FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	1	140

99

INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
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3	STANDARD DETAILS SUMMARY
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10 – 12	WATER POLLUTION AND EROSION CONTROL NOTES
13 – 14	BMP STANDARD NOTES
15 – 17	UTILITY NOTES
18 – 21	TYPICAL SECTIONS
22 – 34	SITE DETAILS, CURB RAMP DETAILS, AND GUARDRAIL DETAILS AND NOTES
35	HORIZONTAL CONTROL PLAN
36 – 41	EROSION CONTROL PLANS, EROSION AND SEDIMENT CONTROL PLAN, DEMOLITION PLANS, AND EROSION CONTROL DETAILS
42 – 45	ROADWAY PLANS AND ROADWAY LAYOUT PLANS
46 – 58	ELEVATIONS AND DRAINAGE PLANS, PCC PAVEMENT ELEVATION PLANS, GRADE CONTROL PLANS, AND CURB RAMP PLANS
59 – 67	STRUCTURAL GENERAL NOTES, PCC PAVEMENT LAYOUT PLANS, PCC PAVEMENT, JOINTING AND REINFORCEMENT DETAILS
68 – 71	DRAINAGE PLAN AND PROFILES AND DRAINAGE DETAILS
72 – 75	WATER PLAN AND PROFILE, WATER DETAILS, AND CATHODIC PROTECTION DETAILS
76 – 81	PAVEMENT MARKING LEGEND AND NOTES, DETAILS, AND PLANS
82 – 89	SIGNING PLANS AND DETAILS
90 – 101	TRAFFIC SIGNAL NOTES, PLANS, AND DETAILS
102	LOW SPEED DIVIDED HIGHWAY WORK ZONE SIGNING PLAN, NOTES AND DETAILS
103 – 120	TRAFFIC CONTROL PLANS NOTES AND TRAFFIC CONTROL PLANS
121 – 125	STRUCTURAL PLANS
126 – 134	ELECTRICAL PLANS
135 – 140	ROAD CROSS SECTIONS

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

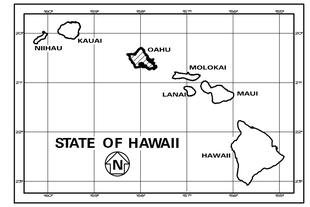
HIGHWAYS DIVISION
HONOLULU, HAWAII

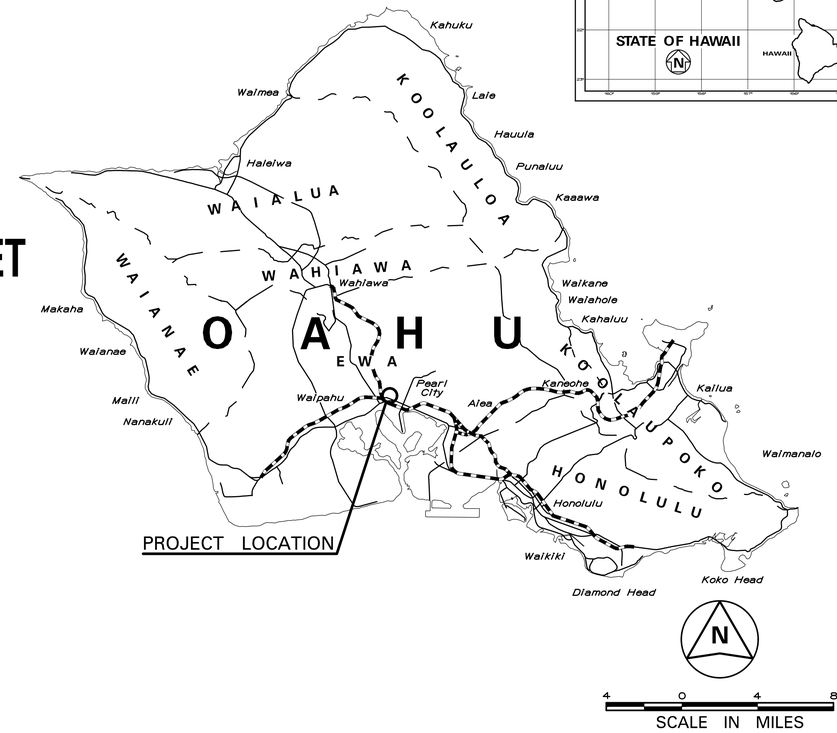
PLANS FOR

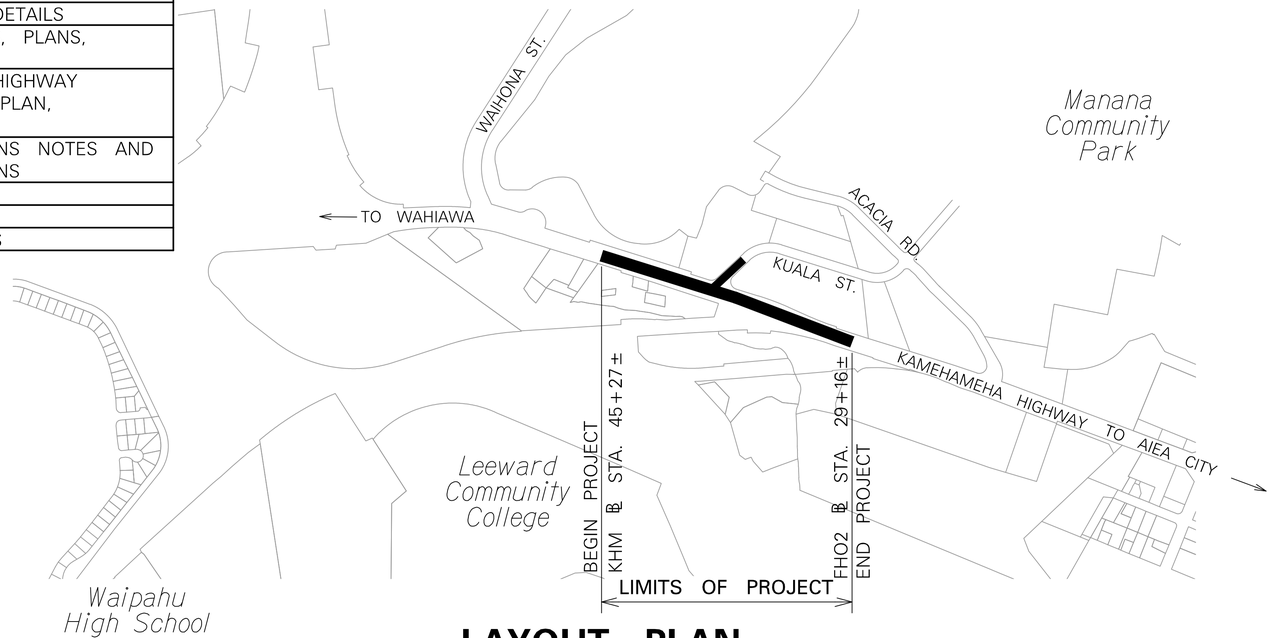
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET

FEDERAL-AID PROJECT NO. NH-099-1(033)

DISTRICT OF EWA
ISLAND OF OAHU







LAYOUT PLAN

GROSS LENGTH OF PROJECT.....0.30 MILES

FEDERAL-AID INTERSTATE PROJECTS PREVIOUSLY CONSTRUCTED OR UNDER CONSTRUCTION

MILE POST 17.54 TO MILE POST 17.84

DESIGN DESIGNATION

ADT (2024)	55,000
DESIGN ADT (2034)	59,700
DHV (2034)	4,480
K	7.5
D	65/35
T	5.0 %
T_{24}	5.5 %
V	45 MPH

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED:

08/03/2026

HIGHWAYS ADMINISTRATOR — DATE

SSFM INTL. — DESIGNED BY
HWY-T — MANAGED BY
692-7670 — PHONE
FEB 2026 — DATE

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\01 TITLE SHEET.DWG 4/24/2026 4:06 PM JUNAY

STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	2	140

STANDARD PLAN NO.	TITLE	DATE
B-01 ●	NOTES & MISCELLANEOUS DETAILS	05/31/07
B-03	BACKFILL DETAILS AT EARTH RETAINING STRUCTURES	05/31/07
B-12	PRESTRESSED CONCRETE PILES AND COMPRESSION	05/31/07
	SPLICE CAN DETAILS	
B-12A	PRESTRESSED CONCRETE PILES, PILE AND COMPRESSION	05/31/07
	SPLICE CAN DETAILS AND NOTES	
B-12B	PILE INTERACTION DIAGRAM	05/31/07
B-13	PRESTRESSED CONCRETE PILE BUILD-UP DETAILS	05/31/07
D-01	CATTLE GATE	05/31/07
D-02	CHAIN LINK FENCE WITH TOPRAIL	05/31/07
D-03 ●	CHAIN LINK FENCE WITHOUT TOPRAIL	05/31/07
D-04	WIRE FENCE WITH METAL POSTS	05/31/07
D-05 ●	TYPICAL DETAILS OF CURBS AND/OR GUTTERS	05/31/07
D-06	TYPICAL DETAIL OF REINFORCED CONCRETE DROP DRIVEWAY	05/31/07
D-07	CENTERLINE AND REFERENCE SURVEY MONUMENTS	05/31/07
D-08	STREET SURVEY MONUMENT	05/31/07
D-15 ●	CONCRETE SIDEWALK	05/31/07
D-16 ●	P.C.C. BUS PAD	05/31/07
D-17 ●	P.C.C. BUS PAD	05/31/07
D-18	P.C.C. PAVEMENT LAYOUT	05/31/07
D-19	P.C.C. PAVEMENT W/ PERMEABLE BASE JOINT DETAILS	05/31/07
D-20	P.C.C. PAVEMENT W/ PERMEABLE BASE JOINT DETAILS	05/31/07
D-21	P.C.C. LONGITUDINAL JOINT DETAILS	05/31/07
D-22	P.C.C. CONNECTION TO CURB AND GUTTERS	05/31/07
D-23	JOINTS	05/31/07
L-01	TREE PLANTING	08/16/06
L-02	TREE PLANTING	08/16/06
L-03	TREE TRANSPLANTING	08/16/06
L-04	PALM PLANTING	08/16/06
L-05	SHRUB PLANTING	08/16/06
L-06	LANDSCAPE DETAILS	08/16/06
L-07	LANDSCAPE DETAILS	08/16/06
L-08	LANDSCAPE DETAILS	08/16/06
L-09	LANDSCAPE DETAILS	08/16/06
L-10	LANDSCAPE DETAILS	08/16/06
L-11	PLANTING NOTES	08/16/06
L-12	IRRIGATION DETAILS	08/16/06
L-13	IRRIGATION DETAILS	08/16/06
L-14	IRRIGATION DETAILS	08/16/06
L-15	IRRIGATION DETAILS	08/16/06
L-16	IRRIGATION DETAILS	08/16/06
L-17	IRRIGATION DETAILS	08/16/06
L-18	IRRIGATION DETAILS	08/16/06
L-19	IRRIGATION DETAILS	08/16/06
L-20	IRRIGATION DETAILS	08/16/06
L-21	IRRIGATION DETAILS	08/16/06
L-22	IRRIGATION DETAILS	08/16/06
L-23	IRRIGATION DETAILS	08/16/06
L-24	IRRIGATION NOTES	08/16/06
H-01A	TYPE A CATCH BASIN	05/31/07
H-01B	TYPE B CATCH BASIN	05/31/07
H-01C	TYPE C CATCH BASIN	05/31/07

STANDARD PLAN NO.	TITLE	DATE
H-01D	TYPE D CATCH BASIN	05/31/07
H-01E	CATCH BASIN SECTIONS	05/31/07
H-02A	TYPE A1 CATCH BASIN	05/31/07
H-02B	TYPE B1 CATCH BASIN	05/31/07
H-02C	TYPE C1 CATCH BASIN	05/31/07
H-02D	TYPE D1 CATCH BASIN	05/31/07
H-02E ●	CATCH BASIN SECTIONS	05/31/07
H-03 ●	TYPE A, B, AND C STORM DRAIN MANHOLE	05/31/07
H-04	TYPE D STORM DRAIN MANHOLE	05/31/07
H-05 ●	TYPICAL REINFORCING DETAILS FOR DRAINAGE STRUCTURES	05/31/07
H-06 ●	TYPICAL REINFORCING DETAILS FOR DRAINAGE STRUCTURES	05/31/07
H-07 ●	CATCH BASIN AND MANHOLE CASTINGS	05/31/07
H-08	TYPE 1A-9 AND 1A-9P GRATED DROP INLET	05/31/07
H-09 ●	TYPE 2A-9 AND 2A-9P GRATED DROP INLET	05/31/07
H-10 ●	TYPE A-9 OR A-9P STEEL FRAMES	05/31/07
H-11 ●	TYPE A-9 AND A-9P STEEL GRATES	05/31/07
H-12 ●	TYPE 61614P AND 1211214P GRATED DROP INLET	05/31/07
H-13	TYPE 61616P AND 1211216P GRATED DROP INLET	05/31/07
H-14	TYPE 61214P GRATED DROP INLET	05/31/07
H-15 ●	TYPE 1211214, 1211214P, 1211216, 1211216P STEEL	05/31/07
	FRAME AND GRATES	
H-16	TYPE 61614, 61614P, 61616, 61616P STEEL FRAME	05/31/07
	AND GRATES	
H-17	TYPE 61214 STEEL FRAMES AND GRATES	05/31/07
H-18	TYPE 61214P STEEL GRATES	05/31/07
H-19	TYPE 61614B STEEL FRAME AND GRATES	05/31/07
H-20	CEMENT RUBBLE MASONRY STRUCTURES	05/31/07
H-21	CONCRETE AND CEMENT RUBBLE MASONRY STRUCTURES	05/31/07
H-22	INLET/OUTLET STRUCTURE	05/31/07
H-23	INLET/OUTLET STRUCTURE	05/31/07
H-24	FLARED END SECTION FOR CULVERTS	05/31/07
H-25	FLARED END SECTION FOR CULVERTS	05/31/07
H-26	CONCRETE SPILLWAY INLET	05/31/07
H-27	CAP COUPLING DETAILS STANDARD JOINT	05/31/07
H-28	REINFORCED CONCRETE COLLAR & JACKET	05/31/07
H-29 ●	UNDERDRAIN CLEANOUT STEEL FRAME AND COVER	05/31/07
H-30 ●	UNDERDRAIN CONNECTION TO DRAINAGE STRUCTURE	05/31/07
TE-01 ●	SIGN HEIGHT AND LOCATION	07/11/08
TE-01A ●	SIGN INSTALLATION	07/11/08
TE-02A	GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING	05/31/07
TE-02B	GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING	05/31/07
TE-02C	GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING	05/31/07
~~TE-03A~~	~~GALVANIZED SQUARE TUBE SIGN POST MOUNTING~~	~~05/31/07~~
TE-03B ●	GALVANIZED SQUARE TUBE SIGN POST MOUNTING	05/31/07
TE-04 ●	REGULATORY SIGNS	07/11/08
TE-05 ●	WARNING SIGNS	07/11/08
~~TE-06~~	~~MISCELLANEOUS SIGNS~~	~~07/11/08~~
TE-07 ●	CONSTRUCTION SIGNS	07/11/08
TE-08 ●	MISCELLANEOUS INTERSECTION SIGNS	07/11/08
TE-09	BIKE ROUTE SIGN & SUPPLEMENTARY PLATES	07/11/08
TE-10	INTERSTATE ROUTE MARKER	07/11/08
TE-11	STATE ROUTE MARKER AND AUXILIARY MARKERS	07/11/08
TE-12	STATE ROUTE MARKER AND BORDER DETAIL FOR	07/11/08
	GUIDE SIGNS	

STANDARD PLAN NO.	TITLE	DATE
TE-12A	ROUTE SIGN ASSEMBLIES	07/11/08
TE-13 ●	STREET NAME SIGN ON MAST ARM	01/27/17
TE-14 ●	MISCELLANEOUS REFLECTOR MARKERS	07/11/08
TE-15 ●	OBJECT MARKERS	07/11/08
TE-16	MILE POSTS	07/11/08
TE-17A	CANTILEVER OVERHEAD SIGN ELEVATION & DETAILS	05/31/07
TE-17B	CANTILEVER SIGN FRAME DETAIL AND SECTIONS	05/31/07
TE-17C	CANTILEVER SIGN FRAME DETAIL	05/31/07
TE-17D	CANTILEVER SIGN FRAME SECTIONS	05/31/07
TE-17E	CANTILEVER SIGN FRAME DETAILS	05/31/07
TE-18A	TWO POST OVERHEAD SIGN FRAME ELEVATIONS	05/31/07
TE-18B	TWO POST SIGN FRAMING PLAN SECTION	05/31/07
TE-18C	TWO POST SIGN FRAMING SECTIONS AND DETAILS	05/31/07
TE-18D	TWO POST SIGN FRAME DETAILS	05/31/07
TE-18E	TWO POST SIGN FRAME DETAILS	05/31/07
TE-19A	OVERHEAD SIGN FRAMING SCHEDULE	05/31/07
TE-19B	SIGN POST DRILLED SHAFT FOUNDATION	05/31/07
TE-19C	SPREAD FOOTING	05/31/07
TE-19D	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.1	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.2	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.3	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.4	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.5	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19E	ANCHORAGE DETAILS	05/31/07
TE-19F	ANCHORAGE DETAILS	05/31/07
TE-19G	MISCELLANEOUS SIGN FRAME DETAILS	05/31/07
TE-19H	LUMINAIRE WALKWAY SUPPORT	05/31/07
TE-19J	FIXED MESSAGE LUMINAIRE SUPPORT	05/31/07
TE-19K	MISCELLANEOUS SIGN DETAILS	05/31/07
TE-19L	MISCELLANEOUS SIGN DETAILS	05/31/07
TE-19M	MISCELLANEOUS SIGN FRAME DETAILS	05/31/07
TE-20	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-20A	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-20B	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-20C	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-21A	SIGN BREAKAWAY MOUNTS	05/31/07
TE-21B	SIGN BREAKAWAY MOUNTS	05/31/07
TE-22	LAMINATED ALUMINUM SIGN PANELS (OVERHEAD)	05/31/07
TE-23	LAMINATED ALUMINUM SIGN PANELS (GROUND MOUNTED)	07/11/08
TE-24	SOLID ALUMINUM EXTRUDED SIGN PANEL AND	05/31/07
	ACCESSORY DETAILS	
TE-25	GUIDE SIGNS LUMINAIRE MOUNTINGS	07/11/08
TE-26 ●	RAISED PAVEMENT MARKERS AND STRIPING	07/11/08
TE-27 ●	RAISED PAVEMENT MARKERS AND STRIPING	07/11/08

STANDARD PLAN NO.	TITLE	DATE
TE-28 ●	ENTRANCE AND EXIT PAVEMENT MARKINGS	07/11/08
TE-28A ●	MISCELLANEOUS PAVEMENT MARKINGS	07/11/08
TE-29 ●	PAVEMENT ARROWS AND SYMBOLS	07/11/08
TE-30 ●	PAVEMENT ALPHABETS, NUMBERS & SYMBOLS	07/11/08
TE-31 ●	PAVEMENT ALPHABETS, NUMBERS & SYMBOLS	07/11/08
TE-32 ●	TYPE I & II TRAFFIC SIGNAL SYSTEM MISC. DETAILS	05/31/07
TE-33 ●	TYPE II TRAFFIC SIGNAL SYSTEM	08/16/06
TE-33A.1 ●	TYPE II TRAFFIC SIGNAL STANDARD	05/31/07
TE-33A.2 ●	TYPE II TRAFFIC SIGNAL STANDARD	05/31/07
TE-34 ●	LOOP DETECTOR DETAILS	07/11/08
TE-35 ●	LOOP DETECTORS & DUCT DETAILS	07/11/08
TE-36 ●	TRAFFIC SIGNAL DETAILS	07/11/08
TE-37 ●	PULLBOX & COVER DETAILS	07/11/08
TE-37A ●	TYPE "A" TRAFFIC PULLBOX	05/31/07
TE-37B ●	TYPE "A" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37C ●	TYPE "B" TRAFFIC PULLBOX	05/31/07
TE-37D ●	TYPE "B" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37E ●	TYPE "B" TRAFFIC PULLBOX FOUNDATION	05/31/07
TE-37F ●	TYPE "C" TRAFFIC PULLBOX	05/31/07
TE-37G ●	TYPE "C" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37H ●	TYPE "C" TRAFFIC PULLBOX FOUNDATION	05/31/07
TE-37J ●	TRAFFIC PULLBOX COVER AND DETAILS	05/31/07
TE-38 ●	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
TE-38A.1 ●	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
TE-38A.2 ●	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
~~TE-39~~	~~METAL GUARDRAIL CONNECTION TO CONCRETE BARRIER~~	~~07/11/08~~
~~TE-40~~	~~CONCRETE BARRIER TRANSITION~~	~~05/31/07~~
~~TE-40A~~	~~CONCRETE BARRIER TRANSITION SECTIONS~~	~~05/31/07~~
TE-41	GUARDRAIL TYPE 6 (SINGLE SLOPE RIGID BARRIER)	05/19/21
TE-41A	GUARDRAIL TYPE 6 (SINGLE SLOPE RIGID BARRIER)	05/19/21
TE-41B	GUARDRAIL TYPE 6G (SINGLE SLOPE RIGID BARRIER	05/19/21
	WITH GLARE SCREEN)	
TE-41C	GUARDRAIL TYPE 6G (SINGLE SLOPE RIGID BARRIER	05/19/21
	WITH GLARE SCREEN)	
TE-41D	GUARDRAIL TYPE 6 & 6G (SINGLE SLOPE RIGID BARRIER)	05/19/21
~~TE-42~~	~~PORTABLE CONCRETE BARRIER~~	~~05/31/07~~
~~TE-43~~	~~PORTABLE CONCRETE BARRIER~~	~~05/31/07~~
~~TE-44~~	~~GUARDRAIL TYPE 4 MISCELLANEOUS DETAILS~~	~~07/11/08~~
~~TE-45~~	~~BARRICADES~~	~~07/11/08~~
TE-46	DELINEATION & PAVEMENT MARKINGS AT NARROW BRIDGES	07/11/08
TE-47 ●	HIGHWAY LIGHT STANDARD	05/31/07

NOTE:

STANDARD PLANS APPLICABLE TO THIS PROJECT ARE INDICATED BY A " ● " NEXT TO THE STANDARD PLAN NO. (FOR EXAMPLE: D-03 ●)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A *Date: Feb 2026*

SHEET No. *1* OF *1* SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\02 STANDARD PLANS SUMMARY.DWG 4/24/2026 4:07 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	3	140

STANDARD DETAILS SUMMARY - CITY AND COUNTY OF HONOLULU

STANDARD DETAIL NO.	TITLE	DATE
R-1 ●	PRE-CAST CONCRETE CURB	09/1984
R-2	PRE-CAST CONCRETE DRIVEWAY CURB	09/1984
R-3	PRE-CAST CONCRETE DROP CURB BLOCK	09/1984
R-4A ●	INTEGRAL CURB AND GUTTER, INTEGRAL DRIVEWAY CURB AND GUTTER FOR R/W OF 70' OR MORE	R01/1995
R-5	ROLLED CURB	R01/1995
R-6	ROLLED CURB TRANSITION TO CURBS AND CATCH BASINS	09/1984
R-7	DRIVEWAY APRON WITH ROLLED CURB	09/1984
R-8	THRU GUTTER	09/1984
R-9	CONCRETE PAVEMENT	09/1984
R-10	CONCRETE PAVEMENT JOINT DETAILS	09/1984
R-11	CONCRETE PAVEMENT JOINT DETAILS	09/1984
R-12	STREET SURVEY MONUMENT	09/1984
R-13	STREET SURVEY MONUMENT CASTINGS	09/1984
R-14	CENTERLINE MONUMENT	09/1984
R-15	TEMPORARY WOODEN BARRICADE	09/1984
R-16 ●	SIDEWALK REINFORCEMENT DETAILS AT UTILITY BOXES OR OPENINGS	09/1984
R-17	TREE WELL WITH CONCRETE COVER	09/1984
R-18	3' OR 4' CHAIN LINK FENCE	09/1984
R-19	6' CHAIN LINK FENCE	09/1984
R-20	TYPICAL SINGLE GATE	09/1984
R-21A	TYPICAL DOUBLE GATE	R03/1991
R-22	METAL GUARDRAIL DETAILS	09/1984
R-23	METAL GURADRAIL DETAILS	09/1984
R-24	METAL GUARDRAIL DETAILS	09/1984
R-25A ●	CURB RAMP	R04/2000
R-26	PRIVATE DRIVEWAY RAMP	09/1984
R-27	FULL WIDTH SIDEWALK AT CURB RETURN	09/1984
R-28 ●	SIDEWALK DETAILS	R05/2005
R-29A	DRIVEWAY APRON	R07/2009
R-30	DRIVEWAY LAYOUT	09/1984
R-31	GRADE ADJUSTMENT WALLS	09/1984
D-1	TYPE "A" CATCH BASIN	09/1984
D-2	TYPE "A" CATCH BASIN REINFORCEMENT DETAILS	09/1984
D-3	TYPE "E" CATCH BASIN	09/1984
D-4	TYPE "E" CATCH BASIN REINFORCEMENT DETAILS	09/1984
D-5	TYPE "B" CATCH BASIN	09/1984
D-6	TYPE "B" CATCH BASIN REINFORCEMENT DETAILS	09/1984
D-7	TYPE "F" CATCH BASIN	09/1984
D-8	TYPE "F" CATCH BASIN REINFORCEMENT DETAILS	09/1984
D-9	TYPE "C" CATCH BASIN	09/1984
D-10	TYPE "C" CATCH BASIN REINFORCEMENT DETAILS	09/1984
D-11	TYPE "D" CATCH BASIN	09/1984
D-12	TYPE "D" CATCH BASIN REINFORCEMENT DETAILS	09/1984
D-13	CATCH BASIN DETAILS	09/1984
D-14	DETAILS FOR CATCH BASIN WITH 5" CURB	09/1984
D-15	DEFLECTOR INLET FOR CATCH BASIN	09/1984
D-16	MONOLITHIC CONSTRUCTION OF CATCH BASIN TOP SLAB AND SIDEWALK	09/1984
D-17	SHALLOW DRAIN MANHOLE FOR SIDEWALK AREA	09/1984
D-18	SHALLOW DRAIN MANHOLE FOR PAVEMENT AREA	09/1984
D-19	PRE-CAST TOP SLAB FOR SHALLOW DRAIN MANHOLE	09/1984
D-20	CONCRETE WALL DRAIN MANHOLE	09/1984

STANDARD DETAIL NO.	TITLE	DATE
D-21	BRICK WALL DRAIN MANHOLE	09/1984
D-22	PRE-CAST CONCRETE DRAIN MANHOLE	09/1984
D-23	PRE-CAST CONCRETE DRAIN MANHOLE DETAILS	09/1984
D-24	PRE-CAST CONCRETE DRAIN MANHOLE DETAILS	09/1984
D-25	PRE-CAST CONCRETE DRAIN MANHOLE DETAILS	09/1984
D-26	CHANNELIZING DETAILS FOR DRAIN MANHOLE	09/1984
D-27	RUNGS FOR CATCH BASINS AND MANHOLES	09/1984
D-28	TYPE "DA" FRAME FOR CATCH BASIN AND MANHOLE	09/1984
D-29	TYPE "DB" FRAME FOR CATCH BASIN AND MANHOLE	09/1984
D-30	CATCH BASIN AND MANHOLE COVER	09/1984
D-31	PAYMENT TRENCH WIDTH AND REPAVING FOR DRAIN PIPES	09/1984
D-32	SIDEWALK CULVERT	09/1984
S-1	TYPICAL GRAVITY SEWER TRENCH	07/2017
S-2	TRENCH PAYMENT WIDTH AND PIPE BEDDING DIMENSIONS	07/2017
S-3	REINFORCED CONCRETE JACKET FOR PIPES 12-INCH AND SMALLER	07/2017
S-4	LATERALS	07/2017
S-5	ADVANCED RISER CONNECTION - TYPE 1 (PRIOR TO DETERMINING LATERAL INVERT)	07/2017
S-6	ADVANCED RISER CONNECTION - TYPE 1 (AFTER LATERAL INVERT IS DETERMINED)	07/2017
S-7	LATERAL CONNECTION TO EXISTING PIPE (SEWER MAINS 8-INCH TO 12-INCH)	07/2017
S-8	LATERAL CONNECTION TO EXISTING PIPE (SEWER MAINS 12-INCH TO 16-INCH)	07/2017
S-9	MANHOLE NOTES - 1	07/2017
S-10	MANHOLE NOTES - 2	07/2017
S-11	4-FOOT DIAMETER PRE-CAST CONCRETE MANHOLE	07/2017
S-12	4-FOOT DIAMETER PRE-CAST CONCRETE MANHOLE - ALTERNATE BASE AND SECTION	07/2017
S-13	CAST-IN-PLACE MANHOLE BASE JOINT	07/2017
S-14	4-FOOT DIAMETER PRE-CAST CONCRETE MANHOLE	07/2017
S-15	STEEL REINFORCED POLYMER CONCRETE MANHOLE	07/2017
S-16	6-FOOT DIAMETER PRE-CAST CONCRETE MANHOLE	07/2017
S-17	DROP MANHOLE FOR DROPS OVER 5-FEET (INVERT TO INVERT)	07/2017
S-18	DROP MANHOLE SECTIONS	07/2017
S-19	SHALLOW INSIDE DROP MANHOLE (SEWER MAINS 12-INCH AND SMALLER)	07/2017
S-20	FORCE MAIN TRANSITION MANHOLE	07/2017
S-21	PLAN - FORCE MAIN DISCHARGE MANHOLE FLOW CHANNELIZATION	07/2017
S-22	PRE-CAST CONCRETE ECCENTRIC MANHOLE CONE	07/2017
S-23	MANHOLE PIPE CONNECTION - WALL PIPE FITTING	07/2017
S-24	MANHOLE PIPE CONNECTION - RESILIENT CONNECTOR	07/2017
S-25	TYPICAL CHANNELIZATION OF SEWER MANHOLES	07/2017
S-26	4-FOOT DIAMETER PRE-CAST CONCRETE MANHOLE SECTIONS	07/2017
S-27	6-FOOT DIAMETER PRE-CAST CONCRETE MANHOLE SECTIONS	07/2017
S-28	GRADE RING, LEVEL ADJUSTMENT, AND MANHOLE COVER LOCATED IN A.C. PAVEMENT	07/2017
S-29	MANHOLE FRAME AND COVER LOCATED IN UNPAVED AREAS	07/2017
S-30	MANHOLE COVER - TYPE SA	07/2017
S-31	MANHOLE FRAME - TYPE SA	07/2017
S-32	MANHOLE COVER - TYPE SB, TOP VIEW	07/2017

STANDARD DETAIL NO.	TITLE	DATE
S-33	MANHOLE COVER - TYPE SB, BOTTOM VIEW	07/2017
S-34	MANHOLE FRAME - TYPE SB	07/2017
S-35	DROP MANHOLE RISER CASTING	07/2017
P-1	BACKFLOW PREVENTER	09/1984
P-2	FENCE AND GATE DETAILS	09/1984
P-3	OIL SEALS AND RELATED PIPING	09/1984
P-4	OIL SEALS AND RELATED PIPING	09/1984
P-5	OIL SEALS AND RELATED PIPING	09/1984
P-6	REMOVABLE POST AND CHAIN DETAILS	09/1984
P-7	REMOVABLE RAILING DETAILS	09/1984
P-8	TYPICAL WALL SLEEVE	09/1984
P-9	SPRINKLER VALVE CONTROL	09/1984
P-10	MOTOR SHAFT AND COUPLING	09/1984
P-11	TYPICAL PUMP MOTOR DRIVE SHAFT GUARD	09/1984
P-12	TYPICAL PUMP COUPLING GUARD	09/1984
P-13	TYPICAL HOIZONTAL SHAFT GUARD NO. 1	09/1984
P-14	TYPICAL HOIZONTAL SHAFT GUARD NO. 2	09/1984
P-15	SAFETY GUARD GENERAL NOTES	09/1984
P-16	1 1/2" STAND PIPE DETAIL	09/1984

NOTE:

STANDARD DETAILS APPLICABLE TO THIS PROJECT ARE INDICATED BY A " ● " NEXT TO THE STANDARD DETAIL NO. (FOR EXAMPLE: R-1 ●)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS SUMMARY

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

SHEET No. 1 OF 1 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\03 STANDARD DETAILS SUMMARY.DWG 4/24/2026 4:07 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	4	140

GENERAL NOTES:

1. The scope of work for this project consists of the installation of traffic signals, resurfacing, repairing/reconstruction of asphalt pavement; installation of concrete pavement; upgrading of existing guardrails; addition of drainlines and storm drain structures; pavement marking and signage; highway lighting upgrades and other site improvements required to complete this project.

2. The Contractor is reminded of the requirements of Subsection 105.16(A) - Subcontract Requirements which requires them to perform work to not less than 30 percent of the total contract cost, less deductible items. Non-compliance with this Subsection may be grounds for rejection of bid.

3. The Contractor's attention is directed to the following Sections: Subsection 104.11 - Utilities and Services; Subsection 107.06 - Contractor Duty Regarding Public Convenience; and Section 645 - Work Zone Traffic Control. As part of coordination requirements, the Contractor shall include the Engineer in all email correspondences with utilities, facilities, and agencies.

4. The Contractor shall perform all applicable construction work in accordance with the standard details entitled "Hawaii Standard Specifications for Road and Bridge Construction-2005" as amended for the State of Hawaii.

5. At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic.

6. The Contractor shall notify the Engineer in writing, two (2) weeks prior to starting construction operations.

7. The Contractor shall obtain a Community Noise permit from the State Department of Health, Environmental Health Services Division, Indoor and Radiological Health Branch at 99-945 Halawa Valley Street, Aiea, Hawaii 96701, (808) 586-4700. This shall be considered incidental to the various contract items and will not be paid for separately.

8. The Contractor shall indemnify and be solely responsible for the protection of adjacent properties, utilities and existing structures from damages due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer.

9. Earth swale shall be graded to drain. This work shall be considered incidental to various contract items and will not be paid for separately.

10. Smooth riding connections shall be constructed at all limits of project, including the beginning and end of project, connecting approaches, side streets, walkways and driveways as shown on the plans and/or as directed by the Engineer. This work shall be considered incidental to asphalt concrete and will not be paid for separately.

11. The Contractor shall clean and remove any accumulation of aggregates along the roadside within 10 feet of the edge of pavement. This work shall be considered incidental to bulk of work or the various contract items and will not be paid for separately.

12. Removal, demolition and disposal of existing curb and gutter, curb, sidewalk, asphalt concrete pavement, curb, sidewalk, guardrails, fences, and any debris shall be considered incidental to their respective bid items.

13. All saw cutting and safety edge work shall be considered incidental to various contract items and will not be paid for separately.

14. All dimensions and details shown on the drawings shall be checked and verified prior to the start of construction, and any discrepancies shall be immediately brought to the attention of the Engineer for clarification.

15. When trench excavation is adjacent to/or under existing structures or facilities, the Contractor shall be responsible for properly sheeting and bracing the excavation and stabilizing the existing ground to render it safe and secure from possible slides, cave-ins and settlement, and for properly supporting existing structures and facilities with beams, struts or underpinning to fully protect it from damage.

16. The Contractor shall perform any necessary arboricultural work, including tree trimming and root pruning and ensure that tree protection measures are followed under the direction of the States Project Arborist (SPA). The Contractor shall engage the services of a Certified Arborist (CA) to oversee the tree work at all times. The CA shall coordinate all arboricultural work and the protection of trees with the SPA prior to any work being done. Cost of this work shall be incidental.

17. The Contractor shall be responsible to comply with flood zone regulations for the project elements and facilities.

18. The Contractor shall coordinate where landscaping, sidewalks, or driveway access will be affected by the project, coordination will occur with the landowner, and these property features will be replaced, or the property owner will be compensated in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (49 CFR Part 24).

19. Prior to placement of new aggregate subbase course, the existing subbase shall be compacted to a relative compaction greater than or equal to 95%.

20. The top of the Hot Mix Asphalt Base Course prior to placement of the new A.C. Pavement, Mix No. IV shall comply with the ten-foot straight edge requirement. The variation of the surface from a straight edge with two contacts with the surface, shall not exceed 3/16".

21. Dressing of shoulder or sidewalk shall consist of clearing and grubbing, grading, reshaping and compacting the area adjacent to the improvement with suitable material as shown on the plans and/or as directed by the Engineer and shall be considered incidental to Sidewalk or Dressing of Shoulders or various contract items. Suitable materials shall include materials from roadway excavation, including topsoil and base materials and if necessary, additional materials from borrow outside the limits of the right of way.

22. All curbing angle points within the curb ramps shall be rounded with R=6".

23. The Contractor shall provide and maintain for access to and from all existing driveways, sidewalks and ADA access routes complying with ADAAG Section 4.3, side streets and cross streets at all times. This work shall be considered incidental to various contract items and will not be paid for separately.

24. The Contractor shall provide and maintain a temporary pedestrian-safe and easily accessible route or detour with barricades in or near the work zone. This temporary route or detour shall be paved at least an inch of Asphalt Concrete Pavement, Mix No. V or steel and/or wood planks and shall be American With Disabilities Act (ADA) compliant. This work shall be incidental to various contract items and will not be paid for separately.

25. Provide smooth transition where new sidewalk construction meets the existing grade or sidewalk. Transition shall not be steeper than 1:48 cross and longitudinal slopes and not less 6.0 feet long or as specified on the plans. This work shall be considered incidental to sidewalk items and will not be paid for separately.

26. The Contractor shall remove and dispose of all existing raised pavement markers, thermoplastic line markings, traffic tapes, and epoxy adhesives prior to the overlaying of Asphalt Concrete. This work shall be considered incidental to PMA Pavement, Mix No. IV with PG 64E-22 and will not be paid for separately.

27. The exact locations and limits of areas to be filled with leveling course, reconstructed, and cold planed shall be determined in the field by the Engineer.

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

SHEET No. 1 OF 6 SHEETS

4

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\04-07 GENERAL NOTES.DWG 4/24/2026 4:06 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	5	140

NOTES FOR CONSTRUCTION WITHIN STATE RIGHT-OF-WAY:

1. The Contractor shall obtain a Permit to Perform Work upon State Highways from the Oahu District Engineer, State Highways, at 727 Kakoi Street, Honolulu, prior to commencement of work within State highway right-of-way.

2. Construction and restoration of all existing highway facilities within the State's right-of-way, including the legal relations and responsibility to the public, shall be in accordance with the current Hawaii Standard Specifications for Road and Bridge Construction, dated 2005, and the Specifications for Installation of Miscellaneous Improvements within State Highways, of the State Highways Division.

3. Work may be performed Monday through Saturday, from 7:00 AM to 3:30 PM between January and November, and from 7:30 AM to 3:30 PM in December, except on State and Federal holidays, unless when otherwise approved in writing by the District Engineer. Nighttime work may also occur during non-fledging period between January and August.

   During work hours, only one lane of traffic shall be closed, unless otherwise approved in writing by the District Engineer.

   At certain locations, "No Lane Closure" will be allowed during the "Back to School Jam", Thanksgiving weekend, Christmas/New Year period and at other times as directed by Highways Division. Due to proximity to nearby schools, allow for ending daytime closures at an earlier time as appropriate during the school year to mitigate impact on local traffic conditions.

4. For construction activities not requiring lane closures, work may be performed from Monday through Saturday, from 7:00 AM to 5:00 PM between January and November, and from 7:30 AM to 5:00 PM in December, except on State and Federal holidays, unless when otherwise approved in writing by the District Engineer. Nighttime work may also occur during non-fledging period between January and August.

5. The Contractor shall provide, install, and maintain all necessary signs, lights, flares, barricades, markers, cones, and other protective facilities, and shall take necessary precautions for the protection, convenience, and safety of public traffic. All such protective facilities and precautions to be taken shall conform with the Administrative Rules of Hawaii Governing The Use of Traffic Control Devices at Work Sites on or Adjacent to Public Streets and Highways, adopted by the Director of Transportation, and the current U.S. Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways, Part VI - Temporary Traffic Control.

   Lane closures shall conform to the traffic control plan incorporated into these construction plans and must be approved by the Engineer prior to the issuance of permit.

6. The minimum pavement structure shall consist of:
   a. Residential Driveways, on Minor Highways:
      i.) 2 1/2" asphalt concrete (Mix IV), 6" aggregate base course and 12" subbase, or 2 1/2" asphalt concrete (Mix IV) and 6" asphalt concrete base course.

      ii.) 6" of Class "A" concrete reinforced with 6"x 6" - W2.9x W2.9 wire mesh on 12" aggregate subbase, if deemed necessary by the Engineer.

   b. Commercial Driveways and Sideroads on Minor Highways:
      i.) 2 1/2" asphalt concrete (Mix IV), 6" asphalt concrete base course and 12" subbase, or 4" asphalt concrete (Mix IV) and 8" asphalt concrete base course.

      ii.) 8" of Class "A" concrete reinforced with 6"x 6" - W2.9x W2.9 wire mesh on 12" aggregate subbase, if deemed necessary by the Engineer.

   c. Channelized Intersections on Major Highways:
      i.) 4" asphalt concrete (Mix IV), 8" asphalt concrete base course and 12" subbase, or 4" asphalt concrete (Mix IV) and 12" asphalt concrete base course.

7. No material and/or equipment shall be stockpiled or otherwise stored within the highway right-of-way except at locations designed in writing and approved by the District Engineer. Contractor shall not store materials or stage lifting equipment on existing bridge structures.

8. Compaction tests shall be taken in accordance with the Specifications for Installation of Miscellaneous Improvements within State Highways, as follows:

   a. Subbase: One (1) compaction test per lift per 200 lineal feet of roadway.
   b. Base course: One (1) compaction test per lift per 200 lineal feet of roadway.
   c. One (1) compaction test per lift per 300 lineal feet of trench.
   d. A copy of the test results shall be submitted to the District Engineer

9. The Contractor shall take a profile along the centerline of the proposed utility trench both before commencing trench excavation work and after trench has been repaved. Profiles shall be submitted to the District Engineer and shall be used to verify the roadway surface has been restored to its original condition or smoother.

10. The distance from the paved surface to the testing edge of a ten-foot long straight edge between two points shall not exceed 3/16 inch.

11. The Contractor shall provide an adequate and safe non-skid bridging material, including shoring, over trenches in pavement areas. The bridging shall be able to support all types of vehicular traffic. Bridging materials shall not be used on high speed roadways, which are roads with a design speed of 50 MPH or higher. Smooth riding connection between roadway surfaces and bridging material shall be provided. Should complaints be received due to noise generated from this work, the Contractor shall immediately address those complaints.

12. The Contractor shall make every effort to minimize the use and the duration of use of bridging materials. The State may require the backfilling and patches of trenches due to the excessive usage of steel plates.

13. Unless otherwise noted, no trench shall be opened more than 300 feet in advance of installed and tested pipeline and/or ductline.

14. Existing drainage system will be functional at all times. The Contractor shall furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to any culvert work or the various contract items and will not be paid for separately.

15. The Contractor shall exercise care to minimize damages to existing highway improvements. All damages shall be repaired by the Contractor, at his expense, to the satisfaction of the District Engineer.

16. Approval of permit construction plans shall be valid for a period of one (1) year from the date of notification of approval to the applicant. In the event construction does not commence within this one-year period, the applicant will be required to resubmit the construction plans for the Division's review and re-approval.

17. All regulatory, guide and construction signs and barricades shall have a high-intensity Type III or IV retroreflective background.

18. The Contractor shall inform the State Highways Permit Office at DOT.HWYO.Permits@hawaii.gov at least two (2) weeks prior to closing any lanes. The lane closure form to submit to the State Highways Permit Office can be found at: https://hidot.hawaii.gov/highways/home/doing-business/guide-to-permits/.

19. Driveways shall be kept open unless the owners of the properties using these rights-of-way are otherwise provided for satisfactorily.

20. Where pedestrian walkways exist, they shall be maintained in a safe and passable condition, or other facilities for pedestrians shall be provided. Passages between walkways at intersections shall likewise be provided. All walkways shall conform to ADA requirements. Contractor shall maintain access to existing bus stops, bus routes, TheHandi-Van operations, Skyline, and bicycle facilities during construction. Coordinate with TheBus, TheHandi-Van, and Skyline as necessary.

21. The Contractor shall reference, to the satisfaction of the District Engineer, all existing traffic signs, posts, and pavement markings prior to the commencement of construction. The Contractor shall replace or repair all traffic signs, posts, and pavement markings disturbed by his activities, at his expense, unless directed otherwise by the District Engineer or his representative.

22. The Contractor shall exercise care when performing work in or adjacent to the State highway right-of-way. Damages to the existing facilities shall be immediately reported to the respective utility companies, and/or City, or State agencies. The repair work shall be done at the Contractor's expense.

23. Highway lights shall be kept operational during construction. Should work be necessary, the Contractor shall notify the State Highways' Highway Lighting Supervisor at (808) 837-8056, three (3) working days prior to commencing work.

24. The Contractor shall notify the City Department of Transportation Services, Traffic Signal Engineer at (808) 768-8388, three (3) days prior to any signalized intersection work.

25. Traffic signals shall be kept operational during construction. Temporary operational microwave or other approved detection devices shall be installed three (3) working days prior to any signalized intersection excavation work. All work shall be done in accordance to the requirements of the Department of Transportation Services, City and County of Honolulu, and paid for by the Contractor.

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

SHEET No. 2 OF 6 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\04-07 GENERAL NOTES.DWG 4/24/2026 4:06 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	6	140

NOTES FOR CONSTRUCTION WITHIN STATE RIGHT-OF-WAY (CONT.):

26. The Permit to Perform Work upon State Highway may be revoked because of default in any of the following, but not limited to, conditions:

    a. Work performed before or after permitted hours.
    b. Failure to maintain roadway surfaces in a smooth and safe condition.
    c. Failure to clean up construction debris generated from project work.
    d. Failure to provide proper traffic control.
    e. Failure to replace damaged pavement markings and signs.
    f. Failure to maintain highway lights and/or traffic signal systems.
    g. Failure to address public complaints to the satisfaction of the District Engineer.

27. The Contractor shall notify the State Highways Permit Office DOT.HWYO.Permits@hawaii.gov or (808) 831-6700 (ext. 107) at least two (2) days prior to performing any trench restoration work. This work shall include any backfilling and compacting of trench material; any placing and compacting of base course material; and any paving operations. Any trench restoration work performed by the Contractor that is not witnessed by a State Representative will be required to be removed and restored with a State Representative present. All restoration work will be at the Contractor's expense.

28. Temporary cold mix trench patches will be permitted in any given area for a maximum duration of two weeks, and shall be a minimum of 2 inches thick. All temporary patches shall be placed over properly placed and compacted backfill and base course layers. Contractor shall be responsible for maintaining all temporary patches and to make repairs to unsatisfactory patches within 24 hours.

29. Plastic marking tape. Provide plastic marking tape that is acid and alkali resistant polyethylene film 6 inches wide with minimum thickness of 0.004 inch. Provide tape with minimum strength of 1,750 psi lengthwise and 1,500 psi crosswise. Manufacture tape with integral wires, foil backing or other means to enable detection by a metal detector when tape is buried up to 3 feet deep. Manufacture tape specifically for marking and locating underground utilities. Provide the metallic core of the tape encased in a protective jacket or provided with other means to protect it from corrosion. Conform to the following tape color and bear a continuous printed inscription describing the specific utility.

Red:	Electric
Yellow:	Gas, Oil, Dangerous Materials
Orange:	Telephone, Telegraph, Television, Police, and Fire Communications
Blue:	Water Systems
Green:	Sewer Systems

30. The Contractor shall provide the District Engineer with as-built plans upon completion of the work done in the State Right-of-Way. This shall be done prior to the Department's release of the performance bond.

31. Pursuant to the HDOT Design Criteria for Highway Drainage dated June 15, 2019, maintain a minimum vertical clearance of one (1) foot and horizontal clearance of two (2) feet between drainage facilities and other utilities or obstructions, or in accordance with the applicable utility agencies whichever is greater.

32. For any work outside of State Right-of-Way, the Contractor shall obtain a work permit from the HDOT Rail Coordination Team (Contact: Daryl Tanabe, (808) 483-2523 at 727 Kakoi Street, Honolulu, Hawaii 96819 prior to the commencement of work. The permit application includes, but is not limited to, the submittal of the BMP Certification Checklist, NPDES BMP Checklist, site-specific BMP plans, site-specific traffic control plans, and certificate of insurance. MS4 activities, such as dewatering or storm drain connection/ discharge to the State of Hawaii storm drainage system will require the submittal of the associated MS4 permits. Pertinent MS4 permit packages will be reviewed for approval prior to the issuance of the HDOT work permit. The Contractor shall be aware that work done within a stream will require the submittal of additional environmental permits.

NOTES FOR CONSTRUCTION WITHIN CITY RIGHT-OF-WAY:

1. All applicable construction work shall be done in accordance with the Standard Specifications for Public Works Construction, September 1986 and Standard Details for Public Works Construction, September 1984, as amended, of the Department of Public Works, City and County of Honolulu and the Counties of Kauai, Maui, and Hawaii.

2. The underground pipes, cables or ductlines known to exist by the engineer from his search of records are indicated on the plans. The Contractor shall verify the locations and depths of the facilities and exercise proper care in excavating in the area. Wherever connections of new utilities to existing utilities are shown on the plans, the Contractor shall expose the existing lines at the proposed connections to verify their locations and depths prior to excavation for the new lines.

3. No Contractor shall perform any construction operation so as to cause falling rocks, soil or debris in any form to fall, slide or flow into existing City drainage systems, or adjoining properties, streets or natural watercourses. Should such violations occur, the Contractor may be cited and the Contractor shall immediately make all remedial actions necessary.

4. The Contractor of the project shall be responsible for conformance with applicable provisions of the Hawaii Administrative Rules, Title 11, Chapter 54, "Water Quality Standards"' and Title 11, Chapter 55, "Water Pollution Control", as well as Chapter 18A of the Revised Ordinances of Honolulu, as amended. Best Management Practices shall be employed at all times during construction.

   The Contractor of the project shall obtain National Pollutant Discharge Elimination System (NPDES) Permit coverage(s) for the following:

   a. Storm water discharges associated with construction activities that disturb one (1) acre or more, and
   b. Discharges of hydrotesting effluent, dewatering effluent, and well drilling effluent to state waters.

   In accordance with State law, all discharges related to project construction or operations are required to comply with State Water Quality Standards (Hawaii Administrative Rules, Chapter 11-54). Best Management Practices shall be used to minimize or prevent the discharge of sediment, debris, and other pollutants to State waters. Permit coverage is available from the Department of Health, Clean Water Branch at http://health.hawaii.gov/cwb. The Contractor is responsible for obtaining other Federal, State, or local authorizations as required by law.

5. The Contractor shall notify the Civil Engineering Branch, Department of Planning and Permitting, at (808) 768-8084 to arrange for inspectional services and submit two (2) sets of approved Construction Plans seven (7) days prior to commencement of construction work.

6. Confined Space

   For entry by City personnel, including inspectors, into a permit required confined space as defined in 29 CFR Part 1910.146(b), the Contractor shall be responsible for providing:

   a. All safety equipment required by the confined space regulations applicable to all parties other than the construction industry, to include, but not limited to, the following:

      i.) Full body harnesses for up to two personnel.
      ii.) Lifeline and associated clips.
      iii.) Ingress/egress and fall protection equipment.
      iv.) Two-way radios (walkie-talkies) if out of line-of-sight.
      v.) Emergency (escape) respirator (10 minute duration).
      vi.) Cellular telephone to call for emergency assistance.
      vii.) Continuous gas detector (calibrated) to measure oxygen, hydrogen sulfide, carbon monoxide and flammables (capable of monitoring at a distance at least 20-feet away).
      viii.) Personal multi-gas detector to be carried by inspector.

   b. Continuous forced air ventilation adequate to provide safe entry conditions.

   c. One attendant/rescue personnel topside (two, if conditions warrant it).

7. Pursuant to Chapter 6E, HRS, in the event any artifacts or human remains are uncovered during construction operations, the Contractor shall immediately suspend work and notify the Honolulu Police Department, the State Department of Land and Natural Resources-Historic Preservation Division (808) 692-8015. In addition, the Contractor shall inform the Civil Engineering Branch, Department of Planning and Permitting (808) 768-8000.

8. For projects abutting State Highways' rights-of way, the owner or his authorized representative shall notify the State Department of Transportation, Highways Division, Oahu District, Drainage Discharge Unit at (808) 831-6793 for an assessment of State Highways permit requirements.

9. For Benchmark, see Plan Sheet 35.

APPROVED:

Director, Department of Planning and Permitting DATE
(For Work within City R/W Only)

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: N/A Date: Feb 2026

SHEET No. 3 OF 6 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\04-07 GENERAL NOTES.DWG 4/24/2026 4:06 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	7	140

ARCHAEOLOGICAL MONITORING AND PROTECTION NOTES:

1. In the event that an archaeological or historic structure within the work area is inadvertently damaged during construction, cease work in the vicinity of the site and notify the Engineer and the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources of the damage. SHPD will determine the appropriate mitigation measures.

2. In the unlikely event that subsurface historic resources, including skeletal remains, structural remains, cultural deposits, artifacts, sand deposits, or sink holes are identified during the demolition and/or construction work, cease work in the vicinity of the find, protect the find from additional disturbance, and contact the State Historic Preservation Division at (808) 692-8015.

3. If human remains are discovered, HAR Title 13, Subtitle 13, Chapter 300 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the State Historic Preservation Division and the Police Department will be contacted. The appropriate process would then proceed in conformance with HAR 13-300 Subchapter 4, "Procedures for Proper Treatment of Burial Sites and Human Skeletal Remains."

4. If any lava tube or coral cavern is uncovered during earthwork operations, the Contractor shall ease all ground work in the area and immediately notify the Archaeological Monitor and the Engineer. With or without the help of the Archaeological Monitor, the Engineer will assess the situation. If the Engineer has any doubts as to the extent and/or significance of the discovery, the Engineer will contact the appropriate regulatory agency (e.g., State Historic Preservation Division).

5. All necessary permits shall be obtained by the Contractor at his own cost, in accordance with Standard Specifications Subsection 107.02.

CHAPTER 195D/343 CONSERVATION MEASURES:

1. State-listed waterbirds such as ae'o or Hawaiian stilt (Himantopus mexicanus knudseni), 'alae ke'oke'o or Hawaiian coot (Fulica alai), 'alae 'ula or Hawaiian gallinule (Gallinula galeata sandvicensis), and koloa maoli or Hawaiian Duck (Anas wyvilliana) could potentially occur in the vicinity of the proposed project site. It is against State law to harm or harass these species. If any of these species are present during construction, all activities within 100 feet (30 meters) should cease and the bird or birds should not be approached. Work may continue after the bird leaves the area of its own accord. If a nest is discovered at any point, please contact the Oahu branch DOFAW Office at (808) 973-9778 as well as US Fish and Wildlife Service within 48 hours for further guidance and establish a buffer zone around the nest.

TRAFFIC NOTES FOR WORK ON CITY AND COUNTY STREETS:

1. A permit shall be obtained from the department of transportation services before work on any portion of a public street or highway may begin. Construction traffic control plans approved by the Department of Transportation Services and/or the Department of Planning and Permitting must be provided when applying for the permit.

2. The Contractor shall provide, install, and maintain all necessary signs and other protective facilities, which shall conform with the "Hawaii Administration Rules governing the Use of Traffic Control Devices at work sites on or adjacent to public streets and highways" adopted by the Director of Transportation, and the current U.S. Federal Highways Administration's "Manual on Uniform Traffic Control Devices for street and highways, part VI - traffic controls for street and highway construction and maintenance operations."

3. Work on any city street area may be performed only between the hours of 8:30 a.m. to 3:30 p.m., Monday through Friday, unless otherwise permitted by the Department of Transportation Services.

4. During working hours, the contractor shall provide for through traffic. During non-working hours, all trenches shall be covered with a safe non-skid bridging material and all lanes shall be open to traffic.

5. As required by the Department of Transportation Services, the contractor shall provide off-duty police officers to control the flow of traffic.

6. Where pedestrian walkways exist, they shall be maintained in passable condition or other facilities for pedestrians shall be provided. Passage between walkways at intersections shall likewise be provided.

7. Driveways shall be kept open unless the owners of the property using these rights-of-way are otherwise provided for satisfactorily.

8. Contractor shall reference to the approval of the Department of Transportation Services and the Department of Planning and Permitting, all existing traffic signs, posts and pavement markings prior to the commencement of construction. The Contractor shall replace or repair all traffic sign, posts and pavement markings disturbed by his activities.

9. The Contractor shall notify the Department of Planning and Permitting at 768-8084 one (1) week prior to any work to be done on signs, post and pavement markings.

10. No equipment shall be stored within street rights-of-way except at locations designated in writing and approved by the Department of Transportation Services.

11. (specify name of individual or company) shall ensure that the contractor installs the construction traffic control devices in accordance with the MUTCD and the Hawaii Administration Rules as specified in Traffic Note #2.

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP (For Work within City R/W Only) DATE

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

SHEET No. 4 OF 6 SHEETS

7

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\04-07 GENERAL NOTES.DWG 4/24/2026 4:06 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	8	140

LEGEND:

- Exist. Survey Monument
- Exist. Centerline Monument
- Sight Lines
- Filter Sock Barrier
- Flow Arrows
- Limits of Disturbance
- Stabilized Construction Entrance
- Inlet Protection
- Catch Basin Protection or Approved Equal
- Exist. Right-of-Way
- Exist. Metal Guardrails
- Metal Guardrails
- Chain Link Fence
- Exist. CRM Wall
- Exist. AC Curb
- Bituminous Curb
- Exist. Conc. Wall with Chain Link Fence
- Exist. Bolt Down Curb with Delineator Posts
- Limits of Clearing
- Remove Exist. Guardrail, Retaining Wall, Bolt Down Curbs, AC Curbs, and Conc. Curb
- Removal of Exist. Pavt. Markings
- Demolish and Remove Full Section of Exist. AC Pavt.
- Limits of AC Pavt. Resurfacing
- Gravel Strip
- Sidewalk, Curb and Gutter, Curb Ramp and Raised Median
- Full depth pavement area
  - 2.5" PMA
  - 11" HMAB
  - 6" ABC
  - 6" ASC
- Pavement Overlay
  - 6.5" Cold Plane
  - 2.5" PMA Mix No. IV
  - 0" to 3" HMA Mix No. V
  - Leveling Course
  - GlasGrid 8511TF
  - 4" HMAB
- Pavement Overlay
  - 3.5" Cold Plane
  - 2.5" PMA Mix No. IV
  - 1" to 20" HMAB
- Pavement Overlay
  - 2.5" Cold Plane
  - 2.5" PMA Mix No. IV
- 12" PCC Pavt.
  - 12" ASC
- Major Contour Line
- Minor Contour Line

- Grade Break
- Retaining Wall Footing
- 0.9%± Match Exist. Slopes
- 35.0± Match Exist. Elevation
- Exist. Catch Basin
- Exist. Drain Inlet
- Exist. Storm Drain Manhole
- G.D.I Type 12I1214P
- G.D.I Type 2A-9P
- Exist. Drainline
- Drainline
- Exist. Underdrain Pipe
- Longitudinal Underdrain Pipe
- Swale
- Clean Out
- Exist. Sewer Line
- Exist. Force Main Line
- Exist. Sewer Manhole
- SDMH
- SDMH Type A
- Air Relief Valve
- Exist. Water Line
- New Water Line
- Exist. Water Meter
- Exist. Water Manhole
- Exist. Water Valve
- Exist. Irrigation Control Valve
- Exist. Fire Hydrant
- Exist. Electrical Line
- Exist. Overhead Line
- Exist. Electrical Box
- Adjusted Electric Box
- Exist. Electrical Manhole
- Exist. Guy Wire
- Exist. Light Pole
- Exist. Utility Pole
- Exist. Power Pole
- Exist. Street Light
- Exist. Street Light Box
- Exist. Guard Post
- Exist. Cable Manhole
- Exist. Panel/Pull Box
- Exist. AT&T Line
- Exist. Telephone Line
- Exist. AT&T Box
- Exist. Communication Manhole
- Exist. Utility Box
- Exist. Telephone Box
- Exist. Telephone Manhole
- Exist. Traffic Signal Box

ABBREVIATION LIST:

@	At
&	And
℄	Baseline
℄	Centerline
Δ	Delta
ø	Diameter
AASHTO	American Association of State Highway and Transportation Officials
Abn.	Abandoned
AC	Asphalt Concrete
ABC	Aggregate Base Course
ADA	Americans with Disabilities Act
ADAAG	American with Disabilities Act Accessibility Guidelines
ADT	Average Daily Traffic Volume
AF	Air Force
AHJ	Authority Having Jurisdiction
Approx.	Approximate
ARV	Air Relief Valve
Arch.	Architectural
ASC	Aggregate Subbase Course
ASTM	American Society for Testing and Materials
AWG	American Wire Gauge
AWWA	American Water Works Association
Az.	Azimuth
BB	Bottom Bank
BOT	Bottom
BC	Bottom of Curb
BMP	Best Management Practice
B.P.	Begin Point
BW	Both ways/ Bottom Wall
BWS	Board of Water Supply
BV	Bottom Vertical
C	Chord Length
C&C	City and County
CB	Catch Basin
CCH	City & County of Honolulu
CCTV	Close-Circuit Television
CD	Conduit
CFU	Colony Forming Units
CFR	Code of Federal Regulations
CL	Class
CLF	Chain Link Fence
Clr	Clear
CLSM	Controlled Low Strength Material
CMU	Concrete Masonry Unit
CO, COTG	Cleanout/Cleanout to Grade
COL	Column
Comm	Communication
CONC, Conc., CC, C	Concrete
Cont.	Continued/Continuous
CRM	Concrete Rubble Masonry (Rock) Wall
CSH	Cultural Surveys Hawaii
CSM	Collection System Maintenance
CTV	Cable TV
CY	Cubic Yard
D	Drain, Directional Distribution of Traffic in DHV, Depth
D, Dia	Diameter
Det.	Detail
D.I., DI	Drop Inlet, Ductile Iron, Drain Inlet
DL	Drainline
DHV	Design Hourly Volume
DOT	Department of Transportation
DOH	Department of Health
DPP	Department of Planning and Permitting
DPW	Department of Public Works
DS	Down Spout
DSP	Dry Stand Pipe
Dwg., Dwgs.	Drawing/Drawings
ea	Each
E, Elec, ELEC	Electric, Electrical
EB	East Bound
EBox	Electrical Box
EH	Electrical Handhole
EG	Existing Ground
Elev	Elevation
Emb	Embankment
EMH	Electrical Manhole
ENV	Department of Environmental Services
E.P., ep	Edge of Pavement/End Point
EPA	Environmental Protection Agency
Eq.	Equation, Equal
E.S., es	Edge of Shoulder
EV	Electrical Vault
EVP	Emergency Vehicle Preemption
EW	Each Way
Exc	Excavation
Exist., exist.	Existing
Ext.	Extension
F	Fuel
FAP	Federal Aid Project
f'c	Specified Compressive Strength of Concrete
Fed.	Federal
FEMA	Federal Emergency Management Agency
FH	Fire Hydrant, Farrington Highway
FHO	Farrington Highway State Baseline (Outbound)
FHWA	Federal Highway Administration
FL	Fire Line
Fin. Gr., FG	Finish Grade
FM	Force Main
Ft., ft.	Feet, Foot
FMH	Fuel Manhole
FOC	Fiber Optic Cable
FPS	Feet Per Second
FSA	Fire Safety Alarm
Fwy.	Freeway

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LEGEND AND ABBREVIATIONS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: N/A Date: Feb 2026

SHEET No. 6 OF 6 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\8 LEGEND.DWG 4/24/2026 4:06 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	9	140

ABBREVIATION LIST (CONT):

G	Gas/Ground
G.B.	Grade Break
G.D.I.	Grated Drop Inlet
GEC	General Engineering Consultant
GM	Gas Meter
GMH	Gas Manhole
GP	Guard Post
GV	Gas Valve, Gate Valve
GW	Guy Wire
H	Height
Haw.	Hawaii
HARN	High Accuracy Reference Network
HDOT	Hawaii Department of Transportation
HDPE	High Density Polyethylene Pipe
HECO	Hawaiian Electric Company
HH	Handhole
HITS	Hawaii Information Transfer System
HMA	Hot Mix Asphalt
HMAB	Hot Mix Asphalt Base Course
HMWPE	High Molecular Weight Polyethylene
H, Horiz.	Horizontal
HP	High Pressure, High Point
HRS	Hawaii Revised Statutes
HRTP	Honolulu Rail Transit Project
HSS	Hawaii Standard Specifications, Hollow Structural Section
HT	Hawaiian Telcom
HVP	High Voltage Power
HW	Headwall
Hwy	Highway
ICV	Irrigation Control Valve
ID	Identification
Inv.	Invert
irr.	Irrigation
IV	Irrigation Valve
Jt.	Joint
K	Ratio of DHV to ADT
KIWC	Kiewit Infrastructure West Company
KHM	Kamehameha Highway
kV	Kilovolt
L, L	Length
Lat	Lateral
lbs	Pounds
Lc	Length of Curve
LED	Light Emitting Diode
LF	Linear Foot
Ln	Lane
LP	Light Pole, Lamp Post, Low Point
LRFD	Load and Resistance Factor Design
Lt.	Light, Left
LTK	Left Turn to Kuala
Mag	Magnetized
MASH	Manual for Assessing Safety Hardware
Max.	Maximum
Mech.	Mechanical
MH	Manhole
MIN., Min.	Minimum
Misc.	Miscellaneous
Mix.	Mixture
MGS	Midwest Guardrail System
MJ	Mechanical Joint
M.L.	Matchline
Mod.	Modified
Mon	Monument
MOT	Maintenance of Traffic
MPH	Miles per Hour
MSDS	Material Safety Data Sheets
MSL	Mean Sea Level
MS4	Municipal Separate Storm Sewer System
MTCO	Mutual Telephone Company
MTL	Metal
MUTCD	Manual on Uniform Traffic Control Devices
N/A	Not Applicable
NAD	North American Datum
N.I.C., NIC	Not in Contract
NGPC	Notice of General Permit Coverage
NPDES	National Pollutant Discharge Elimination System
No.	Number
NTS	Not to Scale
o.c.	On Center
OCTv	Overhead Cable Television
o.d.	Outside Diameter
O/H	Overhead
OE	Overhead Electrical
OT	Overhead Telephone
OTS	O'ahu Transit Services
OTWC	Oceanic Time Warner Cable
oz.	Ounce
Pavt.	Pavement
PB	Pullbox
PBX	Panel Box or Pull Box
P.C.	Point of Curvature
PCB	Polychlorinated Biphenyls
PCC	Point of Compound Curvature/Portland Cement Concrete
PCCP	Portland Cement Concrete Pavement
PE	Polyethylene
Perf.	Perforated
P.I.	Point of Intersection of Tangents
Pkwy	Parkway
PL	Place
PMA	Polymer Modified Asphalt
POC	Point of Connection
PP	Power Pole
PPB	Pedestrian Push Button
P.R.C.	Point of Reverse Curvature
Proj.	Project
Prop	Proposed
psi	Pounds per Square Inch
P.C.	Point of Tangency
PVC	Polyvinyl Chloride
PVH	Programmed Visibility Head
PVI	Point of Vertical Intersection
Pwr	Power
R	Radius
RCJ	Reinforced Concrete Jacket
RCP	Reinforced Concrete Pipe
Rd.	Road
REF	Reflector
Reinf.	Reinforcement, Reinforcing
Ret. Wall	Retaining Wall
r/w	Right-of-Way
RM	Remote Monitoring
RRFB	Rectangular Rapid Flashing Beacons
Rt.	Right
S	Sewer, Slope, South
SEC	State Energy Corridor
SC	Signal Corps Line
SD	Storm Drain
SDMH	Storm Drain Manhole
Shldr	Shoulder
Sht.	Sheet
SIC	Sandwich Isle Communications
Sig	Signal
SL	Street Light/Sewerline
SLB	Street Light Box
SLC	Street Light Conduit
SLP	Street Light Pullbox
SMH	Sewer Manhole
Specs.	Specifications
SPR	Sprinkler
St.	Street
Sta.	Station
Std.	Standard
Struct.	Structural
T	Top, Percentage of Truck Traffic in DHV
T⊄B	Top and bottom
T_{24}	Percentage of Truck Traffic for 24 Hours
Tan.	Tangent
TB	Top Bank
TBD	To Be Determined
TC	Top of Curb
TCB	Traffic Control Box
Tel, TEL	Telephone
Temp.	Temporary
TGC	The Gas Company
THWN	Thermoplastic High Water-resistant Nylon
TL	Traffic Light
TMH	Telephone Manhole
TMK	Tax Map Key
TMP	Traffic Management Plan
Tol.	Tolerance
TP	Top of Pipe
TPOL	Traffic Signal Pole
Trbox	Traffic Box
Trsig	Traffic Signal
TS	Top of Stem
tslb	Traffic Signal Light Box
TSB	Traffic Signal Box
TSC	Traffic Signal Conduit
TSS	Traffic Signal Standard
TV	Television, Top Vertical, Top of Valve
Tw, TW	Top of Wall/Top Wall
Typ.	Typical
UD	Underdrain
UMH	Utility Manhole
UNC	Unified Course pitch threads
UP	Utility Pole
USN	United States Navy
USAF	United States Air Force
Util	Utility
UTPB	Untreated Permeable Base
V	Design Speed
V, Vert.	Vertical
V.I.F., VIF	Verify in Field
Vol	Volume
w/	With
w/o	Without
W, Wtr	Water
WA	Work Area
WB	Westbound
WL	Waterline
WM	Water Meter
WMH	Water Manhole
WV	Water Valve
WVBOX	Water Valve Box
WVMH	Water Valve Manhole
WWF	Welded Wire Fabric

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ABBREVIATIONS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: N/A Date: Feb 2026

SHEET No. 7 OF 6 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\9 ABBREVIATIONS.DWG 5/11/2026 10:18 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	10	140

WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

1. See Special Provisions Section 209 - Temporary Water Pollution, Dust, and Erosion Control. Section 209 describes but is not limited to: submittal requirements; scheduling of a water pollution and erosion control conference with the Engineer; construction requirements; method of measurement; and basis of payment. In addition, Appendix A lists potential pollutant sources and corresponding BMPs used to mitigate the pollutants.

2. Follow the guidelines in the current HDOT Construction Best Management Practices Field Manual in developing, installing and maintaining the Best Management Practices (BMP) for the project. For any conflicting requirements between the Manual and applicable bid documents, the applicable bid documents will govern. Should a requirement not be clearly described within the applicable bid documents, the Contractor shall notify the Engineer immediately for interpretation. For the purposes of clarification under Note A.2, "applicable bid documents" include the construction plans, standard specifications, Special Provisions, Permits, and the Storm Water Pollution Prevention Plan (SWPPP) when applicable.

3. Follow the guidelines in the Honolulu's City & County "Rules Relating to Soil Erosion Standards and Guidelines" along with applicable Soil Erosion Guidelines for projects on Maui, Molokai, Kauai, and Hawaii.

4. The Engineer may assess liquidated damages of up to $27,500 for non-compliance of each BMP requirement and each requirement stated in Section 209 and special provisions, for every day of non-compliance. There is no maximum limit on the amount assessed per day.

5. The Engineer will deduct the cost from the progress payment for all citations received by the Department for non-compliance, or the Contractor shall reimburse the State for the full amount of the outstanding cost incurred by the State.

6. If necessary, install a rain gage prior to any field work including the installation of any site-specific best management practices. The rain gage shall have a tolerance of at least 0.05 inches of rainfall. Install the rain gage on the project site in an area that will not deter rainfall from entering the gage opening. Do not install in a location where rain water may splash into rain gage. The rain gage installation shall be stable and plumbed. Do not begin field work until the rain gage is installed and site-specific best management practices are in-place.

7. Submit Site-Specific BMP Plan to the Engineer along with a completed Site-Specific BMP Review Checklist within 21 calendar days of date of award. The Site-Specific BMP Review Checklist may be obtained from https://www.stormwaterhawaii.com.

B. WASTE DISPOSAL:

1. Waste Materials
Collect and store all waste materials in a securely lidded metal dumpster or roll off container with cover to keep rain out or loss of waste during windy conditions. The dumpster shall meet all local and State solid waste management regulations. Deposit all trash and construction debris from the site in the dumpster. Empty the dumpster weekly or when the container is two-thirds full, whichever is sooner. Do not bury construction waste materials onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Post notices stating these practices in the office trailer, on a weatherproof bulletin board, or other accessible location acceptable to the Engineer. The Contractor shall be responsible for seeing that these procedures are followed.

Submit the Solid Waste Disclosure Form for Construction Sites to the Engineer within 21 calendar days of date of award. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer monthly. This should also include documentation from any intermediary facility where solid waste is handled or processed.

2. Hazardous Waste
Dispose all hazardous waste materials in the manner specified by local or State regulations and by manufacturer. The Contractor's site personnel shall be instructed in these practices and shall be responsible for seeing that these practices are followed.

3. Sanitary Waste
Collect all sanitary waste from portable units a minimum of once per week, or as required. Position sanitary facilities where they are secure and will not be tipped over or knocked down.

C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

1. For projects with an NPDES Permit for Construction Activities, inspect at the following intervals. For construction areas discharging to nutrient or sediment impaired waters, inspect all control measures at least once each week and within 24 hours of any rainfall event of 0.25 inches or greater within a 24 hour period. For construction areas discharging to waters not impaired for nutrient or sediments, inspect all control measures weekly. Inspections are only required during the project's normal working hours. The discharge point water classification may be found in the SWPPP.

2. For projects without an NPDES Permit for Construction Activities, inspect all control measures weekly.

3. Maintain all erosion and sediment control measures in good working order. If repair is necessary, initiate repair immediately and complete by the close of the next work day if the problem does not require significant repair or replacement, or if the problem can be corrected through routine maintenance. When installation of a new erosion or sediment control or a significant repair is needed, install the new or modified control or complete the repair no later than 7 calendar days from the time of discovery. "Immediately" means the Contractor shall take all reasonable measures to minimize or prevent discharge of pollutants until a permanent solution is installed and made operational. If a problem is identified at a time in the day in which it is too late to initiate repair, initiation of repair shall begin on the following work day.

4. Remove built-up sediment from silt fence when it has reached one-third the height of the fence. Remove sediment from other perimeter sediment control devices when it has reached one-half the height of the device.

5. Inspect silt screen or fence for depth of sediment, tears, to verify that the fabric is securely attached to the fence posts or concrete slab and to verify that the fence posts are firmly in the ground. Inspect and verify the bottom of the silt screen is buried a minimum of 6 inches below the existing ground.

6. Inspect temporary and permanent seeding and planting for bare spots, washouts and healthy growth.

7. Complete and submit to the Engineer a maintenance inspection report within 24 hours after each inspection.

8. Provide a stabilized construction entrance at all points of exit onto paved roads to reduce vehicle tracking of sediments. Include stabilized construction entrance in the Water Pollution, Dust, and Erosion Control submittals. Minimum length should be 50 feet. Minimum width should be 30 feet. Minimum depth should be 12 inches or as recommended by the soils engineer and underlain with geo-textile fabric. If minimum dimensions cannot be met, provide other stabilization techniques that remove sediment prior to exit. Clean the paved street adjacent to the site entrance daily or as required to remove any excess mud, cold-planed materials, dirt or rock tracked from the site. Do not hose down the street without containing or vacuuming wash water. Cover dump trucks hauling material from the construction site with a tarpaulin. Remove sediment tracked onto the street, sidewalk, or other paved area by the end of the day in which the track-out occurs.

9. Include designated Concrete Washout Area(s) in the Water Pollution, Dust, and Erosion Control submittals.

10. Submit the name of a specific individual designated responsible for inspections, maintenance and repair activities and filling out the inspection and maintenance report.

11. Personnel selected for the inspection and maintenance responsibilities shall receive training from the Contractor. They shall be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.

12. Contain, remove, and dispose slurry generated from saw cutting of pavement in accordance with approved BMP practices. Do not allow discharge into the drainage system or State waters.

13. For projects with an NPDES Permit for Construction Activities, immediately initiate stabilizing exposed soil areas upon completion of earth-disturbing activities for areas where earth-disturbing activities have permanently or temporarily ceased. Earth-disturbing activities have permanently ceased when clearing and excavation within any area of the construction site that will not include permanent structures has been completed. Earth-disturbing activities have temporarily ceased when clearing, grading, and excavation within any area of the site that will not include permanent structures will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future. For construction areas discharging into waters not impaired for nutrients or sediments, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities. For construction areas discharging into nutrient or sediment impaired waters, complete initial stabilization within 7 calendar days after the temporary or permanent cessation of earth-disturbing activities. Classification of water at the discharge point may be found in the SWPPP.

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION AND EROSION CONTROL NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

SHEET No. 1 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\10-12 WPEC NOTES.DWG 5/11/2026 10:19 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	11	140

WATER POLLUTION AND EROSION CONTROL NOTES (CONT.):

14. For projects without an NPDES Permit for Construction Activities, complete initial stabilization within 14 calendar days after the temporary or permanent cessation of earth-disturbing activities.

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

1. Materials Pollution Prevention Plan

a. Applicable materials or substances listed below are expected to be present onsite during construction. Other materials and substances not listed below shall be added to the inventory.

Concrete	Cleaning Solvents
Detergents	Wood
Paints (enamel and latex)	Masonry Block
Metal Studs	Herbicides and Pesticides
Tar	Curing Compounds
Fertilizers	Adhesives
Petroleum Based Products	

b. Use Material Management Practices to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. Make an effort to store only enough product as is required to do the job.

c. Store all materials stored onsite in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.

d. Keep products in their original containers with the original manufacturer's label.

e. Do not mix substances with one another unless recommended by the manufacturer.

f. Whenever possible, use a product up completely before disposing of the container.

g. Follow manufacturer's recommendations for proper use and disposal.

h. Conduct a daily inspection to ensure proper use and disposal of materials onsite.

2. Hazardous Material Pollution Prevention Plan

a. Keep products in original containers unless they are not resealable.

b. Retain original labels and Safety Data Sheets (SDS), formerly Material Safety Data Sheets (MSDS).

c. Dispose of surplus products according to manufacturers' instructions and local and State regulations.

3. Onsite and Offsite Product Specific Plan
The following product specific practices shall be followed onsite:

a. Petroleum Based Products:
Monitor all onsite vehicles for leaks and perform regular preventive maintenance to reduce the chance of leakage. Store petroleum products in tightly sealed containers which are clearly labeled. Apply asphalt substances used onsite according to the manufacturer's recommendation.

b. Fertilizers:
Apply fertilizers used only in the minimum amounts recommended by the manufacturer and Federal, State, and local requirements. Avoid applying just before a heavy rain event. Apply at the appropriate time of year for the location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth. Once applied, work fertilizer into the soil to limit exposure to stormwater. Do not apply to storm conveyance channels with flowing water. Storage shall be in a covered shed or in an area where fertilizer will not come into contact with precipitation or stormwater. Transfer the contents of any partially used bags of fertilizer to a sealable plastic bin to avoid spills.

c. Paints:
Seal and store all containers when not required for use. Do not discharge excess paint to the drainage system, sanitary sewer system, or State waters. Dispose properly according to manufacturer's instructions and State and local regulations.

d. Concrete Trucks:
Washout or discharge concrete truck drum wash water only at a designated site as far as practicable from storm drain inlets or State waters. Do not discharge water in the drainage system or State waters. Disposal by percolation is prohibited. Clean disposal site as required or as requested by the Engineer.

4. Spill Control Plan

a. Post a spill prevention plan to include measures to prevent and clean up each spill.

b. The Contractor shall be the spill prevention and cleanup coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. Post the names of responsible spill personnel in the material storage area on a weatherproof bulletin board or other accessible location acceptable to the Engineer and in the office trailer onsite.

c. Clearly post manufacturers' recommended methods for spill cleanup. Make site personnel aware of the procedures and the location of the information and cleanup supplies.

d. Keep ample materials and equipment necessary for spill cleanup in the material storage area onsite.

e. Clean up all spills immediately after discovery.

f. Keep the spill area well ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.

g. Report spills of toxic hazardous material to the appropriate State or local government agency, regardless of the size. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24-hour period, the Contractor shall notify the Engineer as soon as the Contractor has knowledge of the discharge. The Engineer will notify the National Response Center (NRC) at (800) 424-8802, the Clean Water Branch during regular business hours at (808) 586-4309, and the Hawaii State Hospital Operator at (800) 247-2191 and the Clean Water Branch (DOH-CWB) via email at cleanwaterbranch@doh.hawaii.gov during non-business hours immediately. The Contractor shall also provide to the Engineer, within 7 calendar days of knowledge of the release, a description of the release, the circumstances leading to the release, and the date of the release. The Engineer will provide this information to the DOH-CWB. The Engineer will provide information to the NRC if requested.

E. PERMIT REQUIREMENTS:

1. A National Pollutant Discharge Elimination System (NPDES) Permit for Construction Activities of one acre or more of disturbed area is required for this project. If the Contractor requires extra land disturbance, including staging and storage areas, that is not covered by the NPDES Permit obtained by the State, the Contractor shall be responsible for obtaining the required NPDES Construction Activities Permit to cover this additional disturbed area. See Hawaii Administrative Rules Chapter 11-55, Appendix C for definition of land disturbance.

2. Comply with all applicable State and Federal Permit conditions. Permits may include, but not limited to the following:

a. NPDES Permit for Construction Activities

a. Water Quality Certification

F. SITE-SPECIFIC BMP REQUIREMENTS:

Each BMP below is referenced to the corresponding section of the current HDOT Construction Best Management Practices Field Manual and appropriate Supplemental Sheets. The Manual may be obtained from the HDOT Statewide Stormwater Management Program Website at http://www.stormwaterhawaii.com/resources/contractors-and-consultants/ under Construction Best Management Practices Field Manual. Supplemental BMP sheets are located at http://www.stormwaterhawaii.com/resources/contractors-and-consultants/storm-water-pollution-prevention-plan-swppp/ under Concrete Curing and Irrigation Water.

The requirements for Water Pollution, Dust, and Erosion Control submittals are included in Section 209 of the Hawaii Standard Specifications for Road and Bridge Construction dated 2005 and applicable Special Provisions. A list of pollutant sources and corresponding BMP used to mitigate the pollutants are included in Section 209 of the Special Provisions under Appendix A.

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION AND EROSION CONTROL NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

SHEET No. 2 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\10-12 WPEC NOTES.DWG 5/11/2026 10:19 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	12	140

WATER POLLUTION AND EROSION CONTROL NOTES (CONT.):

Follow the requirements below:

1. Protect all Drainage Inlets receiving runoff from disturbed areas (SC-1).

2. Contain on-site runoff using Perimeter Sediment Controls
   a. SC-7 Silt Fence or Filter Fabric Fence
   b. SC-2 Vegetated Filter Strips and Buffers
   c. SC-6 Compost Filter Berm/Sock
   d. SC-8 Sandbag Barrier
   e. SC-9 Brush or Rock Filter

3. Control offsite runoff from entering construction area

   a. EC-3 Run-On Diversion
   b. EC-5 Earth Dike, Swales, and Ditches

4. Incorporate applicable Site Management BMP

   a. SM-1 Construction BMP Training
   b. SM-2 Material Storage and Handling
   c. SM-3 Stockpile Management
   d. SM-6 Solid Waste Management
   e. SM-7 Sanitary Waste Management
   f. SM-9 Hazardous Materials and Waste Management
   g. SM-10 Spill Prevention and Control
   h. SM-11 Vehicle and Equipment Cleaning
   i. SM-12 Vehicle and Equipment Maintenance
   j. SM-13 Vehicle and Equipment Refueling
   k. SM-14 Scheduling
   l. SM-15 Location of Potential Sources of Sediment
   m. SM-16 Staging Area
   n. SM-17 Preservation of Existing Vegetation
   o. SM-19 Dust Control

5. Contain pollutants within the Construction Staging/Storage Area BMP with applicable Perimeter Sediment Controls and Site Management BMP. Include a Stabilized Construction Entrance/Exit (SC-11) for all areas which exit onto a paved street. Restrict vehicle access to these points.

6. Manage Concrete Waste including installing a Concrete Washout Area (SM-4) and properly disposing of Concrete Curing Water (California Stormwater BMP Handbook NS-12 Concrete Curing).

7. Remove saw cut slurry and hydrodemolition water from the site by vacuuming. Provide storm drain protection and/or perimeter sediment controls during saw cutting and hydrodemolition work.

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\10-12 WPEC NOTES.DWG 5/11/2026 10:19 AM JUNAY

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Robyn McKinney 04/30/28
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION AND EROSION CONTROL NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

SHEET No. 3 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	13	140

EROSION AND SEDIMENT CONTROL NOTES FOR WORK WITHIN CITY RIGHT-OF-WAY:

1. The Contractor shall follow the guidelines in the City and County of Honolulu's "Rules Relating to Water Quality".

2. Measures to control erosion and other pollutants shall be in place before any construction is initiated.

3. Regularly inspect and maintain all erosion and sediment controls to ensure continued performance.

4. Permanent Stabilization
   All disturbed areas shall be permanently stabilized using vegetative covering, pavement, or equivalent, prior to removing erosion and sediment measures. Trapped sediment and areas of disturbed soil which result from the removal of the temporary measures shall be immediately and permanently stabilized.

5. Perimeter Controls
   Perimeter controls are required downslope of equipment/vehicle staging areas at the end of each business day and around material stockpiles that are not actively being used. Stockpiles are not allowed in the City Right-of-Way.

6. Inlet Protection

   a. All storm drain inlets onsite and those offsite which may receive runoff from the site shall use an inlet protection device unless they are directed to a sediment basin.

   b. Sediment levels may not exceed one third of the height of a sediment barrier or inlet protection device at any point along the length of the sediment barrier or the inlet protection device.

   c. Sediment barriers and inlet protection devices must be unclogged and cleaned when performance is compromised.

   d. Torn, weathered or sagging sediment barriers or inlet protection devices must be repaired or replaced immediately.

7. Tracking Control

   a. Minimize sediment track-out onto off-site streets, other paved areas and sidewalks from vehicles exiting the construction site by restricting vehicle traffic to properly designated areas and using additional controls to remove sediment from vehicle tires prior to exiting the site.

   b. Vehicular parking and movements on project sites must be confined to paved surfaces or predefined parking areas and vehicle paths, which shall be marked with flags or boundary fencing,

   c. All pollutants and materials that are dropped, washed, tracked, spilled or otherwise discharged from a project site to off-site streets, other paved areas, sidewalks or the MS4 must be cleaned using dry methods such as sweeping or vacuuming.

   d. Washing pollutants and materials that are discharged from the project site to the MS4 into drain inlets or catch basins is prohibited unless the material is sediment and the inlets are directed to a sediment basin or sediment trap.

8. Best Management Practices (BMPs) shall not be removed until final stabilization is complete for each phase.

9. Refer to City and County of Honolulu Best Management Practices Manual-Construction, for more information on BMPs.

10. The following BMPs were determined to be not applicable based on the specific site conditions. As construction progresses, revisions may be necessary and will be provided to DPP inspectors.

    a. None

11. An ESCP Coordinator must be designated using the form in Appendix A to the Rules Relating to Water Quality prior to permitting.

12. Notify DPP in writing of project start date two weeks prior to starting work.

13. Practice good housekeeping measures throughout the duration of construction.

14. Inspection will be performed weekly.

PROJECT SEQUENCE:

1. Install inlet protection and perimeter controls around staging areas and material stockpiles as needed.

2. Proceed with construction with least possible disturbance of vegetative areas and temporary structures.

3. Install perimeter controls around active work areas at the end of each business day if not stabilized.

4. Plant permanent ground cover as soon as possible.

5. Remove or dismantle temporary erosion control structures after permanent stabilization.

RAIN RESPONSE PLAN:

The following will be performed when rain is imminent or is forecasted in the next 48 hours.

1. Temporary suspension of active trenching.

2. Inspect all perimeter controls, and inlet protection devices, and maintain as needed. Reinstall any perimeter controls that were removed due to active work in the area. If a severe storm is expected, remove inlet protection devices to prevent flooding on surrounding streets.

3. Cover or relocate material stockpiles and liquid material containers to avoid contact with rainwater.

4. Place spill pans or oil-only spill pads under construction vehicles to prevent runoff from contacting any spilled petroleum products. Properly dispose of any accumulated oily water after the rain event.

5. Re-inspect after the rain event and replace or maintain BMPs as needed.

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE

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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BMP STANDARD NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

SHEET No. 1 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\13-14 BMP STD NOTES.DWG 5/11/2026 10:19 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	14	140

GOOD HOUSEKEEPING BMPS FOR WORK WITHIN CITY RIGHT-OF-WAY:

1. *Street Sweeping and Vacuuming*

   All pollutants discharged from construction site to off-site areas must be swept or vacuumed each day before leaving the job site.

2. *Materials Delivery, Storage and Use Management*

   Prevent, reduce, or eliminate the discharge of pollutants from material delivery, storage, and use to the storm water system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in a designated area, installing secondary containment. Construction materials, waste, toxic and hazardous substances, stockpiles, and other sources of pollution shall not be stored in buffer areas, near areas of concentrated flow, or areas abutting the MS4, receiving waters, or drainage improvements that discharge off-site. Primary and secondary containment controls and covers shall be implemented to the maximum extent practicable.

3. *Spill Prevention and Control*

   Create and implement spill prevention and response plans to eliminate and minimize the discharge of pollutants to the MS4 and receiving waters from leaks and spills by reducing the chance for spills, absorbing, containing, and cleaning up spills and properly disposing of spill materials. At a minimum, all projects shall clean-up all leaks and spills immediately.

4. *Hazardous Materials*

   Prevent or reduce the discharge of pollutants to storm water from hazardous waste through proper material use and waste disposal. In the event that hazardous materials are discharged to the MS4, the property owner or ESCP Coordinator shall immediately notify the Department of Facility Maintenance, Honolulu Fire Department, and Honolulu Police Department of the discharge by telephone. A written report describing the pollutants that were discharged, the reasons for the discharge, and the measures that have been taken or will be taken to prevent a reoccurrence of the discharge shall be submitted to the director no less than 3 days after notification by phone.

5. *Non-Hazardous Materials*

   In the event that non-hazardous materials are discharged to the MS4, the property owner or ESCP Coordinator shall notify the City Department of Facility Maintenance by telephone no later than the next business day. A written report describing the pollutants that were discharged, the reasons for the discharge, and the measures that have been taken or will be taken to prevent a reoccurrence of the discharge shall be submitted to the Director no less than 3 days after notification by phone.

6. *Vehicle and Equipment Cleaning*

   Eliminate and minimize the discharge of pollutants to storm water from vehicle and equipment cleaning operations by using off-site facilities when feasible, washing in designated, contained areas only, and eliminating discharges to the storm drain system by evaporating and/or treating wash water, as appropriate or infiltrating wash water for exterior cleaning activities that use water only.

7. *Vehicle and Equipment Fueling*

   Prevent fuel spill and leaks by using off-site facilities, fueling only in designated areas, enclosing or covering stored fuel, and implementing spill controls such as secondary containments and active measures using spill response kits.

8. *Vehicle and Equipment Maintenance*

   Eliminate and minimize the discharge of pollutants to stormwater from vehicle and equipment maintenance operations by using off-site facilities when feasible, performing work in designated areas only, using spill pads under vehicles and equipment, checking for leaks and spills, and containing and cleaning up spills immediately.

9. *Solid Waste Management*

   Prevent or reduce discharge of pollutants to the land, groundwater, and in the stormwater from solid waste or construction and demolition waste by providing designated waste collection areas, collecting site trash daily, and ensuring that construction waste is collected, removed, and disposed of only at authorized disposal areas.

10. *Sanitary/Septic Waste Management*

    Temporary and portable sanitary and septic waste systems shall be mounted or staked in, well-maintained and scheduled for regular waste disposal and servicing. Sources of sanitary and/or septic waste shall not be stored near the MS4 or receiving waters.

11. *Stockpile Management*

    Stockpiles shall not be located in drainage ways, within 50 feet from areas of concentrated flows, and are not allowed in the city right-of-way. Sediment barriers or silt fences shall be used around the base of all stockpiles. Stockpiles shall not exceed 15 feet in height. Stockpiles greater than 15 feet in height shall require 8 foot wide benching in accordance with Revised Ordinances of Honolulu Chapter 18A, Article 3. Stockpiles must be covered with plastic sheeting or a comparable material if they will not be actively used within 7 days.

12. *Liquid Waste Management*

    Liquid waste shall be contained in a controlled area such as a holding pit, sediment basin, roll-off bin, or portable tank of sufficient volume and to contain the liquid wastes generated. Containment areas or devices must be impermeable and leak free and should not be located where accidental release of the contained liquid can discharge to water bodies, channels, or storm drains.

13. *Concrete Waste Management*

    Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout offsite or performing onsite washout in a designated area constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations. Plastic lining material should be a minimum of 10 millimeter Polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the material. Containment areas or devices should not be located where accidental release of the contained liquid can discharge to water bodies, channels, or storm drains. Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75 percent full. Once concrete wastes area washed into the designated area and allowed to harden, the concrete should be broken up, removed, and disposed of as solid wastes.

14. *Contaminated Soil Management*

    At a minimum, contain contaminated material soil by surrounding with impermeable lined berms or cover exposed contaminated material with plastic sheeting. Contaminated soil should be disposed of properly in accordance with all applicable regulations.

15. *Dust Control*

    Dust from a project site shall not be transported or discharged to off-site areas.

16. *Dewatering Operations*

    Non-storm water from dewatering cannot be discharged from the site without prior notice and approval from the DPP and Department of Health. Dewatering discharges shall be kept onsite using a sediment basin, sediment trap, weir tank, dewatering tank, filtration system or other manufactured system.

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP *DATE*

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NO. 13480-C
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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney *04/30/28*
SIGNATURE *EXPIRATION DATE OF THE LICENSE*

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BMP STANDARD NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

SHEET No. 2 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\13-14 BMP STD NOTES.DWG 5/11/2026 10:19 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	15	140

GENERAL UTILITIES NOTES:

1. Information regarding the site of the work given on the drawings or specifications has been obtained by the Engineer and is believed to be reasonably correct. However, it is the responsibility of the Contractor to verify all such information. The Contractor shall verify all dimensions and details shown on the drawings prior to the start of construction. Any discrepancy shall be immediately brought to the attention of the Engineer.

2. The Contractor shall obtain all standards and drawings related to utilities on this project from the Utility Owners. Verify that the Utility Company's Project Drawings are the same as the Contract Drawings. Notify the Engineer of any differences between them. If differences exist, obtain a resolution prior to proceeding with the work which is affected.

3. The underground pipes, cables, manholes, handholes, service boxes, or ductlines known to exist from search of records are indicated on the plans. The Contractor shall verify the locations and depths of existing utility lines and exercise proper care when excavating in the area. Wherever connections of new utilities to existing utilities are shown on the plans, the Contractor shall expose the existing lines at the proposed connections to verify their locations and depths prior to excavation for the new lines. The Contractor shall verify the operational status of all existing utilities to be removed or abandoned in place. Any discrepancy shall be brought to the attention of the Engineer.

4. The Contractor shall exercise care when performing his work and shall be held liable for any damages incurred to the existing facilities, utilities and other features, whether shown or not on plans, as a result of his operations. All damaged portions shall be replaced in accordance with the requirements of the affected owner or user at the Contractor's expense.

5. All existing utilities to remain in use, whether or not shown on the plans, shall be protected at all times by the Contractor unless specified on the plans to be abandoned. Any damage to the existing utilities shall be repaired and paid for at the Contractor's expense.

6. Existing utilities which are not required to be relocated, shall remain in service and in place at all times. If relocation of these existing utilities are required for the Contractor's convenience, interruption of service shall be kept to a minimum and shall be done at the Contractor's expense, and only with the approval of the Engineer and the affected utility owner.

7. In the event any artifacts or human remains are uncovered during construction operations, the Contractor shall immediately stop all work in the vicinity, generally within a 50-foot radius of the potential archaeological and/or burial find. The Contractor's Project Environmental Manager or Project Manager shall contact the following:

   a. GEC Section Environmental Compliance Monitor (808) 388-5127
   b. HART's Archeological Monitor, (808) 330-3769
   c. Cultural Surveys Hawaii, Inc. (CSH) Archaeologist, (808) 262-9972
   d. State Historic Preservation Division, Oahu: (808) 692-8015. If after hours, State of Hawaii Division of Conversation and Resources Enforcement: (808) 692-8015
   e. Coroner's Office, and Honolulu Police Department (HPD), if the find is confirmed to be human remains.

8. The existing improvements on the premises and in adjacent areas that are not to be removed shall be preserved and protected. Any and all damages resulting from the Contractor's construction operations shall be replaced and repaired to original condition, to the satisfaction of the owner.

9. Unless otherwise noted, no trench shall be opened more than 300 feet in advance of installed and tested pipeline and/or ductline.

10. The Contractor shall not cause rocks, soil or debris in any form to fall, slide or flow onto adjoining properties, streets or natural water-courses. Should such violation occur, the Contractor shall immediately stop and take all remedial action necessary.

11. Adequate provisions shall be made to prevent surface waters from damaging the cut face of excavated trenches. Furthermore, adequate provisions shall be made to prevent sediment-laden runoff from leaving the site.

12. The Contractor shall be responsible for conformance with the applicable provisions of the Water Quality and Water Pollution Control Standards contained in the "Hawaii Administrative Rules", Chapter 11-54, "Water Quality Standards" and Chapter 11-55, "Water Pollution Control", as well as Chapter 14 of the "Revised Ordinances of Honolulu", as amended. Best Management Practices shall be employed at all times during construction.

13. The Contractor shall be responsible for cleaning up any sewage spills caused during construction. The Contractor shall notify the State Department of Health and utilize appropriate sampling and analyzing procedures to ensure compliance.

14. The Contractor shall coordinate, if applicable, construction of electrical, telephone, cable television, SIC, water, sewer, and gas line relocation work with Hawaiian Electric Company, Hawaiian Telcom, Spectrum, Board of Water Supply, Department of Environmental Services, and The Hawaii Gas Co., respectively. All coordination shall be considered incidental to utility relocation work.

15. The Contractor shall coordinate with the land owners and users as needed to carry out the work.

16. Origin of Coordinates: Hawaii State Plane Coordinate Grid System, Zone III with the North American Datum of 83 High Accuracy Reference Network (NAD83 HARN).

17. Elevations shown on these plans are referenced to Mean Sea Level (MSL).

18. Where necessary, the Contractor shall reconnect all service laterals to relocated mains. Reconnection may include the extension of the service lateral, relocation of valves, and/or the cutting and plugging of the lateral.

19. Where necessary, reconstruction of sidewalk, gutter, and driveway areas shall conform to the standard details of the governmental agency having jurisdiction over the work.

20. All station data are referenced to the Department of Transportation, Highways Division, baseline provided by the City and County of Honolulu. The accuracy of this baseline shall be verified prior to construction and used at the Builder's discretion.

21. The Contractor shall preserve, retain, and return all lava rock curbstones to the City & County of Honolulu should existing curbs require demolition or removal.

22. The Contractor shall be responsible to comply with flood zone regulations for the project elements and facilities.

STATE OF HAWAII UTILITY NOTIFICATION CENTER

1. Prior to excavation, the Contractor is required by Section 269E of Hawaii Revised Statutes, to contact the Hawaii One Call Center at (866) 423-7287.

2. The Contractor shall coordinate with emergency services and utility companies to ensure that utility relocations meet their needs.

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

SHEET No. 1 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\15-17 UTILITY NOTES.DWG 5/11/2026 10:20 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	16	140

SEWER NOTES:

1. All sewer construction shall be performed in accordance with the City's "Standard Specifications," Sept. 1986, the Department of Environmental Services "Wastewater System Design Standards," July 2017, and "Wastewater System Standard Details," July 2017, Current City Practices and Revised Ordinances of Honolulu, 1990 as amended

2. In the event that any change in alignment or grade for the proposed sewers are required due to unforeseen conflict with other utilities, the engineer in charge or the maker of the plans shall be responsible for the required changes which are to be presented to the Department of Planning and Permitting (DPP) for approval.

3. Crushed rock cradle is permitted where soil is stable. In areas of unstable soil, the maker of the plans and the construction engineer will determine the pipe support required.

4. The underground pipes, cables or ductlines known to exist by the designer from his research of records are indicated on the plans. The Contractor shall verify the location and depth of the facilities, including and affecting sewer lines, in the presence of the Wastewater Inspector and exercise proper care in excavating the area. The Contractor shall be responsible and shall pay for all damaged utilities.

5. Sewer laterals shall be clear of and not conflicting with any other utility. Minimum horizontal and vertical clearances shall be strictly observed and followed.

6. Slope for sewer laterals shall be 2.00% unless otherwise noted.

7. Building plumbing facilities shall be controlled by sewer lateral inverts.

8. The Contractor shall be responsible for maintaining continuous sewer service to all affected areas during construction.

9. The Consulting Engineer shall submit to the Wastewater Branch, DPP "as-built" tracings and electronic files of the construction plans as actually constructed, showing all changes from the original plans.

10. The Contractor shall be responsible for any sewage spills caused during construction. The Contractor shall notify the State Department of Health and utilize appropriate sampling and analyzing procedures. The Contractor shall be responsible for all public notifications and press releases.

11. The Contractor shall install "Rainstopper" manhole inserts in all sewer manholes with Type "SA" frame and cover.

12. The Contractor shall obtain approval for advance sewer riser agreement at the DPP and obtain building permit for plumbing work before any advance riser is made.

13. S4C pipe cradle seals shall be installed ten (10) feet from all sewer manholes to prevent soil migration.

14. Confined Space

    For entry by City Personnel, including Inspectors, into permit-required confined space as defined in 29 CFR part 1910.146(b), the Contractor shall be responsible for providing:

    A. All safety equipment required by the confined space regulations applicable to all parties other than the construction industry, to include, but not limited, to the following:

        a. Full body harnesses for up to two personnel.
        b. Lifeline and associated clips.
        c. Ingress/egress and fall protection equipment.
        d. Two-way radios (walkie-talkies) if out of line-of-sight.
        e. Emergency (escape) respirator (10 minute duration).
        f. Cellular telephone to call for emergency assistance.
        g. Continuous gas detector (calibrated) to measure oxygen, hydrogen sulfide, carbon monoxide and flammables (capable of monitoring at a distance at least 20-feet away).
        h. Personal multi-gas detector to be carried by inspector.

    B. Continuous forced air ventilation adequate to provide safe entry conditions.

    C. One attendant/rescue personnel topside (two, if conditions warrant it).

15. When connecting to a live sewer, the Contractor shall abide by all conditions that the State Department of Health sets forth to mitigate any wastewater spill that may occur. The Contractor shall inform the City Inspector five (5) working days prior to the actual connection. The Contractor shall be responsible for any fines and penalties due to any spills resulting from the connection.

16. No rungs shall be installed inside new sewer manholes.

17. For sewer manhole adjustments upward less than 3", see Standard Detail S-28. For SMH adjustments upward greater than 3" or for any adjustments downward, reconstruct SMH top from below the cone section.

18. If the Contractor encounters flow monitoring devices such as special sewer manhole cover embedded with solar panels; contact Collection Systems Maintenance (CSM), ENV at (808) 768-7272 to coordinate temporary removal.

19. The Contractor shall maintain visibility and maintenance access to live sewer manhole locations at all times, including during non-work hours and paving operations.

20. The Contractor shall use manhole debris catching device when performing manhole height adjustments work and remove any construction debris that has fallen into the manhole. Disposal of construction debris in the sewer system is strictly prohibited.

21. For precast sewer manholes, the Consulting Engineer shall submit four (4) sets of shop drawings to Wastewater Branch, DPP for approval. After the shop drawings are approved, the manufacturer shall notify the Construction Management Branch, Wastewater Engineering and Construction Division, ENV at (808) 768-8785, (808) 768-8769 or (808) 768-8755 to arrange for inspection services for concrete pours made at its plant seven (7) days to pour.

22. Sewer manhole frame and covers shall be adjusted and reinstated within 60 calendar days of adjacent repaving completion, to allow City maintenance trucks to regain access to manholes to perform sewer maintenance.

APPROVED:

CHIEF, WASTEWATER BRANCH, DPP DATE

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: N/A Date: Feb 2026

SHEET No. 2 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\15-17 UTILITY NOTES.DWG 5/11/2026 10:20 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	17	140

WATER NOTES:

1. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the Standard Specifications for Road and Bridge Construction, dated 2005, as amended, of the Hawaii Highways Division, Department of Transportation, and the City and County of Honolulu Board of Water Supply's "Water System Standards", dated 2002, the "Water System External Corrosion Control Standards", Volume 3, dated 2021, and all subsequent amendments and additions.

2. No deviation to the Board of Water Supply 2002 Water System Standards shall be allowed without the Manager and Chief Engineer's approval.

