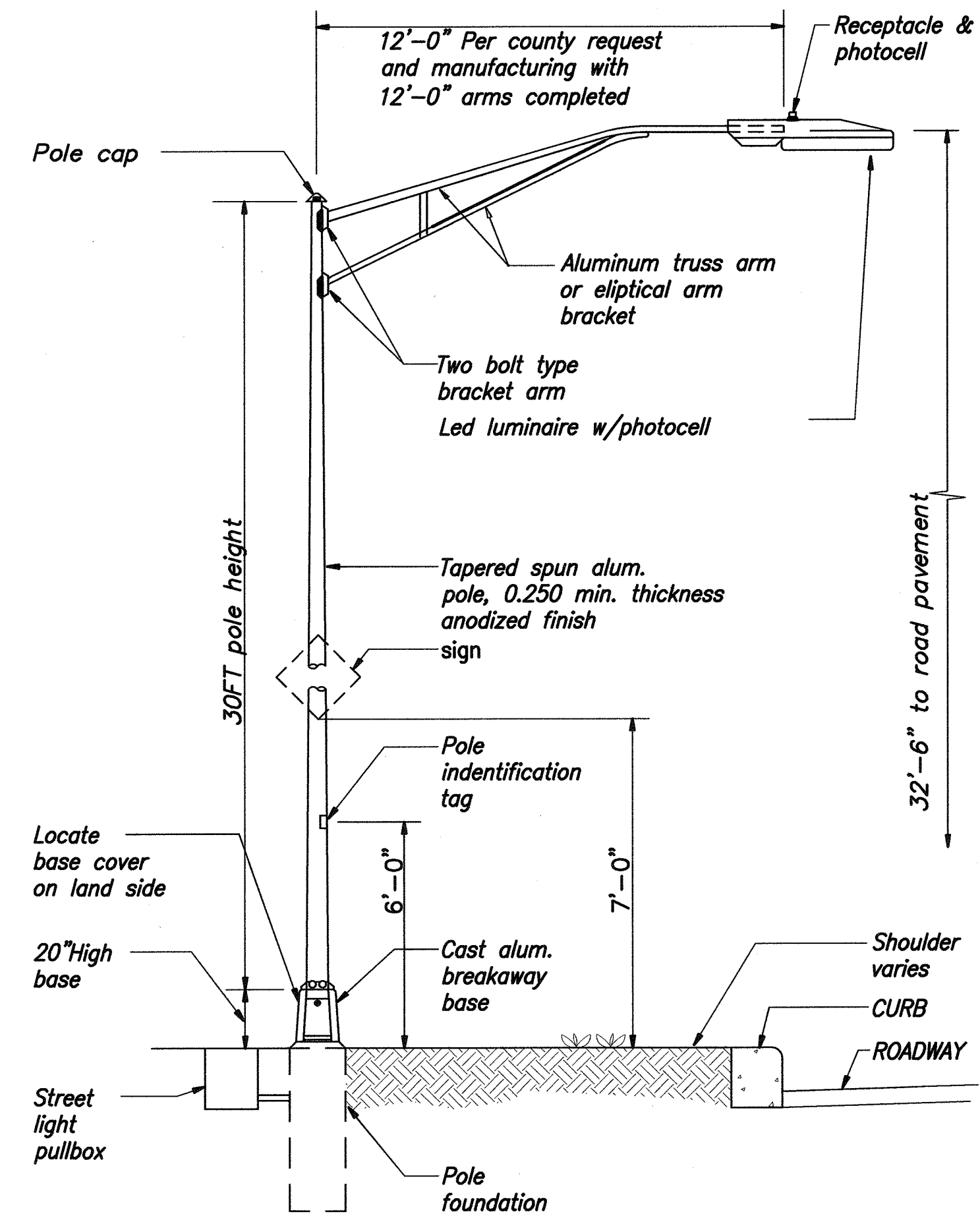


exp. 4/30/14
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Alan H. Yamada
NAKAMURA, OYAMA & ASSOC., INC.
CONSULTING ENGINEERS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ONE LINE DIAGRAM, CONCRETE BASE, SERVICE EQUIPMENT, DUCT SECTION DETAILS
KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

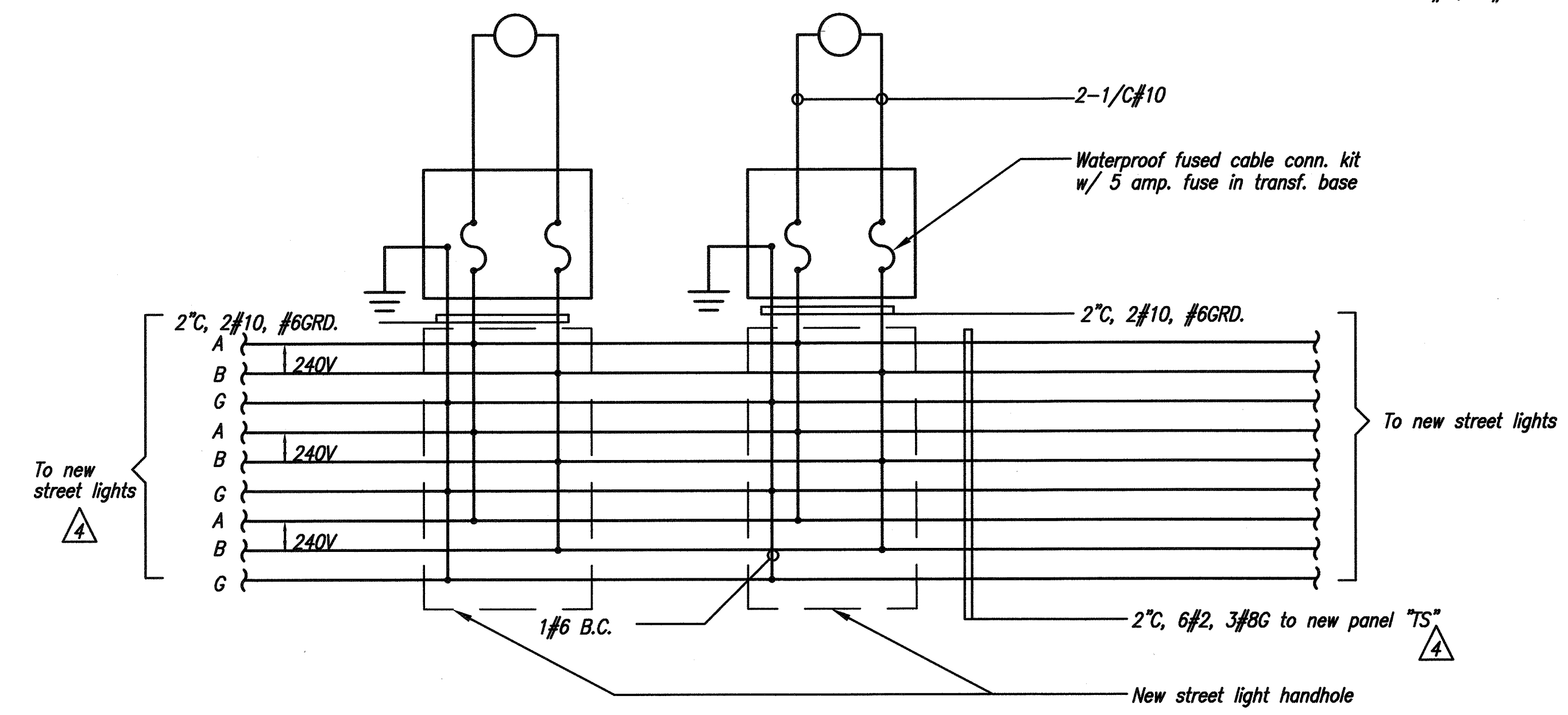
SHEET No. E-8 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD.150	166



