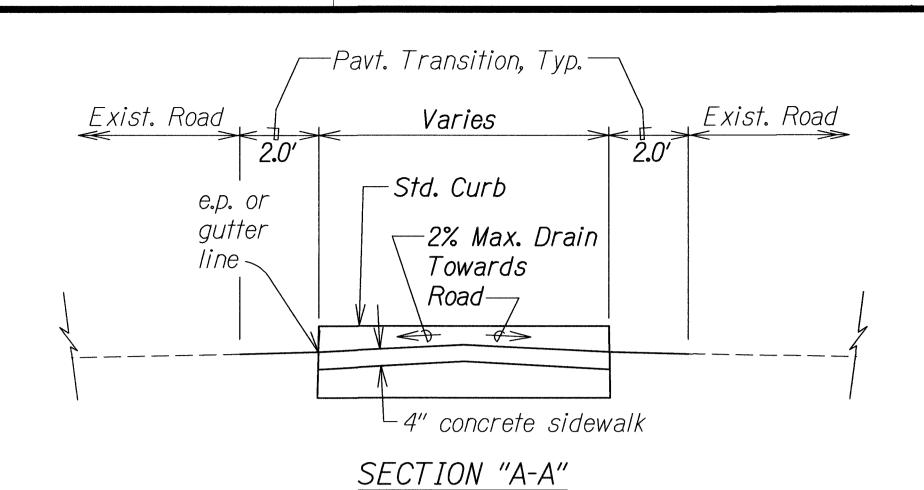
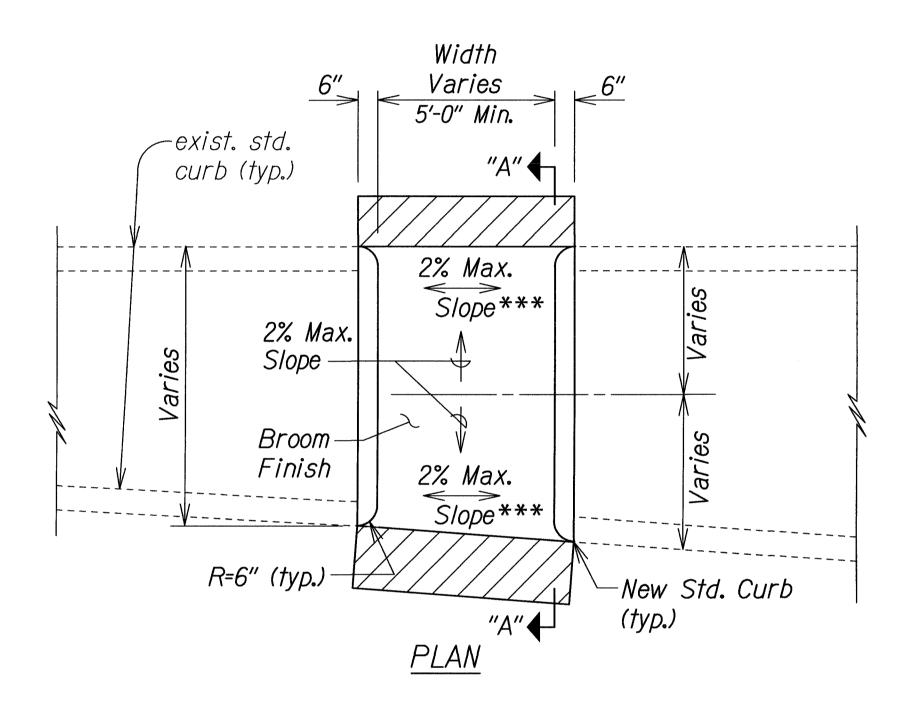
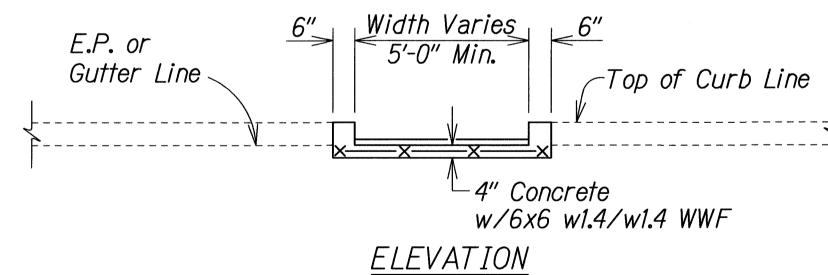


ADD.22S-1







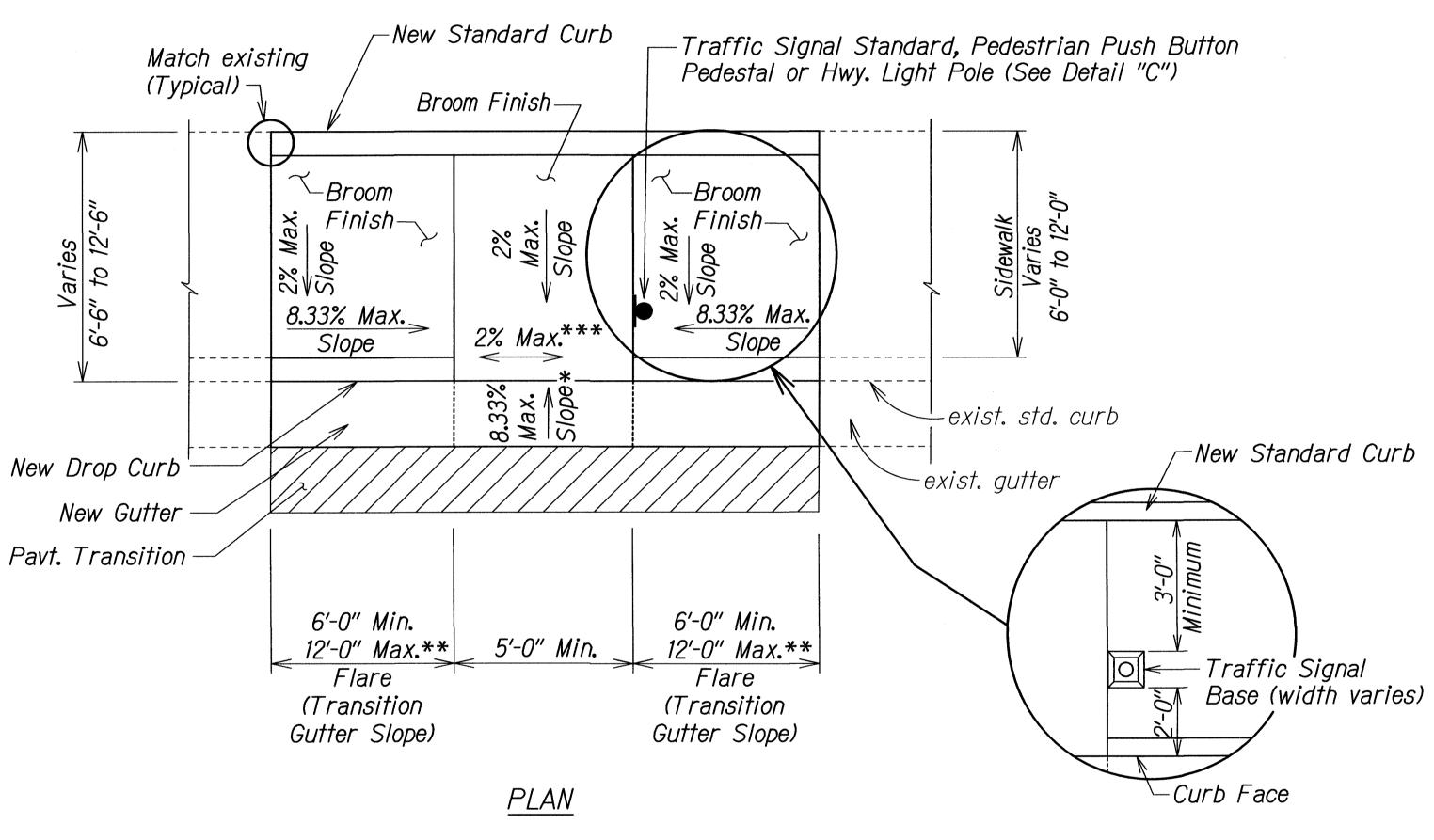
CURB RAMP - TYPE "C" (SPECIAL)

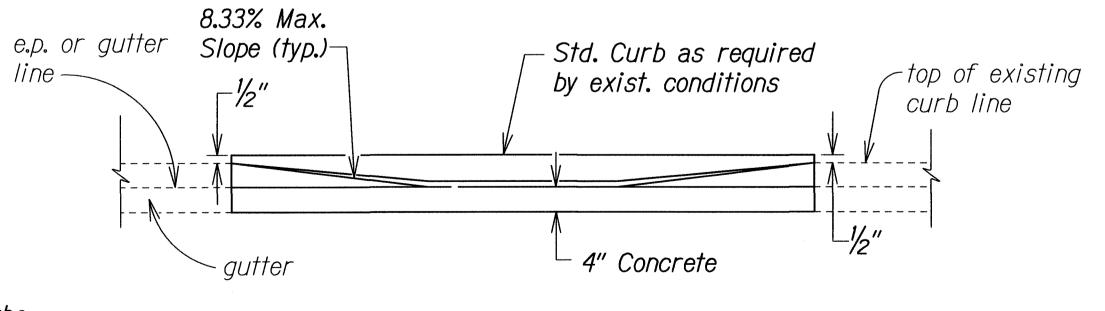
USE AT MEDIAN CROSSINGS, ISLANDS

- * See Curb Ramp and Sidewalk Note No. 9
- ** The slope of the ramp shall take precedence over the length of the ramp. If the maximum slope of a ramp cannot be met within a length of 12 feet, then the slope of the ramp shall be set when the length of the ramp is set at the maximum of 12 feet.
- *** If Roadway Slope >2% Conform to Roadway Slope and File Technical Infeasibility (TI) Statement

Pavement Exist. Road Transition Varies New 6'-0" to 10'-6" Gutter existing — New Standard curb *─2% Max.* Curb Slope 8.33% Max. Slope* -4" Concrete w/6x6 w1.4/w1.4 WWF

TYPICAL SECTION





<u>ELEVATION</u>

CURB RAMP - TYPE "B" MODIFIED

SIDEWALK WIDTH 6'-0" OR GREATER BUT LESS THAN 12'-0" WIDTH 2/4/10 Added New Sheet.

DATE REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FISCAL SHEET YEAR NO.

2009 | ADD.22S-2 | 302

FED. ROAD DIST. NO.

STATE

PROJ. NO.

