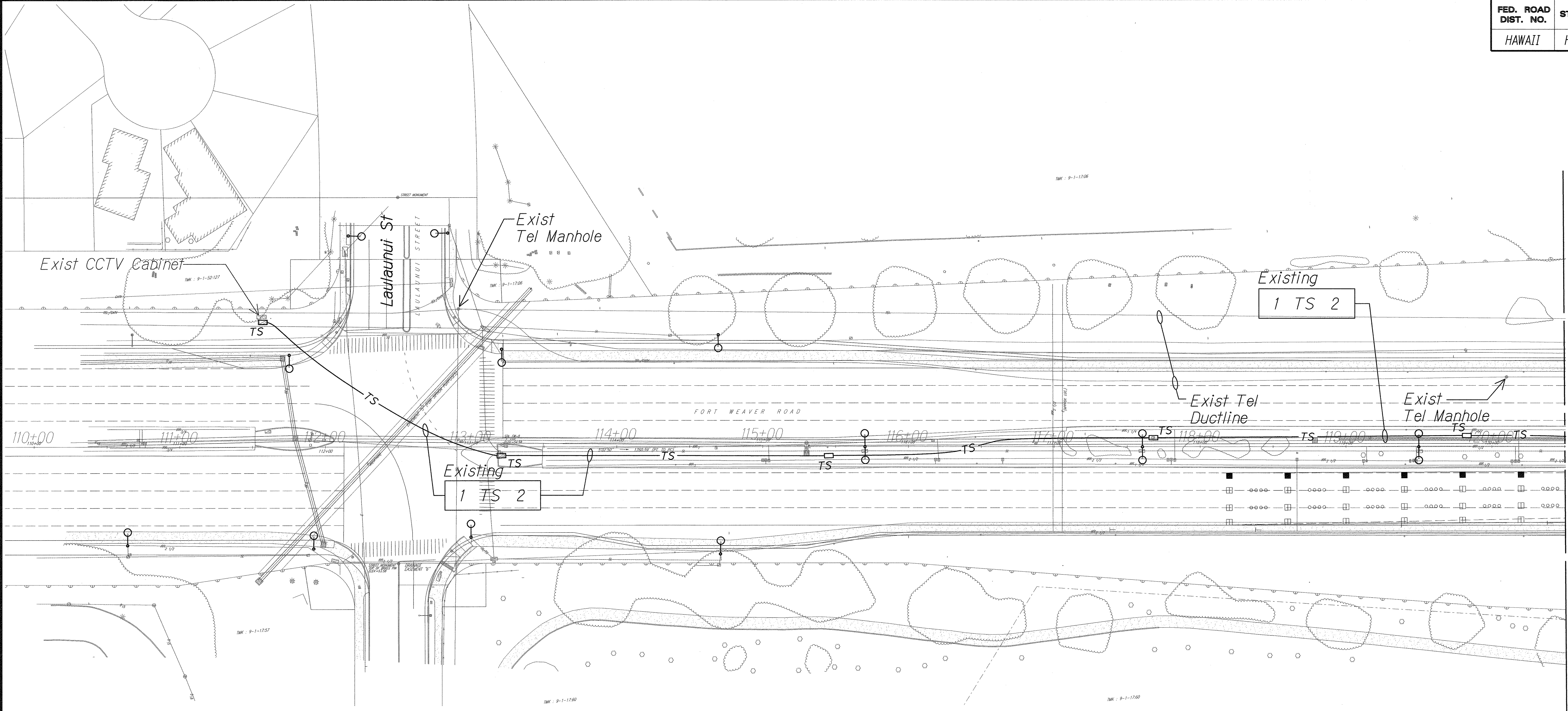


FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	98	160



M.L. FWR @ Sta. 120+50

ELECTRICAL SYMBOLS & NOTES

- Street Light Aluminum Pole, 150W HPS, +35' Mtg Ht
- Street Light Aluminum Pole, Double Luminaire, 250W HPS, +35' Mtg Ht
- Street Light Conduit, See Duct Section (E) & (F)
- Underground Utility Ducts
- Conduit Stub. Provide MARKer. See Det on Sht E1-5

1 TS 4 (A) Denotes Duct Section A, 1-4" C Traffic Signal

1 TS 2 Denotes 1-2" Traffic Signal Conduit

- (1) Traffic Signal Pullbox - 2'-3" x 4'-9" Pb (Type C)
- (2) State Telcom - 2'-3" x 4'-9" Pb (Type C)
- (3) CCTV - 2'-3" x 4'-9" Pb (Type C)
- (4) Army Signal Cable - 4' x 6' x 6' Handhole

- Exist St Lt Pole to Remain
- Exist St Lt Pullbox to Remain
- Exist St Lt Conduit to Remain
- Exist Traffic Signal Conduit
- Exist Traffic Signal Pullbox
- Remove Exist St. Lt. Conductors
- Remove Exist St. Lt. Pole

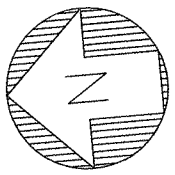
TS - Traffic Signal System

TC - State Telecommunication System

TV - City Traffic Camera System (Provide 3 ea 1-1/4" Inner Ducts In New 4" TV Conduit - Use 1 Innerduct For New FO Cable)

SC - Signal Corp

- Lighting Pullbox - 2'-3" x 4'-9" (Type C)
- SL



NEW SITE ELECTRICAL PLAN "A"
Scale: 1" = 40'-0"

Notes:

- Light lines denote existing condition.
Bold lines denote new work.
- For Street Lighting Plans, See Sht E1-6 to E1-9.

2/8/11

NO. 3181-E
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NEW SITE ELECTRICAL PLAN "A"

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

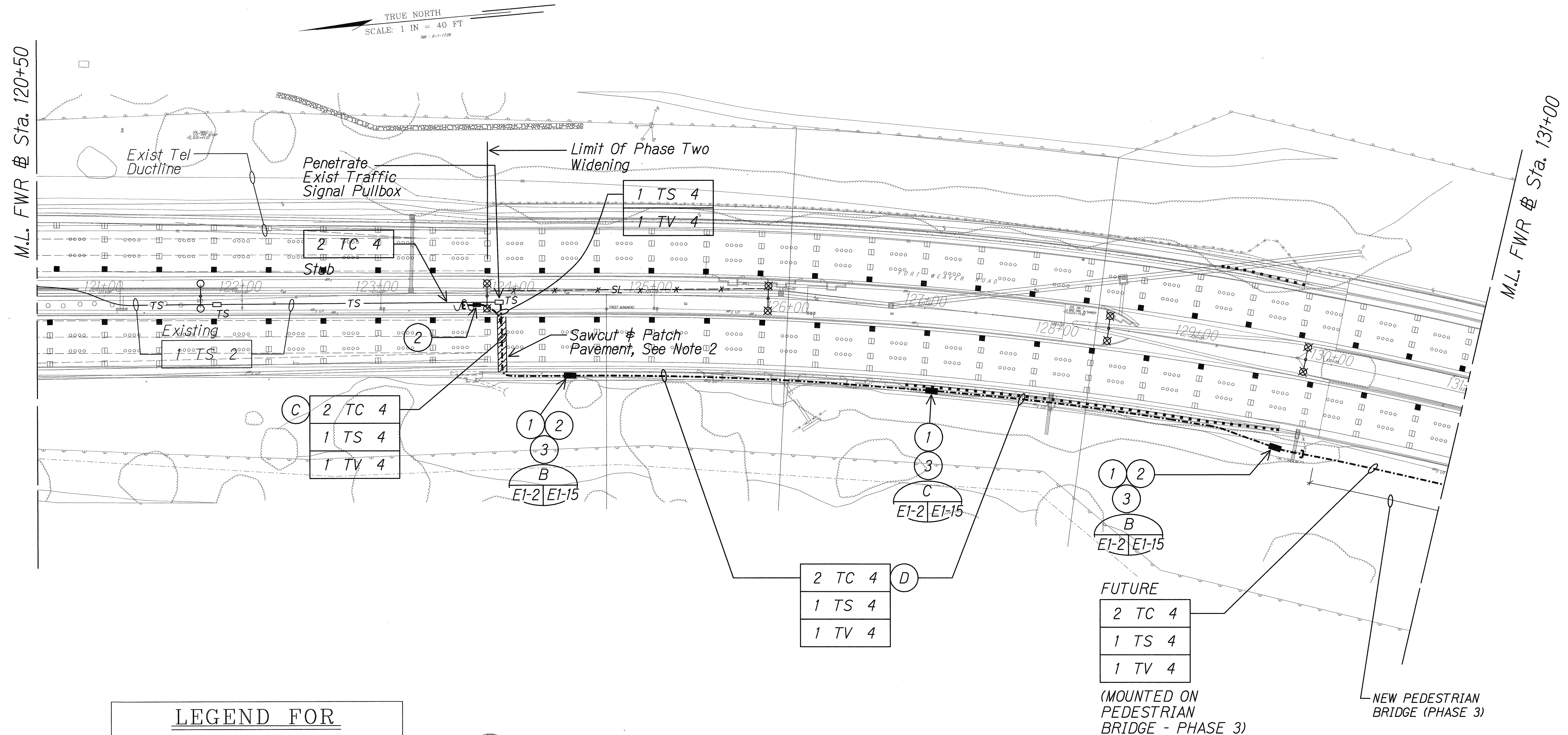
Scale: 1" = 40' Date: Sept 20, 2007

SHEET No. E1-1 OF 21 SHEETS

SURVEY PLOTTED BY	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
DATE	

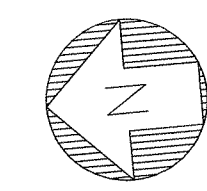
L:\FORT WEAVER ROAD\ROAD\ROAD\ign

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	99	160



SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting



NEW SITE ELECTRICAL PLAN "B"
Scale: 1" = 40'-0"

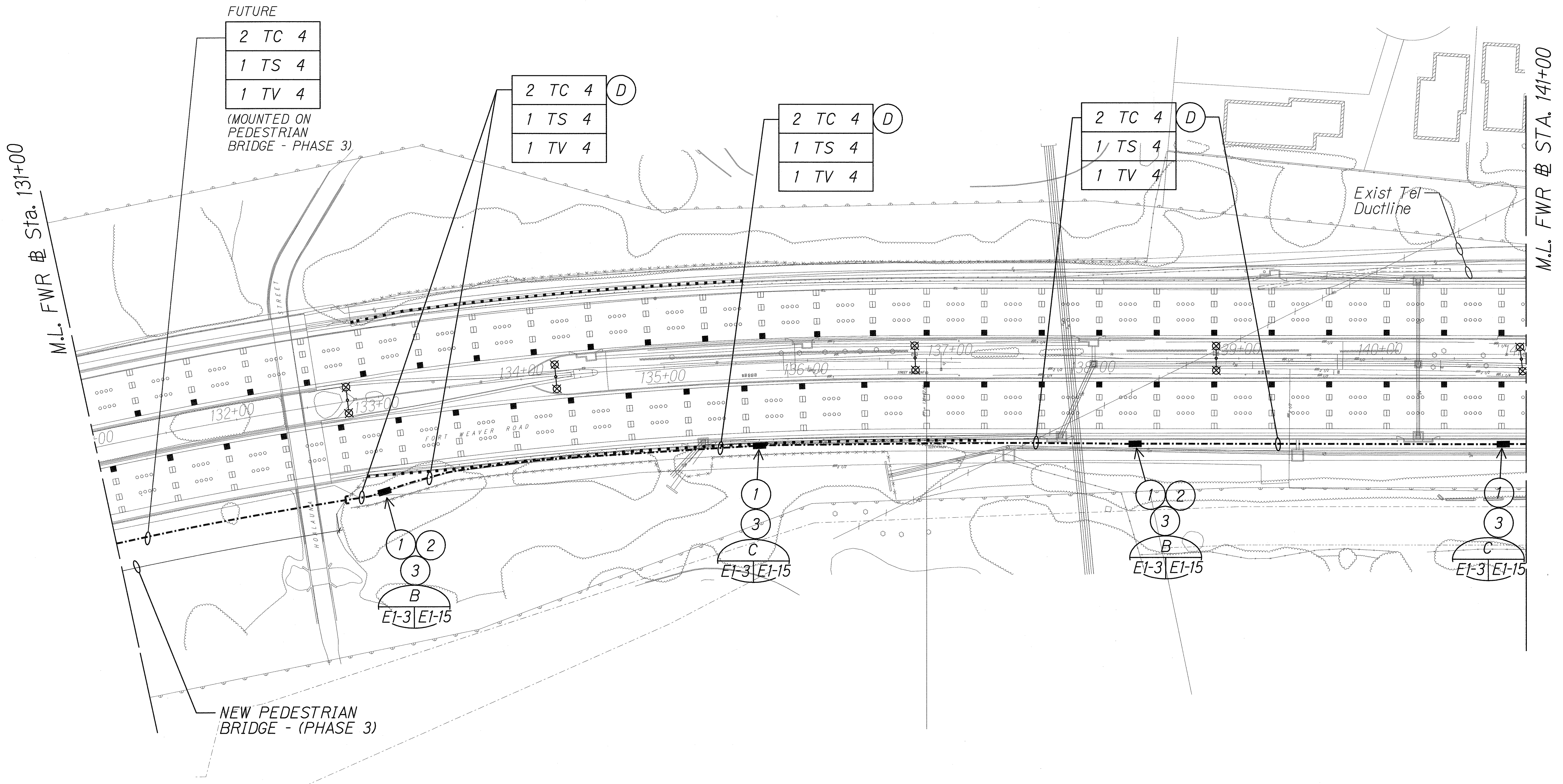
- Notes:
- Light lines denote existing condition.
Bold lines denote new work.
 - See Sheets R1-22 and R1-23 for Trench Restoration Details and Typical Section for permeable Base course.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
NEW SITE ELECTRICAL PLAN "B"

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD
Scale: 1" = 40' Date: Sept 20, 2007
SHEET No. E1-2 OF 21 SHEETS

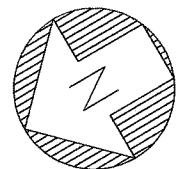
06030-E1-02.dgn 2/22/2011 12:27:42 PM

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-K(9)	2006	100	160



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

L:\FORT WEAVER ROAD\ROAD\ROAD2.dgn



NEW SITE ELECTRICAL PLAN "C"
Scale: 1" = 40'-0" 06030SP2

- Notes:
- Light lines denote existing condition.
Bold lines denote new work.

2/3/11

ME ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/12
THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

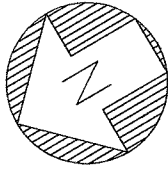
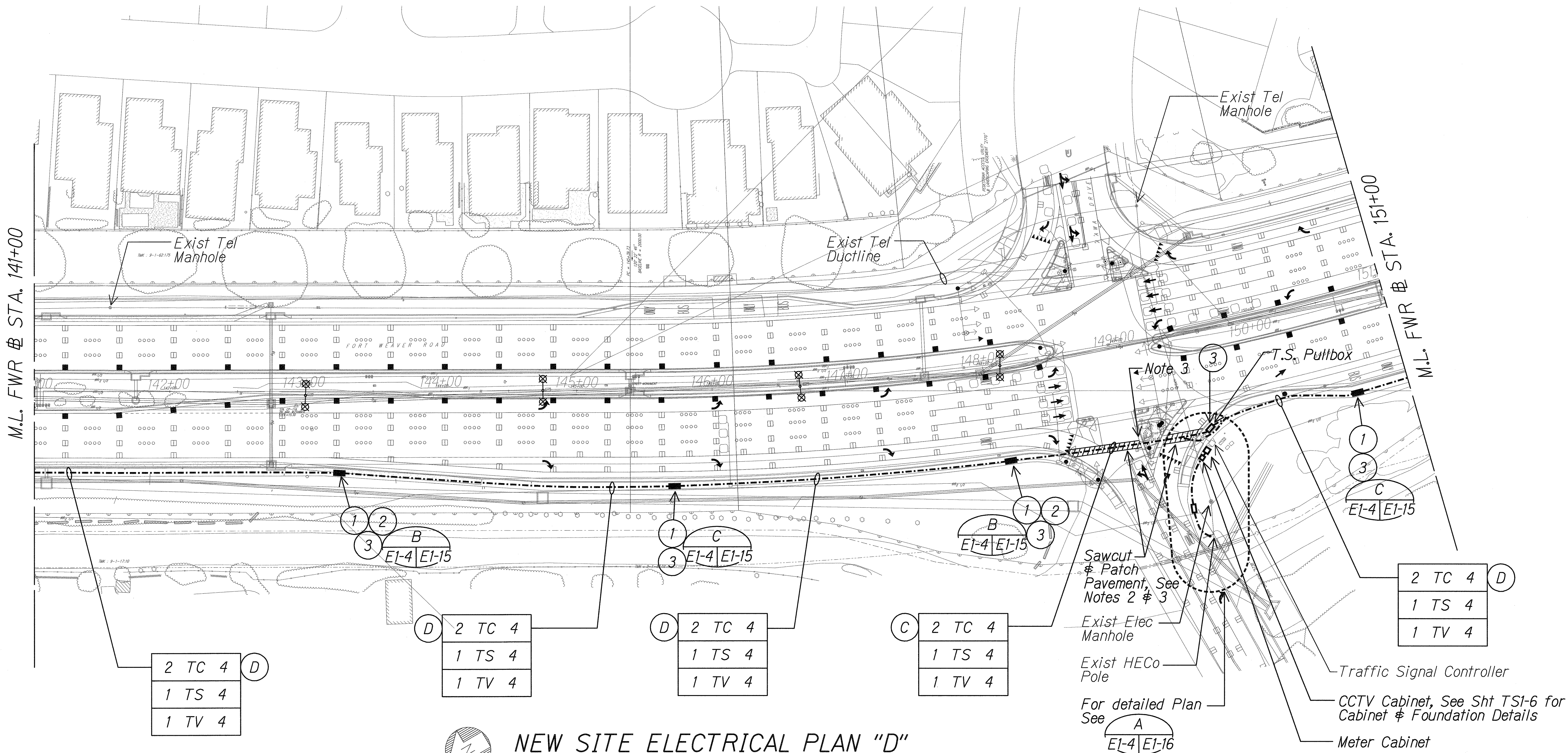
NEW SITE ELECTRICAL PLAN "C"

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1" = 40' Date: Sept 20, 2007

SHEET No. E1-3 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	101	160

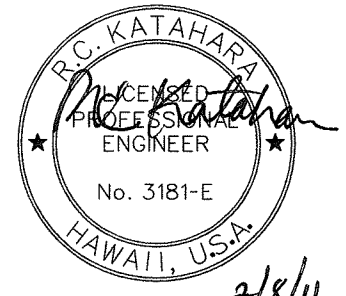


NEW SITE ELECTRICAL PLAN "D"
 Scale: 1" = 40'-0" 06030SP3

- Notes:**
- Light lines denote existing condition.
 Bold lines denote new work.
 - See Sheets R1-22 and R1-23 for Trench Restoration Details and Typical Section for permeable Base course.
 - Preserve / Restore Traffic Signal Loop Detector.