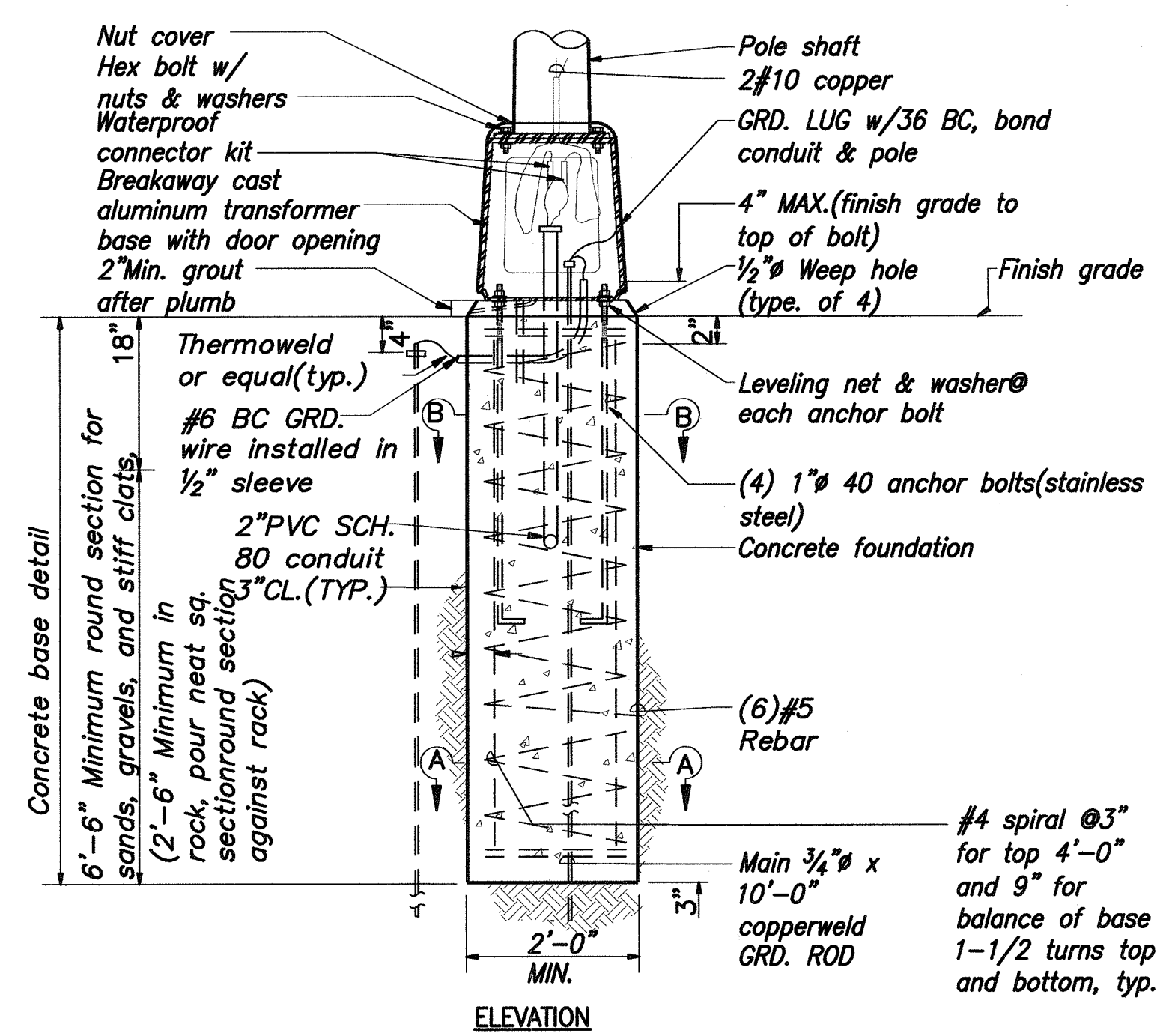
A TYPICAL STREET LIGHT STANDARD
E-10 N.T.S.

Note: the roadway lighting levels shall meet an average of 0.8 foot candles, with uniformity values of 3-to-1 average-to-min and 6-to-1 max-to-min. utilize a lamp lumen factor of 0.7 for calculations.



B STREET LIGHT WIRING DIAGRAM
E-10 N.T.S.

- NOTES:**
- Design of light standard & foundation shall conform to latest aashto "standard specifications for structural supports for highway signs, luminaires and traffic signals", subsequent interims, and latest hdpt memorandum with subjest title "design criteria for bridges and structures".
 - Refer to state standard specifications section 511 for drilled shaft concrete properties.
 - Size of traffic sign used in design of highway light standard foundation is 9 sf, located at 10ft, above finish grade.
 - For foundations where the ground water table is at ground level, minimum round section lengths are as follows
8'-6" for sand and gravel
4'-6" for stiff clay
2'-6" for rock



Provide additional 3/4" x 10'-0" copperclad, if gnd. resistance on main gnd. rod exceed 25 ohms max.