3. All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply and/or if work is to be done on/or near the water system.

4. The Contractor shall notify Board of Water Supply Capital Projects Division, Construction Section in writing or call (808) 748-5730 and submit six (6) sets of 24" x 36" Approved Construction Plans one week prior to commencing construction activities

5. The existence and location of underground utilities and structures shown on the plans are based on the latest available data, but are not guaranteed as to accuracy or completeness. The Contractor is responsible for all damages to existing utilities. The absence of a utility shown on the plans does not indicate that none exist. The Contractor shall conduct potholing and other appropriate field verifications to locate and identify existing utilities and structures prior to commencement of work.

6. The Contractor shall be responsible for the protection of all waterlines during construction. The Contractor shall be especially careful when excavating behind waterlines, tees, and bends wherever there is a possibility of waterline movement due to the removal of the supporting earth beyond the existing reaction blocks. The Contractor shall take whatever measures necessary to protect the waterlines, such as constructing special reaction blocks (with Board of Water Supply approval) and/or modifying his construction method.

7. Re-approval shall be required if this project is not under construction within a period of two (2) years.

8. Prior to any excavation, the Contractor shall verify in the field, the location of existing waterlines and appurtenances.

9. Any adjustments to the existing water system required during construction, to meet the requirements of the Board of Water Supply Standards, whether shown on the plans or not, shall be done by the Contractor at no cost to the Board of Water Supply.

10. The Contractor shall adjust all manhole frames/valve boxes/meter boxes within the reconstructed/resurfaced areas. The Contractor shall be responsible for "Referencing" these manholes/valve boxes/meter boxes to facilitate the adjustments.

11. Requests for water outages shall be submitted to the Board of Water Supply Construction Inspector not less than fourteen (14) calendar days in advance. The request shall indicate the specific area, date, time, and the anticipated duration of the proposed outage. Outages shall be approved at the convenience of the Board of Water Supply. The Contractor shall plan all work to minimize the number and duration of outages. The Contractor shall notify the affected consumers (residents and merchants).

12. Pipe and Fittings:

    a. All ductile iron pipe, including sections requiring reinforced concrete jacketing, shall be ductile iron Class 53 with a bonded dielectric coating as per the Board of Water Supply Water System Standards as amended.

    b. All ductile iron fittings and metallic valves shall have a factory applied coating and wrapped with petrolatum wax tape.

    c. Polygon shape for mechanical joint glands as described in AWWA Standard C111 shall be "straight-sided" or an approved equal on a job-to-job basis.

    d. Prior to installation, the Contractor shall submit for approval by Board of Water Supply, the manufacturer's certification that all cast iron (gray or ductile) fittings for the project conform in all respects to the Water System Standards, dated 2002 and addendums.

    e. The Contractor shall furnish and install an insulating corporation stop and Petrolatum Wax Tape at all taps (for Ductile Iron pipe and Copper pipe lateral combination only).

13. All water mains and appurtenances shall be subject to hydrostatic test pressure of 200 psi by the Contractor in accordance with Division 300 - Construction, Section 302.28, Pipe Pressure Test of the "Water System Standards", dated 2002. during the 30-minute pressure test, the pressure shall not drop more than 10 psi.

14. Pipe cushion shall be of high resistivity material. The Contractor shall submit a Soil Certification that high resistant cushion material has a resistivity greater than 5,000 ohm-cm. Remainder of the backfill material shall be as specified in the Board of Water Supply Water System Standards. Pipe cushion and backfill material shall contain no hazardous substances above regulatory action levels including but not limited to lead, asbestos, mercury, chromium, cadmium, zinc, strontium, and polychlorinated biphenyls (PCB).

15. Cleaning shall be by the use of "pigs" introduced into the pipeline and run completely through all installed pipelines and all branch lines for fire hydrants. "Pigging" of service laterals is not required. Bare foam "pigs" shall be used to swab piping clean as each length of the pipeline is installed. The type, density, size, diameter and length of the "pig" shall be submitted for review and approval by the Manager prior to pigging work. "Pig" shall be used per manufacturer's specifications. Prior to use, the "pig" shall be submerged in a Chlorine solution of 1 oz. of 5% Chlorine bleach in 5 gallons of water. "Pigging" of the pipeline shall be considered incidental to the installation of the new pipeline. Manual sweeping, hand cleaning or swabbing may be allowed in lieu of "pigging" as approved by the Board of Water Supply Manager.

16. Install 4 mil thick, non-metallic, blue colored, 6 inches wide warning tape over centerline of the pipe and below the base course along the entire length of trench. Tape should be marked with "CAUTION WATER LINE BURIED BELOW".

17. The Contractor shall install electronic markers to all mains and test the electronic markers prior to installations to verify proper operation. Board of Water Supply Personnel shall verify the number and locations of placed electronic markers before final paving of the project.

18. Soil Resistivity for the site has a corrosion rating of 1000 ohm-cm as reported by Geolabs, Inc. dated May 2, 2025. All required electrical isolation procedures and corrosion control requirements shall apply.

19. Upon completion of the required hydrostatic test pressure, all water mains and appurtenances shall be disinfected by the Contractor in accordance with Division 300 - Construction, Section 302.29, Chlorination of Water Pipeline of the "Water System Standards", dated 2002. In addition, the Contractor shall hire a State of Hawaii - Department of Health certified laboratory to provide water sampling services and to deliver water samples to the micro lab for analysis. Water samples for bacterial testing shall be delivered no later than 2:30 p.m. on the day the samples are taken to the Board of Water Supply Microlab located at 630 S. Beretania St., Honolulu, HI 96843. The micro lab shall perform analysis and provide their results to the Officer-in-Charge by 4:30 p.m. on the following day (in some cases, final results notification may take up to 48 hours).

20. The Contractor shall be responsible for obtaining necessary permit/s for the disposal of water used for hydrostatic pressure testing and chlorination prior to start of construction.

APPROVED:

MANAGER AND CHIEF ENGINEER, BWS DATE
(For Work Affecting BWS Facilities in City/State R/W and BWS Easements Only)

ROBYN R. McKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY NOTES

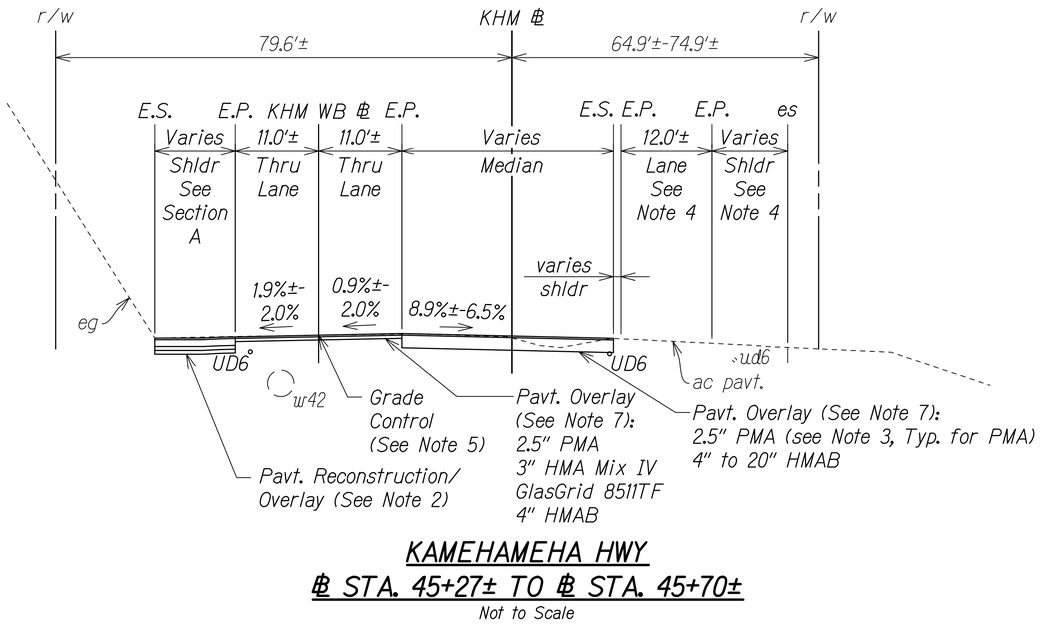
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

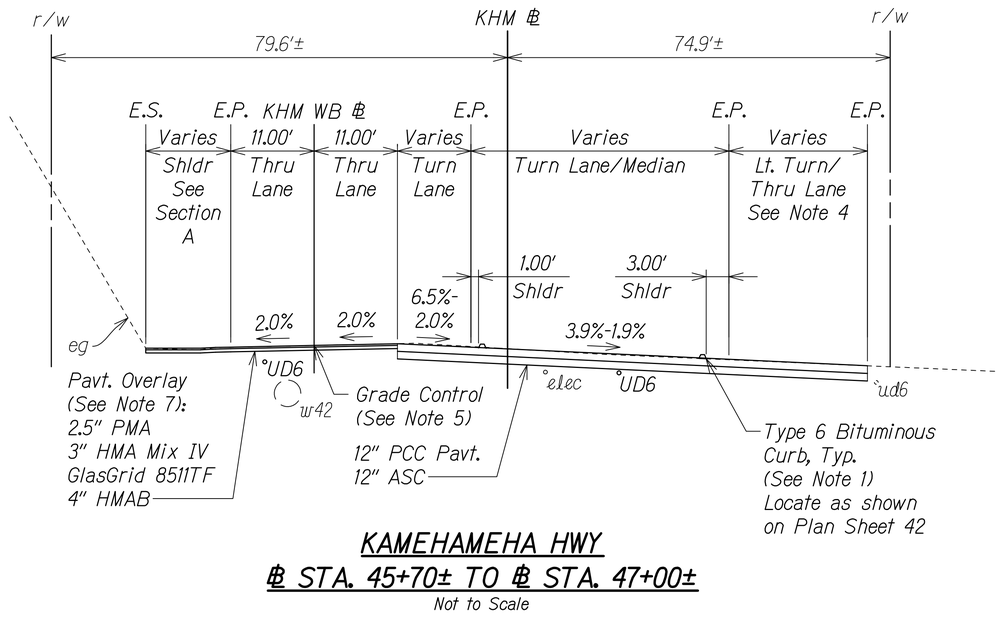
SHEET No. 3 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\15-17 UTILITY NOTES.DWG 5/11/2026 10:20 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	18	140



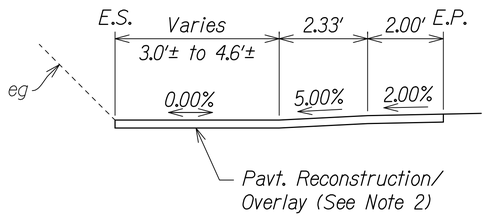
KAMEHAMEHA HWY
℄ STA. 45+27± TO ℄ STA. 45+70±
Not to Scale



KAMEHAMEHA HWY
℄ STA. 45+70± TO ℄ STA. 47+00±
Not to Scale

NOTES:

1. Construct Type 2D Concrete Curb and Type 6 Bituminous Curb per HDOT Standard Plan D-05. Construct Type 2DG Concrete Curb and Gutter per Detail Sheet 23.
2. Asphalt pavement section varies as shown on Plan Sheets 42 and 43.
3. PMA refers to Mix No. IV with PG 64E-22.
4. For new pavement markings on existing pavement, see Plan Sheet 80 and 81.
5. For Grade Control Plan and Profile, see Plan Sheets 52 to 55.
6. For new drainlines, see Plan Sheets 46 to 49 and 68 to 70. For existing utility layout, see Plan Sheets 39 and 40.
7. Cold plane to establish the indicated pavement section for the entire lane width.



SECTION A
Not to Scale

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

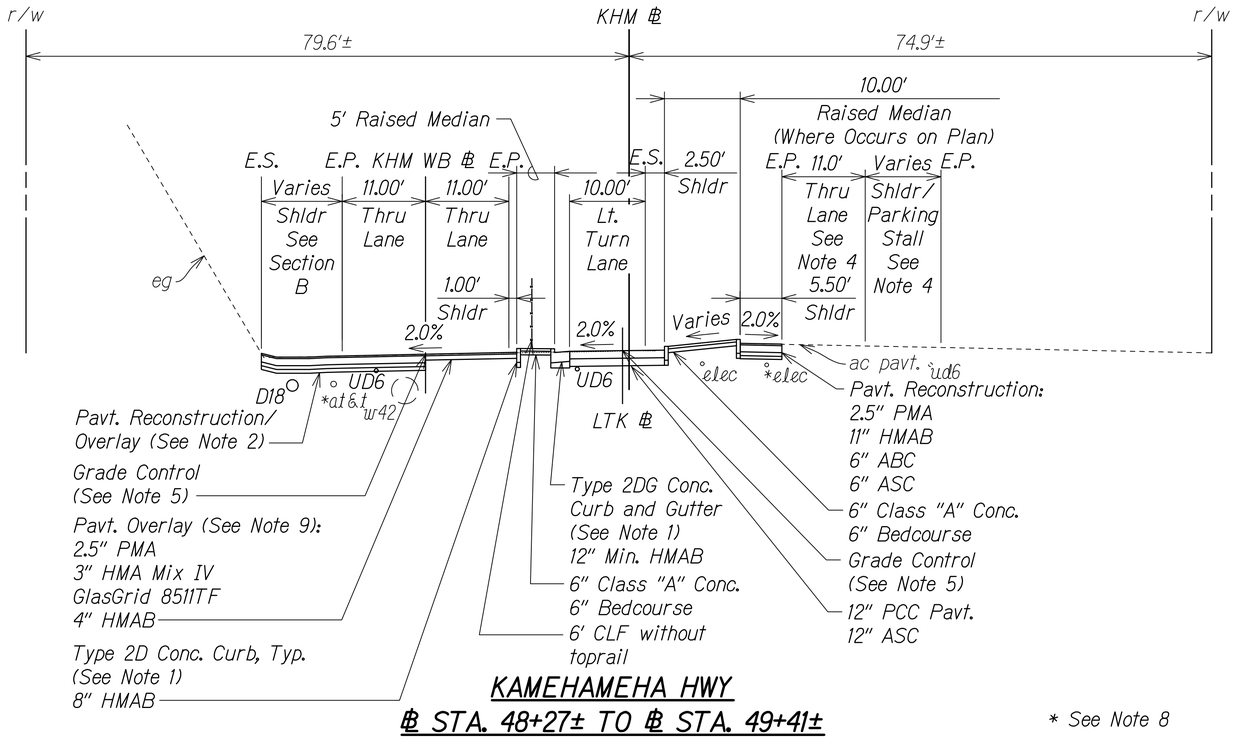
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: No to Scale Date: Feb 2026

SHEET No. 1 OF 4 SHEETS

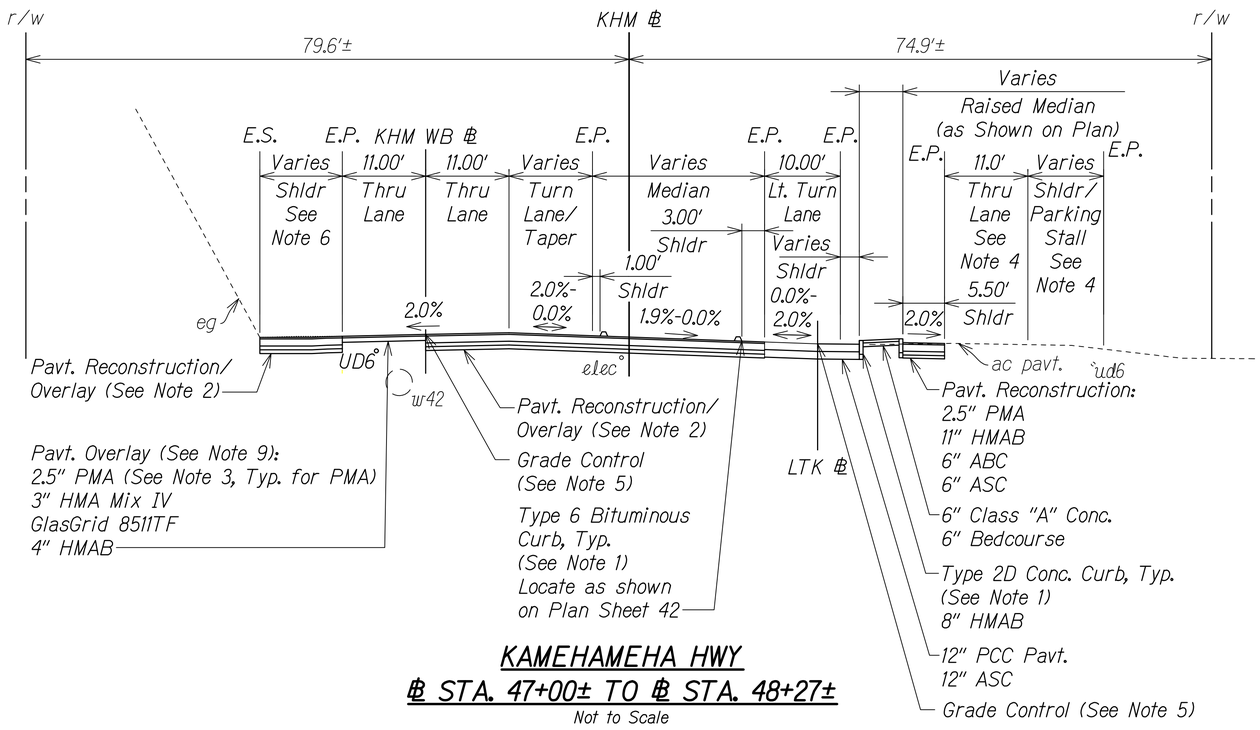
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FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	19	140

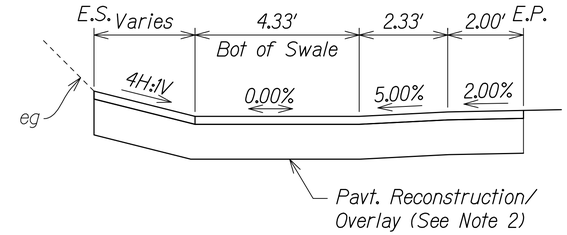


KAMEHAMEHA HWY
℄ STA. 48+27± TO ℄ STA. 49+41±
Not to Scale

* See Note 8



KAMEHAMEHA HWY
℄ STA. 47+00± TO ℄ STA. 48+27±
Not to Scale



SECTION B
Not to Scale

NOTES:

1. Construct Type 2D Concrete Curb and Type 6 Bituminous Curb per HDOT Standard Plan D-05. Construct Type 2DG Concrete Curb and Gutter per Detail Sheet 23.
2. Asphalt pavement section varies as shown on Plan Sheets 42 and 43.
3. PMA refers to Mix No. IV with PG 64E-22.
4. For new pavement markings on existing pavement, see Plan Sheet 80 and 81.
5. Grade Control as shown on Plan Sheets 52 to 55.
6. Section A, see Sheet 18.
7. For new drainlines, see Plan Sheets 46 to 49 and 68 to 70. For existing utility layout, see Plan Sheets 39 and 40.
8. Location of existing utility shown is based on toning done by Controlpoint Surveying, Inc. on September 22, 2024.
9. Cold plane to establish the indicated pavement section for the entire lane width.

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

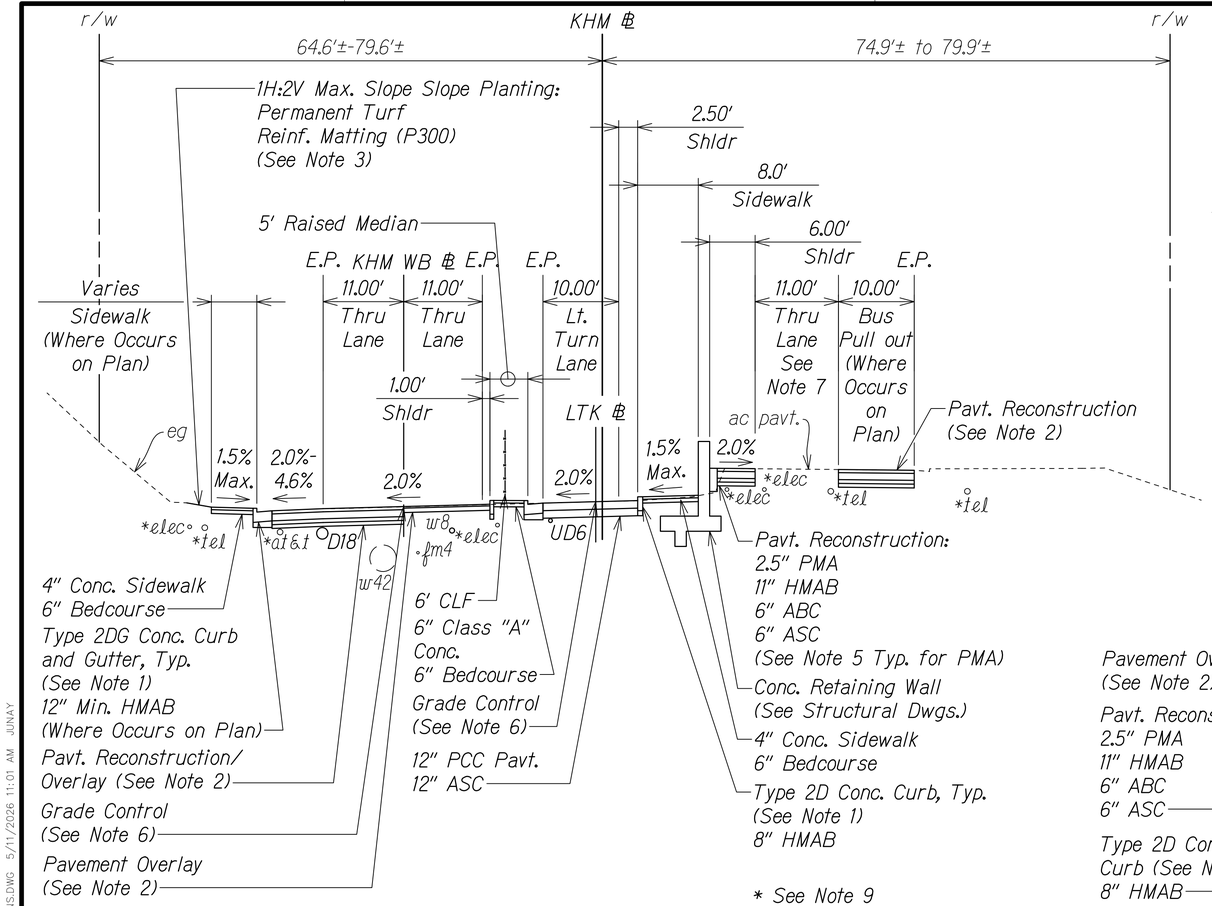
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale Date: Feb 2026

SHEET No. 2 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\18-19 TYPICAL SECTIONS.DWG 5/11/2026 11:00 AM JUNAY

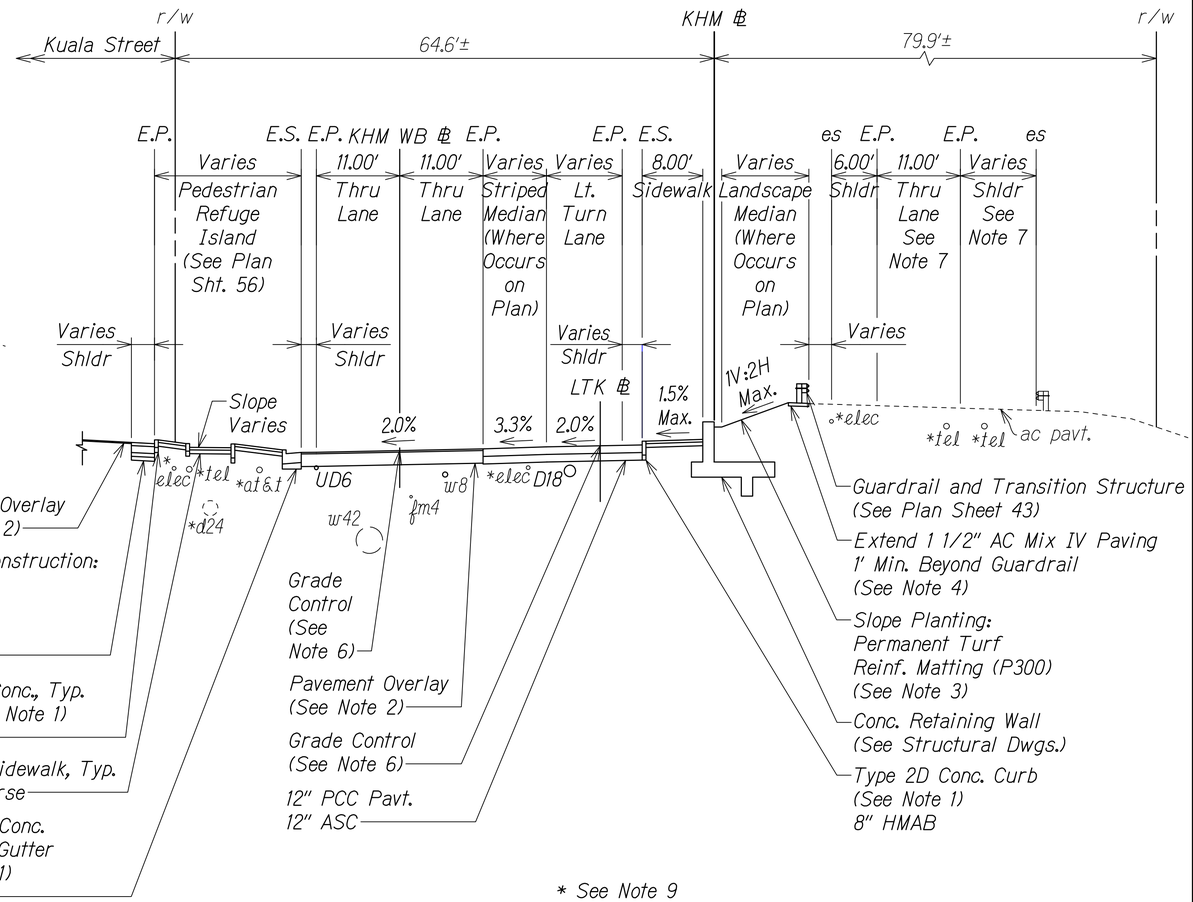
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	20	140



* See Note 9

KAMEHAMEHA HWY
℄ STA. 49+41± TO ℄ STA. 51+35±

Not to Scale



* See Note 9

KAMEHAMEHA HWY
℄ STA. 51+35± TO ℄ STA. 52+28±

Not to Scale

NOTES:

1. Construct Type 2D Concrete Curb and Type 6 Bituminous Curb per HDOT Standard Plan D-05. Construct Type 2DG Concrete Curb and Gutter per Detail Sheet 23.
2. Asphalt pavement section varies as shown on Plan Sheets 42 and 43.
3. Landscape median backfill material shall be installed in accordance with HSS subsection 203.03(C) - Embankment Construction.
4. Prior to placement of Asphalt Concrete (Mix IV), level, remove vegetation and compact ground to 95% compaction.
5. PMA refers to Mix No. IV with PG 64E-22.
6. For Grade Control Plan and Profile, see Plan Sheets 52 to 55.
7. For new pavement markings on existing pavement, see Plan Sheets 80 and 81.
8. For new drainlines, see Plan Sheets 46 to 49 and 68 to 70. For existing utility layout, see Plan Sheets 39 and 40.
9. Location of existing utility shown is based on toning done by Controlpoint Surveying, Inc. on September 22, 2024.

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney — SIGNATURE
04/30/28 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

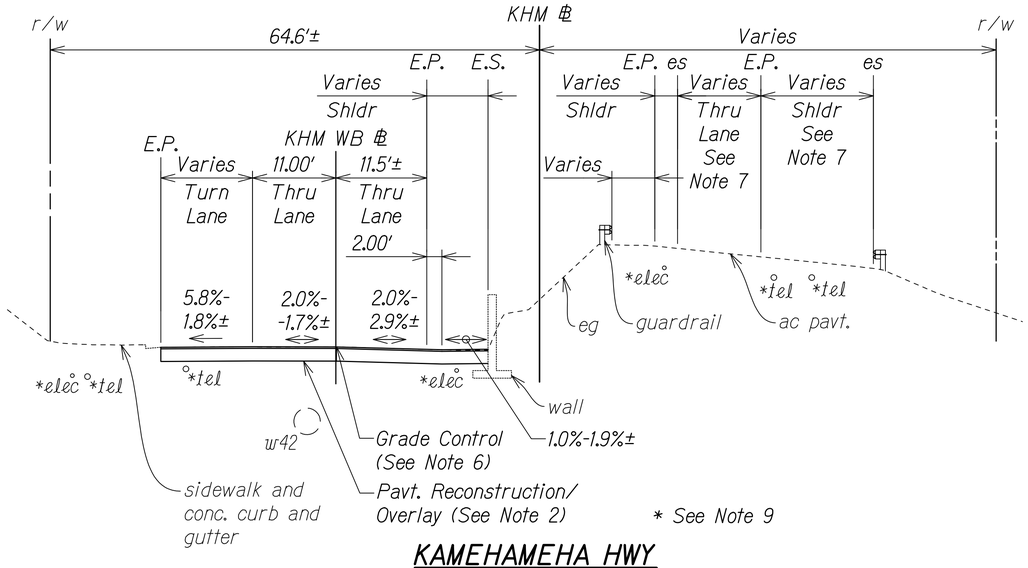
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale — Date: Feb 2026

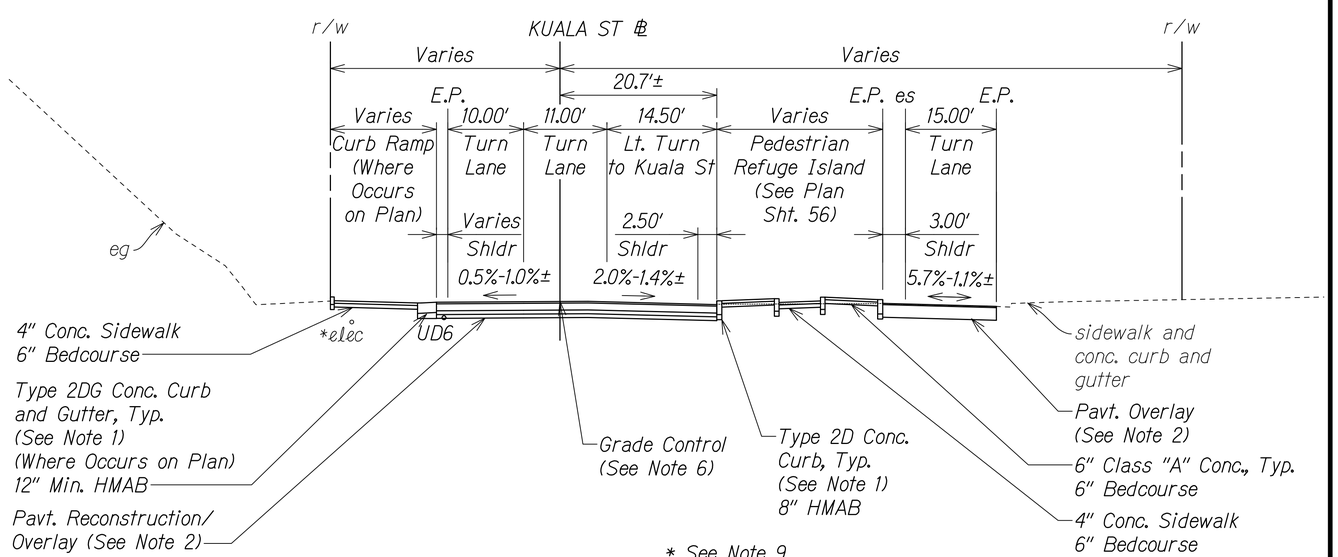
SHEET No. 3 OF 4 SHEETS

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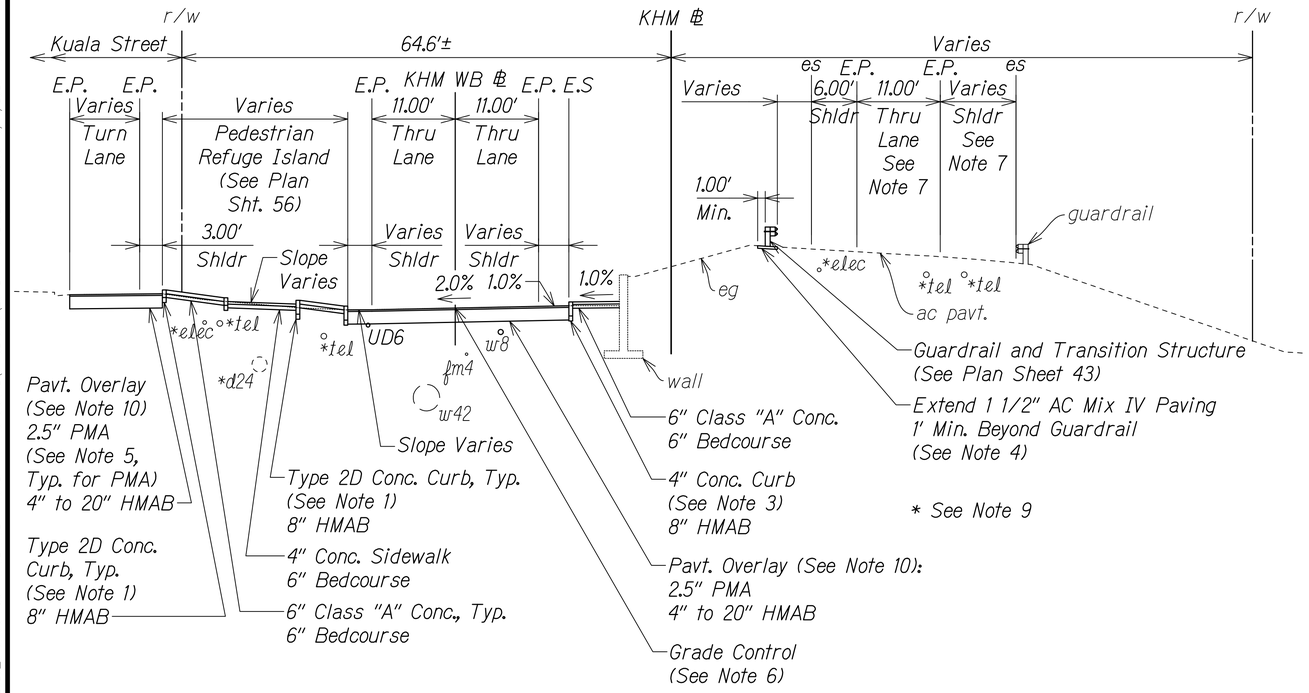
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	21	140



KAMEHAMEHA HWY
℄ STA. 52+73± TO ℄ STA. 54+20±
Not to Scale



KUALA STREET AND KAMEHAMEHA HIGHWAY INTERSECTION
Not to Scale



KAMEHAMEHA HWY
℄ STA. 52+28± TO ℄ STA. 52+73±
Not to Scale

NOTES:

1. Construct Type 2D Concrete Curb and Type 6 Bituminous Curb per HDOT Standard Plan D-05. Construct Type 2DG Concrete Curb and Gutter per Detail Sheet 23.
2. Asphalt pavement section varies as shown on Plan Sheets 42 and 43.
3. Construct 4" Concrete Curb, see Detail Sheet 23.
4. Prior to placement of Asphalt Concrete (Mix IV), level, remove vegetation and compact ground to 95% compaction.
5. PMA refers to Mix No. IV with PG 64E-22.
6. For Grade control Plan and Profile, see Plan Sheets 52 to 55.
7. For new pavement markings on existing pavement, see Plan Sheets 80 and 81.
8. For new drainlines, see Plan Sheets 46 to 49 and 68 to 70. For existing utility layout, see Plan Sheets 39 and 40.
9. Location of existing utility shown is based on toning done by Controlpoint Surveying, Inc. on September 22, 2024.
10. Cold plane to establish the indicated pavement section for the entire lane width.

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

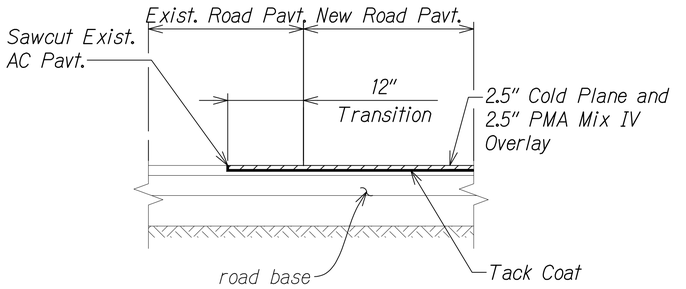
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale Date: Feb 2026

SHEET No. 4 OF 4 SHEETS

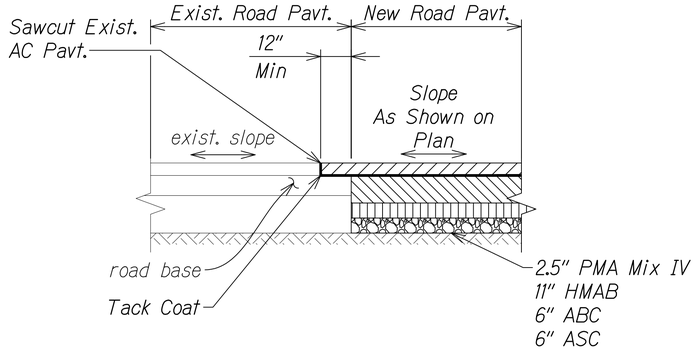
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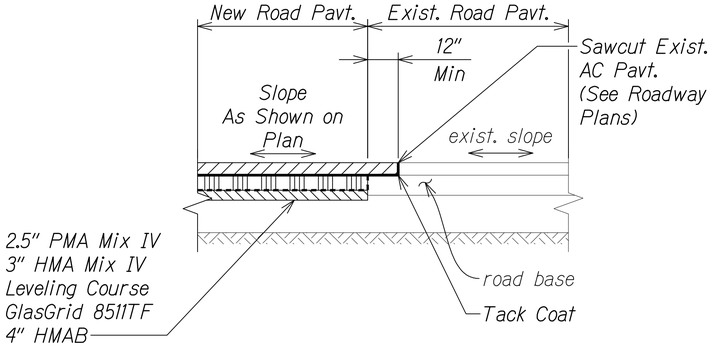
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	22	140

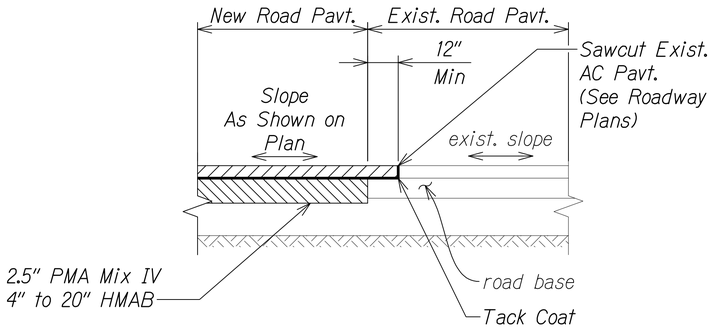


SMOOTH RIDING TRANSITION

For Work Within City and State R/W

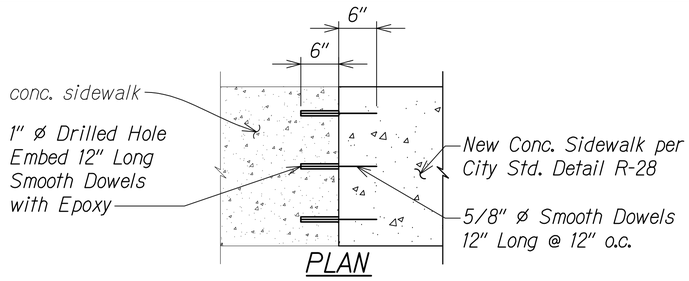




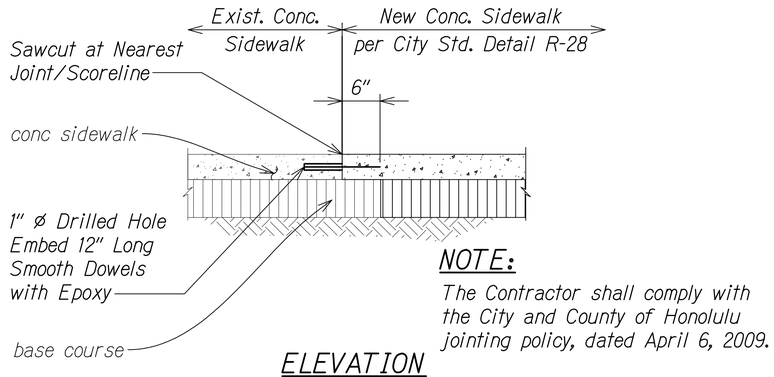


PAVEMENT JOINT

For Work Within State R/W



PLAN



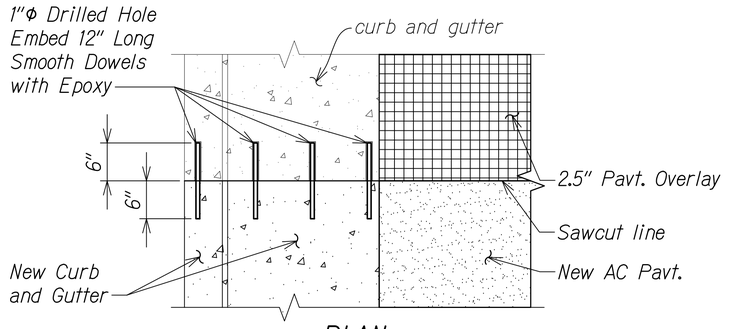
ELEVATION

CONCRETE SIDEWALK CONNECTION

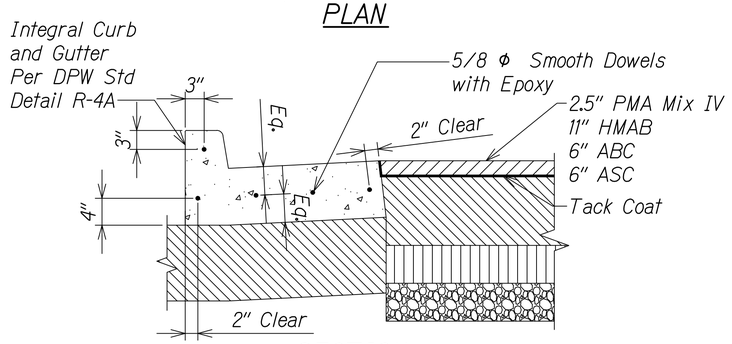
For Work Within City R/W

NOTE:

The Contractor shall comply with the City and County of Honolulu jointing policy, dated April 6, 2009.



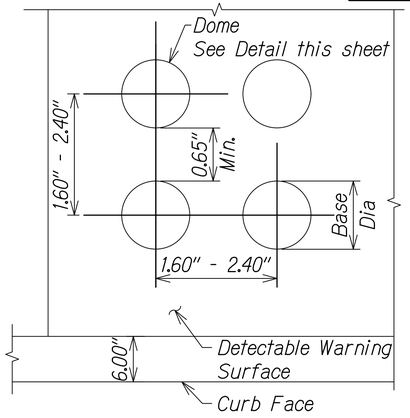
PLAN



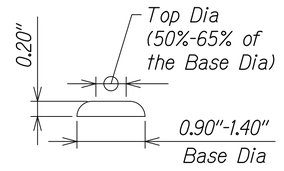
SECTION

CONC CURB AND GUTTER CONNECTION TO EXISTING

For Work Within City R/W



ENLARGEMENT



DOME SECTION

NOTES:

1. Detectable warnings shall be 24 inches in the direction of travel and extend the full width of the curb ramp of flush surface (does not include flares).
2. Truncated domes shall have a diameter of 0.90 to 1.40 inch at the bottom, a diameter of 50%-65% of the base diameter at the top, a height of 0.20 inch and a center-to-center spacing of 1.60 to 2.40 inches measured along one side of a square arrangement.
3. Domes shall be aligned on a square grid in the predominant direction of travel to permit wheels to roll between the domes.
4. There shall be a minimum of 70% contrast in light reflectance between the detectable warning and an adjoining surface, or the detectable warning shall be "safety yellow".
5. The material used to provide visual contrast shall be an integral part of the detectable warning surface.
6. The detectable warning shall be located so that the edge nearest the curb line or other potential hazard is 6 to 8 inches from the curb line.

DETECTABLE WARNING MAT

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP — DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney — 04/30/28
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

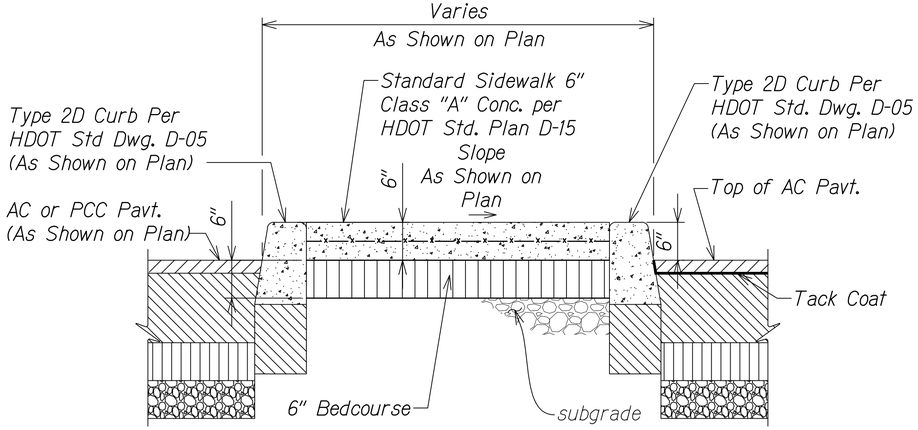
SITE DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale — Date: Feb 2026

SHEET No. 1 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\22 SITE DETAILS.DWG 4/24/2026 4:29 PM JUNAY

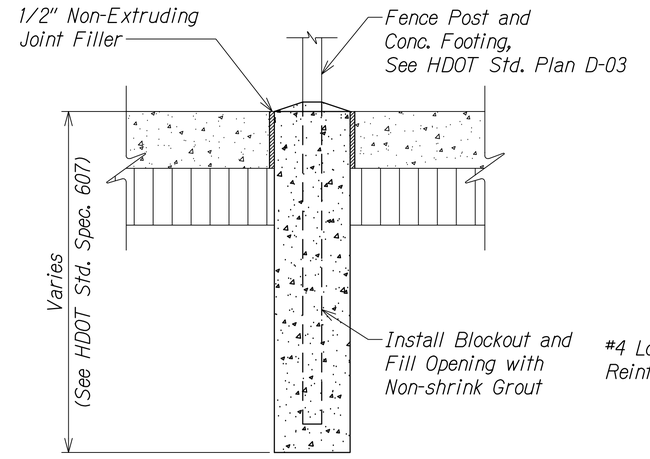
FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	23	140



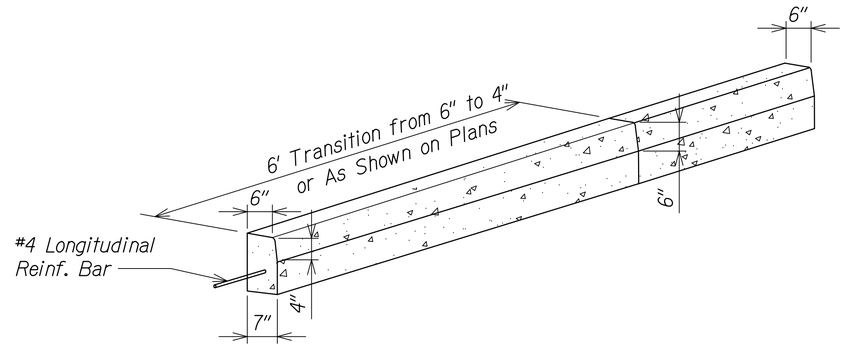
Locations:

1. Right side of Left Turn Lane: KMH ℄ Sta. 47+80 to 49+18
2. Refuge Island at Kuala St. and Kamehameha Hwy Intersection

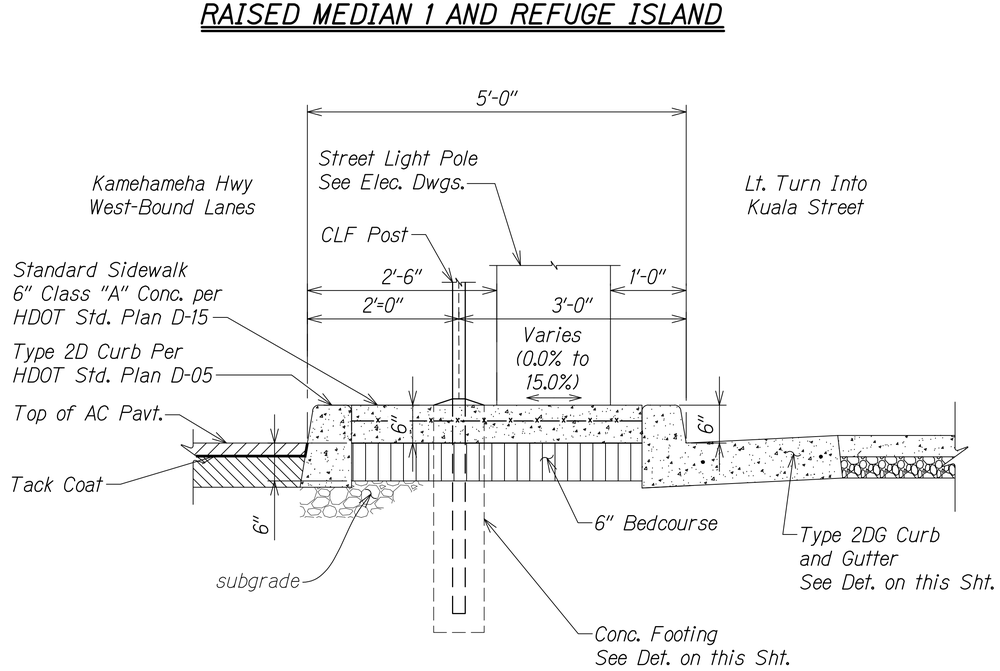
RAISED MEDIAN 1 AND REFUGE ISLAND



TYPICAL FENCE POST FOOTING



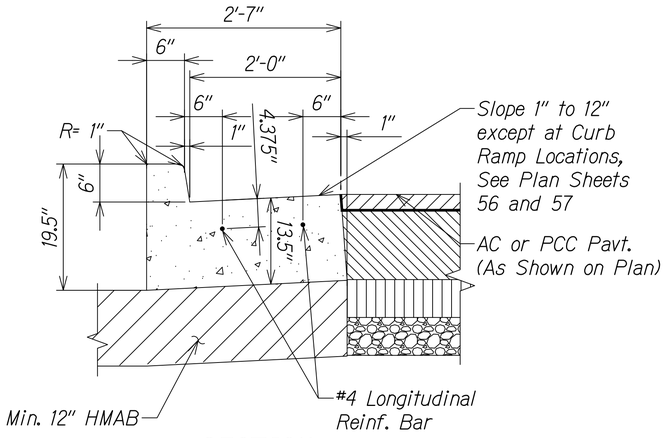
6" TO 4" CURB TRANSITION



Location:

Left side of Left Turn Lane: KMH ℄ Sta. 48+30 to 51+35

RAISED MEDIAN 2

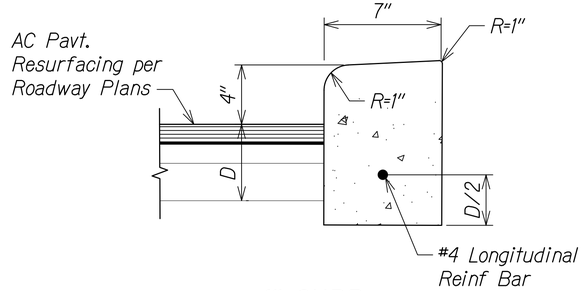


SECTION

NOTES:

1. Cast-In-Place PCC Gutters shall be longitudinal broom finished.
2. The top of all types of concrete curbs, including driveway curbs shall be longitudinally broom finished.
3. Concrete shall be Class "A".
4. Expansion joints shall be installed prior to concrete placement and at a maximum spacing of 50 feet.

CURB & GUTTER, TYPE 2DG



4" CURB

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale Date: Feb 2026

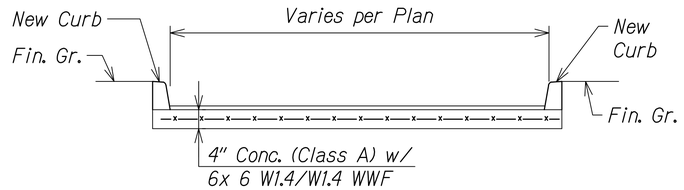
SHEET No. 2 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\23 SITE DETAILS.DWG 4/24/2026 4:28 PM JUNAY

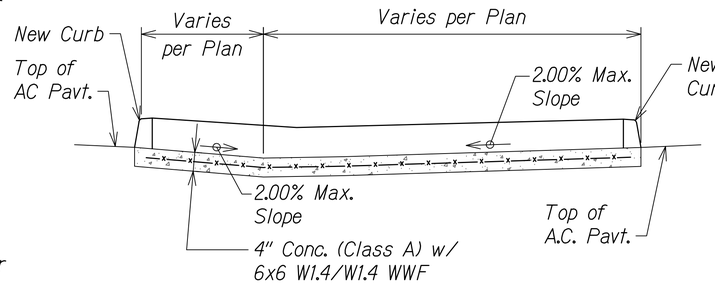
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	24	140

CURB RAMP AND SIDEWALK NOTES:

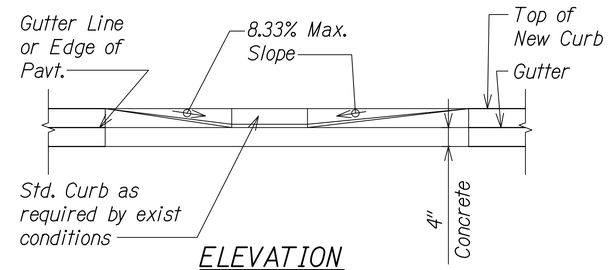
1. Construct curb ramps per details provided in Plan Sheets 56 to 58 and in this plan.
2. A 2% maximum cross slope shall be maintained in the direction of pedestrian traffic except as noted otherwise.
3. Subject to field conditions, the Engineer shall determine the final location of curb ramps.
4. All pullboxes shall be installed away from the curb ramp and within the sidewalk/unpaved area to the maximum extent feasible.
5. Where necessary, existing pullboxes, handholes, manholes, etc. shall be adjusted to match curb ramp grade. Adjustments shall not be paid for separately but shall be considered incidental to the various curb ramp items unless indicated otherwise.
6. Transitions from ramps to gutters and roadways shall be flushed.
7. Construction joints are required to join curb ramps with sidewalks.
8. Unless otherwise noted, new gutters are required as shown.
9. Surface of sidewalks and curb ramps shall be firm, stable, and slip-resistant. This includes the surfaces of pullboxes, valve covers, manhole covers, etc.
10. 6" thick bed course material is required for curb ramps, sidewalks, pedestrian refuge island and gutters.
11. If a curb ramp is not constructed according to the plans, the Contractor shall reconstruct the curb ramp at no cost to the City/State. Construction tolerance for Portland Cement Concrete shall be based on 1/4 inch per 10 ft. (±0.2%). Remedial measures will not be accepted.
12. Additional information is available from:
    a) American with Disabilities Act Accessibility Guidelines (ADAAG), Jan. 2004 (As Part of the 2010 ADA Standards), The Access Board.
    b) Accessible Rights-of-Way: A Design Guide, Nov. 1999, The Access Board.
    c) Designing Sidewalks and Trails for Access, Part 1, July 1999, FHWA.
    d) Designing Sidewalks and Trails for Access, Part 2, Sept. 2001, FHWA.
    e) Public Right-of-Way Accessibility Guidelines (PROWAG)
13. Curb ramps and sidewalks shall be constructed to eliminate ponding to the maximum extent feasible.
14. The pedestrian push button shall meet operational and reach requirements of the American with Disabilities Act Accessibility Guidelines (ADAAG) and Public Right-of-Way Accessibility Guidelines (PROWAG):
    a) Forward Reach. The maximum height for forward reach shall be 48".
    b) Side Reach. The maximum height for side reach shall be 48".
    c) Operation Reach. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lb.
15. The maximum slopes of adjoining gutters or road surface immediately fronting the curb ramp shall not exceed 5% for Type A, D and Combination ramps and 8.33% for Type B, C, and E ramps.
16. There shall be a 30"x 48" level ground surface (2% max. cross slope, both directions) for a forward or side approach, as appropriate, to a pedestrian push button.
17. All curb ramps shall be reinforced with 6x 6 W1.4/W1.4 welded wire fabric.
18. All sidewalks shall provide a minimum clear width of 3'-0" (excluding curb) for pedestrian circulation. If this cannot be met, a minimum 32-inch clear width is allowed for a distance of 24-inches.
19. Passing spaces along new sidewalks with 5' clear width or less shall be provided at a maximum 200' intervals as required by ADA guidelines. The passing area shall be a minimum 5' wide by 5' long as feasible.
20. If possible, install utility poles, fire hydrants, light poles, sign posts, pullboxes, etc. off of sidewalk but within the right-of-way.
21. Object protruding from utility poles and walls adjacent to the sidewalks (i.e. wall mounted fire hydrants, telephones, meters on poles, etc.) shall be mounted to meet the current American with Disabilities Act Accessibility Guidelines (ADAAG) and will be subject to Engineer's approval.



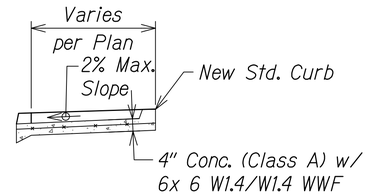
ELEVATION



SECTION "A-A"

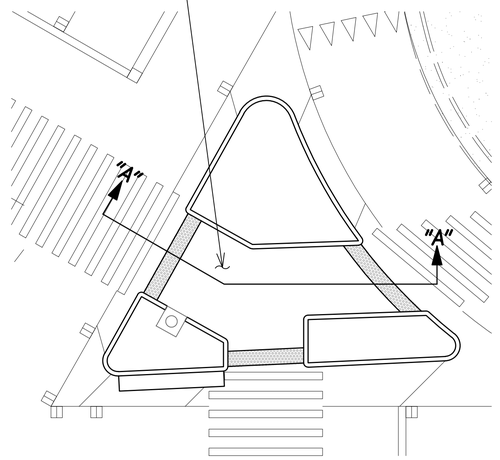


ELEVATION



SECTION

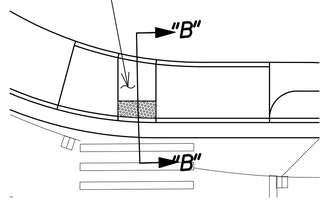
Level Landing
2% Max. Slope on
All Direction



PLAN

CURB RAMP - TYPE "C" MODIFIED

Level Landing
2% Max. Slope on
All Direction



PLAN

CURB RAMP - TYPE "B" MODIFIED

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale Date: Feb 2026

SHEET No. 3 OF 3 SHEETS

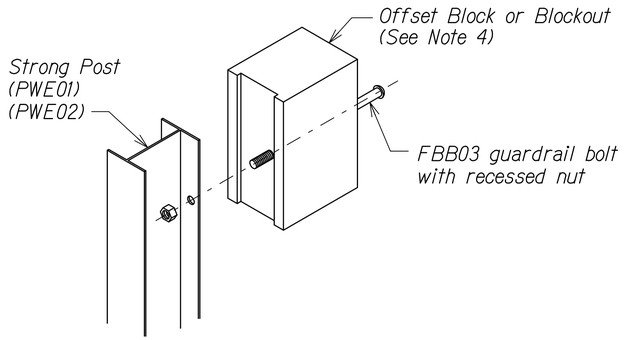
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FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	25	140

GENERAL NOTES:

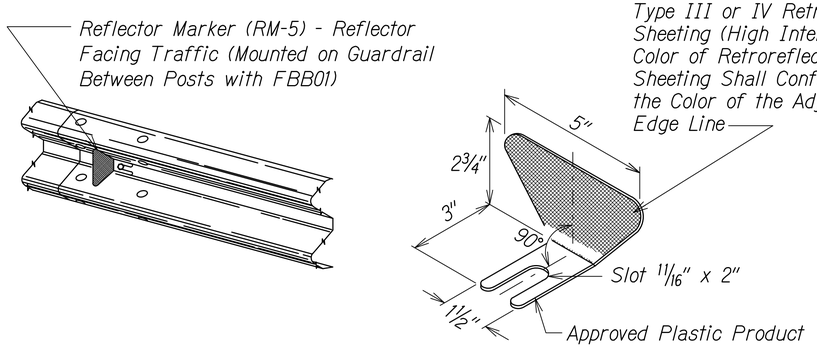
1. All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
2. Where conditions require, special post lengths in increments of 6 inches may be specified by the Engineer.
3. All fasteners, posts, and rail elements (i.e. FBB03, PWE01, RWM04a, etc.) shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Subcommittee On New Highway Materials, Task Force 13 Report. Dimensions of fasteners, posts and rail elements have been converted from metric units into their present form.
4. The Blockout or Offset Block shall be approved by the State.
5. All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
6. After the guardrail posts are installed in the paved area, the Contractor shall fill/seal around each guardrail post and all cracks in the paved area caused during the guardrail post installation. If required by the inspector/engineer, the Contractor shall tamper the paved area around the guardrail post prior to filling/sealing. All costs associated with this work shall not be paid for separately, but shall be considered incidental to the various guardrail items.
7. When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
8. Minimum working width (clear distance) between back of MGS post to any fixed object is 4'-1" (49").
9. New Hot Mix Asphalt (HMA) pavement at guardrails shall extend 6 feet longitudinally beyond terminal ends.
10. Reflector Markers (RM-5) mounted on guardrails shall be spaced every 25 feet. RM-5's shall not be installed on Terminal Sections. Furnishing and installing of each RM-5 shall be considered incidental to the guardrail system.

GUARDRAIL TYPE	DIMENSION	
	H	A
MGS w/ Standard 8" Offset Block	2'-1"	1'-6"
MGS w/ No Blockout	2'-7/8"	9 1/4"

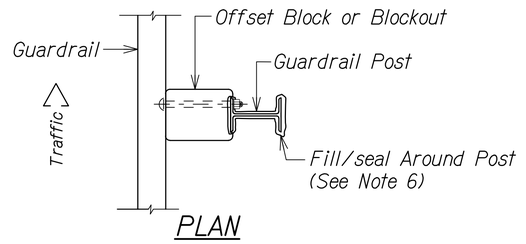


EXPLODED VIEW
(Rail and Washer Not Shown)

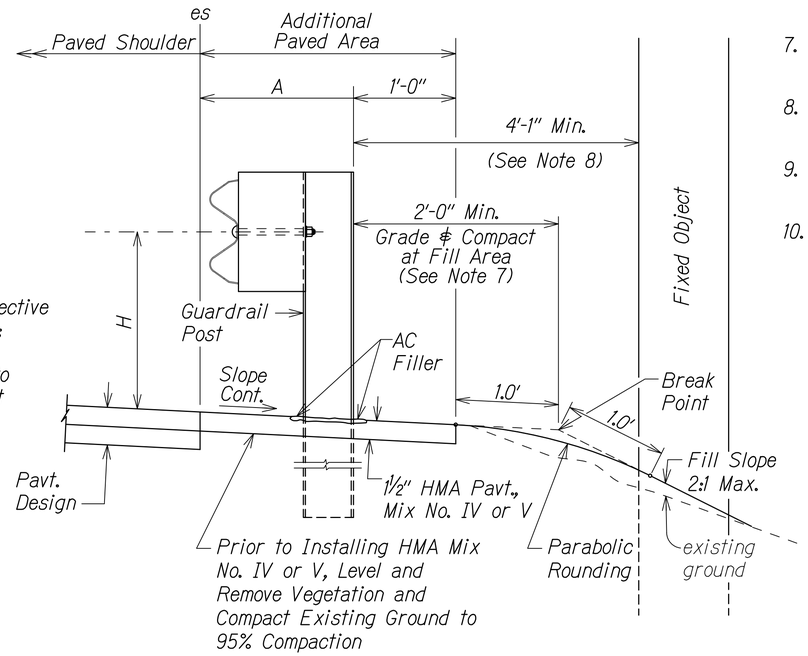
STEEL POST AND BLOCK DETAIL



REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION



PLAN



ELEVATION

TYPICAL GUARDRAIL INSTALLATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL DETAILS AND NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

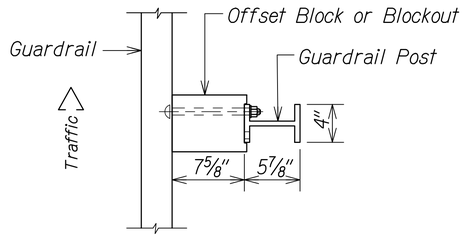
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SHEET No. 1 OF 10 SHEETS

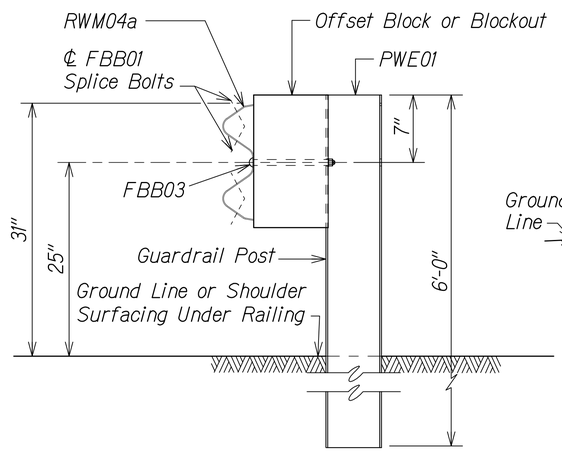
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FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	26	140

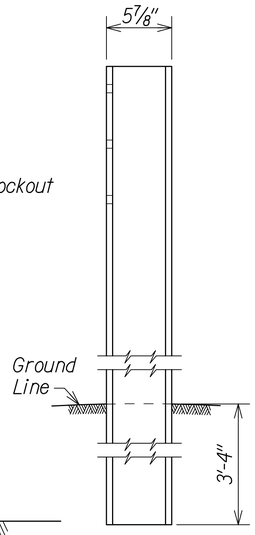


PLAN

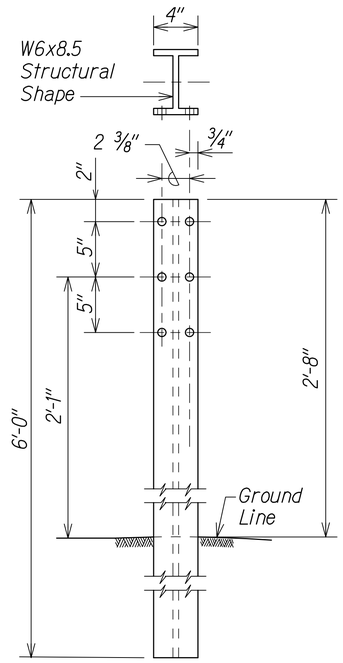


SECTION A-A

NOTE:
All Holes are 3/4" Dia.

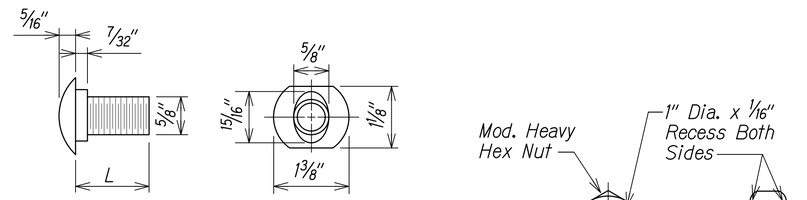


SIDE



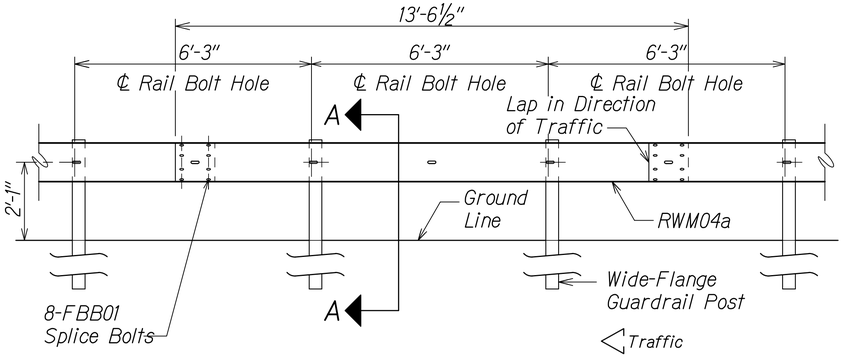
FRONT

WIDE-FLANGE GUARDRAIL POST (PWE01)



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

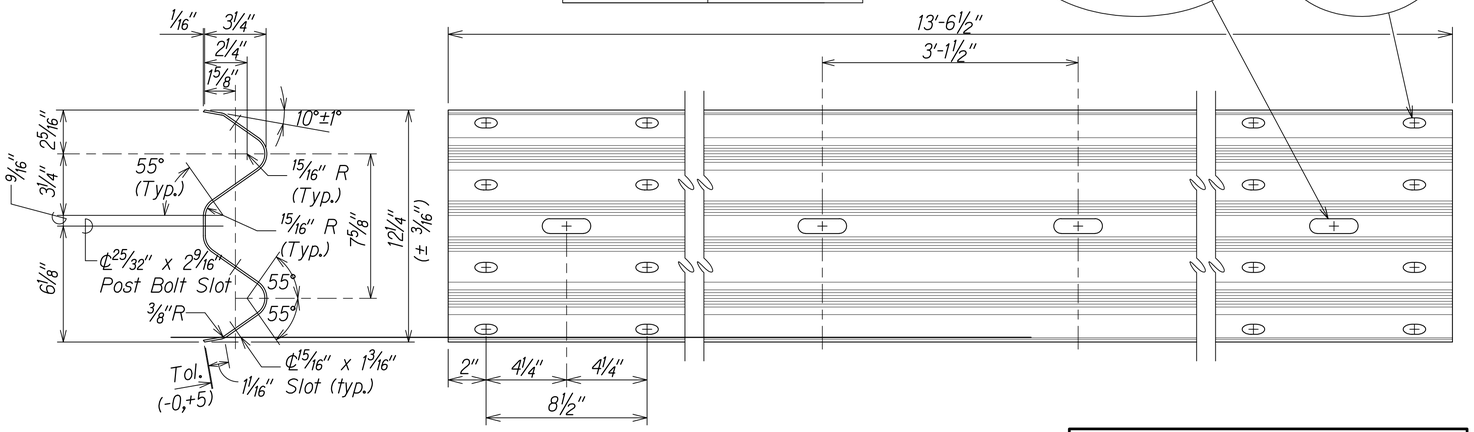
GUARDRAIL BOLTS AND RECESSED NUT



ELEVATION

MIDWEST GUARDRAIL SYSTEM WITH STANDARD 8" OFFSET BLOCK (SGR47)

DESIGNATOR	BASE METAL THICKNESS
RWM04a	12 Gauge



4 SPACE W-BEAM GUARDRAIL (RWM04a)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

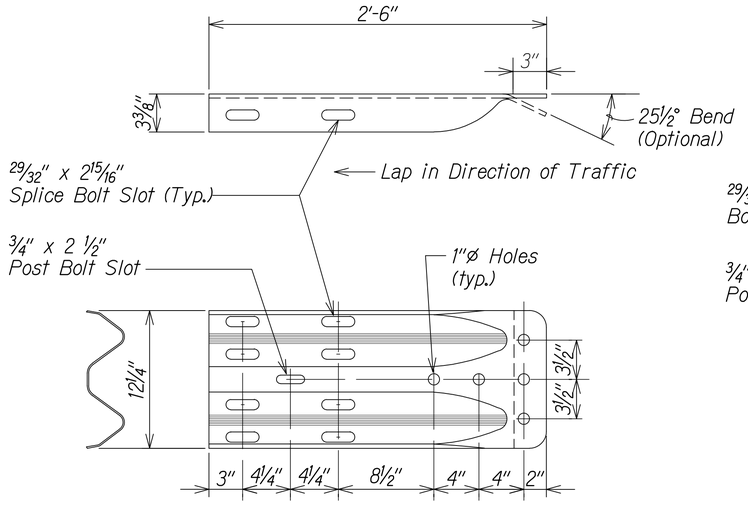
31" W-BEAM GUARDRAIL WITH STANDARD 8" OFFSET BLOCK

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale Date: Feb 2026

SHEET No. 2 OF 10 SHEETS

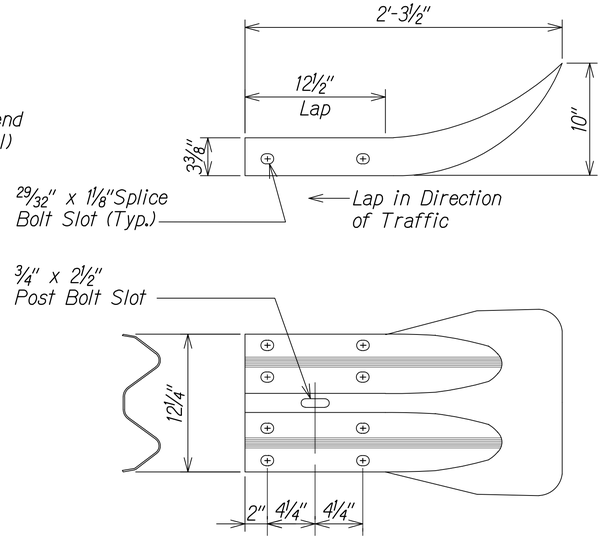
W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\26 W-BEAM GUARDRAIL WITH STANDARD OFFSET BLOCK.DWG 5/11/2026 11:03 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	27	140



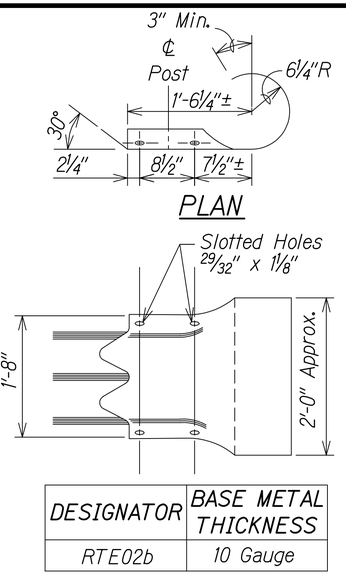
DESIGNATOR	BASE METAL THICKNESS
RWE02b	10 Gauge

W-BEAM TERMINAL CONNECTOR (RWE02b)



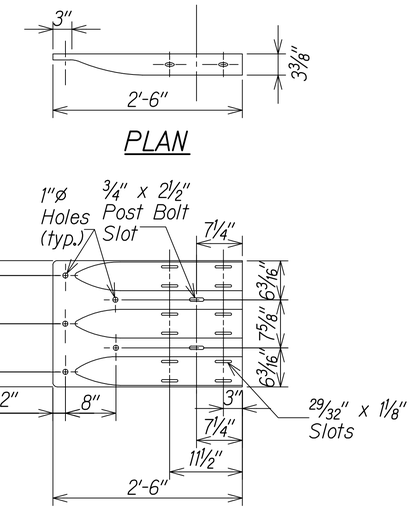
DESIGNATOR	BASE METAL THICKNESS
RWE01a	12 Gauge

W-BEAM END SECTION (FLARED RWE01a)



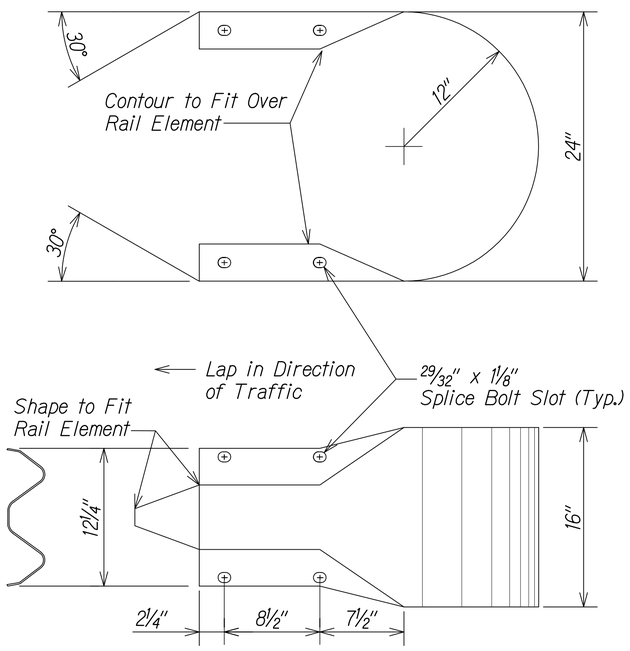
DESIGNATOR	BASE METAL THICKNESS
RTE02b	10 Gauge

THRIE-BEAM SECTION (ROUNDED) (RTE02b)



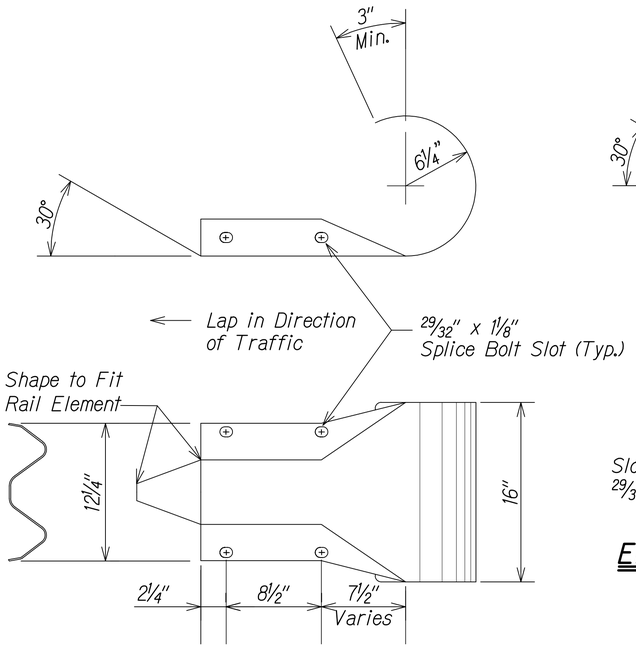
DESIGNATOR	BASE METAL THICKNESS
RTE01b	10 Gauge

THRIE-BEAM TERMINAL CONNECTOR (RTE01b)



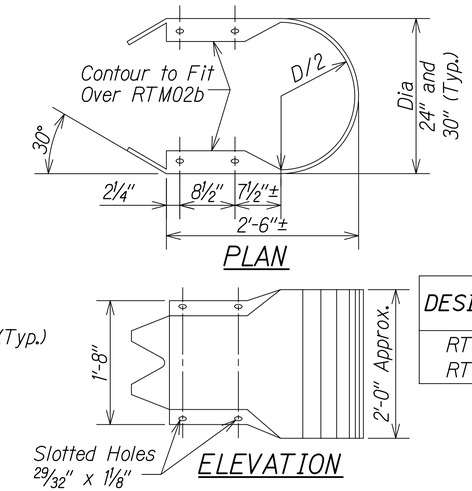
DESIGNATOR	BASE METAL THICKNESS
RWE06a	12 Gauge

W-BEAM END SECTION (BUFFER RWE06a)



DESIGNATOR	BASE METAL THICKNESS
RWE03a	12 Gauge

W-BEAM END SECTION (ROUNDED RWE03a)



DESIGNATOR	BASE METAL THICKNESS
RTE03b & RTE04b	10 Gauge

THRIE-BEAM END SECTION (BUFFER (RTE03b or RTE04b)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

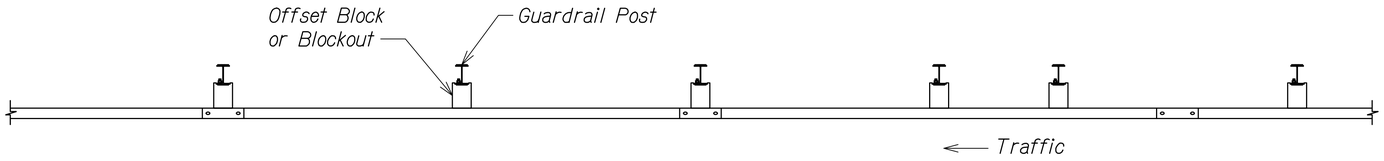
GUARDRAIL TERMINAL CONNECTORS AND END SECTIONS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale Date: Feb 2026

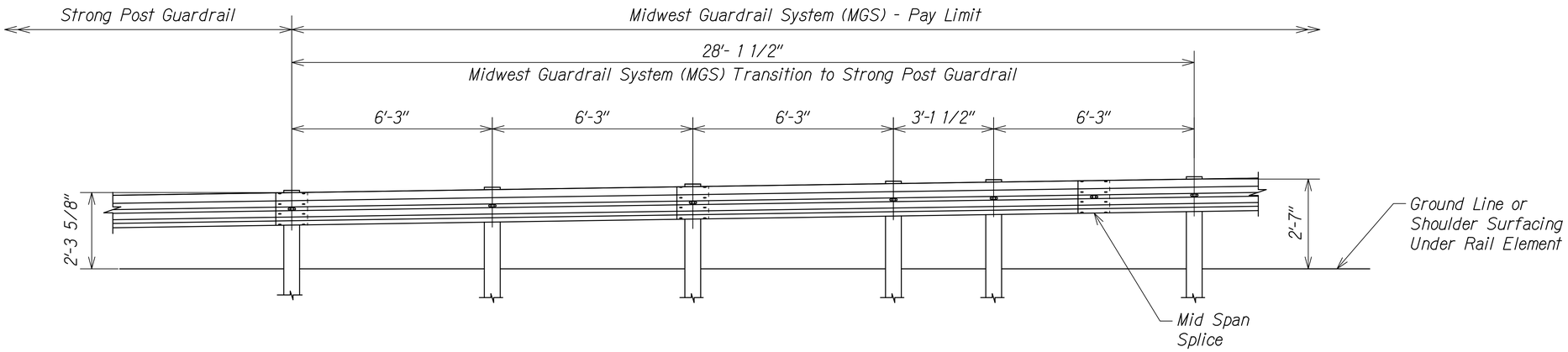
SHEET No. 3 OF 10 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\27 GUARDRAIL TERM CONN AND END SEC.DWG 5/11/2026 11:03 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	28	140



PLAN



ELEVATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MGS TRANSITION TO STRONG POST GUARDRAIL

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale Date: Feb 2026

SHEET No. 4 OF 10 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\28 MGS TRANS TO STRONG POST GUARDRAIL.DWG 5/11/2026 11:03 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	29	140

GENERAL NOTES FOR STANDARD BRIDGE RAILINGS AND TRANSITIONS:

DESIGN SPECIFICATIONS:

A. AASHTO LRFD Bridge Design Specifications, 8th Edition, 2017 including all interim revisions.

B. State of Hawaii, Department of Transportation, Highways Division, Design Criteria for Bridges and Structures, August 8, 2014 as amended by HWY-DB 2.5098, Changes to Design Criteria for Bridges and Structures, January 8, 2018.

C. AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 1st Edition, 2016 including all interim revisions.

D. AASHTO Manual for Assessing Safety Hardware, 2nd Edition, 2016

E. AASHTO Manual for Bridge Evaluation, 3rd Edition, 2018 including all interim revisions and requirements for emergency vehicle ratings as per FHWA's Memorandum, Load Rating for the FAST Act's Emergency Vehicles, November 3, 2016 as modified by "Draft Modifications to the "Design Criteria for Bridges and Structures, August 8, 2014" for the Manual for Bridge Evaluation 2nd Edition".

MATERIALS:

A. Concrete:
1. Concrete: 4,000 psi minimum unless otherwise specified.

2. Concrete Admixtures: See Special Provisions.

3. Concrete for Bridges, Bridge Rails, Concrete Barriers, Retaining Walls and Transitions shall meet the requirements of Section 601 Structural Concrete

4. A shrinkage reducing admixture (SRA), Tetraguard AS20 by BASF or Eclipse by W.R. Grace & Co., or approved equal shall be added to the concrete. The minimum dosage requirement shall be 128 oz per cubic yard of concrete. The concrete shall have a maximum shrinkage strain of .00006 at 28 days and .000145 at 56 days according to ASTM C512.

B. Steel Reinforcing Bars:
1. Deformed and Plain Carbon Steel Bars for Concrete Reinforcement shall meet the requirements of AASHTO M31M/M31-19, Grade 60 (ASTM A615/A615M-16, Grade 60).

2. Deformed and Plain Carbon Steel Bars for Concrete Reinforcement to be spliced by welding or otherwise welded or for seismic reinforcing shall meet the requirements of AASHTO M31M/M31-19, Grade 60 (ASTM A615/A615M-16, Grade 60) and meet the requirements of ASTM A706/A706M-16.

C. Structural Steel:
1. All structural steel in this section shall be hot-dip galvanized.

2. Zinc (Hot-Dip Galvanizing) Coatings for structural iron and steel products made from rolled, pressed and forged shapes, castings, bars and plates including unfabricated and fabricated products shall conform to ASTM A123/A123M-17.

3. W-Beam Structural Steel Shapes shall conform to ASTM A992/A992M-11(2015).

4. Structural Steel Plates and Bars shall conform to ASTM A36/A36M-14.

5. HSS Shapes shall conform to ASTM A500/A500M-13, Grade B.

6. Thrie Beam Sections, W-Beam Sections and Thrie Beam to W-Beam Asymmetric Transition Sections shall conform to AASHTO M180-18.

7. The Thrie Beam Terminal Connections shall be 10 gauge and conform to AASHTO M180-18 and have a minimum yield strength of 50 ksi and a minimum ultimate strength of 70 ksi.

D. Fasteners:
1. Bolts (Hex or Heavy Hex Bolts) shall conform to ASTM A307-14e1, Grade A unless otherwise specified and hot-dip galvanized in accordance with ASTM F2329/F2329M-15. Nuts for ASTM A307-14e1 (Hex) bolts shall conform to ASTM A563-15, Hex Grade A and hot-dip galvanized in accordance with ASTM F2329/F2329M-15. Nuts for ASTM A307-14e1 (Heavy Hex) bolts shall conform to ASTM A563-15, Heavy Hex Grade DH and hot-dip galvanized in accordance with ASTM F2329/F2329M-15. Washers for ASTM A307 bolts shall conform to ASTM F844 and hot-dip galvanized in accordance with ASTM F2329/F2329M-15.

2. High Strength Bolts (Heavy Hex Structural Bolts) shall conform to ASTM F3125-18, Type 1 unless otherwise specified and hot-dip galvanized in accordance with ASTM F2329/F2329M-15. Nuts for ASTM F3125-18 bolts shall conform to ASTM A563-15, Grade DH and hot-dip galvanized in accordance with ASTM F2329/F2329M-15. Washers for ASTM F3125-18 bolts shall conform to ASTM F436-18a, Type 1 and hot-dip galvanized in accordance with ASTM F2329/F2329M-15.

3. Threaded Rods shall conform to ASTM A449-14, Type 1 and hot-dip galvanized in accordance to ASTM F2329/F2329M-15. Nuts for ASTM A449-14 threaded rods shall conform to ASTM A563-15, Grade DH and hot-dip galvanized in accordance to ASTM F2329/F2329M-15. Washers for ASTM A449-14 threaded rods shall conform to ASTM F436-18a, Type 1 and hot-dip galvanized in accordance to ASTM F2329/F2329M-15.

4. Anchor Bolts shall conform to ASTM F1554-18, Grade (36, 55, 105) and hot-dip galvanized in accordance to ASTM F2329/F2329M-15. Nuts for anchor bolts shall conform to ASTM F1554-15, Section 6.7.1 and hot-dip galvanized in accordance to ASTM F2329/F2329M-15. Washers for anchor bolts shall conform to ASTM F436-11, Type 1 and hot-dip galvanized in accordance to ASTM F2329/F2329M-15.

5. The material for the 3" x 3" x ¼" or 3½" x 3½" x ¼" square washers shall conform to ASTM A572-18, Grade 60.

E. Miscellaneous Materials:
1. Preformed Expansion Joint Filler for Concrete (Bituminous Type) shall conform to AASHTO M33-99 (2012), ASTM D994-11 (2016).

2. Timber Blockouts shall be Southern Yellow Pine (SYP), Grade No. 1 or better.

3. 14 3/16" x 12" x 5⅛" Composite Recycled Polymer Blockouts shall be Mondo Polymer MGS14SH or MASH (2016) approved equivalent.

4. 14 3/16" x 8" x 5⅛" Composite Recycled Polymer Blockouts shall be Mondo Polymer GB14SH2 or MASH (2016) approved equivalent.

CONSTRUCTION REQUIREMENTS:

A. Refer to Hawaii Standard Specifications for Road and Bridge Construction, 2005 edition and Special Provisions.

B. Except as noted otherwise, all vertical dimensions are measured plumb.

C. For steel reinforcing, stagger all splices where possible.

D. Steel reinforcing shall be supported, bent and placed as per AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014 including all interim revisions.

E. For cast-in-place concrete minimum reinforcement cover shall be as follows:

Concrete cast against earth:	3"
Walls:	2"
Curbs and Railings:	2"
Slab tops:	2"

Measured to the closest part of the bars.

F. At the time concrete is placed, reinforcing shall be free from mud, oil, laitance or other coatings which may adversely affect bond strength.

G. All reinforcement, dowels and other embedded items shall be positively secured before pouring.

H. Minimum clear spacing between parallel bars shall be one and one-half (1½") times the diameter of the larger bar (for non-bundled bars), but in no case shall the clear distance between the bars be less than one and one-half (1½") times the maximum coarse aggregate size.

I. All dimensions relating to reinforcing bars (e.g. spacing of bars etc.) are to centers of bars unless noted otherwise.

J. All footings shall bear on firm undisturbed natural soils or properly compacted structural fill.

K. The welding of reinforcing steel shall be in accordance with the Structural Welding Code-Reinforcing Steel AWS D1.4/D1.4M 2018.

L. The welding of structural steel shall be in accordance with the Structural Welding Code AWS D1.1/D1.1M 2015.

M. The Contractor shall conduct his work in such a manner and provide such temporary shoring or other measures as may be necessary to insure the safety of all concerned and to protect existing structures.

N. In the event of over excavation, the space between the footing or footing key and the ground shall be filled with a minimum of class D concrete at the Contractor's expense at no cost to the State.

O. Unless noted otherwise chamfer all exposed concrete edges three-quarters (3/4) of an inch.

P. Refer to Standard Plans for additional details and notes not covered by details and typical drawings.

Q. Anchor bolts shall have sufficient length when installed to ensure that the bolt projects at least ⅛" beyond the top of the nut but should not project more than ¼". Anchor bolts shall not be out of plumb more than 1:40 Horizontal: Vertical.

R. Bolts and high strength bolts shall have sufficient length when installed to ensure that the bolt projects at least ⅛" beyond the nut but should not project more than ¼".

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD BRIDGE RAILING AND TRANSITIONS

GENERAL NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

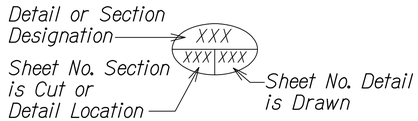
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SHEET No. 5 OF 10 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\29 CONC RAILING AND TRANS SYS GEN NOTES.DWG 5/11/2026 11:03 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	30	140

SYMBOLS AND ABBREVIATIONS:



(XX) - ℄ Bearing Abutment Seat Line

- Boring No. & Designation

Abut.	Abutment
AC	Asphaltic Concrete
Adj.	Adjacent
Alt.	Alternate
Approx.	Approximate
AWS	American Welding Society
Az.	Azimuth
℄	Baseline
Bal.	Balance
Bet., Btwn.	Between
B.F.	Both faces
B.F.E.	Bottom Footing Elevation
Bk.	Back
Blt.	Bolt
Bm.	Beam
B, Bot., Bott.	Bottom
Br.	Bridge
Brg., Brgs.	Bearing, Bearings
B.V.C.	Beginning of Vertical Curve
℄	Center Line
Cant.	Cantilever
C.F.	Cubic Feet
CiP	Cast in Place
C.I.P.	Cast Iron Pipe
Cl., Clr.	Clear
Col.	Column
Conc.	Concrete
Conn.	Connection
Const.	Construction
Cont.	Continuous
CRM	Cement Rubble Masonry
C.Y., Cu. Yd.	Cubic Yards
Det.	Detail
Dia., ø	Diameter
Dim.	Dimension
Dwg., Dwgs.	Drawing, Drawings
EA, Ea., ea.	Each
E.F.	Each Face
Elec.	Electrical
El., Elev.	Elevation
Emb.	Embankment
E.P.	Edge of Pavement
Eq.	Equal
Est.	Estimated
E.W.	Each Way
Exc.	Excavation
Exist.	Existing
Exp., (E)	Expansion
Ext.	Exterior
(F)	Fixed
F'_c	Specified Strength of Concrete
F'_{ci}	Strength of Concrete at Time of Initial Prestress
F.F.	Front Face
Fig.	Figure
Fin.	Finish
Fin. Gr.	Finish Grade
Ftg.	Footing
Ga.	Gage, Gauge
Galv.	Galvanized
Gir., G	Girder
G.R.P.	Grouted Rubble Paving
Gr.	Grade
Grd.	Ground
(H)	Hinge
Horiz.	Horizontal
HS	High Strength
HSS	Hallow Structural Steel
Ht.	Height
Hwy	Highway
I.B.	Inbound
I.F.	Inside Face
In.	Inch
Int.	Interior
Inv.	Invert
Jt.	Joint
ksi	Kilopounds per Square Inch
L	Length
LBS., lb., lbs.	Pound, Pounds
L.F., Lin. Ft.	Linear Feet
Lg.	Long
Longit.	Longitudinal
L.S.	Lump Sum
Lt.	Left
Ltg. Std.	Lighting Standard
LRFD	Load and Resistance Factor Design
MASH	Manual for Assessing Safety Hardware
Max.	Maximum
Mech.	Mechanical
Min.	Minimum
Misc.	Miscellaneous
N	North
N.B.	Northbound
N.F.	Near Face
No., #	Number
N.T.S.	Not To Scale
O.B.	Outbound
o.c.	On Center
O.G.	Outside Girder
Opn'g	Opening
o/s, O/S	Offset
oz	Ounce
P.B.	Pull Box
P.C.	Point of Curvature
P.C.C.	Portland Cement Concrete
Perf.	Perforated
PG-( )	Prestressed Girder-(Type)
PL	Plate
P/S	Prestressed Strands
Pvmt.	Pavement
R	Radius
Rdwy	Roadway
Ref.	Reference
Reinf.	Reinforcement
Ret.	Retaining
Req'd	Required
R.F.	Rear Face
Rt.	Right
R/W	Right Of Way
S	South
S.B.	Southbound
Sect.	Section
SF	Square Feet
Shldr.	Shoulder
Sht.	Sheet
Spc.	Space
Spcd.	Spaced
Spcg.	Spacing
Spec.	Specification
Sprd.	Spread
Sta.	Station
Std.	Standard
Stirr.	Stirrup
Str.	Straight
Struct.	Structural
Symm.	Symmetrical
T	Top
Temp.	Temporary
Term.	Terminal
Thk.	Thick, Thickness
T.O.D.	Top Of Deck
Tot.	Total
Transv.	Transverse
Typ.	Typical
UNC	Unified National Course
USS	United States Standard
Var.	Varies
V.C.	Vertical Curve
Vert.	Vertical
W	West
w/	With
W.W.	Wingwall

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD BRIDGE RAILING AND TRANSITIONS

SYMBOLS AND ABBREVIATIONS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

SHEET No. 6 OF 10 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\30 CONC RAILING AND TRANS SYS SYMB AND ABBV.DWG 5/11/2026 11:03 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	31	140

NOTES:

A. The work necessary to connect guardrail to the concrete end post shall include all labor, materials, tools, equipment and incidentals necessary to complete the work and will not be paid for separately.

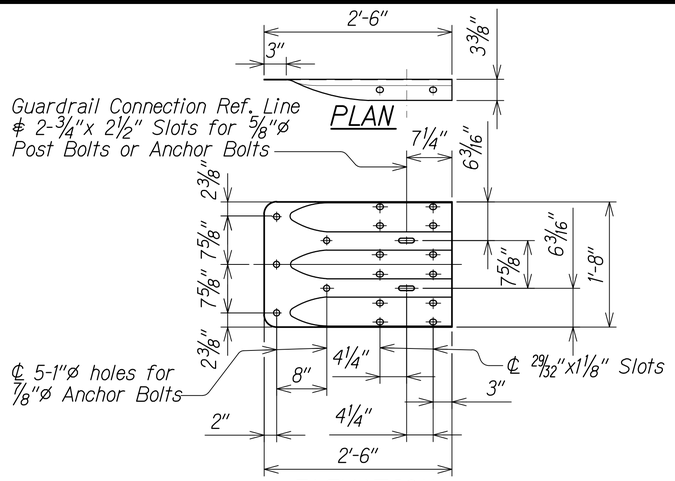
B. Lap terminal connector and rail elements in the direction of traffic to prevent snagging.

C. Bolts shall have sufficient length when installed to ensure that the nut is at least flush but should not project more than ¼". The Contractor will not be allowed to cut, grind or otherwise alter the bolt to meet this requirement unless it is done during the fabrication of the bolt prior to galvanizing.

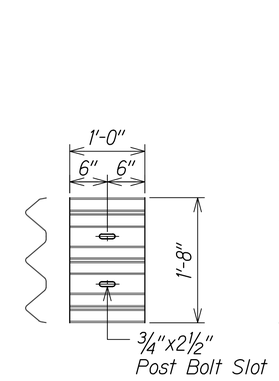
D. The first 25'-0" of guardrail adjoining the "Terminal Connector" shall be placed tangent to the concrete transition front face or parallel to the roadway, unless conditions at the site renders it impossible to do so. Flare point to be determined in field.

E. Head of all bolts shall be placed on the traffic side of the rail.

F. All W6x8.5, W6x9 and W6x15 guardrail posts shall be clearly stamped during fabrication "W6x8.5", "W6x9", or "W6x15", respectively, on each post.