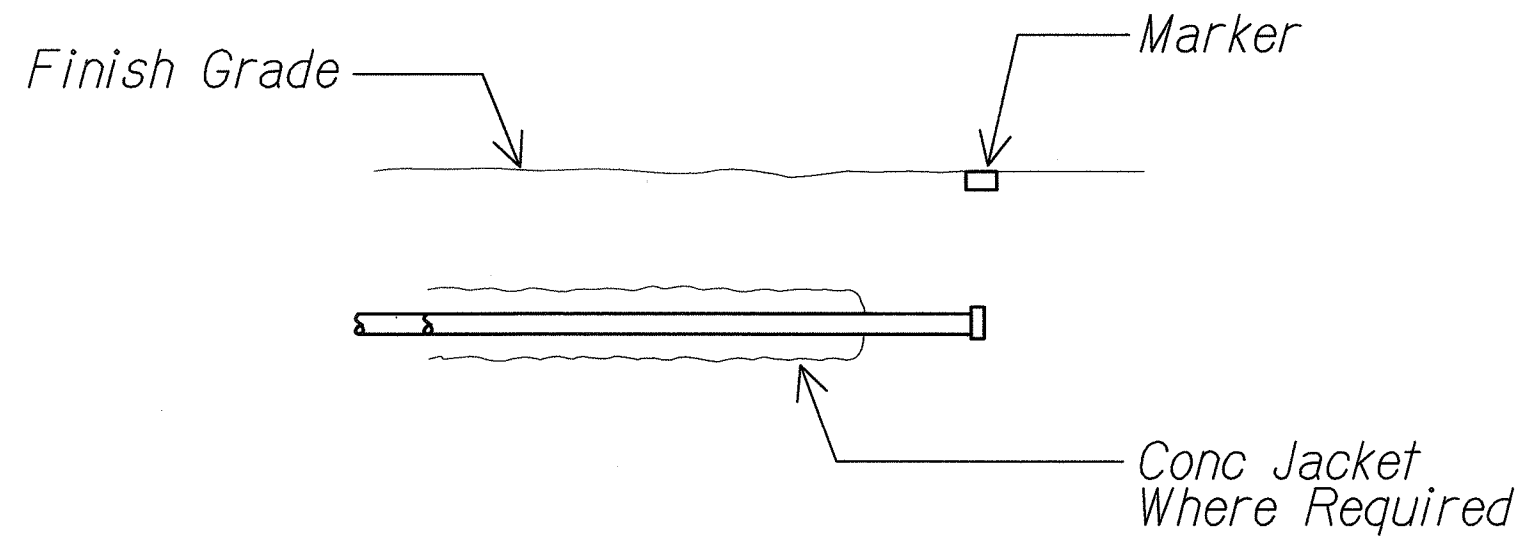
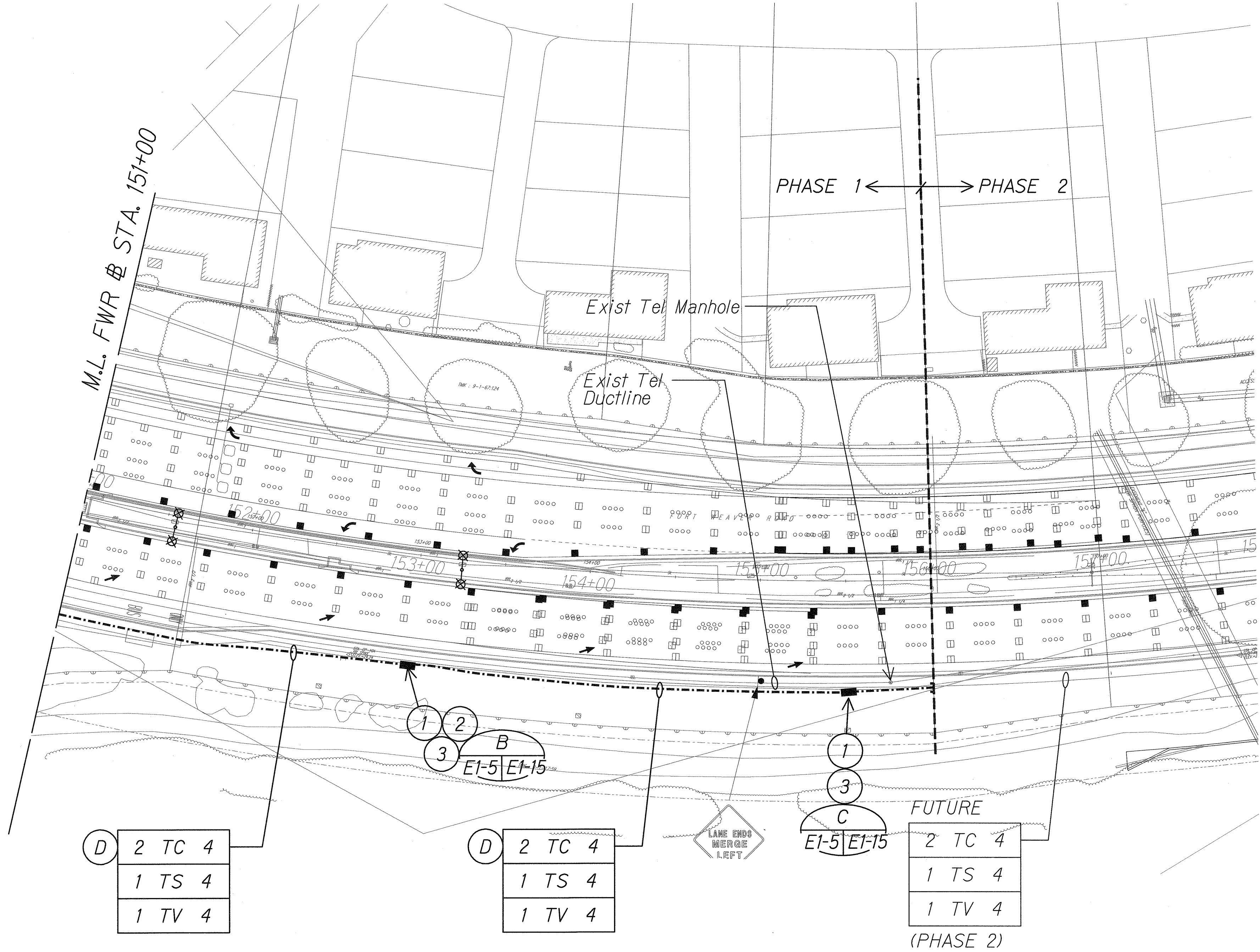
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

L:\FORT WEAVER ROAD\ROAD\ROAD3.dgn

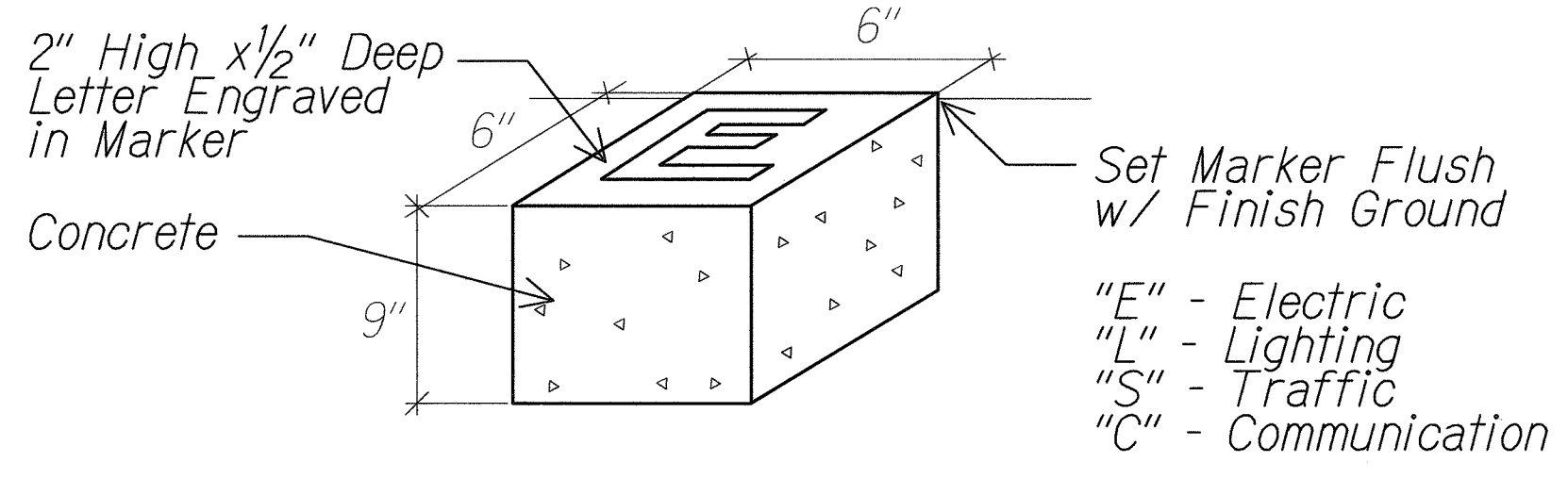


STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
NEW SITE ELECTRICAL PLAN "D"
 FORT WEAVER ROAD WIDENING
 VICINITY OF AWA DRIVE TO GEIGER ROAD
 Scale: 1" = 40' Date: Sept 20, 2007
 SHEET No. E1-4 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	102	160



A CONDUIT STUB OUT DETAIL
E1-1 E1-5 NTS 06030-E1-05



B MARKER FOR STUB OUT
E1-1 E1-5 NTS 06030-E1-05

D

2	TC	4
1	TS	4
1	TV	4

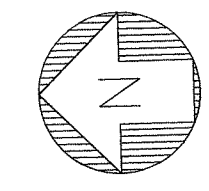
D

2	TC	4
1	TS	4
1	TV	4

C

2	TC	4
1	TS	4
1	TV	4

FUTURE
(PHASE 2)



NEW SITE ELECTRICAL PLAN "E"
Scale: 1" = 40'-0" 06030SP4

- Notes:**
- Light lines denote existing condition.
Bold lines denote new work.
 - See Sheets R1-22 and R1-23 for Trench Restoration Details and Typical Section for permeable Base course.

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
DATE	

L:\FORT WEAVER ROAD\ROAD\ROAD.dgn

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NEW SITE ELECTRICAL PLAN "E"

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1" = 40' Date: Sept 20, 2007

SHEET No. E1-5 OF 21 SHEETS

06030-E1-05.dgn 2/2/2011 12:31:32 PM

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	103	160

Numeric Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Layout 2_III	Illuminance	Fc	1.46	3.8	0.6	2.43	6.33

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
○—○	4	GE MSCL series - MC3	BACK-BACK	30000	0.760	250 watt HPS

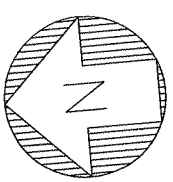
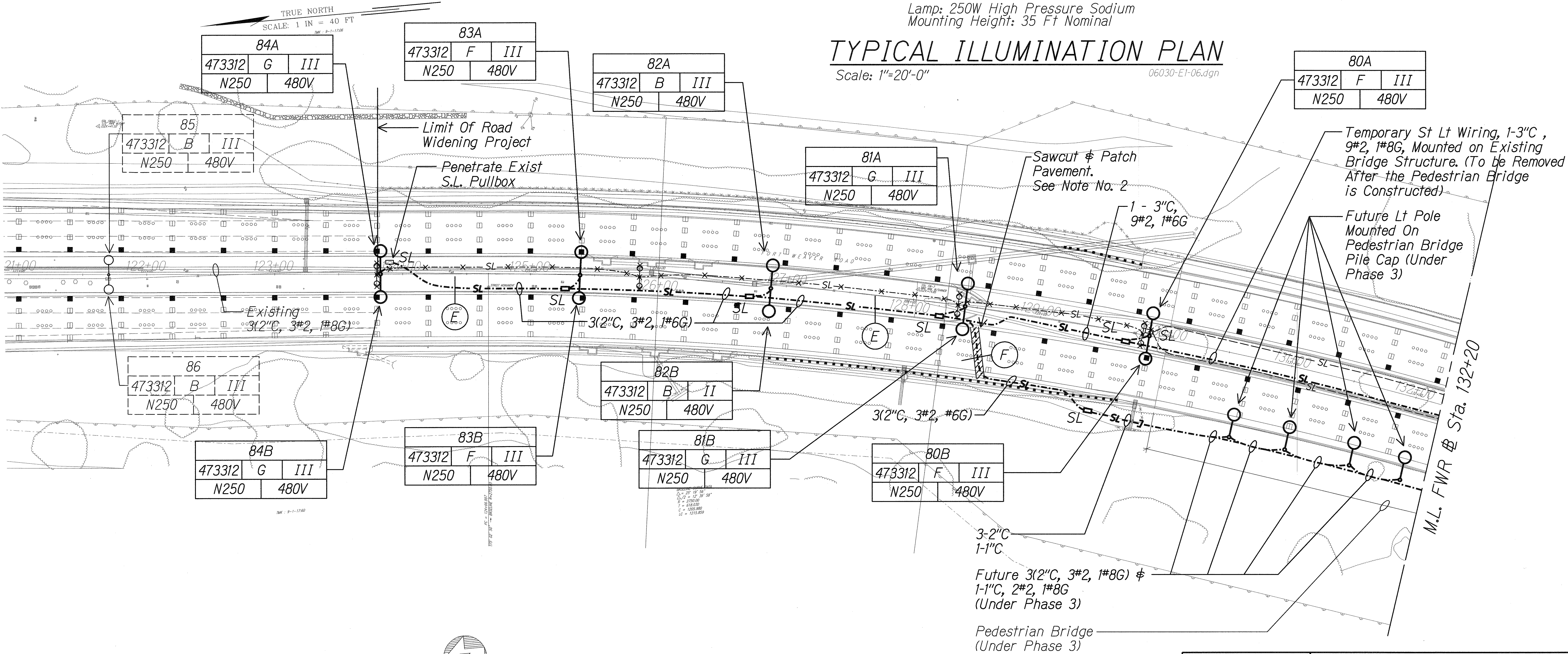
3.8	2.5	1.5	0.9	0.6	0.6	0.6	0.9	1.5	2.5	3.8
3.5	2.5	1.6	0.9	0.6	0.6	0.6	1.0	1.6	2.5	3.5
2.9	2.4	1.6	1.0	0.7	0.6	0.7	1.0	1.6	2.4	2.9
2.3	2.1	1.5	0.9	0.7	0.7	0.7	0.9	1.5	2.1	2.3
1.7	1.7	1.2	0.9	0.7	0.8	0.7	0.9	1.2	1.7	1.7
1.3	1.3	1.0	0.8	0.8	0.9	0.8	0.8	1.0	1.3	1.3

Lamp: 250W High Pressure Sodium
Mounting Height: 35 Ft Nominal

TYPICAL ILLUMINATION PLAN

Scale: 1"=20'-0"

06030-EI-06.dgn



NEW SITE LIGHTING PLAN "A"

Scale: 1" = 40'-0"

06030.sel

Notes:

- Light lines denote existing condition.
Bold lines denote new work.
- See Sheets RI-22 and RI-23 for Trench Restoration Details and Typical Section for permeable Base course.

SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

FORT WEAVER ROAD/ROAD/ROAD.dgn

MC ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/12
THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

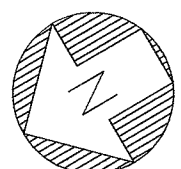
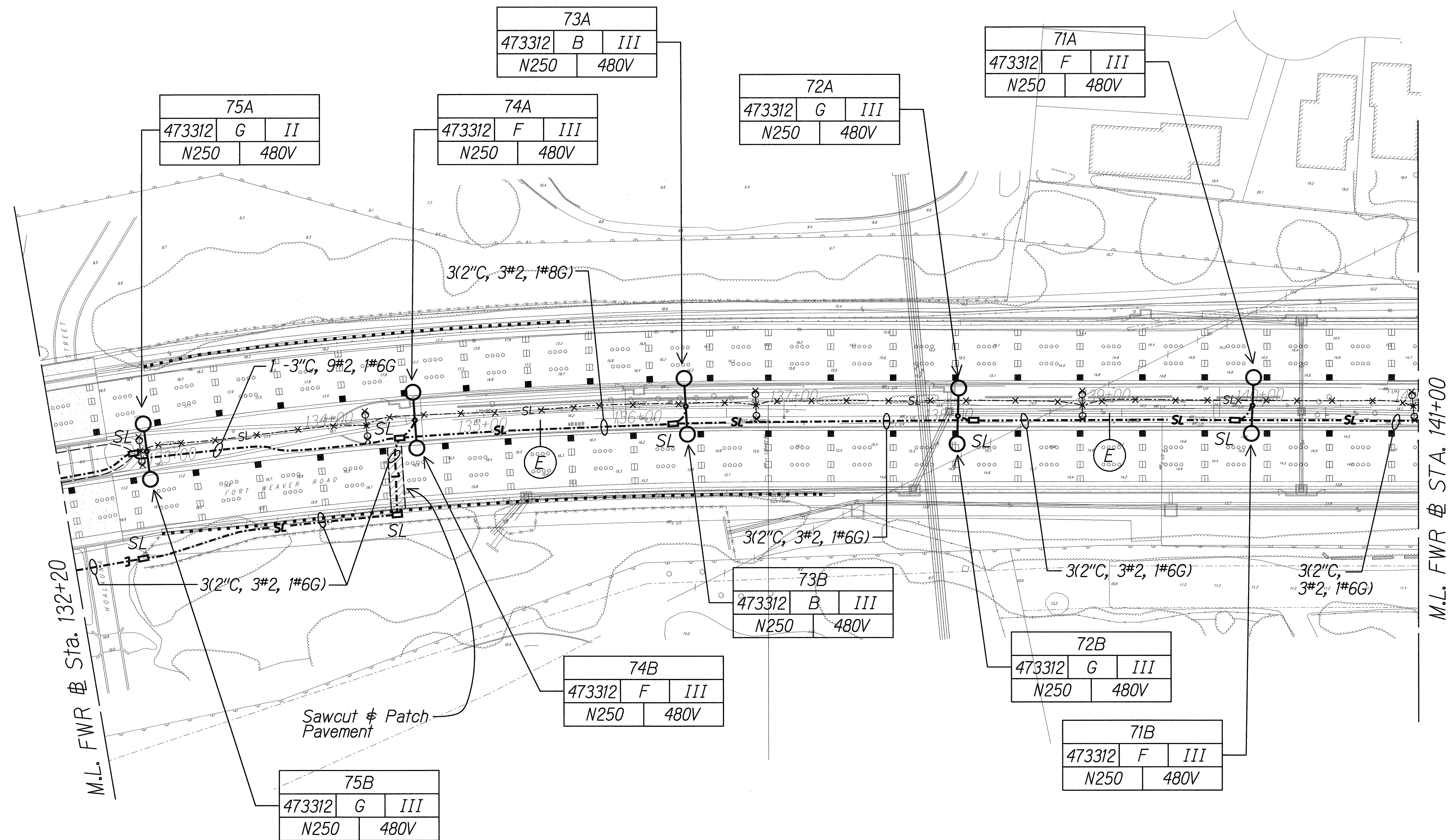
NEW SITE LIGHTING PLAN "A"

FORT WEAVER ROAD WIDENING
VICINITY OF AWA DRIVE TO GEIGER ROAD

Scale: 1" = 40' Date: Sept 20, 2007

SHEET No. E1-6 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	104	160



NEW SITE LIGHTING PLAN "B"
Scale: 1" = 40'-0" 06030se2

Notes:

- Light lines denote existing condition.
Bold lines denote new work.
- See Sheets R1-22 and R1-23 for Trench Restoration Details and Typical Section for permeable Base course.

SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

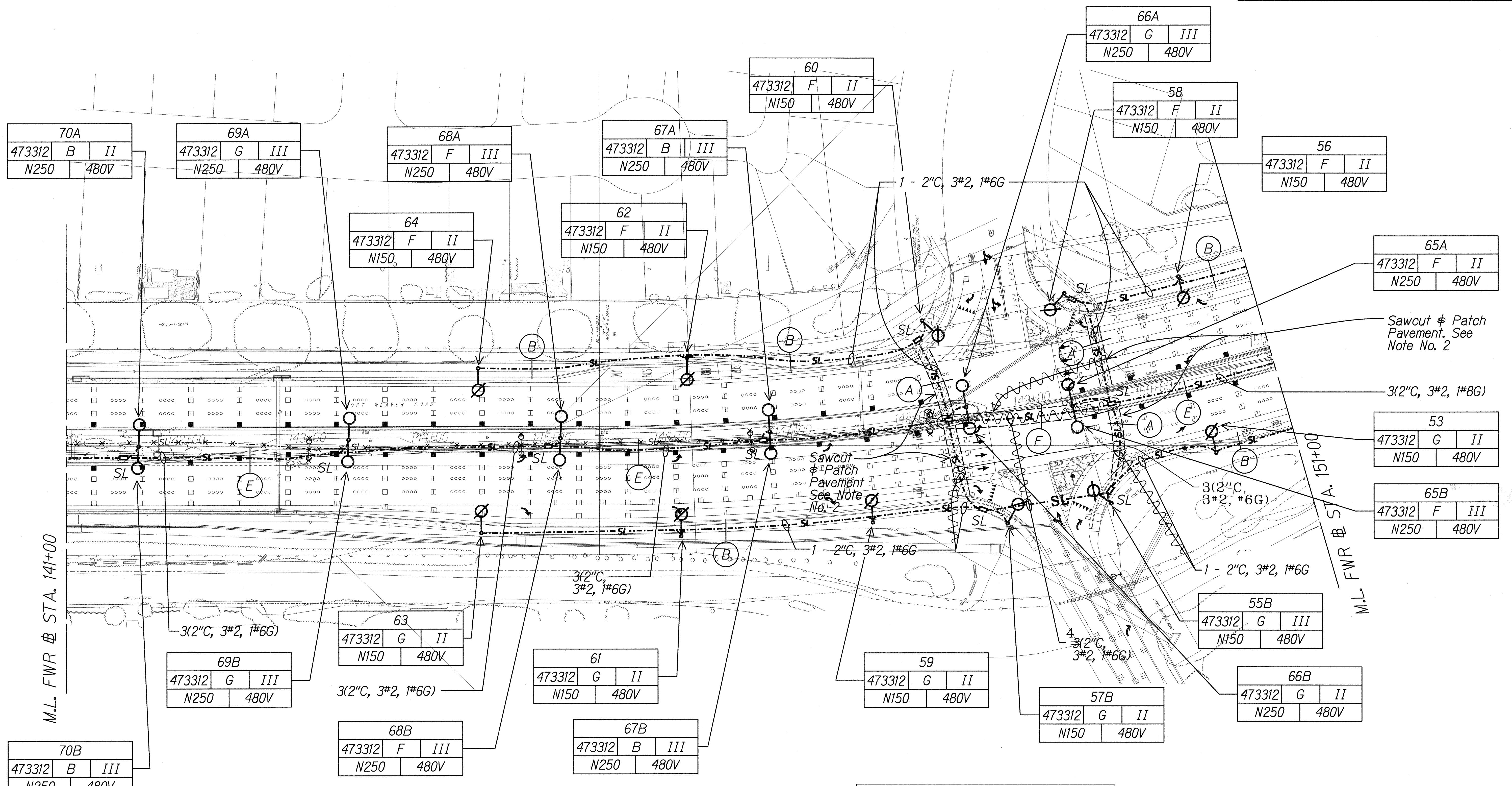
NEW SITE LIGHTING PLAN "B"

FORT WEAVER ROAD WIDENING
VICINITY OF AWA DRIVE TO GEIGER ROAD

Scale: 1" = 40' Date: Sept 20, 2007

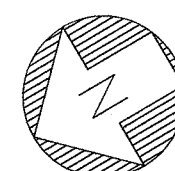
SHEET No. E1-7 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	105	160



SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

L:\FORT WEAVER ROAD\ROAD\ROAD3.dgn



NEW SITE LIGHTING PLAN "C"

Scale: 1" = 40'-0" 06030se3

- Notes:
- Light lines denote existing condition.
Bold lines denote new work.
 - See Sheets R1-22 and R1-23 for Trench Restoration Details and Typical Section for permeable Base course.