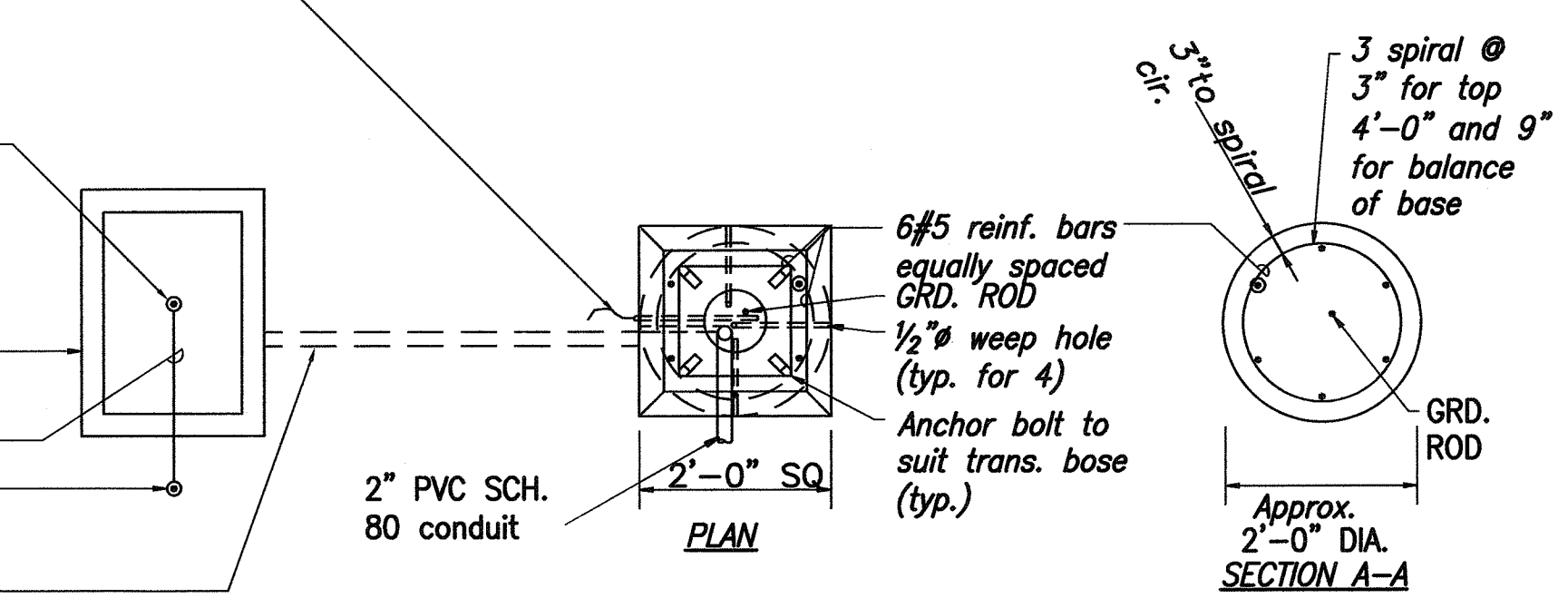
Provide additional 3/4" x 10'-0" copperclad ground rod to obtain 25 ohm, max ground, space ground rods 6ft apart with 8ft in earth.

Street light pullbox & cover

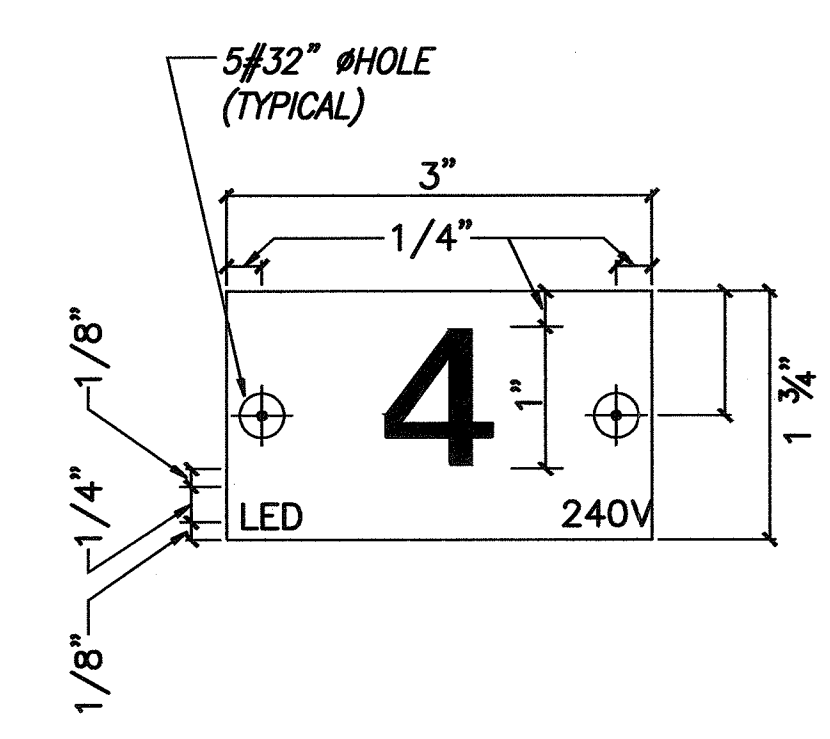
#8 BC GND

Additional ground at 6ft apart

2"PVC, SCH. 80 conduit, 2-#8, 1-#8 GND.



D TYPICAL CONCRETE FOUNDATION AND TRANSFORMER BASE DETAIL
E-10 N.T.S.



- NOTES:**
- Use 2-ply plastic - black, white
 - Number size shall be 1"high and engraved 1" wide, white in color(number as required).
 - Nomenclature shall be 1/4" high and engraved 1/2" wide, white in color(wattage and voltage as required).
 - Attached to steel poles with a. no. 7 cadmium plated drive screws. attached to aluminum poles with NO. 7 ALUM. drive screws.
 - Use "LED" for led lamps.

C POLE IDENTIFICATION TAG
E-10 N.T.S.

4-12-13	Rewire new street lights to new service equipment panel.
DATE	REVISION

SURVEY PLATTED BY	DATE
DESIGNED BY	DATE
TRACED BY	DATE
NOTE BOOK	DATE
QUANTITIES BY	DATE
CHECKED BY	DATE
No.	

ALAN H. YAMAGUCHI
LICENSED PROFESSIONAL ENGINEER
NO. 78501-E
HAWAII, U.S.A.

exp. 4/30/14

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Alan H. Yamaguchi

NAKAMURA, OYAMA & ASSOC., INC.
CONSULTING ENGINEERS

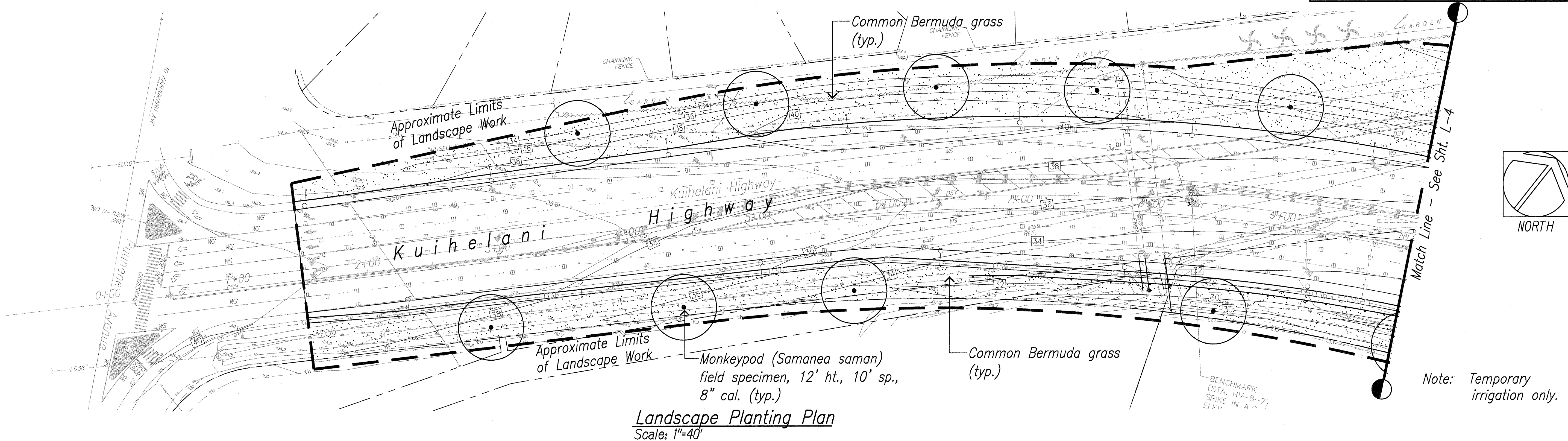
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STREET LIGHT STANDARD DETAILS