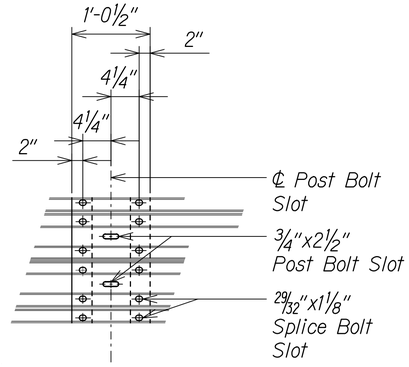


TERMINAL CONNECTOR

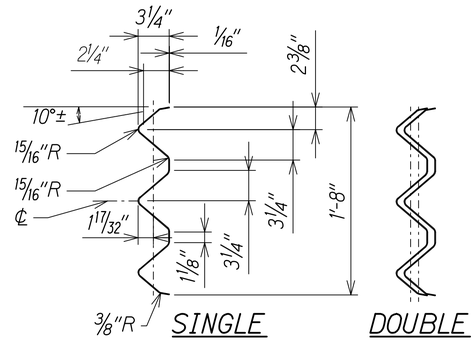


(Use at posts where splices do not occur)

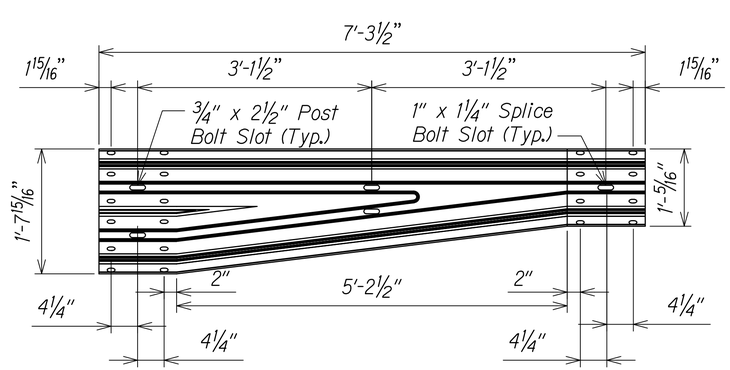
BACKUP PLATE



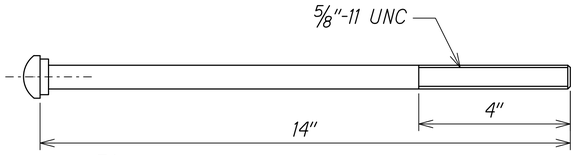
RAIL SPLICE



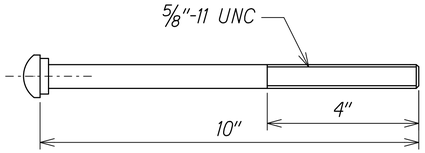
SECTION THRU RAIL ELEMENT



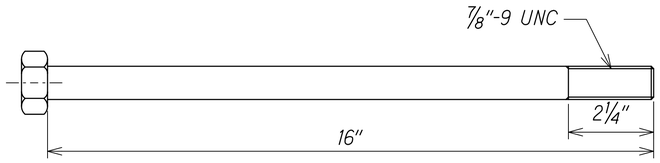
TRANSITION SECTION



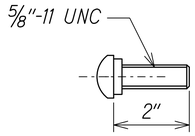
⅝"-11 UNC, 14" Long Guardrail Bolt



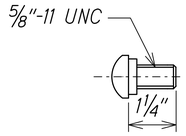
⅝"-11 UNC, 10" Long Guardrail Bolt



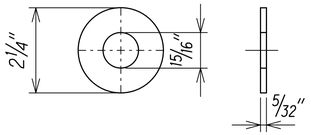
⅞"-9 UNC, 16" Long Heavy Hex Head Bolt



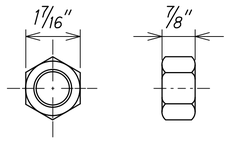
⅝"-11 UNC, 2" Long Guardrail Bolt



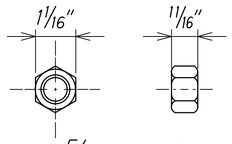
⅝"-11 UNC, 1¼" Long Guardrail Bolt



⅝" Dia. Plain USS Washer



⅞"-9 UNC Heavy Hex Nut



⅝"-11 UNC Heavy Hex Nut

METAL GURDRAIL TYPE 3 THRIE BEAM AND APPURTENANCES DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD BRIDGE RAILINGS & TRANSITIONS

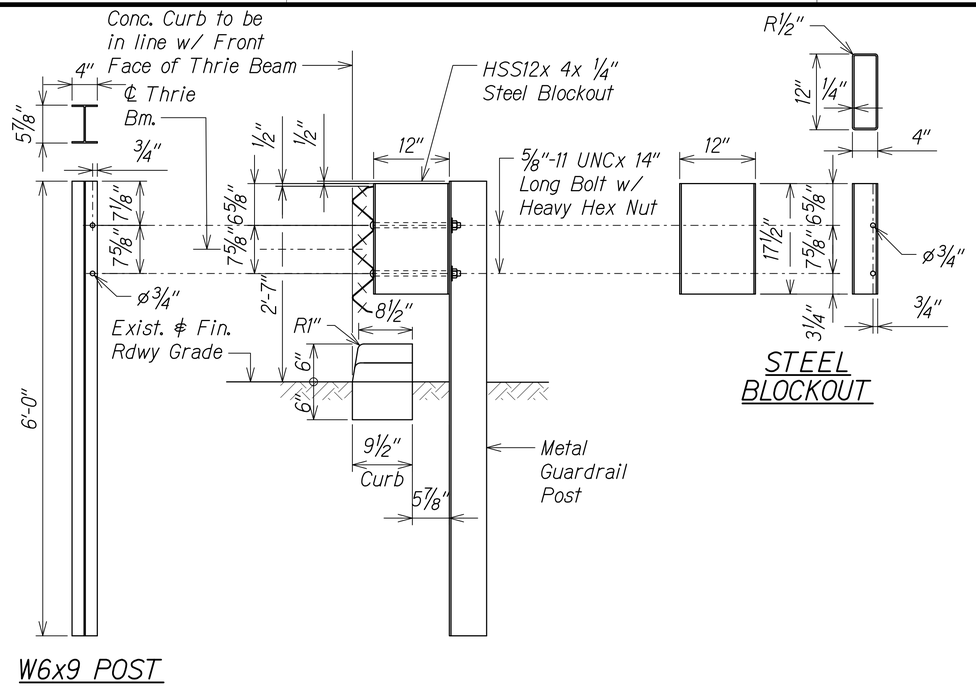
METAL GUARDRAIL TYPE 3 THRIE BEAM AND APPURTENANCES DETAILS
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale Date: Feb 2026

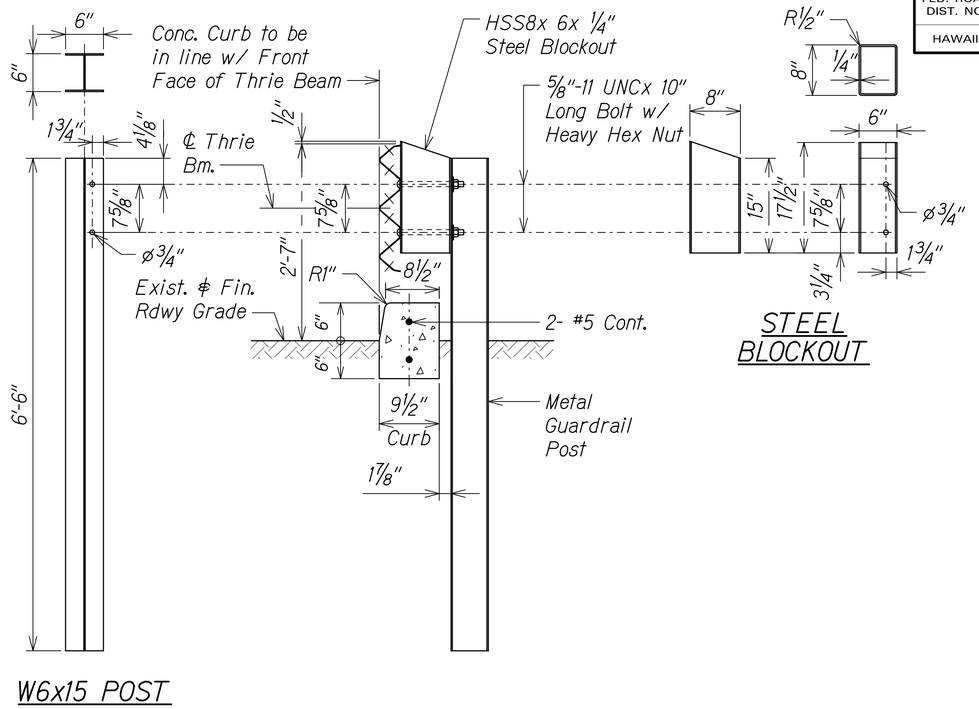
SHEET No. 7 OF 10 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\31 METAL GUARDRAIL TYPE 3 THRIE BEAM.DWG 5/11/2026 11:03 AM JUNAY

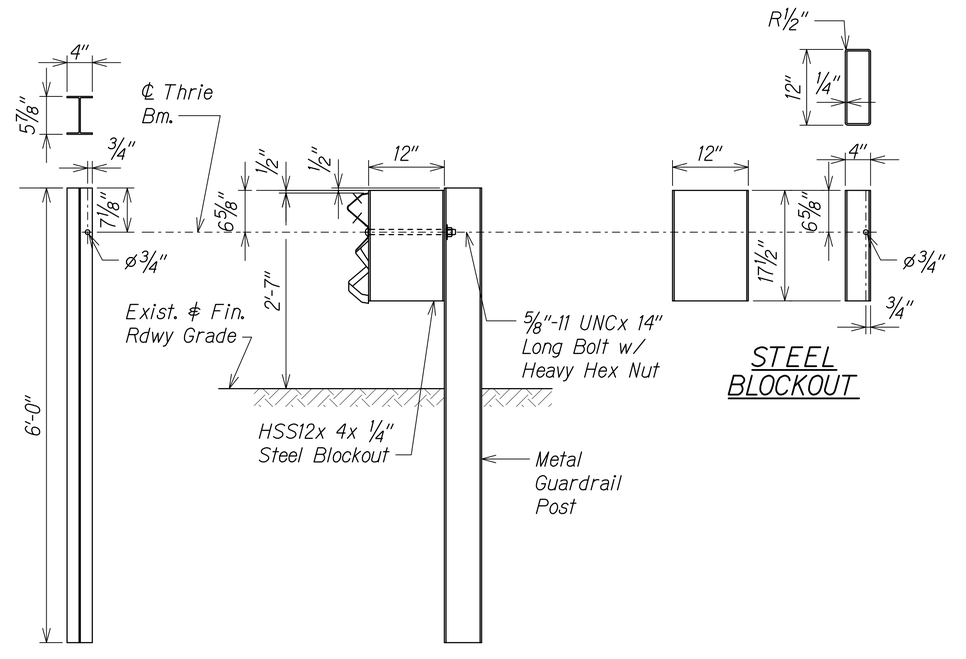
FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	32	140



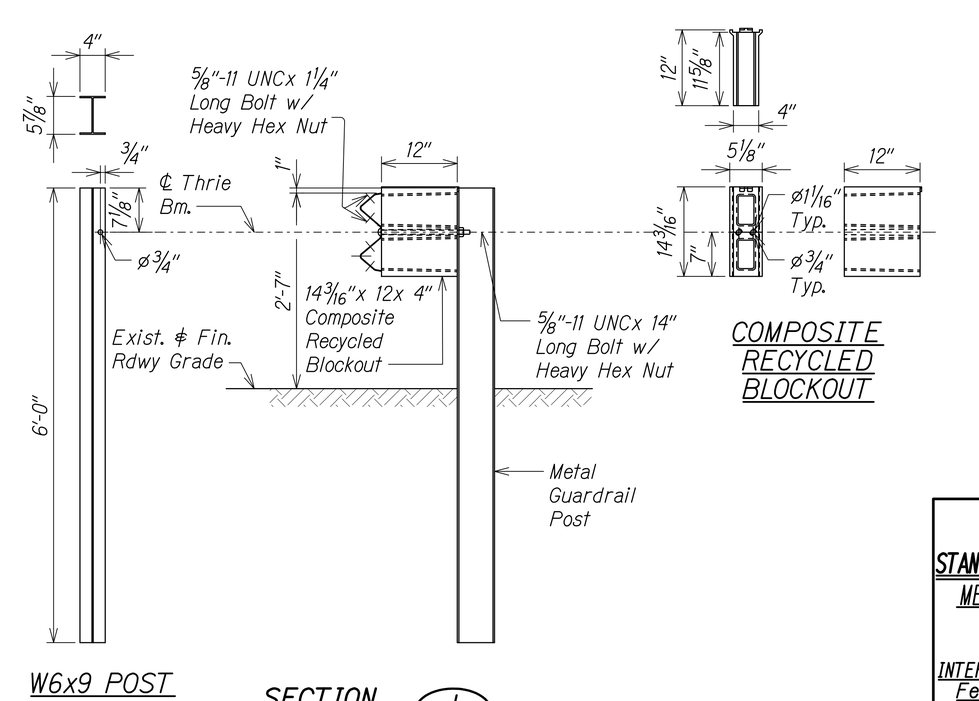
SECTION G
Not to Scale
33 | 32



SECTION F
Not to Scale
33 | 32



SECTION H
Not to Scale
33 | 32



SECTION J
Not to Scale
33 | 32

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD BRIDGE RAILINGS & TRANSITIONS

METAL GUARDRAIL TYPE 3 THRIE BEAM

SECTIONS AND DETAILS

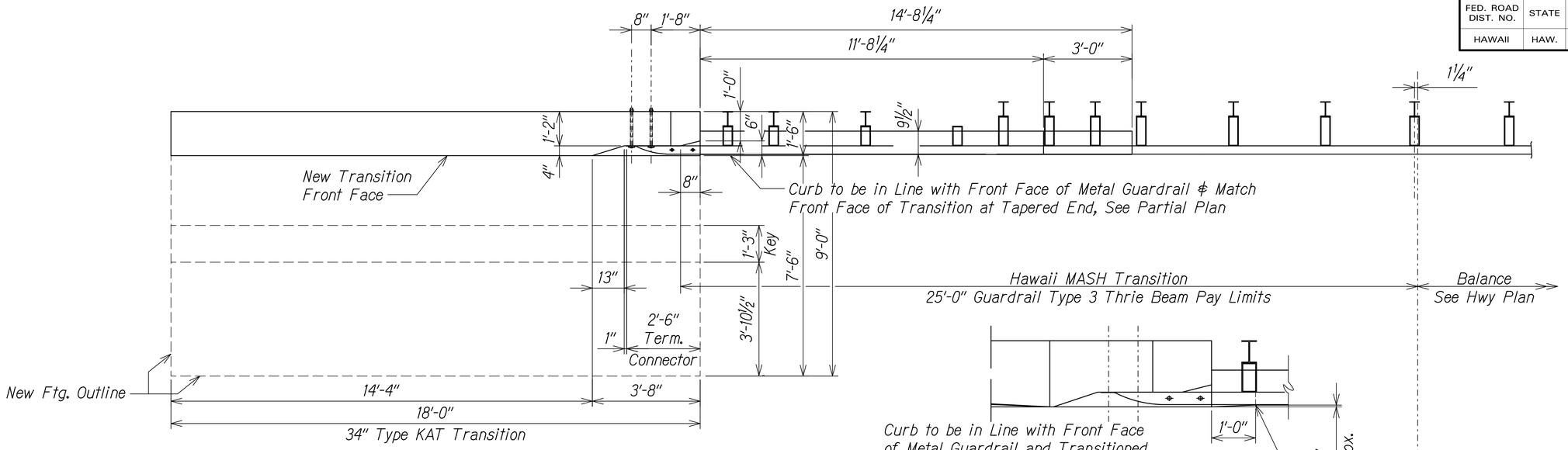
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale Date: Feb 2026

SHEET No. 8 OF 10 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\32 METAL GUARDRAIL TYPE 3 THRIE BEAM.DWG 5/11/2026 11:03 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	33	140



TYPICAL 34" TYPE KAT TRANSITION PLAN AND ELEVATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SOLID BRIDGE RAILING WITH RECESSED RECTANGULAR AESTHETIC PANELS

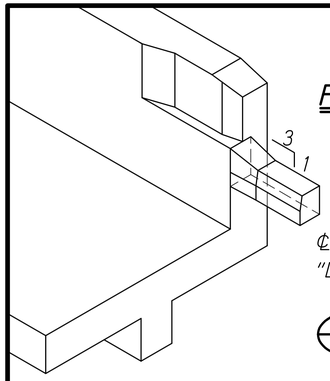
TYPICAL 34" TYPE KAT TRANSITION PLAN & ELEVATION
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale Date: Feb 2026

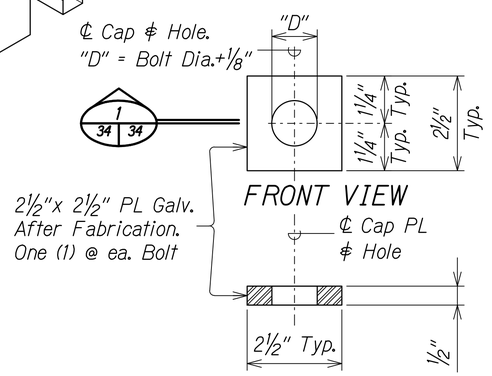
SHEET No. 9 OF 10 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\33 SOLID BRIDGE RAILING.DWG 5/11/2026 11:04 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	34	140

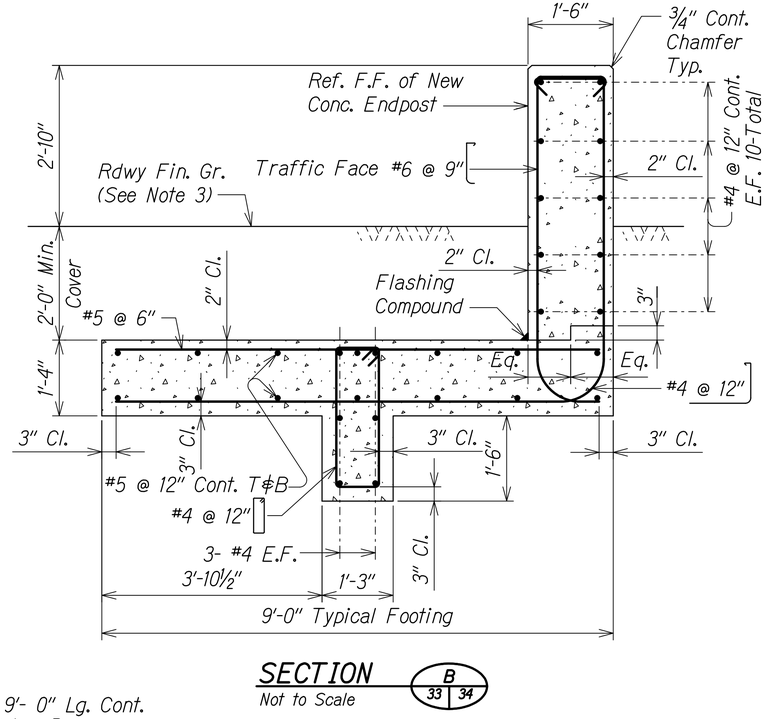


PARTIAL ISOMETRIC VIEW

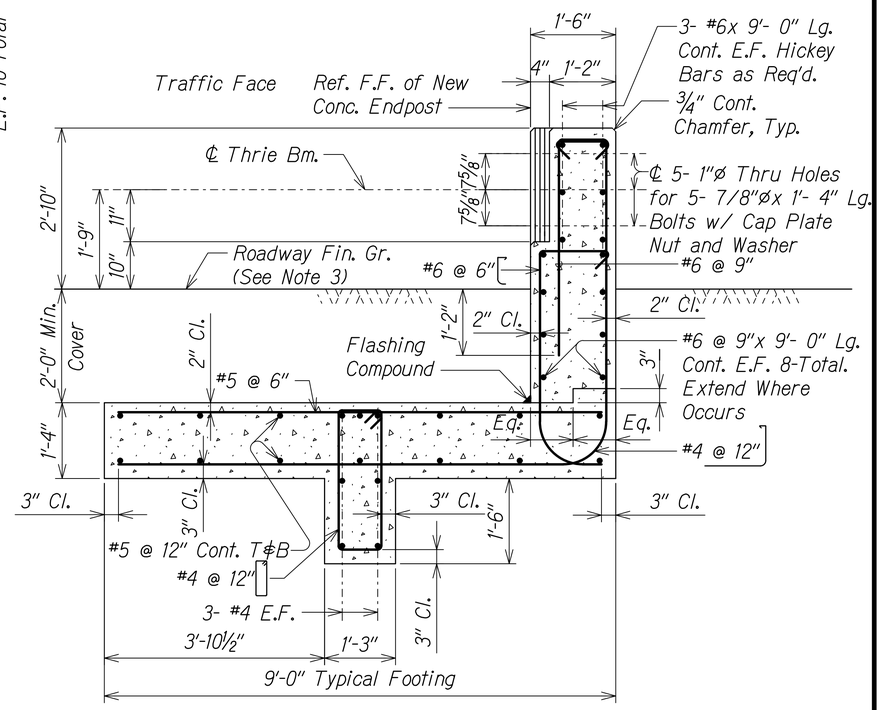


SECTION (1 34 34)
Not to Scale

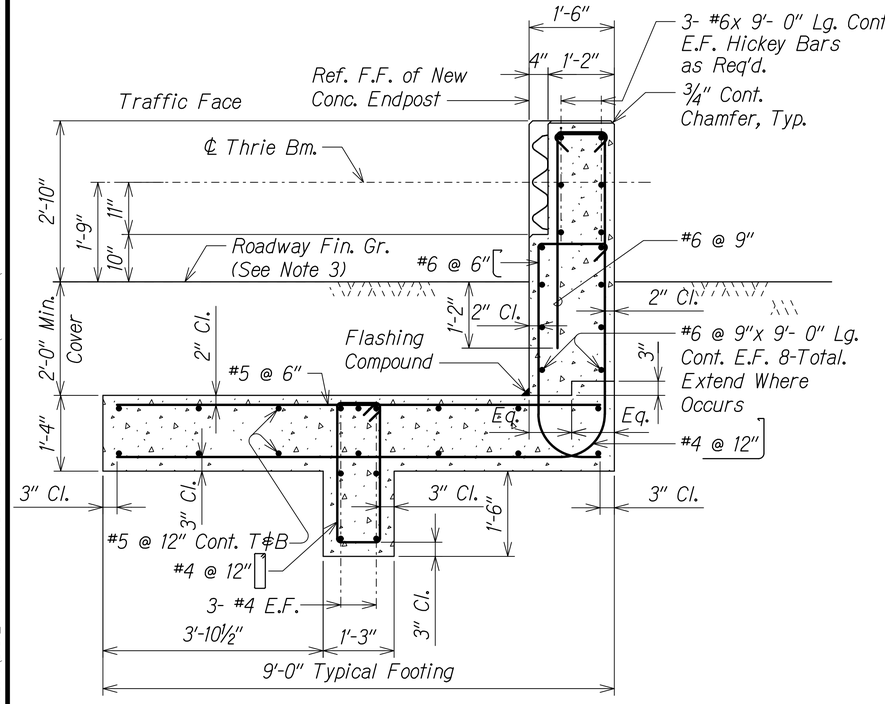
CAP (BEARING) PLATE DETAIL



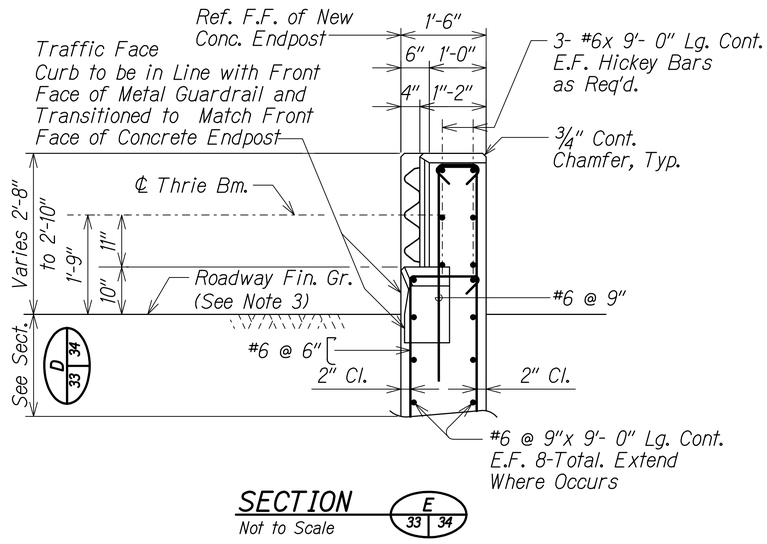
SECTION (B 33 34)
Not to Scale



SECTION (C 33 34)
Not to Scale



SECTION (D 33 34)
Not to Scale



SECTION (E 33 34)
Not to Scale

NOTES:

1. Locate Horizontal Reinforcement to avoid Built Hole.
2. Concrete in Footing cast against soil.
3. For Pavement Section on top of Footing, see Plan Sheet 43.

TYPICAL 34" TYPE KAT TRANSITION SECTIONS AND DETAIL

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SOLID BRIDGE RAILING WITH RECESSED RECTANGULAR AESTHETIC PANELS

TYPICAL 34" TYPE KAT TRANSITION SECTIONS & DETAIL
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale Date: Feb 2026

SHEET No. 10 OF 10 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\34 TYP 34 INCH TYPE KAT TRANSITION SECTS AND DET.DWG 5/11/2026 11:04 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	35	140

KAMEHAMEHA HIGHWAY BASELINE (KHM ℄)

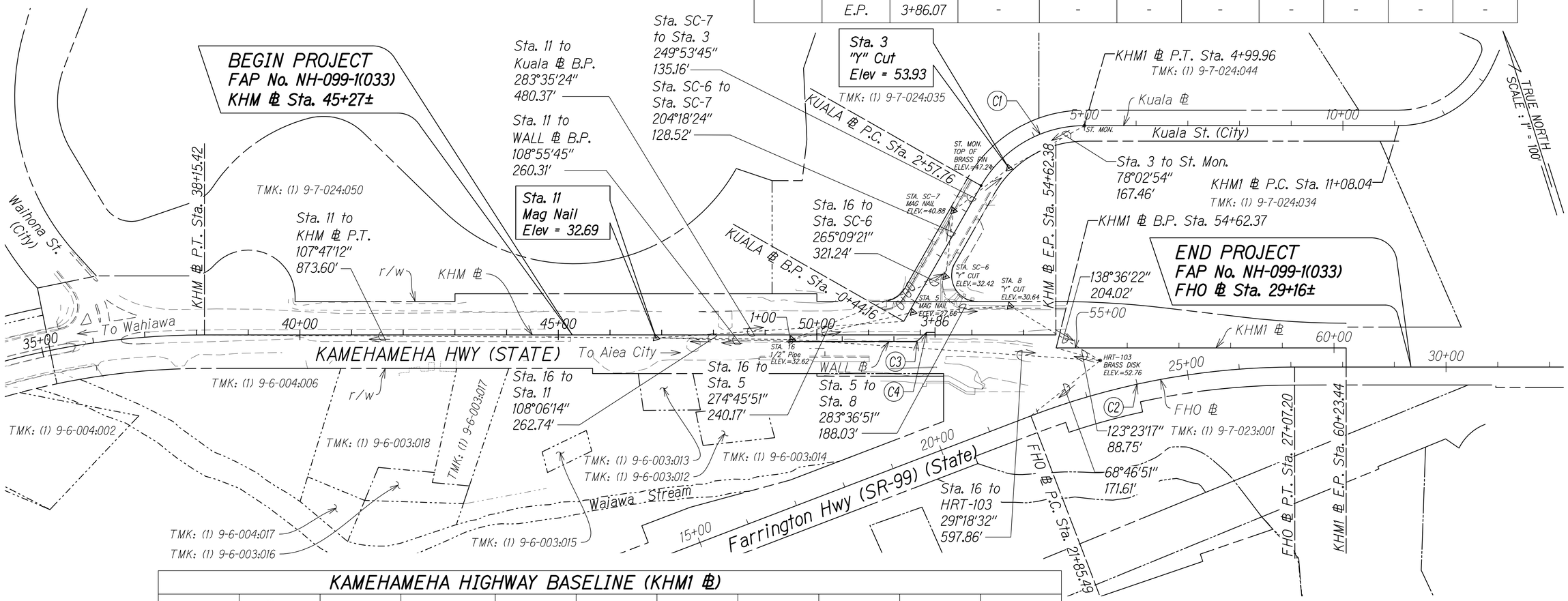
Road ID	Type	Station	Azimuth (S)	Distance	Δ	Δ/2	R	Tan.	Lc	Curve No.
KHM	P.T.	38+15.42	287°24'34"	2584.58'	-	-	-	-	-	-
	E.P.	64+00.00	-	-	-	-	-	-	-	-

KUALA STREET BASELINE (Kuala ℄)

Road ID	Type	Station	Azimuth (S)	Distance	Δ	Δ/2	R	Tan.	Lc	Curve No.
Kuala	B.P.	-0+44.16	227°04'34"	301.92'	-	-	-	-	-	-
	P.C.	2+57.76	-	-	60°20'00"	30°10'00"	230.00'	133.68'	242.20'	C1
	P.T.	4+99.96	287°24'34"	608.08'	-	-	-	-	-	-

WALL BASELINE (WALL ℄)

Road ID	Type	Station	Azimuth (S)	Distance	Δ	Δ/2	R	Tan.	Lc	Curve No.
WALL	B.P.	1+00.00	287°24'34"	241.19'	-	-	-	-	-	-
	P.C.	3+41.19	-	-	43°24'57"	21°42'28.5"	8.00'	3.18'	6.06'	C3
	P.T.	3+47.25	243°59'37"	21.68	-	-	-	-	-	-
	P.C.	3+68.93	-	-	43°24'57"	21°42'28.5"	1.50'	0.60'	1.14'	C4
	P.T.	3+70.07	287°24'34"	16.00'	-	-	-	-	-	-
	E.P.	3+86.07	-	-	-	-	-	-	-	-



KAMEHAMEHA HIGHWAY BASELINE (KHM1 ℄)

Road ID	Type	Station	Azimuth (S)	Distance	Δ	Δ/2	R	Tan.	Lc	Curve No.
KHM1	B.P.	54+62.00	287°24'34"	561.07'	-	-	-	-	-	-
	E.P.	60+23.00	-	-	-	-	-	-	-	-

FARRINGTON HIGHWAY BASELINE (FHO ℄)

Road ID	Type	Station	Azimuth (S)	Distance	Δ	Δ/2	R	Tan.	Lc	Curve No.
FHO	P.C.	21+85.49	-	-	20°52'00"	10°26'00"	1432.50'	263.77'	521.71'	C2
	P.T.	27+07.20	287°24'34"	752.47	-	-	-	-	-	-

GRAPHIC SCALE:

100' 50' 0 100' 200'

Scale: 1" = 100'

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HORIZONTAL CONTROL PLAN

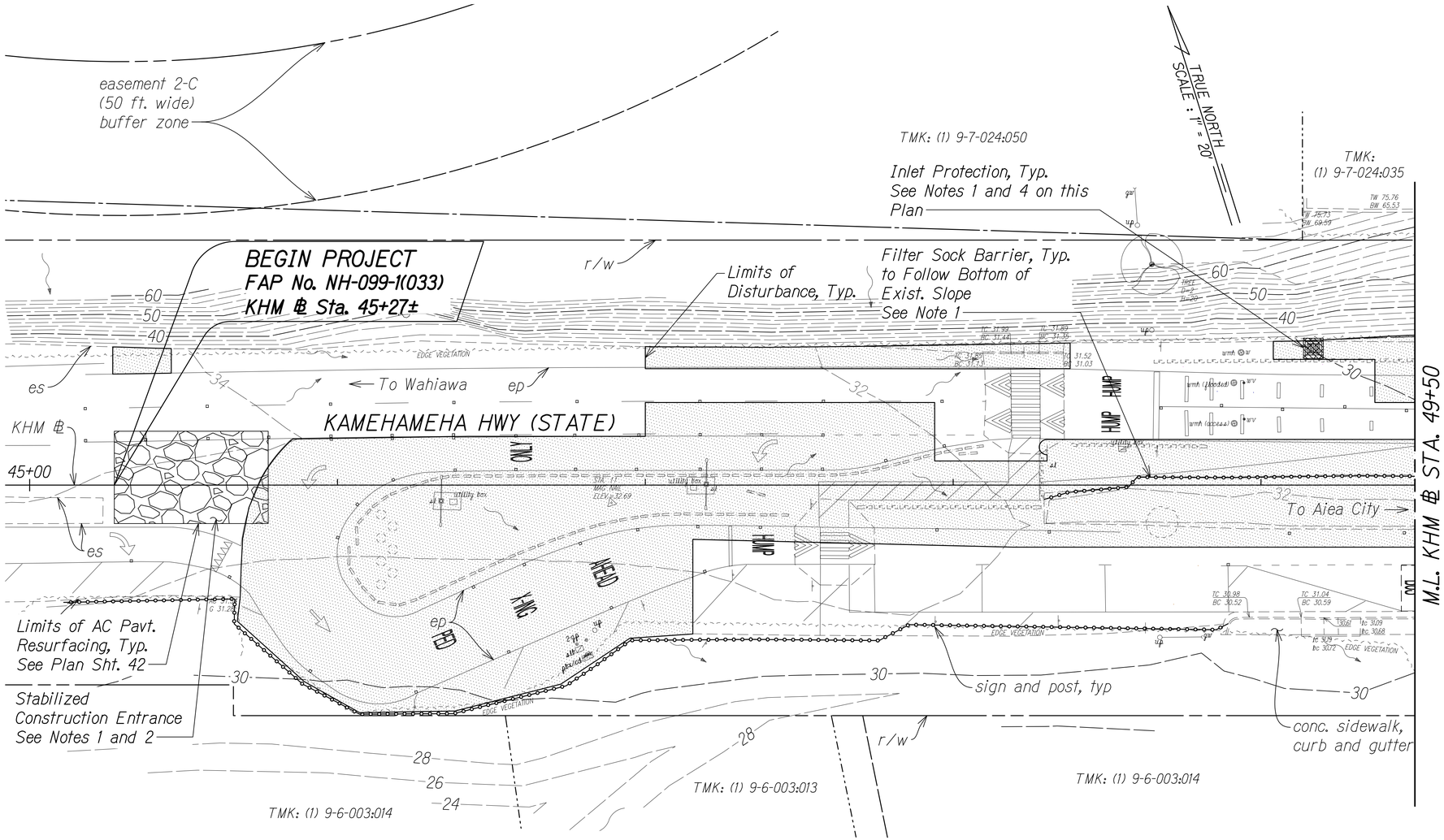
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 100' Date: Feb 2026

SHEET No. 1 OF 1 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\35 HORIZONTAL CONTROL PLAN.DWG 8/13/2026 5:27 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	36	140



NOTES:

1. For Erosion Control Details, See Detail Sheet 41.
2. Contractor shall revise the configuration of the construction ingress/egress to conform with the existing site conditions. The ESCP coordinator shall maintain and revise the ESCP to conform to the configuration of the construction ingress/egress.
3. For locations and other information on the Grated Drop Inlets (G.D.I), see Plan and Profile Sheets 68 to 70.
4. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Cost shall be included in Pay Item 209.0100, Installation, Maintenance, Monitoring, and Removal of BMP.
5. The total disturbed area is 1.09 acre.

LEGEND:

- Compost Filter Sock
- Flow Arrows
- Limits of Disturbance
- Stabilized Construction Entrance
- Inlet Protection
- Limits of AC Pavt. Resurfacing

GRAPHIC SCALE:

20′ 10′ 0 20′ 40′

Scale: 1" = 20′

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EROSION CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20′ Date: Feb 2026

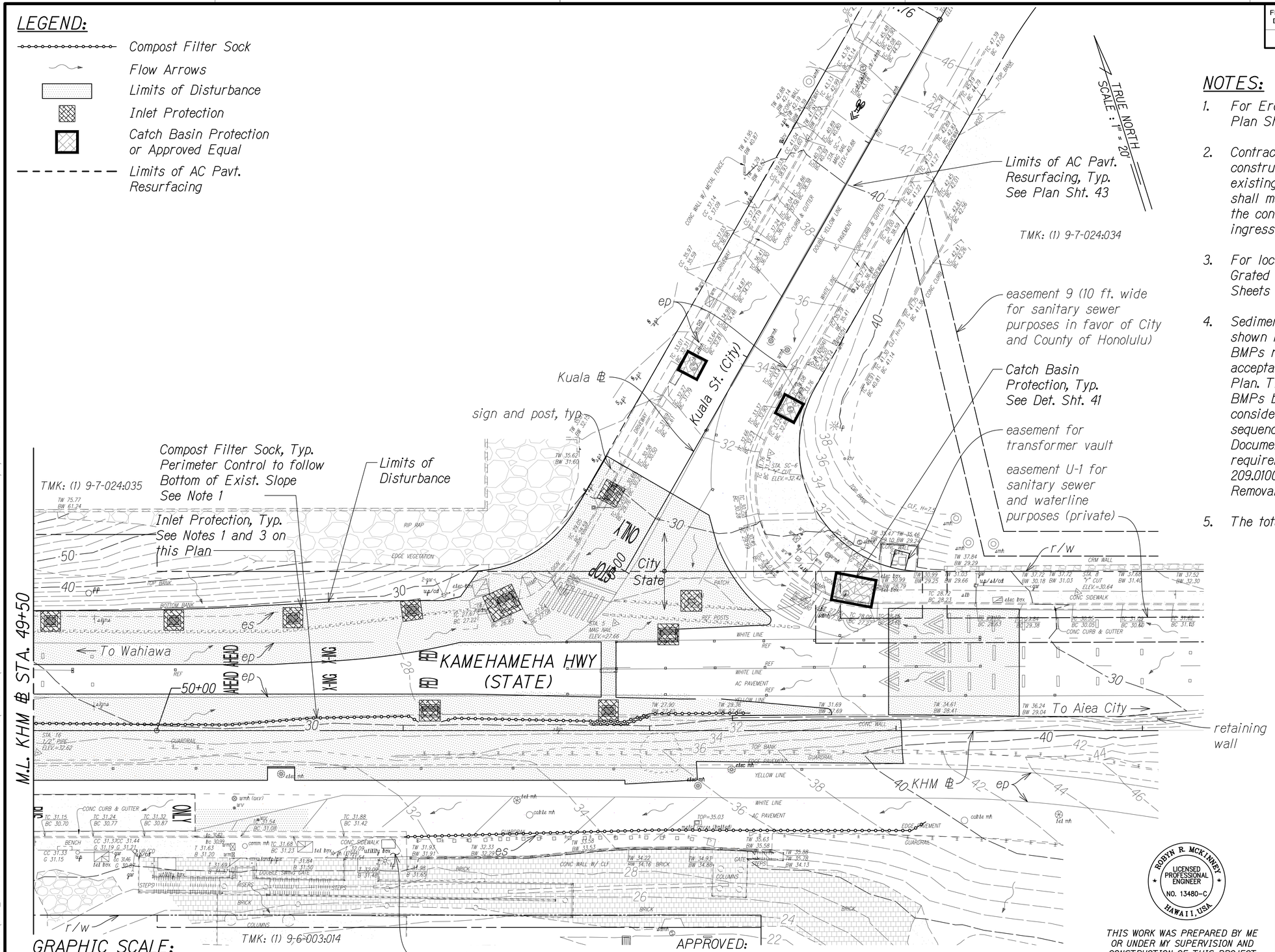
SHEET No. 1 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\36-37 EROSION AND SEDIMENT CONTROL PLANS.DWG 5/11/2026 11:23 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	37	140

LEGEND:

- Compost Filter Sock
- Flow Arrows
- Limits of Disturbance
- Inlet Protection
- Catch Basin Protection or Approved Equal
- Limits of AC Pavt. Resurfacing



GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP (For Work within City R/W Only) DATE

NOTES:

1. For Erosion and Sediment Control Details, See Plan Sheet 41.
2. Contractor shall revise the configuration of the construction ingress/egress to conform with the existing site conditions. The ESCP coordinator shall maintain and revise the ESCP to conform to the configuration of the construction ingress/egress.
3. For locations and other information on the Grated Drop Inlets (G.D.I), see Plan and Profile Sheets 68 to 70.
4. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Cost shall be included in Pay Item 209.0100, Installation, Maintenance, Monitoring, and Removal of BMP.
5. The total disturbed area is 1.09 acre.

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

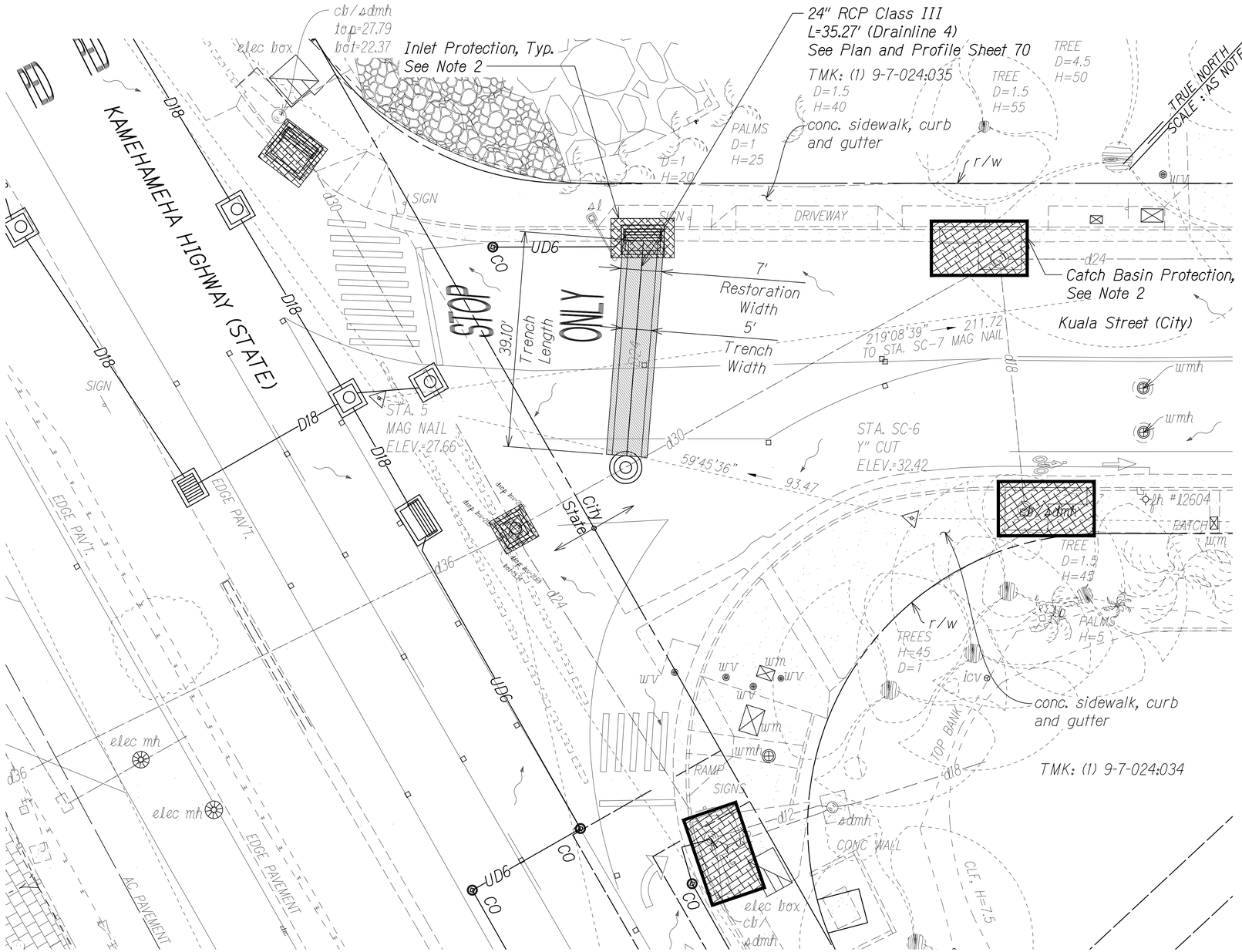
EROSION CONTROL PLAN

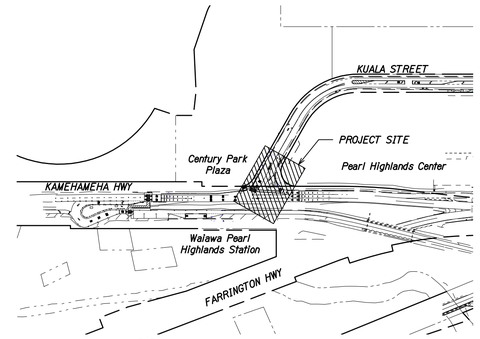
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20' Date: Feb 2026

SHEET No. 2 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\36-37 EROSION AND SEDIMENT CONTROL PLANS.DWG 5/11/2026 11:23 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	38	140





LOCATION MAP
Scale: 1" = 1000'

NOTES:

1. For Water Pollution and Erosion Control Notes for work within State Right-of-Way, See Plan Sheets 10 to 12.
2. For Erosion and Sediment Control Details, See Plan Sheet 41.
3. For Trench Restoration Details, see Plan Sheet 71.
4. The erosion control measures represent only a minimum requirement. Contractor shall take proper precautions and make necessary measures to ensure compliance to all applicable but not limited to Federal, State, HDOT, City & County of Honolulu agencies guidelines.
5. Contractor shall revise the configuration of the construction ingress/egress to conform with the existing site conditions. The ECP coordinator shall maintain and revise the ECP to conform to the configuration of the construction ingress/egress.
6. For location and other information on the New Drainage Structures within City Right-of-Way, see Drainline Plan and Profile Sheet 70.
7. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Cost shall be included in Pay Item 209.0100, Installation, Maintenance, Monitoring, and Removal of BMP.

GRAPHIC SCALE:

10' 5' 0 10' 20'
Scale: 1" = 10'

1000' 500' 0 1000' 2000'
Scale: 1" = 1000'

LEGEND:

Temp. Inlet Protection
Catch Basin Protection
Flow Arrows

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

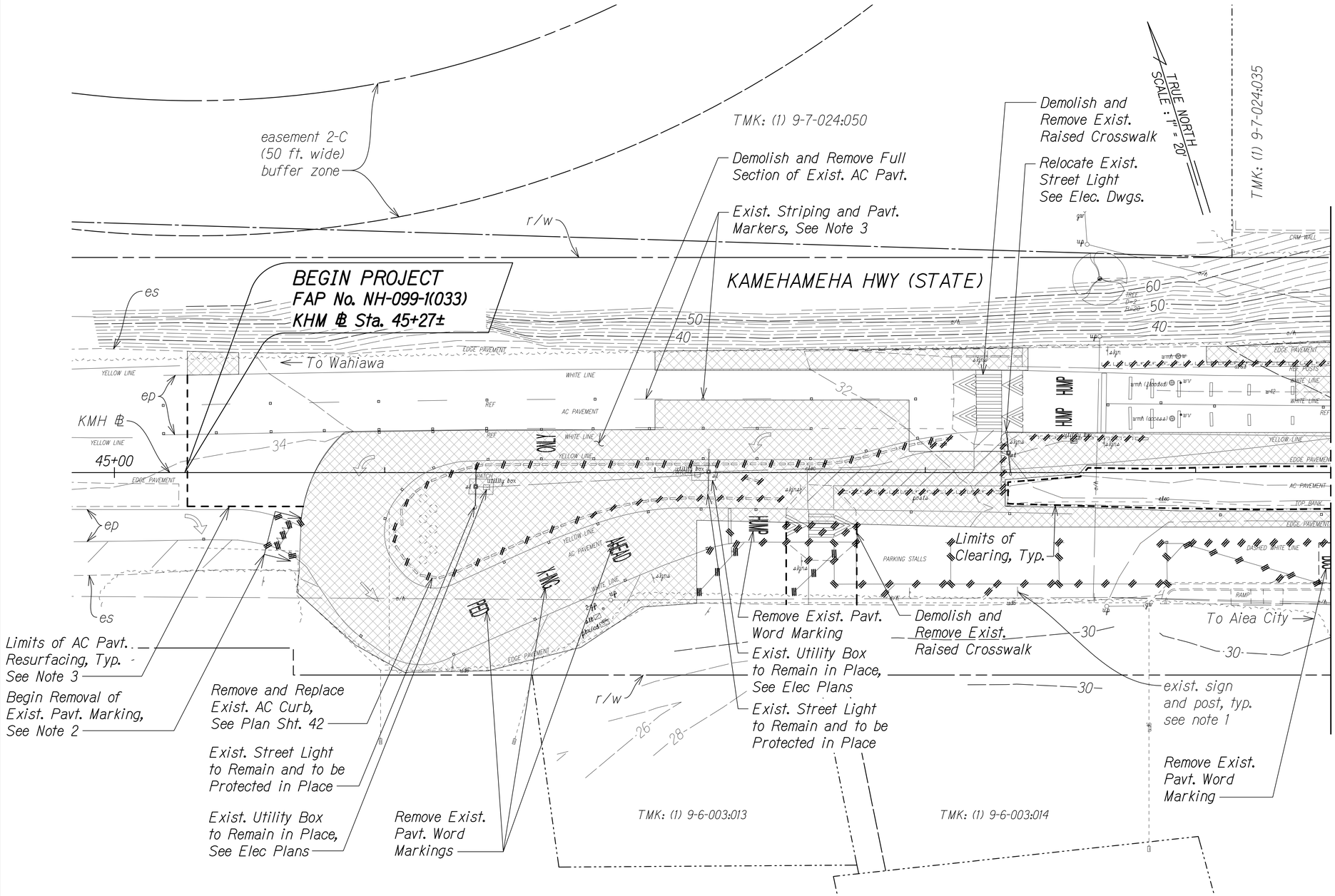
EROSION AND SEDIMENT CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: As Noted Date: Feb 2026

SHEET No. 1 OF 1 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\38 EROSION AND SEDIMENT CONTROL PLAN.DWG 5/11/2026 11:23 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	39	140



NOTES:

1. For work on existing traffic signs, see Plan Sheets 82 and 83.
2. Remove existing striping, pavement arrows, pavement words and raised pavement markers outside the limits of pavement removal as indicated on this plan. For new pavement markings and signs, see Plan Sheets 80 to 83.
3. All existing striping, pavement arrows, pavement words and raised pavement markers within limits of pavement removal shall be removed. For limits of pavement work, see Plan Sheets 42 and 43.

LEGEND:

- Limits of Clearing
- Remove Exist. Guardrail, Retaining Wall, Bolt Down Curbs, AC Curbs, and Conc. Curb
- Removal of Exist. Pavt. Markings
- Remove Exist. AC Pavt. Section
- Limits of AC Pavt. Resurfacing

GRAPHIC SCALE:

20′ 10′ 0 20′ 40′

Scale: 1" = 20′

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

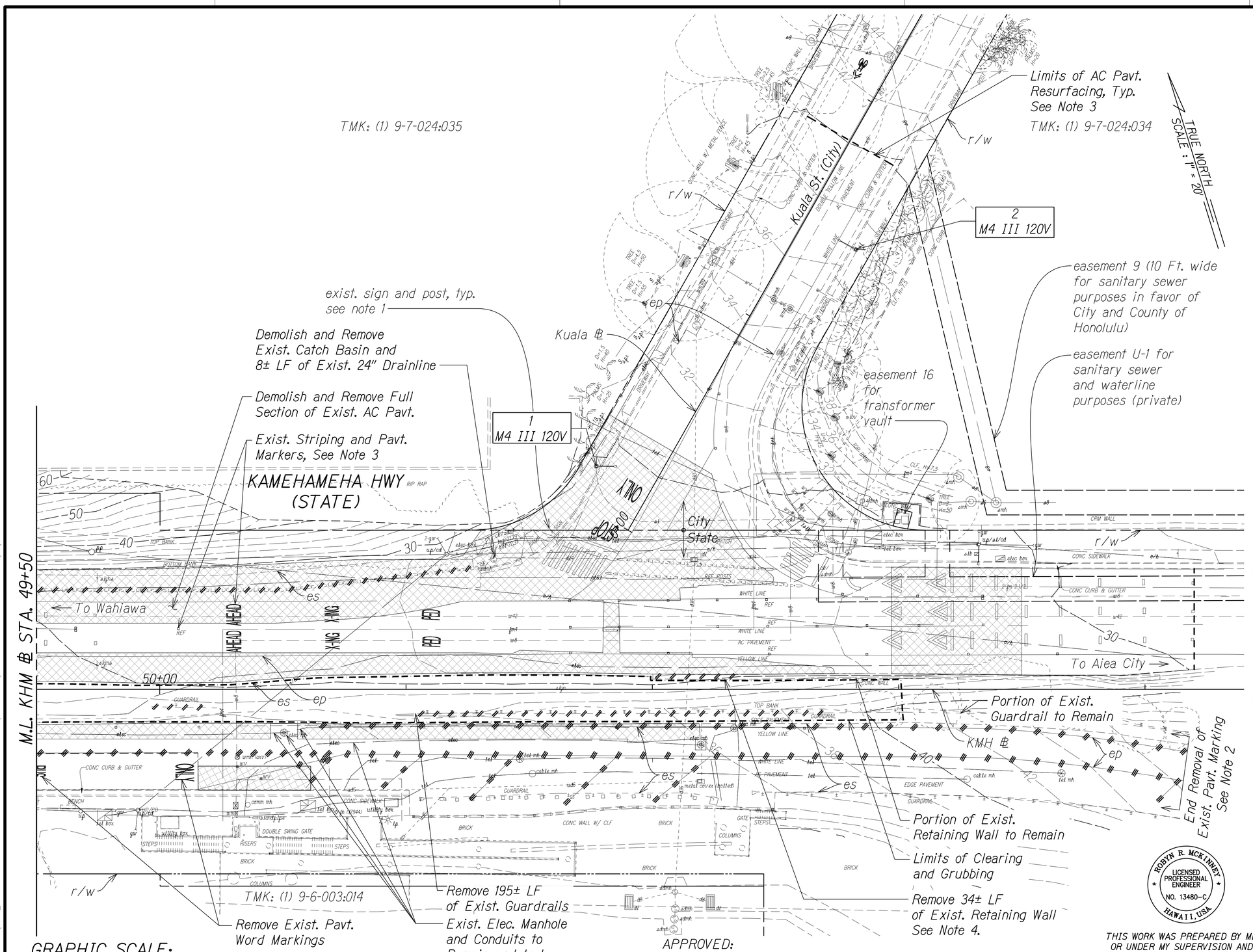
DEMOLITION PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20′ Date: Feb 2026

SHEET No. 1 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\39-40 DEMOLITION PLANS.DWG 5/11/2026 11:24 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	40	140



GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

NOTES:

1. For work on existing traffic signs, see Plan Sheets 82 and 83.
2. Remove existing striping, pavement arrows, pavement words and raised pavement markers outside the limits of pavement removal as indicated on this plan. For new pavement markings and signs, see Plan Sheets 80 to 83.
3. All existing striping, pavement arrows, pavement words and raised pavement markers within limits of pavement removal shall be removed. For limits of pavement work, see Plan Sheets 42 and 43.
4. Any exposed reinforcing steel at face of cut concrete should be cut back at 1" and filled in with epoxy grout.

SYMBOLS:

- Street Light
- Street Light I.D.

LEGEND:

- Limits of Clearing
- Remove Exist. Guardrail, Retaining Wall, Bolt Down Curbs, AC Curbs, and Conc. Curb
- Removal of Exist. Pavt. Markings
- Remove Exist. AC Pavt. Section
- Limits of AC Pavt. Resurfacing
- Exist. Street Light Duct w/Cable

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP (For Work within City R/W Only) DATE

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DEMOLITION PLAN

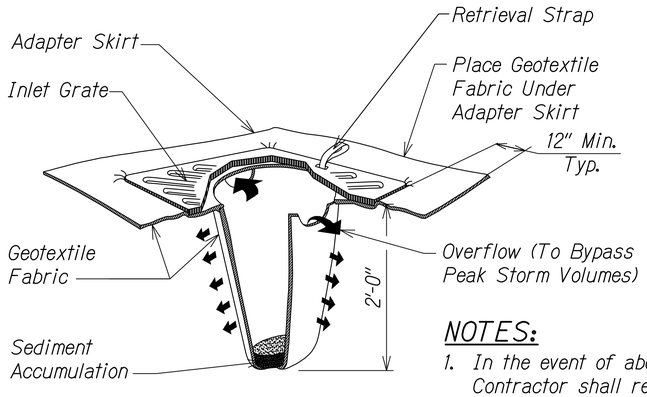
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 20' Date: Feb 2026

SHEET No. 2 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\39-40 DEMOLITION PLANS.DWG 5/11/2026 11:24 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	41	140

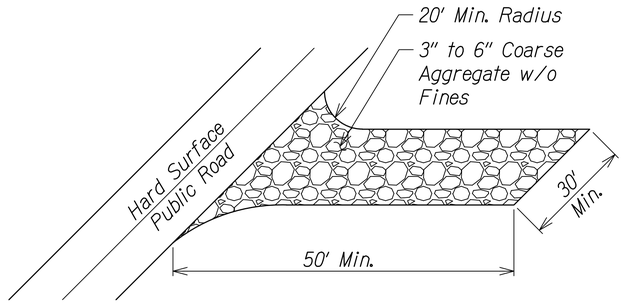


NOTES:

1. In the event of above normal rainfall, Contractor shall remove inlet protection and replace after event has passed.
2. Contractor shall remove debris from inlet protection when it is 1/3 to 1/2 full.

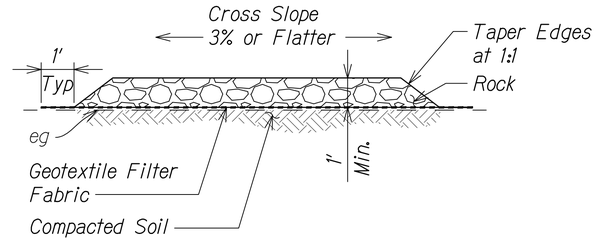
TEMPORARY INLET PROTECTION

Not to Scale
For Work within State and City R/W



NOTE:

1. Geotextile filter fabric must be installed beneath the 12" deep layer of aggregate.



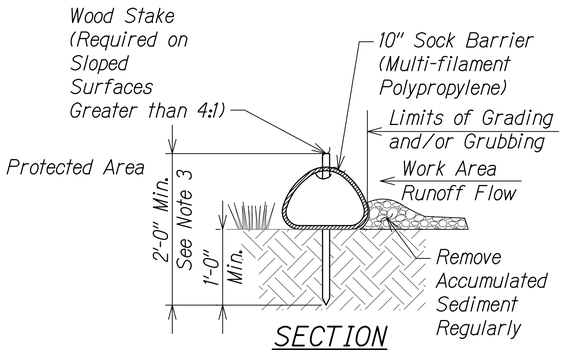
SECTION

STABILIZED CONSTRUCTION ENTRANCE/EXIT

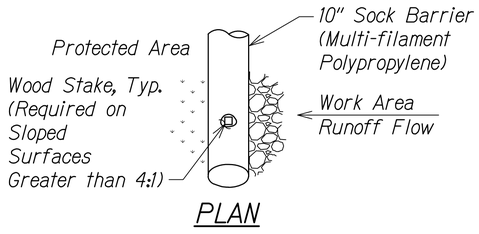
Not to Scale
For Work within State R/W

NOTE:

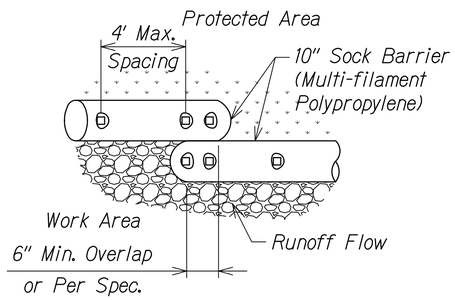
In the event of above normal rainfall, Contractor shall remove inlet protection and replace after event has passed.



SECTION



PLAN



OVERLAP

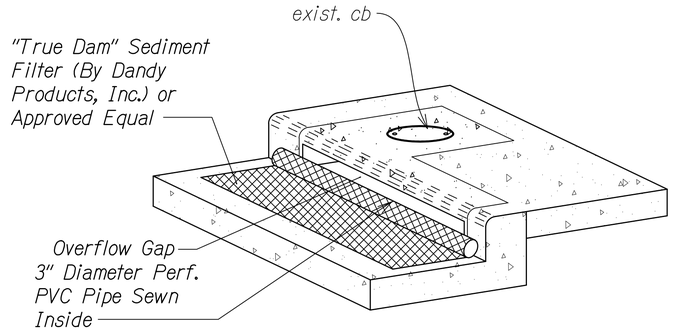
SLOPE GRADIENT	ANCHOR SPACING
<4:1	Not Required
4:1 to 3:1	10'
>3:1 to 2:1	5' to 10'
>2:1	5'

NOTES:

1. Compost filter socks should be either prefabricated or assembled at site.
2. Turn the ends of the compost filter socks up slope to prevent runoff from going around the roll.
3. Stake compost filter socks with stakes with a minimum length of 24" and spaced 4' on center, or as recommended by the manufacturer, whichever is greater.
4. If more than one compost filter sock is placed in a row, the rolls should be overlapped, not abutted.
5. Sock barrier fill composition is wood mulch.
6. Sock barrier fill shall not contain Biosolids and should be consistent with EPA Guidelines.

FILTER SOCK BARRIER

Not to Scale
For Work within State R/W



TEMPORARY CATCH BASIN PROTECTION

Not to Scale
For Work within State and City R/W

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EROSION CONTROL DETAILS

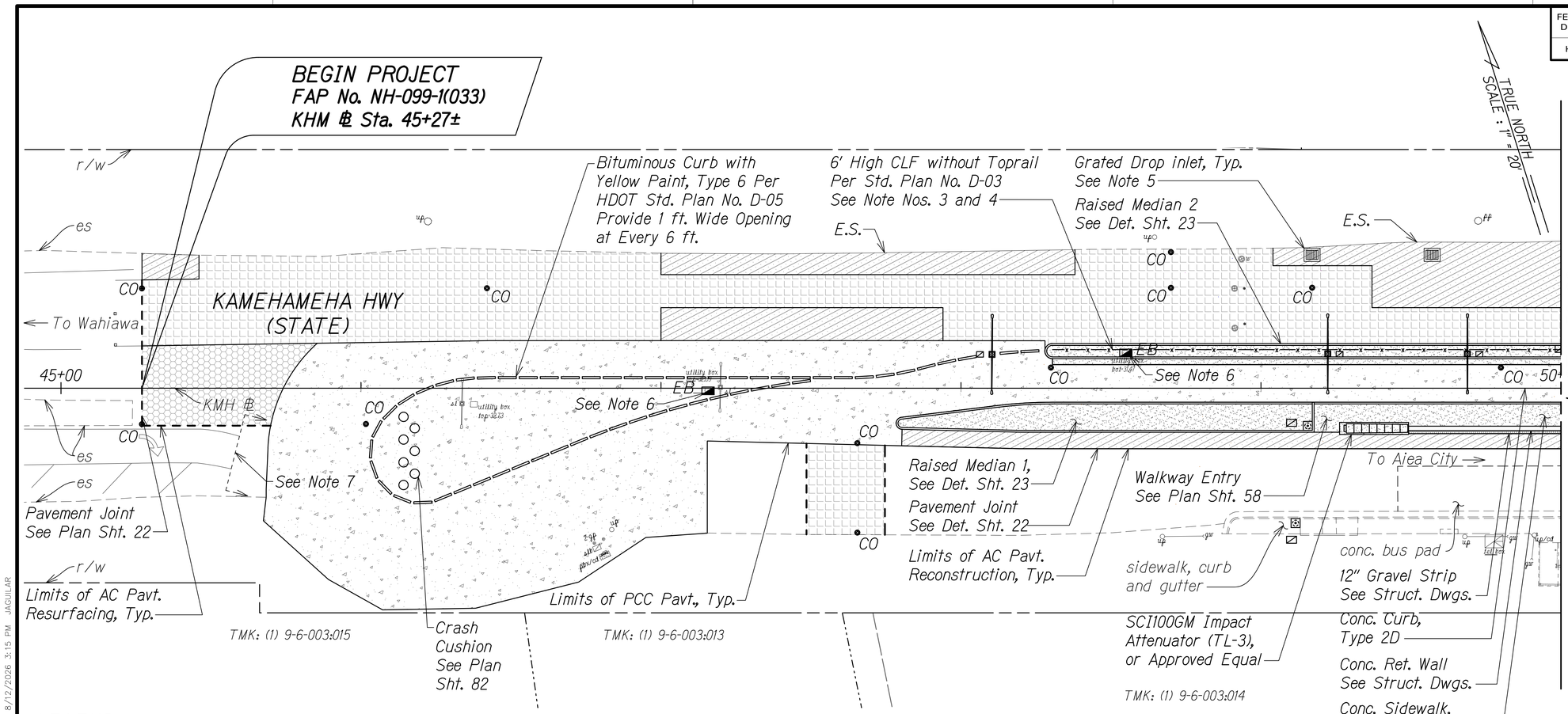
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: No to Scale Date: Feb 2026

SHEET No. 1 OF 1 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\41 ESC DETAILS.DWG 5/11/2026 11:24 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	42	140



LEGEND:

- Limits of AC Pavt. Resurfacing
- Gravel Strip
- 12" PCC Pavt. 12" ASC See Note 9
- Full Depth Pavt. Area 2.5" PMA Mix IV 11" HMAB 6" ABC 6" ASC
- Pavt. Overlay (See Note 8) 6.5" to 9.5" Cold Plane 2.5" PMA Mix IV 3" HMA Mix IV GlasGrid 8511TF 4" HMAB
- Sidewalk, Curb and Gutter, Curb Ramp and Raised Median
- Pavt. Overlay (See Note 8) 6.5" Cold Plane 2.5" PMA Mix IV 4" to 20" HMAB

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

NOTES:

1. For Legend, Abbreviations and General Notes, See Plan Sheets 4 to 9.
2. For road improvement station and offset ties, see Plan Sheets 44 and 45.
3. During the installation of the chain link fence along the raised median and on the Kamehameha Highway Westbound side of the proposed light poles, Contractor shall locate, space, and place the fence posts as to avoid conflict with such proposed light poles and electrical boxes. No fence post shall be installed directly in front of light poles.
4. For typical fence post footing detail, see Detail Sheet 23.
5. For information on grated drop inlets, see Plan and Profile Sheets 68 to 70.
6. Contractor shall adjust all top of boxes to finish grade within the project limits as necessary. See Plan Sheets 46 to 49 for new top elevations.
7. For pavement markings, see Plan Sheets 80 to 81.
8. Cold plane to establish the indicated pavement section for the entire lane width.
9. For road PCC pavement layout and jointing details, see Plan Sheets 60 to 62 and Detail Sheets 63 to 67.

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

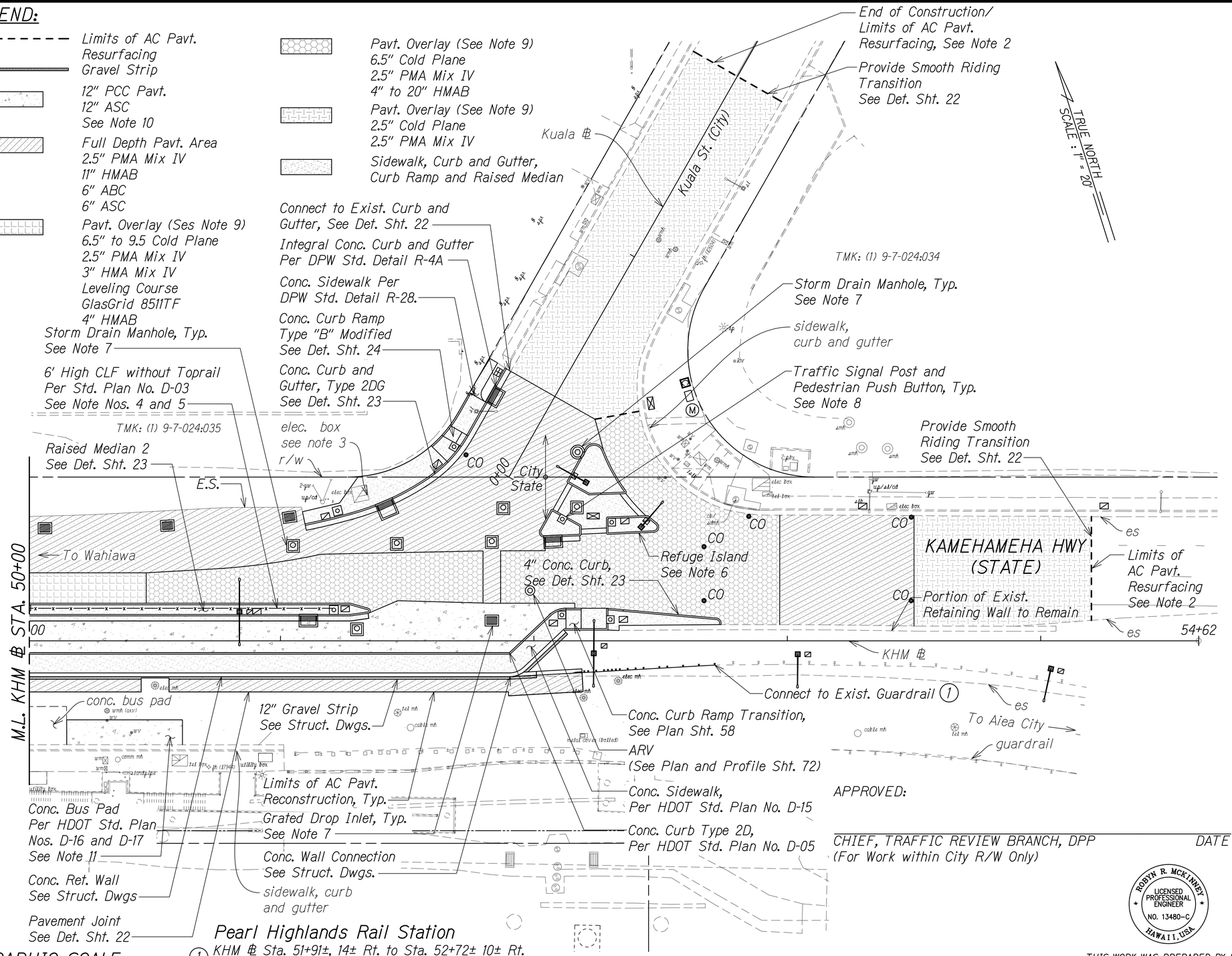
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20' Date: Feb 2026

SHEET No. 1 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\42 ROADWAY PLAN.DWG 8/12/2026 3:15 PM JAGUILAR

LEGEND:

- Limits of AC Pavt. Resurfacing
- Gravel Strip
- 12" PCC Pavt. 12" ASC See Note 10
- Full Depth Pavt. Area 2.5" PMA Mix IV 11" HMAB 6" ABC 6" ASC
- Pavt. Overlay (Ses Note 9) 6.5" to 9.5 Cold Plane 2.5" PMA Mix IV 3" HMA Mix IV Leveling Course GlasGrid 8511TF 4" HMAB
- Pavt. Overlay (See Note 9) 6.5" Cold Plane 2.5" PMA Mix IV 4" to 20" HMAB
- Pavt. Overlay (See Note 9) 2.5" Cold Plane 2.5" PMA Mix IV
- Sidewalk, Curb and Gutter, Curb Ramp and Raised Median



GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

Pearl Highlands Rail Station

(1) KHM ℄ Sta. 51+91±, 14± Rt. to Sta. 52+72± 10± Rt.

- 10 LF Conc. Transition Structure
- 34" Type KAT Transition
- Guardrail Type 3 Mash Transition
- MGS Transition to Strong Post Guardrail

See Det. Shts. 25 to 34.

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE
(For Work within City R/W Only)

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	43	140

NOTES:

1. For Legend, Abbreviations and General Notes, See Plan Sheets 4 to 9.
2. For road improvement station and offset ties, see Plan Sheets 44 and 45.
3. Contractor shall adjust all top of boxes to finish grade within the project limits as necessary. See Plan Sheets 46 to 49 for new top elevations.
4. During the installation of the chain link fence along the raised median and on the Kamehameha Highway West-Bound side of the proposed light poles, Contractor shall locate, space, and place the fence posts as to avoid conflict with such proposed light poles and electrical boxes. No fence post shall be installed directly in front of light poles.
5. For typical fence post footing detail, see Detail Sheet 23.
6. For curb, curb ramps, curb and gutter, and refuge islands, see Detail Sheets 23 to 24.
7. For information on storm drain manhole and grated drop inlets, see Plan and Profile Sheets 68 to 70.
8. For Traffic Signal Plans, see Plan Sheets 92 to 95.
9. Cold plane to establish the indicated pavement section for the entire lane width.
10. For road PCC pavement layout and jointing details, see Plan Sheets 60 to 62 and Detail Sheets 63 to 67.
11. For the Concrete Bus Pad, concrete shall be dyed red during pouring (Red, Patone 2347C or an equivalent approved by the Engineer). Concrete dye shall be considered incidental to the contract pay items.

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

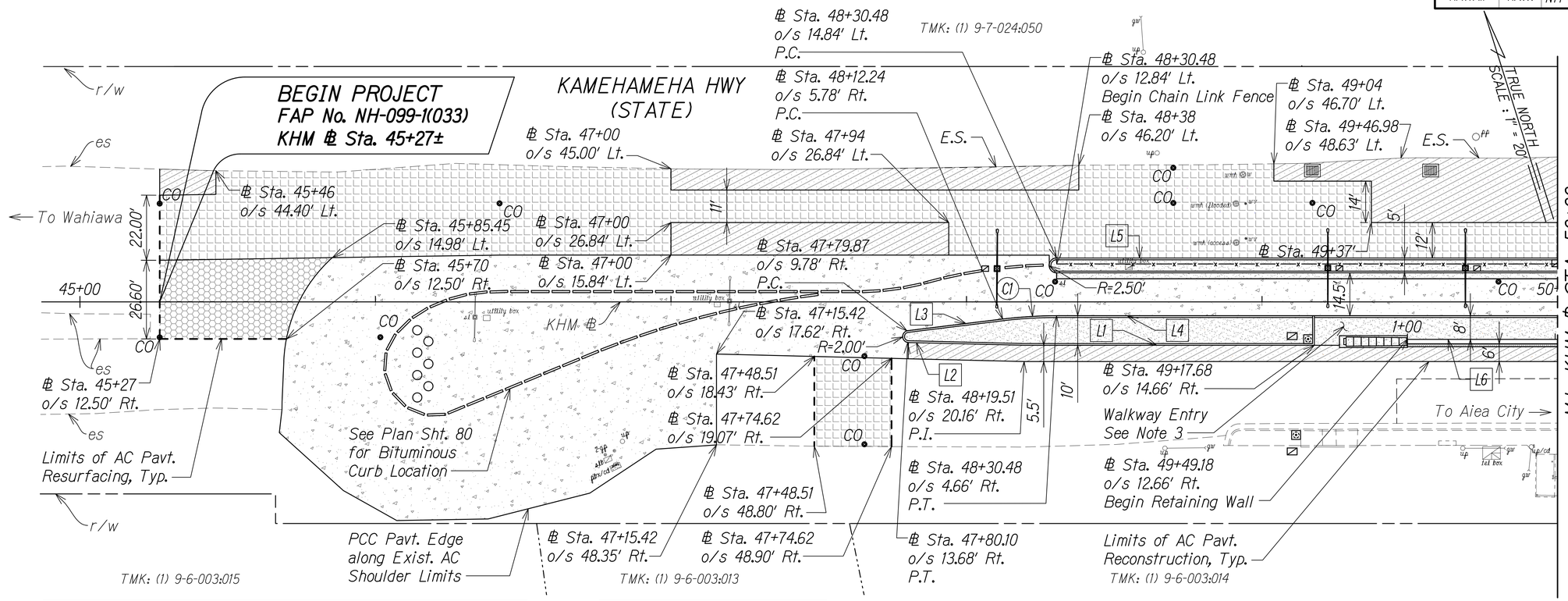
ROADWAY PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20' Date: Feb 2026

SHEET No. 2 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\43 ROADWAY PLAN.DWG 9/18/2026 4:10 PM CGENOVA

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	44	140



CURVE DATA

Curve #	Δ	Δ/2	R	Tan.	C	Lc
C1	7°00'30"	3°30'15"	149.50'	9.15'	18.27'	18.29'
C2	43°24'57"	21°42'28.5"	9.50'	3.78'	7.03'	7.20'
C3	43°24'57"	21°42'28.5"	8.00'	3.18'	5.92'	6.06'
C4	25°42'59"	12°51'29.5"	50.00'	11.41'	22.25'	22.44'
C5	19°15'22"	9°37'41"	103.00'	17.47'	34.45'	34.62'
C6	3°47'57"	1°53'58.5"	280.00'	9.29'	18.56'	18.57'
C7	19°10'38"	9°35'19"	50.58'	8.54'	16.85'	16.93'
C8	36°31'01"	18°15'30.5"	50.00'	16.59'	31.49'	32.03'

LINE DATA

Line #	Az.	L
L1	287°24'34"	98.11'
L2	288°48'29"	39.20'
L3	100°24'04"	32.31'
L4	107°24'34"	359.88'
L5	107°24'34"	296.93'
L6	107°24'34"	241.19'
L7	63°59'37"	21.68'
L8	243°59'37"	21.68'

NOTES:

1. Stations and offsets are based on KHM ℄ unless otherwise noted.
2. For General Notes, Legend, and Abbreviations, see Plan Sheets 4 to 9.
3. For additional dimensions and ties at walkway entry, see Plan Sheet 58.

GRAPHIC SCALE:

20' 10' 0 20' 40'
Scale: 1" = 20'

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

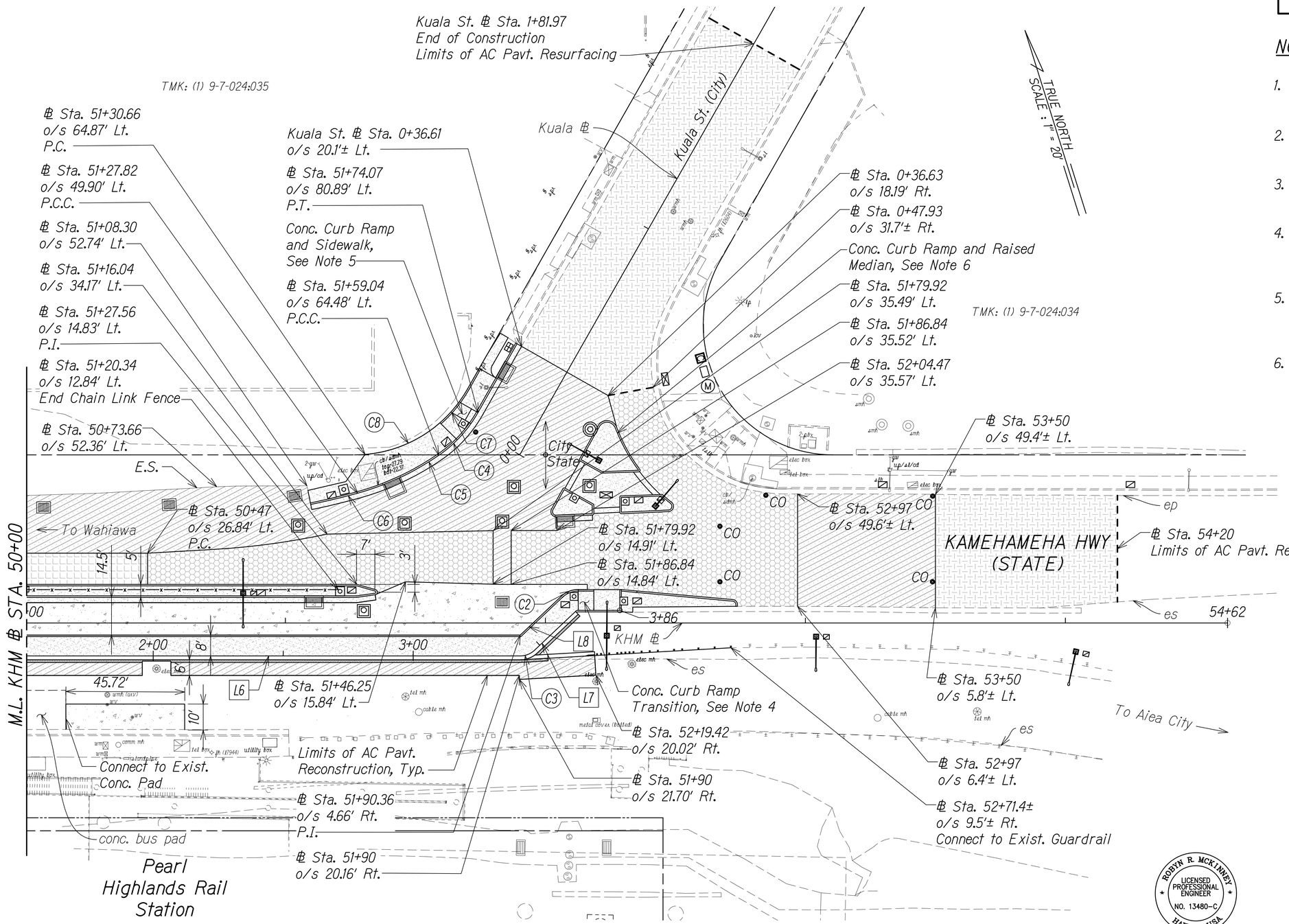
ROADWAY LAYOUT PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20' Date: Feb 2026

SHEET No. 1 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\44 ROADWAY LAYOUT PLAN.DWG 8/12/2026 3:33 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	45	140



NOTES:

1. Stations and offsets are based on KHM ℄ unless otherwise noted.
2. For General Notes, Legend, and Abbreviations, see Plan Sheets 4 to 9.
3. For curve and line data, see Plan Sheet 44.
4. For additional dimensions and ties at curb ramp transition and sidewalk, see Plan Sheet 58.
5. For additional dimensions and ties at concrete sidewalk and curb ramp, see Plan Sheet 57.
6. For additional dimension and ties at raised median, see Plan Sheet 56.

GRAPHIC SCALE:

20' 10' 0 20' 40'
Scale: 1" = 20'

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP (For Work within City R/W Only) DATE

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

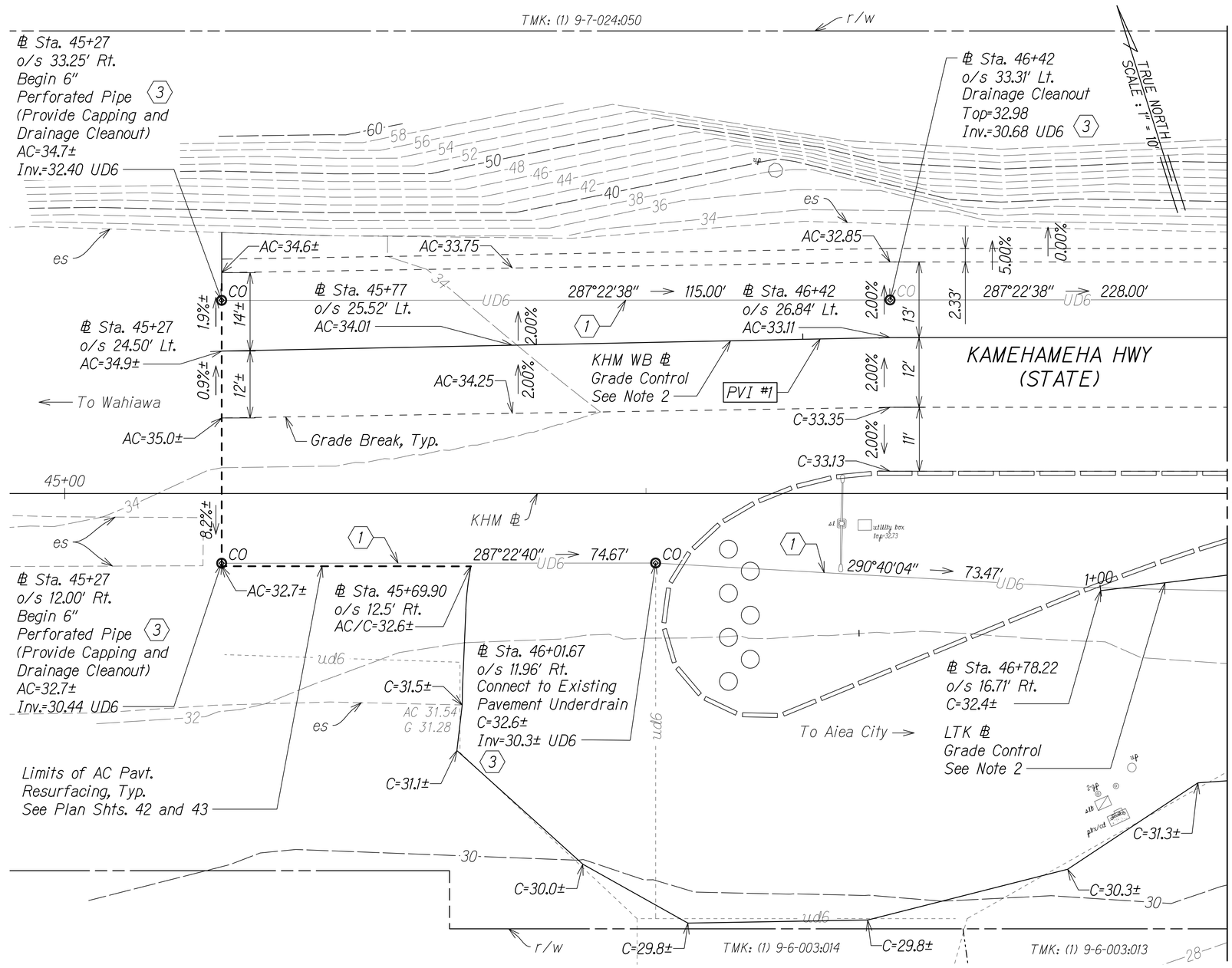
ROADWAY LAYOUT PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20' Date: Feb 2026

SHEET No. 2 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\45 ROADWAY LAYOUT PLAN.DWG 8/12/2026 5:18 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	46	140



KMH WB ℄ PVI STATION AND OFFSET:

PVI #1 KMH ℄ Sta. 46+29.98
o/s 26.59' Lt.

GRAPHIC SCALE:

10' 5' 0 10' 20'
Scale: 1" = 10'

NOTES:

1. For General Notes, Legend, and Abbreviations, see Plan Sheets 4 to 9.
2. For grade control plan and profiles, see Plan Sheets 52 to 55.
3. Stations and offsets are based on KHM ℄ unless otherwise noted.
4. For elevations at PCC pavement panels, see Plan Sheets 50 and 51.

DRAINAGE CONSTRUCTION NOTES:

1. Install 6" Longitudinal Underdrain Pipe per Detail on Plan Sheet 71.
3. Provide Underdrain Cleanout per HDOT Std. Plan H-29.

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

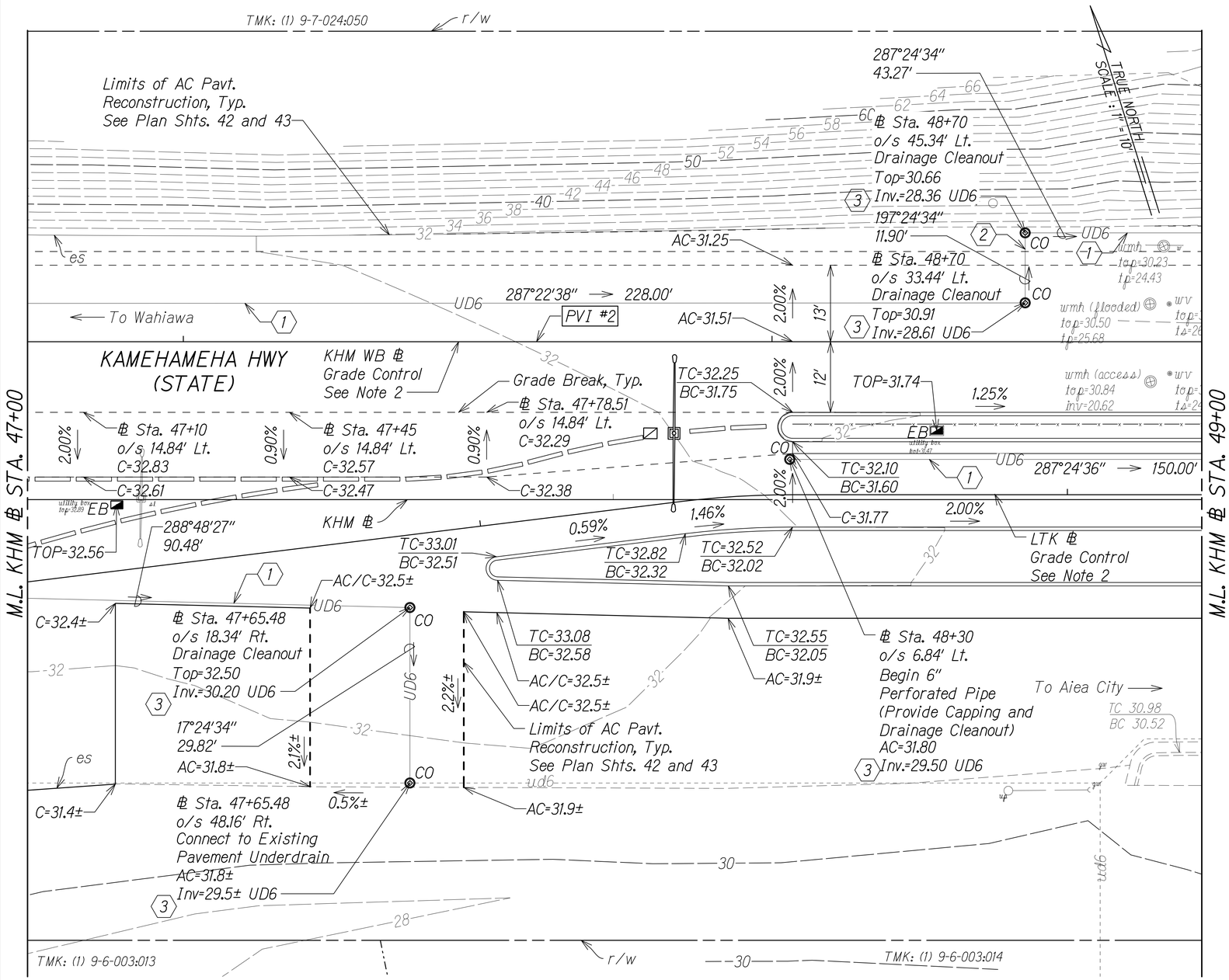
ELEVATIONS AND DRAINAGE PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 10' Date: Feb 2026

SHEET No. 1 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\46-49 ELEVATIONS AND DRAINAGE PLAN.DWG 4/27/2026 9:07 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	46	140



KMH WB ℄ PVI STATION AND OFFSET:

PVI #2 KMH ℄ Sta. 47+86.98 o/s 26.84' Lt.

GRAPHIC SCALE:

10' 5' 0 10' 20'
Scale: 1" = 10'

NOTES:

1. For General Notes, Legend, and Abbreviations, see Plan Sheets 4 to 9.
2. For grade control plan and profiles, see Plan Sheets 52 to 55.
3. Stations and offsets are based on KHM ℄ unless otherwise noted.
4. For elevations at PCC pavement panels, see Plan Sheets 50 and 51.

DRAINAGE CONSTRUCTION NOTES:

1. Install 6" Longitudinal Underdrain Pipe per Detail on Plan Sheet 71.
2. Install 6" Transverse Underdrain Pipe per Detail on Plan Sht. 71.
3. Provide Underdrain Cleanout per HDOT Std. Plan H-29.

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

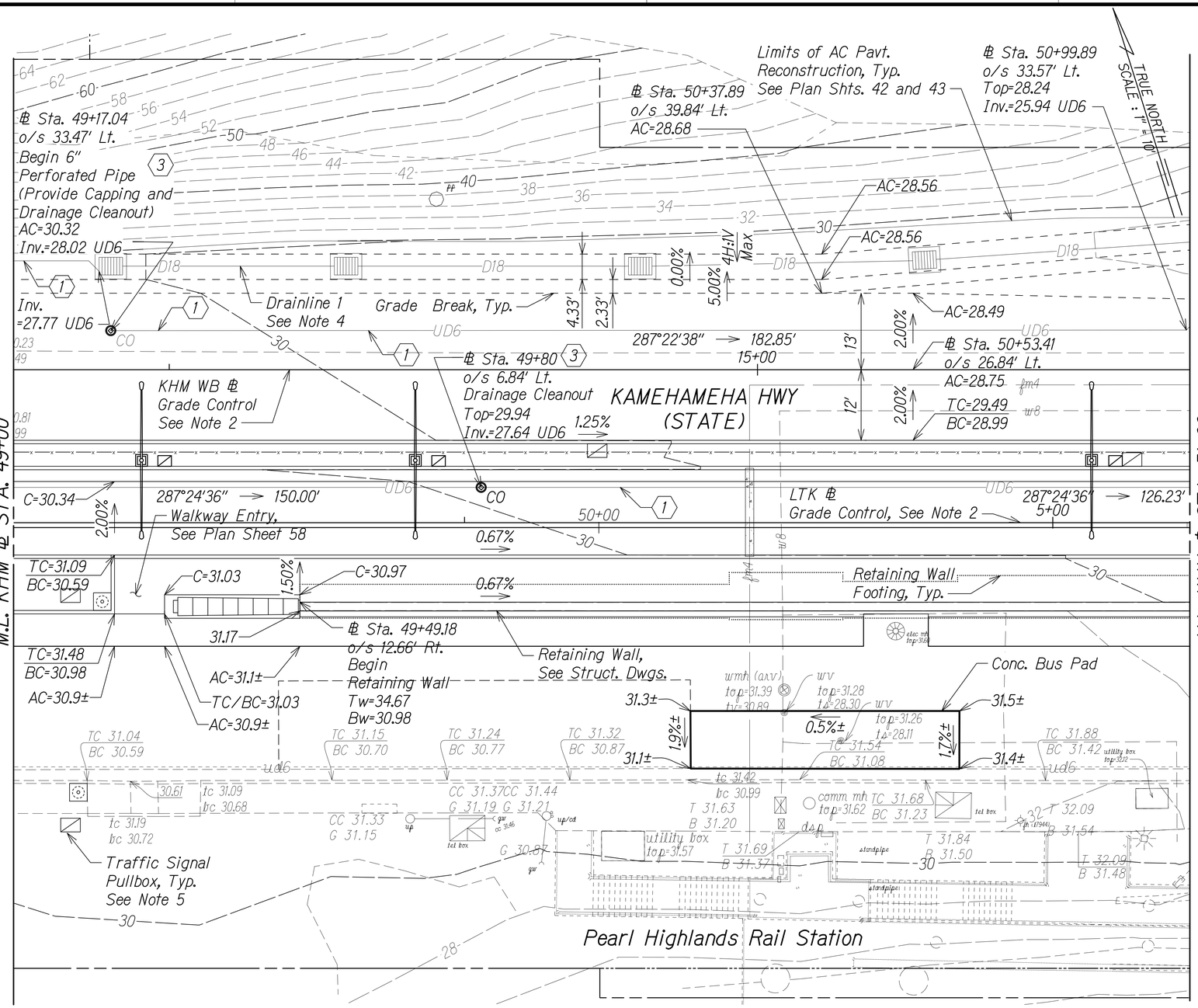
ELEVATIONS AND DRAINAGE PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 10' Date: Feb 2026

SHEET No. 2 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\46-49 ELEVATIONS AND DRAINAGE PLAN.DWG 8/12/2026 3:53 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	47	140



GRAPHIC SCALE:

10' 5' 0 10' 20'

Scale: 1" = 10'

NOTES:

1. For General Notes, Legend, and Abbreviations, see Plan Sheets 4 to 9.
2. For grade control plan and profiles, see Plan Sheets 52 to 55.
3. Stations and offsets are based on KHM ℄ unless otherwise noted.
4. For drainline plan and profiles, see Plan Sheets 68 to 70.
5. For traffic signal pullbox, posts, and all other traffic signal devices, see Plan Sheets 92 to 95.
6. For elevations at PCC pavement panels, see Plan Sheets 50 and 51.

DRAINAGE CONSTRUCTION NOTES:

(1) Install 6" Longitudinal Underdrain Pipe per Detail on Dwg. No. 71.

(3) Provide Underdrain Cleanout per HDOT Std. Plan H-29.

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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Robyn McKinney 04/30/28

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELEVATIONS AND DRAINAGE PLAN

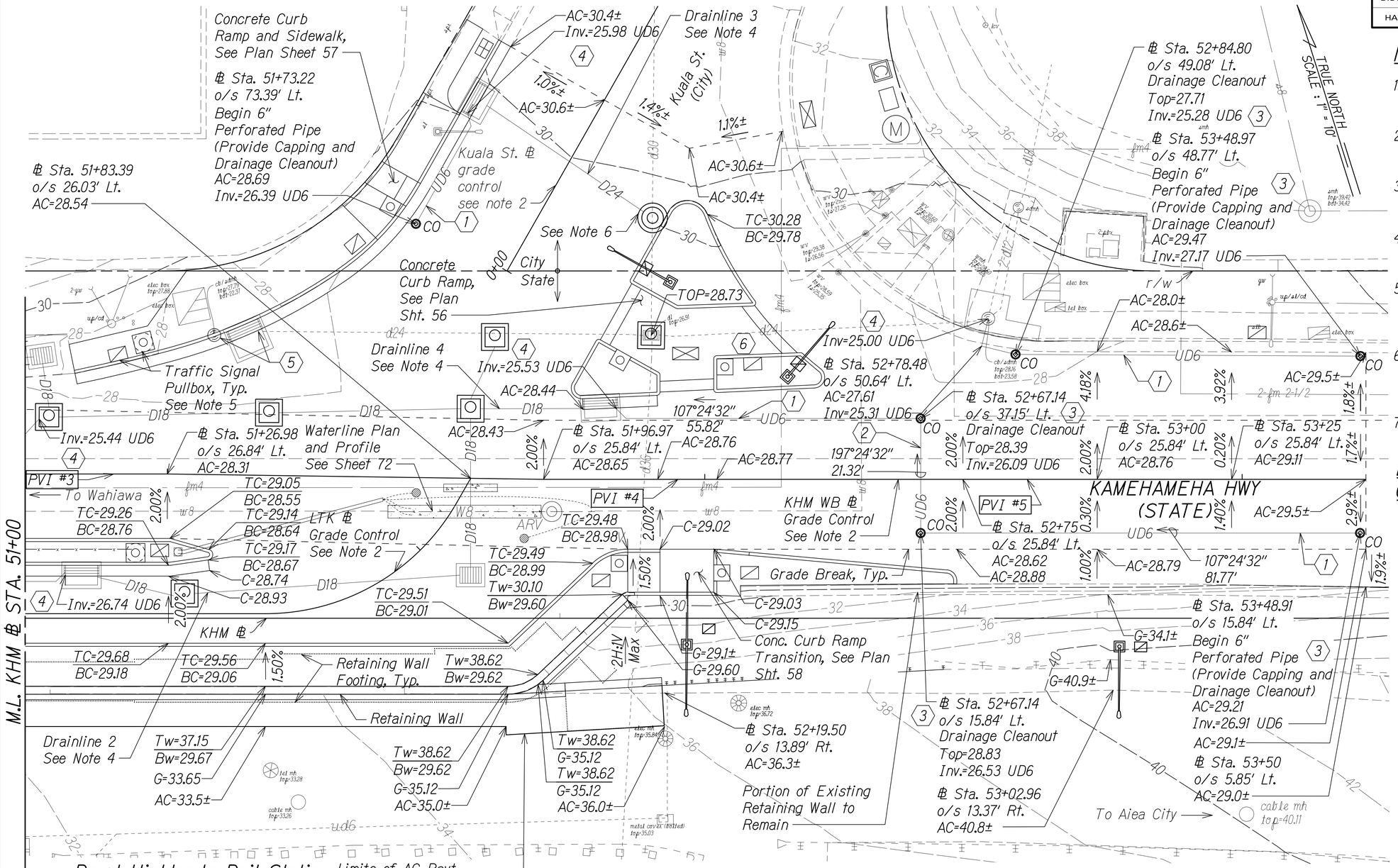
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 10' Date: Feb 2026

SHEET No. 3 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\46-49 ELEVATIONS AND DRAINAGE PLAN.DWG 8/12/2026 4:03 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	48	140



NOTES:

1. For General Notes, Legend, and Abbreviations, see Plan Sheets 4 to 9.
2. For grade control plan and profiles, see Plan Sheets 52 to 55.
3. Stations and offsets are based on KHM ℄ unless otherwise noted.
4. For drainline plan and profiles, see Plan Sheets 68 to 70.
5. For traffic signal pullbox, posts, and all other traffic signal devices, see Plan Sheets 92 to 95.
6. Contractor shall install temporary drainage bypass during manhole installation work.
7. For elevations at PCC pavement panels, see Plan Sheets 50 and 51.

DRAINAGE CONSTRUCTION NOTES:

1. Install 6" Longitudinal Underdrain Pipe per Detail on Plan Sht. 71.
2. Install 6" Transverse Underdrain Pipe per Detail on Plan Sht. 71.
3. Provide Underdrain Cleanout per HDOT Std. Plan H-29.
4. Connect 6" Subsurface Drain to Drainage Structure per Std. Plan H-30.
5. Demolish and Remove existing catch basin and portion of existing 24" drainline (9.25 LF). Backfill to Bottom of Aggregate Subbase Course in Accordance with HDOT Specifications.
6. Remove existing grating and Replace with Manhole Top Cover per Detail on Plan Sht. 71.

GRAPHIC SCALE:

10' 5' 0 10' 20'
Scale: 1" = 10'

KMH WB ℄ PVI STATION AND OFFSET:

PVI #3	KMH ℄ Sta. 51+16.98 o/s 26.84' Lt.
PVI #4	KMH ℄ Sta. 52+21.97 o/s 25.84' Lt.
PVI #5	KMH ℄ Sta. 52+86.97 o/s 25.84' Lt.

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP (For Work within City R/W Only) DATE

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELEVATIONS AND DRAINAGE PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 10' Date: Feb 2026

SHEET No. 4 OF 4 SHEETS

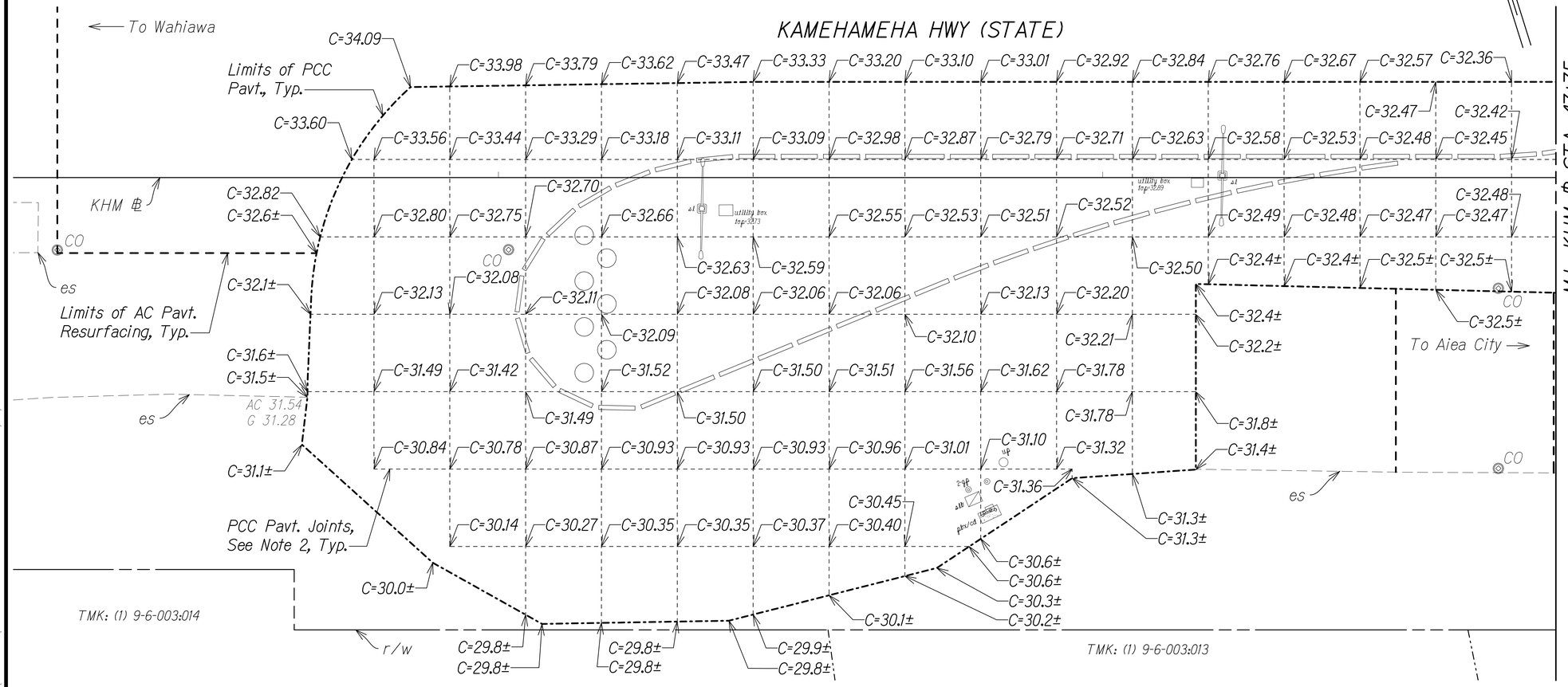
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FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	50	140

TRUE NORTH
SCALE : 1" = 10'

NOTES:

1. For General Notes, Legend, and Abbreviations, see Plan Sheets 4 to 9.
2. For PCC pavement jointing layout, see Plan Sheets 60 to 62.
3. For grade control plan and profiles, see Plan Sheets 52 to 55.



GRAPHIC SCALE:

10′ 5′ 0 10′ 20′
Scale: 1" = 10′

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

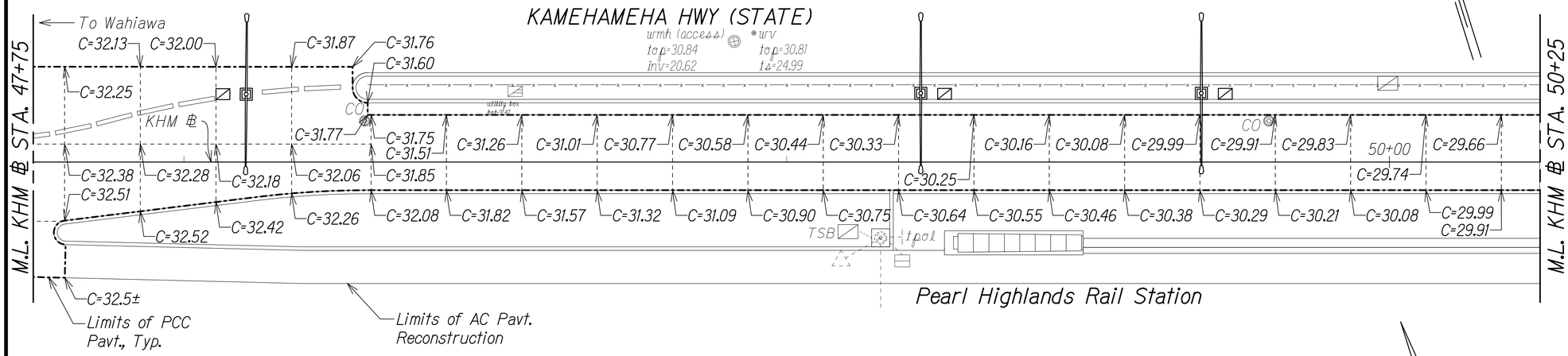
PCC PAVEMENT ELEVATION PLAN

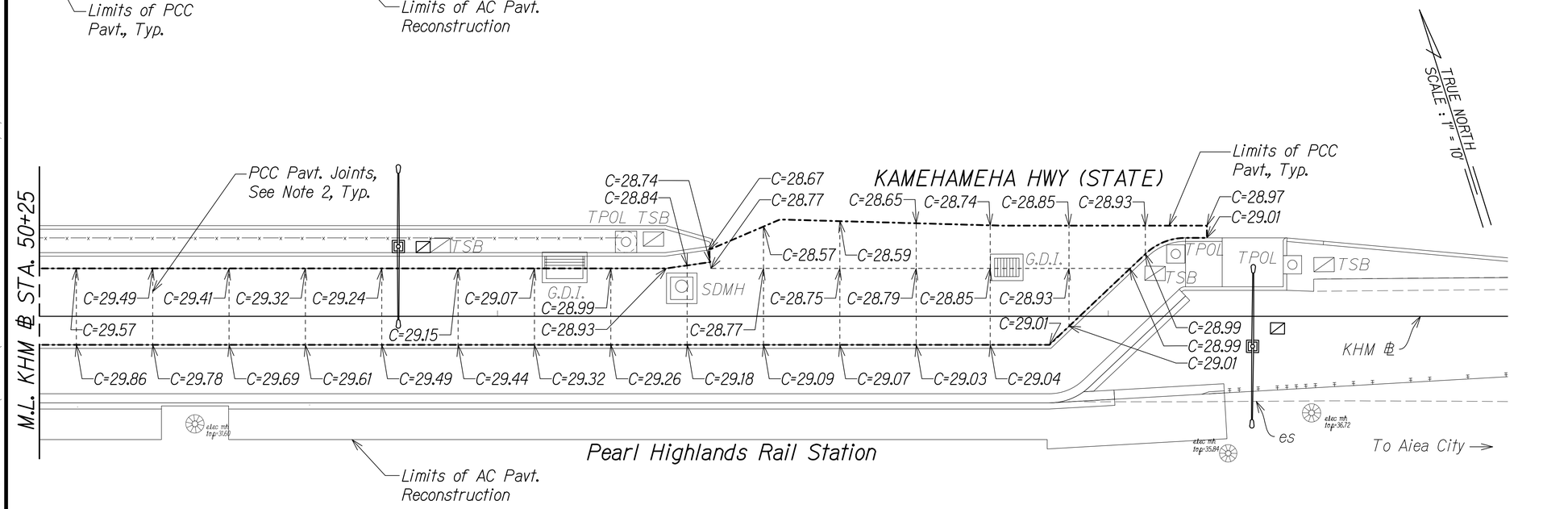
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 10′ Date: Feb 2026

SHEET No. 1 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\50-51 PCC PAVEMENT ELEVATION PLAN.DWG 4/27/2026 9:07 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	51	140





NOTES:

1. For General Notes, Legend, and Abbreviations, see Plan Sheets 4 to 9.
2. For PCC pavement jointing layout, see Plan Sheets 60 to 62.
3. For grade control plan and profiles, see Plan Sheets 52 to 55.
4. For Grated Drop Inlets and Storm Drain Manhole top elevations, see Drainline Plan and Profile Sheet 69.

