

Notes:

- 1
- The traffic signal system shall remain operational at all times during construction. Existing poles, traffic signal lights, and pedestrian signal heads may be removed only after new equipment is operational.
- 2
- Deliver salvaged equipment to C&C of Honolulu, Dept. of Transportation Services, Traffic Signal & Technology baseyard at 999 Makolu Street (ph: 768-5323).
- 3
- Overhead Type 3 interconnect cable to remain.
- 4
- Existing traffic signal standard to remain.
- 5
- Existing pullbox to remain.
- 6
- Existing ductline to remain.

Demolition Callouts:

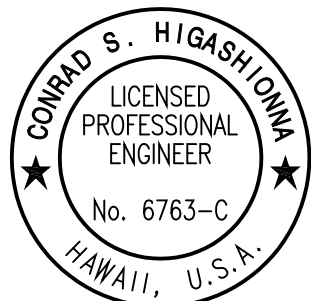
- D1
- Remove and salvage traffic signal controller and cabinet. Demolish and dispose of concrete base one foot below finish grade.
- D2
- Demolish and dispose of traffic signal pullbox.
- D3
- Remove traffic signal cables. Abandon ductline in place. Fill ducts with lean concrete.
- D4
- Abandon vehicle detectors in place.
- D5
- Remove and salvage existing traffic signal standard. Demolish and dispose of concrete foundation two feet below finish grade. Remove and salvage traffic signal heads and pedestrian signal heads.
- D6
- Remove and salvage pedestrian push button. Demolish and dispose of concrete foundation.
- D7
- Remove overhead Type 2 detector lead-in cable. Overhead Type 3 interconnect cable to remain.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	176	284

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

Aug 28, 2020-8:30am  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\176 Traffic Signal Demolition K 1.dwg

Approved By:  
Chief, Traffic Signals & Technology, DTS  
Date



License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

SIGNAL DEMOLITION  
Kalaniana'ole Hwy & Kalaniki St

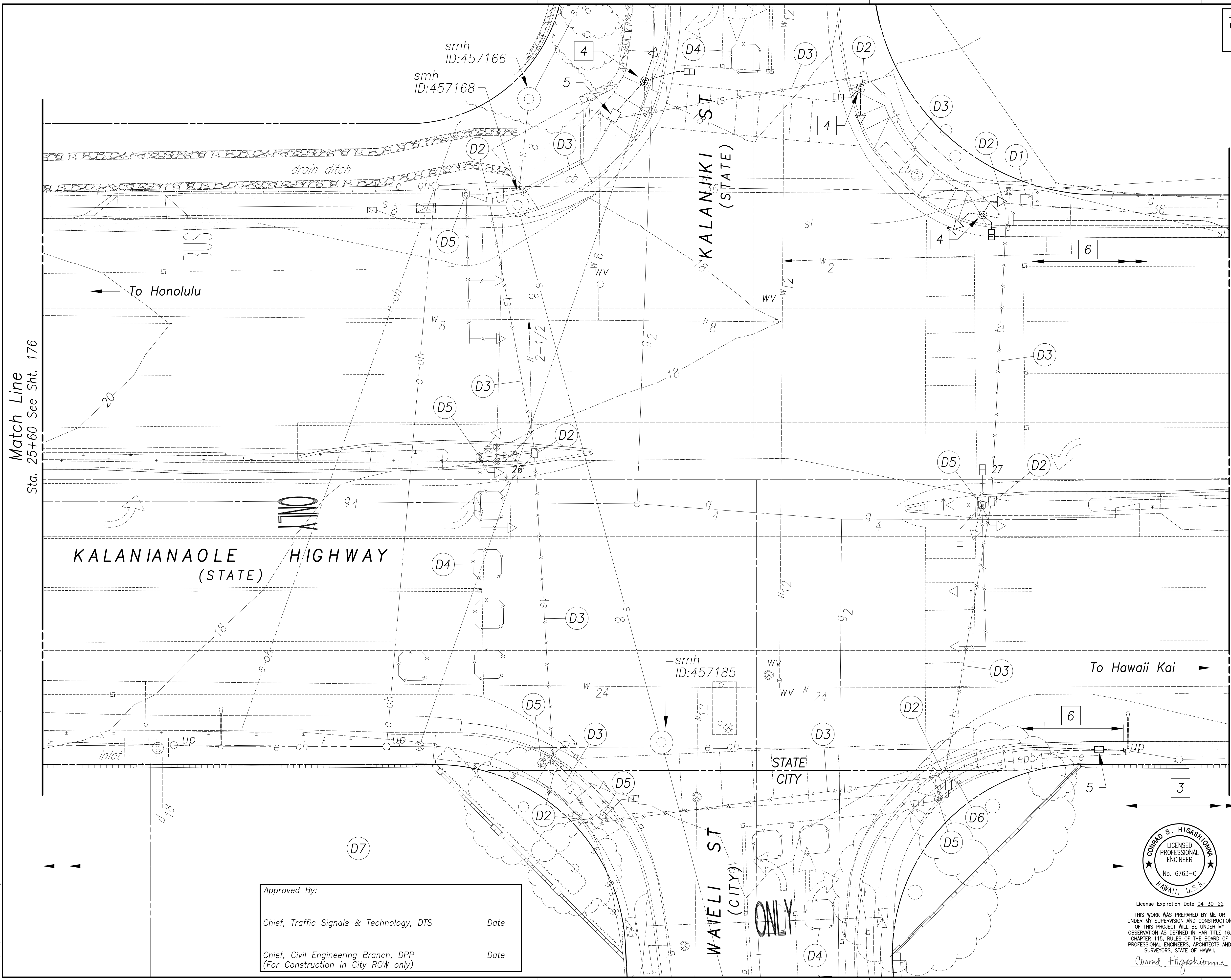
Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)

Scale: Date: July 2020

SHEET No. TS-81 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	177	284

True North  
Scale: 1"=10'  
TMK: 3-5-020,  
042, 044, & 049



Match Line  
Sta. 25+60 See Sht. 176

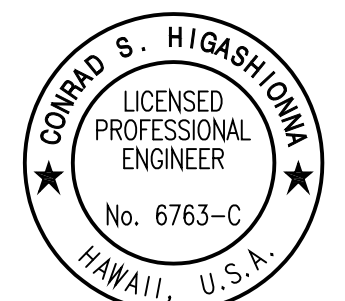
Match Line  
Sta. 28+00  
See Sht. 178

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

Approved By:

Chief, Traffic Signals & Technology, DTS \_\_\_\_\_ Date \_\_\_\_\_

Chief, Civil Engineering Branch, DPP  
(For Construction in City ROW only) \_\_\_\_\_ Date \_\_\_\_\_



License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAW. TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.  
Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

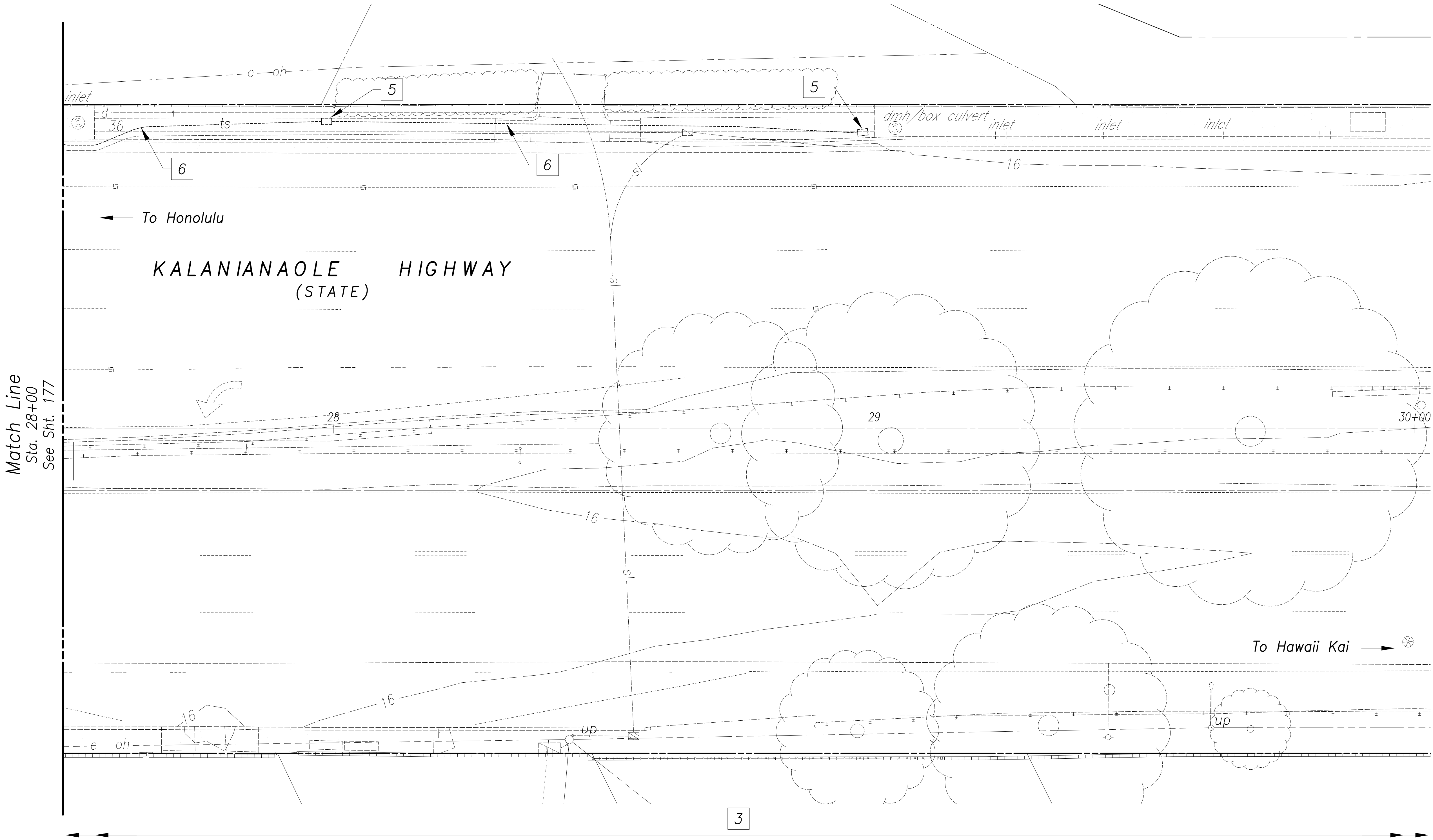
**SIGNAL DEMOLITION**  
Kalanianaʻole Hwy & Kalaniki St

Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)  
Scale: \_\_\_\_\_ Date: July 2020

SHEET No. TS-82 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	178	284

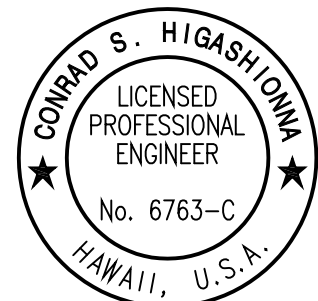
True North  
Scale: 1"=10'  
TMK: 3-5-020,  
042, 044, & 049



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

Aug. 28, 2020-8:30am  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\178 Traffic Signal Demolition K 3.dwg

Approved By:  
Chief, Traffic Signals & Technology, DTS  
Date



License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

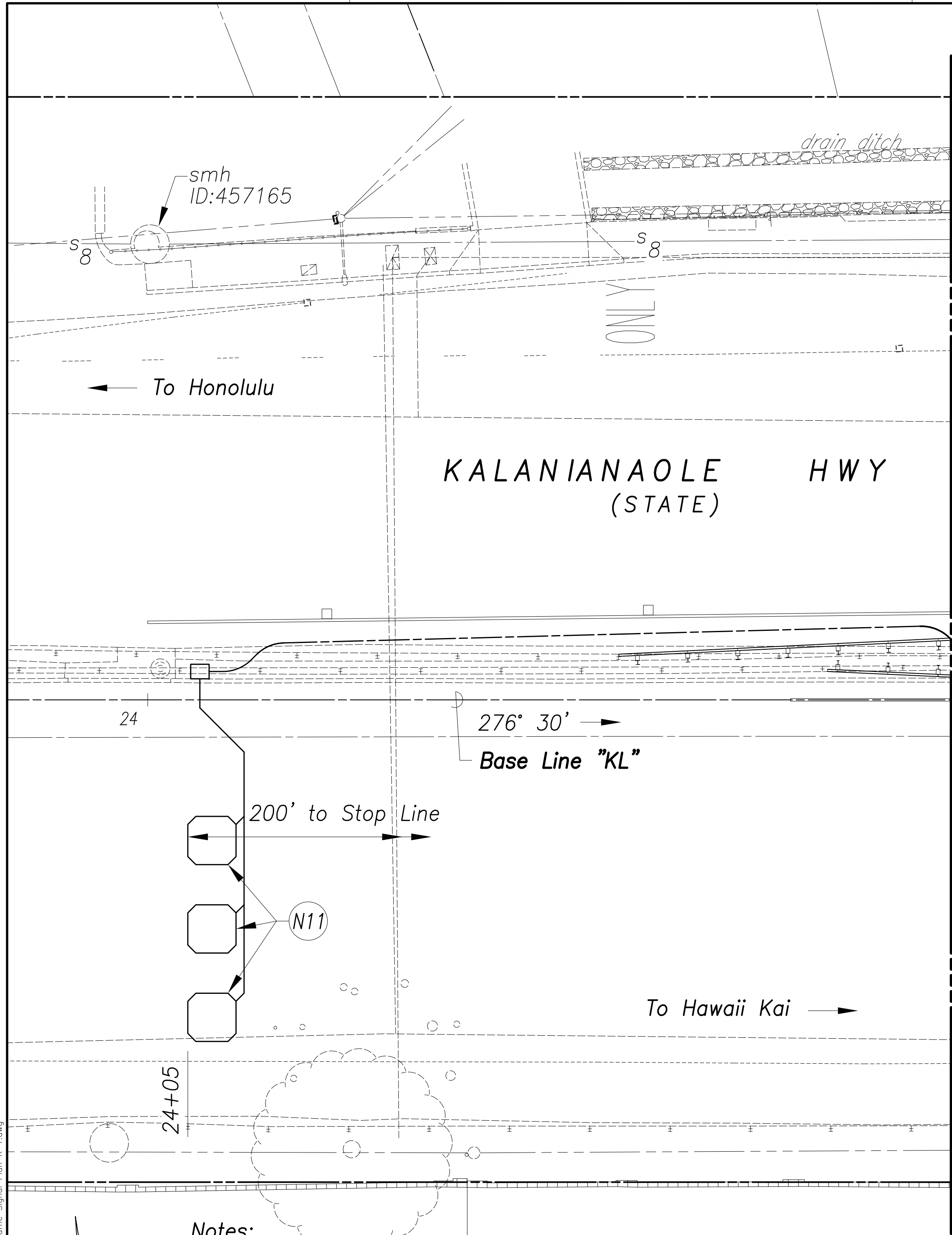
**SIGNAL DEMOLITION**  
**Kalanianaʻole Hwy & Kalaniki St**

Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)

Scale: Date: July 2020

SHEET No. TS-83 OF 113 SHEETS





Notes:

- 1 Tie-down of traffic signal standards is to center of vertical pole. Tie-down of pullboxes is to center of box.
- 2 For location of traffic signal pullboxes, see New Duct Line Work.
- 3 Type I Traffic Signal Standard to remain.
- 4 Distance = 163-feet from Type II standard to stop line.
- 5 Distance = 153-feet from Type II standard to stop line.

True North  
Scale: 1"=10'  
TMK: 3-5-020,  
042, 044, & 049

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

Aug 28, 2020-13:00m  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\179 Traffic Signal Plan K 1.dwg

New Signal Work Callouts:

- N1 Install Controller Assembly with Software  
26+86.91 @ "KL" (69.94' Rt.)
- N2 Install Type I Traffic Signal Standard, 10-feet height, with foundation. 26+85.82 @ "KL" (62.48' Rt.)
- N3 Install Type I Traffic Signal Standard, 10-feet height, with foundation. 26+76.29 @ "KL" (79.32 Rt.)
- N4 Install Type II Traffic Signal Standard with 37-foot mast arm and drilled shaft foundation. 26+14.02 @ "KL" (65.97' Rt.)
- N5 Install Type I Traffic Signal Standard, 10-feet height, with foundation. 26+02.78 @ "KL" (59.01' Rt.)
- N6 Install Type II Traffic Signal Standard with 36-foot mast arm and drilled shaft foundation. 25+57.68 @ "KL" (6' Lt.)
- N7 Install Type II Traffic Signal Standard with 25-foot mast arm and drilled shaft foundation. 25+51.43 @ "KL" (6' Lt.)
- N8 Install Type II Traffic Signal Standard with 20-foot mast arm and drilled shaft foundation. 26+71.05 @ "KL" (87.45' Lt.)
- N9 Install Type II Traffic Signal Standard with 36-foot mast arm and drilled shaft foundation. 27+48.26 @ "KL" (6' Rt.)
- N10 Install Type I Traffic Signal Standard, 10-feet height, with foundation. 26+97.98 @ "KL" (7.17' Rt.)
- N11 Install Loop Detector Sensing Unit (6 Ft. x 6 Ft.) 1 Loops centered in lane
- N12 Install Loop Detector Sensing Unit (6 Ft. x 6 Ft.) 2 Loops centered in lane
- N13 Install Loop Detector Sensing Unit (6 Ft. x 6 Ft.) 4 Loops centered in lane
- N14 Install Loop Detector Sensing Unit (6 Ft. x 6 Ft.) 6 Loops centered in lane
- N15 Install pedestrian push button PPB-1, ADA compliant, on Type I traffic signal standard.
- N16 Install pedestrian push button PPB-2, ADA compliant, on Type I traffic signal standard.
- N17 Install pedestrian push button PPB-3, ADA compliant, on Type II traffic signal standard.
- N18 Install pedestrian push button PPB-4, ADA compliant, on existing Type I traffic signal standard.
- N19 Install pedestrian push button PPB-5, ADA compliant, on existing Type I traffic signal standard.
- N20 Install pedestrian push button PPB-6, ADA compliant, on existing Type I traffic signal standard.
- N21 Install pedestrian push button PPB-7, ADA compliant, on Type I traffic signal standard.
- N22 Install temporary Approach-Only Microwave Vehicle Detector on existing traffic signal standard.