KAHULUI AIRPORT ACCESS ROAD, PHASE 1
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. E-10 OF 10 SHEETS

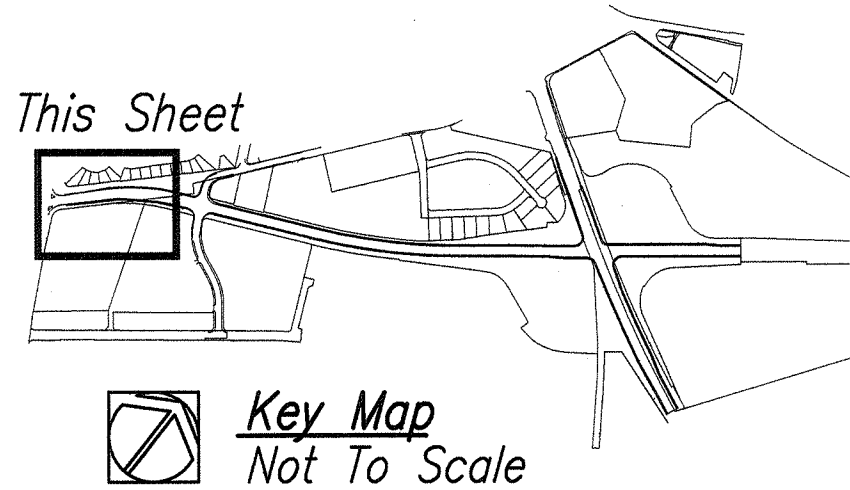
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 153	166



PLANT LIST							
Provide as referenced and detailed, in the Standard Plans of the Highways Division, Design Branch, 2008 of the Department of Transportation, State of Hawaii, which shall be considered part of this Contract.							
Quantity	Botanical Name	Common Name	Rootball	Height	Spread	Caliper	Det./Std. Plan Ref.
<u>Trees</u>							
20 Ea.	<i>Cordia subcordata</i>	Kou	45 gal.	8'	6'	3"	1/L-01 08/16/06
26 Ea.	<i>Pandanus tectorius</i>	Hala	Fld. specimen	8'	8'	6"	2/L-01 08/16/06
48 Ea.	<i>Samanea saman</i>	Monkeypod	Fld. specimen	12'	10'	8"	1/L-01 08/16/06
14 Ea.	<i>Thespesia populnea</i>	Milo	45 gal.	8'	6'	3"	2/L-01 08/16/06
<u>Shrubs</u>							
1,285 Ea.	<i>Scaevola sericea</i>	Beach naupaka	1 gal.	18"	12"	3'	9/L-05 and 10/L-05 08/16/06
<u>Ground covers</u>							
14,900 S.F.	<i>Sida fallax</i>	'Ilima papa	4" pot	6"	8"	12"	11/L-06 08/16/06 and 16/L-08 08/16/06
24,650 S.F.	<i>Vitex rotundifolia</i>	Pohinahina	4" pot	6"	8"	18"	11/L-06 08/16/06 and 16/L-08 08/16/06
<u>Grass</u>							
868,880 S.F.	<i>Cynodon dactylon</i>	Common bermuda grass	Seed (hydromulched)	-	-	-	18/L-09 08/16/06
2,270 S.F.	Recycled plastic landscape edging "PE" (plastic header). 1"x4" nominal.						13/L-07 08/16/06
9,660 S.F.	Organic cover mulch. 2" min. depth under shrub planting indicated on the drawings.						-
14,900 S.F.	2" depth, 3/8" to 1/2" black cinder amendment incorporated into 'Ilima papa beds to assist drainage.						-

DATE	_____
SURVEY PLANNED BY	_____
DESIGNED BY	_____
NOTED BY	_____
CHECKED BY	_____
NO.	_____

DRAWING NAME: E:\DWG-SERVER\KAHULUI AIRPORT ACCESS ROAD PH 1\1-3 TO L-10 PLANT.DWG PLOT TIME: 04-12-13, 10:54 AM



4-12-13

Modify Grassing Limits

DATE

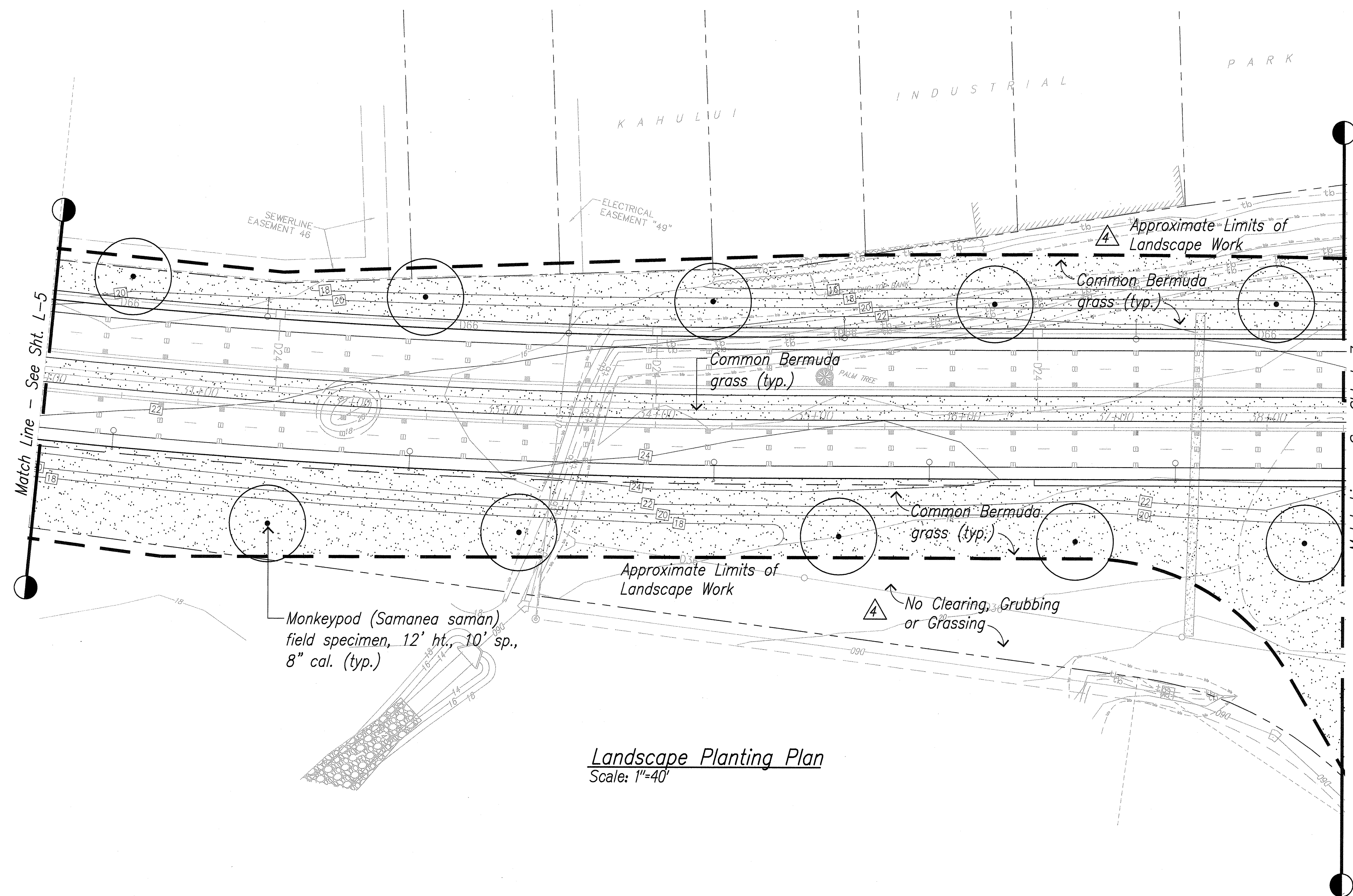
REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013
SHEET No. L-3 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 156	166