GRAPHIC SCALE:

10′ 5′ 0 10′ 20′

Scale: 1" = 10′

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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PCC PAVEMENT ELEVATION PLAN

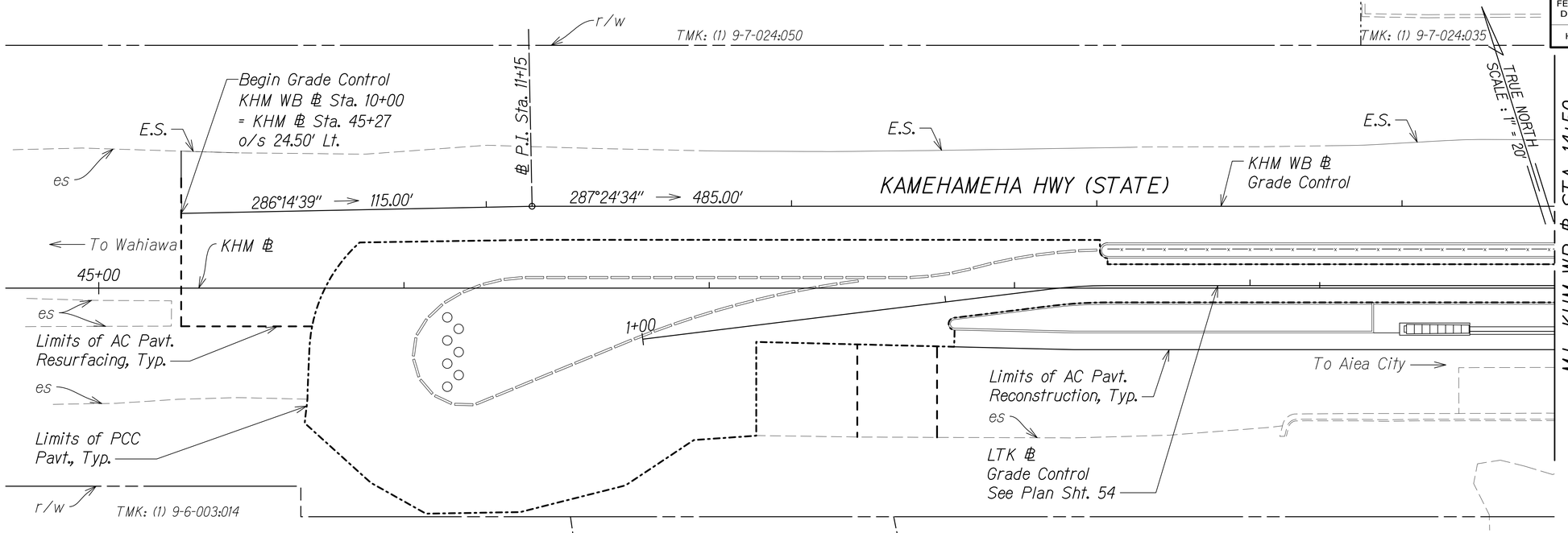
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 10′ Date: Feb 2026

SHEET No. 2 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\50-51 PCC PAVEMENT ELEVATION PLAN.DWG 8/12/2026 4:19 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	52	140



PLAN - KAMEHAMEHA HIGHWAY WESTBOUND GRADE CONTROL ℄

Scale: 1" = 20'

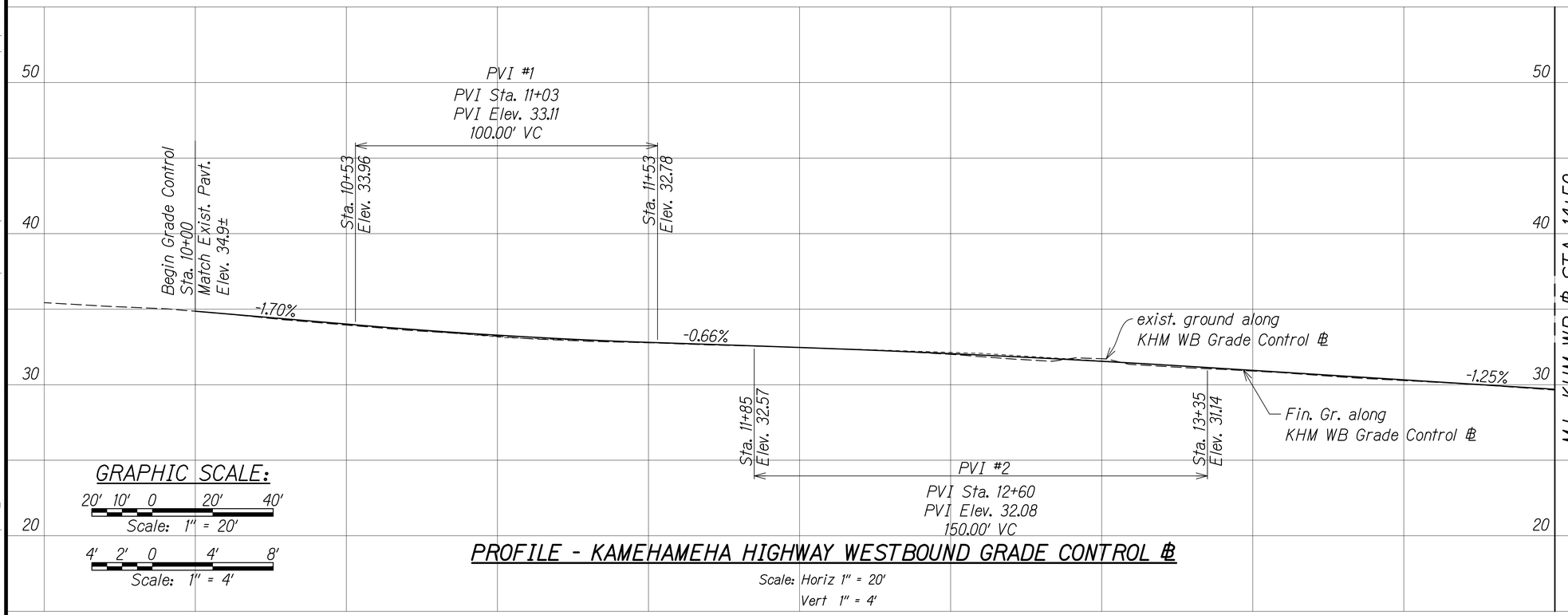
NOTE:

For General Notes, Legends, and Abbreviations, See Plan Sheets 4 to 9.

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GRAPHIC SCALE:

20' 10' 0 20' 40'
Scale: 1" = 20'

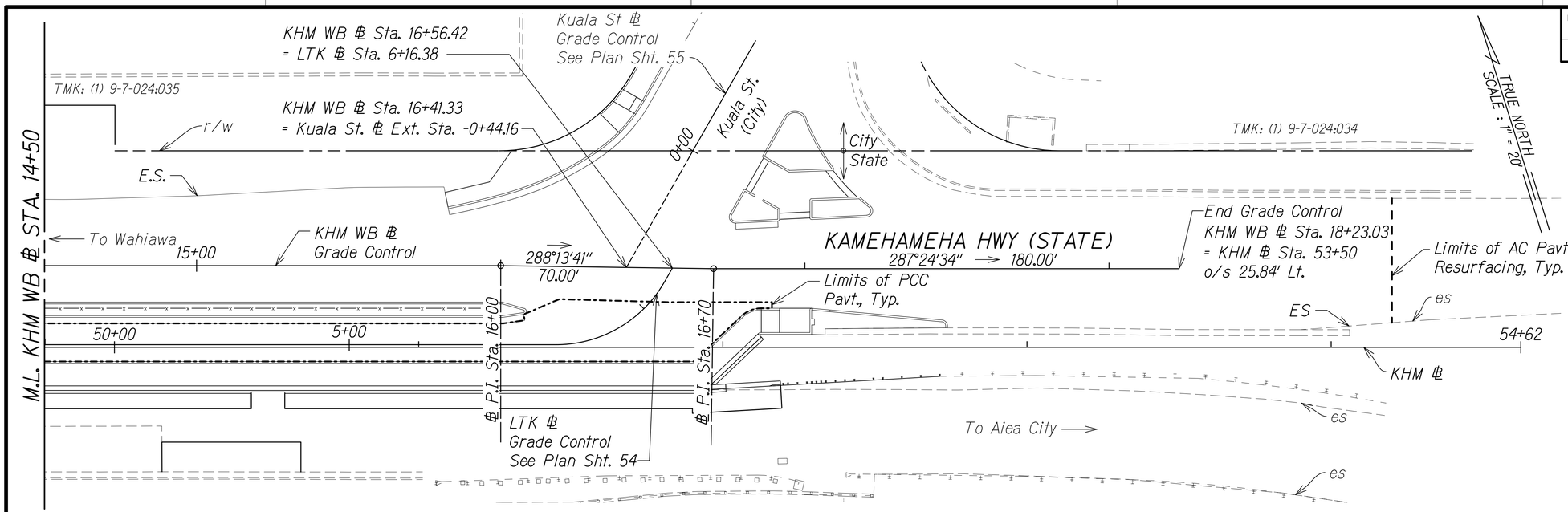
4' 2' 0 4' 8'
Scale: 1" = 4'

PROFILE - KAMEHAMEHA HIGHWAY WESTBOUND GRADE CONTROL ℄

Scale: Horiz 1" = 20'
Vert 1" = 4'

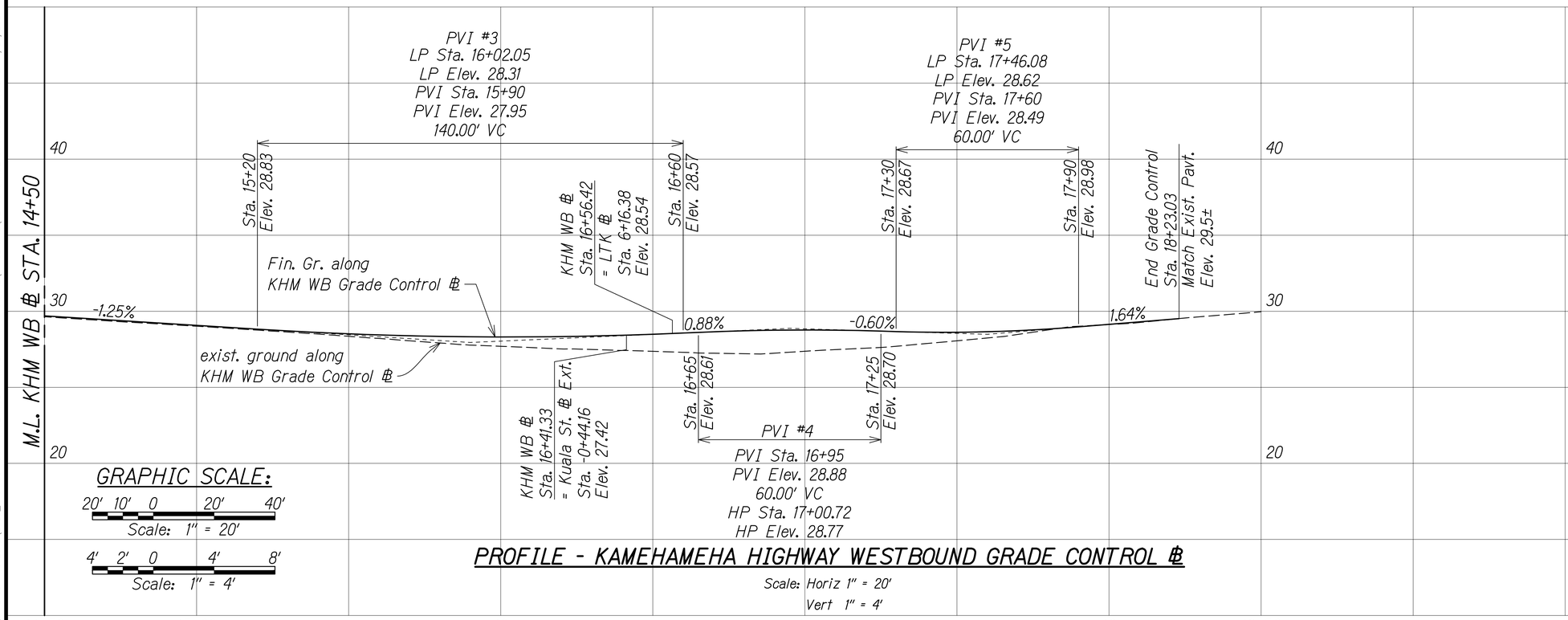
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FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	53	140



PLAN - KAMEHAMEHA HIGHWAY WESTBOUND GRADE CONTROL ℄

Scale: 1" = 20'



GRAPHIC SCALE:

20' 10' 0 20' 40'
Scale: 1" = 20'

4' 2' 0 4' 8'
Scale: 1" = 4'

PROFILE - KAMEHAMEHA HIGHWAY WESTBOUND GRADE CONTROL ℄

Scale: Horiz 1" = 20'
Vert 1" = 4'

NOTE:

For General Notes, Legends, and Abbreviations, See Plan Sheets 4 to 9.

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LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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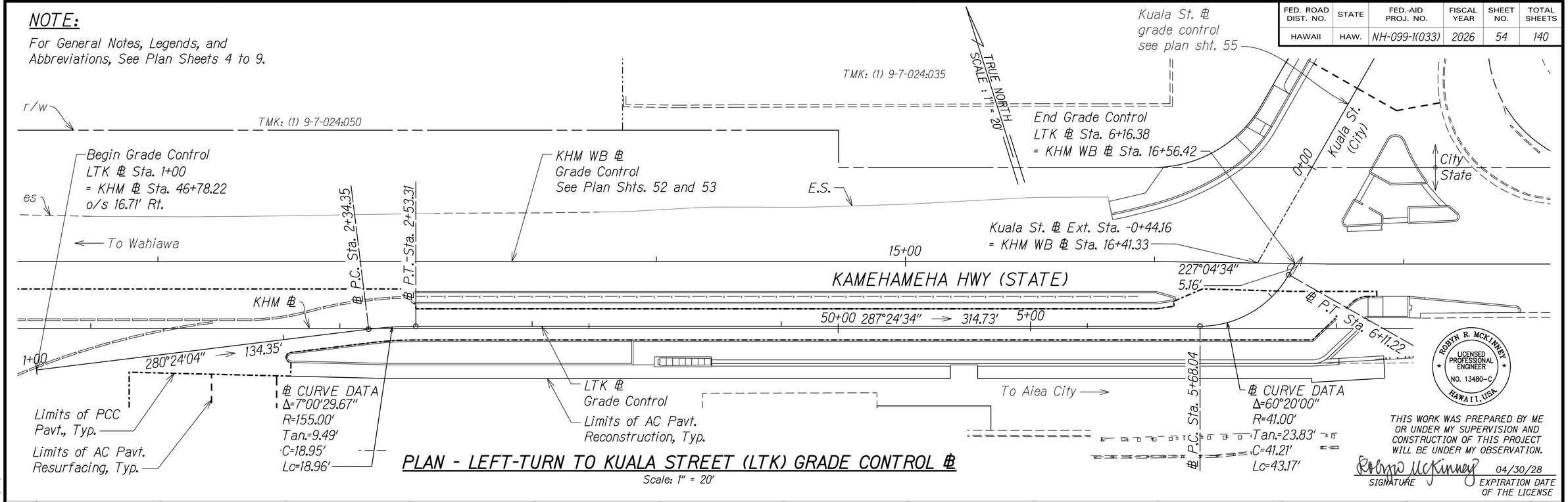
Robyn McKinney 04/30/28
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W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\52-53 GRADE CONTROL PLANS.DWG 4/27/2026 9:43 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	54	140

NOTE:

For General Notes, Legends, and Abbreviations, See Plan Sheets 4 to 9.



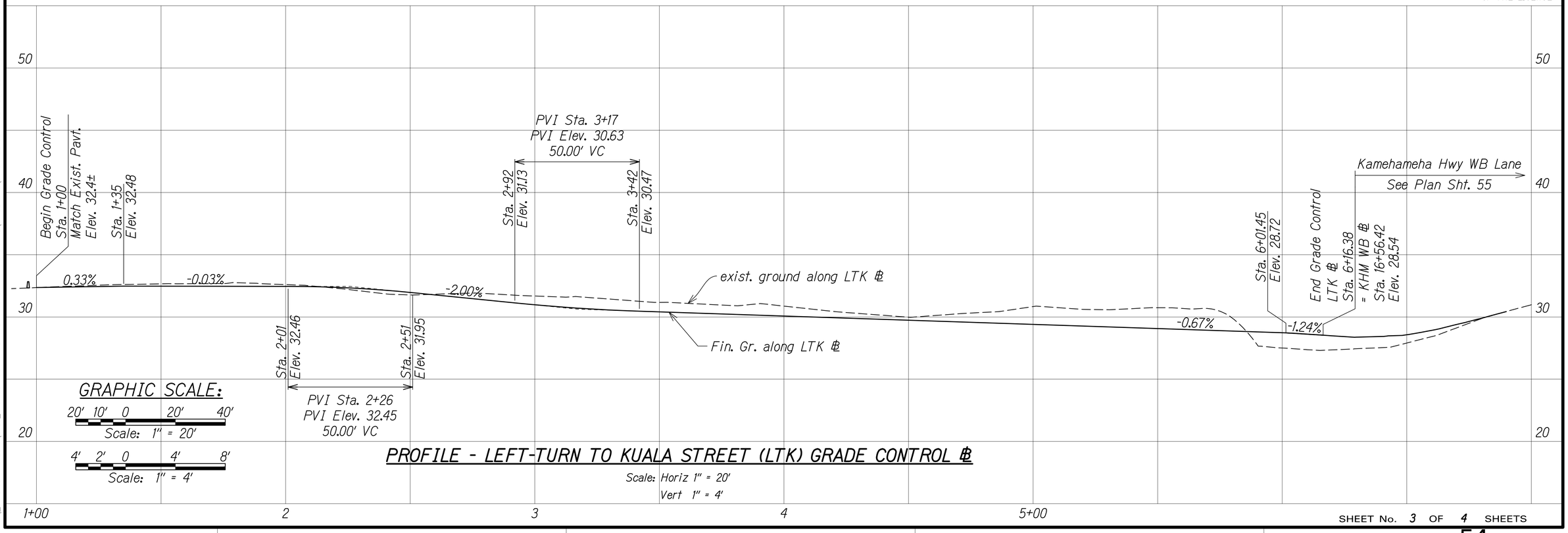
PLAN - LEFT-TURN TO KUALA STREET (LTK) GRADE CONTROL ℄

Scale: 1" = 20'

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NO. 13480-C
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GRAPHIC SCALE:

20' 10' 0 20' 40'
Scale: 1" = 20'

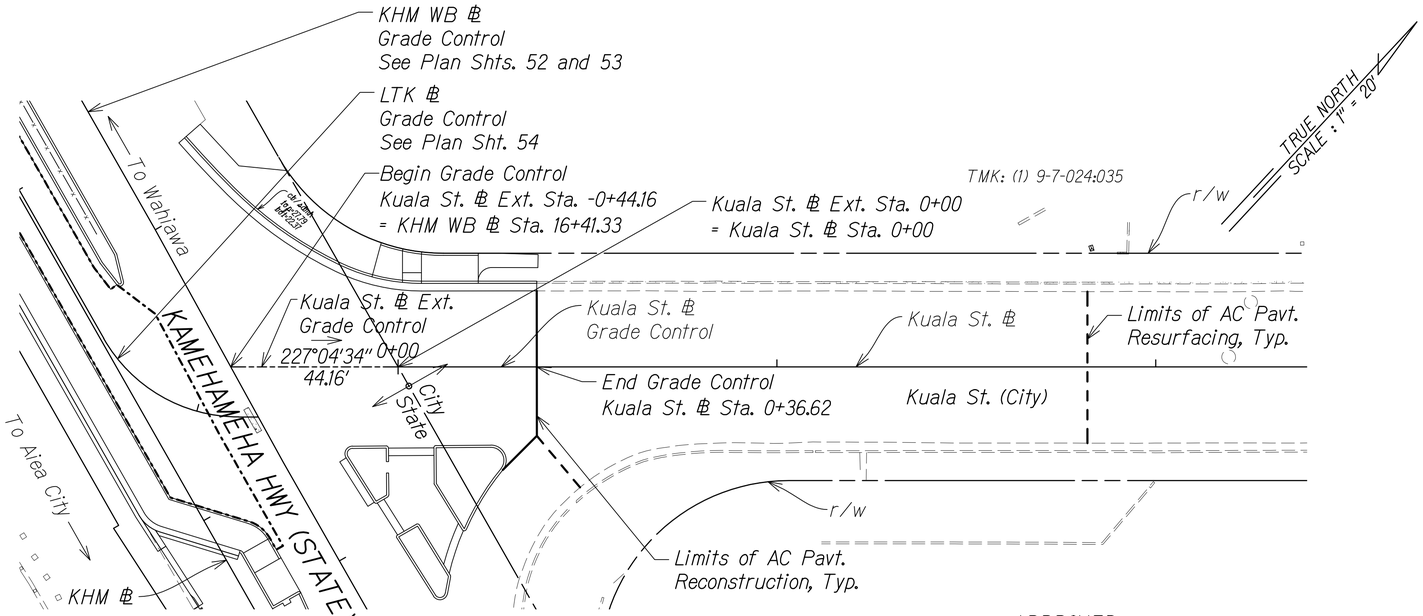
4' 2' 0 4' 8'
Scale: 1" = 4'

PROFILE - LEFT-TURN TO KUALA STREET (LTK) GRADE CONTROL ℄

Scale: Horiz 1" = 20'
Vert 1" = 4'

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\54 GRADE CONTROL PLAN LEFT-TURN LANE.DWG 4/27/2026 9:43 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	55	140



PLAN - KUALA STREET GRADE CONTROL ℄

Scale: 1" = 20'

NOTE:

For General Notes, Legends, and Abbreviations, See Plan Sheets 4 to 9.

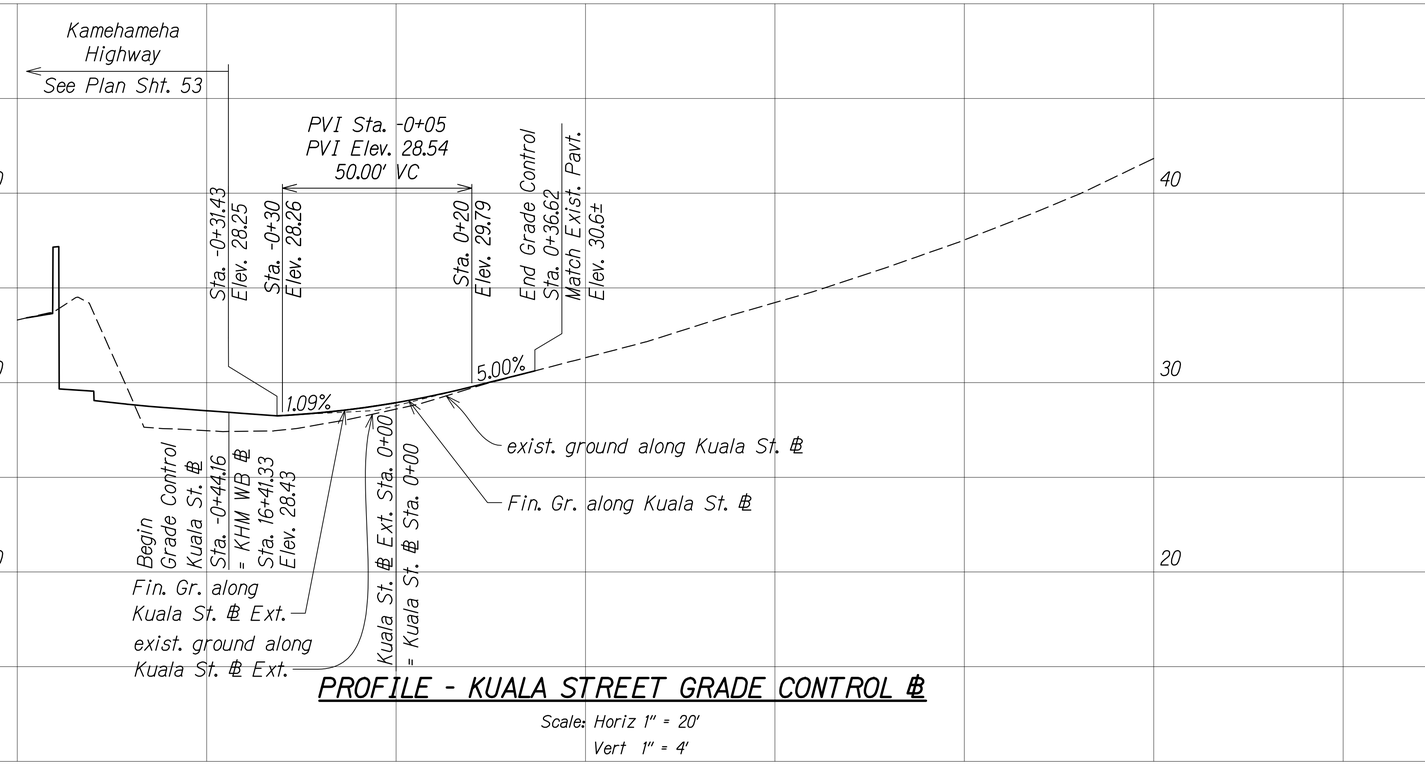
APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP — DATE
(For Work within City ROW Only)

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LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney — 04/30/28
SIGNATURE — EXPIRATION DATE OF THE LICENSE



PROFILE - KUALA STREET GRADE CONTROL ℄

Scale: Horiz 1" = 20'
Vert 1" = 4'

GRAPHIC SCALE:

20' 10' 0 20' 40'
Scale: 1" = 20'

4' 2' 0 4' 8'
Scale: 1" = 4'

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\55 GRADE CONTROL PLAN.DWG 4/27/2026 9:43 AM JUNAY

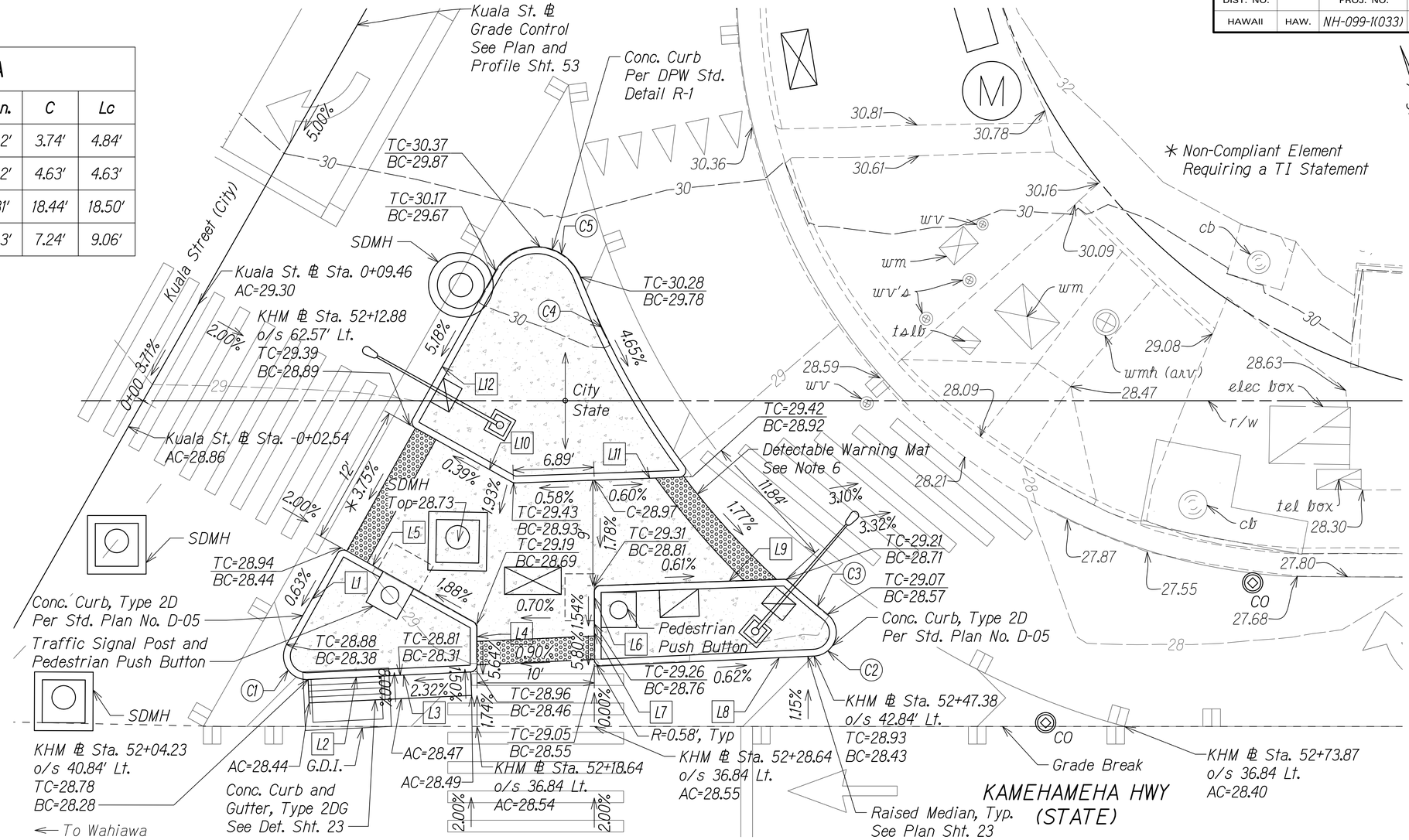
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	56	140

CURVE DATA

Curve #	Δ	R	Tan.	C	Lc
C2	138°45'34"	2.00'	5.32'	3.74'	4.84'
C3	3°54'11"	68.00'	2.32'	4.63'	4.63'
C4	15°35'05"	68.00'	9.31'	18.44'	18.50'
C5	129°45'52"	4.00'	8.53'	7.24'	9.06'

LINE DATA

Line #	Az	L
L1	46°38'30"	9.49'
L2	284°45'20"	7.87'
L3	284°45'20"	6.55'
L4	197°31'17"	4.08'
L5	136°38'30"	13.31'
L6	197°24'34"	3.25'
L7	197°24'03"	3.62'
L8	104°45'27"	18.76'
L9	285°24'05"	16.38'
L10	316°38'30"	10.16'
L11	105°24'05"	15.27'
L12	46°38'30"	15.05'



NOTES:

1. For General Notes, Legend, and Abbreviations, see Plan Sheets 4 to 9.
2. For pavement markings, see Plan Sheets 80 and 81.
3. For Kamehameha and Kuala Street Baseline, see Plan Sheet 35.
4. Refer to DPW Std. Detail R-25A for Type "B" Curb Ramp additional notes and details.
5. For Type "A" and Type C Modified curb ramp section and elevation, see Detail Sheet 24.
6. For Detectable Warning Mat details, see Sheet 22.

GRAPHIC SCALE:

5' 0 5' 10'

Scale: 1" = 5'

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP (For Work within City R/W Only) DATE

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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SIGNATURE 04/30/28 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 5' Date: Feb 2026

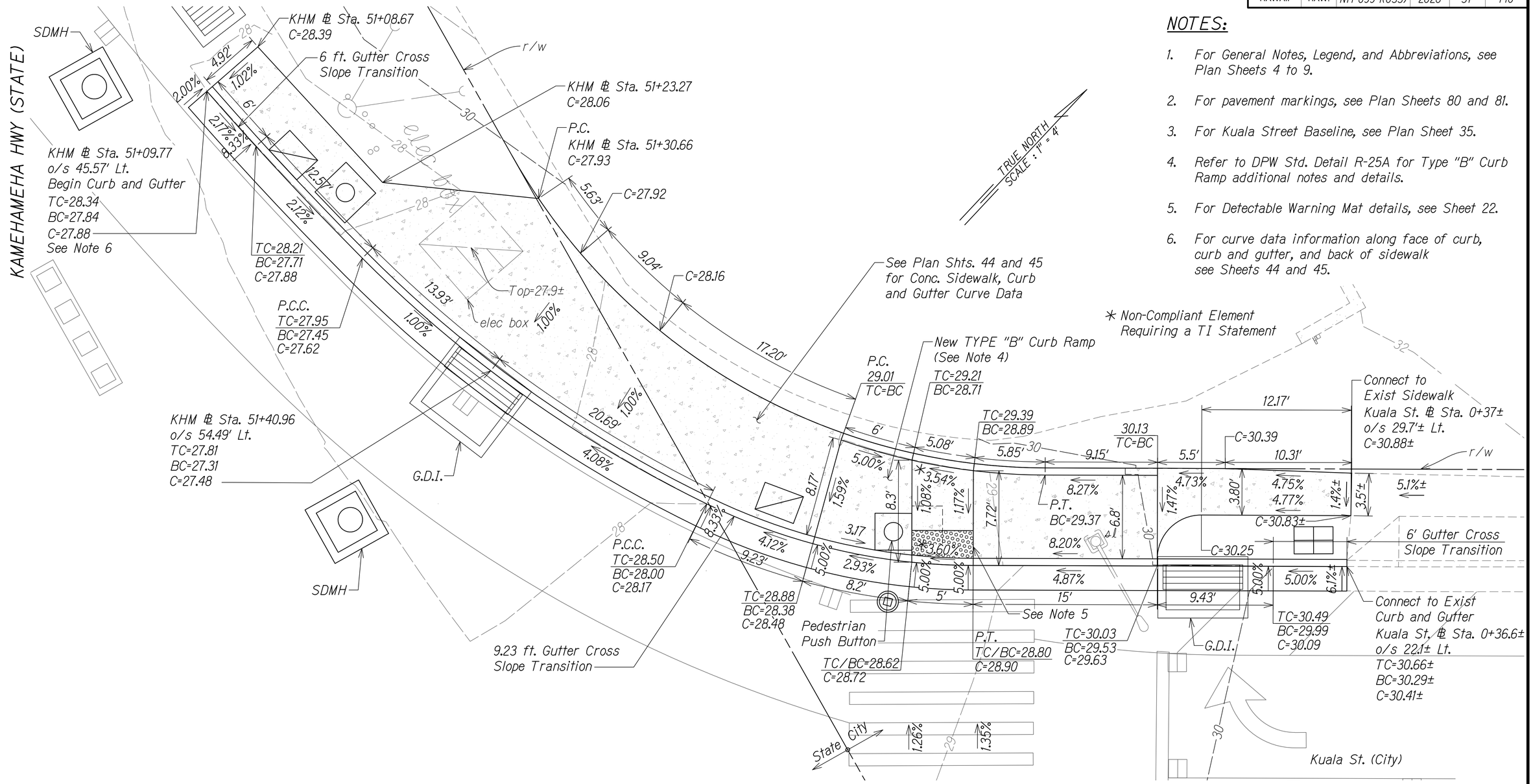
SHEET No. 1 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\56-57 CURB RAMP PLANS.DWG 8/12/2026 4:31 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	57	140

NOTES:

1. For General Notes, Legend, and Abbreviations, see Plan Sheets 4 to 9.
2. For pavement markings, see Plan Sheets 80 and 81.
3. For Kuala Street Baseline, see Plan Sheet 35.
4. Refer to DPW Std. Detail R-25A for Type "B" Curb Ramp additional notes and details.
5. For Detectable Warning Mat details, see Sheet 22.
6. For curve data information along face of curb, curb and gutter, and back of sidewalk see Sheets 44 and 45.



GRAPHIC SCALE:

4' 2' 0 4' 8'
Scale: 1" = 4'

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

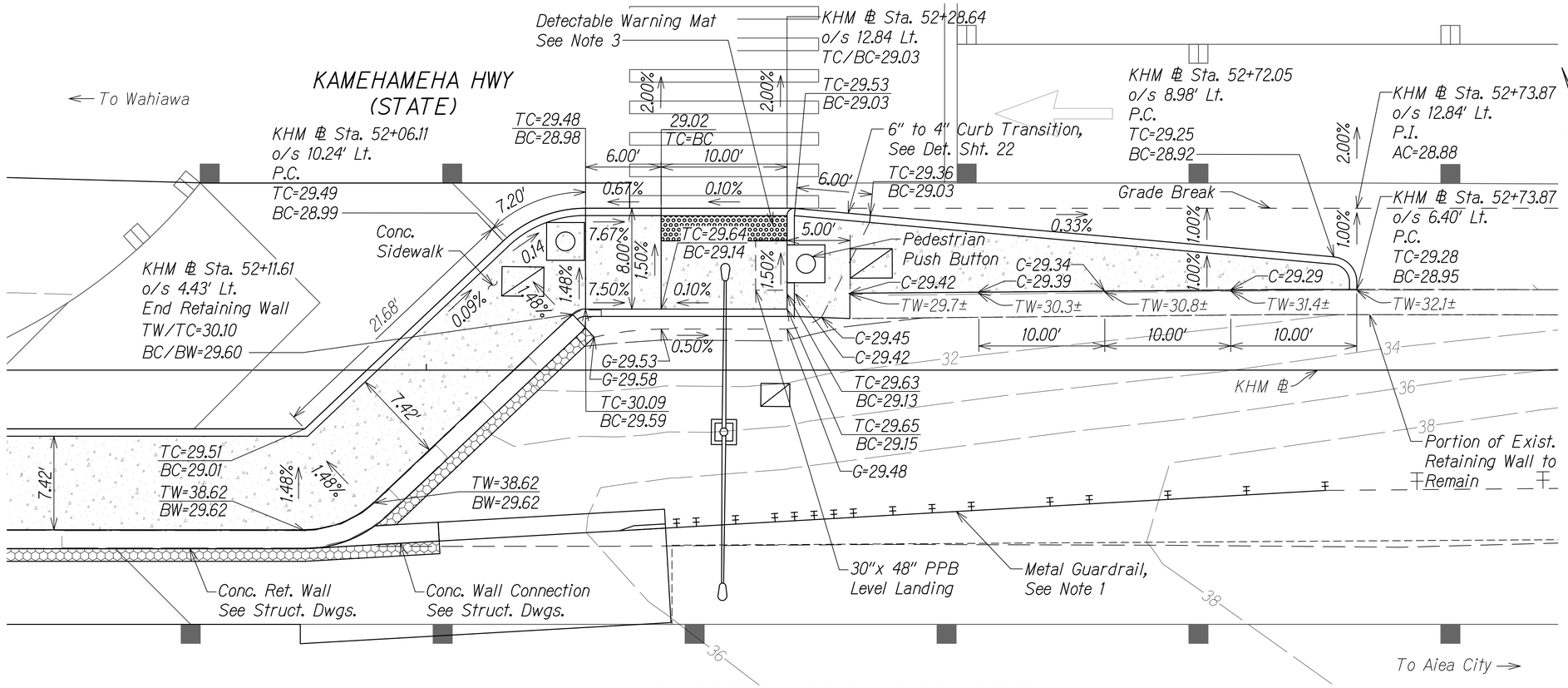
CURB RAMP PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 4' Date: Feb 2026

SHEET No. 2 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\56-57 CURB RAMP PLANS.DWG 8/12/2026 5:14 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	58	140

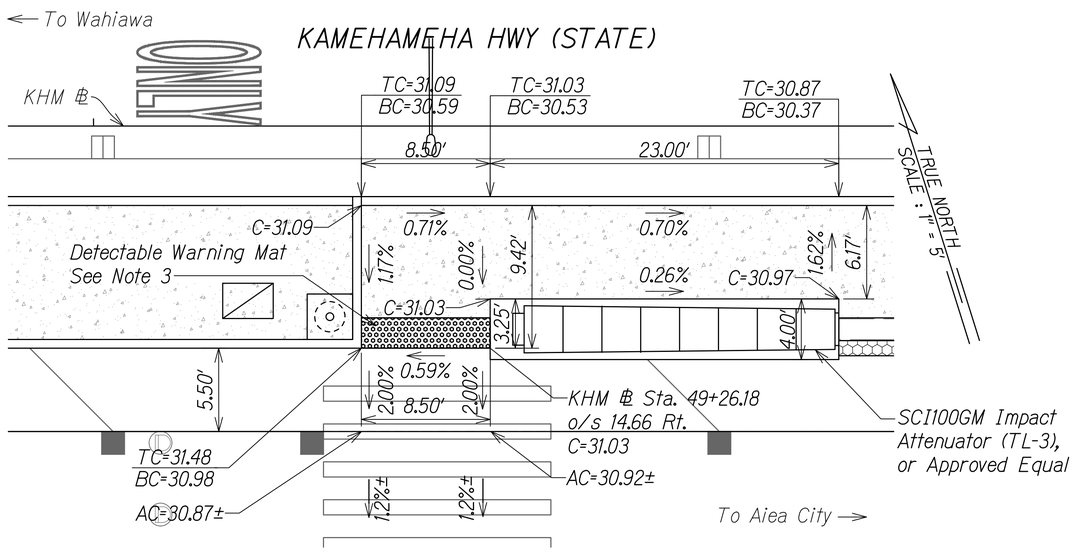


NOTES:

1. For guardrail details, see Detail Sheet 43.
2. For pavement markings, see Plan Sheets 80 and 81.
3. For Detectable Warning Mat details, see Detail Sheet 22.
4. For General Notes, Legend, and Abbreviations, see Plan Sheets 4 to 9.

CONCRETE CURB RAMP TRANSITION

Scale: 1" = 5'



WALKWAY ENTRY

Scale: 1" = 5'

GRAPHIC SCALE:

5' 0 5' 10'

Scale: 1" = 5'

ROBYN R. McKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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Robyn McKinney 04/30/28

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 5' Date: Feb 2026

SHEET No. 3 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\58 CURB RAMP PLAN.DWG 5/13/2026 4:24 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	59	140

STRUCTURAL GENERAL NOTES

1. General Specifications: Hawaii State Department of Transportation (HDOT), Hawaii Standard Specifications for Road and Bridge Construction, 2005, together with Special Provisions prepared for this contract.

2. Design Specifications:

   (A) AASHTO 2010 LRFD Bridge Design Specifications (Fifth Edition) and its subsequent interim specifications with interim supplements and modifications by the HDOT Highways Division.

   (B) HDOT Document dated March 1, 2013 with subject title "Design Criteria for Bridges and Structures"

3. Loads:

   (A) Live Load: AASHTO HL-93 Truck Loading

4. Materials:

   (A) All concrete strengths shall be as noted below:

Item No.	Structural Parts	Minimum Compressive Strength f'c (28 Days)	Maximum Water/Cement (W/C)
(1)	Cast-in-Place PCCP See Note 4.(F)	Section 411 fr = 650 psi (14 days)	0.40
(2)	Cast-in-Place Reinforced PCCP See Note 4.(E)	Section 411 fr = 650 psi (14 days)	0.40
(3)	Except as noted otherwise, all others	4500 psi	0.40

   (B) The use of any calcium chloride in any concrete is prohibited.

   (C) All concrete shall be cured for a minimum of seven consecutive days immediately after pouring by the use of wet Burlap, Fog Spraying, Curing Compound, or other approved methods.

   (D) All water-based admixtures must be accounted for when determining the water-to-cement ratio.

   (E) The following PCCP panels must have the admixtures in Notes 4.(F) 4.(G), and 4.(H):

      (1) Odd-shaped panels

      (2) Panels with openings

      (3) Panels with mismatched joints

      (4) PCCP-AC transverse transition panels

   (F) Shrinkage reducing admixture such as MasterLife SRA 35 or approved equal shall be added at a dosage of 128 ounces per cubic yard of concrete.

   (G) Amine carboxylate corrosion inhibiting water-based admixture such as Cortec MCI 2005 NS or approved equal shall be added at a dosage of 24 ounces per cubic yard of concrete.

4. Materials (Cont.):

   (H) A 1 1/2" long macro synthetic fiber such as Forta Ferro, Strux 90/40, MasterFiber Mac Matrix or approved equal shall be added at a dosage of 7.5 lbs. per cubic yard of concrete.

5. Reinforcement:

   (A) All reinforcing shall be ASTM A615, Grade 60 unless otherwise noted.

   (B) Tie bars shall be ASTM A1035, CS Grade 100 deformed bars where noted in the plans.

   (C) All smooth dowels shall conform to ASTM A1035.

   (D) Place and fasten reinforcing steel in accordance with the current CRSI Manual of Standard Practice.

   (E) Plastic supports will not be allowed for PCCP.

   (F) Reinforcing supports shall be the same strength as the PCCP concrete.

   (G) The clear cover measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as otherwise shown:

      (1) Concrete cast against and permanently exposed to earth = 3"

      (2) All others unless otherwise noted = 2".

   (H) Reinforcing bars shall be detailed in accordance with the latest edition of the A.C.I. Detailing Manual unless otherwise noted.

   (I) Minimum clear spacing between parallel bars shall be 1-1/2 times the diameter of bars (for non-bundled bars). In no case shall the clear distance between the bars be less than 1-1/2 times the maximum size of the coarse aggregate or 1 1/2" whichever is greater.

   (J) All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.

   (K) Reinforcing bars shall be securely tied at all intersections and lap splices except where the spacing of intersections is less than one foot in each direction, in which case alternate intersections shall be tied.

   (L) For Glass Fiber Reinforced Polymer (GFRP) Rebar requirements see Section 670 of the Special Provisions.

6. Construction Notes:

   (A) Except as otherwise noted, all vertical dimensions are measured plumb.

7. Portland Cement Concrete Pavement (PCCP) and Jointing Notes:

   A. Details and information for pavement width, pavement thickness, pavement boundaries, pavement layout (plans and profiles), cross slope, roadway sections, and pavement sections are shown in the Civil drawings.

   B. For additional requirements, see Section 411 - Portland Cement Concrete Pavement of the Special Provisions.

7. Portland Cement Concrete Pavement (PCCP) and Jointing Notes (Cont.):

   C. Provide shop drawings for all joint layouts a minimum of 2-weeks prior to work for approval by the Engineer. Include added trim bar reinforcing for odd-shaped panels, panels with openings, panels with mismatched joints, and at PCCP-AC transverse transition panels.

   D. For joint locations, see PCC Pavement Layout Plans on Sheets SP1.1 to SP1.3.

   E. Unless otherwise noted use isolation joints to isolate the new PCCP from any structure or another paved area. Isolation joints shall be provided at intersections, and around in-pavement structures such as drainage inlets and manholes.

   F. Reinforce with #5 @ 12" top and bottom, each way at odd shaped panels, panels with mismatched joints, and panels with openings. Odd shaped panels are panels with length-to-width ratios greater than 1.25, triangular, and other non-square shaped panels. See Sheets SP1.1 to SP1.3 for additional locations for rebar reinforced sections.

   G. Triangular shapes are not allowed unless otherwise shown on the plans. Trim bars are required for corner angles <80° and for pavement sections opposite mismatched joint.

   H. There shall be a #5 trim bar along the perimeter in the top and bottom mat of reinforcing for all reinforced panels.

   I. The Contractor shall submit a paving plan detailing all of the work and equipment that will be used.

   J. The Contractor shall submit a jointing plan detailing all joint locations. The Contractor may submit alternate joint locations for approval by the Engineer.

   K. The Contractor shall conduct a trial pour prior to the start of production work. See Section 411 of the Special Provisions.

   L. During concrete placement, the evaporation rate shall not be equal to or greater than 0.05lb/sq. ft./hr.

ORIGINAL PLAN | NOTE BOOK No.____

SURVEY PLOTTED BY ____ DATE ____
DRAWN BY ____ " ____
TRACED BY ____ " ____
DESIGNED BY ____ " ____
QUANTITIES BY ____ " ____
CHECKED BY ____ " ____

RUSS S. MIYAHARA LICENSED PROFESSIONAL ENGINEER NO. 9444-S HAWAII, U.S.A.

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4-30-28
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STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURAL GENERAL NOTES

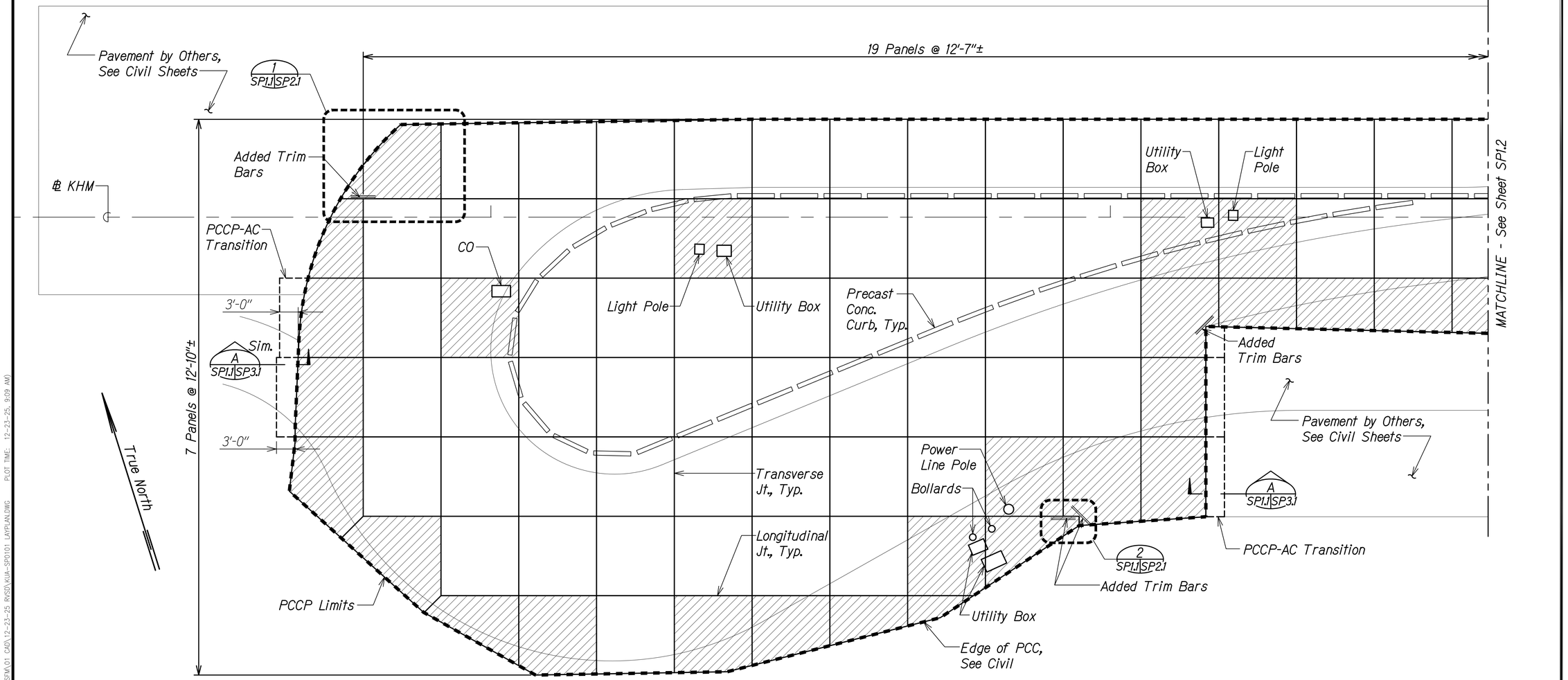
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: As Noted Date: Feb 2026

SHEET No. SP0.1 OF 1 SHEETS

DRAWING NAME: \\KSF-SVR\CAD DATA\01 ONGOING\25-025-KAMEHAMEHA KUALA PCC-SSTA\01 CAD\12-23-25 RVSD\KUA-SP0001 GENNOTES.DWG PLOT TIME: 12-23-25 9:08 AM

FED. ROAD DIST. NO.	STATE	FED. – AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	60	140



LEGEND:

Reinforced Panels

LAYOUT PLAN

Scale: 1/8" = 1'-0"

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

DRAWING NAME: \\KSF-SVR\CAD DATA\00 ONGOING\25-025-KAMEHAMEHA KUALA PCC-SS\MX\01 CAD\12-23-25 RVSN\KUA-SP0101 LAYPLAN.DWG PLOT TIME: 12-23-25 9:09 AM

RUSS S. MIYAHARA
LICENSED PROFESSIONAL ENGINEER
NO. 9444-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

4-30-28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

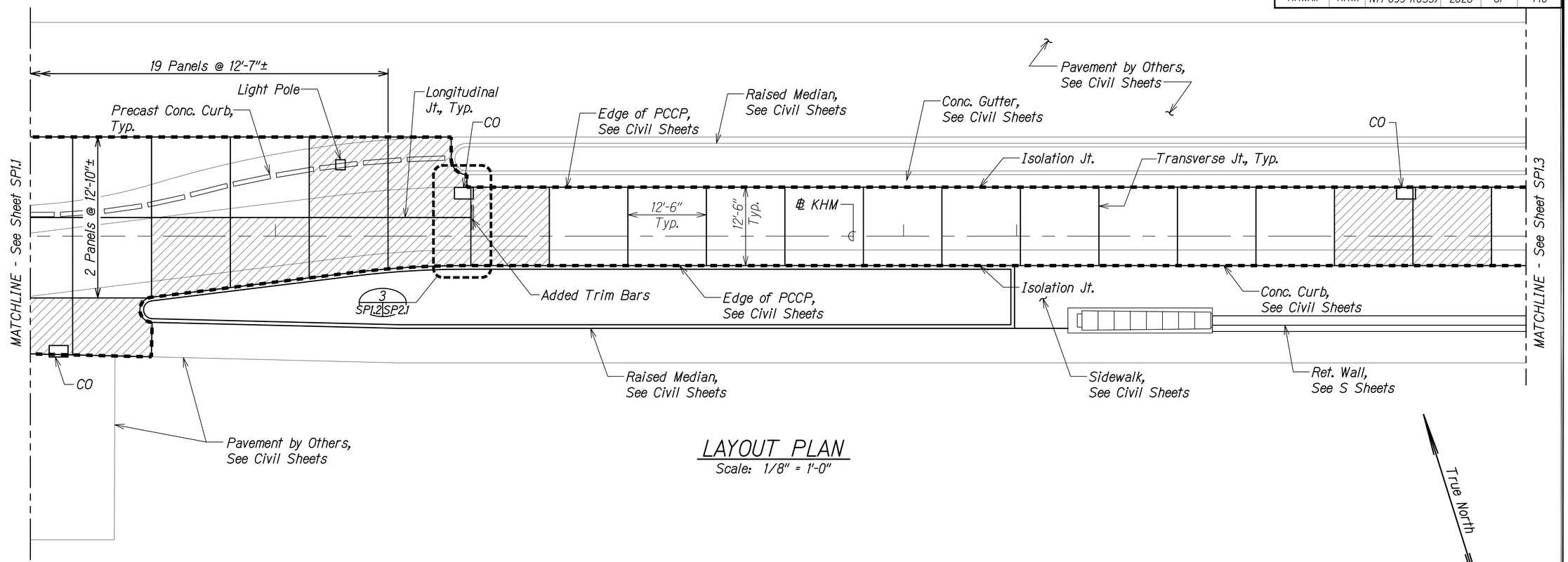
PCC PAVEMENT LAYOUT PLANS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: As Noted Date: Feb 2026

SHEET No. SP1.1 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. – AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	61	140



LAYOUT PLAN
Scale: 1/8" = 1'-0"

LEGEND:

Reinforced Panels

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

DRAWING NAME: \\VSF-SVR\CAD DATA\OD ONGONGA\25-025-KAMEHAMEHA KUALA PDC-SSFM\01 CAD\12-23-25 RVSD\KUA-SP0101 LAYPLAN.DWG PLOT TIME: 12-23-25, 9:09 AM

RUSS S. MIYAHARA
LICENSED PROFESSIONAL ENGINEER
NO. 9444-S
HAWAII, U.S.A.

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4-30-28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

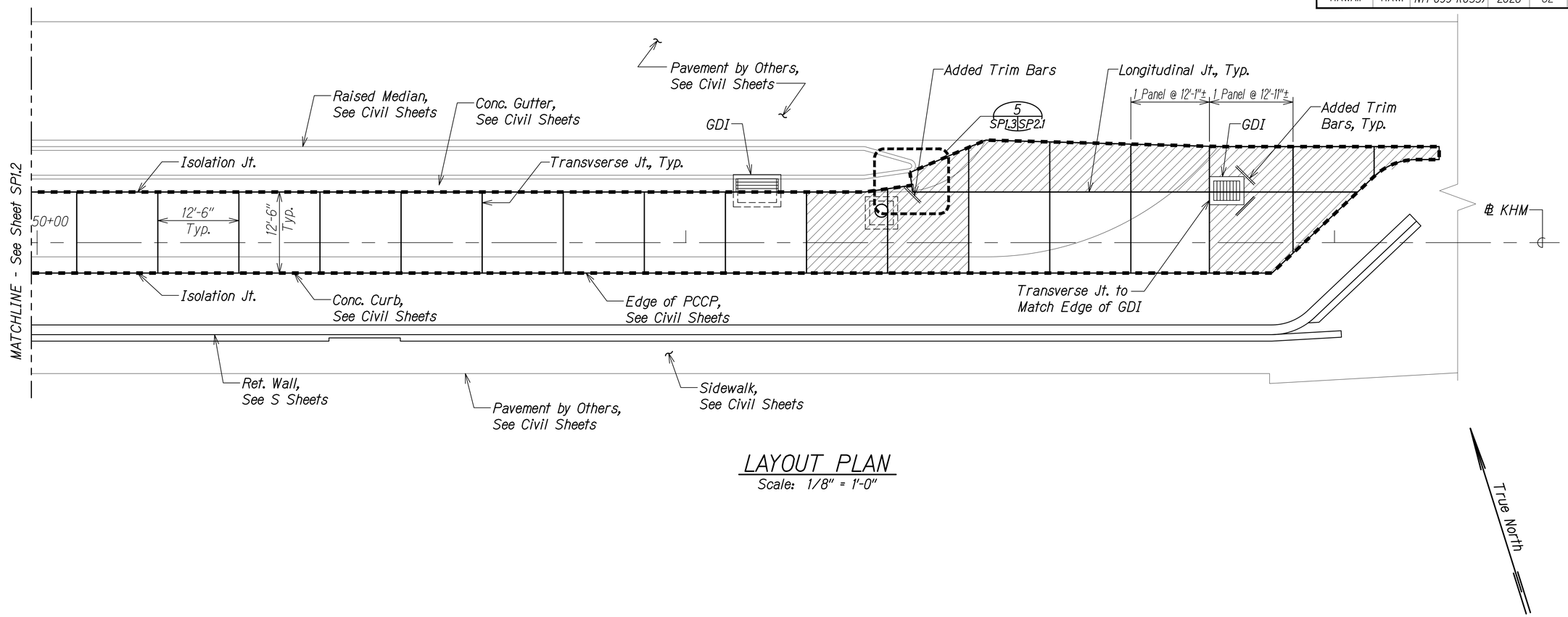
PCC PAVEMENT LAYOUT PLANS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: As Noted Date: Feb 2026

SHEET No. SP1.2 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. – AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	62	140



LAYOUT PLAN

Scale: 1/8" = 1'-0"

LEGEND:

Reinforced Panels

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

DRAWING NAME: \\KSF-SVR\CAD DATA\00 ONGOING\25-025-KAMEHAMEHA KUALA PCC-SSFM\01 CAD\12-23-25 RVSN\KUA-SP0101 LAYPLAN.DWG PLOT TIME: 12-23-25, 9:09 AM

RUSS S. MIYAHARA
LICENSED PROFESSIONAL ENGINEER
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HAWAII, U.S.A.

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4-30-28

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

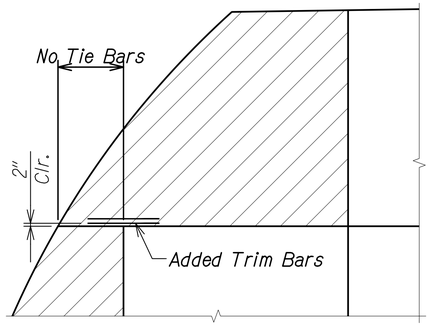
PCC PAVEMENT LAYOUT PLANS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

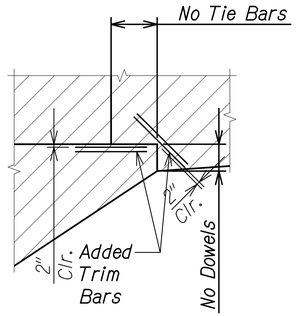
Scale: As Noted Date: Feb 2026

SHEET No. SP1.3 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. – AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	63	140



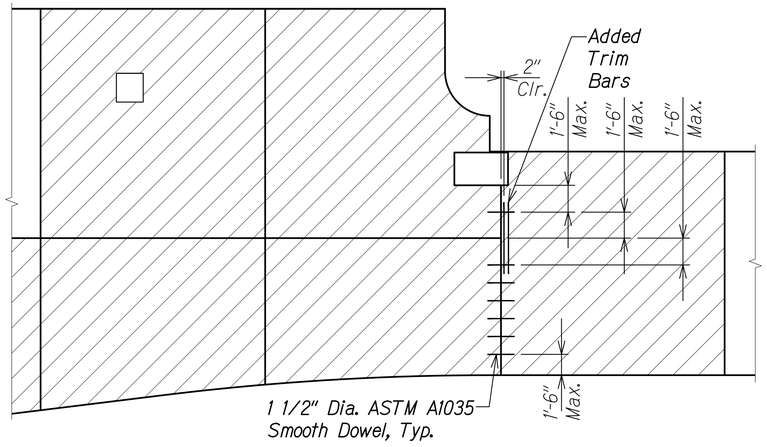
PANEL DETAIL 1 (SP1.1 | SP2.1)
Scale: 1/4" = 1'-0"



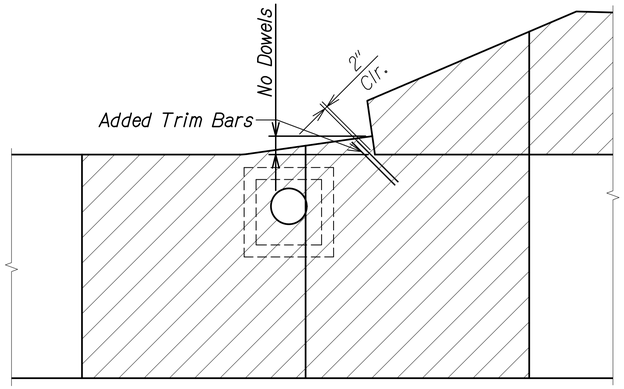
PANEL DETAIL 2 (SP1.1 | SP2.1)
Scale: 1/4" = 1'-0"

NOTE:

Bend trim bars as required.



PANEL DETAIL 3 (SP1.2 | SP2.1)
Scale: 1/4" = 1'-0"



PANEL DETAIL 4 (SP1.3 | SP2.1)
Scale: 1/4" = 1'-0"

ORIGINAL PLAN
NOTE BOOK
No.

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

DRAWING NAME: \\VSF-SVR\CAD DATA\OD ONGOING\25-025-KAMEHAMEHA KUALA PCC-SSFM\01 CAD\12-23-25 RVSD\KUA-SP0201 PLANS.DWG PLOT TIME: 12-23-25, 9:10 AM

RUSS S. MIYAHARA
LICENSED PROFESSIONAL ENGINEER
NO. 9444-S
HAWAII, U.S.A.

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STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

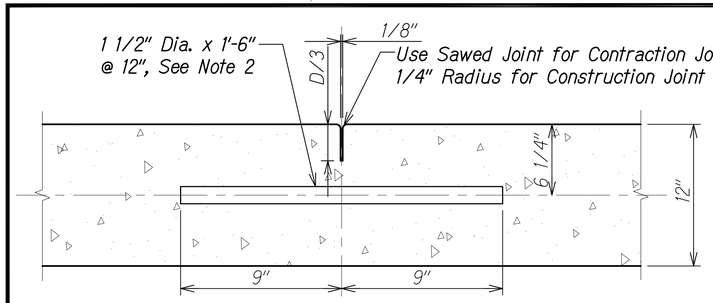
PCC PAVEMENT DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

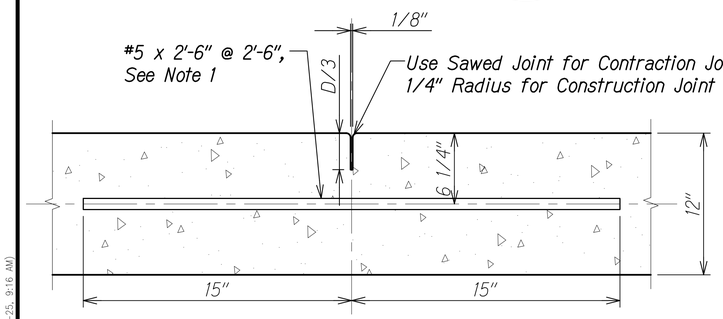
Scale: As Noted Date: Feb 2026

SHEET No. SP2.1 OF 1 SHEETS

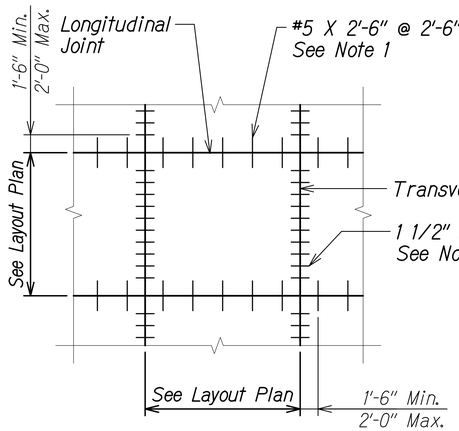
FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	64	140



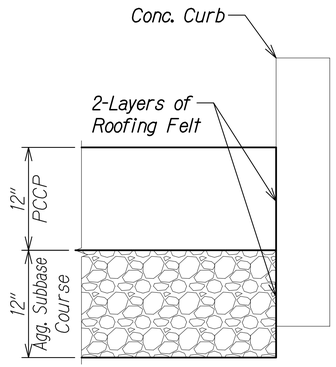
TRANSVERSE JOINT (1)
Scale: 3" = 1'-0"
SP3.1 | SP3.1

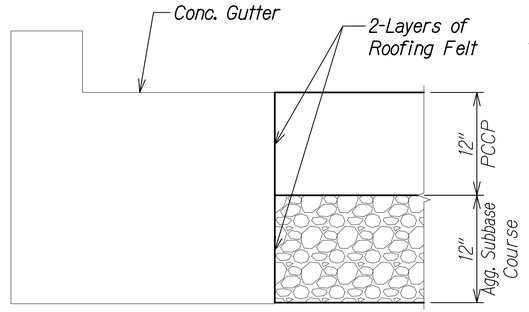


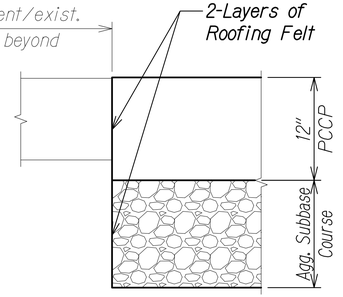
LONGITUDINAL JOINT (2)
Scale: 3" = 1'-0"
SP3.1 | SP3.1



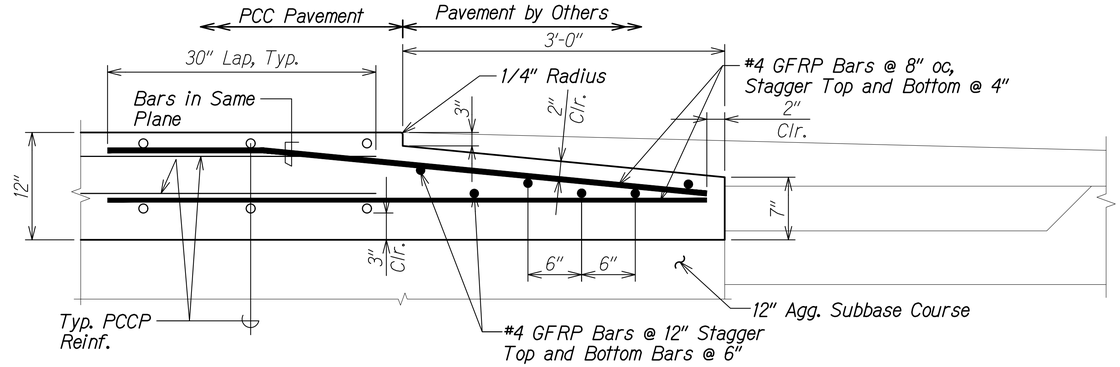
TYPICAL JOINT LAYOUT DETAIL PLAN WITH PERPENDICULAR JOINTS (3)
Scale: 2" = 1'-0"
SP3.1 | SP3.1







TYPICAL ISOLATION JOINTS (4)
Scale: 1 1/2" = 1'-0"
SP3.1 | SP3.1



PCCP TRANSITION TO AC (A)
Scale: 1 1/2" = 1'-0"
SP1.1 | SP3.1

NOTES:

1. Tie bars at the longitudinal joint shall conform to ASTM A1035, Type CS Grade 100.
2. Smooth dowels shall conform to ASTM A1035.
3. It is critical that dowels be positioned in place parallel to the pavement surface and paving lane direction to avoid future cracks in the PCC pavement. The ends of the dowels shall not deviate more than 0.012' from the parallel in 9" length.
4. See SP1.1 to SP1.3 for typical joint spacing.

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

RUSS S. MIYAHARA
LICENSED PROFESSIONAL ENGINEER
NO. 9444-S
HAWAII, U.S.A.

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4-30-28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PCC PAVEMENT JOINTING DETAILS

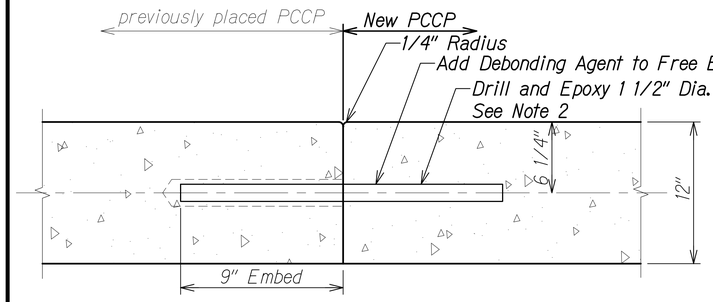
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: As Noted Date: Feb 2026

SHEET No. SP3.1 OF 4 SHEETS

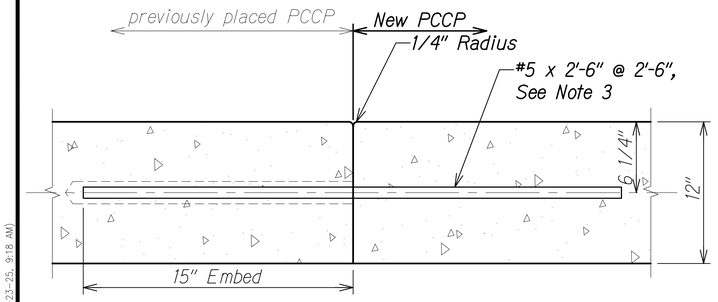
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FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	65	140



TRANSVERSE CONSTRUCTION JOINT (1 SP3.2 | SP3.2)

Scale: 3" = 1'-0"



LONGITUDINAL CONSTRUCTION JOINT (2 SP3.2 | SP3.2)

Scale: 3" = 1'-0"

NOTES:

1. Aggregate subbase not shown for clarity.
2. Smooth dowels shall conform to ASTM A1035.
3. Tie bars at the longitudinal joint shall conform to ASTM A1035, Type CS Grade 100.
4. It is critical that dowels be positioned in place parallel to the pavement surface and paving lane direction to avoid future cracks in the PCC pavement. The ends of the dowels shall not deviate more than 0.012' from the parallel in 9" length.
5. Refer to Construction Phasing Sheets for construction joint locations.

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

DRAWING NAME: \\KSF-SVR\CAD DATA\OD ONGOING\25-025-KAMEHAMEHA KUALA PCC-SSFA\01 CAD\12-23-25 RYSD\KUA-SP0301 JOINTS.DWG PLOT TIME: 12-23-

LICENSED PROFESSIONAL ENGINEER
RUSS S. MIYAHARA
NO. 9444-S
HAWAII, U.S.A.

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SIGNATURE 4-30-28 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

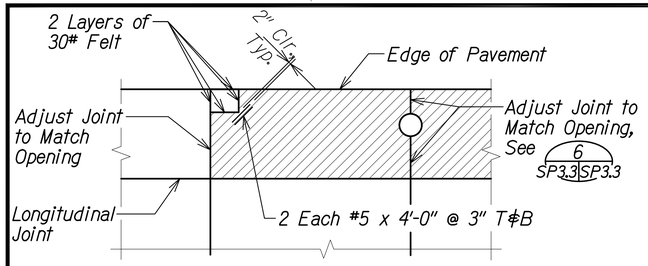
CONSTRUCTION JOINT DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: As Noted Date: Feb 2026

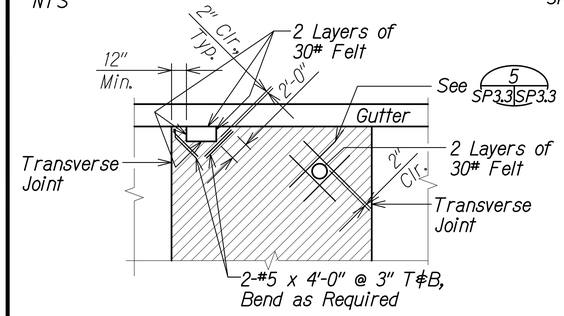
SHEET No. SP3.2 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	66	140



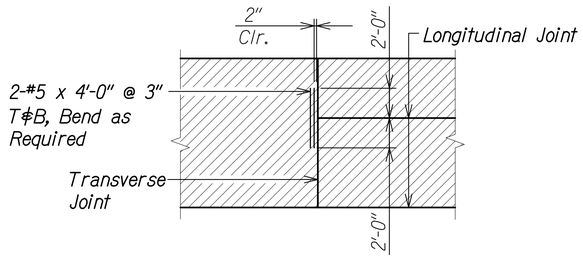
OPENINGS NEAR JOINTS DETAIL (1 SP3.3 SP3.3)

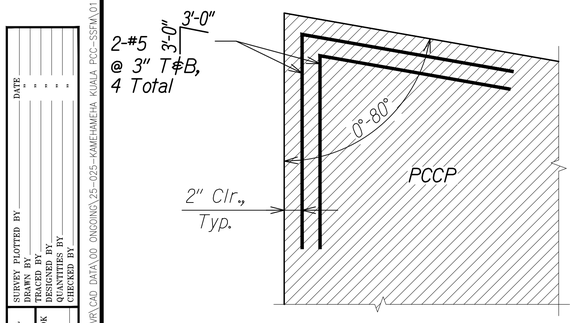
NTS



OPENINGS AWAY FROM JOINTS DETAIL (2 SP3.3 SP3.3)

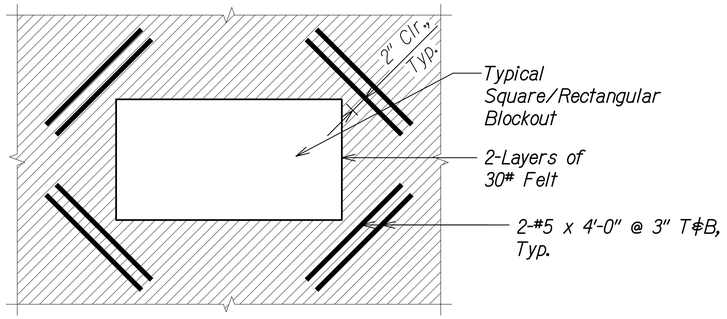
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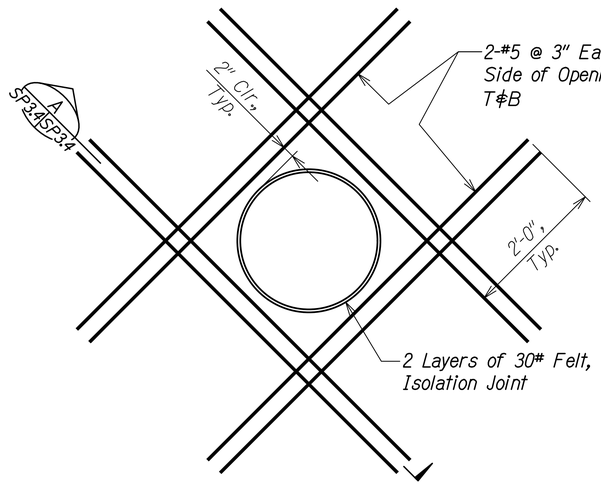
ADDED REINF. AT ODD-SHAPED PCC POURS FOR 0°-80° PCC EDGE (3 SP3.3 SP3.3)

NTS



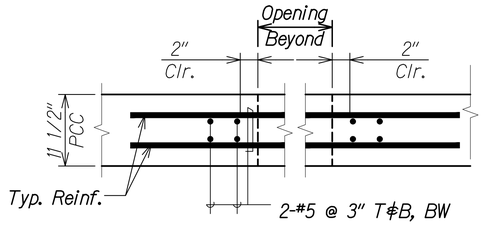
OPENINGS WITH CORNERS DETAIL (4 SP3.3 SP3.3)

NTS



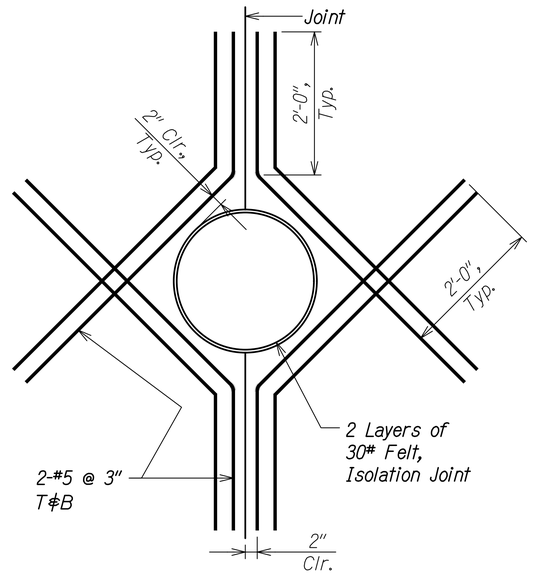
CIRCULAR OPENING DETAIL (5 SP3.3 SP3.3)

NTS



SECTION (A SP3.3 SP3.3)

NTS



ADDED REINF. AT ODD-SHAPED PCC POURS FOR CURVED PCC EDGE (6 SP3.3 SP3.3)

NTS

NOTES:

1. All reinforcing shown on this sheet are ASTM 1035 Type CS Grade 100, unless noted otherwise.
2. Bend reinforcing as required.

LEGEND:

Reinforced Panels that Contain Fibers

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

RUSS S. MIYAHARA LICENSED PROFESSIONAL ENGINEER NO. 9444-S HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — EXPIRATION DATE OF THE LICENSE 4-30-28

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRIM REINFORCING DETAILS

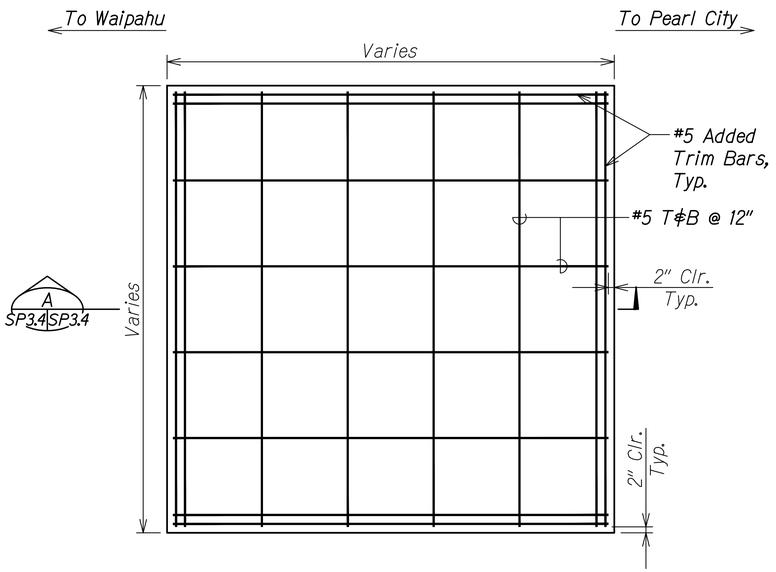
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: As Noted — Date: Feb 2026

SHEET No. SP3.3 OF 3 SHEETS

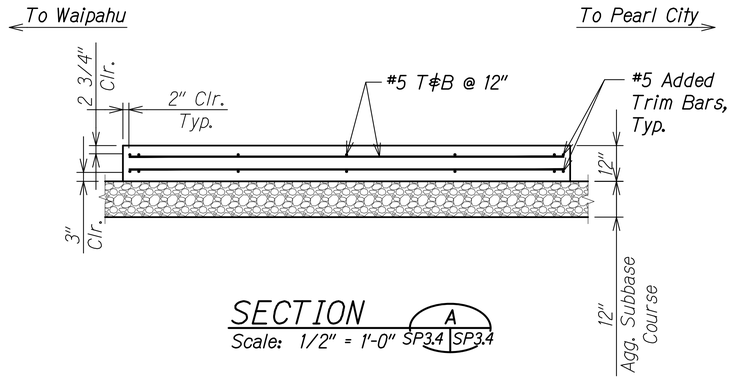
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DRAWING NAME: \\GF-SVR\CAD DATA\OD ENGINEERING\25-025-KAMEHAMEHA KUALA PCC-SSFM\01 CAD\12-23-25 ROSN\KUA-SP0303 REINF.DWG

FED. ROAD DIST. NO.	STATE	FED. – AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	67	140



TYPICAL PCCP REINFORCED PANEL

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



SECTION A SP3.4 SP3.4

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

NOTES:

1. Tie bars and dowels not shown for clarity.
2. The aggregate subbase must meet a relative compaction of 95%.
3. The Contractor shall mechanically grind and groove the PCCP surface. The Contractor shall not remove more than 1/2" from the top of the PCCP.
4. The Contractor shall submit shop drawings for approval.

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

DRAWING NAME: \\KSF-SVR\CAD DATA\OD ONGOING\25-025-KAMEHAMEHA KUALA PCC-SSFA\01 CAD\12-23-25 RVSD\KUA-SP0304 JOINTS.DWG PLOT TIME: 12-23-

LICENSED PROFESSIONAL ENGINEER
RUSS S. MIYAHARA
NO. 9444-S
HAWAII, U.S.A.

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SIGNATURE 4-30-28 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL PCC PAVEMENT REINFORCING

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: As Noted Date: Feb 2026

SHEET No. SP3.4 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	68	140

DRAINAGE CONSTRUCTION NOTES:

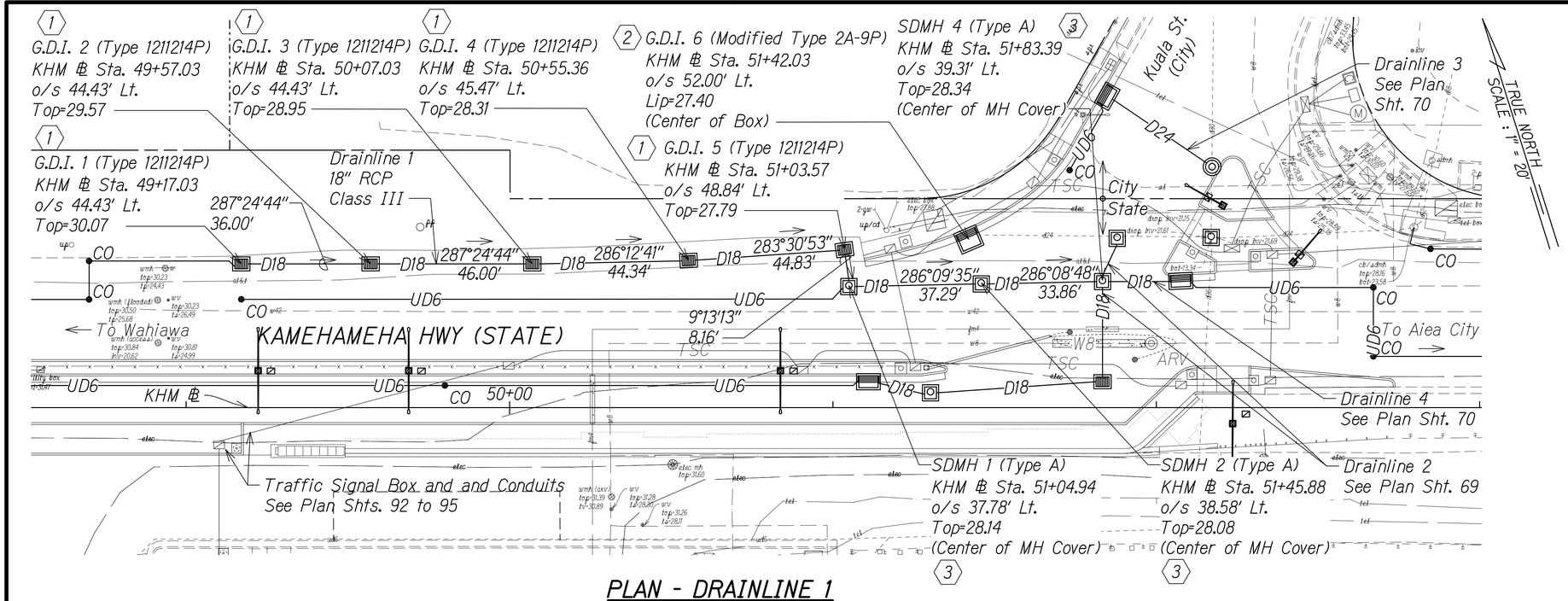
(1) Grated Drop Inlet, Type 1211214P per HDOT Std. Plan H-12.

(2) Grated Drop Inlet, Modified Type 2A-9P per HDOT Std. Plan H-09. (7.33'x 6.76')

(3) Storm Drain Manhole Type A per HDOT Std. Plan H-03.

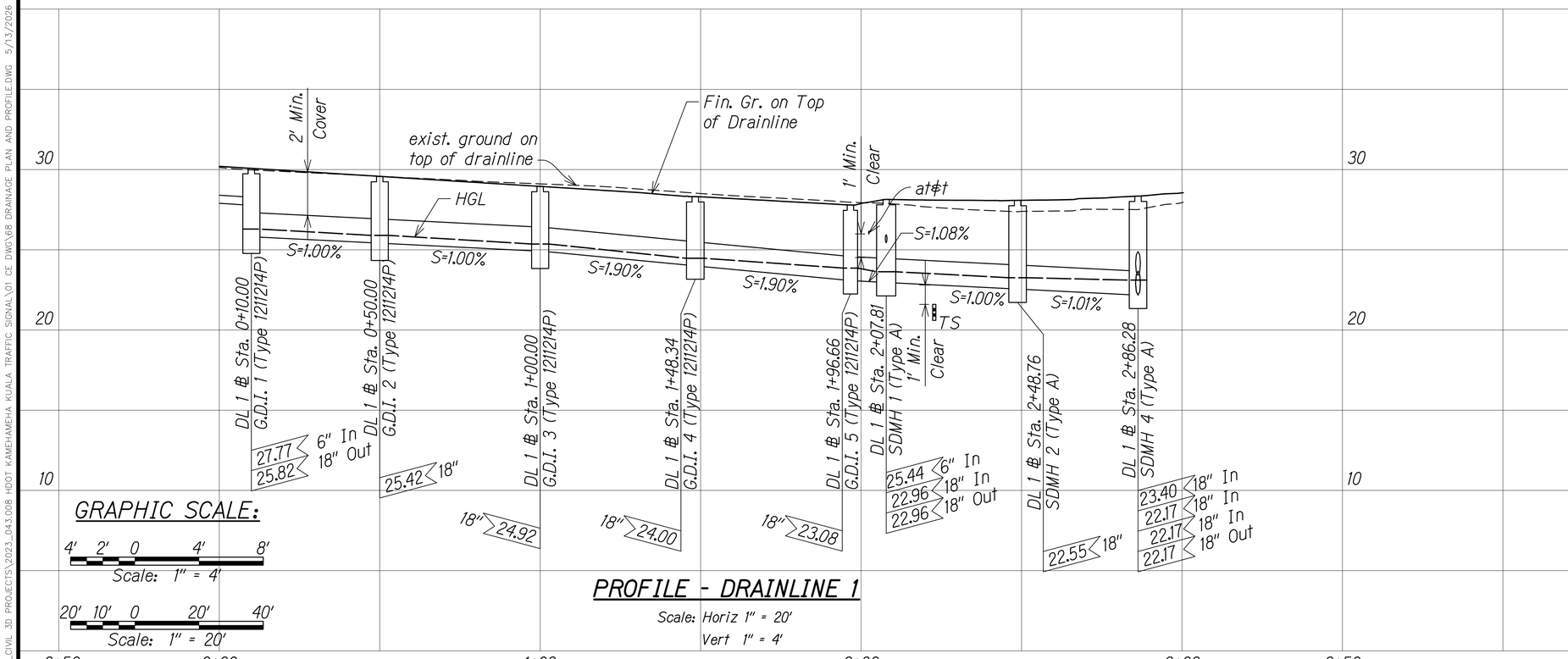
NOTE:

For General Notes, Legends, and Abbreviations, See Plan Sheets 4 to 9.



PLAN - DRAINLINE 1

Scale: 1" = 20'



PROFILE - DRAINLINE 1

Scale: Horiz 1" = 20'
Vert 1" = 4'

GRAPHIC SCALE:

4' 2' 0 4' 8'
Scale: 1" = 4'

20' 10' 0 20' 40'
Scale: 1" = 20'

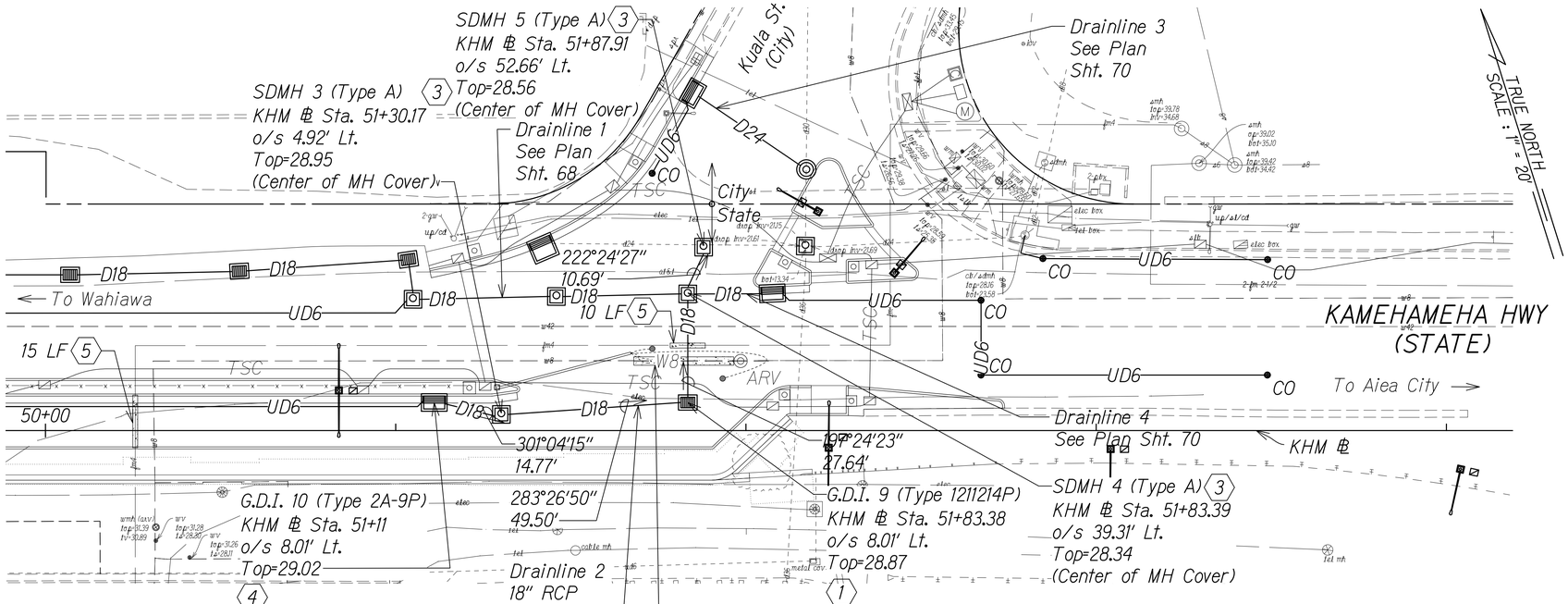
ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\68 DRAINAGE PLAN AND PROFILE.DWG 5/13/2026 4:24 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	69	140



PLAN - DRAINLINE 2

Scale: 1" = 20'

DRAINAGE CONSTRUCTION NOTES:

1. Grated Drop Inlet, Type 1211214P per HDOT Std. Plan H-12.
3. Storm Drain Manhole Type A per HDOT Std. Plan H-03.
4. Grated Drop Inlet, Type 2A-9P per HDOT Std. Plan H-09.
5. Install Reinforced Concrete Jacket per CCH WWB Standard Detail S-03.

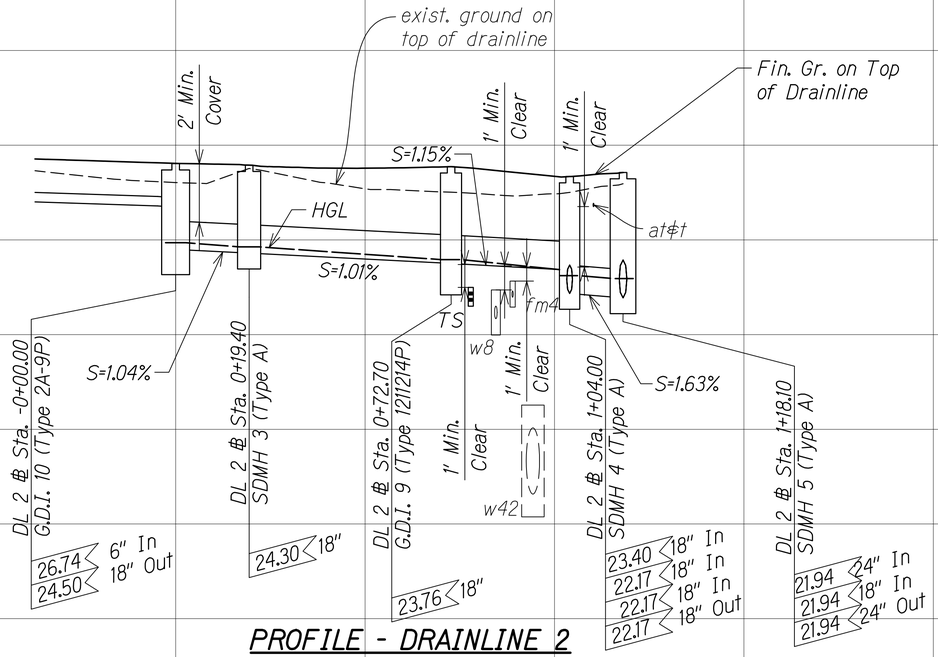
NOTE:

For General Notes, Legends, and Abbreviations, See Plan Sheets 4 to 9.

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE



PROFILE - DRAINLINE 2

Scale: Horiz 1" = 20'
Vert 1" = 4'

GRAPHIC SCALE:

4' 2' 0 4' 8'
Scale: 1" = 4'

20' 10' 0 20' 40'
Scale: 1" = 20'

APPROVED:

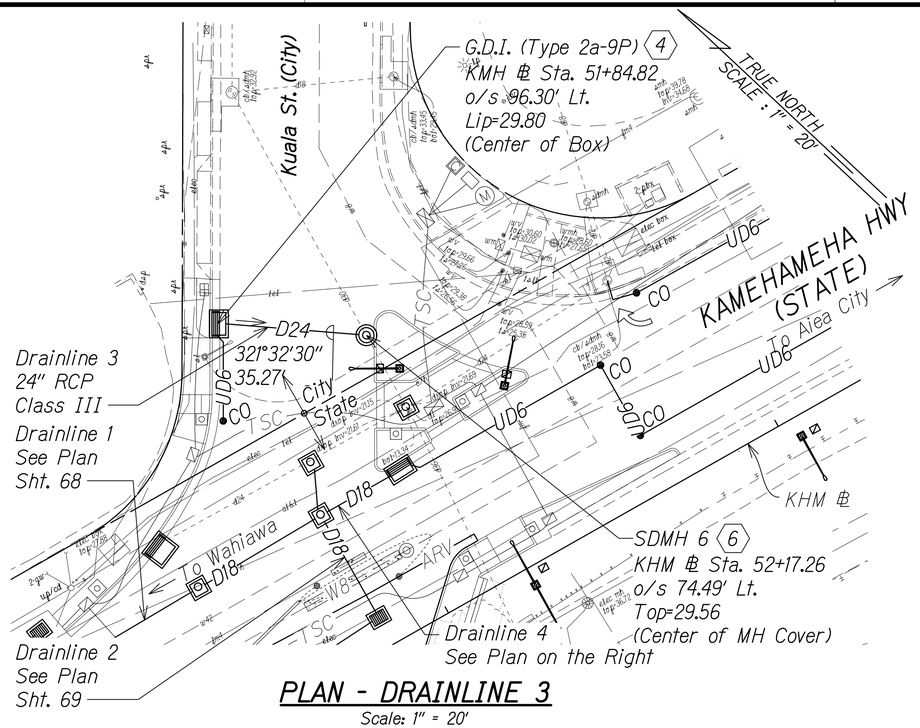
MANAGER AND CHIEF ENGINEER, BWS DATE
(For Work Affecting BWS Facilities in City/State R/W and BWS Easements Only)

APPROVED:

CHIEF, WASTEWATER BRANCH, DPP DATE

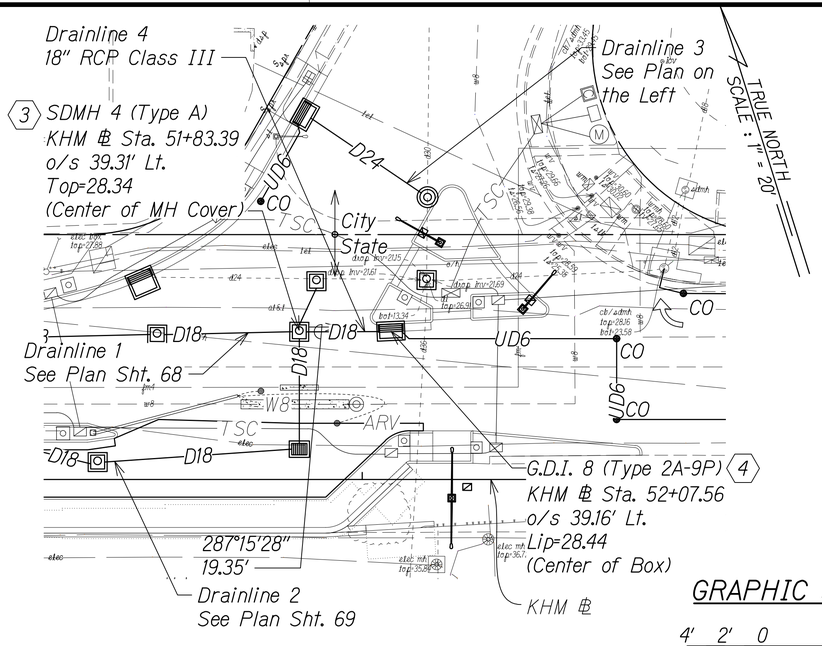
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FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	70	140



PLAN - DRAINLINE 3

Scale: 1" = 20'



PLAN - DRAINLINE 4

Scale: 1" = 20'

DRAINAGE CONSTRUCTION NOTES:

3 Storm Drain Manhole Type A per HDOT Std. Plan H-03.

4 Grated Drop Inlet, Type 2A-9P per HDOT Std. Plan H-09.

6 Construct Storm Drain Manhole per per DPW Standard Detail D-22.

NOTE:

For General Notes, Legends, and Abbreviations, See Plan Sheets 4 to 9.

GRAPHIC SCALE:

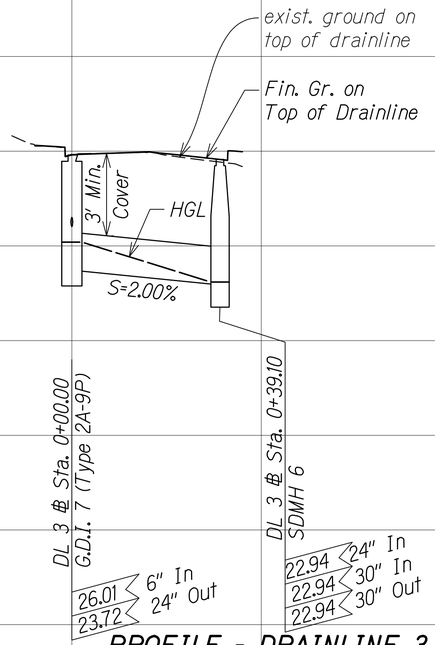
4' 2' 0 4' 8'
Scale: 1" = 4'

20' 10' 0 20' 40'
Scale: 1" = 20'

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

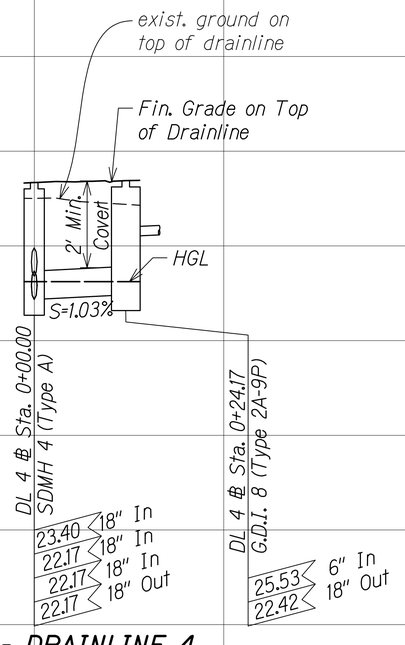
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SIGNATURE EXPIRATION DATE OF THE LICENSE



PROFILE - DRAINLINE 3

Scale: Horiz 1" = 20'
Vert 1" = 4'



PROFILE - DRAINLINE 4

Scale: Horiz 1" = 20'
Vert 1" = 4'

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE
(For Work within City R/W Only)

APPROVED:

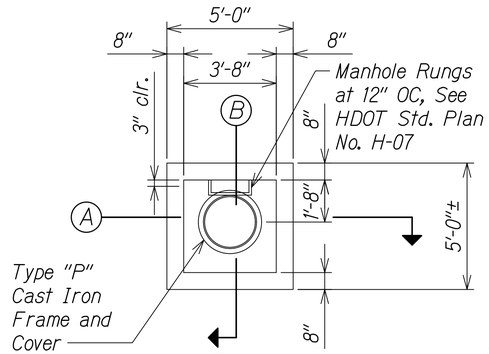
CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

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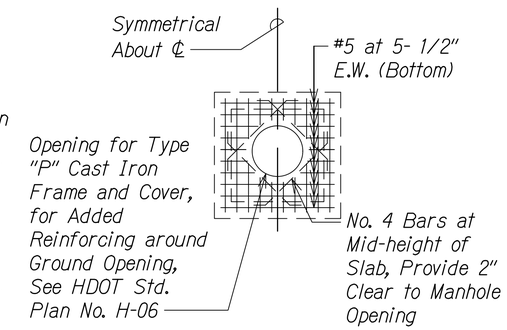
SHEET No. 3 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\Y0 DRAINAGE PLAN AND PROFILE.DWG 5/13/2026 4:24 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	71	140



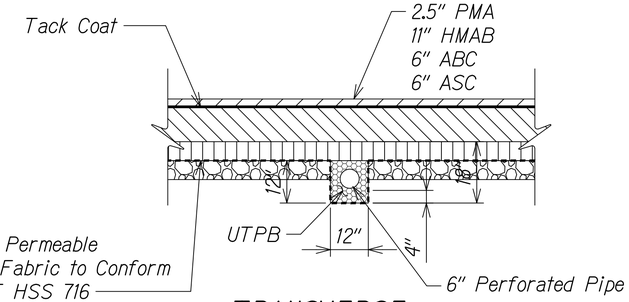
PLAN



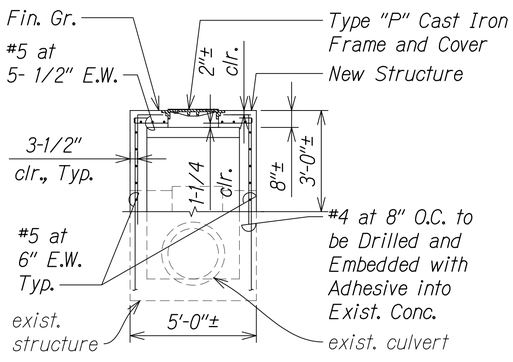
PLAN VIEW OF TOP SLAB REINFORCING

GENERAL NOTES:

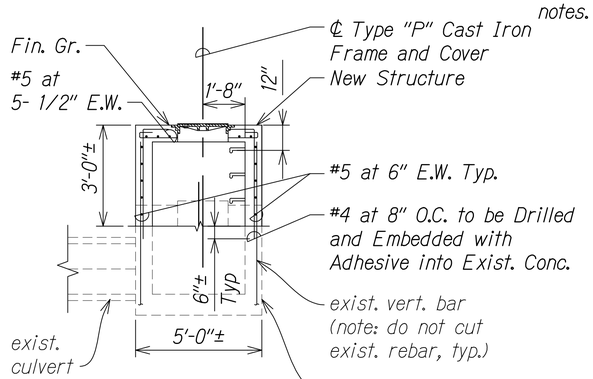
1. General Criteria
   a. At-rest Horizontal Pressure = 80pcf (2 to 1 sloping backfill, above groundwater)
   b. At-rest Vertical Pressure = 40pcf (2 to 1 sloping backfill, above groundwater)
   c. Allowable Bearing Capacity = 1,700psf+8 x (overburden pressure); where overburden pressure equals 100 pcf x H
   d. Live Load Surcharge (Equivalent Height of Soil)
      For H - 0' to 5'; heq = 4'-0"
      For H - 5' to 20'; heq = 3'-0"
2. Exposure Factor (For crack control) - 1.0 for Class 1 exposure.
3. See HDOT Standard Plan B-01 for additional notes.