наw. *NH-092-1(27)*

CURB RAMP DETAILS

<u>NIMITZ HIGHWAY AND</u>

<u>ALA MOANA BOULEVARD RESURFACING</u>

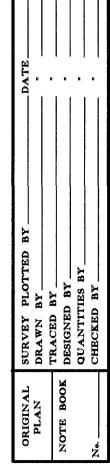
AND HIGHWAY LIGHTING REPLACEMENT

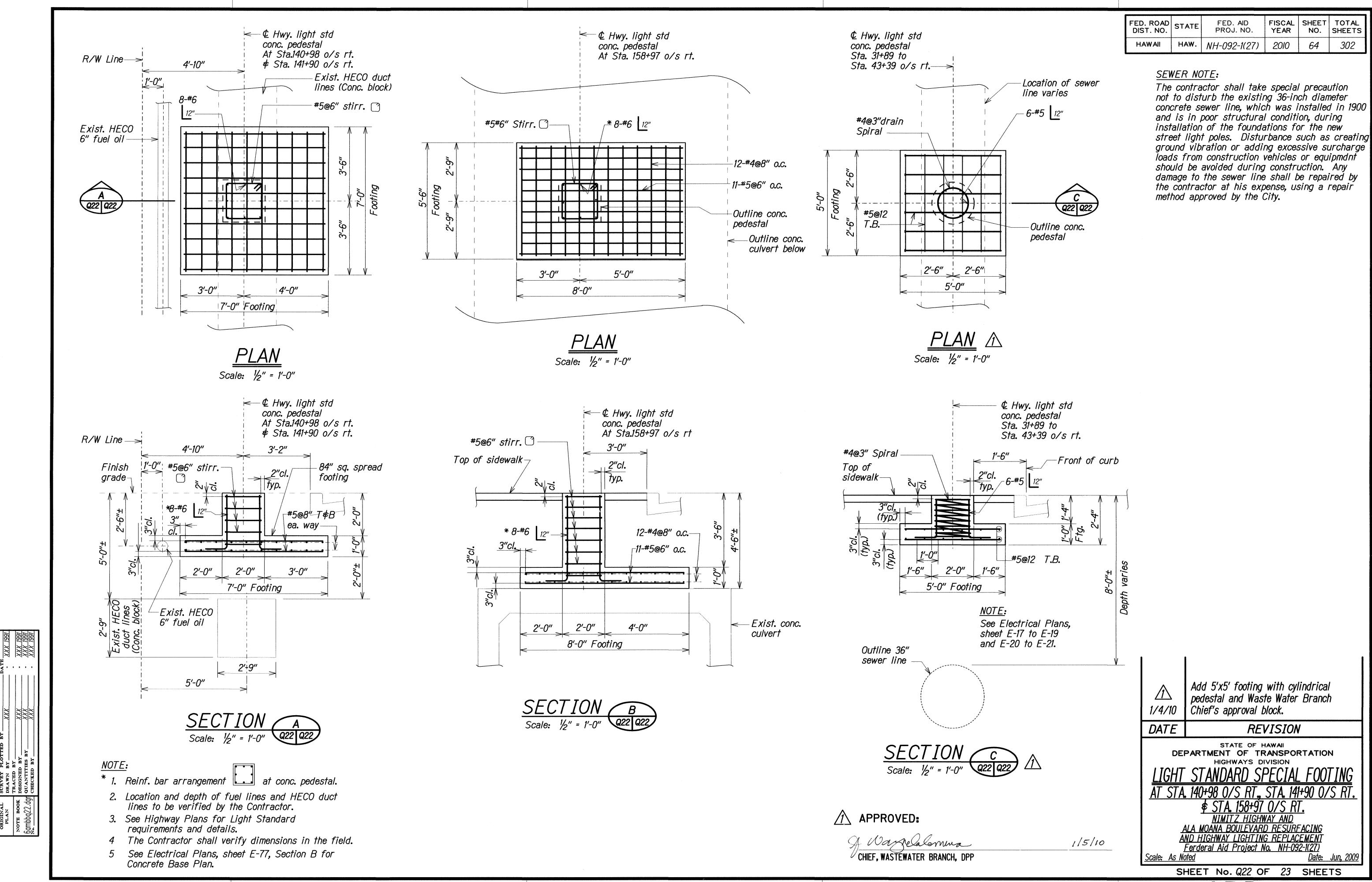
Federal Aid Project No. NH-092-1(27)

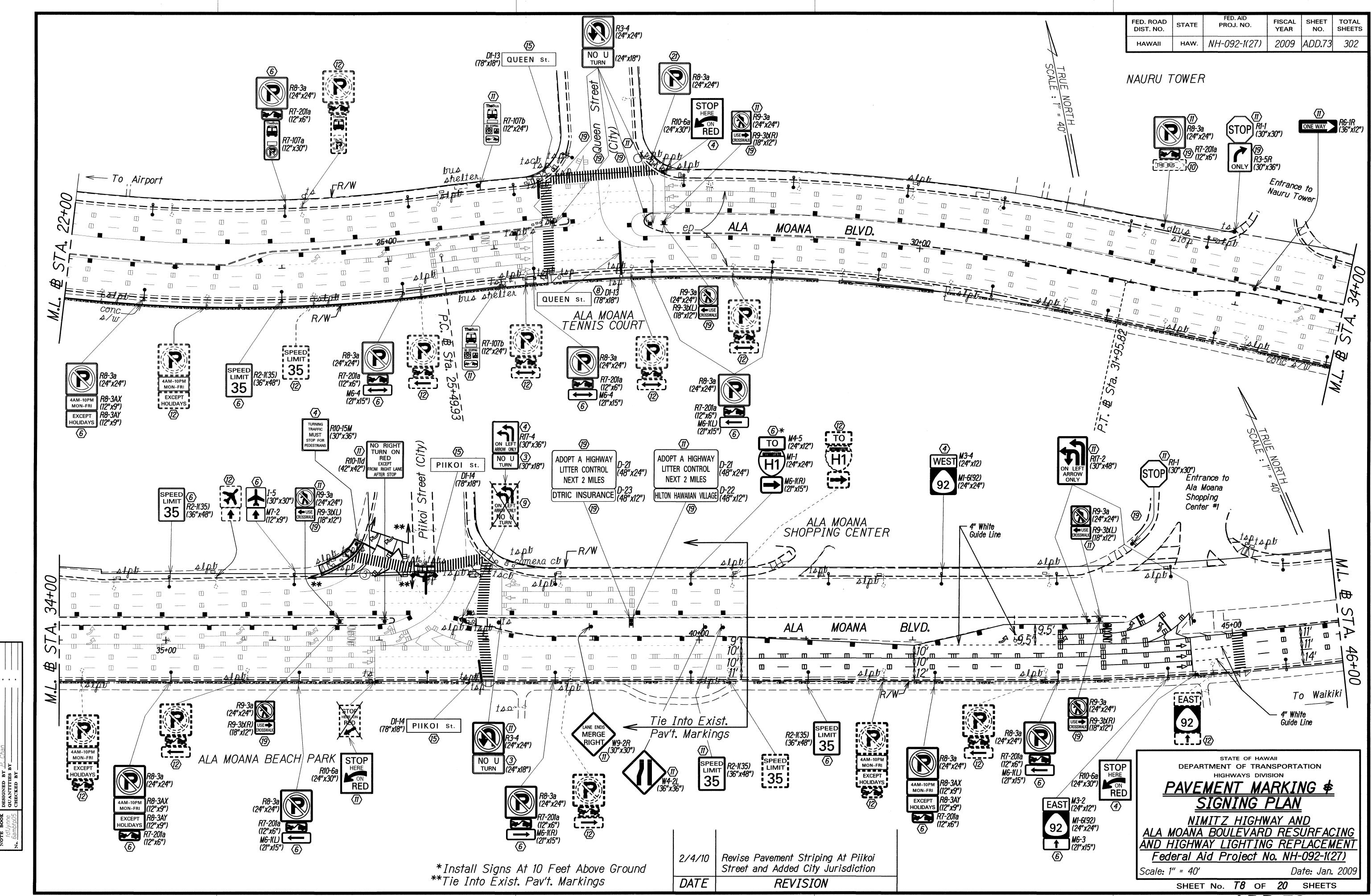
Scale: As Shown Date: Jan. 2010

SHEET No. 2 OF 2 SHEETS

ADD.22S-2







CVAIDAL		0.4	IDO		014	1DOI		
SYMBOL	, DESCRIPTION	SYMBOL		DESCRIPTION	SYMBOL		DESCRIPTION	
XST NEW		EXST	NEW.		EXST	NEW		
) ~Ø	Highway Light Standard		a	Highway Light, Decorative Type "A", 250W HPS			Exst. Pullbox to be Demolished, Cap Exst Condu	
, , , , , , , , , , , , , , , , , , , ,			•••	Luminaire, Alum Pole, Base Cover & Bracket		L × — ¬	& Backfill to 95% Compaction Unless Indicated	
	Highway Light, Decorative Type "B", 250W HPS			Arm, See Detail B/E-72			Otherwise. Repair Pavement to Match Exst.	
	Luminaire, Alum Pole, Base Cover & Bracket Arm,			Highway Light Decorative Type "A", Twin 250W			Pullbox or Handhole, See Plan for Size	
***************************************	See Detail B/E-75				L T J		CATV Pullbox	
	Highway Light, Decorative Type "B", Twin 150W		• •	Arms, See Detail A/E-72	[2]		Hawaiian Telcom (HTCO) Pullbox/Handhole	
•				250W HPS Luminaire, See Highway Light			Hawaiian Telcom (HTCO) Manhole	
,	Arms, See Detail A/E-75			Connection Diagrams BI, BVI, ATI			Hawaiian Electric Co (HECO) Pullbox/Handhole	
	Highway Light, Decorative Type "B", Twin 250W			Highway Light, Decorative Type "B1", 250W HPS		to the second district of the second district	Hawaiian Electric Co (HECO) Manhole	
•			-	Luminaire, Alum Pole, Base Cover & Bracket Arm,			Communication Manhole	
***************************************	Arms, See Detail A/E-75		^	See Detail A/E-78				
	Remove Exst Highway Light Standard, Demolish						Hawaiian Electric Co (HECO) 2' X 4' Pullbox	
(Exst. Conc. Base 3 Ft. Below Finish Grade &							
*	Backfill Pit to 95% Compaction Unless Indicated		(A)	Type I Traffic Signal Standard with Traffic Signal				
	Otherwise. Repair Pavement to Match Exst.	٥{>	←	Head, 10' Unless Indicated Otherwise; Pole "A"		— <i>c</i> —	Communication Ductline	
	See Demolition/Relocation Note 9.			Indicated, See Detail A/E-83	e		Elec Ductline with Cables	
		[5]		Type II Traffic Signal Standard with Traffic Signal	t		Tel Ductline with Cables	
©— →	→ CCTV Camera	iii. ├i>		Heads Mounted on Mast Arm and Standard	V		CATV Ductline with Cables	
0	Warning Flasher, See Det C/E−83				e/t		Elec/Tel Ductline with Cables	
- 	► RYGA ↑ Traffic Signal Head, See Det A/E-80	L{>			sc		Signal Corps Underground Cable	
	\rightarrow RYGA \leftarrow Programmed Visibility Traffic Signal Head,	[<u>Q</u>]		Type III Traffic Signal Standard with Traffic Signal	att		AT&T Ductline with Cables	
•	See Det A/E-80	(,	Heads Mounted on Mast Arm and Standard,		,	Remove Exst Traffic Signal Wiring, Cap Exst	
<u>i</u> >	> RYG Traffic Signal Head, See Det A/E-80			Highway Light Luminaire and Bracket Arm		-*-ts-*-	Ductline & Abandon-In-Place	
<u>i</u> >↓	► RYGA ← Traffic Signal Head, See Det A/E-80						Remove Exst Hwy Lt Wiring, Cap Exst Ductline	
CI3	□ Pedestrian Traffic Signal Head, See Det A/E-81					-*-l-*-	& Abandon-In-Place	
<i>-</i> 55→				Change in Duct Section Designator			Remove Exst Hwy Lt & Traffic Signal Overhead	
	New Pedestrian Pushbutton Shall Meet	e	0	Electrical/Signal Ductline with Designator,		*e/t/v/l/ts-oh*	Lines; Elec, Tel & CATV Overhead Lines to be	
⊙ ⊢⊙.		e		Indicates Type "A" Duct Section with "2-4E"		9,9,9,40 011	Removed By Respective Utility Co	
	Accessibility Guidelines, See Detail B/E-81	(24)	245			-SI -OH-	Street Light Overhead Lines	
H(\$)	Remove Exst Pedestrian Pushbutton	(Z-1L)	A (24f)	Sections and Conduit Schedule.	•	JE OII	Street Light Overhead Lines	
		sl	—SL—				Exst HECO Pole Mtd Transformer to be Remov	
	System Detector Loops, See Sheet L. Or	30	<i>TS</i>			₹^7	by HECO	
	Detector Loops, See Sheet E-84	ts			0		Utility Pole Unless Indicated Otherwise	
<u> </u>	Detector Loops, See Sheet L-04	!		Highway Light Ductline and Wiring	e-oh		Elec Overhead Lines	
	Highway Light Pullbox (Old Type "B")		L		t-oh		Tel Overhead Lines	
	Per D.O.T. Hwys Standard Plan			Stub, Cap and Mark Conduits	v-oh		CATV Overhead Lines	
***************************************		fa						
== ==	Type "A" Metric Highway Light Pullbox			Fire Alarm Ductline & Wiring (City) Motoring Equipment	l-oh		Hwy Lt Overhead Lines	
	(Approx. 22" X 28"), See Detail A/E-85		Metering Equipment	ts-oh		Traffic Signal Overhead Lines		
	Type "B" Metric Highway Light Pullbox			Domesto Frat Transfile Cierral Charles	e/t/v/l/ts-oh	-	Overhead Lines; Elec, Tel, CATV, Hwy Lt &	
	(Approx. 28" X 40"), See Detail C/E-85			Remove Exst. Type I Traffic Signal Standard,			Traffic Signal Lines Indicated	
±3 ⊞	Type "C" Metric Highway Light Pullbox		, P4	Demolish Exst. Conc. Base 3 Ft. Below Finish	g-oh		Overhead Guy Wire	
	(Approx. 28 X 57) , See Detail D/E-85		X- ∗-[‡>	Grade & Backfill Pit to 95% Compaction Unless	>	¥	Guy Anchor	
	Type "A" Metric Traffic Signal Pullbox			Indicated Otherwise. Repair Pavement to Match		ΗÜ	Remove Exst J—Box	
	(Approx. 22 X 28), See Detail A/E-85			Exst.	H[<u>]]</u>	HJ	J—Box, See Plan for Size	
1	Type "B" Metric Traffic Signal Pullbox	Ī						

__Light No., Circuit No. (Ckt 9, Phases A & B Indicated)

← Sta. No., Offset from Baseline

─ Bracket Arm Length, Light Distribution

← Additional Base Information, See Sheet Indicated

Type "C" Metric Traffic Signal Pullbox

See Detail A/E-92

(Approx. 28" X 57"), See Detail D/E-85

Type "C" Metric Communication Pullbox

Type "B" Metric Communication Pullbox

(Approx. 28" X 57"), See Detail D/E-85

(Approx. 28" X 40"), See Detail C/E-85

"Type A" Metric Street Light (City) Pullbox,

1 6, 9AB

3 15', 111

2 122+36, 0/S 16' Lt

4 For Base, See Sht Q23

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-092-1(27)	2009	ADD. 87	302

<u>SYMBOL NOTES:</u>

1. "X" Through Symbol Indicates Item to be Removed.