Note: Temporary irrigation only.



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Michael T. Miyabara APRIL 30, 2014
MIYABARA ASSOCIATES, LLC LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

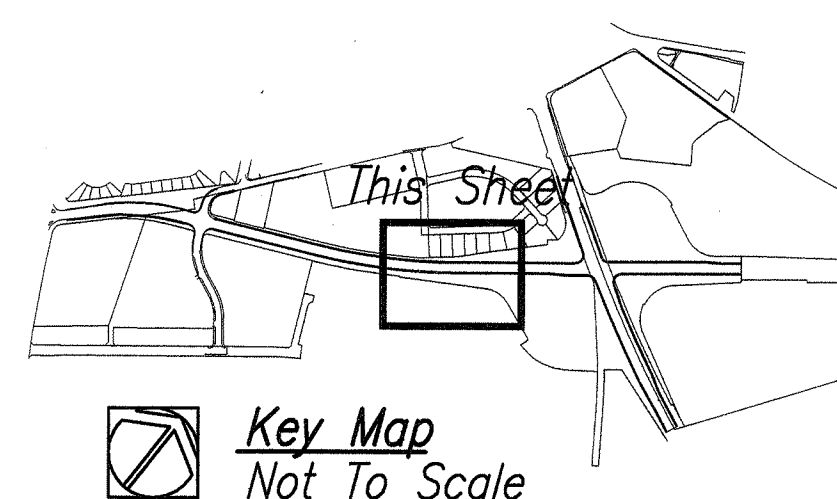
KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. L-6 OF 11 SHEETS

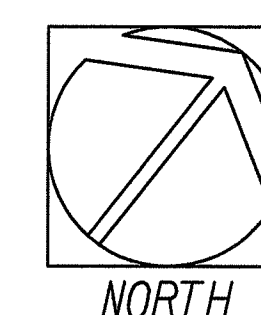
ADD. 156

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

DRAWING NAME: E:\DWG-SERVER\KAHULUI AIRPORT ACCESS ROAD PH 1\1-3 TO L-10 PLANT.DWG PLOT TIME: 04-12-13, 10:57 AM



Key Map
Not To Scale

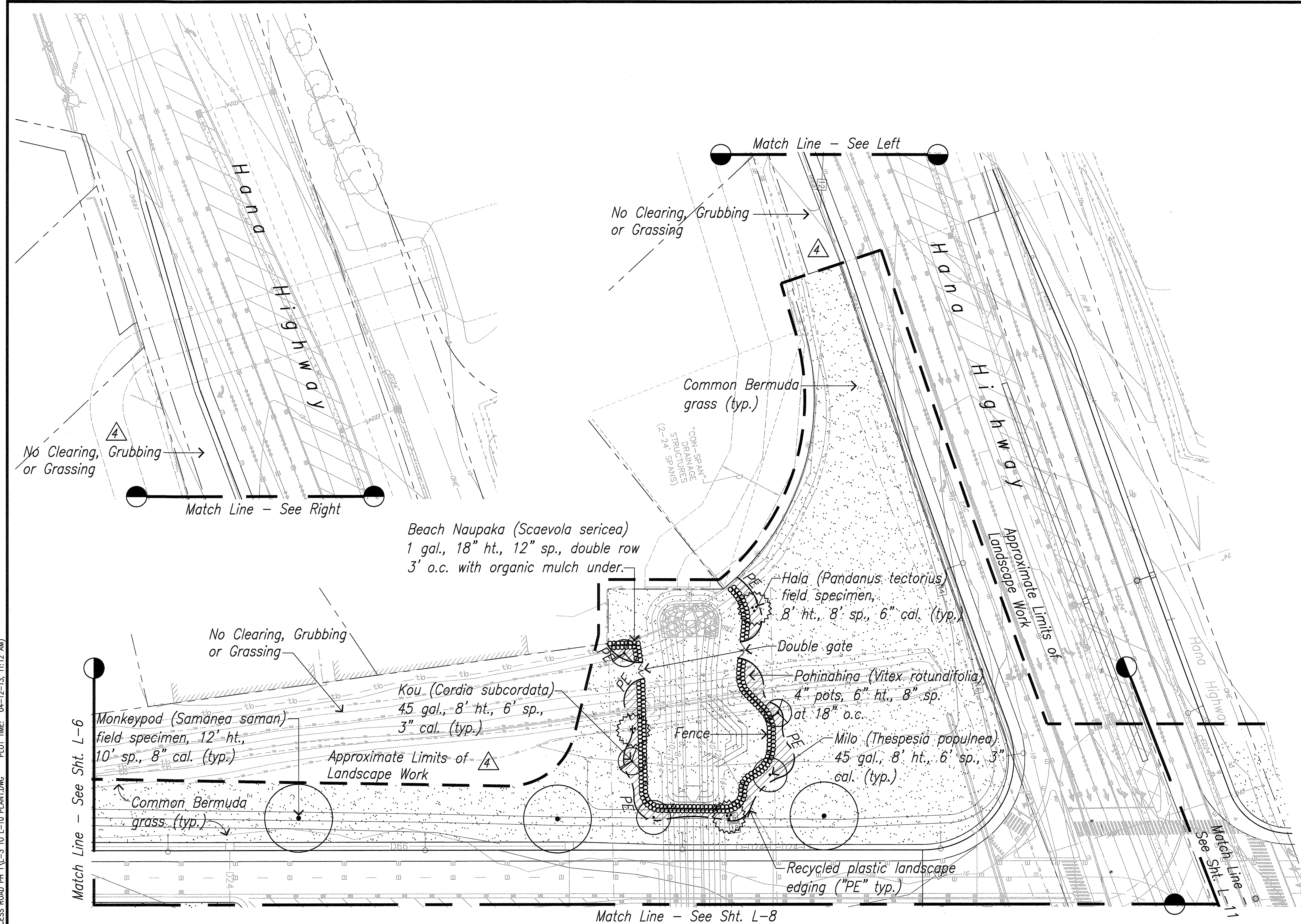


40' 20' 0' 40' 80'