TRANSVERSE (PAVEMENT RECONSTRUCTION)



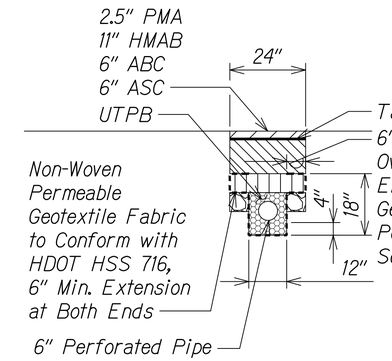
SECTION A



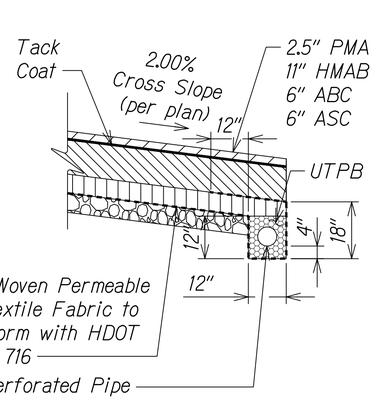
SECTION B

DRAIN INLET CONVERSION TO MANHOLE

For Work within State R/W



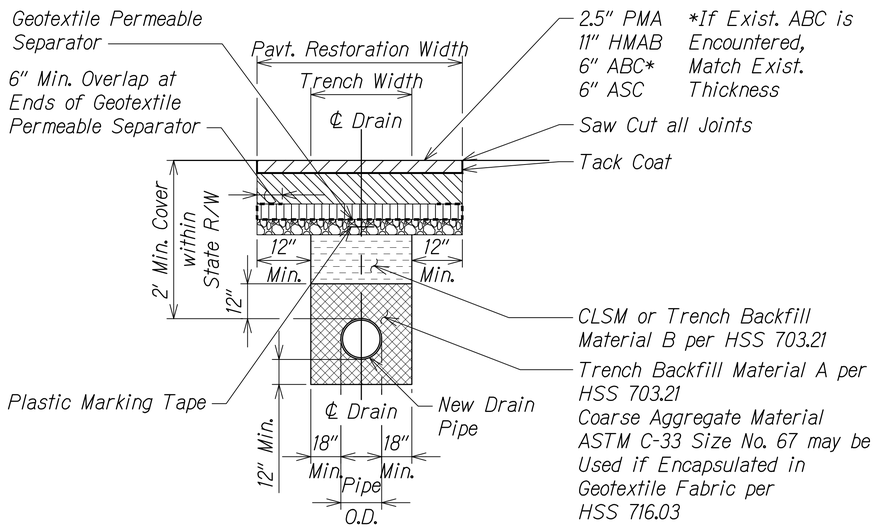
TRANSVERSE/ LONGITUDINAL (PAVEMENT OVERLAY)



LONGITUDINAL (PAVEMENT RECONSTRUCTION)

UNDERDRAIN TYPICAL SECTION

For Work within State and City R/W



TYPICAL TRENCH RESTORATION

For Work within State and City R/W

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

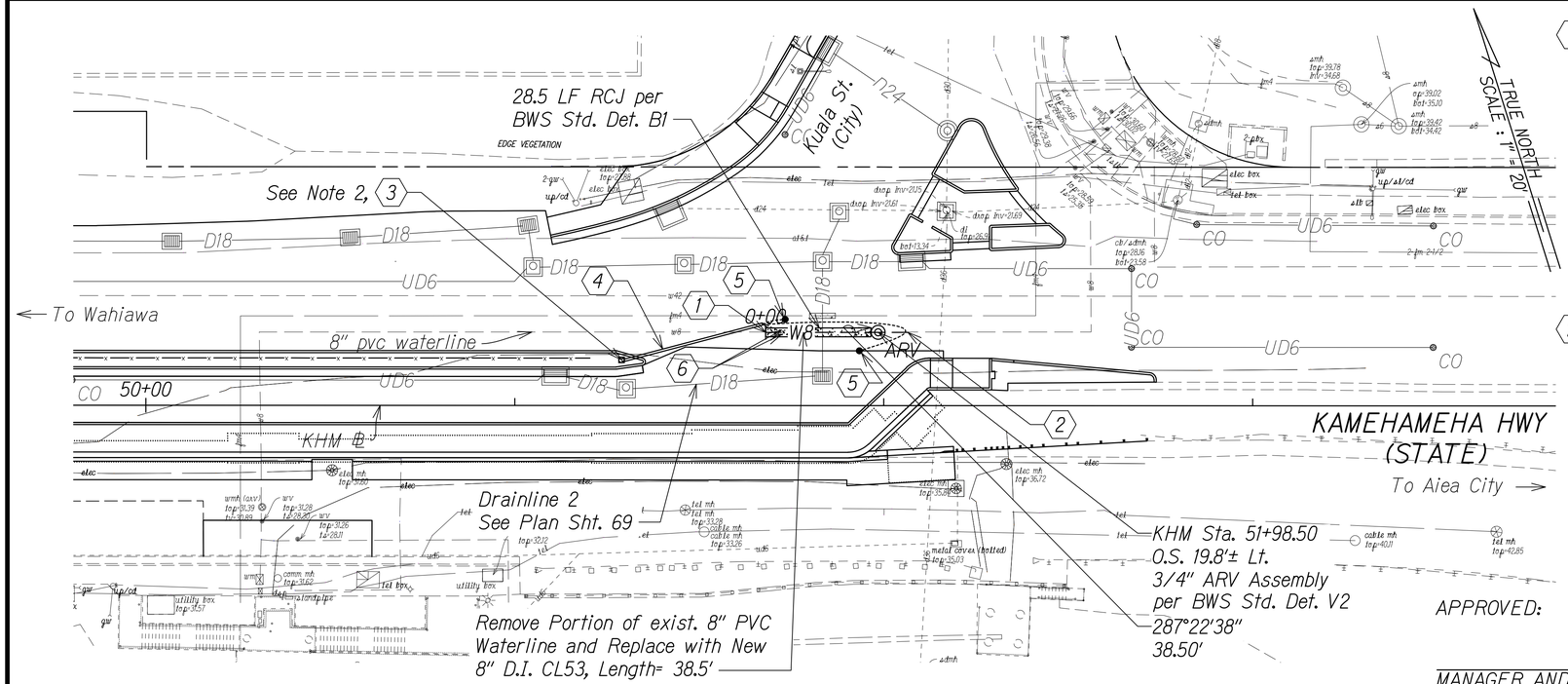
DRAINAGE DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale Date: Feb 2026

SHEET No. 1 OF 1 SHEETS

W:_CIVIL 30 PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\71 DRAINAGE DETAILS.DWG 4/27/2026 9:45 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2025	72	140



PLAN - WATERLINE

Scale: 1" = 20'

1. Connect to Exist. 8" PVC Waterline
   KHM Sta. 51+68 o/s 19.8'± Lt.
   = Waterline Sta. 0+00
   1- 8" PVC x D.I. Adapter
   1- 8" MJ Sleeve, 12" Long
   1- Conc. Block w/ Struct. Struts
   8± LF 8" D.I. CL53 Pipe

   Temp. for Testing
   1- 8" Cap with 2 1/2" CO
   1- Conc. Block

2. Connect to Exist. 8" PVC Waterline
   KHM Sta. 52+06.50 o/s 20.0'± Lt.
   = Waterline Sta. 0+38.5
   1- 8" D.I. x PVC Adapter
   1- 8" MJ Sleeve, 12" Long
   1- Conc. Block w/ Struct. Struts
   8± LF 8" D.I. CL53 Pipe

   Temp. for Testing
   1- 8" Cap with 2 1/2" CO
   1- Conc. Block

3. KHM ℄ Sta. 51+29 o/s 12.35 Lt. Flush Mount Test Station
4. 2" SCH 80 PVC Conduit
5. 9 lb. Magnesium Anode
6. Exothermic Weld

NOTES:

1. For General Notes, Legends, and Abbreviations, See Plan Sheets 4 to 9.
2. For Cathodic Protection details, see Detail Sheet 75.

APPROVED:

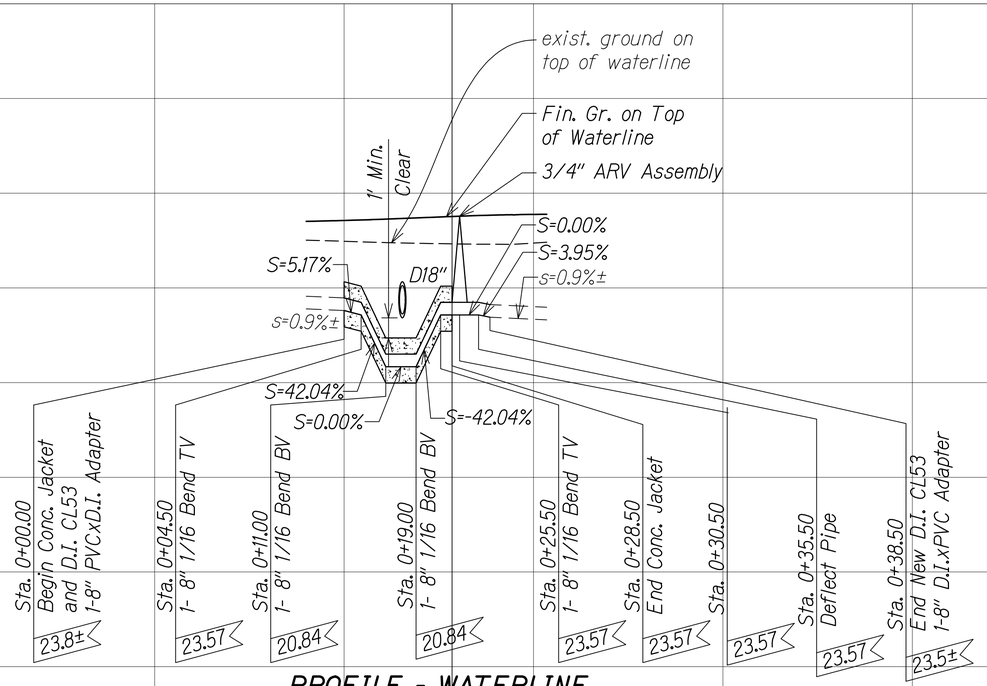
MANAGER AND CHIEF ENGINEER, BWS (For Work Affecting BWS Facilities in City/State R/W and BWS Easements Only) DATE

AMPP NACE Cathodic Protection CERTIFIED SPECIALIST Cert No.9470 Expires: June 30, 2027

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE 04/30/26 EXPIRATION DATE OF THE LICENSE



PROFILE - WATERLINE

Scale: Horiz 1" = 20'
Vert 1" = 4'

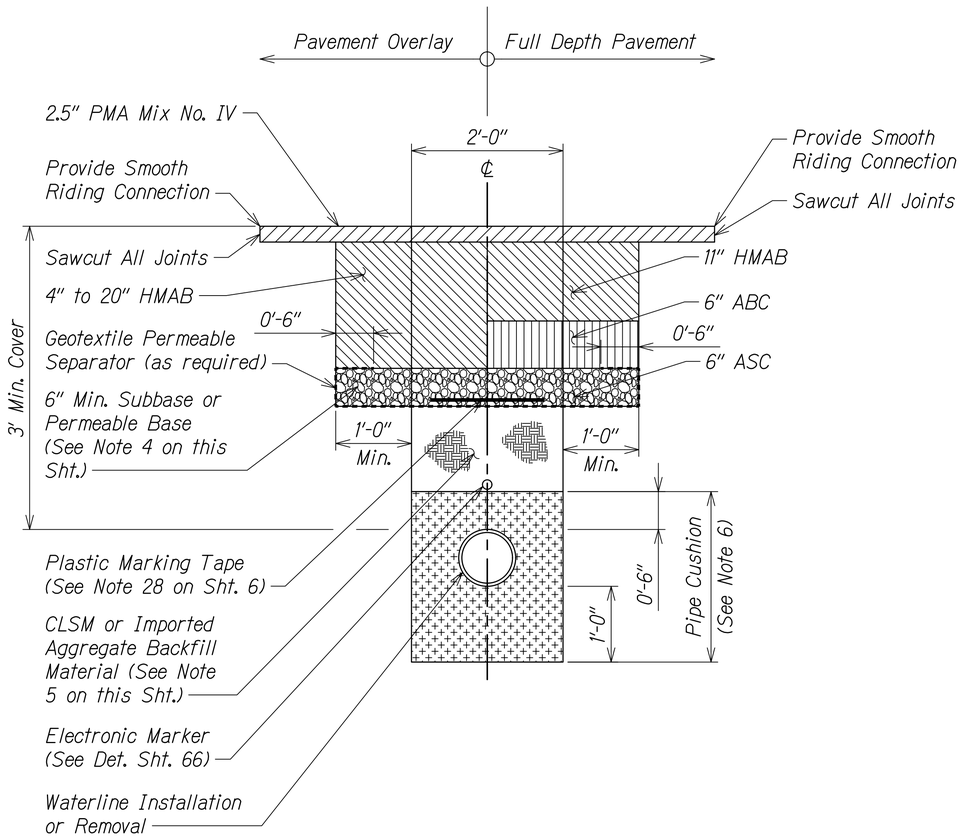
GRAPHIC SCALE:

4' 2' 0 4' 8'
Scale: 1" = 4'

20' 10' 0 20' 40'
Scale: 1" = 20'

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\72 WATERLINE PNP.DWG 12/29/2025 6:54 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	73	140



WATERLINE TRENCH NOTES:

1. Install trench backfill and pipe cushion material in accordance to the plans and specifications.

2. Soft or loose soils encountered at the bottom of trenches shall be over-excavated to expose firm natural material or to maximum of 24 inches and backfilled with No. 3b fine gravel that is encapsulated by a non-woven geotextile fabric (AMACO 4546 or equivalent). This material shall be considered as additional to the recommended six (6) inches below the pipe.

3. The Non-woven Geotextile Fabric shall conform to Hawaii Standard Specifications Section 716.03.

4. If an existing layer of permeable base is encountered, provide new permeable base to match the existing permeable base thickness and depth and provide a geotextile permeable separator. if no permeable base is encountered, provide minimum 6" subbase without geotextile permeable separator. Compact to minimum 95% relative compaction.

5. The use of imported aggregate backfill material for trench backfill in lieu of Controlled Low Strength Material (CLSM) should meet the following conditions:

   a. The material shall be imported from an approved quarry or processing plant and conform to the requirements of Hawaii Standard Specifications 703.21.

   b. Fill compaction shall be 95% per HSS Sections 204.03 (B) and 206.03 (B) or 90% as permitted in specific areas such as cement rubble masonry, concrete headwalls and drainage facilities in median areas or in traffic interchange loops.

   c. Refer to Hawaii Standard Specifications 703.21 for Utility Trench Backfill requirements.

6. Pipe cushion material shall comply with the requirements of Section 209.02 of the City and County of Honolulu Board of Water Supply's "Water System Standards", dated 2002, and all subsequent amendments and additions.

TRENCH RESTORATION DETAIL

APPROVED:

MANAGER AND CHIEF ENGINEER, BWS DATE
(For Work Affecting BWS Facilities in City/State R/W and BWS Easements Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

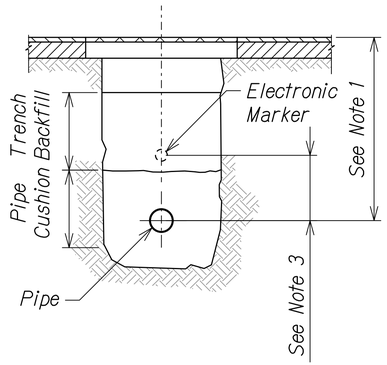
WATER DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale Date: Feb 2026

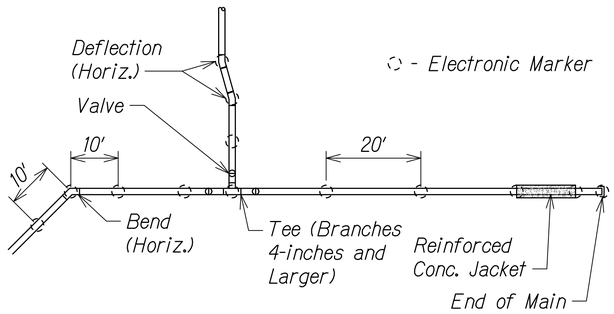
SHEET No. 1 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\73-74 WATER DETAILS.DWG 4/27/2026 9:52 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	74	140



SECTION VIEW



PLAN VIEW

NOTES:

1. Install electronic marker over center line of pipe at a minimum depth of 2 feet and a maximum depth of 3 feet from finish grade.
2. Install trench backfill and pipe cushion material in accordance to the plans and specifications.
3. Install electronic marker at a minimum clearance of 6-inches above the pipe or concrete jacket.

TYPICAL ELECTRONIC MARKER INSTALLATION

APPROVED:

MANAGER AND CHIEF ENGINEER, BWS DATE
(For Work Affecting BWS Facilities in City/State R/W and BWS Easements Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

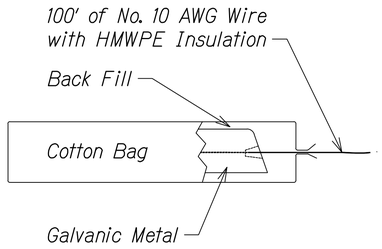
WATER DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale Date: Feb 2026

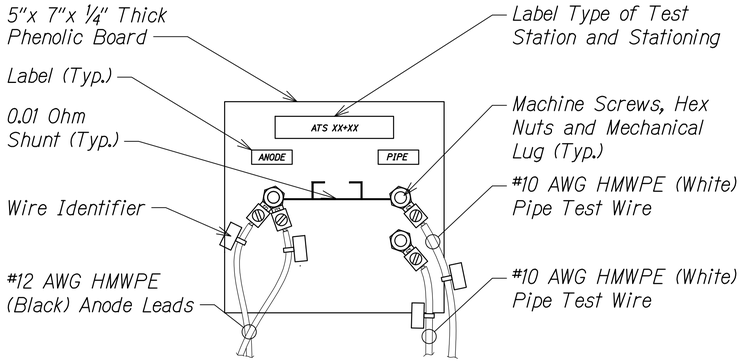
SHEET No. 2 OF 2 SHEETS

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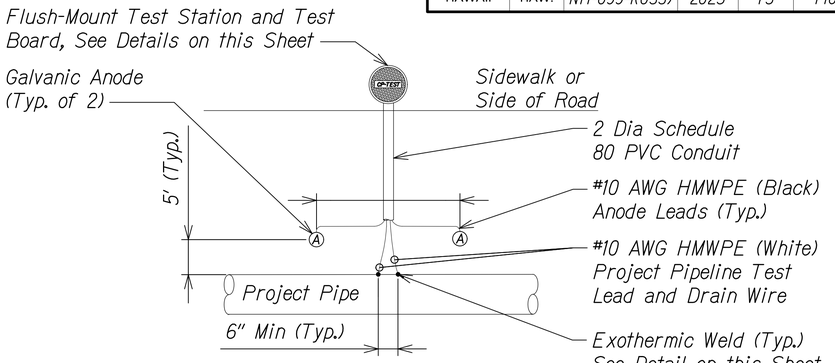
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2025	75	140



SECTION VIEW
MAGNESIUM ANODE

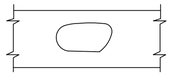


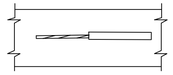
TEST STATION TERMINAL BOARD

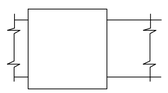


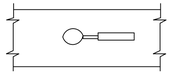
NOTE:
Test stations shall be located next to the dip pipe where feasible, so that lateral wire runs parallel project pipe laterals.

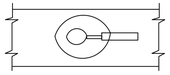
PLAN VIEW
ANODE PLACEMENT LOCATIONS

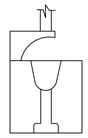
STEP 1

File pipe to bright metal and clean

STEP 2

Strip insulation from wire

STEP 3


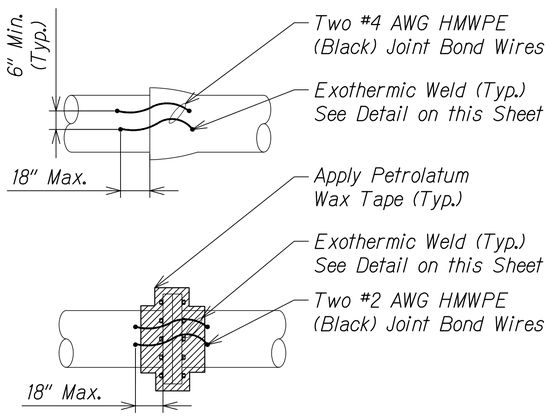
STEP 4

Remove slag from connection

STEP 5

Cover connection with a coal tar epoxy

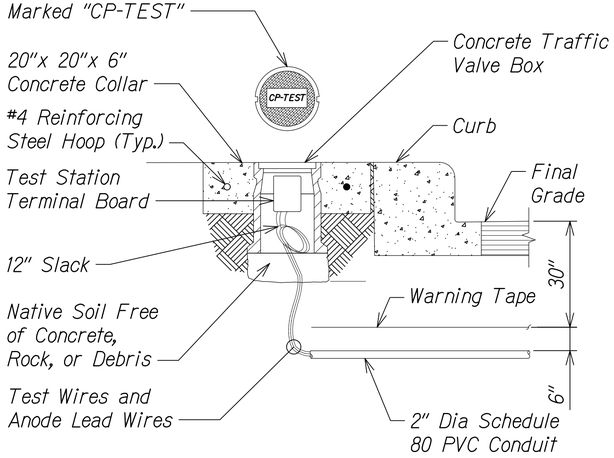


NOTE FOR STEP 3 ONLY:
Hold mold firmly with opening away from operator - Ignite starting powder.

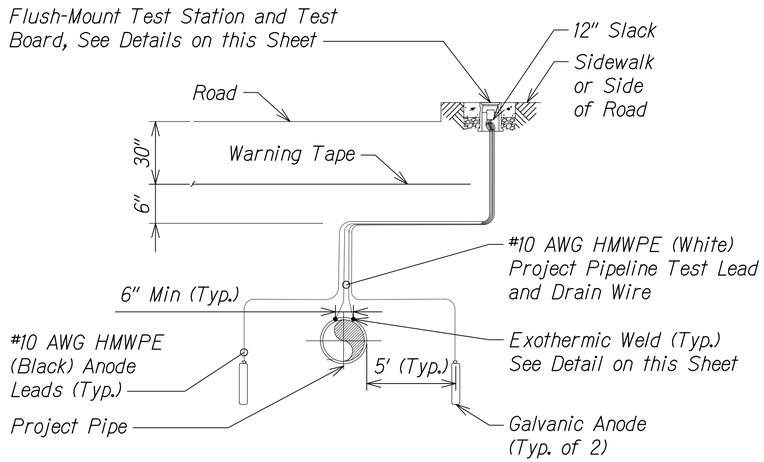
THERMITE WELDING ILLUSTRATION



JOINT BOND DIAGRAM



SECTION VIEW
TEST STATION PLACEMENT



SECTION VIEW
ANODE PLACEMENT LOCATIONS

APPROVED:

MANAGER AND CHIEF ENGINEER, BWS DATE
(For Work Affecting BWS Facilities in City/State R/W and BWS Easements Only)

AMPP NACE Cathodic Protection CERTIFIED SPECIALIST Cert No.9470 Expires: June 30, 2027

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CATHODIC PROTECTION DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET, Phase 2
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale Date: Dec 2025

SHEET No. 1 OF 1 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\75 CATHODIC PROTECTION DETAILS.DWG 12/29/2025 3:47 PM ROGMER

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	76	140

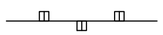
PAVEMENT MARKING LEGEND:



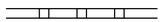
10' White Profiled Thermoplastic Stripe
Type C Raised Pavement Markers @ 40'-0" o.c.



10' White Profiled Thermoplastic Stripe
Type D Raised Pavement Markers @ 40'-0" o.c.



10" White Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)



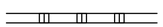
6" Double Solid Yellow with Type D Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)



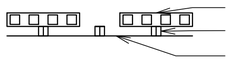
6" Double Solid Yellow Stripes with Type H Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)



6" Yellow Edge Stripe with Type H Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)



6" Double Solid White Stripes with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)



Lane Change Restriction Marking
10' White Profiled Thermoplastic Stripe
Type C Raised Pavement Markers At 20'-0" o.c.
6" White Stripe (Tape, Type I or Thermoplastic Extrusion)

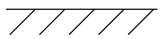


6" or 10" White Edge Stripe With Type C Raised Pavement Markers @ 40'-0" O.C. (Tape, Type II or Thermoplastic Extrusion)

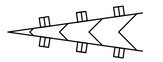
6" White Guide Lines (Tape, Type III or Thermoplastic Extrusion except for bus bays) (See HDOT Standard Plan TE-28)



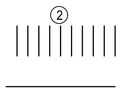
Transverse Median Marking (Tape, Type Ii Or Thermoplastic Extrusion)



Transverse Shoulder Marking (Tape, Type II or Thermoplastic Extrusion)



Channelizing Island or Deceleration Lane Gore (Tape, Type II or Thermoplastic Extrusion) (See HDOT Standard Plan TE-28)



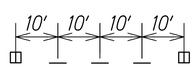
Crosswalk and Stop Line. All Stop Lines shall be 10'-0" from Crosswalk unless otherwise noted. The circled number indicates the number of lanes for payment (Tape, Type III or Thermoplastic Extrusion)



Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)



Pavement Word (Tape, Type III Or Thermoplastic Extrusion)



Extension of Edge Line, 6" Wide x 2'-0" Long White Stripe At 10'-0" o.c. w/ Type C Markers @ 40'-0" o.c. (Tape, Type III or Thermoplastic Extrusion)

PAVEMENT MARKING NOTES (STATE):

1. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
2. Existing pavement markings not incorporated in the final traffic pattern shall be removed as directed by the Engineer. Costs shall be incidental to the various pavement marking items.
3. Raised pavement markers shall not be installed within the crosswalks.
4. Final locations of all signs shall be approved by the Engineer prior to any installation work.
5. Existing signs not shown on these plans shall remain as posted unless otherwise directed by the Engineer. Removal and disposal of existing signs and/or posts as designated on these plans shall be incidental to the various signing items.
6. Final locations of all stop lines shall be approved by the Engineer prior to installation.
7. All pavement striping shall be as noted on the legend or plans.
8. All pedestrian warning signs with supplemental sign shall be on a fluorescent yellow-green retroreflective background with a black legend and border.
9. All permanent pavement markings shall be Thermoplastic Extrusion.
10. Removal of existing delineators and posts as directed by the Engineer shall be considered incidental to the various signing items.
11. Existing signs that are to be replaced shall not be removed until new signs are installed as replacements, or the messages are no longer necessary.
12. Backing for all new regulatory and warning signs shall not be spliced.
13. All new and relocated signs and markers installed on pipe posts or light standard post are to be mounted with band brackets and steel braces.
14. All pavement markings disturbed during the construction beyond the limits of the project, shall be striped to its original layout. Cost of this work shall be considered incidental to various contract items.
15. Install Type II Object Marker on all utility poles or trees that are within the State Highway right-of-way and within 50 feet of the roadway edge of pavement shall be marked as directed by the Engineer.
16. The Contractor shall erect at the beginning of the project and at the end of the project advance construction warning signs as indicated on the plans or as directed by the Engineer for the duration of the highway project and shall be maintained by the Contractor. These signs shall be placed in addition to the required traffic control signs called for in Section 645 - Work Zone Traffic Control. The advance construction warning signs shall be new and become the property of the State. The Contractor shall remove, clean, and deliver the signs and posts to the Oahu District Baseyard or as directed by the Engineer at the end of the project.
17. All new and relocated permanent signs (informational, regulatory, and warning) installed within HDOT Right-of-Ways shall have a barcode sticker, supplied and installed by the Contractor, placed on the back of each sign identifying the installation date of each sign.
18. The Contractor shall ensure that all new and existing signs affected or disturbed by the construction shall comply with the retroreflectivity requirements stated in Section 2A.22 of the 2023 11th Edition of MUTCD.

PAVEMENT MARKING NOTES (CITY):

1. All traffic sign and pavement marking installations shall be done in accordance with "Manual on Uniform Traffic Control for Streets and Highways," 2023 11th Edition, as amended, the latest specifications from the Traffic Review Branch, Department of Planning and Permitting, and as shown on the plans.
2. Contractor shall notify and coordinate work with the Civil Engineering Branch, Department of Planning and Permitting, one (1) week in advance of commencing work at (808) 768-8084.
3. Contractor shall submit material brochures for all signs and paint materials to the Civil Engineering Branch, Department of Planning and Permitting.
4. The signing and/or striping contractor shall keep one (1) set of approved plans at the project site at all times during construction work.
5. Contractor shall paint temporary guidelines and outline of arrows, legends, and crosswalks with a two inch (2") wide brushed line on the day the roadway is opened to traffic. These markings must be approved by the inspector from the Civil Engineering Branch, Department of Planning and Permitting.
6. Contractor shall notify the Civil Engineering Branch, Department of Planning and Permitting at (808) 768-8084, (3) days in advance of final inspection.
7. Contractor shall meet with the inspector from the Civil Engineering Branch, Department of Planning and Permitting during the final inspection.
8. Within ten (10) days following notification of award of contract, the Contractor shall submit to the Department of Planning and Permitting (Phone: (808) 768-8084) for approval, a list of any signing and pavement marking material which he proposes to install. The list shall be completed as to the name of manufacturer, catalog number, and shall be supplemented with material brochures.
9. Upon final inspection of the project, the Contractor shall submit a letter of certification for all traffic signing and pavement marking materials installed.

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP — DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney — 04/30/28
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING LEGEND AND NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A — Date: Feb 2026

SHEET No. 1 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\76 PAVEMENT MARKING LEGEND AND NOTES.DWG 4/27/2026 9:52 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	77	140

PAVEMENT MARKING NOTES (CITY) (CONTINUED):

10. Signs shall be attached to brackets with 5/16" zinc plated steel bolts, nuts and washers. Signs 48" wide or larger than 10 sq. ft. in area shall be mounted on two-2" galv. pipe post. The sign shall be installed with at least (1) one foot clearance from the sign edge to the curb face.

11. All traffic signs shall be reflectorized.

12. Raised pavement markers shall be installed in accordance with the Department of Planning and Permitting standards.

13. Location of "Stop" Sign:

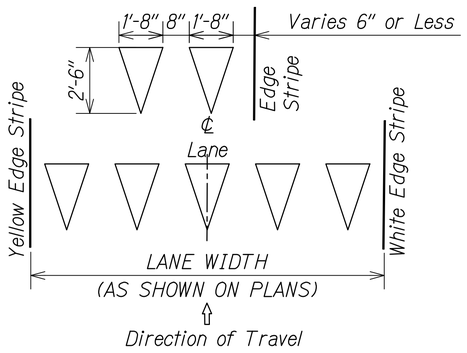
    A. Install "Stop" sign at curb tangent point.

    B. Install "Stop" sign on metal street light standard if standard is located within 10 feet of curb return.

    C. Install "Stop" sign in front of utility pole if a pole is located within 10 feet of curb return.

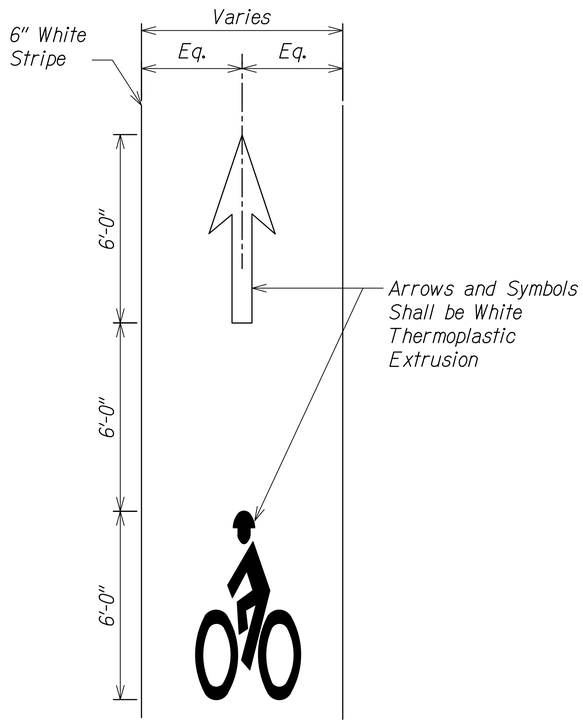
14. Pavement word or symbol markings shall be in accordance with the Department of Planning and Permitting standards.

15. The Contractor shall use thermoplastic material, approved by the Civil Engineering Branch, Department of Planning and Permitting, for all crosswalks, stop bars, pavement arrows, center liens, lane lines, arc lines, channelized traffic islands, and legends.



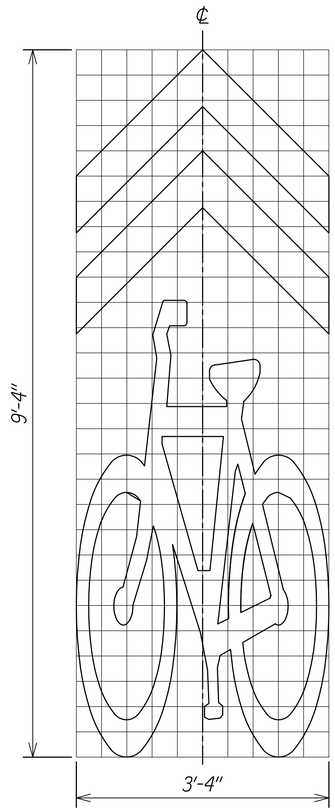
YIELD LINE

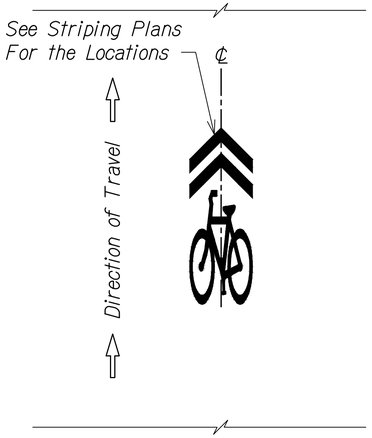
For Work within State and City R/W



BIKE LANE PAVEMENT MARKING

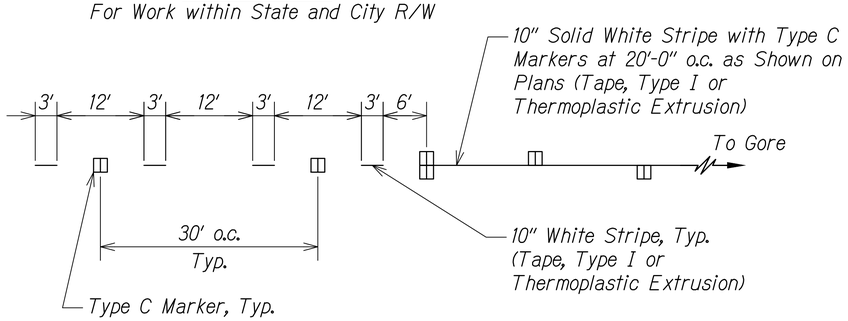
For Work within City R/W





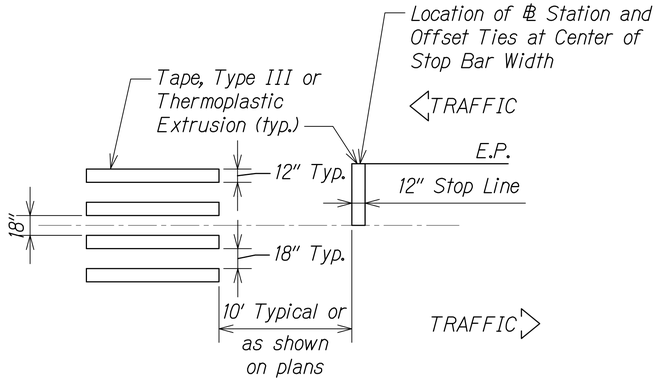
SHARED LANE MARKING DETAILS

For Work within City R/W



LANE DROP MARKING

For Work within State R/W



CROSSWALK STRIPING

For Work within State and City R/W

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP — DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney — 04/30/28
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING NOTES AND DETAILS

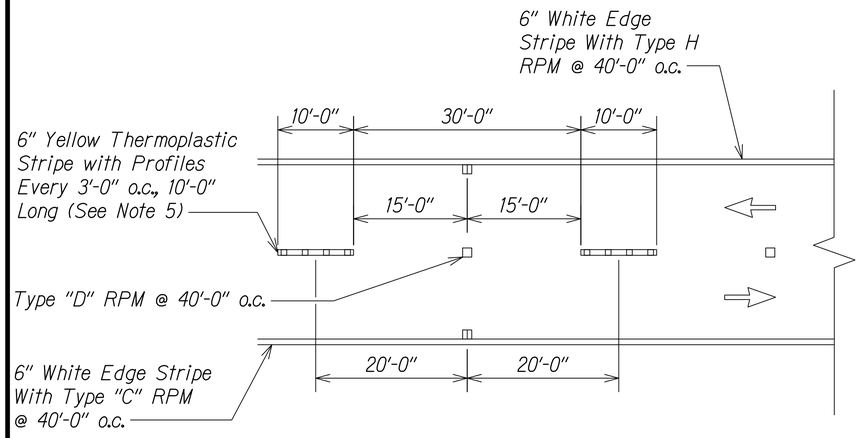
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale — Date: Feb 2026

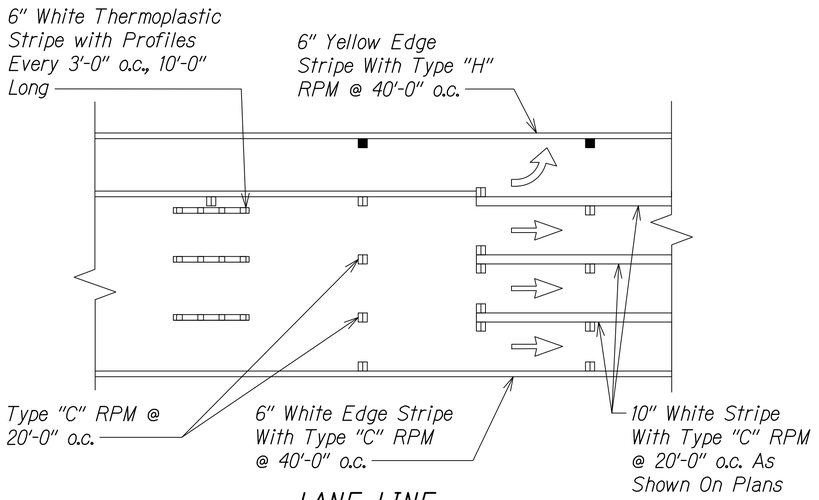
SHEET No. 2 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\77 PAVEMENT MARKING NOTES AND DETAILS.DWG 4/27/2026 9:53 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	78	140



PASSING ZONE



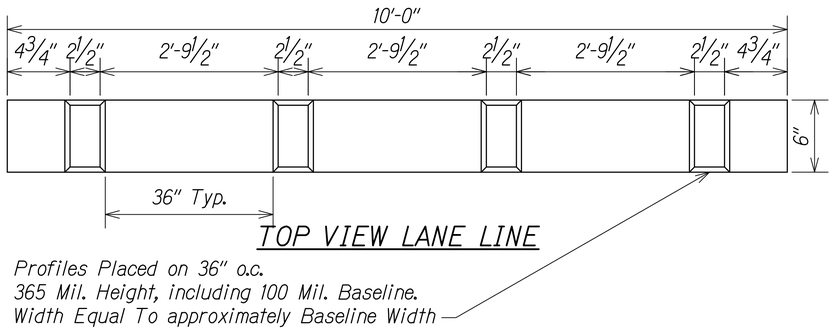
LANE LINE

PROFILED THERMOPLASTIC STRIPING NOTES:

1. The Thermoplastic material shall be an Alkyd-based compound formulated for profiled pavement marking. See specs subsection 629.03 for additional requirements.
2. The Engineer will include the longitudinal gaps for skip striping, up to thirty (30) feet long, in the measurement for payment.
3. Install white Profiled Thermoplastic stripes as lane line.
4. Install yellow Profiled Thermoplastic stripes for centerline passing zone.
5. In areas with centerline milled rumble strips, install standard yellow Thermoplastic stripes without raised profiles.

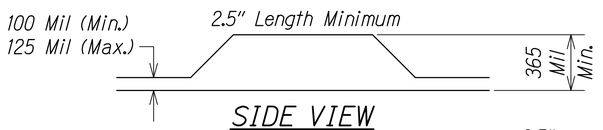
DETAIL

For Work within State R/W

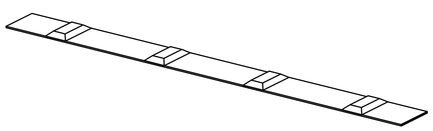


TOP VIEW LANE LINE

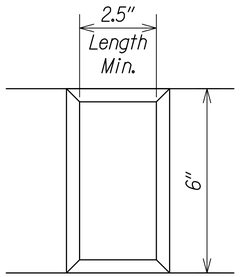
Profiles Placed on 36" o.c.
365 Mil. Height, including 100 Mil. Baseline.
Width Equal To approximately Baseline Width



SIDE VIEW



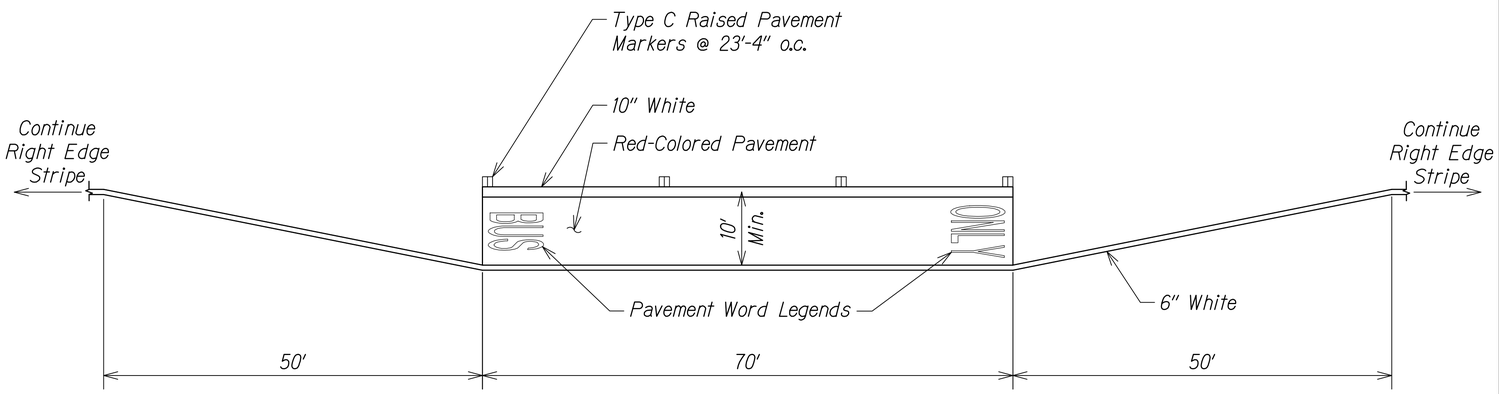
PERSPECTIVE VIEW



TOP VIEW

PROFILED THERMOPLASTIC STRIPING

For Work within State R/W



BUS BAY

For Work within State R/W

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING DETAILS

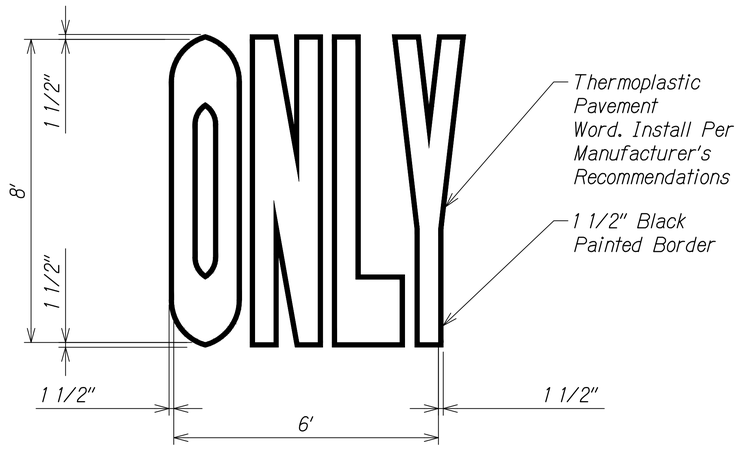
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale Date: Feb 2026

SHEET No. 3 OF 4 SHEETS

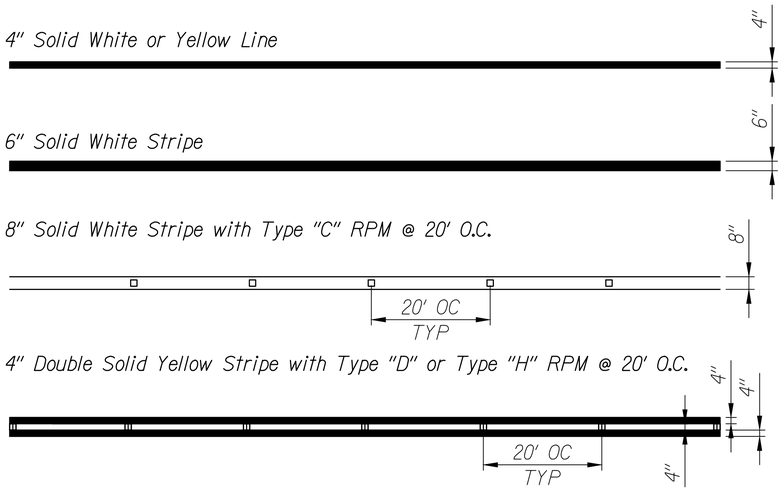
W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\Y8 PAVEMENT MARKING DETAILS.DWG 4/27/2026 9:53 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	79	140



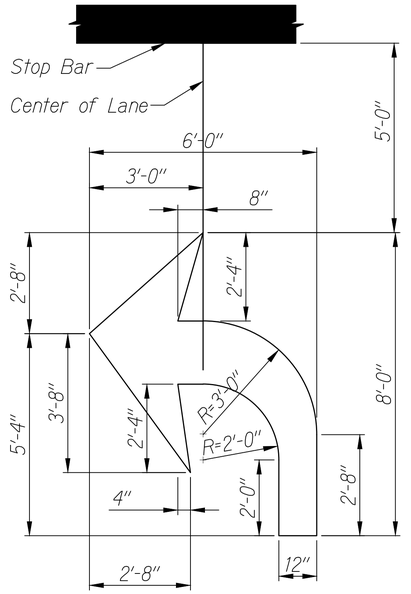
TYPICAL WORD MARKING WITH BLACK BORDER

For Work within State R/W



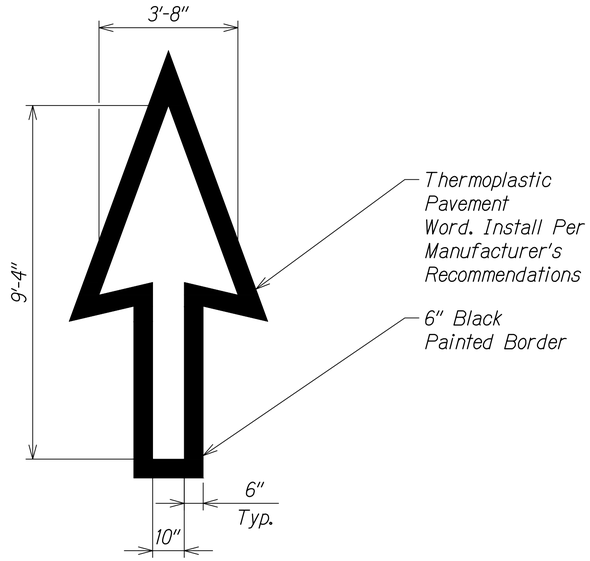
PAVEMENT STRIPING

For Work within City R/W



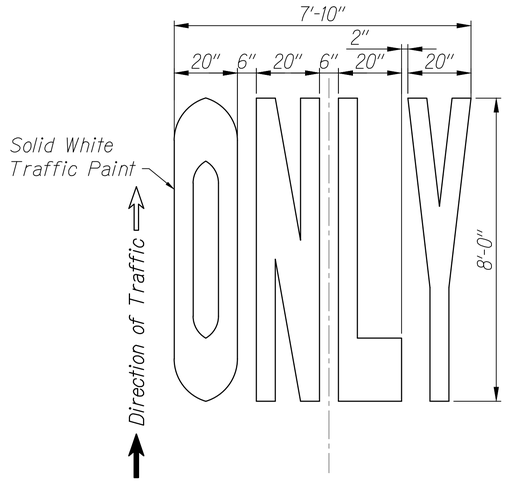
TYPICAL TURN ARROW MARKING

For Work within City R/W



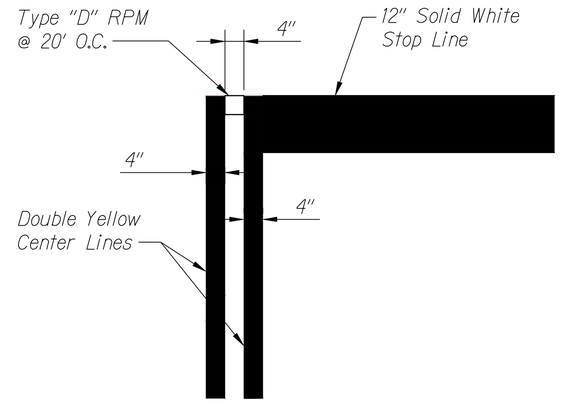
TYPICAL ARROW MARKING WITH BLACK BORDER

For Work within State R/W



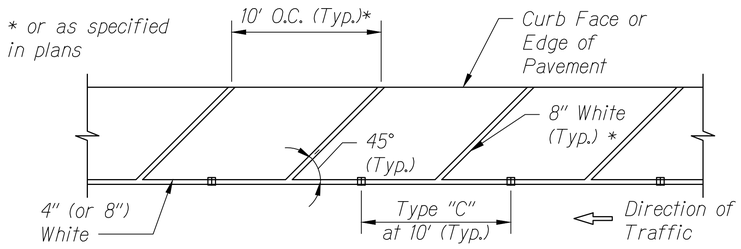
STANDARD 8' WORD MARKING

For Work within City R/W



TYPICAL STOP LINE PAVEMENT STRIPING

For Work within City R/W



TRANSVERSE SHOULDER STRIPING

For Work within City R/W

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP — DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney — 04/30/28
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING DETAILS

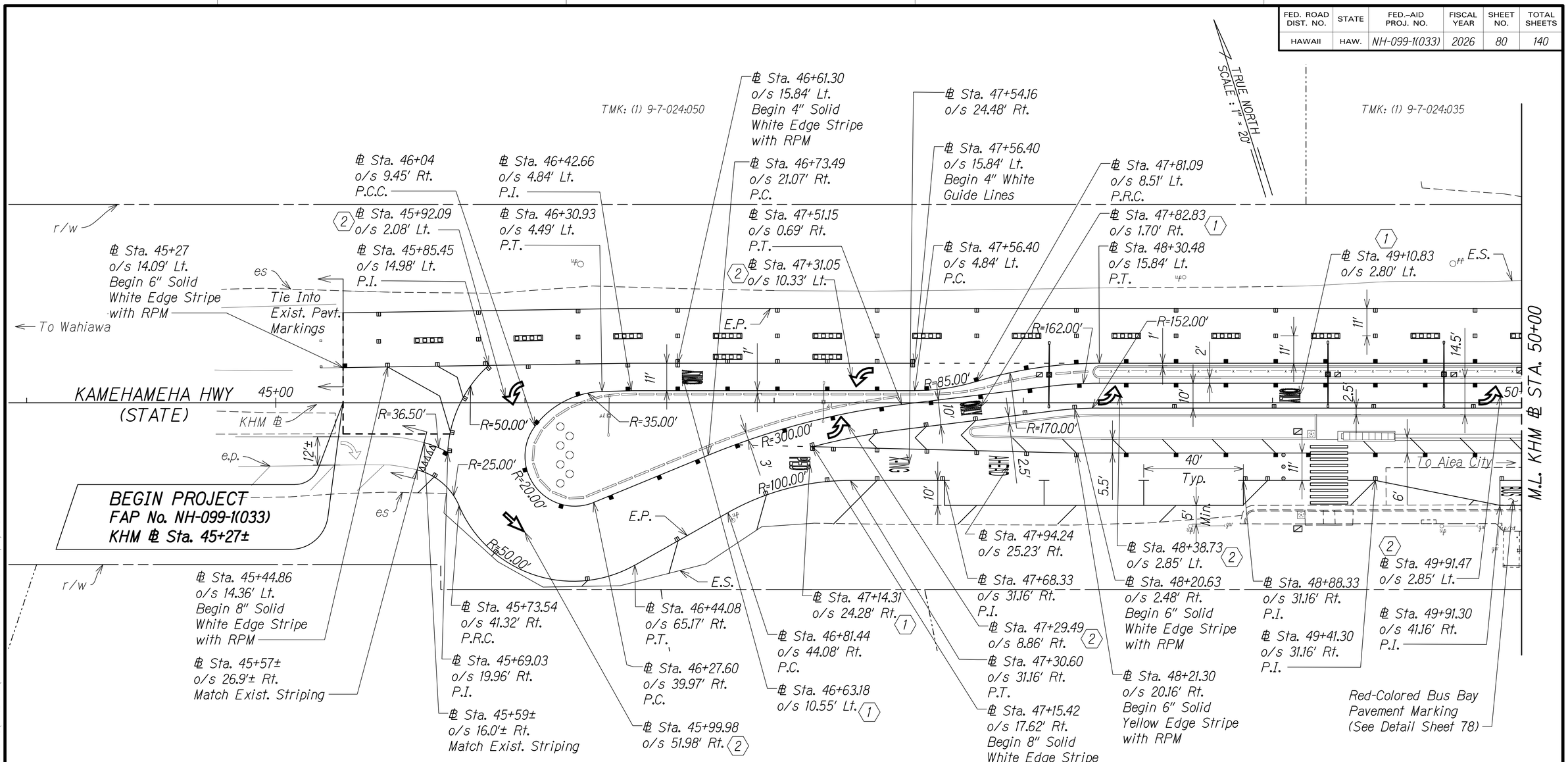
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale — Date: Feb 2026

SHEET No. 4 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\Y9 PAVEMENT MARKING DETAILS.DWG 5/12/2026 9:55 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	80	140



NOTES:

1. Stations and Offsets are based on KHM ℄ unless otherwise noted.
2. See Plan Sheets 76 to 78 for Pavement Marking Legend, Notes and Details.
3. See Plan Sheets 82 and 83 for Signing Plans.

GRAPHIC SCALE:

20' 10' 0 20' 40'
Scale: 1" = 20'

STRIPING KEY:

(1) Thermoplastic Pavement Word Marking with Black Border, See Detail Sheet 79.

(2) Thermoplastic Pavement Arrow Marking with Black Border, See Detail Sheet 79.

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

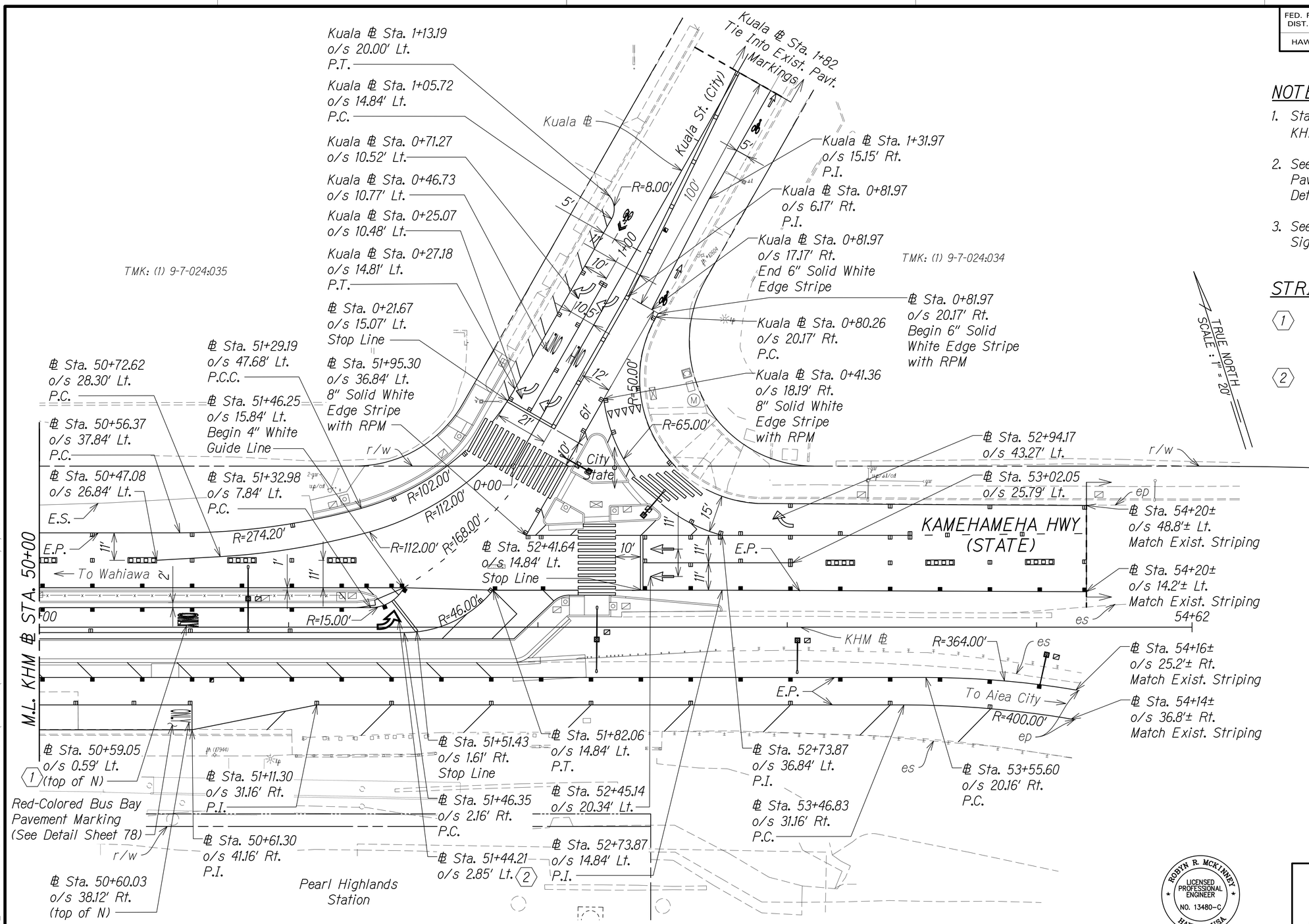
PAVEMENT MARKING PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20' Date: Feb 2026

SHEET No. 1 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\80 PAVEMENT MARKING PLAN.DWG 5/13/2026 4:27 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	81	140



NOTES:

1. Stations and Offsets are based on KHM ℄ unless otherwise noted.
2. See Plan Sheets 76 to 78 for Pavement Marking Legend, Notes and Details.
3. See Plan Sheets 82 and 83 for Signing Plans.

STRIPING KEY:

(1) Thermoplastic Pavement Word Marking with Black Border, See Detail Sheet 79.

(2) Thermoplastic Pavement Arrow Marking with Black Border, See Detail Sheet 79.

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

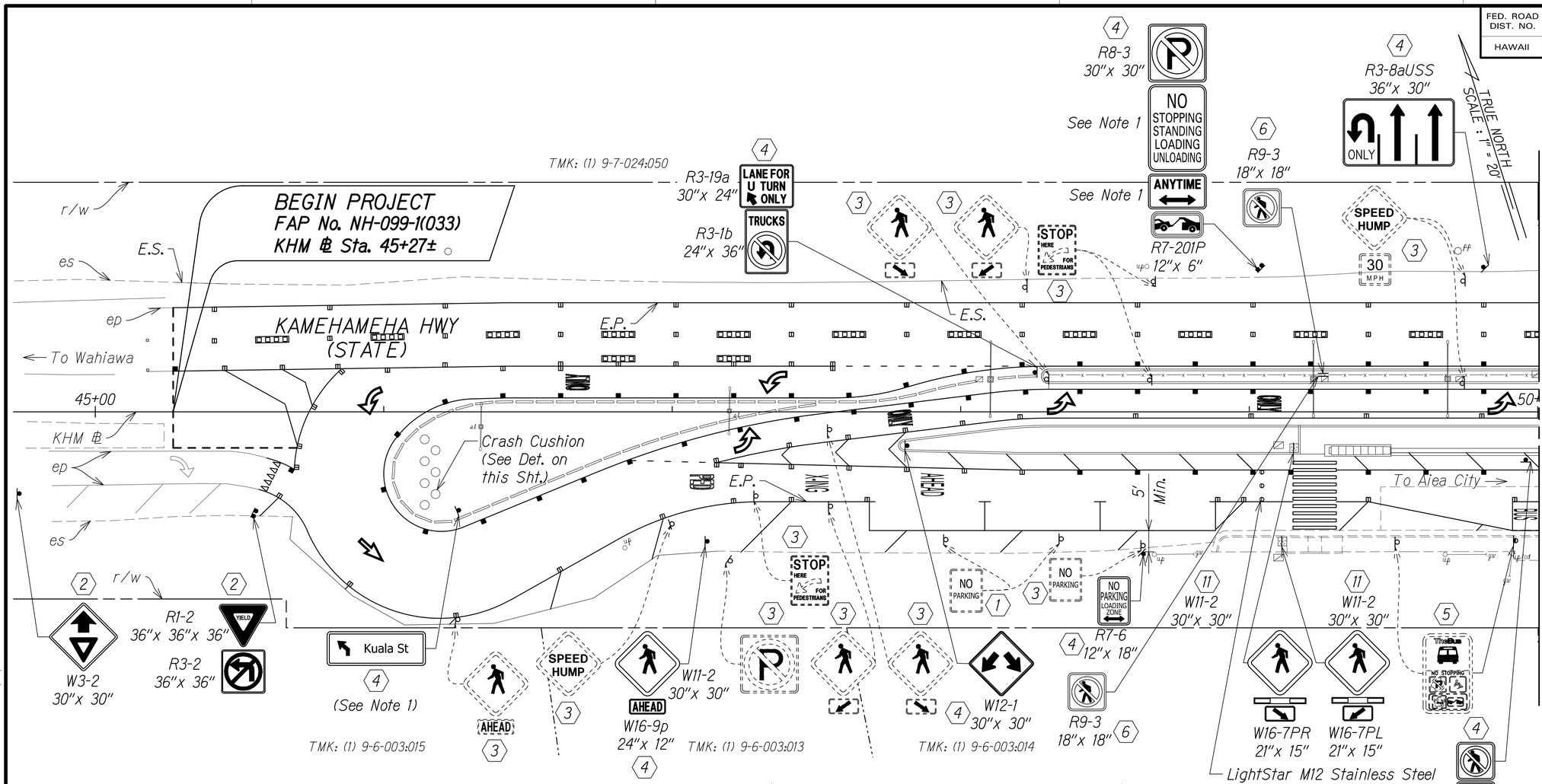
PAVEMENT MARKING PLAN

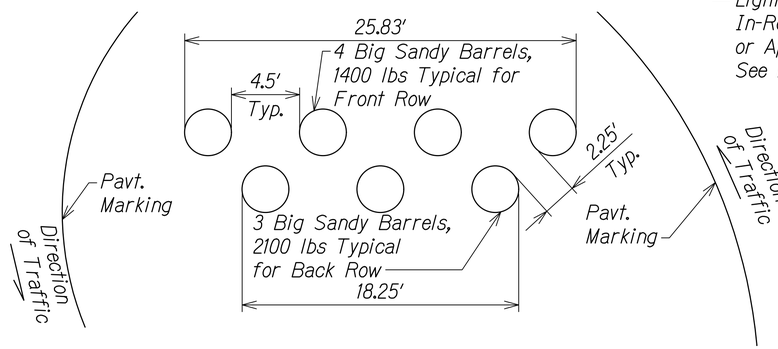
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20' Date: Feb 2026

SHEET No. 2 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\81 PAVEMENT MARKING PLAN.DWG 5/13/2026 4:33 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	82	140





NOTES:

1. See Plan Sheet 84 for Signage Details.
2. See Plan Sheets 85 and 86 for Galvanized Square Tube Sign Post Mounting Details.
3. In-Roadway Warning Lights shall be approved by the Engineer and shall be installed by the Contractor per manufacturer's specifications.

LEGEND:

- Exist. Sign
- Sign
- Rectangular Rapid Flashing Beacon (RRFB)
- In-Roadway Warning Lights

SIGNING KEY:

1. Existing Sign(s) and Post(s) to Remain.
2. Remove Existing Sign(s) with Post(s) and Install New Sign(s) with Post(s).
3. Remove Existing Sign(s) and Post(s).
4. Install New Sign(s) with Post(s).
5. Relocate Existing Sign and Post.
6. Install New Sign(s) on Fence.
11. Install New Sign and Post with RRFB. See Detail Sheet 88.

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

CRASH CUSHION DETAIL

Not to Scale

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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SIGNATURE 04/30/28 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

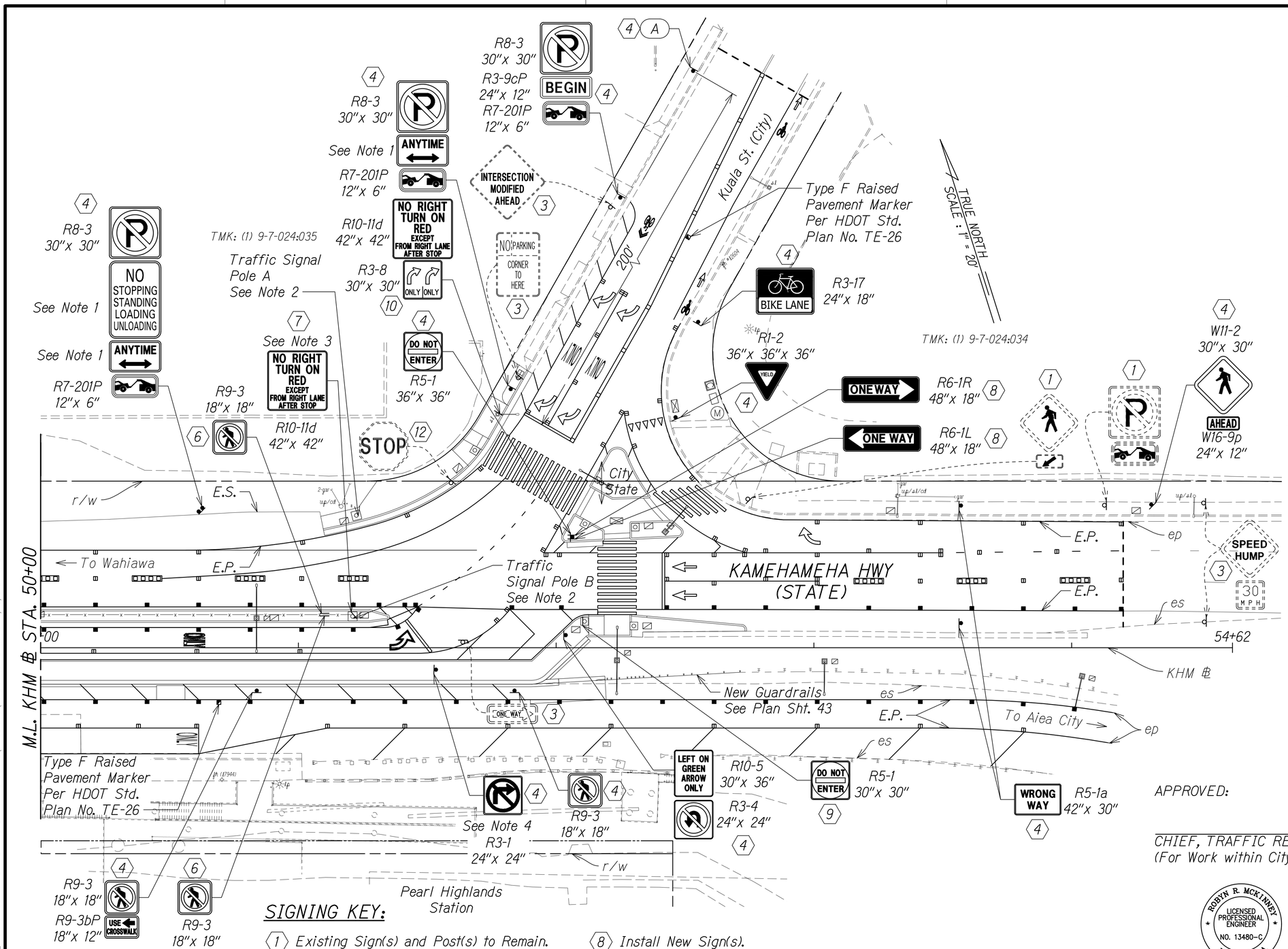
SIGNING PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: As Shown Date: Feb 2026

SHEET No. 1 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\82 SIGNING PLAN.DWG 8/12/2026 7:26 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	83	140



NOTES:

1. See Plan Sheet 84 for Signage Details.
2. For Additional Installation Requirements of Street Name Sign on Mast Arm, See HDOT Std. Plan TE-13. Kuala Street Sign shall be installed on designated traffic pole A and Kamehameha Street Sign shall be installed on designated traffic pole B. See Traffic Signal Plan Sheet 93 for specific locations. See Plan Sheet 84 for Signage Details.
3. R10-11c Sign shall be placed on the traffic signal mast arm and centered between the signal heads.
4. See Plan Sheets 85 and 86 for Galvanized Square Tube Sign Post Mounting Details.

LEGEND:

- Exist. Sign
- Sign

(A) M3-4P 24"x 12" WEST | NORTH M3-1P 24"x 12"
M1-1 24"x 24" INTERSTATE H1 | INTERSTATE H2 M1-1 24"x 24"
M5-4P 24"x 18" LEFT LANE | RIGHT LANE M5-6P 24"x 18"

SIGNING KEY:

1. Existing Sign(s) and Post(s) to Remain.
3. Remove Existing Sign(s) and Post(s).
4. Install New Sign(s) with Post(s).
6. Install New Sign(s) on Fence.
7. Install New Sign on Traffic Signal Mast Arm.
8. Install New Sign(s).
9. Install New Sign(s) on Traffic Signal Pole.
10. Install New Sign(s) on Existing Street Light Post.
12. Remove Existing Sign(s) with Post(s) when traffic signals are turned on.

GRAPHIC SCALE:

20' 10' 0 20' 40'
Scale: 1" = 20'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

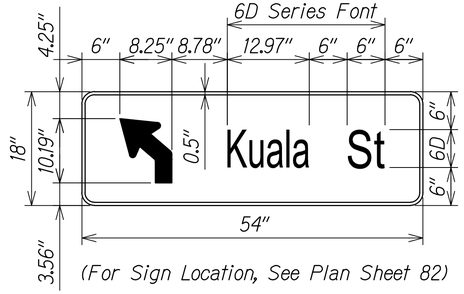
SIGNING PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20' Date: Feb 2026

SHEET No. 2 OF 2 SHEETS

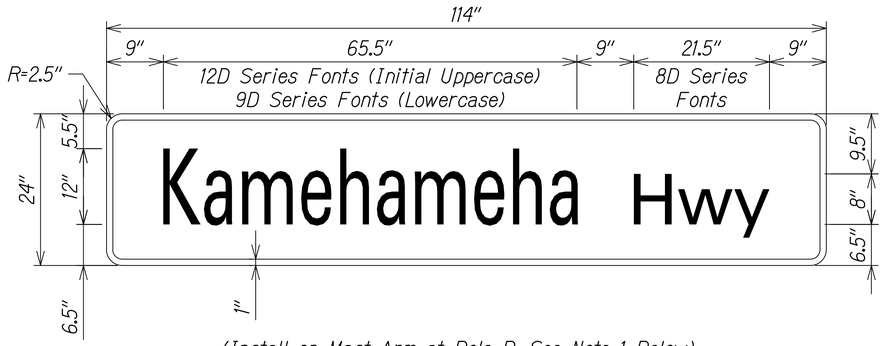
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FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	84	140

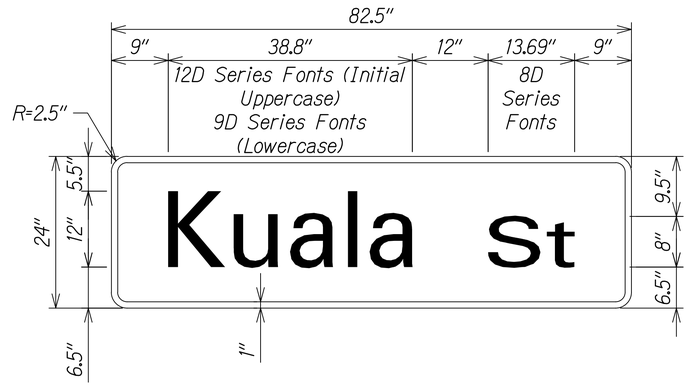


(For Sign Location, See Plan Sheet 82)

DESTINATION SIGN (WHITE ON GREEN)



(Install on Mast Arm at Pole B, See Note 1 Below)

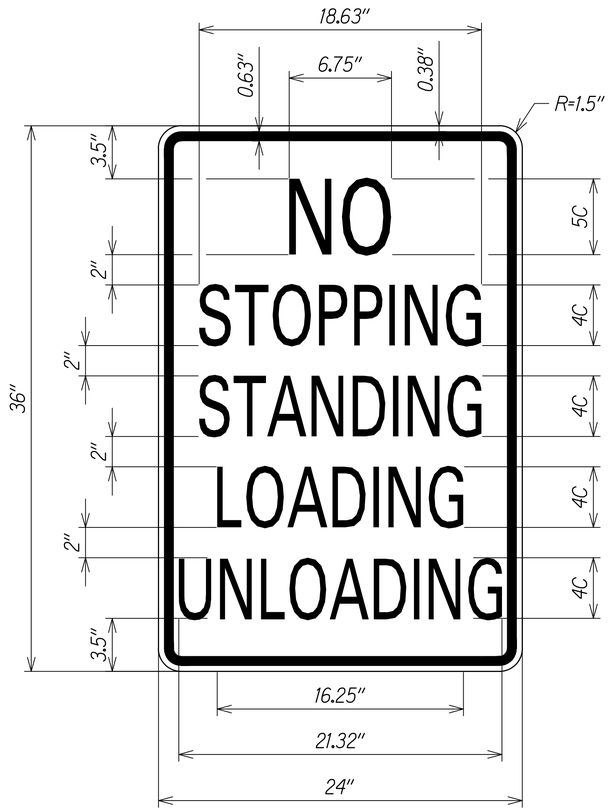


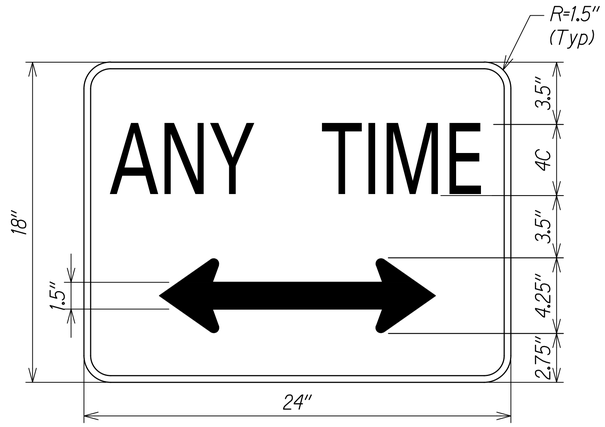
(Install on Mast Arm at Pole A, See Note 1 Below)

D3-1 STREET NAME SIGN ON MAST ARM (WHITE ON GREEN)

NOTE:

1. For locations of Traffic Mast Arm and Pole, See Plan Sheet 93.





REGULATORY SIGNS (RED ON WHITE)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney — SIGNATURE

04/30/28 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNAGE DETAILS

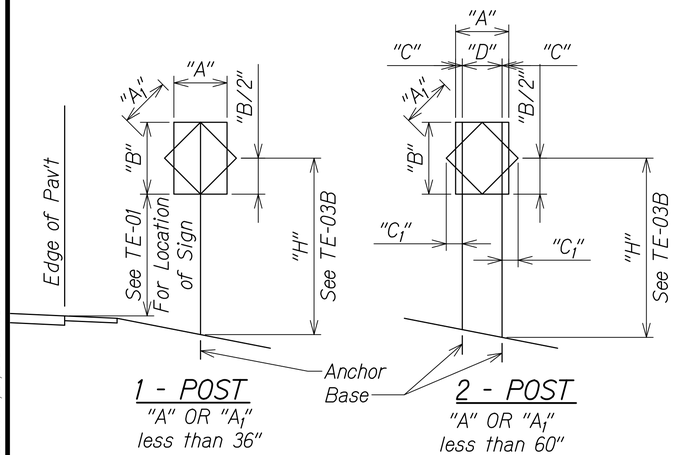
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale — Date: Feb 2026

SHEET No. 1 OF 1 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\84 SIGNAGE DETAILS.DWG 5/11/2026 12:30 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	85	140



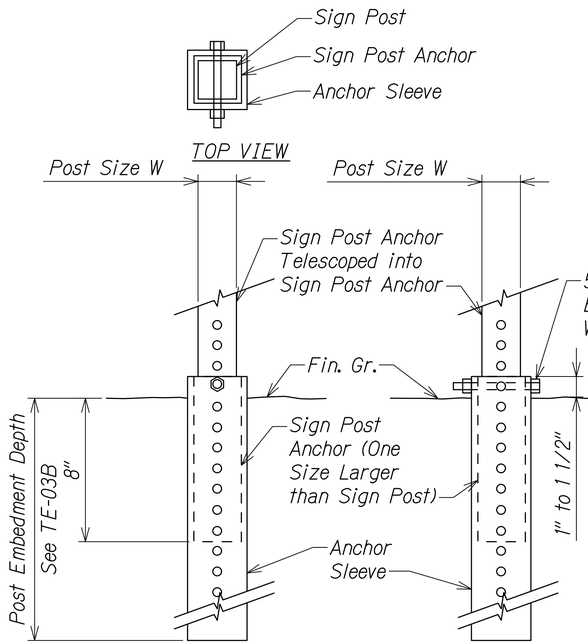
1 - POST
"A" OR "A1" less than 36"

2 - POST
"A" OR "A1" less than 60"

"A" or "A1"	"C"	"C1"
Less than 36"	6"	--
Greater than 36" ∉ less than 48"	9"	19"
Greater than 48"	12"	24"

NOTE:
Frame stiffeners are required when D is greater than 24", See General Notes.

TYPICAL INSTALLATION
For Work within State R/W



SIGN POST INSTALLATION

ANCHOR BASE
For Work within State R/W

GENERAL NOTES:

1. Design Specifications:
   A. Design shall conform with the latest AASHTO Standard Specifications for the Structural Supports for Highway Signs, Luminaires ∉ Traffic Signals and its interim supplements and modifications by the Highways Division, Department of Transportation State of Hawaii.

   B. Latest HDOT Memorandum with subject title "Design Criteria for Bridges and Structures."

2. Loads:
   A. Basic Wind Speed: 105mph

   B. Recurrence Interval of 10 years

3. Materials:
   A. Post shall conform to the Standard Specifications.

   B. All connection bolts shall be AASHTO M164 bolts and anchor bolts shall be AASHTO M314-105 bolt.

   C. Lap splice nuts and bolts shall be M180, with an ultimate tensile strength of 180ksi, minimum.

   D. Aluminum members and surfaces in contact with structural steel shall be isolated with neoprene material as approved by the Engineer.

4. General:
   A. See General Notes on B-01, TE-01, and TE-03B for additional information.

   B. All posts shall be 12 gage unless otherwise specified or shown on the plans.

   C. Square tube posts shall be perforated with 7/16"ø holes, 1" o.c., 4 sides, along entire length of post.

   D. All accessories, fittings and stiffener details (as required) shall be submitted to the Engineer for approval 20 days prior to installation.

   E. Alternate designs in accordance with the plans and specifications shall use the Service Load Design Method and shall be stamped by a Registered Structural Engineer of the State of Hawaii and submitted to the Engineer for approval.

   F. All sign support posts shall be outside of the clear zone or shielded by an appropriate traffic barrier system. The traffic barrier system shall submitted to the Engineer for his approval.

   G. The Contractor shall use templates while installing the anchor bolts. Anchor bolts shall be vertical.

   H. Excavation and backfill shall be considered incidental to the cost of the sign foundation.

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HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GALVANIZED SQUARE TUBE SIGN POST MOUNTING DETAILS

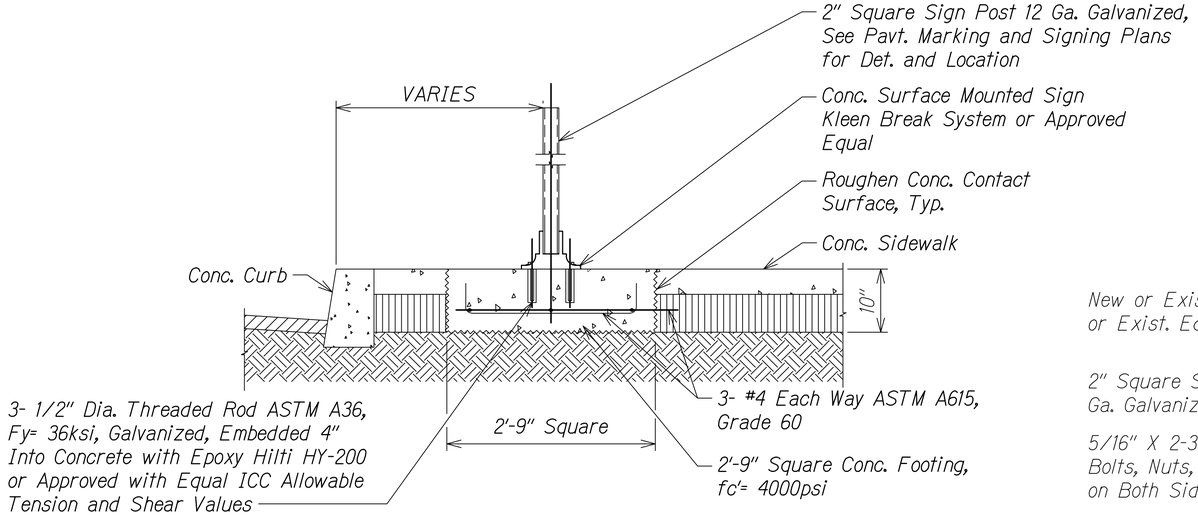
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale Date: Feb 2026

SHEET No. 1 OF 2 SHEETS

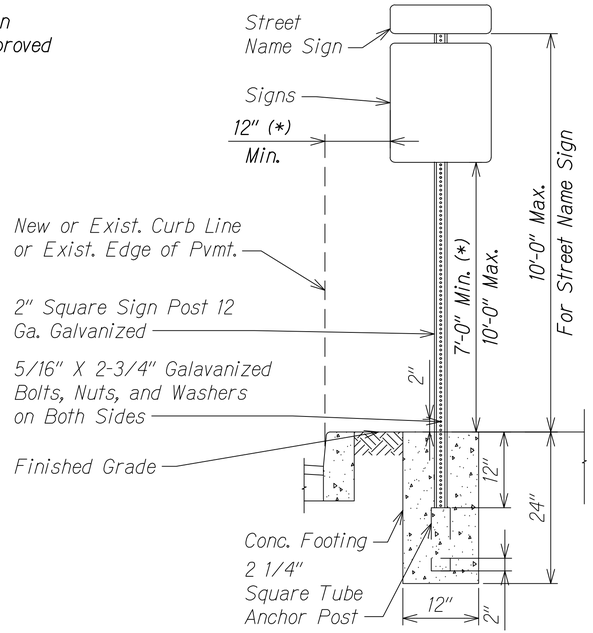
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FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	86	140

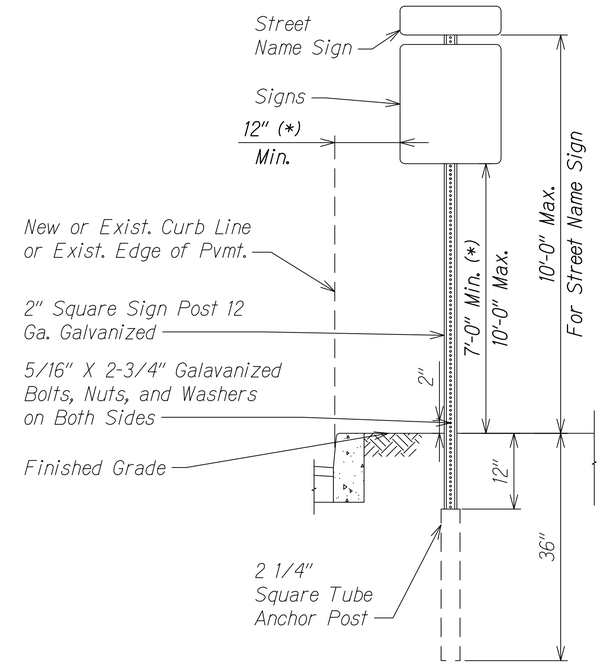


SIGN POST FOOTING SECTION

For Work within State R/W



WITH CONCRETE FOOTING



WITH ANCHOR POST, WITHOUT CONCRETE FOOTING

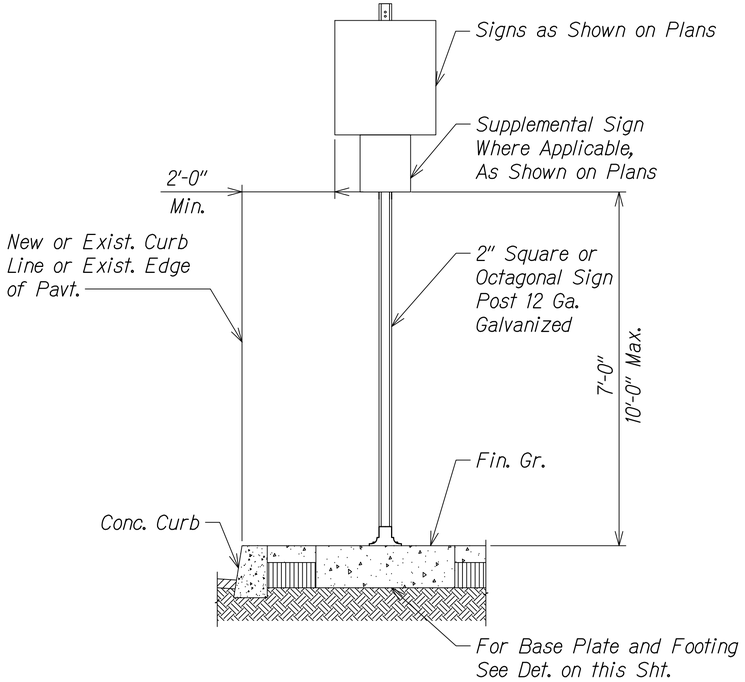
(*) All Sign Installations must meet lateral and height clearances, including new signs that will be posted on to Existing Sign Post. Extend, Relocate or Replace as required to meet clearance requirements.

ANCHOR POST NOTES:

1. *Keep inside of the 2 1/4" Anchor Post free from impediments that may prevent proper seating of 2" sign post.*
2. *Square Tubing Sign Post shall be telescoping type with 7/16" dia. holes at 1" O.C. on four sides.*
3. *Use 5/16" X 2-3/4" bolts to secure the Square Tubing Post onto the 2-1/4" Square Tube Anchor Post.*
4. *For Anchor Post without concrete footing, minimum bury depth for the 2-1/4" Anchor Post shall be as follows:*
   4'-0" min. at poor soil conditions
   2'-6" min. at rocky conditions

INSTALLATION OF NEW OR RELOCATED SIGN POST

For Work within City R/W



SIGN POST

For Work within State R/W

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP *DATE*
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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SIGNATURE *04/30/28* *EXPIRATION DATE OF THE LICENSE*

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GALVANIZED SQUARE TUBE SIGN POST MOUNTING DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale Date: Feb 2026

SHEET No. 2 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\86 GALV SQ TUBE SIGN POST MOUNTING DETAILS.DWG 4/27/2026 10:02 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	87	140

RRFB STRUCTURAL GENERAL NOTES

1. Standard Specifications and Plans:

   A. Hawaii Department of Transportation (HDOT), Hawaii Standard Specifications for Road and Bridge Construction, 2005.

   B. HDOT Highways Division Design Branch - Standard Plans dated 2008.

2. Design Specifications:

   A. American Association of State Highway and Transportation Officials (AASHTO) 2020 "LRFD Bridge Design Specifications", 9th Edition as amended by HDOT document dated August 8, 2014 with subject title "Design Criteria for Bridges and Structures".

   B. AASHTO 2015 "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals", 1st Edition, including all Interim Revisions through 2022.

   C. HDOT document dated August 8th, 2014 with subject title "Design Criteria for Bridges and Structures" and HDOT memorandum dated January 8, 2018 with subject tiltle "Changes to Design Criteria for Bridges and Structures".

3. Wind Loads:

   A. Basic Wind Speed: 145 mph

   B. Recurrence Interval: 1700 years

   C. Fatigue Importance Factor shall be based on Fatigue Category I.

4. Concrete:

   A. All concrete, other than drilled shaft concrete, shall have a minimum 28-day compressive strength f'c = 5000 psi, maximum W/C ratio of 0.42, and a maximum cementitious material content of 705 (lbs/cyd) unless otherwise noted. Concrete mix shall contain glass fibers and corrosion inhibitor.

   B. Drilled shaft concrete shall have a minimum 28-day compressive strength f'c = 4,500 psi, maximum W/C ratio of 0.45, and a maximum cementitious material content of 720 (lbs/cyd). Concrete mix shall contain a corrosion inhibitor.

   C. An Alkali-resistant glass macro fiber shall be added to the concrete mix. The fiber shall have an aspect ratio of 67 and a length of 1 1/2". The dosage shall be 13 lbs per cubic yard of concrete. Any fiber extending outside the concrete shall be removed.

   D. A migrating corrosion inhibitor Amine Carboxylate water-based admixture shall be added to the concrete mix and grout mix. The minimum dosage requirement shall be 24 ounces per cubic yard of concrete.

5. Steel Reinforcing:

   A. All reinforcing steel shall be ASTM A615 Grade 60 deformed bars unless otherwise noted.

   B. The clear cover, measured from the surface of the concrete to the face of any reinforcing bars, shall be as follows, except as otherwise shown.

      1. Concrete cast against and permanently exposed to earth = 3" unless otherwise noted

      2. All others unless otherwise noted = 2"

   C. Reinforcing bars shall be detailed in accordance with the latest edition of the American Concrete Institute (ACI) Detailing Manual, unless otherwise noted.

   D. Reinforcing bars shall be placed and installed in accordance with the CRSI Manual of Standard Practice and CRSI Placing Reinforcing Bars, unless otherwise noted.

   E. Minimum clear spacing between parallel bars shall be 1 1/2 times the diameter of bars (for non-bundled bars). In no case shall the clear distance between edge of the bars be less than 1 1/2 times the maximum size of the coarse aggregate or 1 1/2", whichever is greater.

   F. All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.

   G. Reinforcing bars shall be securely tied at all intersections and lap splices except where the spacing of intersections is less than one foot in each directions, in which case alternate intersections shall be tied.

6. Construction Notes:

   A. PELCO aluminum pole, base, anchor bolts, and all attachements shall be used. Equivalent products may be used subject to the approval by the Engineer. The Engineer may require calculations for any equivalent product. Top of pole shall be capped to prevent water intrusion.

   B. All Manufacturer's recommendations shall be followed.

   C. Shop drawings for all items shall be submitted and approved by the Engineer.

   D. The Contractor shall verify all dimensions and site conditions and shall report any discrepancies in writing to the Engineer before commencing work or ordering materials.

   E. The Contractor shall be solely responsible for the protection of adjacent properties, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer.

   F. The Contractor shall verify the location of all utility lines and notify the respective owners before commencing with excavation, temporary piling or sheeting, or drilled shaft installation.

   G. Foundations shall rest on firm undisturbed soil. Soft soils shall be removed and backfilled with Class D concrete. Overexcavations shall be backfilled with Class D concrete.

   H. If the foundation is part of a sidewalk, the pole need not be centered on the foundation. Anchor bolts shall be located a minimum of 1'-0" clear form the closest edge of the sidewalk or joint.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RRFB STRUCTURAL GENERAL NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

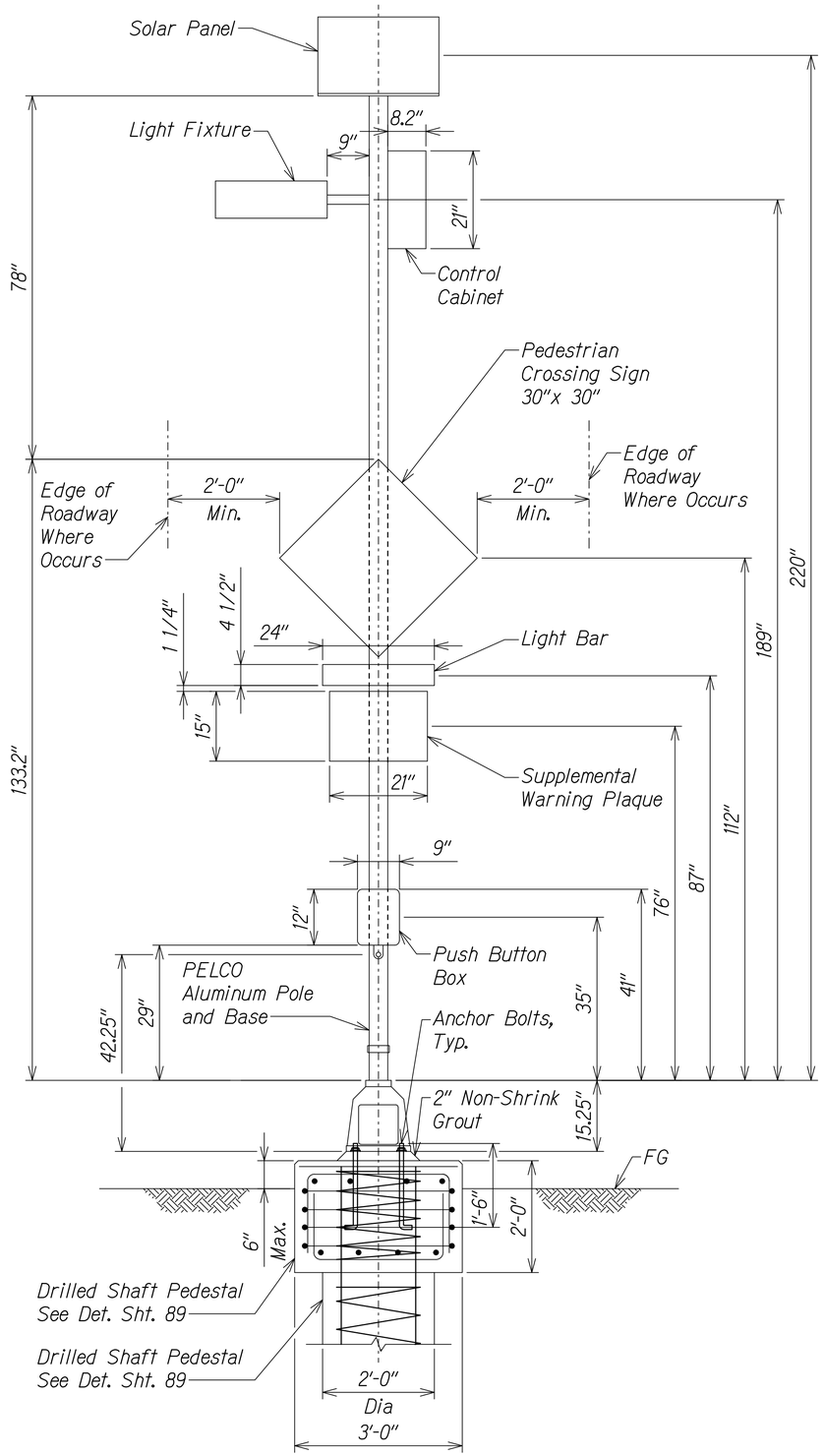
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SHEET No. 1 OF 3 SHEETS

87

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\87 RRFB STRUCTURAL GENERAL NOTES.DWG 4/27/2026 10:02 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	88	140



18'-0" POLE SECTION (A 88 | 88)
Scale: 3/4" = 1'-0"

GRAPHIC SCALE:
1' 6" 0 1' 2' 3'
Scale: 3/4" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RRFB PEDESTRIAN POLE DRILLED SHAFT FOUNDATION SECTION

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 3/4" = 1'-0" Date: Feb 2026

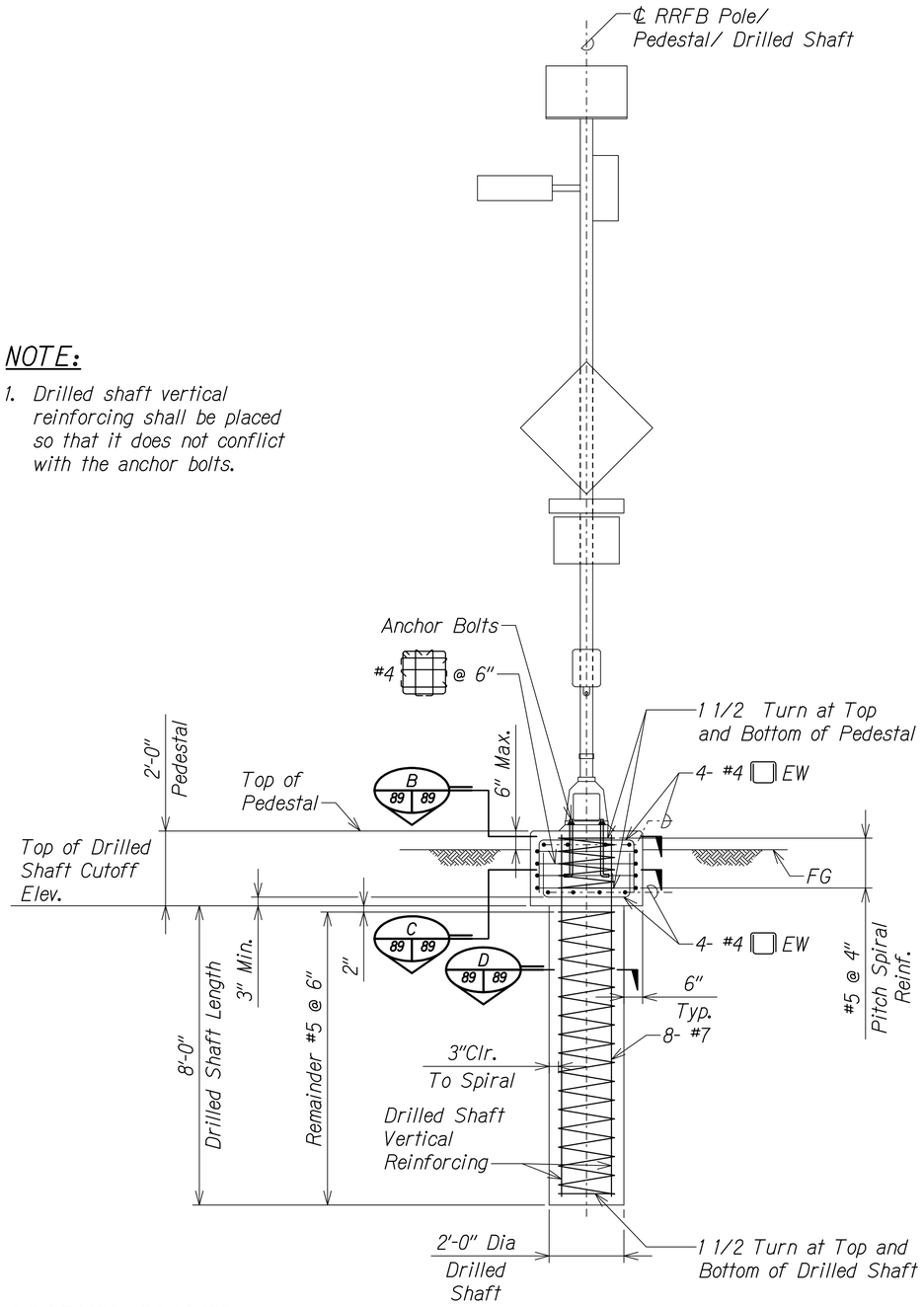
SHEET No. 2 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\88_89 RRFB DETAILS.DWG 4/27/2026 10:02 AM JUNAY

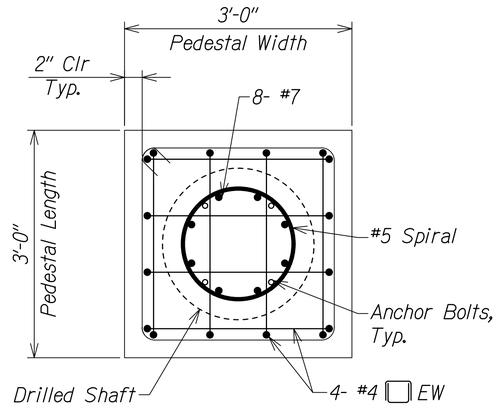
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	89	140

NOTE:

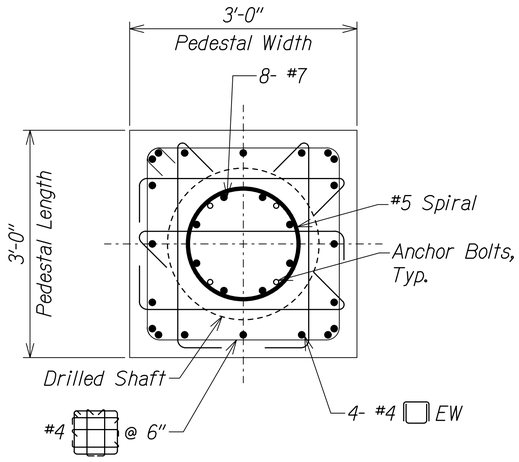
1. Drilled shaft vertical reinforcing shall be placed so that it does not conflict with the anchor bolts.



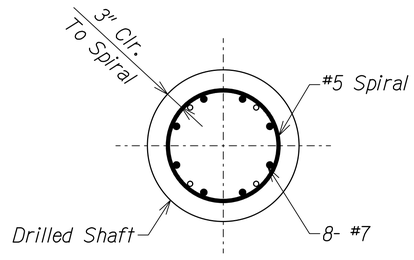
DRILLED SHAFT (A 89 89)
Scale: 1/2" = 1'-0"



SECTION (B 89 89)
Scale: 1" = 1'-0"



SECTION (C 89 89)
Scale: 1" = 1'-0"



SECTION (D 89 89)
Scale: 1" = 1'-0"

GRAPHIC SCALES:

1' 6" 0 1' 2' 3' 4' 5'
Scale: 1/2" = 1'-0"

1' 6" 0 1' 2'
Scale: 1" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DRILLED SHAFT AND PEDESTAL

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: As Shown Date: Feb 2026

SHEET No. 3 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\88_89 RRFB DETAILS.DWG 4/27/2026 10:02 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	90	140

TRAFFIC SIGNAL NOTES:

1. All traffic signal controller equipment shall be completely wired in the cabinet and shall control the traffic signals as called for in the plans.

2. Signal indications during clearance interval:

   A. If a signal is G or ~~<G~~ and will remain G or ~~<G~~ during the next phase, it shall be G or ~~<G~~ during the clearance interval.

   B. If a signal is G or ~~<G~~ and will become R or extinguished during the next phase, it shall be Y or ~~<Y~~ during the clearance interval.

   C. If a signal is R and will remain R or becomes G during the next phase, it shall remain R during the clearance interval.

3. The loop amplifier units furnished for this project shall be capable of operating the loop detector configurations shown on the plans. Cost for the loop amplifier shall be incidental to the installation of the loop detector.

4. A solid #8 bare copper wire shall be pulled with the traffic control cable for equipment ground. Cost shall be incidental to the installation of the control cable.

5. Conduits and pullbox locations as shown on the plans are schematic. They may be modified by the contractor with the approval of the engineer.

6. The Contractor shall install the controller and cabinet in the indicated location.

7. All work for the installation or modification of the traffic signal system shall conform to the latest revisions of the "Hawaii Standard Specifications for Road and Bridge Construction" (2005) and the "Standard Plans" (2008) of the Department of Transportation, Highways Division and as shown on these drawings.

8. All splicing shall be done in the pullboxes.

9. Furnishing and installing the conduit stubouts (pullboxes to edge of pavement) will not be paid for separately but shall be considered incidental to the various contract items.

10. The concrete jacket for the conduit by-pass detail shown on HDOT standard plan TE-36 shall not be paid for separately but considered incidental to the various traffic signal contract items.

11. All cable and elements for grounding shall be new.

12. Cables between traffic signal heads, pedestrian signal heads, pedestrian push buttons and EVP detectors and the nearest pullbox are not called out on the plan, but shall be furnished and installed in sufficient numbers and lengths as required. Cost shall be incidental to various traffic signal contract items.

13. Conduits between the traffic signal standard and the pullbox shall be in sufficient number as required. Cost shall be incidental to the installation of the traffic signal standard foundation.