LEGEND FOR
AS-BUILT POSTINGS

Squiggly line for as-built deletion

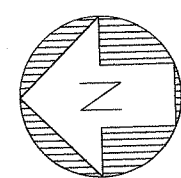
Double line for as-built deletion

Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
NEW SITE LIGHTING PLAN "C"
FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD
Scale: 1" = 40' Date: Sept 20, 2007
SHEET No. E1-8 OF 21 SHEETS

06030-E1-08.dgn 3/1/2011 12:48:42 PM

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	106	160



NEW SITE LIGHTING PLAN "D"

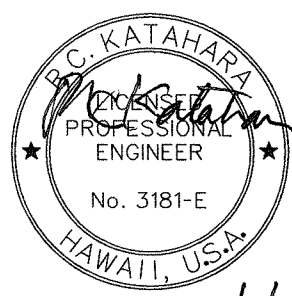
Scale: 1" = 40'-0" 06030SE4

Notes:

- Light lines denote existing condition.
Bold lines denote new work.
- See Sheets R1-22 and R1-23 for Trench Restoration Details and Typical Section for permeable Base course.

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	

J:\FORT WEAVER ROAD\ROAD\ROAD.dgn



2/8/11
MK ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/12
THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

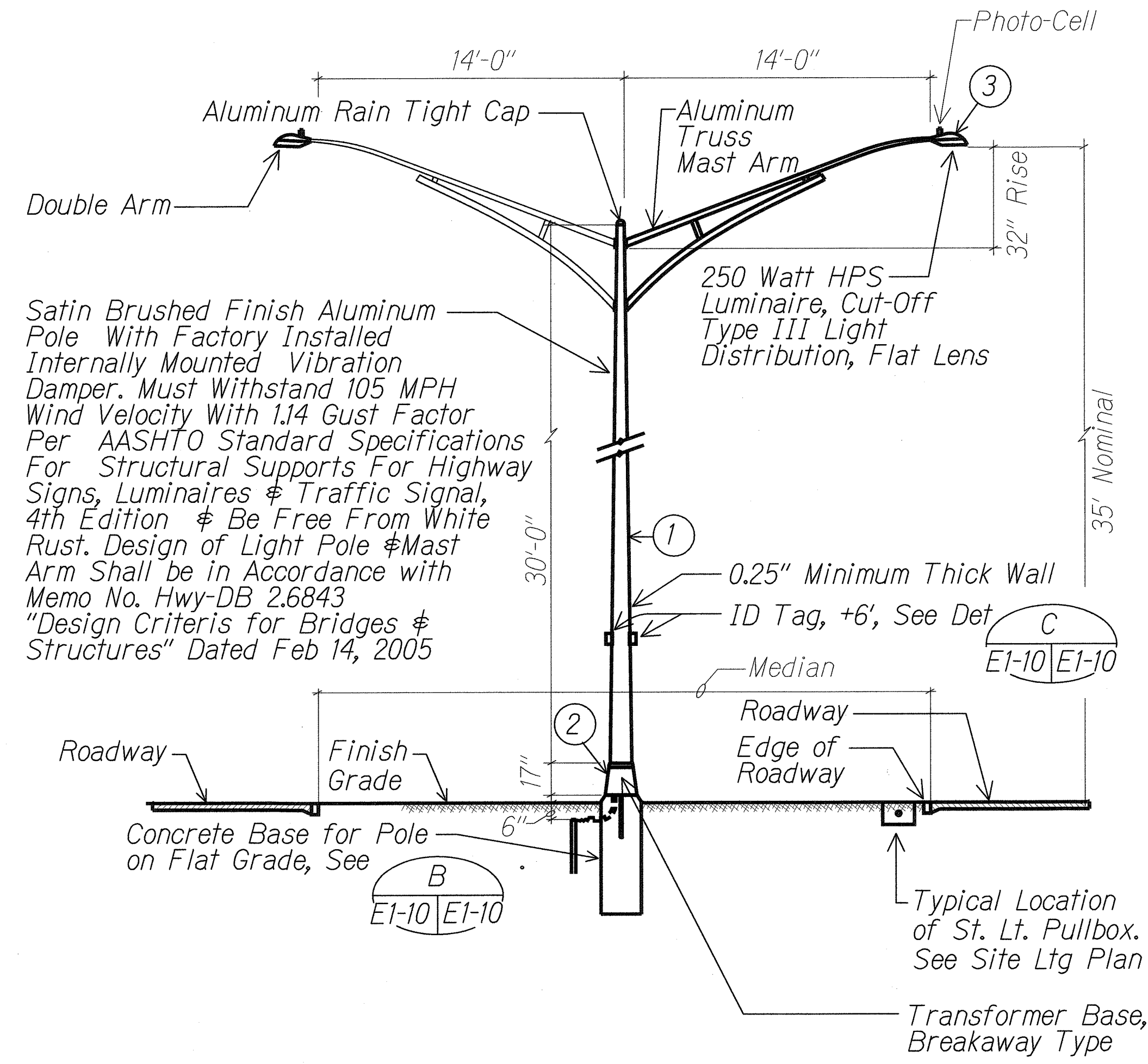
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NEW SITE LIGHTING PLAN "D"

FORT WEAVER ROAD WIDENING
VICINITY OF AWA DRIVE TO GEIGER ROAD

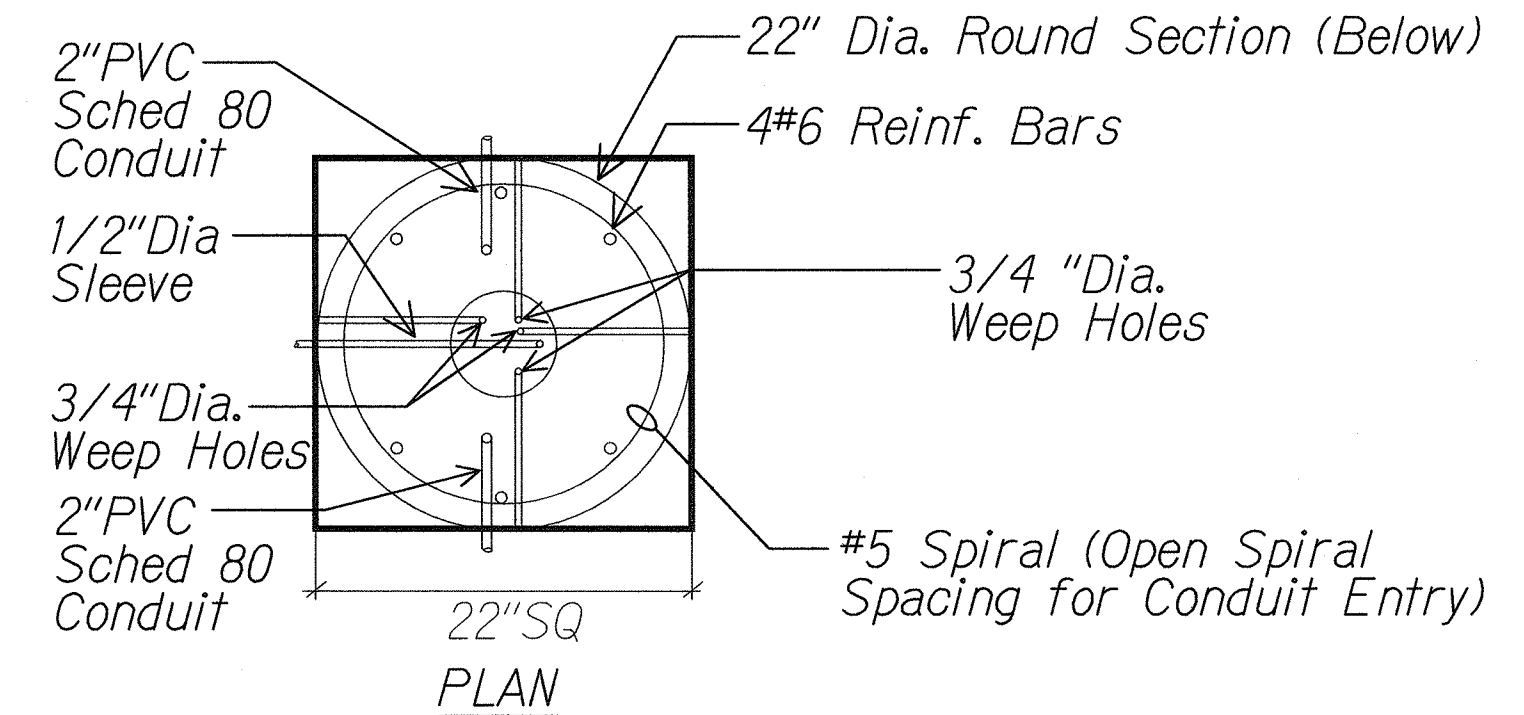
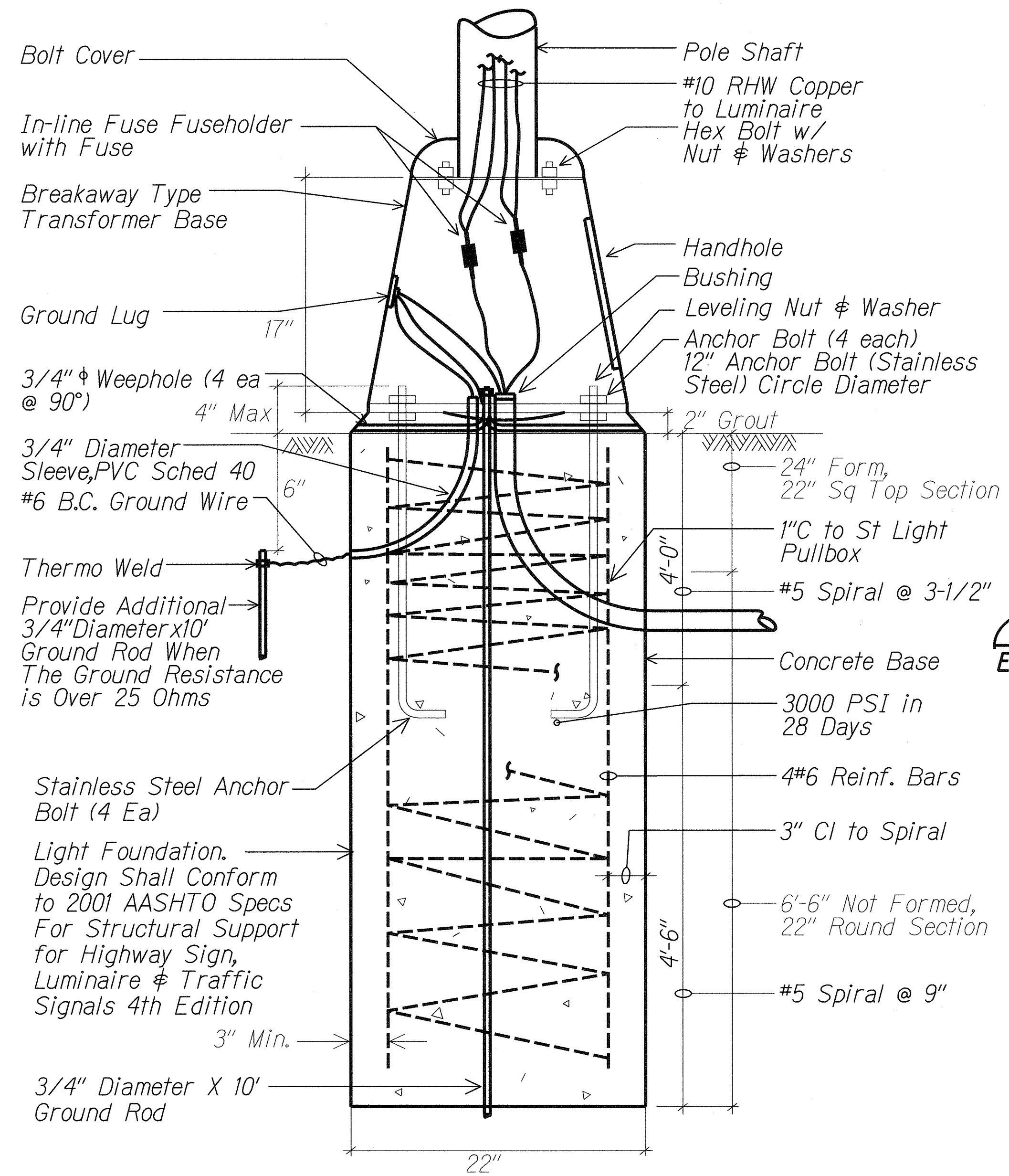
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SHEET No. E1-9 OF 21 SHEETS

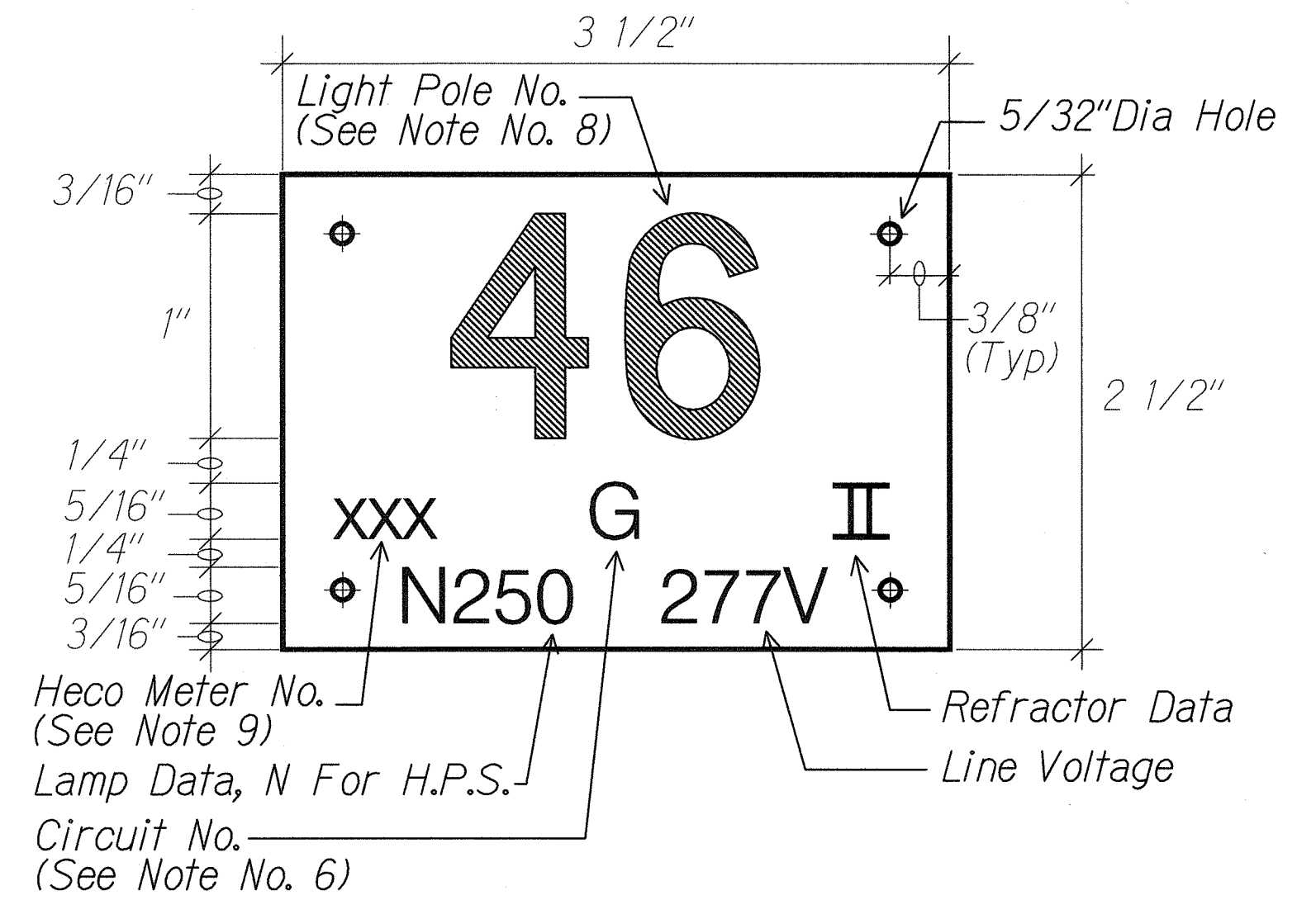


A ROADWAY LIGHT STANDARD DETAIL
E1 E1-10 NTS

MATERIAL LIST		
ITEM	DESCRIPTION	MANUFACTURER
①	Light Pole, 30', Alum	
②	Transformer Base (Alum) (Breakaway Type)	
③	Luminaire, 250W HPS	



B TYPICAL TRANSFORMER BASE WIRING DETAIL
E1-10 E1-10 NTS



C HIGHWAY LIGHT POLE TAG DETAIL
E1-10 E1-10 NTS

- NOTES:**
- Use 3 Ply Laminated Flexible Plastic Black-White-Black Thickness Black Cap Sheet-0.010", White Base Sheet-0.052", Black Base Sheet-0.010".
 - Light Pole Number Size Shall Be 1" High and Engraved 1/8" Wide, White in Color (Number as Required).
 - Nomenclature Size Shall be 5/16" High and Engraved 1/32" Wide, White in Color (Heco Meter Number Panel Board and Circuit Number, Line Voltage, Lamp Data and Refractor Data as Required).
 - Attach to Aluminum and Steel Post with No. 8 Stainless Steel, 1/2" Long Drive Screws in 1/8" Drill Hole. Attach to Wood Poles with 4D Aluminum Nail.
 - Numbers are Inscribed by Cutting Through "Black Cap Sheet" to Expose "White Letters."
 - Nomenclature Required for Systems with Two or More Circuits (Letter Indicates Panel Board, Number Indicates Circuit).
 - For Light Poles Installed on Ramp, Assign Numbers to Include Ramp I.D. and Light Number. Legend May Be Less Than One (1) Inch in Height.
 - Light Numbers Shall be Obtained From the State. Use An Alphabet Suffix to Designate Lights Mounted on the Same Pole (e.g. 123A & 123B).
 - For Non-Metered System, Call Out the Contract Number.