4-12-13 Modify Grassing Limits

DATE REVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 157	166



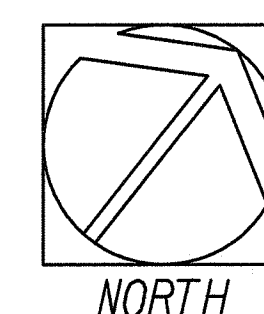
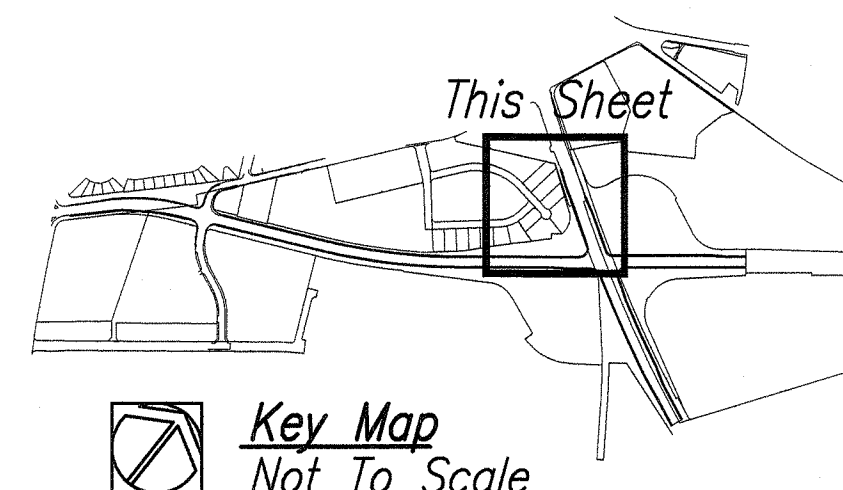
Note: Temporary irrigation only.
Modifications to detention basins to be coordinated with civil grading plans.



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MIYABARA ASSOCIATES, LLC LIC. EXP. DATE

Landscape Planting Plan
Scale: 1"=40'



40' 20' 0' 40' 80'

4-12-13 Modify Grassing Limits

DATE REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

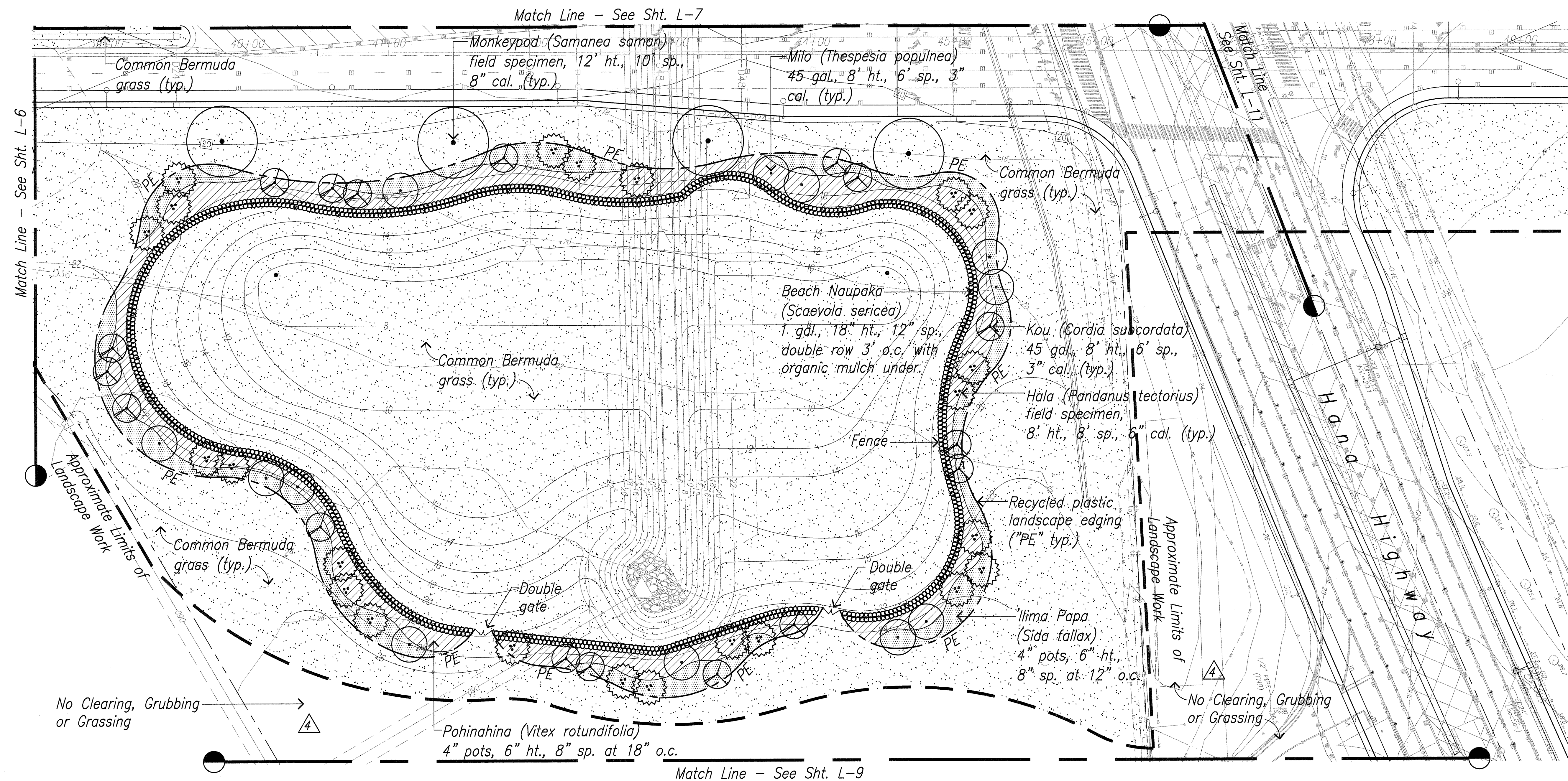
LANDSCAPE PLANTING PLAN

**KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)**
Scale: As Shown Date: February 2013

SHEET No. L-7 OF 11 SHEETS

ADD. 157

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 158	166



Landscape Planting Plan
Scale: 1"=40'

