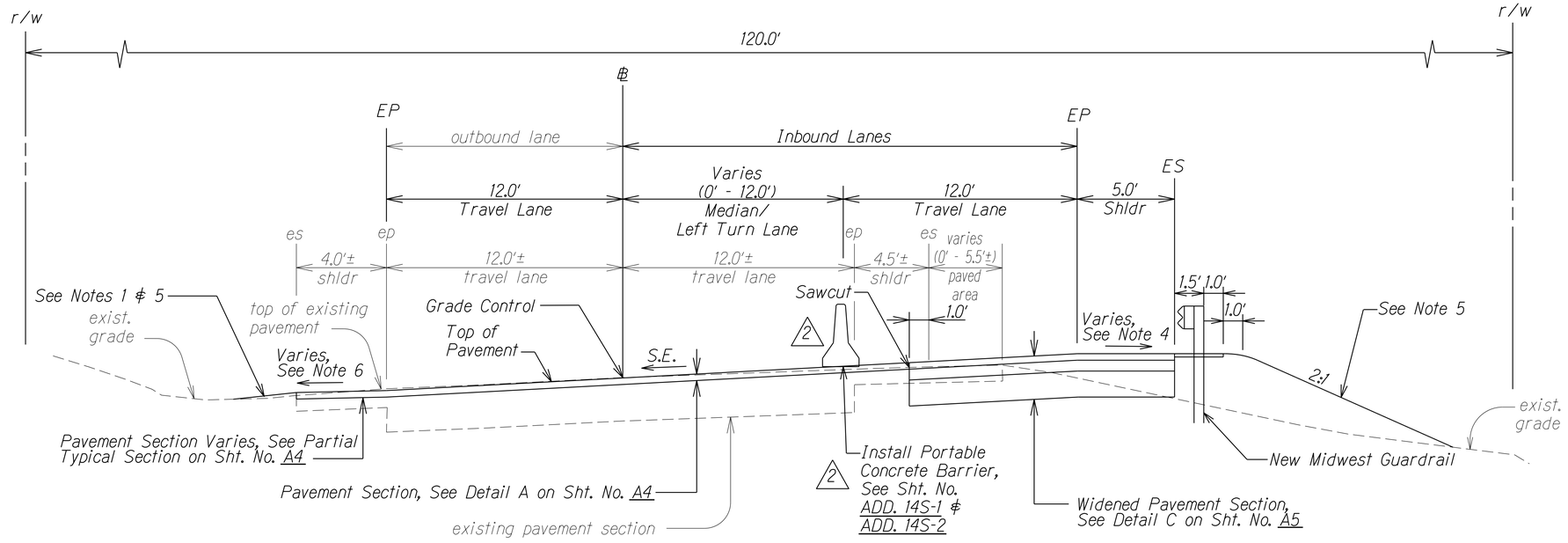
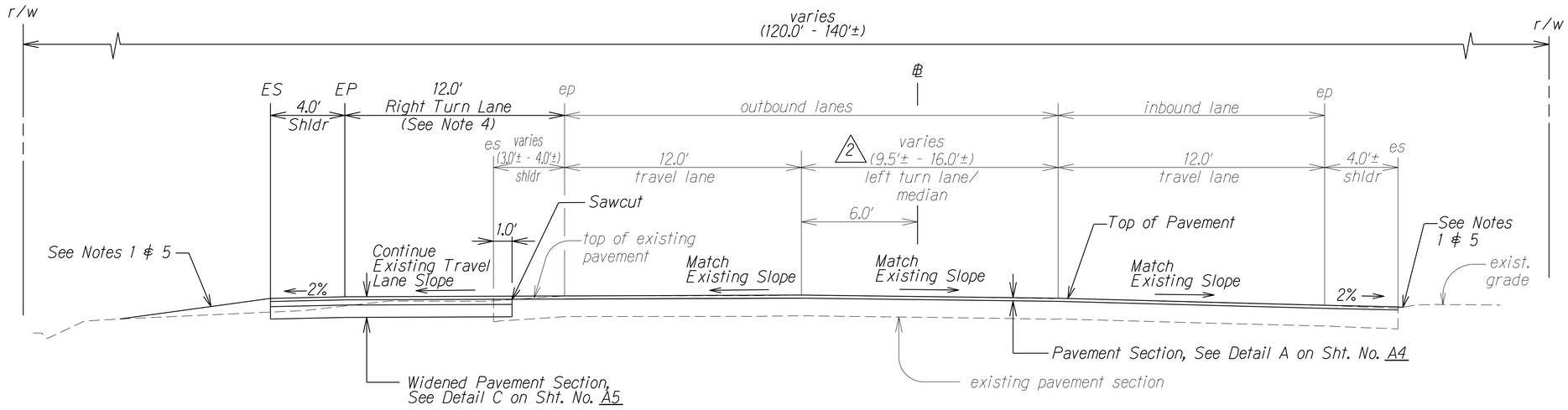
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD.14	167



TYPICAL SECTION
℄ STA. 45+30.0± TO ℄ STA. 55+74.24±
Scale: N.T.S.



TYPICAL SECTION
1 ℄ STA. 21+81± (KAPOLEI PARKWAY) TO ℄ STA. 26+50.0± 2
Scale: N.T.S.

Notes:

1. Safety Edge/Shoulder Dressing. See Typical Pavement Edge Detail on Sht. No. A5.
2. For limits of Midwest Guardrail, see Roadway Plans. For details, see Guardrail Details sheets.
3. See Superelevation Plans and Roadway Cross Sections for new pavement grades at widened roadway.
4. For New Shoulder Cross Slopes, see Sht. No. SE3 ⊄ SE4.
5. Hydro-mulch Seed newly graded areas with Bermuda Seeding.
6. See Roadway Cross Sections and Pavement Grade Plan for New Right Turn Lane.

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

DATE	REVISION
2 3/4/20	Revised dimension and station limits. Added new callout for Portable Concrete Barrier.
1 2/10/20	Moved typical section from Sht. No. A3 to this sheet.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS

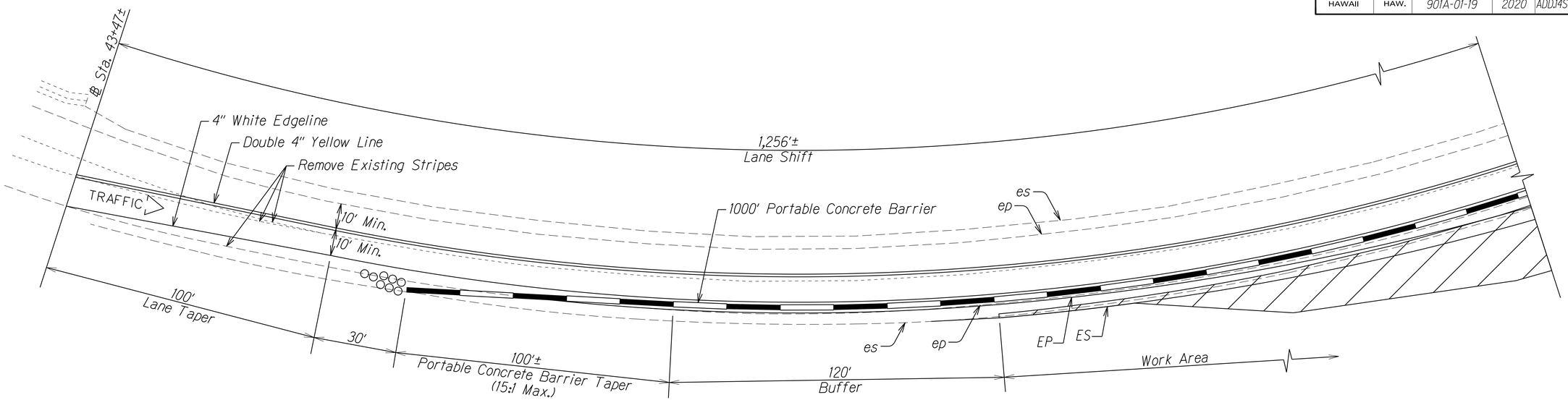
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

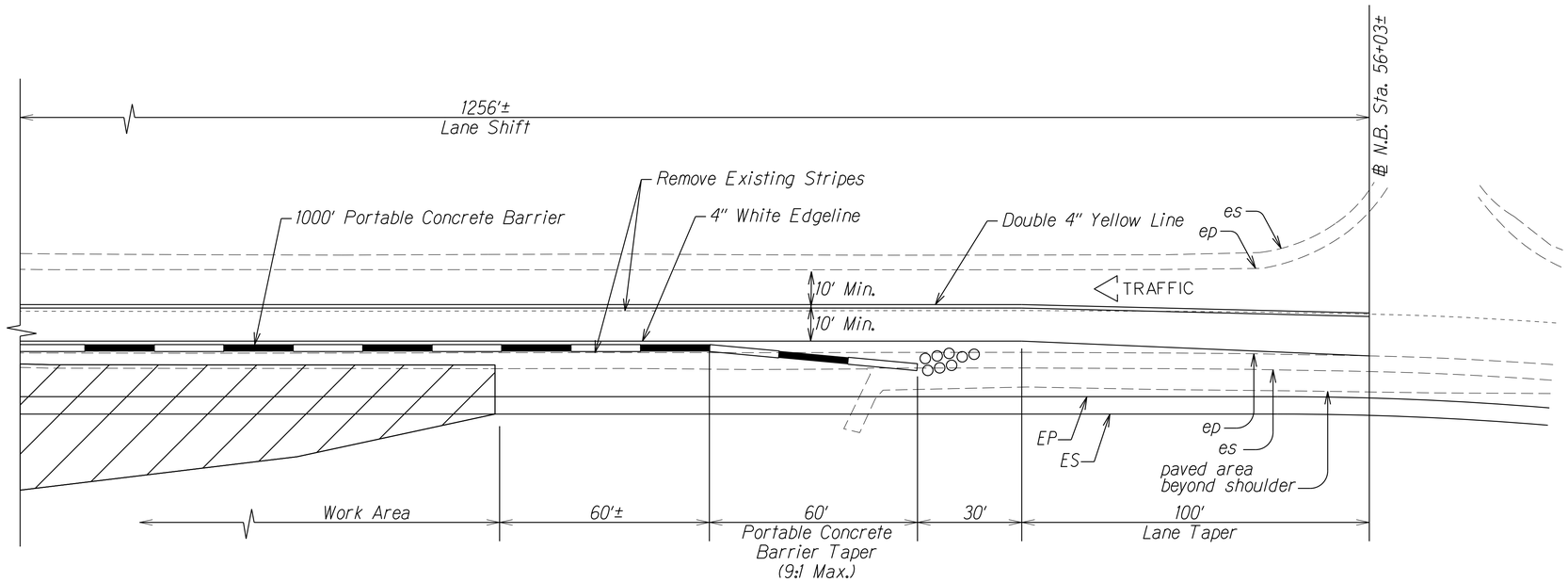
Scale: Not to Scale Date: February, 2020

SHEET No. A3 OF 7 SHEETS

ADD. 14

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD.14S-1	167





PORTABLE CONCRETE BARRIER PLAN FOR WIDENING WORK
℄ STA. 43+47± TO ℄ STA. 56+03±

Scale: Not to Scale

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

DATE	REVISION
1 3/4/2020	Added new sheet.

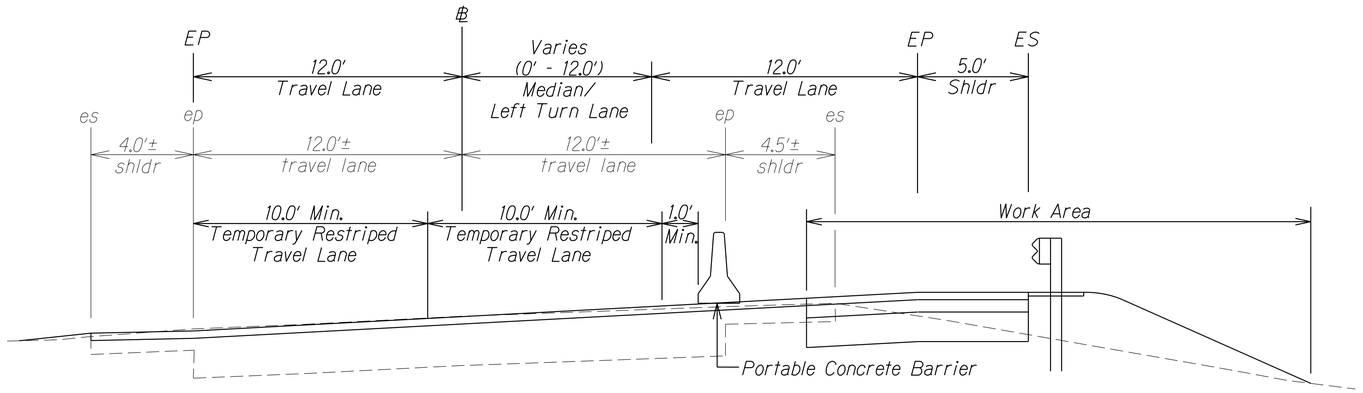
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TEMPORARY PORTABLE CONCRETE BARRIER PLAN

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: Not to Scale Date: February, 2020

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD.14S-2	167



PORTABLE CONCRETE BARRIER POSITION DETAIL FOR WIDENING WORK
℄ STA. 43+47± TO ℄ STA. 56+03±

Scale: Not to Scale

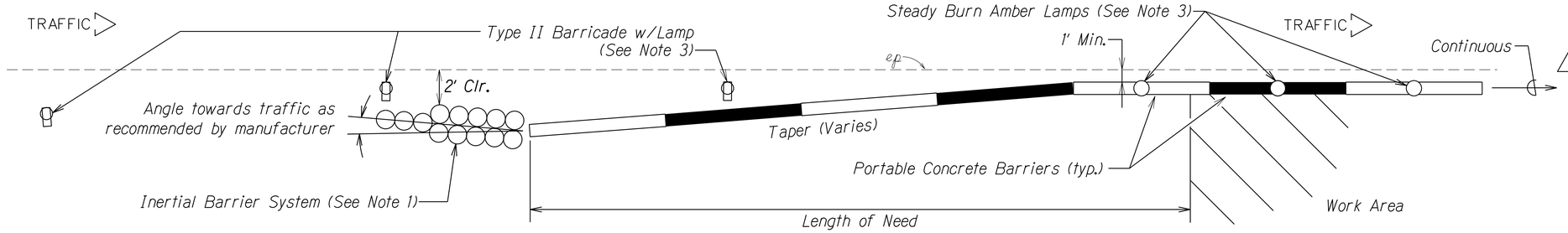
Notes:

1. Inertial Barrier System shall comply with the manufacturer's recommendations/requirements and shall be paid under Contract Item No. 695.2000 - Inertial Barrier System.

2. Place Type II Barricade w/Lamp at spacings and positions that comply with part 6 of the MUTCD, Typical Application 5, and install steady burn amber lamps on Portable Concrete Barriers @ 20.0′ o.c. Installing, maintaining and removing each steady burn amber lamp including changing of batteries and bulbs shall be considered incidental to Contract Item No. 695.1000 - State-Furnished Portable Concrete Barrier.

3. Travel Lanes shall be temporarily restriped and adjusted to a minimum of 10 feet to accommodate Portable Concrete Barrier Installation and use. Following the completion of road widening work, Travel Lanes shall be striped according to the traffic plans. This work shall be considered incidental to Contract Item No. 695.1000 - State-Furnished Portable Concrete Barrier and shall not be paid for separately.

4. The Contractor shall develop a Traffic Control Plan to include all necessary Traffic Control Devices. This work shall be considered incidental to Contract Item No. 645.0100 - Traffic Control and shall not be paid for separately.



TYPICAL DETAIL - PORTABLE CONCRETE BARRIER INSTALLATION

Scale: N.T.S.

DATE	REVISION
3/4/2020	Added new sheet.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TEMPORARY PORTABLE CONCRETE BARRIER PLAN

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

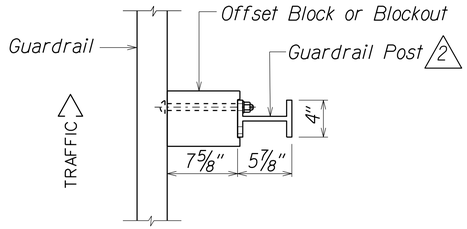
Scale: Not to Scale Date: February, 2020

SHEET No. A3 OF 7 SHEETS

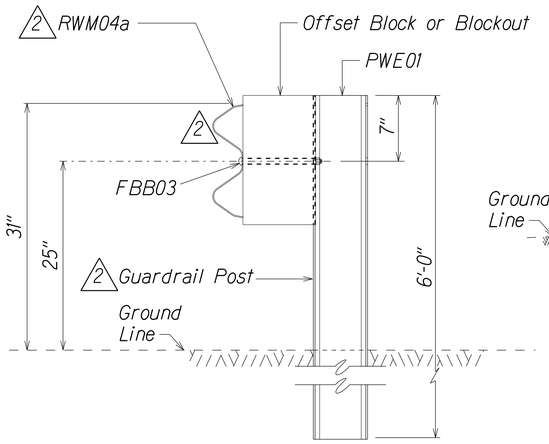
ADD. 14S-2

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD.20	167

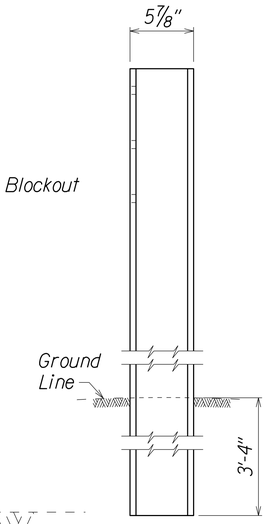


PLAN

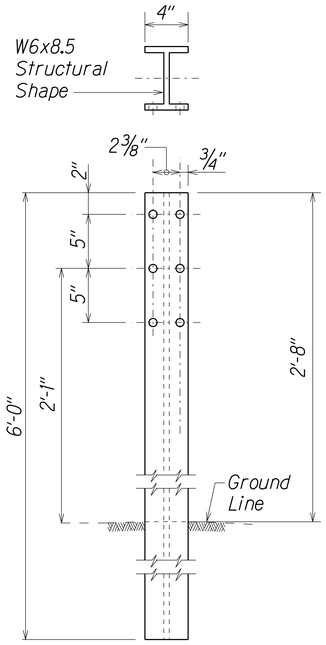


SECTION A-A

NOTE:
All Holes are 3/4" Dia.

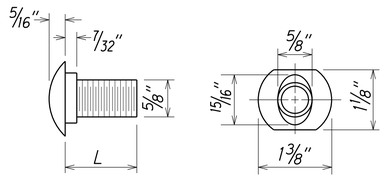


SIDE

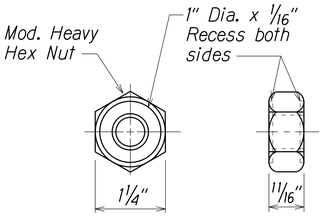


FRONT

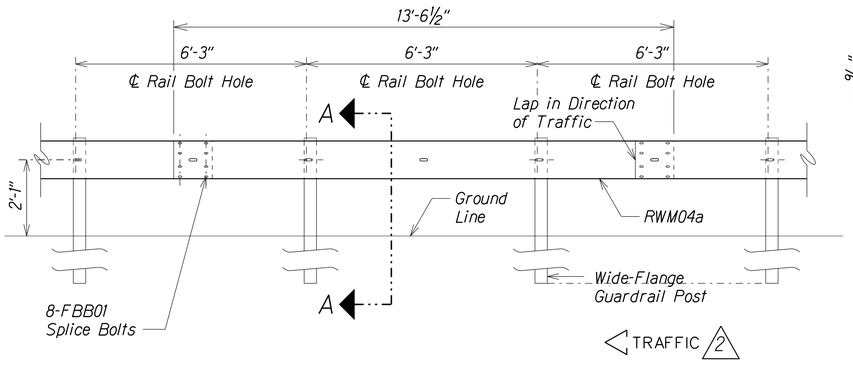
2 WIDE-FLANGED GUARDRAIL POST (PWE01)



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



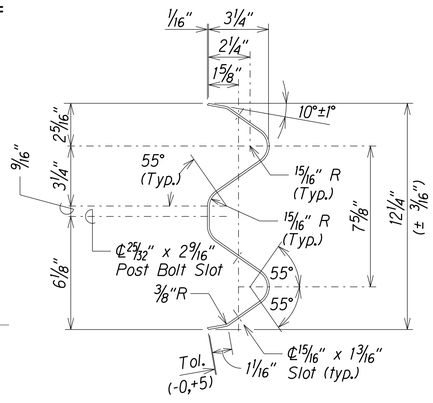
GUARDRAIL BOLTS AND RECESSED NUT

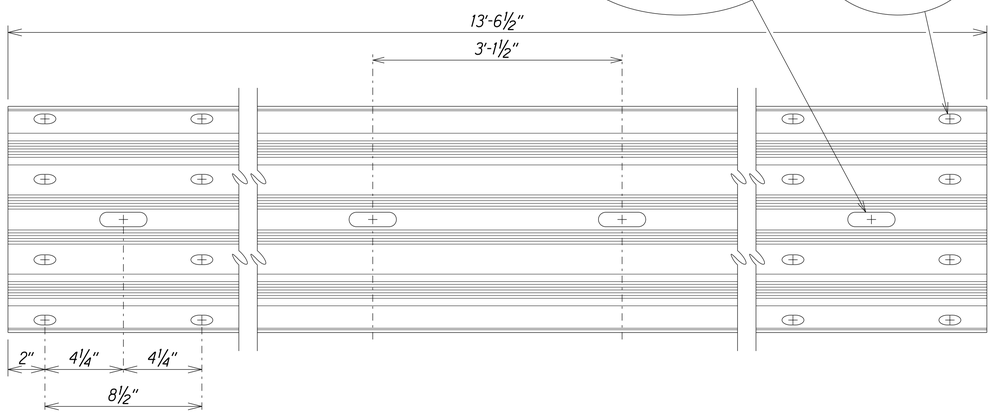


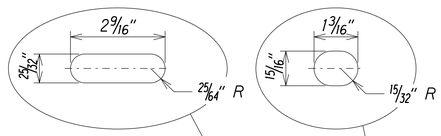
ELEVATION

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

DESIGNATOR	BASE METAL THICKNESS
RWM04a	12 Gauge







4 SPACE W-BEAM GUARDRAIL (RWM04a)

	DATE	REVISION
2	3/17/20	Clarifying changes made on 2/10/20: Correct Section A-A: Redescribe Post in Plan View and Remove Rail Bolts, Redescribe Post, and Update Beam Callout. Redescribe PWE01 to Wide-Flanged Guardrail Post. Add Traffic Direction in Elevation.
1	2/10/20	Replace sheet.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

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

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: NTS Date: February, 2020

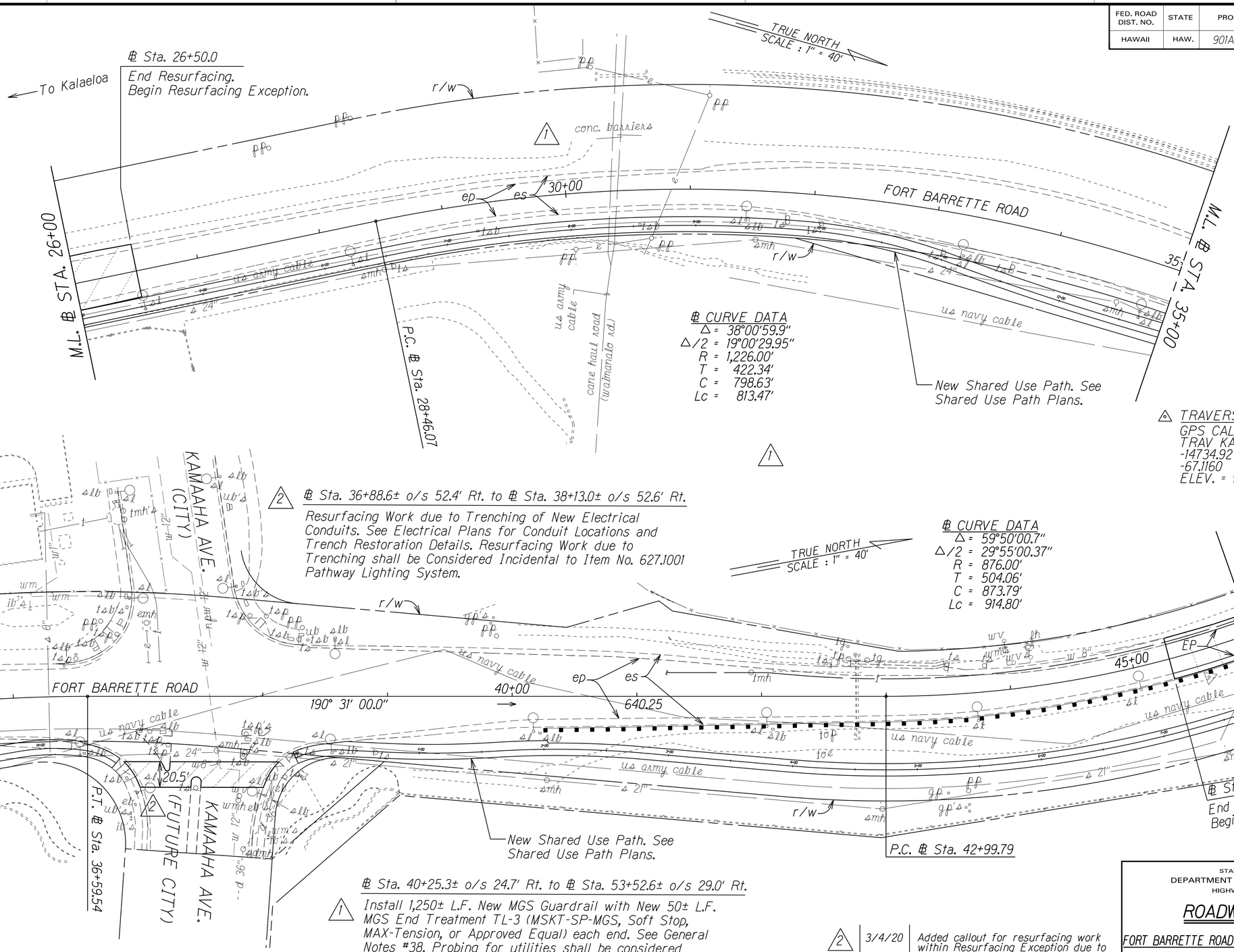
SHEET No. 2 OF 5 SHEETS

ADD. 20

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | N:

r02/05/20 Dusr2/Ernest/standards/Traffic Guardrail Standards/archive/m2_wbeamsdgn

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD.37	167



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

Notes:

1. For relocation of traffic signs, see Signing & Pavement Marking Plans.
2. For Traffic Signal related work, see Traffic Signal Plans.

	DATE	REVISION
2	3/4/20	Added callout for resurfacing work within Resurfacing Exception due to trenching of new conduits.
1	2/10/20	Deleted existing guardrail, concrete, and note for removal of existing guardrail. Revised guardrail note.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLANS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

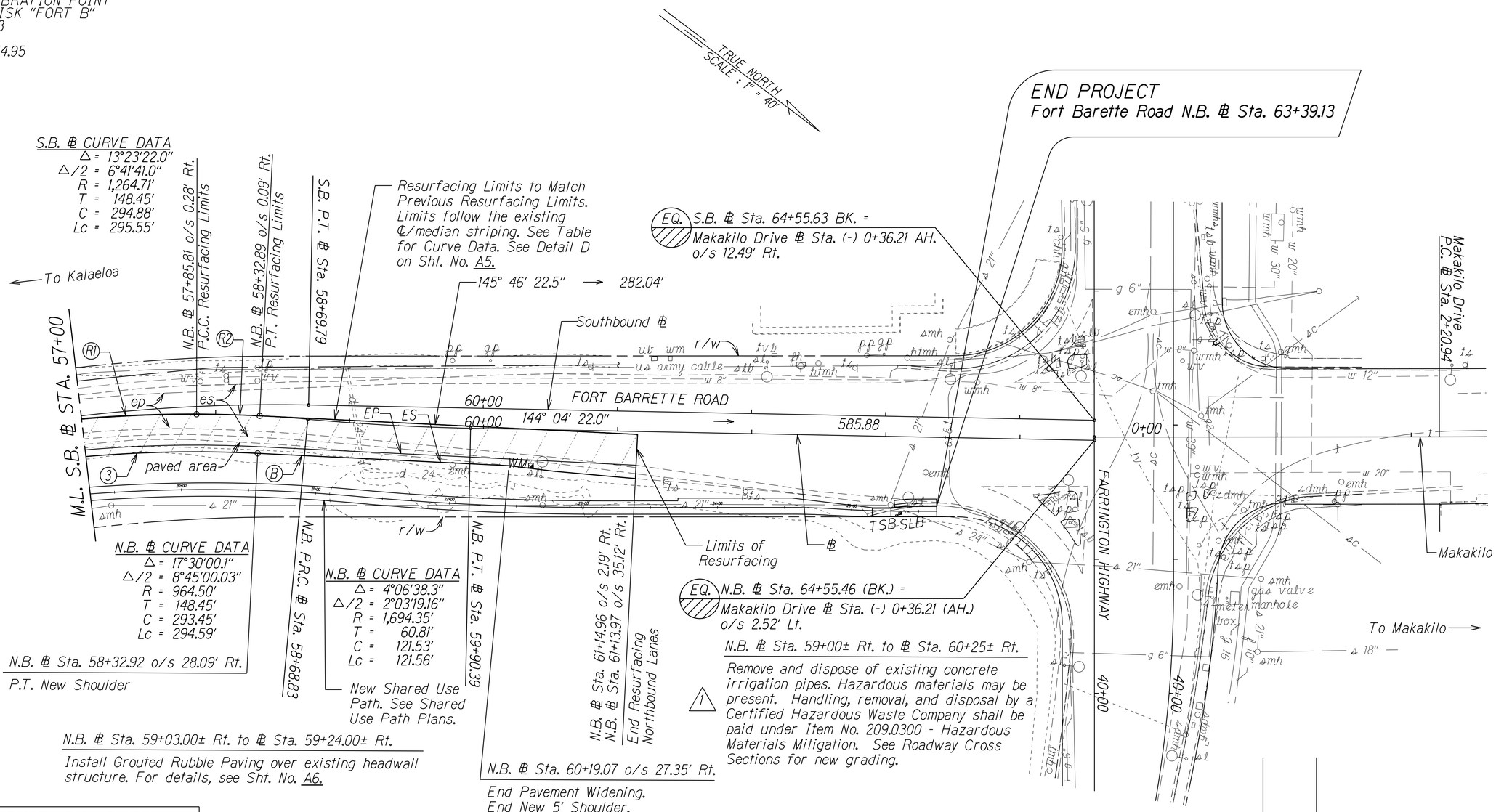
Scale: 1" = 40.0' Date: February, 2020

SHEET No. 4 OF 6 SHEETS

ADD. 37

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD.39	167

△ TRAVERSE INFO:
GPS CALIBRATION POINT
BRASS DISK "FORT B"
-13210.9293
-11133.6612
ELEV. = 114.95



CURVE DATA FOR NEW ES	
	③
△	15°05'22.5"
△/2	7°32'41.3"
R	945.00'
T	125.16'
C	248.16'
Lc	248.88'
S.E.	0.08 ft/ft
Azimuth Ⓑ	145° 46' 22.5" → 187.04'

CURVE DATA FOR RESURFACING LIMITS		
	Ⓡ1	Ⓡ2
△	12° 23' 27.00"	2° 41' 55.50"
△/2	6° 11' 43.50"	1° 20' 57.75"
R	961.00'	999.00'
T	104.32'	23.53'
C	207.42'	47.05'
Lc	207.83'	47.06'

Notes:
1. For relocation of traffic signs, see Signing ⊄ Pavement Marking Plans.
2. For new pavement grades, see Profile, Superelevation Plans and Cross Sections.

Resurfacing Limits (hatched for clarity)

DATE	REVISION
1 3/19/20	Added note.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLANS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1" = 40.0' Date: January, 2020

SHEET No. 6 OF 6 SHEETS

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

ADD. 39

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 52	167

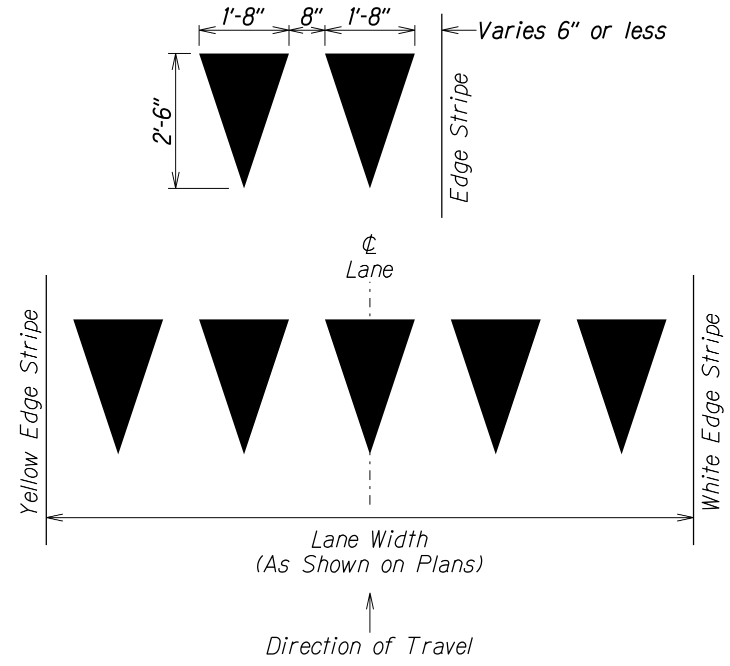
LEGEND

- 10' White Profiled Thermoplastic Stripe
  Type C Raised Pavement Markers @ 40'-0" o.c.
- 10' Yellow Profiled Thermoplastic Stripe
  Type D Raised Pavement Markers @ 40'-0" o.c.
- 8" White Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
- 4" Double Solid Yellow with Type D Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion))
- 4" Double Solid Yellow Stripes with Type H Raised Pavement Markers @ 20'-0" o.c. (Tape, Type II or Thermoplastic Extrusion))
- 6" Yellow Edge Stripe with Type H Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion))
- 4" 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 @ 20'-0" o.c.
  4" White Stripe (Tape, Type I or Thermoplastic Extrusion)
- 6" or 8" White Edge Stripe with Type C Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)
- 4" White Guide Lines (Tape, Type III or Thermoplastic Extrusion except for bus bays)
- 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)
- ② 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)
- STOP — Pavement Word (Tape, Type III or Thermoplastic Extrusion)
- 10' Yellow Profiled Thermoplastic Stripe
  Type D Raised Pavement Markers @ 40'-0" o.c.
  Type H Raised Pavement Markers (Reflective Surface facing no-passing direction)
  4" Single Solid Yellow Stripe (Tape, Type I or Thermoplastic Extrusion)
- 10' 10' 10' 10' — Extension of Edge Line, 4" Wide x 2'-0" Long White Stripe @ 10'-0" o.c. w/Type C Markers @ 40'-0" o.c. (Tape, Type III or Thermoplastic Extrusion)

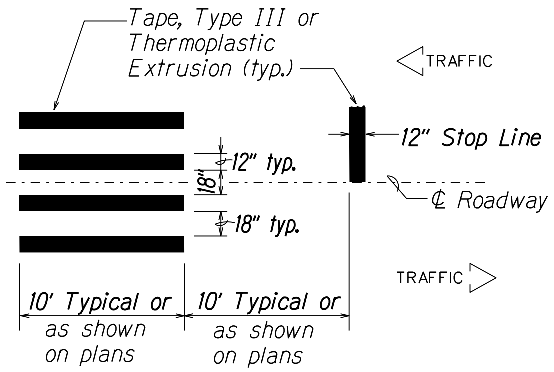
NOTES

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 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 preformed pavement marking tapes over existing pavement shall be applied with an approved primer as recommended by the tape manufacturer and as approved by the Engineer. The primer shall be allowed to dry to the tacky stage prior to tape application.
9. All pedestrian warning signs with supplemental sign shall be on a fluorescent yellow-green retroreflective background with a black legend and border.

LEGEND: △1

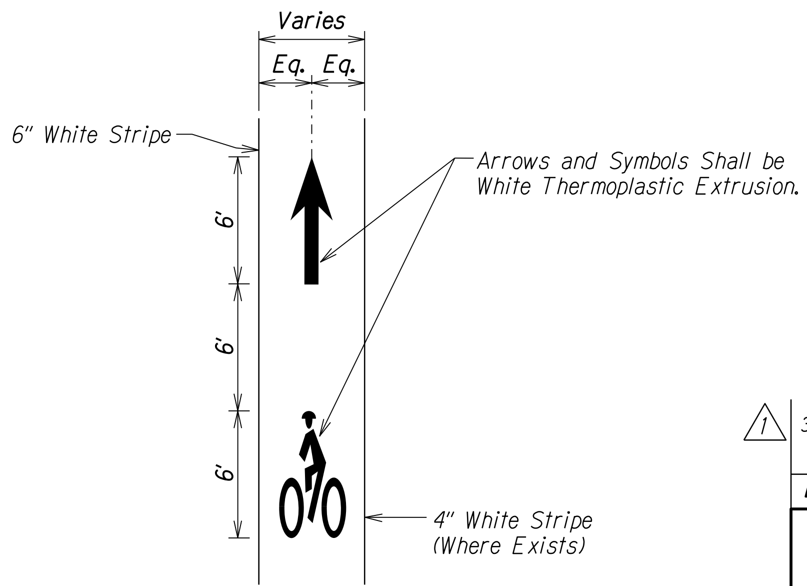


YIELD LINE



CROSSWALK STRIPING DETAIL

Not to Scale



BIKE LANE PAVEMENT MARKING DETAIL

Not to Scale

△1	3/3/20	REVISED TITLE BLOCK AND DELETED LEGEND
	DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING LEGEND, NOTES & DETAILS △1

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19
Scale: As Noted Date: Feb., 2020
SHEET No. T1 OF 13 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 52S-1	167

TRAFFIC CONTROL NOTES FOR CONSTRUCTION COORDINATION FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS, 901A-01-19

1. Lane closures will be allowed only from 7:30 a.m. to 2:00 p.m. Monday through Friday.

2. In additional to A.C. paving and restriping work, this project also includes:

   a. Roadyway widening (vicinity of Kapolei Regional Park, Kapolei Parkway intersection)
   b. Traffic signal modifications (Kapolei Parkway)
   c. Upgrade railroad crossing (North of Roosevelt Ave.)
   d. New traffic signal installation (Roosevelt Ave. intersection)
   e. Shared-use path and lighting (entire project length)

3. The Contractor shall coordinate his work to minimize impacts to existing traffic patterns. Multiple lane-closures shall require approval by the Engineer. If approved, multiple lane-closures shall be implemented with adequate traffic queue storage for each lane-closure location. The Engineer may suspend multiple lane-closures if cumulative work zone traffic delays exceeded 30 minutes.

4. Per Standard Specs Sec. 645.03 Construction, the Contractor shall submit site-specific Traffic Control Plan (TCP) to the Engineer for acceptance at least 15 working days before work starts.

5. If excess traffic delays (equal to or above 30 minutes) are observed in the field by the Engineer, the Contractor shall take corrective measures and a modified TCP be submitted to the Engineer for acceptance at least 15 working days before such work could resume.

6. If lane shift or change to existing traffic patterns must be implemented beyond normal work hours, all conflicting pavement markings shall be removed, and temporary markings shall be installed before traffic patterns are changed. After completion of the work, temporary markings shall be removed, and normal traffic patterns restored.

7. The Contractor shall coordinate with nearby Kapolei High School (KHS) administration staff, (808) 305-8000, when working between Roosevelt Ave. and Kapolei Parkway. This coordination shall include, but not limited to, maintaining access to school ground during special events at KHS.

8. The Contractor shall coordinate all work with the Hawaiian Railway Society (HRS), (808) 681-5461, when working adjacent to or within the railroad R.O.W.

9. The Contractor shall notify the Department of Transportation Services (DTS), Public Transit Division, (808) 768-8396, and the Oahu Transit Services, Inc. Bus Operations, (808) 848-4578, or (808) 852-6016, and Paratransit Operations, (808) 454-5041, or (808) 454-5020, of any closure of street, sidewalk or bus stop at least two (2) weeks prior to starting construction operations.

10. The Contractor shall notify the Traffic Signals and Technology Division, Department of Transportation Services (DTS), (808) 768-8388, three (3) days prior to commencing work on the existing and new traffic signal systems.

11. The Contractor shall notify the Hawaii Housing Finance and Development Corp. (HHFDC), (808) 587-0620, when working in the vicinity of Kapolei Parkway and Kamaaha Ave. intersections, which are main access roads for the Villages of Kapolei maintained by HHFDC.

12. The Contractor shall notify the Hawaii Community Development Authority (HCDA), (808) 594-0300, when working outside of HDOT R.O.W. in the vicinity of Enterprise Street, which is the main access road to nearby Kalaeloa Airport maintained by HCDA.

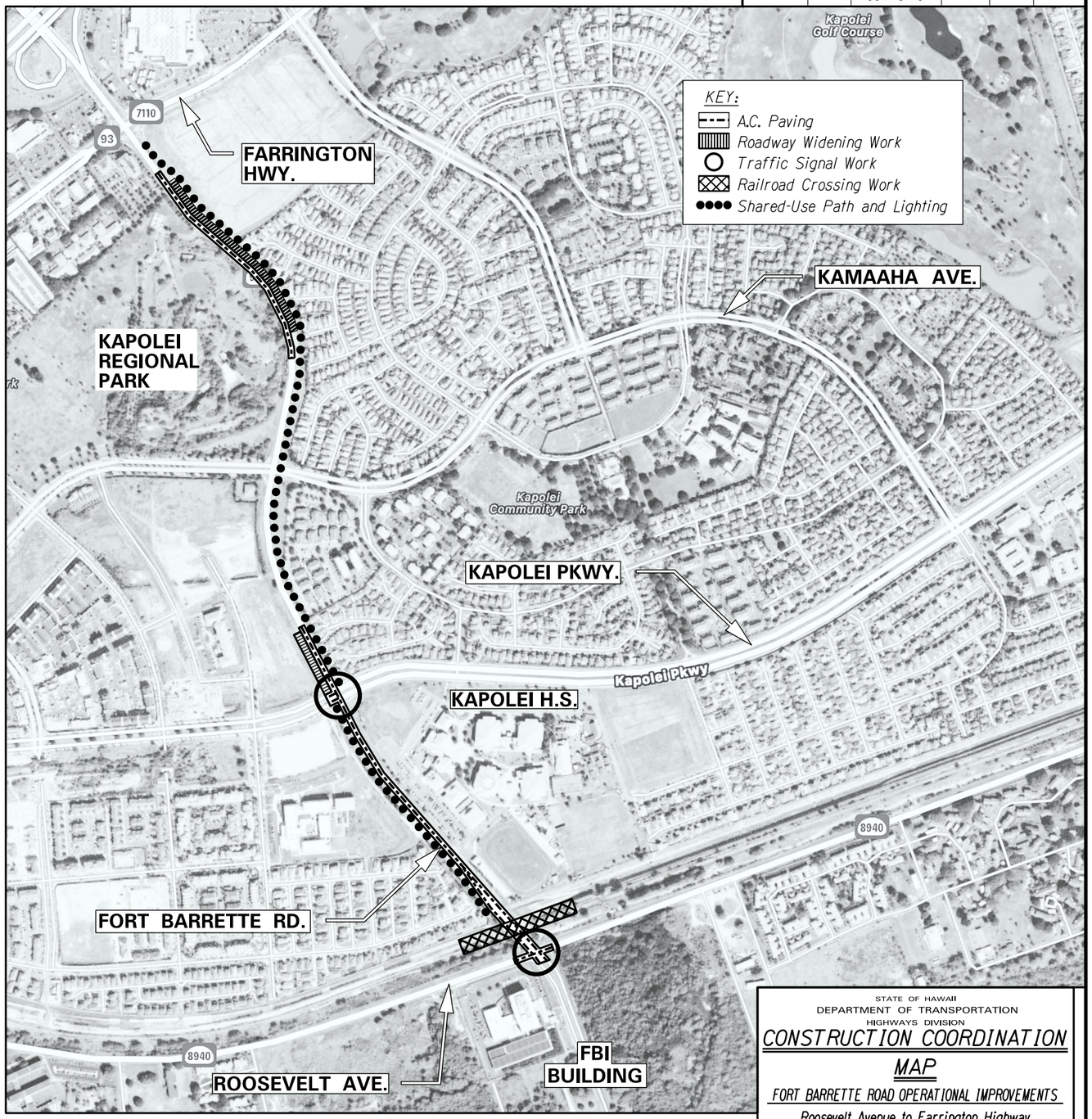
13. The Contractor shall notify the Hawaii FBI Headquarters, (808) 566-4300, when working in the vicinity of Roosevelt Ave. intersection for access coordination to the facility.

14. Maintain abutting owners' existing access until replacement access is usable. Obtain permission from abutting owners, including conditions for closing existing access. Submit copy of agreement with abutting owners before beginning work in the affected area.

15. Per Standard Specs Sec. 645.03(F) Lane Closures, before scheduling work, submit requests for detours and lane closures as follows:

    (1) Detours - 8 weeks before implementing detours.
    (2) Lane closures - 6 weeks before implementing lane closures.

    Detours or lane closures will not be allowed before the Engineer accepts detour or lane closure requests.



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY X	
NOTE BOOK	TRACED BY	
	CHECKED BY X	
	QUANTITIES BY	
	CHECKED BY	

1	3/3/20	ADDED NEW PLAN SHEET
	DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

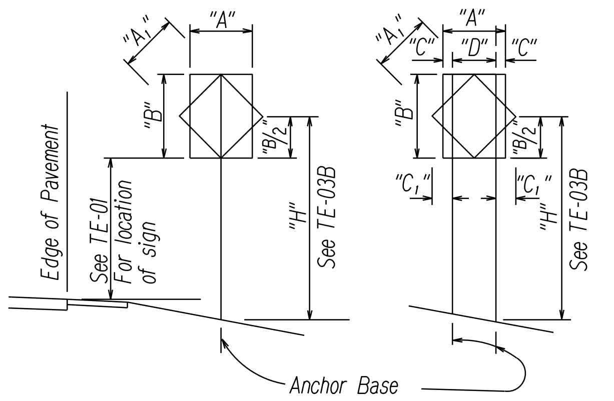
CONSTRUCTION COORDINATION MAP

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19

Scale: N.T.S. Date: Feb., 2020

SHEET No. T1A OF 13 SHEETS

ADD. 52S-1



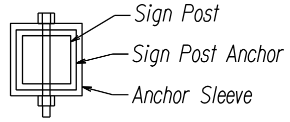
1 - POST
"A" or "A1" less than 36"

2 - POST
"A" or "A1" less than 60"

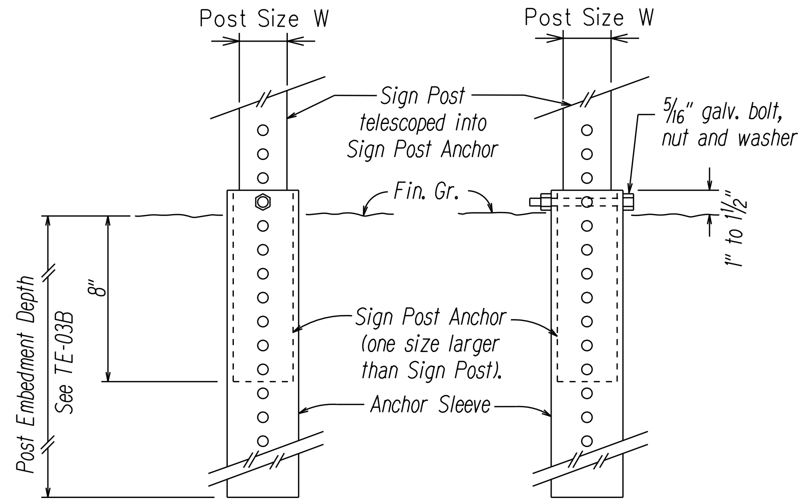
"A" or "A1"	"C"	"C1"
Less than 36"	6"	-
Greater than 36" and less than 48"	9"	19"
Greater than 48"	12"	24"

NOTE: Frame stiffeners are required when D is greater than 24" See General Notes.

TYPICAL INSTALLATION



TOP VIEW



Back View

Side View

SIGN POST INSTALLATION

ANCHOR BASE DETAIL

Not to Scale

GENERAL NOTES

1. Design Specifications:
   (A) "Traffic Signal Supports and Foundations design shall conform with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 1st Edition, with latest Interim Revisions and as modified by HDOT Memorandum with subject title, "Changes to Design Criteria for Bridges and Structures" (Letter No. HWY-DB 2.5098) dated January 8, 2018."
2. Loads:
   (A) Basic Wind Speed: 105 mph.
   (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 180 ksi, min.
   (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 square tube posts shall be 12 gauge 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 without break away anchor base shall be outside of the clear zone or shielded by an appropriate traffic barrier system. The traffic barrier system shall be 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.

	DATE	REVISION
1	3/3/20	REVISED TITLE BLOCK

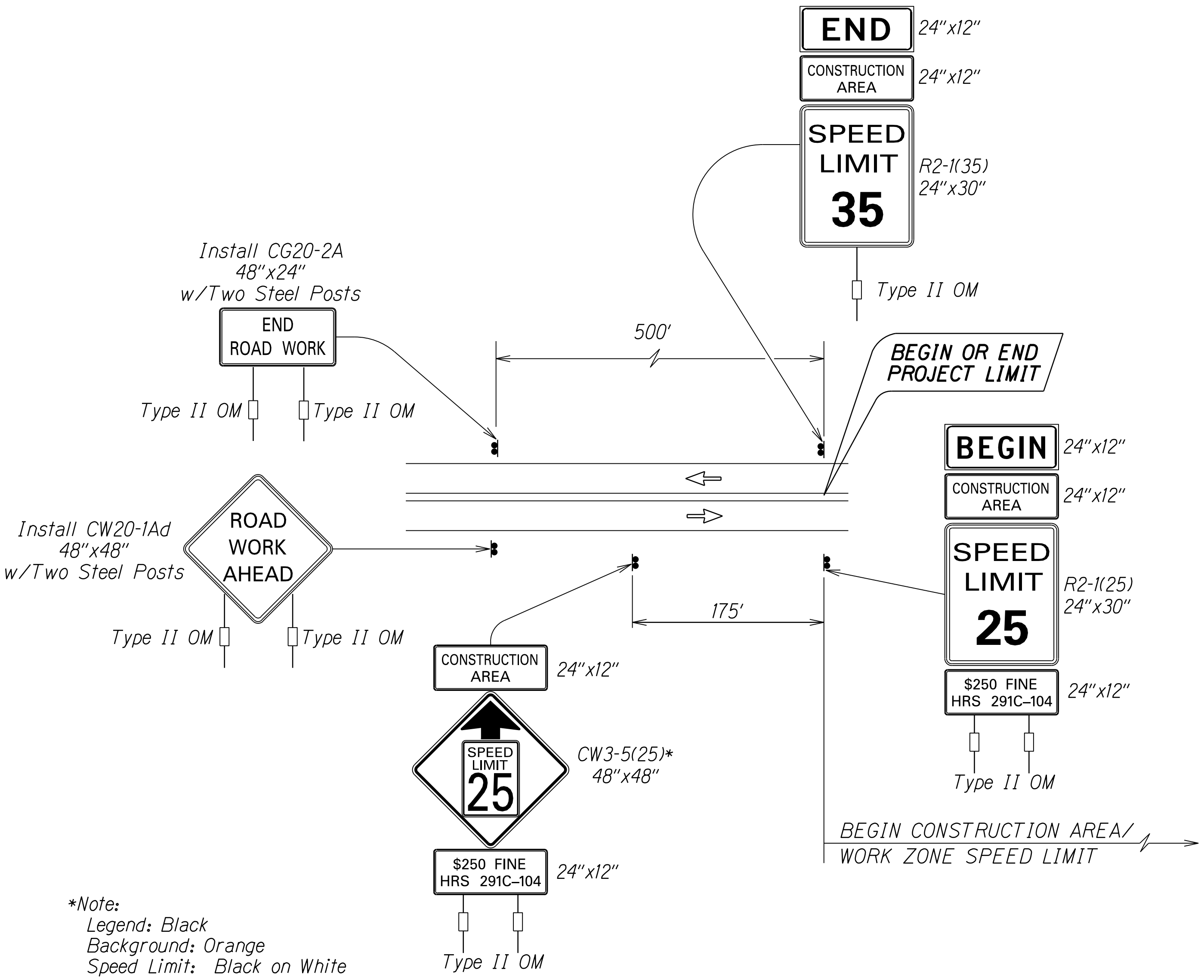
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GALVANIZED SQUARE TUBE SIGN POST MOUNTING

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19

Scale: Not to Scale — Date: Feb., 2020

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 54	167



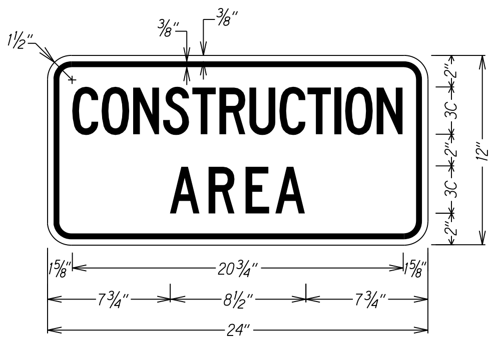
*Note:
Legend: Black
Background: Orange
Speed Limit: Black on White

TYPICAL DETAIL FOR CONSTRUCTION SIGNS
ON TWO LANE OR MULTILANE UNDIVIDED LOW SPEED HIGHWAY

Not to Scale

Work Zone 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 and/or Special Provisions.
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(25) and CW3-5(25) 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 shall have a minimum of two (2) Type II OM. Each work zone speed limit sign assembly shall have a minimum of one (1) Type II OM. Installation of each Type II OM shall be considered incidental to Item No. 645.0100 - 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 limits 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, maintenance and removal of work zone speed limit sign assemblies shall be considered incidental to Item No. 645.0100 - Traffic Control.