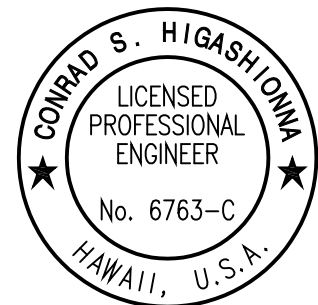
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	179	284

DRILLED SHAFT FOUNDATIONS  
for Type II Traffic Signal Standards

	SOIL TYPE	GRADE	MAST ARM LENGTH (feet)	DRILLED SHAFT DIAMETER (inches)	DRILLED SHAFT LENGTH (feet)
○	Stiff Clays	Level	37	30	11
Ⓒ	Stiff Clays	Level	36	30	11
Ⓔ	Stiff Clays	Level	25	30	7
Ⓕ	Stiff Clays	Level	20	24	6
Ⓚ	Stiff Clays	Level	36	30	11

Drilled shaft foundations shall be constructed per 2008 Standard Plans TE-33A.1 & TE-33A.2.

Log of Boring 2	Approximate Ground Surface Elevation (feet MSL): 19.5 Water Level: Not encountered
DESCRIPTION	
5	5-inch ASPHALT CONCRETE 6-inch CONCRETE Brown CLAY with some gravel, stiff to very stiff, moist (fill)
10	Gray to reddish gray vesicular BASALT, severely to moderately fractured, moderately to highly weathered, medium hard to hard (pahoehoe basalt)
15	grades with seams of weathered clinker
20	
25	Boring terminated at 26.67 feet



License Expiration Date: 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAW. TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.  
Conrad Higashimura

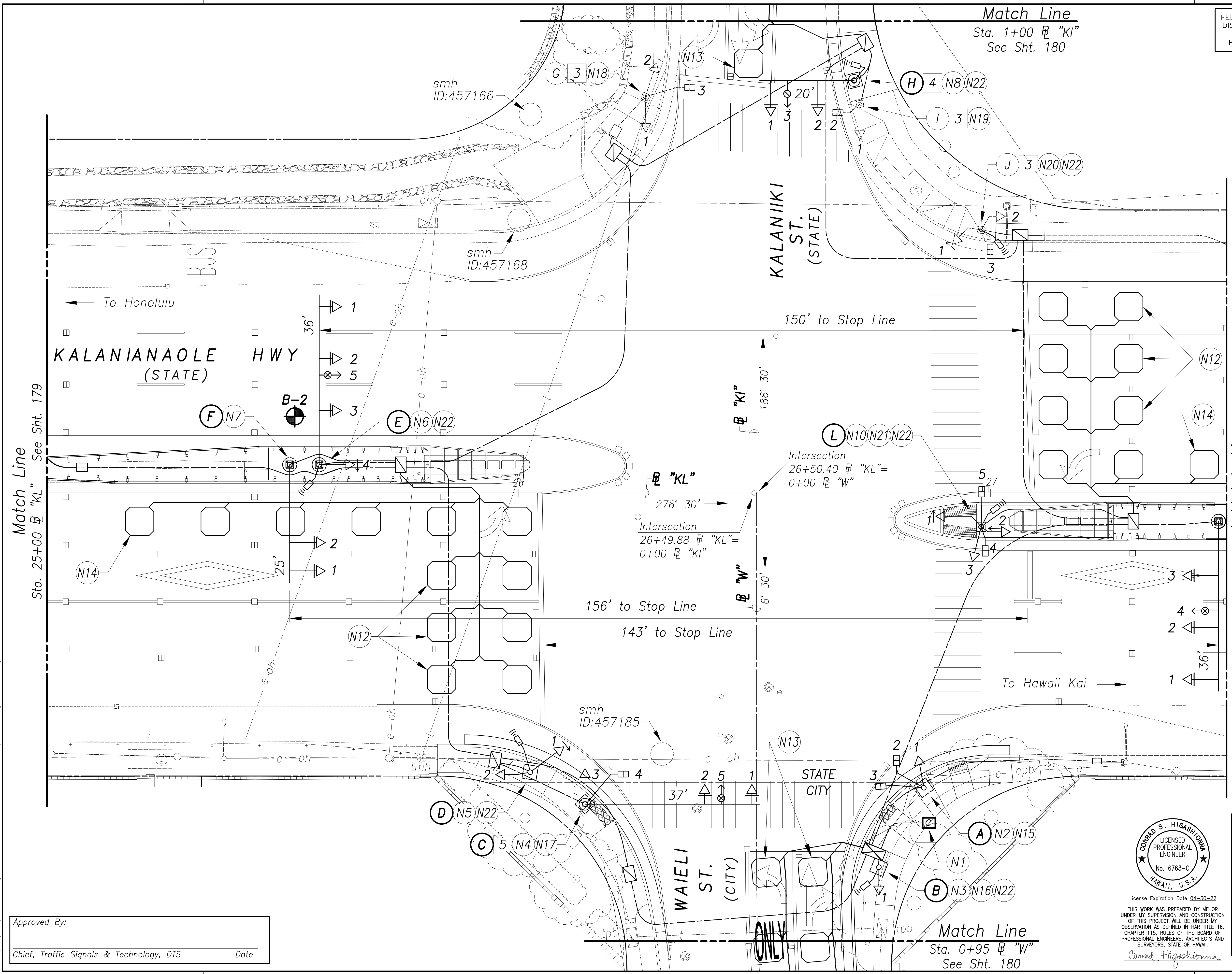
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**NEW SIGNAL WORK**  
**Kalanianaʻole Hwy & Kalaniki St**

Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)  
Scale: 1"=10' Date: July 2020  
SHEET No. TS-84 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	180	284

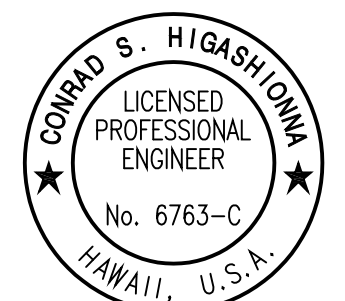
True North  
Scale: 1"=10'  
TMK: 3-5-020,  
042, 044, & 049



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

Aug 28, 2020-15:00m  
N:\QA\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\180 Traffic Signal Plan K 2.dwg

Approved By: \_\_\_\_\_  
Chief, Traffic Signals & Technology, DTS Date



License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.  
Conrad Higashimura

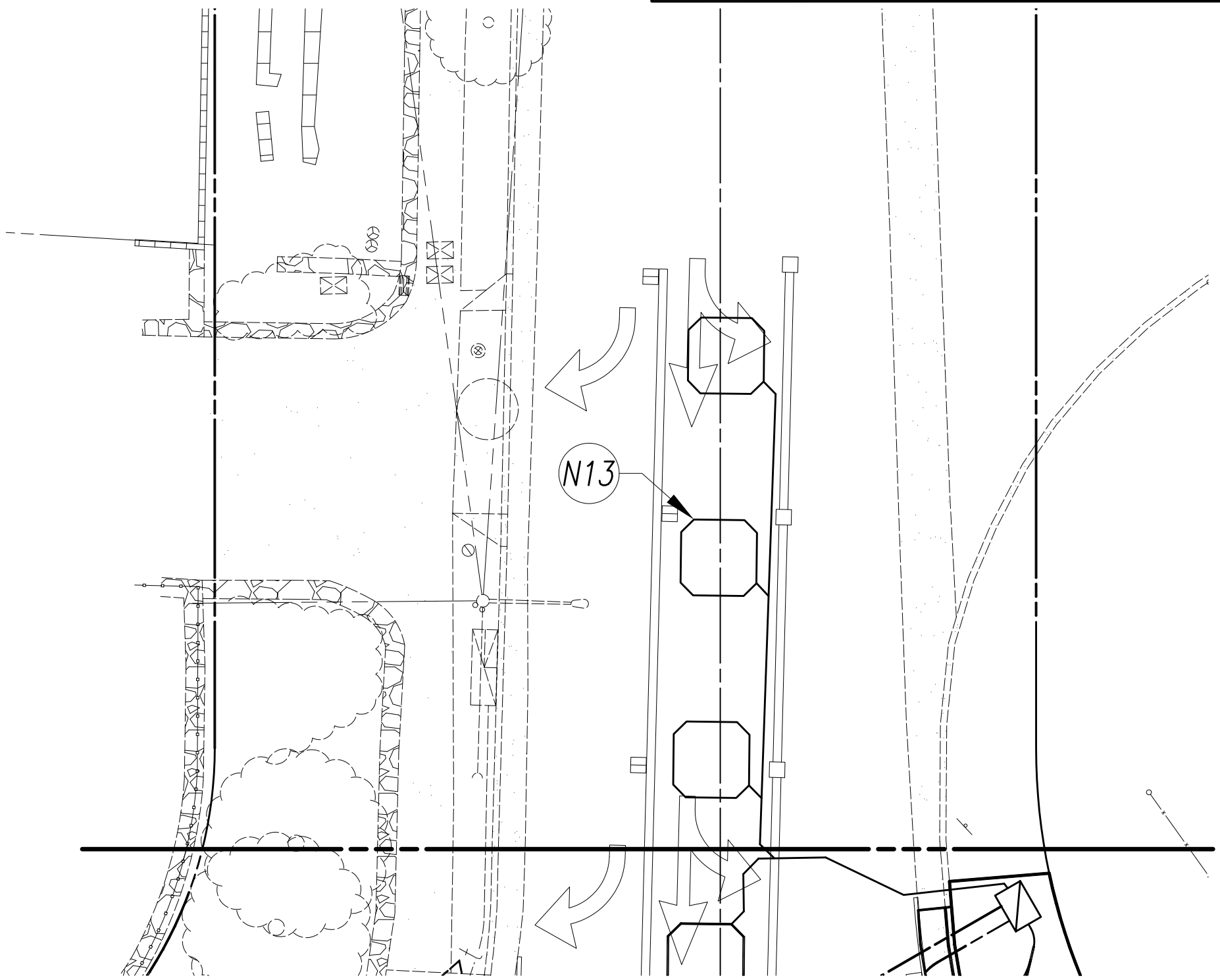
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

NEW SIGNAL WORK  
Kalanianaʻole Hwy & Kalaniiki St

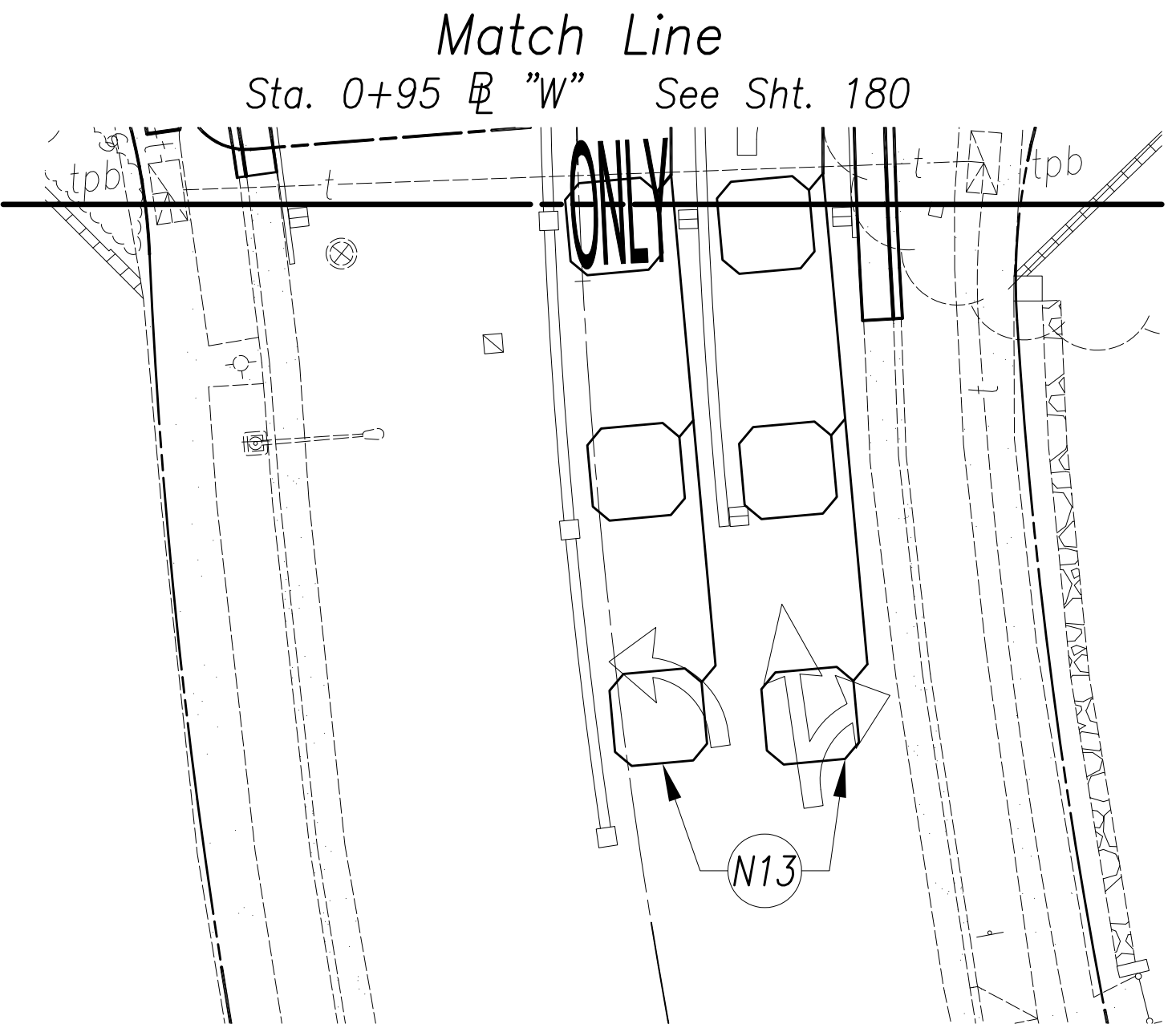
Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)  
Scale: 1"=10' Date: July 2020

SHEET No. TS-85 OF 113 SHEETS

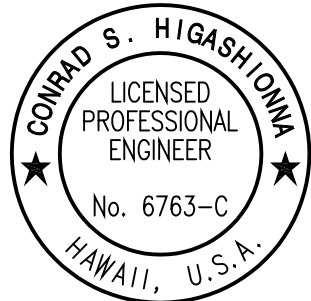
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	181	284



Match Line  
Sta. 1+00 @ "Kl" See Sht. 180



Match Line  
Sta. 0+95 @ "W" See Sht. 180



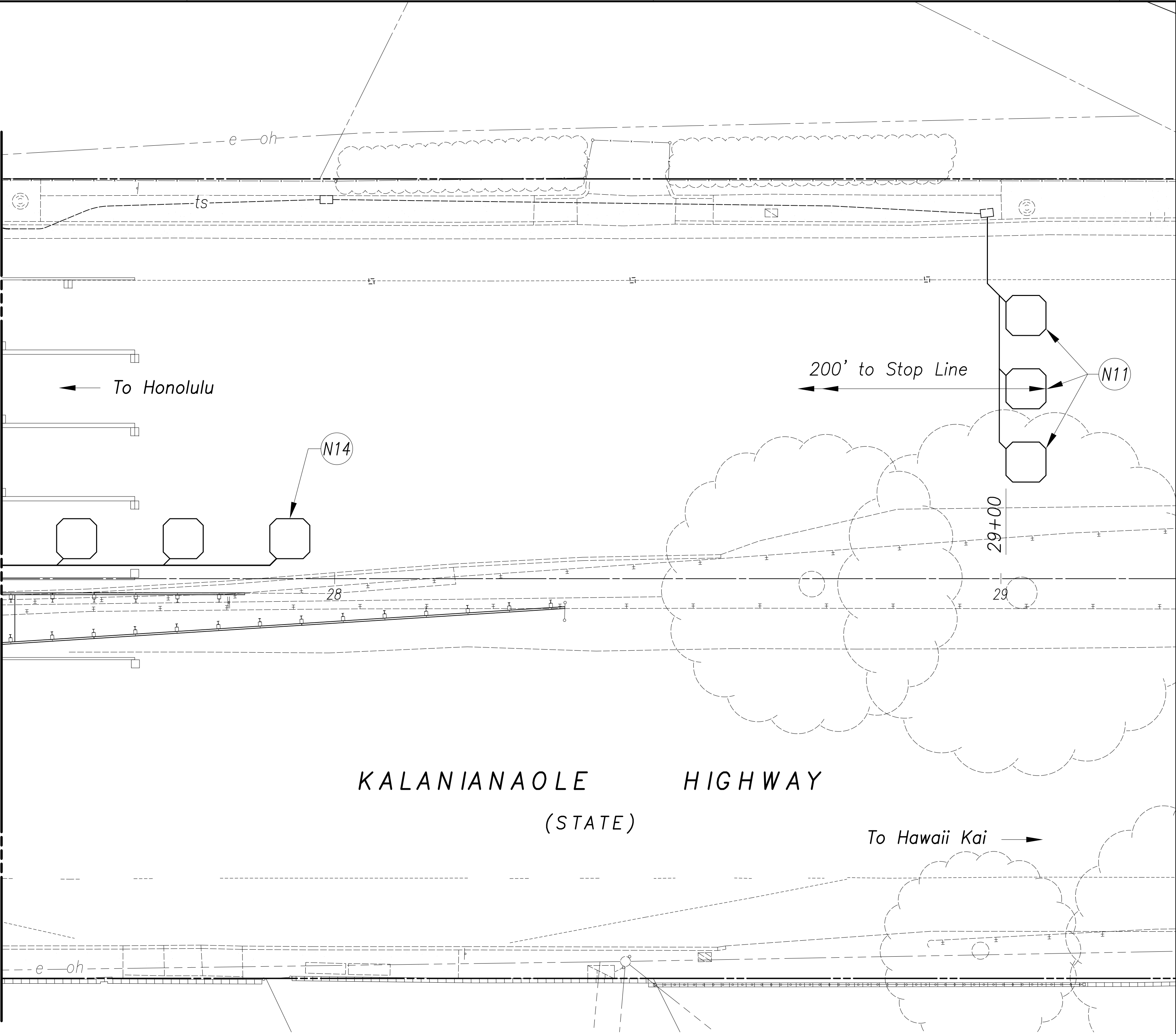
License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAW. TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Conrad Higashinoma

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

NEW SIGNAL WORK  
Kalanianaʻole Hwy & Kalaniki St

Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)  
Scale: 1"=10' Date: July 2020  
SHEET No. TS-86 OF 113 SHEETS