<u>UTILITY LEGEND</u>:

----w16--- Exst Water Line, 16" Dia Indicated

—— g6—— Exst Gas Line, 6" Dia Indicated

——s8— Exst Sewer Line, 8" Dia Indicated

—d24— Exst Drain Line, 24" Dia Indicated

—— f6—— Exst Fuel Oil Line, 6" Dia Indicated

Exst Water Manhole Exst Water Valve

Exst Water Meter Exst Sewer Manhole

Exst Storm Drain Manhole

Exst Catch Basin

TRAFFIC SIGNAL CABLES:

Type 2: Vehicular Detector Lead-In/Pedestrian Push Button Cable, 2/C #14

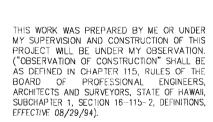
Interconnect Cable, 12 Pr #19 Unless Indicated Type 3: Otherwise

Type 5: Signal Drop Cable, 4/C #14

Opticom Cable, 3/C #20

F.O.: CCTV Cable, 36—Strand (18MM/18SM)







DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION ELECTRICAL SYMBOLS

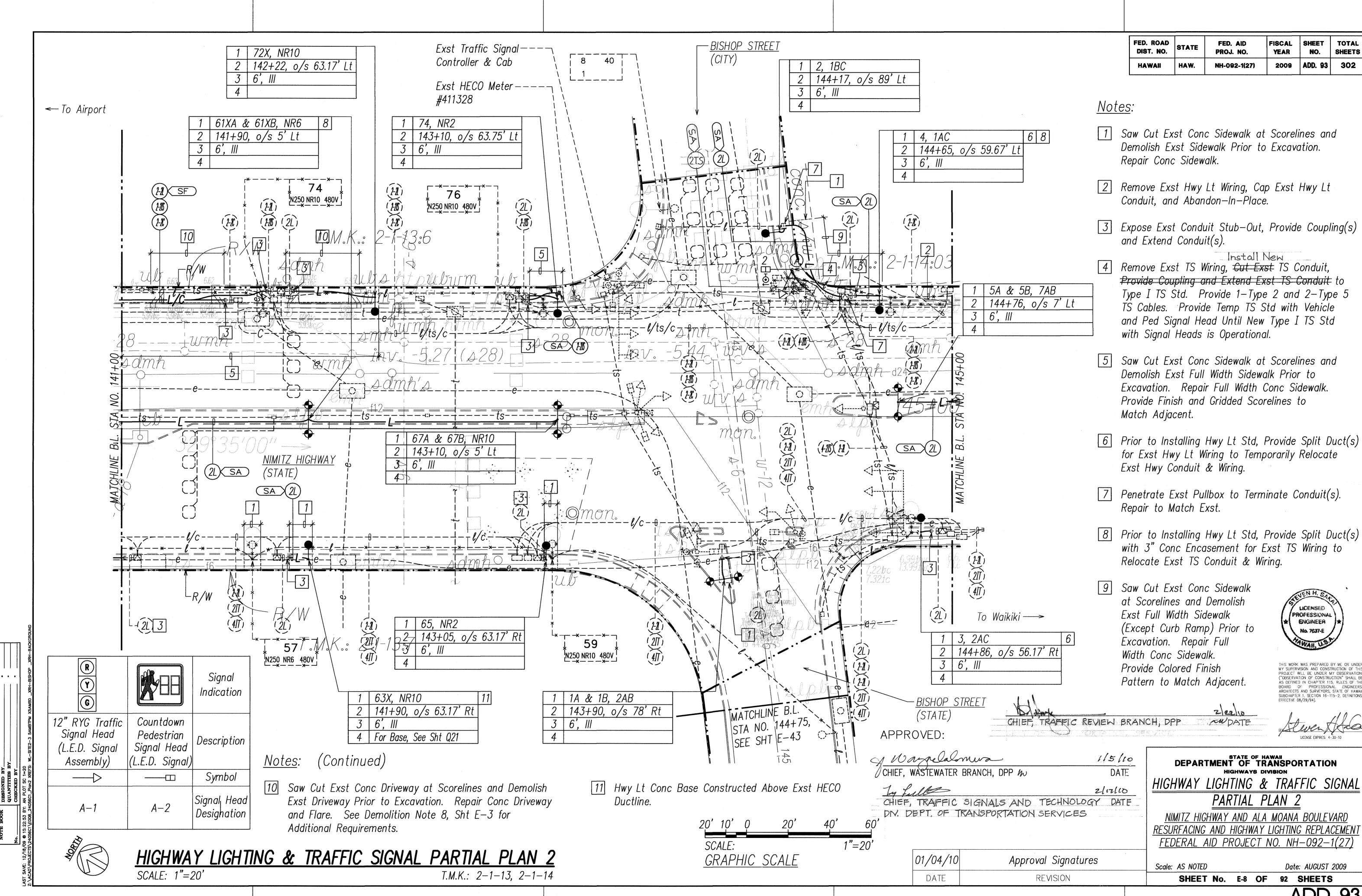
NIMITZ HIGHWAY AND ALA MOANA BOULEVARD RESURFACING AND HIGHWAY LIGHTING REPLACEMENT FEDERAL AID PROJECT NO. NH-092-1(27)

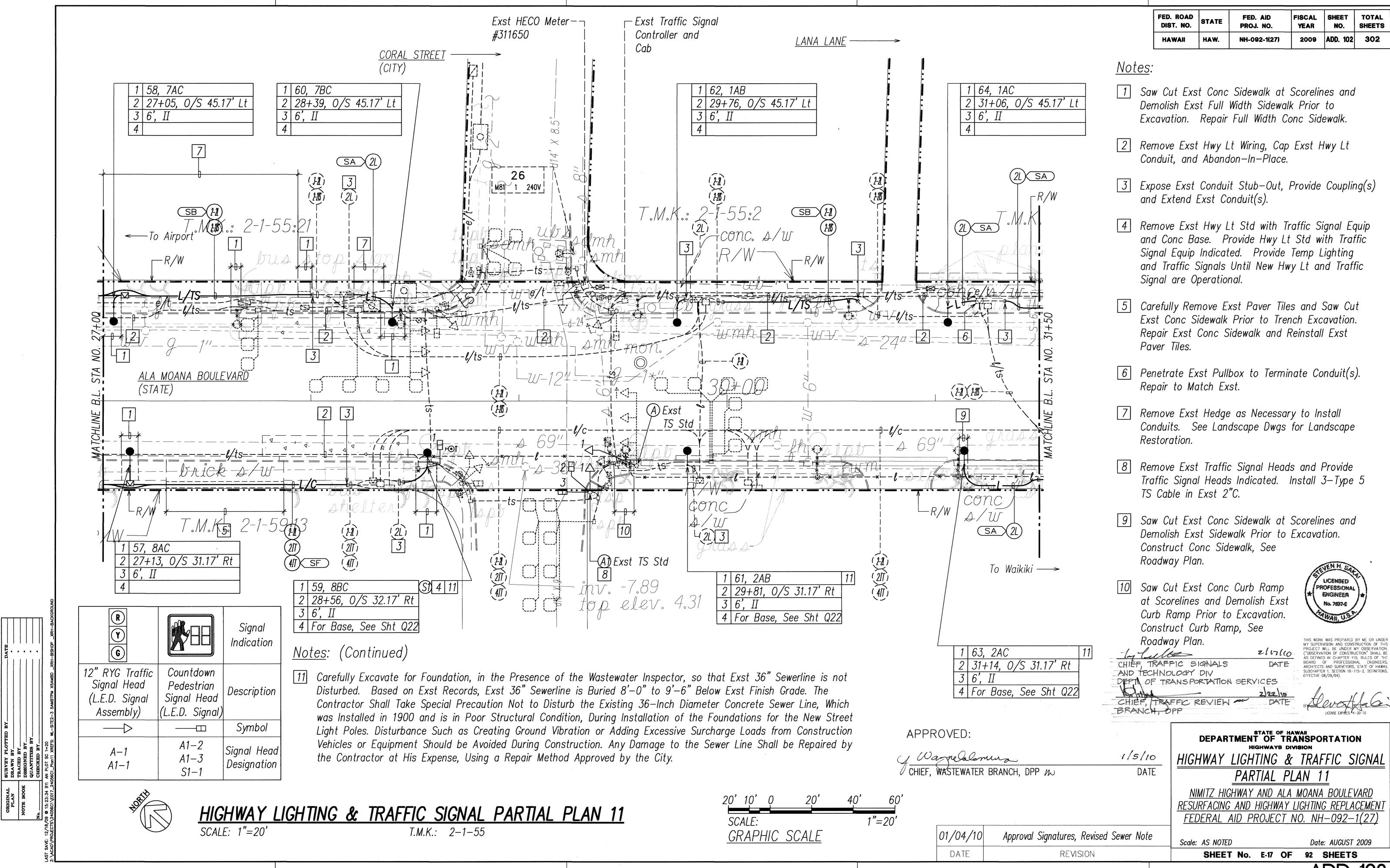
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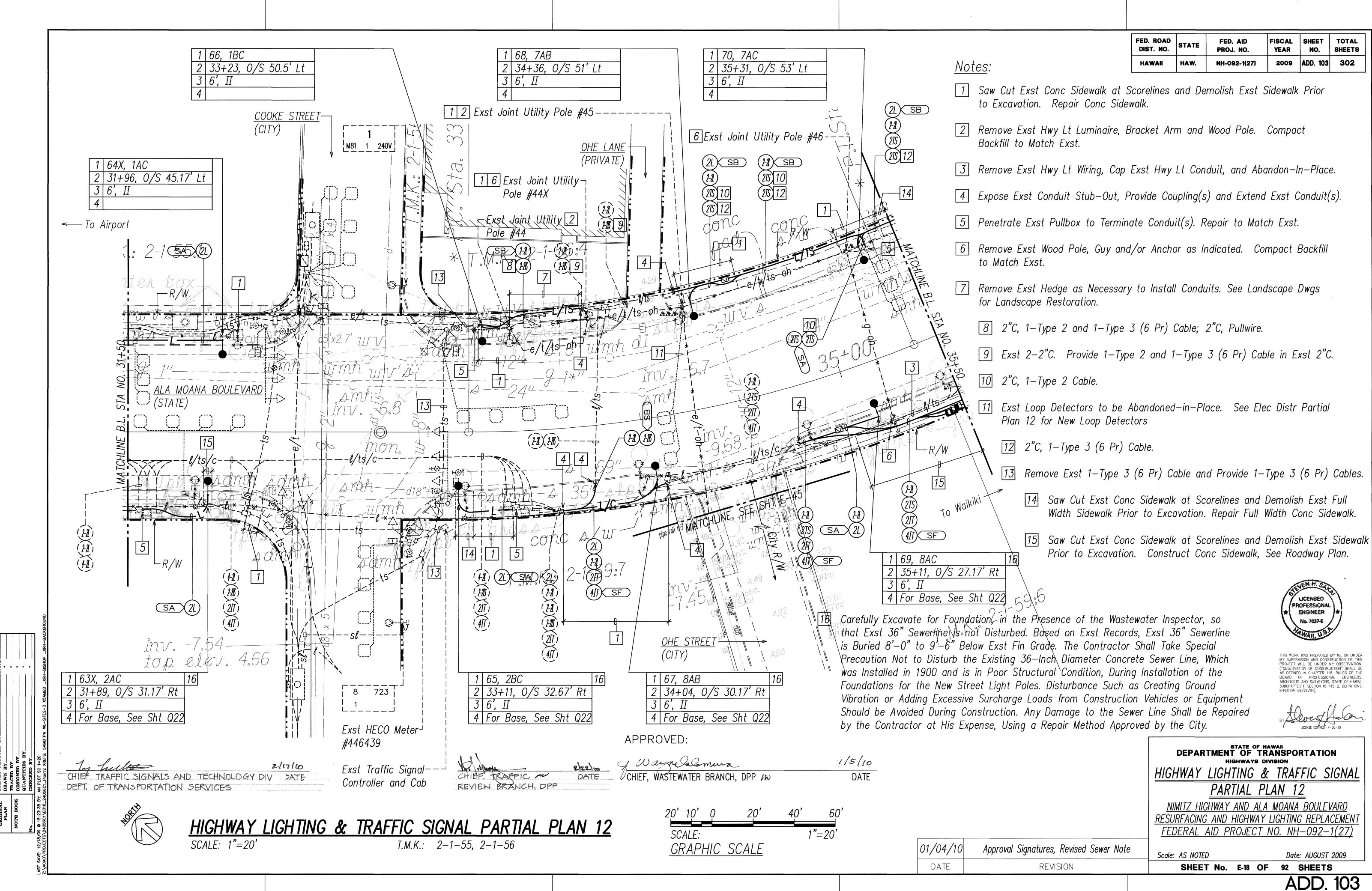
Date: AUGUST 2009 SHEET No. E-2 OF 92 SHEETS