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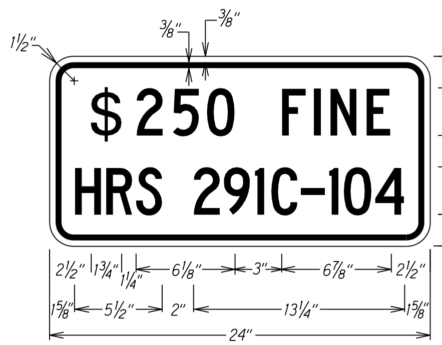
BACKGROUND: ORANGE



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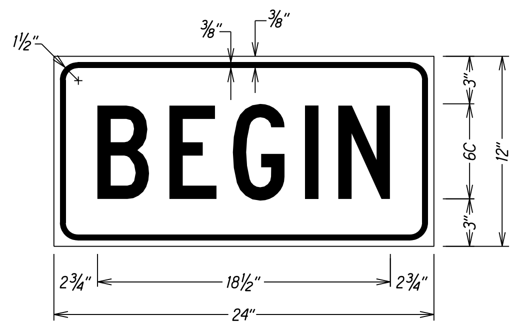
BACKGROUND: WHITE



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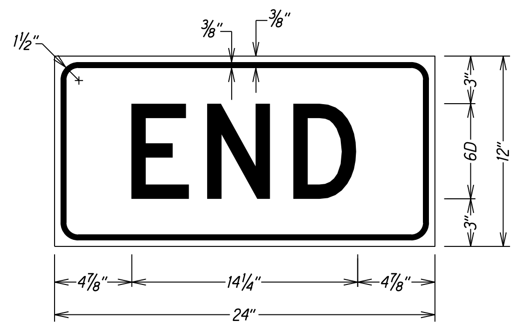
BACKGROUND: ORANGE



LEGEND: BLACK
BACKGROUND: ORANGE

	DATE	REVISION
1	3/3/20	REVISED TITLE BLOCK

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOW SPEED UNDIVIDED HIGHWAY
WORK ZONE SIGNING PLAN, NOTES & DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19

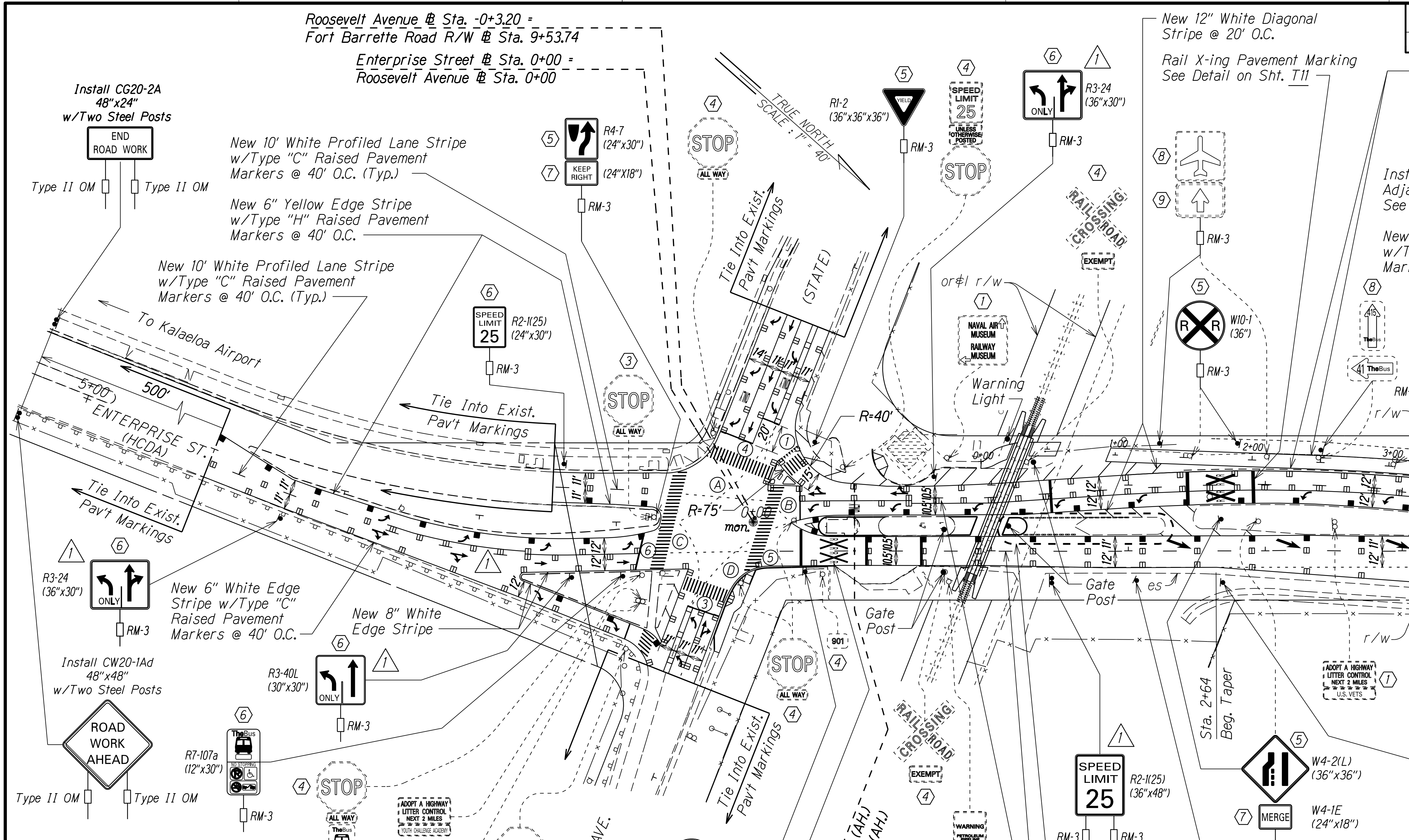
Scale: Not to Scale Date: Feb., 2020

SHEET No. T3 OF 13 SHEETS

ADD. 54

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 55	167



Roosevelt Avenue ℄ Sta. -0+3.20 =
Fort Barrette Road R/W ℄ Sta. 9+53.74
Enterprise Street ℄ Sta. 0+00 =
Roosevelt Avenue ℄ Sta. 0+00
TRUE NORTH
SCALE: 1" = 40'
Install CG20-2A
48"x24"
w/Two Steel Posts
END ROAD WORK
Type II OM
New 10' White Profiled Lane Stripe w/Type "C" Raised Pavement Markers @ 40' O.C. (Typ.)
New 6" Yellow Edge Stripe w/Type "H" Raised Pavement Markers @ 40' O.C.
R4-7 (24"x30")
KEEP RIGHT (24"X18")
RM-3
STOP
ALL WAY
R1-2 (36"x36"x36")
YIELD
SPEED LIMIT 25 UNLESS OTHERWISE POSTED
R3-24 (36"x30")
ONLY
New 12" White Diagonal Stripe @ 20' O.C.
Rail X-ing Pavement Marking See Detail on Sht. T11
New 4" White Edge Stripe Along Shared-Use Path
New 6" White Edge Stripe w/Type "C" Raised Pavement Markers @ 40' O.C.
Install Pre-Cast Parking Curb Adjacent to Paved Shoulder See Detail "A" on Plan Sht. T12
New 6" Yellow Edge Stripe w/Type "H" Raised Pavement Markers @ 40' O.C.
Tie Into Exist. Pav't Markings
(STATE)
RAILROAD CROSSING
EXEMPT
or℄ r/w
NAVAL AIR MUSEUM RAILWAY MUSEUM
Warning Light
R=40'
W10-1 (36")
R2-1(25) (36"x48")
R9-6 (12"x18")
YIELD TO PEDS
(Bi-Directional)
TheBus
To Kalaeloa Airport
5+00
500'
ENTERPRISE ST. (HCDA)
R2-1(25) (24"x30")
SPEED LIMIT 25
R=75'
mon.
0+00
1+00
2+00
3+00
4+00
5+00
ep
es
r/w
ML ℄ STA. 6+00
To Makakilo
FORT BARRETTE RD. (STATE)
Gate Post
R3-24 (36"x30")
New 6" White Edge Stripe w/Type "C" Raised Pavement Markers @ 40' O.C.
New 8" White Edge Stripe
R3-40L (30"x30")
Install CW20-1Ad 48"x48" w/Two Steel Posts
ROAD WORK AHEAD
R7-107a (12"x30")
NO STOPPING
ADOPT A HIGHWAY LITTER CONTROL NEXT 2 MILES
YOUTH CHALLENGE ACADEMY
U.S. VETS
ROOSEVELT AVE. (STATE)
W10-1 (36")
901
WARNING PETROLEUM PIPELINE
R/W ℄ Sta. 10+26.52 (BK.) =
S.B. ℄ Sta. 0+00 o/s 24.0' Lt. (AH.)
N.B. ℄ Sta. 0+00 o/s 24.0' Rt. (AH.)
EQ.
Sta. 2+64 Beg. Taper
Sta. 4+24 Beg. Taper
W4-2(L) (36"x36")
W4-1E (24"x18")
MERGE
R3-40 (30"x30")
R8-3 (24"x24")
R7-201p (12"x6")
Rail X-ing Pavement Marking See Detail on Sht. T11
New 10' White Profiled Lane Stripe w/Type "C" Raised Pavement Markers @ 40' O.C. (Typ.)
New Longitudinal Channelizing Curb System. See Details on Sht. T11

KEY:

1. Exist. Sign(s) to Remain
2. Exist. Sign(s) & Post(s) to Remain
3. Remove Exist. Sign(s)
4. Remove Exist. Sign(s) w/ Post(s)
5. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
6. Install New Sign(s) & Post(s)
7. Install New Sign(s)
8. Relocate Exist. Sign(s)
9. Relocate Exist. Sign(s) on New Post(s)

(A) R=140'
(B) R=50'
(C) R=50'
(D) R=120'

DATE	REVISION
3/3/20	REVISED TITLE BLOCK, REVISED SIGN KEY, ADDED NEW SIGNS AND REVISED LANE STRIPING

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19

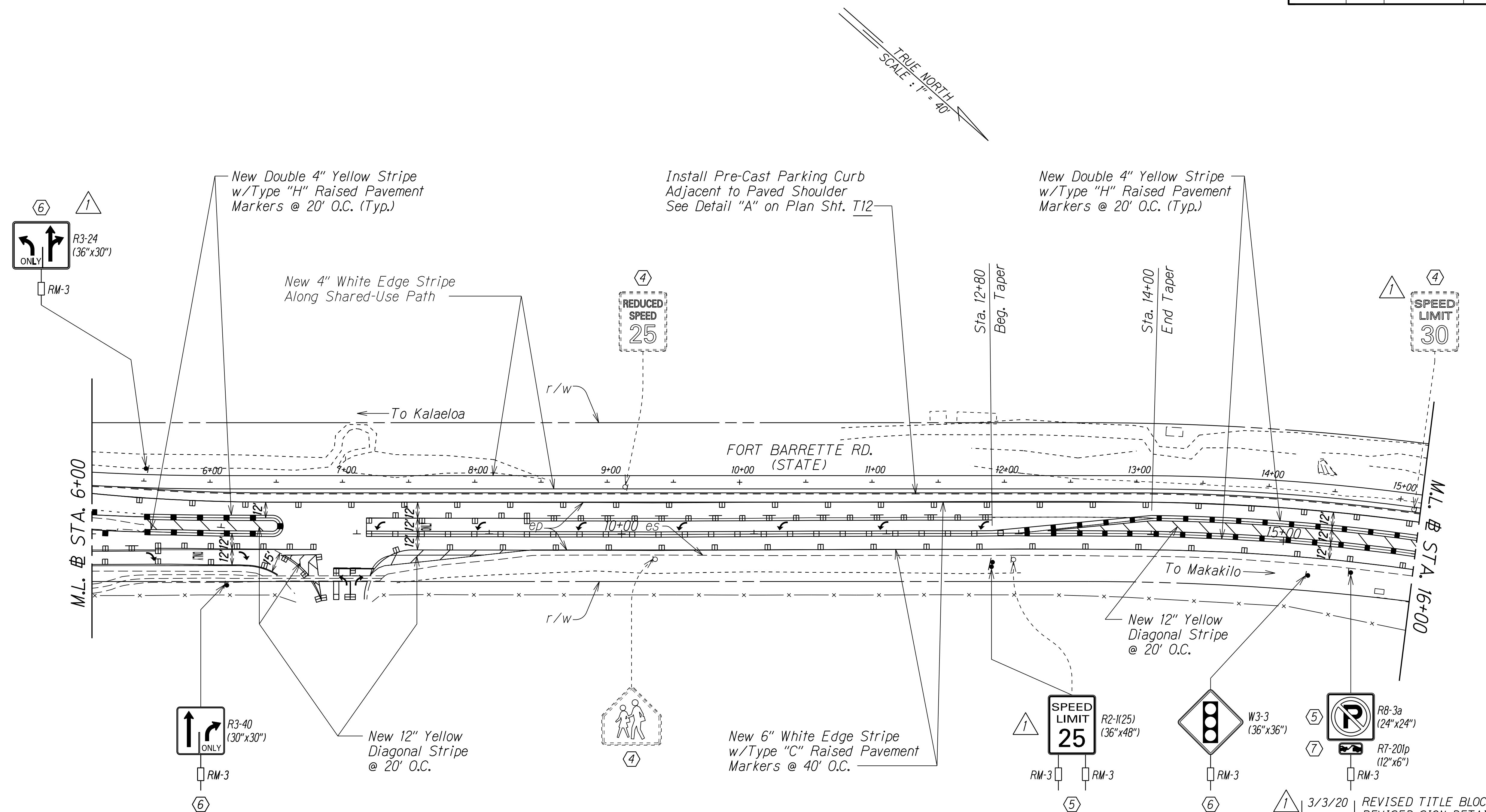
Scale: 1" = 40' Date: Feb., 2020

SHEET No. T4 OF 13 SHEETS

ADD. 55

ORIGINAL PLAN: SURVEY PLOTTED BY, DRAWN BY, TRACED BY, DESIGNED BY, QUANTITIES BY, CHECKED BY; NOTE BOOK; DATE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 56	167



KEY:

1. Exist. Sign(s) to Remain
2. Exist. Sign(s) & Post(s) to Remain
3. Remove Exist. Sign(s)
4. Remove Exist. Sign(s) w/ Post(s)
5. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
6. Install New Sign(s) & Post(s)
7. Install New Sign(s)
8. Relocate Exist. Sign(s)
9. Relocate Exist. Sign(s) on New Post(s) (1)

DATE	REVISION
3/3/20 (1)	REVISED TITLE BLOCK, SIGN KEY, REVISED SIGN DETAILS AND ADDED NEW SIGNS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS

Roosevelt Avenue to Farrington Highway

PROJECT NO. 901A-01-19

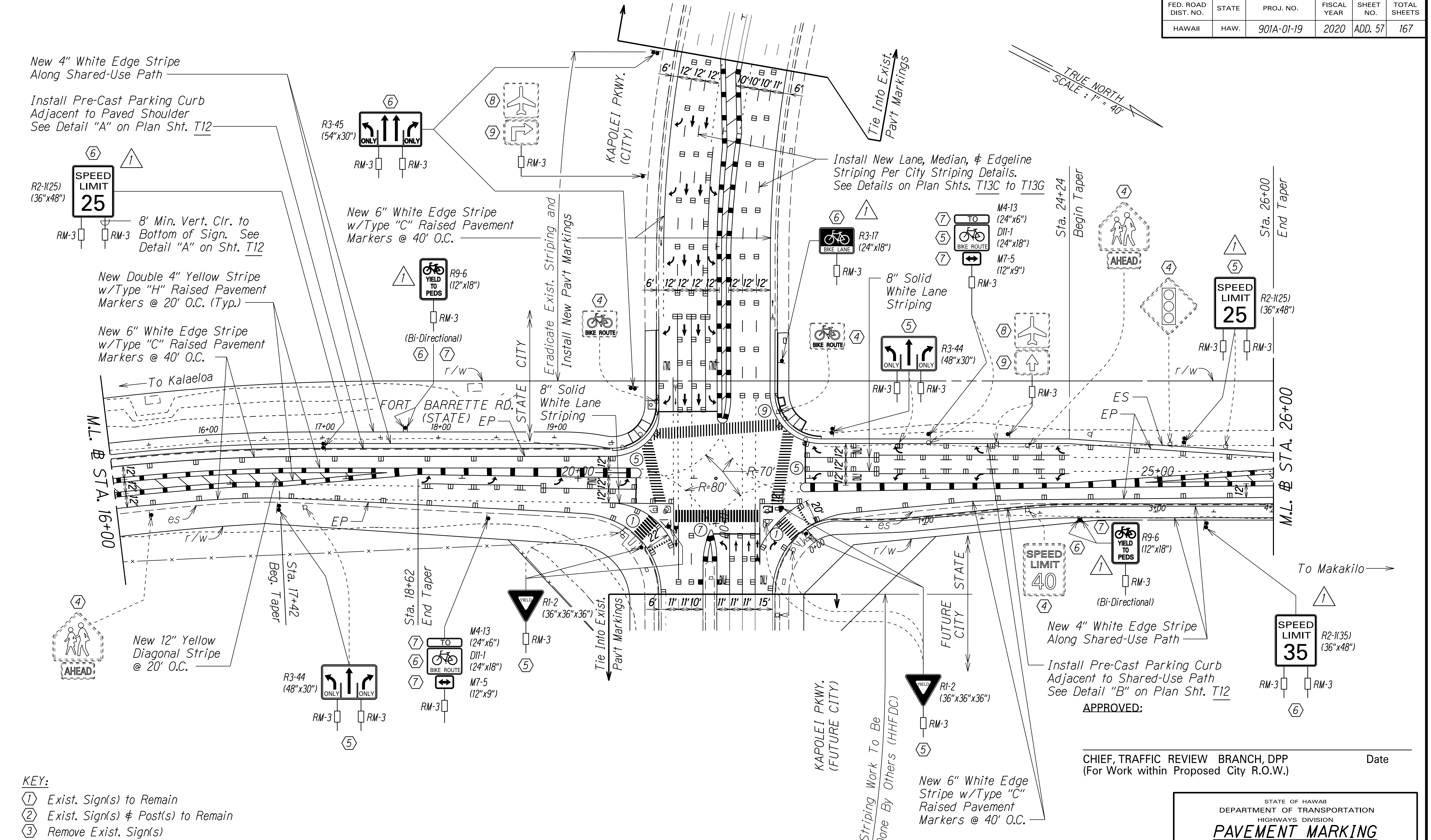
Scale: 1" = 40' Date: Feb., 2020

SHEET No. T5 OF 13 SHEETS

ADD. 56

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 57	167



APPROVED:

CHIEF, TRAFFIC REVIEW BRANCH, DPP (For Work within Proposed City R.O.W.) Date

KEY:

(1) Exist. Sign(s) to Remain
(2) Exist. Sign(s) & Post(s) to Remain
(3) Remove Exist. Sign(s)
(4) Remove Exist. Sign(s) w/ Post(s)
(5) Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
(6) Install New Sign(s) & Post(s)
(7) Install New Sign(s)
(8) Relocate Exist. Sign(s)
(9) Relocate Exist. Sign(s) on New Post(s)

* Fluorescent Yellow-Green Sign Sheeting

	DATE	REVISION
1	3/3/20	REVISED TITLE BLOCK, REVISED SIGN KEY AND SIGNS DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19
Scale: 1" = 40' Date: Feb., 2020
SHEET No. T6 OF 13 SHEETS

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

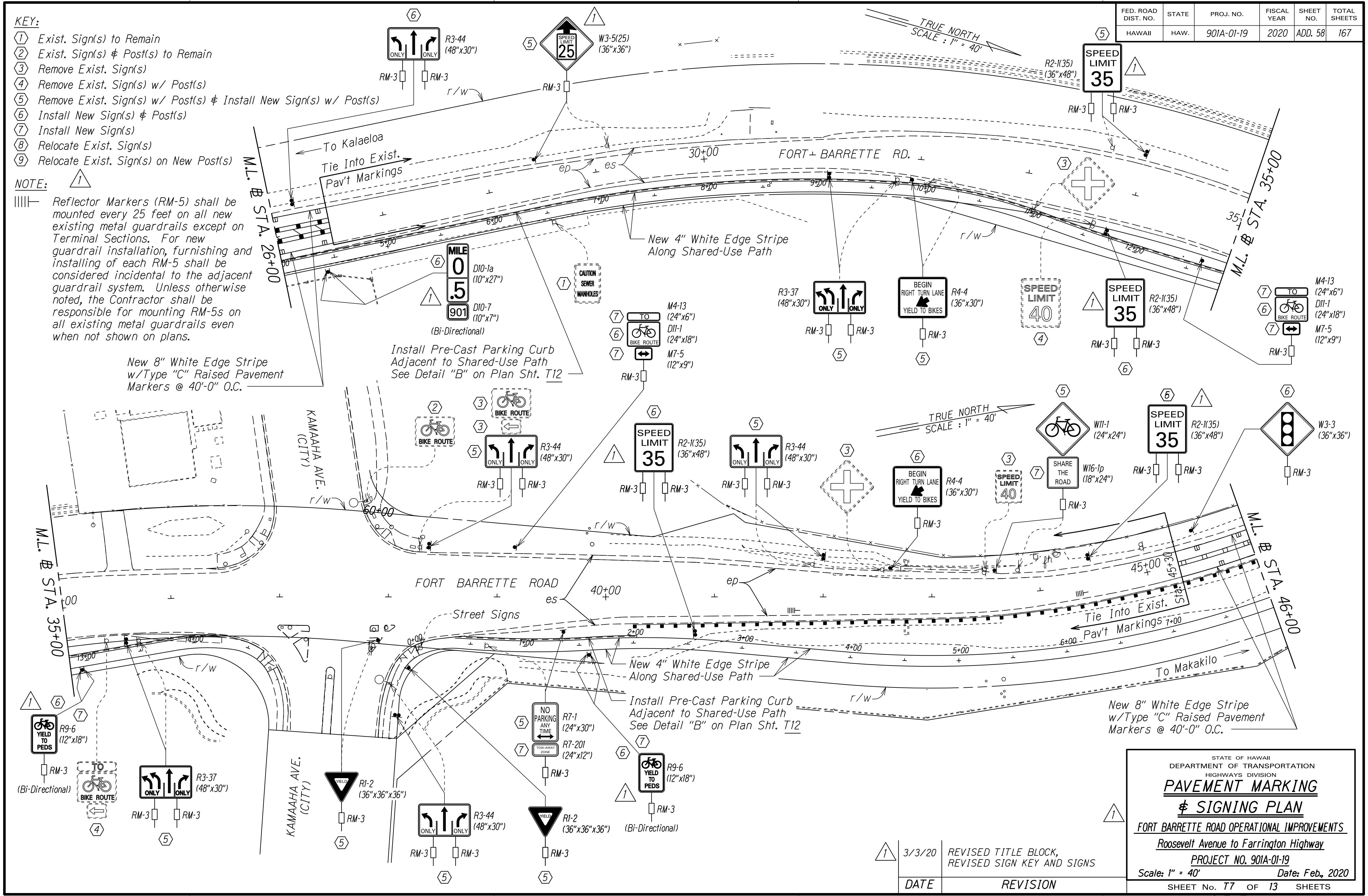
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 58	167

KEY:

1. Exist. Sign(s) to Remain
2. Exist. Sign(s) & Post(s) to Remain
3. Remove Exist. Sign(s)
4. Remove Exist. Sign(s) w/ Post(s)
5. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
6. Install New Sign(s) & Post(s)
7. Install New Sign(s)
8. Relocate Exist. Sign(s)
9. Relocate Exist. Sign(s) on New Post(s)

NOTE: △1

Reflector Markers (RM-5) shall be mounted every 25 feet on all new existing metal guardrails except on Terminal Sections. For new guardrail installation, furnishing and installing of each RM-5 shall be considered incidental to the adjacent guardrail system. Unless otherwise noted, the Contractor shall be responsible for mounting RM-5s on all existing metal guardrails even when not shown on plans.



△	DATE	REVISION
1	3/3/20	REVISED TITLE BLOCK, REVISED SIGN KEY AND SIGNS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS

Roosevelt Avenue to Farrington Highway

PROJECT NO. 901A-01-19

Scale: 1" = 40' Date: Feb., 2020

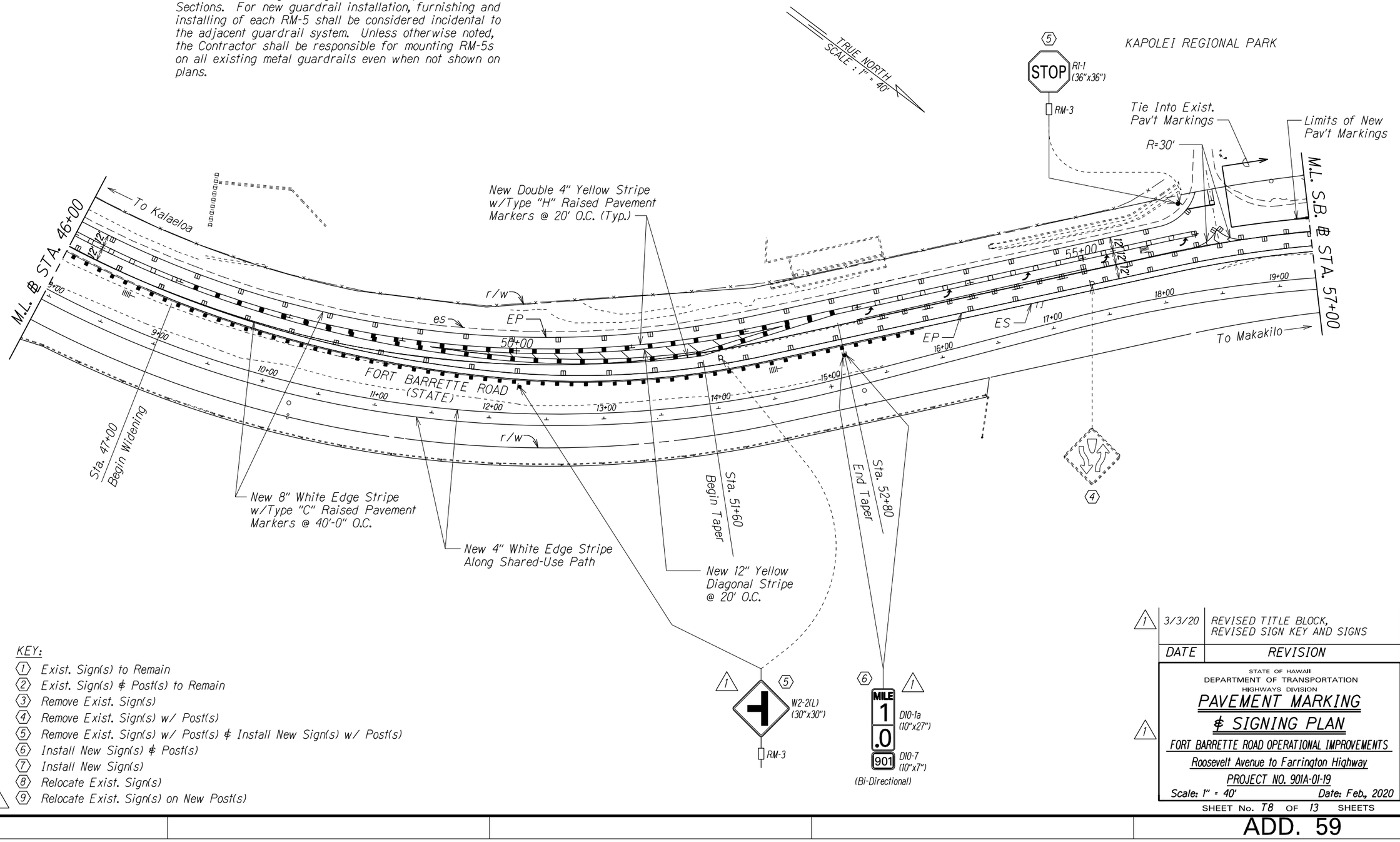
SHEET No. T7 OF 13 SHEETS

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 59	167

NOTE:

Reflector Markers (RM-5) shall be mounted every 25 feet on all new existing metal guardrails except on Terminal Sections. For new guardrail installation, furnishing and installing of each RM-5 shall be considered incidental to the adjacent guardrail system. Unless otherwise noted, the Contractor shall be responsible for mounting RM-5s on all existing metal guardrails even when not shown on plans.



KEY:

1. Exist. Sign(s) to Remain
2. Exist. Sign(s) & Post(s) to Remain
3. Remove Exist. Sign(s)
4. Remove Exist. Sign(s) w/ Post(s)
5. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
6. Install New Sign(s) & Post(s)
7. Install New Sign(s)
8. Relocate Exist. Sign(s)
9. Relocate Exist. Sign(s) on New Post(s)

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

DATE	REVISION
1 3/3/20	REVISED TITLE BLOCK, REVISED SIGN KEY AND SIGNS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

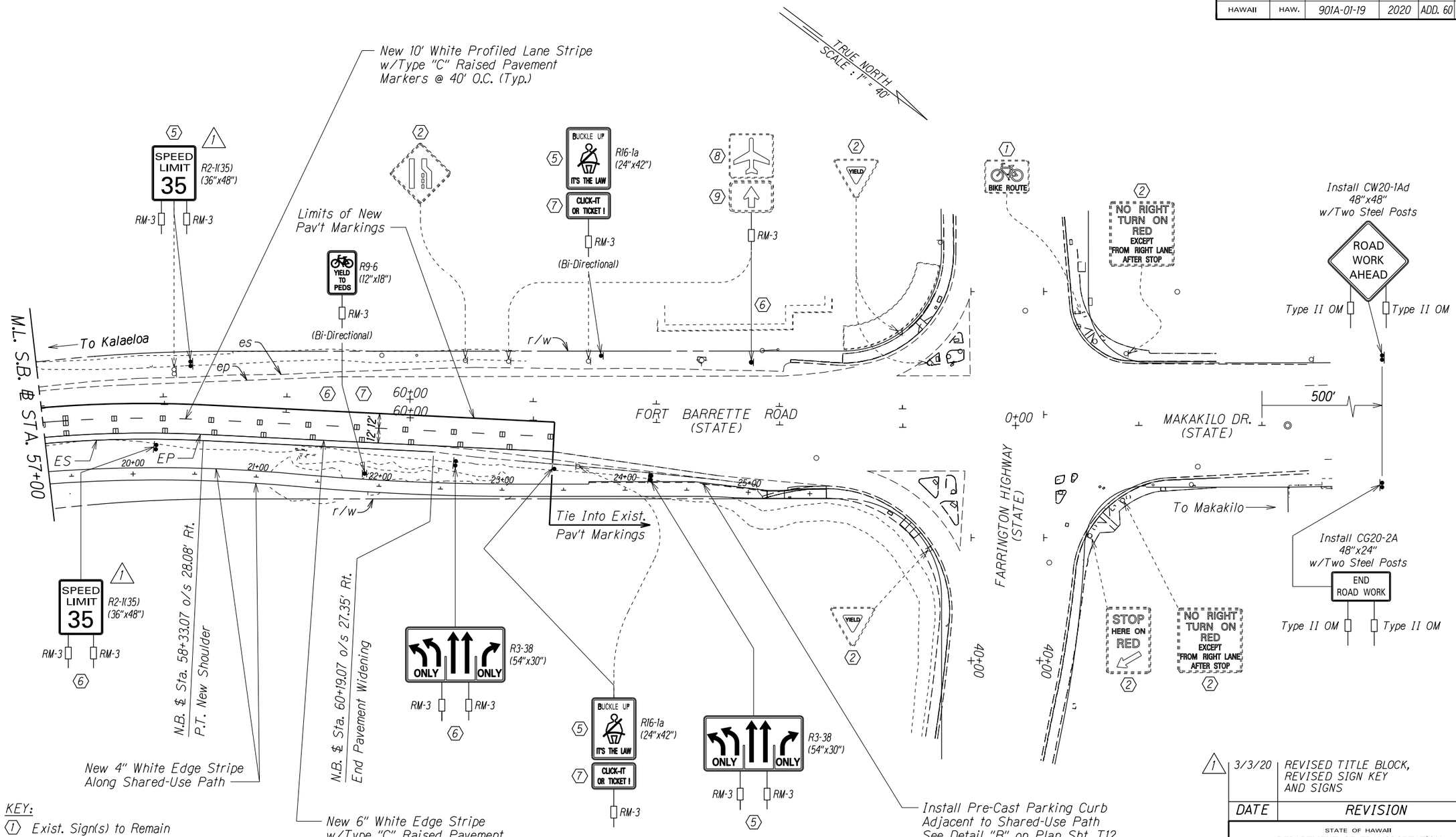
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19

Scale: 1" = 40' Date: Feb., 2020

SHEET No. T8 OF 13 SHEETS

ADD. 59

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 60	167



KEY:

1. Exist. Sign(s) to Remain
2. Exist. Sign(s) ℄ Post(s) to Remain
3. Remove Exist. Sign(s)
4. Remove Exist. Sign(s) w/ Post(s)
5. Remove Exist. Sign(s) w/ Post(s) ℄ Install New Sign(s) w/ Post(s)
6. Install New Sign(s) ℄ Post(s)
7. Install New Sign(s)
8. Relocate Exist. Sign(s)
9. Relocate Exist. Sign(s) on New Post(s)

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

DATE	REVISION
1 3/3/20	REVISED TITLE BLOCK, REVISED SIGN KEY AND SIGNS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING ℄ SIGNING PLAN

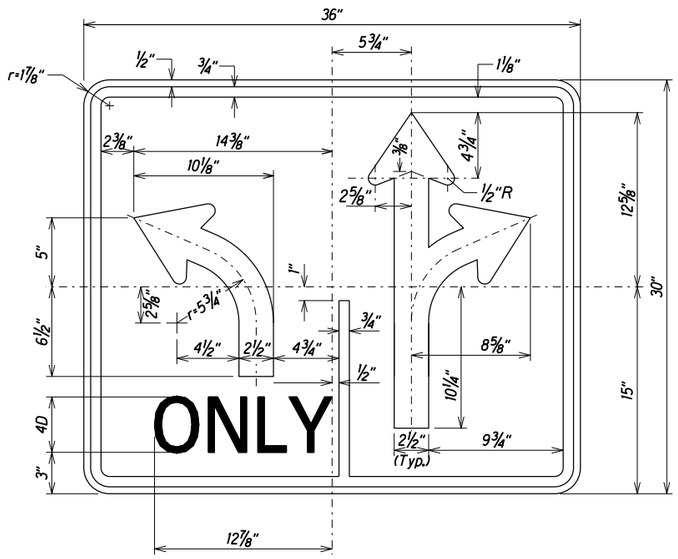
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19

Scale: 1" = 40' Date: Feb., 2020

SHEET No. T9 OF 13 SHEETS

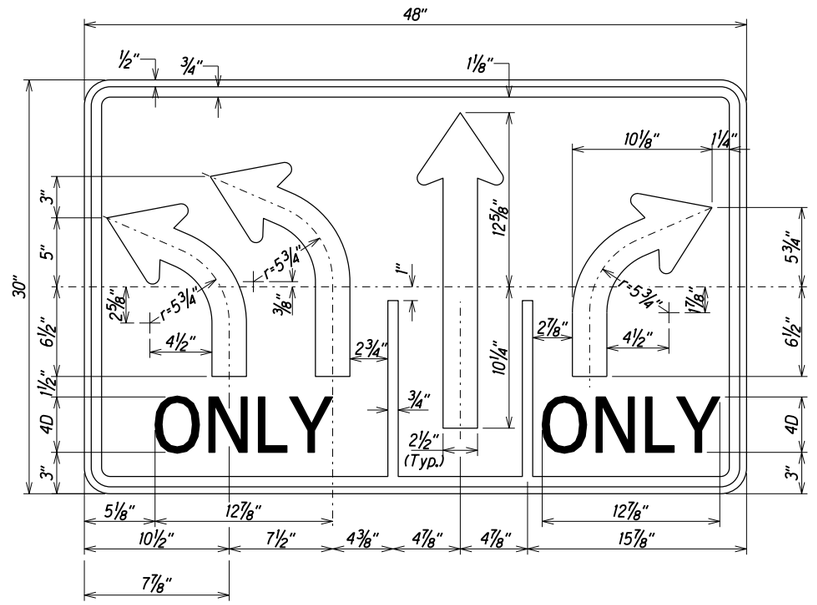
ADD. 60

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 61	167



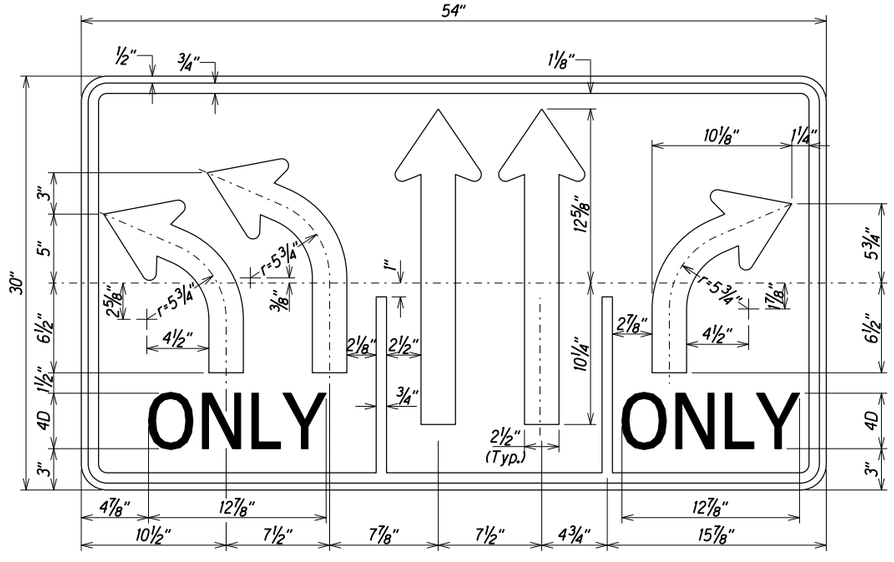
R3-24 ⚠1

Not to Scale



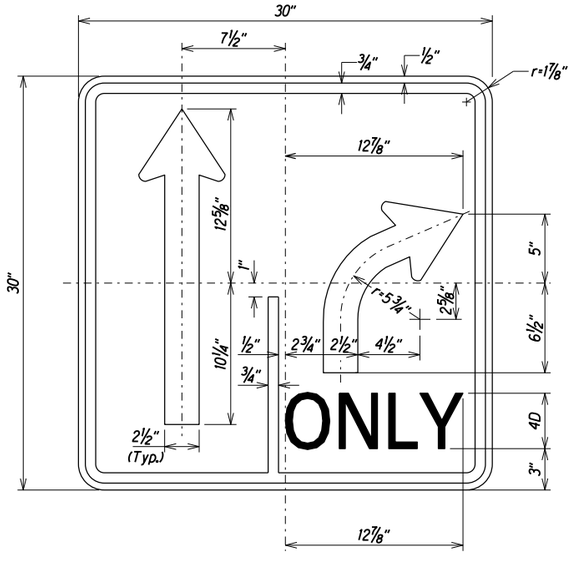
R3-37

Not to Scale



R3-38

Not to Scale



R3-40

Not to Scale

NOTE:

1. Sign R3-40L is a mirrored varaiation of sign R3-40. Plate and arrow details shall conform to sign R3-40.

⚠	DATE	REVISION
1	3/3/20	REVISED TITLE BLOCK AND ADDED SIGN DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS SIGN DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19

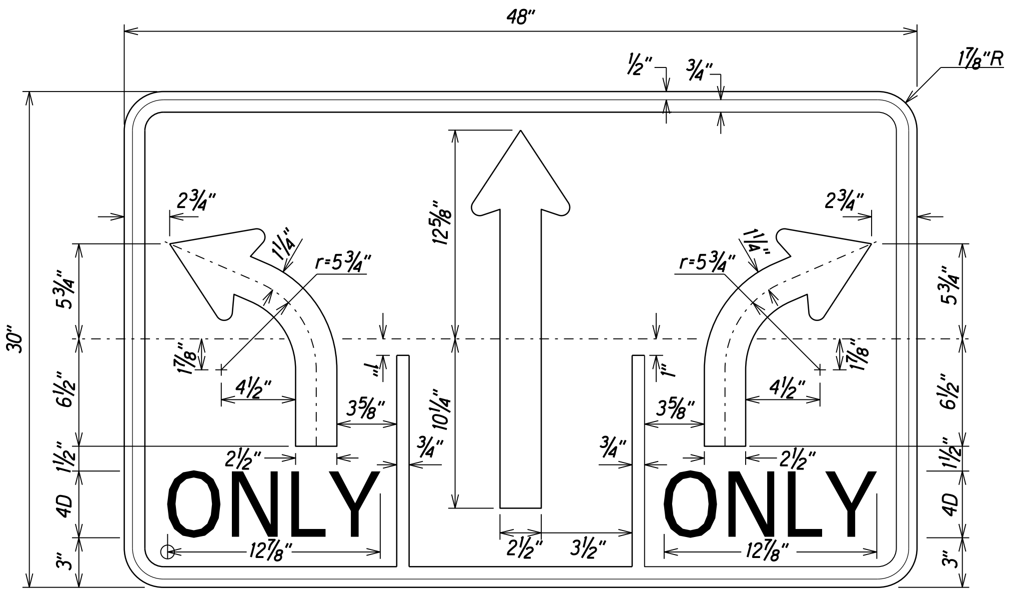
Scale: Not to Scale Date: Feb., 2020

SHEET No. T10 OF 13 SHEETS

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

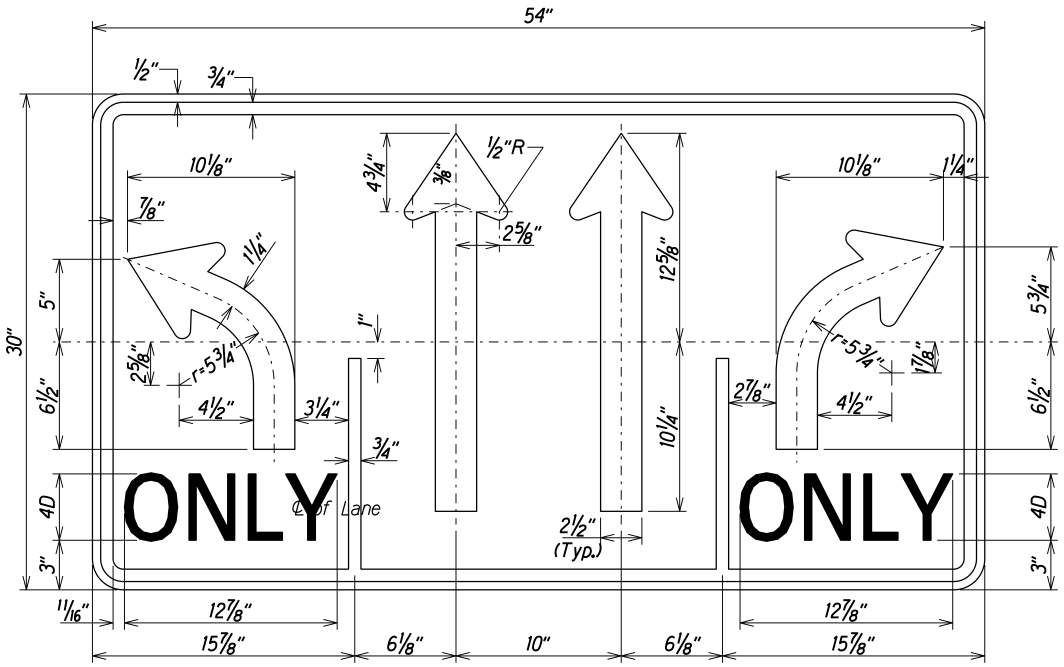
ADD. 61

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 62	167



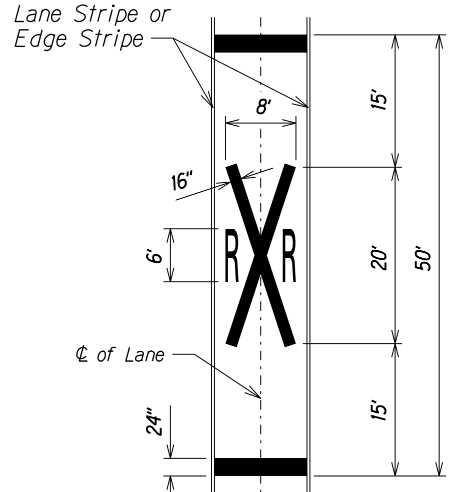
R3-44

Not to Scale



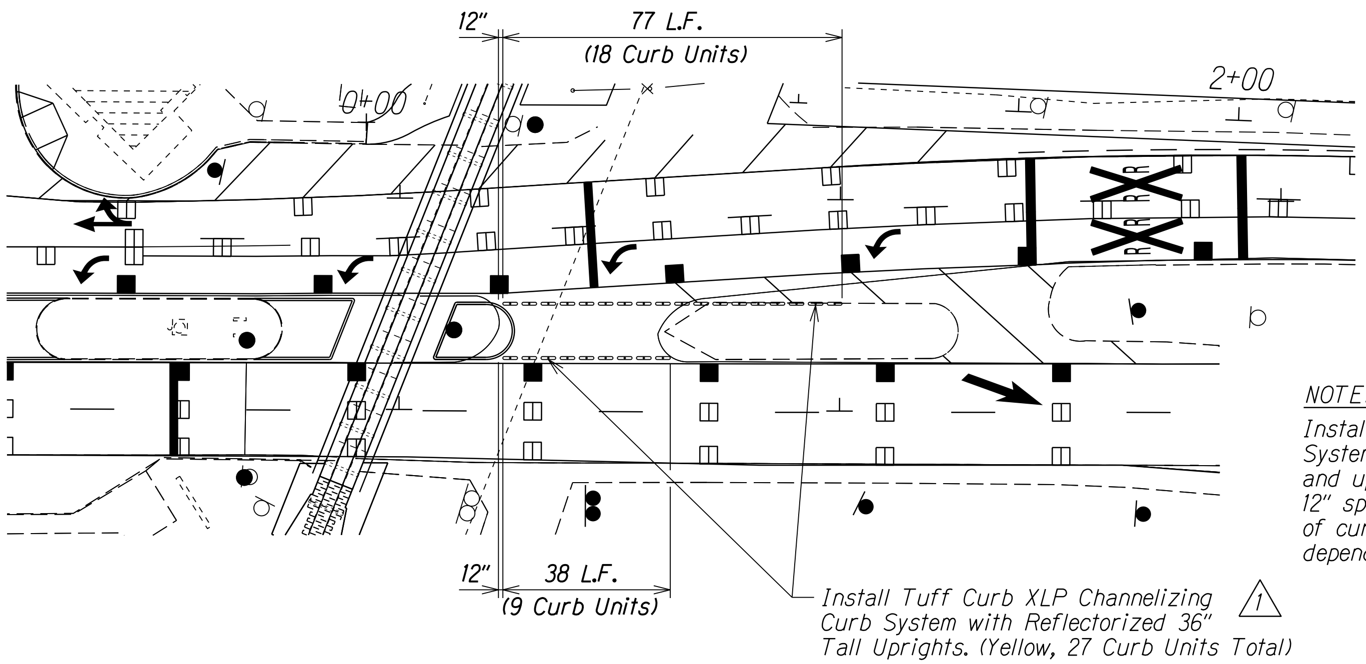
R3-45

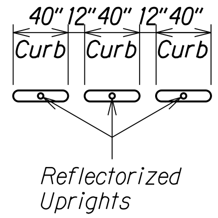
Not to Scale



RAIL X-ING PAVEMENT MARKING DETAILS

Not to Scale





NOTE:

Install new Longitudinal Channelizing Curb System with Reflectorize Uprights. Curbs and uprights shall be white. Provide a 12" space between each curb unit. Amount of curb units and uprights used is dependent on type of curb system installed.

LONGITUDINAL CHANNLELINZING CURB SYSTEM DETAIL

Not to Scale

	DATE	REVISION
1	3/3/20	REVISED TITLE BLOCK AND REVISED CALLOUT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS

Roosevelt Avenue to Farrington Highway

PROJECT NO. 901A-01-19

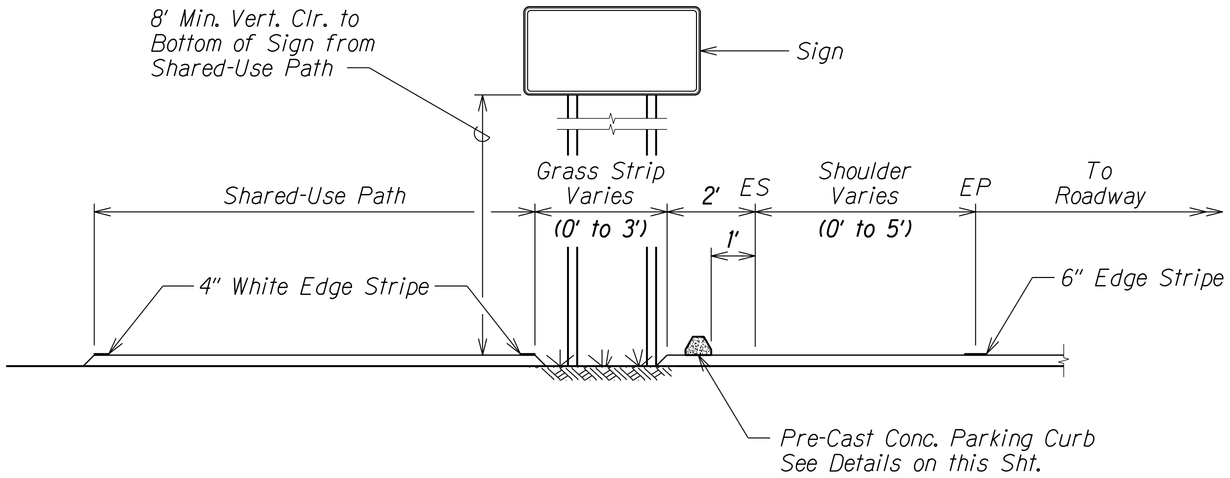
Scale: Not to Scale Date: Feb., 2020

SHEET No. T11 OF 13 SHEETS

ADD. 62

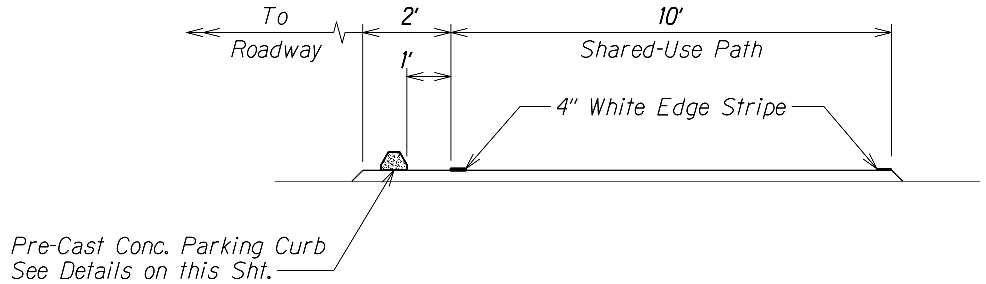
ORIGINAL PLAN | NOTE BOOK | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 63	167



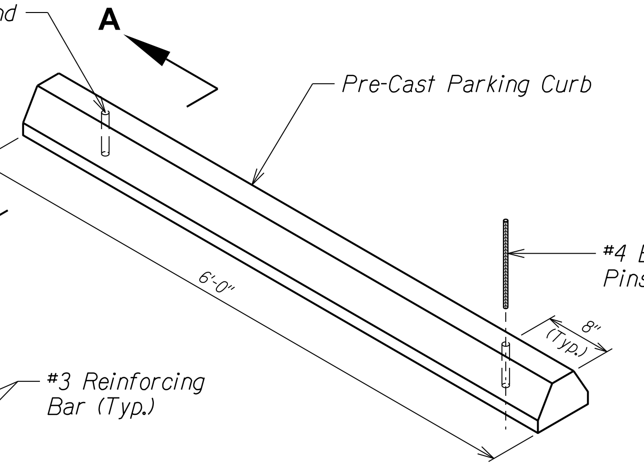
PARKING CURB ADJACENT TO PAVED SHOULDER (DETAIL "A")

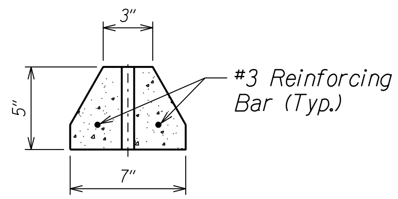
Not to Scale



PARKING CURB ALONG SHARED-USE PATH (DETAIL "B")

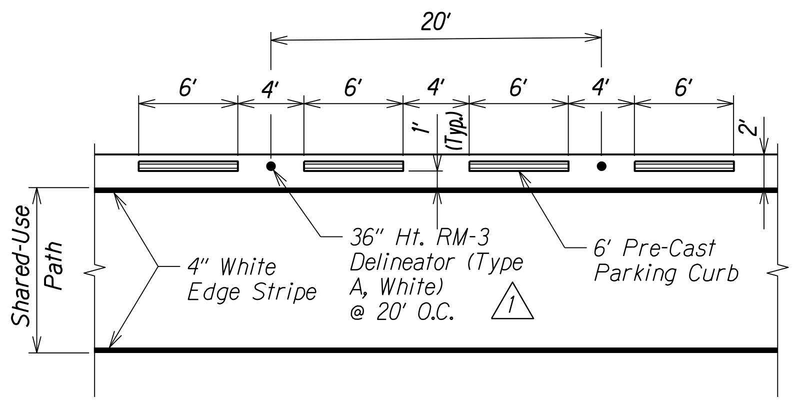
Not to Scale





Section A-A

(Typical)



Plan View

PRE-CAST CONCRETE PARKING CURB DETAIL

Not to Scale

DATE	REVISION
1 3/3/20	REVISED TITLE BLOCK AND REVISED CALLOUT

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS

Roosevelt Avenue to Farrington Highway

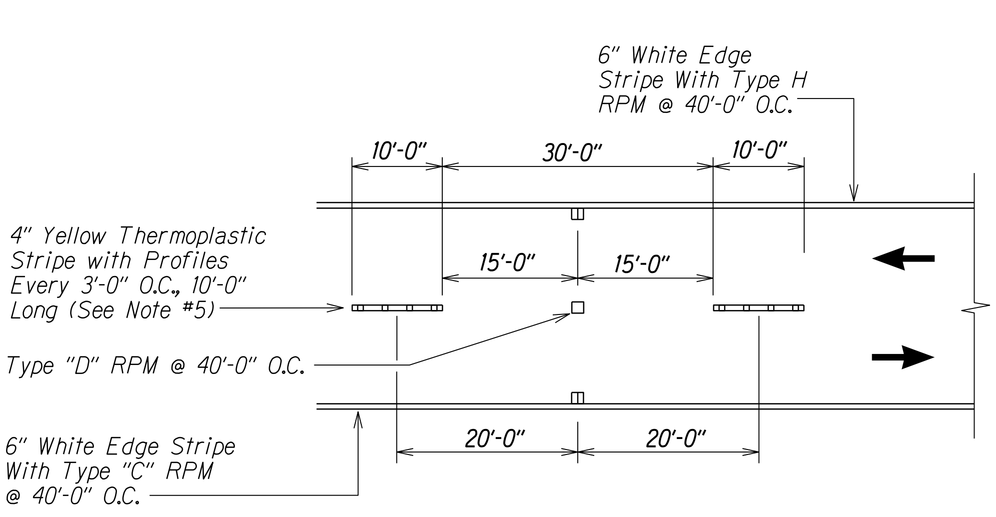
PROJECT NO. 901A-01-19

Scale: Not to Scale Date: Feb., 2020

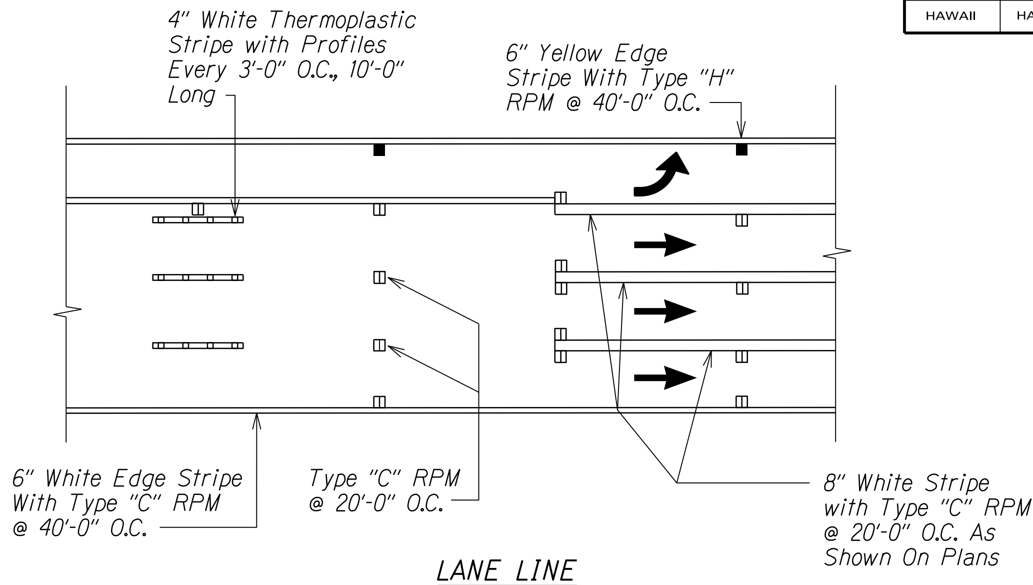
SHEET No. T12 OF 13 SHEETS

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 64	167

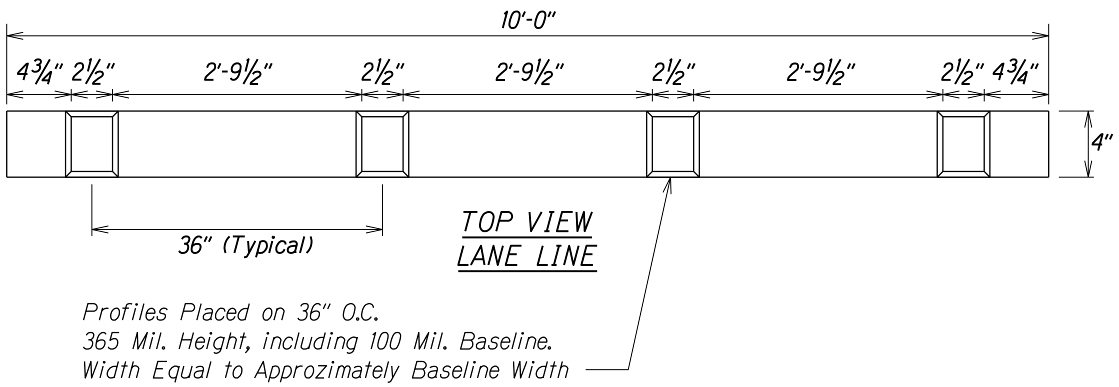


PASSING ZONE

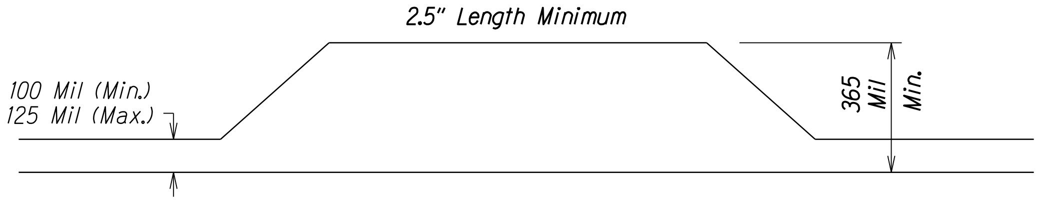


LANE LINE

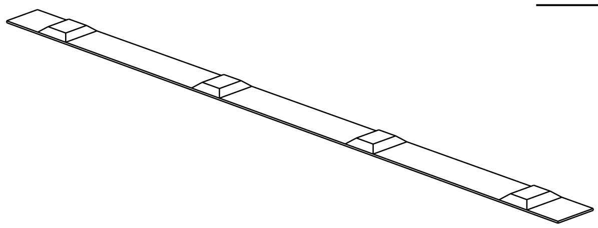
DETAIL
Not To Scale



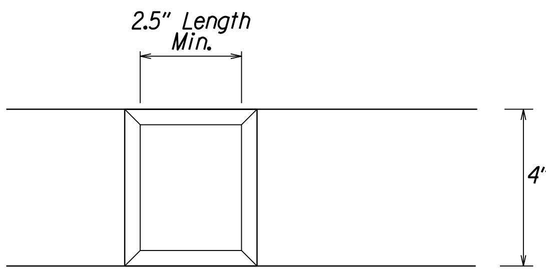
TOP VIEW
LANE LINE



SIDE VIEW



PERSPECTIVE VIEW



TOP VIEW

PROFILED THERMOPLASTIC STRIPING
Not to Scale

NOTES:

1. The thermoplastic material shall be a alkyd-based compund formulated for profiled pavement marking. See specs subsection 629.03 for additional requirements
2. The Engineer will include the longitundinal 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 centerlline passing zone.
5. In areas with centerline milled rumble strips, install standard yellow thermoplastic stripes without raised profiles

	DATE	REVISION
1	3/3/20	REVISED TITLE BLOCK

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PROFILED PAVEMENT MARKING DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19
Scale: Not to Scale Date: Feb., 2020
SHEET No. T13 OF 13 SHEETS

ADD. 64

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 64S-1	167

SIGNS AND MARKING NOTES:

1. All traffic sign and pavement marking installations shall be done in accordance with "Manual on Uniform Traffic Control Devices for Streets and Highways," 2009 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 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 crosswoalk with two inches (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 768-8084, three (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: 768-8084) for approval, a list of any signing and pavement marking material which he proposes to install. The list shall be complete 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
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 one (1) 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 a 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 work and symbol markings shall be in accordance with the Department of Planning and Permittng 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 lines, lane lines, arc lines, channelized traffic island and legends.

TRAFFIC NOTES FOR WORK ON CITY & 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 Control Devices for Street and Highway Construction and Maintenance Operations."
3. Work on an 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.

   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 privided. 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 fro 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 activites.
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 not #2.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE X
	DRAWN BY X	
	TRACED BY	
NOTE BOOK	DESIGNED BY X	
N/A	QUANTITIES BY	
N/A	CHECKED BY	

FOR USE WITHIN CITY R.O.W. ONLY

DATE	REVISION
1 3/24/20	ADDED NEW PLAN SHEET

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CITY AND COUNTY OF HONOLULU

GENERAL NOTES

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS

Roosevelt Avenue to Farrington Highway

PROJECT NO. 901A-01-19

Scale: Not to Scale Date: Feb., 2020

SHEET No. T13A OF 13 SHEETS

ADD. 64S-1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 64S-2	167

GENERAL NOTES FOR TRAFFIC CONTROL PLAN:

1. The Permittee shall make minor adjustments at intersections, driveways, bridges, structures, etc., to fit field condtions.
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 remvoed or covered.
5. flaggers and/or police officers shall be in sight of each other or in direct communication at all times.
6. When requried 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 message 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 markngs 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 shal be kept open unless the owners of the property using the driveway are otherwise prvided for satisfactorily. Further, the permittee shall control traffic going into and out of diveways.
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 Parkng" signs shall beposted within any work area and for the buffer and tape areas approaching the work area.
17. Traffic Control Plans are approved for work on any city street area only between the hours of 08:30 A.M. and 03:30 P.M. (Monday - Friday).

MECHANICAL/ELECTRICAL DIVISION NOTES:

1. The Contractor shall notify the join pole committee two (2) weeks in advance of any relocation of utility pole(s) that may be necessary.
2. The Contractor shall notify the Mechanical/Electrical Division Department of Design and Construction, three (3) working days prior to commencing work on the street lighting system. (Phone: 768-8431)
3. The street lighting system shall be kept operational during construction. Any relocation required shall be approved by the Mechanical/Electrical Division, Department of Design and Construction, and paid for by the Contractor.
4. The locations of the existing underground street light facilities shown on the plans are from existing plans and are approximate only. The Contractor shall exercise caution when construction crosses or is in close proximity to the existing street light facilities. The Contractor shall be responsible for any damages to the existing street lighting facilities. Any and all damages to these facilities shall be repaired by the Contractor at his cost in accordance with the requirements of the City and County of Honolulu.
5. The Contractor shall be responsible for any damages to the city's existing communications fiber optic cable system. any and all damages to these facilities shall be repaired by the Contractor at his cost in accordance with the requirements of the City and County of Honolulu.

ORIGINAL PLAN
SURVEY PLOTTED BY ____ DATE X
DRAWN BY X
TRACED BY
DESIGNED BY X
QUANTITIES BY
CHECKED BY
NOTE BOOK
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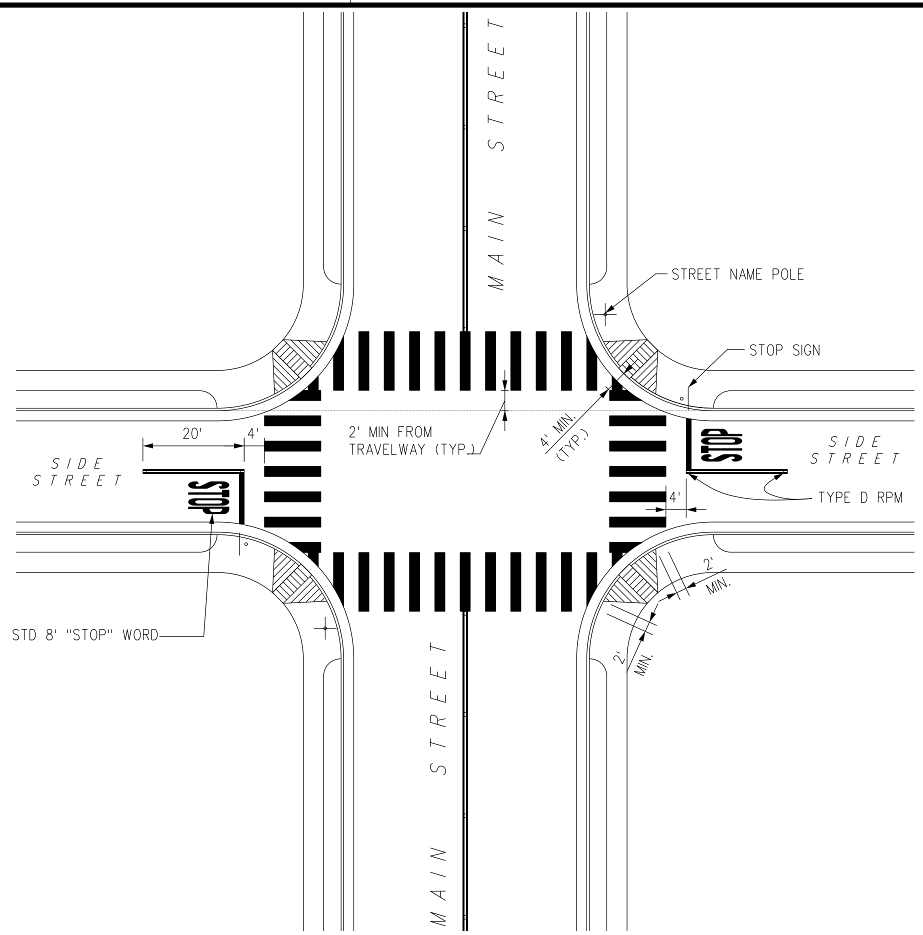
DATE	REVISION
1 3/24/20	ADDED NEW PLAN SHEET

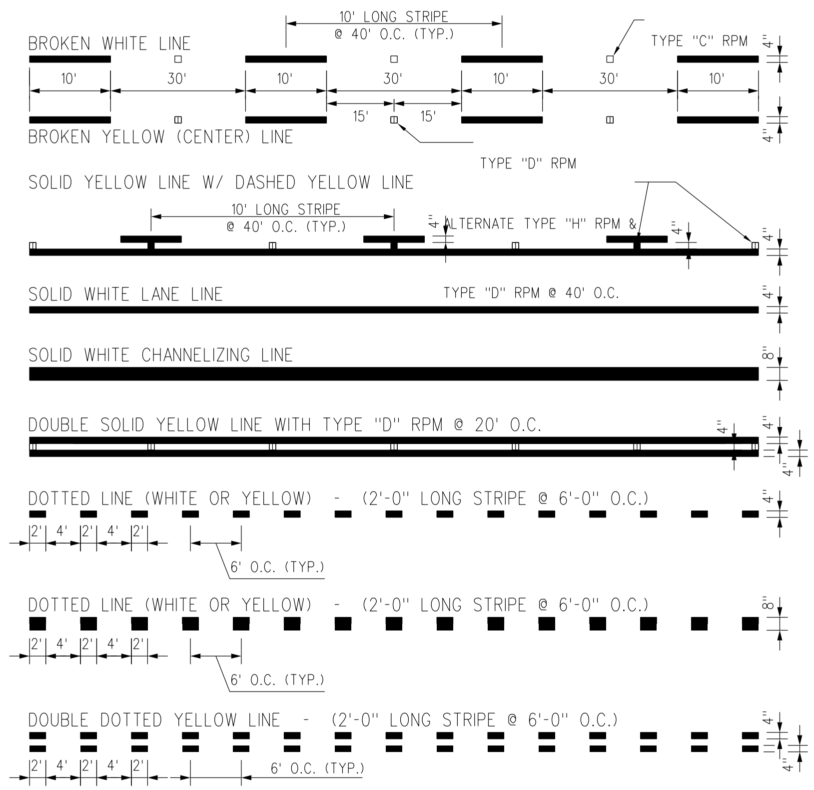
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
CITY AND COUNTY OF HONOLULU
GENERAL NOTES
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19
Scale: Not to Scale Date: Feb., 2020
SHEET No. T13B OF 13 SHEETS

ADD. 64S-2

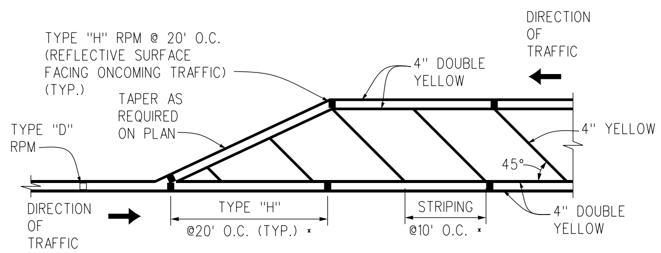
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 64S-3	167



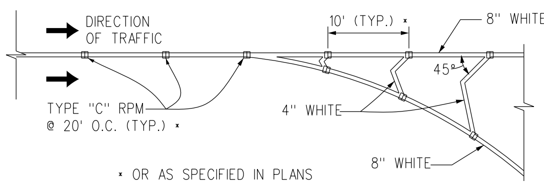
TYPICAL INTERSECTION SIGNING AND PAVEMENT MARKINGS WITH CROSSWALKS
NOT TO SCALE



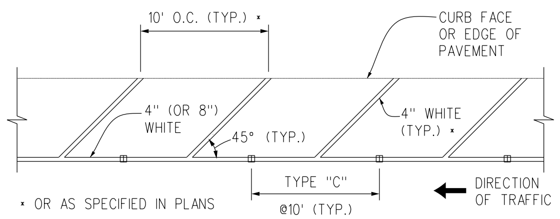
TYPICAL PAVEMENT MARKINGS - TYPES OF LONGITUDINAL LINES
NOT TO SCALE



TRANSVERSE MEDIAN STRIPING DETAIL
NOT TO SCALE



CHANNELIZING ISLAND STRIPING DETAIL
NOT TO SCALE



TRANSVERSE SHOULDER STRIPING DETAIL
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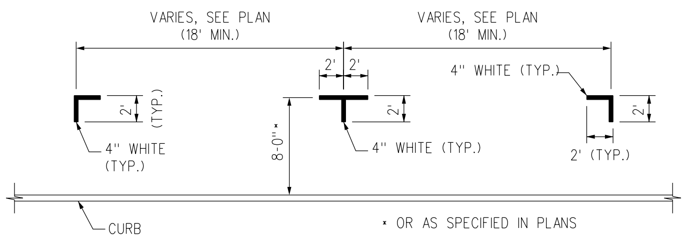
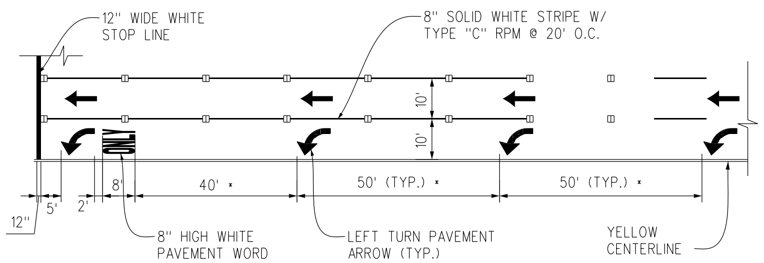
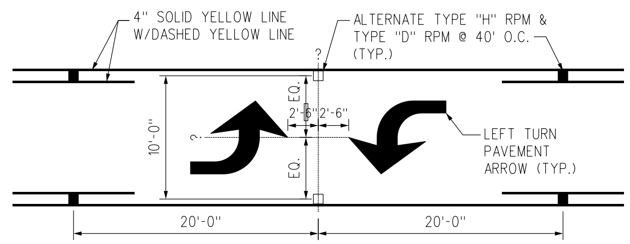


PARKING STALL PAVEMENT MARKINGS
NOT TO SCALE



• ALL DIMENSIONS SHALL BE TYPICAL UNLESS OTHERWISE SPECIFIED ON PLAN.