2/8/11

WK ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/12
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

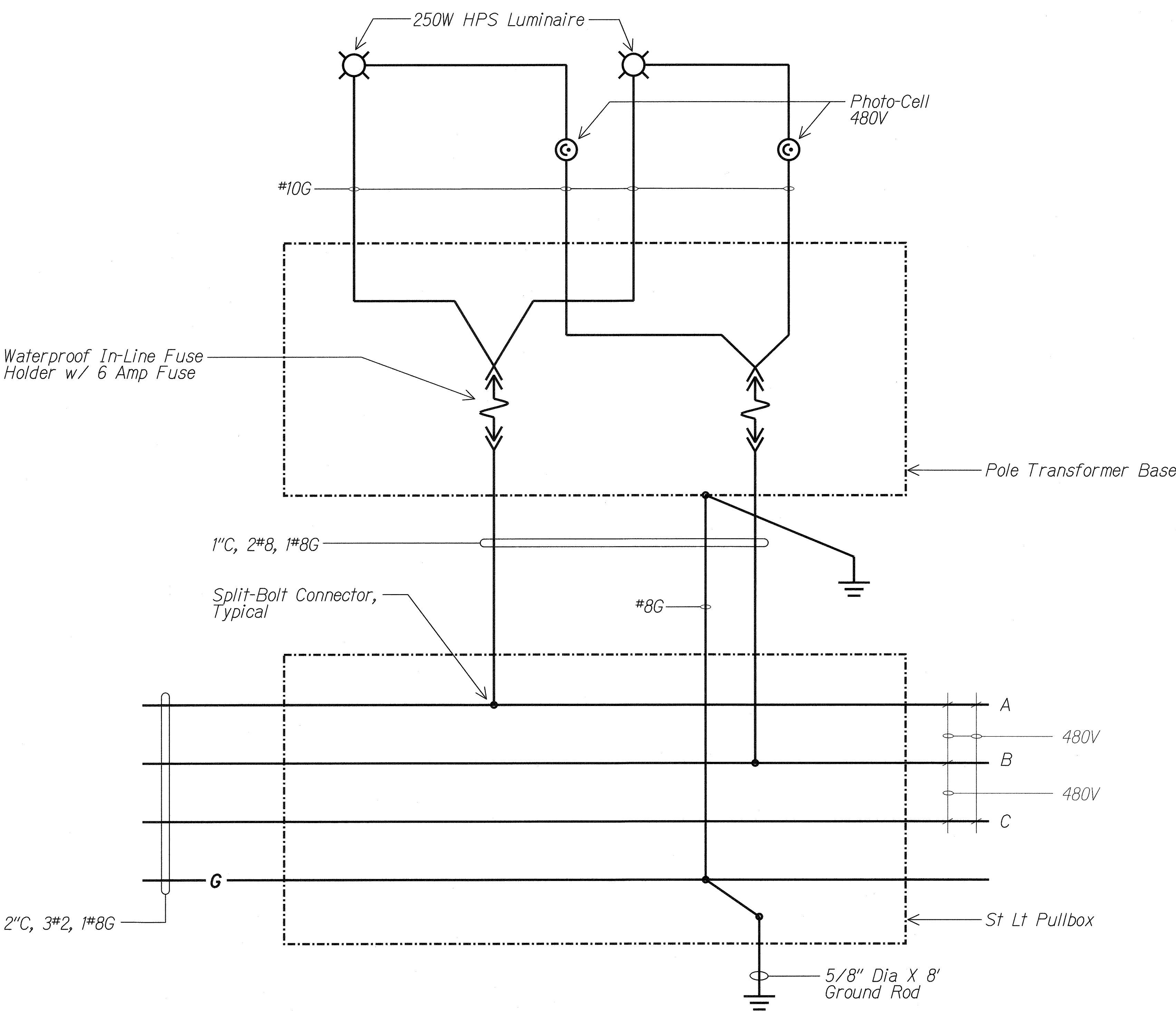
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ROADWAY LIGHT STANDARD DETAILS

FORT WEAVER ROAD WIDENING
VICINITY OF AWA DRIVE TO GEIGER ROAD

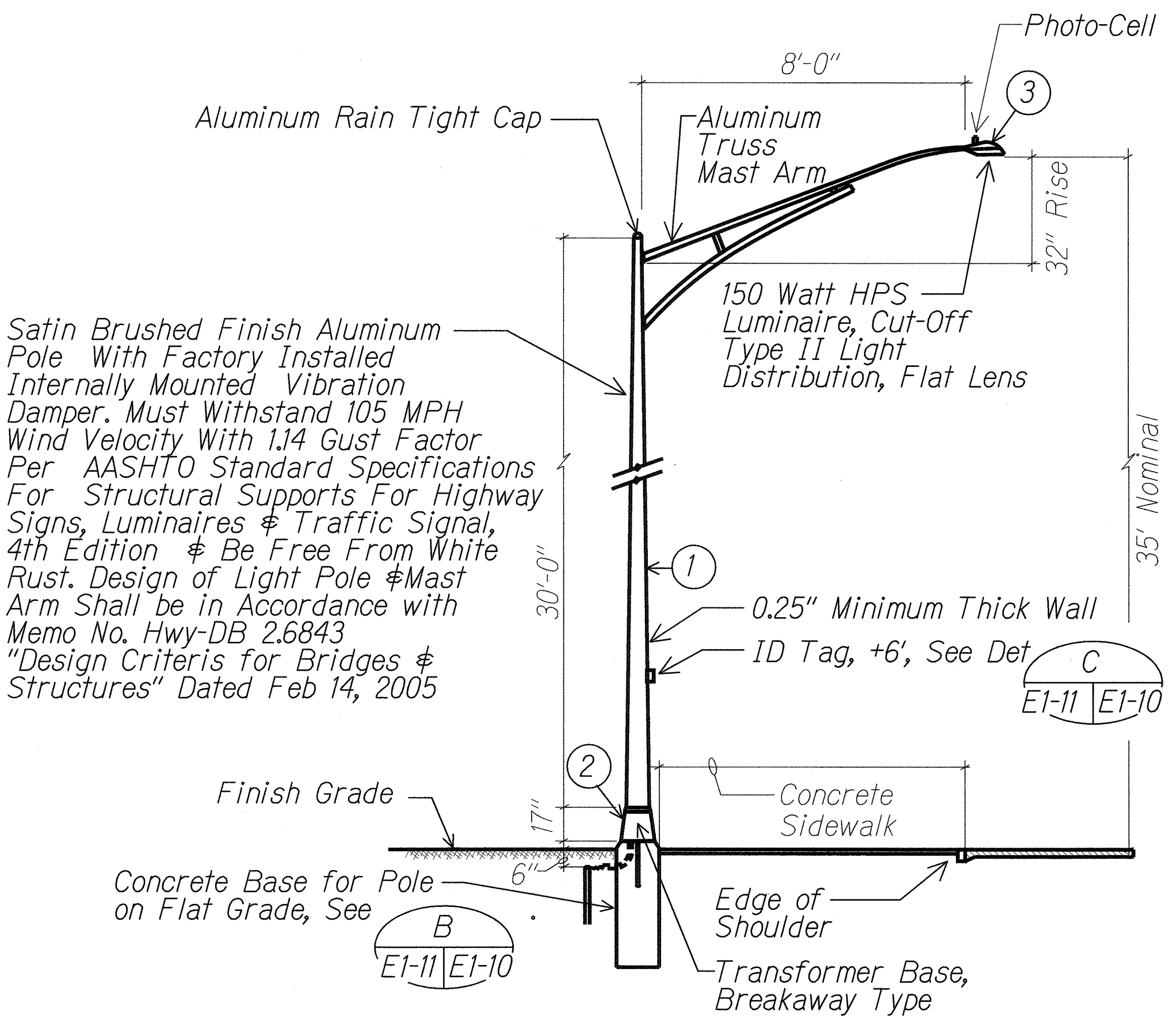
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SHEET No. E1-10 OF 21 SHEETS

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



TYPICAL STREET LIGHT WIRING DIAGRAM
NTS



A ROADWAY LIGHT STANDARD DETAIL
E1-11 E1-12 NTS

MATERIAL LIST		
ITEM	DESCRIPTION	MANUFACTURER
1	Light Pole, 30', Alum	
2	Transformer Base (Alum) (Breakaway Type)	
3	Luminaire, 150W HPS	

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
DATE	

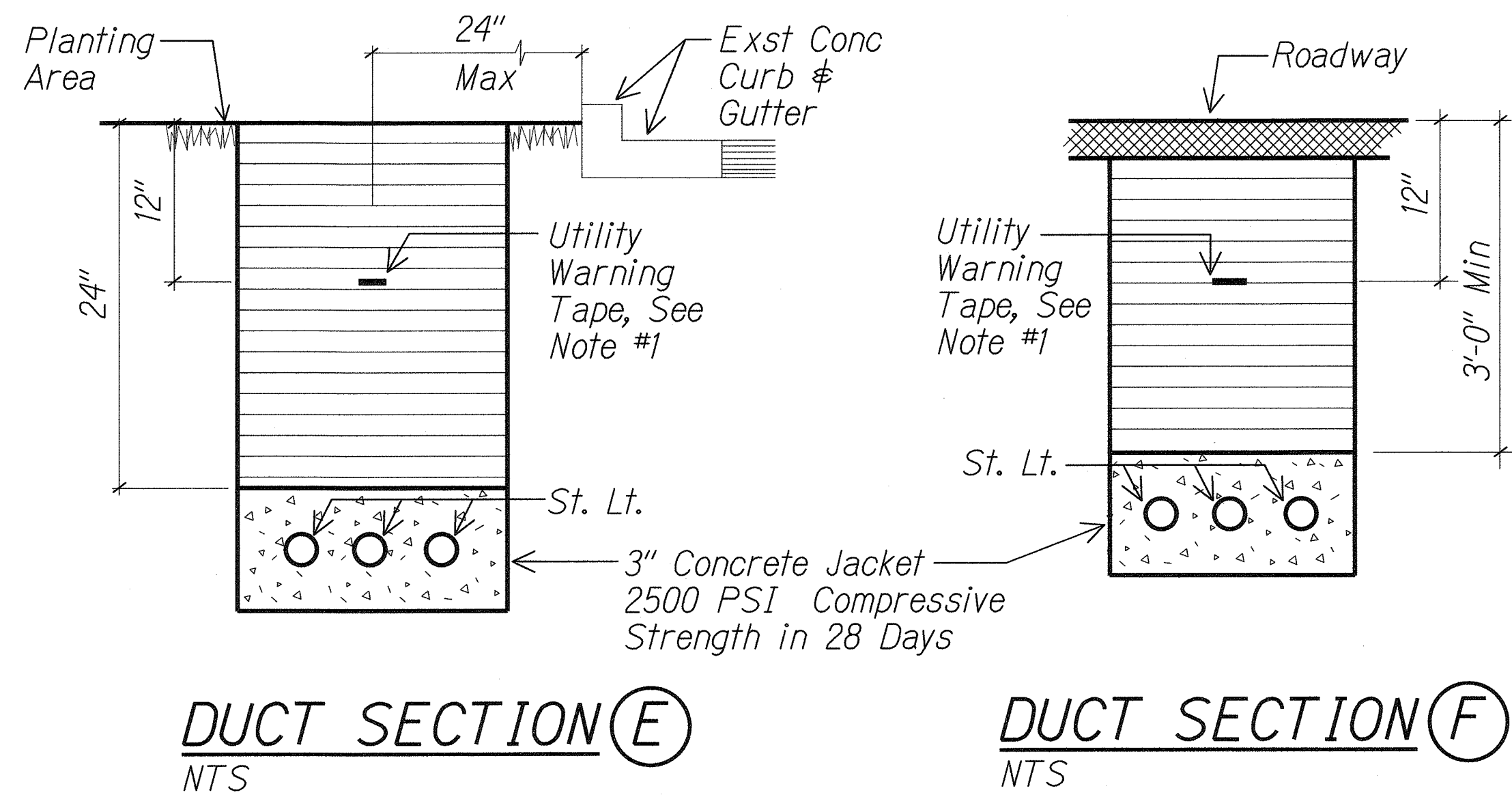
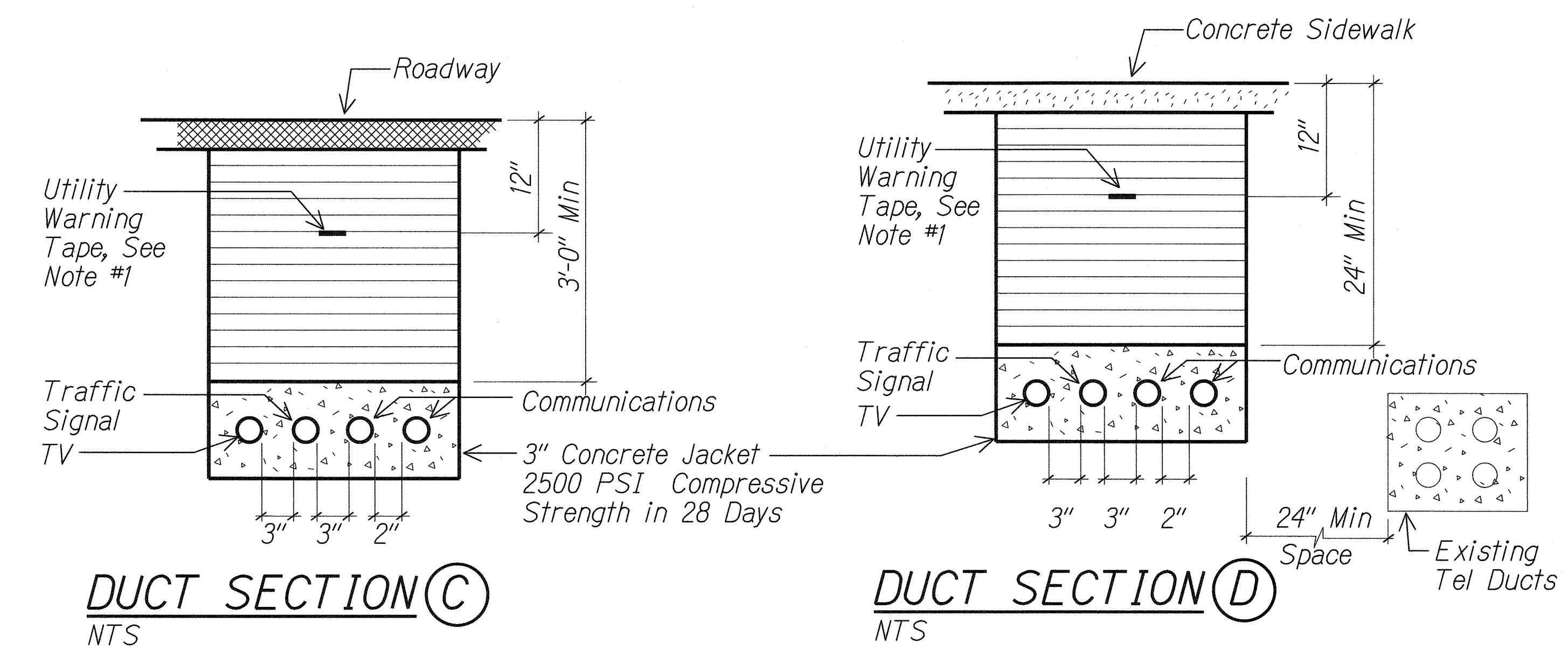
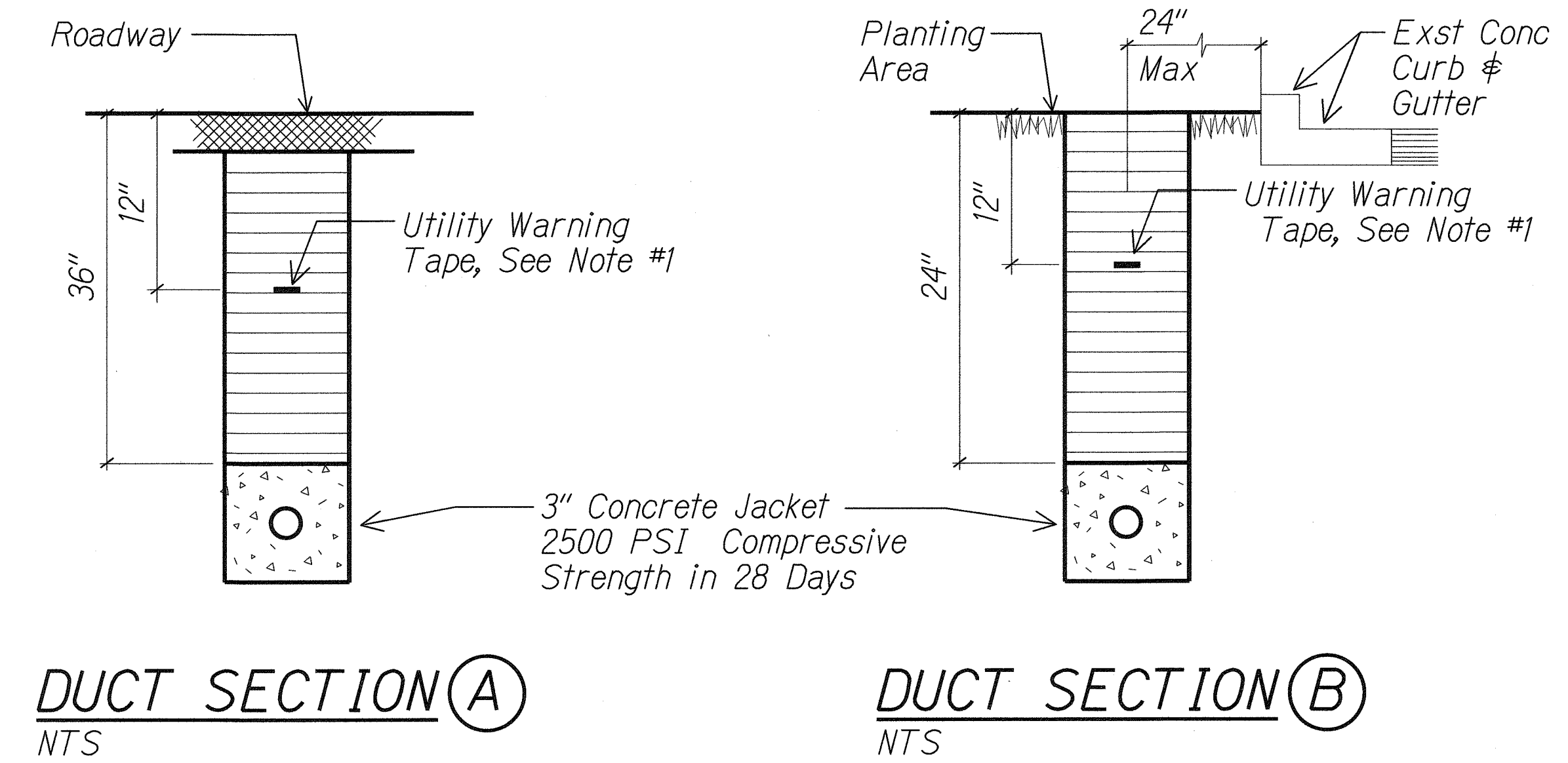
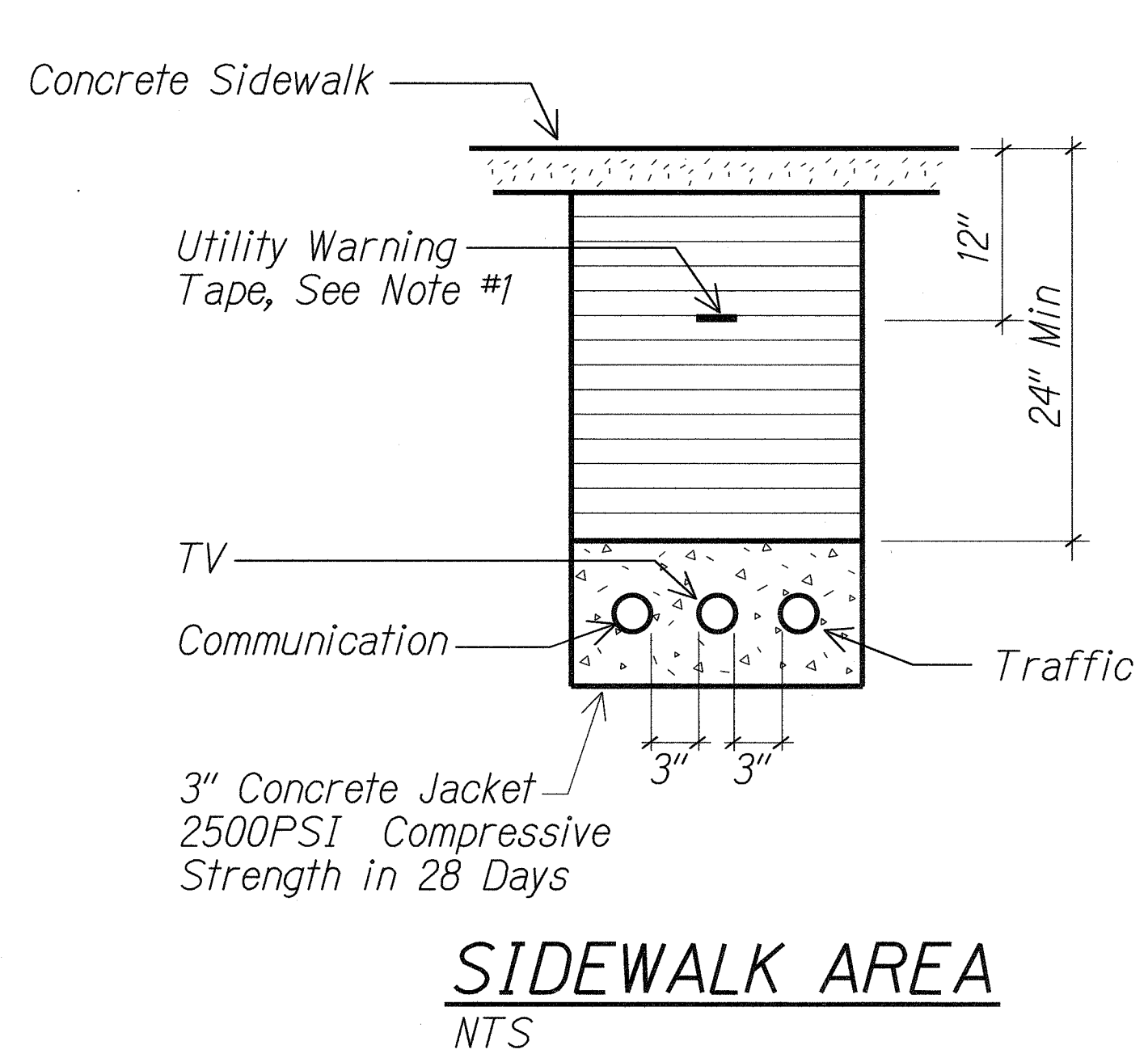
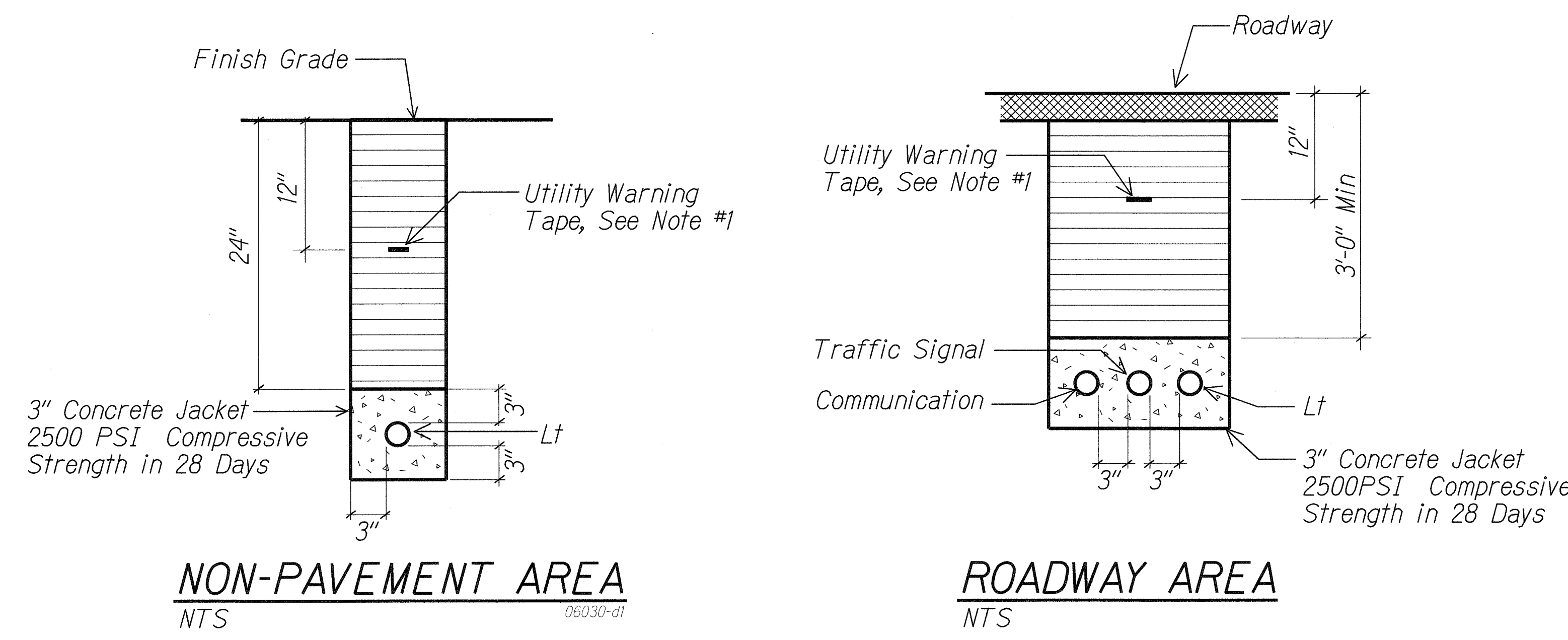
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**ROADWAY LIGHT
STANDARD DETAILS**

FORT WEAVER ROAD WIDENING
VICINITY OF AWA DRIVE TO GEIGER ROAD

Scale: Not to Scale Date: Sept 20, 2007

SHEET No. E1-11 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	109	160



TYPICAL DUCT SECTIONS

- NTS
- NOTES:**
- 8 MIL Thick Red Colored Plastic Warning Tape 3" Wide, Entire Length of Duct. Tape to Have Continuous Metallic Backing and Corrosion Resistant Foil Core. Warning and Identification to be Imprinted on Tape and Shall Read "Caution Buried Electric Cable Below". Message Shall Be Repeated Approximately Every Ten Feet.
 - See Sheets RI-22 and RI-23 for Trench Restoration Details and Typical Section for permeable Base course.