14. Unless otherwise specified, all conduits shall be concrete encased PVC schedule 40.

15. Access to the DTS Traffic Management Center or Joint Traffic Management Center for integration of the CCTV and traffic signal systems will be made available pending DTS Approval of qualified personnel. Request for access and statement of qualifications for proposed personnel directly involved with this work shall be made to DTS no later than 4 weeks prior to commencement of work.

16. Should access be required to the Joint Traffic Management Center (JTMC) the Contractor shall be required to obtain the following for all employees:

   A. In accordance with HRS section 846-2.7 (b)(37), a fingerprint-based state and national criminal history record check (CHRC) will be required for all Contractor's employees (including sub-contractors) whose position responsibilities require unescorted access to secured areas and equipment within the JTMC. Employees must pass the CHRC in order to be granted unescorted access.

   B. The Contractor shall be responsible for obtaining a state and national fingerprint-based CHRC for each and every employee who requires unescorted access in order to perform their work within the JTMC. At a minimum, this shall include a list of employees, position title and description of work to be performed. Employees that do not pass the CHRC shall not be granted unescorted access within the JTMC.

   C. Written confirmation of the CHRC clearances shall be provided to the DTS and include a statement that a CHRC was conducted, the date it was done, and that the employees were cleared for unescorted access within the JTMC. The statement shall be signed by the Contractor's Human Resources Manager or designee.

17. Any planned disruption to the City/HDOT's fiber communications will need to be communicated to HDOT, DTS and DIT five (5) working days in advance and downtime shall be limited to off peak (8:30 am - 3:30 pm) hours Monday to Friday excluding City/State holidays. Point of contact shall be: HDOT-Miles Ueno (Miles.Ueno@hawaii.gov) and Kristine Pascua (Kristine.A.Pascua@hawaii.gov); DTS Ty Fukumitsu (tfukumitsu@honolulu.gov); and DIT Tony Velasco (TVelasco@honolulu.gov).

18. Traffic signal heads, pedestrian heads, pedestrian pushbuttons, etc, not utilized/operational, Contractor shall bag or remove. If using bags, Contractor is responsible to maintain.

19. Back plates with a retro-reflective tape shall be installed for all traffic signal assemblies mounted on the arm of the Type-II Traffic Signal Standard. Contractor shall be required to install a 5 inch wide back plate with the slots to reduce wind loads and a 1 inch retro-reflective border for all arm mounted traffic signal assemblies.

20. Locations of existing underground structures and utilities such as pipelines, conduits, cables, etc., shown on plans are approximate only. It is not the intent of these plans to show the exact location of all underground utilities and structures. It is the responsibility of the Contractor to verify the locations of all existing utilities with the respective owners. Existing utilities damaged by the Contractor shall be repaired by the Contractor at his own cost.

21. The Contractor shall verify and check all dimensions and details shown on the drawings prior to the start of construction. Any discrepancy shall be immediately brought to the attention of the engineer for clarification.

22. The Contractor shall notify all agencies to verify, tone, and locate their existing utilities within the project area prior to excavating. The Contractor shall coordinate all work.

23. The locations of the new traffic signal standards, traffic signal standards with mast-arm, pedestrian push buttons, traffic controller, pullboxes, conduits and loop detectors shall be staked out in the field by the Contractor and approval of the locations shall be obtained from the engineer prior to construction and installation.

24. All traffic signal work shall conform to the requirements of the "Manual on Uniform Traffic Control Devices for Streets and Highways, 2023, 11th Edition", Federal Highway Administration and amendments.

25. Maintenance of traffic through the construction area shall be in accordance with Part VI of the "Manual on Uniform Traffic Control Devices for Streets and Highways, 2023, 11th Edition", Federal Highway Administration as amended and as specified in the special provisions. The Contractor shall furnish and maintain adequate barricades, blinkers, construction signs, etc., for the safety of the motoring public.

26. Traffic Signal items shall conform to Part IV of the "Manual on Uniform Traffic Control Devices for Streets and Highways, 2023, 11th Edition", latest revisions of AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, the "Hawaii Standard Specifications for Road and Bridge Constructions" (2005), and State of Hawaii, Department of Transportation, Highways Division, "Standard Plans" (2008).

27. At the end of each day's work, the Contractor shall remove all equipment and other obstruction to permit free and safe passage of public traffic.

TRAFFIC SIGNALS AND TECHNOLOGY DIVISION NOTES:

1. The Contractor shall notify the Traffic Signals and Technology Division, Department of Transportation Services, three (3) working days prior to commencing work on the traffic signal system at (808) 768-8387.

2. The traffic signal system shall be kept operational during construction. Any relocation required shall be approved by the Traffic Signals and Technology Division, Department of Transportation Services, and paid for by the Contractor.

3. The Contractor shall be responsible for any damages to the existing traffic signal facilities, including but not limited to the traffic signal fiber optic cable system, and interconnect system. Any and all damages to the facilities shall be repaired by the Contractor at their cost in accordance with the requirements of the Traffic Signals and Technology Division, Department of Transportation Services.

MICHAEL Y. PACKARD
LICENSED PROFESSIONAL ENGINEER
No. 13441-C
HAWAII, U.S.A.

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M Packard — SIGNATURE

04/30/28 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A Date: Feb 2026

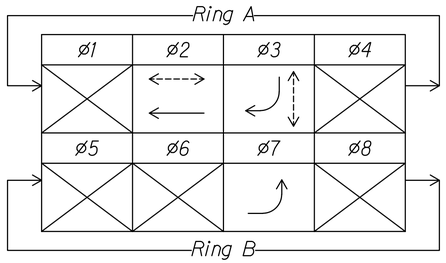
SHEET No. 1 OF 1 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\90 TRAFFIC SIGNAL NOTES.DWG 4/27/2026 10:16 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	91	140

LEGEND:

- Standard Traffic and Pedestrian Count Down Signal Heads mounted on Type I Signal Standard, Height = 10'
- Pedestrian Count Down Signal Head mounted on Type I Signal Standard, Height = 8'
- 12" R Y G LED Traffic Signal Head
- 12" ← ← ← LED Traffic Signal Head
- 12" R Y → LED Traffic Signal Head
- 12" R Y ↑ LED Traffic Signal Head
- LED Pedestrian Head with Count Down Signal Head
- Emergency Vehicle Preemption (EVP) Detector
- Loop Detector
- Meter Pedestal
- Traffic Signal Standard
- Type - B Pullbox
- Type - C Pullbox
- Ped Push Button
- Traffic Signal Controller Cabinet
- CCTV Cabinet
- CCTV Camera
- –TSC– Traffic Signal Conduit
- Traffic Signal Head on Type II Traffic Signal Standard



PHASE DIAGRAM

CONDUIT AND CABLE SCHEDULE

Designation	Conduits	Description
(1)	1 - 2"	1 - 26C #14 with #8 GND in each
	1 - 2"	1 - 3C #20
	2 - 2"	Spare
(2)	1 - 2"	3 - 2C #14
	2 - 2"	Spare
(3)	1 - 2"	1 - 26C #14 with #8 GND in each
	1 - 2"	3 - 2C #14
	1 - 2"	2 - 3C #20
	3 - 2"	Spare
(4)	1 - 2"	1 - 26C #14 with #8 GND in each
	1 - 2"	3 - 2C #14
	1 - 2"	3 - 3C #20
	3 - 2"	Spare
(5)	1 - 2"	1 - 26C #14 with #8 GND in each
	1 - 2"	4 - 2C #14
	1 - 2"	3 - 3C #20
	3 - 2"	Spare
(6)	1 - 2"	1 - 26C #14 with #8 GND in each
	1 - 2"	4 - 2C #14
	1 - 2"	3 - 2C #14
	1 - 2"	3 - 3C #20
	1 - 2"	1 - FOC with Fabric Interconnect
	3 - 2"	Spare
(7)	1 - 2"	1 - 26C #14 with #8 GND in each
	1 - 2"	4 - 2C #14
	1 - 2"	2 - CAT 6A, 1 - 2C #14
	1 - 2"	Spare
(8)	1 - 2"	4 - 2C #14
(9)	1 - 2"	1 - 26C #14 with #8 GND in each
	1 - 2"	2 - CAT 6A
	2 - 2"	Spare
(10)	1 - 2"	2 - 2C #14
	2 - 2"	1 - FOC with Fabric Interconnect
(11)	2 - 2"	1 - FOC with Fabric Interconnect
(12)	2 - 2"	2 - 26C #14 with #8 GND in each
	1 - 2"	4 - 2C #14
	1 - 2"	4 - 2C #14
	1 - 2"	4 - 2C #14
	1 - 2"	3 - 3C #20
	1 - 2"	1 - FOC with Fabric Interconnect
	1 - 2"	2 - CAT 6A, 1 - 2C #14
	3 - 2"	Spare
(13)	2 - 2"	2 - 26C #14 with #8 GND in each
	1 - 2"	4 - 2C #14
	1 - 2"	4 - 2C #14
	1 - 2"	4 - 2C #14
	1 - 2"	3 - 3C #20
	1 - 2"	1 - CAT 6A, 1 - 2C #14
	3 - 2"	Spare
	Refer to Electrical Drawings for Power Requirements	
(14)	1 - 2"	3 - CAT 6A
	1 - 2"	1 - FOC with Fabric Interconnect
	3 - 2"	Spare
	Refer to Electrical Drawings for Power Requirements	
(15)	4 - 2"	Spare
(16)	4 - 2"	Spare

STANDARDS, SIGNAL HEAD AND APPURTENANCES

Location	Pole Letter	Standard Type	Signal Head No.	Mount Type	Signal Heads
KHM @ 51+22.00, 51.99' Lt	(A)	II - 32'	1	IV (ONE WAY, VERTICAL)	R+Y+G
			2	VI (ONE WAY, VERTICAL)	R+Y+↑
			3	VI (ONE WAY, VERTICAL)	R+Y+↑
KHM @ 51+20.55, 12.75' Lt	(B)	II - 36'	1	VI (ONE WAY, VERTICAL)	R+Y+→
			2	VI (ONE WAY, VERTICAL)	R+Y+→
			3	VI (ONE WAY, VERTICAL)	R+Y+→
			4	VI (ONE WAY, VERTICAL)	←+←+←
KHM @ 52+09.00, 11.02' Lt	(C)	I - 10'	1	1A (ONE WAY, VERTICAL)	←+←+←
KHM @ 52+29.49, 9.09' Lt	(D)	I - 8'	1	I (ONE WAY, VERTICAL)	PED HEAD
KHM @ 52+29.99, 47.67' Lt	(E)	I - 10'	1	IV (ONE WAY, VERTICAL)	PED HEAD
			2	1A (ONE WAY, VERTICAL)	R+Y+G
KHM @ 52+10.72, 48.69' Lt	(F)	I - 10'	1	1A (ONE WAY, VERTICAL)	←+←+←
			2	IV (ONE WAY, VERTICAL)	PED HEAD
KHM @ 51+68.72, 77.03' Lt	(G)	I - 10'	1	IV (ONE WAY, VERTICAL)	PED HEAD
			2	1A (ONE WAY, VERTICAL)	←+←+←

* Mount types are based on HDOT Standard Plan TE-32, 2008.

APS PEDESTRIAN PUSH BUTTON SCHEDULE

North

R10-4B (Sign Varies w/ Direction)

Pole	Signs
(D)	R10 - 4B (L)
(E)	R10 - 4B (R)
(F)	R10 - 4B (R)
(G)	R10 - 4B (L)

MICHAEL Y. PACKARD LICENSED PROFESSIONAL ENGINEER No. 13441-C HAWAII, U.S.A.

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M Packard — SIGNATURE

04/30/28 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL LEGEND AND CONDUIT SCHEDULE

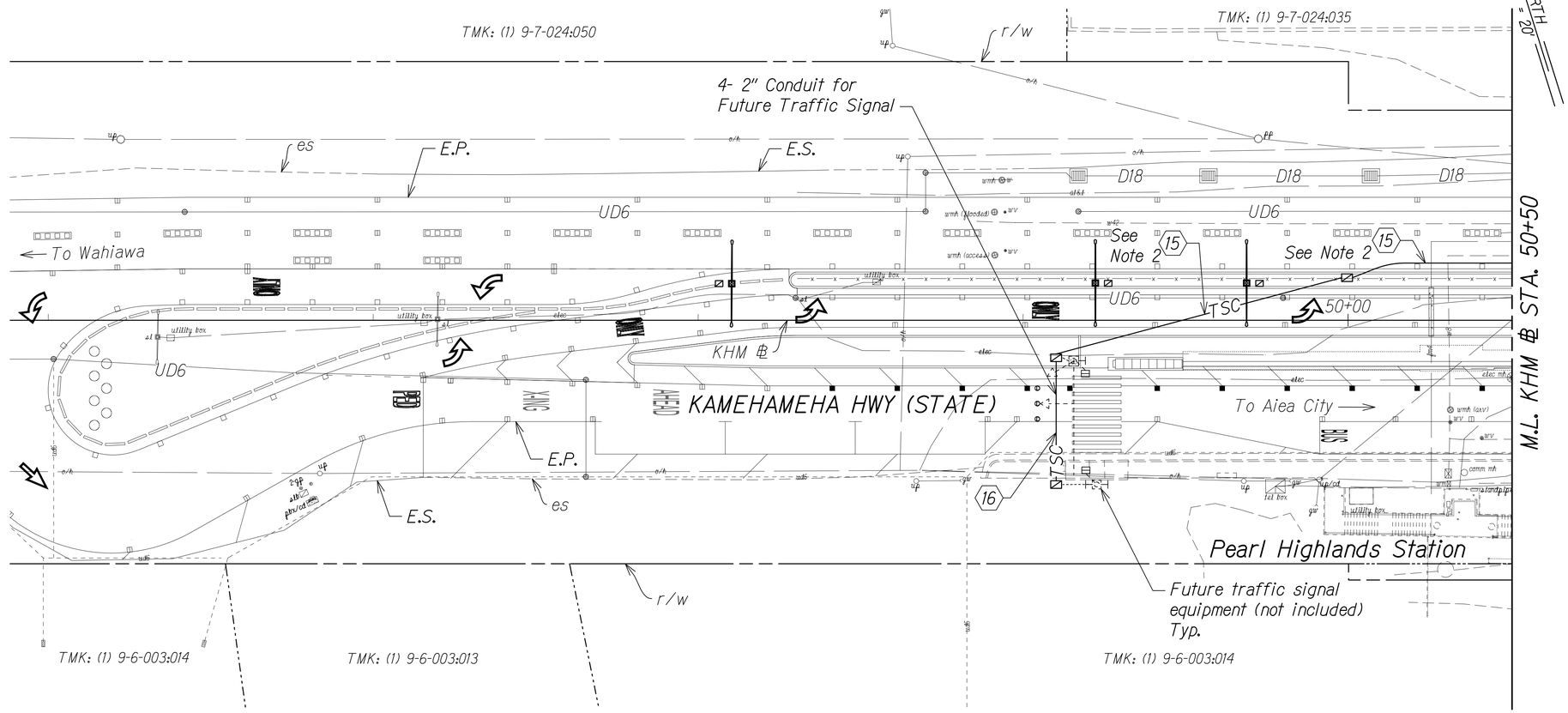
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A — Date: Feb 2026

SHEET No. 1 OF 1 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\91 TRAFFIC SIGNAL LEGEND AND CONDUIT SCHEDULE.DWG 4/27/2026 10:16 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	92	140



NOTES:

1. *See Sheets 90 to 91 for Traffic Signal Notes and Legend.*
2. *See Sheet 91 for Conduit and Cable Schedule.*
3. *All underground traffic signal conduits shall be concrete encased with minimum depth of 36" from top of pavement in accordance with HDOT Std. Plan TE-36.*
4. *Traffic signal conduit shall be joint trenched along with street light conduit to the maximum extent possible.*

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD DATE
City and County of Honolulu

MICHAEL Y. PACKARD
LICENSED PROFESSIONAL ENGINEER
No. 13441-C
HAWAII, U.S.A.

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SIGNATURE

04/30/28
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

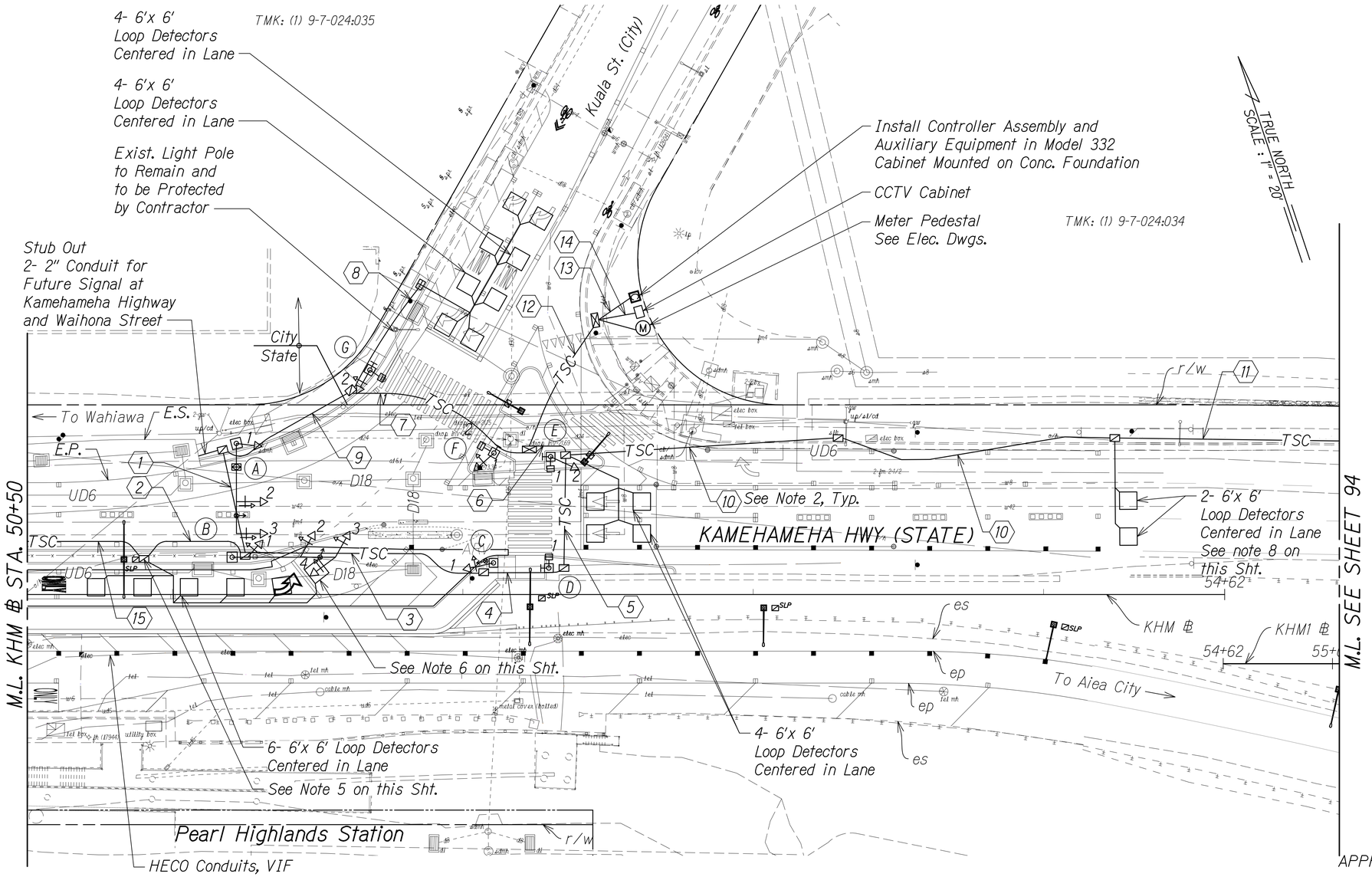
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 20' Date: Feb 2026

SHEET No. 1 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\92 TRAFFIC SIGNAL PLAN.DWG 8/12/2026 6:12 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	93	140



NOTES:

1. See Sheets 90 to 91 for Traffic Signal Notes and Legend.
2. See Sheet 91 for Conduit and Cable Schedule.
3. All underground traffic signal conduits will need to be concrete encased with minimum depth of 36" from top of pavement in accordance with HDOT Std. Plan TE-36.
4. Traffic signal conduit shall be joint trenched along with street light conduit to the maximum extent possible.
5. Traffic signal pullbox shall be located next to street light 5A/5B pullbox to avoid conflict with median chain link fence posts.
6. The eastbound Kamehameha Hwy left-turn sensor loops shall be installed as shown on plans with the first loop located between the stop bar and westbound approach.
7. All underground traffic signal conduits within City Right-of-Way shall be concrete encased with a minimum depth of 36" from top of pavement.
8. Advanced detector loop shall be routed directly to cabinet without splice.

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP — DATE
(For Work within City R/W Only)

APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD — DATE
City and County of Honolulu

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP — DATE
(For Work within City R/W Only)

GRAPHIC SCALE:

20' 10' 0 20' 40'
Scale: 1" = 20'

MICHAEL Y. PACKARD
LICENSED PROFESSIONAL ENGINEER
No. 13441-C
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

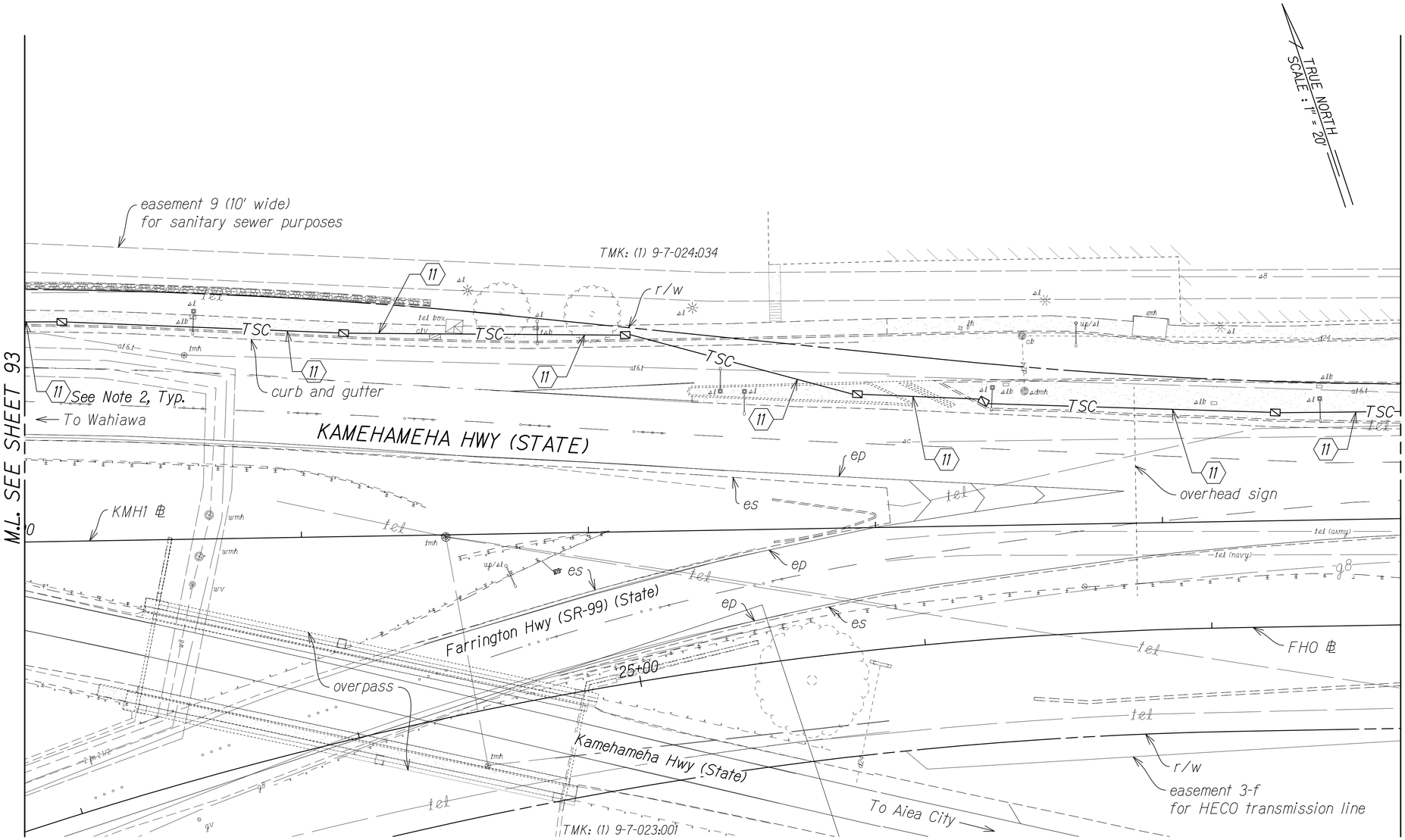
TRAFFIC SIGNAL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20' Date: Feb 2026

SHEET No. 2 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\93 TRAFFIC SIGNAL PLAN.DWG 5/13/2026 4:41 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	94	140



NOTES:

1. See Sheets 90 to 91 for Traffic Signal Notes and Legend.
2. See Sheet 91 for Conduit and Cable Schedule.
3. All underground traffic signal conduits will need to be concrete encased with minimum depth of 36" from top of pavement in accordance with HDOT Std. Plan TE-36.

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD DATE
City and County of Honolulu

GRAPHIC SCALE:

20' 10' 0 20' 40'
Scale: 1" = 20'

MICHAEL Y. PACKARD
LICENSED PROFESSIONAL ENGINEER
No. 13441-C
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

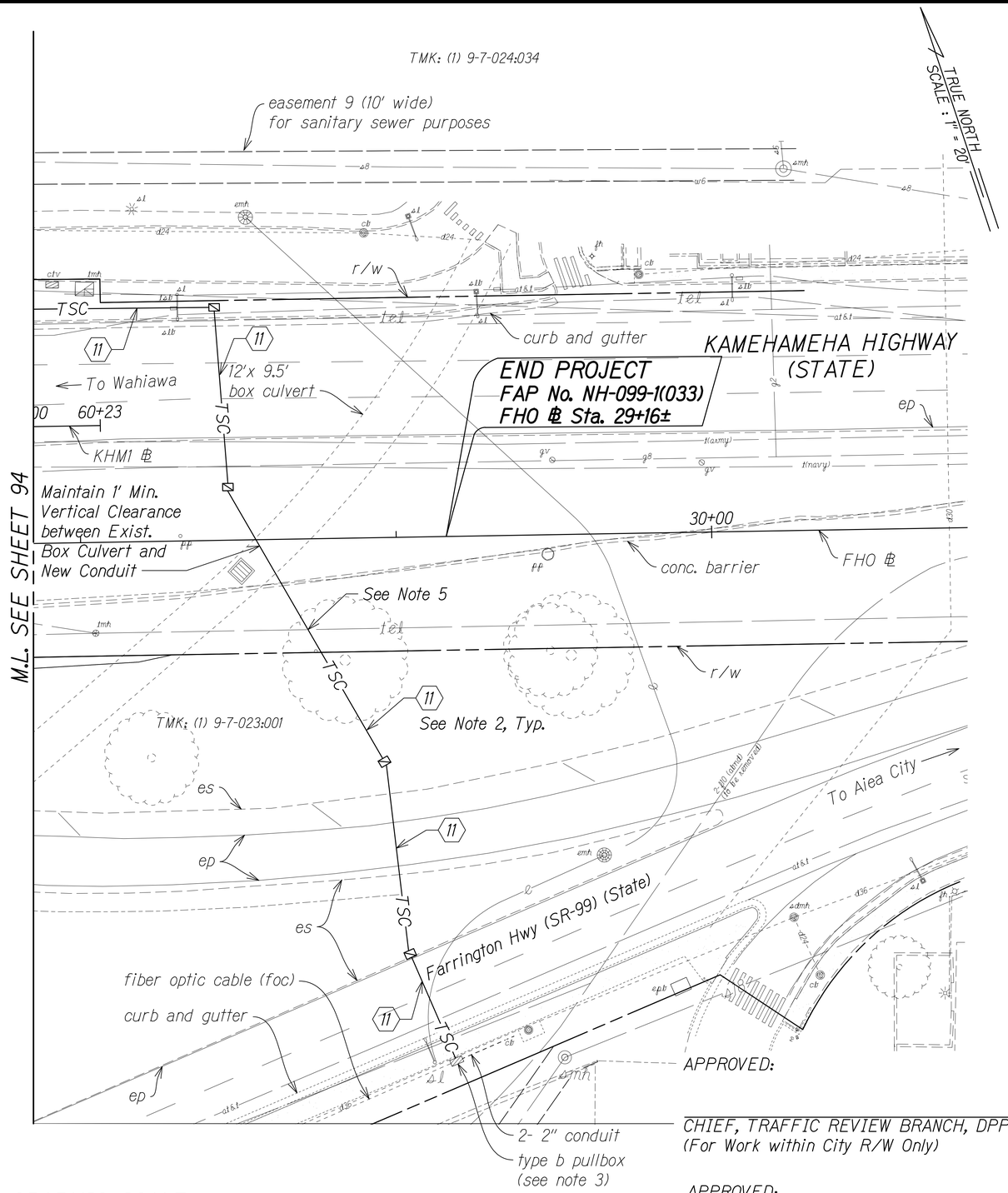
TRAFFIC SIGNAL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 20' Date: Feb 2026

SHEET No. 3 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\94 TRAFFIC SIGNAL PLAN.DWG 4/27/2026 10:18 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	95	140



GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

NOTES:

1. See Sheets 90 to 91 for Traffic Signal Notes and Legend.
2. See Sheet 91 for Conduit and Cable Schedule.
3. Contractor to use the existing empty conduit to route and connect the FOC with fabric innerduct to the CCTV cabinet located at the intersection of Kamehameha Highway with Acacia Road. The approximate distance length is 1200 ft.
4. All underground traffic signal conduits will need to be concrete encased with minimum depth of 36" from top of pavement in accordance with HDOT Std. Plan TE-36.
5. Regarding the recently installed Hawaiian Telcom Conduits in this area, Contractor shall ensure sufficient clearance is provided for the New Traffic Signal Conduits in accordance with the 3 feet cover and separation requirements.

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD DATE
City and County of Honolulu

MICHAEL Y. PACKARD
LICENSED PROFESSIONAL ENGINEER
No. 13441-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE

04/30/28
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

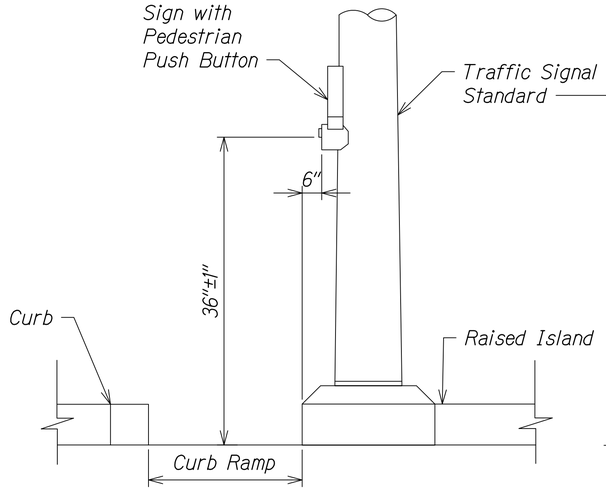
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

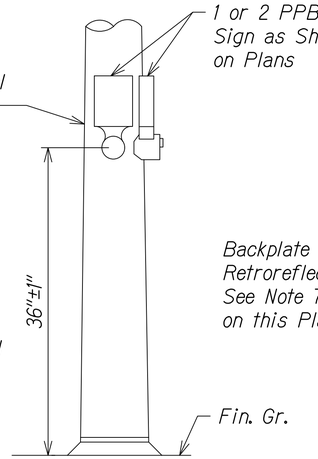
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SHEET No. 4 OF 4 SHEETS

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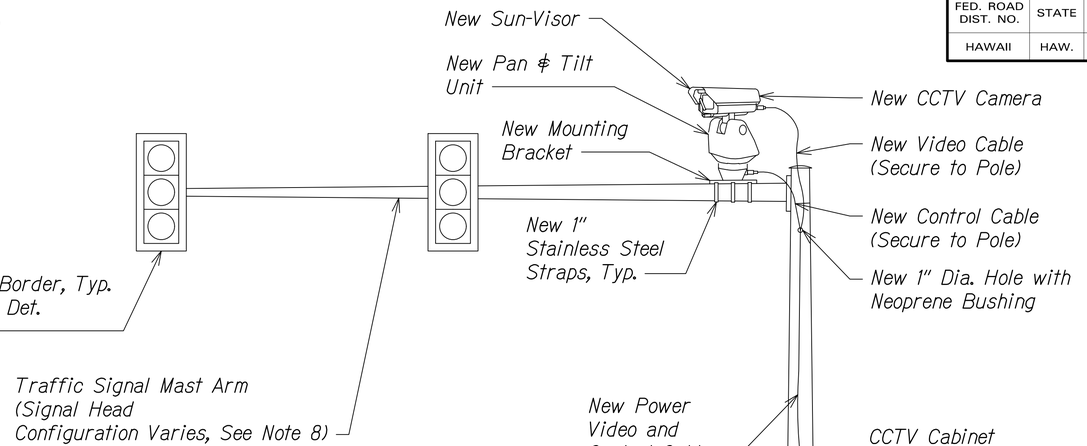
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HAWAII	HAW.	NH-099-1(033)	2026	96	140

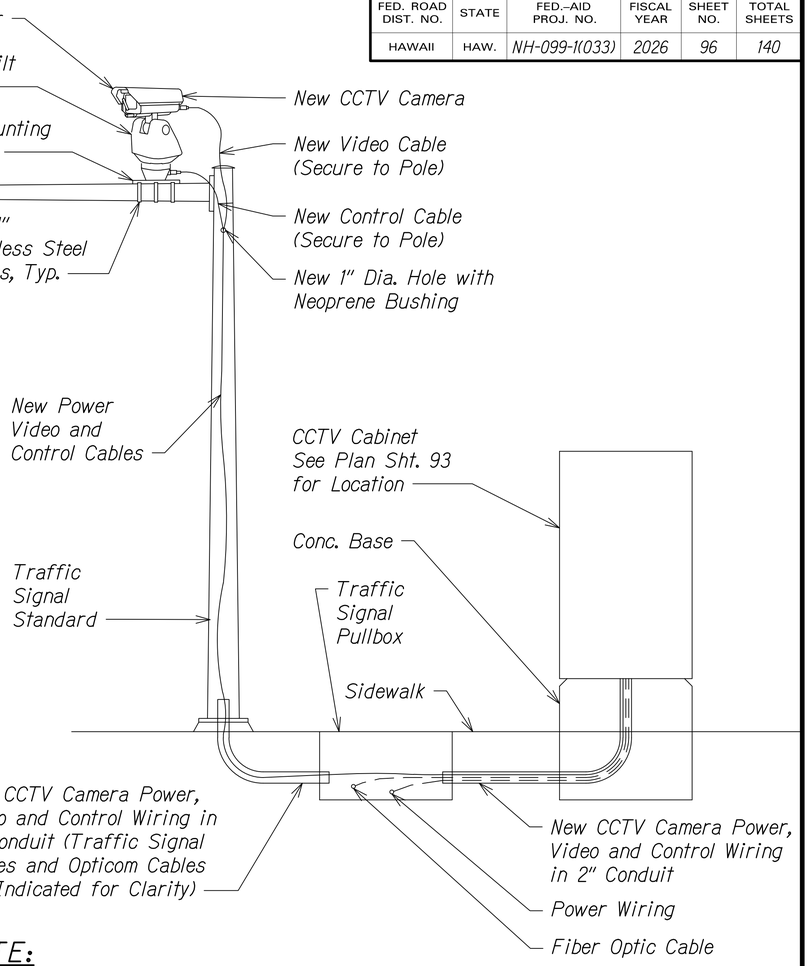




AT RAISED CONCRETE ISLAND

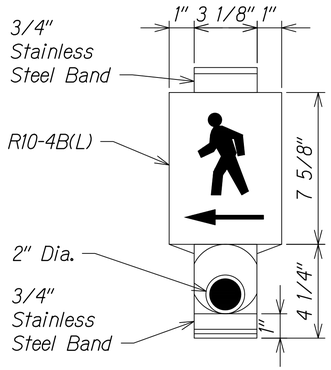
AT SHOULDER



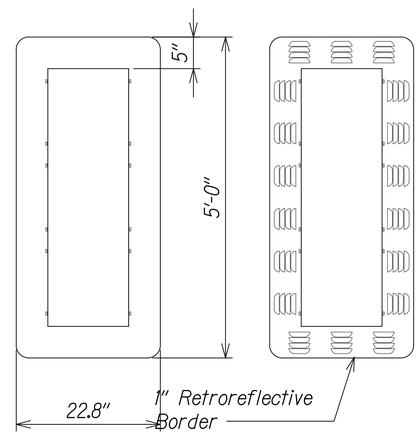


DETAIL NOTES:

1. APS system to be determined at a later time in coordination with DOT and DTS.
2. The pedestrian push button unit shall consist of a one piece assembly with a raised walking man, arrow indication and APS push button.
3. The APS push button activator shall be of the mushroom plunger type, ADA acceptable, 2 inches in diameter that requires less than 5 lbs. of pressure to activate.
4. The raised man and arrows shall be directional indication as shown on the plans.
5. The APS push button shall be tamper proof, weatherproof and constructed so that the electrical shocks are impossible.
6. The color scheme shall be:
   White - Man, arrow and APS push button
   Black - Background
7. The Pedestrian Push Button shall be installed so that the center of the APS push button activator is 3' above the finished grade of the sidewalk or curb ramp directly fronting the push button.
8. All Traffic Signal Heads shall have backplates with retroreflective borders complying with HDOT Standard Specifications. Backplate shall be louvered, constructed of aluminum alloy 3003-H14 sheet having minimum thickness of 0.058 inch and minimum dimensions equal to signal head size plus 5 inch border. It shall also be dull black in color and have a 1-inch retroreflective border around the outside edge of the front surface.
9. For typical vehicular and pedestrian signal head mounting details within State Right-of-Way, see HDOT Standard Plan TE-32.



APS PEDESTRIAN PUSH BUTTON



GENERAL SPECIFICATIONS:

Material: Aluminum, ABS 3003-H14, 0.063" Thickness
Finish: Aluminum Powder Coat
Color: Flat Black - Face
Black - Back

BACKPLATE

NOTE:

1. Coordinate aiming of camera with the City Department of Transportation Services.

TYPICAL CCTV CAMERA MOUNTING

APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD DATE
City and County of Honolulu

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M Packard 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

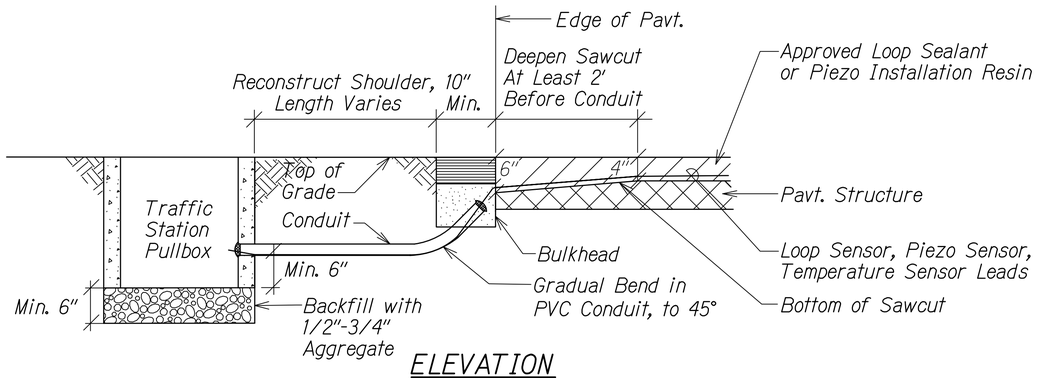
PEDESTRIAN PUSH BUTTON AND CCTV MOUNTING DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale Date: Feb 2026

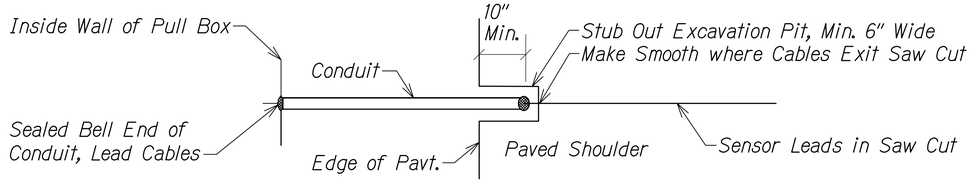
SHEET No. 1 OF 7 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\96 PEDESTRIAN BUTTON AND CCTV MOUNTING DETAILS.DWG 5/11/2026 11:32 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	97	140

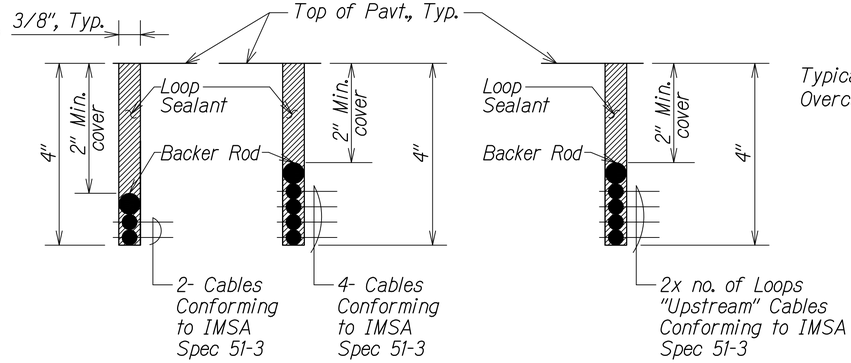


ELEVATION



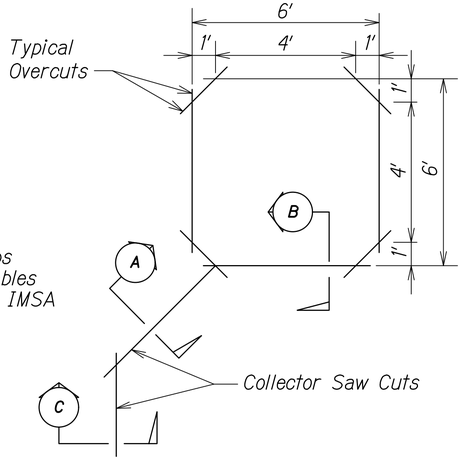
PLAN

EDGE OF ROADWAY



SECTION A SECTION B SECTION C

TYPICAL SECTIONS LOOP SENSORS



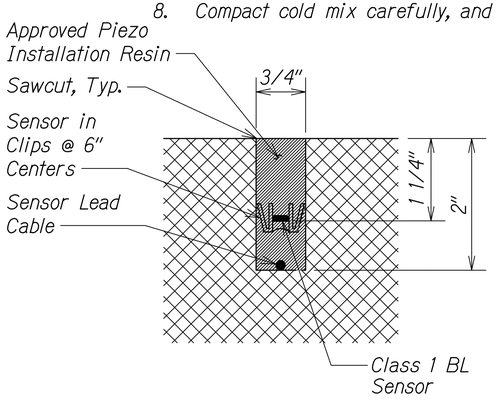
TYPICAL LOOP SENSOR SAW CUT

NOTES ON CONSTRUCTION AT END OF SAWCUT:

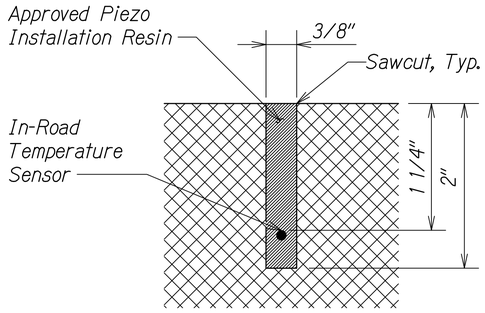
1. Install conduit stub out at least 10 inches in from the edge of pavement. If the pavement thickness is 4 inches or less at the pavement edge, install conduit stub out at least 12 inches in from the edge of pavement.
2. Twist pairs of loop wires 5 twists per foot before pulling into conduit stub out.
3. Install bell ends on conduit and seal with duct seal compound after installation of leads.
4. Install temporary bulkhead/dam across saw cut to keep sealant in saw cut as it is placed.
5. Place approved loop sealant or approved piezo installation resin in saw cut.
6. Place sand to cover exposed sensor leads and protect and separate them from backfill.
7. Backfill over sand with approved permanent A.C. cold mix in stub out excavation pit.
8. Compact cold mix carefully, and reconstruct shoulder, curb, and gutter as required.

LOOP SENSOR SAW CUT NOTES:

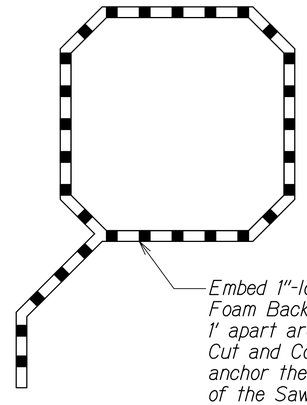
Keep the length of overcuts to a minimum. All overcuts shall be backfilled with Loop Sealant.



PIEZO SENSOR SAW CUT SECTION

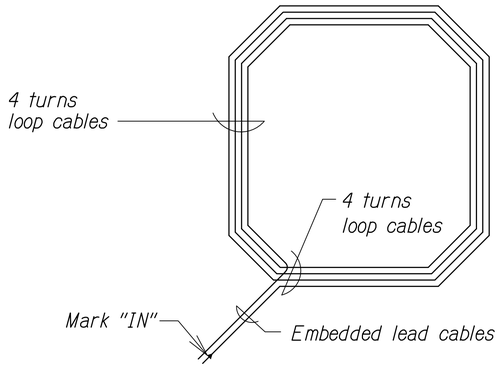


TEMPERATURE SENSOR SAW CUT SECTION



Embed 1"-long pieces of Foam Backer Rods approximately 1' apart around the Loop Saw Cut and Collector Saw Cut, to anchor the Wire in the bottom of the Saw Cuts before applying the Loop Sealant.

TYPICAL LOOP SENSOR BACKER ROD PLACEMENT DIAGRAM



PLAN

TYPICAL LOOP SENSOR WIRING DIAGRAM

APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD DATE
City and County of Honolulu

MICHAEL Y. PACKARD
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No. 13441-C
HAWAII, U.S.A.

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M Packard
SIGNATURE

04/30/28
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING SYSTEM SENSOR DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale Date: Feb 2026

SHEET No. 3 OF 6 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\97 TRAFFIC COUNTING SYSTEM SENSOR DETAILS.DWG 4/27/2026 10:22 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	98	140

NOTES:

1. All traffic signal standards and foundations shall be designed in accordance with HDOT's Design Criteria for Bridges & Structures, 2018, "AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals", the "Hawaii Standard Specifications for Road and Bridge Constructions" (2005) and State of Hawaii, Department of Transportation, Highways Division, "Standard Plans" (2008).

2. For unusual or differing exposure conditions, the basic wind speed should be increased using rational procedures and sound engineering judgement. Alternatively, the design wind pressure may be increased by using a higher wind importance factor corresponding to a recurrence interval of at least one level greater than recommended.

3. Galloping: Provisions shall be made to install effective vibration mitigation devices on overhead cantilevered sign and traffic signal support structures unless they are designed for galloping-induced cyclic loads. With approval from Hawaii Department of Transportation, mitigation devices may be installed after construction if vibration due to galloping is identified. Responsible party for the mitigation devices shall be determined during design and included in the construction documents.

4. Natural Wind Gust: Overhead traffic signal support structures shall be designed to resist an equivalent static natural wind gust pressure. For unusual or differing exposure conditions, the equivalent static natural wind gust pressure should be increased using references noted in the specifications.

5. Truck-Induced Gust: Overhead sign and traffic signal support structures shall be designed to resist an equivalent static truck gust pressure range based on a truck speed of 20 MPH over the posted speed.

6. Standards shall be designed in accordance with "Standard Specifications for Structural Supports For Highway Signs, Luminaires, and Traffic Signals".

7. Mounting for signals at intermediate locations on the mast arm shall be of the adjustable type.

8. Signal heads shall be centered over lanes.

9. Submit shop drawings for approval.

10. Wire Mesh/Cloth shall be placed at the top of the Type II Concrete base in lieu of grout in accordance with the "Design Criteria for Bridges and Structures" for Type II and Type III Traffic Signal Poles.

11. Wire cloth shall be placed vertically in between base plate and the top of foundation and wrapped horizontally around base plate with a 3" minimum lap.

12. Wire cloth shall be galvanized steel standard grade plain weave 2x2 mesh, 0.063" diameter wires.

13. Secure the wire cloth at the lapped ends with stainless steel wire ties (minimum of 2). Loop the wire ties and twist tie them securely. Protect the underside of the base plate from debris, birds, bees and other nesting animals shall be considered. (HDOT Memorandum, "Changes to Design Criteria for Bridges and Structure," dated January 8, 2018).

14. Traffic signal foundation and reinforcements shall conform to the latest revisions of "AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals", the "Hawaii Standard Specifications for Road and Bridge Constructions" (2005), State of Hawaii, Department of Transportation, Highways Division, "Standard Plans" (2008) and Part IV of the "Manual on Uniform Traffic Control Devices for Streets and Highways, 2023, 11th Edition".

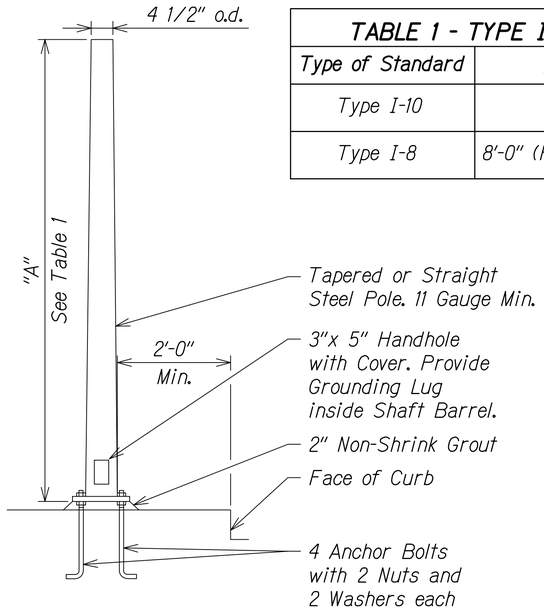
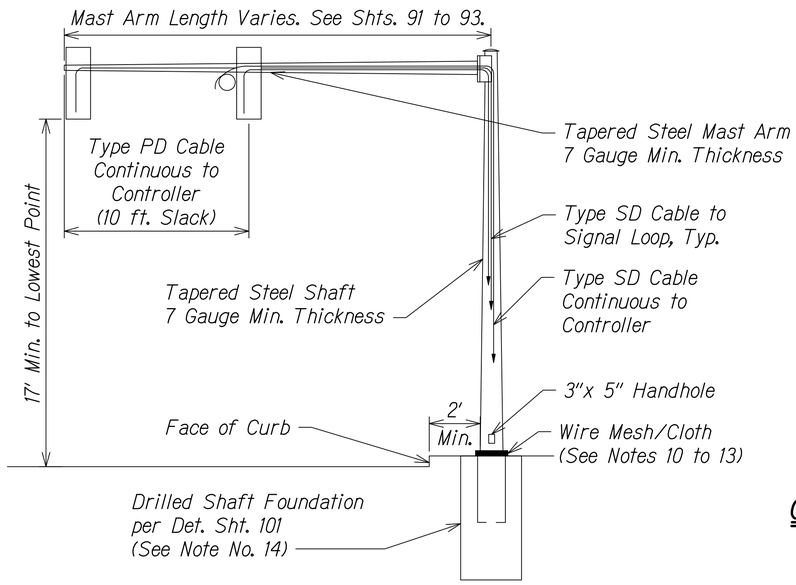


TABLE 1 - TYPE I STANDARDS	
Type of Standard	Height "A"
Type I-10	10'-0"
Type I-8	8'-0" (Pedestrian Head)

TYPE I - TRAFFIC SIGNAL STANDARD



TYPE II - TRAFFIC SIGNAL STANDARD

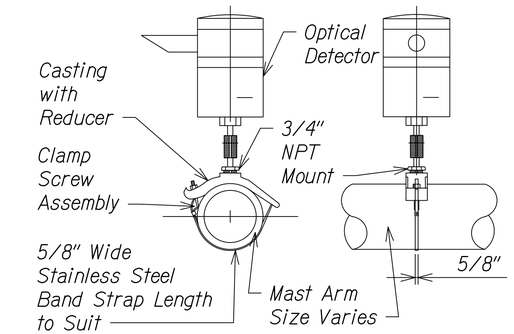
APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD — DATE
City and County of Honolulu

NOTES:

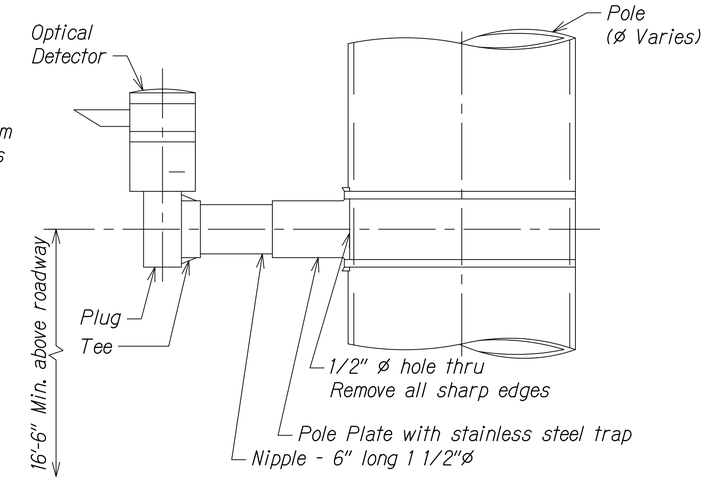
1. Optical detector shall be "Model 711 Preemption Detector" or approved equal, unless noted otherwise in the special provisions.

2. Support saddle assembly shall be "Astro Mini-Brac, AB-0132029", or approved equal, unless noted otherwise in the special provisions.



SIDE VIEW FRONT VIEW

OPTICAL DETECTOR FOR MAST ARM MOUNTING



OPTICAL DETECTOR FOR VERTICAL MOUNTING

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL POLE AND OPTICAL DETECTOR DETAILS

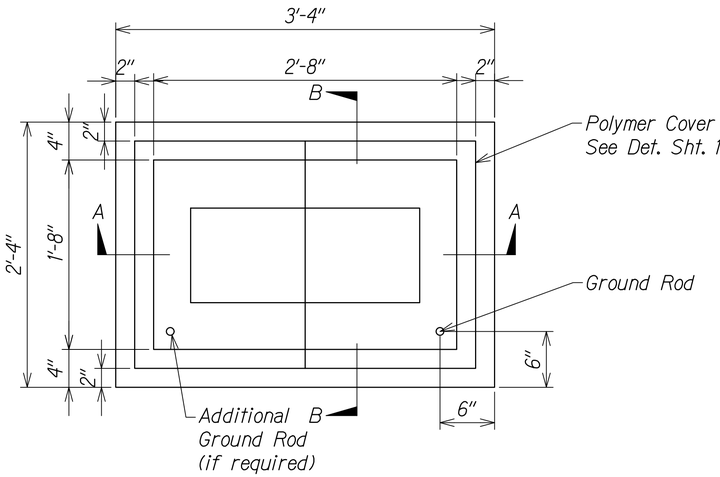
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale — Date: Feb 2026

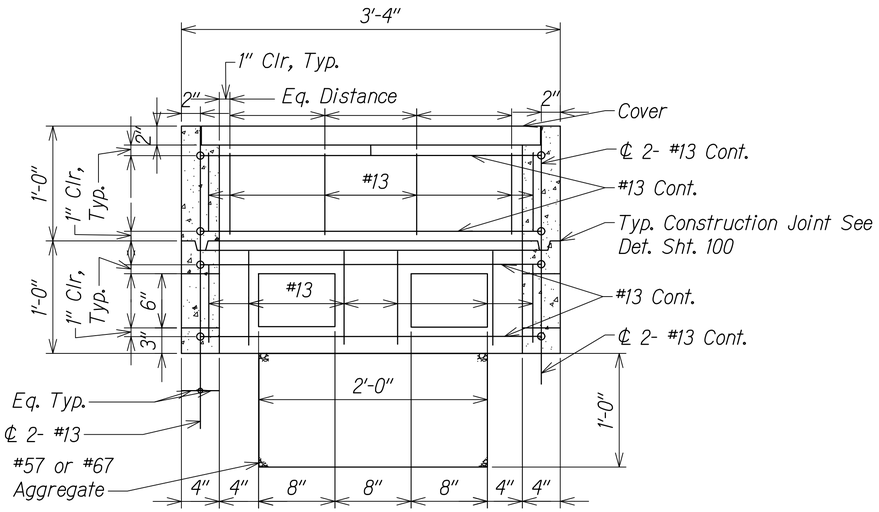
SHEET No. 4 OF 7 SHEETS

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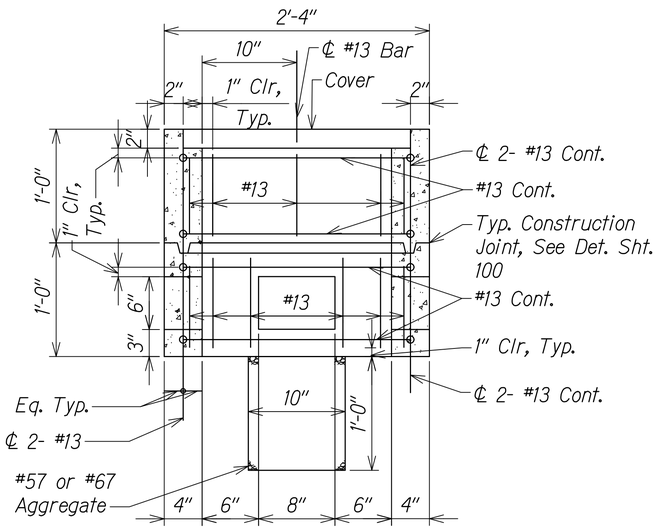
FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	99	140



PLAN



SECTION A-A



SECTION B-B

TYPE "B" PULLBOX (OLD TYPE "C")

APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD — DATE
City and County of Honolulu

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No. 13441-C
HAWAII, U.S.A.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL SYSTEM PULLBOX DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: Not to Scale — Date: Feb 2026

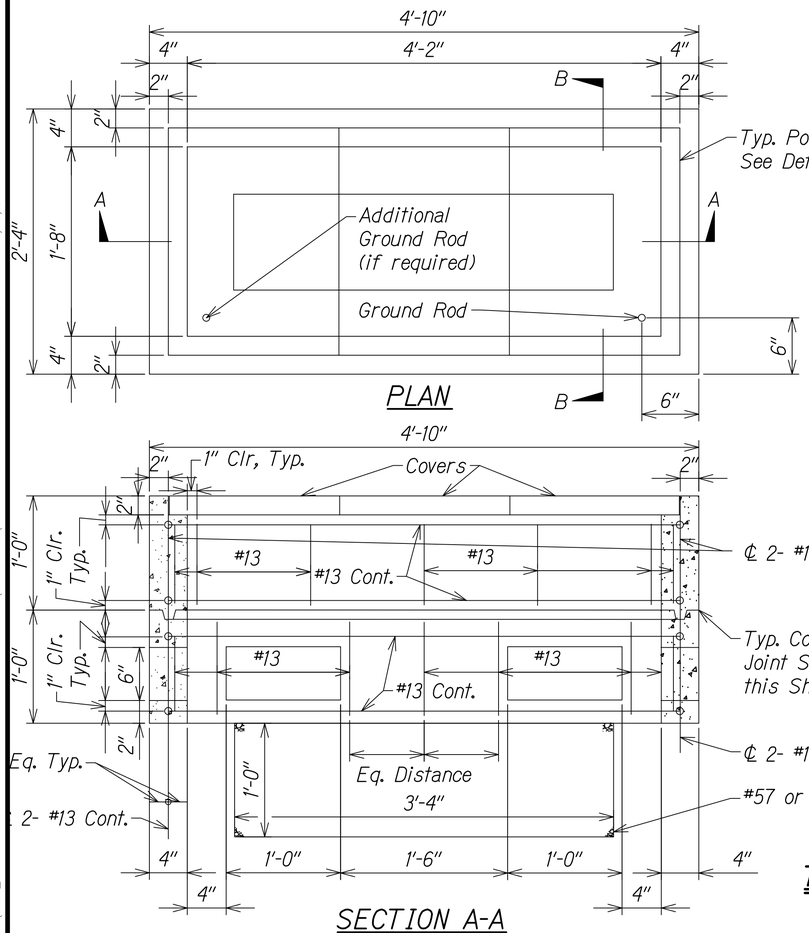
SHEET No. 5 OF 7 SHEETS

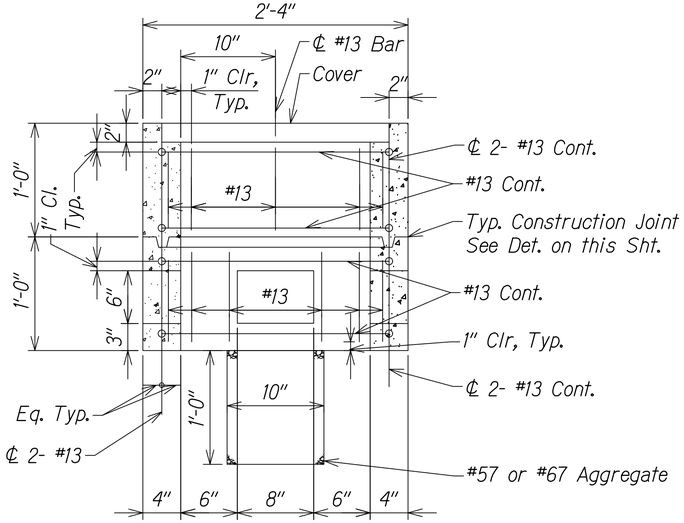
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FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	100	140

GENERAL NOTES FOR TRAFFIC SIGNAL PULLBOX DETAILS:

1. Provide a minimum of one 5/8" dia x 8' copperweld ground rod in each pullbox. When directed by the traffic signal inspector/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.
4. The maximum weight of the pullbox cover shall not exceed 59.5 Lbs. (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 (25 MPA, minimum).
9. Rebars shall be grade 300 and all lapped splices shall be 14" minimum.
10. The #57 or #67 size aggregate shall conform to the latest version of AASHTO M43 (ASTM D 448).
11. Type "C" pullbox shall be installed in a location protected from vehicular traffic (i.e. raised sidewalk, behind a.c. curbs, traffic signal standard or pipe guards).

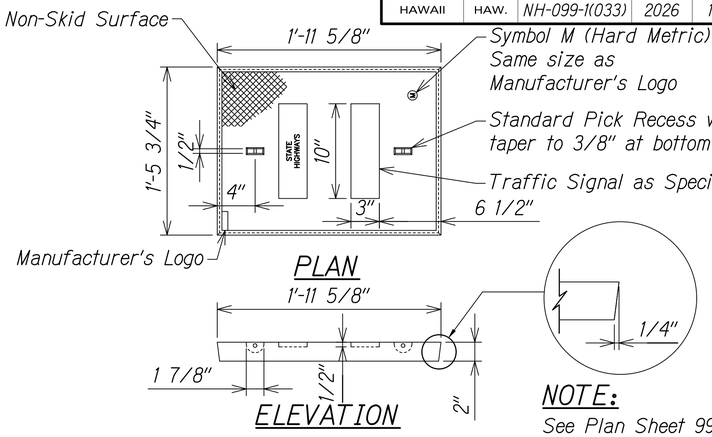




TYPE "C" PULLBOX (OLD TYPE "D")

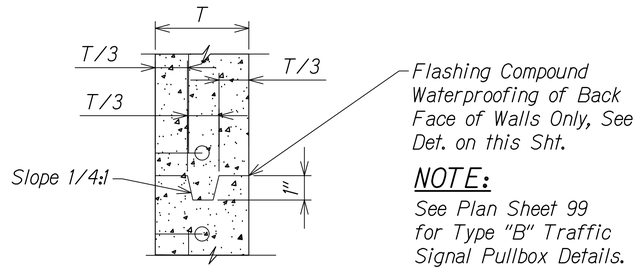
APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD — DATE
City and County of Honolulu



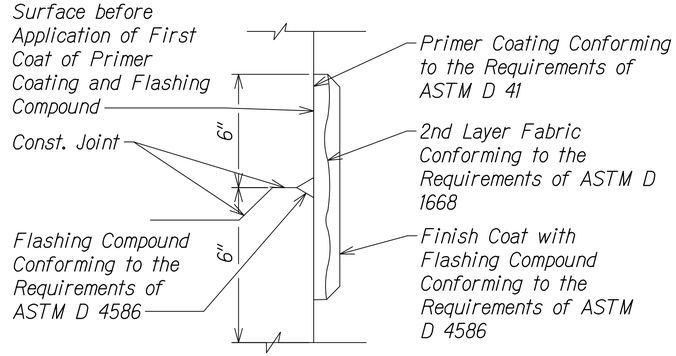
POLYMER CONCRETE COVER

NOTE:
See Plan Sheet 99 for Type "B" Traffic Signal Pullbox Details.



NOTE:
See Plan Sheet 99 for Type "B" Traffic Signal Pullbox Details.

TYPICAL CONSTRUCTION JOINT



TYPICAL FLASHING COMPOUND WATERPROOFING

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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

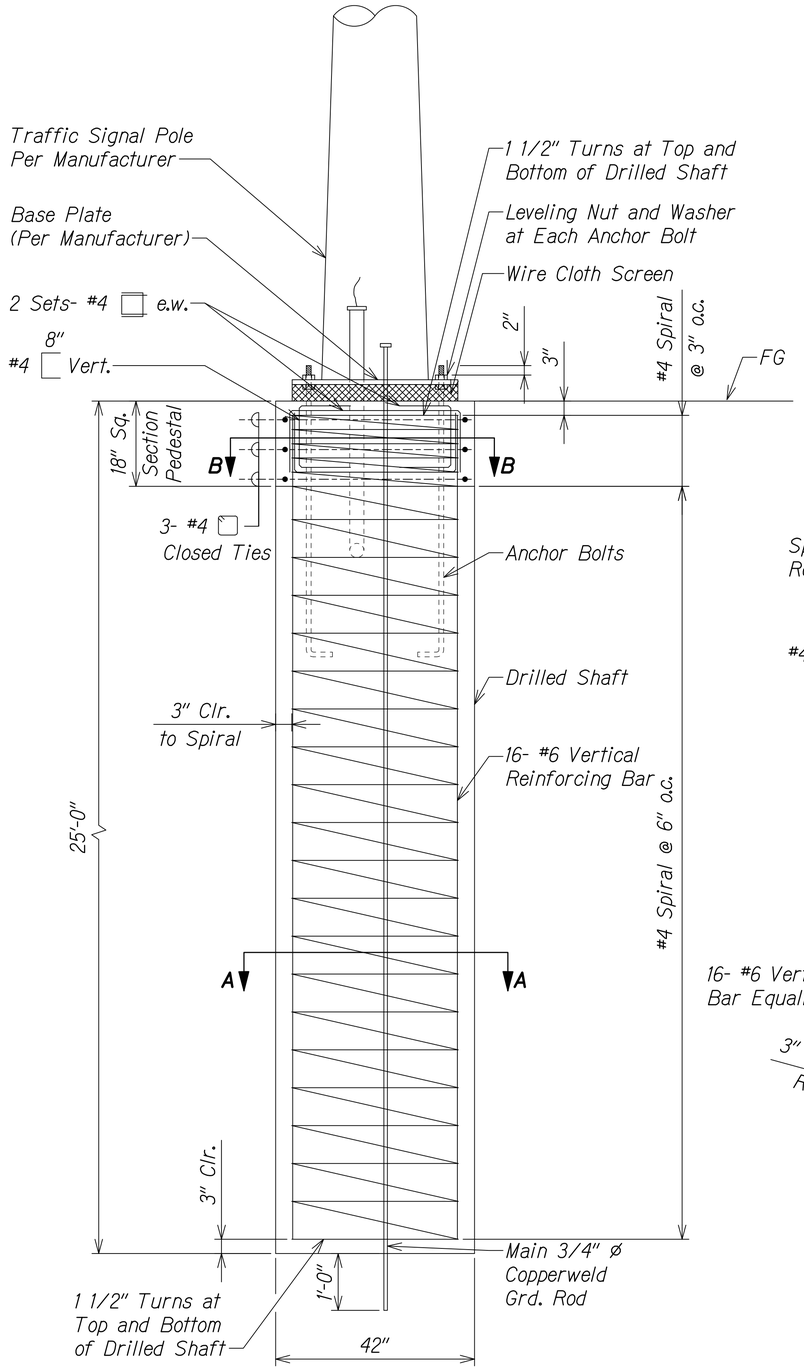
TRAFFIC SIGNAL SYSTEM PULLBOX DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale — Date: Feb 2026

SHEET No. 6 OF 7 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\100 TRAFFIC SIGNAL SYSTEM PULLBOX DETAILS.DWG 8/19/2026 9:31 AM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	101	140



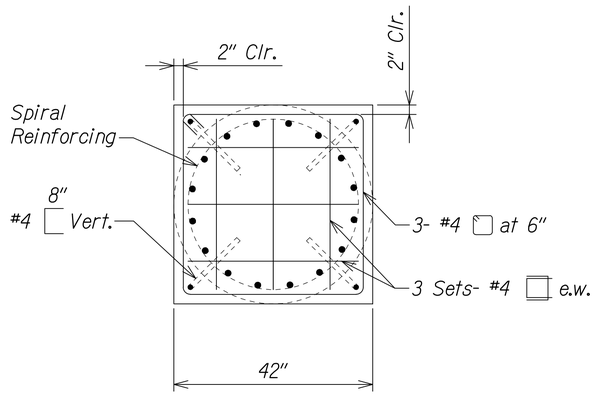
ELEVATION

DRILLED SHAFT FOUNDATION FOR TYPE II MAST ARM (POLES A AND B)

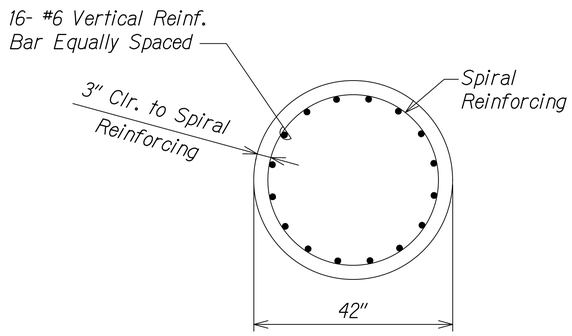
Not to Scale

NOTES:

1. Traffic Signal Poles Manufacturer's recommendations shall be followed.
2. Base plate size and anchor bolts shall be provided by the manufacturer.
3. Anchor bolts with leveling nuts shall be designed by the Manufacturer to transfer all loads from the structure to its base support.
4. Type I poles shall follow the standard detail shown on Sheet 98.



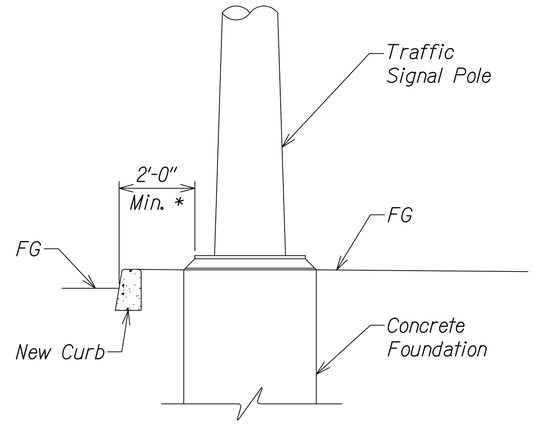
SECTION B-B



SECTION A-A

APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD — DATE
City and County of Honolulu



* - If 2'-0" minimum can not be maintained due to conflict with other utilities, coordinate field adjustments with Engineer.

TYPICAL TRAFFIC SIGNAL POLE LOCATION

Not to Scale

KATHLEEN Y. WONG
LICENSED PROFESSIONAL ENGINEER
No. 10469-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE — 04/30/28 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL POLE FOUNDATION DETAILS

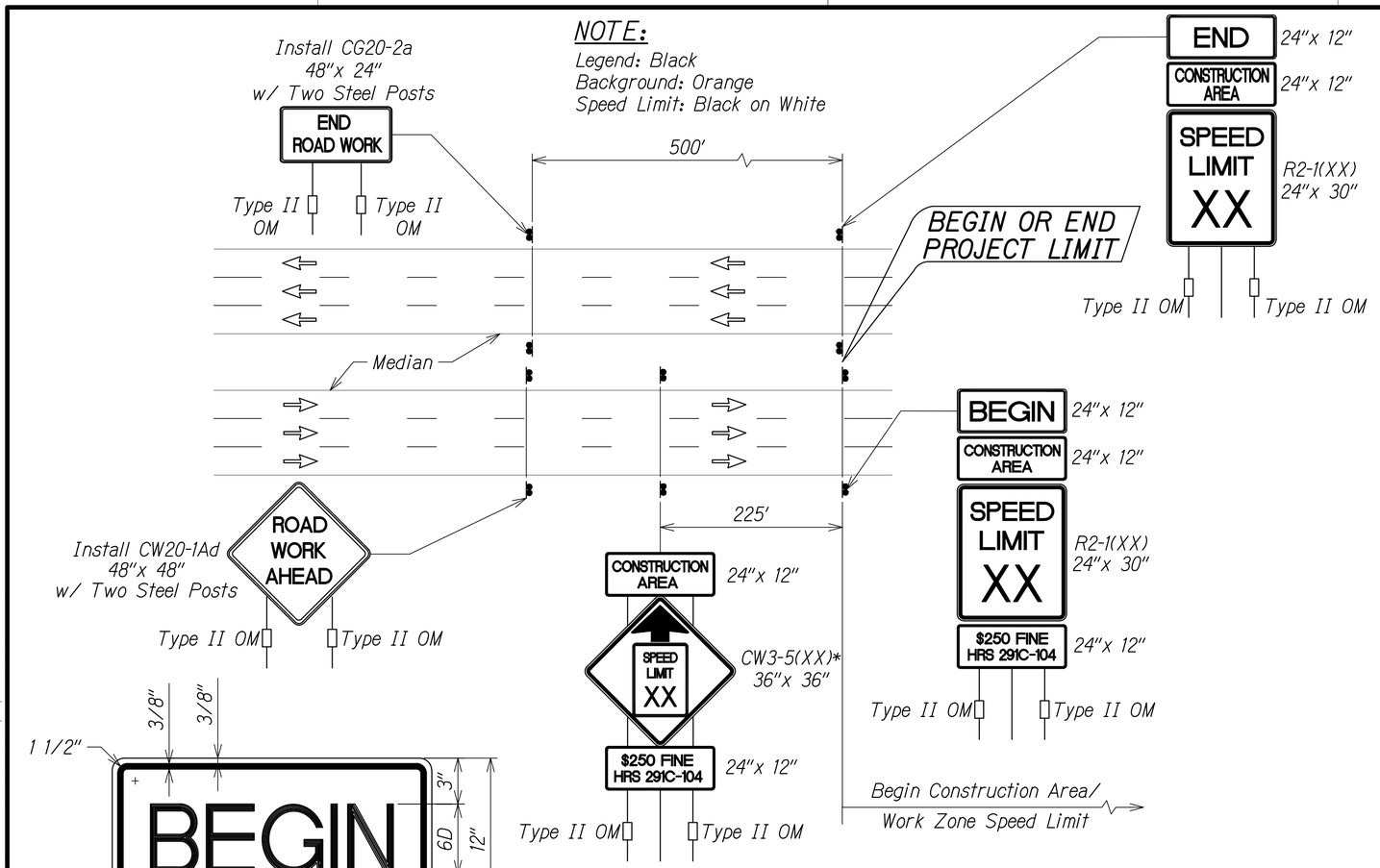
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: No to Scale Date: Feb 2026

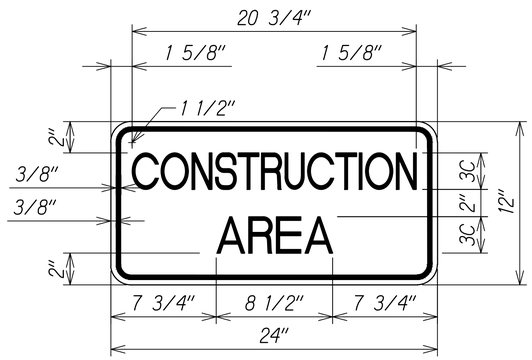
SHEET No. 7 OF 7 SHEETS

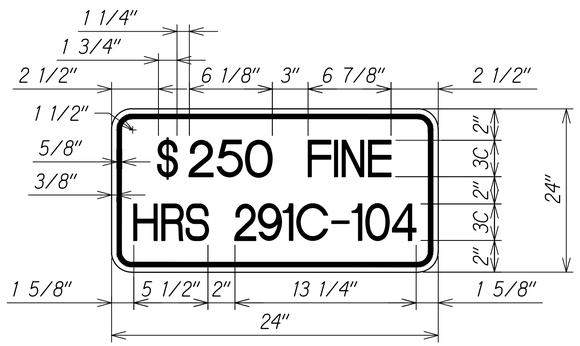
W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\101 TRAFFIC SIGNAL POLE FOUNDATION DETAILS.DWG 4/27/2026 10:28 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	102	140



TYPICAL DETAIL FOR CONSTRUCTION SIGNS ON MULTILANE DIVIDED LOW SPEED HIGHWAY





APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

NOTES:

1. This Work Zone Sign Plan is intended for use on long-term stationary work zones/construction phases (3 days or more). All work zones or construction phases less than 3 days duration will use Traffic Control Plans shown in Section 645 of the Standard Specifications.
2. All existing regulatory speed limit signs with posts within the work zone/project limits shall be removed and replaced with work zone speed limit sign assemblies (R2-1(XX) and CW3-5(XX) with "CONSTRUCTION AREA" and "$250 FINE HRS 291C-104" Supplemental Signs).
3. Construction sign assemblies shall be installed on both the approaching and trailing ends of each work zone as shown on this plan.
4. Each construction warning sign and work zone speed limit assembly shall have a minimum of two (2) Type II OM. Installation of each Type II OM shall be considered incidental to Item No. 645.0100, Work Zone Traffic Control.
5. Upon the completion of all physical work or as directed by the Engineer, all construction signs and work zone speed limit assemblies shall be removed. All speed limit signs and posts that were existing at the start of the project within the work zone/project imits shall be restored back to their original locations and configurations.
6. Placement of construction signs shall not obstruct the path of pedestrians and bicyclists.
7. The removal and restoration of existing regulatory speed limit signs with new posts along with the installation shall be considered incidental to Item No. 631.0100 Regulatory Sign. Maintenance and removal of work zone speed limit sign assemblies shall be considered incidental to Item No. 645.0100, Work Zone Traffic Control. Sign covers shall not allow any portion of the sign being covered to be visible. If the sign has more than one side, cover shall completely cover each side.
8. This Work Zone Signing Plan shall be used only for low speed highways (design speeds of 45 mph or less).
9. Replace XX & D with the appropriate number shown in Table 1.

TABLE 1

Guideline for Advance Placement of Speed Reduction Sign CW3-5(XX), Construction Area Speed Limit

Existing Posted Speed Limit (MPH)	XX-New Construction Area Speed Limit (MPH)	D-Reduced Speed Limit Sign Spacing to First Construction Area Speed Limit Sign (Feet)
≤25	Exist. Speed Limit to Remain	
35	25	175

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOW SPEED DIVIDED HIGHWAY
WORK ZONE SIGNING PLAN, NOTES & DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: Not to Scale Date: Feb 2026

SHEET No. 1 OF 1 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\102 LOW SPEED DIVIDED HIGHWAY WORKZONE.DWG 4/27/2026 10:42 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	103	140

GENERAL NOTES FOR TRAFFIC CONTROL PLAN (STATE):

1. At the end of each day's work, or as soon as the work is completed, the Permittee shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation.

2. Replace permanent pavement markings and traffic signs upon completion of each phase of work.

3. Replace existing faded or obliterated pavement markings that are necessary for safe traffic flow in the construction area with temporary or permanent markings before opening the roadway to public traffic each day.

4. All work zone traffic control devices including signs, barricades, warning lights, arrow boards, changeable message signs, cones, delineators, and markers, shall comply to the American Traffic Safety Services Association (ATSSA), Quality Standards for Work Zone Traffic Control Devices and MUTCD.

5. Stationary construction lasting three (3) days or longer throughout the project corridor shall require long-term construction warning signs and regulatory speed limit signs, see the HDOT Work Zone Signing Plan, Notes and Details.

6. Work may be performed Monday through Saturday, from 7:00 AM to 3:30 PM between January and November, and from 7:30 AM to 3:30 PM in December, except on State and Federal holidays, unless when otherwise approved in writing by the District Engineer. Nighttime work may also occur during non-fledging period between January and August.

   During work hours, written approval by the District Engineer shall be required for any of the following:

   - Street closures
   - Lane closures of more than one (1) lane.

7. For construction activities not requiring lane closures, work may be performed from Monday through Saturday, from 7:00 Am to 5:00 PM between January and November, and from 7:30 AM to 5:00 PM in December, except on State and Federal holidays, unless when otherwise approved in writing by the District Engineer. Nighttime work may also occur during non-fledging period between January and August.

8. The Permittee shall make minor adjustments at intersections, driveways, ramps, bridges, structures, etc., to fit field conditions.

9. Cones or delineators shall be extended to a point where they are visible to approaching traffic.

10. Traffic control devices shall be installed such that the sign or device farthest from the work area shall be placed first. The others shall then be placed progressively toward the work area.

11. Regulatory and warning signs within the construction zone that are in conflict with the Traffic Control Plans shall be removed or covered. All signs shall be restored upon completion of the work.

12. Flaggers and/or police officers shall be in sight of each other or in direct communication at all times. Furnish a minimum of two police officers for each requiring work zone traffic control, in accordance with HSS Section 645.03.

13. When required by the issuing office, the Permittee shall install a flashing arrow signal as shown on the Traffic Control Plans.

14. Sign spacing (D), taper lengths (T) and spacing of cones or delineators shall be as shown in Table I, unless otherwise noted on the Traffic Control Plans.

15. All traffic lanes shall be a minimum of 10 feet wide.

16. All construction warning signs shall be promptly removed or covered whenever the message is not applicable or not in use.

17. The backs of all signs used for traffic control shall be appropriately covered to preclude the display of inapplicable sign messages (i.e., when signs have messages on both faces).

18. The Contractor shall develop traffic control plans needed to accomplish the work based on Contractor's means and methods considering site conditions and construction sequence in accordance with the Contract Documents including applicable Manual Uniform Traffic Control Devices (MUTCD) requirements. Submit traffic control plans for review and acceptance in accordance with the Specifications Section 105.04 "Review and Acceptance Process."

19. Contractor shall submit requests for detour and lane closures in accordance with HSS section 645.03(F), lines 290 thru 312.

20. Include a signed certification statement affirming that the site-specific traffic control plan(s) submitted to HDOT has been prepared under the direction or supervision of a licensed professional engineer, is in compliance with the current HDOT and FHWA standards, and is an appropriate application of traffic control measures for the construction work to be performed.

21. It is recommended that the Contractor completes a comprehensive TMP. If peak hour lane closures are required during construction, the Contractor shall address the impact and necessary mitigation.

22. Driveways shall be kept open unless the Owners of the property using the driveway are otherwise provided for satisfactorily. Furthermore, the Permittee shall control traffic going into and out of driveways.

23. Contractor shall provide necessary adjustments to accommodate bicyclists and pedestrians.

24. Notify TheBus in writing at least five (5) days before start of construction for coordination of temporary bus stop relocation.

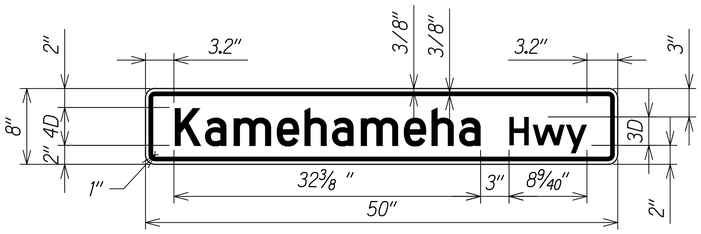
25. If the traffic control plan or any traffic control device is not installed per manufacturer's recommendation, plan, or specification, or is deemed unsafe, work may be shutdown at no additional cost/time and payment withheld. Lane closures that are unauthorized or not on the approved lane closure schedule will not be allowed and shall be subject to rental fees in accordance with Specifications Section 108.09.

26. The Contractor shall maintain access to Skyline Station at all times during construction.

TABLE 1 FOR TRAFFIC CONTROL PLAN

Posted Speed Limit (mph)	Sign Spacing (D) (Feet)	Taper Length (T) (Feet)		Longitudinal Buffer Space (B) (Feet)	Spacing of Cones or Delineators (Feet)		
		W = 12′ or Less ①	W = Greater Than 12′ ①		Taper	Tangent	Work Area
20	250	200	W X 17	115	20	20	10
25	250	200	W X 17	155	20	20	10
30	250	250	W X 20	200	20	20	10
35	250	250	W X 20	250	20	20	10
40	500	350	W X 30	305	20	20	10
45	500	550	W X 45	360	20	20	10
50	1000	600	W X 50	425	20	20	10
55	1000	700	W X 55	495	20	20	10

① Notes: W = Width of Lane or Shoulder
Exist Posted Speed Limits:
- Kamehameha Highway = 35 mph
- Kuala Street = 25 mph



NOTE:

Street Name shall be as noted on plans.

Legend: Black
Background: Orange

TEMPORARY STREET NAME SIGN (D3-1) DETAIL

Not to Scale

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: As Noted Date: Feb 2026

SHEET No. 1 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\103 GENERAL NOTES FOR TRAFFIC CONTROL PLAN.DWG 4/27/2026 10:42 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	104	140

GENERAL NOTES FOR TRAFFIC CONTROL PLAN (CITY):

1. The permittee shall make minor adjustments at intersections, driveways, bridges, structures, etc. to fit field conditions.
2. Cones or delineators shall be extended to point where they are visible to approaching traffic.
3. Traffic control devices shall be installed such that the sign or device farthest from the work area is placed first. The others shall then be placed progressively toward the work area.
4. Regulatory and warning signs within the construction zone that are in conflict with the traffic control plans shall be removed or covered.
5. Flaggers and/or police officers shall be in sight of each other or in direct communication at all times.
6. When required by the issuing office, the permittee shall install a flashing arrow signal as shown on the traffic control plans.
7. All traffic lanes shall be a minimum of 10 feet wide.
8. All construction warning signs shall be promptly removed or covered whenever the message is not applicable or not in use.
9. The backs of all signs used for traffic control shall be appropriately covered to preclude the display of inapplicable sign messages (i.e., when signs have messages on both faces).
10. Lane closure shall be limited only to the extent of accomplishing each day's work. As soon as each day's work is completed, the permittee shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation. Existing faded or obliterated pavement markings that are necessary for safe traffic flow in the construction area shall be replaced with temporary or permanent markings before opening the roadway to public traffic each day.
11. Permanent pavement markings and traffic signs shall be replaced upon completion of each phase of work.
12. Cones and delineators shall be spaced at a maximum distance of 20 feet apart. A minimum of six channelizing devices shall be used for each taper length.
13. Driveways shall be kept open unless the owners of the property using the driveway are otherwise provided for satisfactorily. Further, the permittee shall control traffic going into and out of driveways.
14. Buffer and taper area on approach to any work area shall be kept clear of vehicles and equipment.
15. A high level warning device (flag tree) shall be installed on approach to all work areas.
16. "No parking" signs shall be posted within any work area and for the buffer and taper areas approaching the work area.
17. Where an accessible pedestrian route is closed or blocked during construction, contractor to provide temporary, accessible pedestrian route.
18. Traffic control plans are approved for work on any City street area only between the hours of 7:00 AM to 3:30 PM, Monday through Saturday, between January and November, and from 7:30 Am to 3:30 PM in December, except on State and Federal holidays. Nighttime work may also occur during non-fledging period between January and August.
19. For construction activities not requiring lane closures, work may be performed from Monday through Saturday, from 7:00 AM to 5:00 PM between January and November, and from 7:30 Am to 5:00 PM in December, except on State and Federal holidays. Nighttime work may also occur during non-fledging period between January and August.

DEPARTMENT OF TRANSPORTATION SERVICES (DTS) TRANSPORTATION MOBILITY DIVISION (TMD) CONSTRUCTION NOTE:

Construction of this project shall not affect transit operations. Bus routes and bus stops shall remain open and accessible at all times. Any work affecting bus operations, routes, or stops must be submitted to DTS-TMD for review no less than 30 days prior to the start date.

Point of Contact Information (Notification is required to all phone numbers and emails):

DTS-TMD
(808) 768-8371
thebusstop@honolulu.gov
handivan@honolulu.gov

Oahu Transit Services - Bus Operations
(808) 768-9520
(808) 768-9534
Sean-bennett.paio@thebus.org
Joshua.vaoalii@thebus.org
Walter.oba@thebus.org

Oahu Transit Services - Paratransit Operations
(808) 768-9801
(808) 768-9851
(808) 454-5021
Tracie.coelho@thebus.org
Richard.mole@thebus.org

Skyline - Operations
(808) 848-5555
skyline@honolulu.gov

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP — DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney — 04/30/28
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN NOTES

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: N/A — Date: Feb 2026

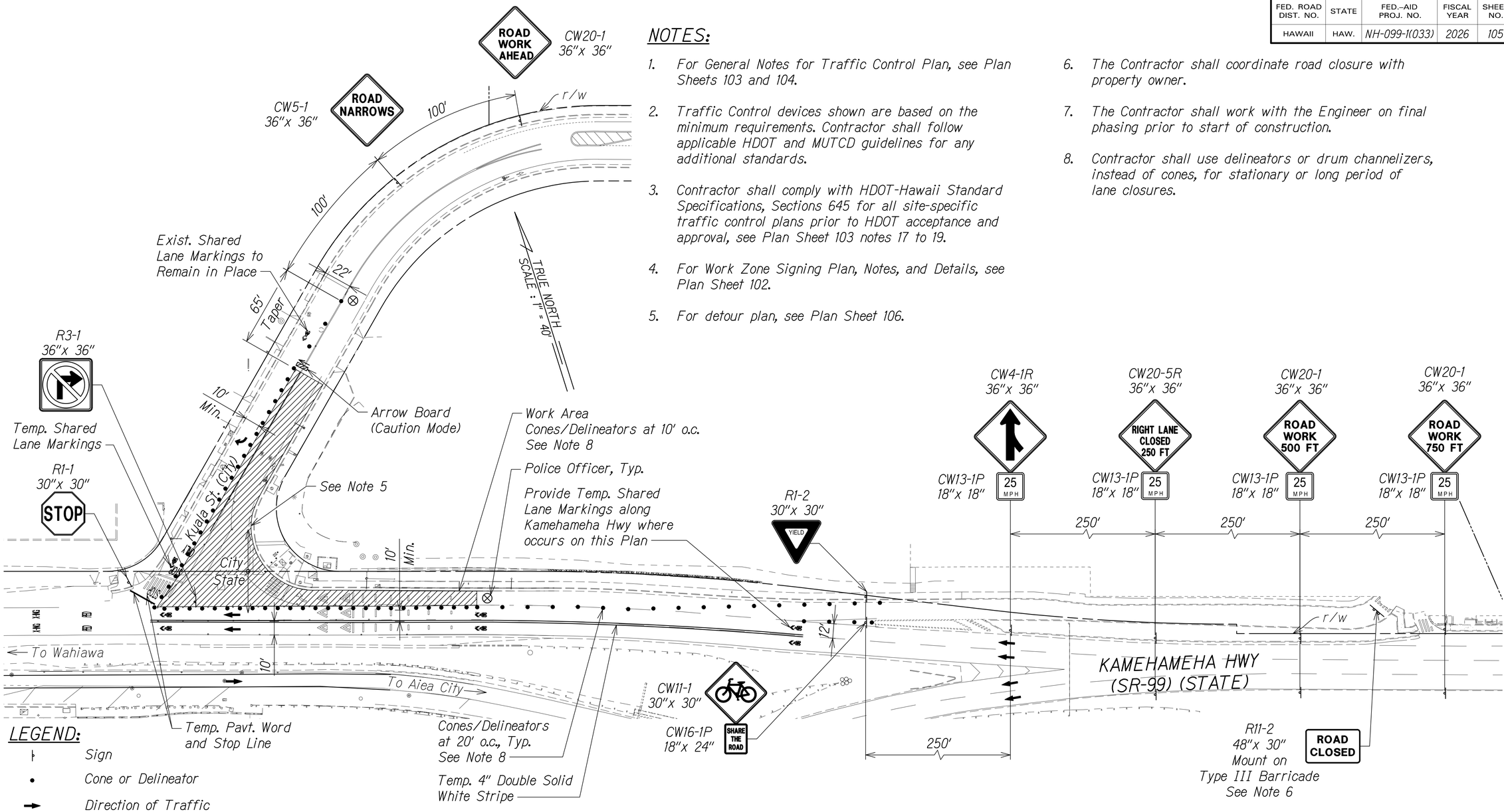
SHEET No. 2 OF 2 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\104 GENERAL NOTES FOR TRAFFIC CONTROL PLAN.DWG 4/27/2026 10:42 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	105	140

NOTES:

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
4. For Work Zone Signing Plan, Notes, and Details, see Plan Sheet 102.
5. For detour plan, see Plan Sheet 106.
6. The Contractor shall coordinate road closure with property owner.
7. The Contractor shall work with the Engineer on final phasing prior to start of construction.
8. Contractor shall use delineators or drum channelizers, instead of cones, for stationary or long period of lane closures.



LEGEND:

- Sign
- Cone or Delineator
- Direction of Traffic
- Type III Barricade
- Flashing Arrow Signal
- Work Area
- Police Officer

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

PHASE 1 KAMEHAMEHA HIGHWAY/KUALA STREET INTERSECTION - RIGHT TURN LANE CLOSURE

Scale: 1" = 40'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP (For Work within City R/W Only) DATE

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 40' Date: Feb 2026

SHEET No. 1 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\105 TCP 1.DWG 4/27/2026 10:42 AM JUNAY

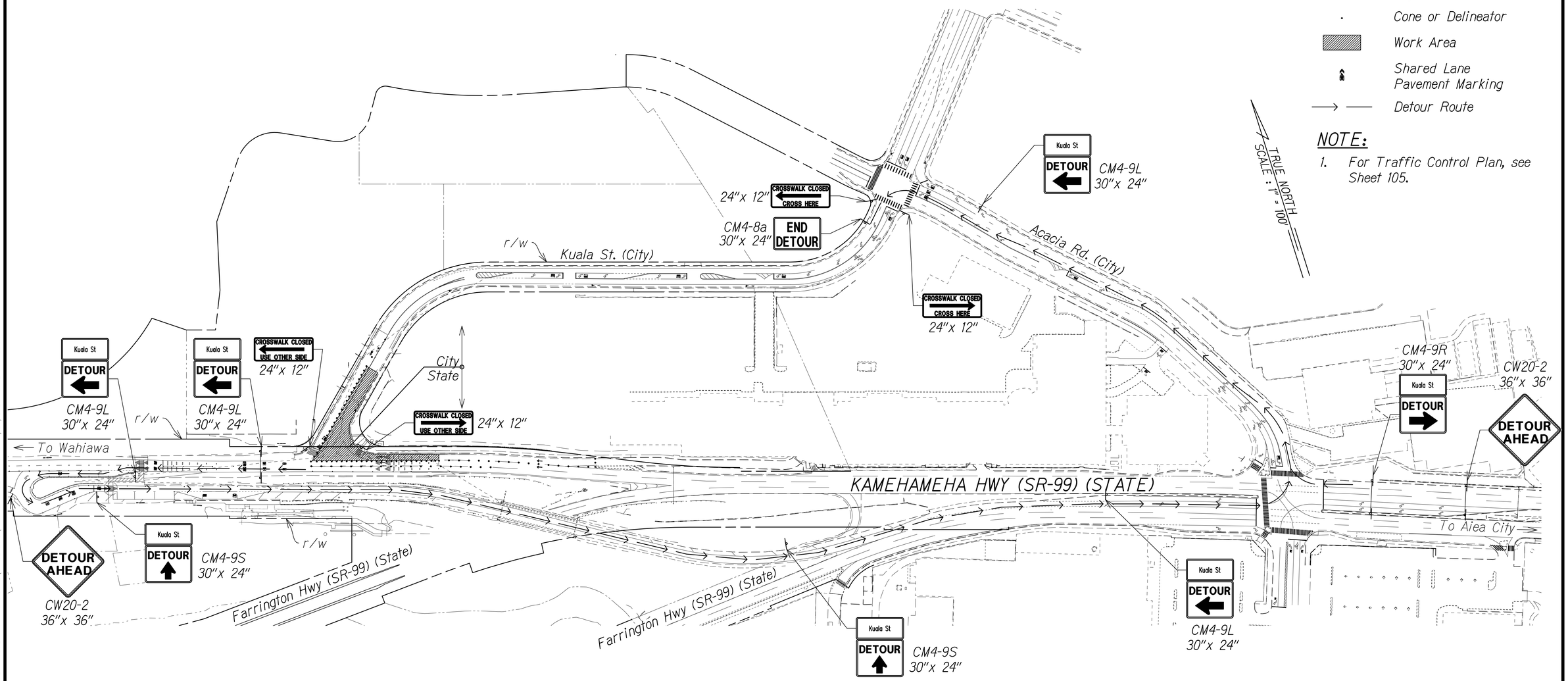
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	106	140

LEGEND:

- Sign
- Cone or Delineator
- Work Area
- Shared Lane Pavement Marking
- Detour Route

NOTE:

1. For Traffic Control Plan, see Sheet 105.



PHASE 1 KAMEHAMEHA HIGHWAY/KUALA STREET INTERSECTION - RIGHT TURN LANE DETOUR

Scale: 1" = 100'

GRAPHIC SCALE:

100' 50' 0 100' 200'

Scale: 1" = 100'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

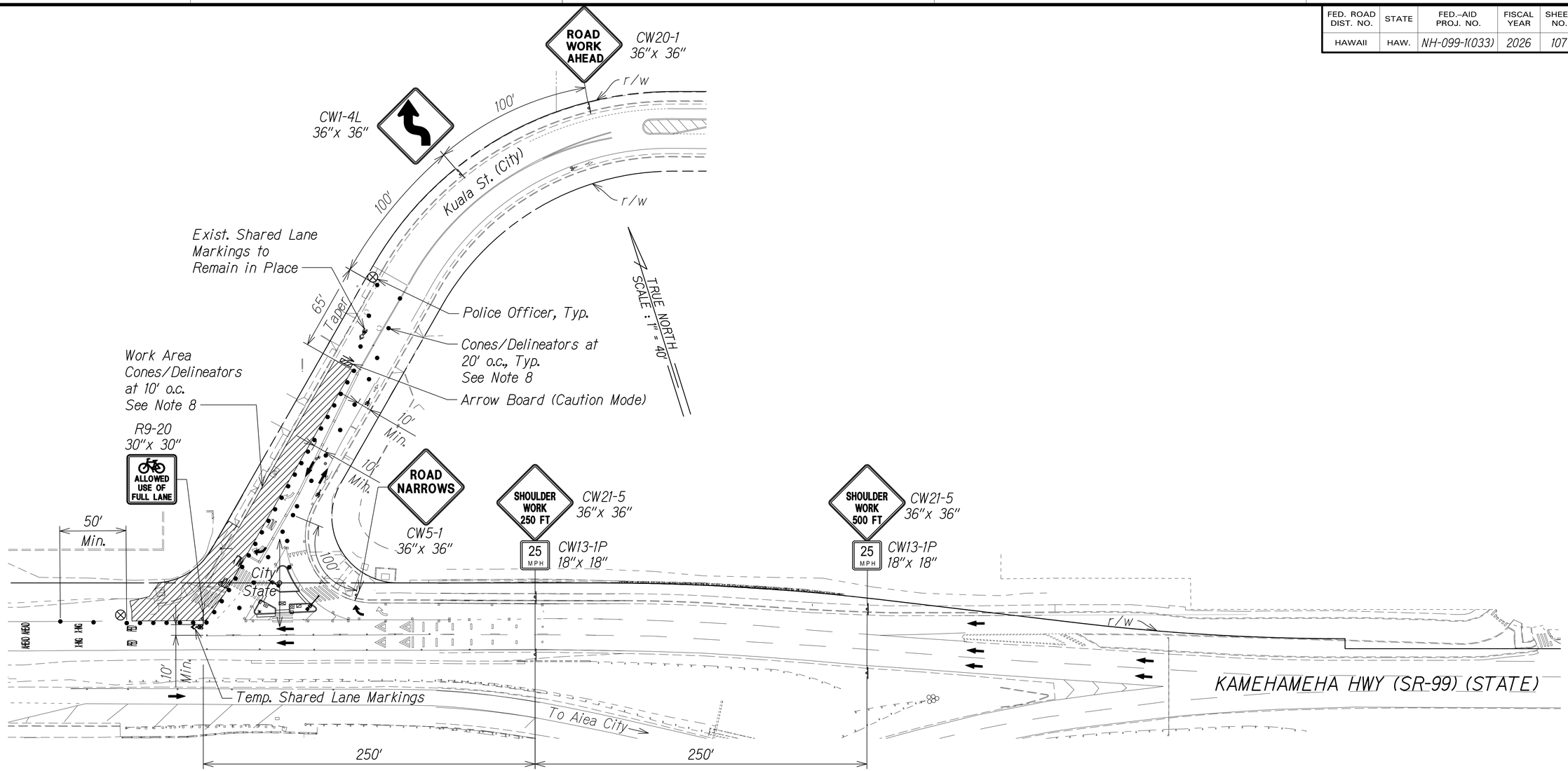
TRAFFIC CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 100' Date: Feb 2026

SHEET No. 2 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\106 TCP 1 DETOUR.DWG 4/27/2026 10:42 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	107	140



LEGEND:

- Sign
- Cone or Delineator
- Direction of Traffic
- Flashing Arrow Signal
- Work Area
- Police Officer

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

PHASE 2 KAMEHAMEHA HIGHWAY/KUALA STREET INTERSECTION - SOUTHBOUND LANE CLOSURE

Scale: 1" = 40'

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
4. For Work Zone Signing Plan, Notes, and Details, see Plan Sheet 102.
5. The Contractor shall work with the Engineer on final phasing prior to start of construction.
6. The Contractor shall provide pedestrian access at all times to and from Rail Station. Access shall be a minimum of 3' wide and shall be ADA compliant.
7. All materials, including steel plates, within pedestrian access route, shall consist of non-slip materials.
8. Contractor shall use delineators or drum channelizers, instead of cones, for stationary or long period of lane closures.

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP (For Work within City R/W Only) DATE

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

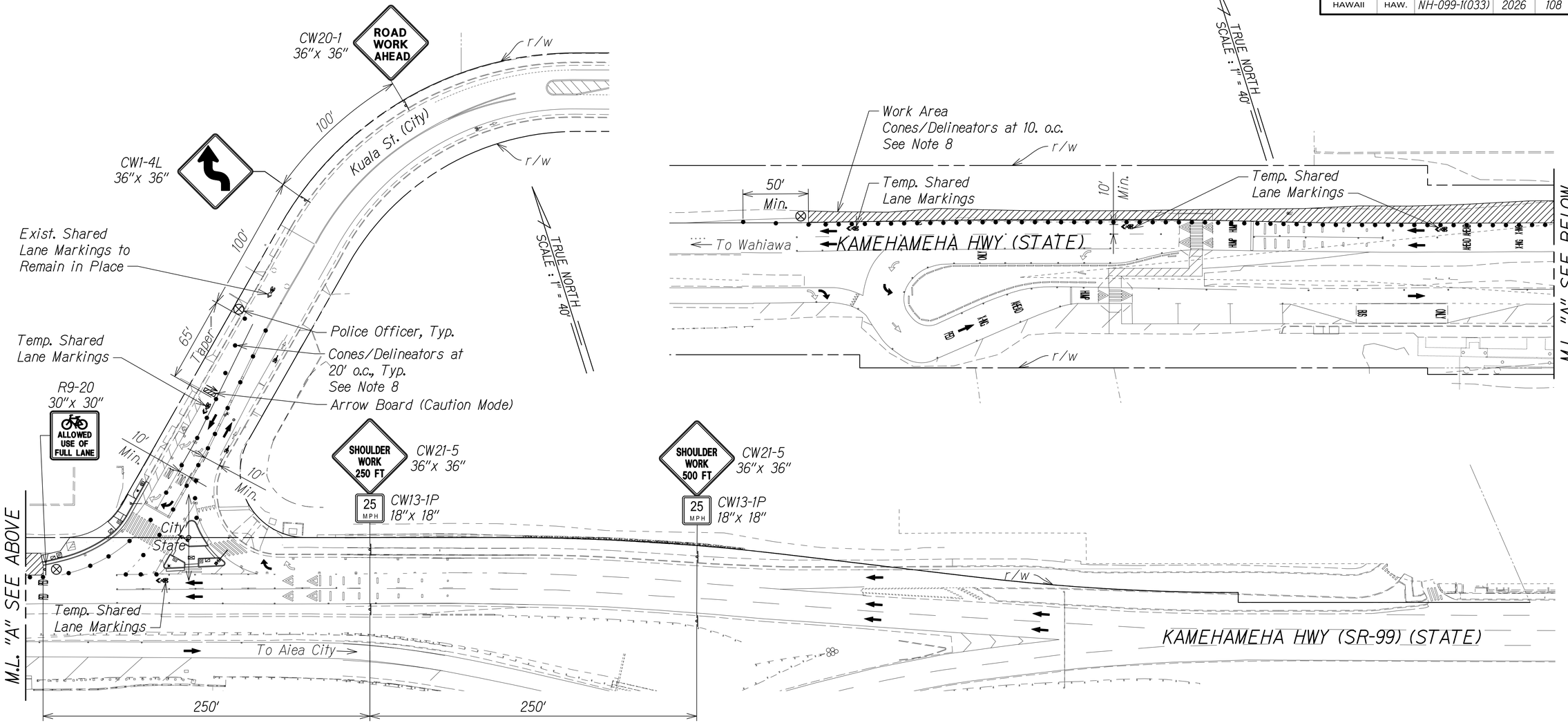
TRAFFIC CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 40' Date: Feb 2026

SHEET No. 3 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\107 TCP 2.DWG 5/13/2026 5:10 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	108	140



LEGEND:

- Sign
- Cone or Delineator
- Direction of Traffic
- Flashing Arrow Signal
- Work Area
- Police Officer

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

PHASE 3 KAMEHAMEHA HIGHWAY - RIGHT SHOULDER CLOSURE

Scale: 1" = 40'

NOTES:

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
4. For Work Zone Signing Plan, Notes, and Details, see Plan Sheet 102.
5. The Contractor shall work with the Engineer on final phasing prior to start of construction.
6. The Contractor shall provide pedestrian access at all times to and from Rail Station. Access shall be a minimum of 3' wide and shall be ADA compliant.
7. All materials, including steel plates, within pedestrian access route, shall consist of non-slip materials.
8. Contractor shall use delineators or drum channelizers, instead of cones, for stationary or long period of lane closures.