TYPICAL TURN LANE STRIPING
NOT TO SCALE



TWO-WAY LEFT TURN PAVEMENT ARROWS
NOT TO SCALE

FOR USE WITHIN CITY R.O.W. ONLY

	DATE	REVISION
1	3/24/20	ADDED NEW PLAN SHEET

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CITY AND COUNTY OF HONOLULU

PAVEMENT MARKING NOTES AND DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS

Roosevelt Avenue to Farrington Highway

PROJECT NO. 901A-01-19

Scale: Not to Scale Date: Feb., 2020

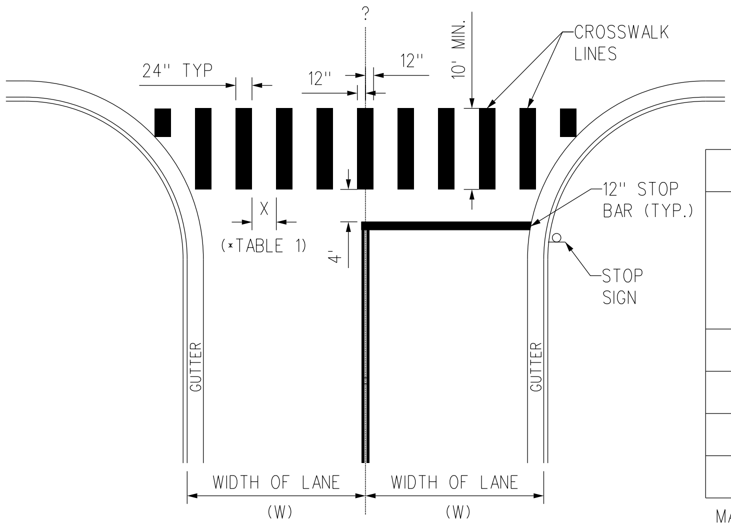
SHEET No. T13C OF 13 SHEETS

ADD. 64S–3

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 64S-4	167

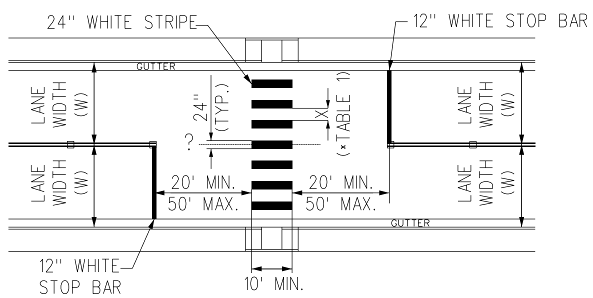
CROSSWALK STRIPING DETAILS
NOT TO SCALE



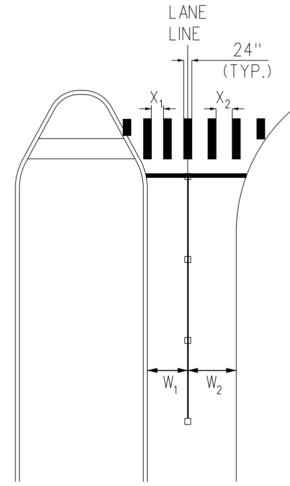
CONTROLLED INTERSECTION CROSSWALK DETAIL

*TABLE 1	
LANE WIDTH (W)	X (DISTANCE BETWEEN CROSSWALK BARS)
<12'	3'
12'-14'	4'
15'-17'	5'
>17'	3'

MAX X = 5'



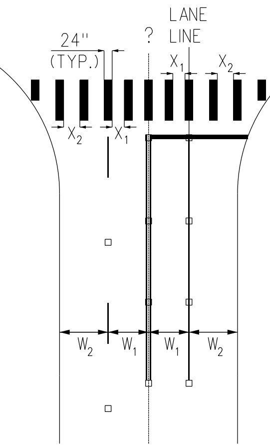
MID-BLOCK CROSSWALK DETAIL



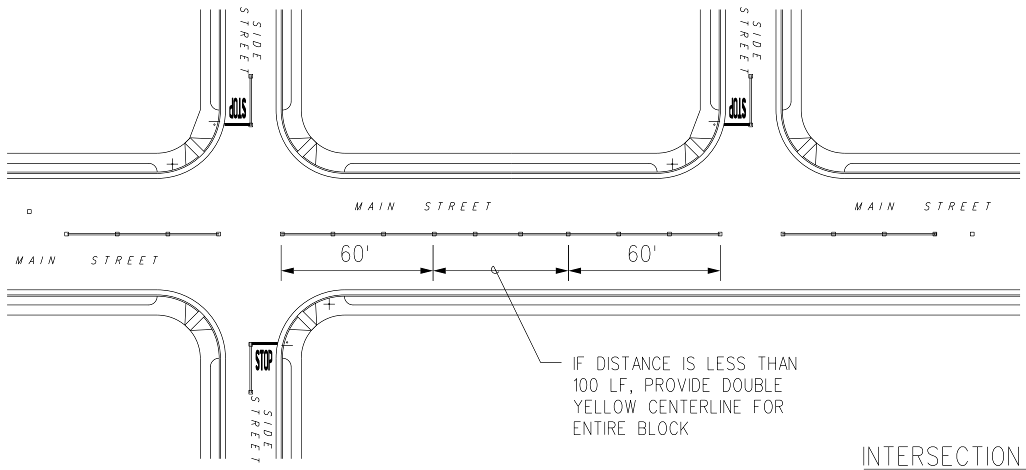
TYPICAL MEDIAN MULTILANE

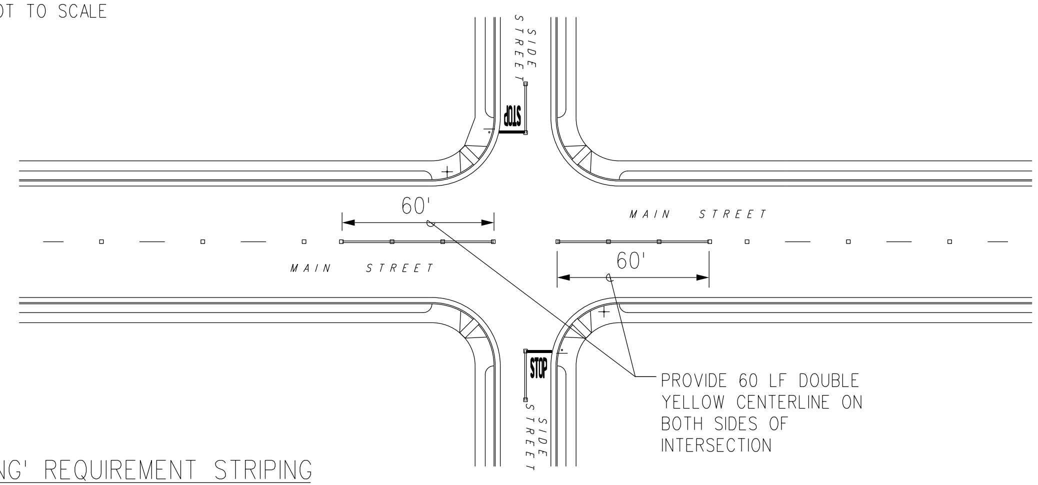
*TABLE 2
W_1
W_2
X_1 = WIDTH OF LANE 1 = CORRESPONDING DISTANCE
X_2 = CORRESPONDING DISTANCE BETWEEN CROSSWALK BARS

BETWEEN CROSSWALK BARS

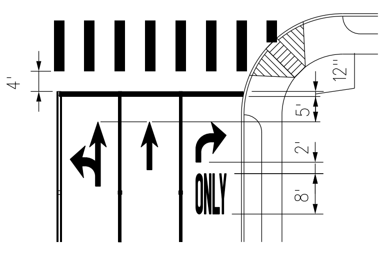


NON-MEDIAN ? MULTILANE

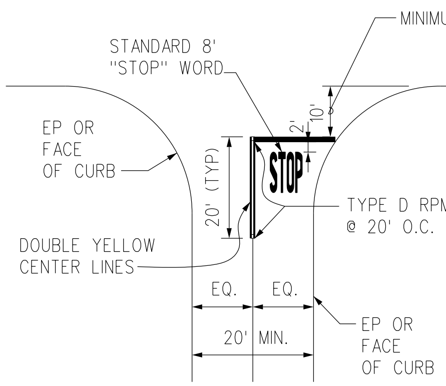




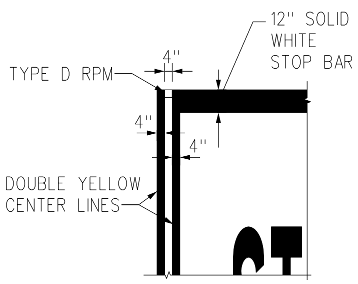
INTERSECTION 'NO PASSING' REQUIREMENT STRIPING
NOT TO SCALE



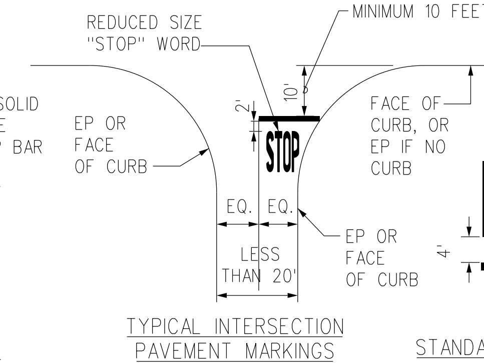
TYPICAL LANE ARROW MARKINGS



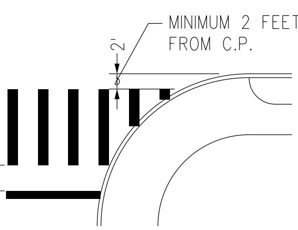
TYPICAL INTERSECTION PAVEMENT MARKINGS (MIN 20' WIDTH)



CENTERLINE & STOP BAR



TYPICAL INTERSECTION PAVEMENT MARKINGS (LESS THAN 20' WIDTH)



STANDARD CROSSWALK WITH STOP BAR AT LOCATION WITH NO CURB RAMP

TYPICAL STOP BAR DETAILS
NOT TO SCALE

FOR USE WITHIN CITY R.O.W. ONLY

	DATE	REVISION
1	3/24/20	ADDED NEW PLAN SHEET

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CITY AND COUNTY OF HONOLULU

PAVEMENT MARKING DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS

Roosevelt Avenue to Farrington Highway

PROJECT NO. 901A-01-19

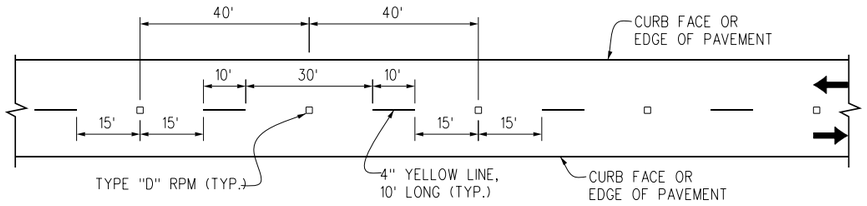
Scale: Not to Scale Date: Feb., 2020

SHEET No. T13D OF 13 SHEETS

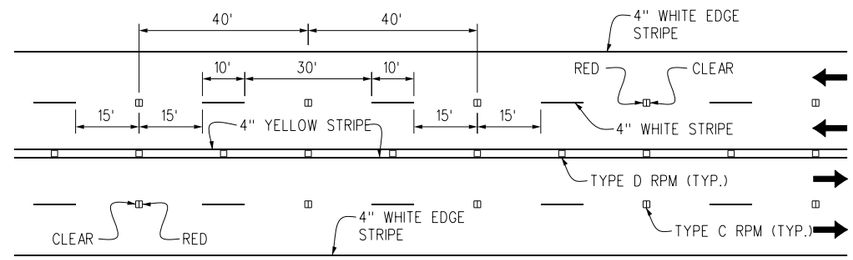
ORIGINAL PLAN / NOTE BOOK / SURVEY PLOTTED BY / DRAWN BY / TRACED BY / DESIGNED BY / QUANTITIES BY / CHECKED BY / DATE

ADD. 64S-4

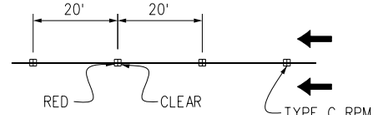
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 64S-5	167



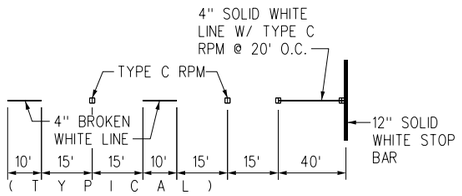
TWO LANE STREET



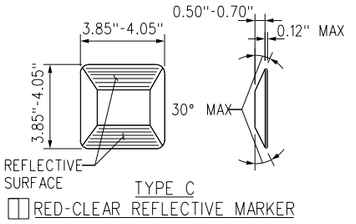
MULTI-LANE LANE LINES AND CENTER LINE

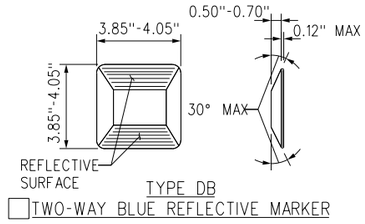


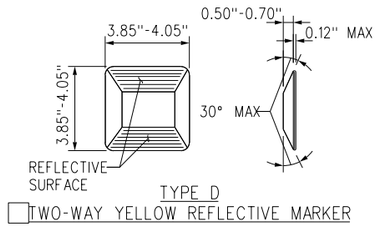
CHANNELIZING LINES OR SOLID LANE LINES

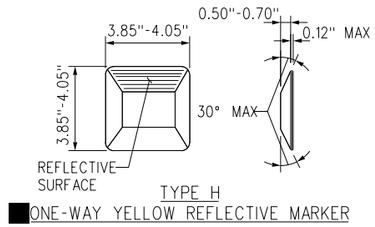


TYPICAL INTERSECTION PAVEMENT MARKING DETAIL AT STOPBAR









TYPICAL INSTALLATION DETAILS OF RAISED PAVEMENT MARKERS

NOT TO SCALE

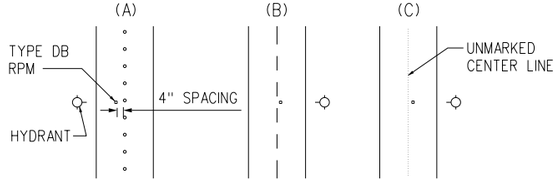


FIGURE 1
TWO LANE STREET

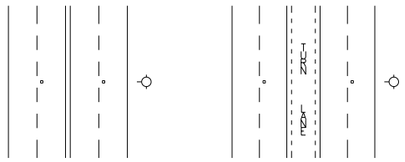


FIGURE 2
DIVIDED STREET

FIGURE 3
MULTI-LANE STREET W/ TURN LANE

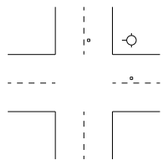


FIGURE 4
TWO LANE STREET AT INTERSECTION

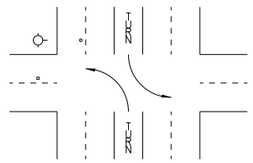


FIGURE 5
FOUR LANE STREET W/ TURN LANE AT INTERSECTION

HYDRANT MARKER LOCATION FOR STREETS

NOT TO SCALE

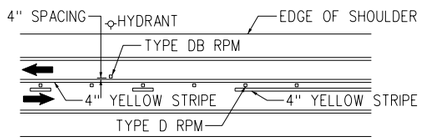


DIAGRAM A: TWO LANE HIGHWAY

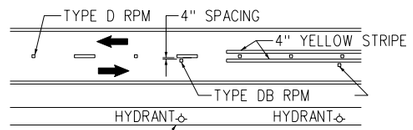


DIAGRAM B: TWO LANE HIGHWAY

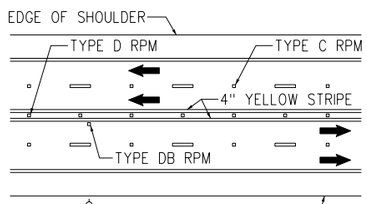


DIAGRAM C: MULTI-LANE HIGHWAY

HYDRANT MARKER LOCATION FOR HIGHWAYS

NOT TO SCALE

FOR USE WITHIN CITY R.O.W. ONLY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CITY AND COUNTY OF HONOLULU

PAVEMENT MARKING DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS

Roosevelt Avenue to Farrington Highway

PROJECT NO. 901A-01-19

Scale: Not to Scale Date: Feb., 2020

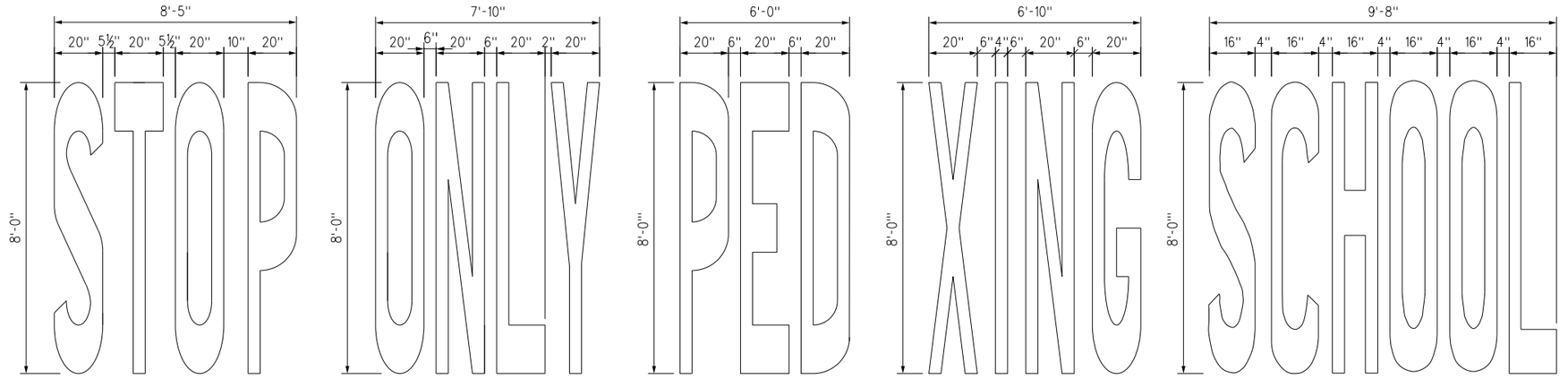
SHEET No. T13E OF 13 SHEETS

DATE	REVISION
1 3/24/20	ADDED NEW PLAN SHEET

ADD. 64S-5

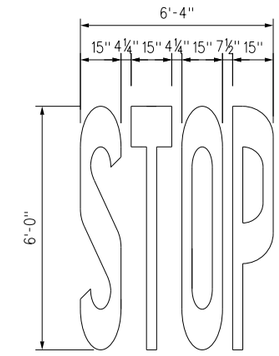
ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY X
TRACED BY
DESIGNED BY X
NOTE BOOK
QUANTITIES BY
CHECKED BY
DATE X

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 64S-6	167



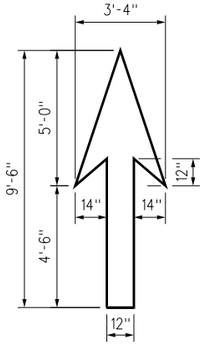
NOTE: PAVEMENT ALPHABETS SHALL COMFORM TO THE LATEST EDITION OF THE FEDERAL HIGHWAY ADMINISTRATION PUBLICATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE CITY & COUNTY OF HONOLULU PUBLICATION, "TRAFFIC STANDARDS MANUAL, DEPARTMENT OF TRANSPORTATION SERVICES" AND ITS AMENDMENTS.

STANDARD 8'-0" PAVEMENT WORDS
NOT TO SCALE

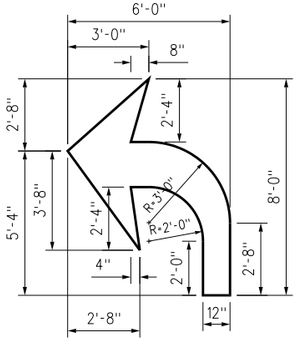


NOTE: REDUCED SIZE "STOP" WORD SHALL BE USED FOR ROADWAYS LESS THAN 20FT WIDE AND GREATER THAN 13FT WIDE.

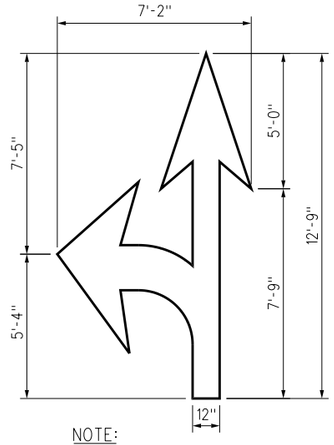
REDUCED SIZE "STOP" WORD
NOT TO SCALE



STRAIGHT ARROW



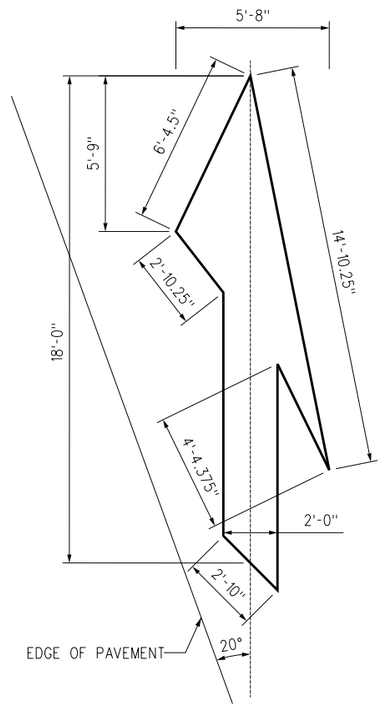
TURN ARROW



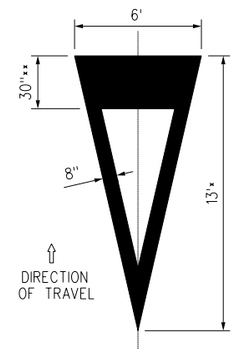
NOTE:
SEE STRAIGHT AND TURN ARROWS FOR DETAILED DIMENSIONS.

COMBINED ARROWS

TYPICAL PAVEMENT ARROWS
NOT TO SCALE

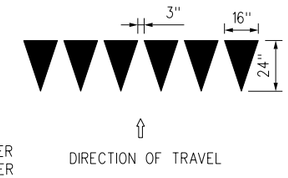


LANE REDUCTION ARROW



* 20' FOR SPEED LIMIT 45 MPH OR GREATER
** 36" FOR SPEED LIMIT 45 MPH OR GREATER

YIELD AHEAD TRIANGLE SYMBOL



YIELD LINE LAYOUT

TYPICAL YIELD LINE/ARROW DETAILS
NOT TO SCALE

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

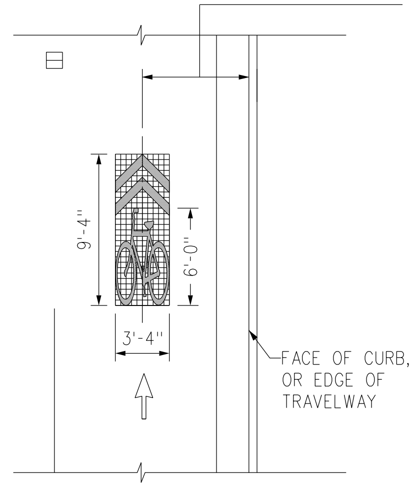
FOR USE WITHIN CITY R.O.W. ONLY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
CITY AND COUNTY OF HONOLULU
PAVEMENT MARKING DETAILS
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19
Scale: Not to Scale Date: Feb., 2020
SHEET No. T13F OF 13 SHEETS

DATE	REVISION
1 3/24/20	ADDED NEW PLAN SHEET

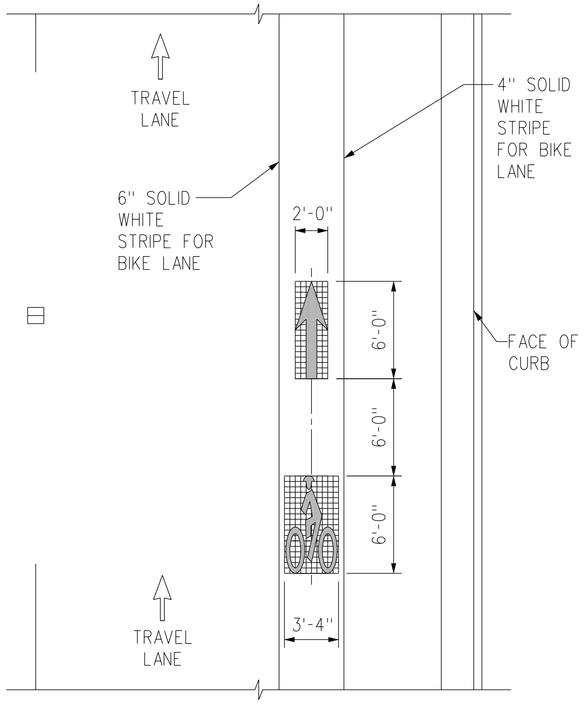
ADD. 64S-6

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 64S-7	167

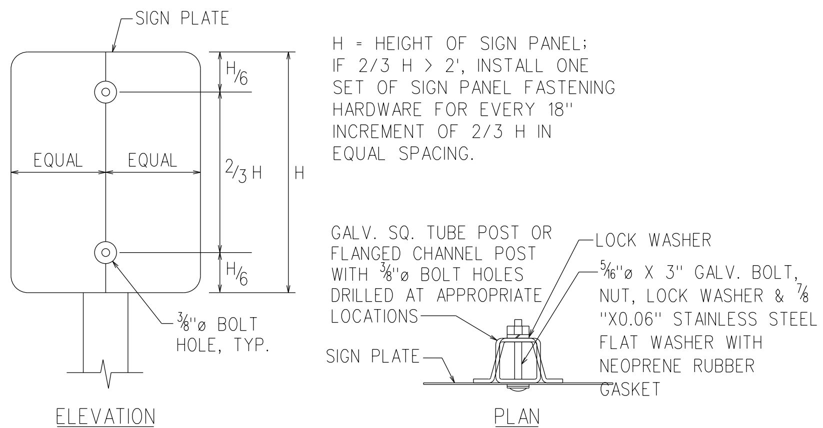


NOTE:
THE SHARED LANE MARKING SHALL BE PLACED IMMEDIATELY AFTER AN INTERSECTION AND SPACED AT INTERVALS NOT GREATER THAN 250 FEET THEREAFTER.

SHARED LANE MARKING
NOT TO SCALE

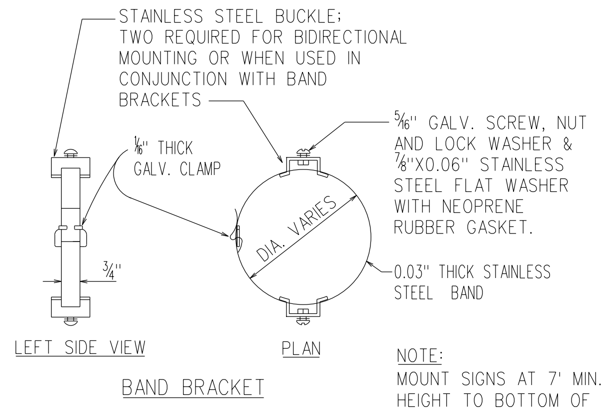


HELMETED BICYCLIST SYMBOL & ARROW
NOT TO SCALE



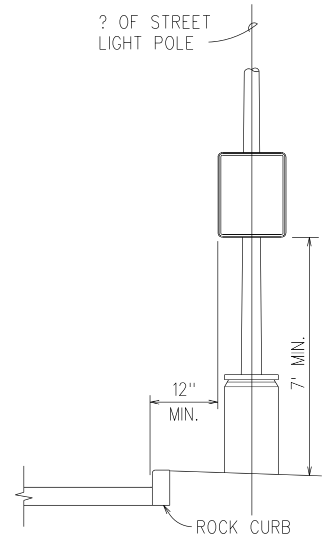
H = HEIGHT OF SIGN PANEL; IF 2/3 H > 2', INSTALL ONE SET OF SIGN PANEL FASTENING HARDWARE FOR EVERY 18" INCREMENT OF 2/3 H IN EQUAL SPACING.

POST MOUNTING INSTALLATION
NOT TO SCALE

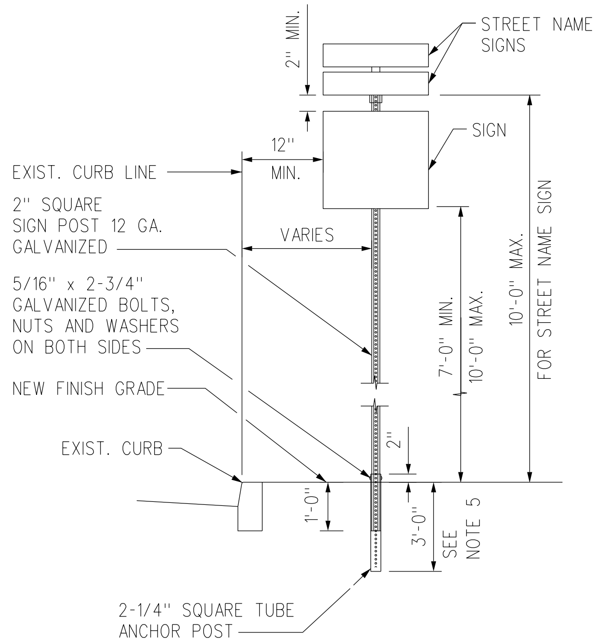


NOTE:
MOUNT SIGNS AT 7' MIN. HEIGHT TO BOTTOM OF SIGN.

NEW SIGN ON EXISTING STREET LIGHT POLE MOUNTING DETAIL
NOT TO SCALE



HEIGHT AND LATERAL LOCATION OF SIGN
NOT TO SCALE



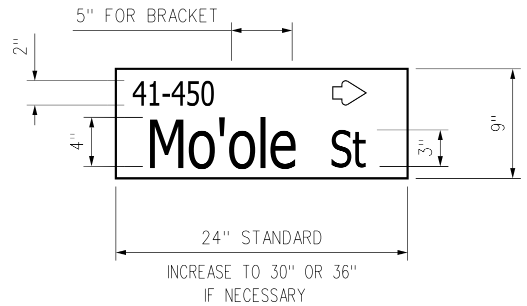
ANCHOR POST NOTES:

1. KEEP INSIDE OF 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 SQUARE TUBING POST ONTO THE 2-1/4" SQUARE TUBE ANCHOR POST.
4. VERIFY EXISTENCE AND LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO INSTALLATION.
5. MINIMUM BURY DEPTH FOR THE 2-1/4" ANCHOR POST (WITHOUT CONCRETE FOOTING) SHALL BE AS FOLLOWS:
   4'-0" MIN. AT POOR SOIL CONDITIONS
   2'-6" MIN. AT ROCKY CONDITIONS

STREET NAME SIGN NOTES:

1. REFERENCE STANDARD DETAILS T-1 AND T-14 FOR STREET NAME SIGN INSTALLATION. SEE STREET NAME SIGN DETAIL THIS SHEET.
2. SUBMIT SHOP DRAWINGS OF STREET NAME SIGNS AND CONNECTION DETAILS PRIOR TO FABRICATION OF SIGNS.

INSTALLATION OF NEW SIGN POST WITH ANCHOR POST
NOT TO SCALE



STREET NAME SIGN DETAIL
NOT TO SCALE

FOR USE WITHIN CITY R.O.W. ONLY

	DATE	REVISION
1	3/24/20	ADDED NEW PLAN SHEET

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

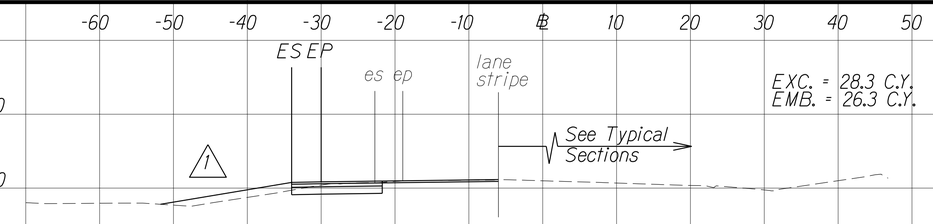
CITY AND COUNTY OF HONOLULU
PAVEMENT MARKING DETAILS
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
PROJECT NO. 901A-01-19

Scale: Not to Scale   Date: Feb., 2020
SHEET No. T13G OF 13 SHEETS

ADD. 64S-7

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

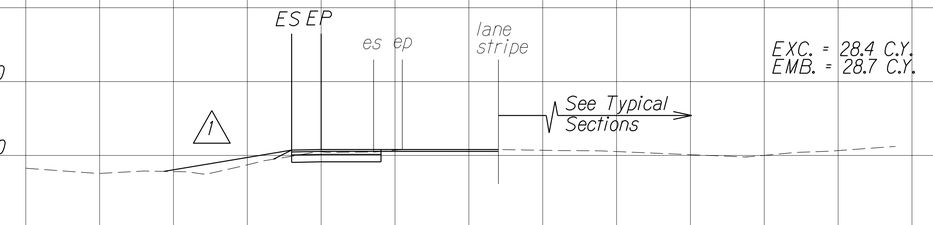
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD.65	167



EXC. = 28.3 C.Y.
EMB. = 26.3 C.Y.

CUT = 15.5 S.F.
FILL = 15.9 S.F.

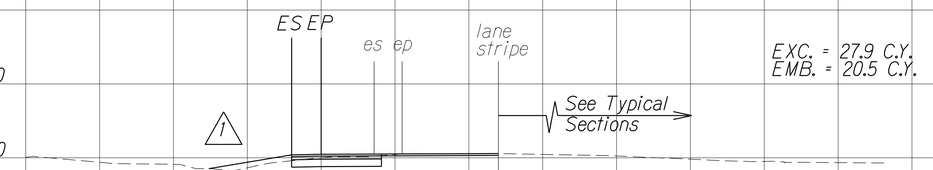
23+50



EXC. = 28.4 C.Y.
EMB. = 28.7 C.Y.

CUT = 15.2 S.F.
FILL = 15.1 S.F.

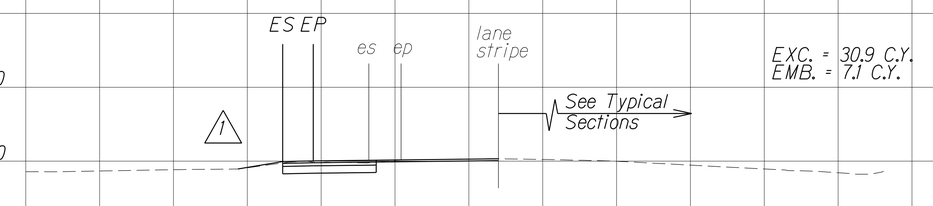
23+00



EXC. = 27.9 C.Y.
EMB. = 20.5 C.Y.

CUT = 14.9 S.F.
FILL = 7.1 S.F.

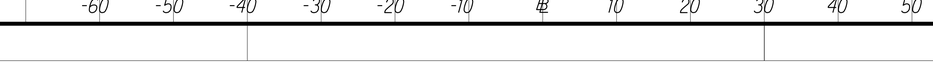
22+50



EXC. = 30.9 C.Y.
EMB. = 7.1 C.Y.

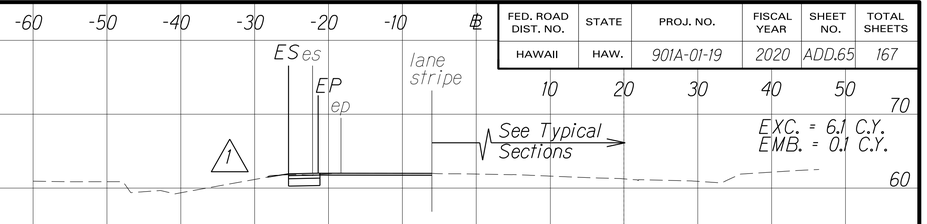
CUT = 18.5 S.F.
FILL = 0.6 S.F.

22+00



ROADWAY CROSS SECTIONS

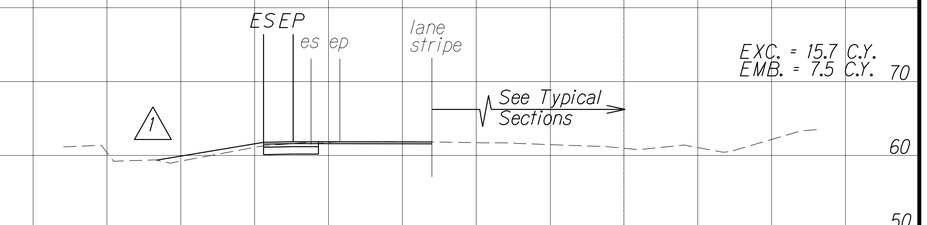
Scale: 1" = 10'-0"



EXC. = 6.1 C.Y.
EMB. = 0.1 C.Y.

CUT = 6.6 S.F.
FILL = 0.1 S.F.

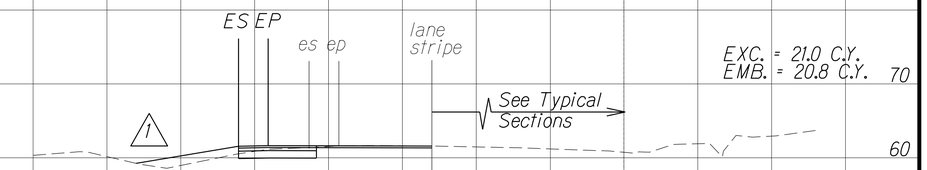
25+50



EXC. = 15.7 C.Y.
EMB. = 7.5 C.Y.

CUT = 10.3 S.F.
FILL = 8.0 S.F.

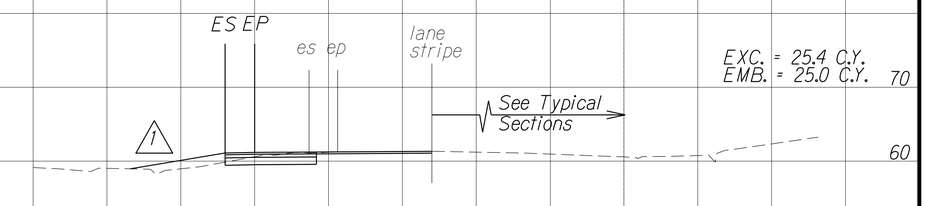
25+00



EXC. = 21.0 C.Y.
EMB. = 20.8 C.Y.

CUT = 12.3 S.F.
FILL = 14.4 S.F.

24+50



EXC. = 25.4 C.Y.
EMB. = 25.0 C.Y.

CUT = 15.1 S.F.
FILL = 12.6 S.F.

24+00

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

1	3/4/20	Deleted extraneous text.
	DATE	REVISION

SHEET No. 1 OF 6 SHEETS

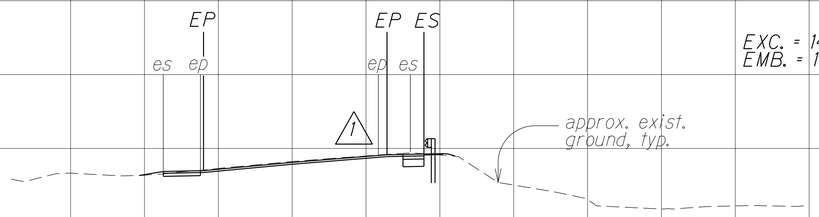
ADD. 65

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD.67	167

EXC. = 16.1 C.Y.
EMB. = 27.8 C.Y.

CUT = 7.2 S.F.
FILL = 12.2 S.F.

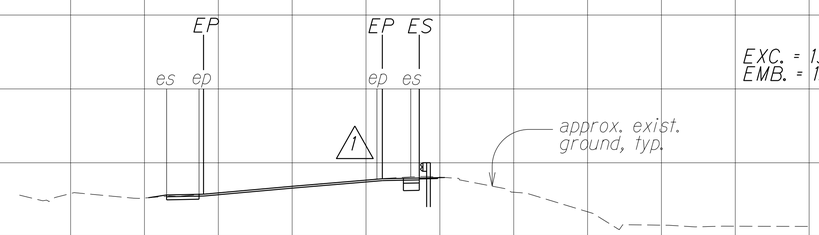
48+50



EXC. = 14.1 C.Y.
EMB. = 12.0 C.Y.

CUT = 8.0 S.F.
FILL = 0.8 S.F.

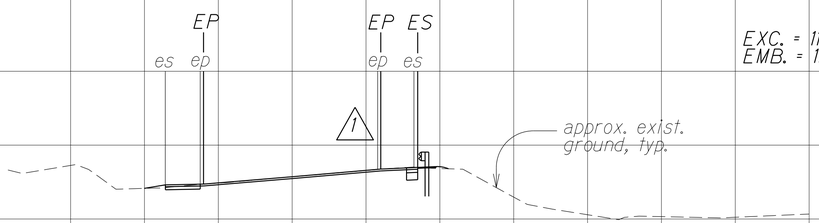
48+00



EXC. = 13.9 C.Y.
EMB. = 1.0 C.Y.

CUT = 7.0 S.F.
FILL = 0.3 S.F.

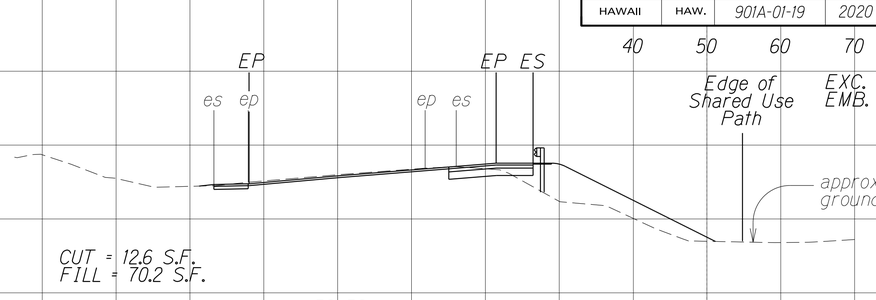
47+50



EXC. = 11.1 C.Y.
EMB. = 1.2 C.Y.

CUT = 4.9 S.F.
FILL = 1.0 S.F.

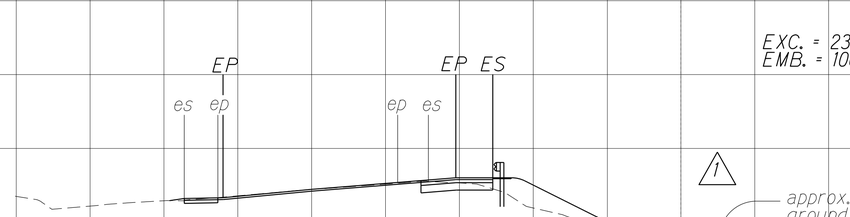
47+00



EXC. = 19.1 C.Y.
EMB. = 123.0 C.Y.

CUT = 12.6 S.F.
FILL = 70.2 S.F.

50+50



EXC. = 23.1 C.Y.
EMB. = 106.0 C.Y.

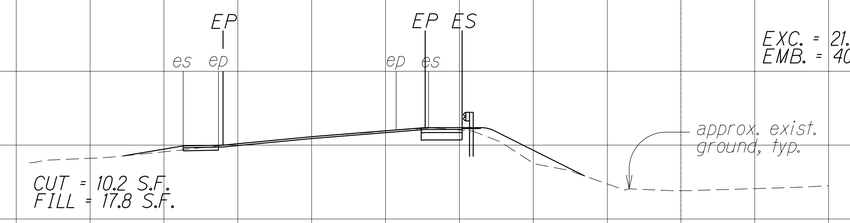
CUT = 12.4 S.F.
FILL = 44.3 S.F.

50+00

EXC. = 23.6 C.Y.
EMB. = 65.3 C.Y.

CUT = 13.1 S.F.
FILL = 26.2 S.F.

49+50



EXC. = 21.6 C.Y.
EMB. = 40.7 C.Y.

CUT = 10.2 S.F.
FILL = 17.8 S.F.

49+00

ROADWAY CROSS SECTIONS

Scale: 1" = 10'-0"

Note: For Shared Use Path cross sections, see Shared Use Path Plans.

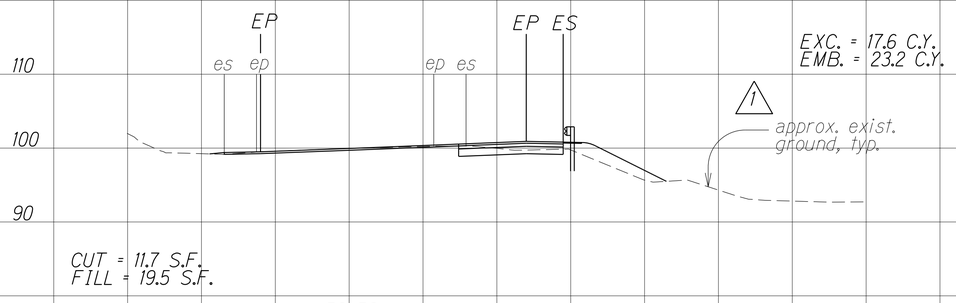
DATE	REVISION
1 3/4/20	Deleted extraneous text and lines.

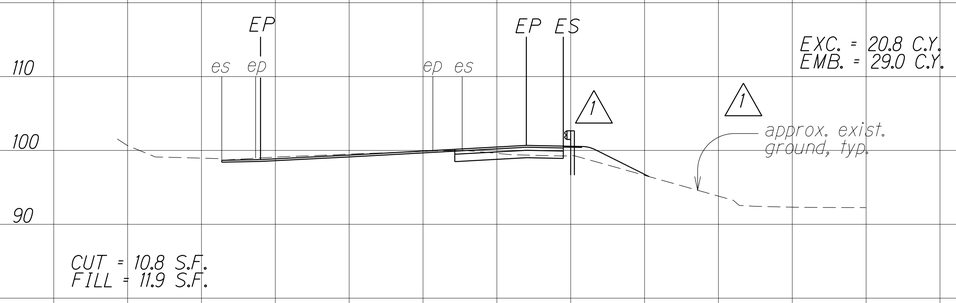
SHEET No. 3 OF 6 SHEETS

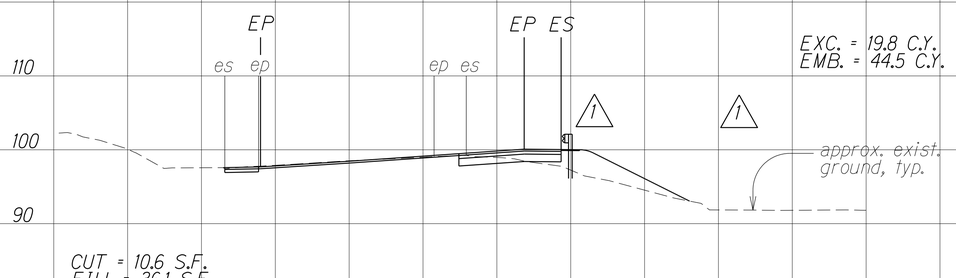
ADD. 67

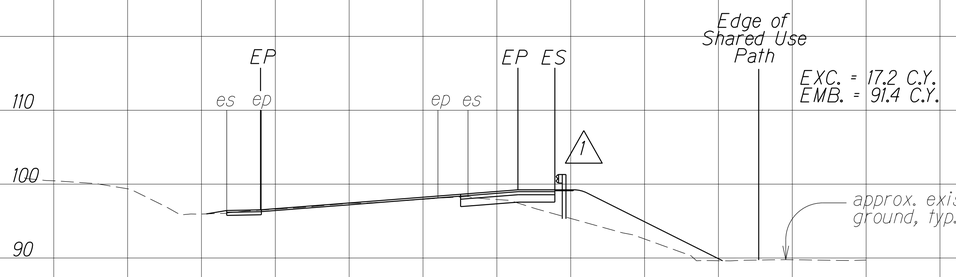
ORIGINAL PLAN
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
NOTE BOOK
DATE
No.

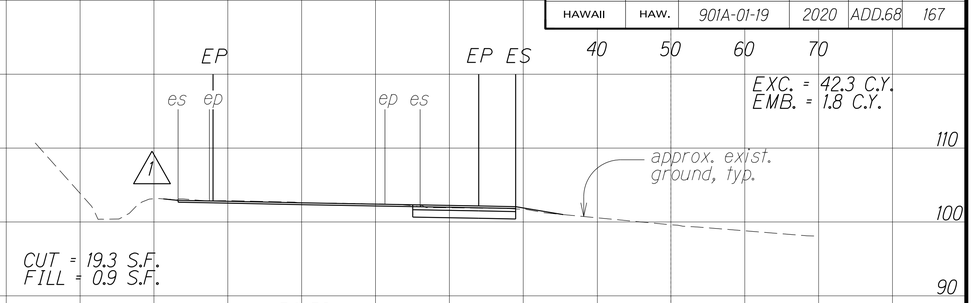
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD.68	167

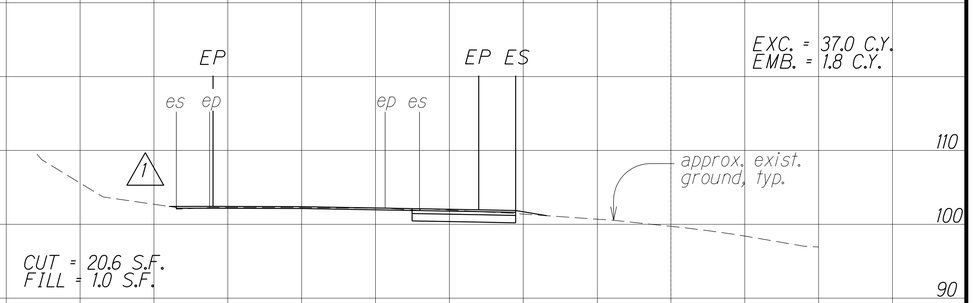


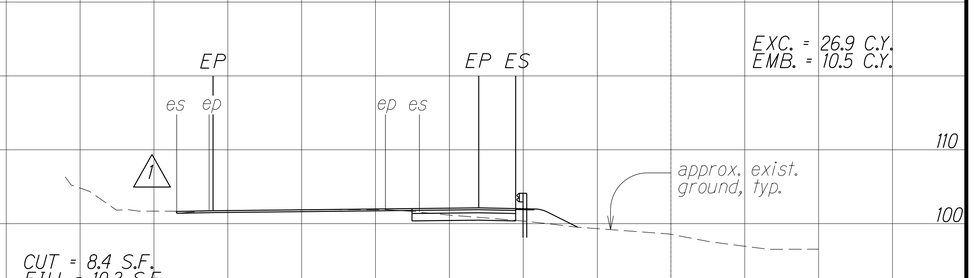


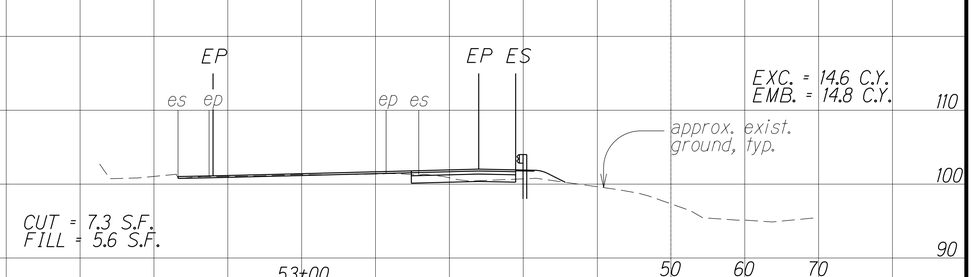












ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY	

ROADWAY CROSS SECTIONS

Scale: 1" = 10'-0"

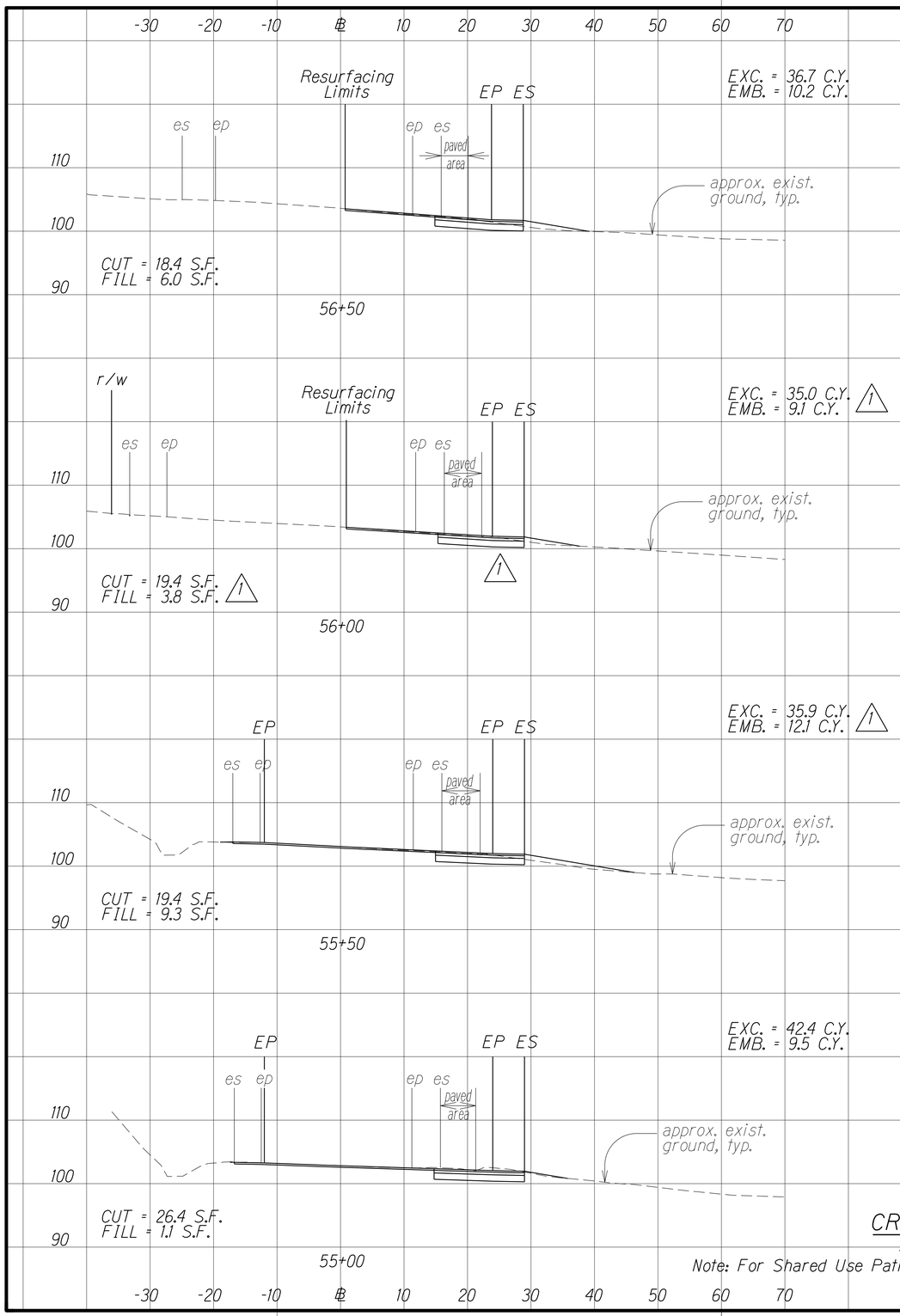
Note: For Shared Use Path cross sections, see Shared Use Path Plans.

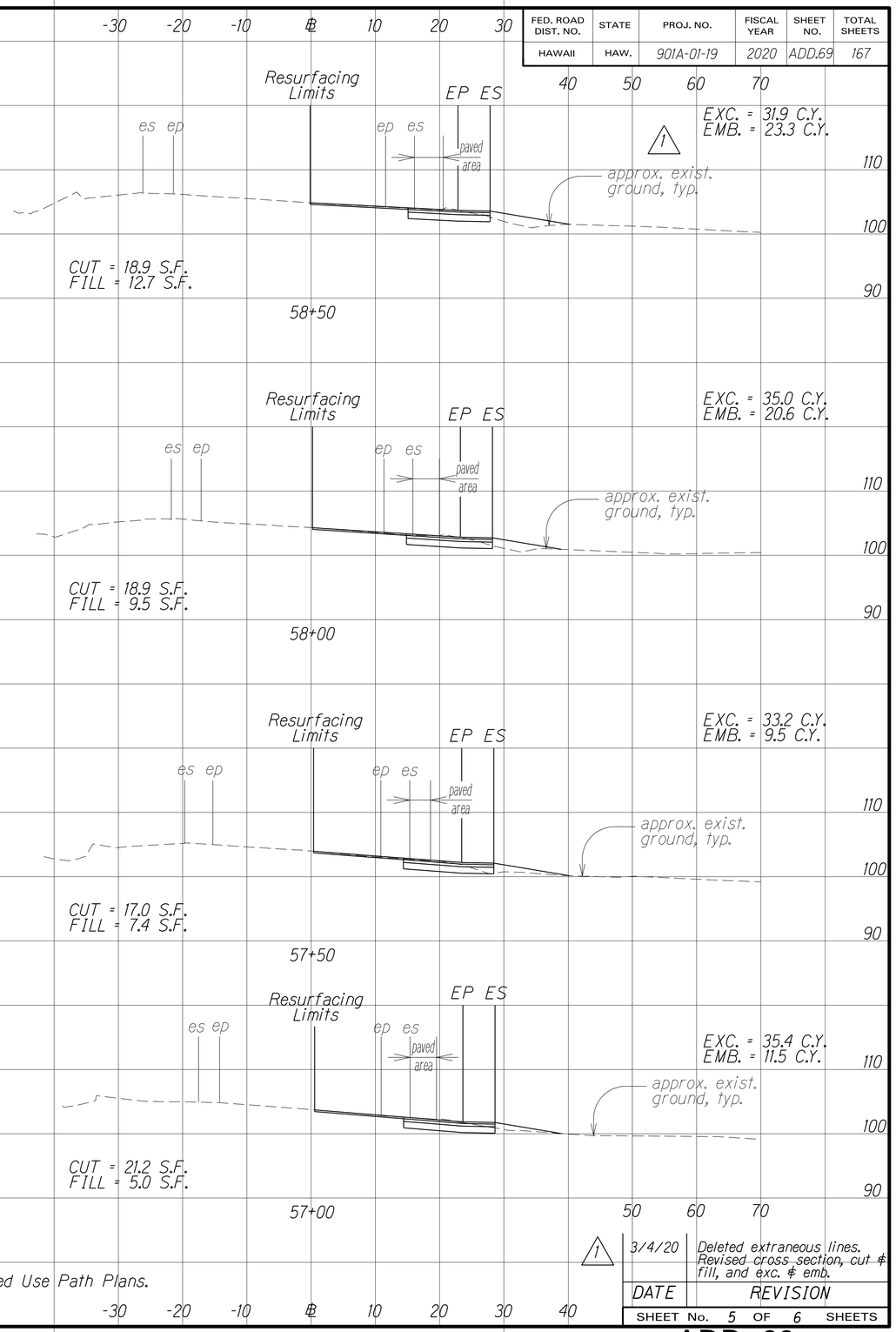
	DATE	REVISION
1	3/4/20	Deleted extraneous text and lines.

SHEET No. 4 OF 6 SHEETS

ADD. 68

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD.69	167





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

ROADWAY CROSS SECTIONS

Scale: 1" = 10'-0"

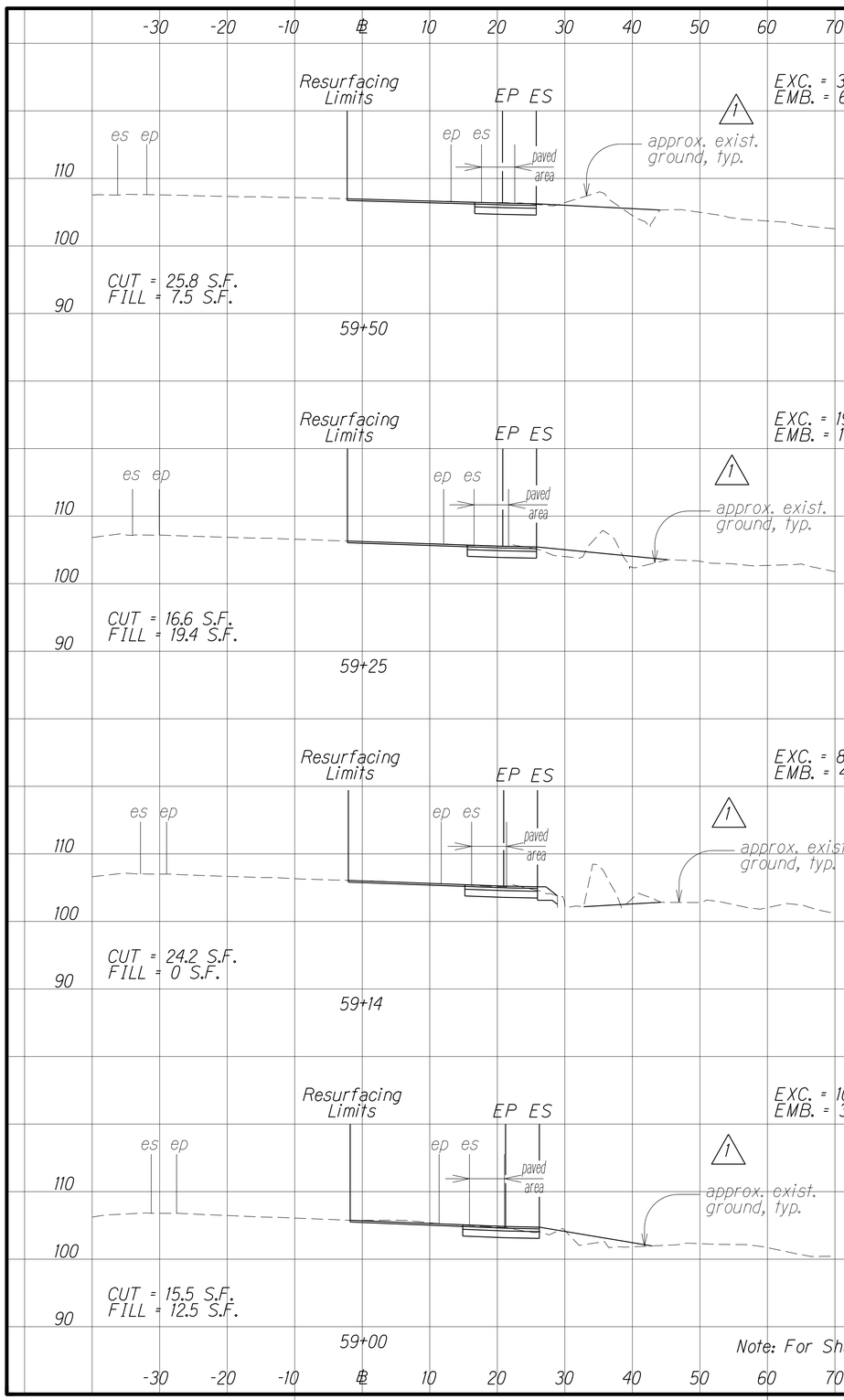
Note: For Shared Use Path cross sections, see Shared Use Path Plans.