Match Line  
Sta. 27+50 @ "Kl" See Sht. 180

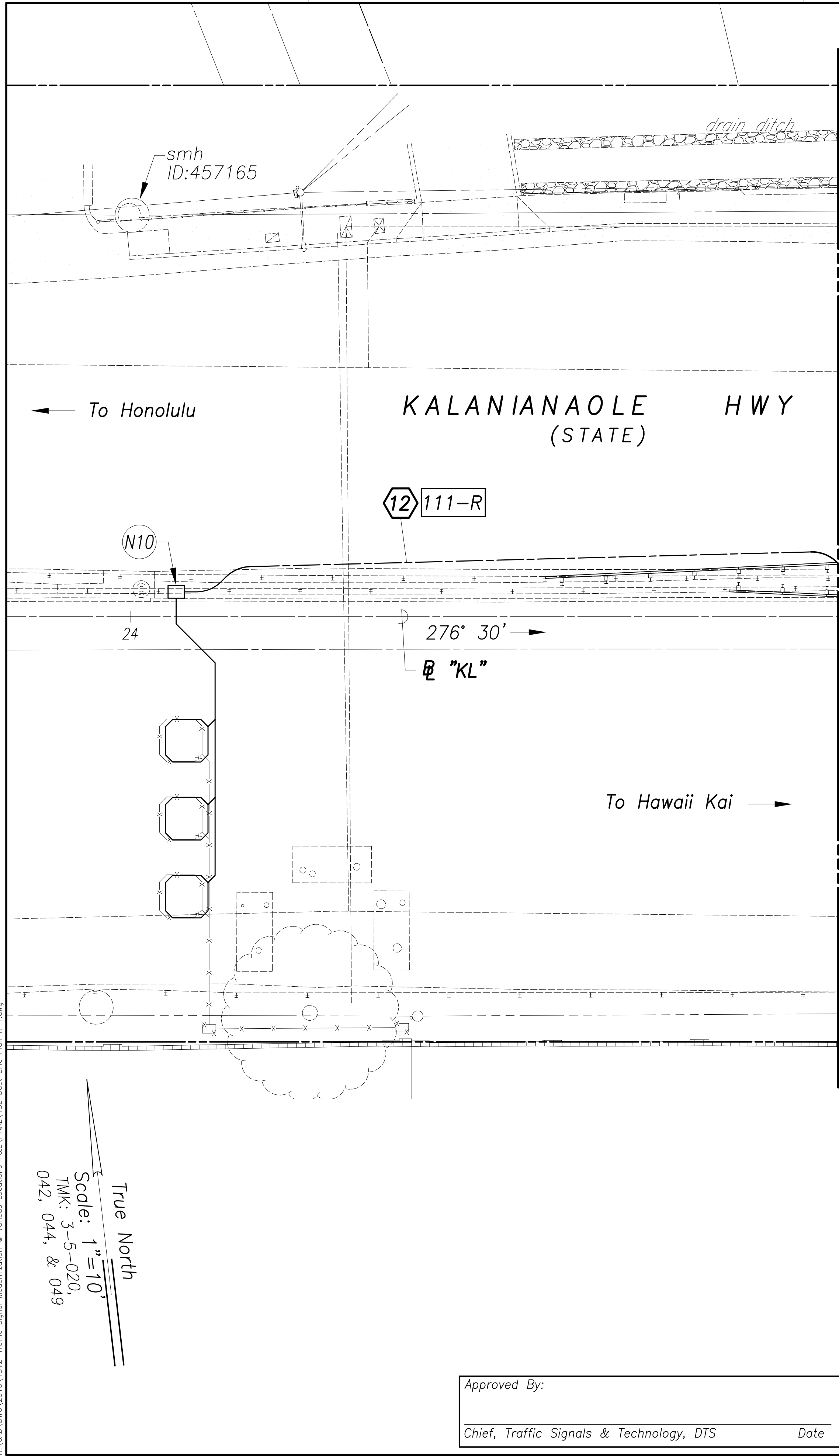
True North  
Scale: 1"=10'  
TMK: 3-5-020,  
042, 044, & 049

Approved By:  
Chief, Traffic Signals & Technology, DTS Date

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

Aug 28, 2020-8:30am N:\CAO\DWG\2019\51512-Traffic Signal Modernization @ Various Locations P&E\FINAL\B1 Traffic Signal Plan K. 3.dwg





Notes:

- Existing traffic signal power source.
- Existing traffic signal duct line to remain.
- Existing pullbox PB-12 to remain.
- Existing pullbox PB-13 to remain.
- Existing pullbox PB-14 to remain.
- Existing pullbox PB-15 to remain.
- 11 linear feet, Reinforced Concrete Jacket on 8" sewer. See Roadway Plans on sheets 44 and 45; and Duct Line Profiles on sheets 191 and 194.
- See Duct Layout Plans for horizontal alignment tie-down and Duct Profiles for vertical alignment.
- Precast pull boxes shall be set on six (6) inches of level, 95% compacted crushed rock fill, 3/4 inch to one (1) inch size, extending twelve (12) inches beyond the pull box on each side. Granular fill shall be compacted by a minimum of four passes with a plate type vibrator.
- The Contractor shall notify the Engineer of any changes to horizontal or vertical alignment within City & County of Honolulu right-of-way. All changes in horizontal or vertical alignment within City right-of-way require revision approval from the Department of Planning and Permitting prior to construction.

New Duct Line Work Callouts:

- Install Type C Pullbox PB-1. 26+75.20 @ "KL" (76.05' Rt.)
- Install Type B Pullbox PB-2. 26+23.46 @ "KL" (80.72' Rt.)
- Install Type B Pullbox PB-3. 25+94.99 @ "KL" (56.58' Rt.)
- Install Type B Pullbox PB-4. 25+74.97 @ "KL" (6' Lt.)
- Install Type B Pullbox PB-5. 26+20.14 @ "KL" (72.20' Lt.)
- Install Type B Pullbox PB-6. 26+73.42 @ "KL" (95.48' Lt.)
- Install Type B Pullbox PB-7. 27+06.25 @ "KL" (54.70' Lt.)
- Install Type B Pullbox PB-8. 27+30.24 @ "KL" (6' Rt.)
- Install Type A Pullbox PB-9. 25+07.44 @ "KL" (5.45' Lt.)
- Install Type A Pullbox PB-10. 24+06.47 @ "KL" (3.52' Lt.)
- New traffic signal controller. 26+86.91 @ "KL" (69.94' Rt.)
- Intercept existing ducts and connect to new ducts or pullbox.
- Intercept power cables; splice existing Type 6 power cables to new Type 6 power cables.
- Connect new traffic signal duct to existing pullbox.
- Reinforced Concrete Jacket for traffic signal ducts crossing over existing 36" drain. See Duct Line Profiles on sheets 194 and 197.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	182	284

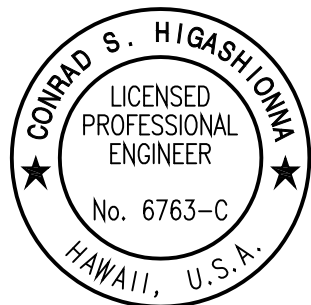
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

ORIGINAL PLAN	No.
NOTE BOOK	

Aug 28, 2020-13:00m  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\182 Duct Line Plan K 1.dwg

True North  
Scale: 1"=10'  
TMK: 3-5--020,  
042, 044, & 049

Approved By:  
Chief, Traffic Signals & Technology, DTS  
Date

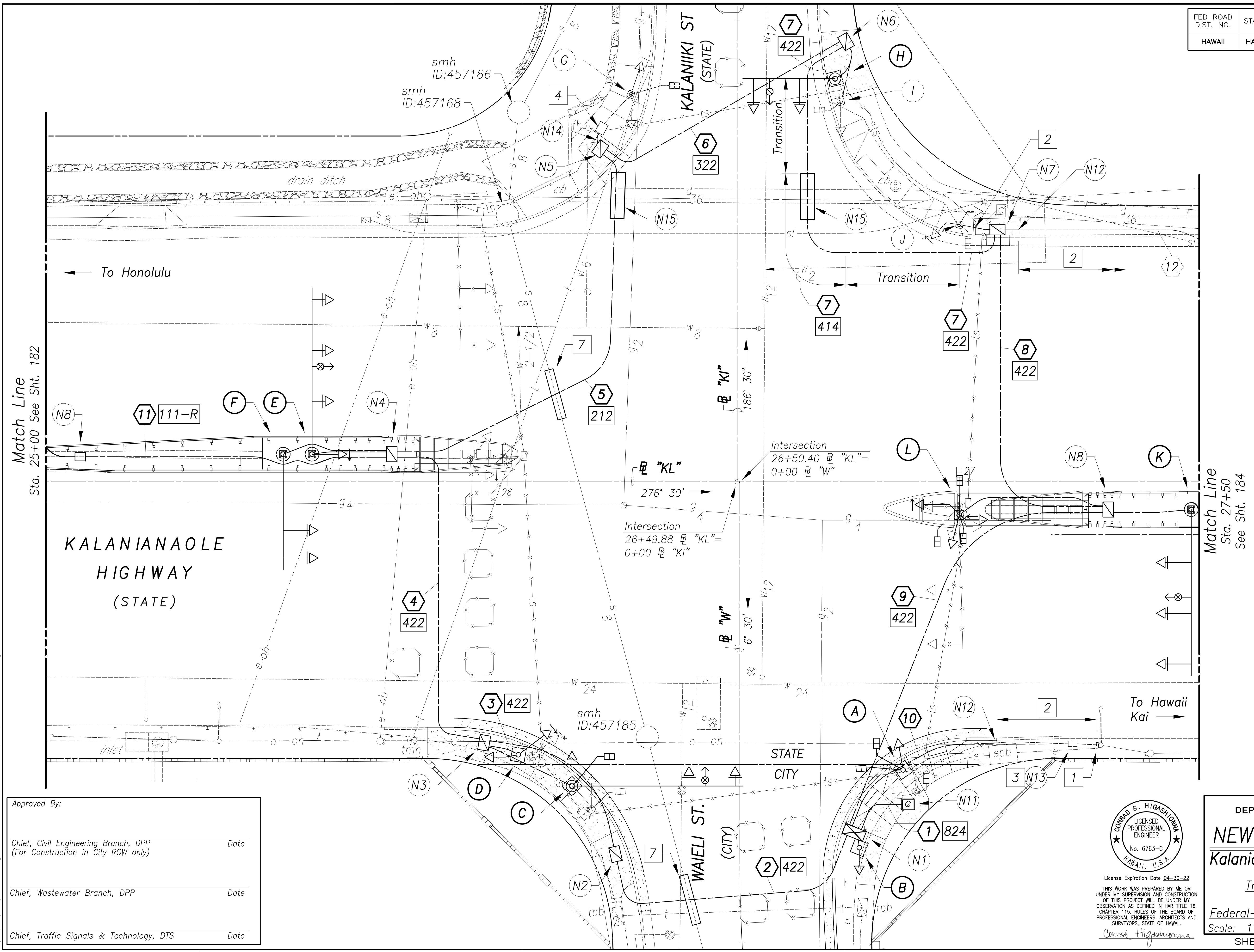


License Expiration Date: 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.  
Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**NEW DUCT LINE WORK**  
**Kalanianaʻole Hwy & Kalanikaʻikiʻi St**  
Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)  
Scale: 1"=10' Date: July 2020  
SHEET No. TS-87 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	183	284

True North  
Scale: 1"=10'  
TMK: 3-5-020,  
042, 044, & 049

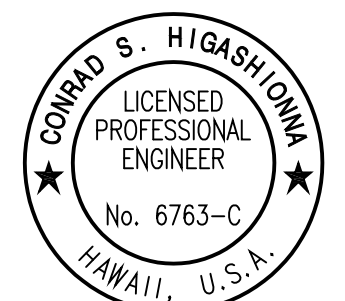


SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

Aug. 28, 2020 - 4:37pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\183 Duct Line Plan K 2.dwg

Approved By:

Chief, Civil Engineering Branch, DPP (For Construction in City ROW only)	Date
Chief, Wastewater Branch, DPP	Date
Chief, Traffic Signals & Technology, DTS	Date



License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAW. TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.  
Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

## NEW DUCT LINE WORK

Kalanianaʻole Hwy & Kalaniiki St

Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)

Scale: 1"=10' Date: July 2020

SHEET No. TS-88 OF 113 SHEETS



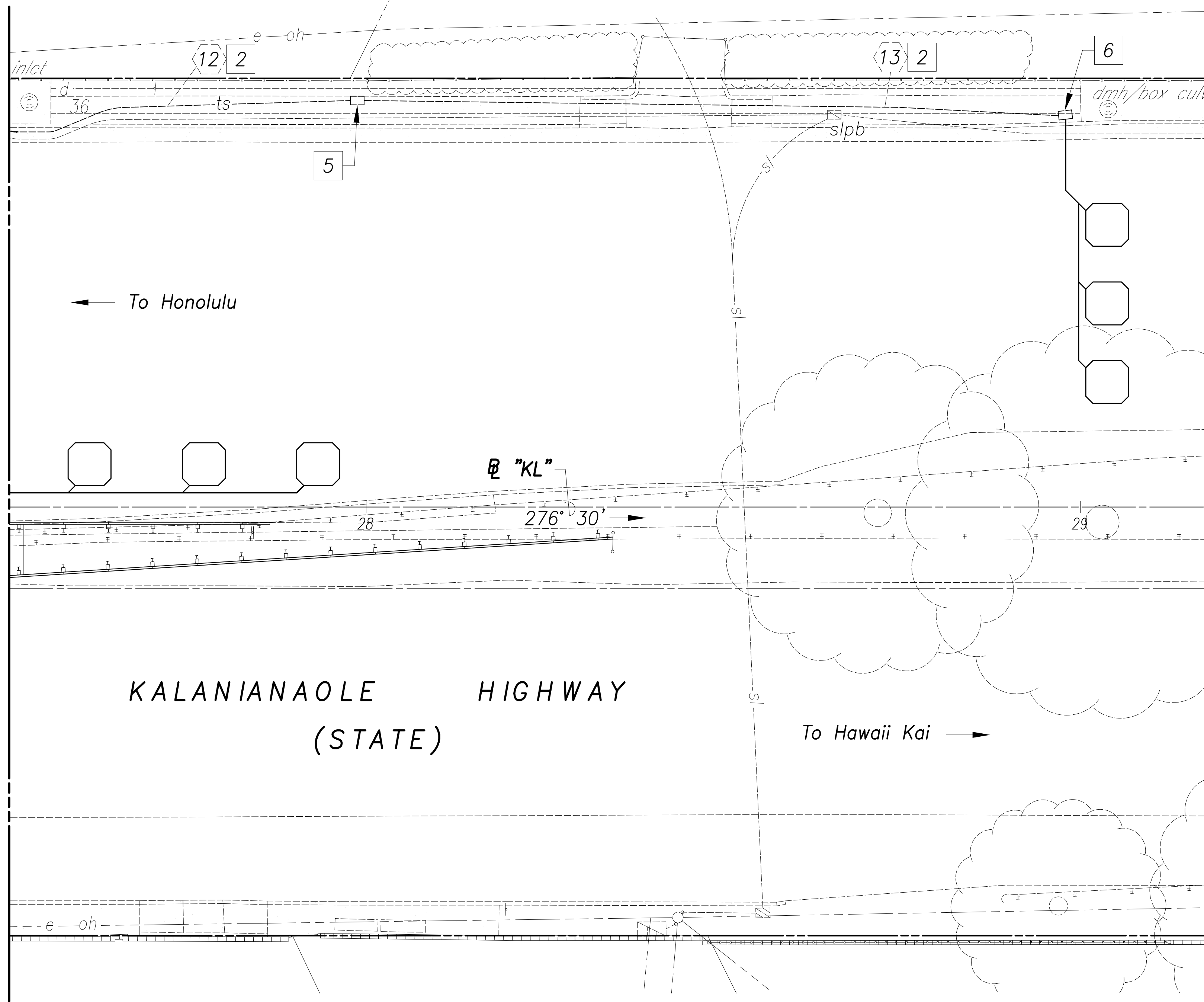
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	184	284

Aug 28, 2020-13:00m  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\184 Duct Line Plan K 3.dwg

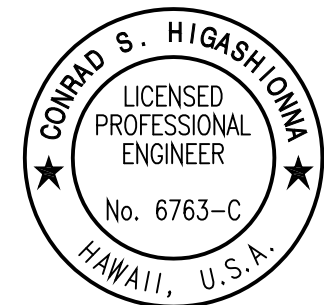
ORIGINAL PLAN	DATE
NOTE BOOK	DRAWN BY
	DESIGNED BY
	CHECKED BY
No.	

True North  
Scale: 1"=10'  
TMK: 3-5-020,  
042, 044, & 049

Match Line  
Sta. 27+50  
See Sht. 183



Approved By:  
Chief, Traffic Signals & Technology, DTS  
Date



License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

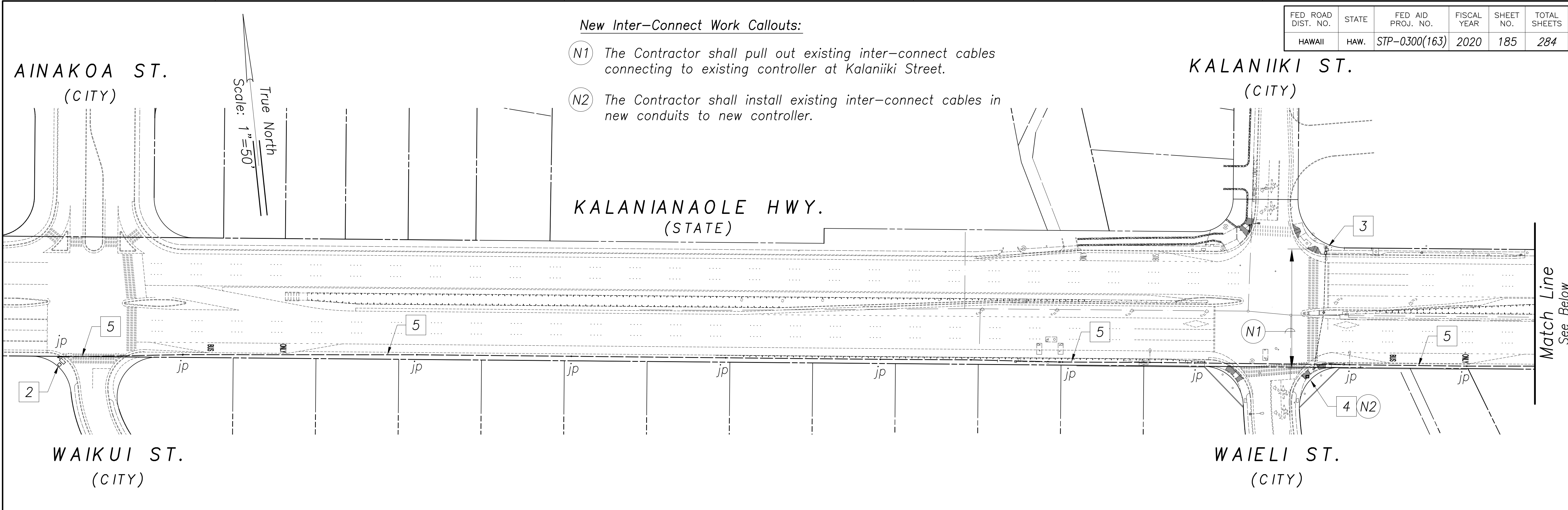
NEW DUCT LINE WORK  
Kalaniana'ole Hwy & Kalaniiki St

Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)