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP (For Work within City R/W Only) DATE

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

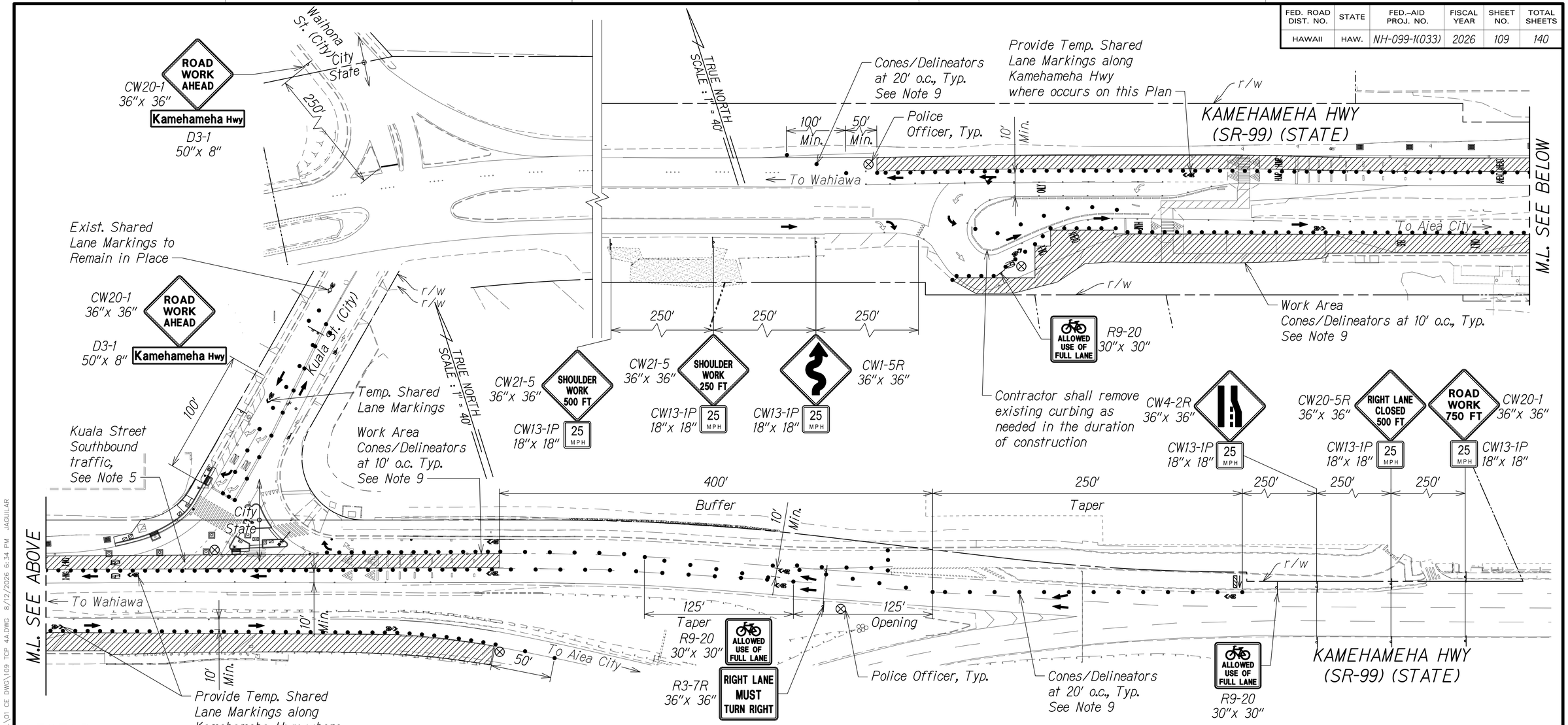
TRAFFIC CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 40' Date: Feb 2026

SHEET No. 4 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\108 TCP 3.DWG 8/12/2026 6:32 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	109	140



LEGEND:

- Sign
- Cone or Delineator
- Direction of Traffic
- Flashing Arrow Signal
- Work Area
- Police Officer

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

PHASE 4A KAMEHAMEHA HIGHWAY - RIGHT LANE CLOSURE AND EASTBOUND SHOULDER CLOSURE

Scale: 1" = 40'

NOTES:

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
5. For Work Zone Signing Plan, Notes, and Details, see Plan Sheet 102.
6. The Contractor shall provide 10' wide minimum temporary lane open for Kuala Street southbound traffic at all times.
7. The Contractor shall work with the Engineer on final phasing prior to start of construction.
8. The Contractor shall provide pedestrian access at all times to and from Rail Station. Access shall be a minimum of 3' wide and shall be ADA compliant.
9. All materials, including steel plates, within pedestrian access route, shall consist of non-slip materials.
10. Contractor shall use delineators or drum channelizers, instead of cones, for stationary or long period of lane closures.

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney — SIGNATURE

04/30/28 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

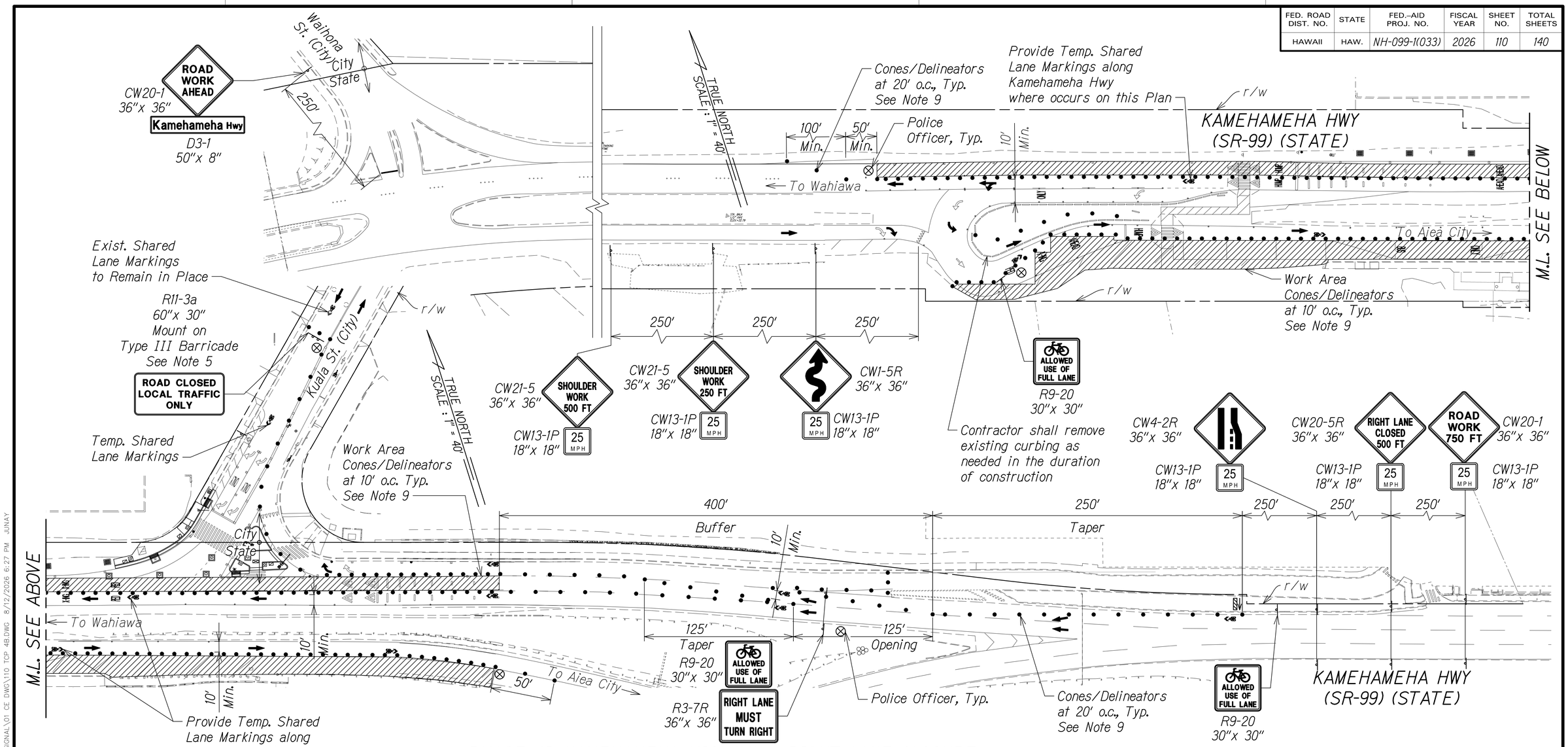
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 40' Date: Feb 2026

SHEET No. 5 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\109 TCP 4A.DWG 8/12/2026 6:34 PM JAGUILAR

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	110	140



PHASE 4B KAMEHAMEHA HIGHWAY - RIGHT LANE CLOSURE, EASTBOUND SHOULDER CLOSURE AND KUALA STREET SOUTHBOUND CLOSURE

Scale: 1" = 40'

LEGEND:

- Sign
- Cone or Delineator
- Direction of Traffic
- Flashing Arrow Signal
- Work Area
- Police Officer

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

NOTES:

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
4. For Work Zone Signing Plan, Notes, and Details, see Plan Sheet 102.
5. For detour plans, see Plan Sheets 117 to 119.
6. The Contractor shall work with the Engineer on final phasing prior to start of construction.
7. The Contractor shall provide pedestrian access at all times to and from Rail Station. Access shall be a minimum of 3' wide and shall be ADA compliant.
8. All materials, including steel plates, within pedestrian access route, shall consist of non-slip materials.
9. Contractor shall use delineators or drum channelizers, instead of cones, for stationary or long period of lane closures.

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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Robyn McKinney 04/30/28

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

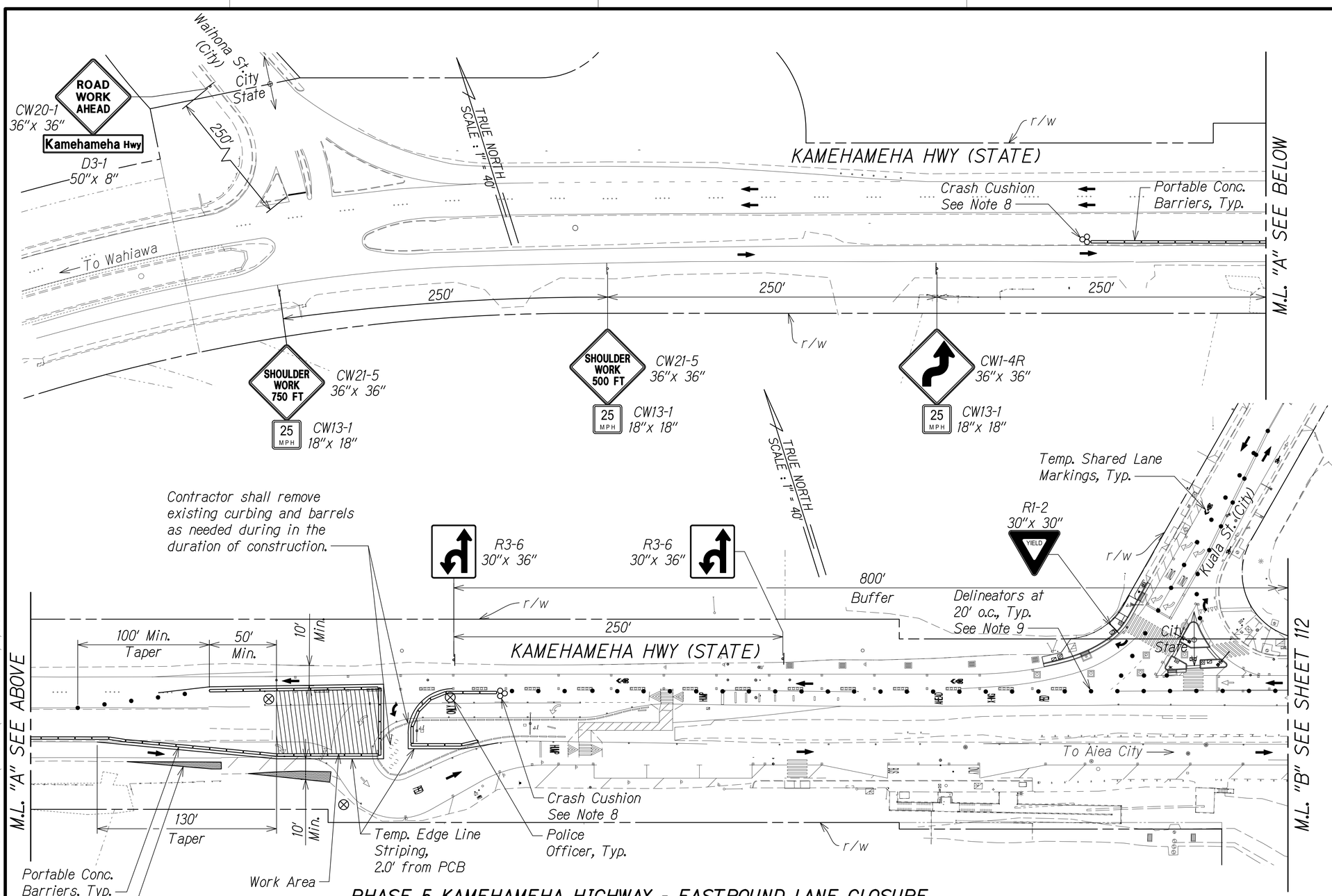
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 40' Date: Feb 2026

SHEET No. 6 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\110 TCP 4B.DWG 8/12/2026 6:27 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	111	140



PHASE 5 KAMEHAMEHA HIGHWAY - EASTBOUND LANE CLOSURE AND WESTBOUND LEFT LANE CLOSURE

Scale: 1" = 40'

NOTES:

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
4. The two Kamehameha Highway westbound lanes shall be reopened daily during peak traffic hours.
5. For Work Zone Signing Plan, Notes, and Details, see Plan Sheet 102.
6. Construction Zone Buffer has been extended and is longer than the required HSS and MUTCD length to avoid conflict with the traffic exiting the Pearl Highlands Shopping Center.
7. The Contractor shall work with the Engineer on final phasing prior to start of construction.
8. Crash cushion shall be approved by the Engineer and shall be installed by the Contractor per manufacturer's specifications.
9. Contractor shall use delineators or drum channelizers, instead of cones, for stationary or long period of lane closures.

LEGEND:

- Sign
- Delineator
- Direction of Traffic
- Type III Barricade
- Work Area
- Police Officer
- Portable Conc. Barrier (PCB) with Type A Steady Burn Lights @ 20' O.C. (See Note 3 on this Sheet)
- Crash Cushion
- Temp. AC Pavt.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP — DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney — 04/30/28
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

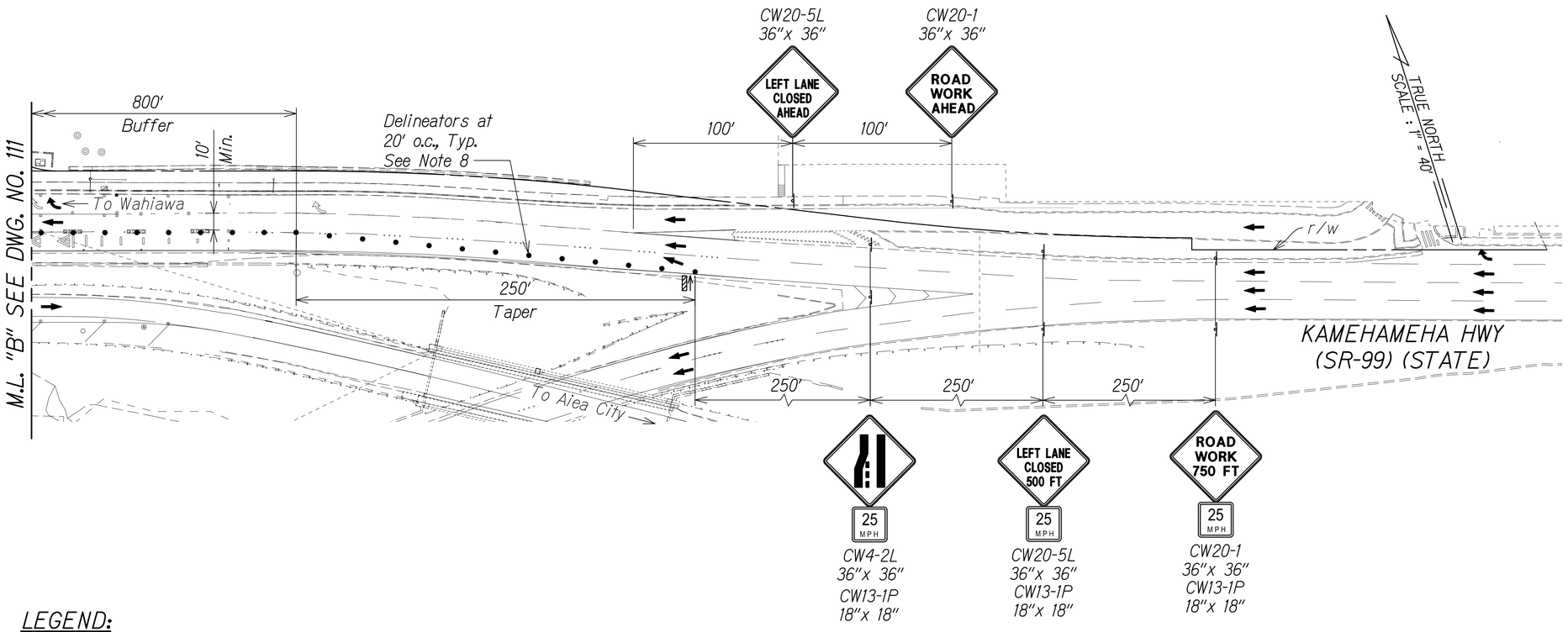
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 40' Date: Feb 2026

SHEET No. 7 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\111 TCP 5A.DWG 8/12/2026 6:28 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	112	140



NOTES:

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
4. The two Kamehameha Highway westbound lanes shall be reopened daily during peak traffic hours.
5. For Work Zone Signing Plan, Notes, and Details, see Plan Sheet 102.
6. Construction Zone Buffer has been extended and is longer than the required HSS and MUTCD length to avoid conflict with the traffic exiting the Pearl Highlands Shopping Center.
7. The Contractor shall work with the Engineer on final phasing prior to start of construction.
8. Contractor shall use delineators or drum channelizers, instead of cones, for stationary or long period of lane closures.

LEGEND:

- Sign
- Delineator
- Direction of Traffic
- Flashing Arrow Signal

PHASE 5 KAMEHAMEHA HIGHWAY - EASTBOUND LANE CLOSURE AND WESTBOUND LEFT LANE CLOSURE

Scale: 1" = 40'

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

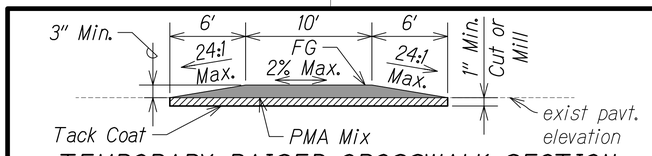
TRAFFIC CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 40' Date: Feb 2026

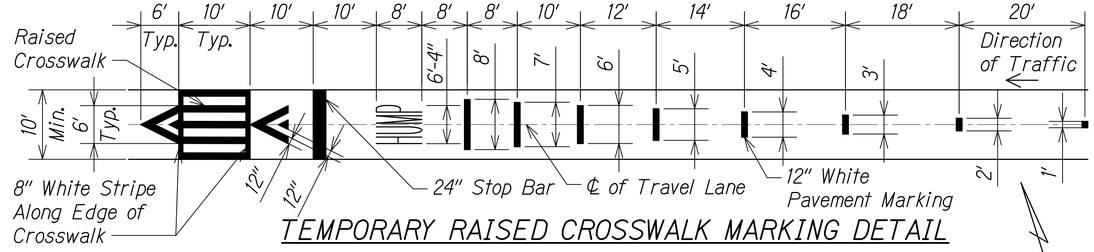
SHEET No. 8 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\112 TCP SB.DWG 4/27/2026 10:44 AM JUNAY

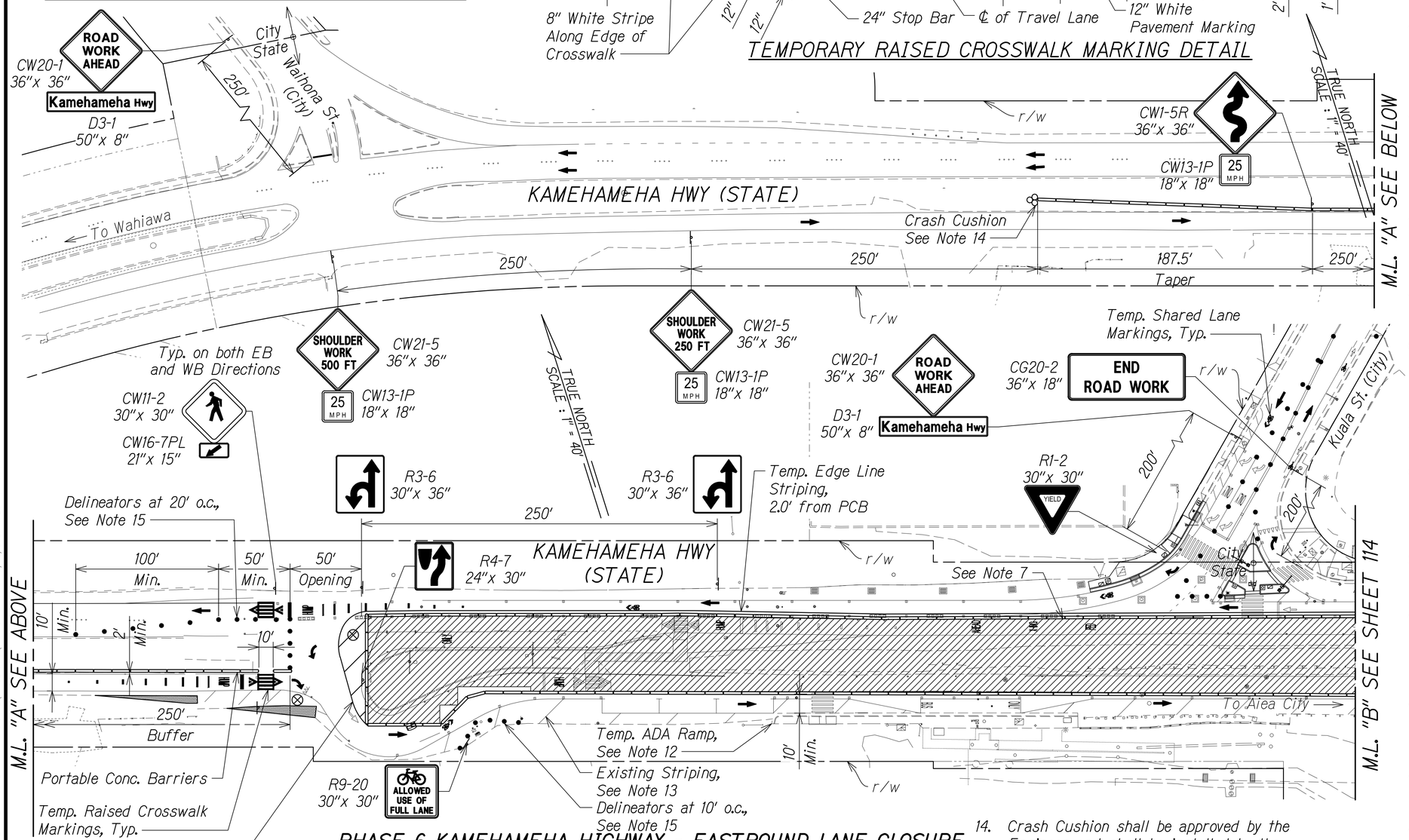
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	113	140



TEMPORARY RAISED CROSSWALK SECTION



TEMPORARY RAISED CROSSWALK MARKING DETAIL



PHASE 6 KAMEHAMEHA HIGHWAY - EASTBOUND LANE CLOSURE AND WESTBOUND LEFT LANE CLOSURE

Scale: 1" = 40'

LEGEND:

- Sign
- Delineator
- Direction of Traffic
- Work Area
- Temp. AC Pavt.
- Police Officer
- Portable Conc. Barrier (PCB) with Type A Steady Burn Lights @ 20' O.C. (See Note 3 on this Sheet)
- Crash Cushion

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

NOTES:

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
4. The two Kamehameha Highway westbound lanes shall be reopened daily during peak traffic hours.
5. For Work Zone Signing Plan, Notes, and Details, see Plan Sheet 102.
6. Construction Zone Buffer has been extended and is longer than the required HSS and MUTCD length to avoid conflict with the traffic exiting the Pearl Highlands Shopping Center.
7. For Detours Plans, see Plan Sheets 117 to 119.
8. Where an accessible pedestrian route is closed or blocked during construction, the Contractor shall provide temporary accessible pedestrian route.
9. The Contractor shall work with the Engineer on final phasing prior to start of construction.
10. The Contractor shall provide pedestrian access at all times to and from Rail Station. Access shall be a minimum of 3' wide and shall be ADA compliant.
11. All materials, including steel plates, within pedestrian access route, shall consist of non-slip materials.
12. The Contractor shall provide ADA compliant ramp for temporary ADA access.
13. The Contractor shall remove existing striping during the duration of construction.
14. Crash Cushion shall be approved by the Engineer and shall be installed by the Contractor per manufacturer's specifications.
15. Contractor shall use delineators or drum channelizers, instead of cones, for stationary or long period of lane closures.

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

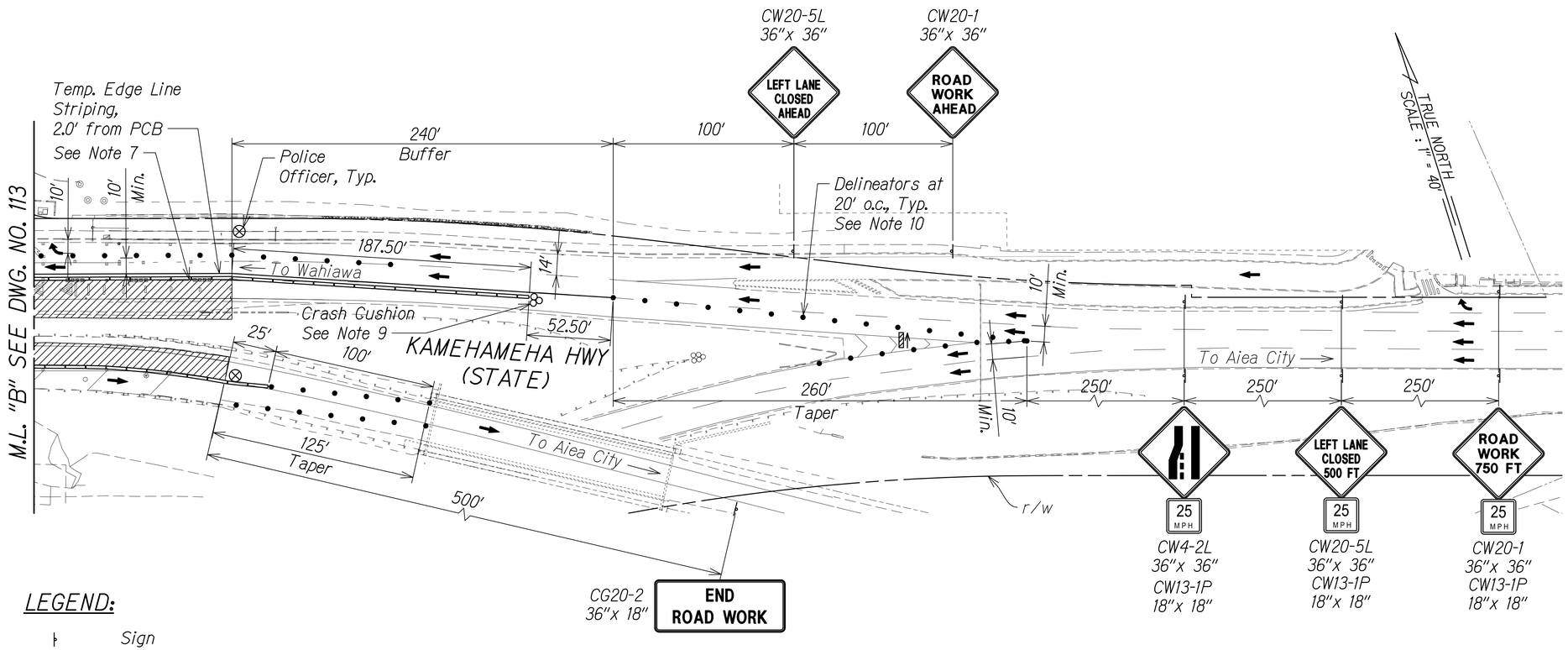
TRAFFIC CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 40' Date: Feb 2026

SHEET No. 9 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\113 TCP 6A.DWG 8/12/2026 6:28 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	114	140



PHASE 6 KAMEHAMEHA HIGHWAY - EASTBOUND LANE CLOSURE AND WESTBOUND LEFT LANE CLOSURE

Scale: 1" = 40'

NOTES:

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
4. The two Kamehameha Highway westbound lanes shall be reopened daily during peak traffic hours.
5. For Work Zone Signing Plan, Notes, and Details, see Plan Sheet 102.
6. Construction Zone Buffer has been extended and is longer than the required HSS and MUTCD length to avoid conflict with the traffic exiting the Pearl Highlands Shopping Center.
7. For Detour Plans, see Plan Sheets 117 to 119.
8. The Contractor shall work with the Engineer on final phasing prior to start of construction.
9. Crash Cushion shall be approved by the Engineer and shall be installed by the Contractor per manufacturer's specifications.
10. Contractor shall use delineators or drum channelizers, instead of cones, for stationary or long period of lane closures.

LEGEND:

- Sign
- Delineator
- Direction of Traffic
- Flashing Arrow Signal
- Police Officer
- Work Area
- Portable Concrete Barrier (PCB) with Type A Steady Burn Lights @ 20' O.C. (See Note 3 on this Sheet)

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

ROBYN R. McKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

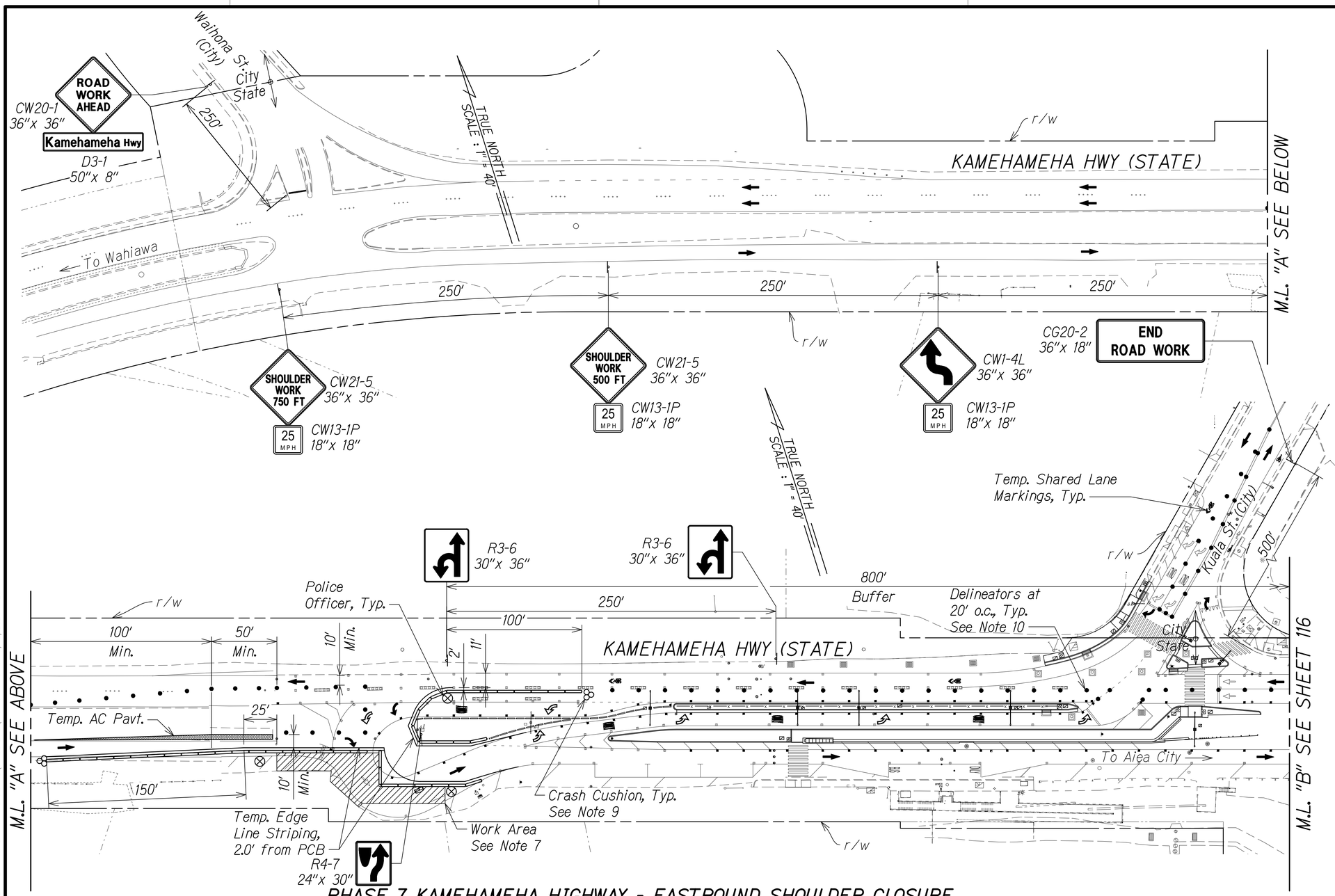
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 40' Date: Feb 2026

SHEET No. 10 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\114 TCP 6B.DWG 4/27/2026 10:44 AM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	115	140



PHASE 7 KAMEHAMEHA HIGHWAY - EASTBOUND SHOULDER CLOSURE AND WESTBOUND LEFT LANE CLOSURE

Scale: 1" = 40'

NOTES:

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
4. The two Kamehameha Highway westbound lanes shall be reopened daily during peak traffic hours.
5. For Work Zone Signing Plan, Notes, and Details, see Plan Sheet 102.
6. Construction Zone Buffer has been extended and is longer than the required HSS and MUTCD length to avoid conflict with the traffic exiting the Pearl Highlands Shopping Center.
7. For detour plans, see Plan Sheets 117 to 119.
8. The Contractor shall work with the Engineer on final phasing prior to start of construction.
9. Crash Cushion shall be approved by the Engineer and shall be installed by the Contractor per manufacturer's specifications.
10. Contractor shall use delineators or drum channelizers, instead of cones, for stationary or long period of lane closures.

LEGEND:

- Sign
- Delineator
- Direction of Traffic
- Type III Barricade
- Work Area
- Temp. AC Pavt.
- Police Officer
- Portable Conc. Barrier (PCB) with Type A Steady Burn Lights @ 20' O.C. (See Note 3 on this Sheet)
- Crash Cushion

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP (For Work within City R/W Only) DATE

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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SIGNATURE 04/30/28 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

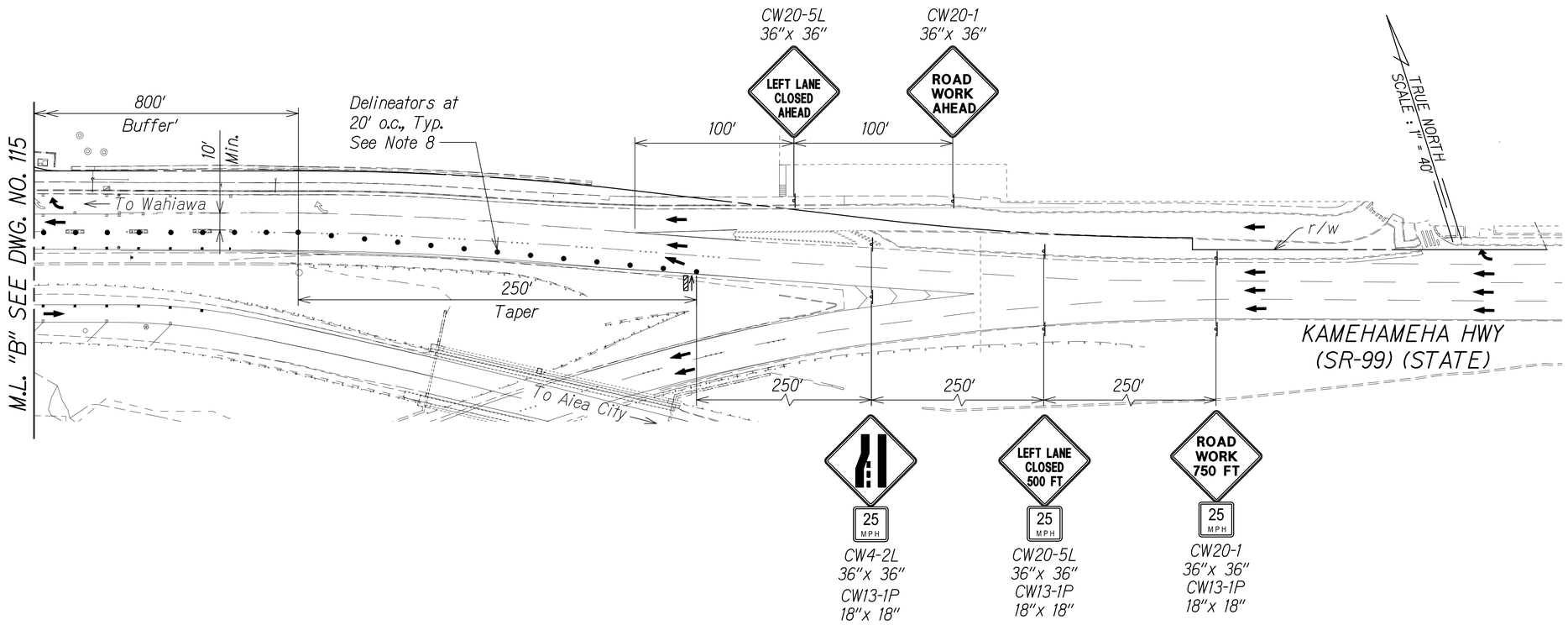
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 40' Date: Feb 2026

SHEET No. 11 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\115 TCP 7A.DWG 8/12/2026 6:28 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	116	140



PHASE 7 KAMEHAMEHA HIGHWAY - EASTBOUND SHOULDER CLOSURE AND WESTBOUND LEFT LANE CLOSURE

Scale: 1" = 40'

NOTES:

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
4. The two Kamehameha Highway westbound lanes shall be reopened daily during peak traffic hours.
5. For Work Zone Signing Plan, Notes, and Details, see Plan Sheet 102.
6. Construction Zone Buffer has been extended and is longer than the required HSS and MUTCD length to avoid conflict with the traffic exiting the Pearl Highlands Shopping Center.
7. The Contractor shall work with the Engineer on final phasing prior to start of construction.
8. Contractor shall use delineators or drum chanbelizers, instead of cones, for stationary or long period of lane closures.

LEGEND:

- Sign
- Delineator
- Direction of Traffic
- Flashing Arrow Signal

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 40' Date: Feb 2026

SHEET No. 12 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\116 TCP 7B.DWG 4/24/2026 3:29 PM ELUMBANG

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	117	140

NOTES:

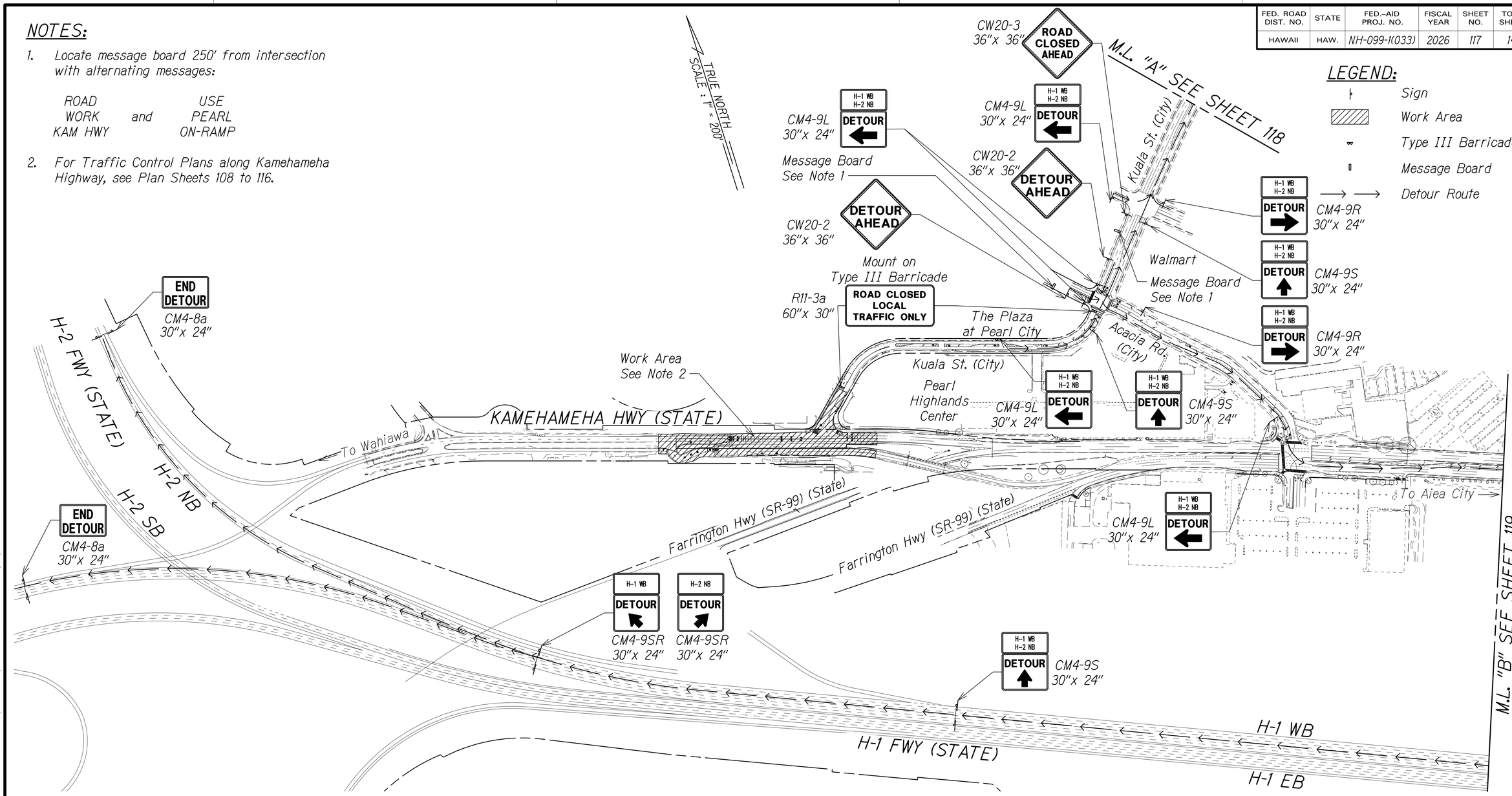
1. Locate message board 250' from intersection with alternating messages:

   ROAD WORK KAM HWY and USE PEARL ON-RAMP

2. For Traffic Control Plans along Kamehameha Highway, see Plan Sheets 108 to 116.

LEGEND:

- Sign
- Work Area
- Type III Barricade
- Message Board
- Detour Route



PHASES 1 TO 7 KAMEHAMEHA HIGHWAY - WESTBOUND LANE CLOSURE DETOUR

Scale: 1" = 200'

GRAPHIC SCALE:

200' 100' 0 200' 400'

Scale: 1" = 200'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

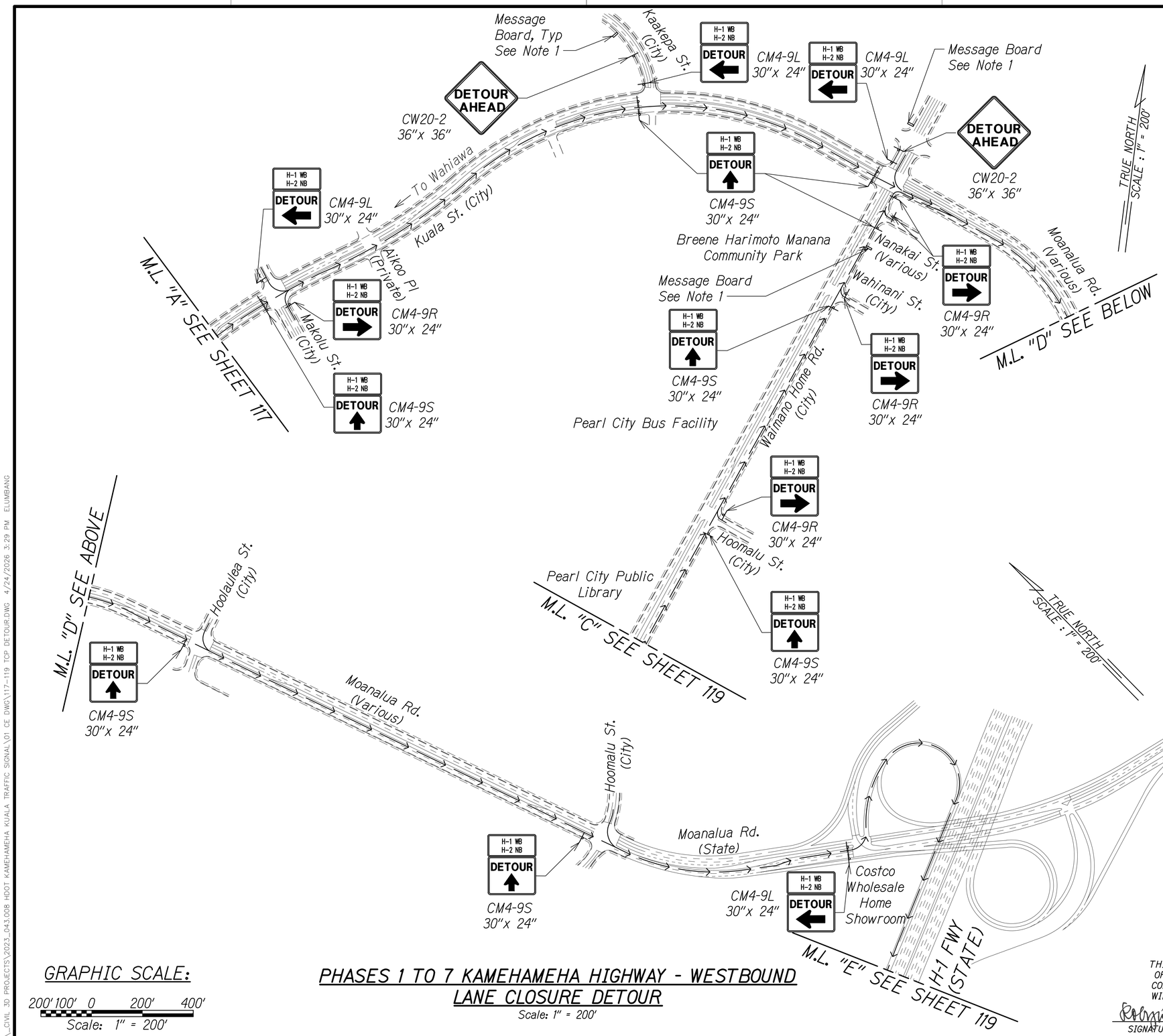
TRAFFIC CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 200' Date: Feb 2026

SHEET No. 13 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\117-119 TCP DETOUR.DWG 4/24/2026 3:29 PM ELUMBANG

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	118	140



NOTES:

1. Locate message board 250' from intersection with alternating messages:

   ROAD WORK KAM HWY and USE PEARL ON-RAMP

2. For Traffic Control Plans along Kamehameha Highway, see Plan Sheets 108 to 116.

LEGEND:

- Sign
- Message Board
- ⟶ ⟶ Detour Route

GRAPHIC SCALE:

200' 100' 0 200' 400'

Scale: 1" = 200'

PHASES 1 TO 7 KAMEHAMEHA HIGHWAY - WESTBOUND LANE CLOSURE DETOUR

Scale: 1" = 200'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP DATE
(For Work within City R/W Only)

ROBYN R. McKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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Robyn McKinney 04/30/28
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

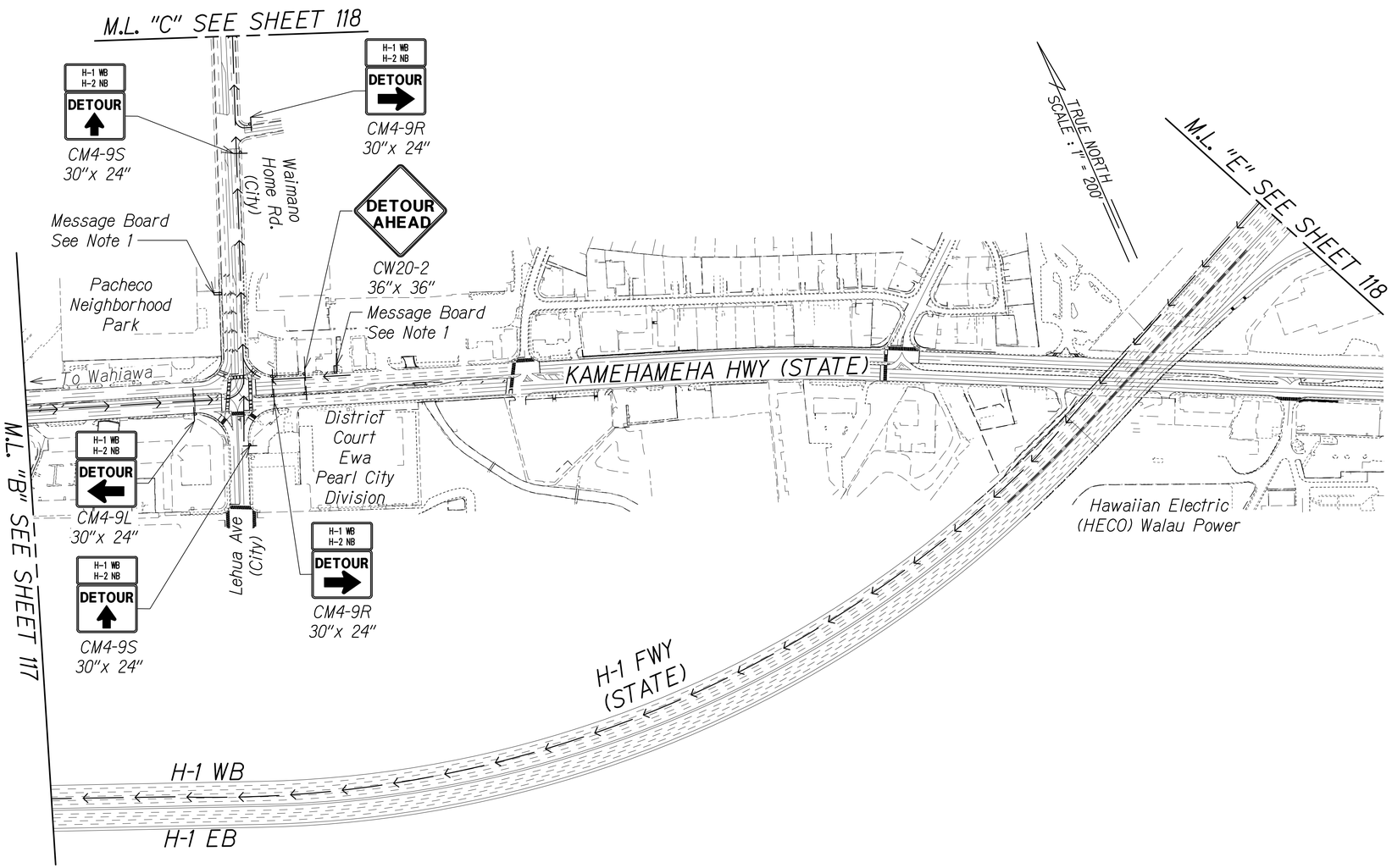
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 200' Date: Feb 2026

SHEET No. 14 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\117-119 TCP DETOUR.DWG 4/24/2026 3:29 PM ELUMBANG

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	119	140



PHASES 1 TO 7 KAMEHAMEHA HIGHWAY - WESTBOUND LANE CLOSURE DETOUR

Scale: 1" = 200'

NOTES:

1. Locate message board 250' from intersection with alternating messages:

ROAD WORK KAM HWY	and	USE PEARL ON-RAMP

2. For Traffic Control Plans along Kamehameha Highway, see Plan Sheets 108 to 116.

LEGEND:

- Sign
- Message Board
- ⟶ ⟶ Detour Route

GRAPHIC SCALE:

200' 100' 0 200' 400'

Scale: 1" = 200'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP (For Work within City R/W Only) DATE

ROBYN R. MCKINNEY LICENSED PROFESSIONAL ENGINEER NO. 13480-C HAWAII, USA

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Robyn McKinney 04/30/28

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

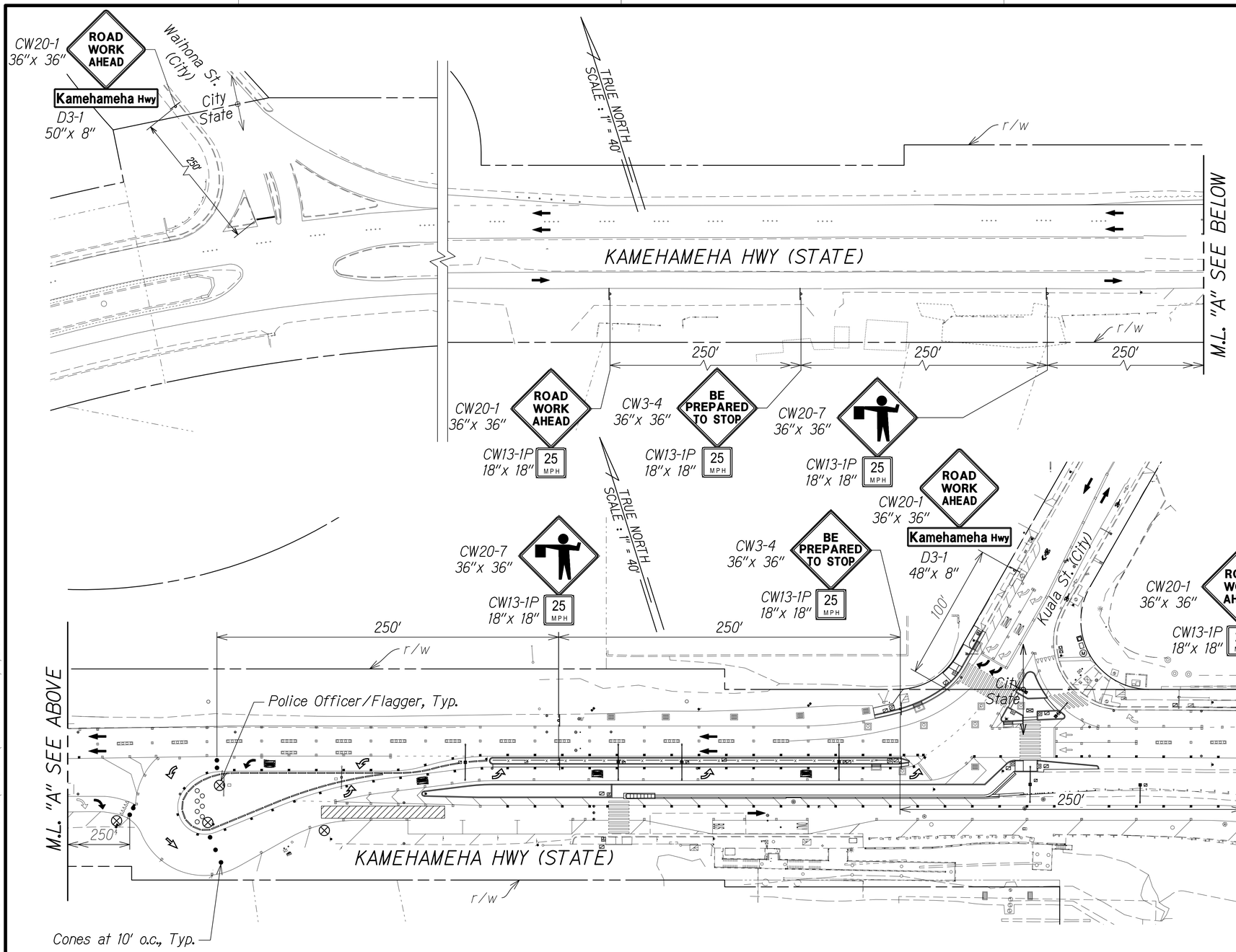
TRAFFIC CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: 1" = 200' Date: Feb 2026

SHEET No. 15 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\117-119 TCP DETOUR.DWG 4/24/2026 3:29 PM ELUMBANG

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	120	140



NOTES:

1. For General Notes for Traffic Control Plan, see Plan Sheets 103 and 104.
2. Traffic Control devices shown are based on the minimum requirements. Contractor shall follow applicable HDOT and MUTCD guidelines for any additional standards.
3. Contractor shall comply with HDOT-Hawaii Standard Specifications, Sections 645 for all site-specific traffic control plans prior to HDOT acceptance and approval, see Plan Sheet 103 notes 17 to 19.
4. The Contractor shall work with the Engineer on final phasing prior to start of construction.

LEGEND:

- Sign
- Cone
- Direction of Traffic
- Work Area
- Police Officer/Flagger

PHASE 8 KAMEHAMEHA HIGHWAY - EASTBOUND TEMPORARY ROAD CLOSURE FOR PAVEMENT MARKING WORK

Scale: 1" = 40'

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP — DATE
(For Work within City R/W Only)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: 1" = 40' Date: Feb 2026

SHEET No. 16 OF 16 SHEETS

W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\120 TCP 8.DWG 8/12/2026 6:29 PM JUNAY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	121	140

GENERAL SPECIFICATIONS:

A. Project Specifications and Hawaii Standard Specifications for Road and Bridge Construction, 2005, together with Special Provisions prepared for this Contract.

DESIGN REFERENCES:

A. AASHTO 2020, 9th Edition, LRFD Bridge Design Specifications and it's subsequent interim specifications with interim supplements and modifications by the Highways Division, Department of Transportation, State of Hawaii.

B. State of Hawaii, Department of Transportation, Highways Division "Design Criteria for bridges and Structures" dated August 8, 2014 as amended by HWY-DB 2.5098, Changes to Design Criteria for Bridges and Structures, January 8, 2018.

LOADS:

A. Dead Load: An allowance of 25 PSF for future wearing surface of asphalt concrete has been provided for in the design.

B. Seismic Load: See Foundation Parameters for Dynamic Lateral Earth Force due to Seismic Load.

C. Wind Load:

1. Wind Exposure ..... "C"
2. Surface Roughness..... "C'
3. Basic Wind Speed (3-Second Gust Wind Speed)

   Load Combination:

   Strength III ..... 130 mph
   Strength V ..... 80 mph
   Service I ..... 70 mph
   Service IV (0.75 of the speed used for the Strength III Limit State) ..... 97.5 mph
4. Pressure Exposure and Elevation Coefficient, K_z 1.0
5. Gust Effect Factor, G 1.0
6. Drag Coefficient, C_d 1.2

D. Vehicle Barrier Load = TL-3 rating

MATERIALS:

A. All concrete strength shall be as noted below:

Item No.	Structural Parts	Classes of Concrete	Specified Compressive Strength, f'c (28 Days)
(1)	Retaining Walls and Footings	-	4,000 PSI
(2)	Except as noted otherwise, all others	-	4,000 PSI

All concrete with a 28 day compressive strength of 4,000 PSI or greater shall have a maximum W/C ratio of 0.45.

B. All reinforcing steel shall be ASTM A615 Grade 60 unless otherwise noted.

C. Reinforcing steel shall be ASTM A706 where welded connections are required.

REINFORCEMENT:

A. The minimum covering measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as otherwise shown:

1. Concrete cast against and permanently exposed to earth = 3"
2. All others unless otherwise noted = 2"

B. Reinforcing bars shall be detailed in accordance with the latest edition of the design specification in Note 2 unless otherwise noted.

C. Minimum clear spacing between parallel bars shall be 1 1/2 times the maximum size of the coarse aggregate or 1 1/2".

D. All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.

E. Reinforcing bars shall be securely tied at all intersections and lap splices expect where the spacing of intersections is less than one foot in each direction, in which case alternate intersections shall be tied.

CONSTRUCTION NOTES:

A. See Project Specifications, Hawaii Standard Specifications and Special Provisions.

B. Except as otherwise noted, all vertical dimensions are measured plumb.

C. The Contractor shall verify all site conditions and not rely upon these plans since conditions may differ from those shown.

D. The Contractor shall be solely responsible for the protection of adjacent properties, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer.

E. The Contractor shall verify the location of all utility lines and notify the respective owners before commencing with excavation, and any temporary piling or sheeting.

F. The Contractor shall verify all dimensions and site conditions and shall report any discrepancies in writing to the Engineer before commencing work or ordering materials.

G. For concrete finish see Standard Specifications and Special Provisions.

H. Construction joints may be relocated or additional ones added subject to the approval of the Engineer.

I. Unless otherwise noted, all exposed concrete edges shall be chamfered 3/4"x3/4".

J. Contractor shall verify elevations before fabricating wall reinforcing.

GENERAL:

A. Standard detail drawings refer to all structures in general, except for modifications as may be required for special conditions. For such modifications refer to the corresponding detailed drawings.

FOUNDATION PARAMETERS:

(Ref: Additional Geotechnical Engineering exploration, HRTP Pearl Highlands Station Kamehameha Highway and Kuala Street Intersection Improvements, Pearl City, Oahu, Hawaii, by Geolabs, Inc., Geotechnical Engineering and Drilling Services, dated May 2, 2025.)

A. Bearing Capacity:
Extreme Events = 5,500 psf
Strength State = 2,500 psf
Service Limit = 1,800 psf

B. Coefficient of Friction:
Extreme Events = 0.30
Strength State = 0.26

C. Passive Earth Pressure:
Extreme Events = 300 pcf
Strength State = 150 pcf

D. Lateral earth pressure = 38 pcf (active)

E. Dynamic lateral earth forces due to seismic loading - $6.4H^2$ plf or 0.40Sds acting 0.60 times the backfill height of the wall.

F. Uniform surcharge stresses imposed on the loaded side of the structure shall be a rectangular distribution with a uniform pressure equal to 36% of the vertical surcharge pressure acting over the entire height of the wall which is free to deflect (cantilever). For walls that are restrained, it shall be a uniform pressure equal to 53% of the vertical surcharge.

KATHLEEN Y. WONG
LICENSED PROFESSIONAL ENGINEER
No. 10469-S
HAWAII, U.S.A.

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SIGNATURE — 04/30/28 EXPIRATION DATE OF THE LICENSE

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL STRUCTURAL NOTES

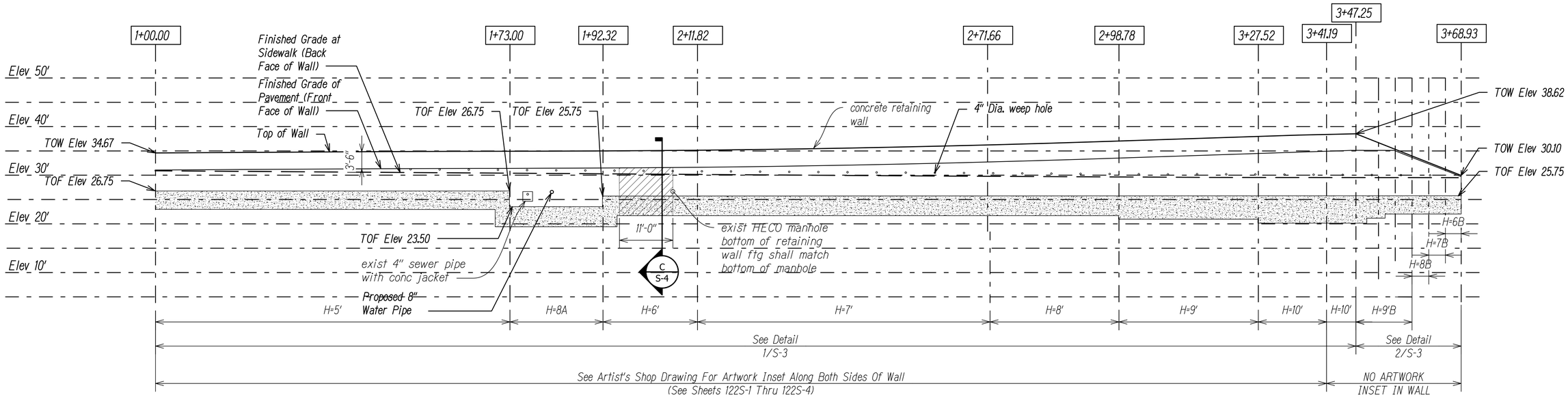
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: NTS Date: Aug 2026

SHEET No. S-1 OF 5 SHEETS

W:_STRUCTURAL PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\CONTRACT DOCS\03 WORKING DRAWINGS\S-1 KUALA GEN NOTES.DWG 8/13/2026 10:39 AM AKOCHER

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	122	140



CONCRETE RETAINING WALL ELEVATION (STATION SIDE)

1 / S-2

Scale: 3/32" = 1'-0"

GRAPHIC SCALE:

2' 0 2' 4' 6'

Scale: 3/32" = 1'-0"

KATHLEEN Y. WONG
LICENSED PROFESSIONAL ENGINEER
No. 10469-S
HAWAII, U.S.A.

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SIGNATURE

04/30/28
EXPIRATION DATE OF THE LICENSE

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RETAINING WALL ELEVATION

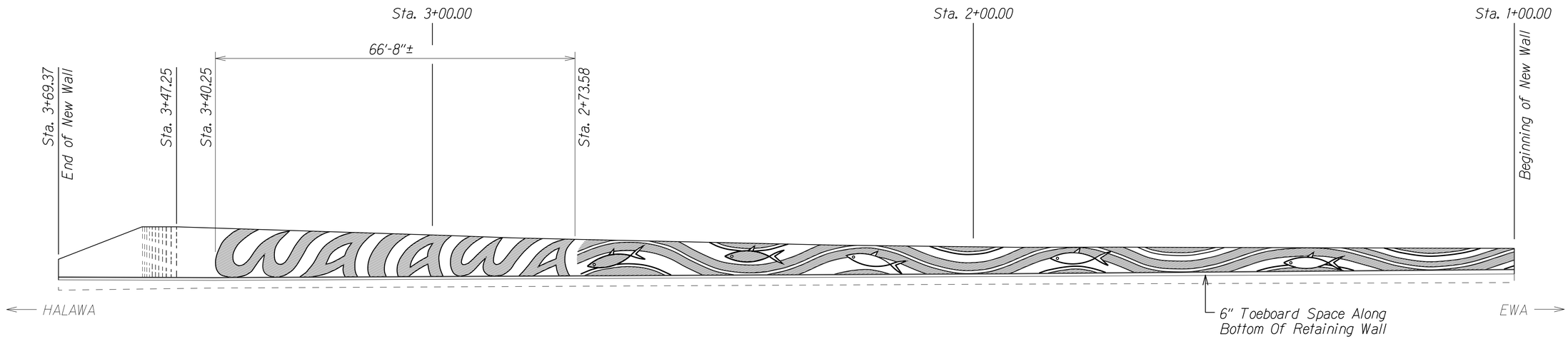
KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

Scale: As Noted Date: Aug 2026

SHEET No. S-2 OF 5 SHEETS

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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	122S-1	140



RETAINING WALL ART WORK
SKYLINE WAIAWA STATION
OVERALL VIEW

Not to Scale

Note:

1. All Hatched Areas (Shaded in Drawing) Shall Be Recessed 2" Into Concrete.
2. All Edges Of Hatched Areas Shall Be Finished With 1-½" Reveal/Bevel.
3. The Hatched Areas Shall Receive 3/16" Striated Finish Texture With Random Flute Spacing And Depth (3/16" Max., Depth). See Detail On Plan Sheet A2 .
4. The Striated Finish Texture Shall Be Rotated at 15° From Horizontal, See Details On Architectural Drawings.
5. After All Work Completed The Entire Retaining Wall Face Shall Be Treated With Permanent Non-Sacrificial Anti-Graffiti Coating (Siloxane Or Urethane Formulation) With Clear Color And Semi-Satin Finish.
6. For Retaining Wall Design Details, See Structural Plan Sheet S-2 .

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

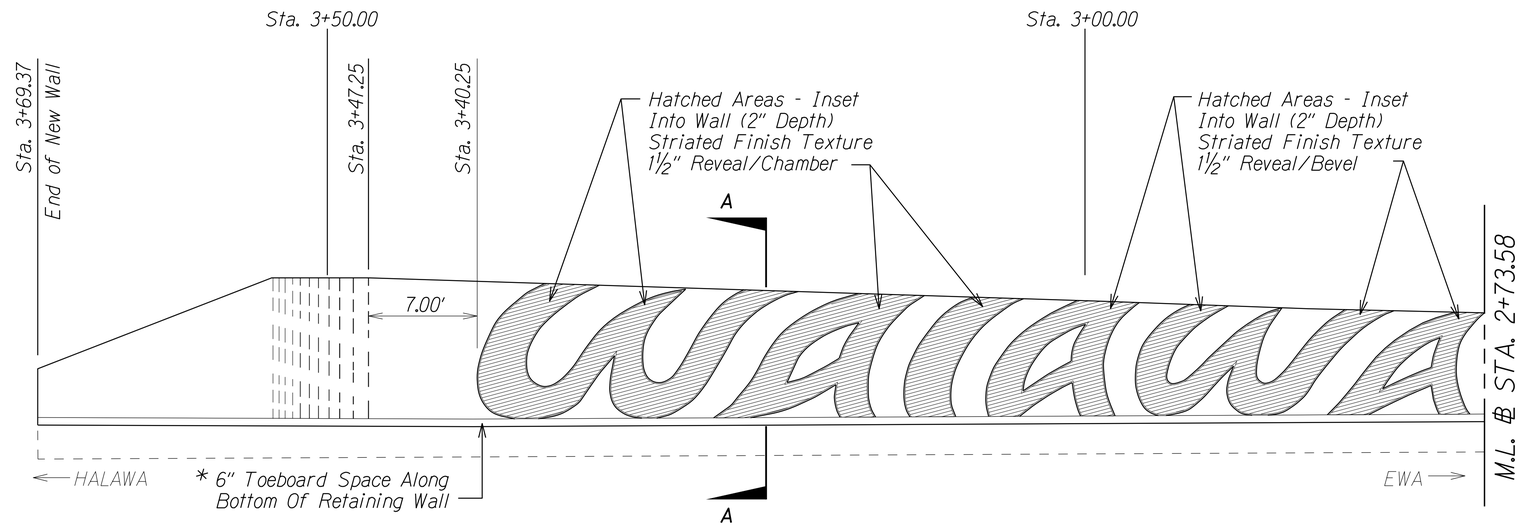
RETAINING WALL ART WORK

KAMEHAMEHA HIGHWAY
Intersection Improvements At Kuala Street
Federal Aid Project No. NH-099-1(033)

Scale: As Shown Date: August 2026

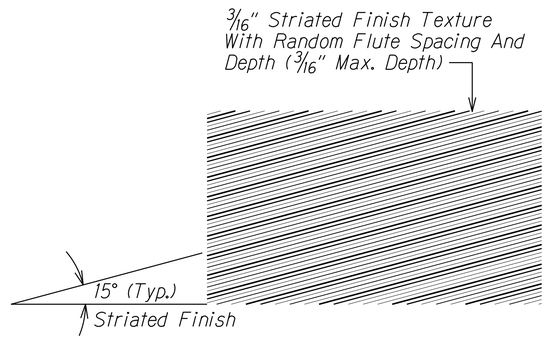
SHEET No. A1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	122S-2	140



ENLARGED ART WORK DESIGN

Scale: 1"=5'-0"

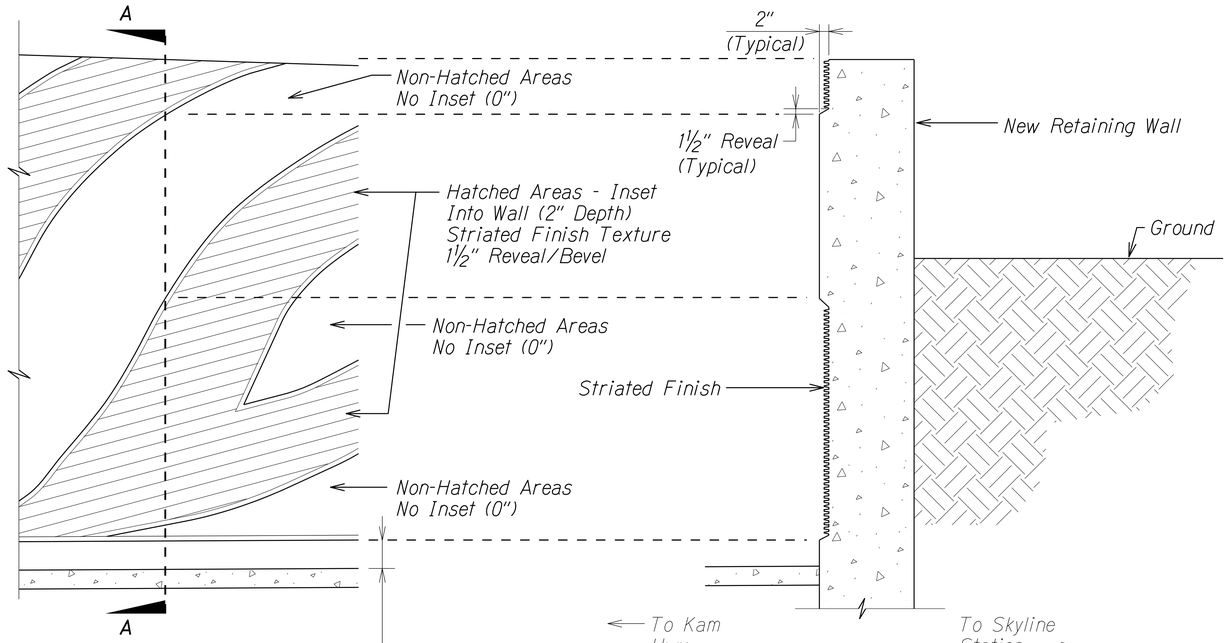


3/16" STRIATED FINISH TEXTURE

Not to Scale

*Paint 6" Toeboard With HDOT Logo Color
(Dark Denim/Deep Water Blue, Pantone 7692c)

Complete Painting Work Before Applying
Anti-Graffiti Coating On Entire Retaining
Wall Surface



SECTION "A"

Scale: 3/4"=1'-0"

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ART WORK DESIGN

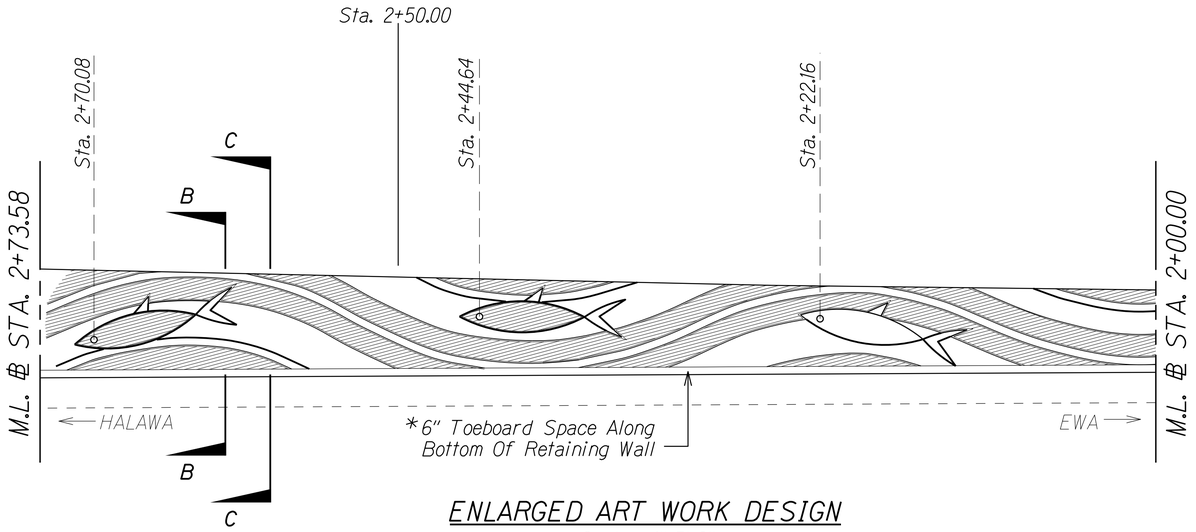
KAMEHAMEHA HIGHWAY
Intersection Improvements At Kuala Street
Federal Aid Project No. NH-099-1(033)

Scale: As Shown Date: August 2026

SHEET No. A2 OF 4 SHEETS

122S-2

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	122S-3	140



*Paint 6" Toeboard With HDOT Logo Color (Dark Denim/Deep Water Blue, Pantone 7692c)

Complete Painting Work Before Applying Anti-Graffiti Coating On Entire Retaining Wall Surface

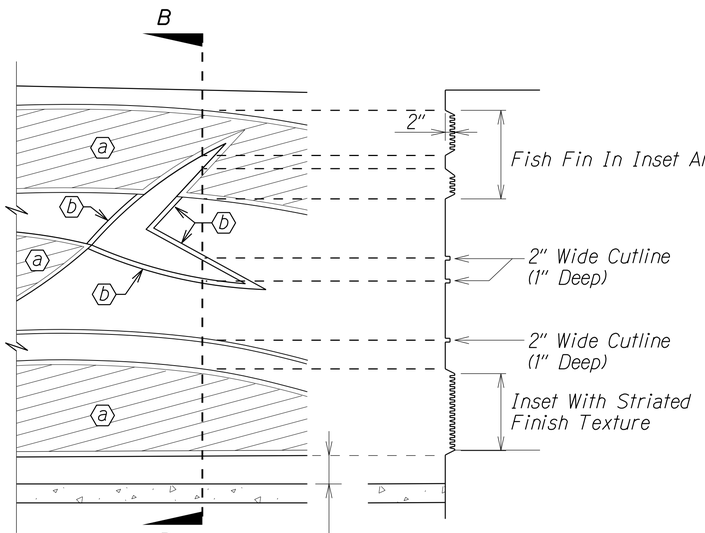
ENLARGED ART WORK DESIGN

Scale: 1"=5'-0"

ⓐ Hatched Areas - Inset Into Wall (2" Depth) Striated Finish Texture 1½" Reveal/Chamber

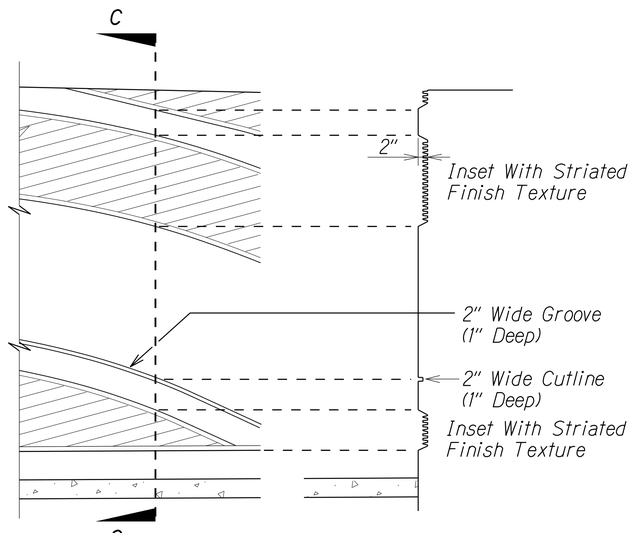
ⓑ 2" Wide Groove (1" Deep)**

**Fish Tail (Not In Hatched Area) 2" Wide Groove (1" Deep) Groove To Be Offset To Form Smooth Tail Outline



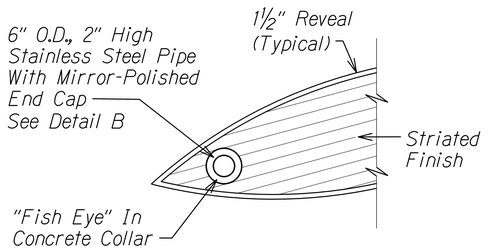
SECTION "B"

Scale: 3/4"=1'-0"



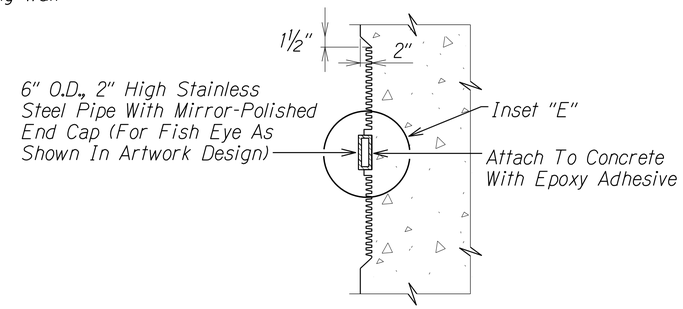
SECTION "C"

Scale: 3/4"=1'-0"



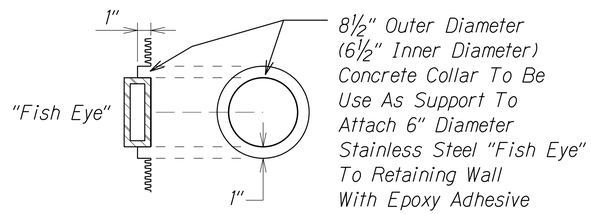
DETAIL A

Not to Scale



DETAIL B

Not to Scale



INSET E

Not to Scale

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ART WORK DESIGN

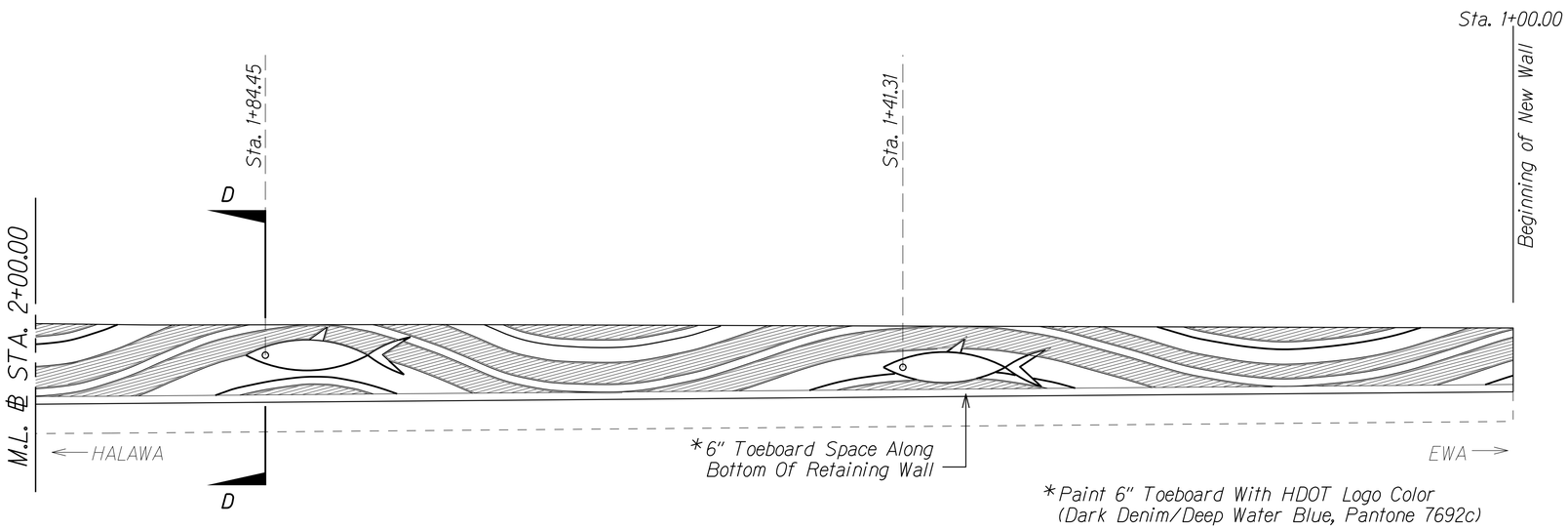
KAMEHAMEHA HIGHWAY
Intersection Improvements At Kuala Street
Federal Aid Project No. NH-099-1(033)

Scale: As Shown Date: August 2026

SHEET No. A3 OF 4 SHEETS

122S-3

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	122S-4	140

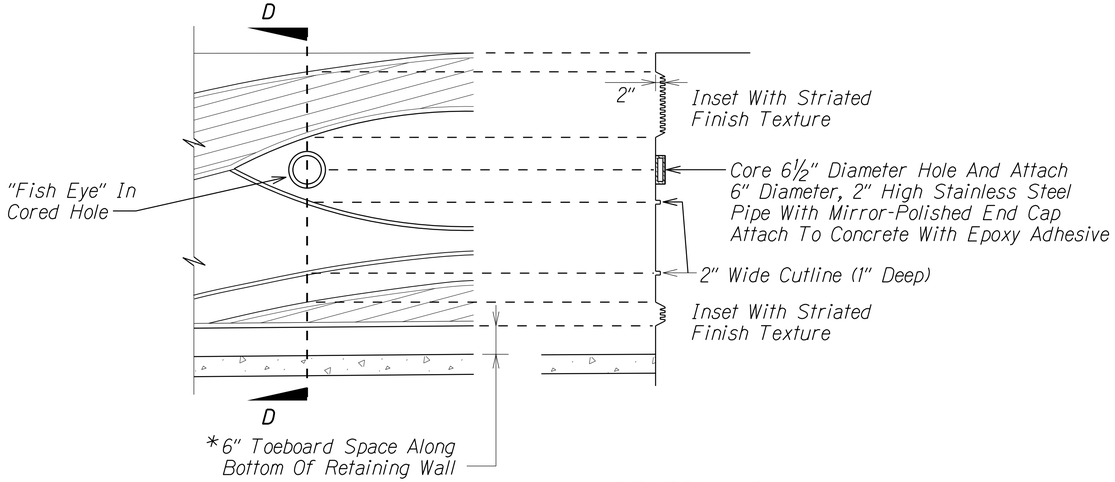


*Paint 6" Toeboard With HDOT Logo Color (Dark Denim/Deep Water Blue, Pantone 7692c)

Complete Painting Work Before Applying Anti-Graffiti Coating On Entire Retaining Wall Surface

ENLARGED ART WORK DESIGN

Scale: 1"=5'-0"



SECTION "D"

Scale: 3/4"=1'-0"

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ART WORK DESIGN

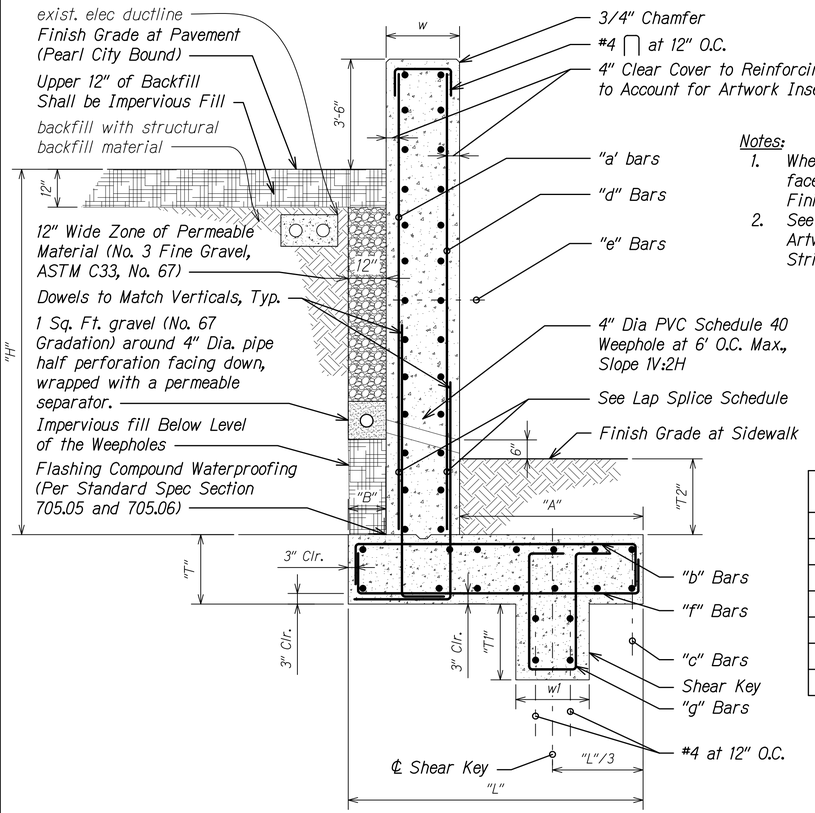
KAMEHAMEHA HIGHWAY
Intersection Improvements At Kuala Street
Federal Aid Project No. NH-099-1(033)

Scale: As Shown Date: August 2026

SHEET No. A4 OF 4 SHEETS

122S-4

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	123	140

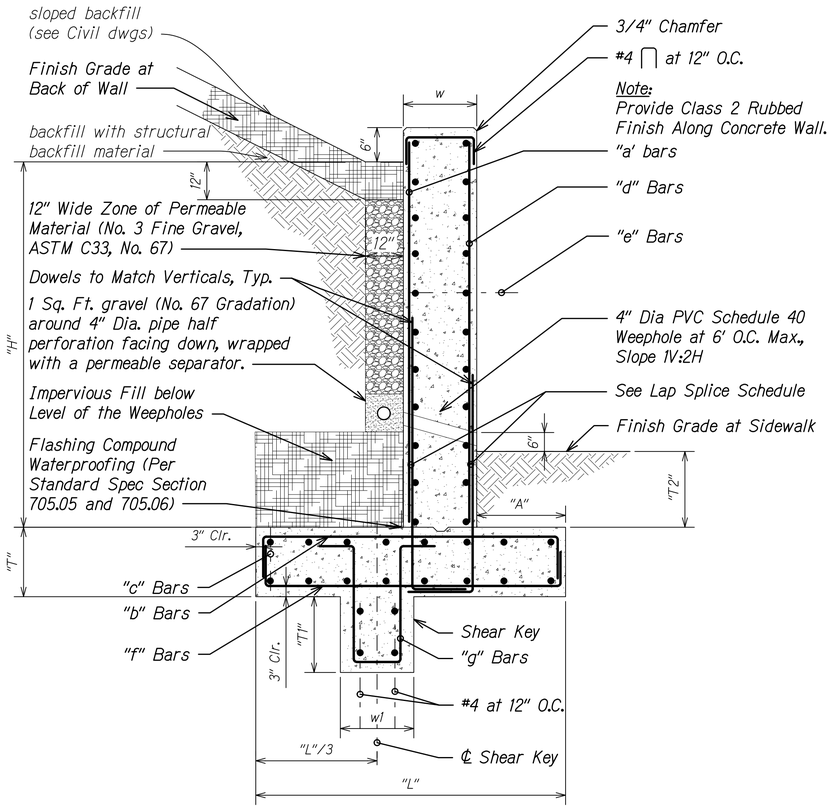


Notes:
1. Where no artwork along wall face, provide Class 2 Rubbed Finish.
2. See Details on Sheet S-2 for Artwork Pattern Formation and Striated Finish Texture.

TYPICAL REINFORCING LAP SPLICE SCHEDULE	
Bar Size	Splice Length
#3	1'-6"
#4	2'-0"
#5	2'-6"
#6	3'-0"
#7	3'-6"
#9	4'-6"

RETAINING WALL DETAIL 1 / S-3

SCALE: NTS



RETAINING WALL DETAIL 2 / S-3

SCALE: NTS

RETAINING WALL SCHEDULE OF DIMENSIONS AND REINFORCING (Per Detail 1/S-3)							
"H" (MAX)	5'-0"	6'-0"	7'-0"	8'-0" (8A)	8'-0"	9'-0"	10'-0"
w (wall thickness)	22"	22"	22"	22"	22"	22"	22"
w1 (shear key thickness)	18"	18"	18"	18"	18"	18"	18"
T (footing thickness)	1'-6"	1'-6"	1'-6"	2'-0"	2'-0"	2'-0"	2'-0"
T1 (key depth)	1'-0"	1'-0"	1'-0"	-	2'-0"	2'-0"	2'-0"
T2 (finish grade height to TOF)	2'-9" Min.	3'-6" Min.	2'-9" Min.	6'-0" Min.	2'-9" Min.	2'-9" Min.	2'-9" Min.
L (ftg width)	5'-9"	6'-3"	7'-3"	8'-0"	8'-0"	9'-0"	10'-0"
A (toe length)	3'-0"	3'-6"	4'-6"	5'-0"	5'-0"	6'-0"	7'-0"
B (heel length)	1'-3"	1'-3"	1'-3"	1'-6"	1'-6"	1'-6"	1'-6"
a (wall vert. reinf at backfill side)	#4 @ 12"	#4 @ 12"	#4 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
b (ftg transverse top bars)	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
c (ftg long top and bottom bars)	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
d (wall vert. reinf. at toe / front side)	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"
e (wall horiz. reinf)	2-#4 @ 12"	2-#4 @ 12"	2-#4 @ 12"	2-#4 @ 12"	2-#4 @ 12"	2-#4 @ 12"	2-#4 @ 12"
f (ftg transverse bot bars)	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"
g (shear key vert. reinf.)	#4 @ 12"	#5 @ 12"	#5 @ 10"	-	#5 @ 6"	#6 @ 6"	#6 @ 6"

RETAINING WALL SCHEDULE FOR DIMENSIONS AND REINFORCING (Per Detail 2/S-3)				
"H" (Max)	5'-0" (5B)	6'-0" (6B)	7'-0" (7B)	8'-0" (8B)
w	18"	18"	18"	18"
w1	18"	18"	18"	18"
T	1'-6"	2'-0"	2'-0"	2'-0"
T1	1'-0"	2'-0"	2'-6"	2'-6"
T2	2'-9" Min.	2'-9" Min.	2'-9" Min.	2'-9" Min.
L	7'-0"	8'-0"	9'-0"	11'-0"
A	-	-	-	1'-6"
a	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 6"
b	#5 @ 6"	#6 @ 6"	#7 @ 6"	#7 @ 6"
c	#5 @ 12"	#5 @ 12"	#5 @ 6"	#5 @ 6"
d	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"
e	2-#4 @ 12"	2-#4 @ 12"	2-#4 @ 12"	2-#4 @ 12"
f	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
g	#5 @ 12"	#5 @ 6"	#5 @ 6"	#5 @ 6"

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No. 10469-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE — 04/30/28 EXPIRATION DATE OF THE LICENSE

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RETAINING WALL SCHEDULE, DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

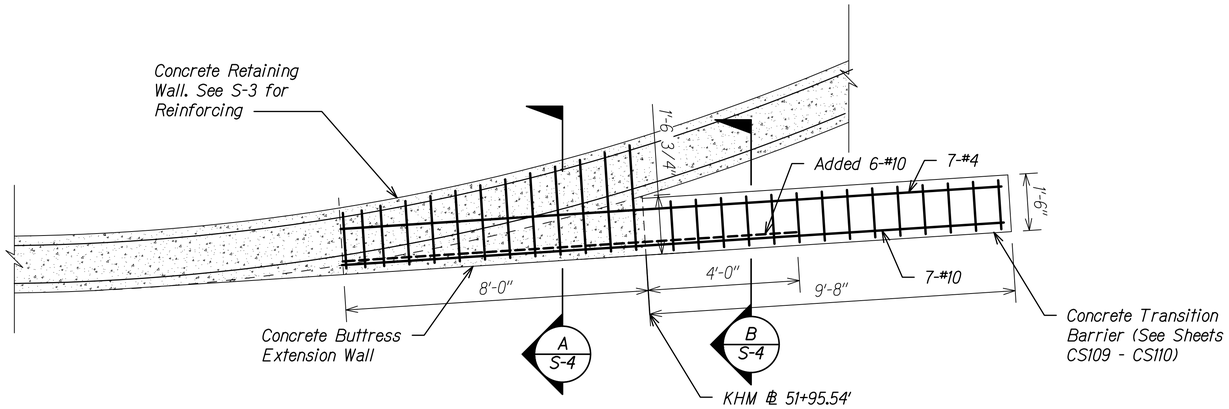
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SHEET No. S-3 OF 5 SHEETS

123

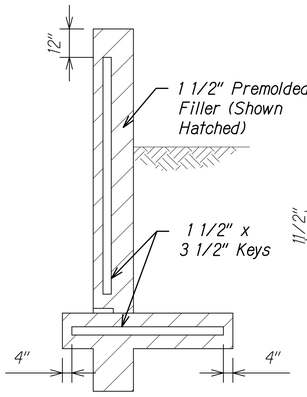
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FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	124	140

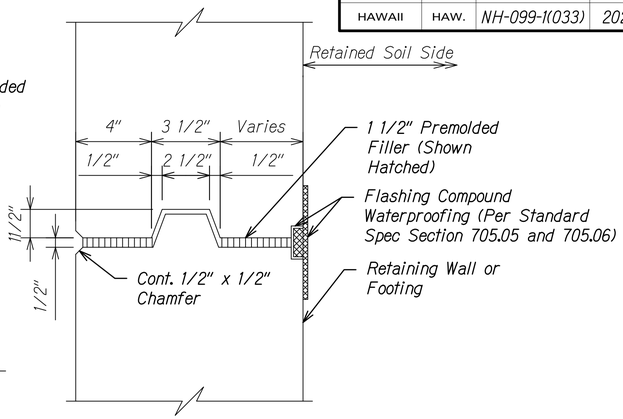


BUTTRESS WALL DETAIL 1 S-4

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



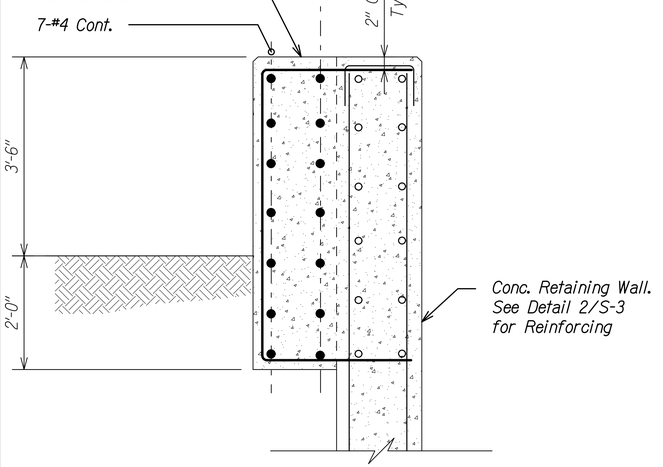
TRANSVERSE WALL SECTION



DETAIL PLAN OF JOINT (AT WALL AND FOOTING)

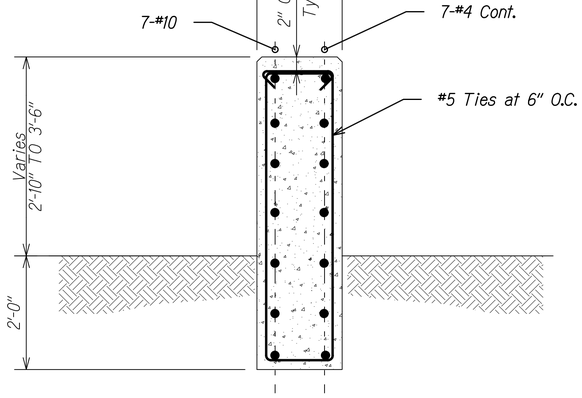
TYPICAL EXPANSION JOINT DETAILS 2 S-4

SCALE: NTS



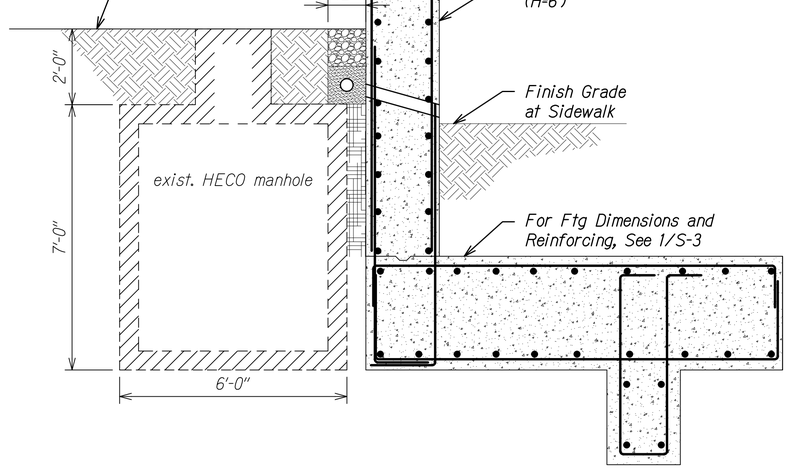
WALL SECTION A S-4

SCALE: 3/4" = 1'-0"



CONC. TRANSITION SECTION B S-4

SCALE: 3/4" = 1'-0"



RETAINING WALL DETAIL C S-4

SCALE: NTS

Note:
Contractor shall field verify size and location of existing HECO manhole and protect from damage prior to construction of concrete retaining wall.