1	3/4/20	Deleted extraneous lines. Revised cross section, cut & fill, and exc. & emb.
	DATE	REVISION

SHEET No. 5 OF 6 SHEETS

ADD. 69

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD.70	167



ROADWAY CROSS SECTIONS

Scale: 1" = 10'-0"

Note: For Shared Use Path cross sections, see Shared Use Path Plans.

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

1	3/4/20	Deleted extraneous lines.
	DATE	REVISION

SHEET No. 6 OF 6 SHEETS

ADD. 70

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 71	167

CURVE 1 DATA	CURVE 2 DATA
△ = 30°9'23.3"	△ = 29°28'51.6"
R = 15.00'	R = 55.00'
T = 4.04'	T = 14.47'
C = 7.80'	C = 27.99'
Lc = 7.89'	Lc = 28.30'

CURVE 3 DATA	CURVE 4 DATA
△ = 15°54'57.8"	△ = 13°50'8.6"
R = 50.00'	R = 50.00'
T = 6.99'	T = 6.07'
C = 13.84'	C = 12.04'
Lc = 13.89'	Lc = 12.07'

TRUE NORTH
SCALE : 1" = 20'

To Kalaeloa

ENTERPRISE ST. (STATE)

ROOSEVELT AVE. (STATE)

Traffic Signal Pullbox (Typ.) See Note 1

Warning Light

Sta. 00+00, Begin Shared Use Path 1

PRC Sta. 0+7.89
R = 15'
R = 55'

Sta. 00+22.55

Sta. 00+38.39

Sta. 00+58.02

PT Sta. 0+36.19
R = 55'

PC Sta. 0+61.08
R = 50'

℄ Shared Use Path 1

146 27'28.98", 13.84'

147°29'53.57", 12.04'

R/W

M.L. ℄ STA. 2+00

138°30'00.06", 24.88'

123°45'34.27", 27.99'

Sta. 00+94.88

es
ep

EP

140°34'49.25", 164.13'

PC Sta. 00+00.00
R = 15'

124°05'50.16", 7.80'

PRC Sta. 0+74.97
R = 50.00'
R = 50.00'

FT BARETTE ROAD (STATE)

PT Sta. 0+87.05
R = 50'

To Makakilo

R/W

NOTES:

1. See Traffic Signal Interconnect Plans TS-14 and TS-15 for Traffic Signal Pullbox location.
2. See sheet TS-9 for Traffic Signal Pullbox details.
3. See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
4. See Electrical Plans for new Shared Use Path Lighting.

PLAN
Scale: 1"=20'

PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

Profile at Right Edge of Path to Match Existing Roadway

Sta. 0+94.88

Begin Shared Use Path 1 ℄ Sta. 0+00

Finish Grade @ Shared Use Path 1 ℄

existing grade @ Shared Use Path 1 ℄

Meet existing sidewalk

PVI STA:1+00.00
PVI ELEV:51.36
K:10.26
LVC:20.00

BVCS: 0+90.00
BVCE: 51.45

EVCS: 1+10.00
EVCE: 51.46

-0.93%

M.L. ℄ STA. 2+00

70 65 60 55 50 45 40 35

-3+50 -3+00 -2+50 -2+00 -1+50 -1+00 -0+50 0+00 0+50 1+00 1+50 2+00

Date	Revision
3/3/20	Added notes. Revised profile. Revised matchline text. Show Railroad Crossing.

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

DARIN N. CHIMEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 1

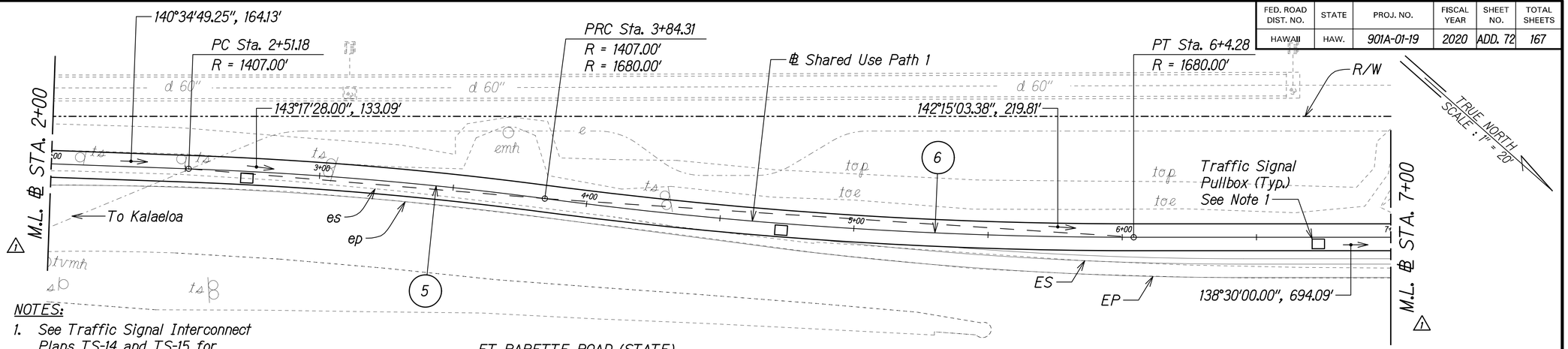
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: As Shown Date: Jan. 2020

SHEET No. AL-1 OF 13 SHEETS

ADD. 71

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 72	167



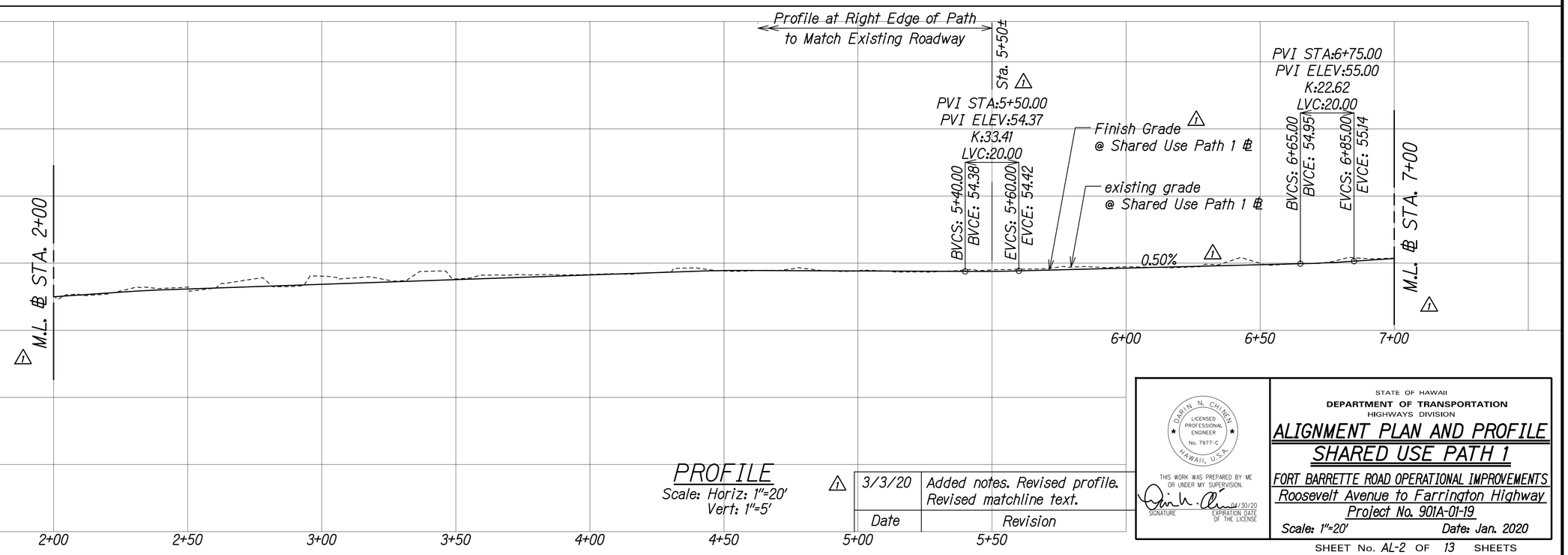
NOTES:

1. See Traffic Signal Interconnect Plans TS-14 and TS-15 for Traffic Signal Pullbox location.
2. See sheet TS-9 for Traffic Signal Pullbox details.
3. ⚠1 See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
4. ⚠1 See Electrical Plans for new Shared Use Path Lighting.

CURVE 5 DATA
△ = 5°25'17.5"
R = 1407.00'
T = 66.62'
C = 133.09'
Lc = 133.14'

CURVE 6 DATA
△ = 7°30'6.8"
R = 1680.00'
T = 110.14'
C = 219.81'
Lc = 219.97'

PLAN
Scale: 1"=20'



PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

Date	Revision
3/3/20	⚠1 Added notes. Revised profile. Revised matchline text.

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

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE
EXPIRATION DATE OF THE LICENSE 6/30/20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 1

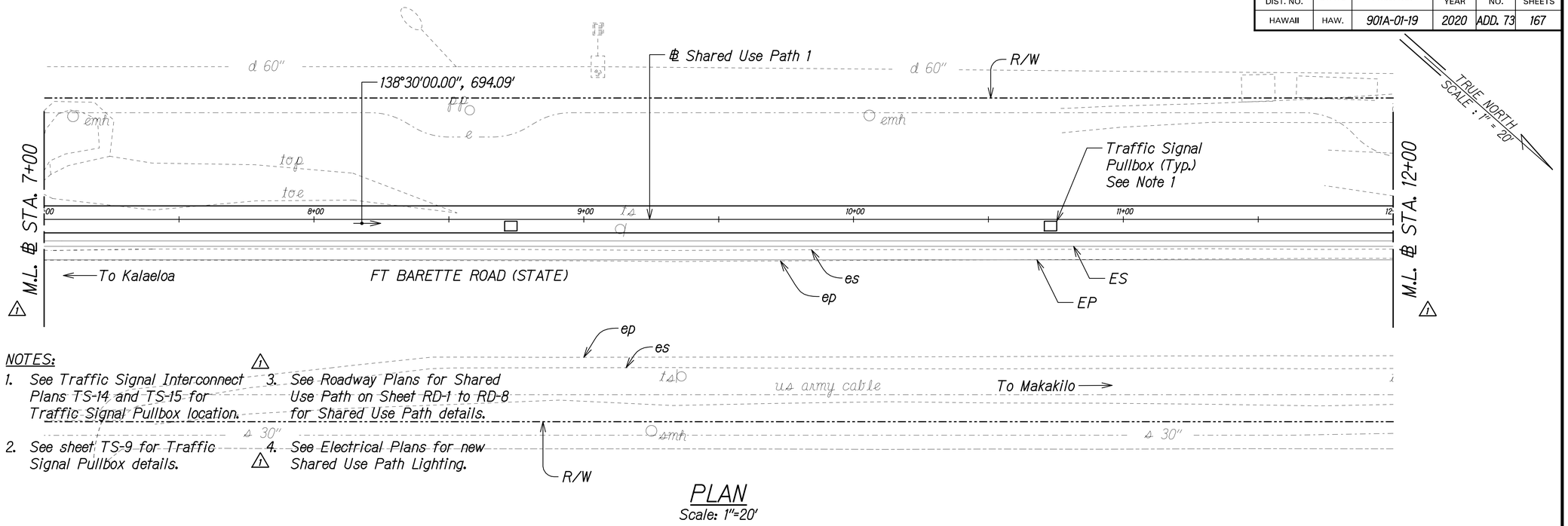
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. AL-2 OF 13 SHEETS

ADD. 72

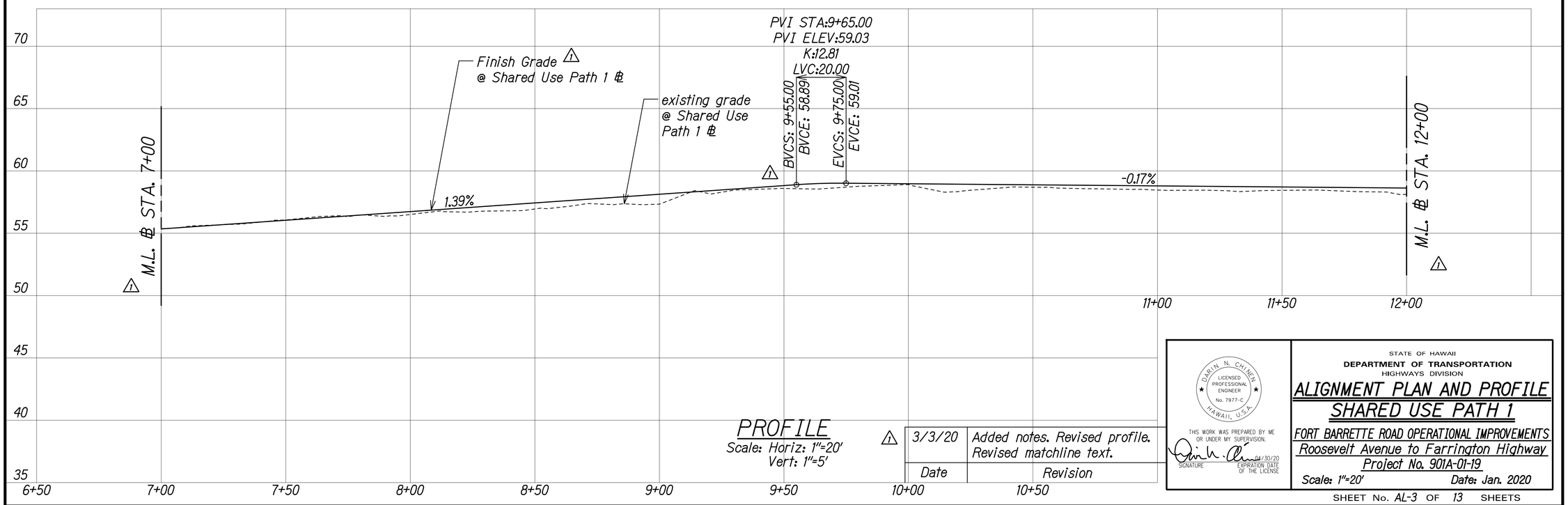
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 73	167



PLAN
Scale: 1"=20'

NOTES:

1. See Traffic Signal Interconnect Plans TS-14 and TS-15 for Traffic Signal Pullbox location.
2. See sheet TS-9 for Traffic Signal Pullbox details.
3. See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
4. See Electrical Plans for new Shared Use Path Lighting.



PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

Date	Revision
3/3/20	Added notes. Revised profile. Revised matchline text.

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

DARIN N. CHIMEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

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SIGNATURE
/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 1

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. AL-3 OF 13 SHEETS

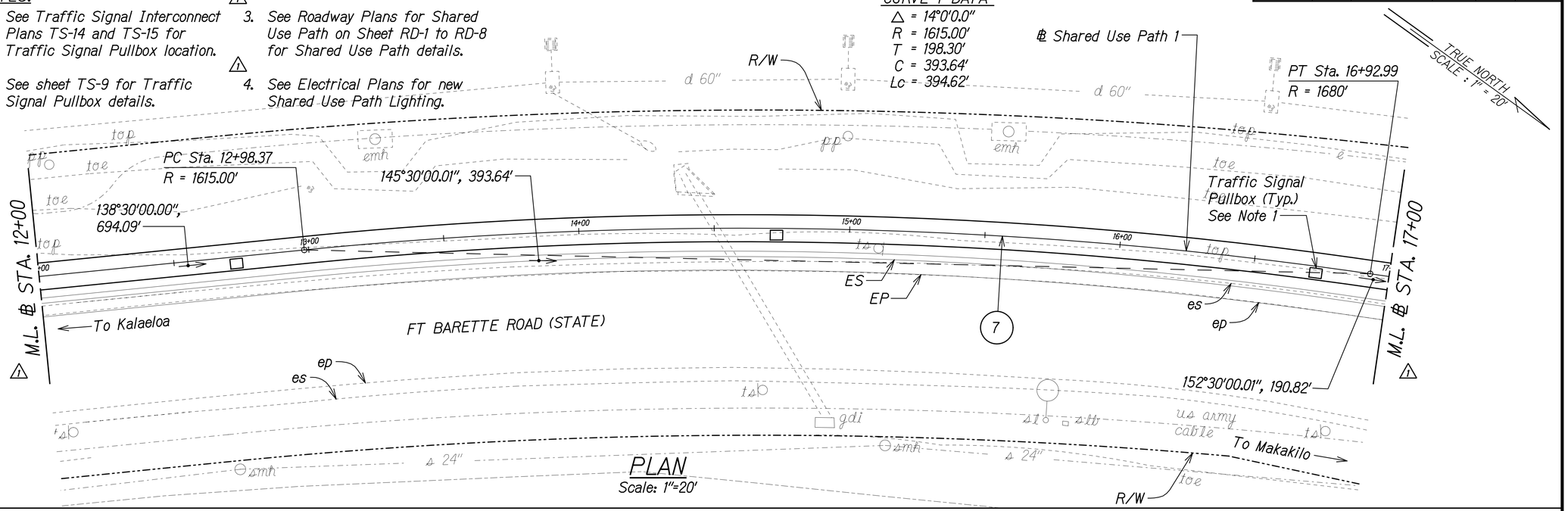
ADD. 73

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 74	167

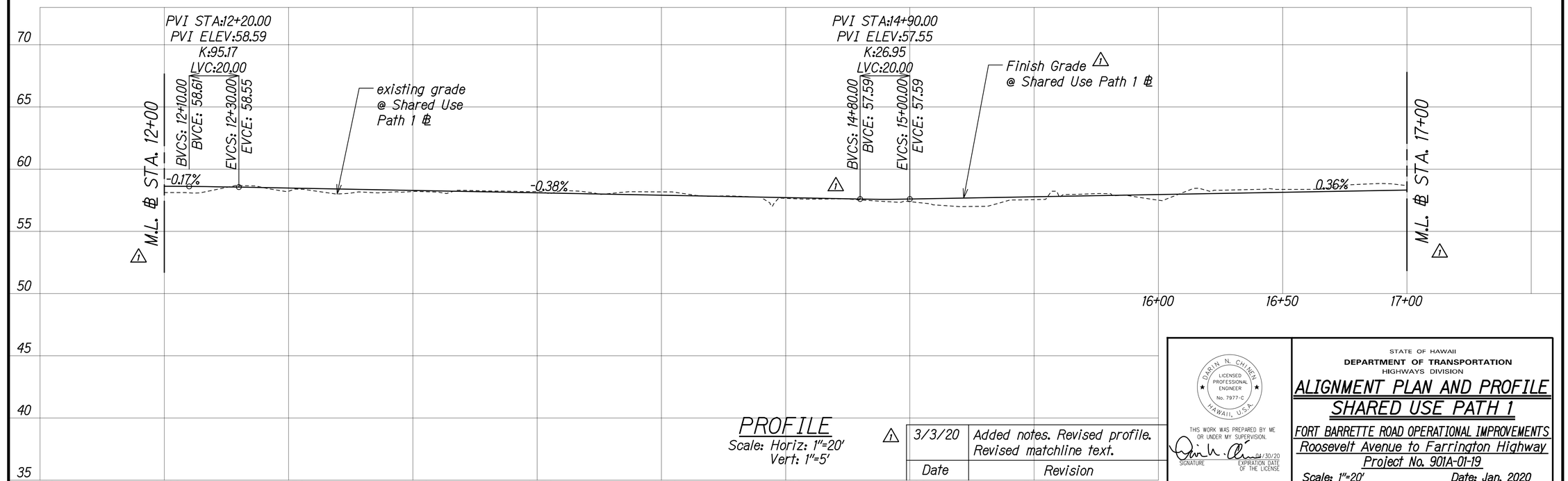
NOTES:

1. See Traffic Signal Interconnect Plans TS-14 and TS-15 for Traffic Signal Pullbox location.
2. See sheet TS-9 for Traffic Signal Pullbox details.
3. See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
4. See Electrical Plans for new Shared Use Path Lighting.

CURVE 7 DATA
Δ = 14°0'0.0"
R = 1615.00'
T = 198.30'
C = 393.64'
Lc = 394.62'



PLAN
Scale: 1"=20'



PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

Date	Revision
3/3/20	Added notes. Revised profile. Revised matchline text.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
DARIN N. CHUMEN, LICENSED PROFESSIONAL ENGINEER, No. 7977-C, HAWAII, U.S.A.
SIGNATURE
04/30/20
EXPIRATION DATE OF THE LICENSE

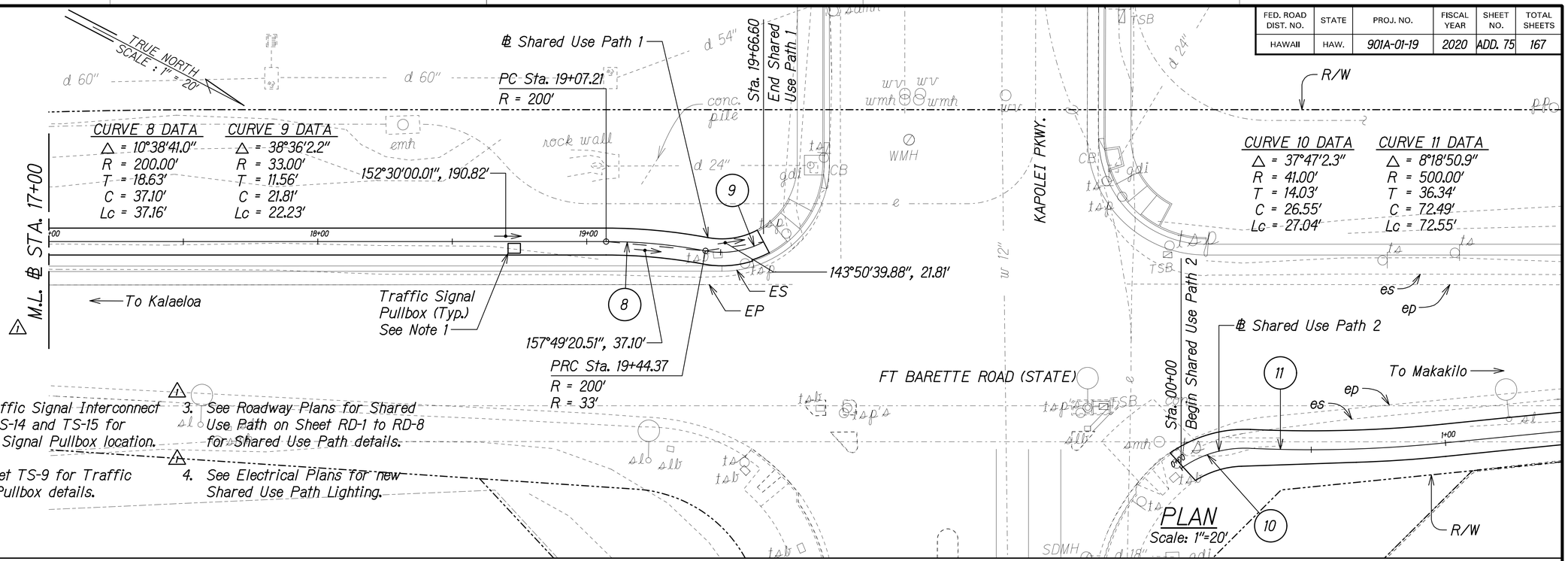
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 1
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19
Scale: 1"=20' Date: Jan. 2020

SHEET No. AL-4 OF 13 SHEETS

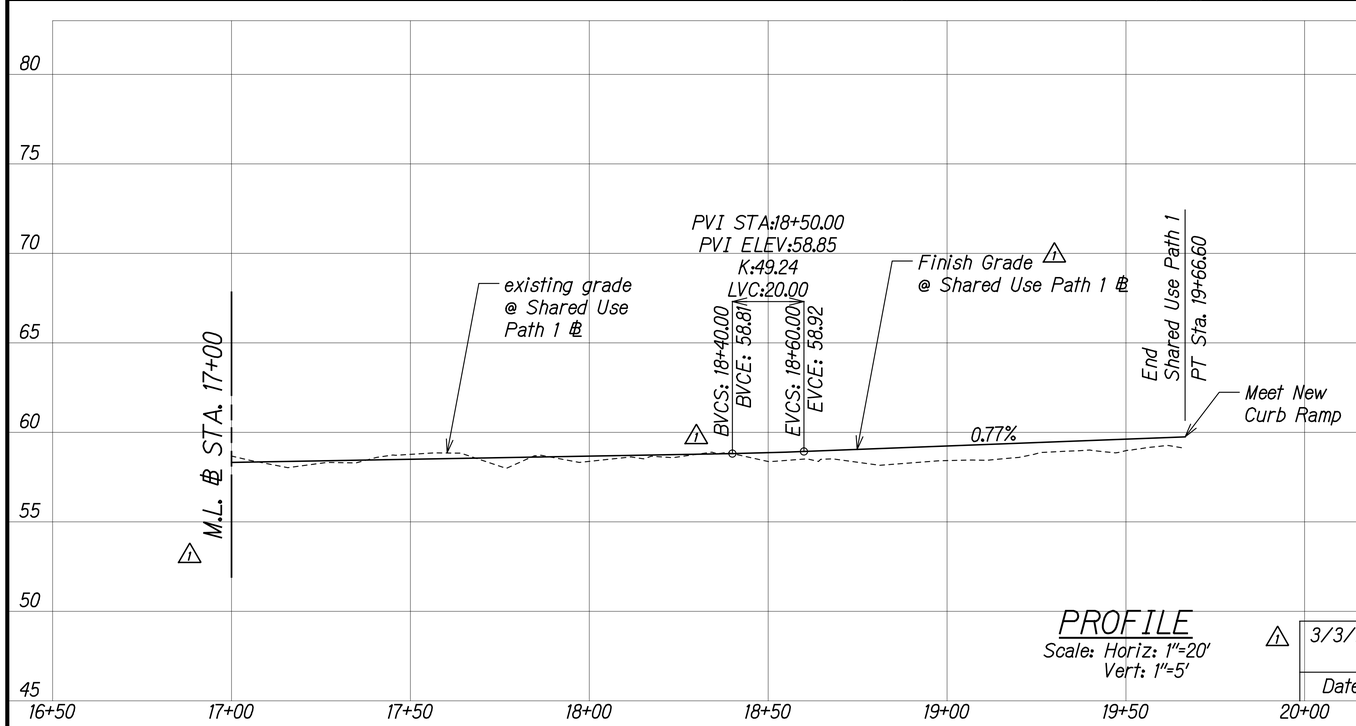
ADD. 74

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 75	167



NOTES:

1. See Traffic Signal Interconnecf Plans TS-14 and TS-15 for Traffic Signal Pullbox location.
2. See sheet TS-9 for Traffic Signal Pullbox details.
3. See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
4. See Electrical Plans for new Shared Use Path Lighting.



PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

Date	Revision
3/3/20	Added notes. Revised profile. Revised matchline text.

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

DARIN N. CHIMEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — EXPIRATION DATE OF THE LICENSE: 04/30/20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 1

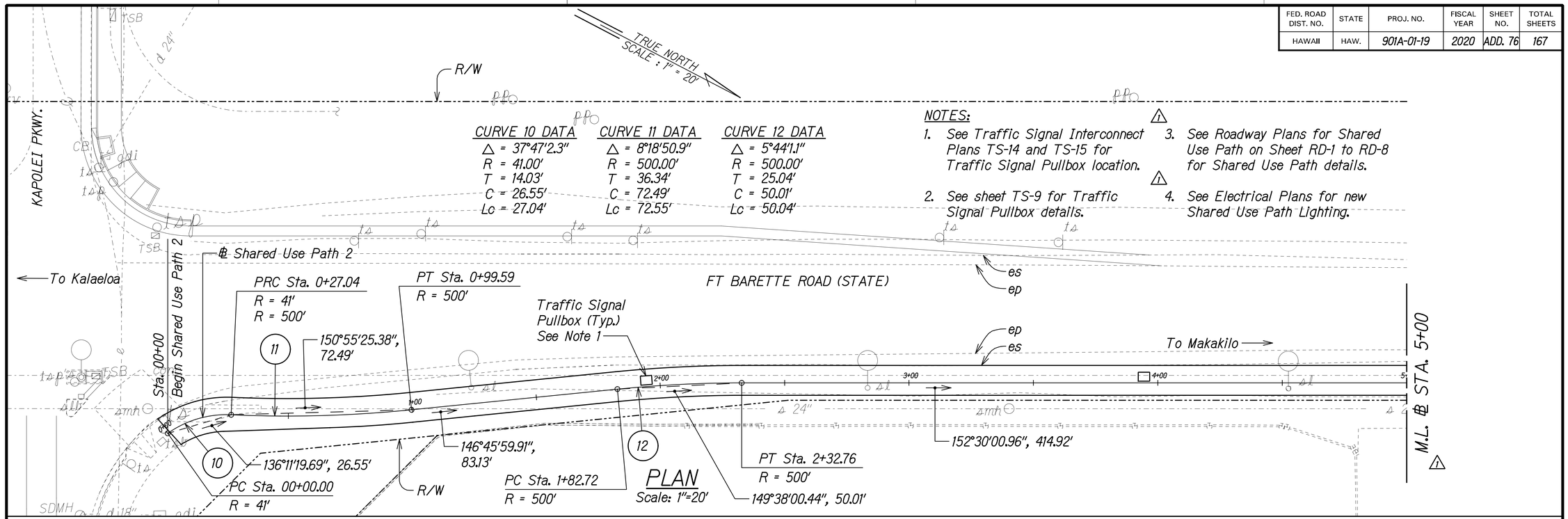
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. AL-5 OF 13 SHEETS

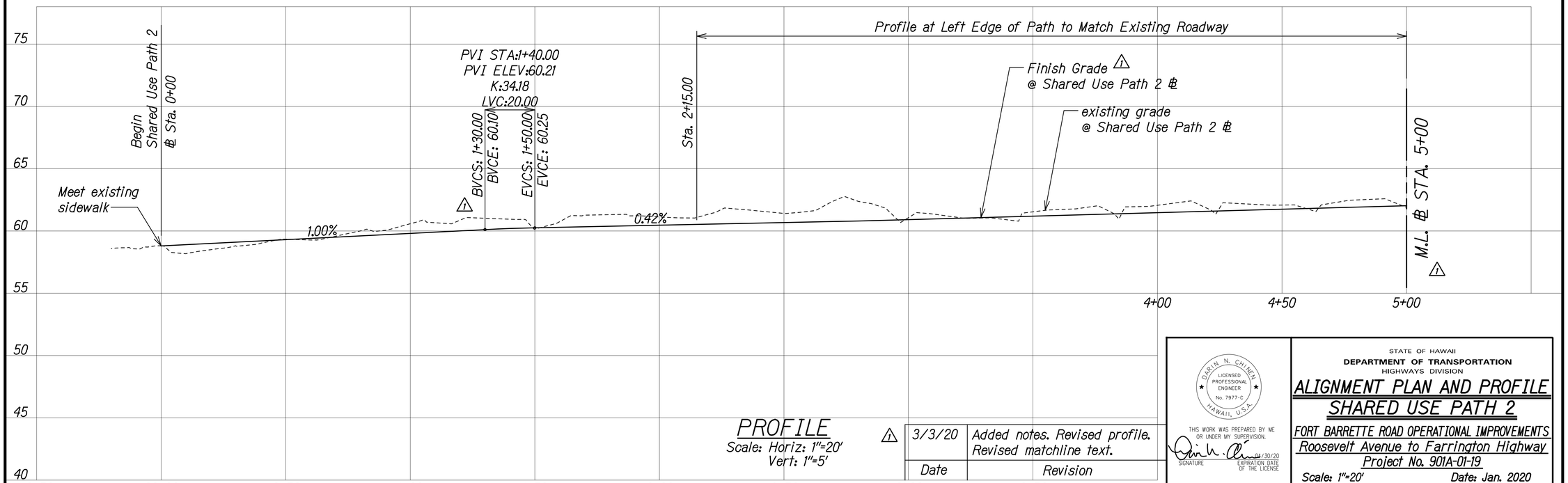
ADD. 75

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 76	167



NOTES:

1. See Traffic Signal Interconnect Plans TS-14 and TS-15 for Traffic Signal Pullbox location.
2. See sheet TS-9 for Traffic Signal Pullbox details.
3. See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
4. See Electrical Plans for new Shared Use Path Lighting.



PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

	Date	Revision
1	3/3/20	Added notes. Revised profile. Revised matchline text.

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

DARIN N. CHIMEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE
04/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 2

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. AL-6 OF 13 SHEETS

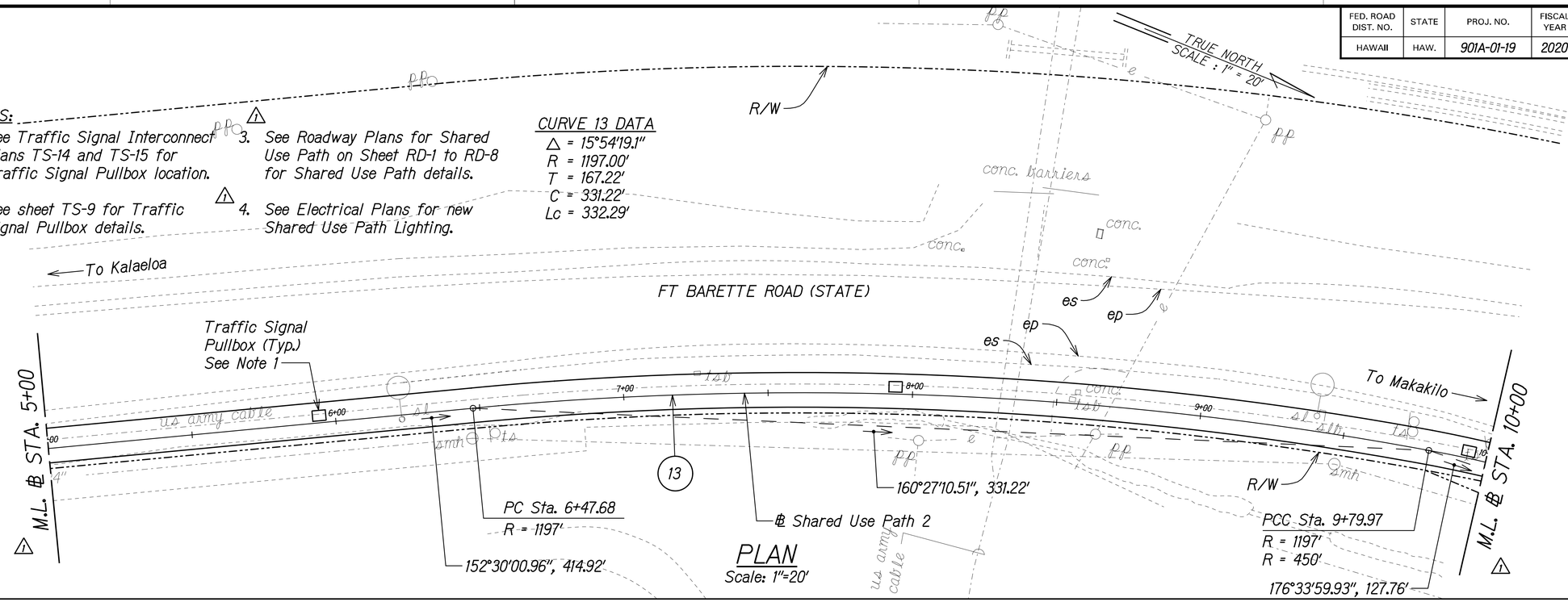
ADD. 76

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 77	167

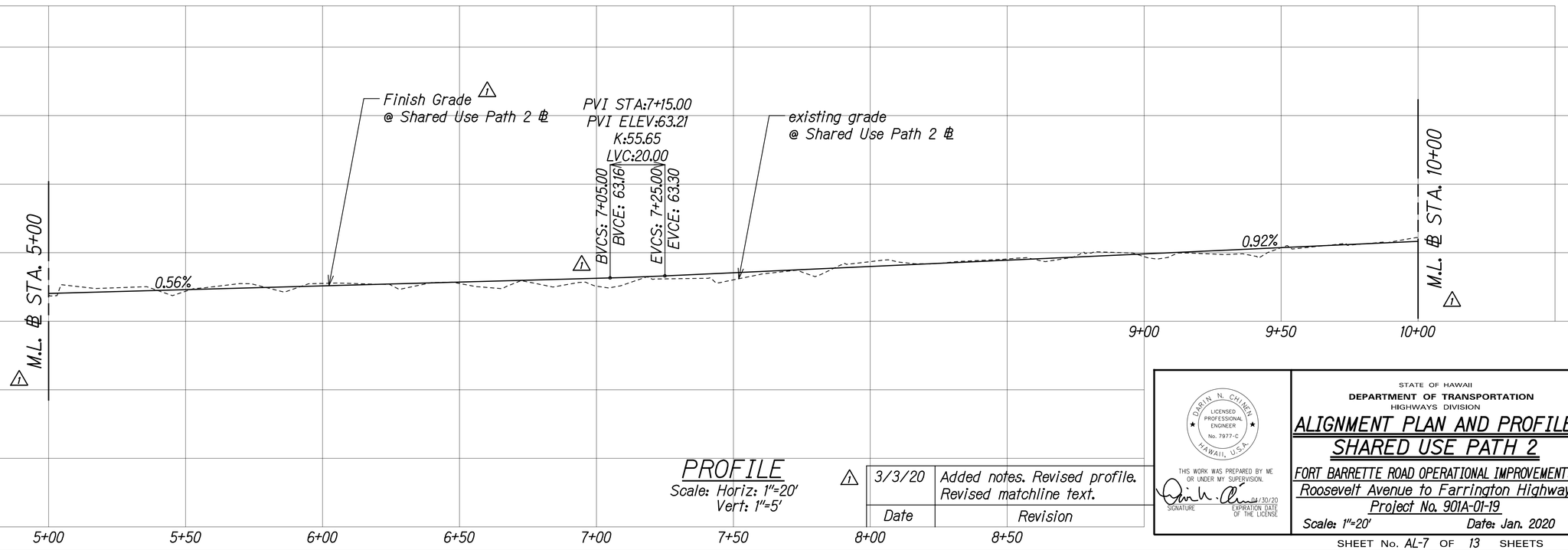
NOTES:

1. See Traffic Signal Interconnect Plans TS-14 and TS-15 for Traffic Signal Pullbox location.
2. See sheet TS-9 for Traffic Signal Pullbox details.
3. See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
4. See Electrical Plans for new Shared Use Path Lighting.

CURVE 13 DATA
△ = 15°54'19.1"
R = 1197.00'
T = 167.22'
C = 331.22'
Lc = 332.29'



PLAN
Scale: 1"=20'



PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

Date	Revision
3/3/20	Added notes. Revised profile. Revised matchline text.

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

DARIN N. CHIMEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE
04/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 2

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19
Scale: 1"=20' Date: Jan. 2020

SHEET No. AL-7 OF 13 SHEETS

ADD. 77

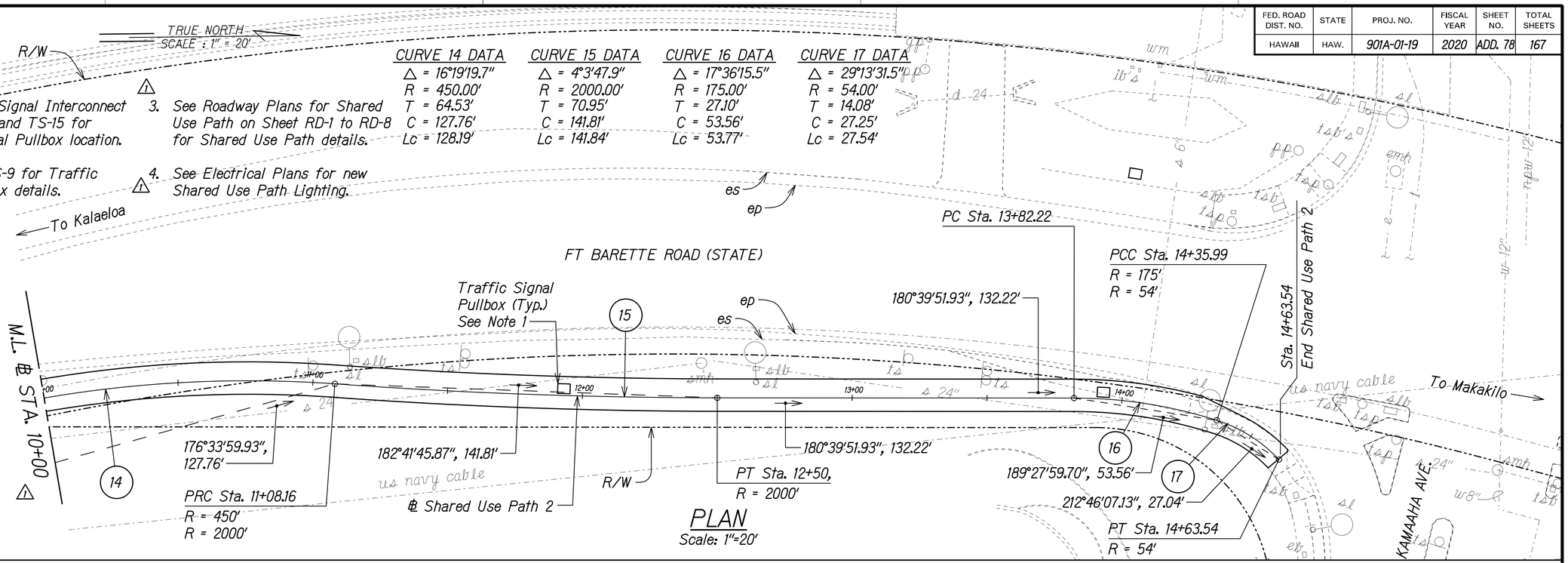
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 78	167

TRUE NORTH
SCALE : 1" = 20'

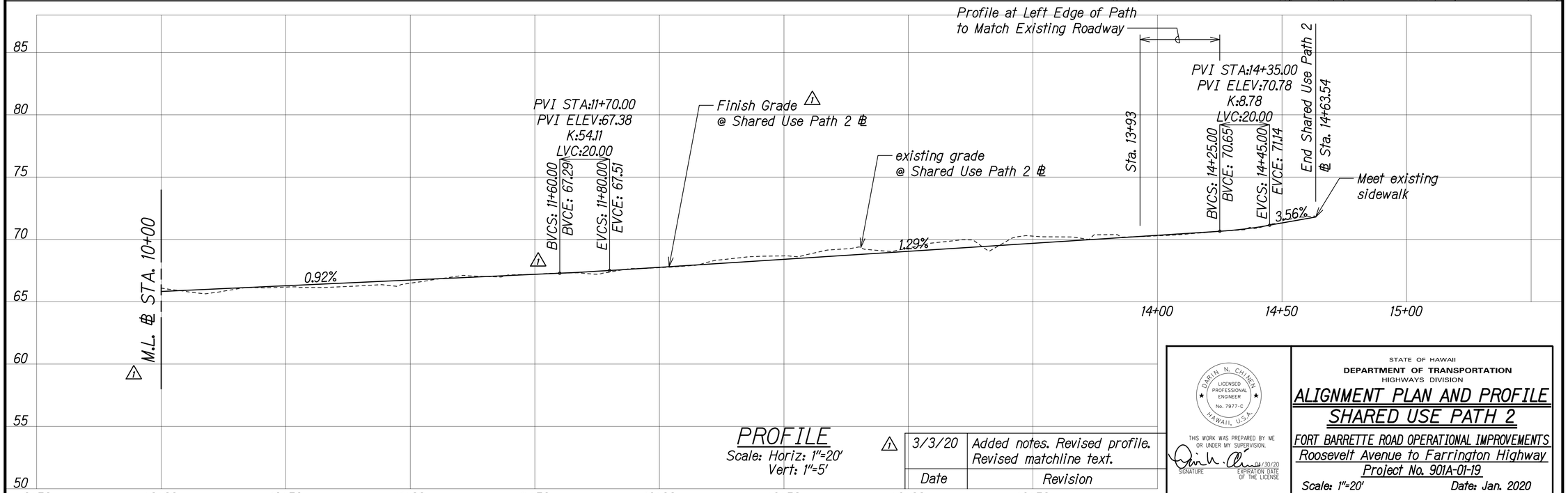
NOTES:

1. See Traffic Signal Interconnect Plans TS-14 and TS-15 for Traffic Signal Pullbox location.
2. See sheet TS-9 for Traffic Signal Pullbox details.
3. See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
4. See Electrical Plans for new Shared Use Path Lighting.

CURVE 14 DATA	CURVE 15 DATA	CURVE 16 DATA	CURVE 17 DATA
△ = 16°19'19.7"	△ = 4°3'47.9"	△ = 17°36'15.5"	△ = 29°13'31.5"
R = 450.00'	R = 2000.00'	R = 175.00'	R = 54.00'
T = 64.53'	T = 70.95'	T = 27.10'	T = 14.08'
C = 127.76'	C = 141.81'	C = 53.56'	C = 27.25'
Lc = 128.19'	Lc = 141.84'	Lc = 53.77'	Lc = 27.54'



PLAN
Scale: 1"=20'



PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

Date	Revision
3/3/20	Added notes. Revised profile. Revised matchline text.

DARIN N. CHIMEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE
04/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 2

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. AL-8 OF 13 SHEETS

ADD. 78

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 79	167

NOTES:

1. See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
2. See Electrical Plans for new Shared Use Path Lighting.

TRUE NORTH
SCALE : 1" = 20'

FT BARETTE ROAD (STATE)

To Kalaeloa

℄ Shared Use Path 3

Sta. 00+00 Begin Shared Use Path 3

PT Sta. 0+35.43
R = 78.10'

PC Sta. 0+71.40
R = 800'

PC Sta. 00+00.00
R = 78.10'

CURVE 18 DATA
△ = 25°59'33.1"
R = 78.10'
T = 18.02'
C = 35.13'
Lc = 35.43'

193°15'02.47", 36.27'

180°16'29.54", 35.07'

190°05'45.88", 88.05'

PRC Sta. 1+59.80
R = 800'
R = 800'

PT Sta. 2+79.34
R = 800'

191°13'19.75", 119.43'

CURVE 19 DATA
△ = 6°18'33.2"
R = 800.00'
T = 44.09'
C = 88.05'
Lc = 88.09'

PC Sta. 3+93.60
R = 935'

195°30'10.21", 114.27'

CURVE 20 DATA
△ = 8°33'40.9"
R = 800.00'
T = 59.88'
C = 119.43'
Lc = 119.54'

173°20'06.64", 705.58'

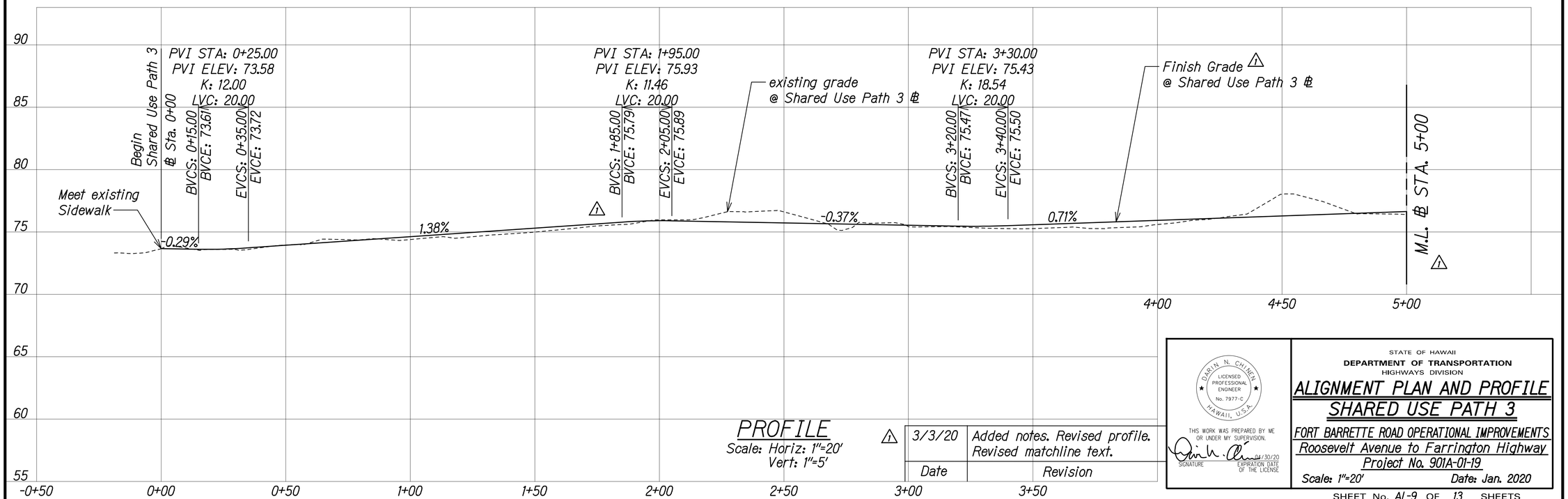
CURVE 21 DATA
△ = 44°20'7.1"
R = 935.00'
T = 380.95'
C = 705.58'
Lc = 723.50'

To Makakilo

M.L. ℄ STA. 5+00

KAMAAHA AVE.

PLAN
Scale: 1"=20'



PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

Date	Revision
3/3/20	Added notes. Revised profile. Revised matchline text.

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

DARIN N. CHIMEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE
04/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

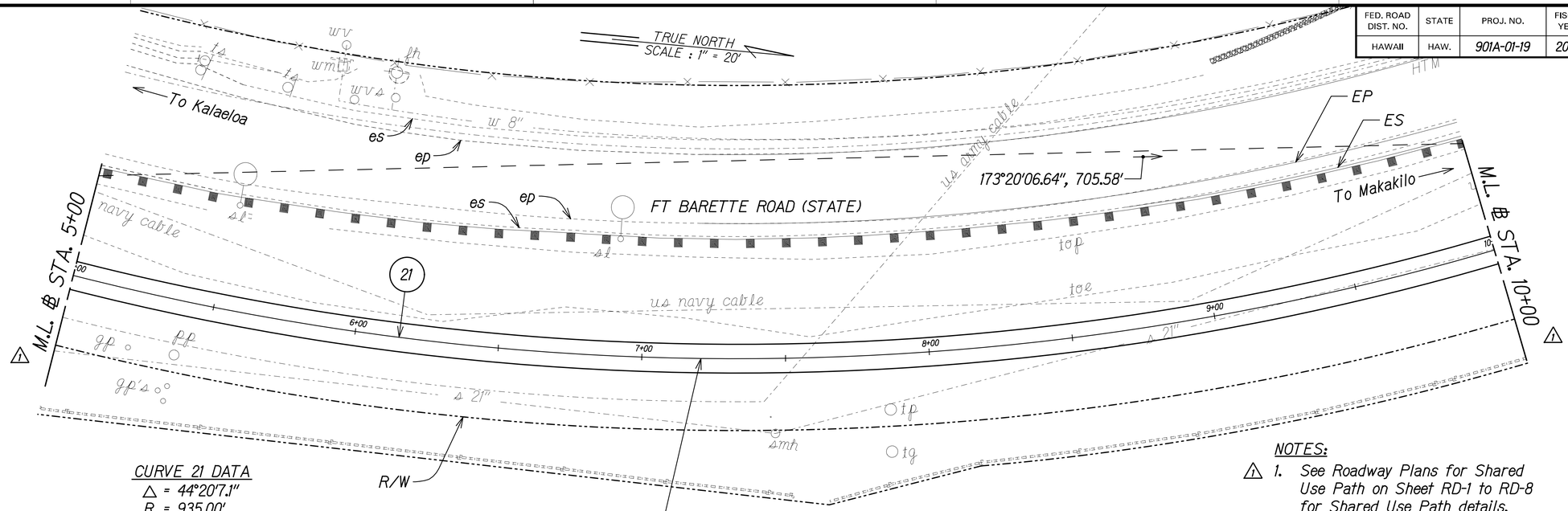
ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 3
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. AL-9 OF 13 SHEETS

ADD. 79

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 80	167



CURVE 21 DATA

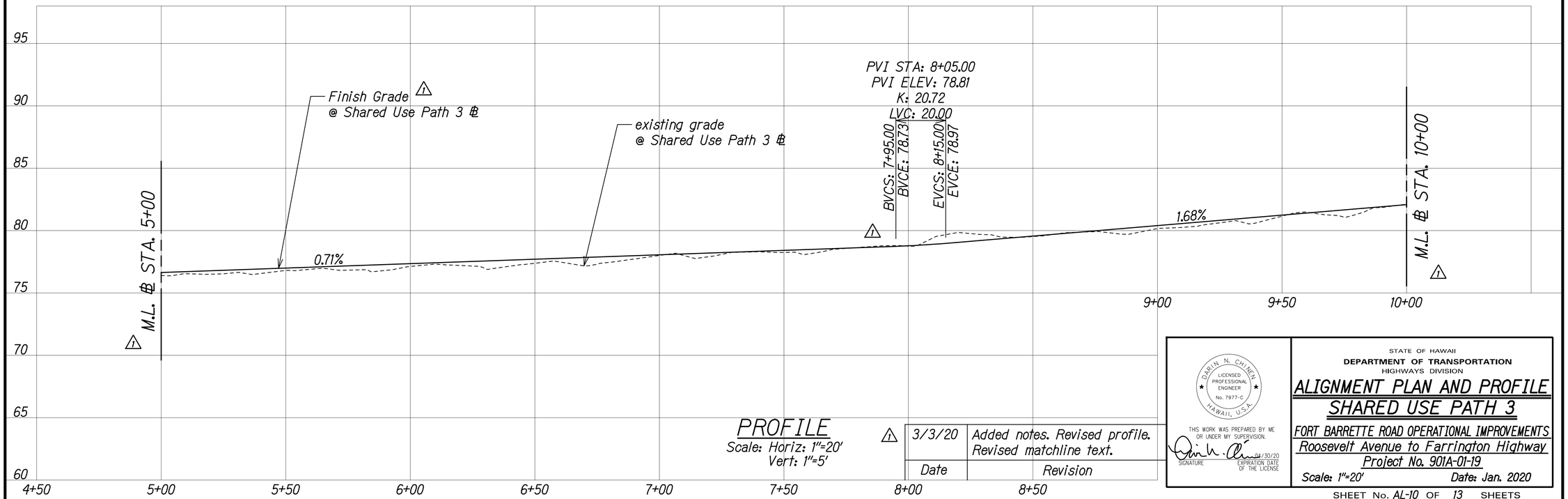
△ = 44°20'7.1"
R = 935.00'
T = 380.95'
C = 705.58'
Lc = 723.50'

PLAN

Scale: 1"=20'

NOTES:

1. See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
2. See Electrical Plans for new Shared Use Path Lighting.



PROFILE

Scale: Horiz: 1"=20'
Vert: 1"=5'

	Date	Revision
1	3/3/20	Added notes. Revised profile. Revised matchline text.

DARIN N. CHIMEN LICENSED PROFESSIONAL ENGINEER No. 7977-C HAWAII, U.S.A.

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SIGNATURE /30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 3

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

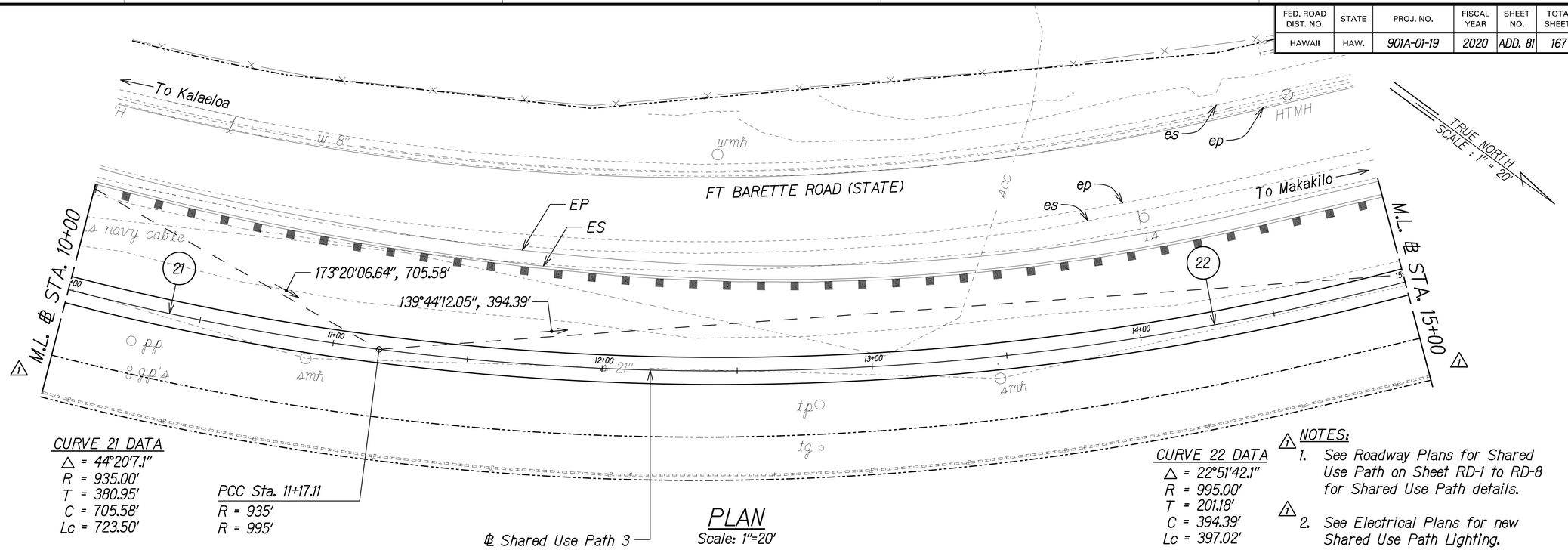
Scale: 1"=20' Date: Jan. 2020

SHEET No. AL-10 OF 13 SHEETS

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

ADD. 80

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 81	167



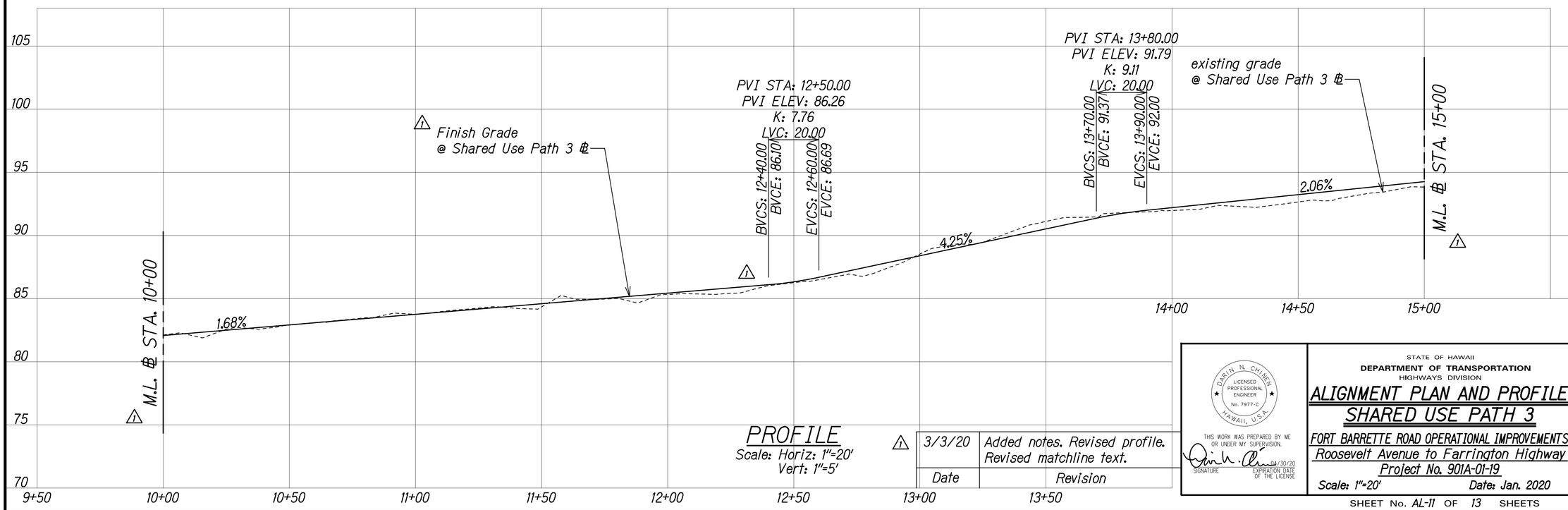
CURVE 21 DATA
△ = 44°20'7.1"
R = 935.00'
T = 380.95'
C = 705.58'
Lc = 723.50'

PCC Sta. 11+17.11
R = 935'
R = 995'

CURVE 22 DATA
△ = 22°51'42.1"
R = 995.00'
T = 201.18'
C = 394.39'
Lc = 397.02'

PLAN
Scale: 1"=20'

NOTES:
1. See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
2. See Electrical Plans for new Shared Use Path Lighting.



PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

Date	Revision
3/3/20	Added notes. Revised profile. Revised matchline text.