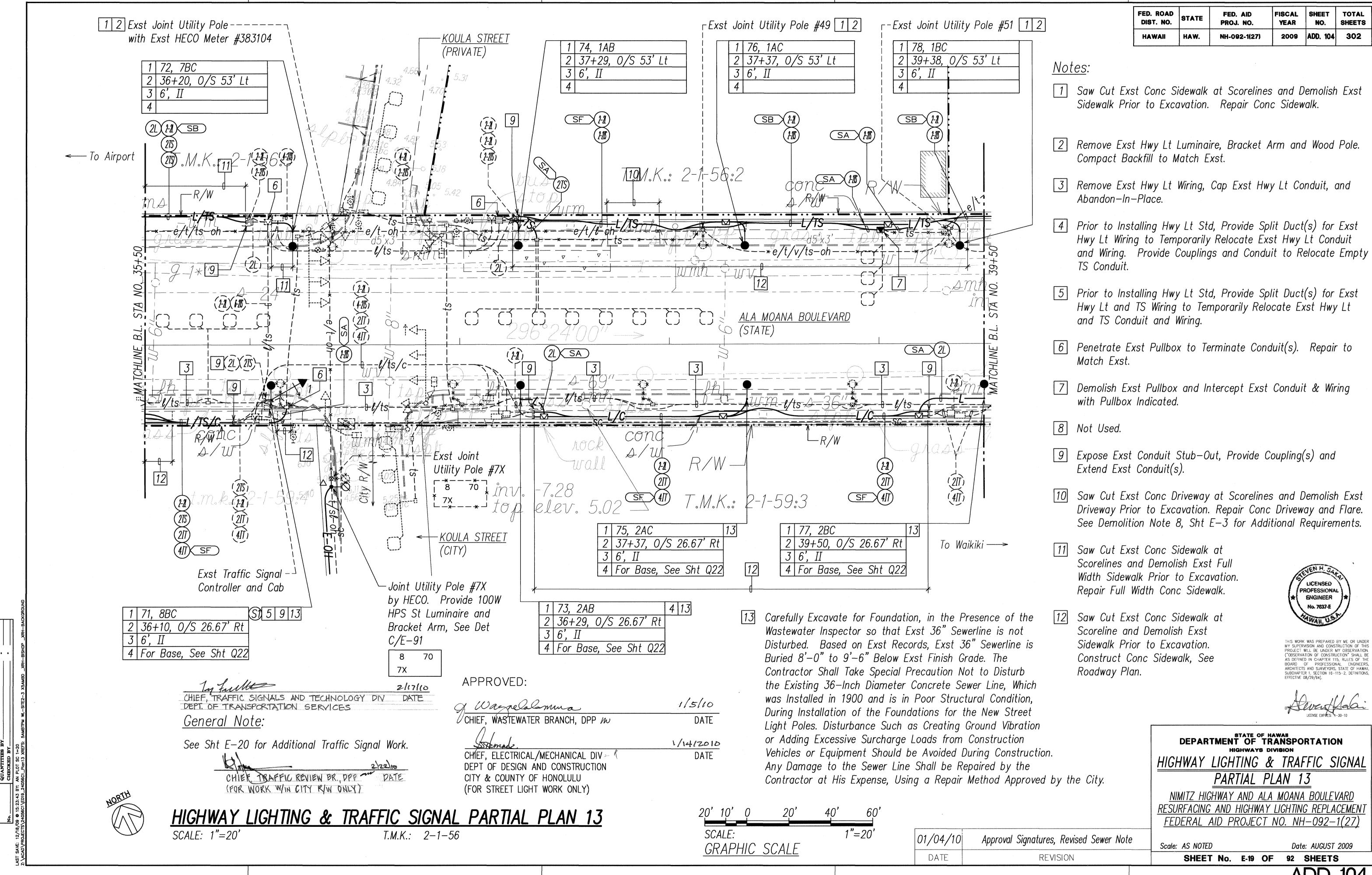
01/04/10 Revised Demo Hwy Lt Sym, Hwy Lt Legend, City St Lt Pb

DATE REVISION

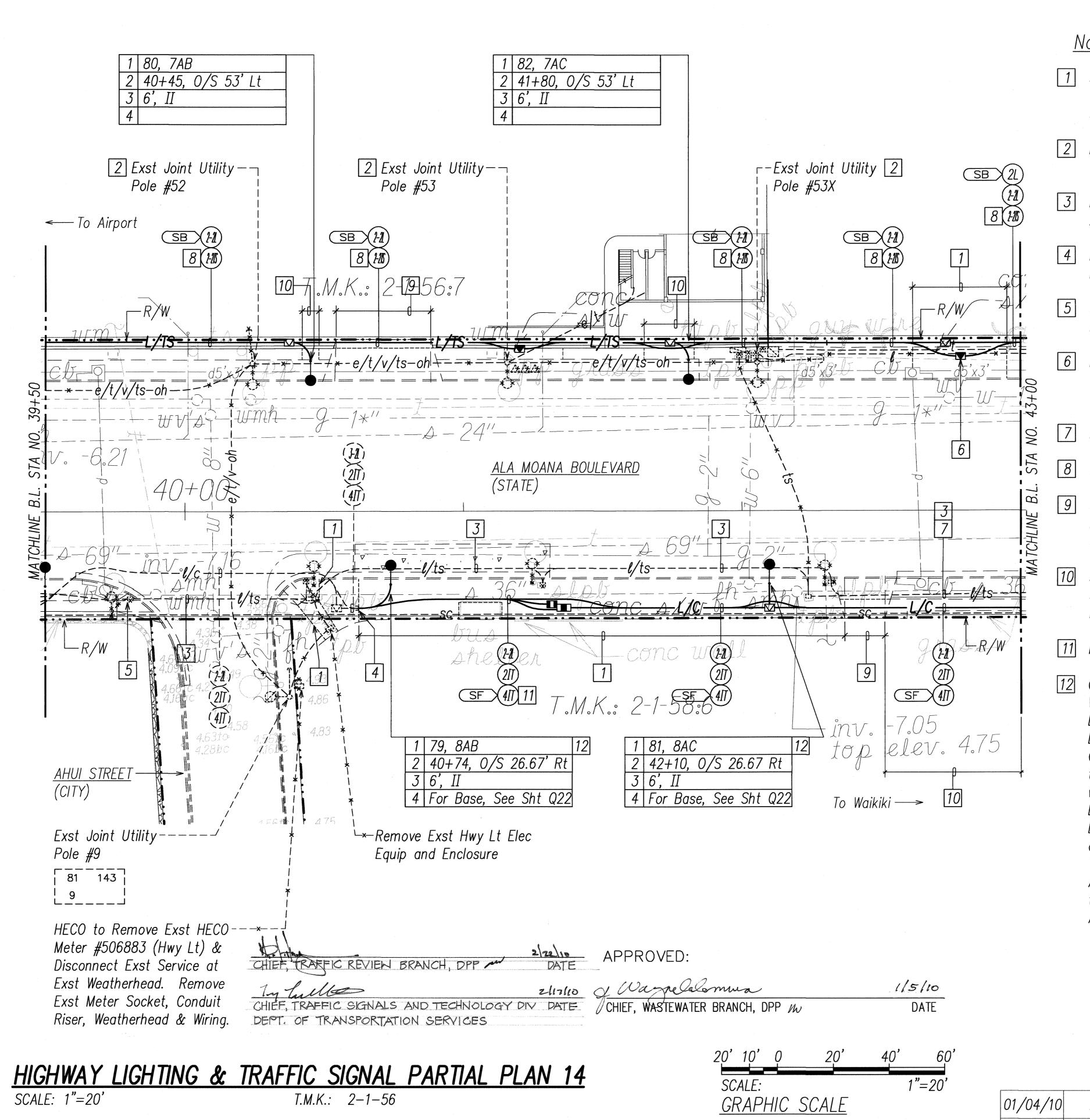








AS DEFINED IN CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII, SUBCHAPTER 1, SECTION 16–115–2, DEFINITIONS, EFFECTIVE 08/29/94).



FED. ROAD DIST. NO. STATE FED. AID PROJ. NO. FISCAL SHEET NO. SHEETS

HAWAII HAW. NH-092-1(27) 2009 ADD. 106 302

<u>Notes:</u>

- 1 Saw Cut Exst Conc Sidewalk at Scorelines and Demolish Exst Width Sidewalk Prior to Excavation. Repair Full Width Conc Sidewalk.
- 2 Remove Exst Hwy Lt Luminaire, Bracket Arm and Wood Pole. Compact Backfill to Match Exst.
- 3 Remove Exst Hwy Lt Wiring, Cap Exst Hwy Lt Conduit, and Abandon—In—Place.
- 4 Expose Exst Conduit Stub-Out, Provide Coupling(s) and Extend Exst Conduit(s).
- 5 Saw Cut Exst Conc Curb Ramp Flare at Scorelines Prior to Excavation. Repair Curb Ramp Flare to Match Exst.
- 6 Prior to Installing Hwy Lt Std or Pullbox, Provide Split Duct(s) for Exst Hwy Lt Wiring to Temporarily Relocate Exst Hwy Lt Conduit and Wiring.
- 7 Remove Exst TS Cable and Provide Pullwire.
- 8 2"C, 1-Type 3 (6 Pr) Cable; 2"C Pullwire.
- 9 Saw Cut Exst Conc Driveway at Scorelines and Demolish Exst Driveway Prior to Excavation. Repair Conc Driveway and Flare. See Demolition Note 8, Sht E-3 for Additional Requirements.
- 10 Saw Cut Exst Conc Sidewalk at Scorelines and Demolish Exst Sidewalk Prior to Excavation. Construct Conc Sidewalk, See Roadway Plan.
- 11 Provide 36" Min Clear between Exst Sewerline and Ductline.
- Carefully Excavate for Foundation, in the Presence of the Wastewater Inspector, so that Exst 36" Sewerline is not Disturbed. Based on Exst Records, Exst 36" Sewerline is Buried 8'-0" to 9'-6" Below Exst Finish Grade. The Contractor Shall Take Special Precaution Not to Disturb the Existing 36—Inch Diameter Concrete Sewer Line, Which was Installed in 1900 and is in Poor Structural Condition, During Installation of the Foundations for the New Street Light Poles. Disturbance Such as Creating Ground Vibration or Adding Excessive Surcharge Loads from Construction Vehicles or Equipment Should be Avoided During Construction. Any Damage to the Sewer Line Shall be Repaired by the Contractor at His Expense, Using a Repair Method Approved by the City.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. ("OBSERVATION OF CONSTRUCTION" SHALL BE AS DEFINED IN CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII, SUBCHAPTER 1, SECTION 16-115-2, DEFINITIONS, EFFECTIVE 08/29/94).



DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGHWAY LIGHTING & TRAFFIC SIGNAL

PARTIAL PLAN 14

NIMITZ HIGHWAY AND ALA MOANA BOULEVARD RESURFACING AND HIGHWAY LIGHTING REPLACEMENT FEDERAL AID PROJECT NO. NH-092-1(27)

Scale: AS NOTED

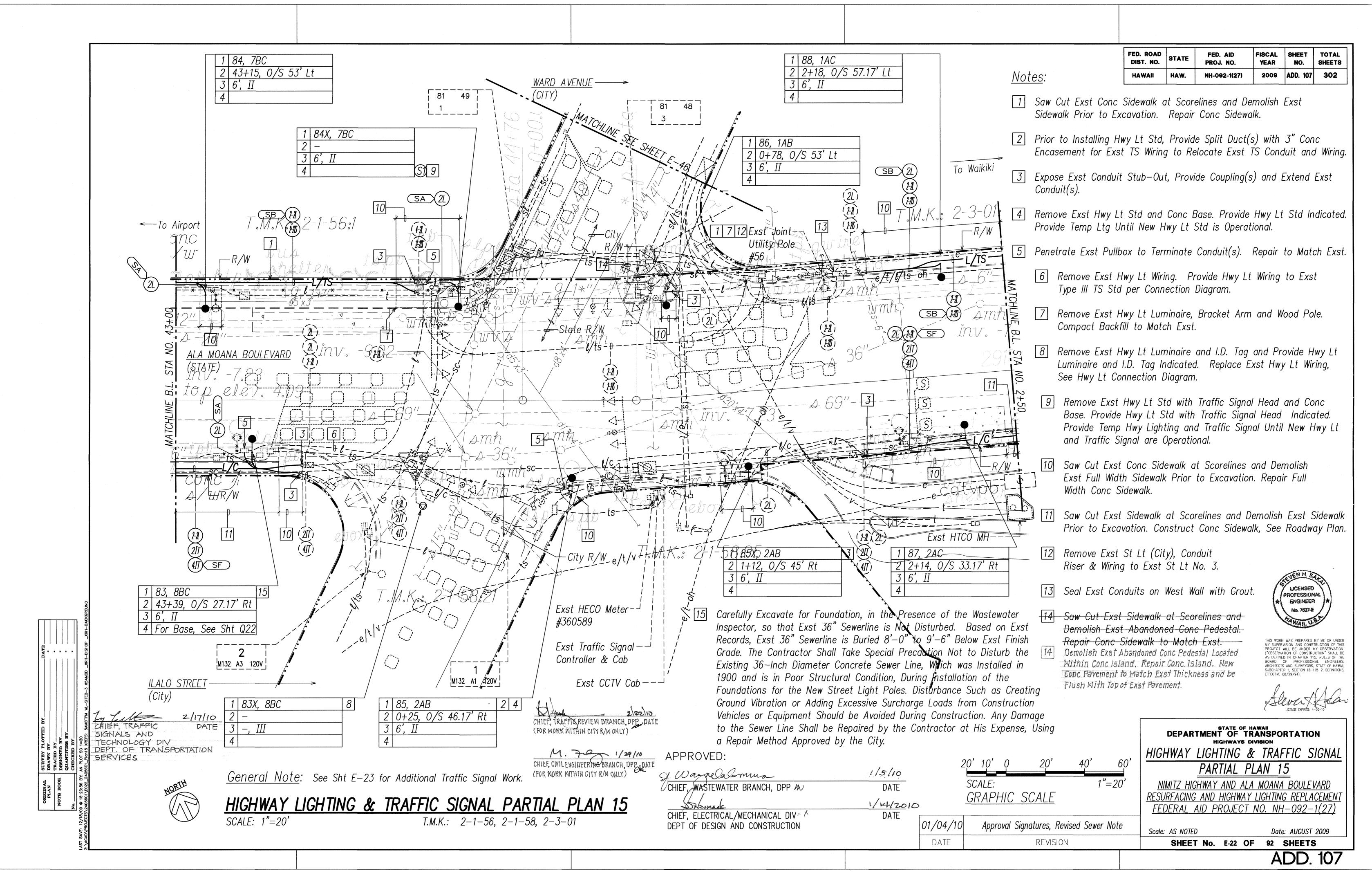
Date: AUGUST 2009

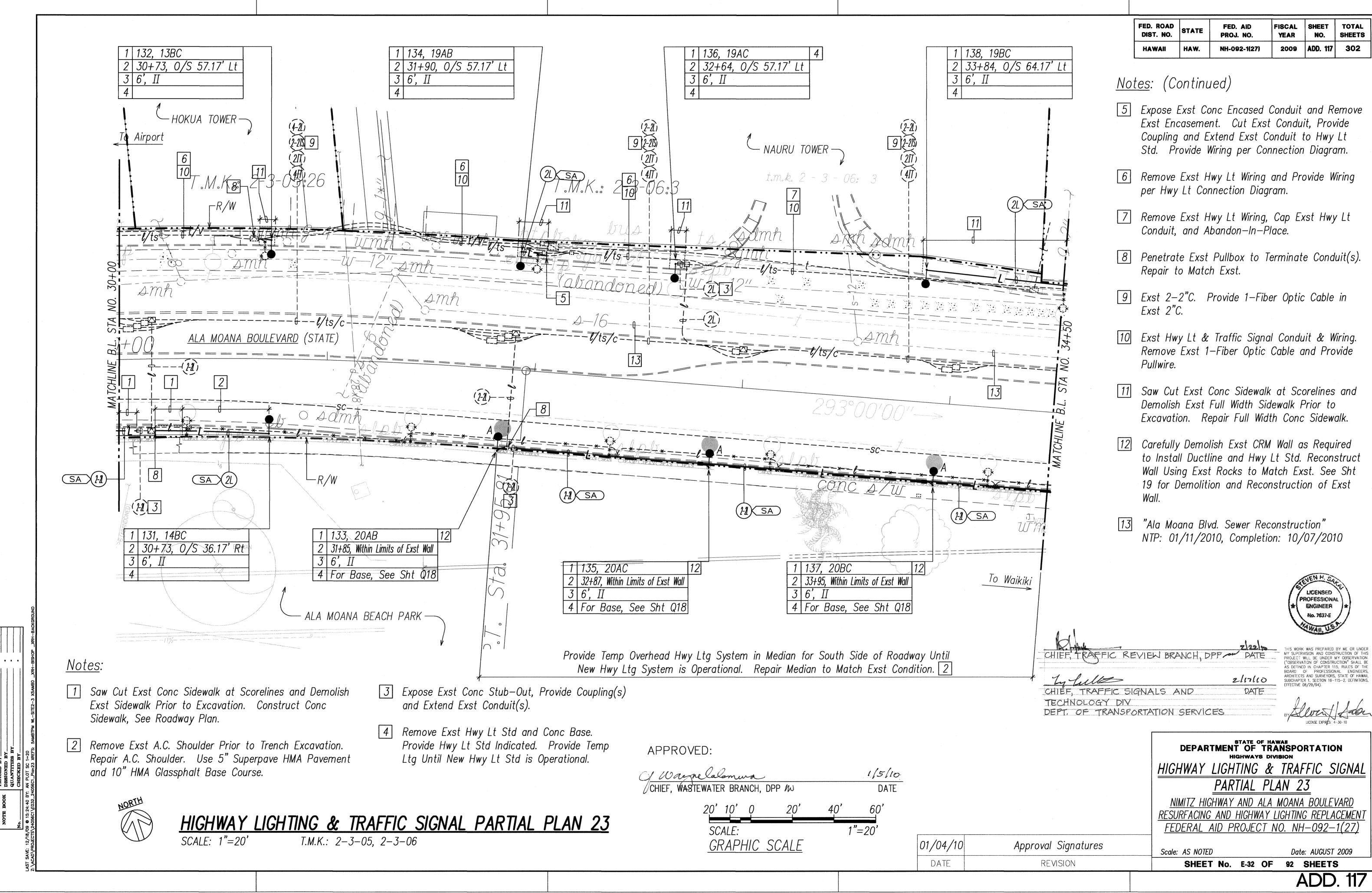
01/04/10 Approval Signatures, Revised Sewer Note