Scale: 1"=10' Date: July 2020

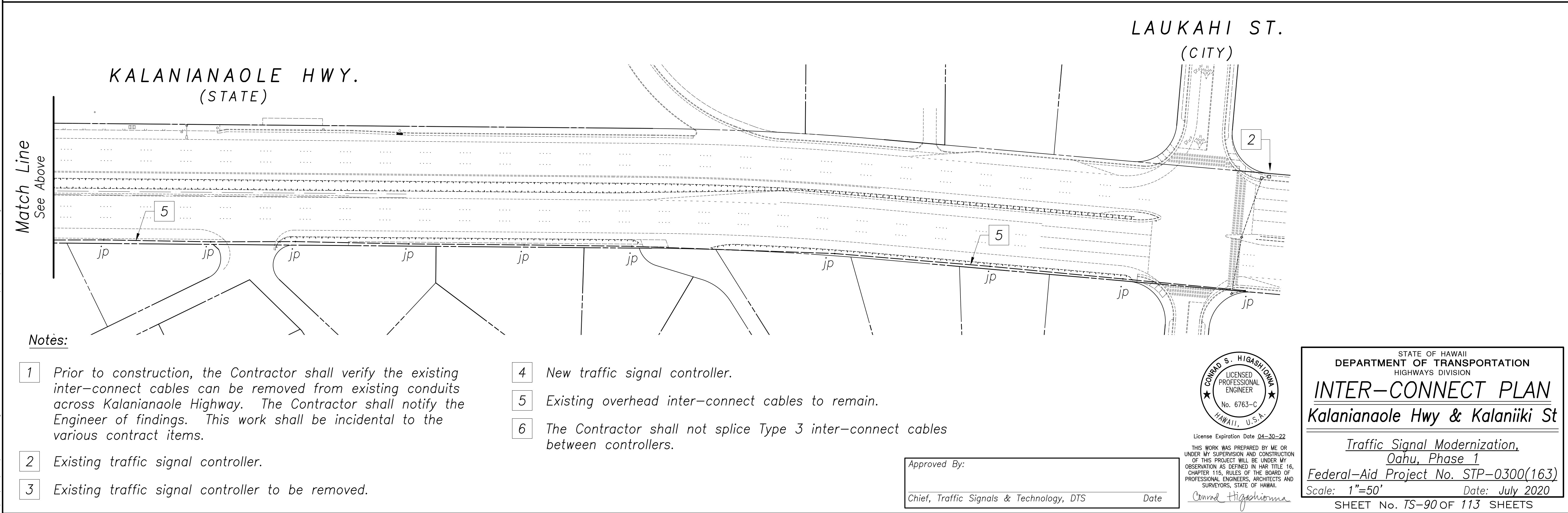
SHEET No. TS-89 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	185	284



New Inter-Connect Work Callouts:

- N1 The Contractor shall pull out existing inter-connect cables connecting to existing controller at Kalani'iki Street.
- N2 The Contractor shall install existing inter-connect cables in new conduits to new controller.

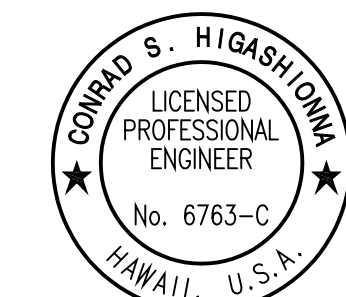


Notes:

- 1 Prior to construction, the Contractor shall verify the existing inter-connect cables can be removed from existing conduits across Kalaniana'ole Highway. The Contractor shall notify the Engineer of findings. This work shall be incidental to the various contract items.
- 2 Existing traffic signal controller.
- 3 Existing traffic signal controller to be removed.

- 4 New traffic signal controller.
- 5 Existing overhead inter-connect cables to remain.
- 6 The Contractor shall not splice Type 3 inter-connect cables between controllers.

Approved By: \_\_\_\_\_  
Chief, Traffic Signals & Technology, DTS Date \_\_\_\_\_



License Expiration Date: 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.  
Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**INTER-CONNECT PLAN**

**Kalaniana'ole Hwy & Kalani'iki St**

*Traffic Signal Modernization,  
Oahu, Phase 1*

Federal-Aid Project No. STP-0300(163)

Scale: 1"=50' Date: July 2020

SHEET No. TS-90 OF 113 SHEETS

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

Aug 28, 2020-1:30pm  
N:\QAQ\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\185 Interconnect K.dwg

SURVEY PLOTTED BY

DATE

DRAWN BY

DESIGNED BY

DESIGNED BY

QUANTITIES BY

CHECKED BY

ORIGINAL PLAN

No.

NOTE BOOK

Aug 28, 2020-1:33pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\186 Conduit Cable Table K.rdg

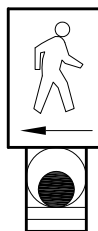
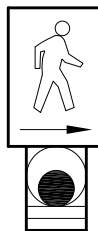
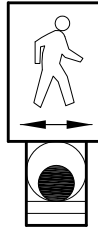
CONDUIT-CABLE SCHEDULE									
	FROM	TO	CONDUIT/SECTION	CABLE		FROM	TO	CONDUIT/SECTION	CABLE
	CONTR.	PB-1	New 8-2" Sch. 40 Concrete Encased	1-Type 1, Ground Wire 1-Type 1, Ground Wire 6-Type 2 5-Type 2 2-Type 3 1-Type 6 4-Type 7 Spare		PB-8	PB-1	New 4-2" Sch. 40 Concrete Encased	1-Type 1, Ground Wire 6-Type 2 2-Type 7 Spare
	PB-1	PB-2	New 4-2" Sch. 40 Concrete Encased	1-Type 1, Ground Wire 4-Type 2 2-Type 7 Spare		PB-1	Exist. PB-9	New 2-2" Sch. 40 Concrete Encased	1-Type 3 1-Type 6
	PB-2	PB-3	New 4-2" Sch. 40 Concrete Encased	1-Type 1, Ground Wire 3-Type 2 1-Type 7 Spare		PB-4	PB-10	New 1-2" Sch. 40 Concrete Encased	1-Type 2
	PB-3	PB-4	New 4-2" Sch. 40 Concrete Encased	1-Type 1, Ground Wire 1-Type 2 1-Type 7 Spare		PB-7	Exist. PB-11	New 1-2" Sch. 80 Intercept & connect to existing conduit.	1-Type 2
	PB-4	PB-5	New 2-2" Sch. 40 Concrete Encased	1-Type 1, Ground Wire Spare		Exist. PB-11	Exist. PB-12	Existing conduit	1-Type 2
	PB-5	PB-6	New 3-2" Sch. 40 Concrete Encased	1-Type 1, Ground Wire 2-Type 2 Spare					
	PB-6	PB-7	New 4-2" Sch. 40 Concrete Encased	1-Type 1, Ground Wire 2-Type 2 1-Type 7 Spare					
	PB-7	PB-8	New 4-2" Sch. 40 Concrete Encased	1-Type 1, Ground Wire 6-Type 2 2-Type 7 Spare					

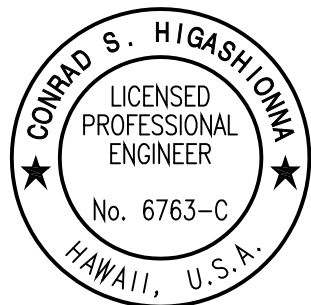
SIGNAL HEAD SCHEDULE	
Head Type and Description	Pole Letter – Signal Head Number
<div><div> Red Ball</div><div> Yellow Ball</div><div> Green Ball</div></div> <div>12" RYG Traffic Signal Head</div>	A-1 H-1** B-1 H-2** C-1** I-1* C-2** J-2* C-3 K-1** D-2 K-2** E-1** K-3** E-2** L-3 E-3** G-1* G-2*
<div><div> Red Ball</div><div> Yellow Arrow (Left)</div><div> Green Arrow (Left)</div></div> <div>12" R&lt;-&lt; Traffic Signal Head</div>	D-1 J-1*
<div><div> Red Ball</div><div> Yellow Arrow (Left)</div><div> Green Arrow (Left)</div></div> <div>12" R&lt;-&lt; Programmed Visibility Traffic Signal Head</div>	E-4 L-1
<div><div> Red Ball</div><div> Yellow Ball</div><div> Green Arrow (Thru)</div></div> <div>12" RY↑ Programmed Visibility Traffic Signal Head</div>	F-1** F-2** L-2
<div></div> <div>Countdown Pedestrian Signal Head</div>	A-2 I-2* A-3 J-3* C-4 L-4 G-3* L-5
* Existing signal head to remain	
** Install Backplate with Retroreflective Borders	

Approved By:

Chief, Traffic Signals & Technology, DTS

Date

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	186	284
PEDESTRIAN PUSH BUTTON SCHEDULE					
Description	New Signal Work Callout	Pole or Pedestal PPB-#			
	N16	B PPB-2			
	N19	I PPB-5			
	N20	J PPB-6			
	N15	A PPB-1			
	N17	C PPB-3			
	N18	G PPB-4			
	N21	L PPB-7			
OPTICOM SCHEDULE					
Mounting Type	Pole Letter – Opticom Number				
Mast Arm, One-Way	C-5	H-3			
	E-5	K-4			



License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAW. TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

NEW WORK SCHEDULES  
Kalanianaʻole Hwy & Kalaniki St

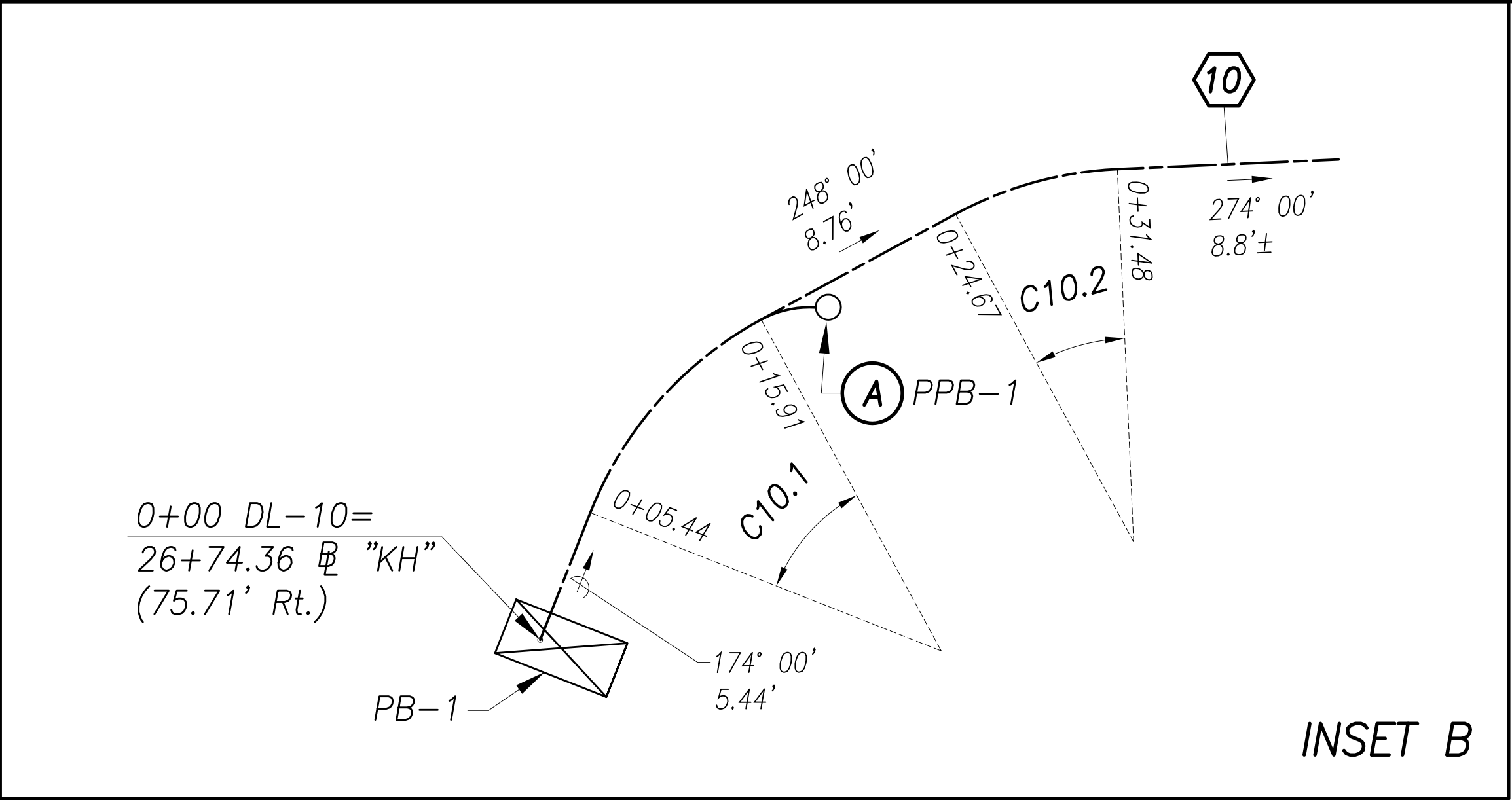
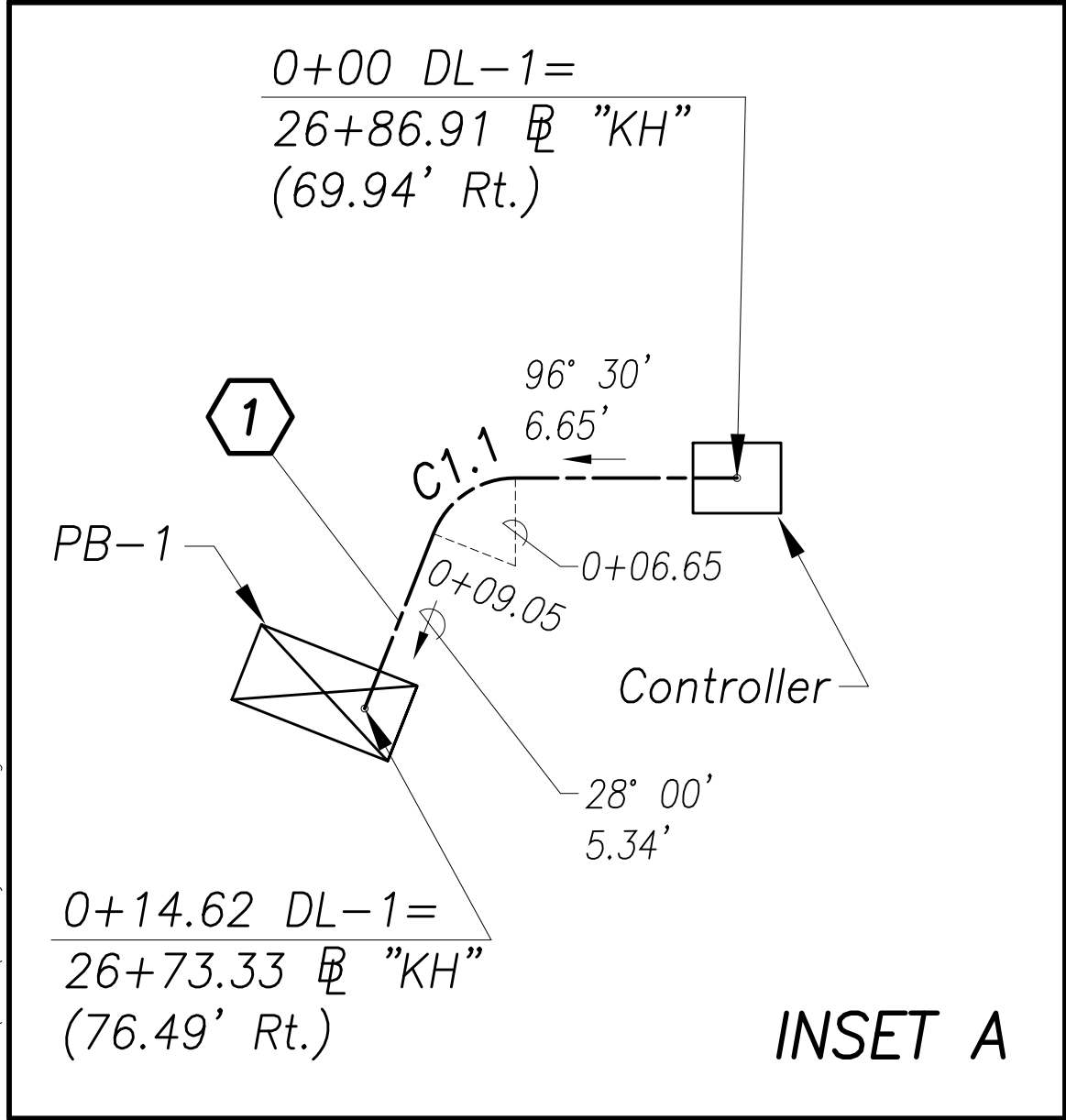
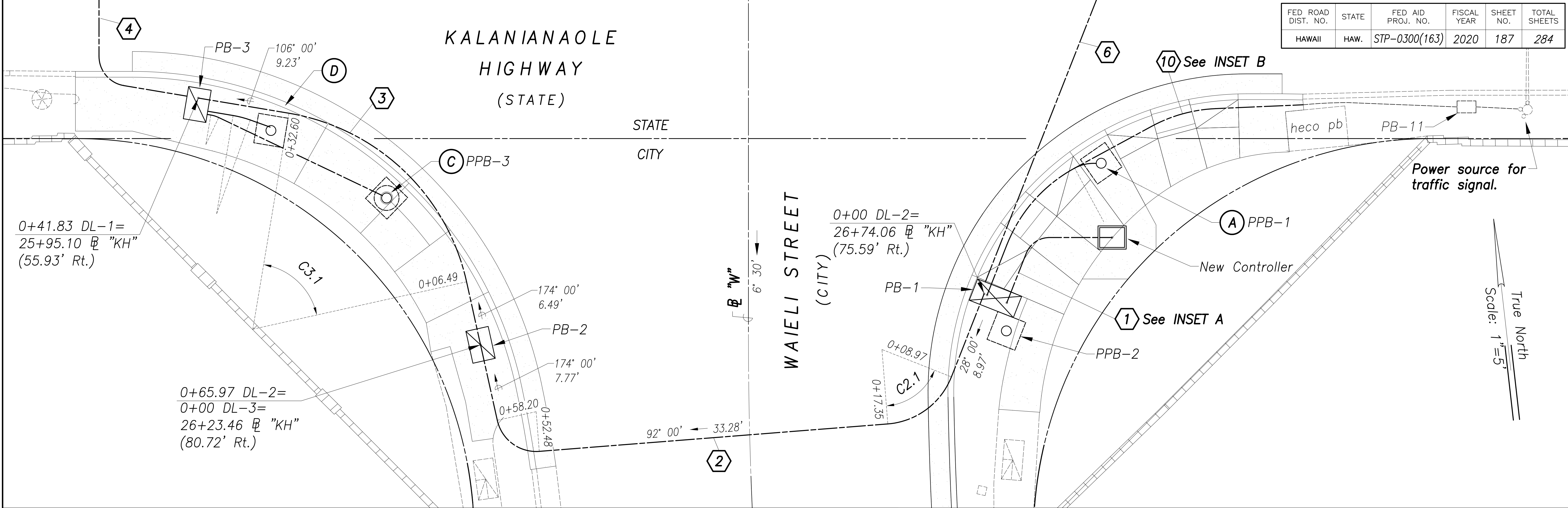
Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)