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

DARIN N. CHUNG
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE
EXPIRATION DATE OF THE LICENSE 04/30/20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

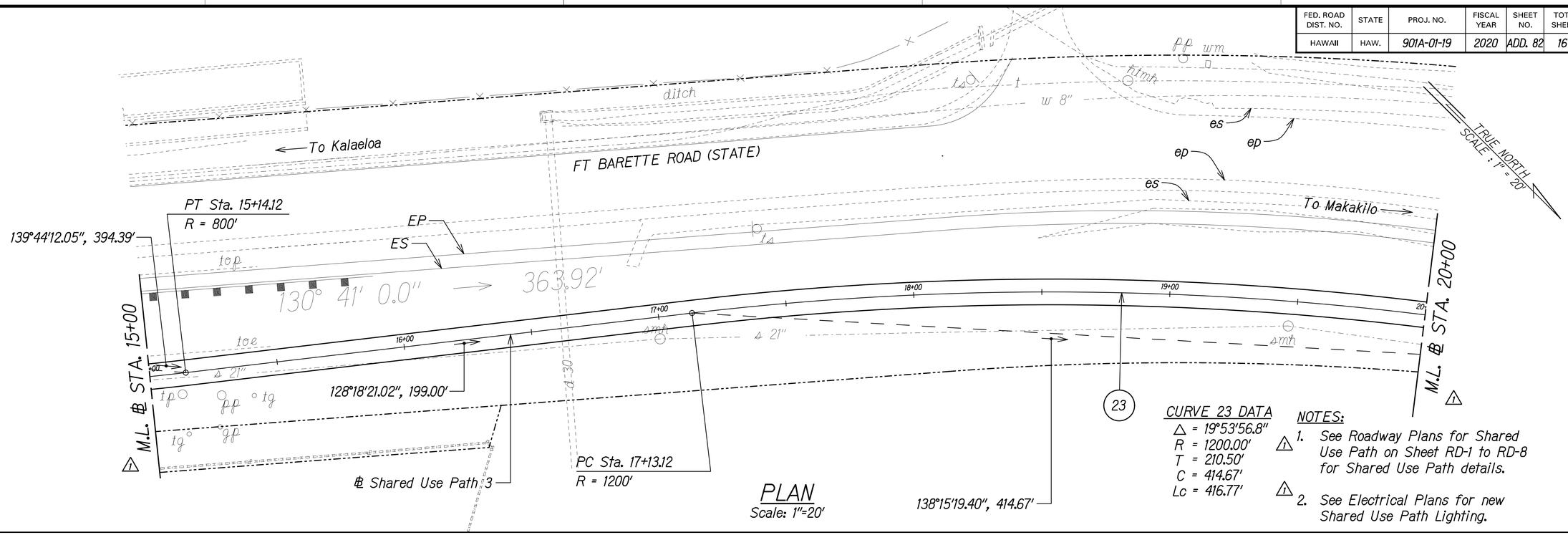
ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 3

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19
Scale: 1"=20' Date: Jan. 2020

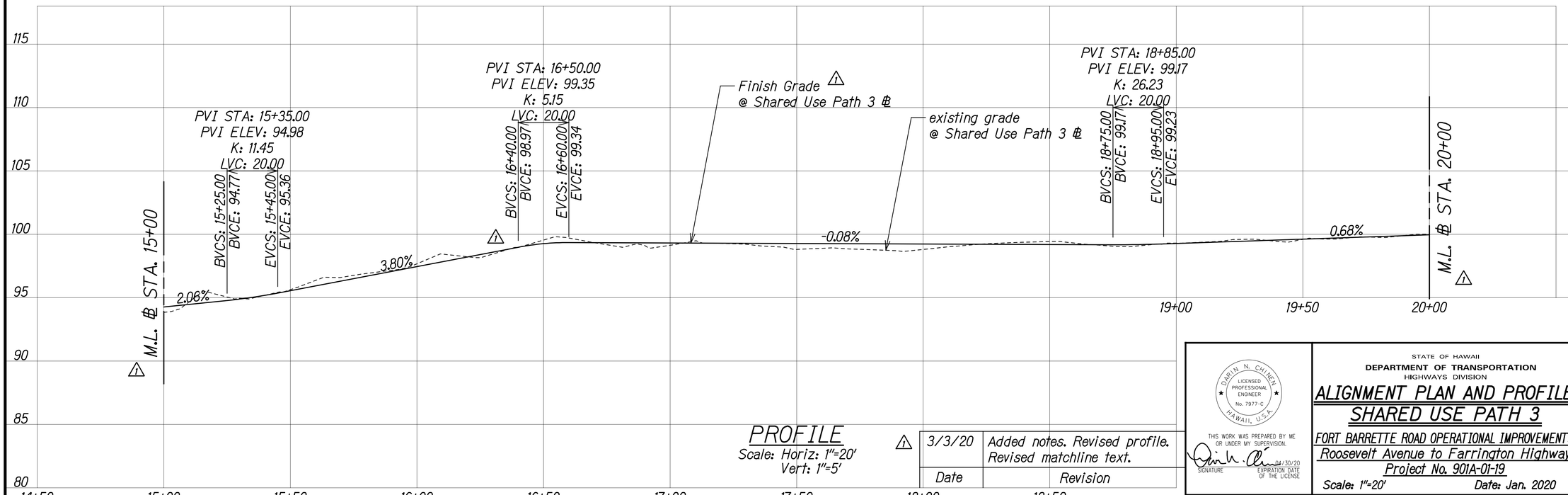
SHEET No. AL-11 OF 13 SHEETS

ADD. 81

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 82	167



PLAN
Scale: 1"=20'



PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

Date	Revision
3/3/20	Added notes. Revised profile. Revised matchline text.

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

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.
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SIGNATURE
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 3

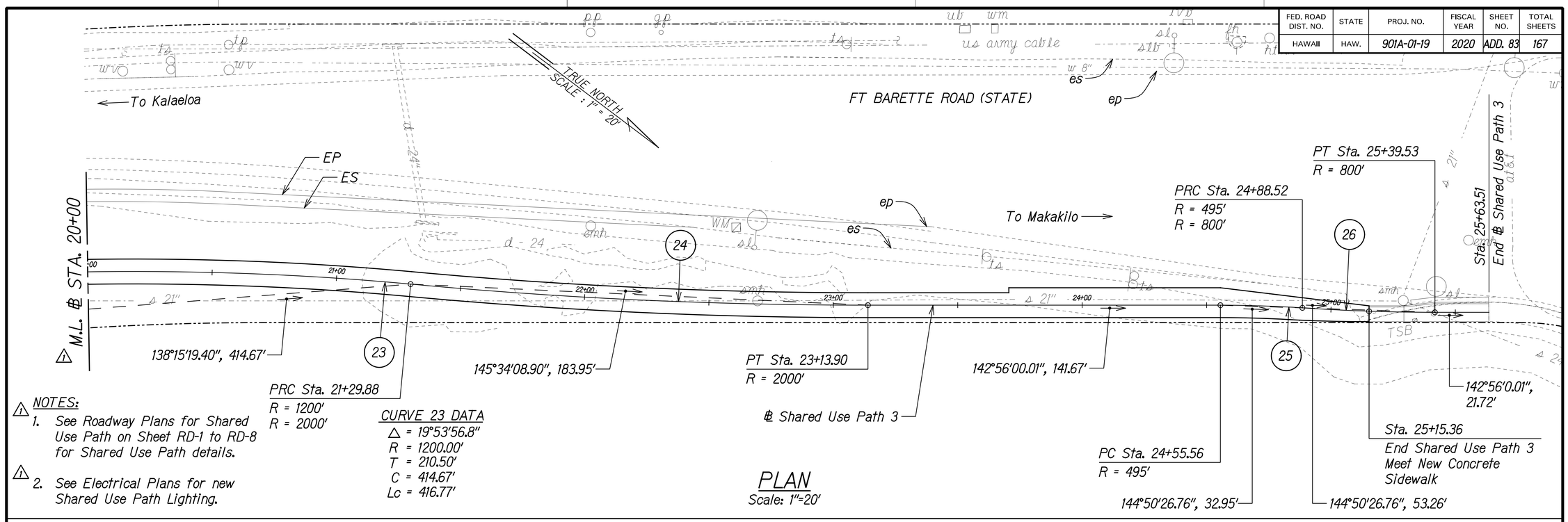
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. AL-12 OF 13 SHEETS

ADD. 82

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 83	167

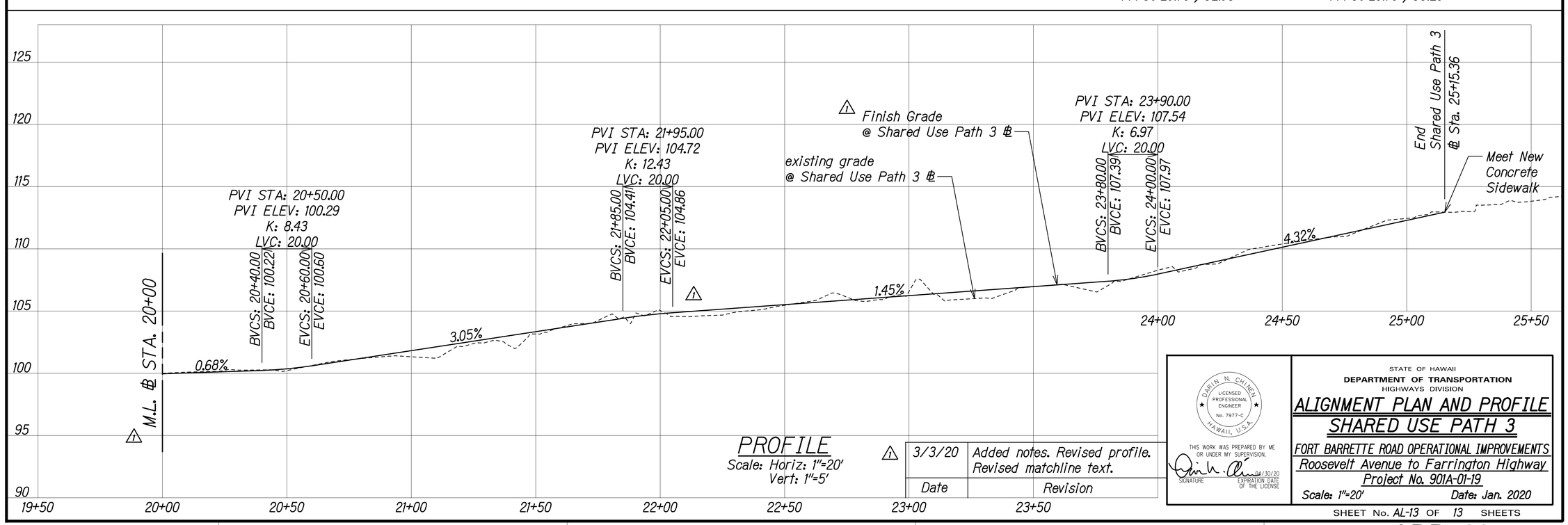


⚠ NOTES:

1. See Roadway Plans for Shared Use Path on Sheet RD-1 to RD-8 for Shared Use Path details.
2. ⚠ See Electrical Plans for new Shared Use Path Lighting.

CURVE 23 DATA
△ = 19°53'56.8"
R = 1200.00'
T = 210.50'
C = 414.67'
Lc = 416.77'

PLAN
Scale: 1"=20'



PROFILE
Scale: Horiz: 1"=20'
Vert: 1"=5'

⚠	Date	Revision
	3/3/20	Added notes. Revised profile. Revised matchline text.

ORIGINAL PLAN

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

DARIN N. CHUNG
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.
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SIGNATURE
EXPIRATION DATE OF THE LICENSE 4/30/20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ALIGNMENT PLAN AND PROFILE
SHARED USE PATH 3

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. AL-13 OF 13 SHEETS

ADD. 83

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 84	167

NOTE:

1. See Signing and Pavement Marking Plans for relocation of signs.

TRUE NORTH
SCALE : 1" = 20'

ROOSEVELT AVE. (STATE)

Sta. 0+00
Begin Shared Use Path 1

Warning Light

Meet existing sidewalk

Relocate exist metal gate, gate posts and fence to R/W line.

℄ Shared Use Path 1

R/W

M.L. ℄ STA. 2+00

To Kalaeloa

ENTERPRISE ST. (STATE)

See Detail A this Sheet

Relocate exist sign

See Detail B on Sheet RD-2

See Detail C on Sheet RD-2

Relocate exist sign

EP

es

ep

FT BARETTE ROAD (STATE)

To Makakilo

flagpoles

52.05

R/W

PLAN
Scale: 1"=20'

M.L. ℄ STA. 6+00

Relocate exist signs

℄ Shared Use Path 1

Relocate exist sign

R/W

Relocate exist sign

To Kalaeloa

es

ep

EP

ES

FT BARETTE ROAD (STATE)

To Makakilo

conc. swale

PLAN
Scale: 1"=20'

TRUE NORTH
SCALE : 1" = 20'

Sta. 0+08.69, o/s 3.06' Lt.
Sta. 0+14.74, o/s 5.0' Lt.
Sta. 0+25.77, o/s 5.0' Lt.
Sta. 0+00.30, o/s 0.0'
R=10'
0+00
Sta. 0+00.00, o/s 5.0' Rt.
Sta. 0+07.89, o/s 5.0' Rt.
Sta. 0+14.89, o/s 5.0' Rt.
Sta. 0+22.55, o/s 0.0'
R=10'
℄ Shared Use Path 1

DETAIL A
Scale: 1"=10'

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

Date	Revision
1 3/3/20	Revised topo. Removed and revised callout.

DARIN N. CHIMEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

04/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
SHARED USE PATH

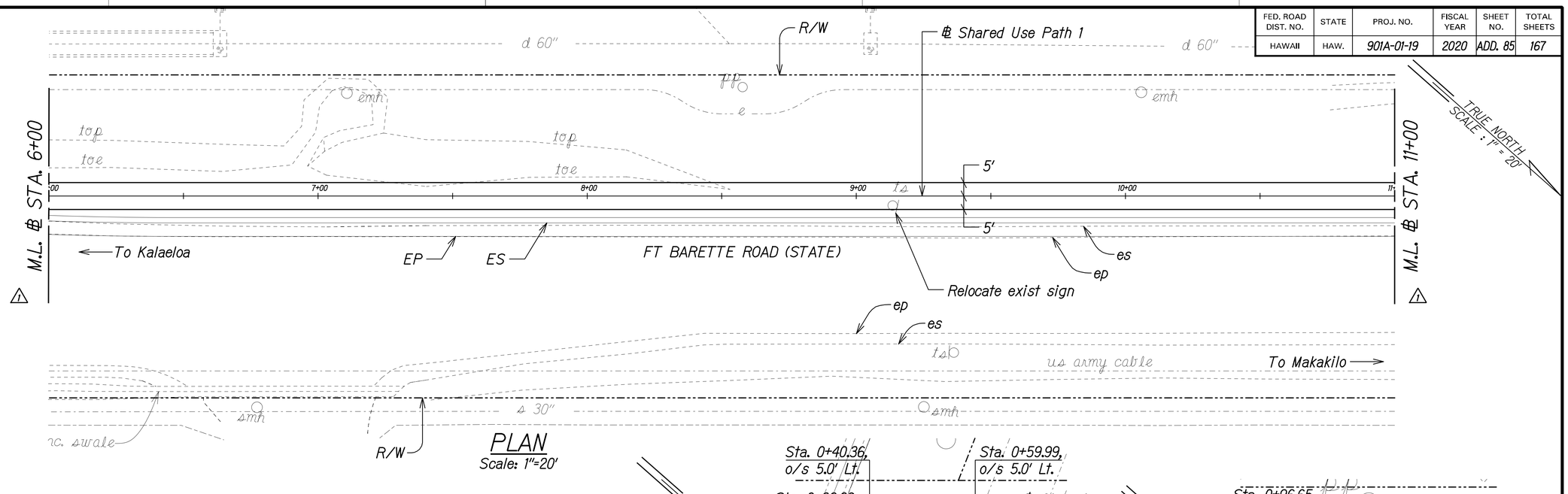
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: As Noted Date: Jan. 2020

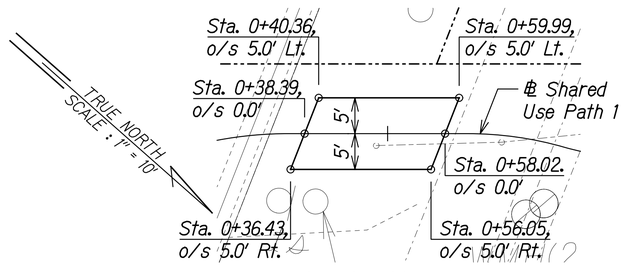
SHEET No. RD-1 OF 8 SHEETS

ADD. 84

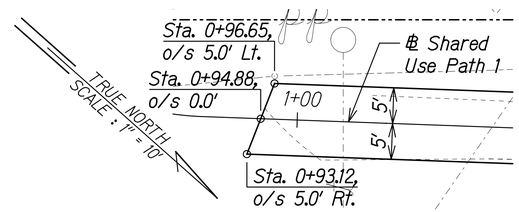
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 85	167



PLAN
Scale: 1"=20'

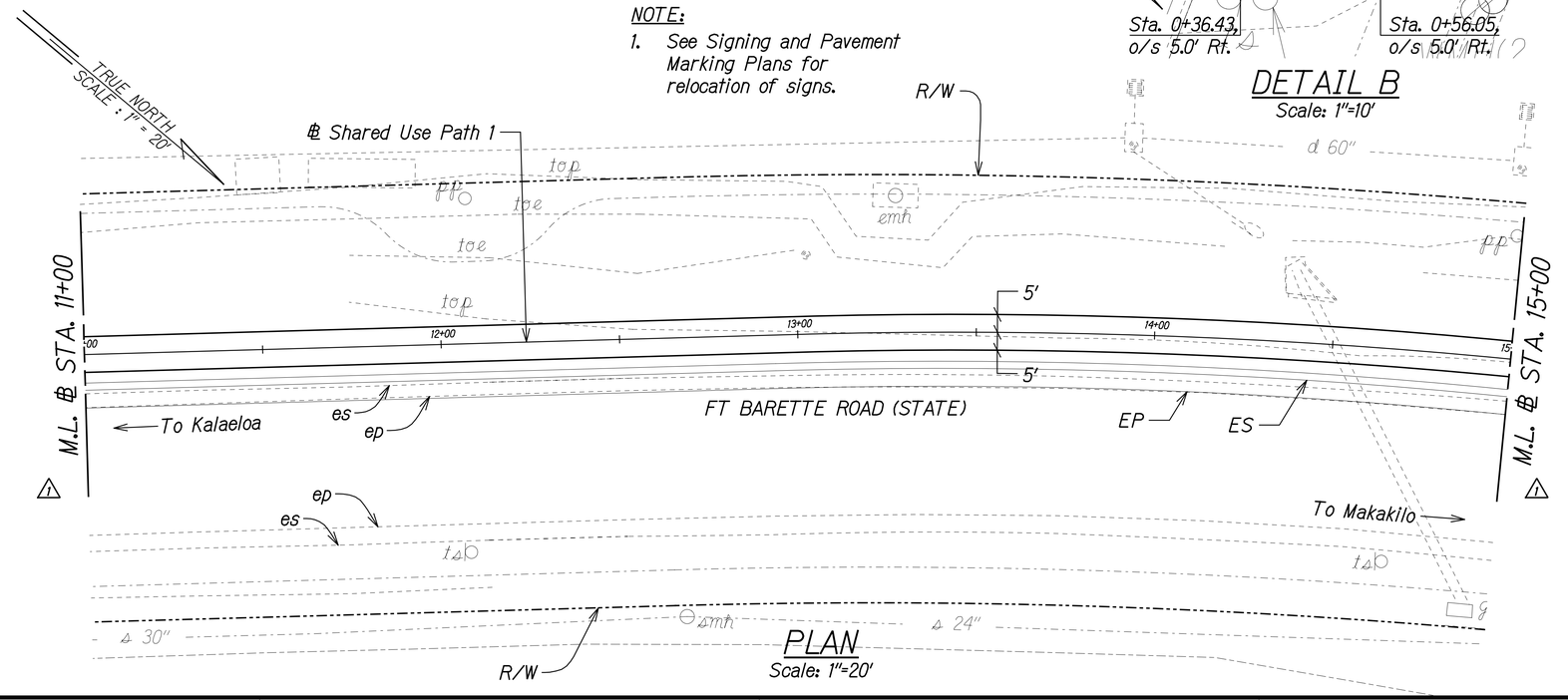


DETAIL B
Scale: 1"=10'



DETAIL C
Scale: 1"=10'

NOTE:
1. See Signing and Pavement Marking Plans for relocation of signs.



PLAN
Scale: 1"=20'

	Date	Revision
1	3/3/20	Revised topo. Revised callout.

DARIN N. CHUNG
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

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SIGNATURE — EXPIRATION DATE OF THE LICENSE: 04/30/20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
SHARED USE PATH

FORT BARETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

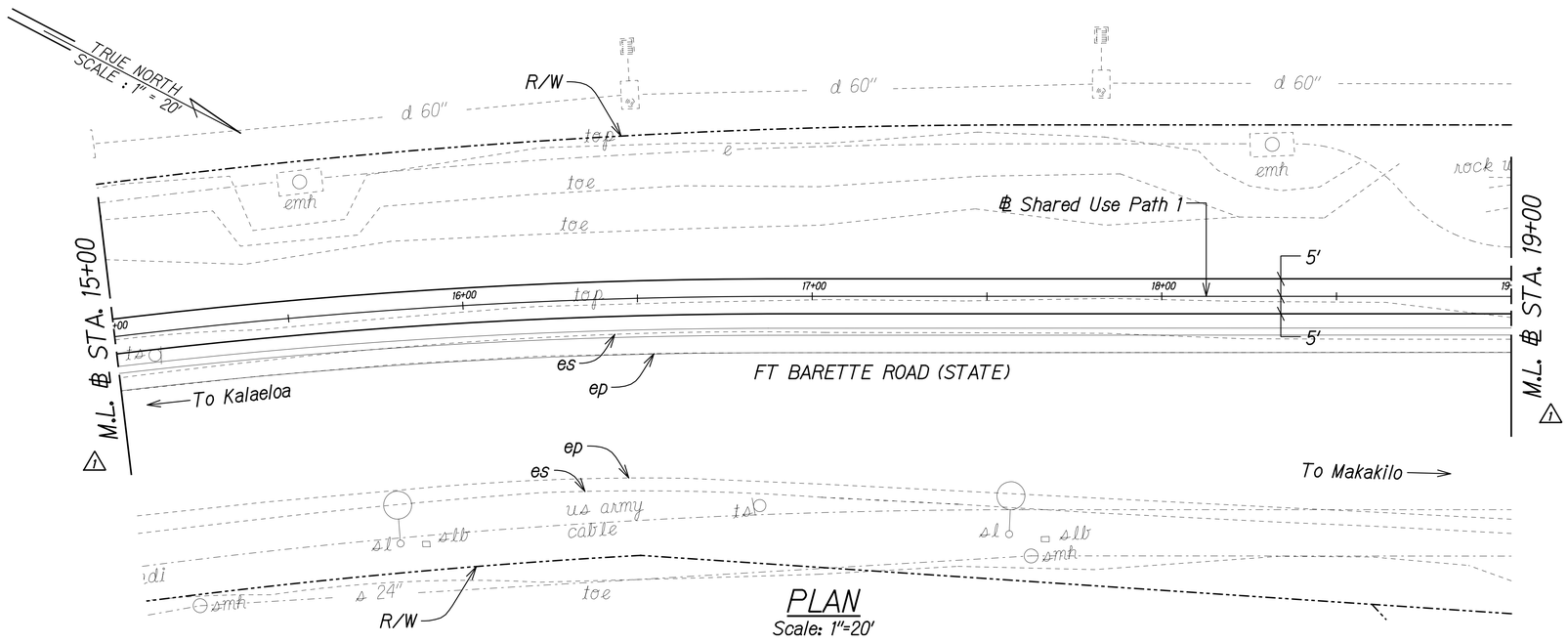
Scale: As Noted Date: Jan. 2020

SHEET No. RD-2 OF 8 SHEETS

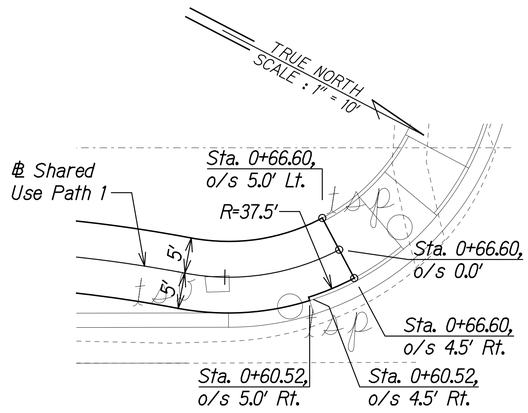
ORIGINAL PLAN
NOTE BOOK
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

ADD. 85

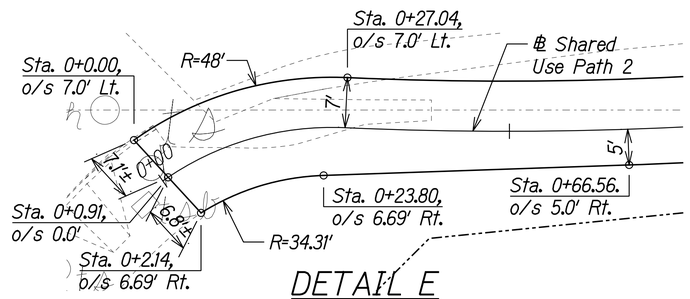
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 86	167



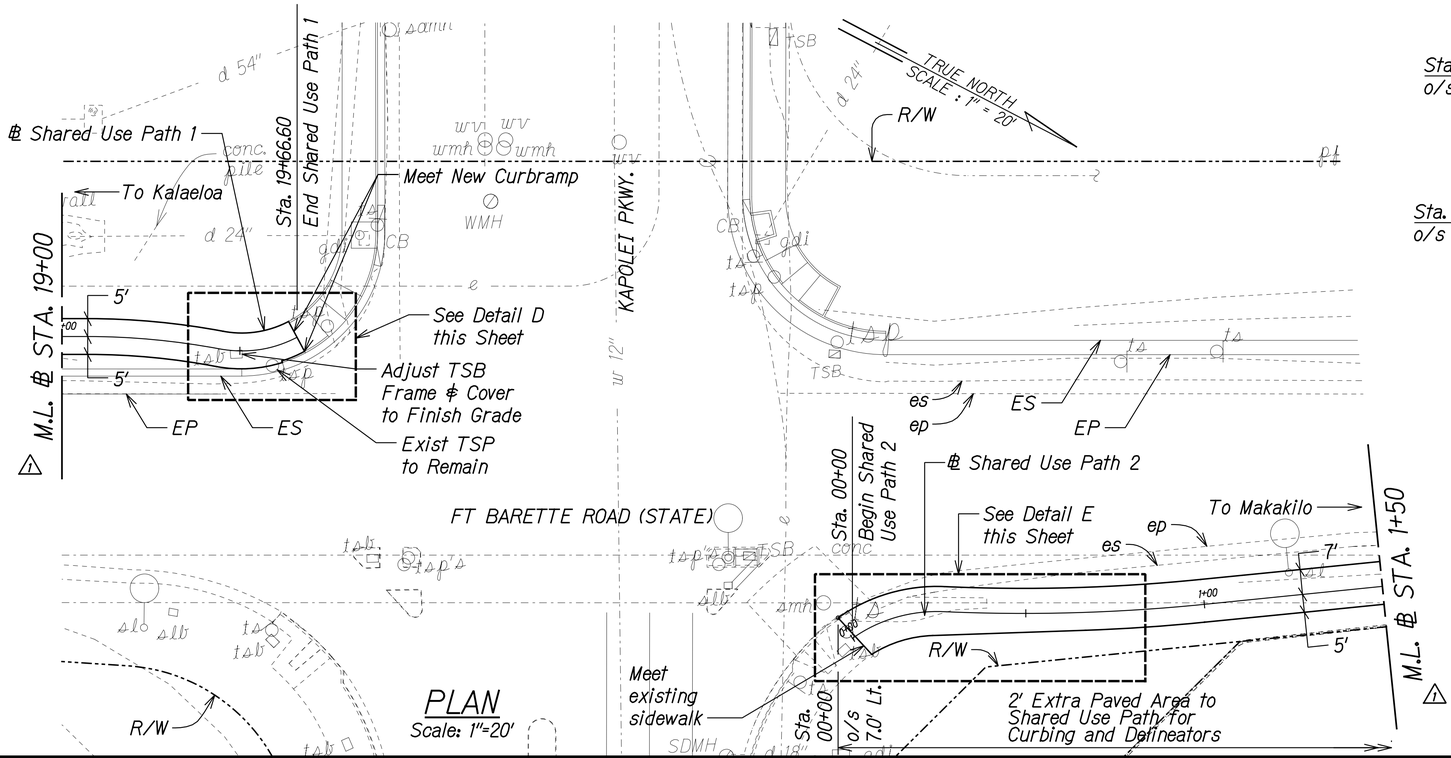
PLAN
Scale: 1"=20'



DETAIL D
Scale: 1"=10'



DETAIL E
Scale: 1"=10'



PLAN
Scale: 1"=20'

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

	Date	Revision
1	3/3/20	Revised topo. Revised callout.

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

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SIGNATURE — EXPIRATION DATE OF THE LICENSE: 4/30/20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
SHARED USE PATH

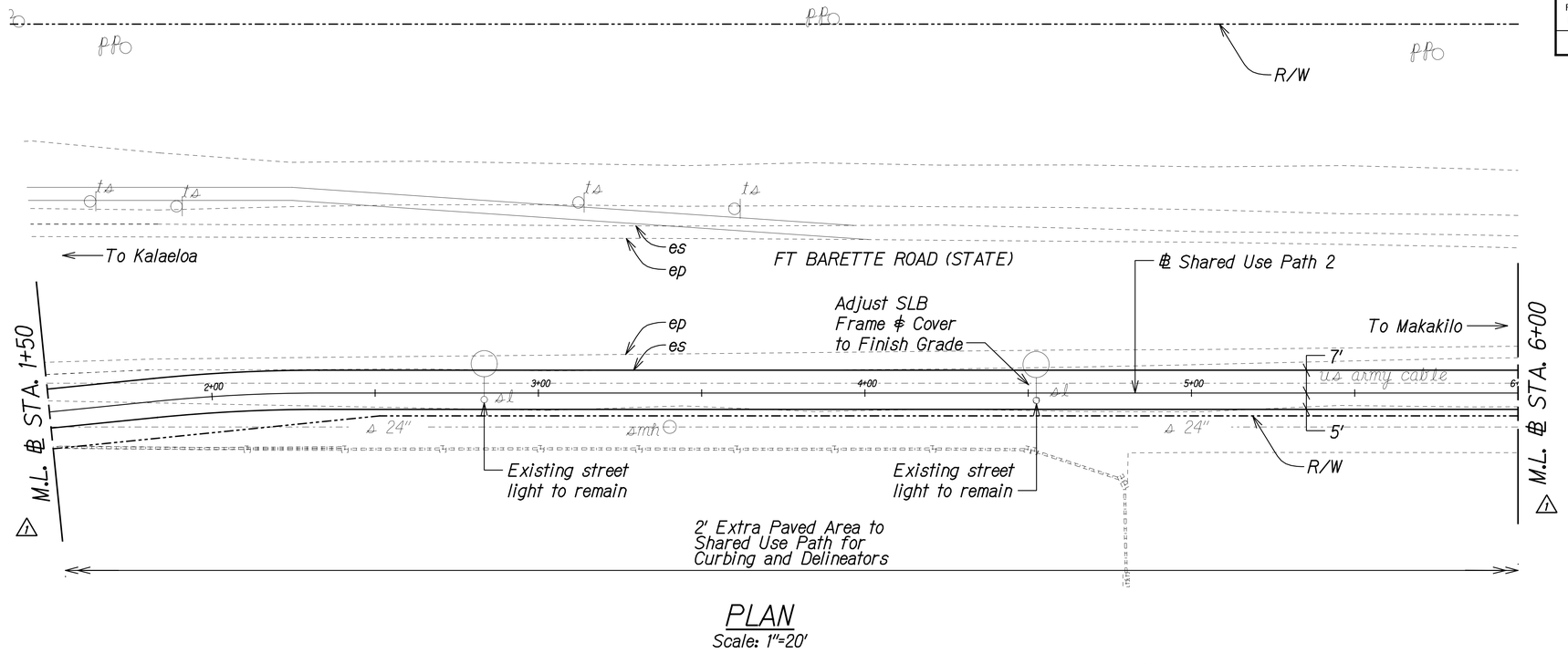
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: As Noted Date: Jan. 2020

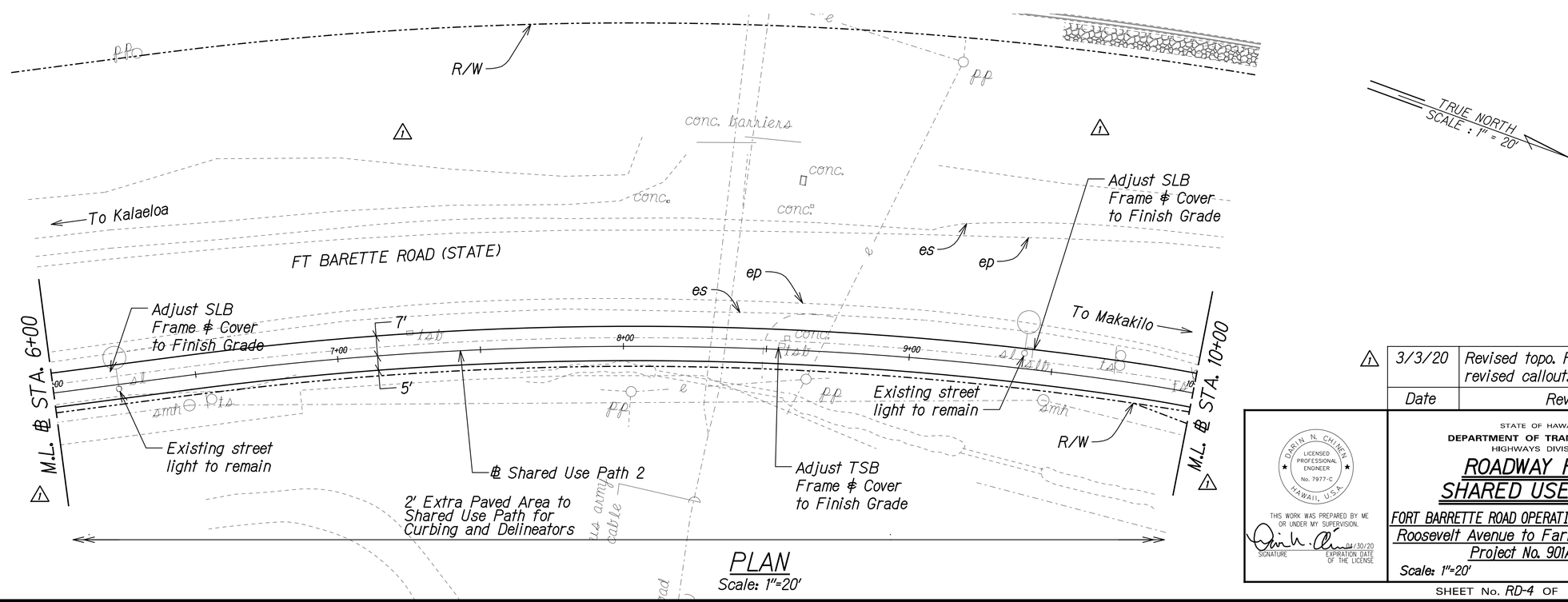
SHEET No. RD-3 OF 8 SHEETS

ADD. 86

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 87	167



PLAN
Scale: 1"=20'



PLAN
Scale: 1"=20'

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

	Date	Revision
1	3/3/20	Revised topo. Removed and revised callout.

DARIN N. CHIMEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

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SIGNATURE

3/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
SHARED USE PATH

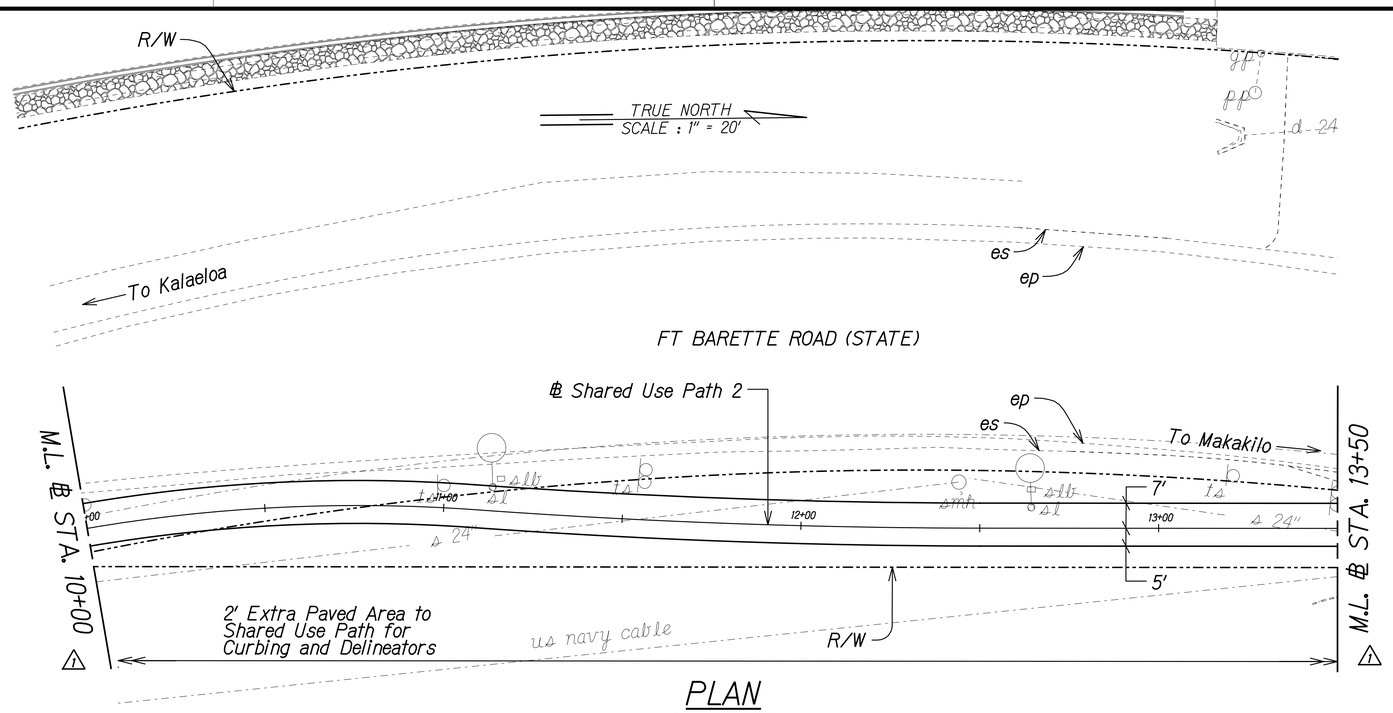
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

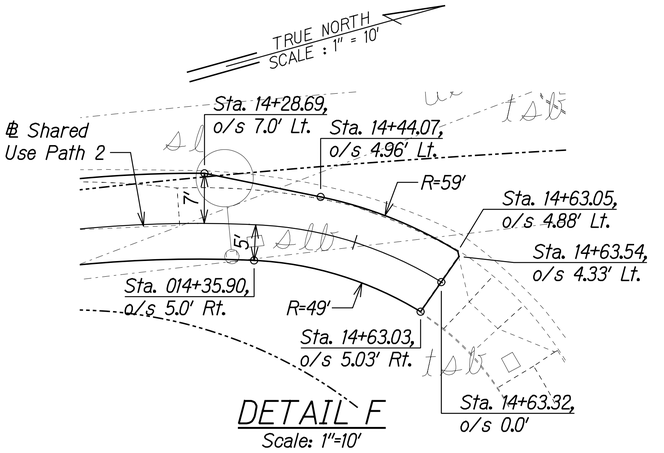
SHEET No. RD-4 OF 8 SHEETS

ADD. 87

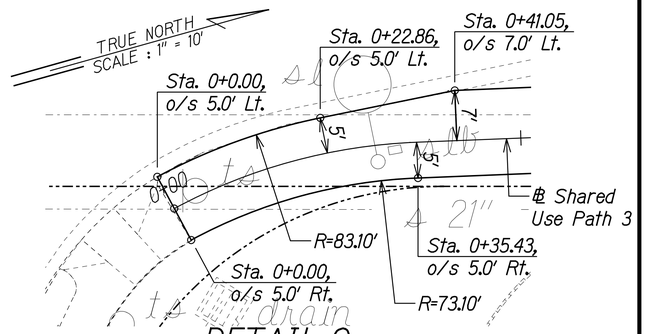
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 88	167



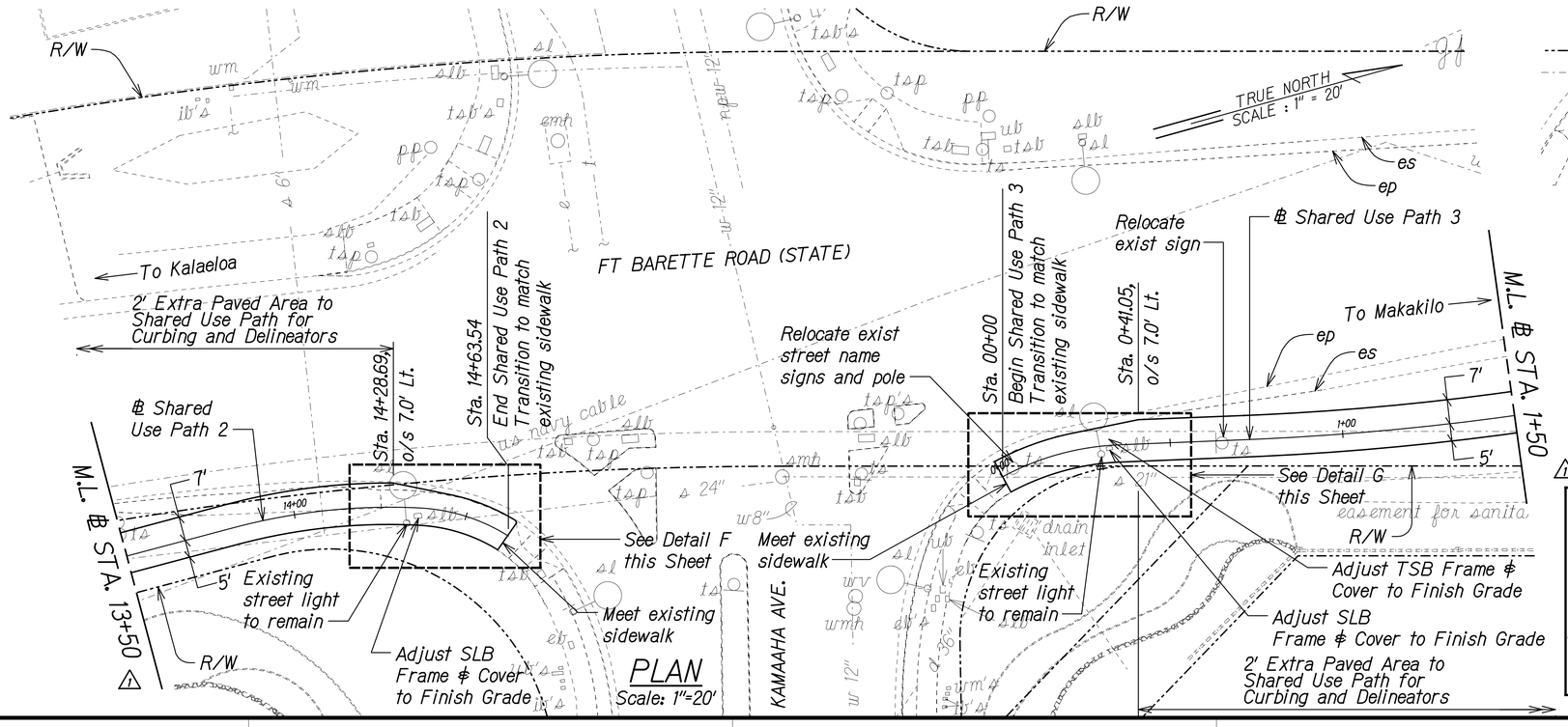
PLAN
Scale: 1"=20'



DETAIL F
Scale: 1"=10'



DETAIL G
Scale: 1"=10'



PLAN
Scale: 1"=20'

⚠	3/3/20	Revised topo. Revised callout.
	Date	Revision

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

DARIN N. CHUN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — EXPIRATION DATE OF THE LICENSE: 4/30/20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
SHARED USE PATH

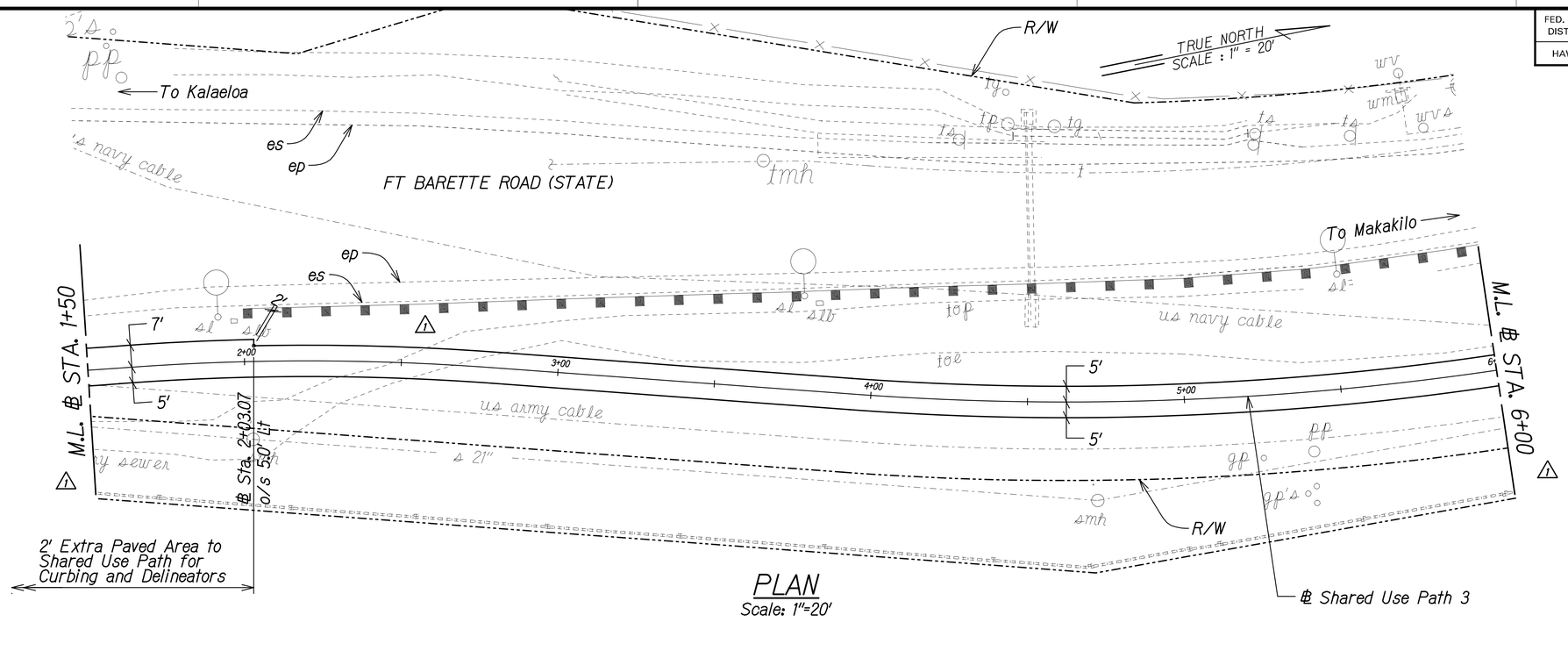
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: As Noted Date: Jan. 2020

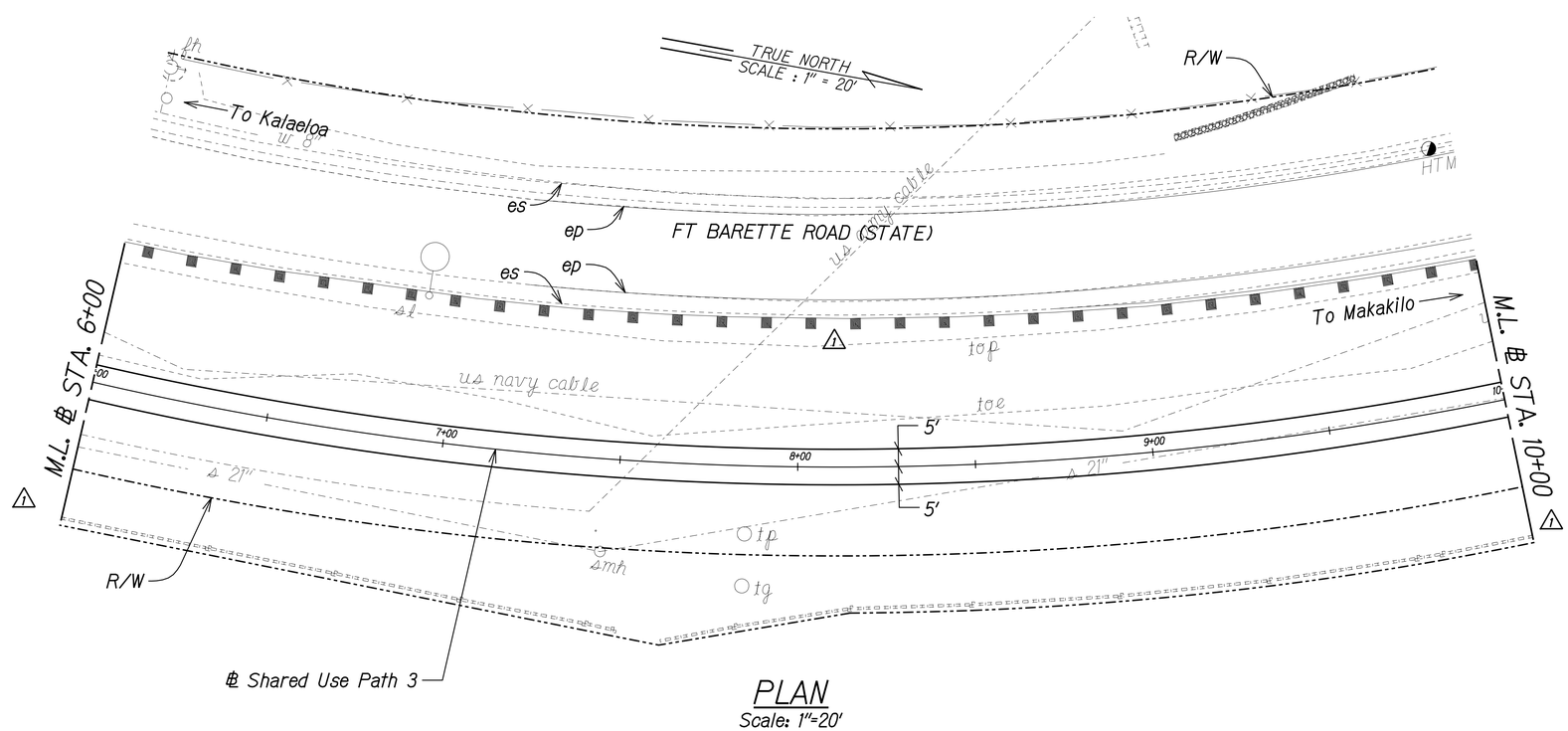
SHEET No. RD-5 OF 8 SHEETS

ADD. 88

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 89	167



PLAN
Scale: 1"=20'



PLAN
Scale: 1"=20'

1	3/3/20	Revised Base File to show New Guardrail. Revised callout.
	Date	Revision

DARIN N. CHINEN
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HAWAII, U.S.A.

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SIGNATURE

/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
SHARED USE PATH

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

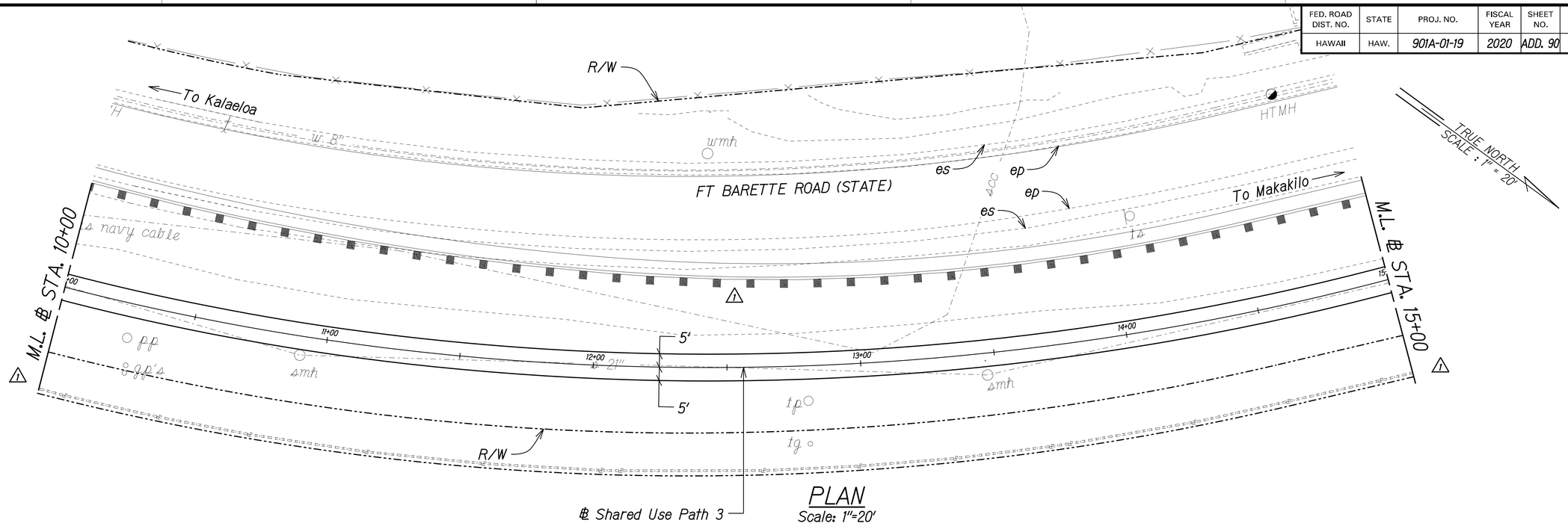
Scale: 1"=20' Date: Jan. 2020

SHEET No. RD-6 OF 8 SHEETS

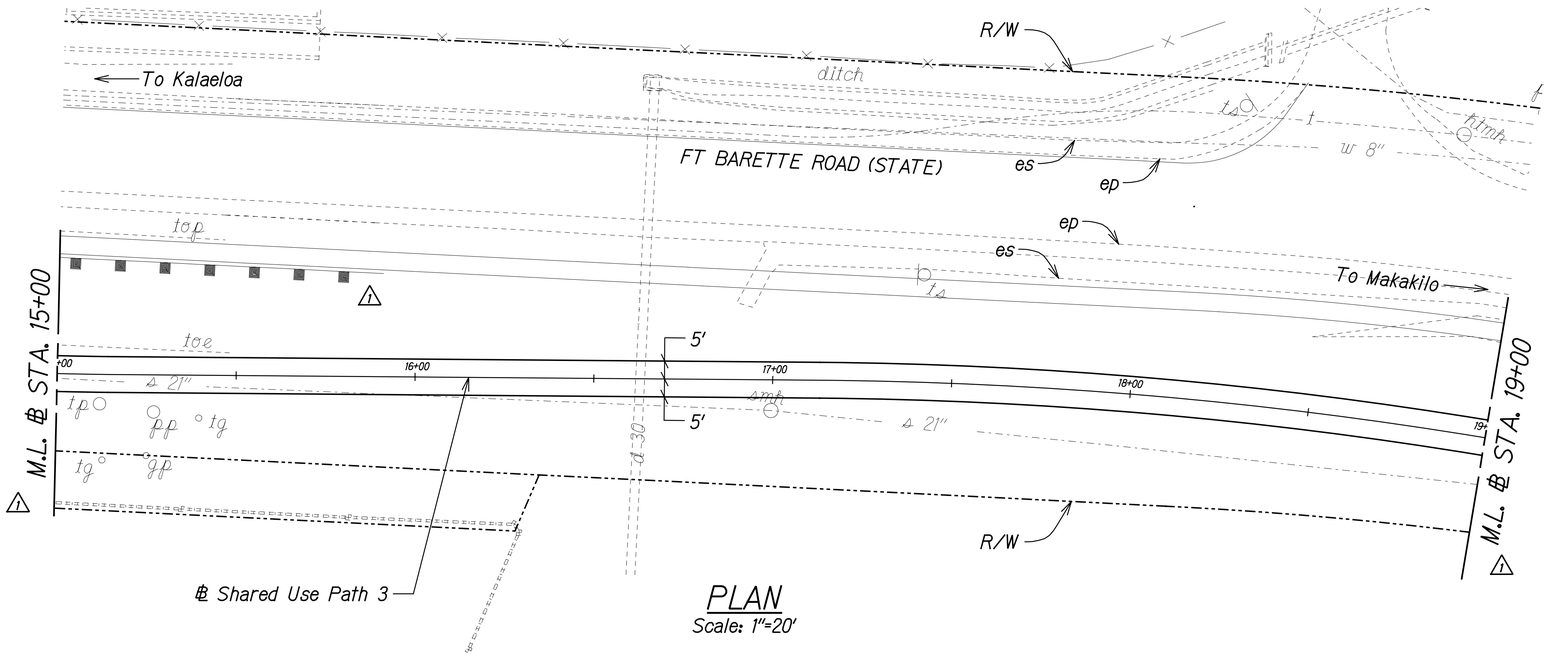
ORIGINAL PLAN
SURVEY PLOTTED BY ____ DATE
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____
NOTE BOOK ____ pg. ____

ADD. 89

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 90	167



PLAN
Scale: 1"=20'



PLAN
Scale: 1"=20'

1	3/3/20	Revised Base File to show New Guardrail. Revised callout.
	Date	Revision

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

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SIGNATURE

3/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
SHARED USE PATH

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

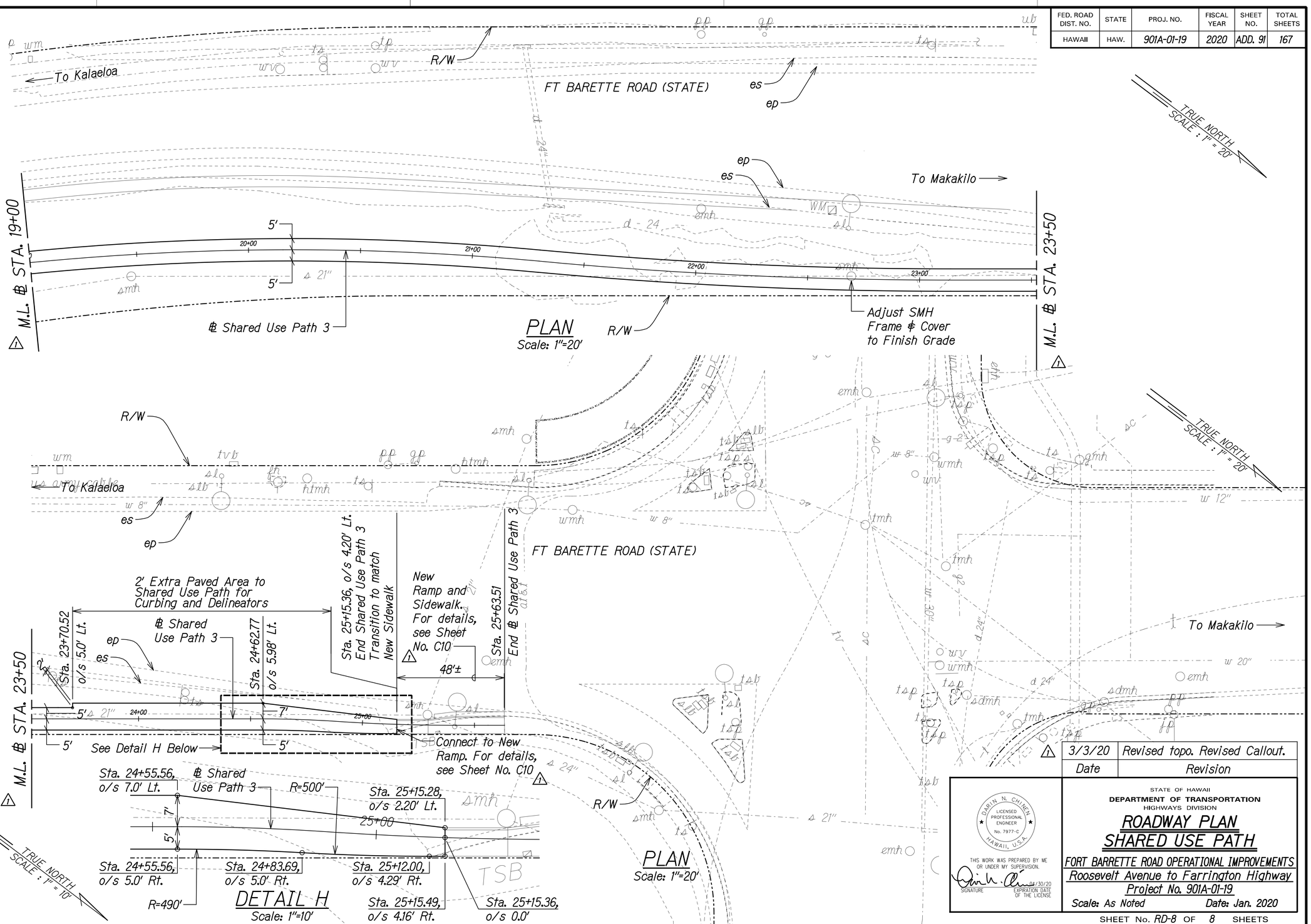
SHEET No. RD-7 OF 8 SHEETS

ADD. 90

ORIGINAL PLAN
NOTE BOOK

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 91	167



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

Date	Revision
3/3/20	Revised topo. Revised Callout.

DARIN N. CHUNG
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HAWAII, U.S.A.