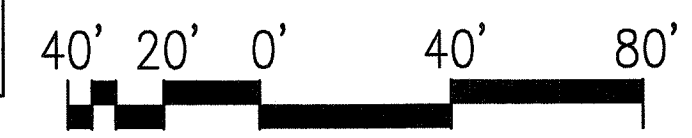
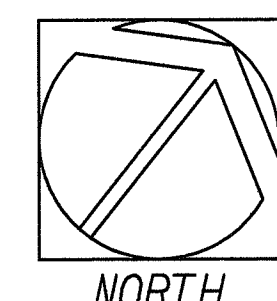
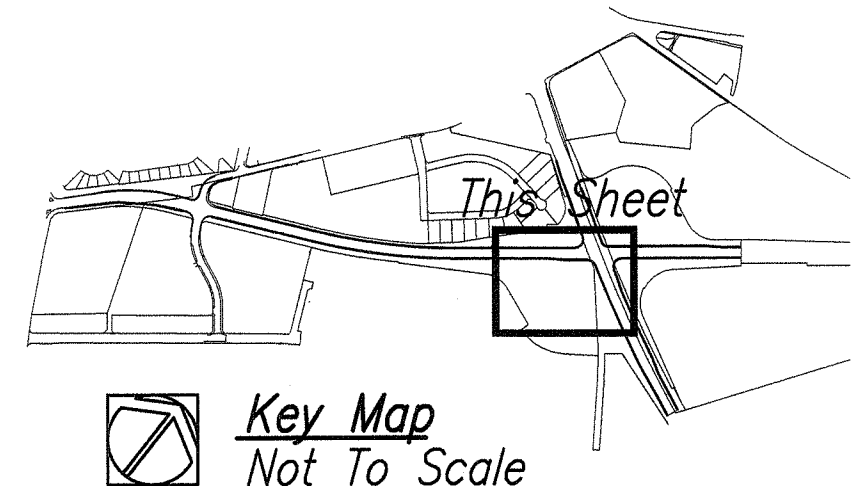
Note: Temporary irrigation only.
Modifications to detention basins to be coordinated with civil grading plans.



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Michael T. Miyabara
MIYABARA ASSOCIATES, LLC. APRIL 30, 2014 LIC. EXP. DATE

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DESIGNED BY	
	NOTED BY	
	CHECKED BY	

DRAWING NAME: E-DRWG-SERVER KAHULUI AIRPORT ACCESS ROAD PH 1V-3 TO L-10 PLANTING PLOT TIME: 04-12-13, 11:12 AM



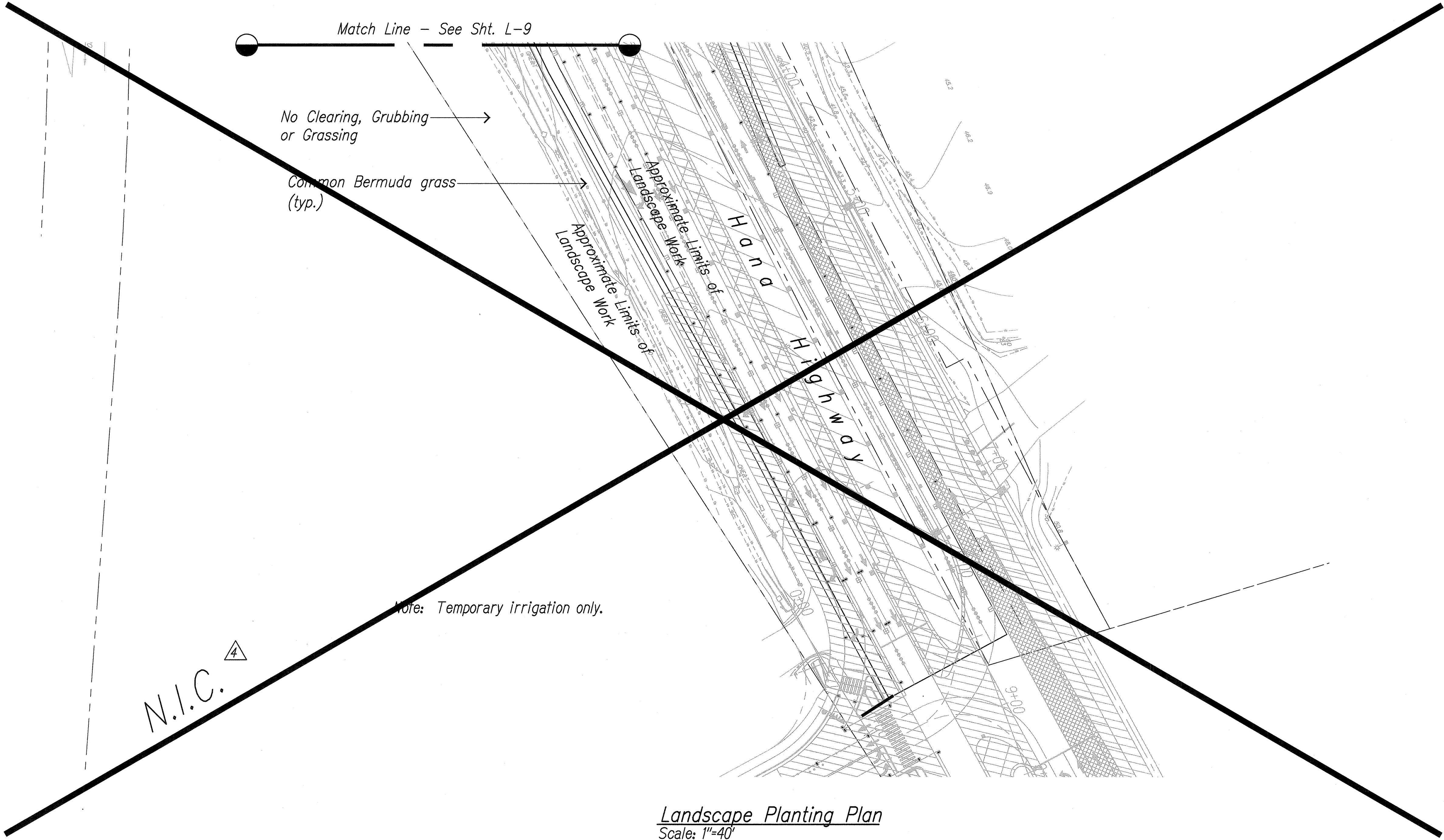
4	4-12-13	Modify Grassing Limits
	DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013
SHEET No. L-8 OF 11 SHEETS