Scale: Date: July 2020

SHEET No. TS-91 OF 113 SHEETS



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	187	284



Duct Line Curve Data						
	C1.1	C2.1	C2.2	C3.1	C10.1	C10.2
$\Delta$	68° 30' 00"	64° 00' 00"	82° 00' 00"	68° 00' 00"	40° 00' 00"	26° 00' 00"
$\Delta/2$	34° 15' 00"	32° 00' 00"	41° 00' 00"	34° 00' 00"	20° 00' 00"	13° 00' 00"
R	2.50'	7.50'	4.00'	22.00'	15.00'	15.00'
T	1.70'	4.69'	3.48'	14.84'	5.46'	3.46'
Ch	2.81'	7.95'	5.25'	24.60'	10.26'	6.75'
Lc	2.99'	8.38'	5.72'	26.11'	10.47'	6.81'

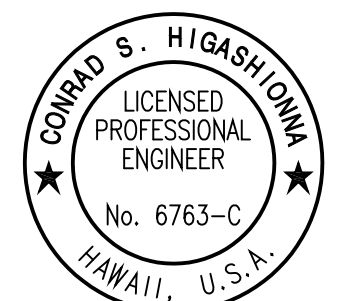
Approved By:

Chief, Civil Engineering Branch, DPP  
(For Construction in City ROW only)

Chief, Traffic Signals & Technology, DTS

Date

Date



License Expiration Date 04-30-22

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

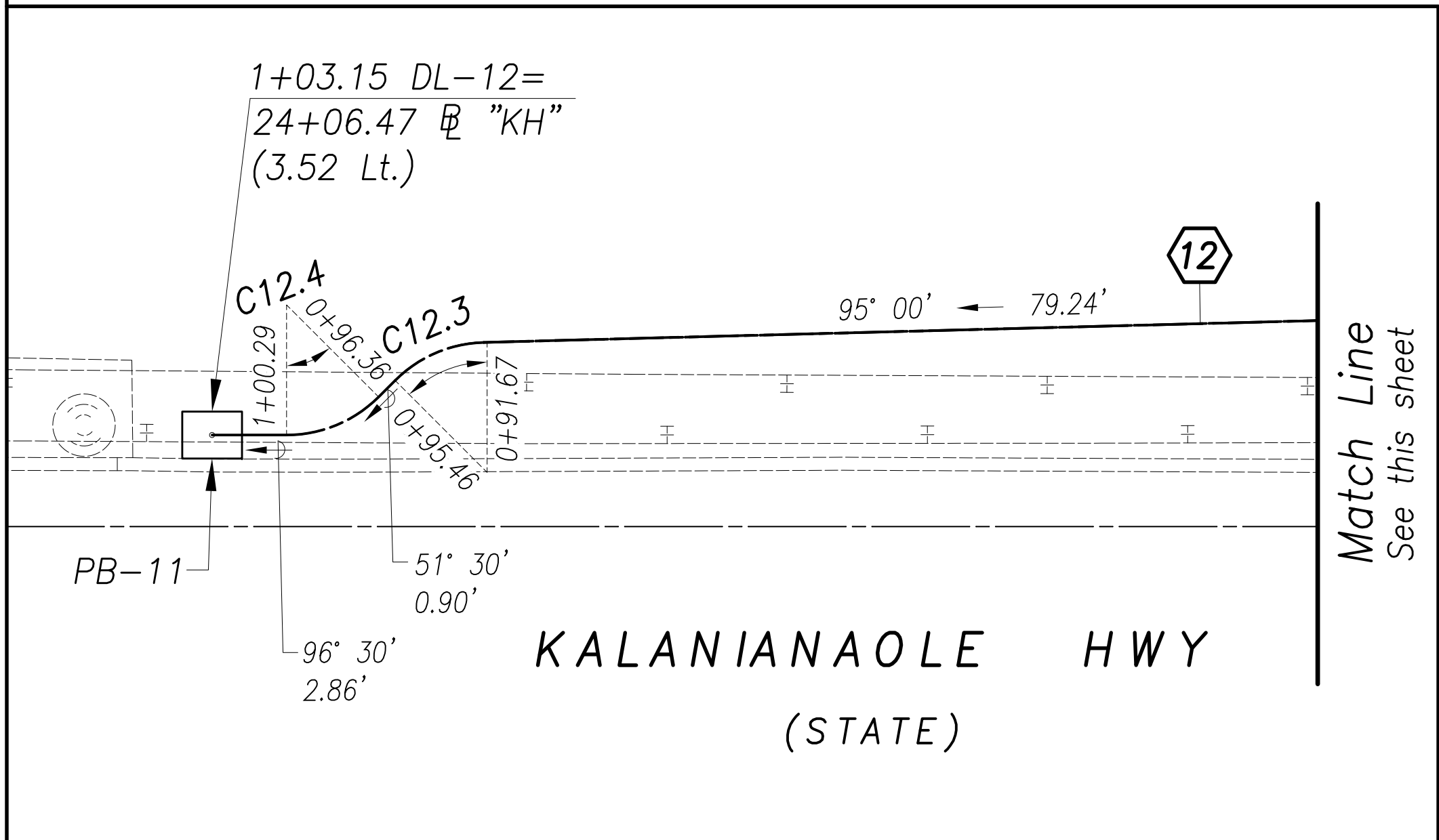
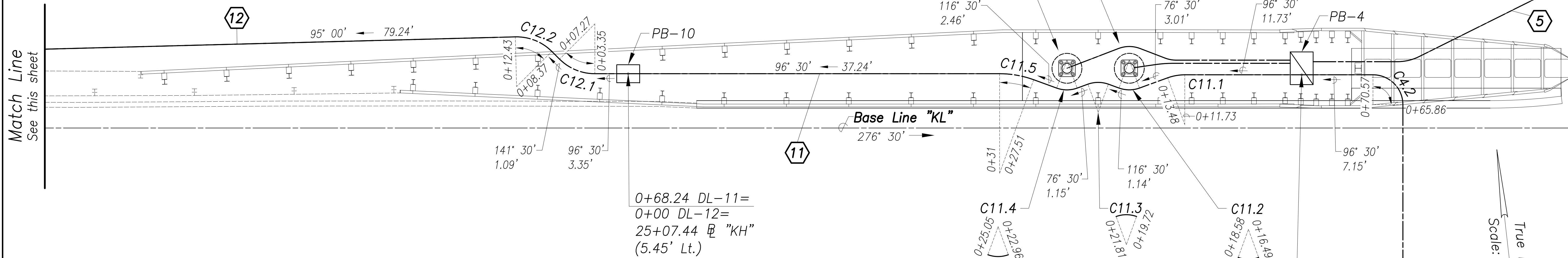
Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**DUCT LAYOUT PLAN**  
**Kalanianaʻole Hwy & Kalaniki St**  
Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)  
Scale: 1"=5' Date: July 2020  
SHEET No. TS-92 OF 113 SHEETS

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

Aug 28, 2020-1:33pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\187 Layout K Tidwg

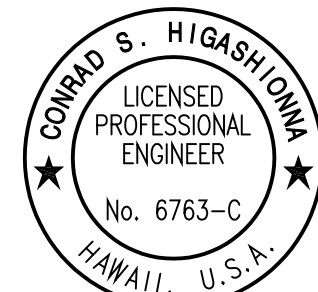
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	188	284



☉ Duct Line Curve Data

	C4.1	C4.2	C11.1	C11.2	C11.3
Δ	80° 30' 00"	90° 00' 00"	8° 00' 00"	8° 00' 00"	3° 00' 00"
Δ/2	40° 15' 00"	45° 00' 00"	4° 00' 00"	4° 00' 00"	1° 30' 00"
R	3.00'	3.00'	10.00'	10.00'	5.00'
T	2.54'	3.00'	0.70'	0.70'	0.13'
Ch	3.88'	4.24'	1.40'	1.40'	0.26'
Lc	4.21'	4.71'	1.40'	1.40'	0.26'
	C11.4	C12.1	C12.2	C12.3	C12.4
Δ	3° 00' 00"	45° 00' 00"	46° 30' 00"	43° 30' 00"	45° 00' 00"
Δ/2	1° 03' 00"	22° 30' 00"	23° 15' 00"	21° 45' 00"	22° 30' 00"
R	10.00'	5.00'	5.00'	5.00'	5.00'
T	0.26'	2.07'	2.15'	1.99'	2.07'
Ch	0.52'	3.83'	3.95'	3.71'	3.83'
Lc	0.52'	3.93'	4.06'	3.80'	3.93'

Approved By: \_\_\_\_\_  
Chief, Traffic Signals & Technology, DTS Date



License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.  
Conrad Higashimura

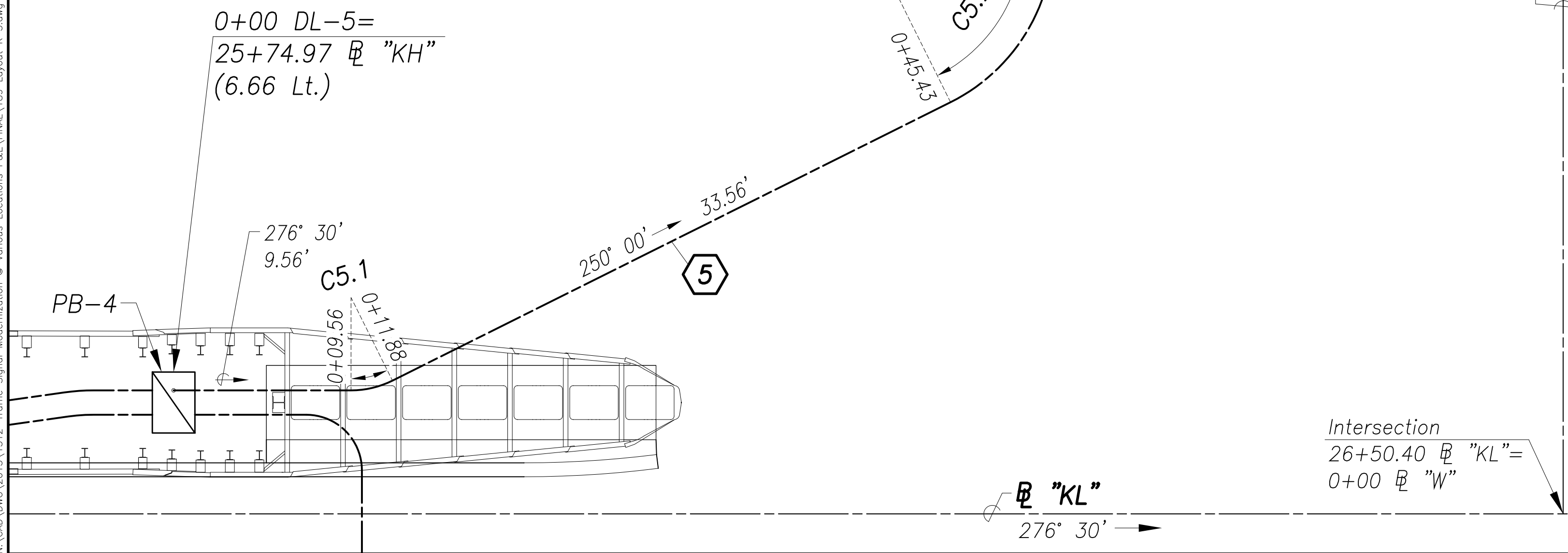
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

DUCT LAYOUT PLAN  
Kalanianaʻole Hwy & Kalaniiki St

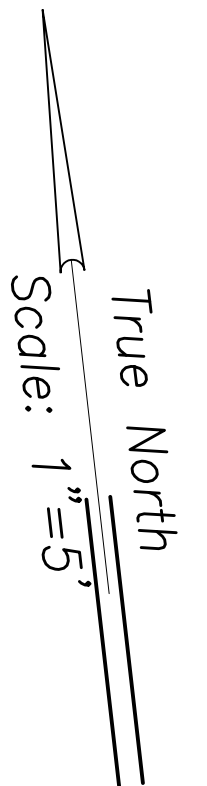
Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)  
Scale: 1"=5' Date: July 2020

SHEET No. TS-93 OF 113 SHEETS

Duct Line Curve Data		
	C5.1	C5.2
$\Delta$	26° 30' 00"	63° 00' 00"
$\Delta/2$	13° 15' 00"	31° 30' 00"
R	5.00'	10.00'
T	1.18'	6.13'
Ch	2.29'	10.45'
Lc	2.31'	11.00'
	C5.3	C6.1
$\Delta$	55° 00' 00"	65° 30' 00"
$\Delta/2$	27° 30' 00"	32° 45' 00"
R	3.00'	3.00'
T	1.56'	1.93'
Ch	2.77'	3.25'
Lc	2.88'	3.43'
	C7.1	C7.2
$\Delta$	60° 00' 00"	90° 00' 00"
$\Delta/2$	30° 00' 00"	45° 00' 00"
R	4.00'	6.00'
T	2.31'	6.00'
Ch	4.00'	8.49'
Lc	4.19'	9.42'
	C7.3	
$\Delta$	90° 00' 00"	
$\Delta/2$	45° 00' 00"	
R	3.00'	
T	3.00'	
Ch	4.24'	
Lc	4.71'	

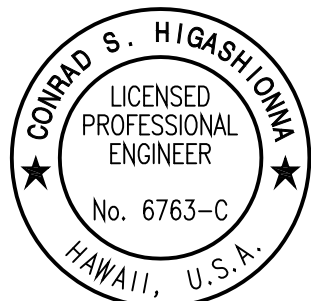


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	189	284



SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	

Aug 28, 2020-1:30pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\189 Layout K 3.dwg



License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

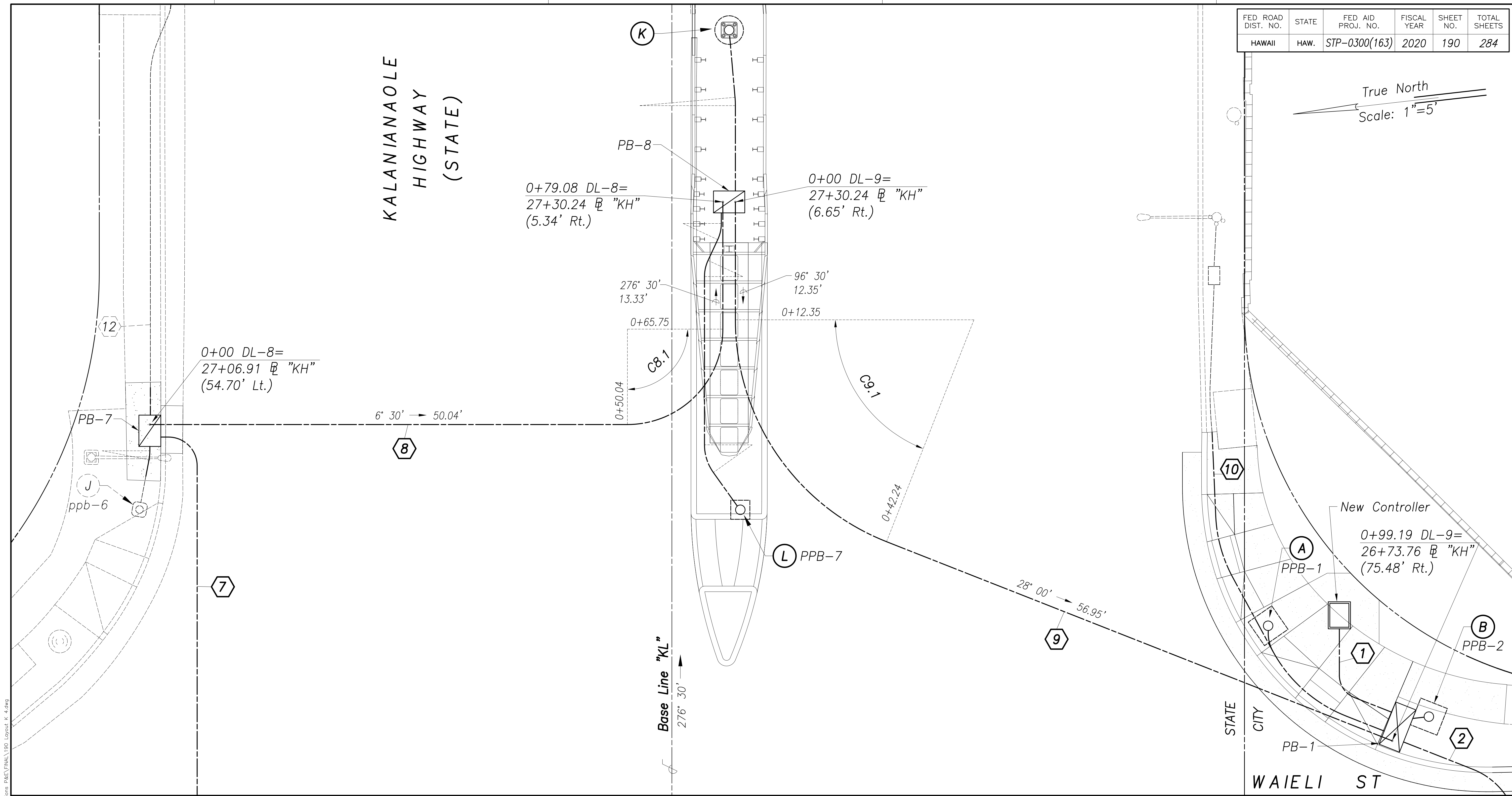
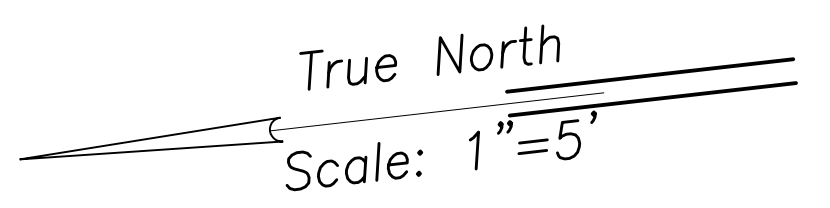
Conrad Higashimura

Approved By: \_\_\_\_\_  
Chief, Traffic Signals & Technology, DTS Date \_\_\_\_\_

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**DUCT LAYOUT PLAN**  
**Kalanianaʻole Hwy & Kalaniki St**  
Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)  
Scale: 1"=5' Date: July 2020  
SHEET No. TS-94 OF 113 SHEETS