MR. ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/12
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

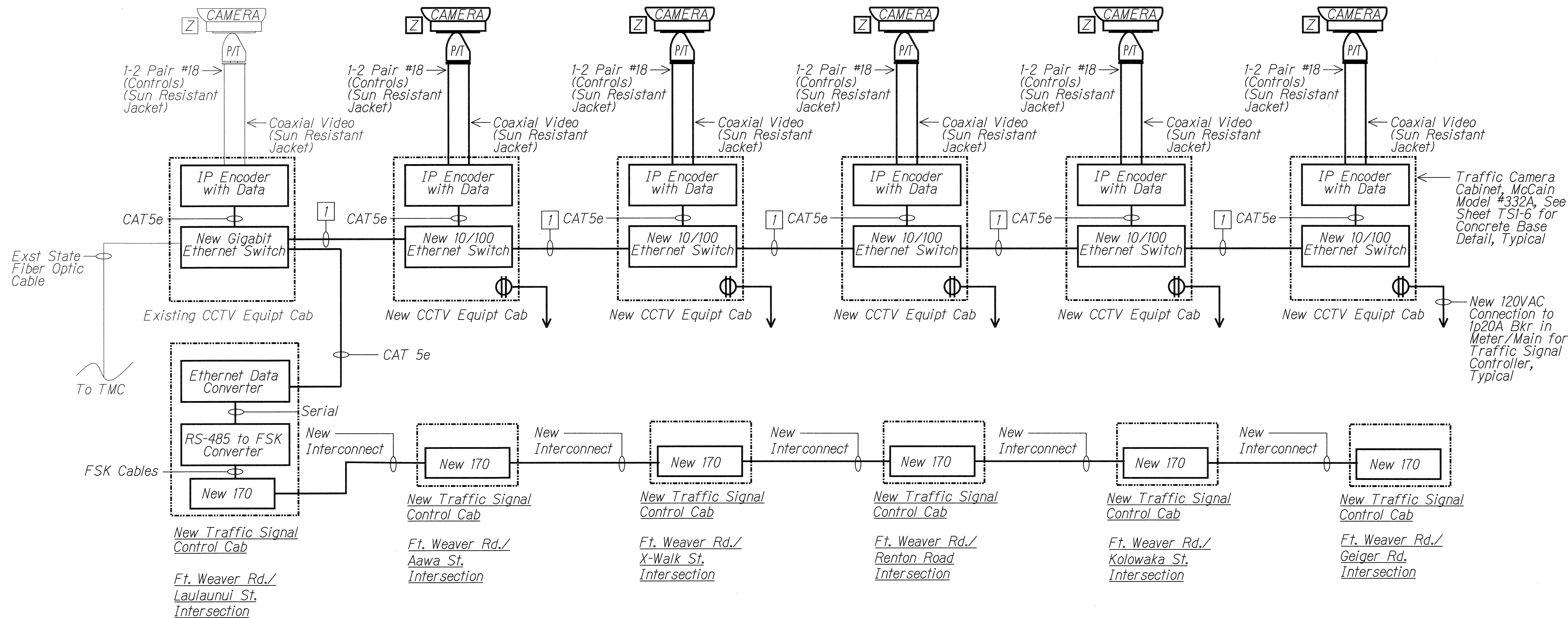
DUCT SECTIONS

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: Not to Scale Date: Sept 20, 2007

SHEET No. E1-12 OF 21 SHEETS

SURVEY OBTAINED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
APPROVED BY	



Notes:

- Light Lines Denote Existing Items.
Bold Lines Denote New Work.
- Number in Square Indicates One New 72 Strand Single Mode Fiber Optic Cable.
- Coordinate Interconnection of New CCTV System with the City's Existing Traffic Control System with the City Department of Transportation Services.
- Coordinate all Work at the City's Traffic Management Center with the City Department of Transportation Services.

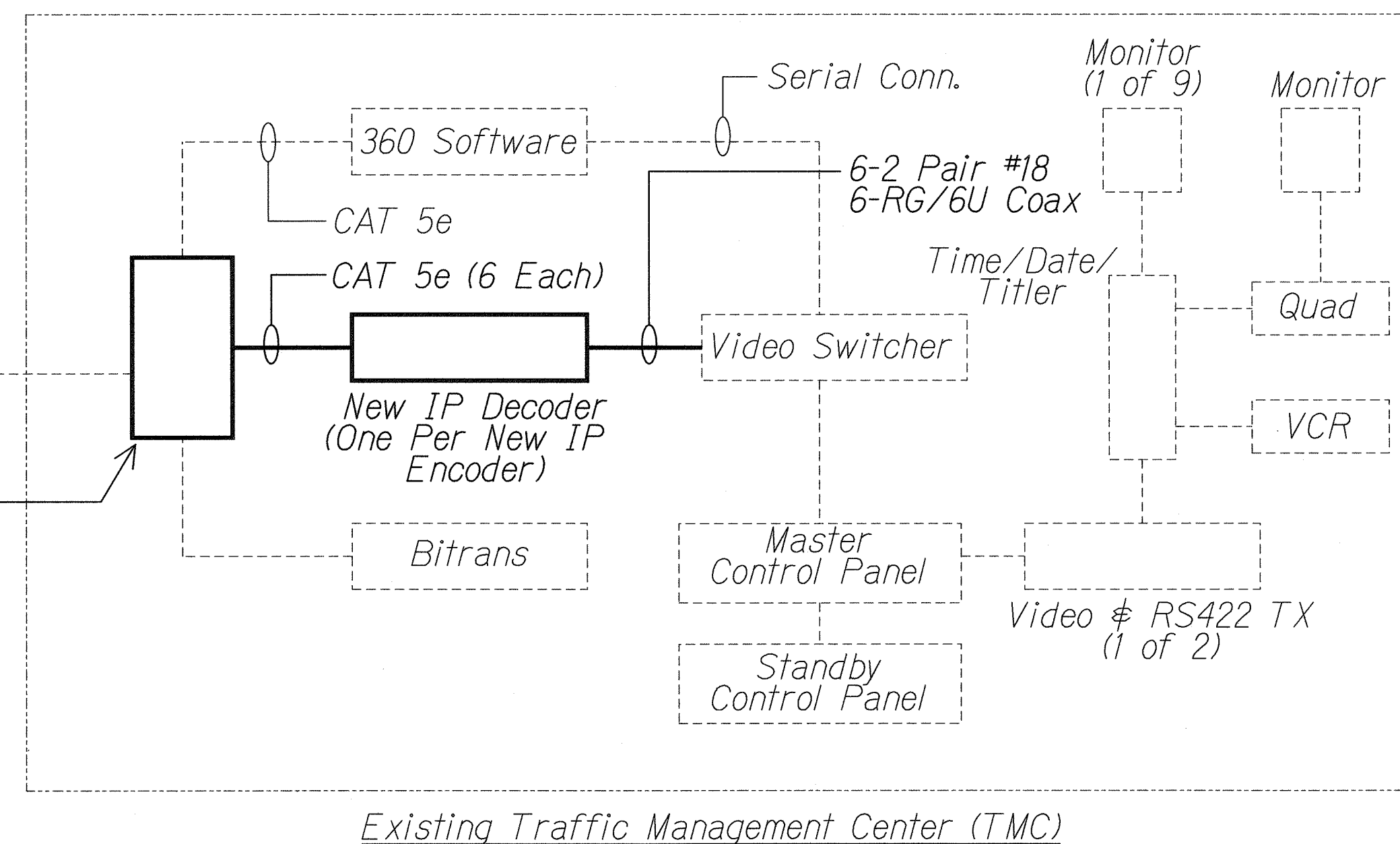
TRAFFIC CAMERA BLOCK DIAGRAM

No scale

06030-EI-13

Exist City Fiber Optic Cable
To Laulaunui

New Gigabit Ethernet Switch with Electrical and Fiber Connection



MR. ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/12
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

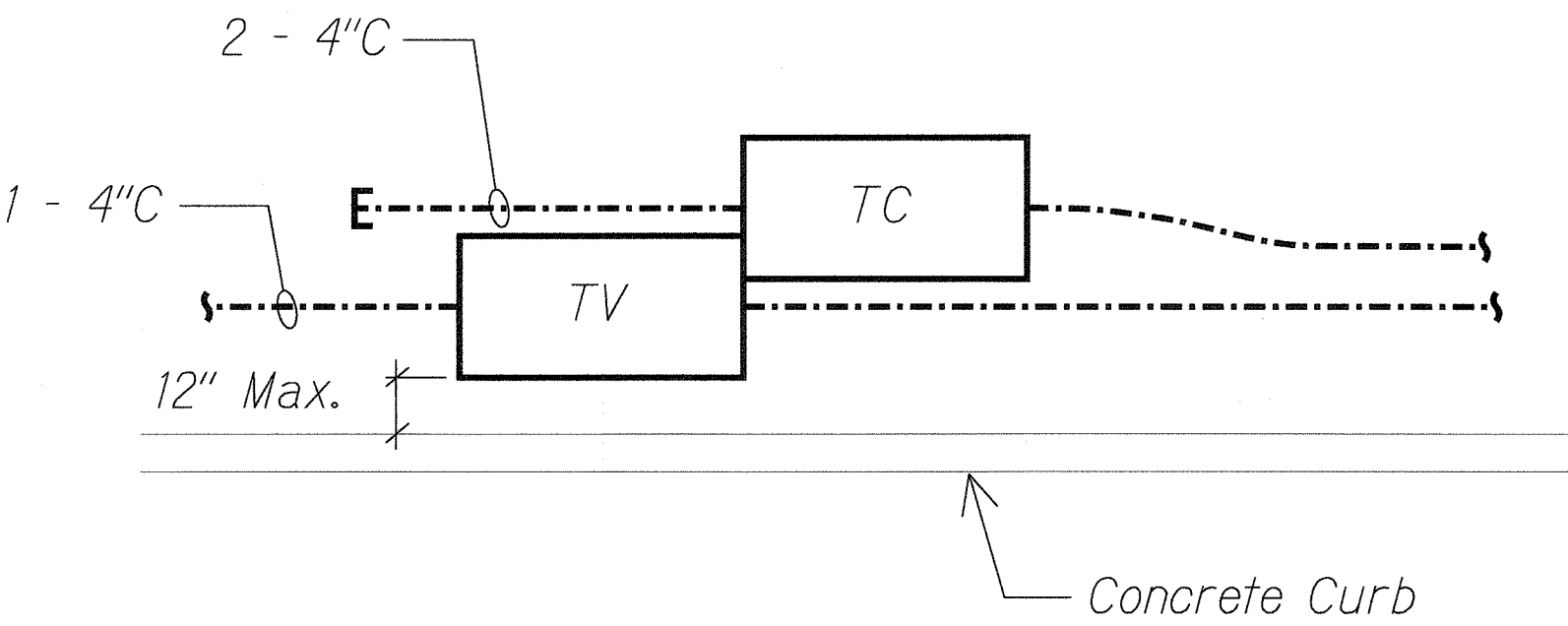
TRAFFIC CAMERA DIAGRAM

FORT WEAVER ROAD WIDENING
VICINITY OF AWA DRIVE TO GEIGER ROAD

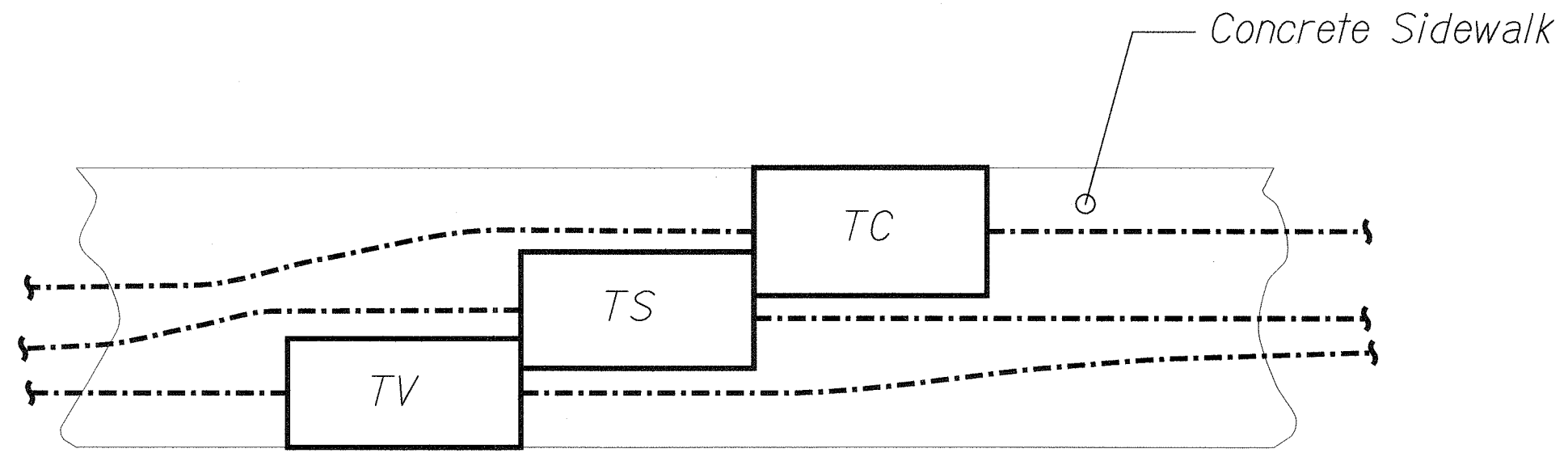
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SHEET No. EI-13 OF 21 SHEETS

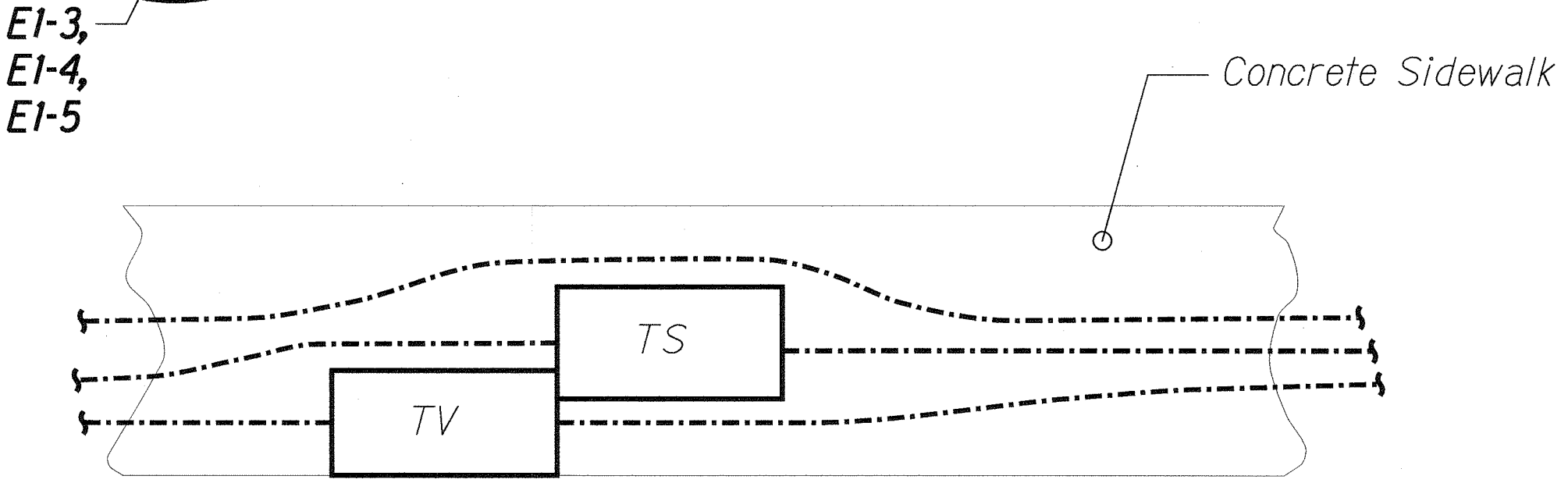
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	112	160



A PULLBOX GROUP PLAN
E1-2 | E1-15 SCALE: 1/4" = 1'-0"



B PULLBOX GROUP PLAN
E1-2 | E1-15 SCALE: 1/4" = 1'-0"



C PULLBOX GROUP PLAN
E1-2 | E1-15 SCALE: 1/4" = 1'-0"