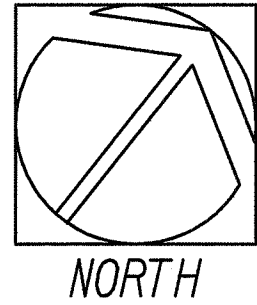
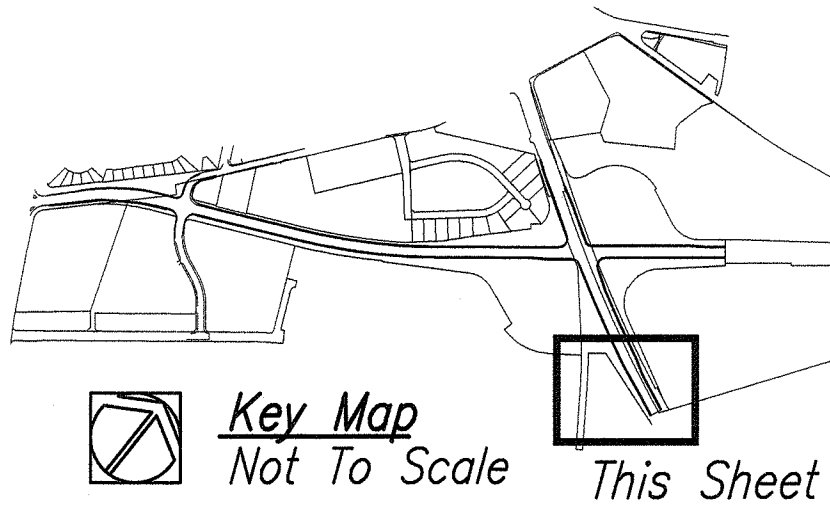
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 160	166



Landscape Planting Plan
 Scale: 1"=40'

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

DRAWING NAME: E:\DWG-SERVEN\KAHULUI AIRPORT ACCESS ROAD PH I\L-3 TO L-10 PLANTING PLOT TIME: 04-23-13, 1:18 PM)



4-12-13 Sheet Deleted

DATE REVISION



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 MIYABARA ASSOCIATES, LLC APRIL 30, 2014
 LIC. EXP. DATE

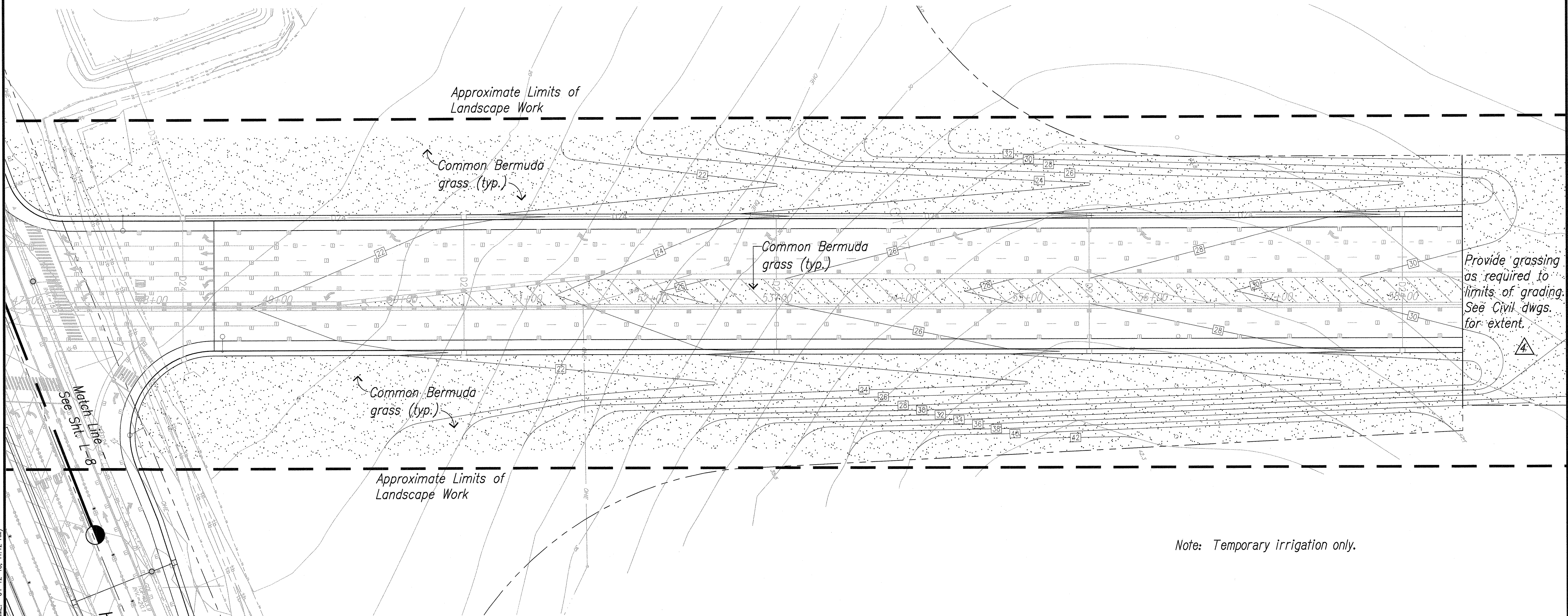
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. L-10 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	ADD. 161	166

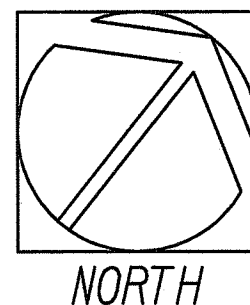
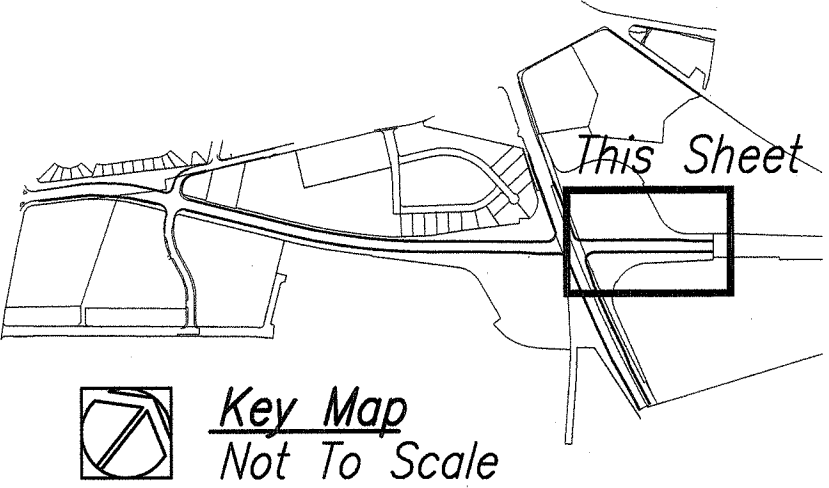


Note: Temporary Irrigation only.

Landscape Planting Plan
Scale: 1"=40'

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

DRAWING NAME: E: DWG-SEVERE VAHULUI AIRPORT ACCESS ROAD PH 1\1-3 TO L-10 PLANTING PLOT TIME: 04-12-13, 11:12 AM



4-12-13	Modify Grassing Limits
DATE	REVISION



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MIYABARA ASSOCIATES, LLC
APRIL 30, 2014
LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LANDSCAPE PLANTING PLAN

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. L-11 OF 11 SHEETS