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SIGNATURE — EXPIRATION DATE OF THE LICENSE: 04/30/20

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
SHARED USE PATH

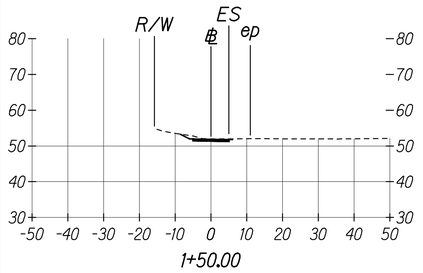
FORT BARETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: As Noted Date: Jan. 2020

SHEET No. RD-8 OF 8 SHEETS

ADD. 91

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 92	167



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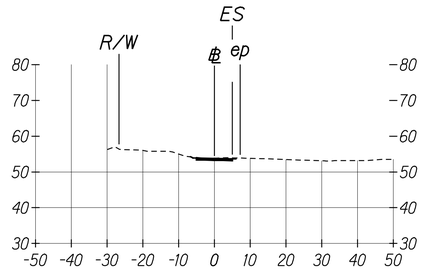
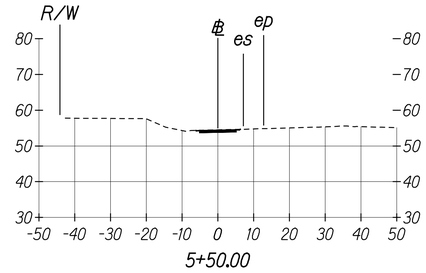
FILL: 0.00
EXC: 13.57
EMB: 0.00

1+50.00



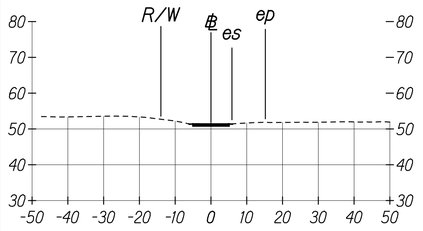
CUT: 6.70
FILL: 0.00
EXC: 21.14
EMB: 0.00

3+50.00



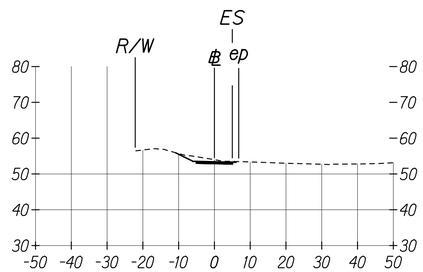
CUT: 6.21
FILL: 0.00
EXC: 10.39
EMB: 0.02

5+50.00



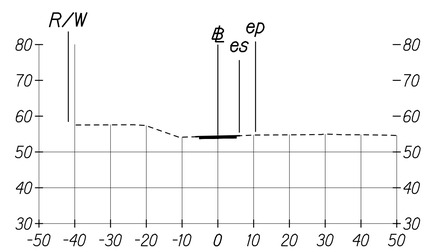
CUT: 5.08
FILL: 0.00
EXC: 11.95
EMB: 0.00

1+00.00



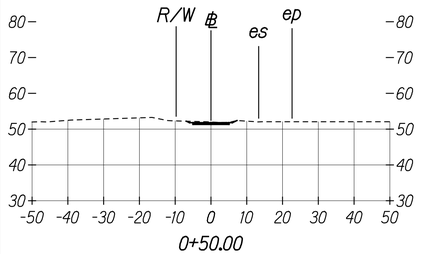
CUT: 16.10
FILL: 0.00
EXC: 18.45
EMB: 0.30

3+00.00



CUT: 5.01
FILL: 0.02
EXC: 9.07
EMB: 0.07

5+00.00



CUT: 7.83
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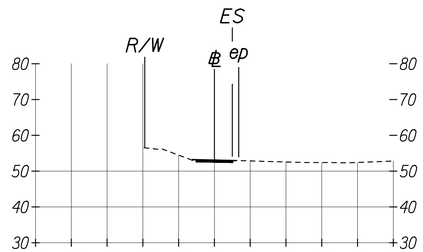
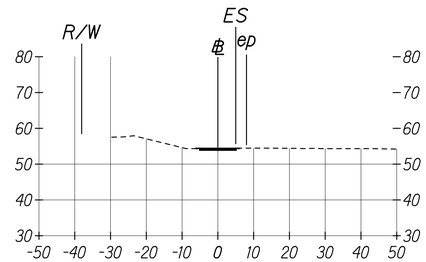
EXC: 11.95
EMB: 0.09

0+50.00



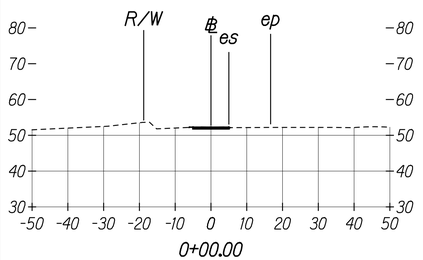
CUT: 3.79
FILL: 0.32
EXC: 12.21
EMB: 0.29

2+50.00



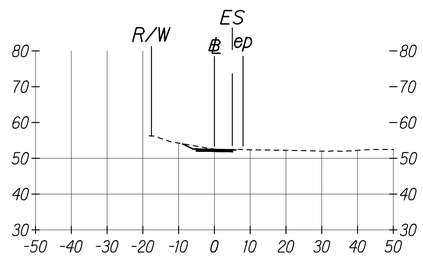
CUT: 4.78
FILL: 0.05
EXC: 9.52
EMB: 0.14

4+50.00



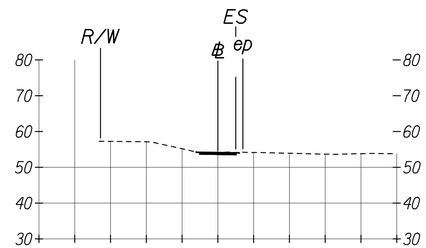
CUT: 5.08
FILL: 0.10
EXC: 0.00
EMB: 0.00

0+00.00



CUT: 9.39
FILL: 0.00
EXC: 17.57
EMB: 0.00

2+00.00



CUT: 5.50
FILL: 0.10
EXC: 11.29
EMB: 0.09

4+00.00

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

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

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SIGNATURE

12/30/20
EXPIRATION DATE OF THE LICENSE

⚠	3/3/20	Revised All Cross Sections
	Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION
SHARED USE PATH 1

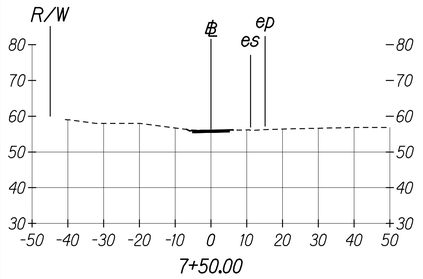
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. XS-1 OF 12 SHEETS

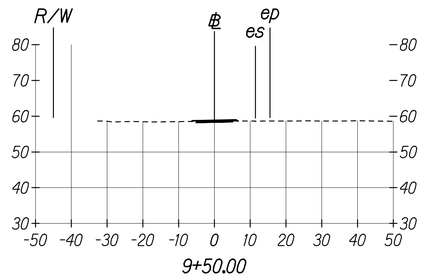
ADD. 92

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 93	167



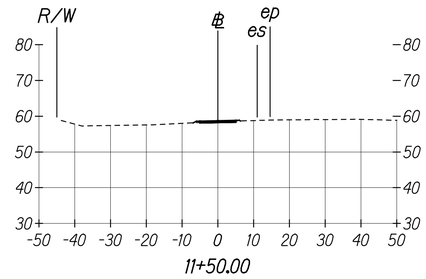
7+50.00

CUT: 5.79
FILL: 0.09
EXC: 10.65
EMB: 0.32



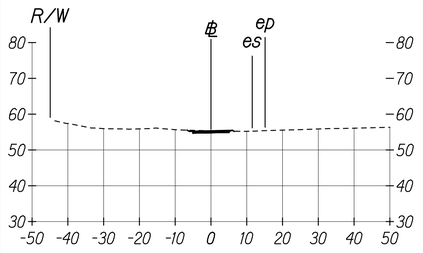
9+50.00

CUT: 2.77
FILL: 0.59
EXC: 2.63
EMB: 3.66



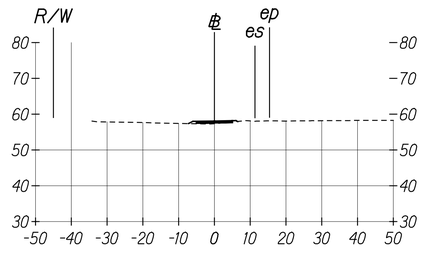
11+50.00

CUT: 2.26
FILL: 0.79
EXC: 3.64
EMB: 1.59



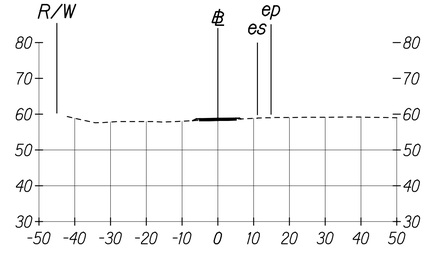
7+00.00

CUT: 5.71
FILL: 0.26
EXC: 11.75
EMB: 0.31



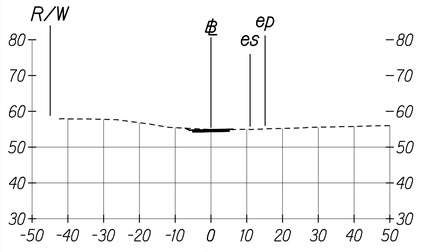
9+00.00

CUT: 0.07
FILL: 3.36
EXC: 0.80
EMB: 3.84



11+00.00

CUT: 1.67
FILL: 0.92
EXC: 4.37
EMB: 1.27



6+50.00

CUT: 6.98
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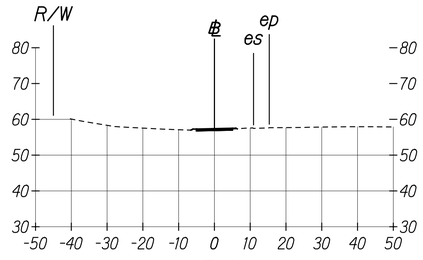
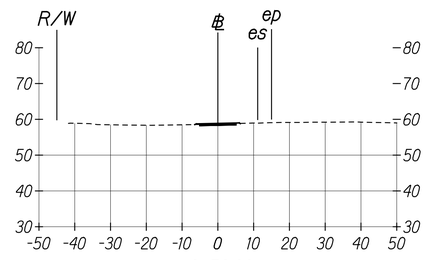
EXC: 12.37
EMB: 0.07



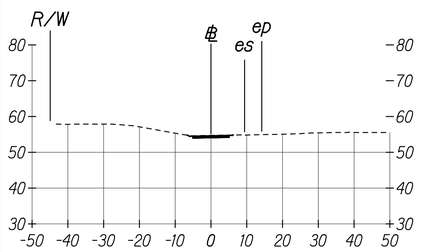
8+50.00

CUT: 0.79
FILL: 0.78
EXC: 3.57
EMB: 0.94



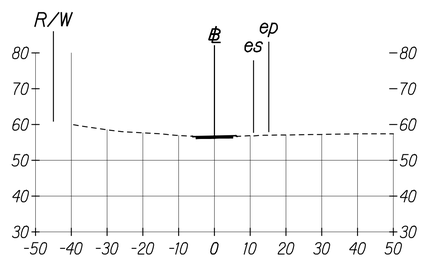
10+50.00

CUT: 3.05
FILL: 0.45
EXC: 6.63
EMB: 0.70



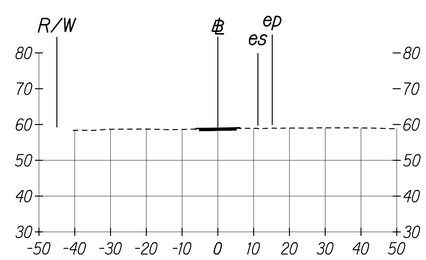
6+00.00

CUT: 6.39
FILL: 0.00
EXC: 11.67
EMB: 0.00



8+00.00

CUT: 3.06
FILL: 0.23
EXC: 8.20
EMB: 0.29



10+00.00

CUT: 4.11
FILL: 0.30
EXC: 6.36
EMB: 0.82

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

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — 12/30/20 EXPIRATION DATE OF THE LICENSE

⚠	3/3/20	Revised All Cross Sections
	Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION
SHARED USE PATH 1

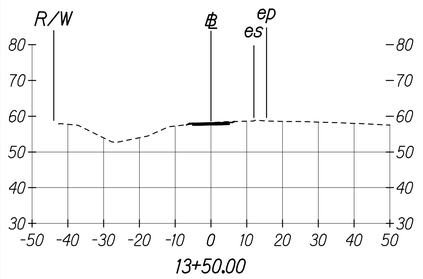
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. XS-2 OF 12 SHEETS

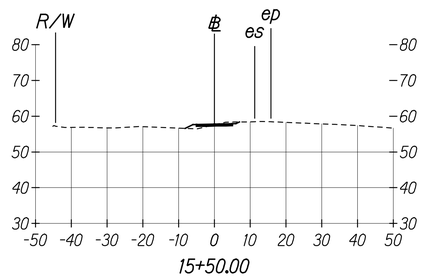
ADD. 93

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 94	167



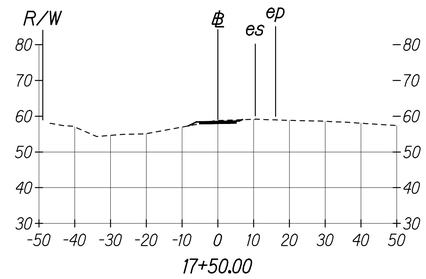
13+50.00

CUT: 6.28
FILL: 0.38
EXC: 9.08
EMB: 3.12



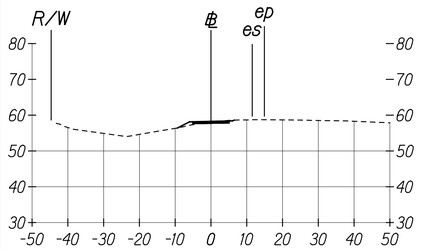
15+50.00

CUT: 4.57
FILL: 3.91
EXC: 6.96
EMB: 7.79



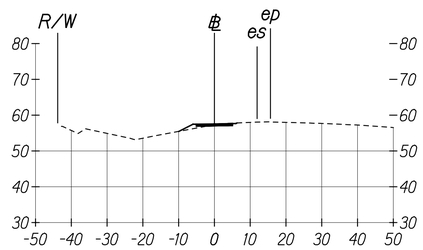
17+50.00

CUT: 6.88
FILL: 1.33
EXC: 13.48
EMB: 2.01



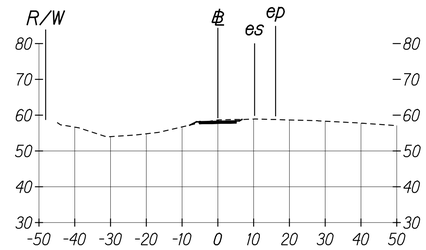
13+00.00

CUT: 3.53
FILL: 2.97
EXC: 6.06
EMB: 3.29



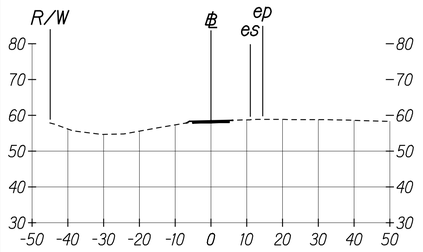
15+00.00

CUT: 2.96
FILL: 4.47
EXC: 5.96
EMB: 16.06



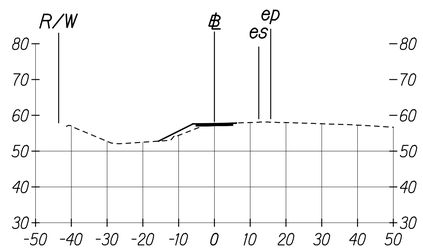
17+00.00

CUT: 7.67
FILL: 0.84
EXC: 14.16
EMB: 1.52



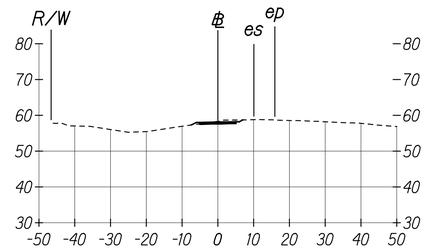
12+50.00

CUT: 3.01
FILL: 0.59
EXC: 3.44
EMB: 3.45



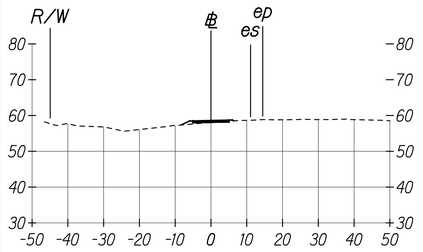
14+50.00

CUT: 3.49
FILL: 12.79
EXC: 10.70
EMB: 11.91



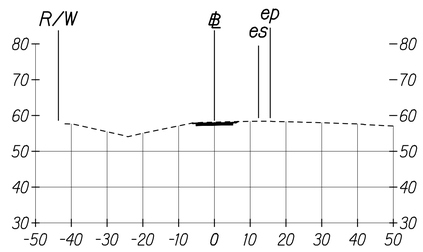
16+50.00

CUT: 7.63
FILL: 0.79
EXC: 8.49
EMB: 3.98



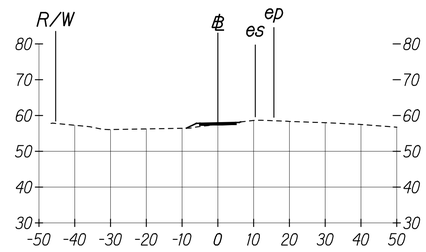
12+00.00

CUT: 0.70
FILL: 3.14
EXC: 2.74
EMB: 3.64



14+00.00

CUT: 8.08
FILL: 0.00
EXC: 13.29
EMB: 0.36



16+00.00

CUT: 1.55
FILL: 3.49
EXC: 5.65
EMB: 6.87

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

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

12/30/20
EXPIRATION DATE OF THE LICENSE

⚠	3/3/20	Revised All Cross Sections
	Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION
SHARED USE PATH 1

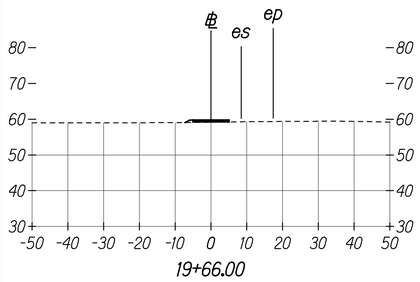
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. XS-3 OF 12 SHEETS

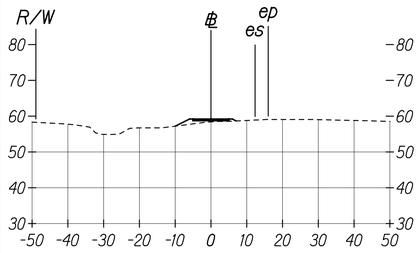
ADD. 94

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 95	167



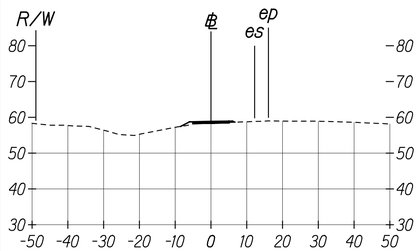
19+66.00

CUT: 0.00
FILL: 2.35
EXC: 0.00
EMB: 13.17



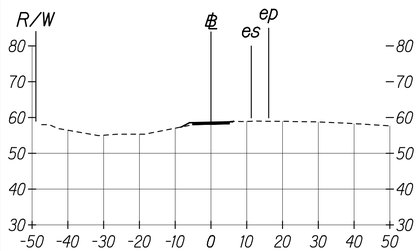
19+00.00

CUT: 0.00
FILL: 8.67
EXC: 0.28
EMB: 10.20



18+50.00

CUT: 0.31
FILL: 2.34
EXC: 2.46
EMB: 3.71



18+00.00

CUT: 2.35
FILL: 1.67
EXC: 8.55
EMB: 2.78

SUMMARY

SHARED USE PATH 1	EXC CU YD	EMB CU YD
TOTAL	340	109

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

Date	Revision
3/3/20	Revised All Cross Sections and Summary Schedule

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

3/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION SHARED USE PATH 1

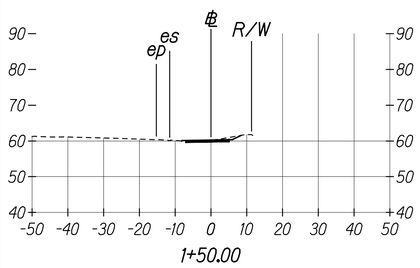
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. XS-4 OF 12 SHEETS

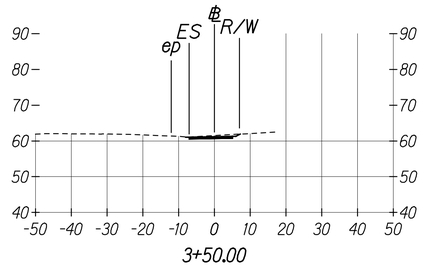
ADD. 95

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 96	167



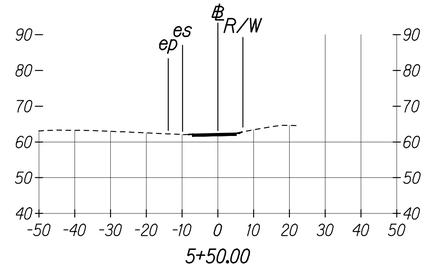
1+50.00

CUT: 6.21
FILL: 0.21
EXC: 22.89
EMB: 0.20



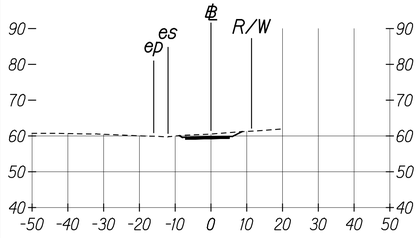
3+50.00

CUT: 10.65
FILL: 0.00
EXC: 16.30
EMB: 0.12



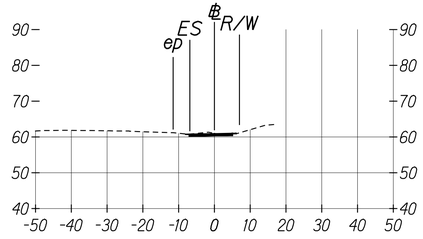
5+50.00

CUT: 5.25
FILL: 0.07
EXC: 9.26
EMB: 0.14



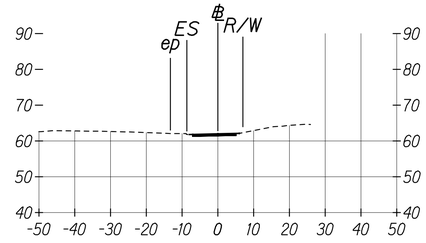
1+00.00

CUT: 18.51
FILL: 0.00
EXC: 23.63
EMB: 0.08



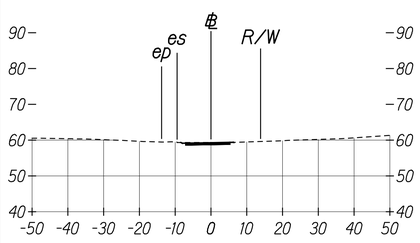
3+00.00

CUT: 6.95
FILL: 0.12
EXC: 23.36
EMB: 0.11



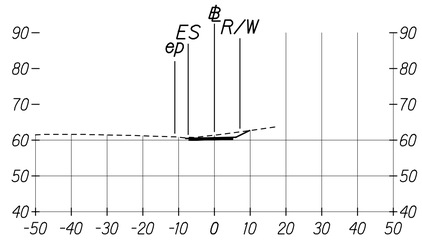
5+00.00

CUT: 4.75
FILL: 0.09
EXC: 16.55
EMB: 0.08



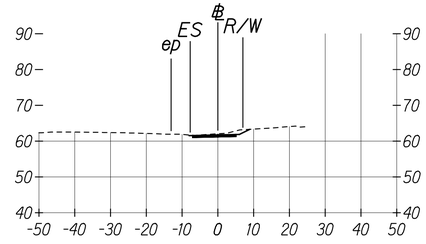
0+50.00

CUT: 7.03
FILL: 0.09
EXC: 12.05
EMB: 0.78



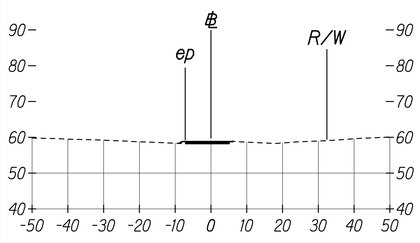
2+50.00

CUT: 18.28
FILL: 0.00
EXC: 32.16
EMB: 0.00



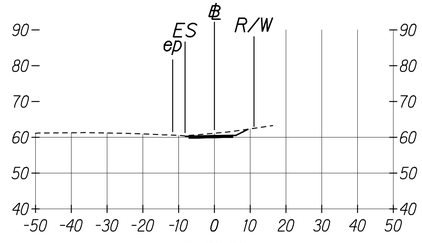
4+50.00

CUT: 13.13
FILL: 0.00
EXC: 25.90
EMB: 0.00



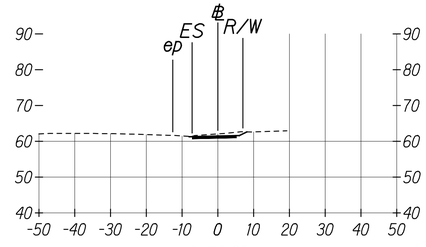
0+00.00

CUT: 5.80
FILL: 0.69
EXC: 0.00
EMB: 0.00



2+00.00

CUT: 16.51
FILL: 0.00
EXC: 21.02
EMB: 0.20



4+00.00

CUT: 14.84
FILL: 0.00
EXC: 23.60
EMB: 0.00

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

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — 4/30/20 EXPIRATION DATE OF THE LICENSE

⚠	3/3/20	Revised All Cross Sections
	Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION
SHARED USE PATH 2

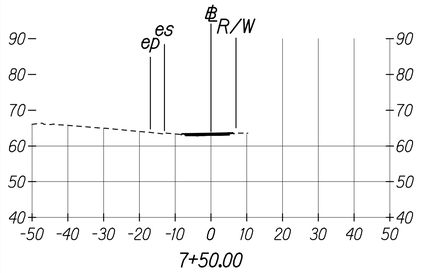
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. XS-5 OF 12 SHEETS

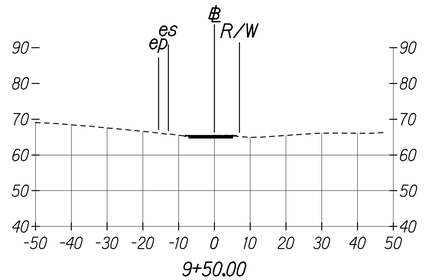
ADD. 96

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 97	167



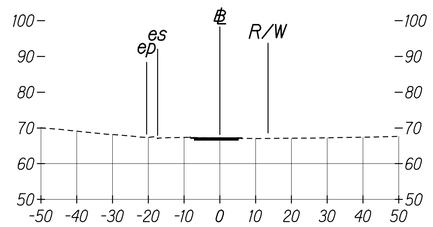
7+50.00

CUT: 0.64
FILL: 1.13
EXC: 2.39
EMB: 1.41



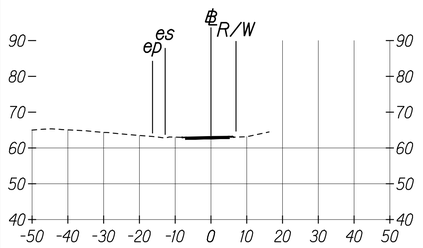
9+50.00

CUT: 5.28
FILL: 0.27
EXC: 9.88
EMB: 0.64



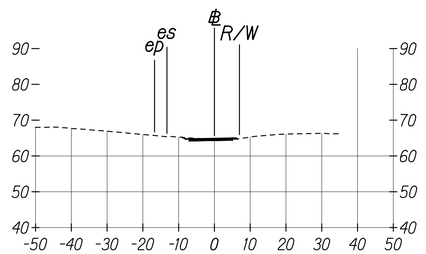
11+50.00

CUT: 6.47
FILL: 0.07
EXC: 9.21
EMB: 0.81



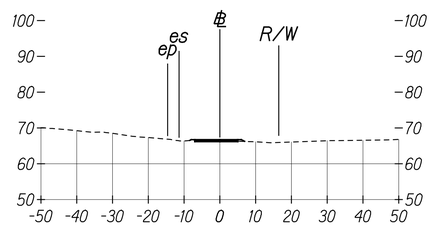
7+00.00

CUT: 1.94
FILL: 0.39
EXC: 6.83
EMB: 0.38



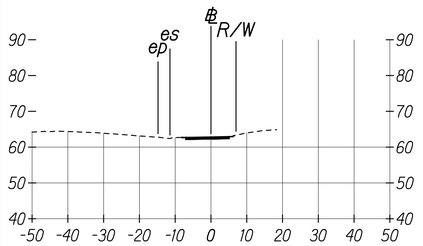
9+00.00

CUT: 5.38
FILL: 0.42
EXC: 11.62
EMB: 0.39



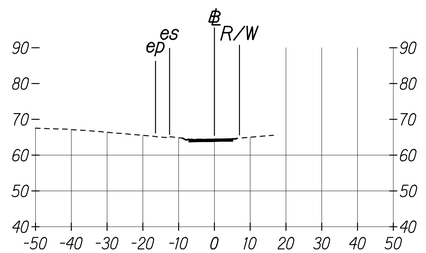
11+00.00

CUT: 3.47
FILL: 0.80
EXC: 7.64
EMB: 0.96



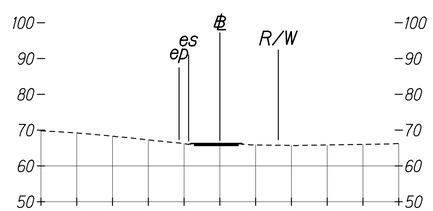
6+50.00

CUT: 5.42
FILL: 0.02
EXC: 13.25
EMB: 0.09



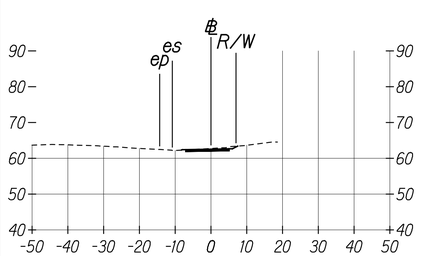
8+50.00

CUT: 7.15
FILL: 0.00
EXC: 16.70
EMB: 0.00



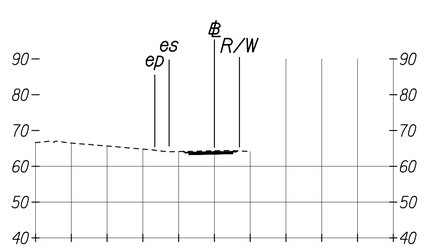
10+50.00

CUT: 4.74
FILL: 0.25
EXC: 13.90
EMB: 0.23



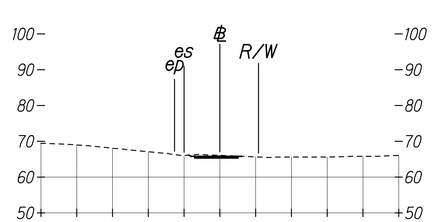
6+00.00

CUT: 8.89
FILL: 0.08
EXC: 13.10
EMB: 0.13



8+00.00

CUT: 10.87
FILL: 0.00
EXC: 10.66
EMB: 1.04



10+00.00

CUT: 10.22
FILL: 0.00
EXC: 14.37
EMB: 0.25

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

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — 4/30/20 EXPIRATION DATE OF THE LICENSE

⚠	3/3/20	Revised All Cross Sections
	Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION
SHARED USE PATH 2

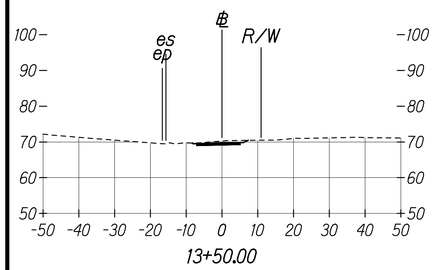
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. XS-6 OF 12 SHEETS

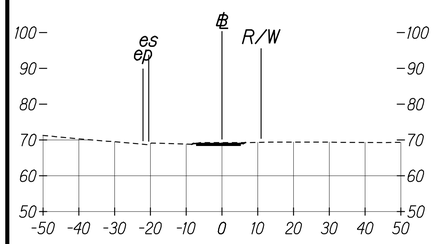
ADD. 97

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 98	167



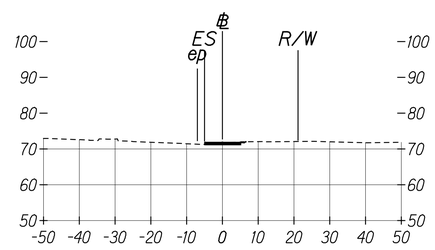
13+50.00

CUT: 12.93
FILL: 0.00
EXC: 20.74
EMB: 0.05



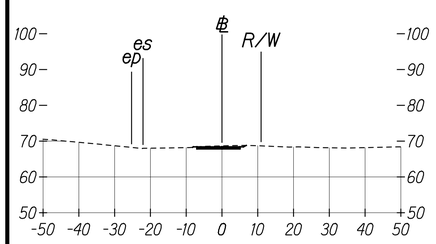
13+00.00

CUT: 9.47
FILL: 0.06
EXC: 17.48
EMB: 0.13



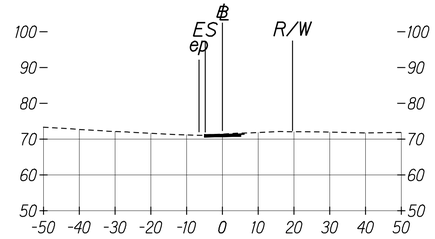
14+63.54

CUT: 5.18
FILL: 0.00
EXC: 2.93
EMB: 0.01



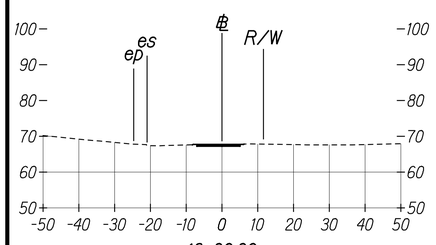
12+50.00

CUT: 9.41
FILL: 0.08
EXC: 13.84
EMB: 0.20



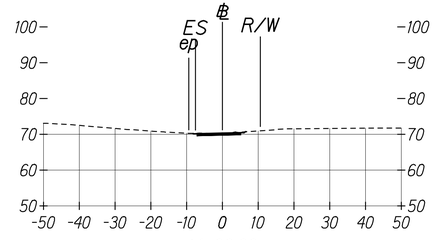
14+50.00

CUT: 6.66
FILL: 0.03
EXC: 12.47
EMB: 0.03



12+00.00

CUT: 5.54
FILL: 0.14
EXC: 11.11
EMB: 0.20



14+00.00

CUT: 6.81
FILL: 0.00
EXC: 18.28
EMB: 0.00

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

ORIGINAL PLAN
NOTE BOOK
No.

SUMMARY

SHARED USE PATH 2	EXC CU YD	EMB CU YD
TOTAL	453	9

Date	Revision
3/3/20	Revised All Cross Sections and Summary Schedule

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION
SHARED USE PATH 2

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

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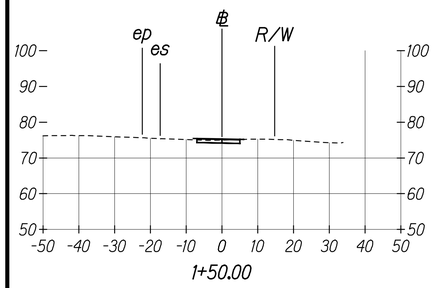
SIGNATURE 6/30/20 EXPIRATION DATE OF THE LICENSE

SHEET No. XS-7 OF 12 SHEETS

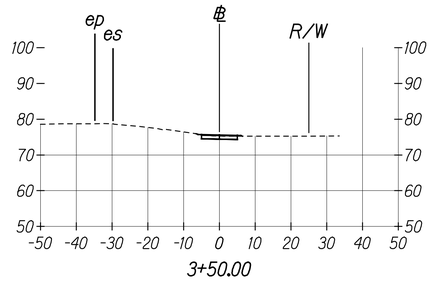
ADD. 98

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 99	167



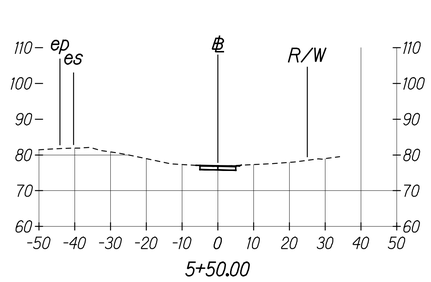
CUT: 10.05
FILL: 0.45
EXC: 19.85
EMB: 0.81

1+50.00



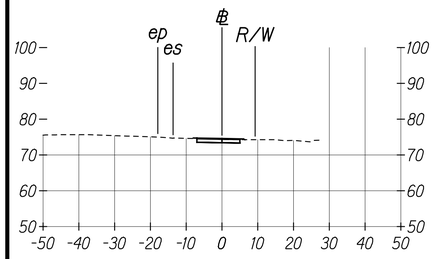
CUT: 9.46
FILL: 0.26
EXC: 18.50
EMB: 0.51

3+50.00



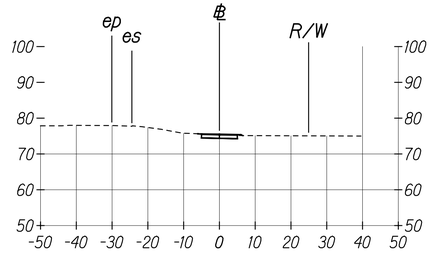
CUT: 10.95
FILL: 0.06
EXC: 18.94
EMB: 1.08

5+50.00



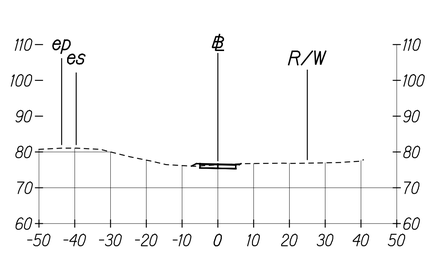
CUT: 11.41
FILL: 0.43
EXC: 24.15
EMB: 0.39

1+00.00



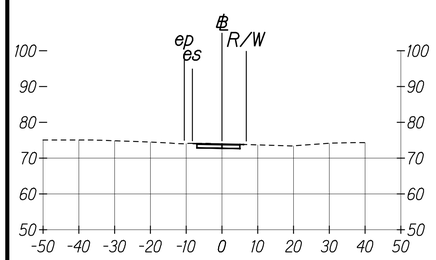
CUT: 10.52
FILL: 0.30
EXC: 27.92
EMB: 1.58

3+00.00



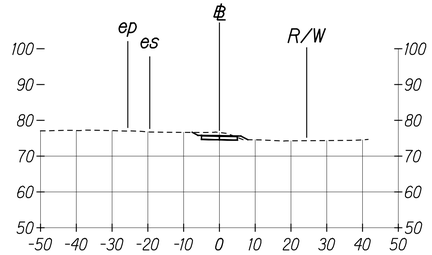
CUT: 9.49
FILL: 1.11
EXC: 38.66
EMB: 1.02

5+00.00



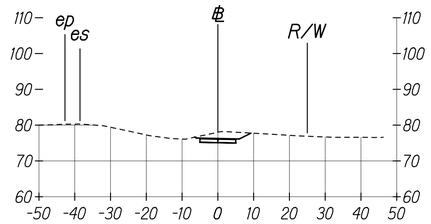
CUT: 14.69
FILL: 0.00
EXC: 24.41
EMB: 0.45

0+50.00



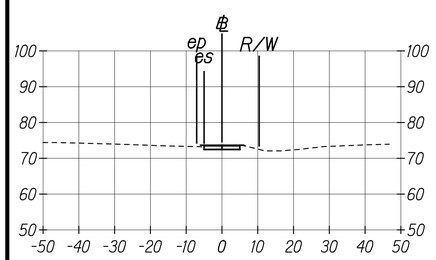
CUT: 19.62
FILL: 1.42
EXC: 31.89
EMB: 1.48

2+50.00



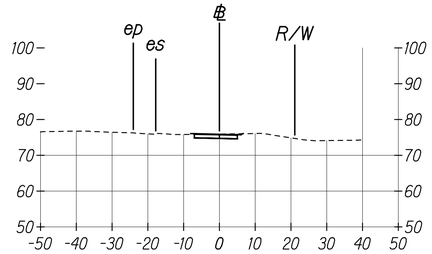
CUT: 32.21
FILL: 0.00
EXC: 37.59
EMB: 0.84

4+50.00



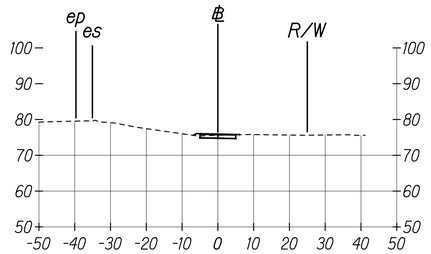
CUT: 11.52
FILL: 0.47
EXC: 0.00
EMB: 0.00

0+00.00



CUT: 14.78
FILL: 0.18
EXC: 23.00
EMB: 0.59

2+00.00



CUT: 8.34
FILL: 0.91
EXC: 16.48
EMB: 1.08

4+00.00

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

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

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SIGNATURE — 4/30/20 EXPIRATION DATE OF THE LICENSE

⚠	3/3/20	Revised All Cross Sections
	Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION
SHARED USE PATH 3

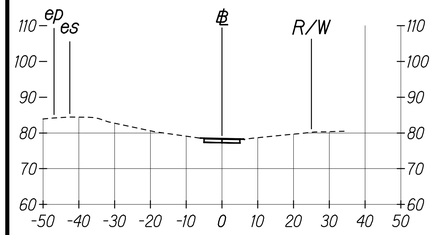
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. XS-8 OF 12 SHEETS

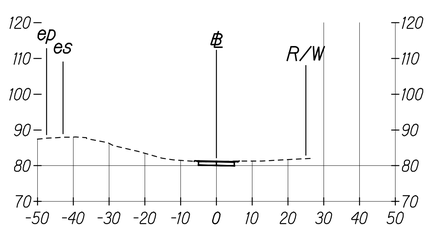
ADD. 99

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 100	167



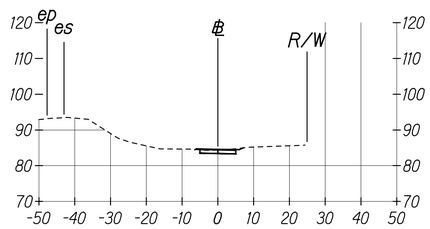
7+50.00

CUT: 10.05
FILL: 0.23
EXC: 20.29
EMB: 0.22



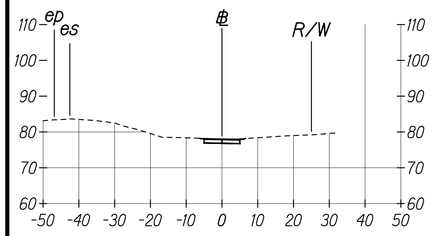
9+50.00

CUT: 11.17
FILL: 0.17
EXC: 19.60
EMB: 0.49



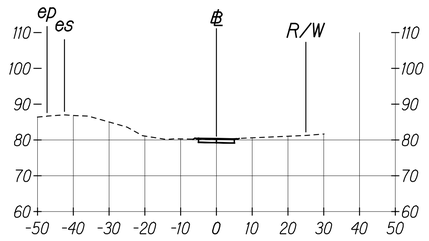
11+50.00

CUT: 10.54
FILL: 0.26
EXC: 21.78
EMB: 0.31



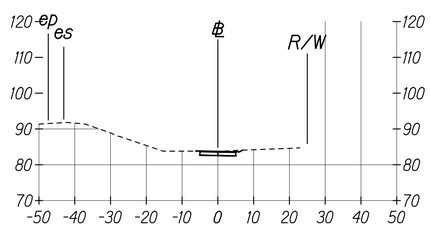
7+00.00

CUT: 11.86
FILL: 0.00
EXC: 19.84
EMB: 0.46



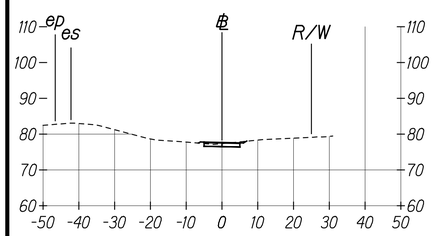
9+00.00

CUT: 9.98
FILL: 0.37
EXC: 20.46
EMB: 0.82



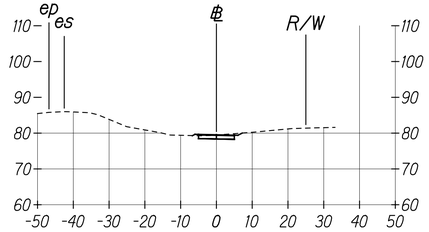
11+00.00

CUT: 12.97
FILL: 0.07
EXC: 23.59
EMB: 0.30



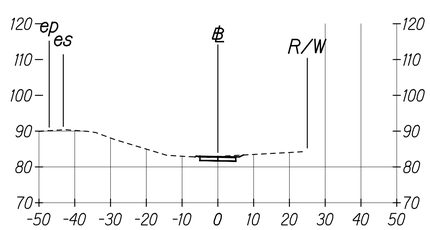
6+50.00

CUT: 9.56
FILL: 0.50
EXC: 17.57
EMB: 0.74



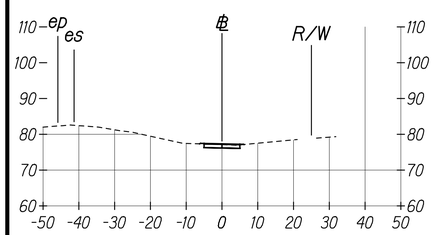
8+50.00

CUT: 12.10
FILL: 0.53
EXC: 22.91
EMB: 0.50



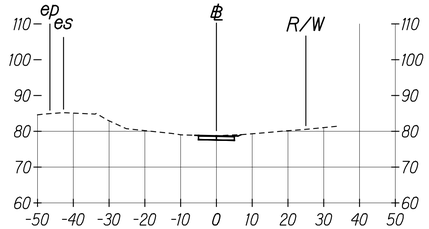
10+50.00

CUT: 12.49
FILL: 0.26
EXC: 23.04
EMB: 0.24



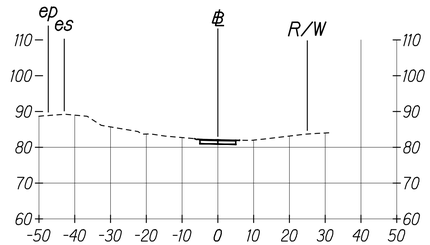
6+00.00

CUT: 9.40
FILL: 0.31
EXC: 18.84
EMB: 0.34



8+00.00

CUT: 12.62
FILL: 0.02
EXC: 21.00
EMB: 0.23



10+00.00

CUT: 12.37
FILL: 0.00
EXC: 21.80
EMB: 0.16

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

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

12/30/20
EXPIRATION DATE OF THE LICENSE

Date	Revision
3/3/20	Revised All Cross Sections

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION
SHARED USE PATH 3

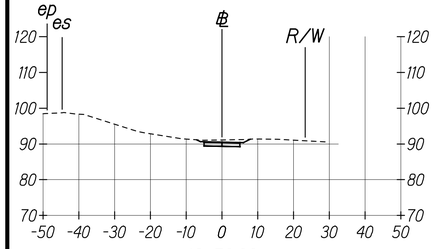
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. XS-9 OF 12 SHEETS

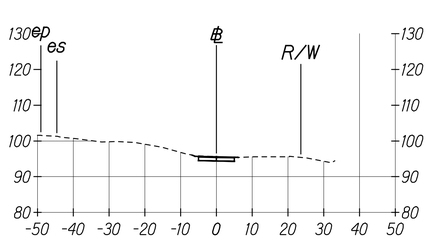
ADD. 100

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 101	167



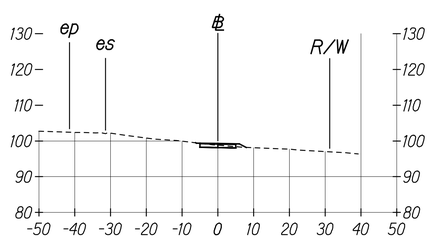
13+50.00

CUT: 19.74
FILL: 0.00
EXC: 30.62
EMB: 0.00



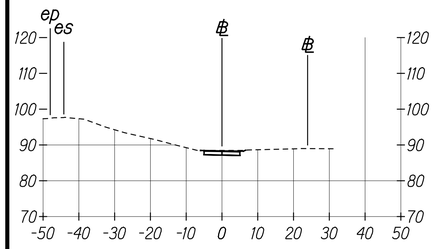
15+50.00

CUT: 12.81
FILL: 0.07
EXC: 18.76
EMB: 1.24



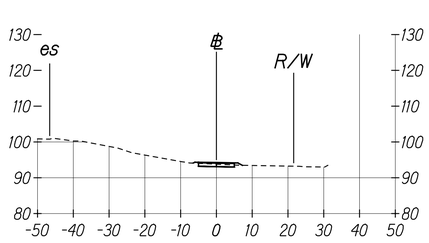
17+50.00

CUT: 7.30
FILL: 1.65
EXC: 17.73
EMB: 3.90



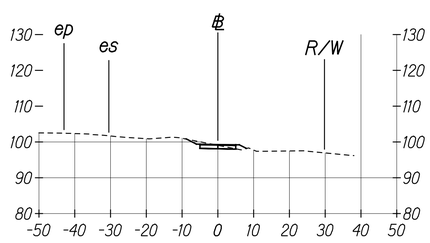
13+00.00

CUT: 13.32
FILL: 0.00
EXC: 24.88
EMB: 0.00



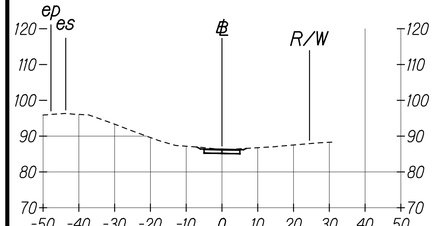
15+00.00

CUT: 7.45
FILL: 1.27
EXC: 12.32
EMB: 2.87



17+00.00

CUT: 11.82
FILL: 2.57
EXC: 25.34
EMB: 4.22



12+50.00

CUT: 13.55
FILL: 0.00
EXC: 22.63
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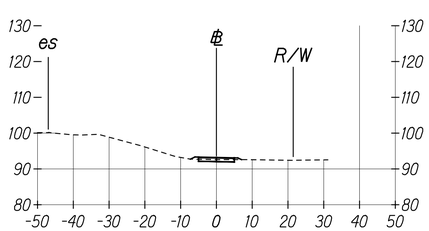

14+50.00

CUT: 5.86
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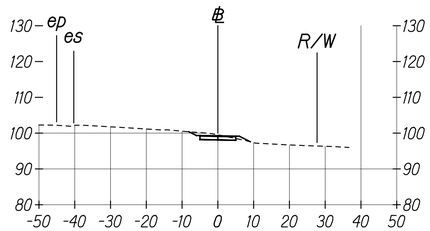
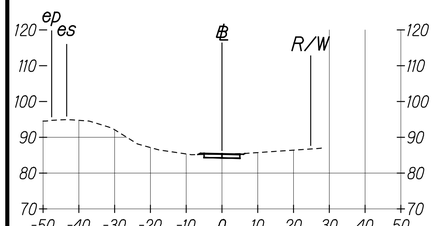
EXC: 14.37
EMB: 2.00



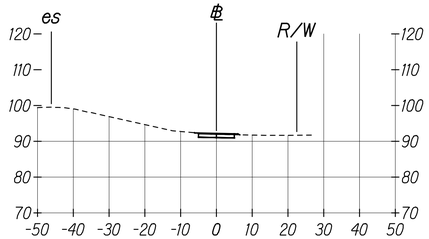
16+50.00

CUT: 15.54
FILL: 1.98
EXC: 30.50
EMB: 2.20



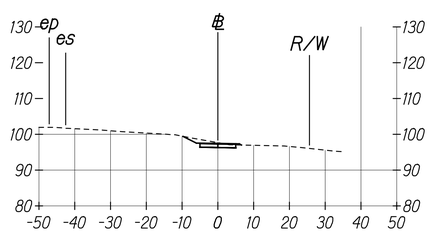
12+00.00

CUT: 10.88
FILL: 0.46
EXC: 19.84
EMB: 0.66



14+00.00

CUT: 9.67
FILL: 0.34
EXC: 27.23
EMB: 0.31



16+00.00

CUT: 17.40
FILL: 0.40
EXC: 27.96
EMB: 0.43

ORIGINAL PLAN

NOTE BOOK

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

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

4/30/20
EXPIRATION DATE OF THE LICENSE

⚠	3/3/20	Revised All Cross Sections
	Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION
SHARED USE PATH 3

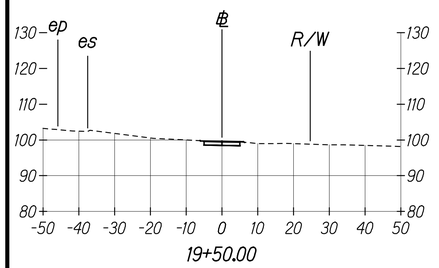
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. XS-10 OF 12 SHEETS

ADD. 101

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 102	167



19+50.00

CUT: 11.56
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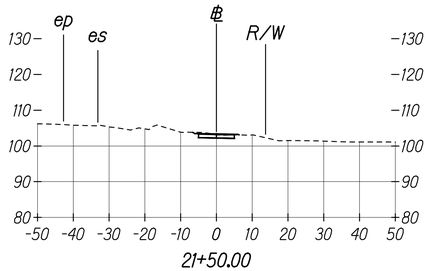

21+50.00

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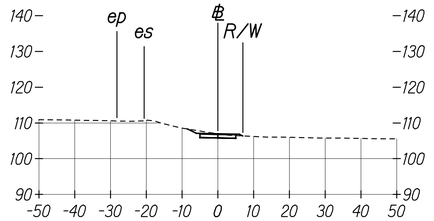
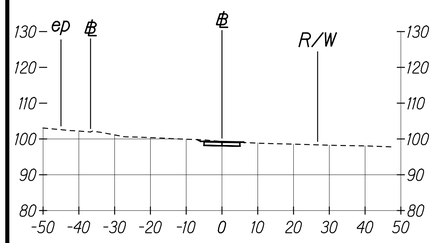
EMB: 1.52



23+50.00

CUT: 13.68
FILL: 0.62
EXC: 35.35
EMB: 1.41



19+00.00

CUT: 13.09
FILL: 0.12
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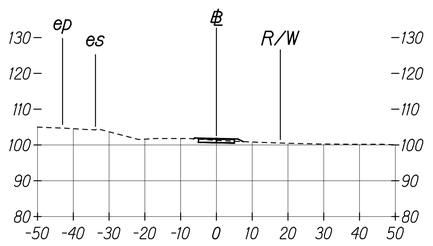
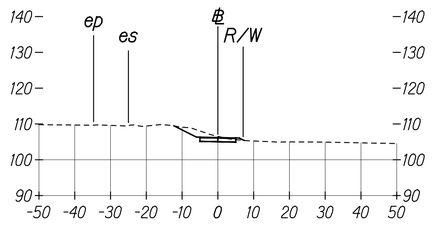
EMB: 0.14



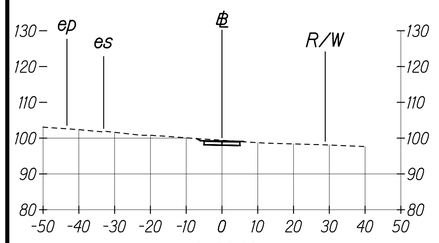
21+00.00

CUT: 6.88
FILL: 1.44
EXC: 15.93
EMB: 1.62



23+00.00

CUT: 24.49
FILL: 0.91
EXC: 33.00
EMB: 1.38



18+50.00

CUT: 14.73
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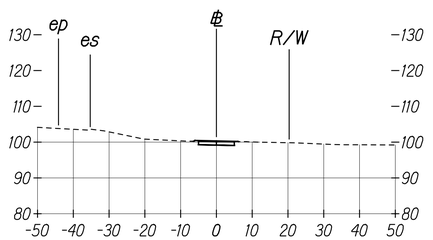
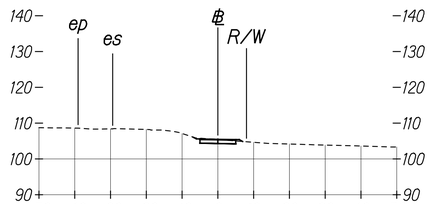
EXC: 20.62
EMB: 1.19



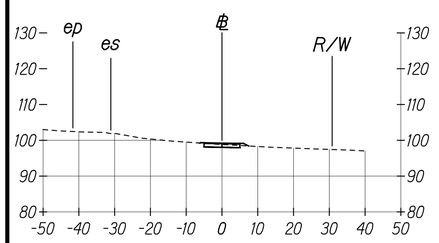
20+50.00

CUT: 10.32
FILL: 0.31
EXC: 21.22
EMB: 0.42



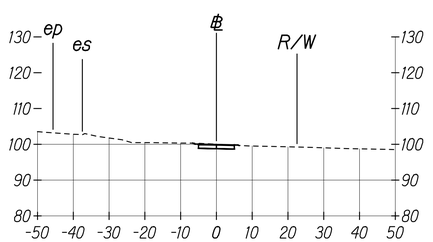
22+50.00

CUT: 11.19
FILL: 0.58
EXC: 29.73
EMB: 2.13



18+00.00

CUT: 7.52
FILL: 1.26
EXC: 13.73
EMB: 2.68



20+00.00

CUT: 12.59
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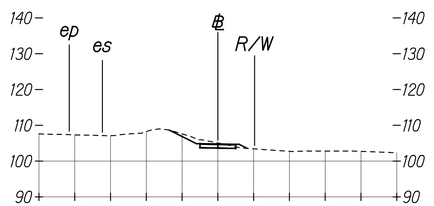


22+00.00

CUT: 20.95
FILL: 1.72
EXC: 29.93
EMB: 1.78

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

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — 12/30/20 EXPIRATION DATE OF THE LICENSE

⚠	3/3/20	Revised All Cross Sections
	Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION
SHARED USE PATH 3

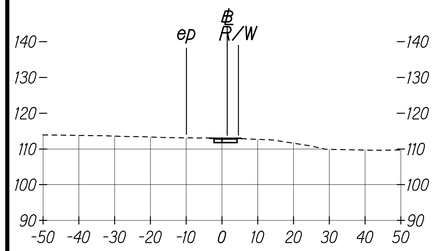
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. XS-11 OF 12 SHEETS

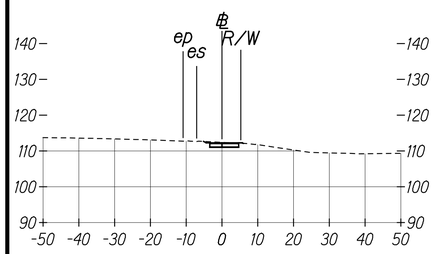
ADD. 102

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 103	167



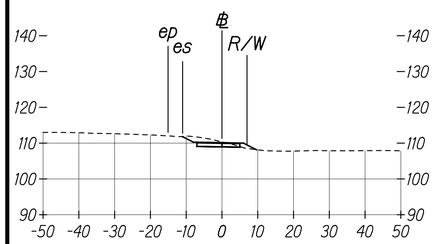
25+15.15

CUT: 7.29
FILL: 0.03
EXC: 5.05
EMB: 0.04



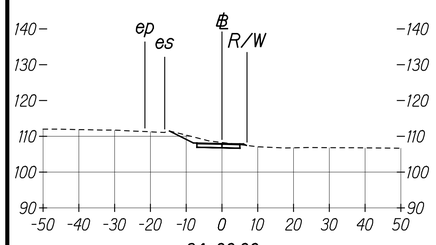
25+00.00

CUT: 10.70
FILL: 0.11
EXC: 28.84
EMB: 3.45



24+50.00

CUT: 20.39
FILL: 3.64
EXC: 38.41
EMB: 3.70



24+00.00

CUT: 21.10
FILL: 0.35
EXC: 32.20
EMB: 0.89

SUMMARY

SHARED USE PATH 3	EXC CU YD	EMB CU YD
TOTAL	1196	56

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

1	3/3/20	Revised All Cross Sections and Summary Schedule
	Date	Revision

DARIN N. CHINEN
LICENSED PROFESSIONAL ENGINEER
No. 7977-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CROSS SECTION
SHARED USE PATH 3

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=20' Date: Jan. 2020

SHEET No. XS-12 OF 12 SHEETS

ADD. 103

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 104	167

GENERAL TRAFFIC SIGNAL NOTES:

1. All Traffic Signal work shall conform to the requirements of the Manual on Uniform Traffic Control Devices for Streets and Highways, U.S. Department of Transportation, Federal Highways Administration, 2009 Edition, and Amendments.
2. Contractor to verify location and condition of existing traffic signal standards, traffic signal standards with mast arm, traffic controller, transformer, pullboxes, conduits, cabling, & loop detectors out in the field and to inform the Engineer of condition of items mentioned prior to construction and installation. Contractor to inform Engineer of any discrepancy between existing conditions and locations found out in the field compared to the existing conditions as shown on plans.
3. The locations of the traffic signal standards, traffic signal standards with mast arm, traffic controller, transformer, pullboxes, conduits, & loop detectors shall be staked out in the field by the Contractor and locations accepted by the Engineer prior to construction and installation. Locations shown on plans shall be adjusted as necessary to prevent conflict with existing or new facilities.
4. All direct-buried conduits shall be PVC Schedule 80.
5. Loop detectors shall be installed according to Loop Detector Details shown on the Plans.
6. Lead-in wires in pullbox near loops shall be tagged with Loop Number(s).
7. See sheet TS-6 for Restoration of Non-Roadway Areas and Restoration of Existing Pavement Details due to Trench Excavation.
8. Steel plates for covering trenches shall have skid resistant surface.
9. All structures, pavements, utilities, landscaping, and other topographical features shown on the Plans are existing and shall remain unless noted or indicated otherwise. All grassed areas damaged by construction activities shall be top soiled and grassed.
10. A solid #8 bare copper wire shall be pulled in all conduits with the traffic control cable for equipment ground.
11. All splicing shall be done in the pullboxes.
12. All traffic signal controller equipment shall be completely wired in the cabinet and shall control the traffic signal as called for in the Plans.
13. The loop amplifier units furnished for this project shall be capable of operating the loop detector configurations shown on the Plans.
14. The Contractor shall verify with the respective utility companies and government agencies, the locations of all electric, telephone, traffic signal, street light, cable television, fire alarm, gas, water, sewer, drain and other lines crossing the excavation path or in excavation areas.
15. All work and materials for the traffic signal system shall conform to Special Provisions Section 623 - Traffic Signal System, except as otherwise provided on the Plans.
16. Provide ground rod in all pullboxes, pullboxes adjacent to signal standards, pedestals, controller cabinets, and other locations ordered by the Engineer. Ground rod connectors shall be copper welded and shall meet ground to earth resistance as specified by the National Electric Code or local inspecting agency.
17. Underground pipes, cables, or ductlines known to exist 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.
18. During non-working hours, the Contractor shall provide two lanes for through traffic. On streets too narrow to make this practicable, the Contractor may work in one half of the roadway keeping one lane open to traffic and alternating the flow of traffic. Payment for contraflow during non-working hours is incidental and will not be paid for separately. During non-working hours, all trenches shall be covered with a safe, non-skid, traffic-bearing bridging material and all lanes shall be open to traffic.
19. 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.
20. Driveways shall be kept open unless the owners of the property using these rights-of-way are otherwise provided for satisfactorily.
21. No material and/or equipment shall be stockpiled or otherwise stored within street rights-of-way except at locations designated in writing and accepted by the Engineer.
22. Traffic Signal Supports and Foundations shall conform with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 1st Edition, with latest Interim Revisions and as modified by HDOT Memorandum with subject title, "Changes to Design Criteria for Bridges and Structures" (Letter No. HWY-DB 2.5098) dated January 8, 2018.
23. Existing traffic signal standards to be replaced shall be removed together with its respective footing. The Contractor may elect to remove only the top portion of the footing. In such cases, the Contractor shall ensure that the remaining footing shall be 12 inches below the existing or finished grade.
24. The existing traffic signal system, including interconnect, shall remain in operation until the new traffic signal system is put into service. The Contractor shall arrange his work accordingly to provide temporary relocations and wirings, as necessary.
25. Contractor shall coordinate with C&C DTS Signal Shop (Supervisor Wally Nakihira @ 564-6101) for all traffic signal-related work. Schedule with C&C DTS Signal Shop at least two weeks in advance of the actual work, including pavement cold planing removing the existing loop detector.
26. Contractor shall perform all traffic signal-related work following field instructions from DTS Signal Shop personnel. Such field instructions shall include, but not limited to, the final location and quantity of the temporary microwave sensors and permanent detector loops. DTS Signal Shop personnel will be responsible for traffic signal controller programming at the traffic signal cabinet to accomodate the temporary and permanent operations.
27. Contractor shall promptly take down and turnover the temporary microwave sensors to DTS when the permanent detector loops are in place and operational. Contractor shall perform all necessary work to restore traffic signal system back to a neat appearance of the electrical trade.