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

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LICENSE EXPIRATION DATE: 4/30/12
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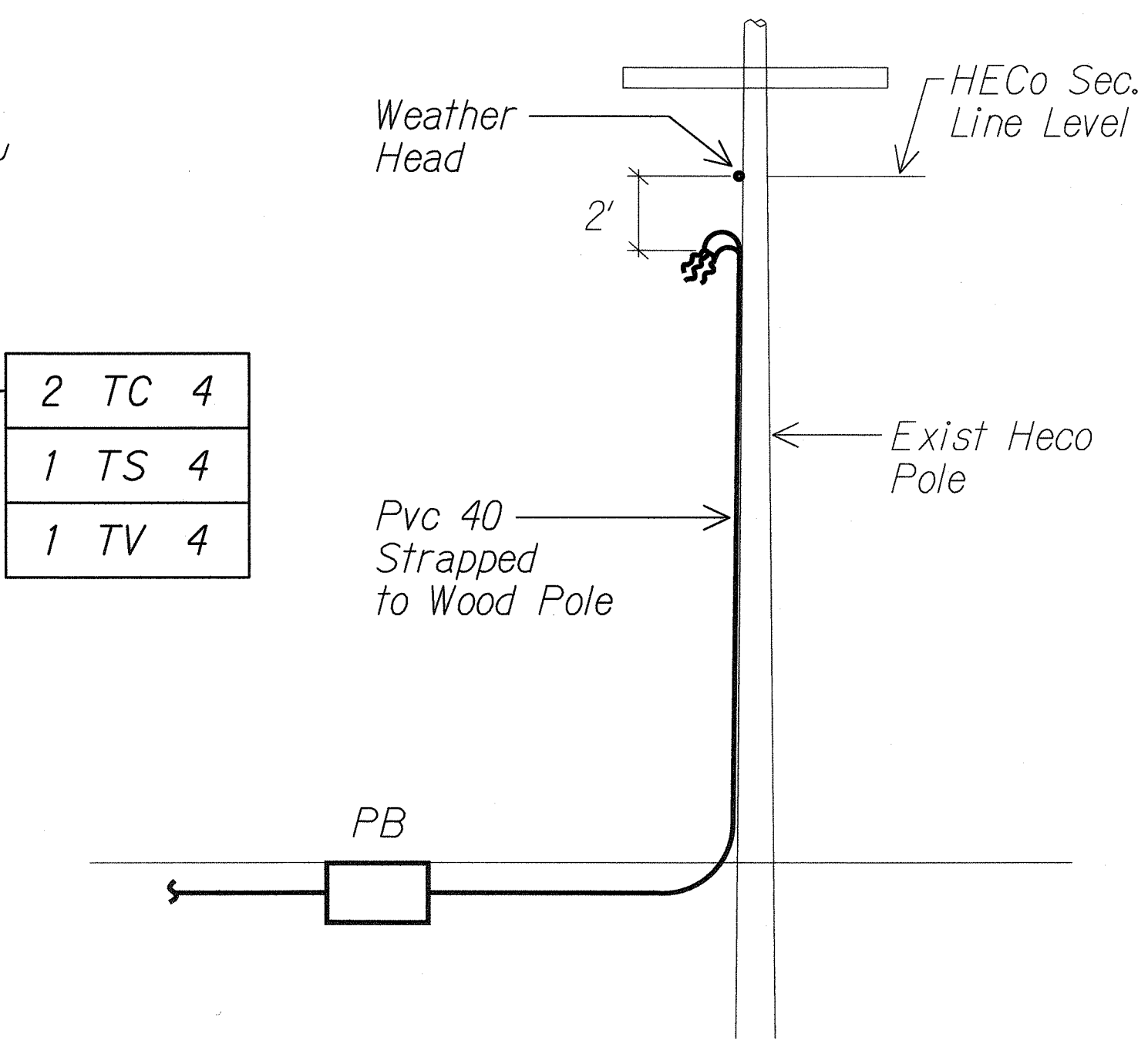
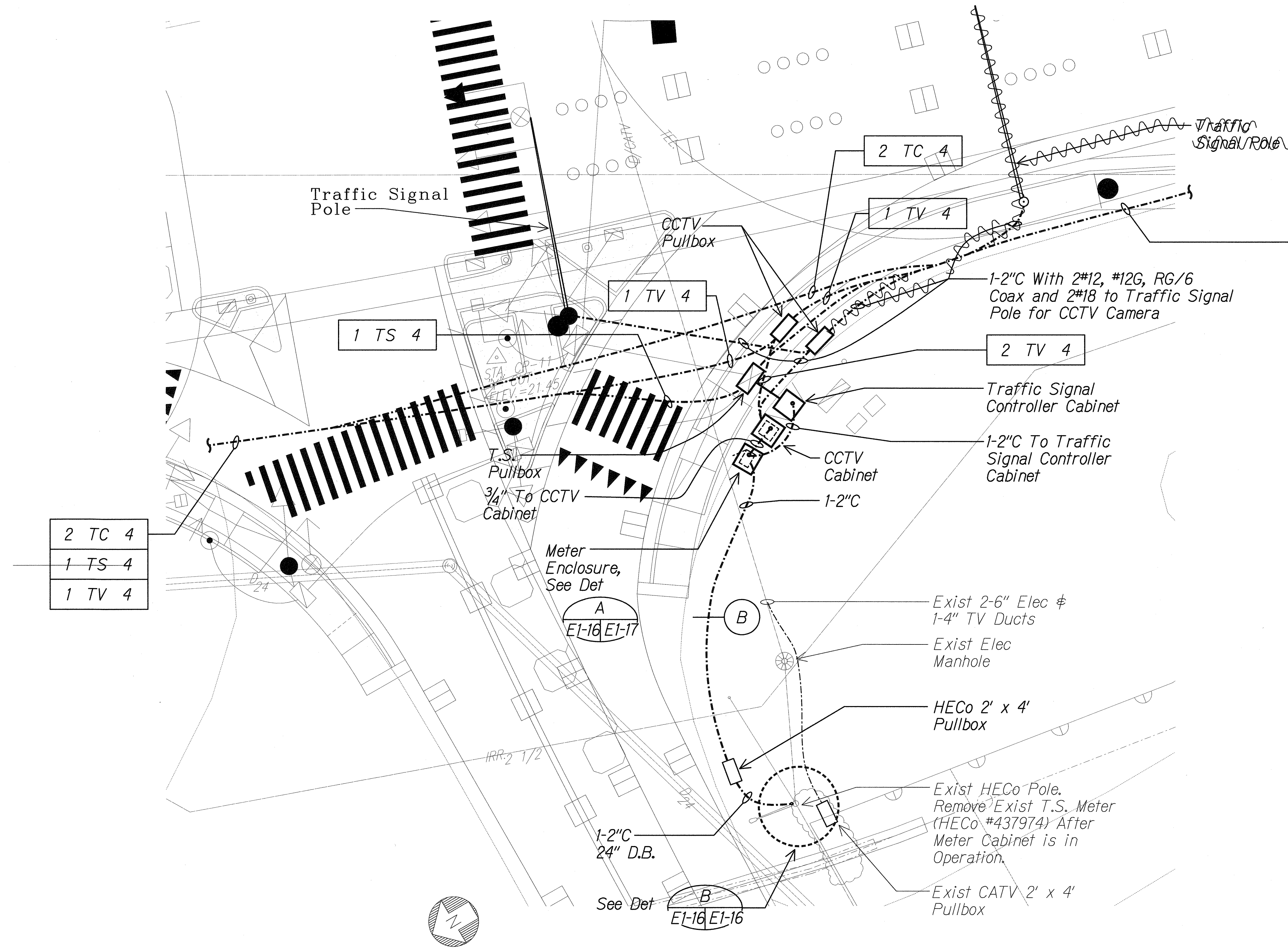
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PULLBOX GROUP PLANS

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: Not to Scale Date: Sept 20, 2007

SHEET No. E1-15 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	113	160



B CONDUIT RISER DETAIL
 E1-16/E1-16 NTS 06030E1-16

A EQUIPMENT CABINET PLAN
 E1-14/E1-16 Scale: 1" = 10'-0" 06030E1-16

LEGEND FOR AS-BUILT POSTINGS

	Squiggly line for as-built deletion
	Double line for as-built deletion
	Text for as-built posting

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

EQUIPMENT CABINET PLAN

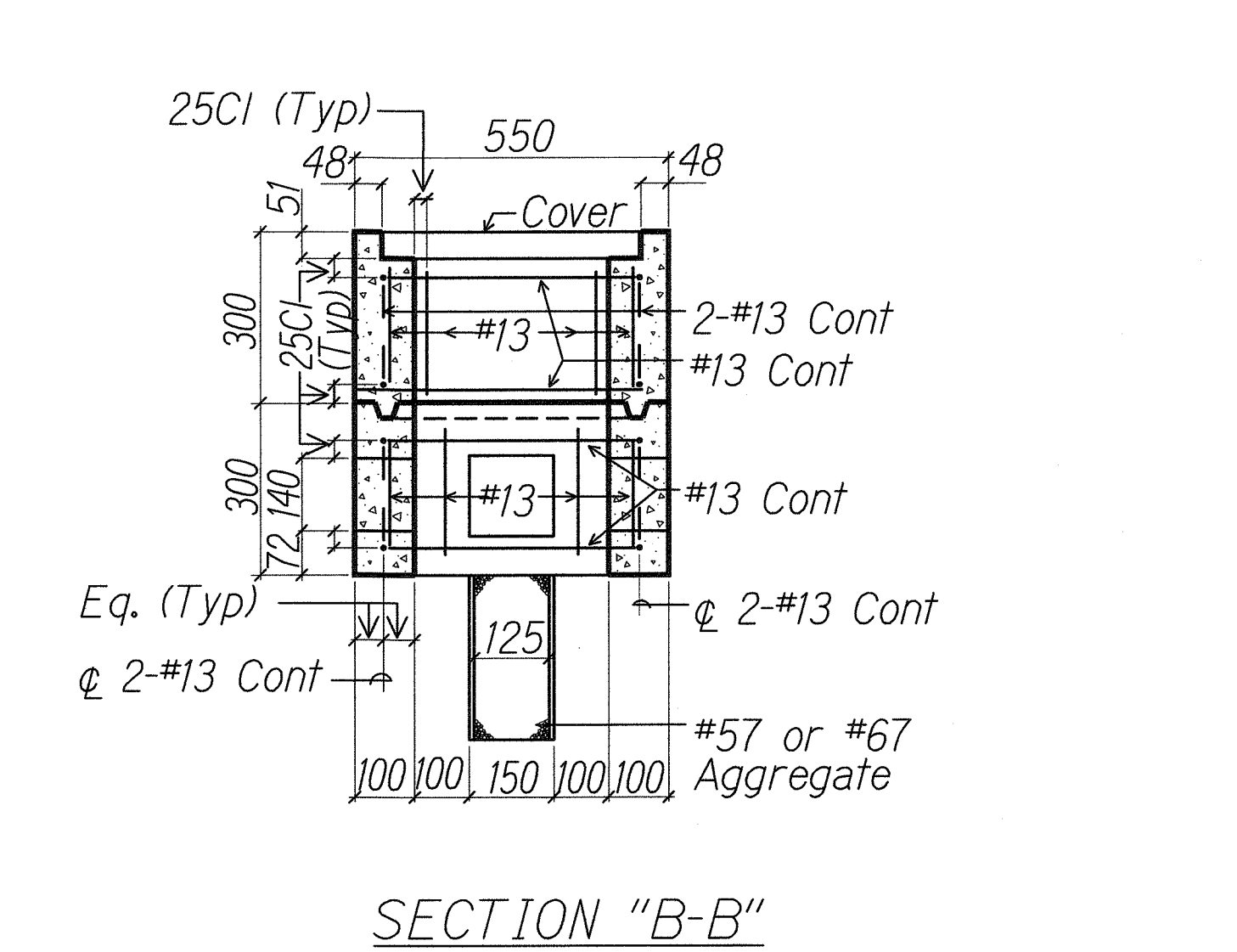
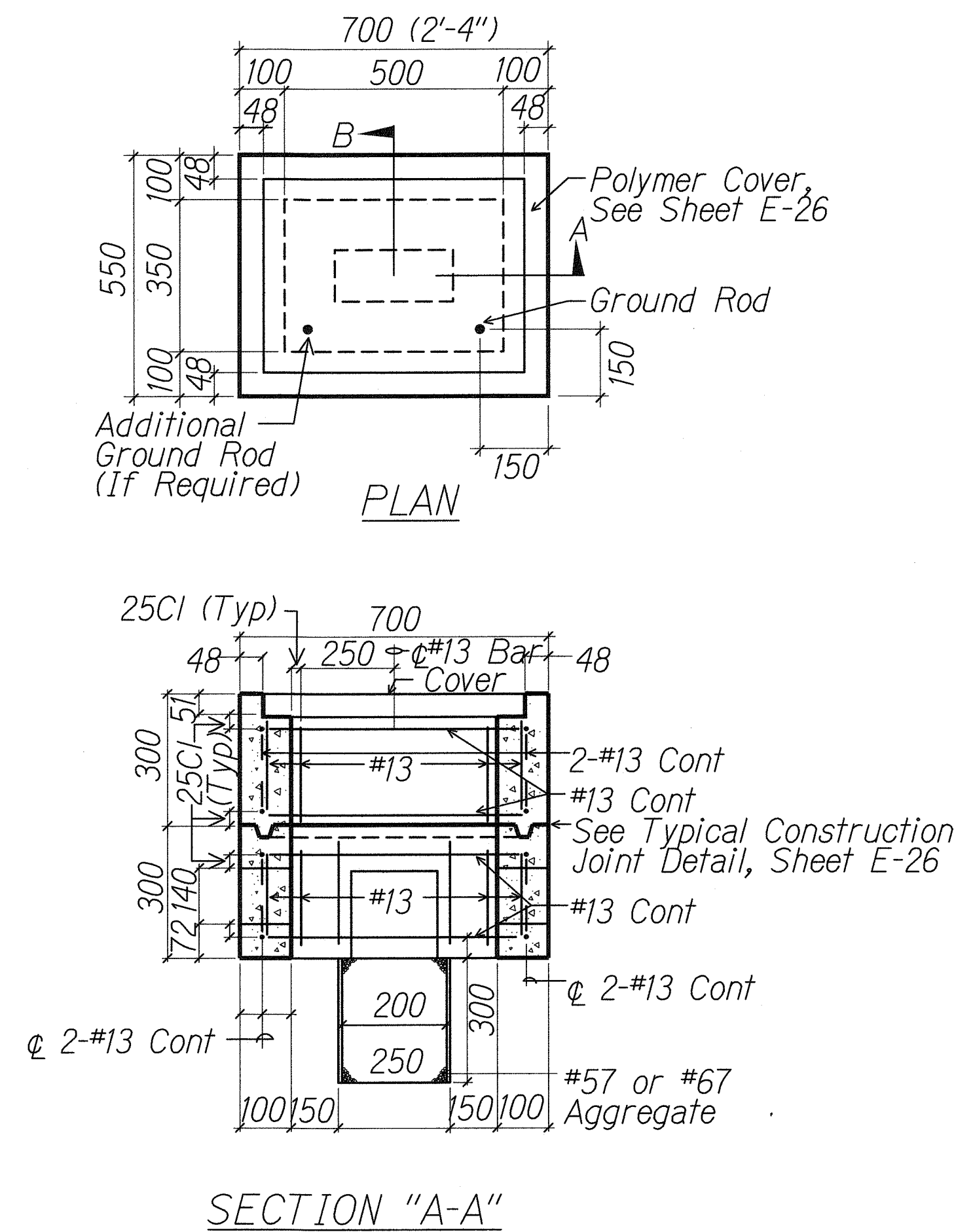
FORT WEAVER ROAD WIDENING
 VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1" = 10' Date: Sept 20, 2007

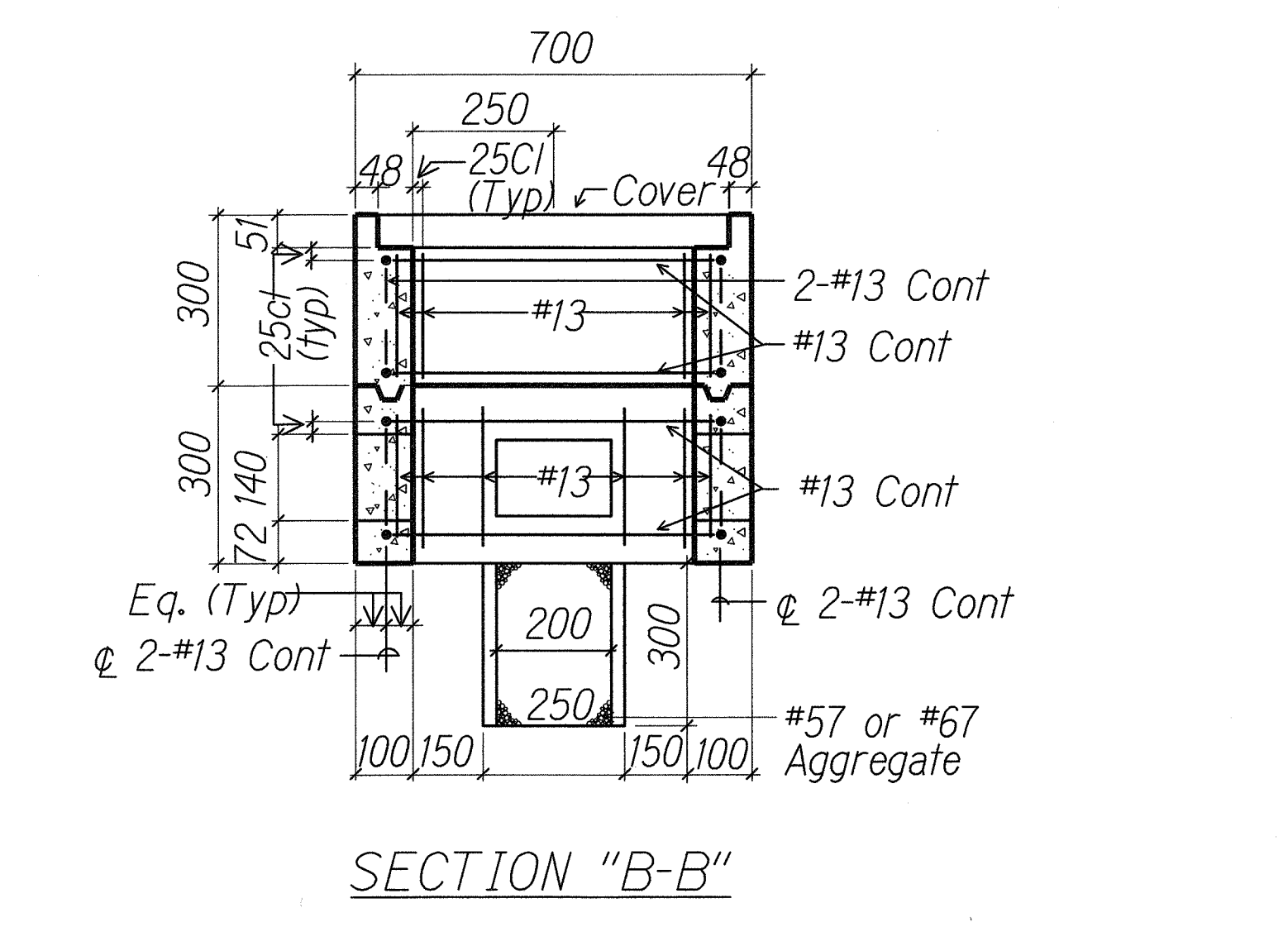
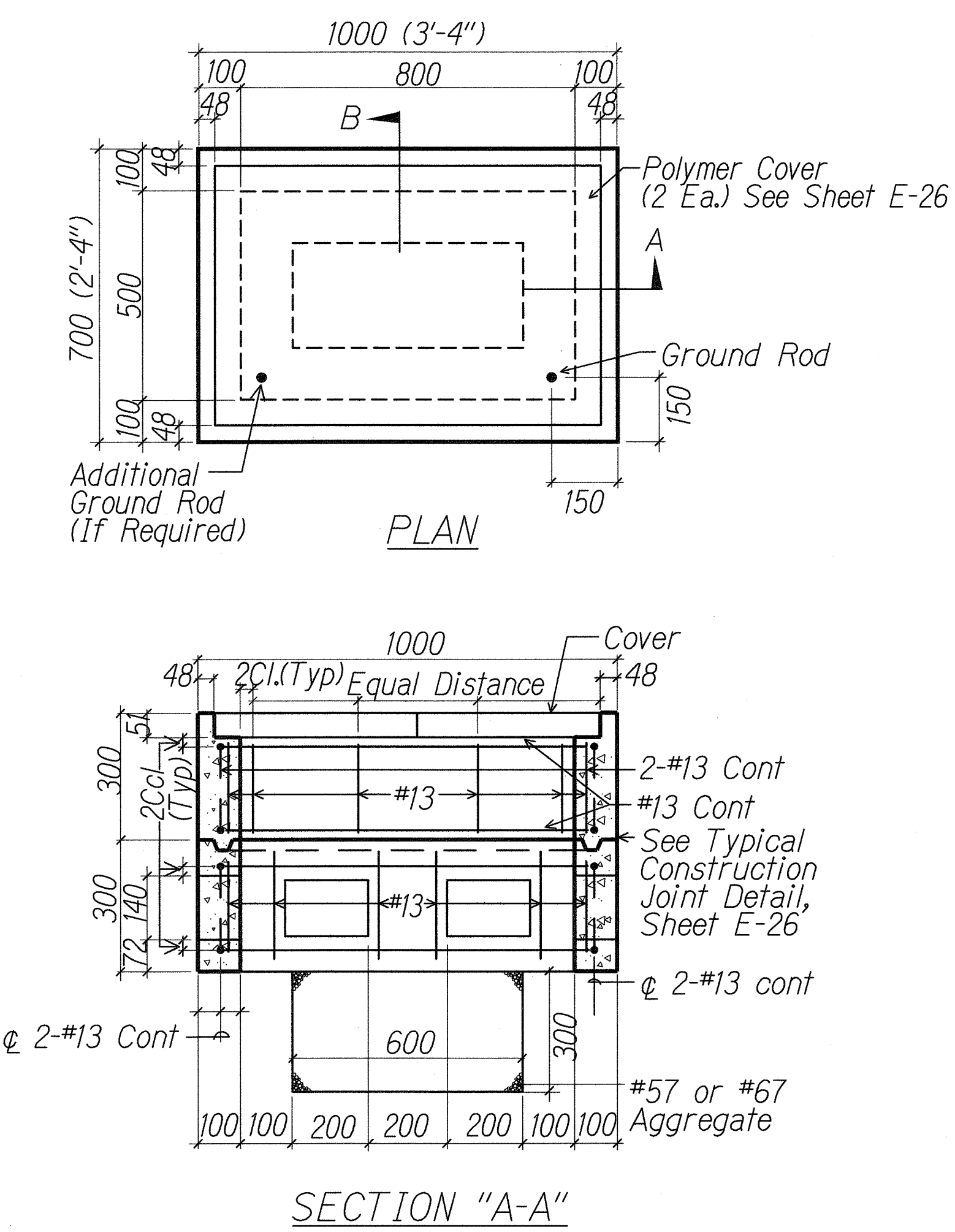
SHEET No. E1-16 OF 21 SHEETS