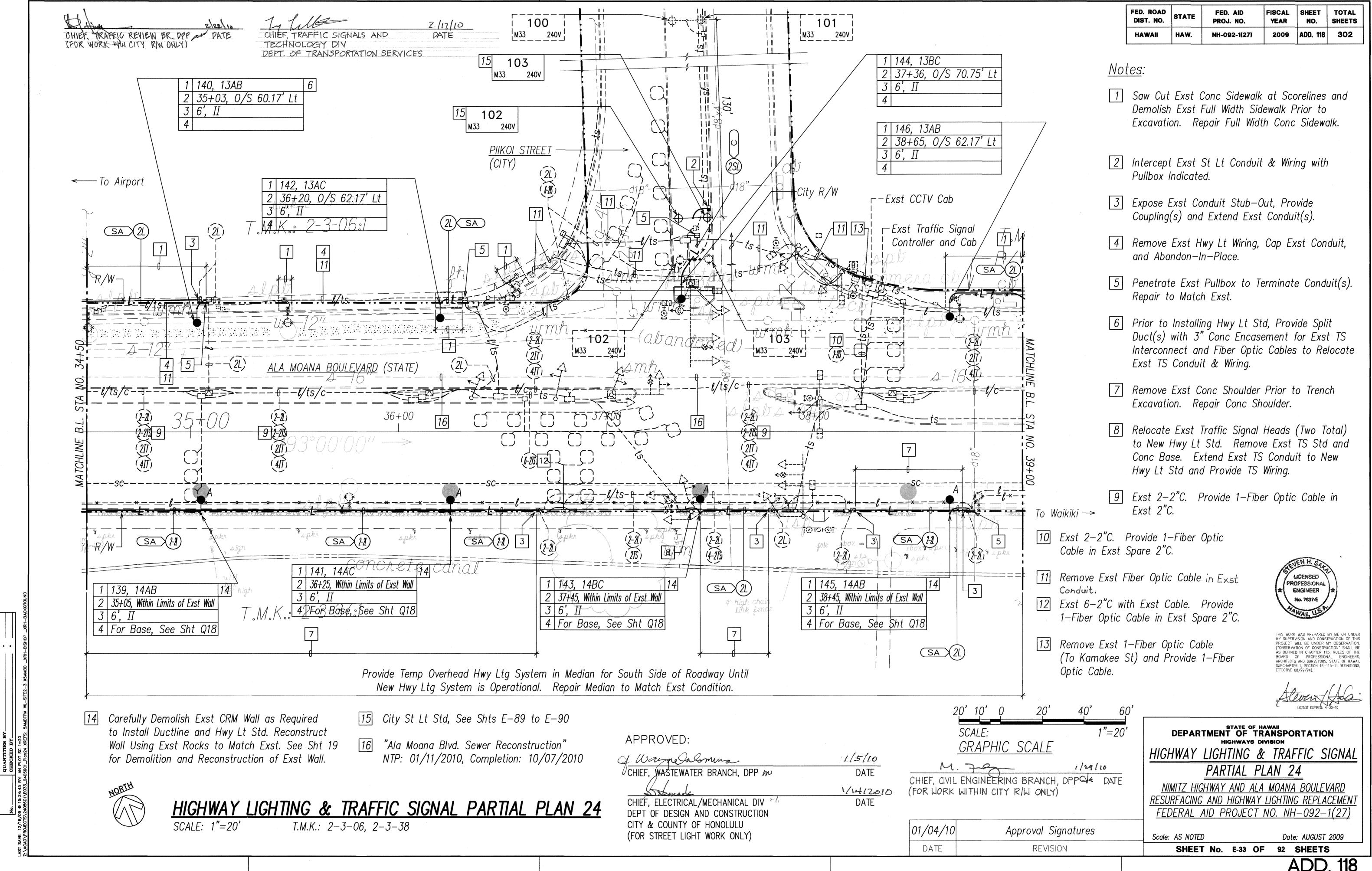
DATE REVISION

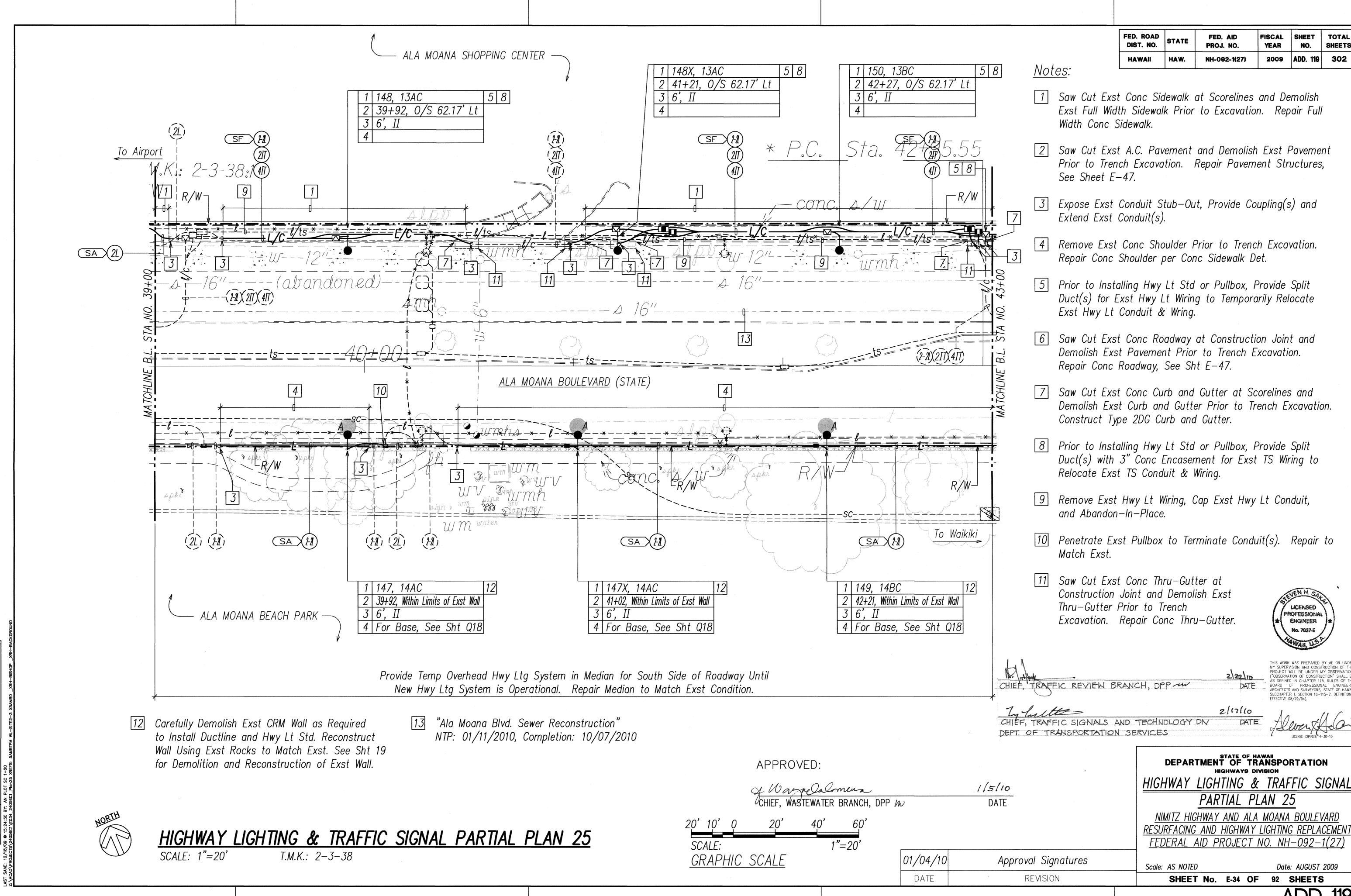
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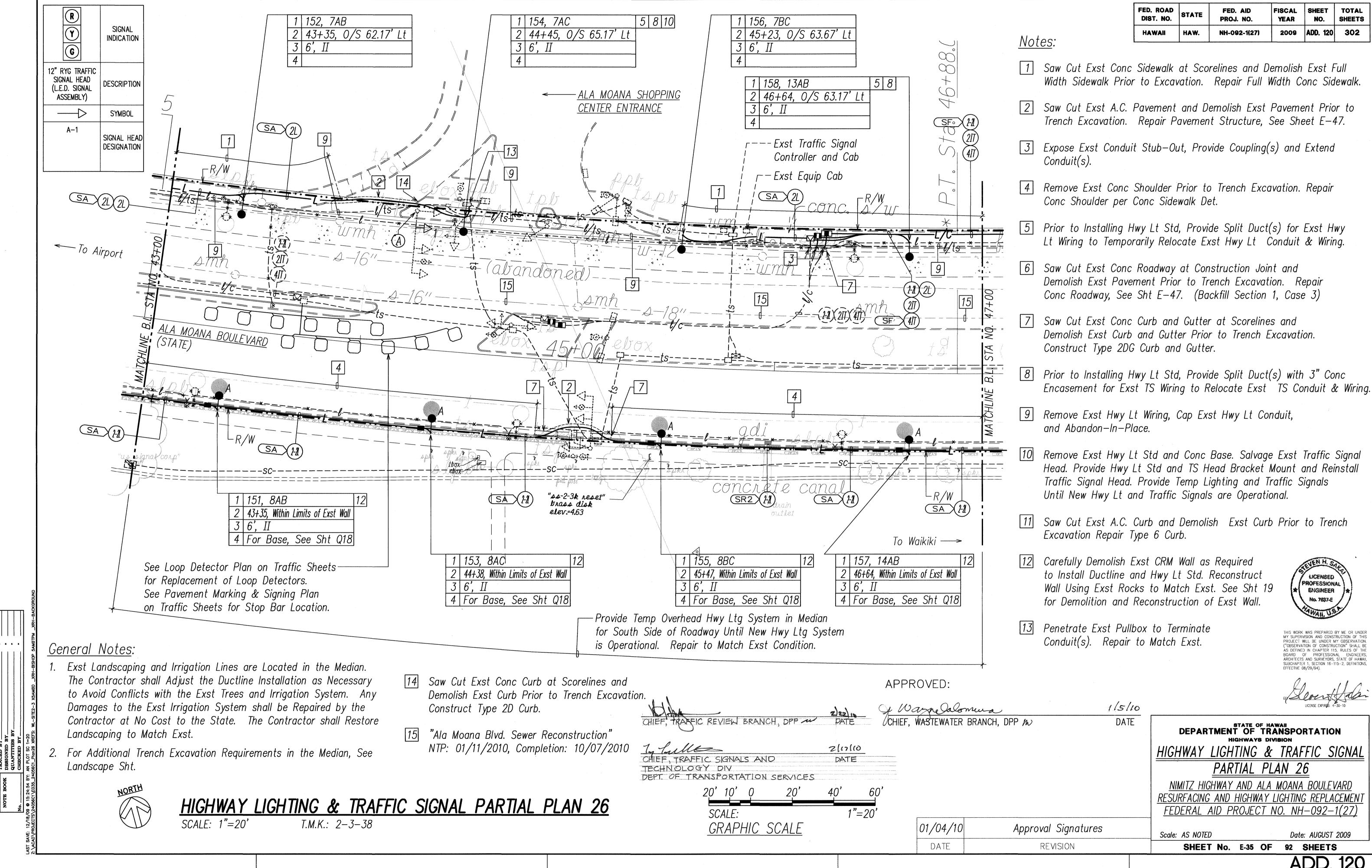
SHEET No. E-21 OF 92 SHEETS

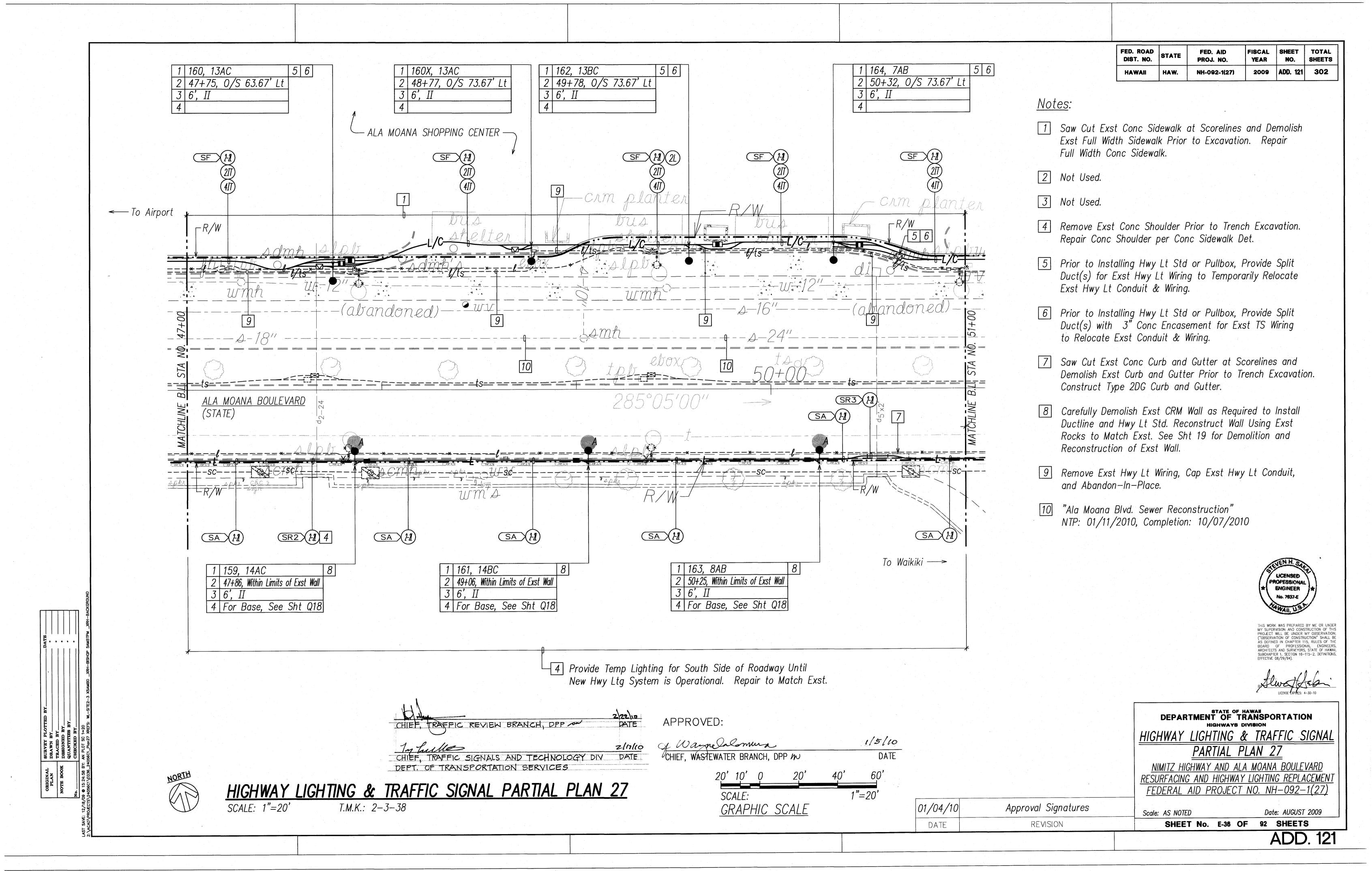


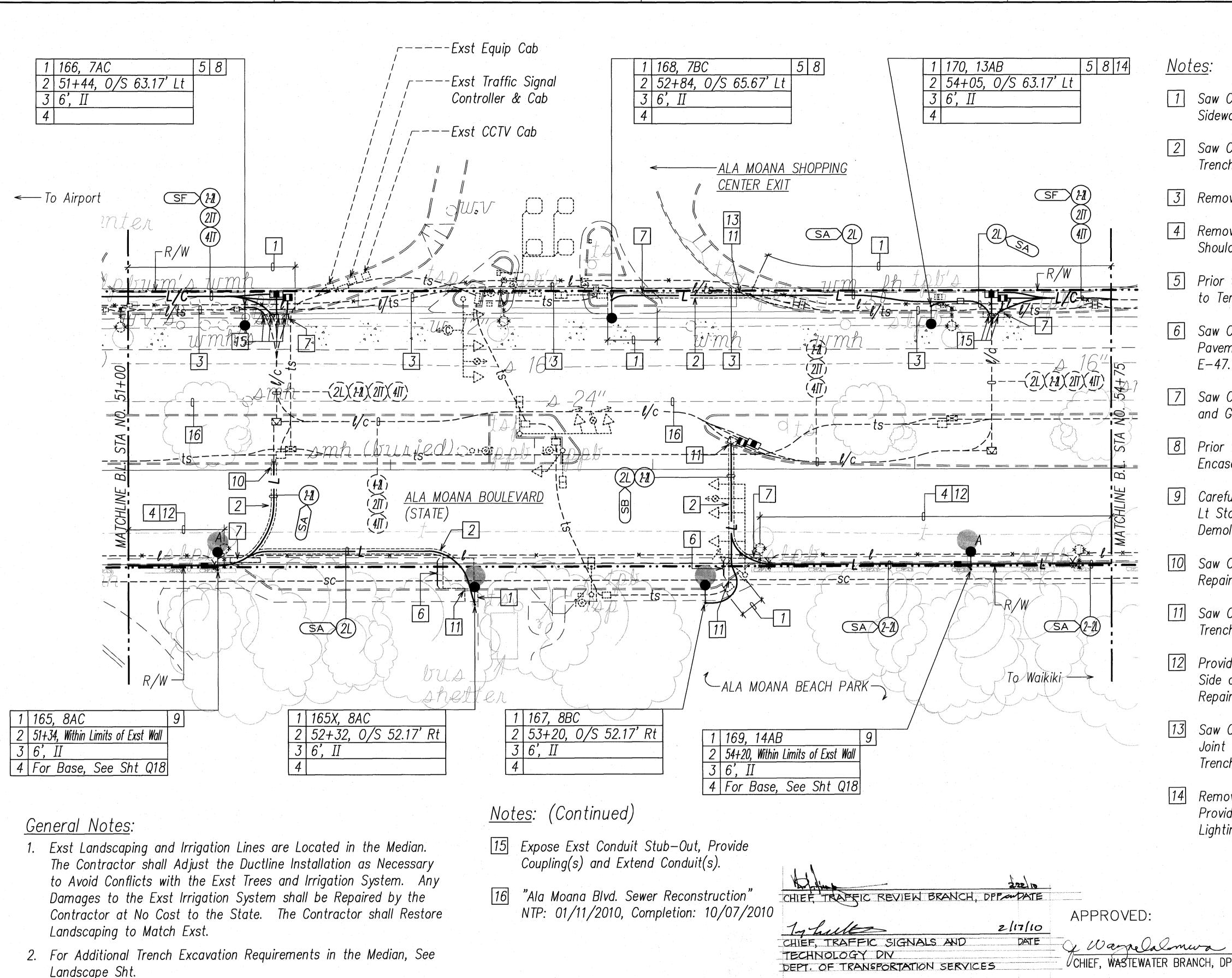








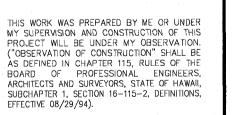




FED. ROAD DIST. NO. FISCAL PROJ. NO. YEAR SHEETS 2009 ADD. 122 302 NH-092-1(27)