⚠1 TRAFFIC SIGNAL LEGEND AND ABBREVIATIONS:

- Conduits and Cables, Conduit Run X
- 12" R-Y-↑ Traffic Signal Head
- 12" R-Y-G Traffic Signal Head
- 12" R-Y-← Traffic Signal Head
- Pedestrian Signal Head
- 12" R-Y-↑ Traffic Signal Head with Back Plate
- 12" R-Y-G Traffic Signal Head with Back Plate
- 12" R-Y-← Traffic Signal Head with Back Plate
- 12" R-Y-G-← Traffic Signal Head with Back Plate
- Signal Standard with Mast Arm Type II, or Type III L=Length of Mast arm, Pole X, Footing Type C
- Signal Standard Type I, Pole X, H=3', 7' or 10', Footing Type A
- Loop Detectors
- Pullbox Type A (Old Type "B")
- Pullbox Type B (Old Type "C")
- Pullbox Type C (Old Type "D")
- Pedestrian Push Button Assembly (Arrow denotes direction on Push Button Sign)
- Traffic Controller Model 170E and 332A Cabinet with Type D Concrete Base for Controller Cabinet
- CCTV Controller Cabinet
- New CCTV Camera
- Street Sign Mounted to Mast Arm
- Existing Traffic Signal Head
- Existing Traffic Signal Head with New Back Plate
- Existing Pedestrian Signal Head
- Existing Pullbox
- Existing Traffic Signal Items to be removed
- Existing Signal Standard with Mast Arm Type II, or Type III
- Existing Signal Standard Type I, H=3', 7' or 10'
- Existing Controller Cabinet
- Existing CCTV Controller Cabinet
- Existing CCTV Camera

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

⚠1 Approved:

Chief, Traffic Review Branch, DPP — Date

Approved:

Chief, Traffic Signals & Technology Division, DTS — Date

	Date	Revision
⚠1	3/3/20	Revised Legend. Added TRB Approval.

DEXTER S. EJI — LICENSED PROFESSIONAL ENGINEER — No. 4739-C — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE — 04/30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL NOTES AND LEGEND

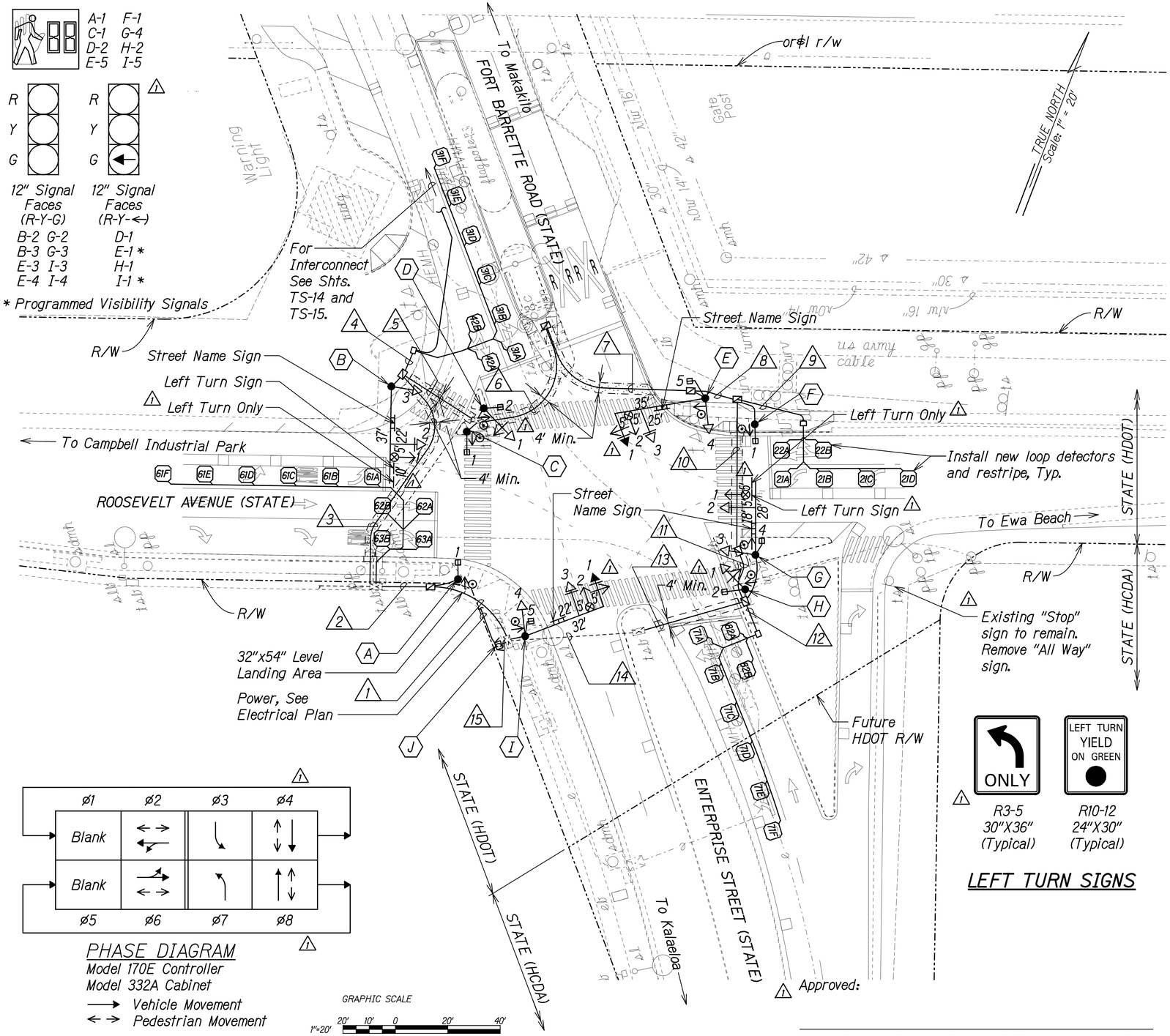
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: None — Date: Jan. 2020

SHEET No. TS-1 OF 16 SHEETS

ADD. 104

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 105	167



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

ORIGINAL PLAN
NOTE BOOK
No.

CONSTRUCTION NOTES:

1. Construct traffic signal conduits, pullboxes, standards and controller. Sawcut existing sidewalk and restore sidewalk. See sheet TS-12 for Details.
2. Penetrate existing traffic signal pullbox for entry. Repair to match existing condition.
3. For Material List and Cable and Conduit Schedule, see sheet TS-3.
4. For Trenching and Miscellaneous Details, see sheet TS-6.
5. For Sidewalk Reconstruction Notes and Details, see sheet TS-12.
6. For Traffic Signal Details, see sheet TS-7, TS-8, TS-9, TS-10 and TS-11.
7. For Traffic Signal Standard Footing and Details, see State Standard Plans TE-32, TE-33, TE-33A.1, TE-33A.2, TE-38, TE-38A.1 and TE-38A.2.
8. Install back plates on traffic signals on mast arms. Back plates and the installation of back plates shall not be measured for payment but shall be considered incidental to the various items of the contract.

Approved:

Chief, Traffic Signals & Technology Division, DTS Date

No.	Date	Revision
1	3/3/20	Removed and Added Traffic Signal Heads on Plan. Revised Signal Head Schedule, Construction Notes and Phase Diagram. Added TRB Approval.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN
FORT BARRETTE ROAD & ROOSEVELT AVENUE

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1" = 20' Date: Jan. 2020

DENTER S. EJI
LICENSED PROFESSIONAL ENGINEER
No. 4738-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

SHEET No. TS-2 OF 16 SHEETS

ADD. 105

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 106	167

Material List				
Pole ⬡	Base Type	Standard Type	Mounting Type	PPB Assembly
A	A	I-10	(1) TP-1W	1
B	C	II-37	(1) Opticom (Horiz.)	
			(2) MA-1W	
			(3) B-1W	
C	A	I-10	(1) TP-1W (Pedhead)	1
D	A	I-10	(1) TP-1W	
			(2) B-1W (Pedhead)	1
E	C	II-35	(1)(3) MA-1W	
			(2) Opticom (Horiz.)	
			(4) B-1W	
			(5) US-1W (Pedhead)	1
F	A	I-10	(1) TP-1W (Pedhead)	1
G	C	II-28	(1) Opticom (Horiz.)	
			(2) MA-1W	
			(3) B-1W	
			(4) US-1W (Pedhead)	1
H	A	I-10	(1) TP-1W	
			(2) B-1W (Pedhead)	1
I	C	II-32	(1)(3) MA-1W	
			(2) Opticom (Horiz.)	
			(4) B-1W	
			(5) US-1W (Pedhead)	1
			(6) CCTV Camera	
J	D		170E Controller	
			332A Cabinet and Base	

For Traffic Signal Pole Base, See Std. Plan TE-32, TE-33, TE-33A.1 and TE-33A.2.

Cable and Conduit Schedule							
Run △	Conduit Size	26C#14 Signal Control	2C#14 PPB/ Loops	12PR#19 Inter-Connect	3C#20 Opticom	3C#6 Power/ Service	Other
1	2-2"	2					
	2-2"		7				
	2"						
	2"			1			
	2"				2		
	2"	SPARE					
2	2-2"	2					
	2-2"		7				
	2"						
	2"			1			
	2"				2		
	2"	SPARE					
3	2-2"	2					
	2-2"		7				
	2"						
	2"			1			
	2"				2		
	2"	SPARE					
4	2"		2				
	2"						
	2"			1			
	2"	SPARE					
5	2-2"	2					
	2"		1				
	2"				1		
	2"	SPARE					
6	2-2"	2					
	2"		1				
	2"				1		
	2"	SPARE					
7	2-2"	2					
	2"		1				
	2"	SPARE					
8	2-2"	2					
	2"				1		
	2"	SPARE					
9	2"		2				
10	2-2"	2					
	2"		3				
	2"				1		
	2"	SPARE					

Cable and Conduit Schedule							
Run △	Conduit Size	26C#14 Signal Control	2C#14 PPB/ Loops	12PR#19 Inter-Connect	3C#20 Opticom	3C#6 Power/ Service	Other
11	2-2"	2					
	2"		3				
	2"				1		
	2"	SPARE					
12	2"		2				
13	2-2"	2					
	2-2"		6				
	2"				2		
	2"	SPARE					
14	3"(E)	2					
	3"(E)		6				
	2"(E)				2		
	2"(E)	SPARE					
15	4-2"	4					
	2-2"		7				
	2-2"		6				
	2"						
	2"			1			
	2-2"				4		
	2"	SPARE					

△1 Approved:

Chief, Traffic Review Branch, DPP Date

Approved:

Chief, Traffic Signals & Technology Division, DTS Date

△1	3/3/20	Revised Schedule. Added TRB Approval.
	Date	Revision

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DEXTER S. EJI
LICENSED PROFESSIONAL ENGINEER
No. 4739-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE
04/30/20
EXPIRATION DATE OF THE LICENSE

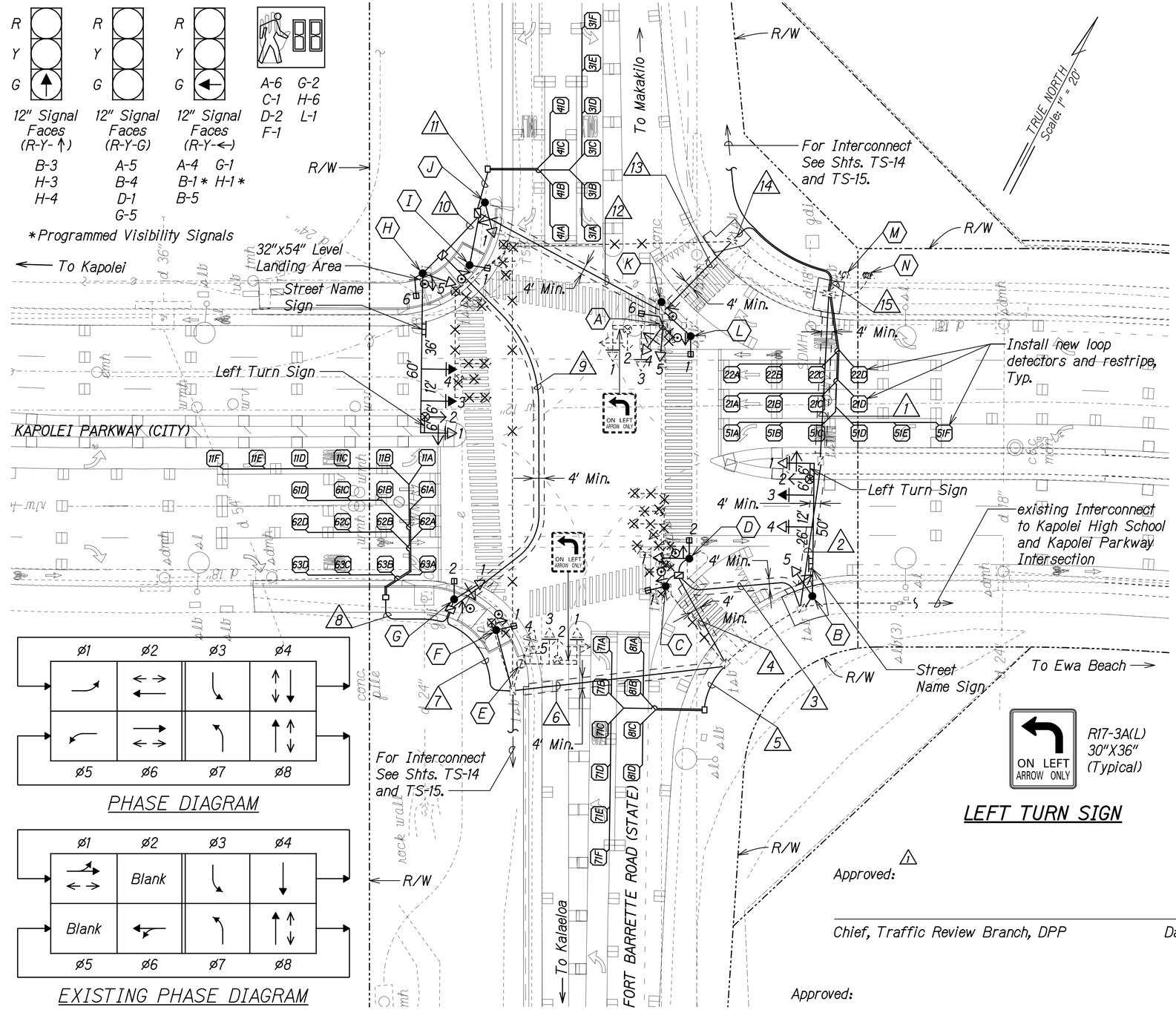
CABLE AND CONDUIT SCHEDULE
FORT BARRETTE ROAD & ROOSEVELT AVENUE
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: None Date: Jan. 2020

SHEET No. TS-3 OF 16 SHEETS

ADD. 106

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 107	167



PHASE DIAGRAM

EXISTING PHASE DIAGRAM

Exist. Model 170E Controller
Exist. Model 332A Cabinet
→ Vehicle Movement
↔ Pedestrian Movement

R17-3A(L) 30"X36" (Typical)

LEFT TURN SIGN

CONSTRUCTION NOTES:

1. Remove existing traffic signal foundation 12" below ground. Remove and salvage existing traffic signal pole and traffic signal head.
2. Remove existing traffic signal foundation 12" below ground. Patch with 4" thick concrete. Match and meet existing condition. Remove and salvage existing traffic signal pole, mast arm, traffic and pedestrian signal heads, opticom and pedestriam button assembly.
3. Remove and salvage existing pullbox. Grade and match existing condition.
4. Saw cut at limits of reconstruction. Reconstruct 415 Square feet 4" thick concrete sidewalk. Match and meet existing condition.
5. Remove and salvage existing pullbox. Patch with 4" thick concrete. Match and meet existing condition.
6. Saw cut at limits of reconstruction. Reconstruct 1,347 square feet of AC pavement. Match and meet existing condition.
7. Construct traffic signal conduits, pullboxes, standards and controller. Sawcut existing sidewalk and restore sidewalk. See Sheet TS-12 for Details.
8. Penetrate existing traffic signal pullbox for entry. Repair to match existing condition.
9. For Material List and Cable and Conduit Schedule, see sheet TS-5 for Details.
10. For Trenching and Miscellaneous Details, see sheet TS-6.
11. For Sidewalk Reconstruction Notes and Details, see sheet TS-12.
12. For Traffic Signal Details, see sheet TS-7, TS-8, TS-9, TS-10 and TS-11.
13. For Traffic Signal Standard Footing and Details, see State Standard Plans TE-32, TE-33, TE-33A.1, TE-33A.2, TE-38, TE-38A.1 and TE-38A.2.
14. Install new back plates on existing and new traffic signals mast arms. Back plates and the installation of back plates shall not be measured for payment but shall be considered incidental to the various items of the contract.

Approved: ⚠1

Chief, Traffic Review Branch, DPP Date

Approved:

Chief, Traffic Signals & Technology Division, DTS Date

⚠	Date	Revision
1	3/3/20	Added TRB Approval

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

DEXTER S. EU
LICENSED PROFESSIONAL ENGINEER
No. 4739-C
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE
04/30/20
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN
FORT BARRETTE ROAD & KAPOLEI PARKWAY
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19
Scale: 1" = 20' Date: Jan. 2020

SHEET No. TS-4 OF 16 SHEETS

ADD. 107

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 108	167

1

Material List				
Pole ⬡	Base Type	Standard Type	Mounting Type	PPB Assembly
A	Exist	II-(E)	(1)(3) MA-1W (Exist.)	
			(2) Opticom (Exist.)	
			(4)(5) B-2W	
			(6) US-1W (Pedhead)	1
B	C	II-50	(1)(3)(4) MA-1W	
			(2) Opticom (Horiz.)	
			(5) B-1W	
C	A	I-10	(1) TP-1W	1
D	A	I-10	(1) TP-1W	
			(2) B-1W (Pedhead)	1
E	Exist	II-(E)	(1)(3) MA-1W (Exist.)	
			(2) Opticom (Exist.)	
			(4) B-1W (Exist.)	
			(5) CCTV Camera (Exist.)	
F	A	I-10	(1) TP-1W	
			(2) B-1W (Pedhead)	1
G	A	I-10	(1) TP-1W (Pedhead)	1
H	C	II-60	(1)(3)(4) MA-1W	
			(2) Opticom (Horiz.)	
			(5) B-1W	
			(6) US-1W (Pedhead)	1
I	A	I-10	(1) TP-1W (Pedhead)	1
J	A	I-10	(1) TP-1W	
K	A	I-3		
L	A	I-10	(1) TP-1W	1
M	Exist		170E Controller (Exist.)	
			332A Cabinet (Exist.)	
N	Exist		CCTV Cabinet (Exist.)	

For Traffic Signal Pole Base, See Std. Plan TE-32, TE-33, TE-33A.1 and TE-33A.2.

1

Cable and Conduit Schedule							
Run △	Conduit Size	26C#14 Signal Control	2C#14 PPB/ Loops	Fiber Optic Inter-Connect	3C#20 Opticom	3C#6 Power/ Service	Other
1	2-2"	2					
	2-2"		8				
	2"			1			
	2"				2		
	2"	SPARE					
2	2-2"	2					
	2-2"		8				
	2"			1			
	2"				2		
	2"	SPARE					
3	2-2"	2					
	2-2"		8				
	2"				1		
	2"	SPARE					
4	2-2"	2					
	2-2"		7				
	2"				1		
	2"	SPARE					
5	2"		2				
6	2-2"	2					
	2-2"		6				
	2"				1		
	2"	SPARE					
7	2-2"	2					
	2-2"		5				
	2"			1			
	2"	SPARE					
8	2-2"		4				
9	2-2"	2					
	2"		1				
	2"			1			
	2"	SPARE					
10	2-2"	2					
	2"		1				
	2"			1			
	2"	SPARE					
11	2"		1				
12	2-2"	2					
	2"		4				
	2"			1			
	2"				1		
	2"	SPARE					

1

Cable and Conduit Schedule							
Run △	Conduit Size	26C#14 Signal Control	2C#14 PPB/ Loops	Fiber Optic Inter-Connect	3C#20 Opticom	3C#6 Power/ Service	Other
13	2-2"	2					
	2"		4				
	2"			1			
	2"				2		
	2"	SPARE					
14	2-2"	2					
	2"		4				
	2"			1			
	2"				2		
	2"	SPARE					
15	4-2"	4					
	4-2"		16				
	2"			2			
	2-2"				4		
	2"	SPARE					

1 Approved:

Chief, Traffic Review Branch, DPP Date

Approved:

Chief, Traffic Signals & Technology Division, DTS Date

1	3/3/20	Revised Schedule. Added TRB Approval.
	Date	Revision

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

DEXTER S. FU
LICENSED PROFESSIONAL ENGINEER
No. 4738-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CABLE AND CONDUIT SCHEDULE

FORT BARRETTE ROAD & KAPOLEI PARKWAY

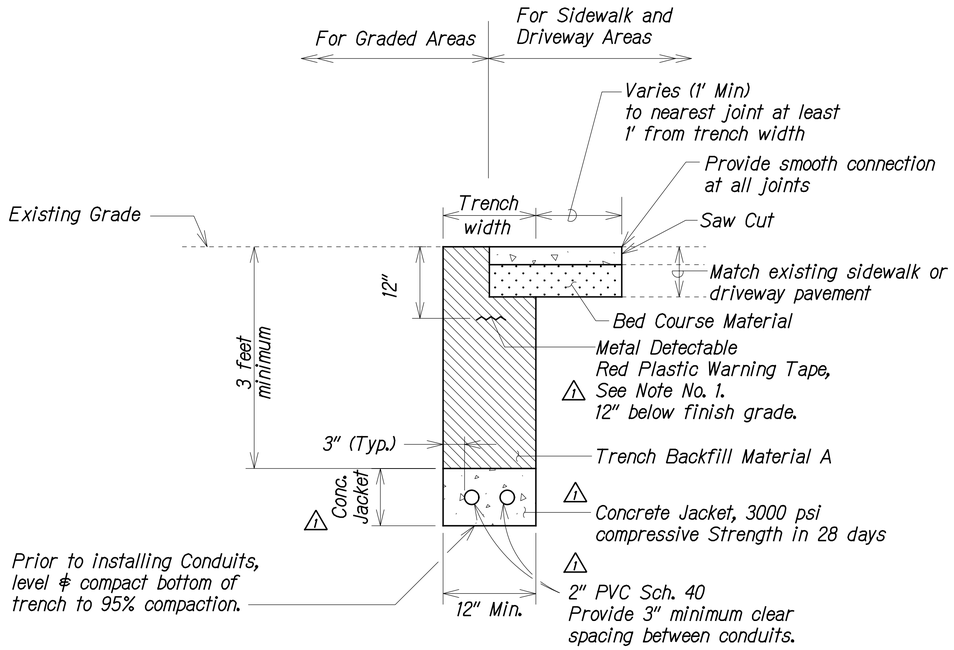
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: None Date: Jan. 2020

SHEET No. TS-5 OF 16 SHEETS

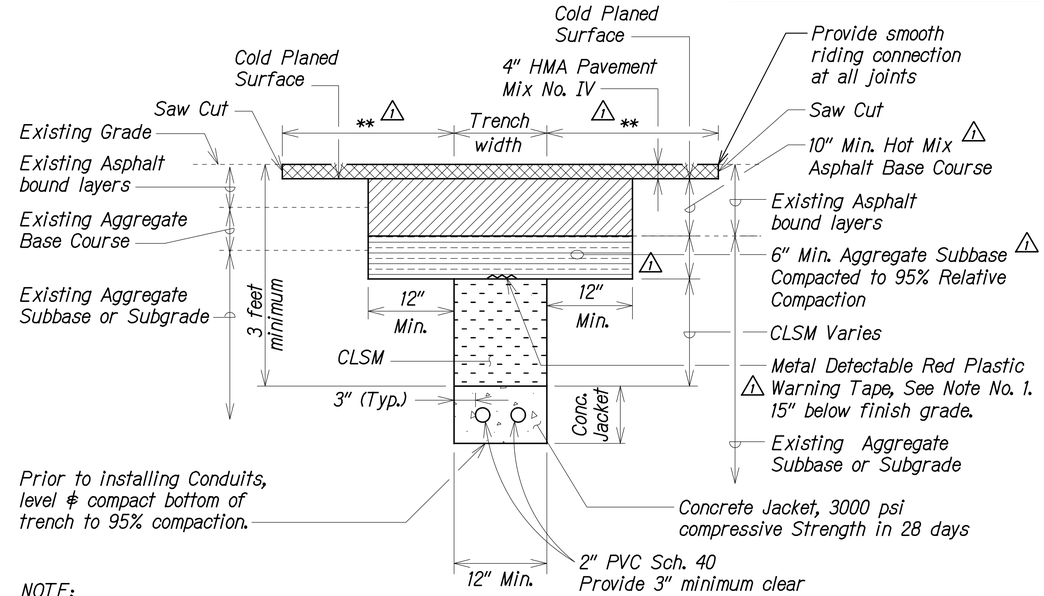
ADD. 108

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 109	167



RESTORATION OF NON-ROADWAY AREAS DUE TO TRENCH EXCAVATION

Not to Scale



NOTE:
Tack Coat faces of Existing Asphalt Bound Materials prior to filling excavation with New Asphalt bound materials.

RESTORATION OF EXISTING PAVEMENT DUE TO TRENCH EXCAVATION

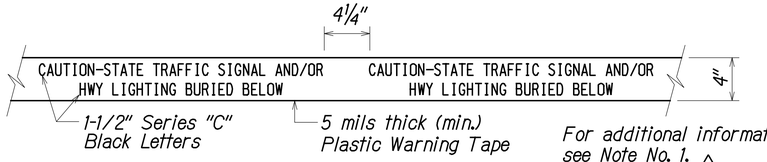
Not to Scale

⚠ ** NOTES:

1. If trench aligned transverse to direction of travel, 6 feet minimum on each side of trench. See plan sheet no. ADD. 37 for resurfacing width for trench restoration through Kamaaha Avenue.
2. If trench aligned along direction of travel, to edge of lane in which edge of trench is located.
3. Smoothness of paved surfaces; the distance from the paved surface to the testing edge of a ten-foot straight edge between two points of contact shall not exceed 3/16"

⚠ GENERAL 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 - STATE TRAFFIC SIGNAL AND/OR HWY. LIGHTING BURIED BELOW," utilizing 1-1/2 inches series "C" black lettering. The message will be repeated with a 4-1/4" spacing between top line of message and start of next repeat.
2. The Contractor may begin backfilling the conduit trench when the concrete reaches 3000 psi compressive strength after 3 days.
3. Maximum four (4) conduits per row for multiple conduit duct section.
4. After installing all the traffic signal cables, the Contractor shall duct seal all conduits in the pullboxes, traffic signal standards and traffic signal controller cabinet concrete base. The duct seal material shall be approved by the Engineer and shall not be paid for separately but considered incidental to the direct buried and/or concrete encased conduits.



METAL DETECTABLE RED PLASTIC WARNING TAPE

Not to Scale

⚠ Approved:

Chief, Traffic Review Branch, DPP Date

Approved:

Chief, Traffic Signals & Technology Division, DTS Date

	Date	Revision
⚠	3/3/20	Revised and added notes to detail. Added TRB Approval. Revised General Notes.

DEXTER S. EJI
LICENSED PROFESSIONAL ENGINEER
No. 4739-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRENCHING AND MISCELLANEOUS DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

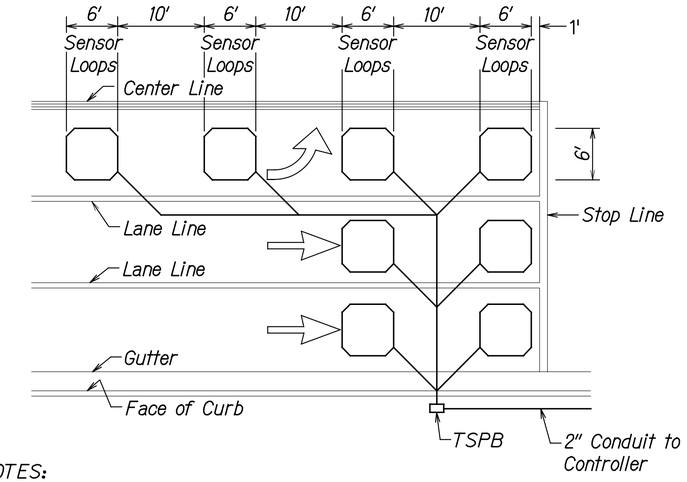
Scale: NTS Date: Jan. 2020

SHEET No. TS-6 OF 16 SHEETS

ADD. 109

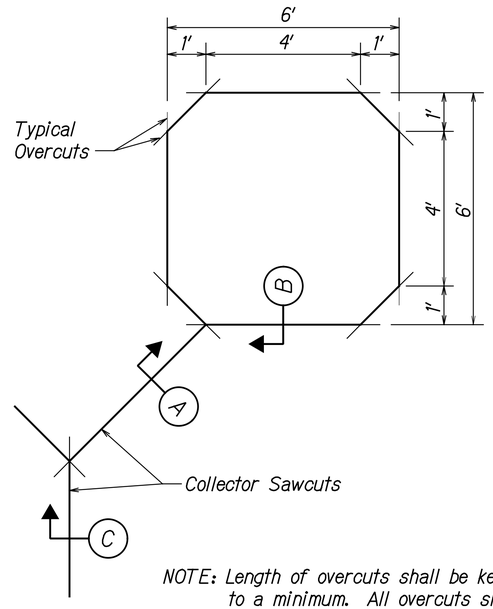
ORIGINAL PLAN
NOTE BOOK
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE
No.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 110	167



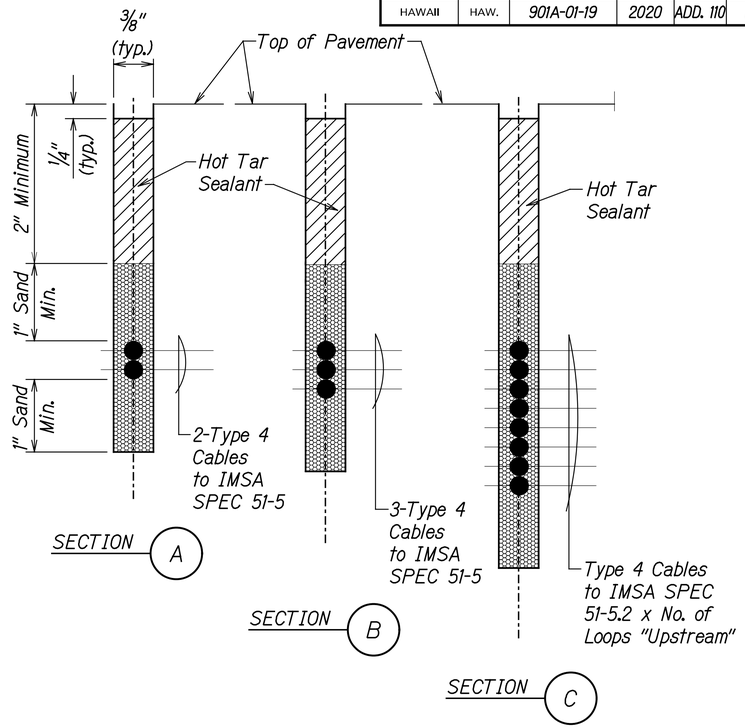
NOTES:
1. Center sensor loops in lanes.
2. Collector cables shall be twisted 2 turns per foot.
3. Number of loops and locations vary. See project plans.
4. Number and locations of collector sawcuts may be varied in the field to suit.

TYPICAL SENSOR LOOP LAYOUT

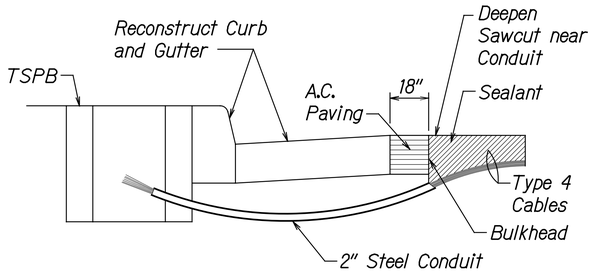


NOTE: Length of overcuts shall be kept to a minimum. All overcuts shall be back filled with hot tar.

TYPICAL SENSOR LOOP SAWCUT DETAIL

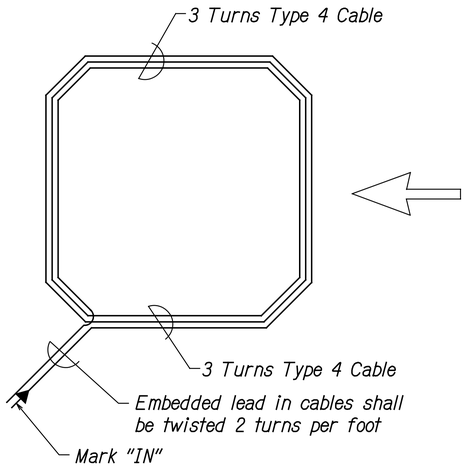


TYPICAL SECTION THROUGH SENSOR LOOP



NOTES ON CONSTRUCTION AT END OF SAWCUT
1. Seal roadway end of conduit after installation of conductors.
2. Install bulkhead across conduit trench.
3. Place hot tar in sawcut.
4. Backfill over conduit with new A.C.
5. Reconstruct curb and gutter as required.

DETAIL OF SENSOR LOOP INSTALLATION AT EDGE OF ROADWAY



TYPICAL SENSOR LOOP WIRING DIAGRAM

TYPES OF CABLES

Type 1	Signal Loop Cable: Stranded No. 14, 26 conductors
Type 2	Detector lead in cable and pedestrian push button circuit cable: Stranded, No. 14, two conductors
Type 3	Interconnect Cable: Solid No. 19, 12 pairs
Type 4	Loop Sensor Cable: Solid No. 12, single conductor to IMSA spec. 51-5
Type 5	Cable from signal loop to signal head: Stranded, No. 14, four conductors
Type 6	Service Cable: Solid, No. 6, three conductors
Type 7	Optical Detector Cable: Berktek Type B, Stranded, No. 20, three conductors
Type 8	Drop Cable: Solid, No. 14, four conductors

⚠ Approved:

Chief, Traffic Review Branch, DPP Date

Approved:

Chief, Traffic Signals & Technology Division, DTS Date

⚠	3/3/20	Added TRB Approval
	Date	Revision

DEXTER S. FU
LICENSED PROFESSIONAL ENGINEER
No. 4739-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOOP DETECTOR DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

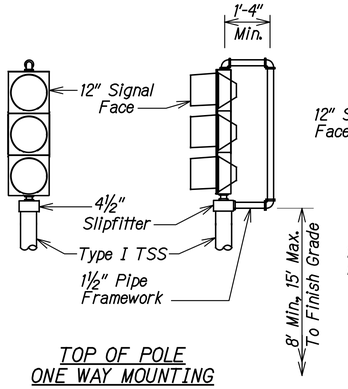
Scale: None Date: Jan. 2020

SHEET No. TS-7 OF 16 SHEETS

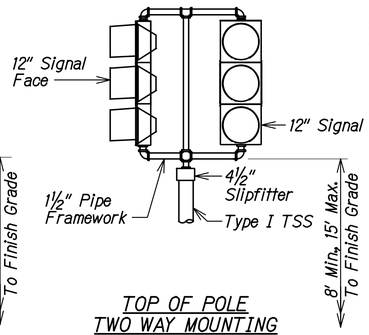
ADD. 110

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

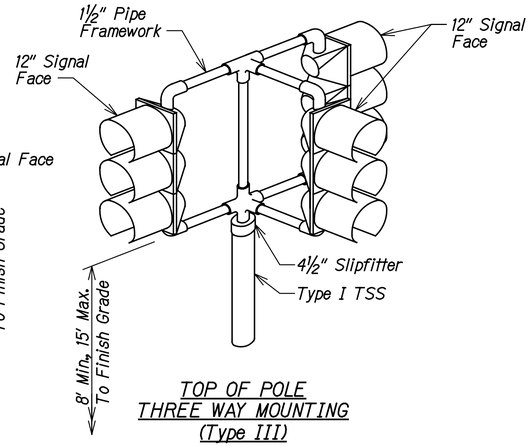
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 111	167



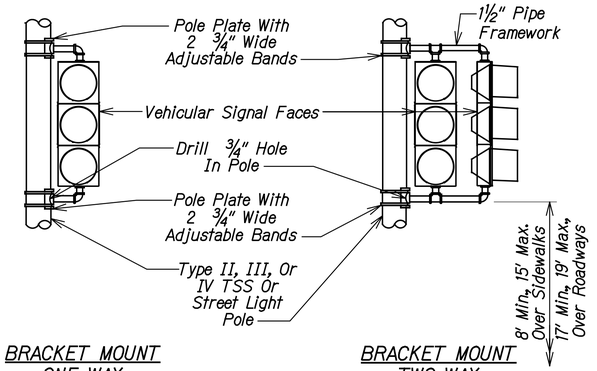
TOP OF POLE
ONE WAY MOUNTING
(Type I)



TOP OF POLE
TWO WAY MOUNTING
(Type II)

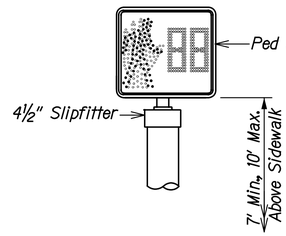


TOP OF POLE
THREE WAY MOUNTING
(Type III)

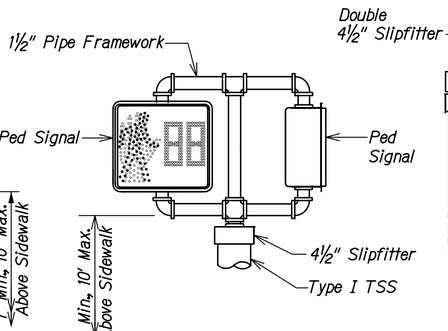


BRACKET MOUNT
ONE WAY
(Type IV)

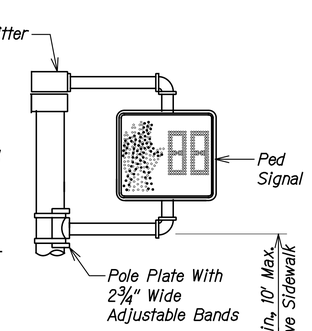
BRACKET MOUNT
TWO WAY
(Type V)



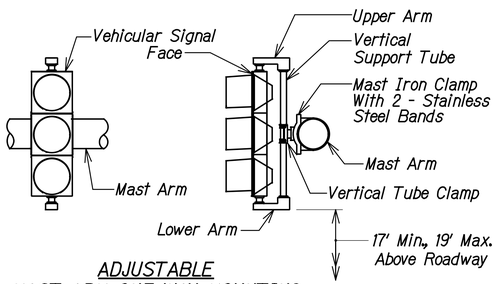
TOP OF POLE - ONE WAY
(Type I)



TOP OF POLE - TWO WAY
(Type II)

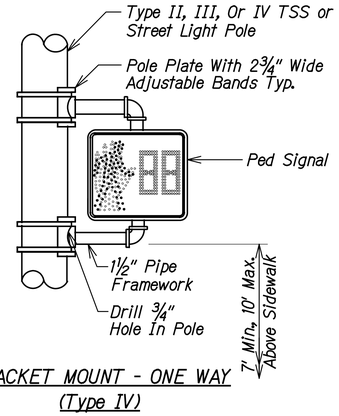


CANTILEVER - ONE WAY
(Type III)

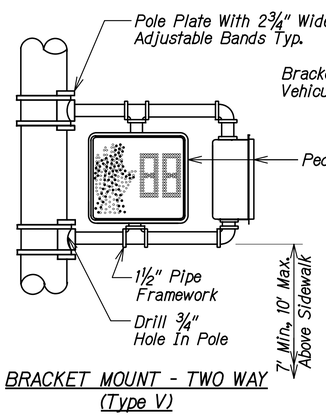


ADJUSTABLE
MAST ARM ONE WAY MOUNTING
AT INTERMEDIATE POINT
(Type VI)

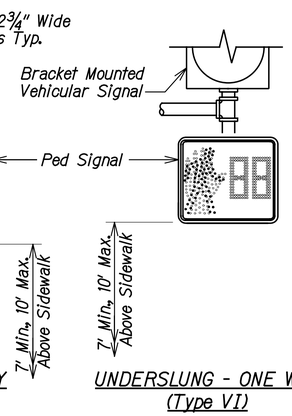
VEHICULAR SIGNAL MOUNTINGS



BRACKET MOUNT - ONE WAY
(Type IV)



BRACKET MOUNT - TWO WAY
(Type V)



UNDERSLUNG - ONE WAY
(Type VI)

PEDESTRIAN SIGNAL MOUNTINGS

NOTES:

1. Stainless Steel Bands shall be ½" Wide X .050" thick, minimum. Tensile strength shall be 100,000 PSI minimum.
2. Upper Arm, Lower Arm And Vertical Support Tube shall be of 356 Cast Aluminum.
3. All Wiring Shall Be Concealed.
4. Vertical Tube Clamp shall be of Malleable Iron, Grade 32510.
5. All Aluminum Parts shall have an Alodine 1200 finish.

Approved: ⚠

Chief, Traffic Review Branch, DPP Date

Approved:

Chief, Traffic Signals & Technology Division, DTS Date

⚠	3/3/20	Added TRB Approval
	Date	Revision

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

DEXTER S. EU
LICENSED PROFESSIONAL ENGINEER
No. 4739-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN
MOUNTING BRACKET DETAILS

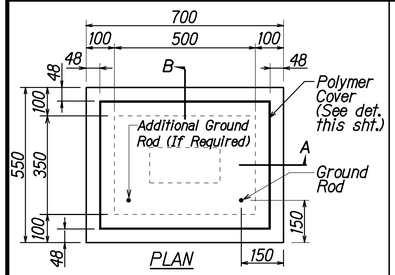
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

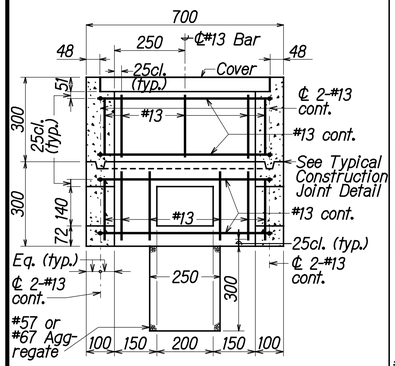
Scale: None Date: Jan. 2020

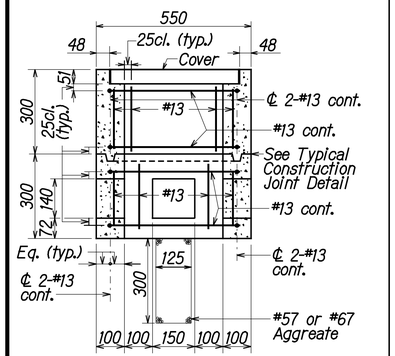
SHEET No. TS-8 OF 16 SHEETS

ADD. 111

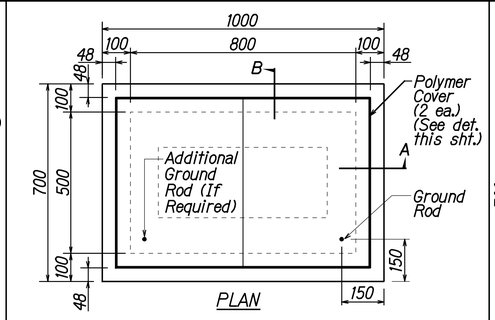
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 112	167

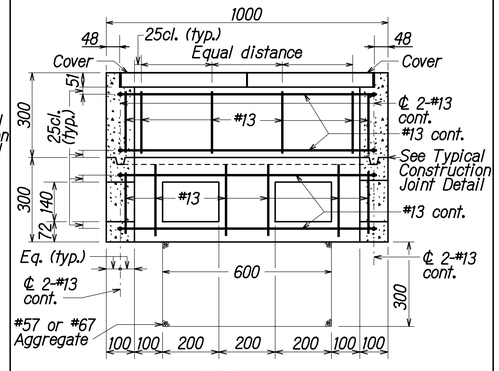


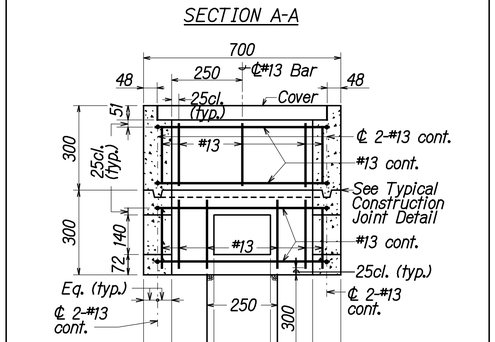




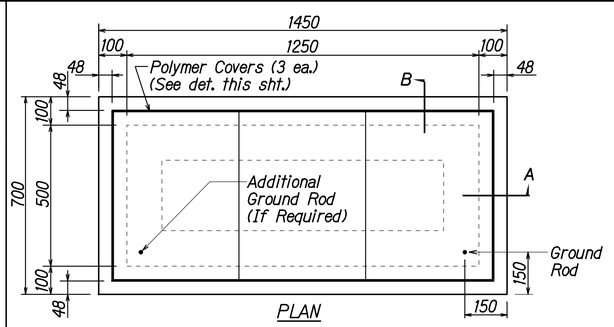
TYPE "A" PULLBOX
(Old Type "B")

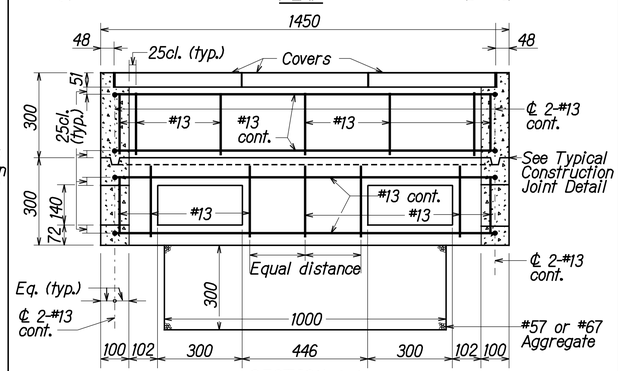


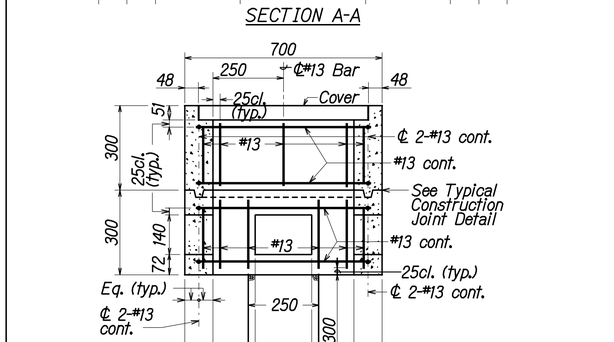




TYPE "B" PULLBOX (Old Type "C")



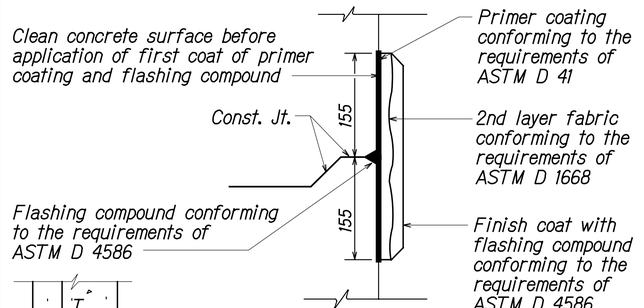




TYPE "C" PULLBOX (Old Type "D")

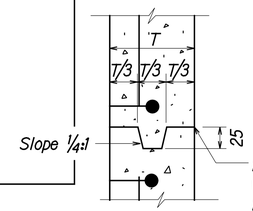
GENERAL NOTES

1. Provide a minimum of one 16 ø x 2.5m 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 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 (21 MPa (3,000 psi), min.)
9. Rebars shall be Grade 300 and all lapped splices shall be 360mm minimum.
10. The #57 or #67 size aggregate shall conform to 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).

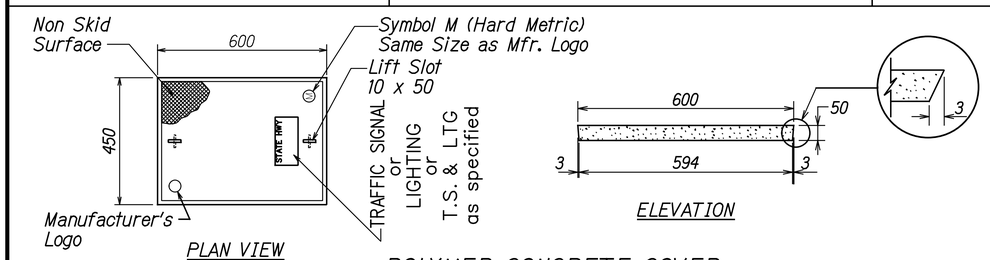


TYPICAL FLASHING COMPOUND WATERPROOFING DETAILS

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN



TYPICAL CONSTRUCTION JOINT DETAIL



POLYMER CONCRETE COVER

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

Approved: ⚠

Chief, Traffic Review Branch, DPP Date

Approved:

Chief, Traffic Signals & Technology Division, DTS Date

3/3/20	Added TRB Approval
Date	Revision

DEXTER S. EJI
LICENSED PROFESSIONAL ENGINEER
No. 4739-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PULLBOX AND COVER DETAILS

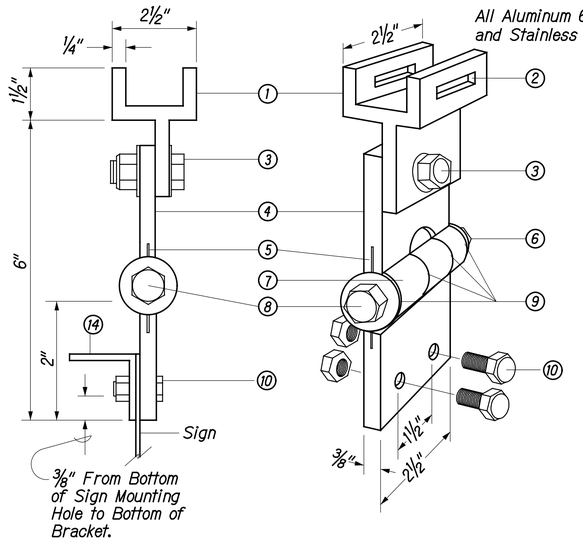
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: None Date: Jan. 2020

SHEET No. TS-9 OF 16 SHEETS

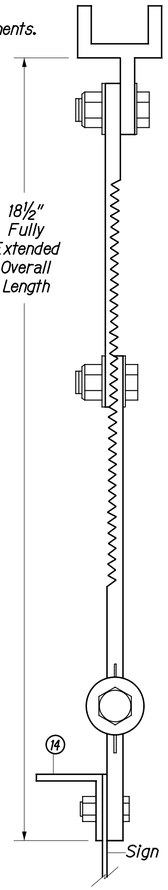
ADD. 112

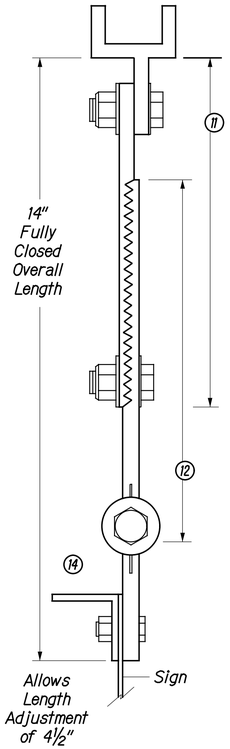
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 113	167

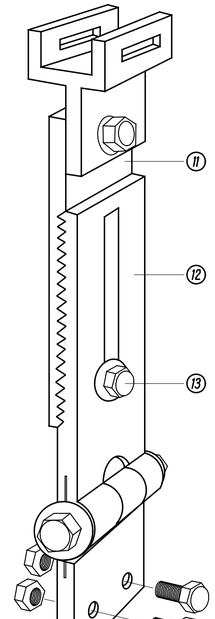


All Aluminum 6061T6 Alloy and Stainless Steel Components.

FIXED LENGTH NON-ADJUSTABLE SWING SIGN BRACKET

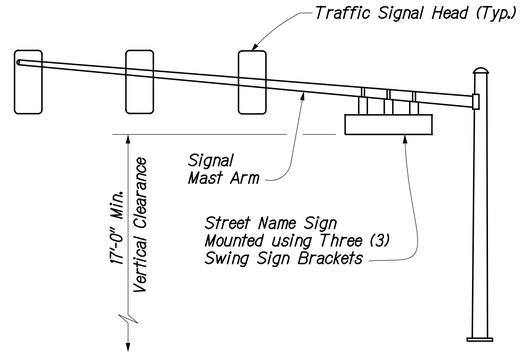




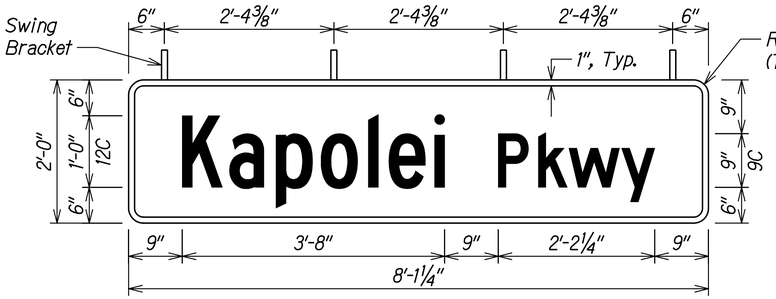


ADJUSTABLE LENGTH SWING SIGN BRACKET

Note: Dimensions may vary slightly



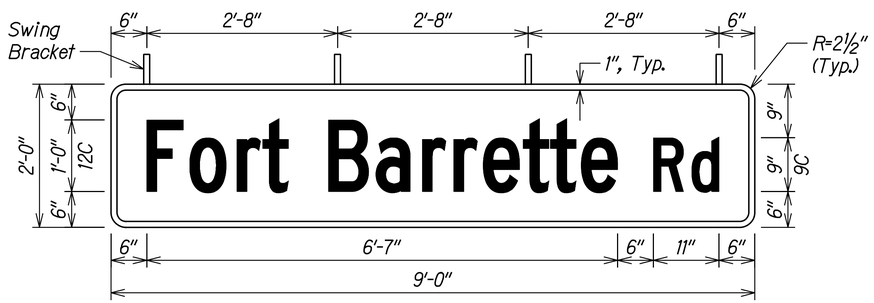
SIGN MOUNTING ON MAST ARM



STREET NAME SIGN DETAIL 1

NTS

TS-4 TS-10



STREET NAME SIGN DETAIL 2

NTS

TS-2, TS-4 TS-10

NOTES:

1. Font size and spacing shall conform to Federal Highway Administration Standard Highway signs convention.
2. Legend shall be the same on both sides of sign.
3. Colors: Legend - White
   Background - Green
4. Adjust Swing Sign bracket lengths to level sign.

1. Pivotal Upper Bracket
2. 1⅝" X¼" Slot for Double Strapping to Electrolier Mast Arm. (M2G-34S(HD) .030" X ¾" Heavy Duty Stainless Steel Strap With M2G-34B(HD) Buckle Recommended.)
3. ½" - 13 X 1½" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut and 1/16" Stainless Steel Washer (Both Sides). Allows Upper Bracket to Pivot and Align with Electolier Mast Arm.
4. 6" Overall Drop with Fixed Length Sign Bracket
5. Stainless Steel Damperer Spring (Removable)
6. Stainless Steel Hex Lock Nut with 1/16" Stainless Steel Washer
7. 1" O.D. Axle Housing
8. ½" - 13 X 4" Stainless Steel Hex Head Bolt with 1/16" Stainless Steel Washer
9. Oilite Bushing
10. Sign Mounting Sets, Consisting of Two Each 5/16" - 18 X 1" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut. Two Holes on 1½' Centers Provide Positive Lock Sign Mounted to Bracket.
11. 8¼" Overall Length Upper Adjustable Sigh Bracket Section
12. 9" Overall Length Lower Adjustable Sign Bracket Section, Including Axle Housing (8" Overall Length to Top of Axle Housing)
13. ½" - 13 X 1½" Stainless Steel Hex Bolt with Stainless Steel Hex Lock Nut and1/16" Stainless Steel Washer (Both Sides). Loosen Lock Nut . Adjust Bracket Teeth to Level Sign.
14. 1¼" X 1¼" X⅛" Aluminum Angle

⚠	3/3/20	Replaced Street Name Sign Detail. Added TRB Approval.
	Date	Revision

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

⚠ Approved:

Chief, Traffic Review Branch, DPP Date

Approved:

Chief, Traffic Signals & Technology Division, DTS Date

DEXTER S. EJI LICENSED PROFESSIONAL ENGINEER No. 4739-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN BRACKET DETAILS

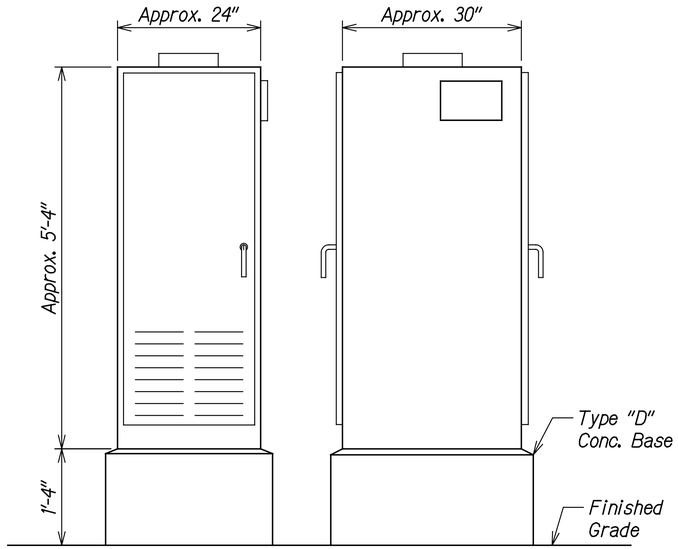
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: None Date: Jan. 2020

SHEET No. TS-10 OF 16 SHEETS

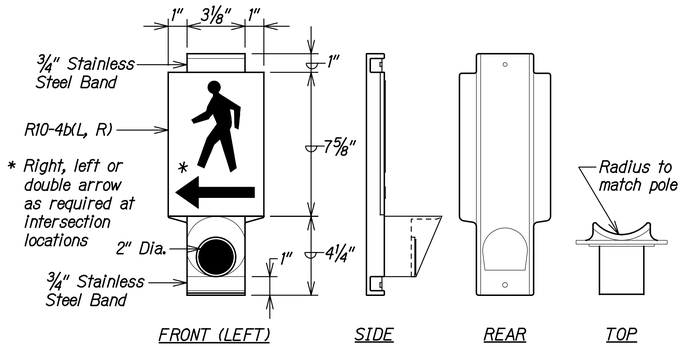
ADD. 113

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 114	167



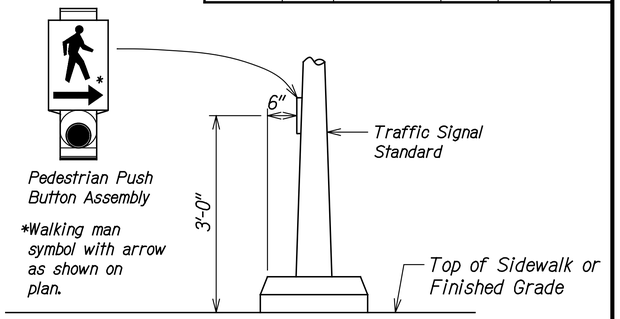
TYPE 332A CABINET

Not To Scale



PEDESTRIAN PUSH BUTTON ASSEMBLY

Not To Scale



PEDESTRIAN AND AUDIO PEDESTRIAN PUSH BUTTON PLACEMENT

Not To Scale

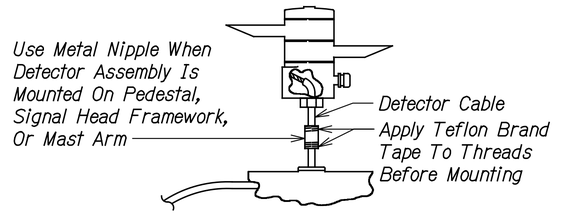
CONCRETE BASE SCHEDULE					
Intersection	Base Type	Standard Type	Concrete Base	Ground Water	Soil Type
Fort Barette Rd. /Roosevelt Ave.	A	I-10	Standard Plan TE-32		Stiff Silty Clay over Silty Coral Sand and Gravel over Coral Formation
	C	II-28	Standard Plan TE-33A.2	Above	
	C	II-32	Standard Plan TE-33A.2	Above	
	C	II-35	Standard Plan TE-33A.2	Above	
	C	II-37	Standard Plan TE-33A.2	Above	
	D	Controller	Department of Transportation Standard Plan TS-15		
Fort Barette Rd. /Kapolei Pkwy.		I-3	Standard Plan TE-32		
	A	I-10	Standard Plan TE-32		
	C	II-50	See Drilled Foundation For Traffic Signal, Sheet TS-16		
	C	II-60	See Drilled Foundation For Traffic Signal, Sheet TS-16		

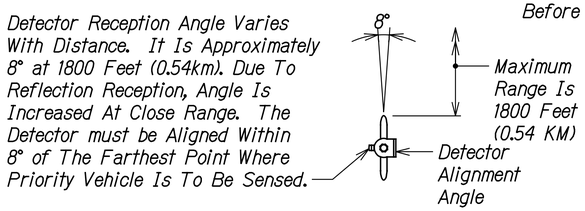
⚠1 NOTE:

See Traffic Signal Foundation General Notes on sheet TS-16. The Contractor shall be responsible to coordinate the foundation with the Traffic Signal Standards provided; any changes required to the foundation due to the latest interim revisions and as modified by HDOT's memorandum with subjet title "Changes to Design Criteria for Bridge and Structure" (Letter No. Hwy-DB 2.5098) dated January 8, 2018 and shall be designed by a Structural Engineer licensed in the State of Hawaii. All design and construction costs for these changes shall be borne by the Contractor.