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	190	284

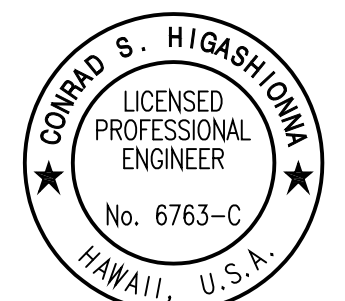


Duct Line Curve Data		
	C8.1	C9.1
$\Delta$	90° 00' 00"	68° 30' 00"
$\Delta/2$	45° 00' 00"	34° 15' 00"
R	10.00'	25.00'
T	10.0'	17.02'
Ch	14.14'	28.14'
Lc	15.71'	29.89'

Approved By:	
Chief, Civil Engineering Branch, DPP (For Construction in City ROW only)	Date
Chief, Traffic Signals & Technology, DTS	Date

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

Aug 28, 2020 - 4:30pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\190 Layout K 4.dwg



License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAW. TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.  
*Conrad Higashimura*

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DUCT LAYOUT PLAN**  
**Kalanianaʻole Hwy & Kalaniiki St**

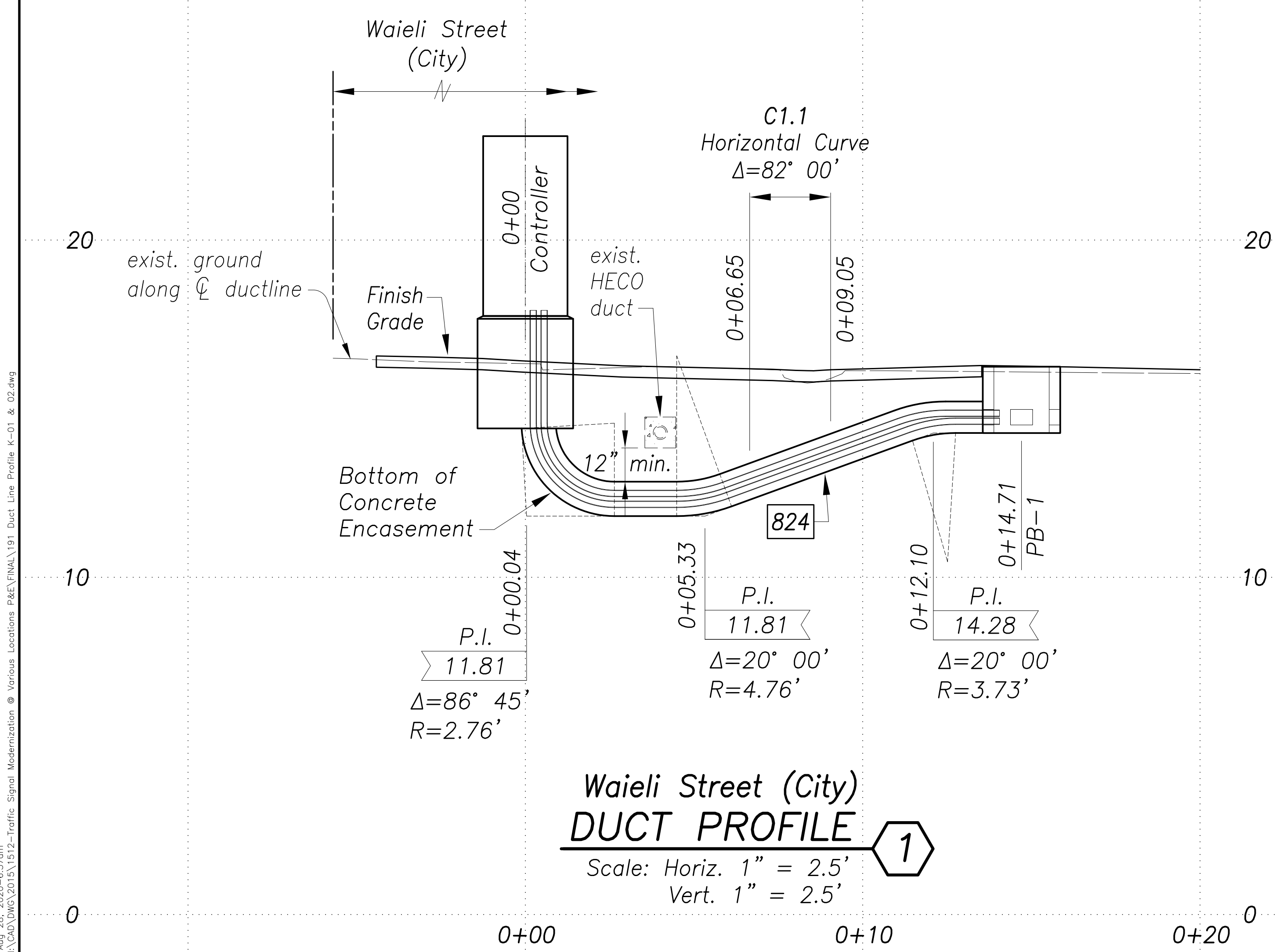
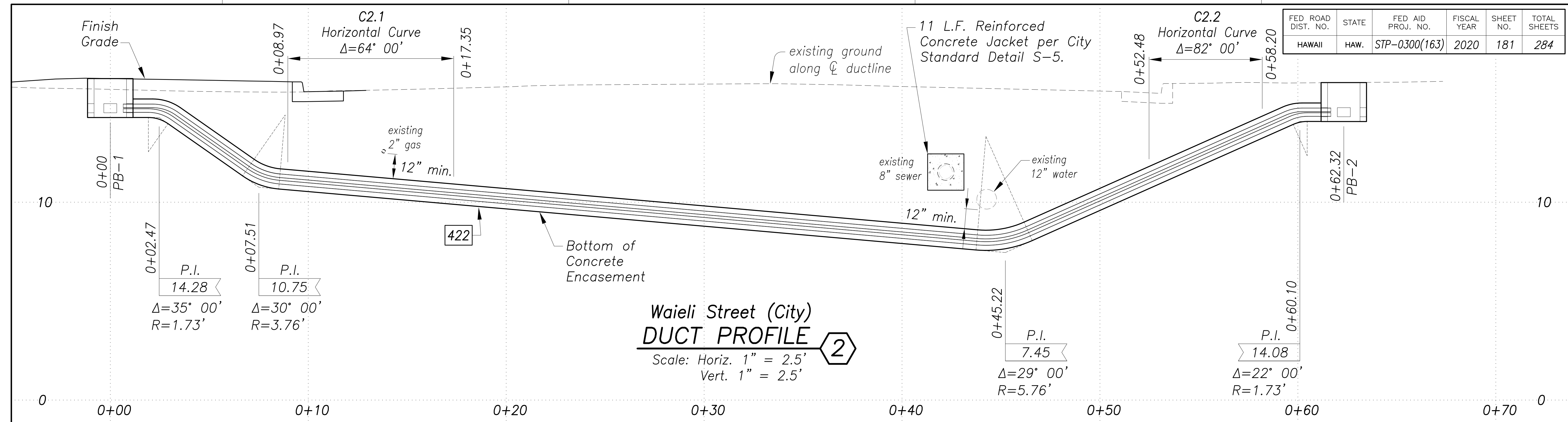
Traffic Signal Modernization,  
Oahu, Phase 1

Federal-Aid Project No. STP-0300(163)

Scale: 1"=5'      Date: July 2020

SHEET No. TS-95 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	181	284



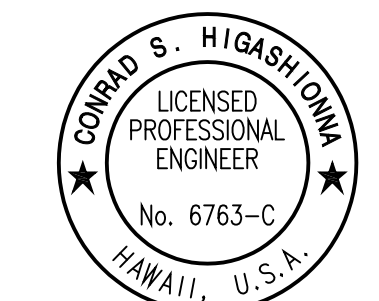
Approved By:

Chief, Civil Engineering Branch, DPP (For Construction in City ROW only) \_\_\_\_\_ Date \_\_\_\_\_

Manager & Chief Engineer, BWS (for work affecting BWS facilities in City/State R/W and BWS easements only) \_\_\_\_\_ Date \_\_\_\_\_

Chief, Wastewater Branch, DPP \_\_\_\_\_ Date \_\_\_\_\_

Chief, Traffic Signals & Technology, DTS \_\_\_\_\_ Date \_\_\_\_\_



License Expiration Date 04-30-22

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

*Conrad Higashimura*

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DUCT LINE PROFILES**

**Kalanianaʻole Hwy & Kalaniki St**

*Traffic Signal Modernization,  
Oahu, Phase 1*

**Federal-Aid Project No. STP-0300(163)**

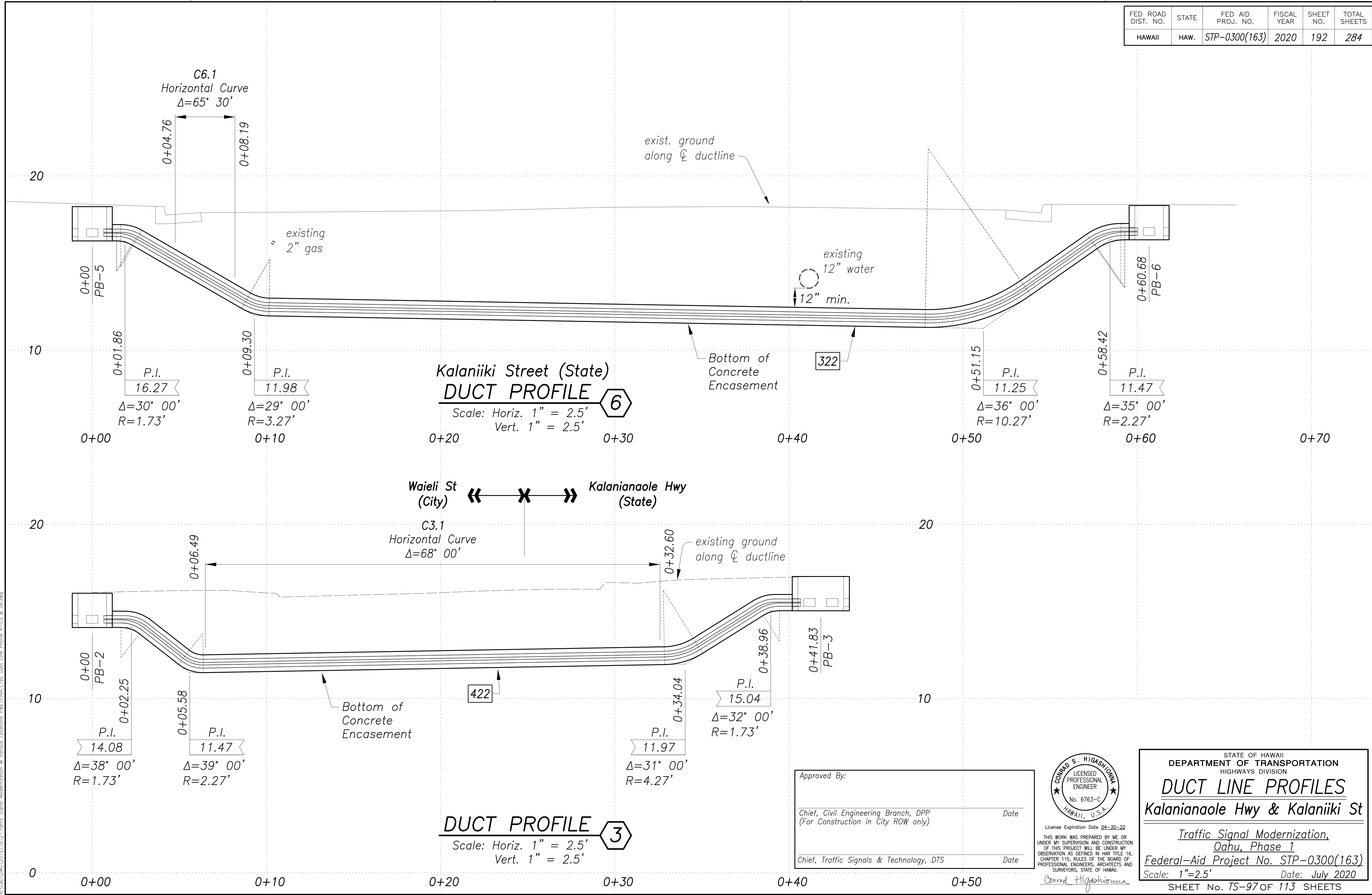
Scale: 1"=2.5' Date: July 2020

SHEET No. TS-96 OF 113 SHEETS

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTE BOOK	_____
No.	_____

Aug 28, 2020-1:33pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\191 Duct Line Profile K-01 & 02.dwg

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	192	284

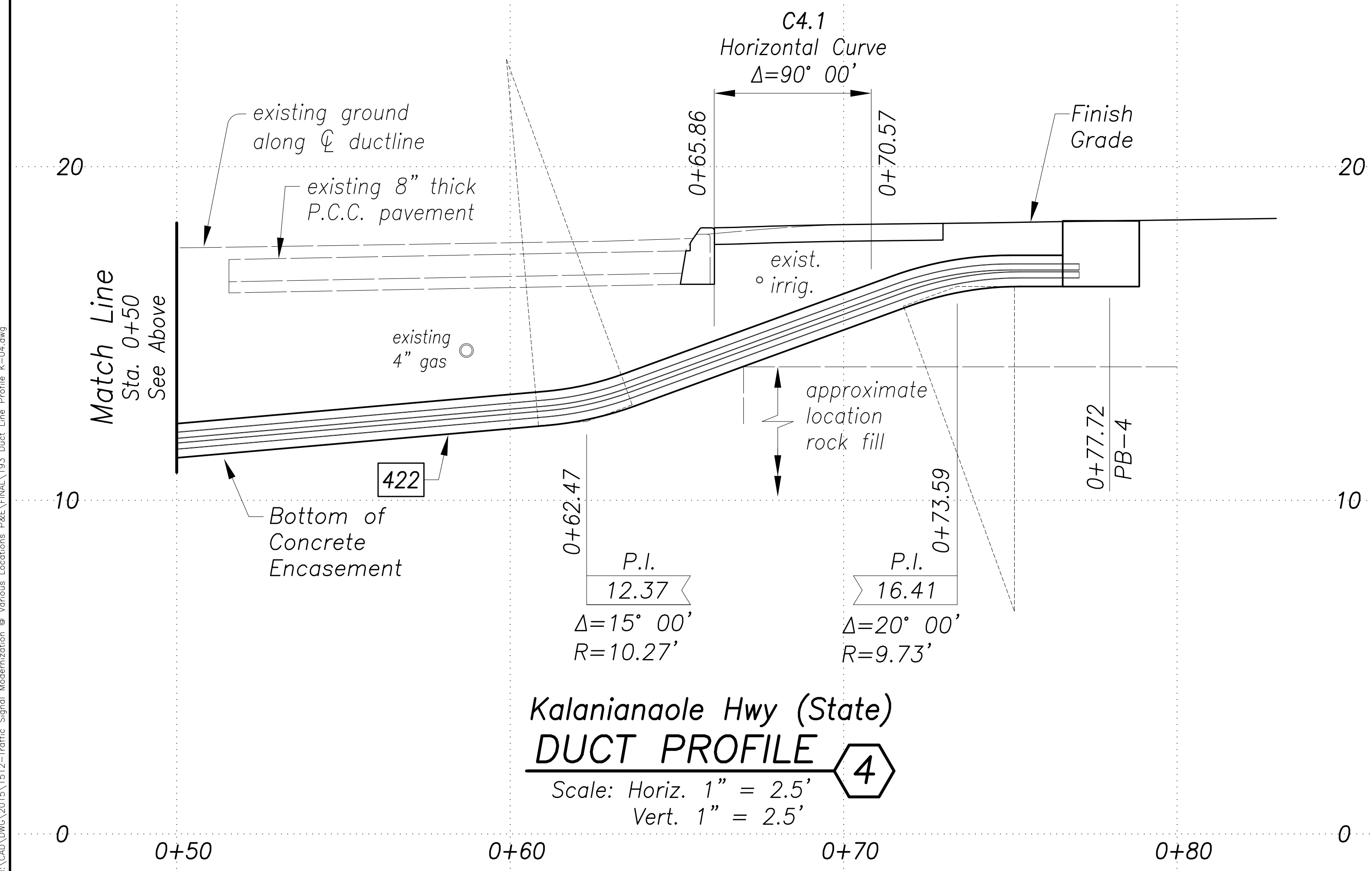
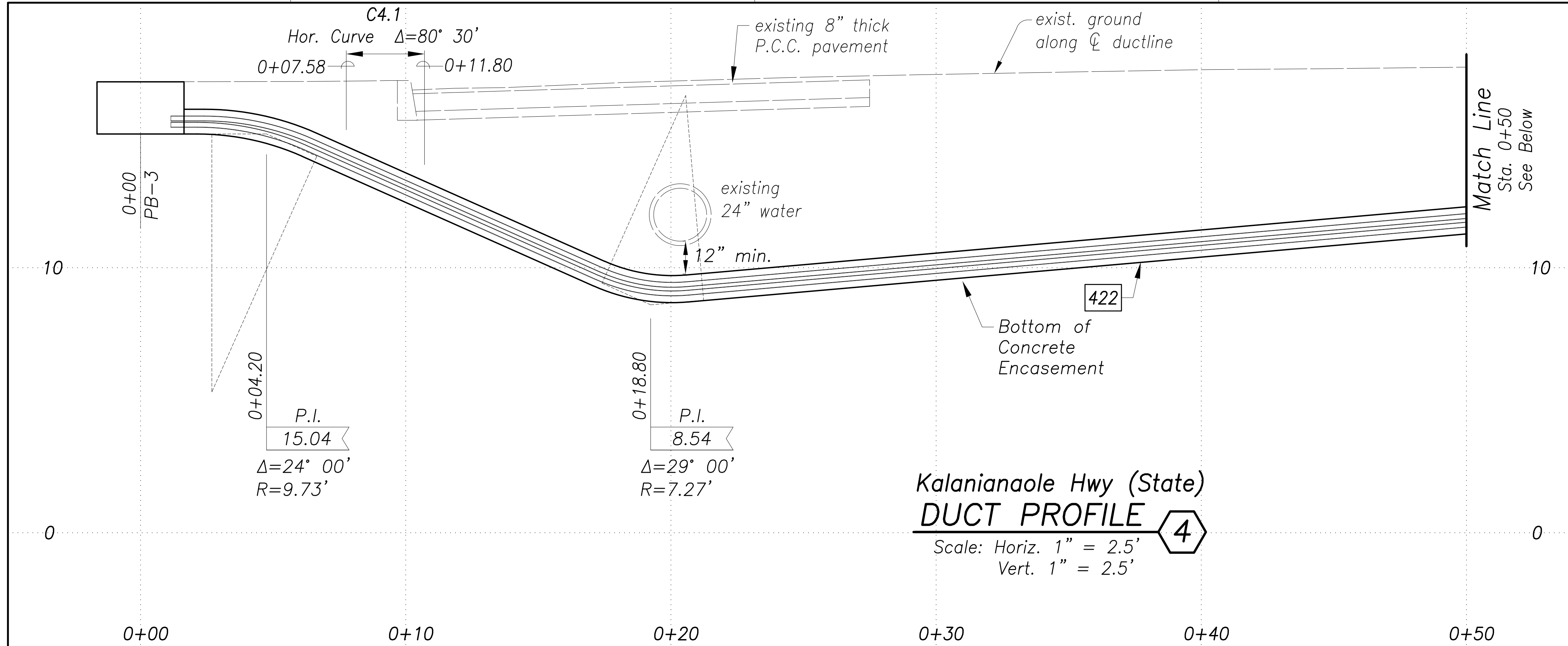


SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
DESIGNED BY	
QUANTITIES BY	
ORIGINAL PLAN	No.
NOTE BOOK	

Aug 28, 2020 - 4:38pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\192 Duct Line Profile K-03 & 06.dwg



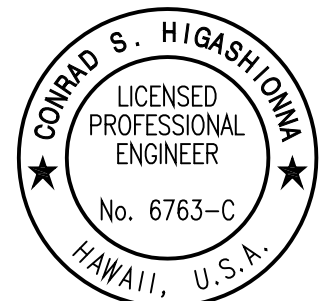
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	193	284



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

Aug 28, 2020 - 4:38pm  
N:\QAQ\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\193 Duct Line Profile K-04.dwg

Approved By:	
Chief, Civil Engineering Branch, DPP (For Construction in City ROW only)	Date
Manager & Chief Engineer, BWS (for work affecting BWS facilities in City/State R/W and BWS easements only)	Date
Chief, Traffic Signals & Technology, DTS	Date

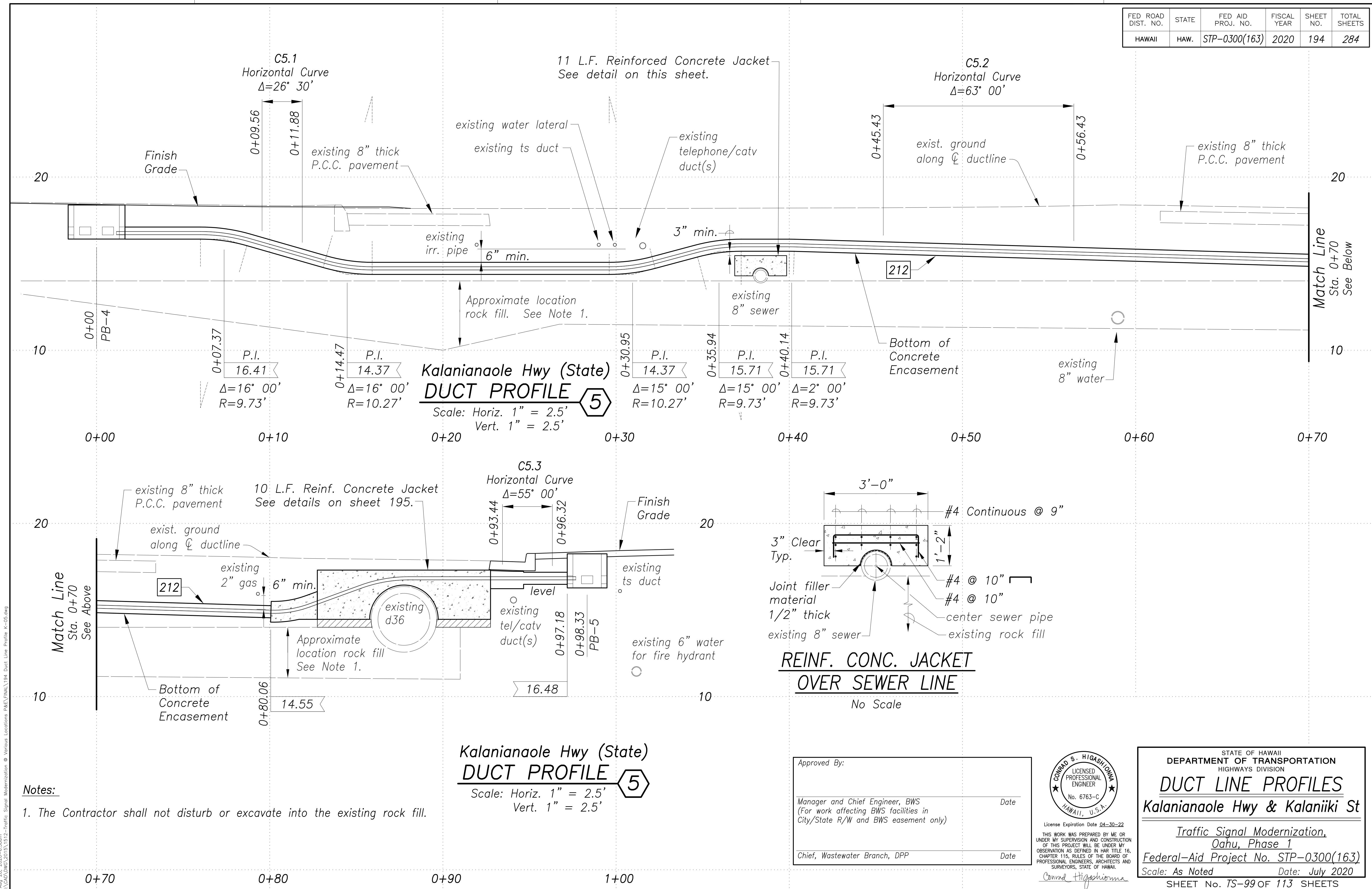


License Expiration Date: 04-30-22  
THIS WORK WAS PREPARED BY ME OR  
UNDER MY SUPERVISION AND CONSTRUCTION  
OF THIS PROJECT WILL BE UNDER MY  
OBSERVATION AS DEFINED IN HAW. TITLE 16,  
CHAPTER 115, RULES OF THE BOARD OF  
PROFESSIONAL ENGINEERS, ARCHITECTS AND  
SURVEYORS, STATE OF HAWAII.

Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**DUCT LINE PROFILES**  
**Kalanianaʻole Hwy & Kalaniki St**  
Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)  
Scale: 1"=2.5' Date: July 2020  
SHEET No. TS-98 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	194	284

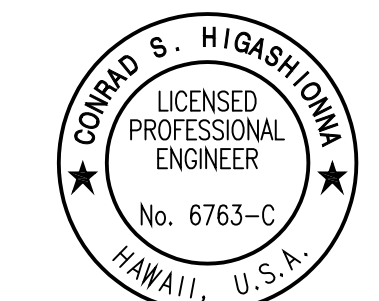


**Notes:**

1. The Contractor shall not disturb or excavate into the existing rock fill.

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

Aug 28, 2020 - 4:38pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\194 Duct Line Profile K-05.dwg



Approved By: \_\_\_\_\_ Date \_\_\_\_\_

Manager and Chief Engineer, BWS  
(For work affecting BWS facilities in  
City/State R/W and BWS easement only)

Chief, Wastewater Branch, DPP \_\_\_\_\_ Date \_\_\_\_\_

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DUCT LINE PROFILES**

**Kalaniana'ole Hwy & Kalaniki St**

Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)

Scale: As Noted Date: July 2020

SHEET No. TS-99 OF 113 SHEETS

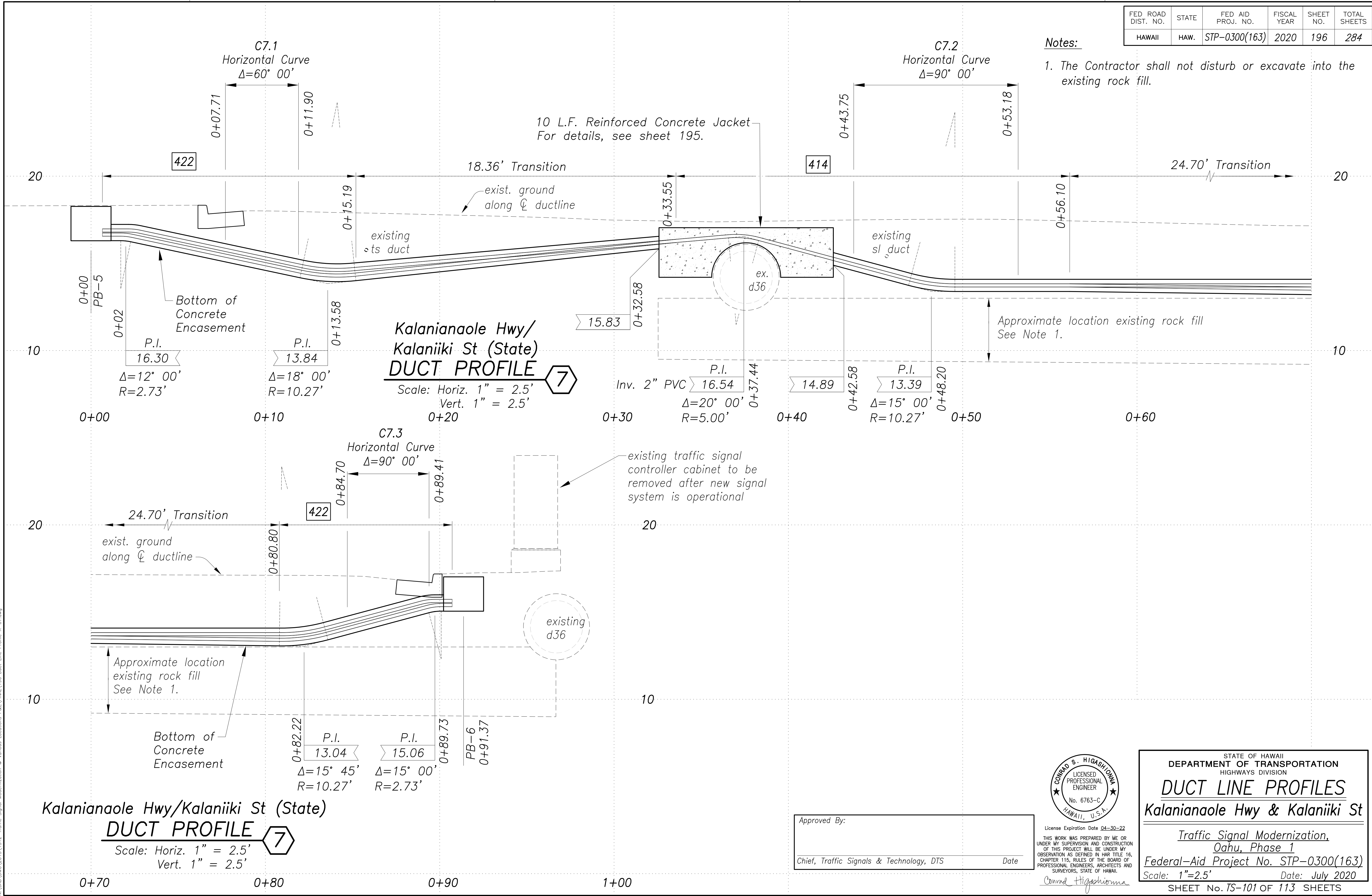




FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	196	284

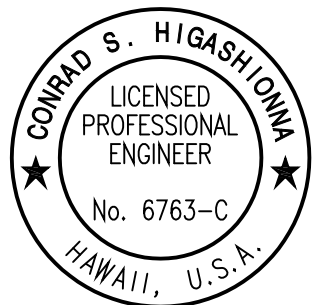
Notes:

1. The Contractor shall not disturb or excavate into the existing rock fill.



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

Aug 28, 2020-1:38pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\196 Duct Line Profile K-07.dwg



Approved By: \_\_\_\_\_  
Chief, Traffic Signals & Technology, DTS Date: \_\_\_\_\_

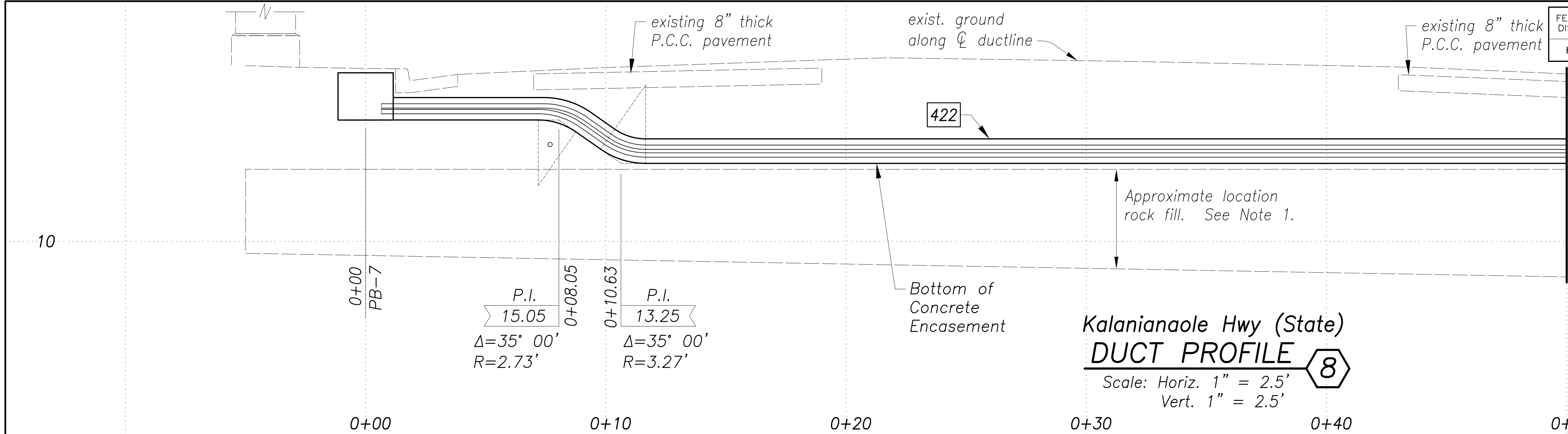
License Expiration Date: 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.  
Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DUCT LINE PROFILES**  
**Kalanianaʻole Hwy & Kalaniiki St**

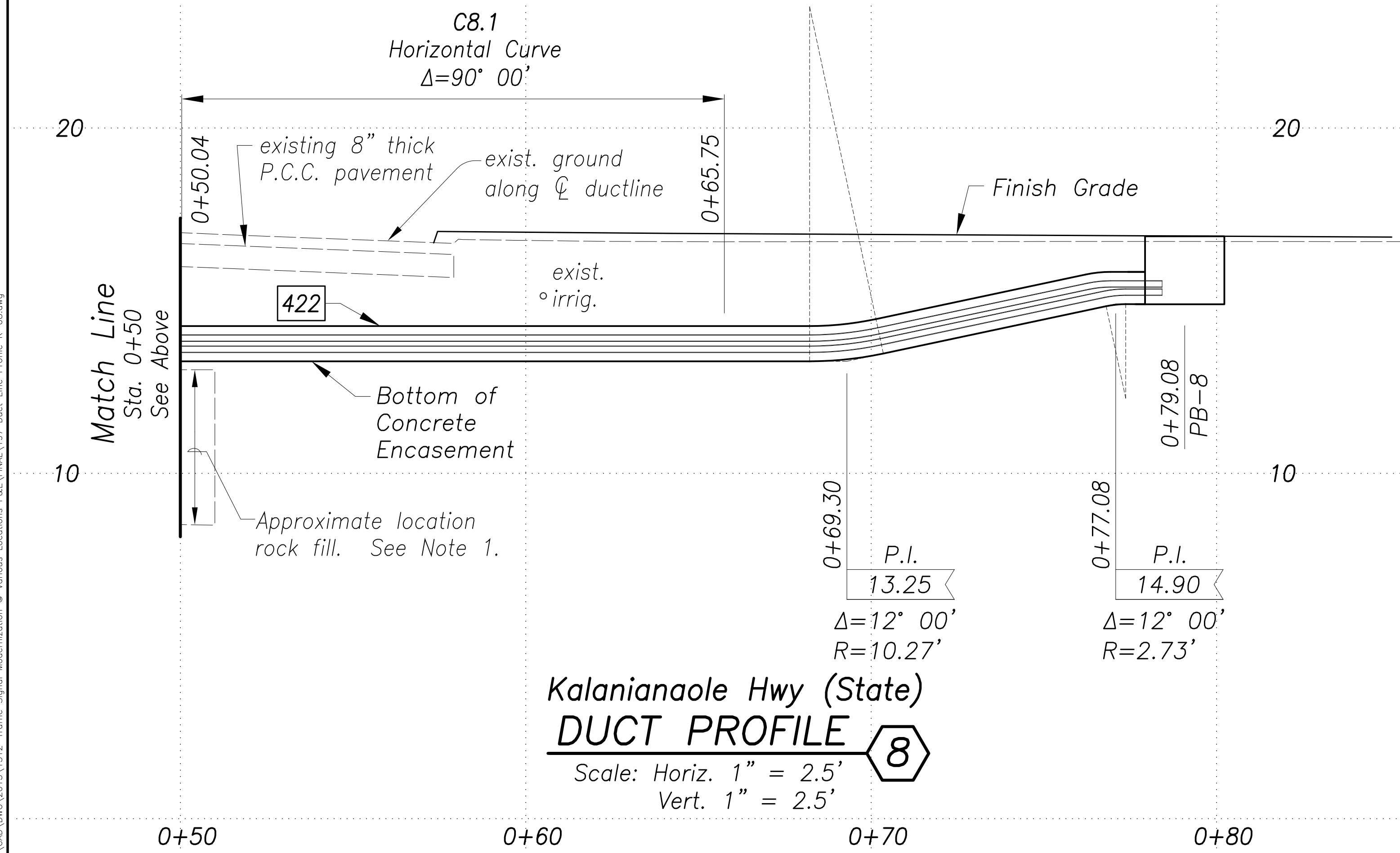
Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)  
Scale: 1"=2.5' Date: July 2020  
SHEET No. TS-101 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	197	284



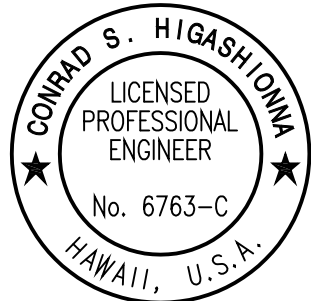
**Notes:**

1. The Contractor shall not disturb or excavate into the existing rock fill.



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

Aug 28, 2020-4:38pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\197 Duct Line Profile K-08.dwg



License Expiration Date 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

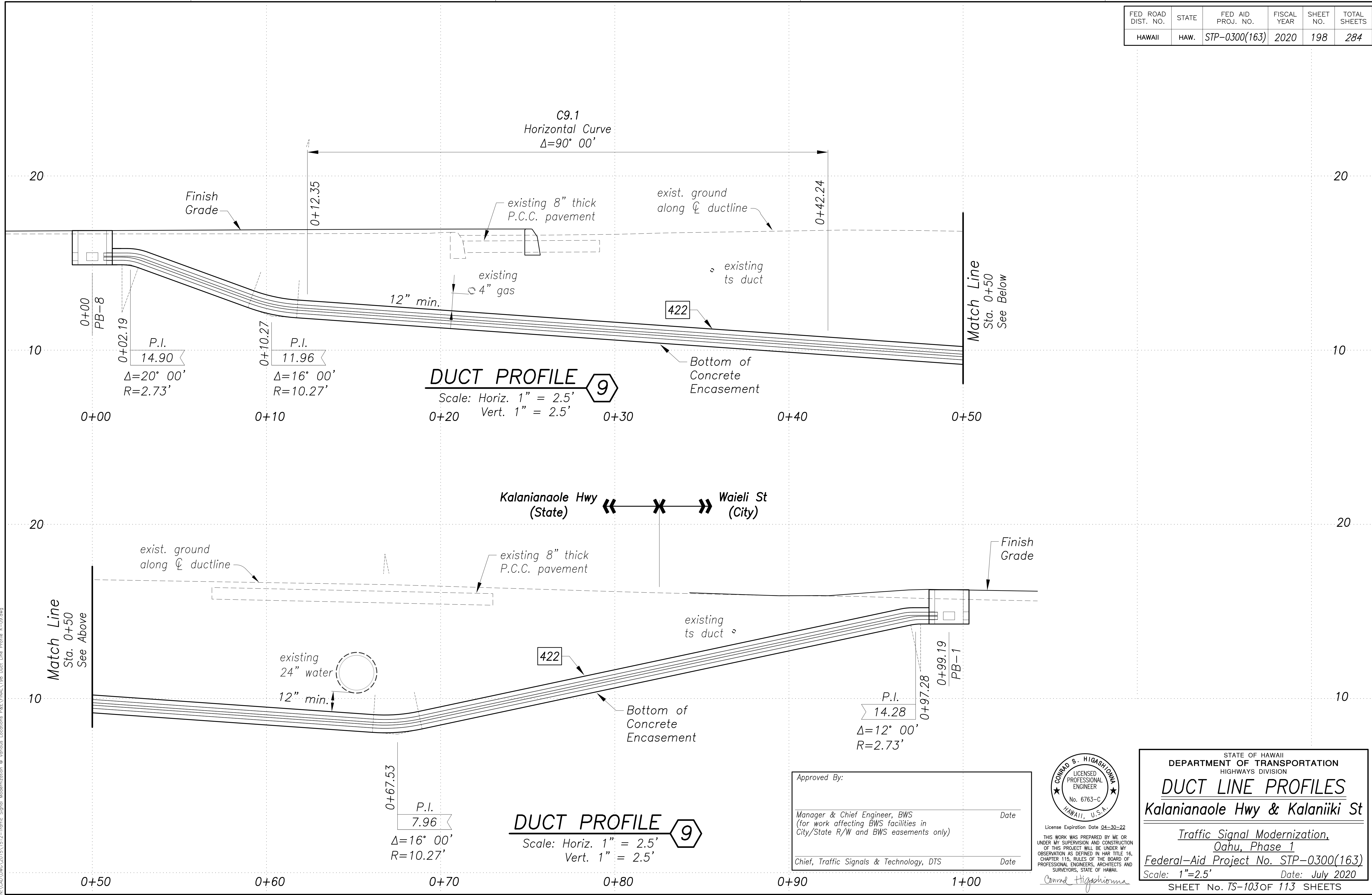
*Conrad Higashimura*

Approved By: \_\_\_\_\_  
Chief, Traffic Signals & Technology, DTS Date: \_\_\_\_\_

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**DUCT LINE PROFILES**  
**Kalanianaʻole Hwy & Kalaniiki St**

Traffic Signal Modernization,  
Oahu, Phase 1  
Federal-Aid Project No. STP-0300(163)  
Scale: 1"=2.5' Date: July 2020  
SHEET No. TS-102 OF 113 SHEETS

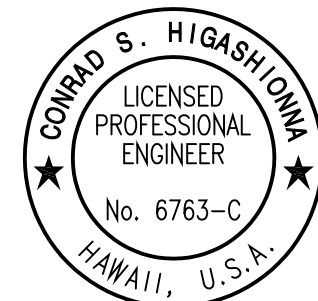
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	198	284



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

Aug 28, 2020-4:38pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\198 Duct Line Profile K-09.dwg

Approved By:	Date
Manager & Chief Engineer, BWS (for work affecting BWS facilities in City/State R/W and BWS easements only)	
Chief, Traffic Signals & Technology, DTS	Date



License Expiration Date: 04-30-22  
THIS WORK WAS PREPARED BY ME OR  
UNDER MY SUPERVISION AND CONSTRUCTION  
OF THIS PROJECT WILL BE UNDER MY  
OBSERVATION AS DEFINED IN HAWAII TITLE 16,  
CHAPTER 115, RULES OF THE BOARD OF  
PROFESSIONAL ENGINEERS, ARCHITECTS AND  
SURVEYORS, STATE OF HAWAII.  
*Conrad Higashimura*

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

DUCT LINE PROFILES

Kalaniana'ole Hwy & Kalaniiki St

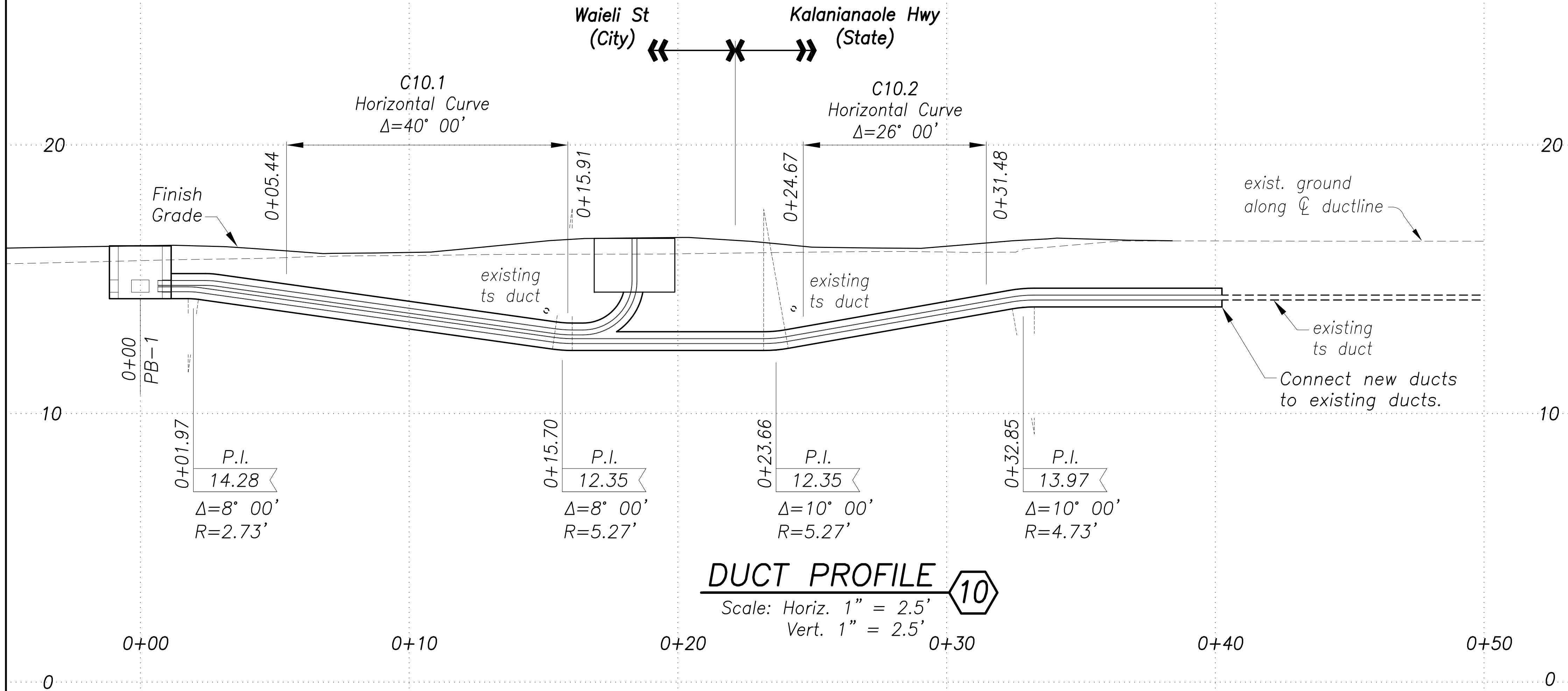
Traffic Signal Modernization,  
Oahu, Phase 1

Federal-Aid Project No. STP-0300(163)

Scale: 1"=2.5' Date: July 2020

SHEET No. TS-103 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	199	284



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

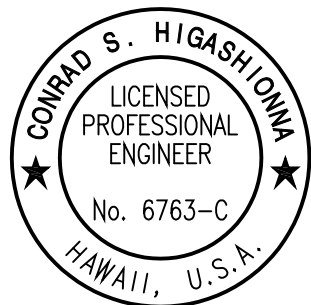
ORIGINAL PLAN	No.
NOTE BOOK	

Aug 28, 2020-4:38pm  
N:\GAG\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\199 Duct Line Profile K-10.dwg

Approved By:

Chief, Traffic Signals & Technology, DTS

Date



License Expiration Date 04-30-22

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DUCT LINE PROFILES**

**Kalanianaʻole Hwy & Kalaniiki St**

*Traffic Signal Modernization,  
Oahu, Phase 1*

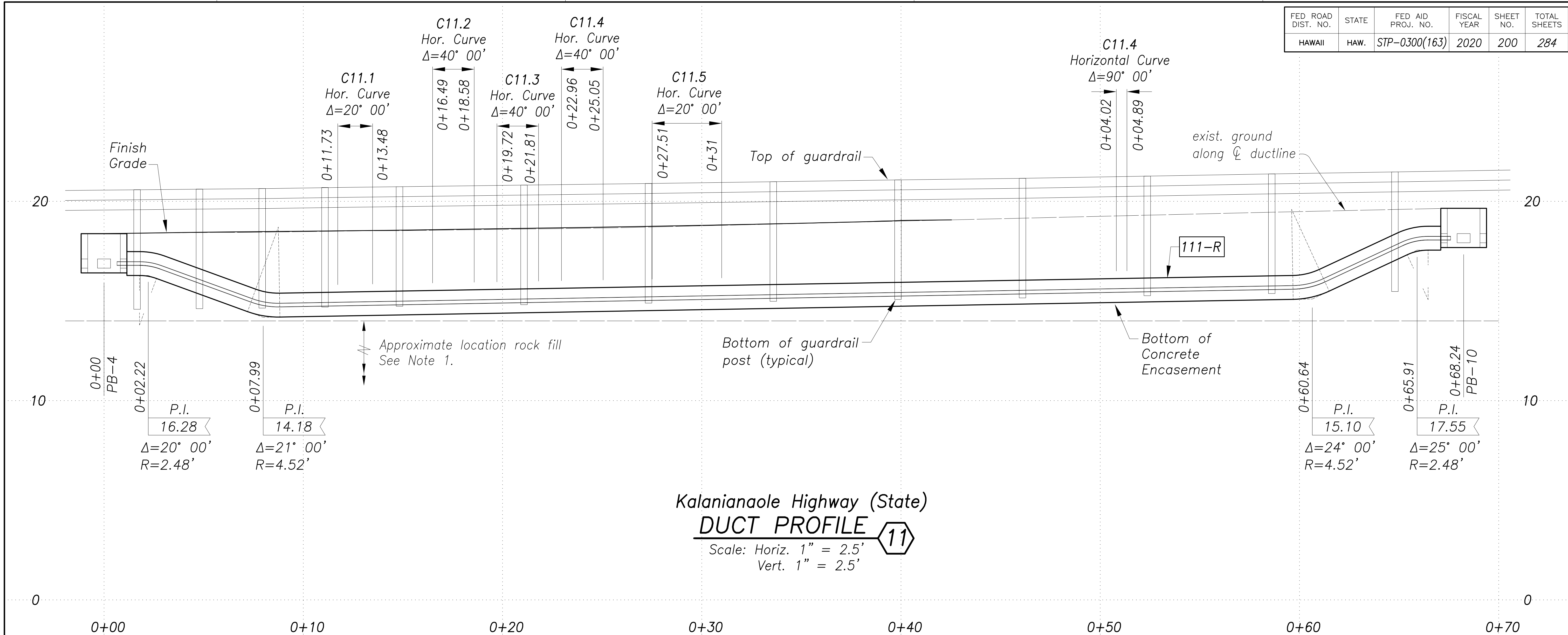
**Federal-Aid Project No. STP-0300(163)**

Scale: 1"=2.5'      Date: July 2020

SHEET No. TS-104 OF 113 SHEETS



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	200	284



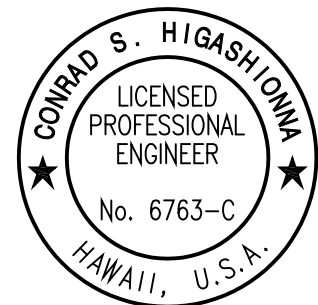
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

Aug 28, 2020-4:38pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\200 Duct Line Profile K-11.dwg

Approved By:

Chief, Traffic Signals & Technology, DTS

Date



License Expiration Date 04-30-22

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAWAII TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

Conrad Higashimura

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DUCT LINE PROFILES**

**Kalaniana'ole Hwy & Kalaniiki St**

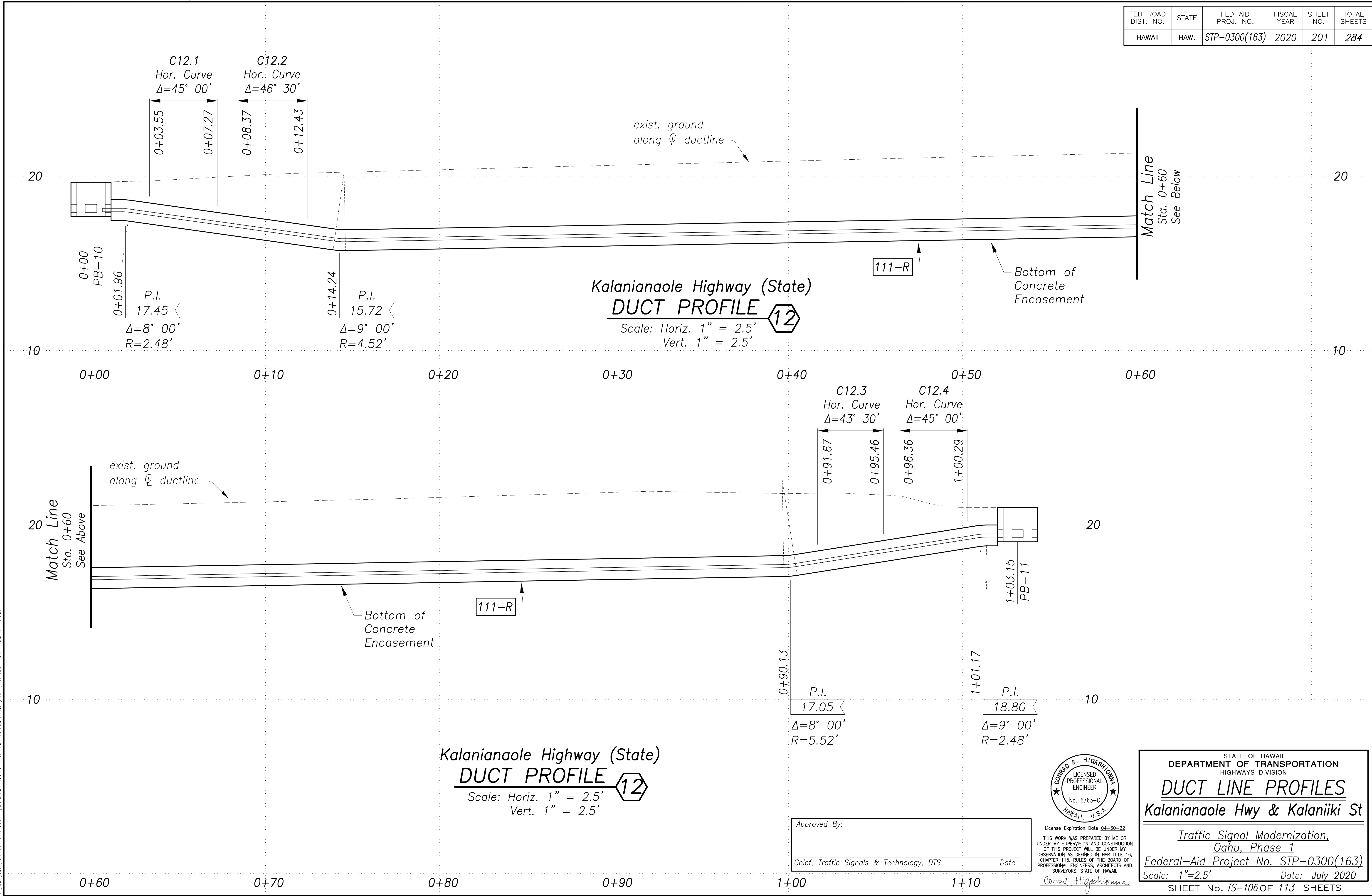
Traffic Signal Modernization,  
Oahu, Phase 1

Federal-Aid Project No. STP-0300(163)

Scale: 1"=2.5' Date: July 2020

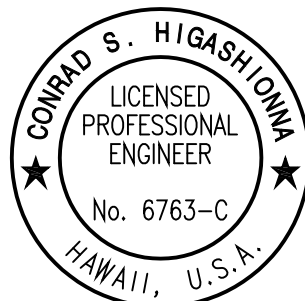
SHEET No. TS-105 OF 113 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0300(163)	2020	201	284



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

Aug 28, 2020 - 4:38pm  
N:\CAO\DWG\2015\1512-Traffic Signal Modernization @ Various Locations P&E\FINAL\201 Duct Line Profile K-12.dwg



Approved By: \_\_\_\_\_  
Chief, Traffic Signals & Technology, DTS  
Date: \_\_\_\_\_

License Expiration Date: 04-30-22  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION AS DEFINED IN HAW. TITLE 16, CHAPTER 115, RULES OF THE BOARD OF PROFESSIONAL ENGINEERS, ARCHITECTS AND SURVEYORS, STATE OF HAWAII.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**DUCT LINE PROFILES**  
**Kalanianaʻole Hwy & Kalaniiki St**  
*Traffic Signal Modernization,  
Oahu, Phase 1*  
**Federal-Aid Project No. STP-0300(163)**  
Scale: 1"=2.5' Date: July 2020  
SHEET No. TS-106 OF 113 SHEETS