- Saw Cut Exst Conc Sidewalk at Scorelines and Demolish Exst Full Width Sidewalk Prior to Excavation. Repair Full Width Conc Sidewalk.
- Saw Cut Exst A.C. Pavement and Demolish Exst Pavement Prior to Trench Excavation. Repair Pavement Structure, See Sheet E-47.
- Remove Exst Hwy Lt Wiring, Cap Exst Hwy Lt Conduit, and Abandon-In Place.
- Remove Exst Conc Shoulder Prior to Trench Excavation. Repair Conc Shoulder per Conc Sidewalk Det.
- Prior to Installing Hwy Lt Std, Provide Split Duct(s) for Exst Hwy Lt Wiring to Temporarily Relocate Exst Hwy Lt Conduit & Wiring.
- Saw Cut Exst Conc Roadway at Construction Joint and Demolish Exst Pavement Prior to Trench Excavation. Repair Conc Roadway, See Sht E-47. (Backfill Section 1, Case 3)
- Saw Cut Exst Conc Curb and Gutter at Scorelines and Demolish Exst Curb and Gutter Prior to Trench Excavation. Construct Type 2DG Curb and Gutter.
- 8 Prior to Installing Hwy Lt Std, Provide Split Duct(s) with 3" Conc Encasement for Exst TS Wiring to Relocate Exst TS Conduit & Wiring.
- Carefully Demolish Exst CRM Wall as Required to Install Ductline and Hwy Lt Std. Reconstruct Wall Using Exst Rocks to Match Exst. See Sht 19 for Demolition and Reconstruction of Exst Wall.
- Saw Cut Exst A.C. Curb and Demolish Exst Curb Prior to Trench Excavation. Repair Type 6 Curb. See Roadway Plan for Curb Type.
- [11] Saw Cut Exst Conc Curb at Scorelines and Demolish Exst Curb Prior to Trench Excavation. Construct Type 2D Curb.
- 12 Provide Temp Overhead Hwy Lt System in Median for South Side of Roadway Until New Hwy Lt System is Operational. Repair Median to Match Exst Condition.
- Saw Cut Exst Conc Thru—Gutter at Construction Joint and Demolish Exst Thru-Gutter Prior to Trench Excavation. Repair Conc Thru—Gutter.
- Remove Exst Hwy Lt Std and Conc Base and Provide Hwy Lt Indicated. Provide Temp Lighting Until New Hwy Lts are Operational.







DEPARTMENT OF TRANSPORTATION HIGHWAY LIGHTING & TRAFFIC SIGNAL PARTIAL PLAN 28

NIMITZ HIGHWAY AND ALA MOANA BOULEVARD RESURFACING AND HIGHWAY LIGHTING REPLACEMENT FEDERAL AID PROJECT NO. NH-092-1(27)