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

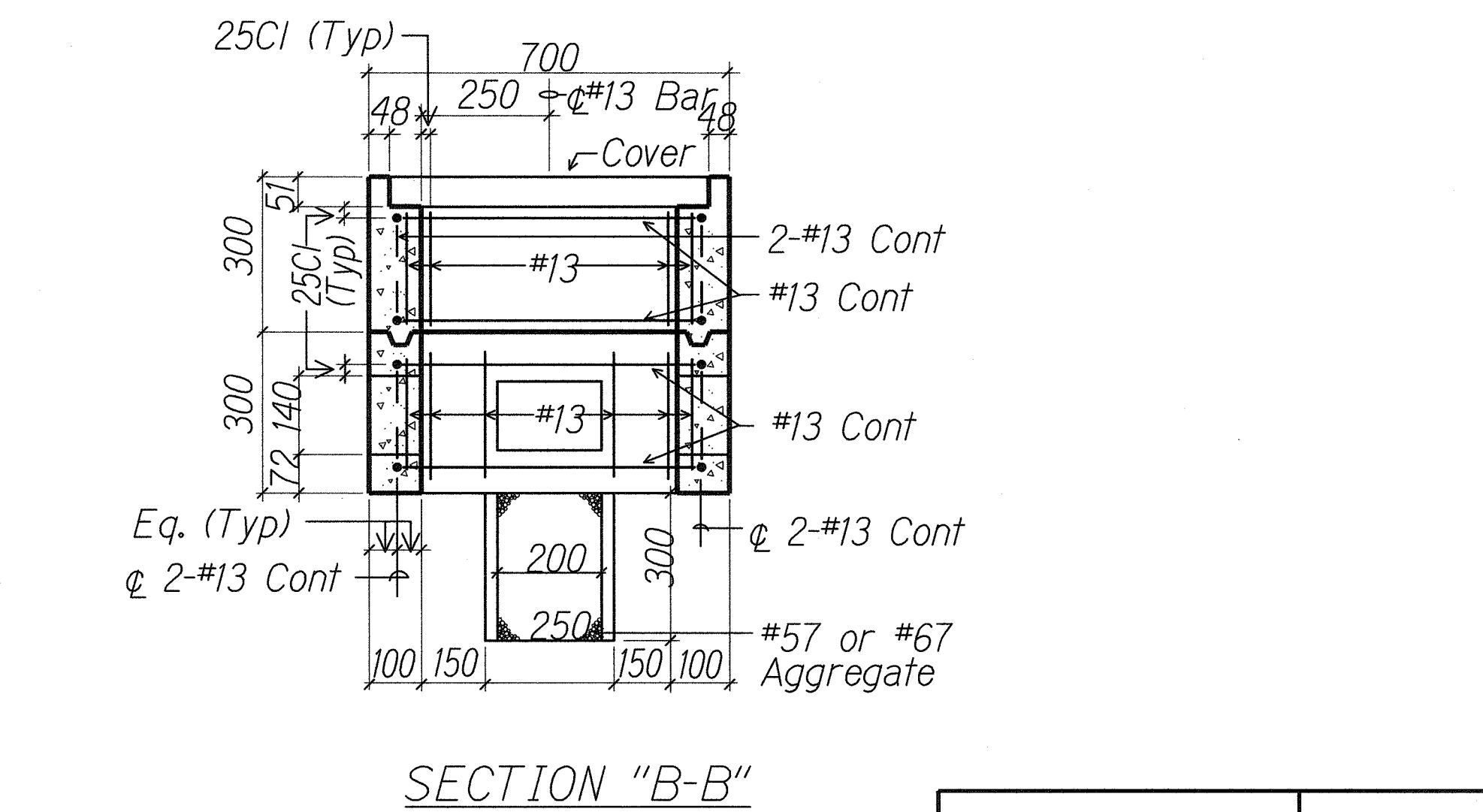
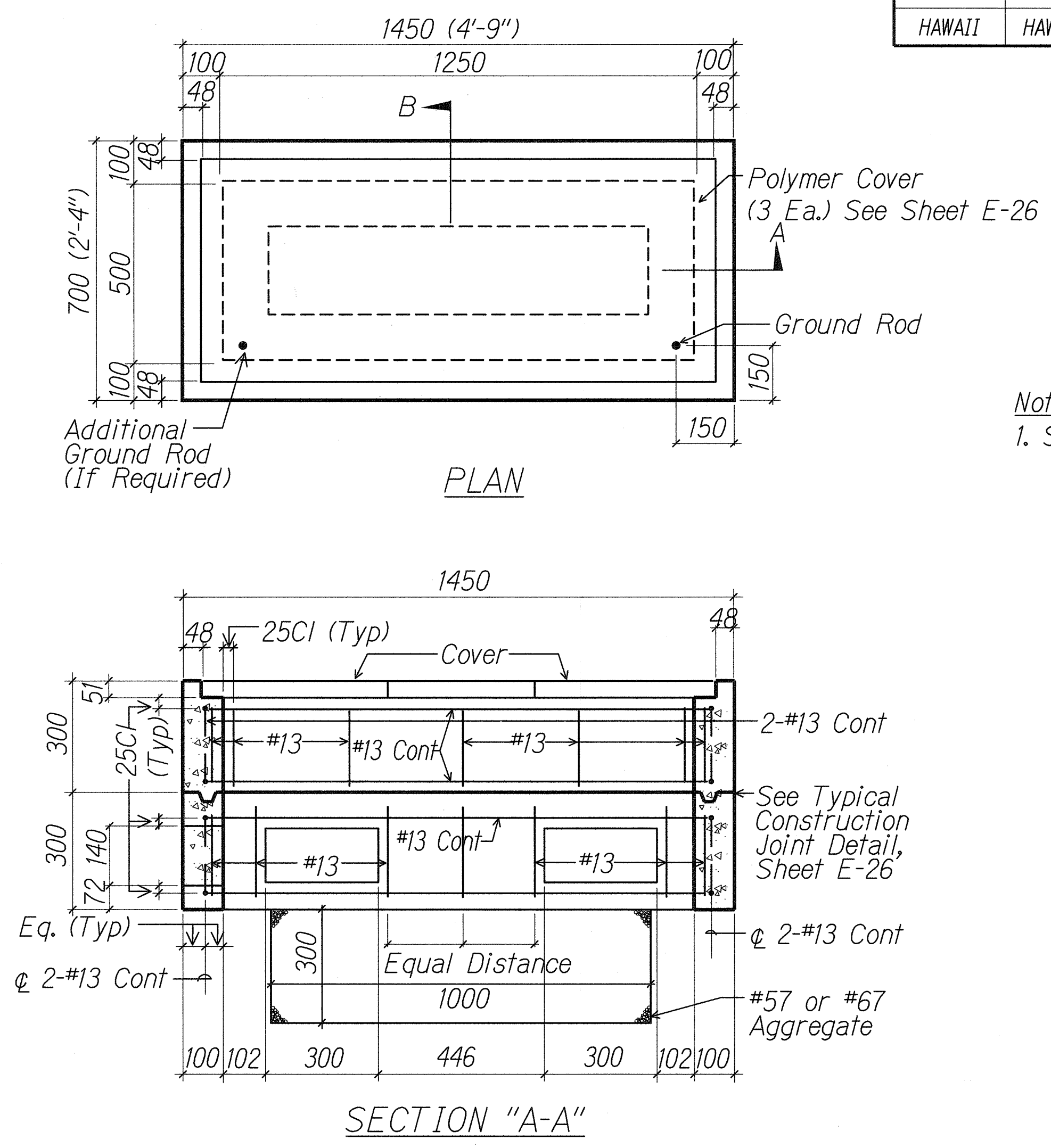
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HAWAII	HAW.	CMAQ-076-1(9)	2006	115	160



A TYPE "A" PULLBOX
E1-1 E1-18 NOT TO SCALE



B TYPE "B" PULLBOX
(OLD TYPE "C")
E1-1 E1-18 NOT TO SCALE



C TYPE "C" PULLBOX
(OLD TYPE "D")
E1-1 E1-18 NOT TO SCALE

Note:
1. See Sheet E1-19 For Cover Detail & Notes.

DATE	
SURVEY PROVIDED BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
IN CHARGE	

2/8/11

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LICENSE EXPIRATION DATE: 4/30/12
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OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

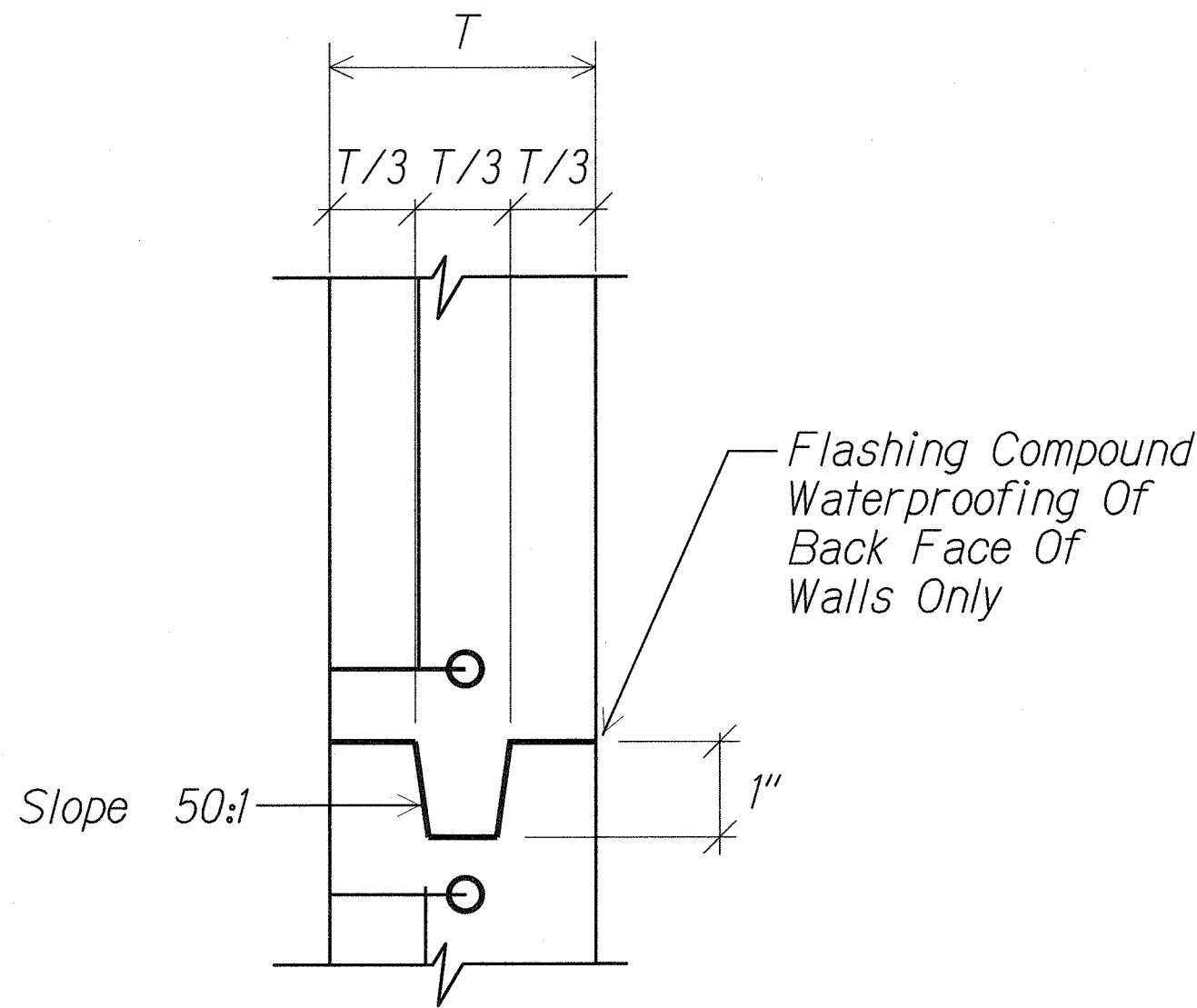
PULLBOX DETAILS

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

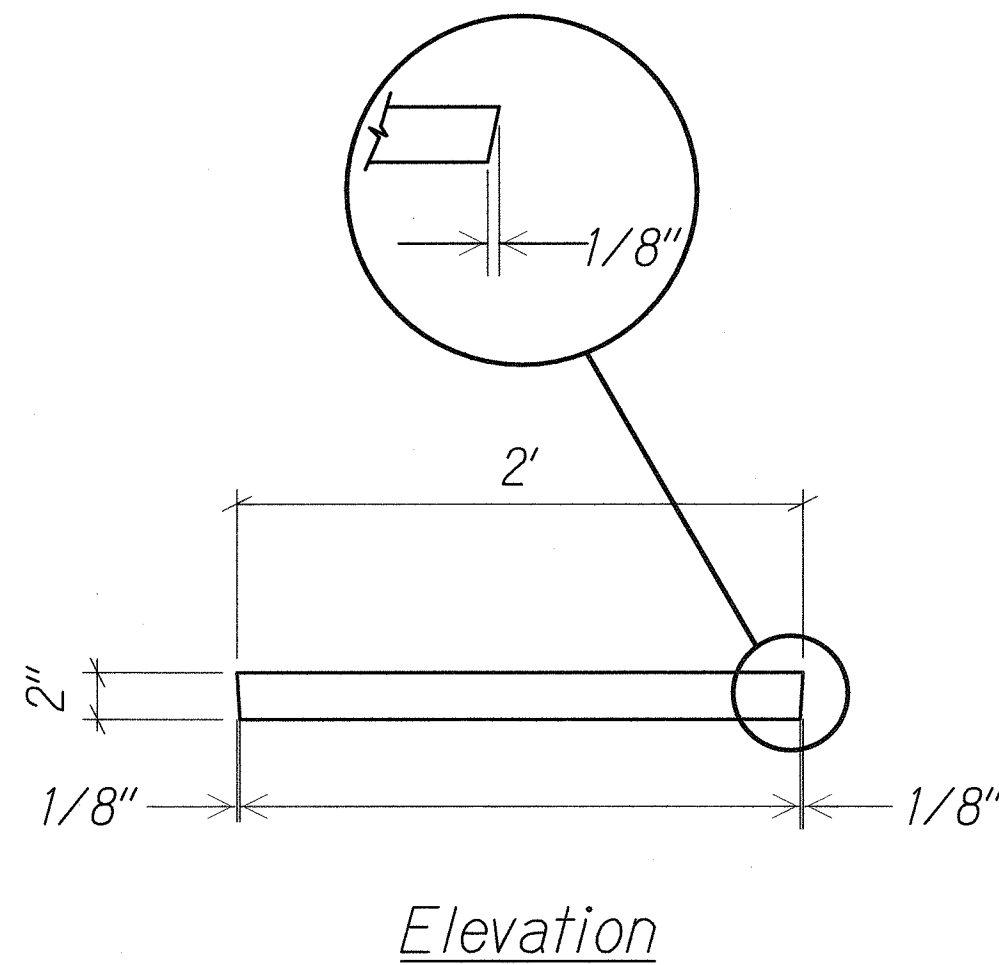
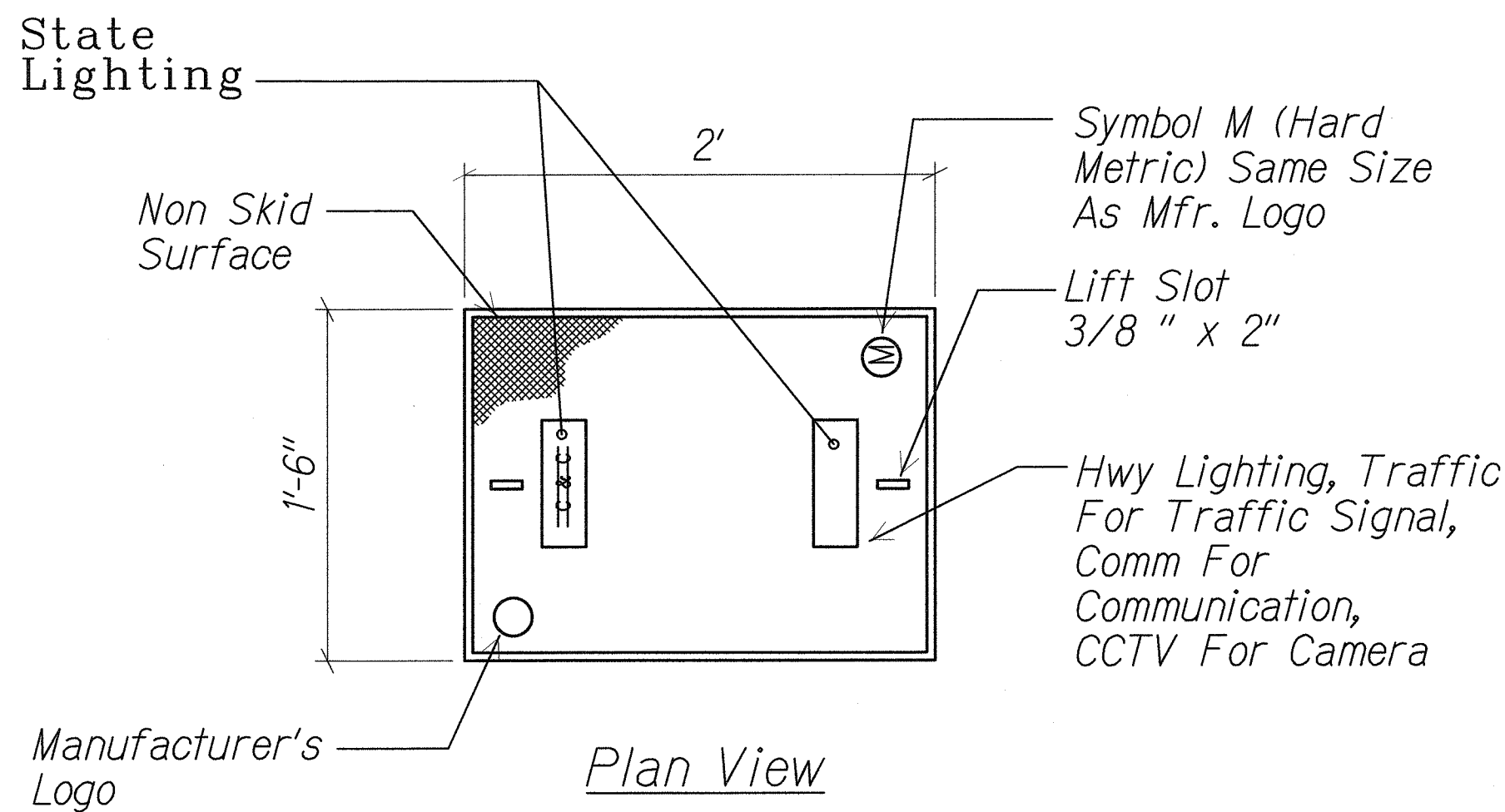
Scale: Not to Scale Date: Sept 20, 2007

SHEET No. E1-18 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	116	160



A TYPICAL CONSTRUCTION JOINT DETAIL
E1-18 E1-19 NOT TO SCALE



POLYMER CONCRETE COVER
NOT TO SCALE

GENERAL NOTES:

1. Provide a Minimum Of One 16 Dia. x 2.5m Copperweld Ground Rod In Each Pullbox. When Directed By The Street Light Inspector/Engineer, Install Additional Ground Rods. Cost Of Ground Rods Shall Be Incidental To The Pullboxes.
2. All Pre-Cast Concrete Pullboxes Sshall Be Manufactured In Two Pieces.
3. The Pullbox With Cover Shall Be Capable Of Supporting An MS 18 Loading.
4. The Maximum Weight Of The Pullbox Cover Shall Not Exceed 27 Kilograms.
5. The Openings For The Conduits On All Pullboxes Shall Be Pre-Cast Concrete knockouts.
6. After Installing The Conduits In The Openings Of The Pullboxes, The Contractor Shall Fill The Excess Opening In The Pre-cast Knockouts With Concrete Mortar.
7. Prior To Installing The Pullboxes, The Contractor Shall Level The Bottom Of The Trench And Achieve a Minimum Of 95% Relative Compaction Of The Bottom Of The Trench.
8. All Concrete Shall Be Class A (25MPA, Min).
9. Rebars Shall Be Grade 300 And All Lapped Spaces Shall Be 360 mm Minimum.
10. The #57 or #67 Size Aggregate Shall Conform To Latest Version Of AASHTO M43 (ASTM D 448).
11. Pullbox Shall Be Installed In a Location Protected From Vehicular Traffic (I.E. Raised Sidewalk, Behind A.C. Curbs, Street Light Standard Or Pipe Guards).