1' 6" 0 1' 2' 3' 4' 5'
Scale: 1/2" = 1'-0"

2' 0 2' 4' 6'
Scale: 3/32" = 1'-0"

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SIGNATURE 04/30/28 EXPIRATION DATE OF THE LICENSE

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE BUTTRESS WALL DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)

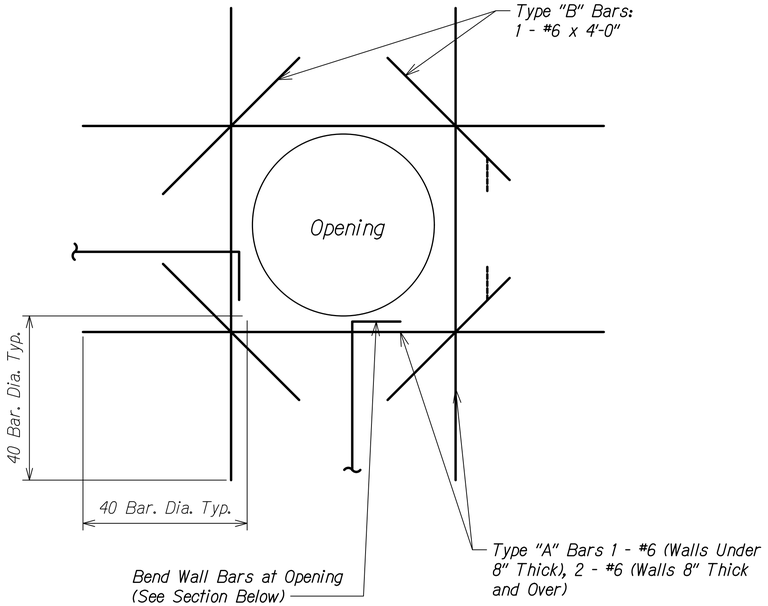
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SHEET No. S-4 OF 5 SHEETS

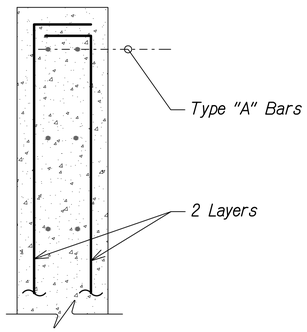
124

W:_STRUCTURAL PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\CONTRACT DOCS\03 WORKING DRAWINGS\S-4 KUALA WALL DETAILS.DWG 8/13/2026 4:29 PM AKOCHER

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	125	140



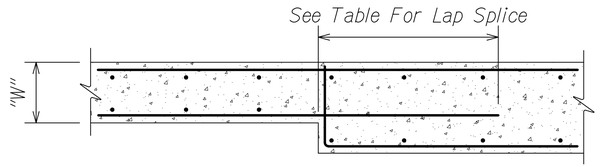
CONCRETE WALL OPENING DETAIL 1 / S-5
SCALE: NTS



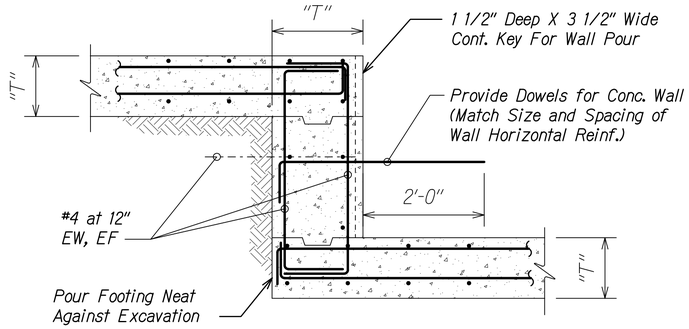
SECTION

NOTES:

1. Where Sides, Top Or Bottom Of Openings Are In Line. "A" Bars Shall Be Continuous Except Where Openings Are More Than 8'-0" Apart.
2. Omit Type "B" For Opening Equal To And Less Than 1'-0" Sqr.
3. For Wall Recess Deeper Than 1/3 Of The Wall Thickness, Provide Typical Wall Opening Reinforcement Around Recess. At The Wall Recesses Less Than 1/3 Of Wall Thickness, Recess Wall Reinforcing. (Recessing Bends Shall Be Offset Bend 1:6 To Clear Recess.)



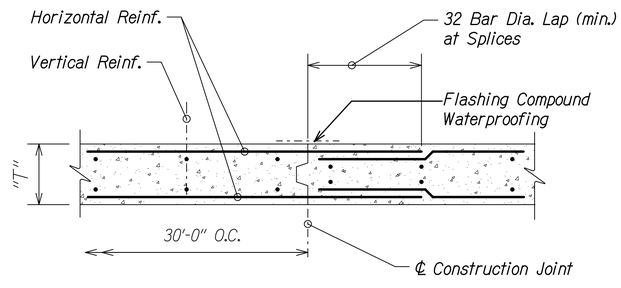
CONDITION AT TRANSITION OF DIFFERENT WALL/FTG THICKNESS



ELEVATION
CONDITION AT STEP FOOTING

NOTES:

1. Mechanically Roughen Construction Joint Or Use 1" Deep X "T"/3 Wide Keys.
2. Provide Wall Vertical Construction Joints At 30' OC Maximum.
3. Provide wall vertical expansion joints at 90' OC maximum. See Detail 2/S-4.
4. Where wall is discontinuous, extend all wall reinforcing to within 2 inches of end of wall, and provide standard 90 degree hook.



PLAN
CONDITION AT VERTICAL CONSTRUCTION JOINT

TYPICAL RETAINING WALL DETAILS 2 / S-5
SCALE: NTS

KATHLEEN Y. WONG
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SIGNATURE — 04/30/28 EXPIRATION DATE OF THE LICENSE

DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL WALL AND FOOTING DETAILS

KAMEHAMEHA HIGHWAY
INTERSECTION IMPROVEMENTS AT KUALA STREET
Federal-Aid Project No. NH-099-1(033)
Scale: NTS Date: Aug 2026

SHEET No. S-5 OF 5 SHEETS

W:_STRUCTURAL PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\CONTRACT DOCS\03 WORKING DRAWINGS\S-5 KUALA WALL PLANS.DWG 8/13/2026 11:07 AM AKOCHER

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH–099–1(033)	2026	126	140

ELECTRICAL SYMBOLS

- Existing LED 19 Lumens Street Light Standard To Be Relocated
- Existing LED 19 Lumens Street Light Standard
- Relocated LED 19 Lumens Street Light Standard GE ERS2–19–E1–40K Gray
- LED 19 Lumens Street Light Standard GE ERS2–19–E1–40K Gray
- Pullbox
- Junction Box
- Underground Ductline
- – – SL– – Existing Street Light Ductline And Wiring
- –x– SL–x– Existing Street Light Ductline And Wiring To Be Removed
- —SL— Street Light Ductline And Wiring, See Street Light Details
- 1 SL 2 (A) Duct Section Indicator

DUCT DESIGNATION

1 SL 2 (A)

- Duct Section "A" See Duct Section Details 2/131
- Conduit Size
- System "SL" Highway Lighting
- Number Of Ducts

PULLBOX, HANDHOLE, MANHOLE SCHEDULE

(100) State Highways Street Light Pullbox Type A. See Detail 1/131

GENERAL UTILITIES NOTES

1. All Ductline Installation Shall Be Encased In Concrete, PVC Schedule 40 Unless Otherwise Specified.
2. Scope Of Work: The Contractor Shall Furnish All Labor, Equipment And Services To Properly Perform And Fully Complete All Work Shown On The Contract Drawings And In Accordance With Contract Specifications As Summarized Below:
   a. The Contractor Is Responsible To Provide All Underground Electrical And Communications Utility Support Structures, Stubbed–Up Risers And At–Grade Equipment Concrete Pads.
   b. All Handholes And Pullboxes Are Located Next To Uncurbed Roadways Shall Be Designed To Comply With AASHTO LRFD Bridge Design Specifications, Second Edition For HL–93 Truckload (Axle Load = 32,000 lbs; Wheel Load = 16,000 lbs) Or Shall Be Protected By Post Barriers To Prevent Vehicles From Driving Over The Handholes And Pullboxes.
   c. Utility Owners (Except For Signal Corps) Are Responsible To Provide Poles, Cables, And Equipment For Electrical And Communications Utilities And Remove All Poles, Cables, And Equipment For Electrical And Communications Utilities Where Indicated On The Contract Drawings.
   d. The Contractor Is Responsible To Provide All Street Light Work As Noted On The Contract Drawings.
3. The Contractor Shall Provide The Required Number Of As–Built Drawings Showing The Offsets, Stationing And Vertical Elevation Of The Ductline(s) Constructed.
4. Permanent Power Shall Be Required To Feed The New Traffic Signal Controller And CCTV Cabinet. Provide Permanent Power And Meter, This Permanent Power For New Traffic Signal Controller And CCTV Cabinet Shall Be Coordinated With The Owner and HECO. Permanent Power From Existing HECO Pad Mounted Transformer.

HAWAIIAN ELECTRIC COMPANY NOTES

1. Location Of Hawaiian Electric Facilities

   The Location Of Hawaiian Electric's Overhead And Underground Facilities Shown On The Plans Are From Existing Records With Varying Degrees Of Accuracy And Are Not Guaranteed As Shown. The Contractor Shall Verify In The Field The Locations Of The Facilities And Shall Exercise Proper Care In Excavating And Working In The Area. Wherever Connections Of New Utilities To Existing Utilities And Utility Crossings Are Shown, The Contractor Shall Expose The Existing Lines At The Proposed Connections And Crossings To Verify The Depths Prior To Excavation For The New Lines. The Contractor Shall Be Responsible For Any Damages To Hawaiian Electric's Facilities Whether Shown Or Not Shown On The Plans.

2. Compliance With Hawaii Occupational Safety And Health Laws

   The Contractor Shall Comply With The State Of Hawaii's Occupational Safety And Health Laws And Regulations, Including Without Limitation, Those Related To Working On Or Near Exposed Or Energized Electrical Lines And Equipment.

3. Excavation Clearance

   The Contractor Shall Obtain An Excavation Clearance From Hawaiian Electric's Planning And Design Section Of The Transmission & Distribution Engineering Department (543–5654) Located At 820 Ward Avenue, 4th Floor, A Minimum Of Ten (10) Working Days Prior To Starting Construction.

4. Caution!!! Electrical Hazard!!!

   Existing Hawaiian Electric Overhead And Underground Lines Are Energized And Will Remain Energized During Construction Unless Prior Special Arrangements Have Been Made With Hawaiian Electric. Only Hawaiian Electric Personnel Are To Handle These Energized Lines And Erect Temporary Guards To Protect These Lines From Damage. The Contractor Shall Work Cautiously At All Times To Avoid Accidents And Damage To Existing Hawaiian Electric Facilities, Which Can Result In Electrocution.

5. Overhead Lines

   State Law (OSHA) Requires That A Worker And The Longest Object He Or She May Contact Cannot Come Closer Than A Specified Minimum Radial Clearance When Working Close To Or Under Any Overhead Lines. It Is The Contractor's Responsibility To Be Informed Of And Comply With The Law.

   At Any Time Should The Contractor Anticipate That His Work Will Result In The Need To Encroach Within The Minimum Required Clearance As Stated In The Law, The Contractor Shall Notify Hawaiian Electric At Least Three (3) Months Prior To The Planned Encroachment So That, If Feasible, The Necessary Protections (E.G. Relocate Or De–Energize Hawaiian Electric Lines) Can Be Investigated. Hawaiian Electric May Also Be Able To Blanket Its Distribution (12kv And Below) Lines To Provide A Visual Aid In Preventing Accidental Contact. Hawaiian Electric's Cost Of Safeguarding Or Identifying Its Lines Will Be Charged To The Contractor.

   Contact Hawaiian Electric's Customer Relations At 543–7070 For Assistance In Identifying And Safeguarding Overhead Power Lines.

6. Pole Bracing

   a) Contractor Shall Not Excavate Within 10 Feet Of Hawaiian Electric's Utility Poles Or Any Anchor System Supporting The Utility Pole. If Contractor Must Excavate An Area More Than 12 Inches Deep By 12 Inches Wide, And Closer Than 10 Feet From A Utility Pole Or Its Anchor System, Except When Excavating For Risers In A Single Trench Not Wider Than 12 Inches And Not Deeper Than 3 Feet, Contractor Will Be Responsible For Protecting, Supporting, Securing And Taking All Precautions To Prevent Damage To Or Leaning Of Existing Poles. Before Commencing Such Excavation, Contractor Must Notify Hawaiian Electric Which May Lead To Implementing Pole Bracing Requirements. Hawaiian Electric Requires A Minimum Of Ten (10) Working Days To Conduct The Review Of Contractor's Submittal. Contractor Shall Submit Its Bracing Calculations And Drawings, Prepared And Stamped By A Licensed Structural Engineer, To Hawaiian Electric's Customer Relations (543–7070) For Review. Contractor Shall Be Responsible For The Design, Installation, And Removal Of The Temporary Pole Bracing System, As Well As All Costs Incurred By Hawaiian Electric To Review Contractor's Drawings And To Repair Or Straighten Poles Impacted By Contractor's Activities, Including Response And Restoration Costs Incurred By Hawaiian Electric Arising Out Of Or Related To Outages Caused By Contractor's Failure To Meet The Foregoing Requirements. Hawaiian Electric's Receipt Of Pole Bracing Calculation Or Drawing Submittals Of Any Contractor, Including Work Procedure, Shall Not Relieve Contractor From Any Liability Resulting From Contractor's Excavation Near Or Around Hawaiian Electric's Utility Poles.

   b) Hawaiian Electric May Provide To The Customer Information Related To Pole Bracing, Including Calculations And Other Basic Engineering. However, Hawaiian Electric Provides This Information For Informational Purposes Only And Does Not Warrant Any Of The Information Provided To Customer. Hawaiian Electric Hereby Disclaims Any Liability Associated With The Customer's Use Of Information Provided To The Customer From Hawaiian Electric. It Is The Customer's Duty To Obtain Engineering From Its Own Engineer Or Contractor In Order To Brace Poles And The Use Of Hawaiian Electric's Information Does Not Excuse The Customer From Performing Its Own Evaluation Of The Bracing Needs. Should The Customer Install Bracing At Any Pole Location, Customer Shall Defend, Indemnify And Hold Harmless Hawaiian Electric From Any Third– Party Claims Associated With The Customer's Bracing Of A Pole. Should The Work Customer Perform At Or Near The Pole Location Compromise The Pole Or Its Surroundings In Any Way, Customer Shall Restore Or Replace The Pole So That It Is No Longer Compromised.

7. Underground Lines

   The Contractor Shall Exercise Extreme Caution Whenever Construction Crosses Or Is In Close Proximity Of Underground Lines. Hawaiian Electric's Existing Electrical Cables Are Energized And Will Remain Energized During Construction. Only Hawaiian Electric Personnel Are To Break Into Existing Hawaiian Electric Facilities, Handle These Cables, And Erect Temporary Guards To Protect These Cables From Damage. The Cost Of Hawaiian Electric's Assistance In Providing Proper Support And Protection Of Its Underground Lines Will Be Charged To The Contractor. For Assistance/Coordination In Providing Proper Support And Protection Of These Lines, The Contractor Shall Call Hawaiian Electric's Customer Relations At 543–7070 A Minimum Of Ten (10) Working Days In Advance.

   Special Precautions Are Required When Excavating Near Hawaiian Electric's 138kv Or 46kv Underground Lines (See Hawaiian Electric Instructions To Consultants/Contractors On "Excavation Near Hawaiian Electric's Underground 138kv And/Or 46kv Lines" For Detailed Requirements).

   For Verification Of Underground Lines, The Contractor Shall Call The Hawaii One Call Center At 866–423–7287 Minimum Of Five (5) Working Days In Advance.

8. Underground Fuel Pipelines

   The Contractor Shall Exercise Extreme Caution Whenever Construction Crosses Or Is In Close Proximity Of Hawaiian Electric's Underground Fuel Oil Pipelines. Special Precautions Are Required When Excavating Near Hawaiian Electric's Underground Fuel Oil Pipelines (See Hawaiian Electric's Specific Fuel Pipeline "Guidelines"To Consultants/Contractors On Excavation Near Hawaiian Electric's Underground Fuel Pipelines For Detailed Requirements).

9. Excavations

   When Trench Excavation Is Adjacent To Or Beneath Hawaiian Electric's Existing Structures Or Facilities, The Contractor Is Responsible For:

   a) Arranging For Hawaiian Electric Standby Personnel To Observe Work At Contractor's Cost.
   b) Sheeting, Bracing, Or Otherwise Supporting The Excavation And Stabilizing The Existing Ground To Render It Safe And Secure And To Prevent Possible Slides, Cave–Ins, And Settlements.
   c) Properly Supporting Existing Structures Or Facilities With Beams, Struts, Under–Pinnings, Or Other Necessary Methods To Fully Protect It From Damage
   d) Backfilling With Proper Backfill Material Including Special Thermal Backfill Where Existing (Refer To Engineering Division For Thermal Backfill Specifications).

10. Relocation Of Hawaiian Electric Facilities

    Any Work Required To Relocate Or Modify Hawaiian Electric Facilities Shall Be Done By Hawaiian Electric, Or By The Contractor Under Hawaiian Electric's Supervision. The Contractor Shall Be Responsible For All Coordination, And Shall Provide Necessary Support For Hawaiian Electric's Work, Which May Include, But Not Be Limited To, Staking Of Pole/Anchor Locations, Identifying Right Of Way And Property Lines, Excavation And Backfill, Permits And Traffic Control, Barricading, And Restoration Of Pavement, Sidewalks, And Other Facilities.

    All Costs Associated With Any Relocation Or Modification (Either Temporary Or Permanent) For The Convenience Of The Contractor, Or To Enable The Contractor To Perform His Work In A Safe And Expeditious Manner In Fulfilling His Contract Obligations Shall Be Borne By The Contractor.

11. Conflicts

    Any Redesign Or Relocation Of Hawaiian Electric's Facilities Not Shown On The Plans May Be Cause For Lengthy Delays. The Contractor Acknowledges That Hawaiian Electric Is Not Responsible For Any Delay Or Damage That May Arise As A Result Of Any Conflicts Discovered Or Identified With Respect To The Location Or Construction Of Hawaiian Electric's Electrical Facilities In The Field, Regardless Of Whether The Contractor Has Met The Requested Minimum Advance Notices. In Order To Minimize Any Delay Or Impact Arising From Such Conflicts, Hawaiian Electric Should Be Notified Immediately Upon Discovery Or Identification Of Such Conflict.

JASON YOGI
LICENSED PROFESSIONAL ENGINEER
No. 9062–E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE Jason Yogi 04/30/28 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL PLANS

KAMEHAMEHA HIGHWAY INTERSECTION IMPROVEMENTS AT KUALA STREET
Phase 2
Federal–Aid Project No. NH–099–1(033)

Scale: As Noted Date: March 2025

SHEET No. 1 OF 9 SHEETS

HAWAIIAN ELECTRIC COMPANY NOTES

12. Damage To Hawaiian Electric Facilities

The Contractor Shall Be Responsible For The Protection Of All Hawaiian Electric Surface And Subsurface Utilities And Shall Be Responsible For Any Damages To Hawaiian Electric's Facilities As A Result Of His Operations. The Contractor Shall Immediately Report Such Damages Or Any Hazardous Conditions Related To Hawaiian Electric's Lines To Hawaiian Electric's Trouble Dispatcher At 548–7961. Repair Work Shall Be Done By Hawaiian Electric Or By The Contractor Under Hawaiian Electric's Supervision. Costs For Damages To Hawaiian Electric's Facilities Shall Be Borne By The Contractor.

In Case Of Damage Or Suspected Damage To Hawaiian Electric's Fuel Pipeline, The Contractor Shall Immediately Notify Hawaiian Electric's Security Command Center At 543–7685 (A 24–Hour Number) So Hawaiian Electric Personnel Can Secure The Damaged Section And Report Any Oil Spills To The Proper Authorities. All Costs Associated With The Damage, Repair, And Oil Spill Cleanup Shall Be Borne By The Contractor.

13. Hawaiian Electric Stand–By Personnel

The Contractor May Request Hawaiian Electric To Provide An Inspector To Stand–By During Construction Near Hawaiian Electric's Facilities. The Cost Of Such Inspection Will Be Charged To The Contractor.

The Contractor Shall Call Hawaiian Electric's Customer Relations At 543–7070 A Minimum Of Three (3) Months In Advance To Arrange For Hawaiian Electric Stand–By Personnel.

14. Clearances

The Following Clearances Shall Be Maintained Between Hawaiian Electric's Ductline And All Adjacent Structures (Charted And Uncharted) In The Trench:

Guidelines For Minimum Vertical (Parallel) Clearances Hawaiian Electric And Other Underground Utilities

Underground Utility	Hawaiian Electric Direct Buried Cable	Hawaiian Electric Direct Buried In Conduit (No Concrete Encasement)	Hawaiian Electric 3" (Minimum Concrete Encasement	Applicable Notes:
Hawaiian Electric DB Conduits	12"	3"	0"	
Hawaiian Electric 3" Encasement	0"	0"	0"	
Telephone / CATV DB	12"	12"	6"	
Telephone / CATV DB Ducts	12"	12"	6"	
Telephone / CATV 3" Encasement	0"	0"	0"	5
Traffic Signal	12"	12"	12"	
Water DB (BWS Owned)	36"	36"	36"	1,4
Customer Owned Water Service Laterals	12"	12"	12"	
Water (Concrete Jacketed) (BWS Owned)	36"	36"	36"	1,4
Gas DB	12"	12"	12"	1
Gas (Concrete Jacketed)	12"	12"	12"	1
Sewer DB	36"	36"	36"	1,2
Sewer (Concrete Jacketed)	36"	36"	36"	1,2
Drain	12"	12"	12"	1
Fuel Pipeline				3

Notes:

1. Where Space Is Available, Parallel Clearance To Other Utilities, Or Foreign Structures Other Than Communication Or Traffic Signal Shall Be 36".
2. If Clearance Cannot Be Met:
   - If Clearance Is Less Than 12", Jacket Sewer Line With Reinforced Concrete (Per Hawaiian Electric's Std. 30–1030) For A Distance of 5' Plus Pipe Diameter.
   - If Clearance Is Between 12" And 36", Jacket Sewer Line With Plain Concrete.
3. All Fuel Pipeline Crossings Shall Be Reviewed And Approved By The Company That Owns And Maintains It.
4. 5 Feet Clear To Water Mains 16" And Larger.
5. For Situation With 0" Minimum Separation, A 6" Separation Is Recommended.
6. Clearance Measured From Outer Edges Or Diameters Of Utilities. Whenever Concrete Jackets Are Involved, Clearances Shall Be Total Clear Distance Between The Concrete Jacket And Utility Concerned.

Guidelines For Minimum Vertical (Crossing) Clearances Hawaiian Electric And Other Underground Utilities

Underground Utility	Hawaiian Electric Direct Buried Cable	Hawaiian Electric Direct Buried In Conduit (No Concrete Encasement)	Hawaiian Electric 3" (Minimum Concrete Encasement	Applicable Notes:
Hawaiian Electric DB Conduits	6"	3"	0"	
Hawaiian Electric 3" Encasement	0"	0"	0"	
Telephone / CATV DB	12"	12"	6"	
Telephone / CATV DB Ducts	12"	12"	6"	
Telephone / CATV 3" Encasement	0"	0"	0"	3
Traffic Signal	12"	12"	6"	
Water DB (BWS Owned)	12"	12"	12"	5
Customer Owned Water Service Laterals	6"	6"	6"	
Water (Concrete Jacketed) (BWS Owned)	12"	12"	12"	5
Gas DB	12"	12"	12"	
Gas (Concrete Jacketed)	12"	12"	12"	
Sewer DB	24"	24"	24"	1
Sewer (Concrete Jacketed)	24"	24"	24"	1
Drain	12"	12"	6"	
Fuel Pipeline				2

Notes:

1. If Clearance Cannot Be Met:
   - If Clearance Is Less Than 12", Jacket Sewer Line With Reinforced Concrete (Per Hawaiian Electric's Std. 30–1030) For A Distance of 5' Plus Pipe Diameter.
   - If Clearance Is Between 12" And 36", Jacket Sewer Line With Plain Concrete.
2. All Fuel Pipeline Crossings Shall Be Reviewed And Approved By The Company That Owns And Maintains It.
3. For Situation With 0" Minimum Separation, A 6" Separation Is Recommended.
4. Clearance Measured From Outer Edges Or Diameters Of Utilities. Whenever Concrete Jackets Are Involved, Clearances Shall Be Total Clear Distance Between The Concrete Jacket And Utility Concerned.
5. 36" Clearance Is Required For Trenchless Installation Work.

The Contractor Shall Notify The Construction Manager & Hawaiian Electric Of Any Heat Sources (Power Cable Duct Bank, Steamline, Etc.) Encountered That Are Not Properly Identified On The Drawing.

15. Indemnity

The Contractor Shall Indemnify, Defend And Hold Harmless Hawaiian Electric From And Against All Losses, Damages, Claims, And Actions, Including But Not Limited To Reasonable Attorney's Fees And Costs Based Upon Or Arising Out Of Damage To Property Or Injuries To Persons, Or Other Tortious Acts Caused Or Contributed To By Contractor Or Anyone Acting Under Its Direction Or Control Or On Its Behalf; Provided Contractor's Indemnity Shall Not Be Applicable To Any Liability Based Upon The Sole Negligence Of Hawaiian Electric.

Additional Notes When Work Involves Construction Of Hawaiian Electric Facilities

16. Schedule

Contractor Shall Furnish His Construction Schedule Six (6) Months Prior To Starting Work On Hawaiian Electric Facilities. Contractor Shall Give Hawaiian Electric, In Writing, Three (3) Months Notice To Proceed With Hawaiian Electric's Portion Of Work.

17. Authority

All Construction, Restoration Work, And Inspection Shall Be Subject To Whichever Governmental Agency Has Authority Over The Work.

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH–099–1(033)	2026	127	140

18. Specifications

Construction Of Hawaiian Electric's Underground Facilities Shall Be Constructed In Accordance With The Latest Revisions Of Hawaiian Electric Specifications CS7001, CS7003, CS7202, CS9301, And CS9401 And Applicable Hawaiian Electric Standards.

19. Construction

Contractor Shall Furnish All Labor, Materials, Equipment, And Services To Properly Perform And Fully Complete All Work Shown On The Contract, Drawings, And Specifications. All Materials Shall Be New And Manufactured In The United States Of America. All Manhole, Handhole, And Ductline Installations Shall Be Inspected And Approved By Hawaiian Electric Prior To Excavation And Prior To Placing Concrete. Contractor Shall Notify Hawaiian Electric's Inspection Group At 543–2567 At Least Five (5) Working Days Prior To Installing Facilities Or Placing Concrete.

Contractor To Coordinate Work To Break Into Hawaiian Electric's Existing Electrical Facilities With Hawaiian Electric's Inspection Group At 543–2567 At Least Ten (10) Working Days In Advance.

20. Stakeout

The Contractor Shall Arrange For Toneouts Of All Underground Facilities And Shall Stakeout All Proposed Hawaiian Electric Facilities Within The Project Area So As To Not Conflict With Any Utility (Existing Or Proposed) And Any Proposed Construction Or Improvement Work For Verification By Hawaiian Electric Before Proceeding With Hawaiian Electric Work.

21. Ductlines

All Ductline Installations Shall Be Pvc Schedule 40 Encased In Concrete, Unless Otherwise Noted. All Completed Ductlines Shall Be Mandrel Tested By The Contractor In The Presence Of Hawaiian Electric's Inspector Using Hawaiian Electric's Standard Practice. The Contractor Shall Install 1800# Tensile Strength Muletape Pull Line In All Completed Ductlines After Mandrel Testing Is Complete.

22. Joint Pole Removal

The Last Joint Pole Occupant Off The Poles Shall Remove The Poles.

23. As–Built Plans

The Contractor Shall Provide Hawaiian Electric With A Set Of Electronic And Hard Copy Plans Of Each Sheet Showing The Offsets, Stationing, And Vertical Elevation Of The Duct Line(S) Constructed.

JASON YOGI
LICENSED PROFESSIONAL ENGINEER
No. 9062–E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE Jason Yogi 04/30/28 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

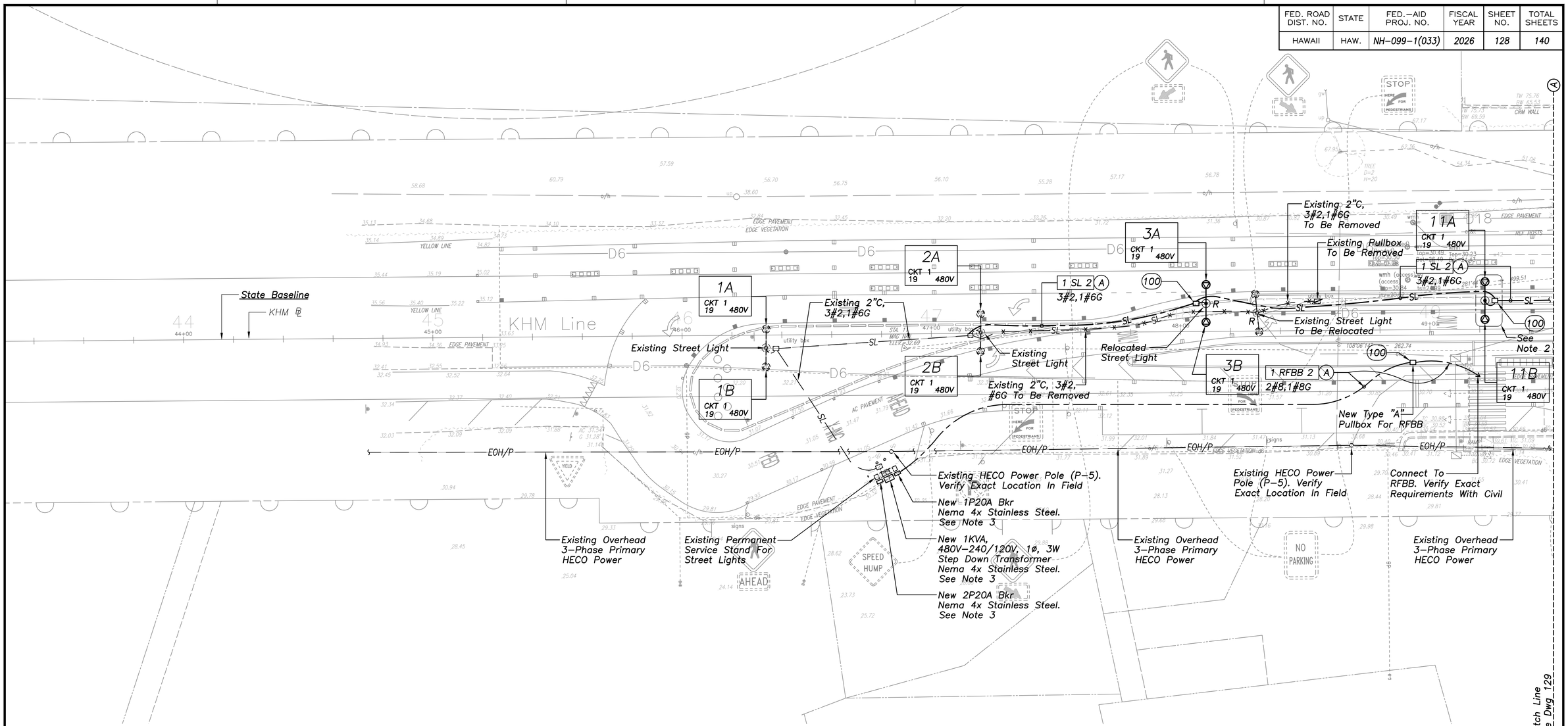
ELECTRICAL PLANS

KAMEHAMEHA HIGHWAY INTERSECTION IMPROVEMENTS AT KUALA STREET
Phase 2
Federal–Aid Project No. NH–099–1(033)

Scale: As Noted Date: March 2025

SHEET No. 2 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH–099–1(033)	2026	128	140



NOTES:

1. Street Light Conduit Alignments Show On Plan Are Schematic. Contractor Shall Meet State And City Clearance Requiremments.
2. Contractor Shall Ensure Installation Of New Street Light And Handhole Is Coordinated With New Fencing. HDOT Will Allow 1'–0" Lateral Offset Along The Left Turn Pocket And 2'–6" From The FOC Along The Westbound (WB) Side. Sec CD002.
3. Provide New Stainless Steel Uni–Strut Supports As Required To Mount Equipment To Existing Service Stand.

PARTIAL ELECTRICAL SITE PLAN (1/128)
Scale: 1"=20'–0"

GRAPHIC SCALE
20' 10' 0 20' 40'
Scale : 1" = 20'–0"

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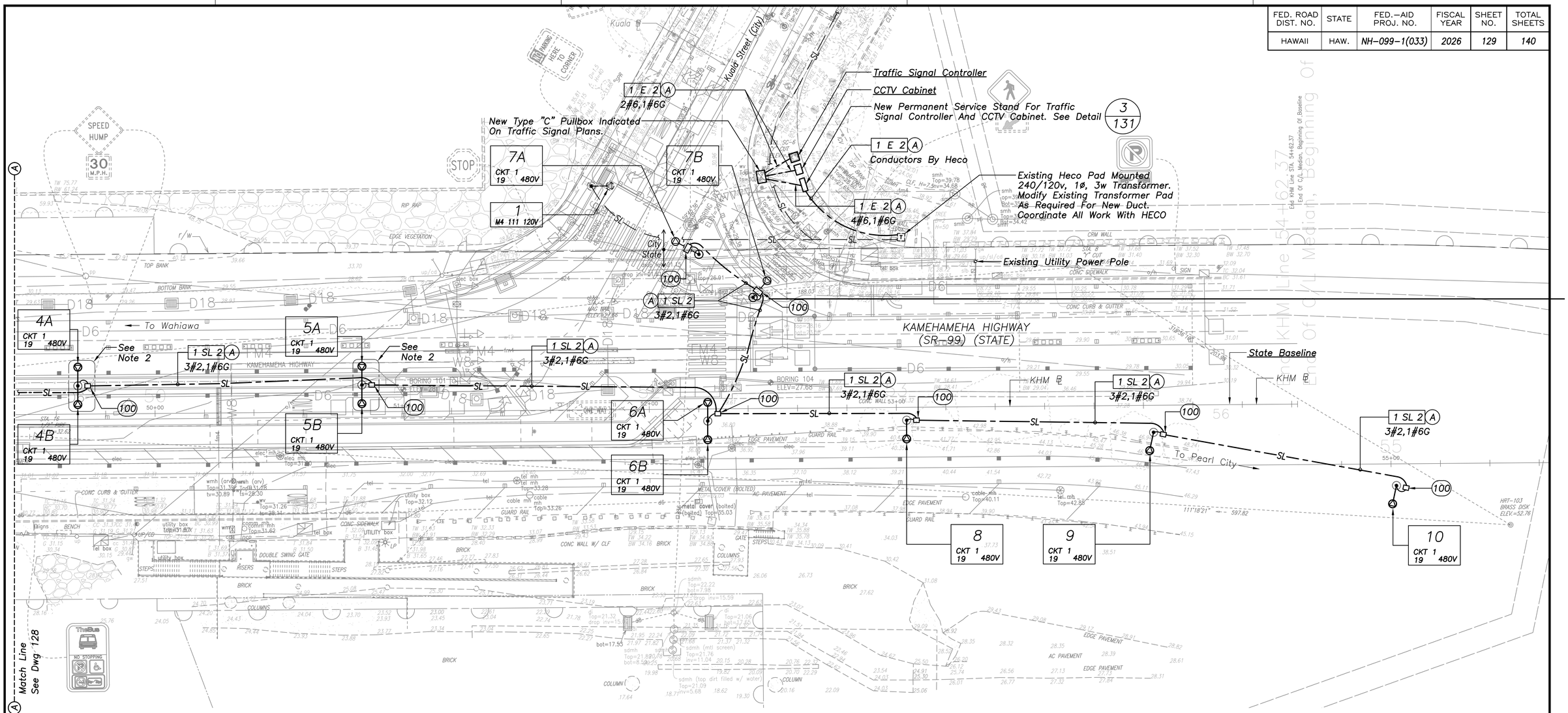
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL PLANS

KAMEHAMEHA HIGHWAY INTERSECTION IMPROVEMENTS AT KUALA STREET
Phase 2
Federal–Aid Project No. NH–099–1(033)
Scale: As Noted Date: March 2025

SHEET No. 3 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH–099–1(033)	2026	129	140



NOTES:

1. Street Light Conduit Alignments Show On Plan Are Schematic. Contractor Shall Meet State And City Clearance Requiremments.
2. Contractor Shall Ensure Installation Of New Street Light And Handhole Is Coordinated With New Fencing. HDOT Will Allow 1'–0" Lateral Offset Along The Left Turn Pocket And 2'–6" From The FOC Along The Westbound (WB) Side. Sec CD002.
3. Contractor Shall Sawcut And Patch All Existing Concrete Sidewalks As Required To Install All Ductlines.
4. Provide Minimum 4'–1" Clearance From Guardrail Post. See CS101.

PARTIAL ELECTRICAL SITE PLAN 1/129

GRAPHIC SCALE
20' 10' 0 20' 40'
Scale : 1" = 20'–0"

JASON YOGI LICENSED PROFESSIONAL ENGINEER No. 9062–E HAWAII, U.S.A.

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SIGNATURE Jason Yogi 04/30/28 EXPIRATION DATE OF THE LICENSE

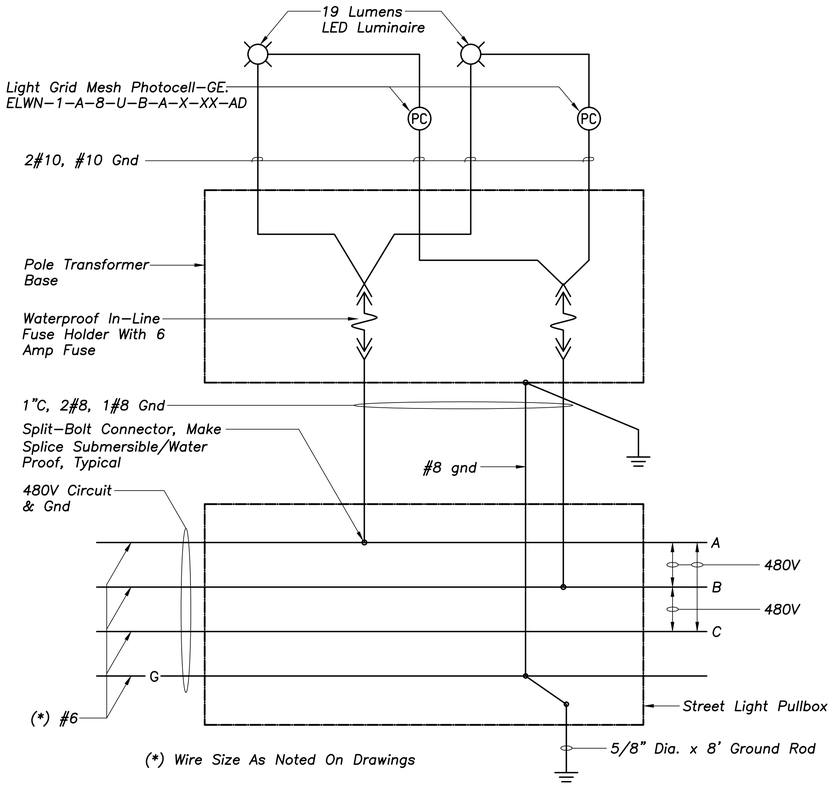
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL PLANS

KAMEHAMEHA HIGHWAY INTERSECTION IMPROVEMENTS AT KUALA STREET Phase 2
Federal–Aid Project No. NH–099–1(033)
Scale: As Noted Date: March 2025

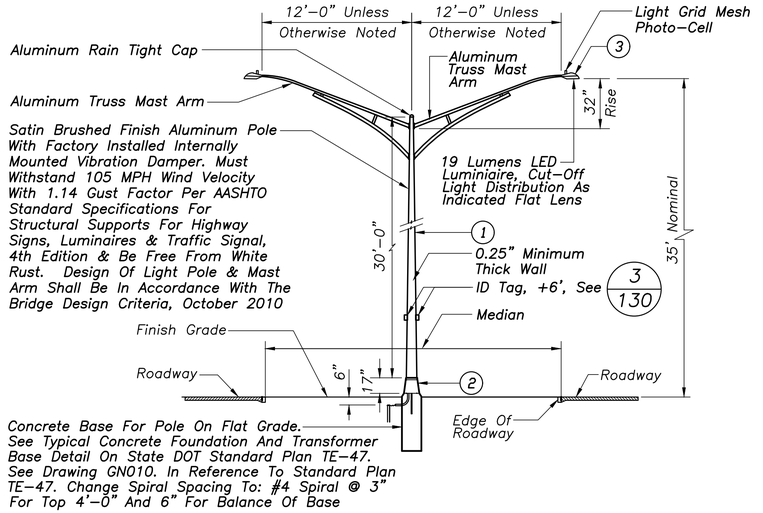
SHEET No. 4 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH–099–1(033)	2026	130	140



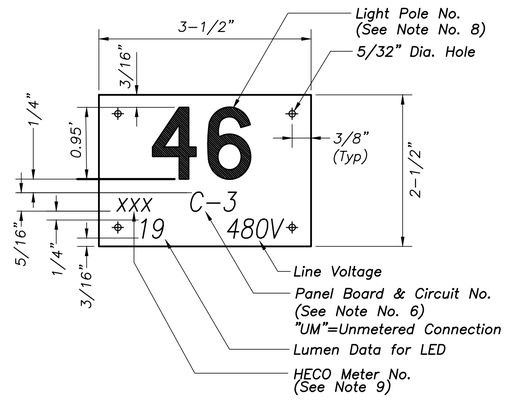
TYPICAL STREET LIGHT WIRING DIAGRAM (3 PHASE SOURCE) 1/130

Not To Scale



STREET LIGHT STANDARD DETAIL 2/130

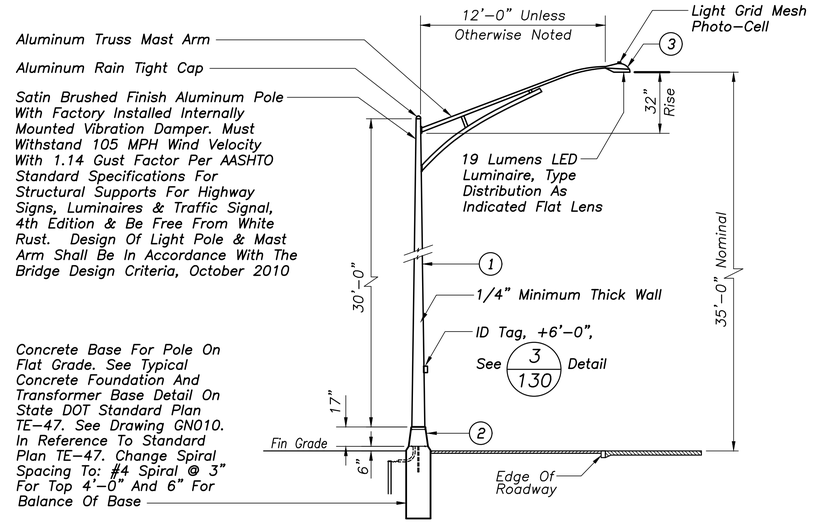
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STREET LIGHT POLE TAG DETAIL 3/130

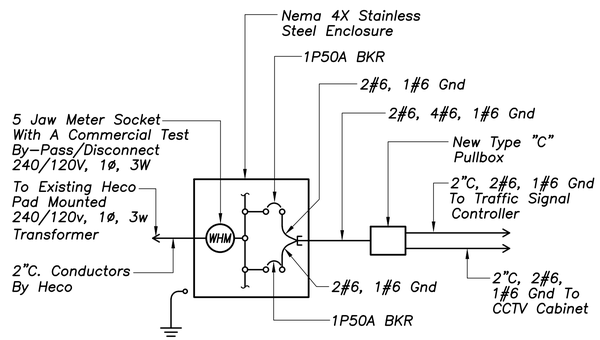
Not To Scale

MATERIAL LIST		
Item	Description	Manufacturer
1	Light Pole, 30', Alum	
2	Transformer Base (Alum) (Type As Indicated) (Break Away Type)	
3	Luminaire, 19 Lumens LED Or As Noted	GE ERS2–19–E1–40K Gray



STREET LIGHT STANDARD DETAIL 4/130

Not To Scale



SINGLE LINE DIAGRAM–TRAFFIC SIGNAL CONTROLLER AND CCTV CABINET 5/130

Not To Scale

NOTES:

1. 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".
2. Light Pole Number Size Shall Be 1" High And Engraved 1/8" Wide, White In Color (Number As Required).
3. 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).
4. 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 40 Aluminum Nail.
5. Numbers Are Inscribed By Cutting Through "Black Cap Sheet" To Expose "White Letters".
6. Nomenclature Required For Systems With Two Or More Circuits (Letter Indicates Panel Board, Number Indicates Circuit).
7. 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.
8. Light Numbers Shall Be Obtained From The State. Use An Alphabet Suffix To Designate Lights Mounted On The Same Pole (E.g. 123A & 123B).
9. For Non–Metered System, Call Out The Contract Number.

JASON YOGI
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SIGNATURE Jason Yogi 04/30/28 EXPIRATION DATE OF THE LICENSE

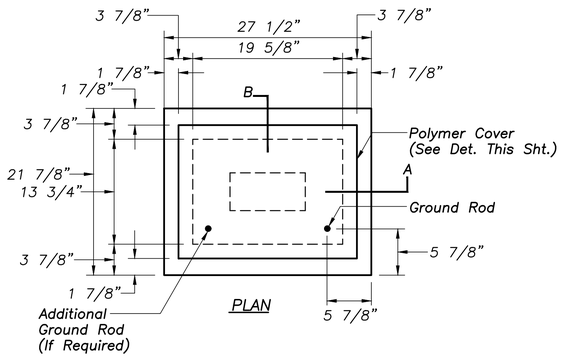
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL PLANS

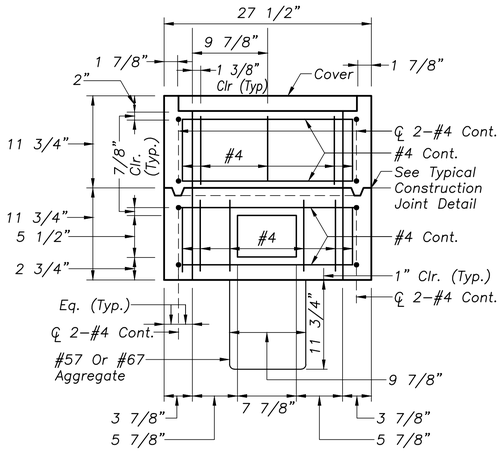
KAMEHAMEHA HIGHWAY INTERSECTION IMPROVEMENTS AT KUALA STREET
Phase 2
Federal–Aid Project No. NH–099–1(033)

Scale: As Noted Date: March 2025

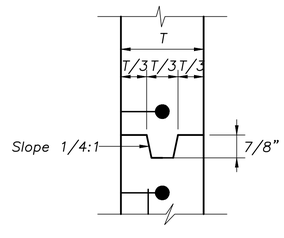
FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH–099–1(033)	2026	131	140



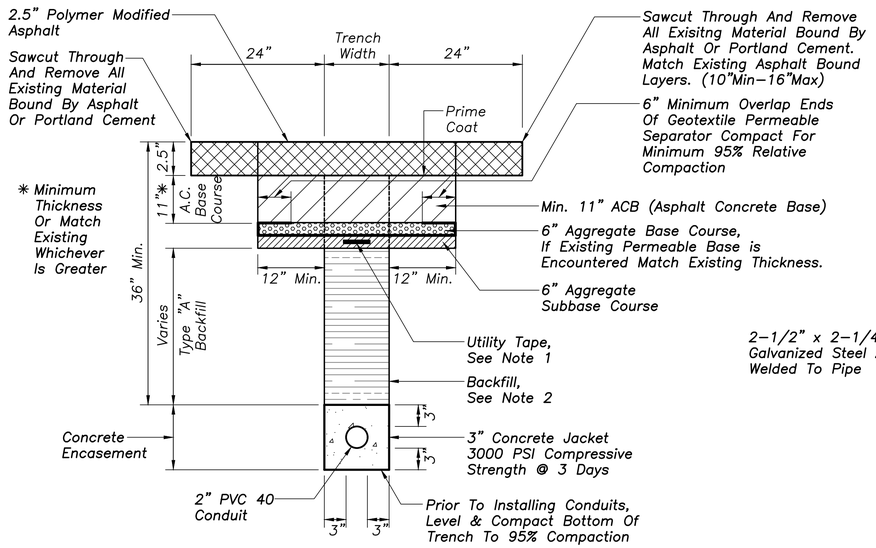
PLAN



SECTION A–A



TYPICAL CONSTRUCTION JOINT DETAIL

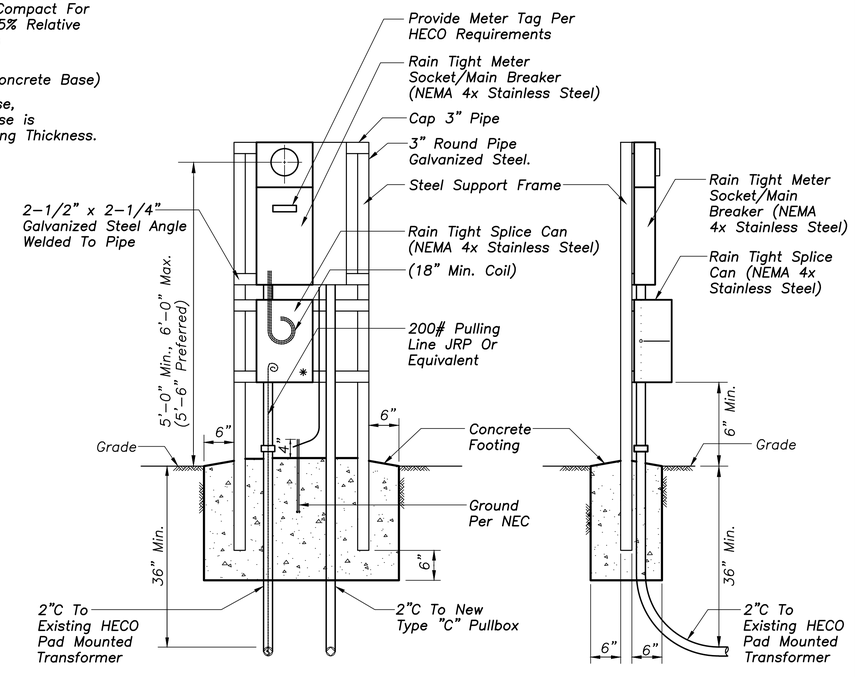


NOTES:

1. The Metal Detectable Red Plastic Warning Tape Shall Be A Minimum 5 Mils Thick And 4" Wide With A Continuous Metallic Backing And Corrosion Resistant 1± Mil Thick Foil Core. The Message On The Tape Shall Read, "CAUTION – ELECTRICAL LINES BURIED BELOW," Utilizing 2 Inch Series "C" Black Lettering. The Message Will Be Repeated With A 36" Spacing.
2. Trench Backfill Material "A" Beach Sand, Earth, Or Earth And Gravel. If Earth And Gravel Used, The Maximum Shall Contain Not More Than 50% By Volume Of Rock Particles. Maximum 8" Loose Fill Per Lift. Obtain 95% Compaction For Each Lift. Backfill Material To Conform To HSS 703.21.
3. For Unpaved Areas. See (1/134) For Duct Section.

DUCT SECTION "A" FOR PAVED AREAS (2/131)

Not To Scale



FRONT VIEW

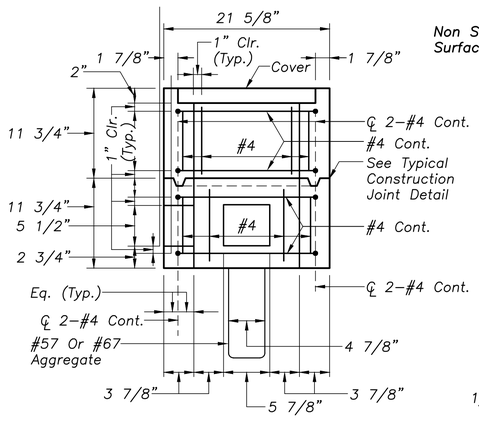
SIDE VIEW

NOTES:

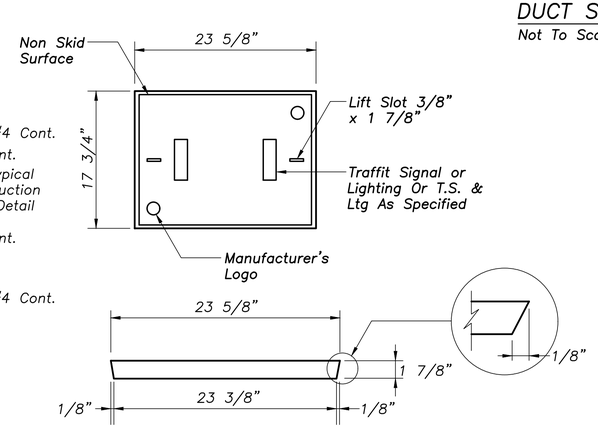
1. Ground Connection To Ground Must Be 25 Ohms Or Less. If The Ground Connection Is Greater Than 25 Ohms, The Contractor Is Required To Install A Second Ground Rod In Accordance With NEC 250.56.
2. * – Indicates sealable Enclosure.

PERMANENT SERVICE STAND FOR TRAFFIC SIGNAL CONTROLLER AND CCTV CABINET DETAIL (3/131)

Not To Scale



SECTION B–B



ELEVATION

NOTE:

Pullbox Complies With AASHTO LRFD Bridge Design Specifications. Second Edition For HL–93 Truckloads In Accordance With General Utilities. Note On EG001.

TYPE "A" STREET LIGHT PULLBOX (1/131)

Not To Scale

APPROVED:

CHIEF, CIVIL ENGINEERING BRANCH, DPP (For Work in City ROW Only) — DATE

JASON YOGI
LICENSED PROFESSIONAL ENGINEER
No. 9062–E
HAWAII, U.S.A.

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SIGNATURE — 04/30/28 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

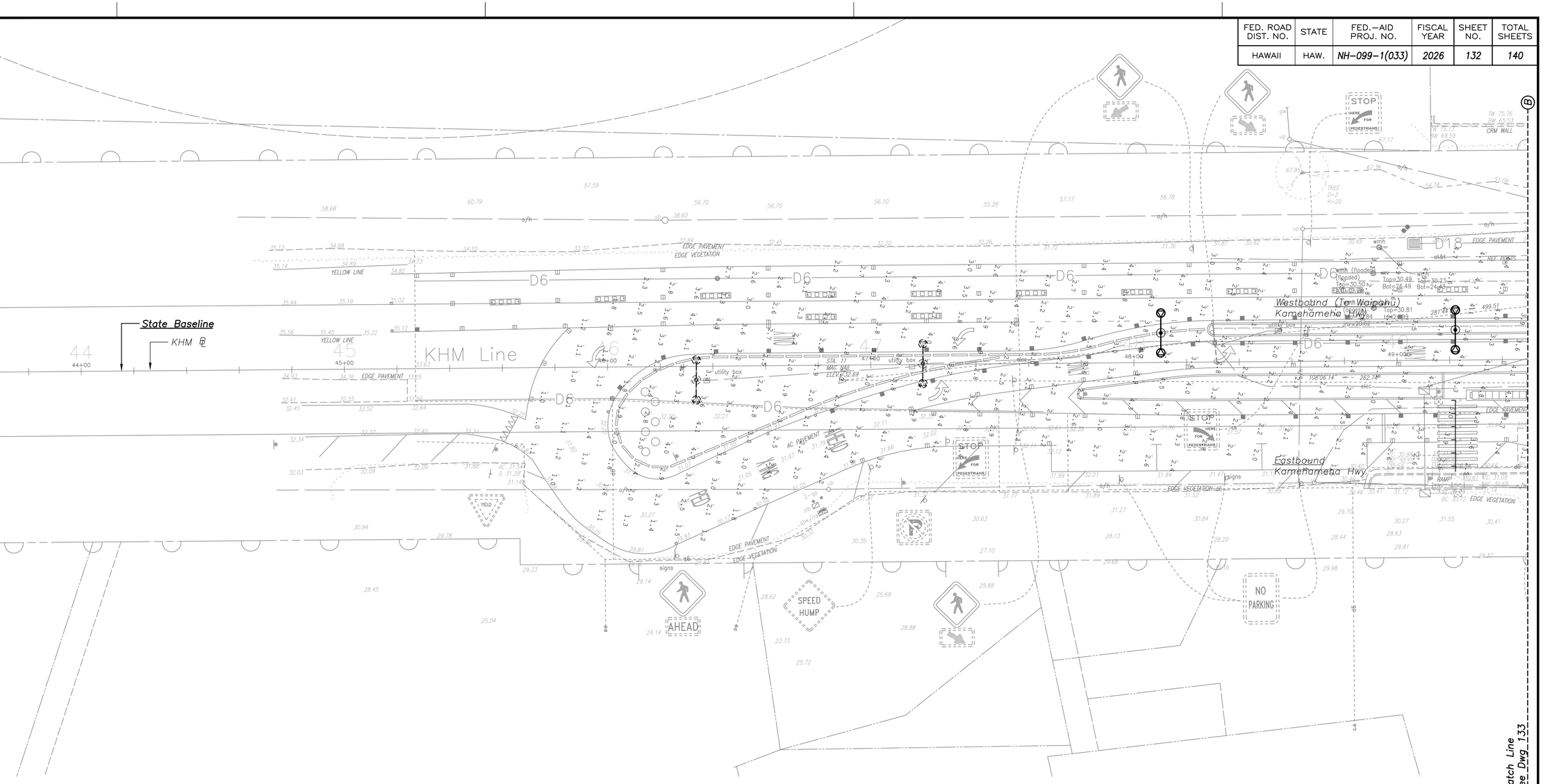
ELECTRICAL PLANS

KAMEHAMEHA HIGHWAY INTERSECTION IMPROVEMENTS AT KUALA STREET
Phase 2
Federal–Aid Project No. NH–099–1(033)

Scale: As Noted Date: March 2025

SHEET No. 6 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH–099–1(033)	2026	132	140



Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts
	7	GE - twin 19 - B3	Back-Back	ERL2_19B340____12 arm	0.900	19000	149
	5	GE - single 19 - B3	SINGLE	ERL2_19B340____12' arm	0.900	19000	149

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts_1	Illuminance	Fc	2.77	5.6	1.0	2.77	5.60
Vertical	Illuminance	Fc	0.95	1.0	0.8	1.19	1.25

PARTIAL PHOTOMETRIC CALCULATIONS

Scale: 1"=20'–0"

1 / 132

GRAPHIC SCALE

20' 10' 0 20' 40'

Scale : 1" = 20'–0"

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HAWAII, U.S.A.

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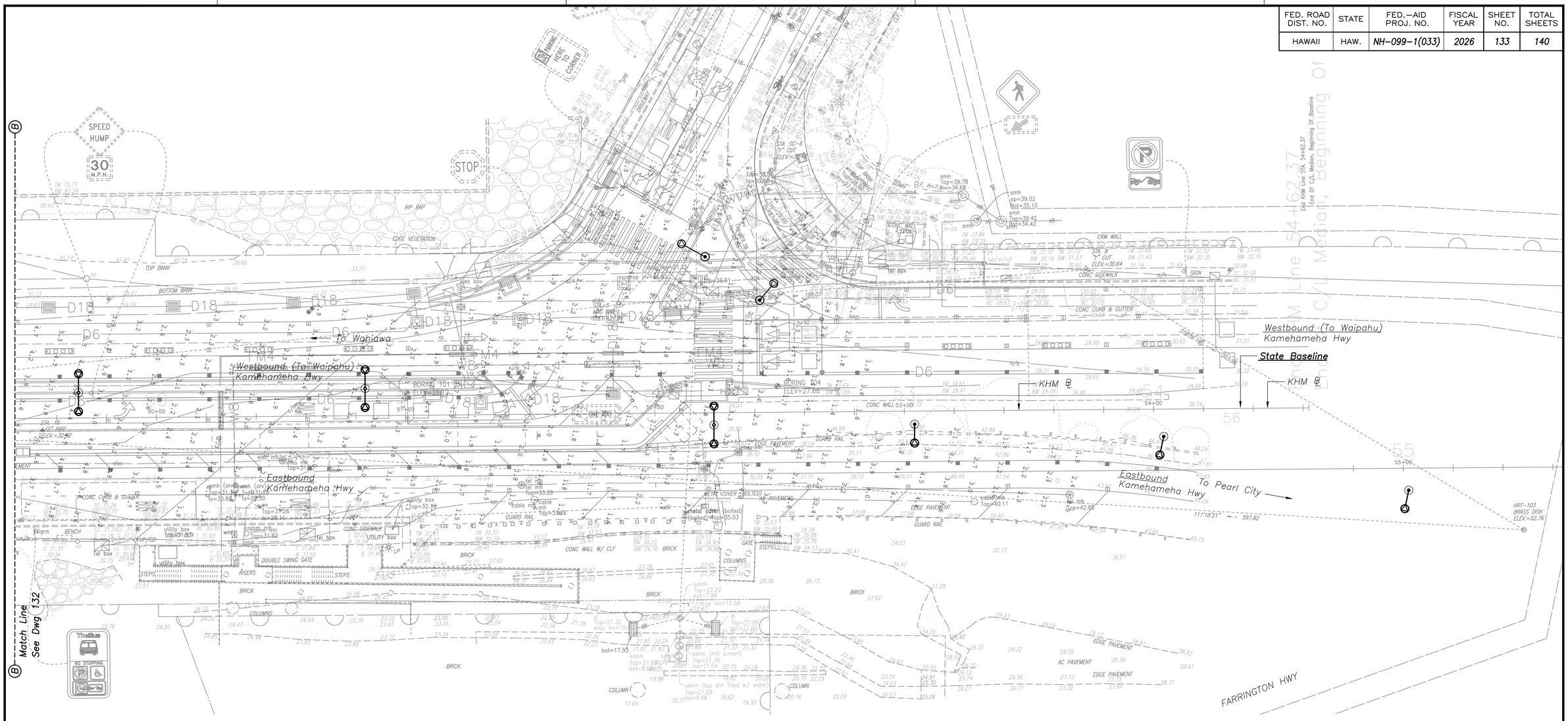
ELECTRICAL PLANS

KAMEHAMEHA HIGHWAY INTERSECTION IMPROVEMENTS AT KUALA STREET
Phase 2
Federal–Aid Project No. NH–099–1(033)

Scale: As Noted Date: March 2025

SHEET No. 7 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH–099–1(033)	2026	133	140



PARTIAL PHOTOMETRIC CALCULATIONS (1/133)
Scale: 1"=20'–0"

GRAPHIC SCALE
20' 10' 0 20' 40'
Scale : 1" = 20'–0"

JASON YOGI
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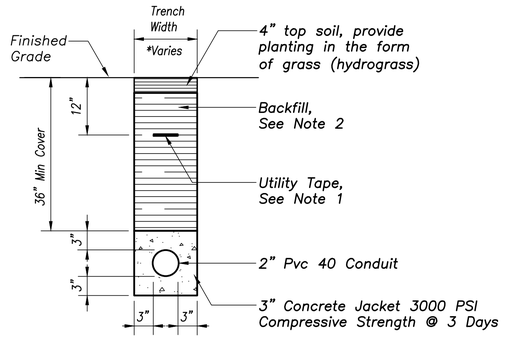
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ELECTRICAL PLANS

KAMEHAMEHA HIGHWAY INTERSECTION IMPROVEMENTS AT KUALA STREET
Phase 2
Federal–Aid Project No. NH–099–1(033)
Scale: As Noted Date: March 2025

SHEET No. 8 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FED.—AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	134	140

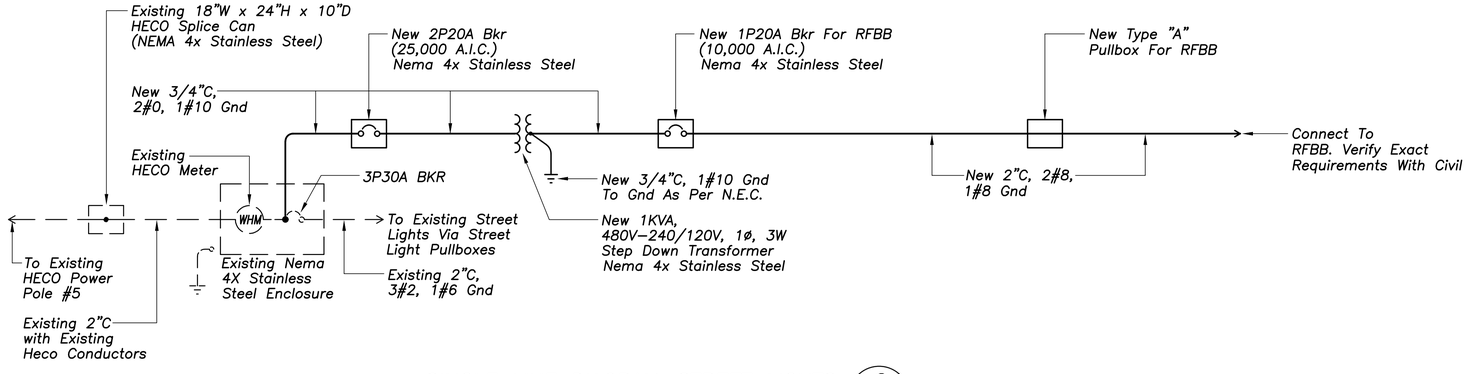


NOTES:

1. The Metal Detectable Red Plastic Warning Tape Shall Be A Minimum 5 Mils Thick And 4" Wide With A Continuous Metallic Backing And Corrosion Resistant 1± Mil Thick Foil Core. The Message On The Tape Shall Read, "CAUTION — ELECTRICAL LINES BURIED BELOW," Utilizing 2 Inch Series "C" Black Lettering. The Message Will Be Repeated With A 36" Spacing.

2. Trench Backfill Material "A" Beach Sand, Earth, Or Earth And Gravel. If Earth And Gravel Used, The Mixture Shall Contain Not More Than 50% By Volume Of Rock Particles. Maximum 8" Loose Fill Per Lift. Obtain 95% Compaction For Each Lift. Backfill Material To Conform To HSS 703.21.

DUCT SECTION "A" FOR UNPAVED AREAS — 1/134
Not To Scale



SINGLE LINE DIAGRAM—STREET LIGHTS — 2/134
Not To Scale

JASON YOGI
LICENSED PROFESSIONAL ENGINEER
No. 9062-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE Jason Yogi 04/30/28
EXPIRATION DATE OF THE LICENSE

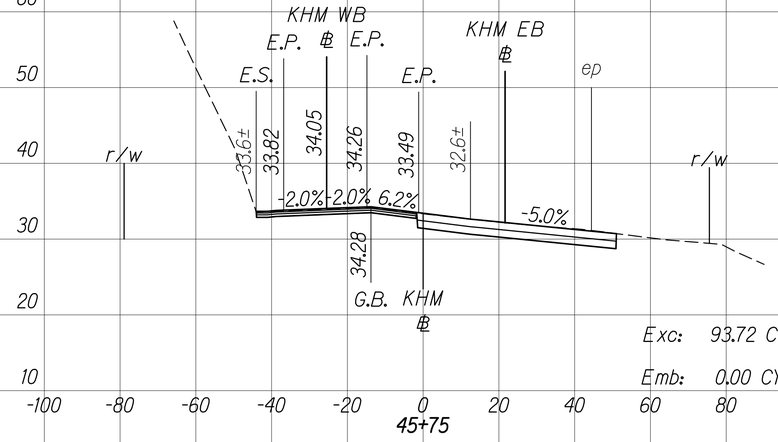
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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

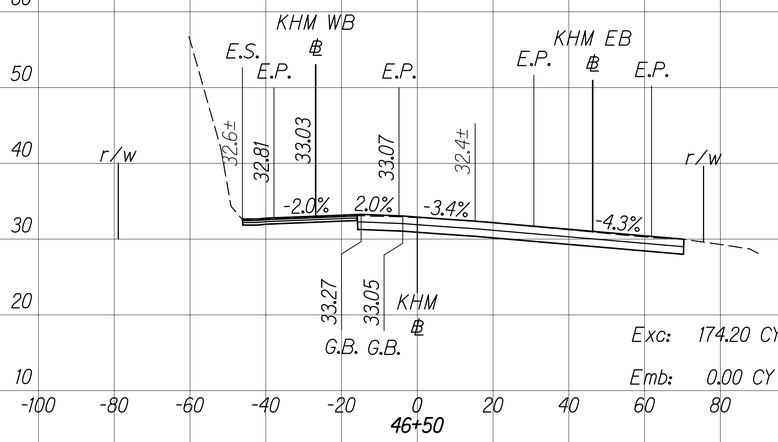
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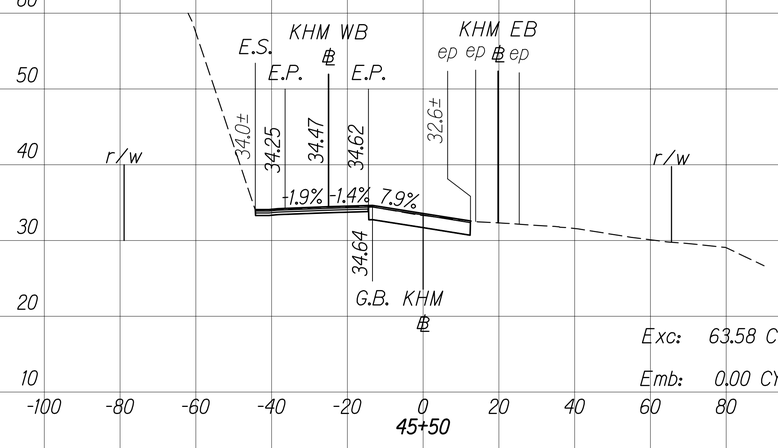
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Phase 2
Federal-Aid Project No. NH-099-1(033)

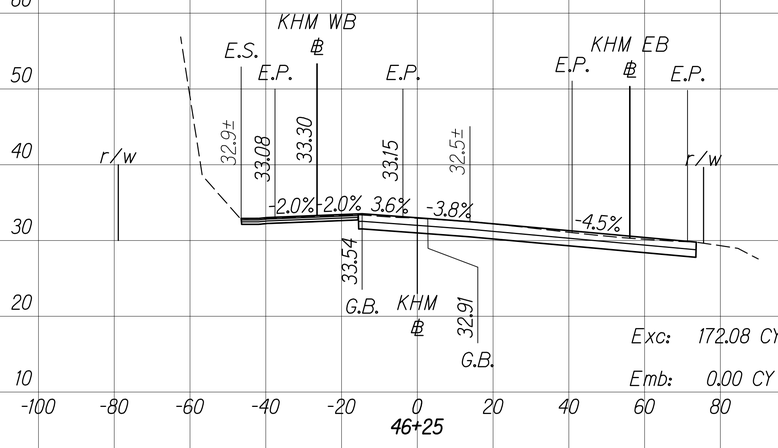
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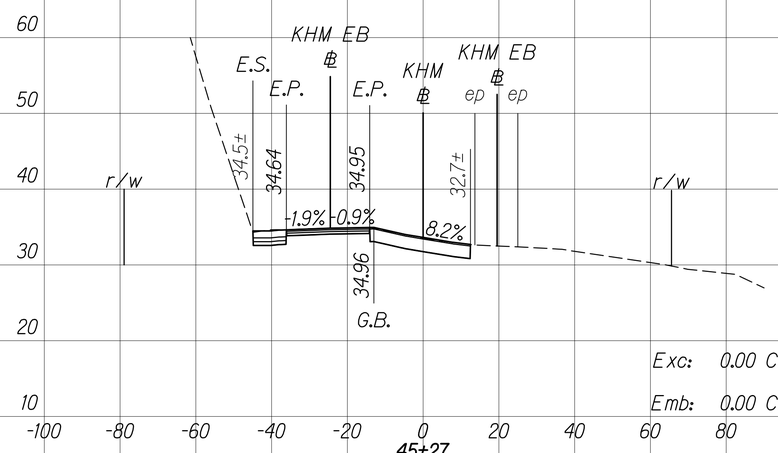
SHEET No. 9 OF 9 SHEETS

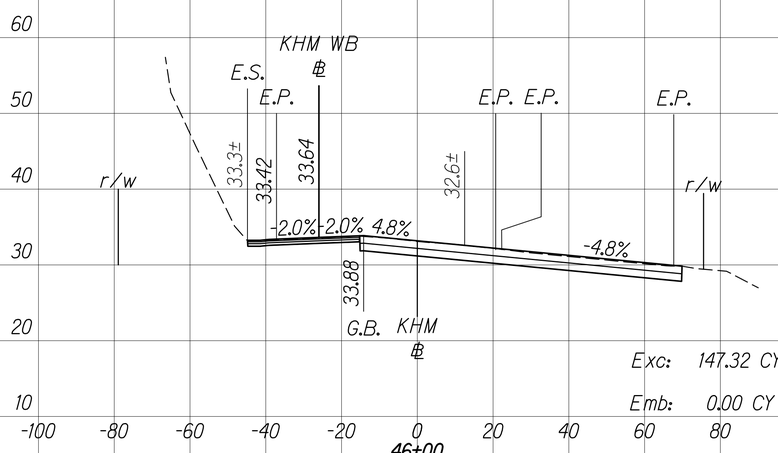












FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	135	140

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

GRAPHIC SCALES:

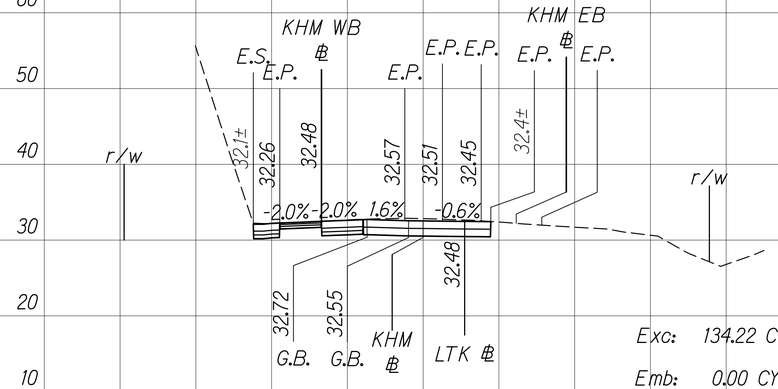
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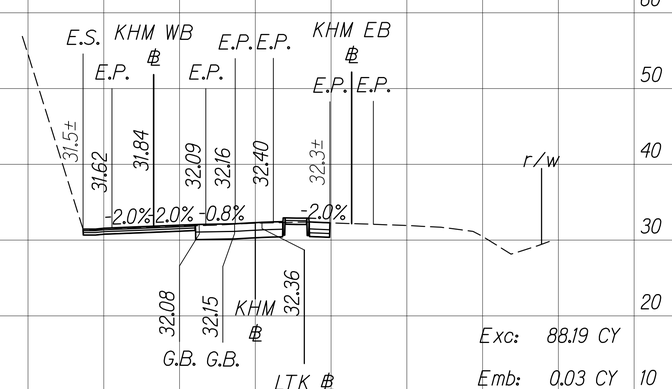
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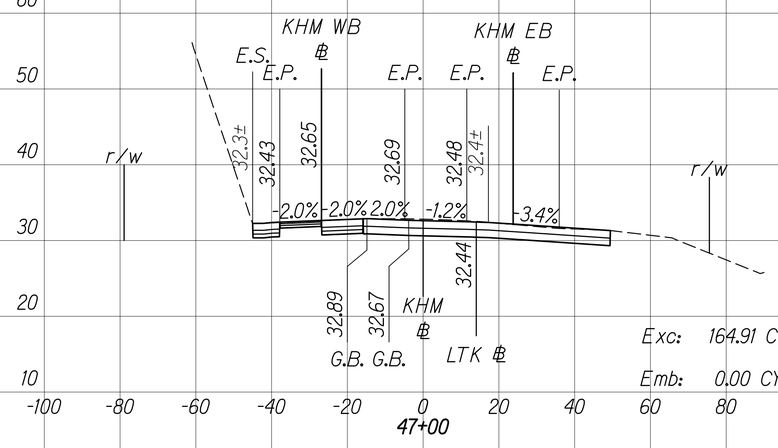
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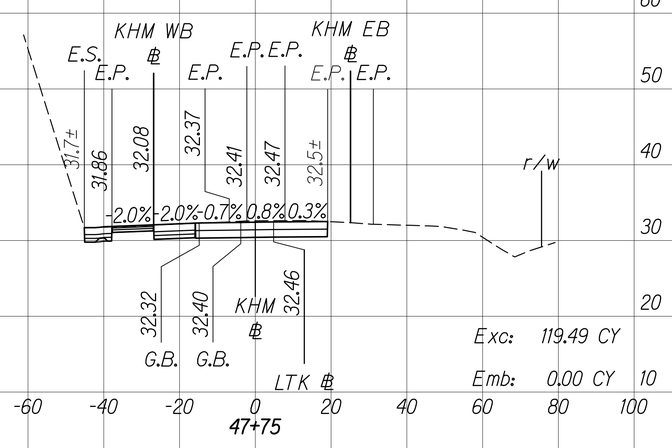
1. For additional elevation and slope labels, See Plan Sheets 46 to 58.

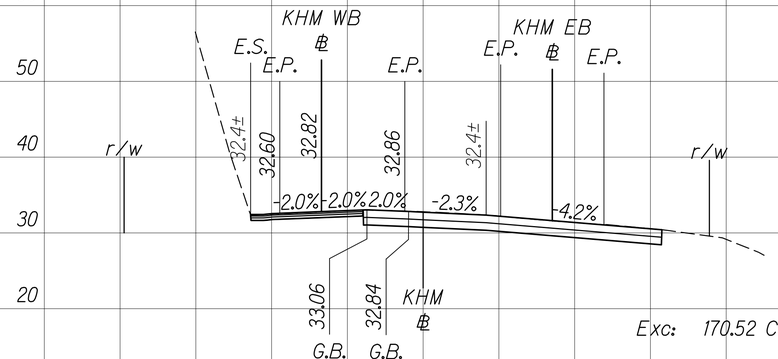
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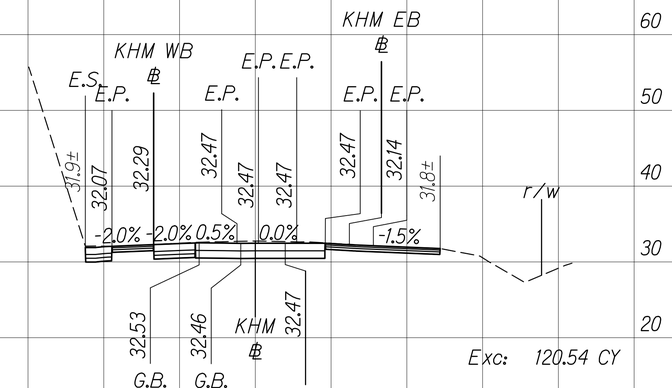












FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	136	140

ROBYN R. MCKINNEY
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NO. 13480-C
HAWAII, USA

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SIGNATURE 04/30/28 EXPIRATION DATE OF THE LICENSE

GRAPHIC SCALES:

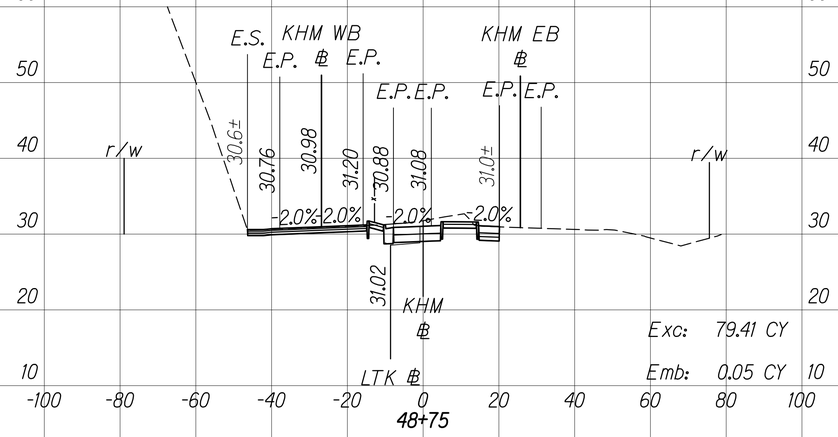
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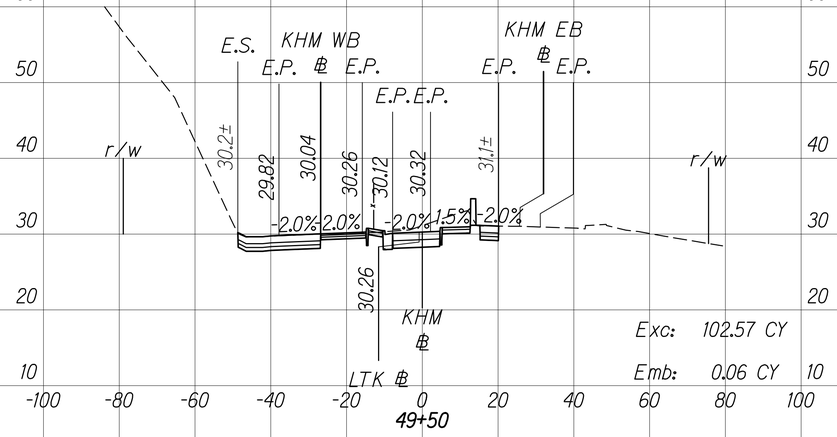
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Scale: 1" = 10'

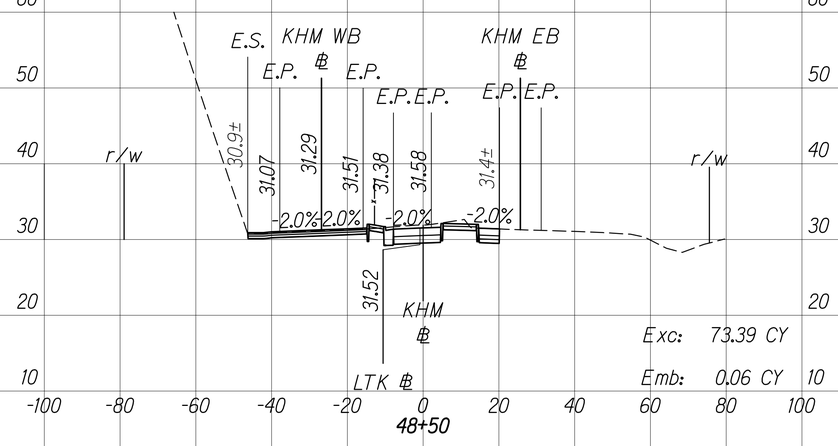
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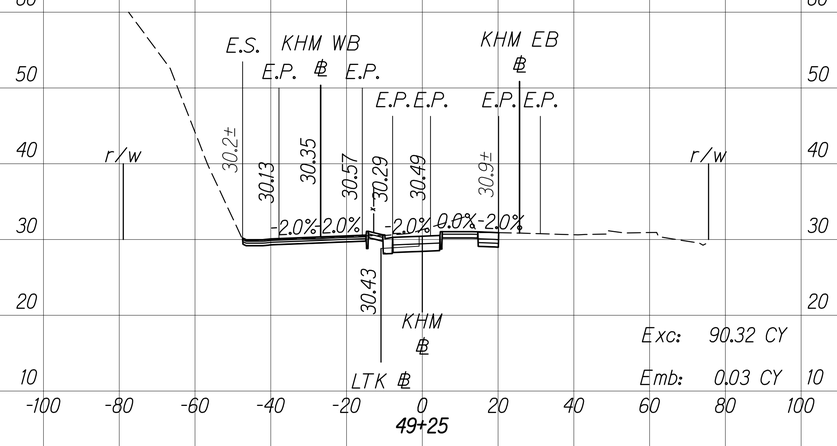
1. For additional elevation and slope labels, See Plan Sheets 46 to 58.

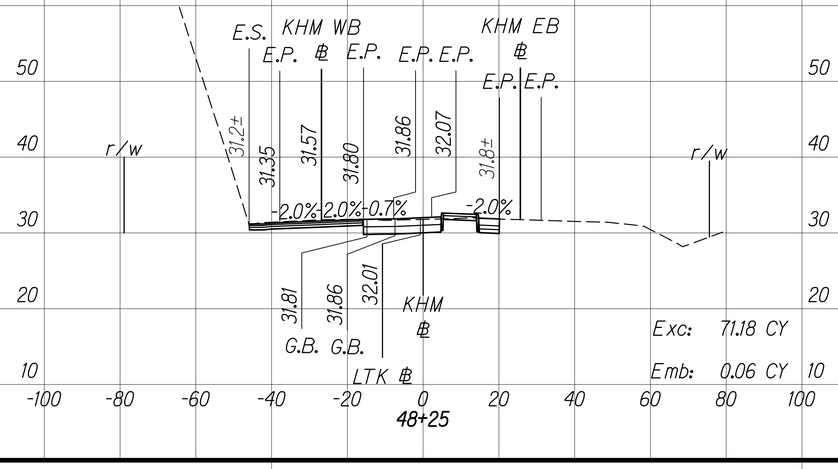
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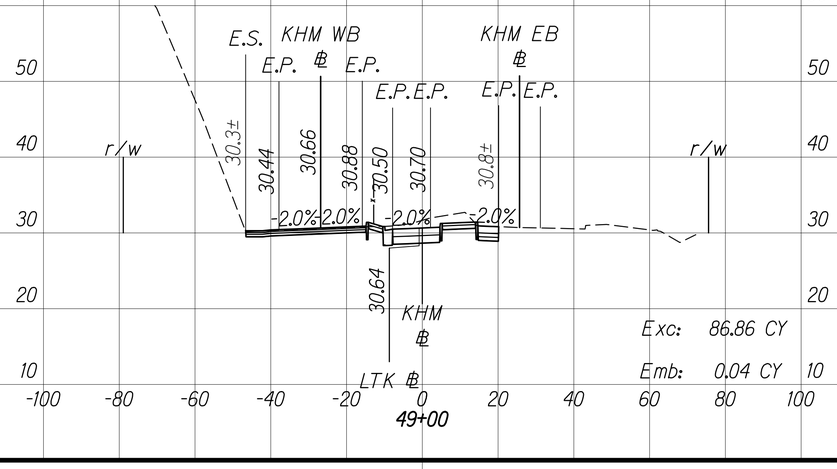












FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	137	140

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

GRAPHIC SCALES:

Horizontal:
20′ 10′ 0 20′ 40′
Scale: 1″ = 20′

Vertical:
10′ 5′ 0 10′ 20′
Scale: 1″ = 10′

NOTE:

1. For additional elevation and slope labels, See Plan Sheets 46 to 58.

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FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	138	140

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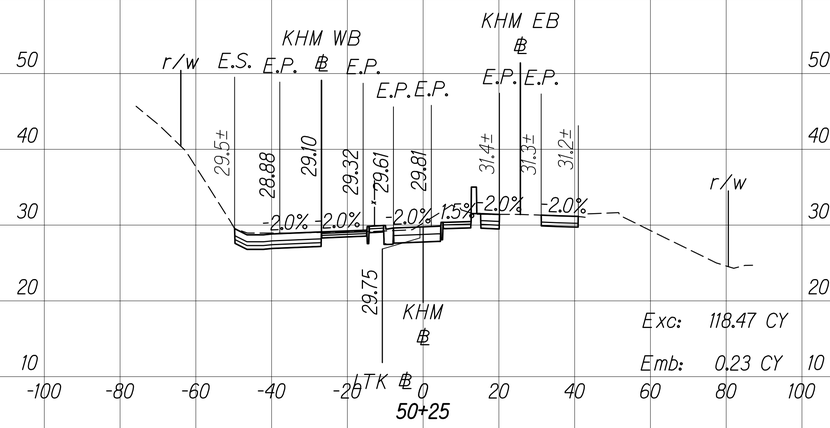
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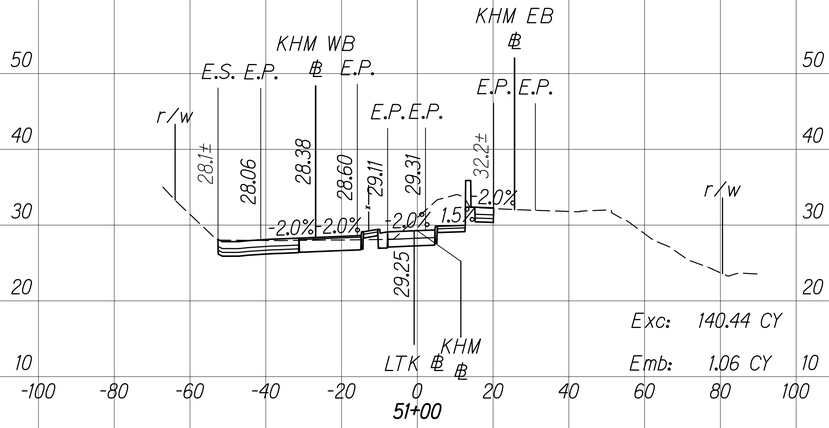
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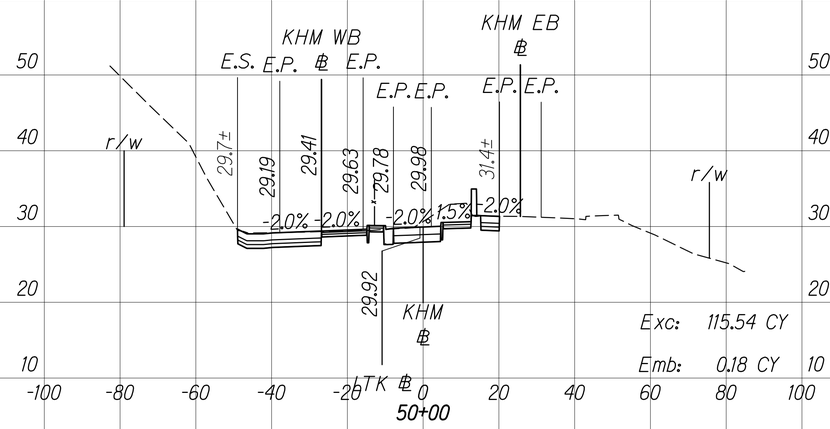
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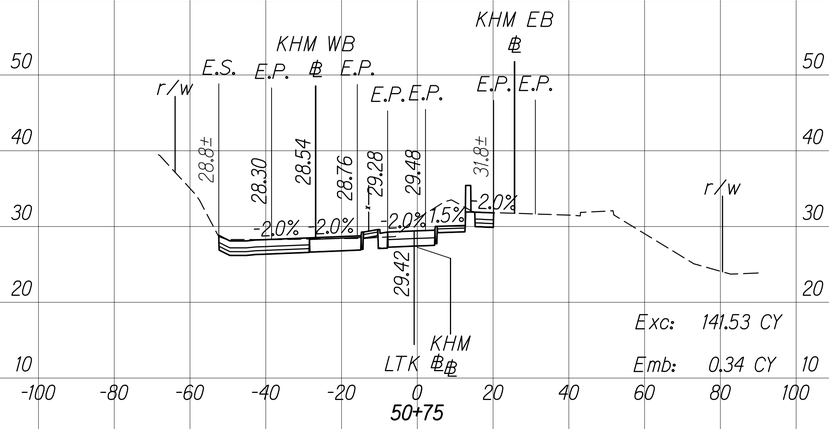
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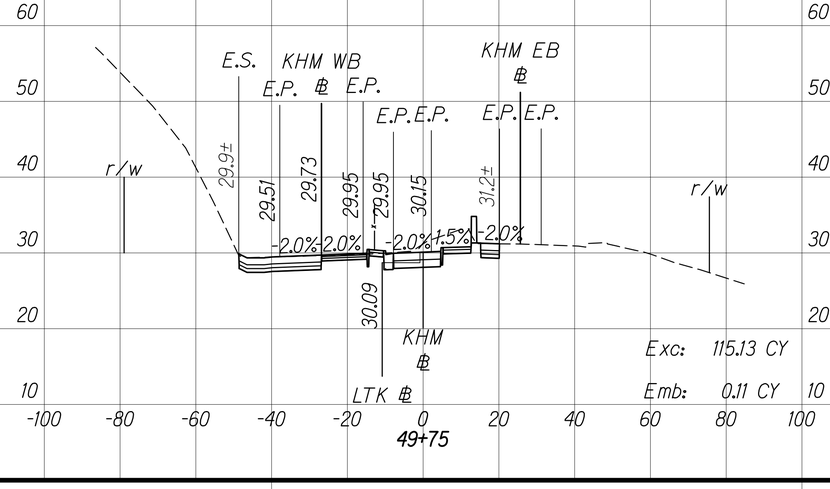
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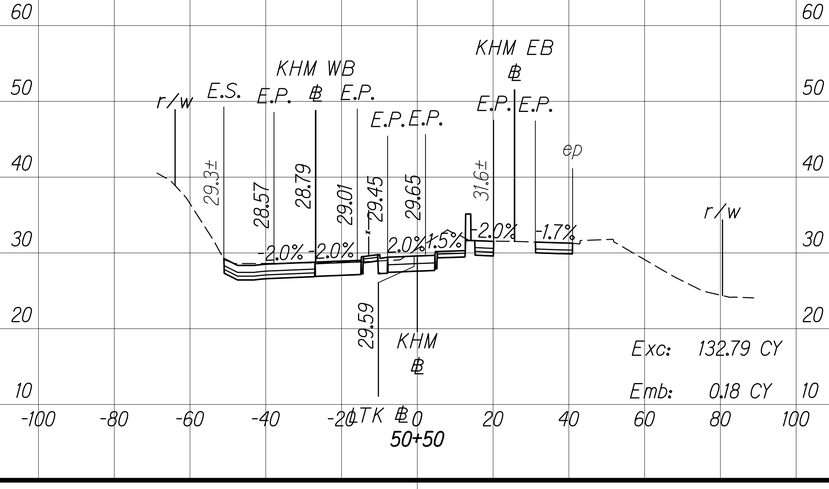




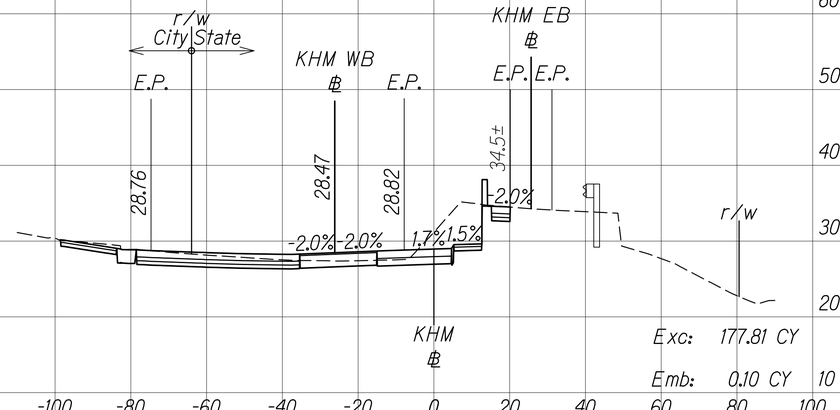


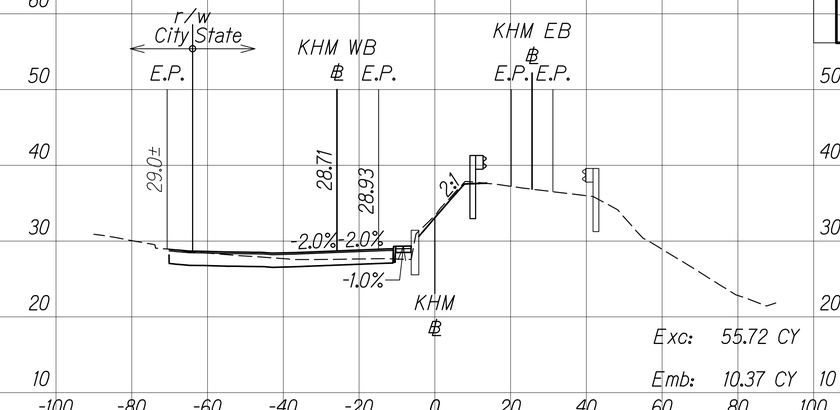


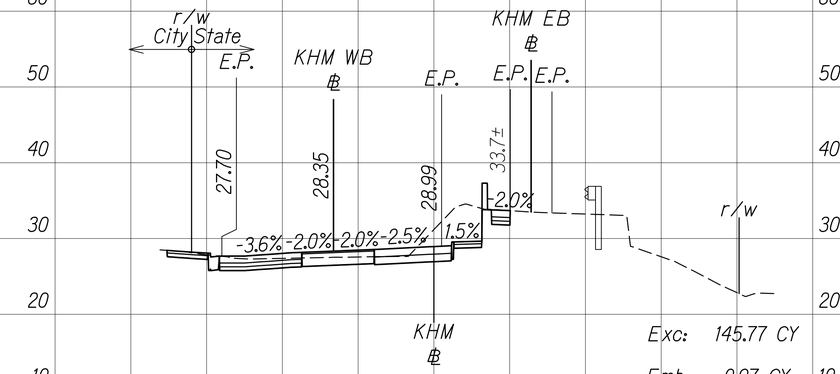


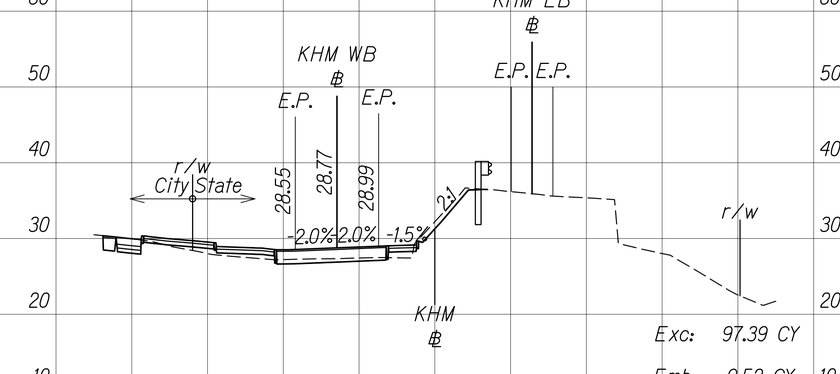


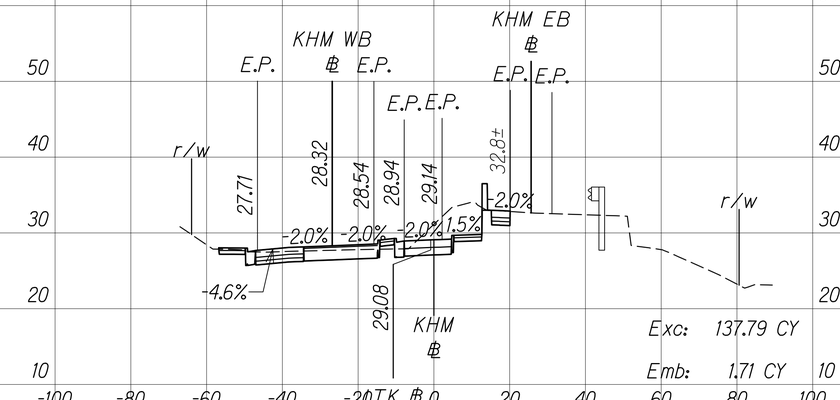
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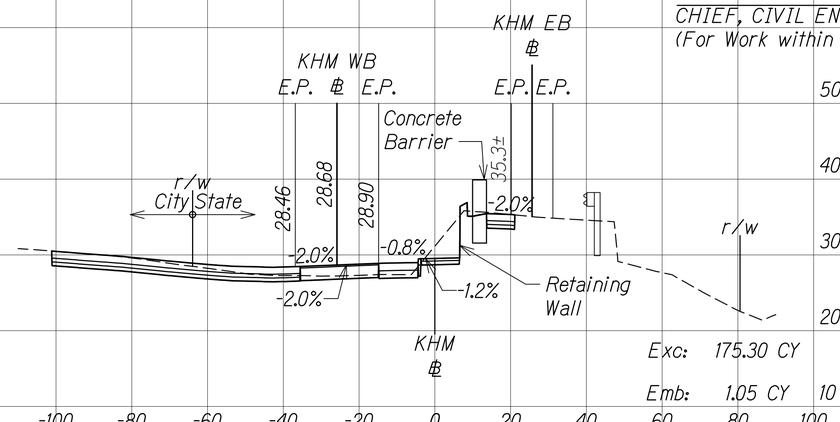












FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	139	140

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Robyn McKinney 04/30/28
SIGNATURE EXPIRATION DATE OF THE LICENSE

GRAPHIC SCALES:

Horizontal:
20′ 10′ 0 20′ 40′
Scale: 1″ = 20′

Vertical:
10′ 5′ 0 10′ 20′
Scale: 1″ = 10′

NOTE:

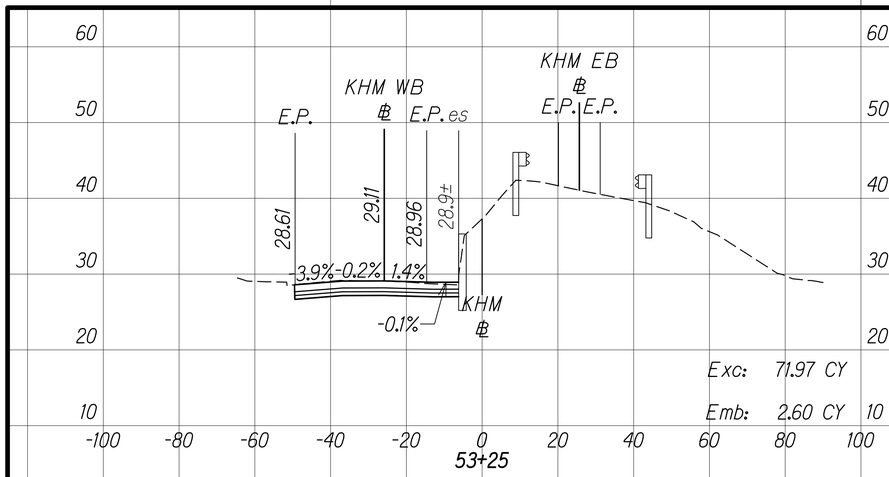
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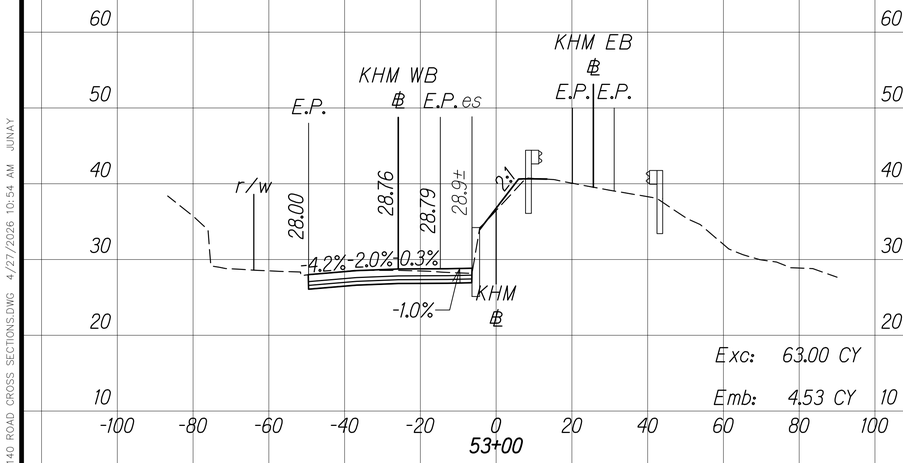
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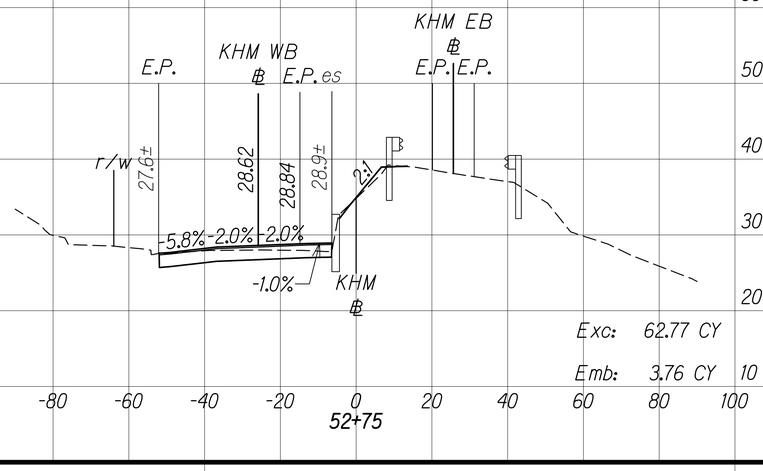
CHIEF, CIVIL ENGINEERING BRANCH, DPP DATE
(For Work within City R/W Only)

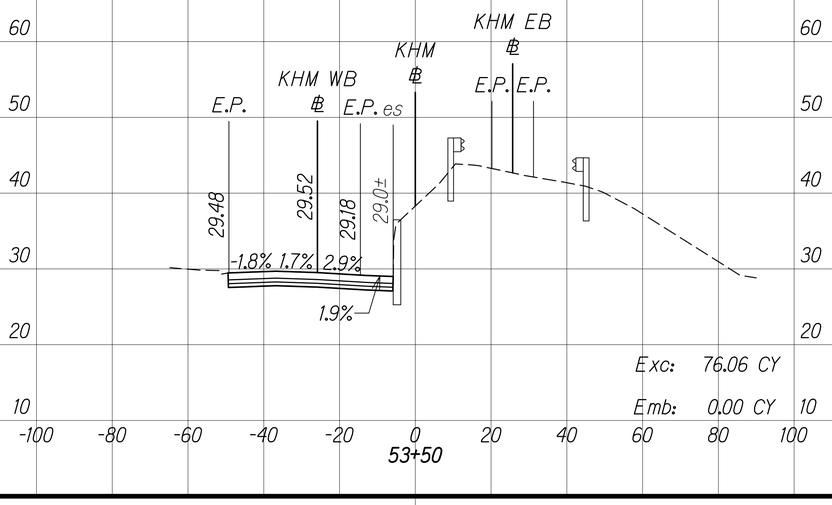
SHEET No. 5 OF 6 SHEETS

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FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-099-1(033)	2026	140	140

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
HAWAII, USA

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NOTE:

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W:_CIVIL 3D PROJECTS\2023_043.008 HDOT KAMEHAMEHA KUALA TRAFFIC SIGNAL\01 CE DWG\135-140 ROAD CROSS SECTIONS.DWG 4/27/2026 10:54 AM JUNAY