Scale: AS NOTED

Date: AUGUST 2009 SHEET No. E-37 OF 92 SHEETS

ADD. 122

HIGHWAY LIGHTING & TRAFFIC SIGNAL PARTIAL PLAN 28 T.M.K.: 2-3-38

CHIEF, WASTEWATER BRANCH, DPP IN

1/5/10 DATE

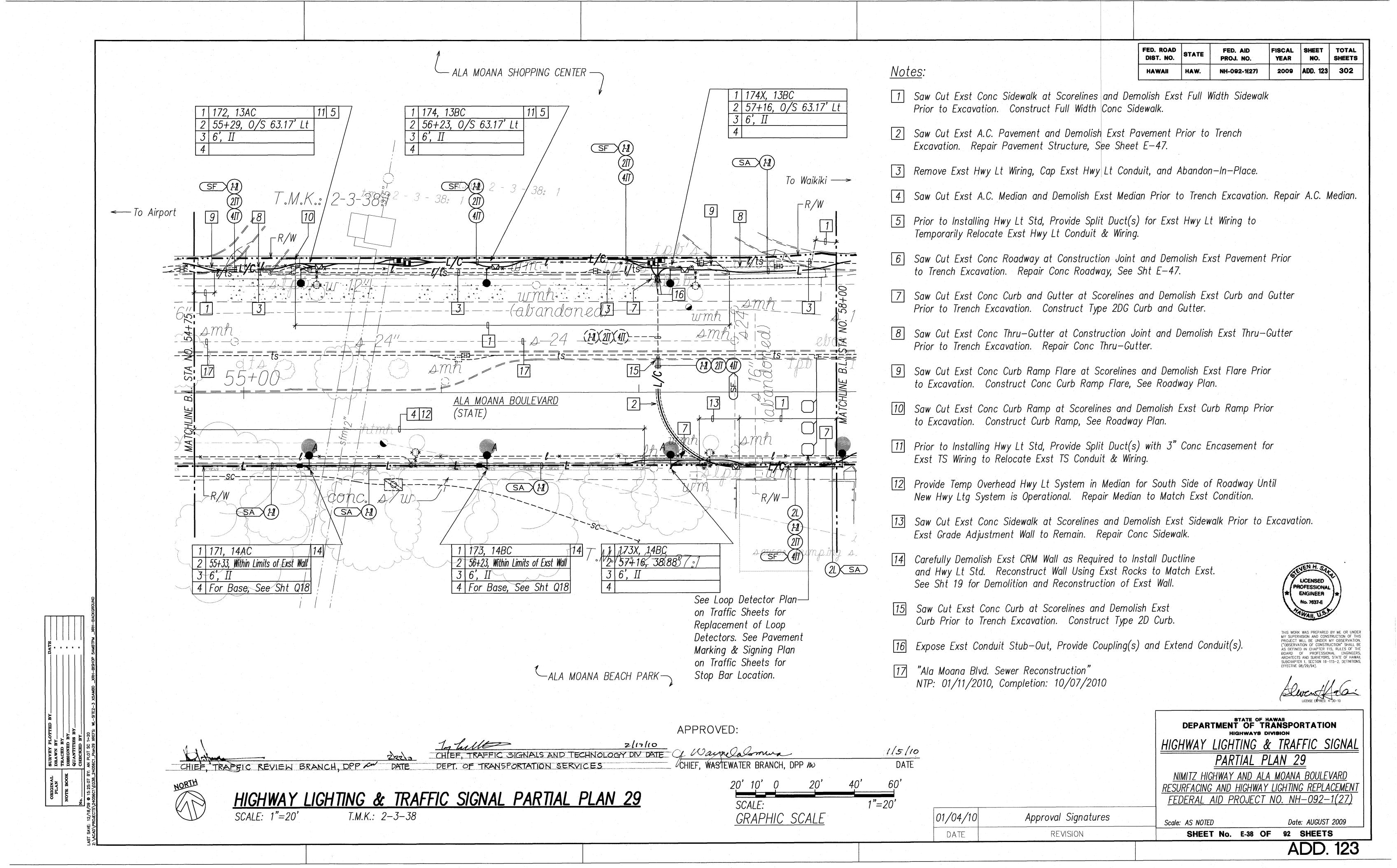
Approval Signatures

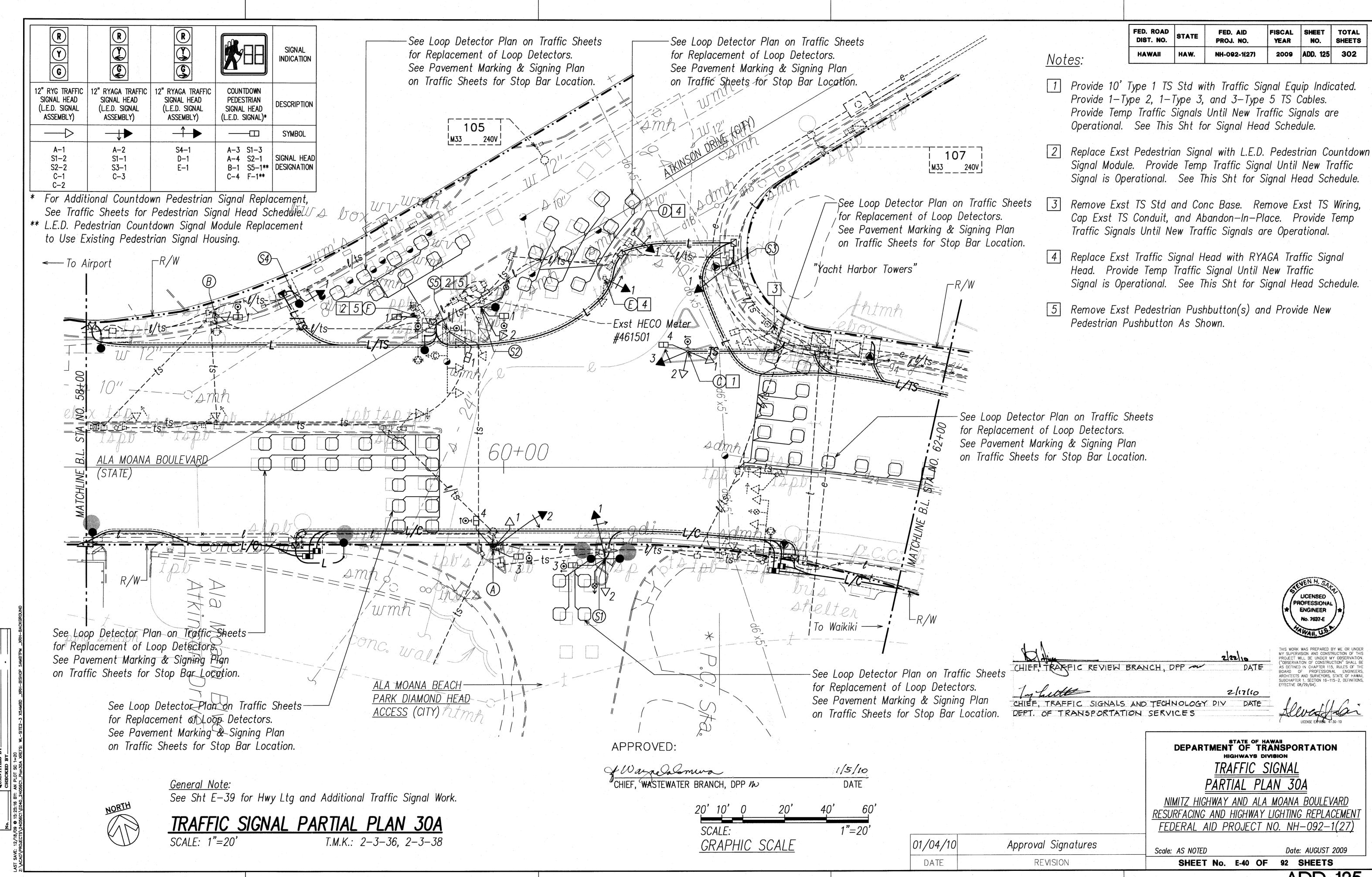
GRAPHIC SCALE

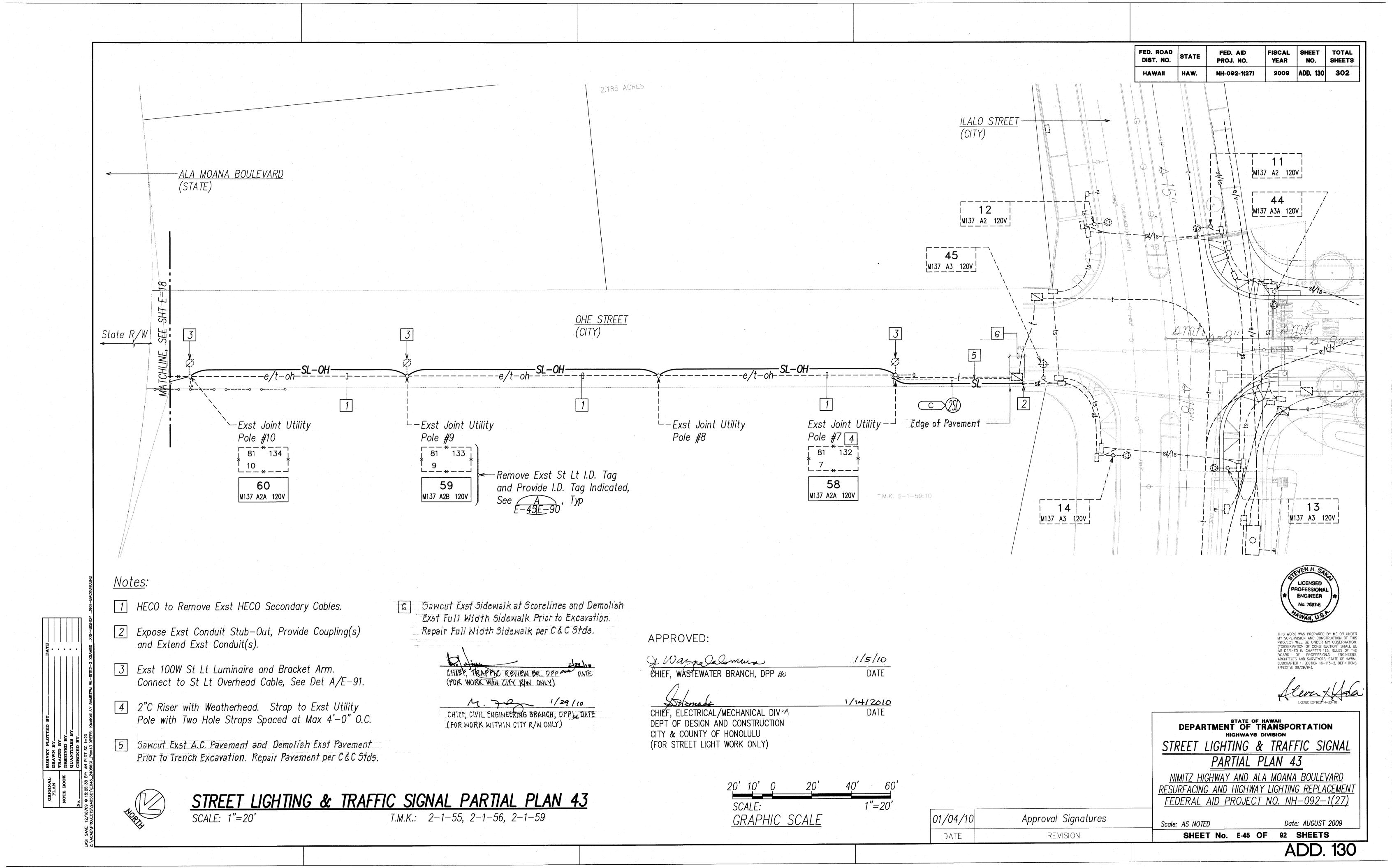
20' 10' 0

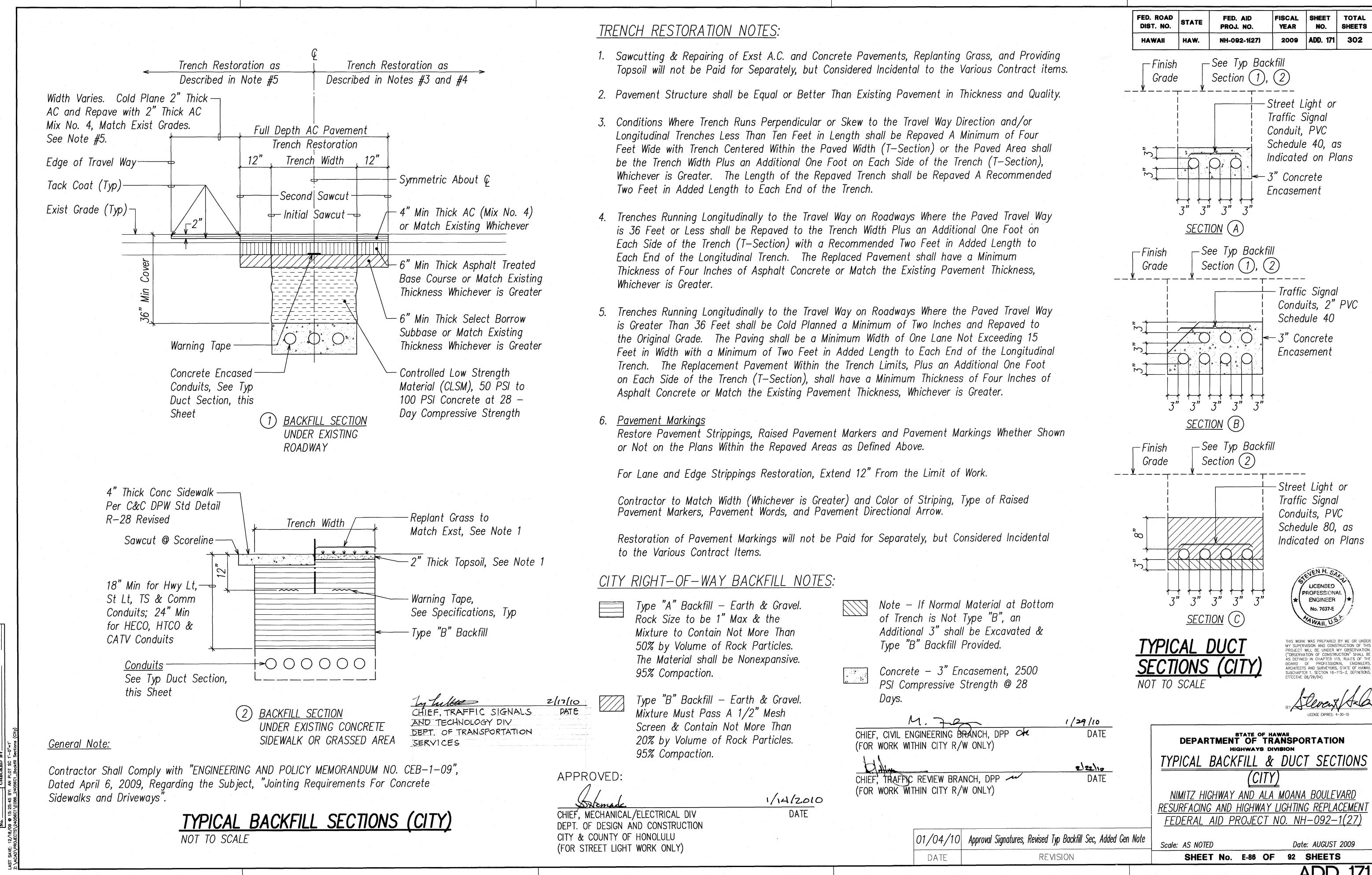
SCALE:

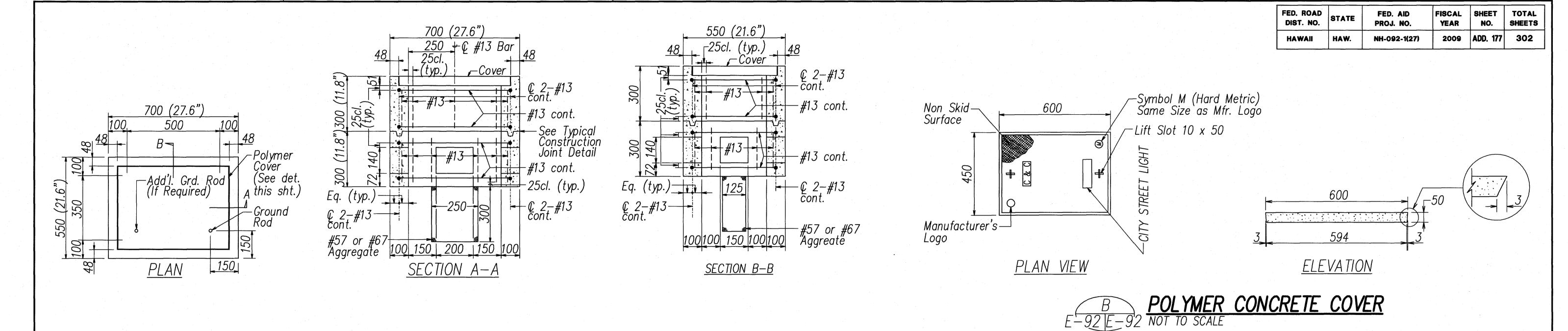
01/04/10 DATE REVISION



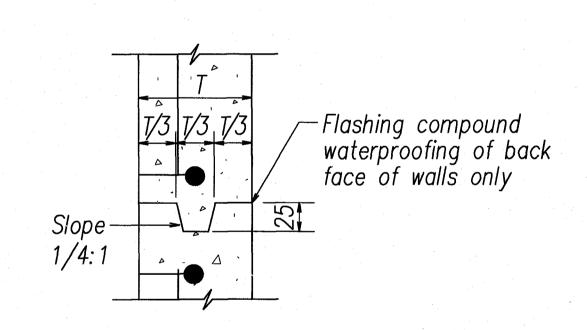






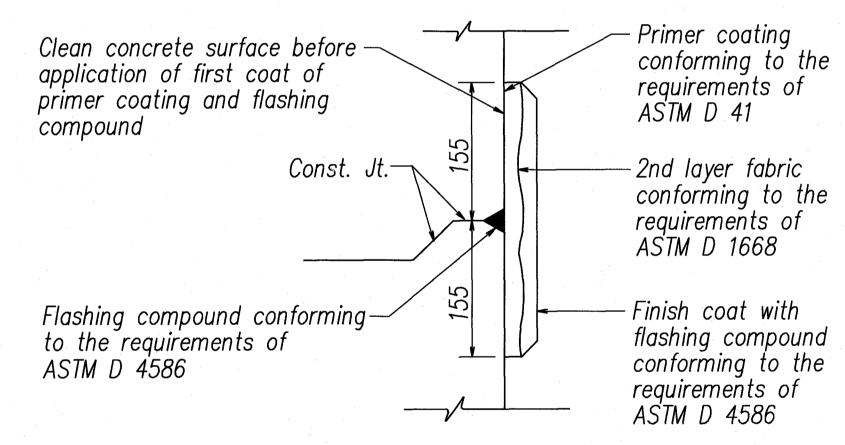






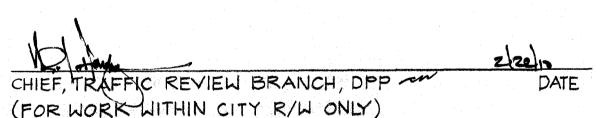


- 1. Provide a minimum of one 16 dia. x 2.5m Copperweld Ground Rod in each pullbox. When directed by the Engineer, install additional Ground Rods. Cost of Ground Rods shall be incidental to the pullboxes.
- 2. All pre-cast concrete pullboxes shall be manufactured in two pieces.
- 3. The pullbox with cover shall be capable of supporting an MS 18 Loading.
- 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.
- with concrete mortar.



TYPICAL FLASHING COMPOUND WATERPROOFING DETAILS

- 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 splices shall be 360mm
- 10. The #57 or #67 size aggregate shall conform to latest version of AASHTO M43 (ASTM D 448).



LICENSED PROFESSIONAL ENGINEER No. 7637-E

CHIEF, MECHANICAL/ELECTRICAL DIV DEPT. OF DESIGN AND CONSTRUCTION CITY & COUNTY OF HONOLULU

(FOR STREET LIGHT WORK ONLY)

MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION. ("OBSERVATION OF CONSTRUCTION" SHALL BE AS DEFINED IN CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII, SUBCHAPTER 1, SECTION 16–115–2, DEFINITIONS, EFFECTIVE 08/29/94). DATE

DEPARTMENT OF TRANSPORTATION MISCELLANEOUS DETAILS (CITY)

NIMITZ HIGHWAY AND ALA MOANA BOULEVARD RESURFACING AND HIGHWAY LIGHTING REPLACEMENT FEDERAL AID PROJECT NO. NH-092-1(27)

01/04/10 Revised C&C St Lt Pb Det, Approval Signatures REVISION DATE

Scale: AS NOTED Date: AUGUST 2009 SHEET No. E-92 OF 92 SHEETS

ADD. 177

All Dimensions are in Millimeters unless otherwise shown

GENERAL NOTES

6. After installing the conduits in the openings of the pullboxes, the Contractor shall fill the excess opening in the pre—cast knockouts

APPROVED:

1/14/2010

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS