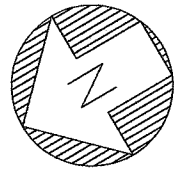
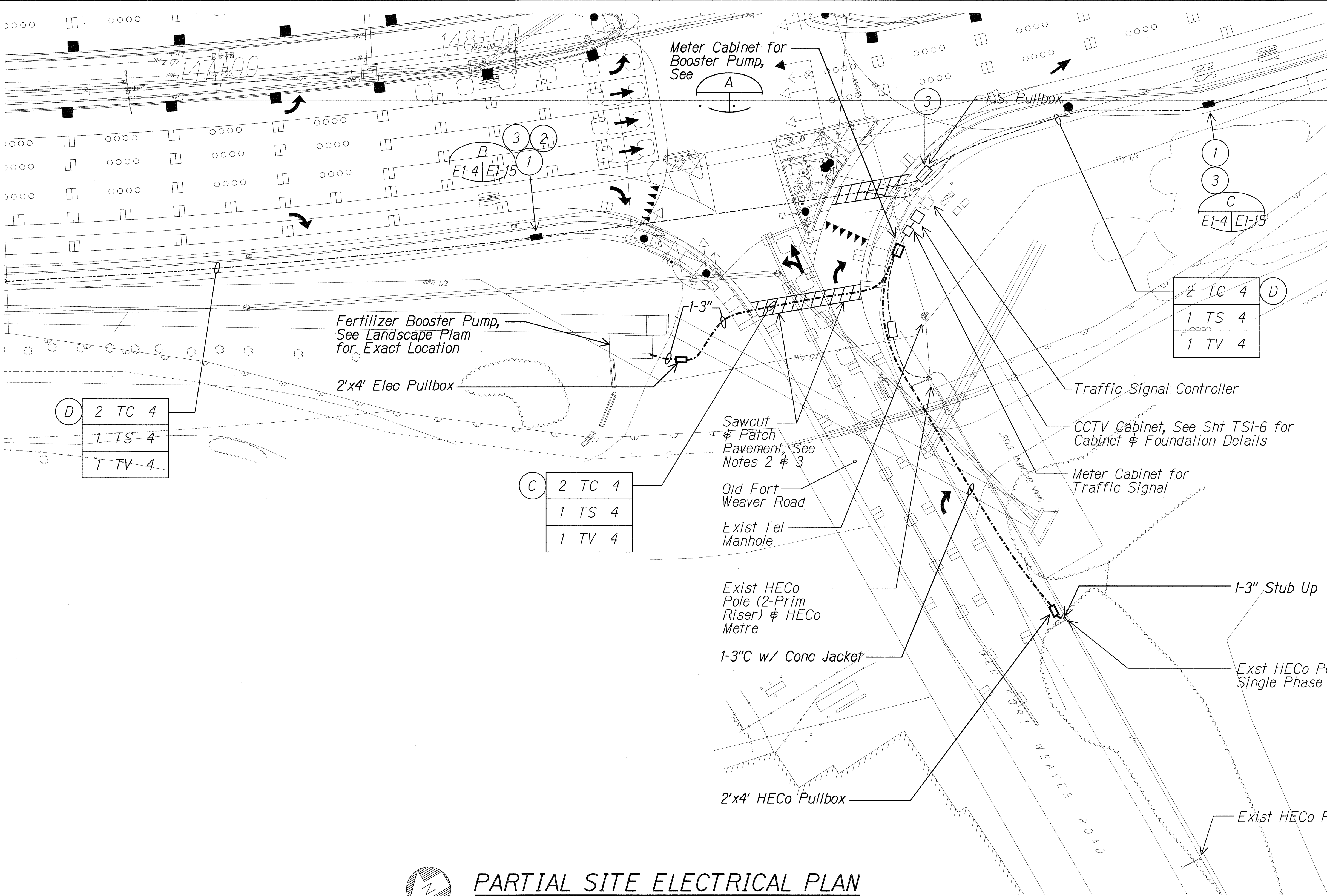
LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PULLBOX DETAILS

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: Not to Scale Date: Sept 20, 2007

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	C.O. 116S-1	160



PARTIAL SITE ELECTRICAL PLAN
 Scale: 1" = 20'-0"

06030-E1-20

ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

3/1/2011

ME ENGINEERS, LTD.
 LICENSE EXPIRATION DATE: 4/30/12
 THIS WORK WAS PREPARED BY ME
 OR UNDER MY SUPERVISION.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

PARTIAL SITE ELECTRICAL PLAN

FORT WEAVER ROAD WIDENING
 VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: Date: June 6, 2008

SHEET No. E1-20 OF 21 SHEETS

METER PEDESTAL NOTES:

1. Wireways Shall Have The Minimum Dimensions Shown In The Table. The Bottom of The Wireway Must Accept a 3-Inch (Minimum Conduit).
2. Service Conductors Shall Terminate On Landing Lugs. The Service Termination Lugs Must Be #6 Through 250 kcmil Pressure-Type Cu-Al Listed. Insulated Cables or Bus Shall Be Installed Between The Landing Lugs And The Commercial By-Pass Facility.
3. The Meter Shall Be Enclosed. The Enclosure Cover Shall Be Hinged And Weigh Not More Than 25 Pounds. Allow a Minimum Clearance Of 11 Inches From The Face Of The Meter Socket To The Enclosure Cover. The Enclosure Cover Shall Have a Demand Reset Cover Constructed Of Steel. The Reset Cover Shall Have a Hinged Polycarbonate - Viewing Window. With The Minimum Dimensions as Dshown In Figure "D".
4. Do Not Install Ringless Sockets.
5. Internal Equipment Shall Be Secured Without Screws or Nuts On The Outer Surface Of The Enclosure That May Be Loosened From The Outside.
6. Customer Section Shall Include:
A. Panel With Main CB & Branch CBs With Interrupting Rating Indicated
7. Provide a Protective Metallic Barrier (16-Gauge Minimum) Between The Power Company Wireway And Customer Distribution Section. The Protective Barrier Shall Not Have a Clearance More Than 1/4-Inch Between The Power Company Wireway And Customer Section To Prevent Screws And Bolts From Protruding Into The Termination Section. All Unmetered (Line Side of Meter) Bus or Cable Shall Be Separated By Suitable Barriers From Metered (Load Side of Meter) Bus or Cable.
8. The Pedestal Shall Be Supplied With Commercial By-Pass Blocks With Rigid Insulating Barriers Wired or Bussed To The Meter Socket By The Manufacturer. Connection Sequence is Line To Load From Left To Right. Identify Each Line And Load Position With 3/4-Inch (Minimum) Block Letter Labeling. Seal Commercial By-Pass Cover Panels, And Fit Them With a Lifting Handle. For Panels Exceeding 16 Inches Wide, Install Two Lifting Handles.
9. All Power Ccompany Compartments (Meter Cover, Demand Reset Cover, And Pull Section) Shall Have Provisions For The Power Company's Seal or Padlock.
10. Install Warning Labels Including High Voltage And Instructing Personnel To Stay Clear of The Enclosure, On The Wireway Pull Section Cover And In Front Of The Meter Section Hinged Cover.
11. Enclosure Similar To Pacific Utility Products USP-M015 Series, or Tescoflex 27-000 Models.

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	C.O. 116S-2	160

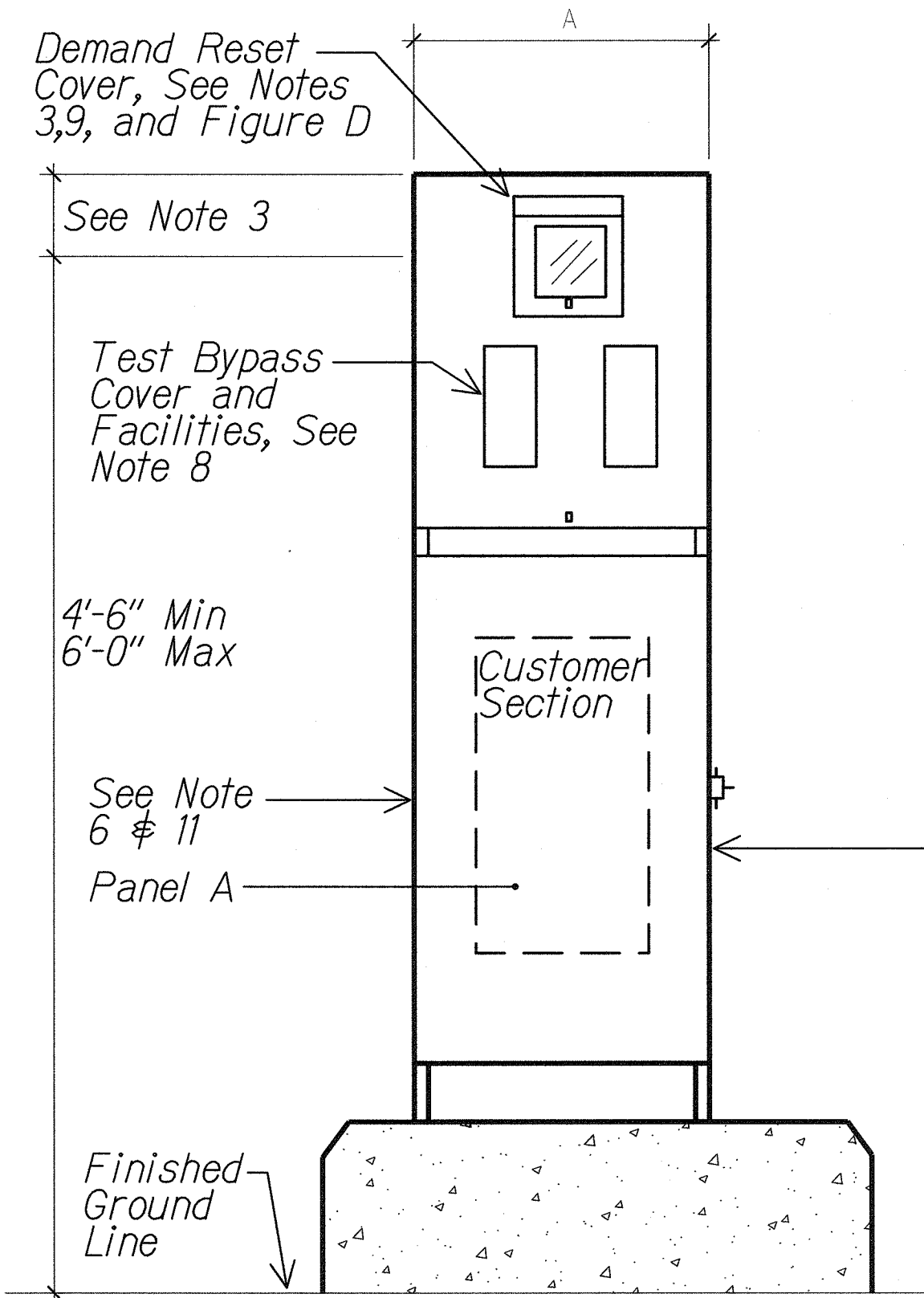


FIGURE "A"
Front View

All Dimensions, Single Phase Service

W	A	B	C
10.5"	20"	11"	9"

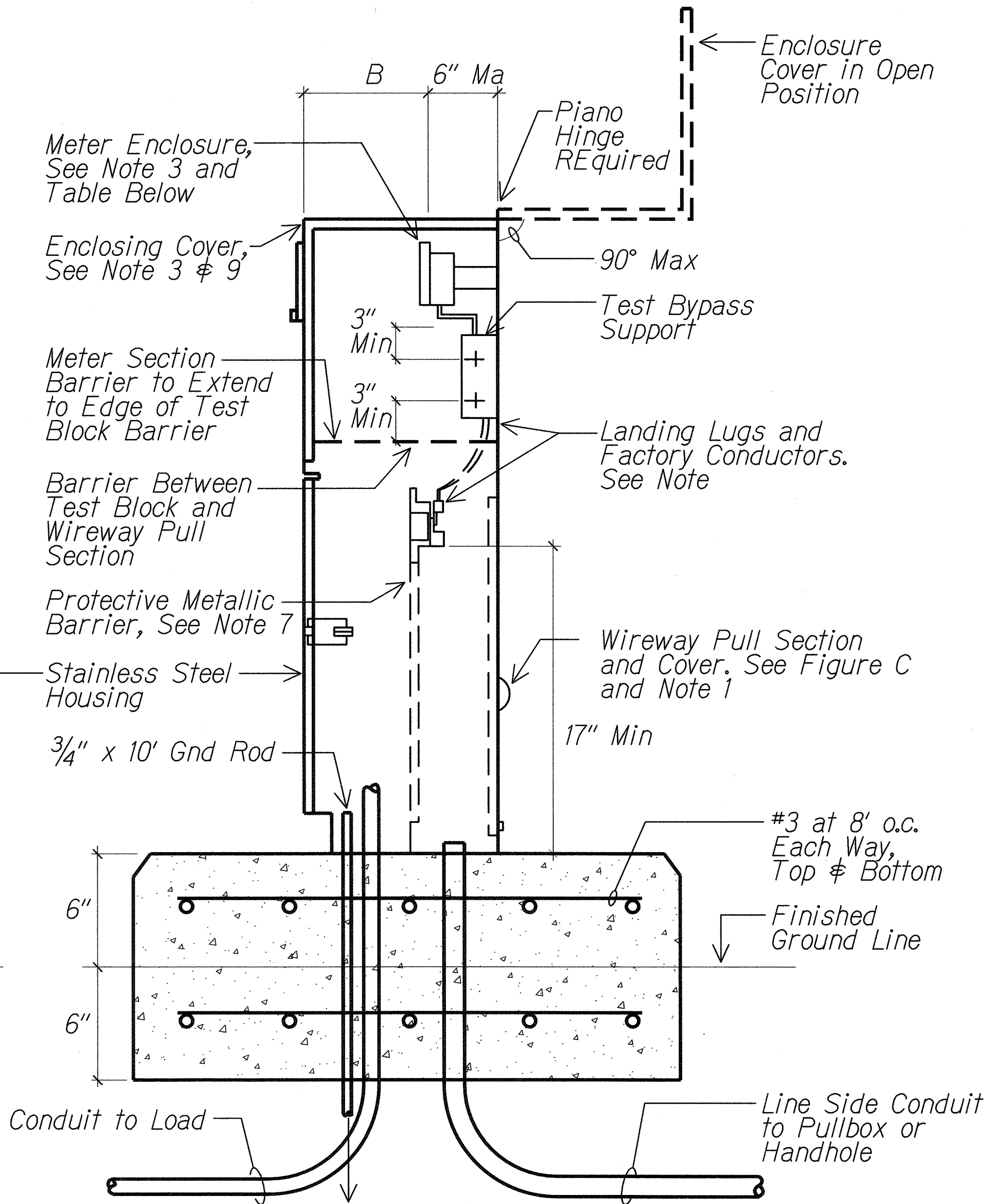
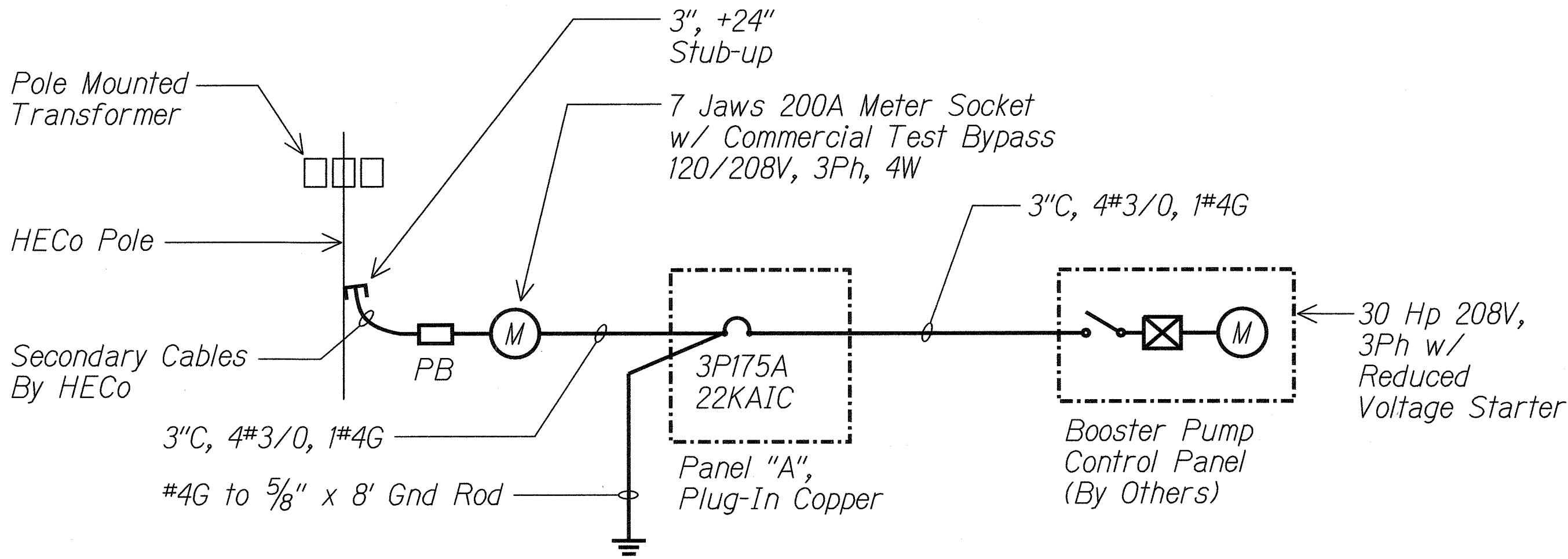


FIGURE "B"
Front View

All Dimensions are Minimums



METER PEDESTAL ONE-LINE DIAGRAM

NTS

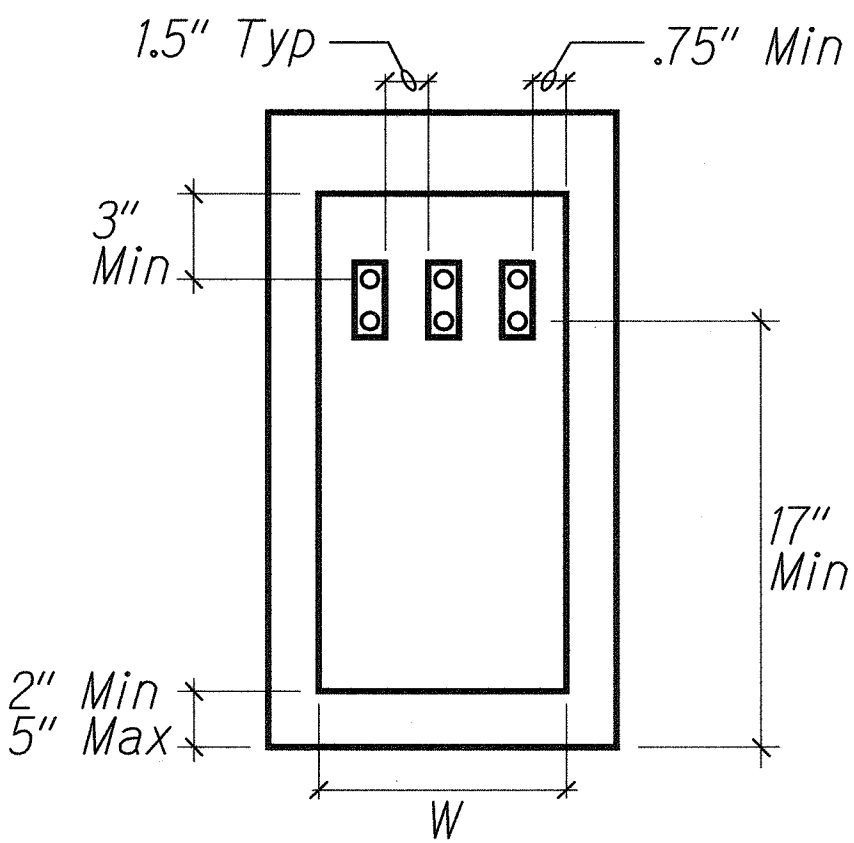


FIGURE "C"

Wireway Pull Section

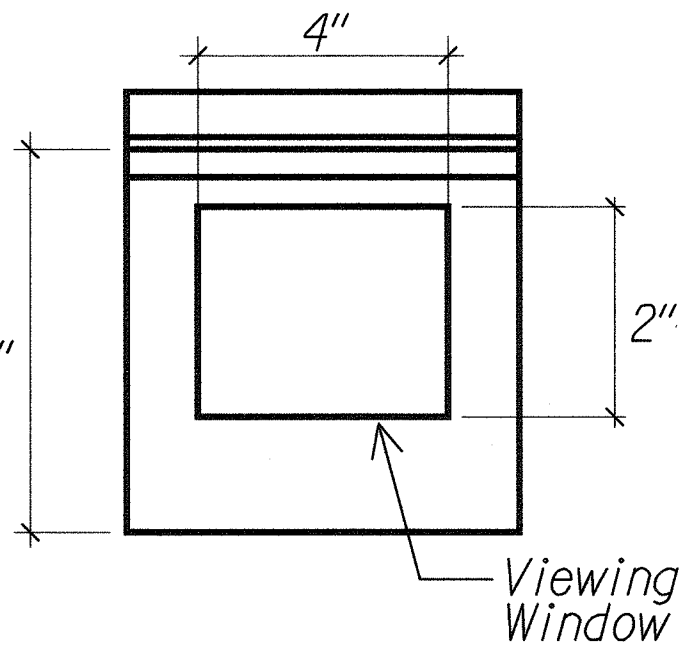


FIGURE "D"

METER PEDESTAL DETAIL

NTS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
METER PEDESTAL DETAIL

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: Not to Scale Date: June 6, 2008

SHEET No. E1-21 OF 21 SHEETS

C. KATAHARA
REGISTERED PROFESSIONAL ENGINEER
No. 3181-E
HAWAII, U.S.A.
2/25/2011

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