⚠1 Approved:

Chief, Traffic Review Branch, DPP Date



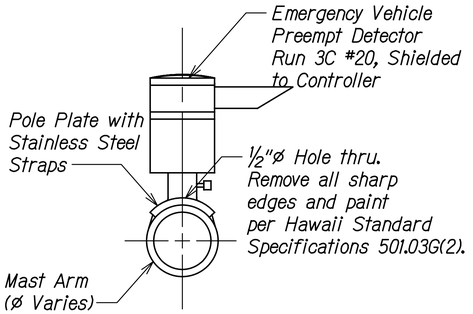


TYPICAL MAST ARM INSTALLATION OF EVP DETECTOR

Not To Scale

Approved:

Chief, Traffic Signals & Technology Division, DTS Date



TYPICAL HORIZONTAL MOUNT OF EMERGENCY VEHICLE PREEMPT DETECTOR

Not To Scale

⚠1	3/3/20	Revised Concrete Base Schedule and Note. Added TRB Approval.
	Date	Revision

DEXTER S. EJI LICENSED PROFESSIONAL ENGINEER No. 4739-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

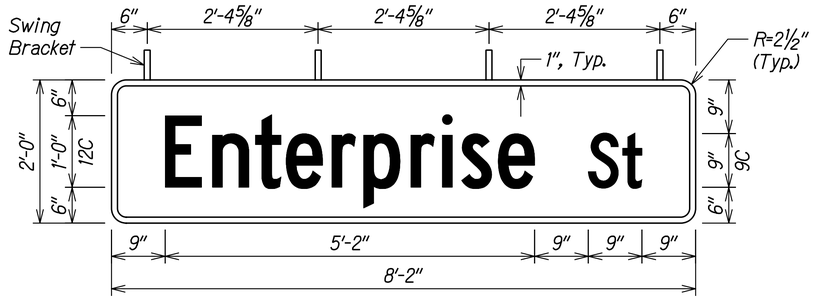
Scale: NTS Date: Jan. 2020

SHEET No. TS-11 OF 16 SHEETS

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

ADD. 114

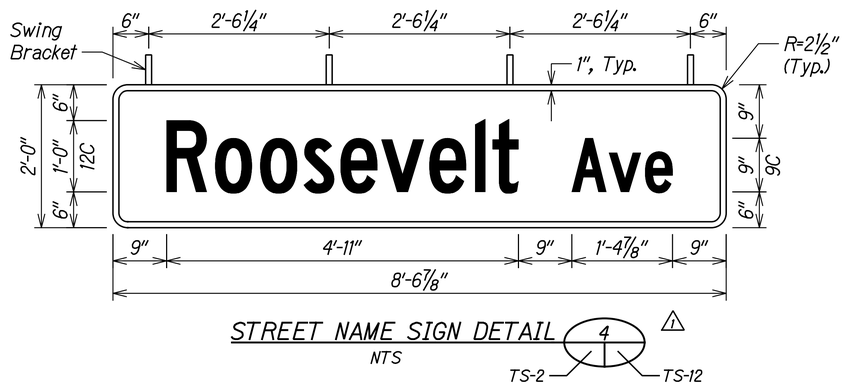
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 115	167



STREET NAME SIGN DETAIL 3 ⚠1

NTS

TS-2 TS-12



STREET NAME SIGN DETAIL 4 ⚠1

NTS

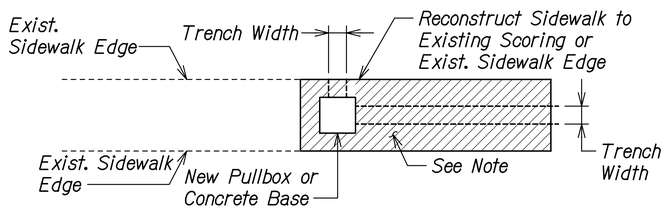
TS-2 TS-12

⚠1 Approved:

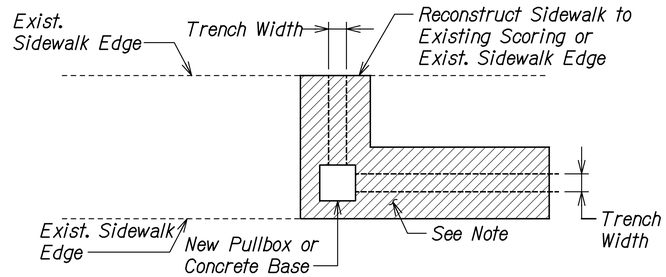
Chief, Traffic Review Branch, DPP Date

SIDEWALK RECONSTRUCTION NOTES:

1. Pavement structure shall be equal to or better than existing in thickness and quality.
2. For road grades 0% to 7.99% Prime Coat is not required.
3. All disturbed pavement markings shall be replaced and all required utility adjustments such as manhole covers etc. shall be done by the Permittee.
4. All required A.D.A. Improvements shall be undertaken by the Permittee.
5. Permittee shall coordinate work with all other utility entities and the Department of Facility Maintenance.
6. For minimum utility depths within the City's road rights-of-way, See Engineering and Policy Memorandum No. CEB-1-08, dated Feb. 15, 2008.
7. Contractor shall comply with the City Administration's Memorandum, dated September 30, 2004, regarding Trenching Permits and Repaving of Streets.
8. Joints within reconstructed sidewalk shall comply with the requirements of the City and County of Honolulu "Engineering and Policy Memorandum No. CEB-1-09" dated April 6, 2009.



AT SINGLE BLOCK-WIDTH SIDEWALKS



AT MULTIPLE BLOCK-WIDTH SIDEWALKS

SIDEWALK RECONSTRUCTION DETAILS

Not to Scale

⚠1	3/3/20	Added Street Name Sign Details. Added TRB Approval.
	Date	Revision

DEXTER S. EJI LICENSED PROFESSIONAL ENGINEER No. 4739-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRENCHING AND MISCELLANEOUS DETAILS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

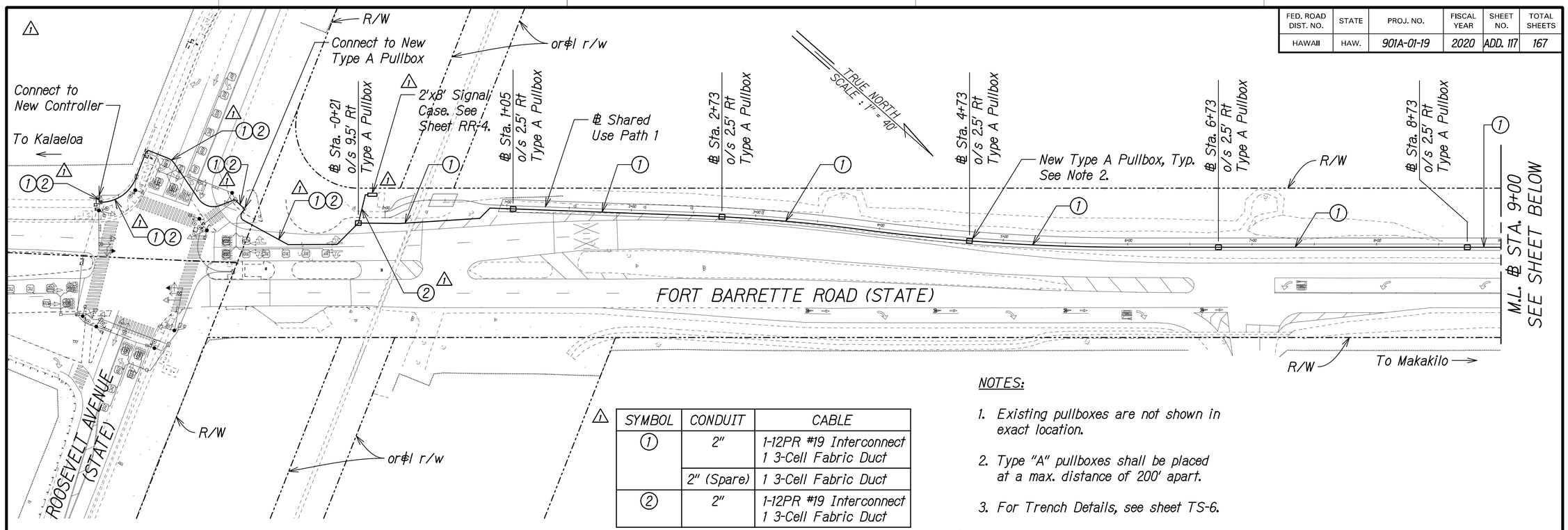
Scale: NTS Date: Jan. 2020

SHEET No. TS-12 OF 16 SHEETS

ADD. 115

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

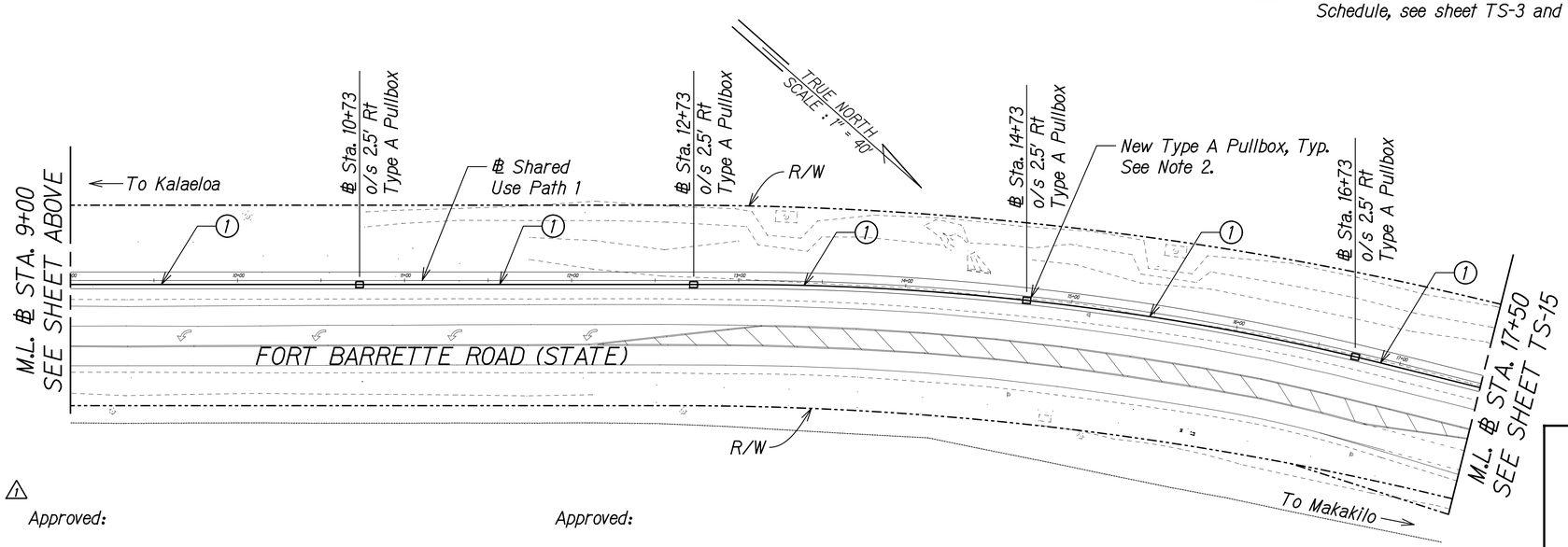
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 117	167



⚠ SYMBOL	CONDUIT	CABLE
①	2"	1-12PR #19 Interconnect 1 3-Cell Fabric Duct
	2" (Spare)	1 3-Cell Fabric Duct
②	2"	1-12PR #19 Interconnect 1 3-Cell Fabric Duct

NOTES:

1. Existing pullboxes are not shown in exact location.
2. Type "A" pullboxes shall be placed at a max. distance of 200' apart.
3. For Trench Details, see sheet TS-6.
4. ⚠ For Traffic Signal Cable and Conduit Schedule, see sheet TS-3 and TS-5.



⚠

Approved:

Chief, Traffic Review Branch, DPP Date

Approved:

Chief, Traffic Signals ∉ Technology Division, DTS Date

GRAPHIC SCALE
1"=40' 40' 20' 0 40' 80'

⚠ Date	Revision
3/3/20	Revised and Added Callout. Added Signal Case on Plan. Revised Schedule. Revised note. Added TRB Approval.

DENYER S. EJI
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No. 4738-C
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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL INTERCONNECT PLAN

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

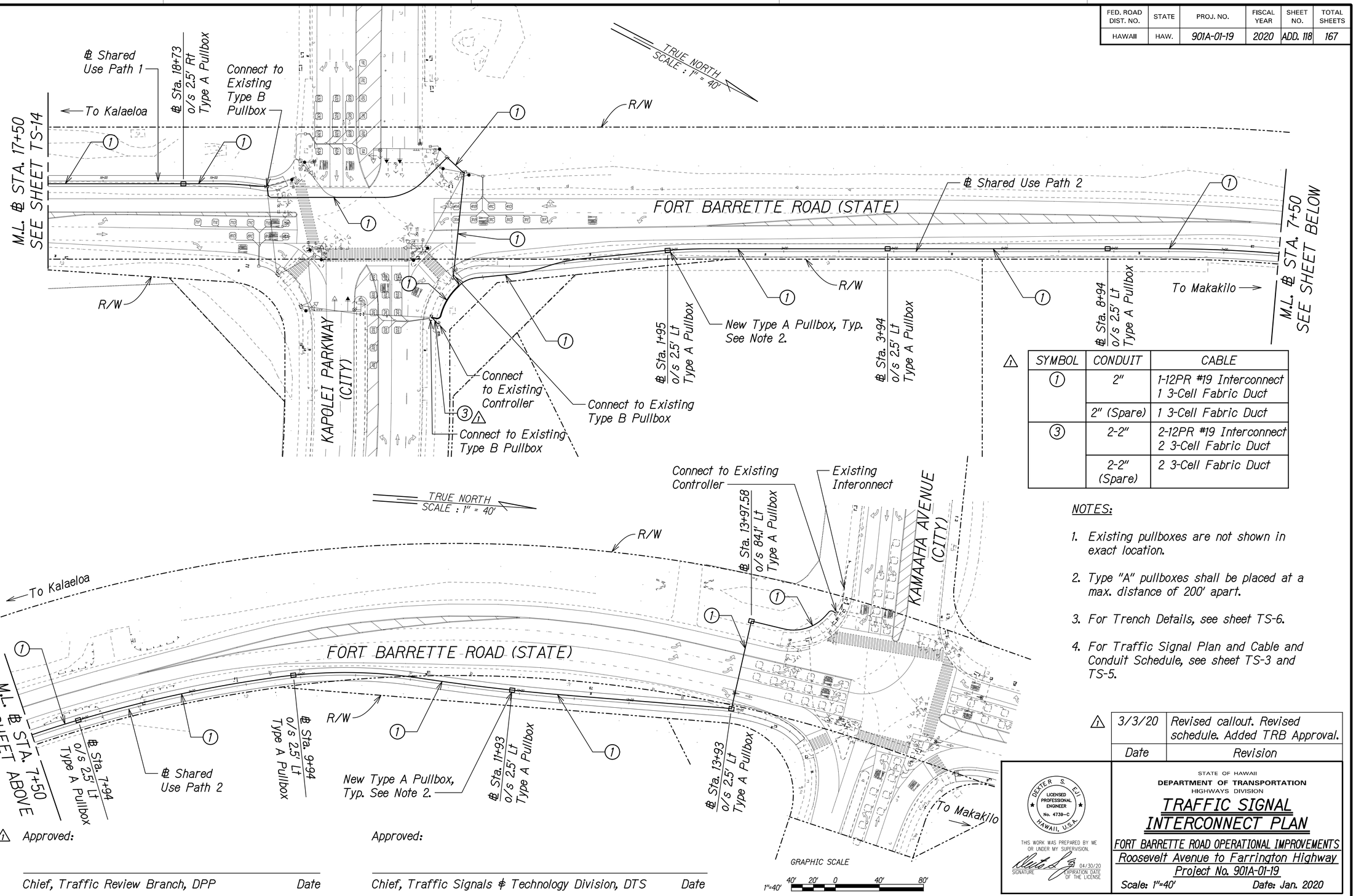
Scale: 1"=40' Date: Jan. 2020

SHEET No. TS-14 OF 16 SHEETS

ADD. 117

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 118	167



⚠	SYMBOL	CONDUIT	CABLE
	(1)	2"	1-12PR #19 Interconnect 1 3-Cell Fabric Duct
		2" (Spare)	1 3-Cell Fabric Duct
	(3)	2-2"	2-12PR #19 Interconnect 2 3-Cell Fabric Duct
		2-2" (Spare)	2 3-Cell Fabric Duct

NOTES:

1. Existing pullboxes are not shown in exact location.
2. Type "A" pullboxes shall be placed at a max. distance of 200' apart.
3. For Trench Details, see sheet TS-6.
4. For Traffic Signal Plan and Cable and Conduit Schedule, see sheet TS-3 and TS-5.

⚠	3/3/20	Revised callout. Revised schedule. Added TRB Approval.
	Date	Revision

⚠ Approved:

Chief, Traffic Review Branch, DPP — Date

Approved:

Chief, Traffic Signals ℄ Technology Division, DTS — Date

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL INTERCONNECT PLAN

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: 1"=40' Date: Jan. 2020

SHEET No. TS-15 OF 16 SHEETS

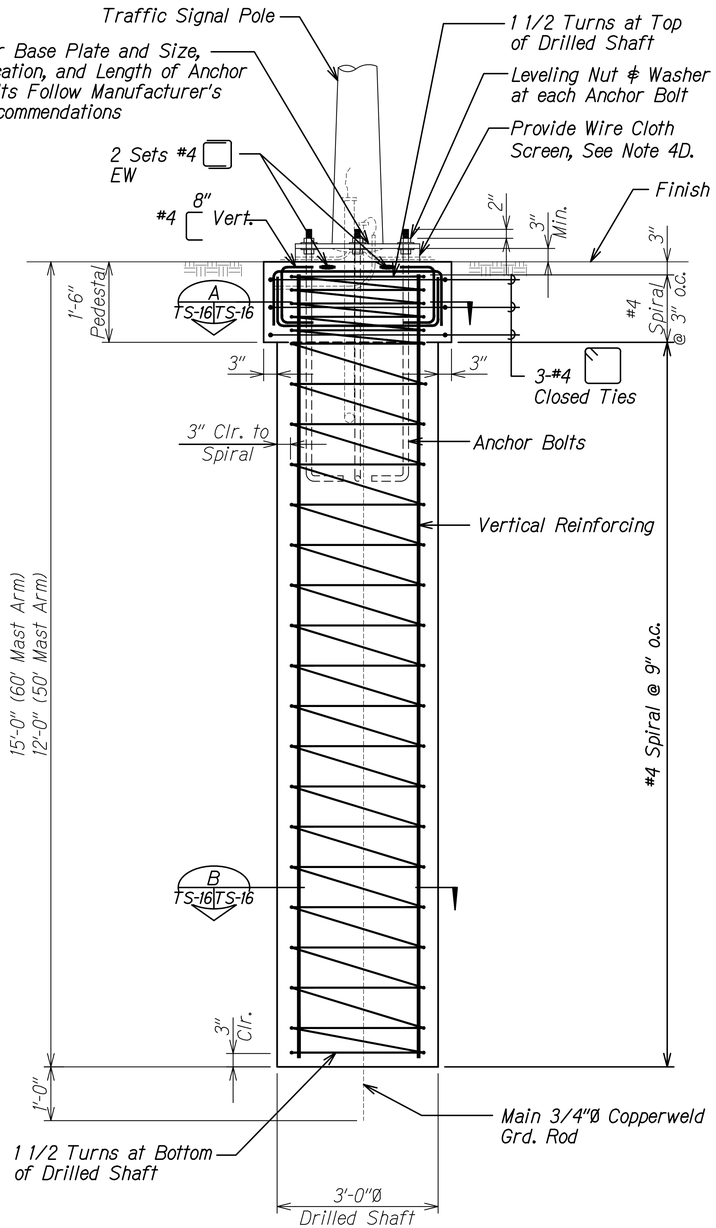
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | No.

ADD. 118

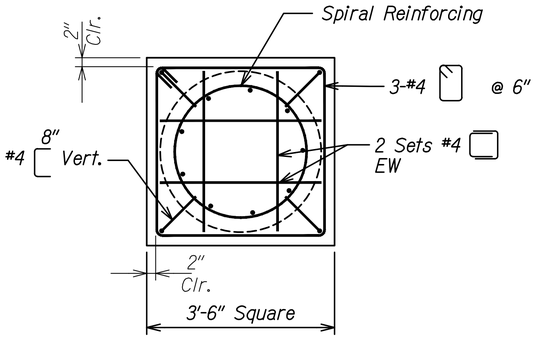
FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 119	167

TRAFFIC SIGNAL FOUNDATION GENERAL NOTES:

1. **Design Specifications:**
   - A. American Association of State Highway and Transportation Officials (AASHTO) 2017 LRFD Bridge Design Specifications, Eigth Edition, including the 2015 Interim revision edition as amended by Hawaii Department of Transportation (HDOT) document dated August 8, 2014 with subject title "Design Criteria for Bridges and Structures" and HDOT memorandum dated January 8, 2018 with subject title "Changes to Design Criteria for Bridges and Structures".
   - B. Design shall conform with the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, First Edition 2015 with 2020 Interim Revisions.
   - C. See Structural General Notes on Sheet S0.0 for further information.
2. **Loads:**
   - A. Basic Wind Speed: 145 mph.
   - B. Recurrence Interval of 1700 years.
   - C. Fatigue importance factor, I_f, shall be based on Fatigue Category I for cantilevered traffic signal structures.
   - D. Vortex shedding induced loads shall be considered for cantilevered mast arms and pole shafts that do not have tapers or have tapers of less than 0.14 in/ft.
   - E. Traffic signal structures shall be designed for a truck induced gust based on a truck speed of 20 mph over the posted speed.
   - F. Galloping and natural wind gusts shall be considered for cantilevered traffic signal structures.
   - G. Natural Wind Gusts shall be considered for all traffic signal structures.
3. **Materials:**
   - A. Concrete for traffic signal foundation shall develop a minimum 28-day compressive strength of 4,500 psi with a maximum w/c ratio of 0.45.
   - B. All concrete shall contain corrosion inhibitor. Dosage shall be as recommended by the manufacturer. ⚠
   - C. All reinforcing steel shall be ASTM A615 Grade 60 deformed bars unless otherwise noted.
   - D. All connection bolts shall be AASHTO M164 bolts and anchor bolts shall be AASHTO M314-105 bolt.
   - E. Aluminum members and surfaces in contact with structural steel shall be isolated with neoprene material as approved by the Engineer.
4. **General:**
   - A. The recommendations of the traffic pole manufacturer shall be followed. Manufacturer shall select pole, anchor bolts, etc. based on criteria given in the contract documents. The Contractor shall submit catalog cuts and calculations to the Engineer for approval.
   - B. The Contractor shall use templates while installing the anchor bolts. Anchor bolts shall be vertical.
   - C. The Contractor shall adjust the spiral vertical spacing to allow installation of anchor bolts and plates.
   - D. Wire cloth shall be galvanized steel standard grade plain weave 2x2 mesh 0.063 inch diameter wires. Wrap around base plate perimeter with 3" minimum lap. Fasten with ¼" diameter capscrew ASTM F593 with SS washer spaced at approximately 9" o.c., drilled and tapped into perimeter of base plate.
5. **Geotechnical Notes:**
   - A. Soil profile consists of very stiff silty clay over silty coral sand and gravel over coral formation.
   - B. Assumed Undrained Cohesion of Soil - 3,000 psf (20.8 psi)
   - C. Assumed Youngs Modulus of Soil = 5,000 psi
   - D. Assumed Poisson's Ratio = 0.3
   - E. Design Loads:
     - i. Max. Moment = 338 k-ft.
     - ii. Max. Shear = 11.41 k



ELEVATION
Scale: 3/4" = 1'-0"



SECTION A
Scale: 3/4" = 1'-0" TS-16 TS-16

SECTION B
Scale: 3/4" = 1'-0" TS-16 TS-16

NOTE:

Detail of conduits, anchor bolts, etc, are approximate only. Manufacturer's recommendatons shall be followed. Contractor shall submit catalog cuts to the Engineer for approval.

⚠	3/3/20	Revised Note
	Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRILLED SHAFT FOUNDATION FOR TRAFFIC SIGNAL

FORT BARRETT ROAD OPERATIONAL IMPROVEMENTS
ROOSEVELT AVENUE TO FARRINGTON HIGHWAY
PROJECT NO. 901A-01-19

Scale: As Noted Date: Jan. 2020

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

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SIGNATURE — 4-30-20 EXPIRATION DATE OF THE LICENSE

SHEET No. TS-16 OF 16 SHEETS

ADD. 119

ORIGINAL PLAN | NOTE BOOK No.

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

DRAWING NAME: Z:\JOB ONGOING\19-046-FORT BARRETT RD-ROP\01 CAD\03-05-20 WSP DELTA \TSR-TS016 DRILLED SHAFT.DWG PLOT TIME: 03-05-20, 2:18 PM

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 120	167

HAWAIIAN RAILWAY SOCIETY (HRS) NOTE:

CONSTRUCTION OF THIS RAILROAD AT-GRADE CROSSING SHALL BE COORDINATED WITH HRS (STEVE VENDT, 808-681-5461) FOR RAILROAD OPERATING SCHEDULE. CONSTRUCTION OF THE CROSSING SHALL BE DONE DURING WEEKDAYS (MON-FRI). THE TRACK SHALL BE IN SERVICE FOR ALL SCHEDULED TRAINS AND MAINTENANCE OPERATIONS. CONTRACTOR SHALL NOTIFY HRS AT LEAST TWO WEEKS PRIOR TO ANY TRACK CONSTRUCTION ACTIVITIES.

INDEX:

RR-1	HRS NOTE, INDEX, LEGEND AND ABBREVIATIONS
RR-2	TRACK PLAN AND PROFILE
RR-3	TRACK DETAILED CROSSING PLAN
RR-4	TYPICAL TRACK SECTIONS
RR-5	TYPICAL TRACK DETAILS
RR-6	FLASHING LIGHT SIGNAL AND GATE ARM INSTALLATION DETAIL
RR-7	CROSSING LOCATION PLAN
RR-8	XP4 CONTROL PLAN
RR-9	RECORDER PLAN
RR-10	GATE 1 AND PEDESTRIAN FLASHER 1 PLAN
RR-11	GATE 2 PLAN
RR-12	GATE 3 PLAN
RR-13	GATE 4 PLAN
RR-14	POWER DISTRIBUTION PLAN
RR-15	CASE LAYOUT PLAN
RR-16	RELAY PLAN

ABBREVIATIONS:

AAR	Association of American Railroads
AASHTO	American Association of State Highway Transportation Officials
AB	Aggregate Base
AC	Asphalt Concrete
ARA	American Railway Association
ASCE	American Society of Civil Engineering
AREMA	American Railway Engineering and Maintenance of Way Association
AVE	Avenue
BLDG	Building
℄	Centerline
CLR PT	Clear Point
Conc	Concrete
CWR	Continuous Welded Rail
CY	Cubic Yards
*	Degree(s)
DIA	Diameter
DR	Drive
DWG	Drawing
E	East
EL	Elevation
EOT	End of Track
EXIST	Existing
'	Foot, Feet or Minute(s)
FG	Finished Grade
HH	Head Hardened
HORIZ	Horizontal
HTTO	Hand Throw Turnout
"	Inch, Inches or Seconds
I	Total Intersection Angle
IJ	Insulated Joints
INV	Invert
Jtd	Jointed Rail
L	Length
LF	Lineal Feet
LH	Left Hand
Ls	Length of Spiral
LT	Left
MAX	Maximum
MIN	Minimum
MM	Mile Marker
MP	Mile Post
MPH	Miles Per Hour
MT	Main Track
MUTCD	Manual on Uniform Traffic Control Devices
N	North
NIC	Not in Contract
NO.	Number
NTS	Not to Scale
OH	Overhead
OTM	Other Track Material
#	Pound
PC	Point of Curve
PCC	Point of Compound Curve
PCS	Point of Curve to Spiral
PERF	Perforated
POC	Point on Curve
PF	1/2" Point of Frog
PI	Point of Intersection
PITO	Point of Intersection of Turnout
POB	Point of Beginning
POTO	Power Operated Turnout
PROP	Proposed
PS	Point of Spiral
PSC	Point of Spiral to Curve
PT	Point of Tangent
PTSW	Point of Switch
PVC	Point of Vertical Curve/Polyvinyl Chloride
PPVI	Point of Vertical Intersection
PVT	Point of Vertical Tangent
RH	Right Hand
RR	Railroad
RT	Right
Rwy	Railway
R/W	Right of Way
SCH	Schedule
SECS	Seconds
SF	Square Feet
SHT	Sheet
SLDR	Shoulder
S	South
ST	Street
STA	Station
STD	Standard
TC	Track Centers
TF	Track Feet
TO	Turnout
T/R	Top of Rail
TRK	Track
TYP	Typical
UG	Underground
VERT	Vertical
V	Velocity
V/L	Average Change in Gradient per 100'
W	West
XING	Crossing
XOVER	Cross-Over

SYMBOLS:

Flashing Light Warning Device

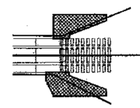
Flashing Light Warning Device with Gate

Milepost

MM Milemarker

TRACKS:

Centerline of Track



Typical Walkways at Grade Crossings

U.S. DOT CROSSING INVENTORY:

DOT: 918996X
⚠ RR MP: 19.71
ROAD: FT. BARRETTE ROAD

⚠	3/3/20	Revised Text.
	Date	Revision

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

DEXTER S. EJI
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SIGNATURE 04/30/20 EXPIRATION DATE OF THE LICENSE

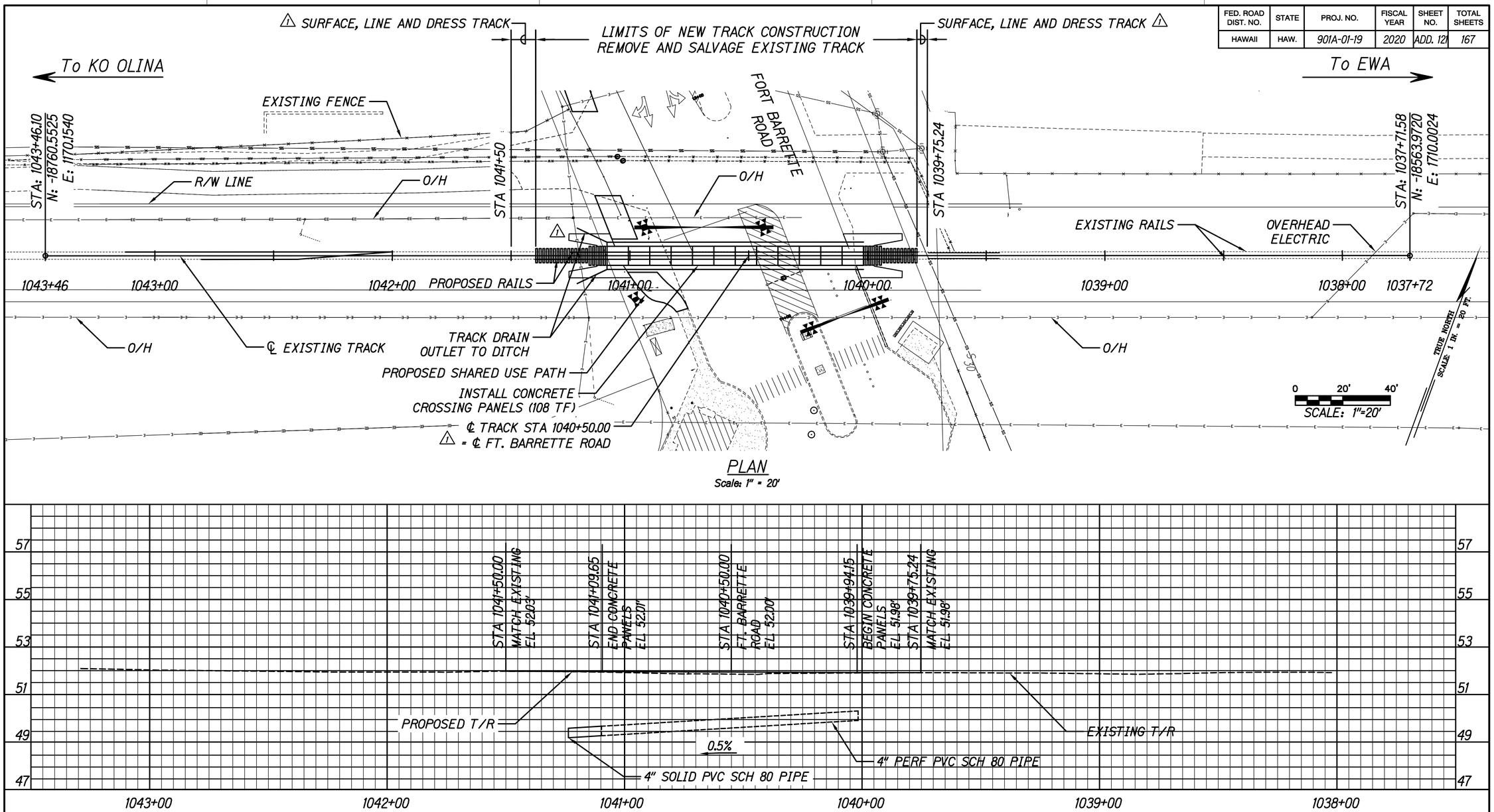
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HRS NOTE, RAILROAD INDEX, LEGEND AND ABBREVIATIONS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: AS NOTED Date: Jan. 2020

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 121	167



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

NOTES:

1. THE CONTRACTOR SHALL VERIFY AVAILABLE CLEARANCES WITH EXISTING OVERHEAD UTILITY LINES PRIOR TO FABRICATION OF GATE STRUCTURES.

⚠	Date	Revision
1	3/3/20	Revised Callout. Added Track Drain Outlet.

DEXTER S. ELI
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRACK PLAN AND PROFILE

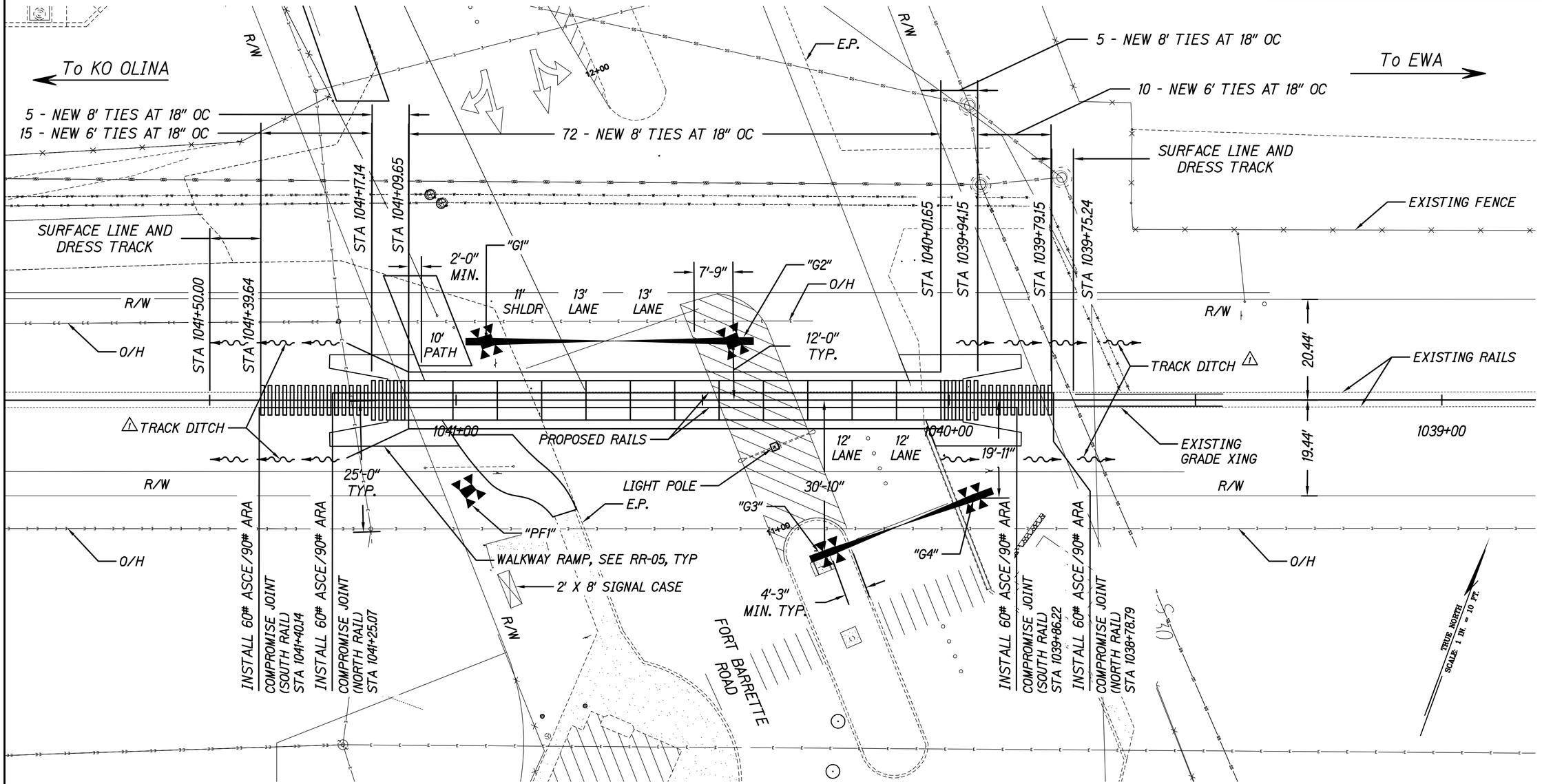
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: AS NOTED Date: Jan. 2020

SHEET No. RR-2 OF 16 SHEETS

ADD. 121

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 122	167



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

NOTES:

1. THE CONTRACTOR SHALL VERIFY AVAILABLE CLEARANCES WITH EXISTING OVERHEAD UTILITY LINES PRIOR TO FABRICATION OF GATE STRUCTURES.

⚠	Date	Revision
1	3/3/20	Added Track Drain Outlet. Added Callouts.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILED CROSSING PLAN

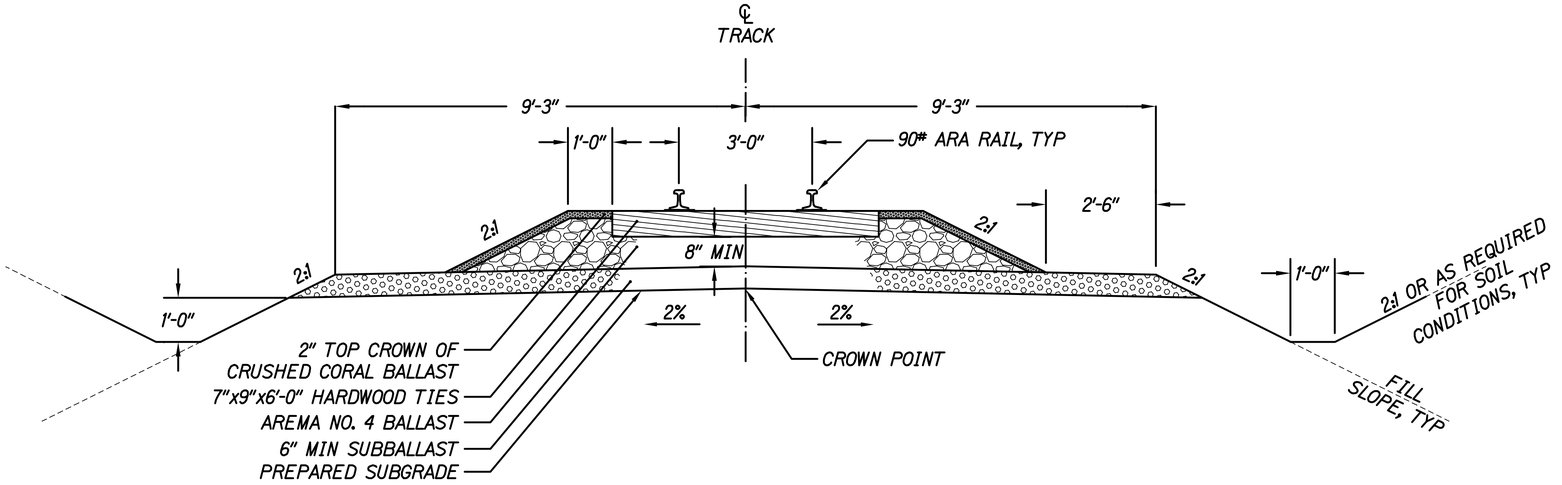
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: None Date: Jan. 2020

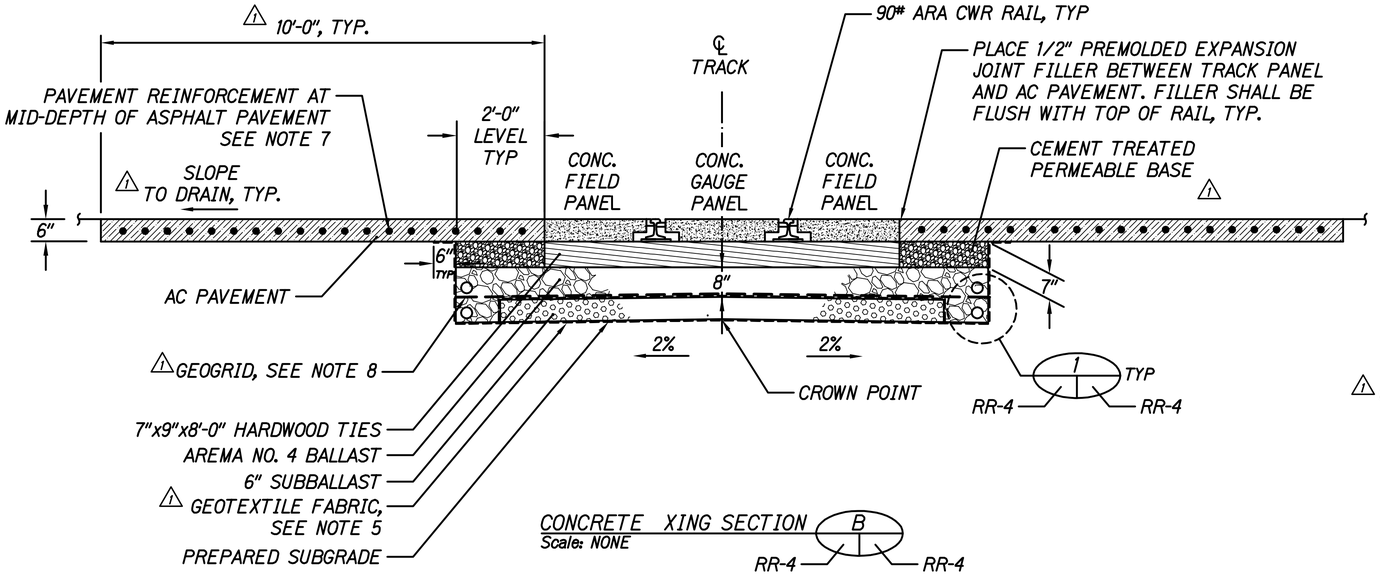
SHEET No. RR-3 OF 16 SHEETS

ADD. 122

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 123	167



OPEN TRACK SECTION A
Scale: NONE
RR-4 RR-4



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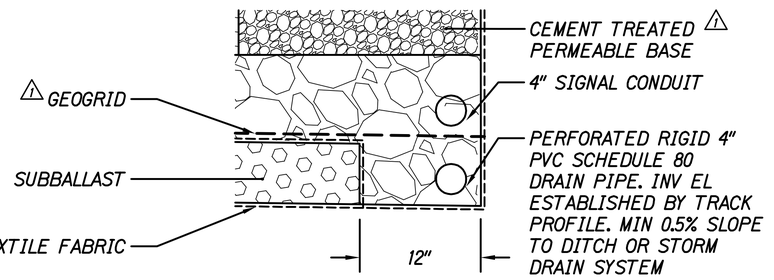
Scale: NONE
RR-4 RR-4

NOTES:

1. THE CONTRACTOR SHALL PROTECT ALL FOUNDATIONS AND EXISTING UNDERGROUND UTILITIES FROM DAMAGE BY EXCAVATION ACTIVITIES.
2. CONTRACTOR SHALL NOTIFY THE ENGINEER FOR INSPECTION OF CROSSING SUBGRADE. CONTRACTOR SHALL NOT COVER UP THE SUBGRADE UNTIL AFTER INSPECTION AND APPROVAL BY ENGINEER.
3. IF ALL OR PART OF THE SUBGRADE CANNOT ATTAIN SUITABLE COMPACTION, CONTRACTOR SHALL OVER EXCAVATE AND PLACE AND COMPACT SUITABLE ORDINARY BACKFILL MATERIAL AS DIRECTED BY THE ENGINEER. REMOVED EXISTING BALLAST MAY BE USED AS ORDINARY BACKFILL UNLESS DETERMINED BY THE ENGINEER TO BE UNSUITABLE.
4. ROADWAY SURFACES SHALL NOT ALLOW STORM WATER TO DRAIN INTO THE TRACK.
5. GEOTEXTILE FABRIC SHALL BE MIRAFI FW403, OR APPROVED EQUIVALENT.
6. ⚠ AREMA NO. 4 BALLAST TO BE USED BETWEEN WOOD TIES.
7. PAVEMENT REINFORCEMENT SHALL BE GLASGRID 8511 TF, OR APPROVED EQUIVALENT.
8. GEOGRID SHALL BE TENSAR TRIAX TX7, OR APPROVED EQUIVALENT.



DETAIL 1
Scale: NONE
RR-4 RR-4

⚠	Date	Revision
	3/3/20	Revised detail, note and callout. Revised Geotextile Fabric and Geogrid on Details.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL TRACK SECTIONS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: None Date: Jan. 2020

SHEET No. RR-4 OF 16 SHEETS

ADD. 123

ORIGINAL PLAN
NOTE BOOK
SURVEY PLOTTED BY DATE
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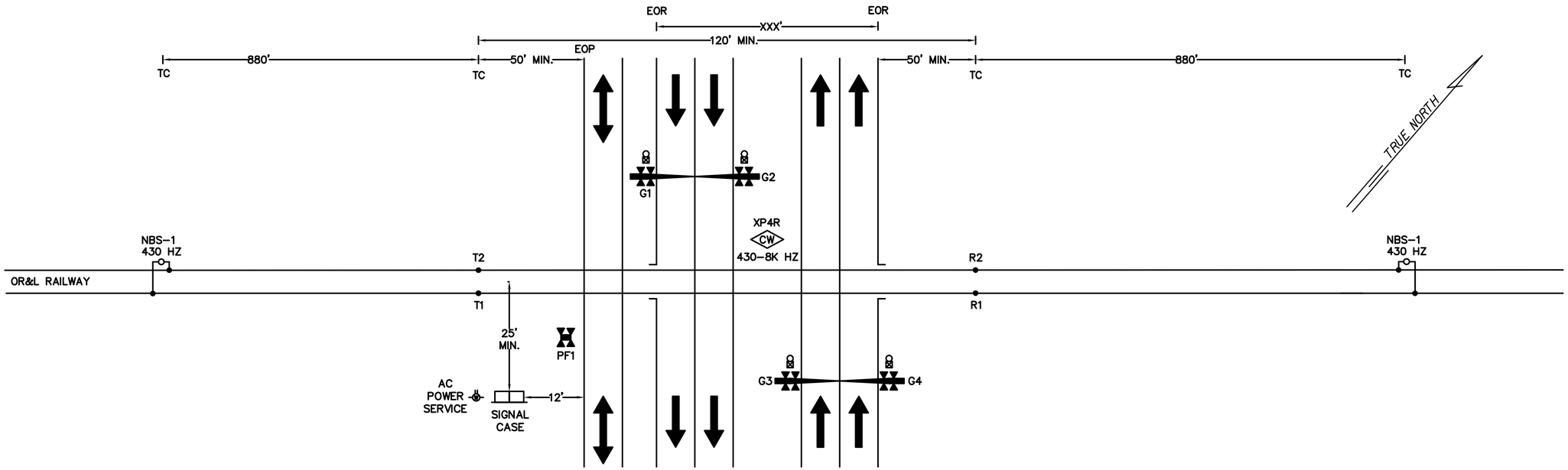
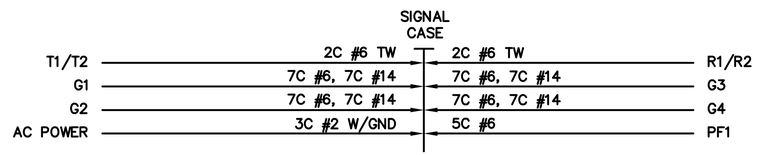
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 126	167





SYMBOLS AND ABBREVIATIONS:

TC – TRACK CONNECTION
EOR – EDGE OF ROADWAY
EOP – EDGE OF PATHWAY
NBS – NARROW BAND SHUNT
CW – CONSTANT WARNING (ALSTOM XP4R, FREQUENCY 430 HZ, 8.0KHZ ISLAND)
– BELL
– AC POWER SERVICE
– FLASHING LIGHTS AND GATE
– PEDESTRIAN FLASHING LIGHT UNIT
– SIGNAL CASE
– TEST TERMINAL
– LINE ARRESTER
– EQUALIZER
– TWISTED WIRE, 2 TURNS PER FOOT

NOTES:

1. MINIMUM ISLAND LENGTH IS 120 FEET
2. SIGNAL CASE TO BE LOCATED MINIMUM 12' FROM ROADWAY SHOULDER AND 25' FROM TRACK CENTERLINE.
3. ALL LAMPS SHALL BE LED.
4. ALL WIRES #16 AWG UNLESS OTHERWISE NOTED.
⚠1 5. ALL RAIL JOINTS SHALL BE BONDED WITHIN CIRCUIT AREA.

WARNING TIME:

1. EQUIPMENT IS DESIGNED FOR 20 SECONDS MINIMUM WARNING TIME AT 10 MPH.
2. APPROACHES WERE LENGTHENED 0 SECOND(S) FOR WIDE OR ANGLED CROSSING (CT).
3. APPROACHES WERE LENGTHENED 5 SECONDS FOR BUFFER TIME (BT).
4. APPROACHES WERE LENGTHENED 30 SECONDS FOR ADVANCED PREEMPTION (APT).
5. APPROACHES WERE LENGTHENED 5 SECONDS FOR EQUIPMENT RESPONSE TIME (ERT).

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

⚠	Date	Revision
1	3/3/20	Added note

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

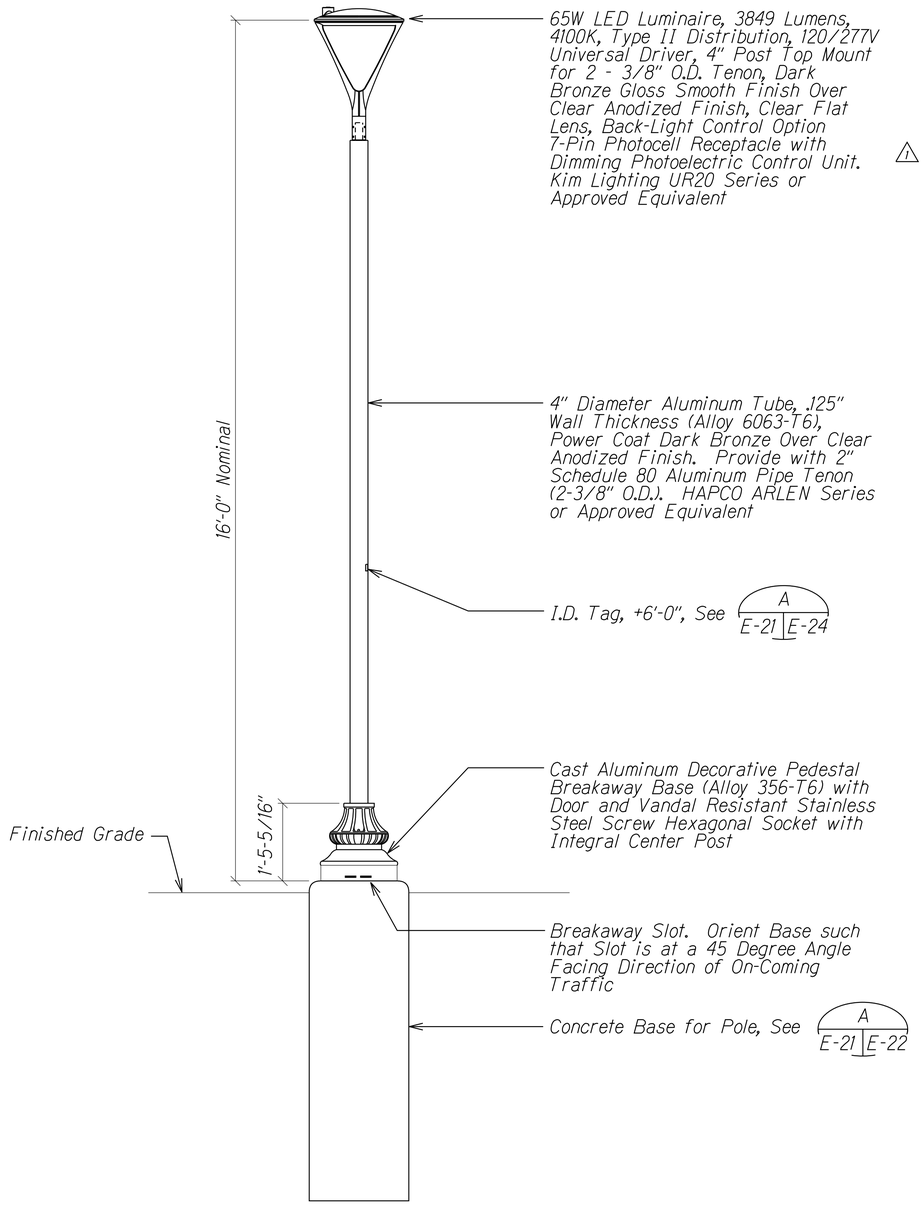
CROSSING LOCATION PLAN

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

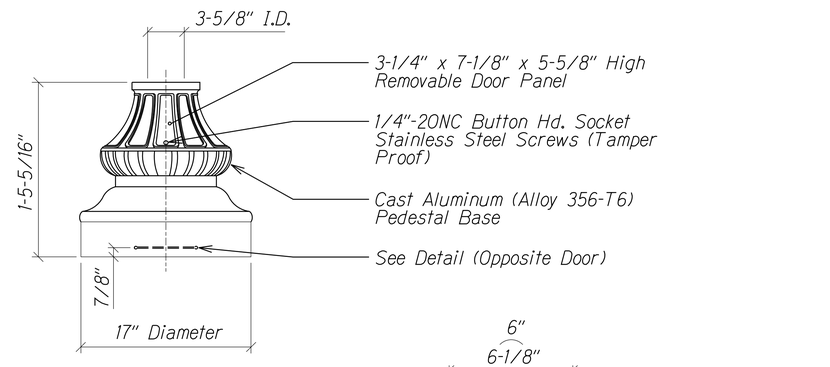
Scale: None Date: Jan. 2020

SHEET No. RR-7 OF 16 SHEETS

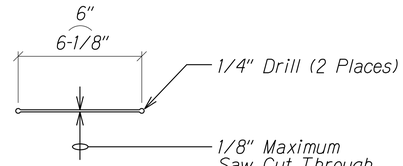
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 156	167



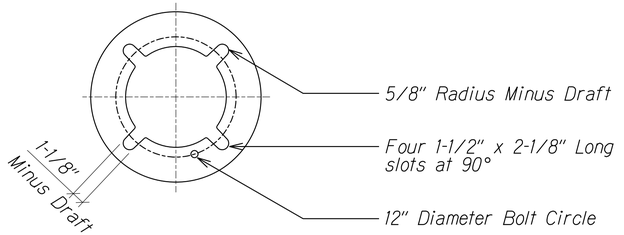
A E-21 E-21 **PATHWAY LIGHT STANDARD DETAIL**
NOT TO SCALE



Elevation



Detail



Plan

NOTE:
Breakaway Base HAPCO ARLEN Series, or Approval Equal. 1

B E-21 E-21 **BREAKAWAY BASE DETAIL**
NOT TO SCALE

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

1	3/3/20	Revised Note and Added Note
	Date	Revision

RUSSELL K. MORI
LICENSED PROFESSIONAL ENGINEER
No. 9013-E
3/16/20
HAWAII, U.S.A.
MK ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/20
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PATHWAY LIGHT STANDARD DETAIL

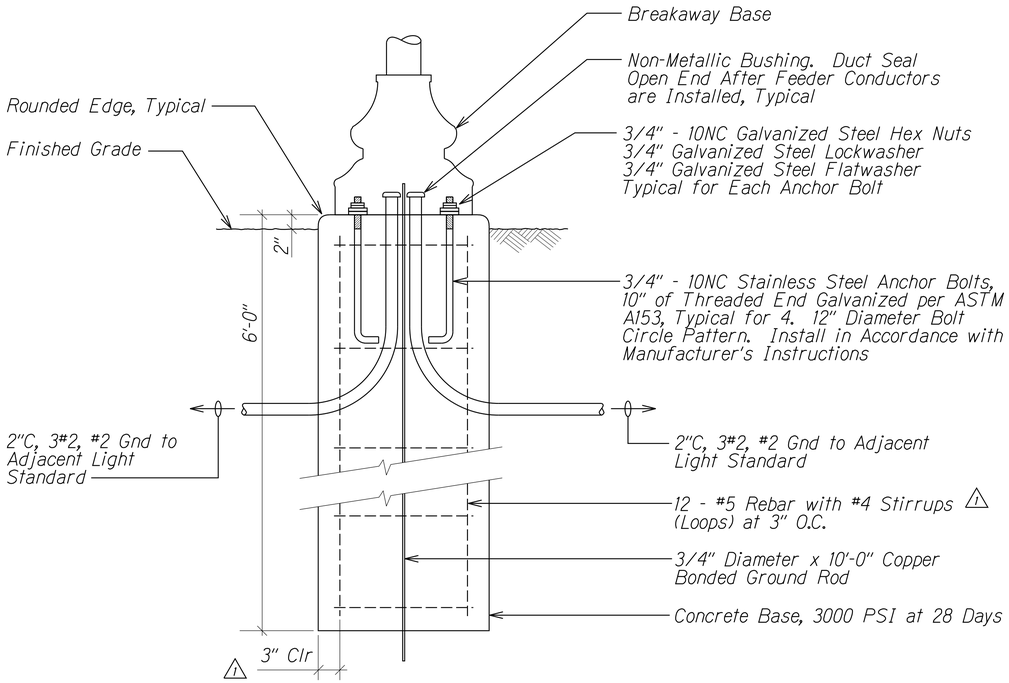
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: Not to Scale Date: Jan. 2020

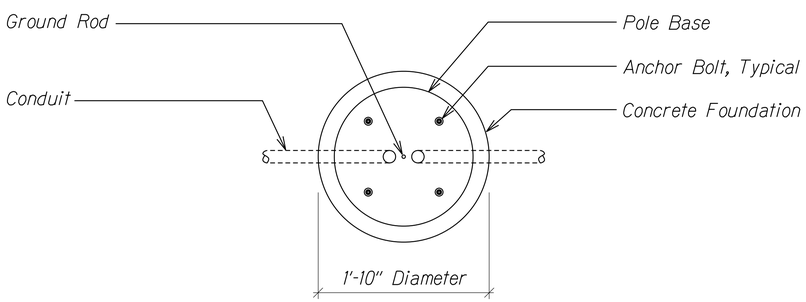
SHEET No. E-21 OF 32 SHEETS

ADD. 156

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 157	167

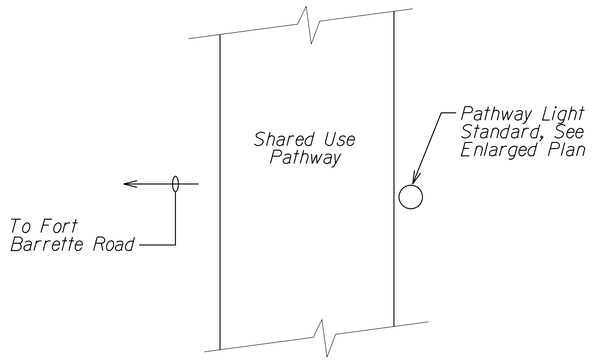


Elevation

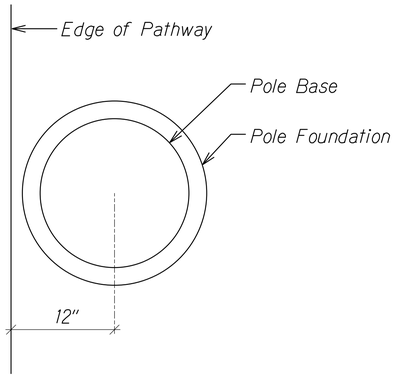


Plan

A E-21 | E-22 TYPICAL POLE BASE DETAIL
NOT TO SCALE



Partial Plan
At Shared Used Pathway



Enlarged Plan
At Light Standard

B E-22 | E-22 PATHWAY LIGHT STANDARD LOCATION DETAIL
NOT TO SCALE

	Date	Revision
1	3/3/20	Revised Note and Added a Dimension

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

RUSSELL K. MORI
LICENSED PROFESSIONAL ENGINEER
No. 9015-E
5/19/20
HAWAII, U.S.A.
MK ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/20
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL POLE BASE DETAIL

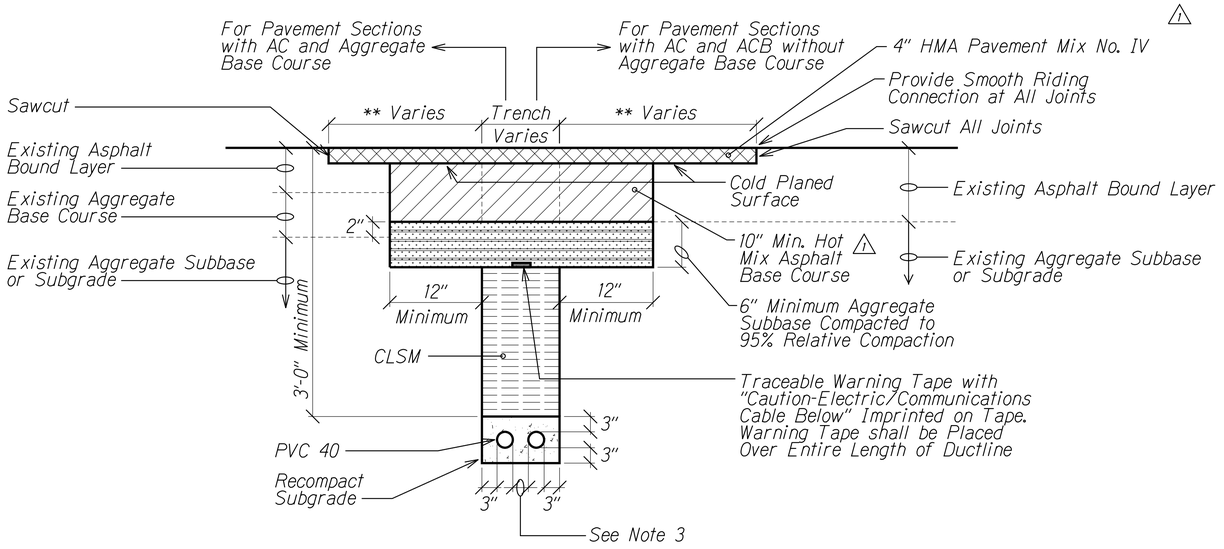
FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: Not to Scale Date: Jan. 2020

SHEET No. E-22 OF 32 SHEETS

ADD. 157

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	901A-01-19	2020	ADD. 164	167



A E-29 | E-29 TYPICAL DUCT SECTION (CONCRETE ENCASED) FOR PAVED AREAS

NOT TO SCALE

NOTES:

1. This Trench Restoration is to be Used Wherever the Pavement is an Asphalt Surface Including Medians and Paved Areas Between Guardrails. For Trenches Located in Unpaved Areas, the Backfill Need Not be CLSM and Can be Backfilled as Specified in the Standard Specifications.
2. Electrical, Telephone, and CATV Ducts Similar.
3. Provide 2" Separation Between Ducts of Same System and 3" Between Ducts of Different Systems.
4. Tack Coat Existing Asphalt Bound Material Faces Prior to Filling Excavation with Asphalt Bound Material.
5. When Ground Water is Encountered in Trenches, Backfill with Gravel Conforming to ASTM C-33, Size 67 Material Until One Foot Above the Water Level. Encapsulate the Size 67 Material with a Permeable Separator that Lines the Bottom and Sides of the Trench and Overlaps at the Top of the Material for the Width of the Trench. Complete Backfilling the Trench per Detail.
6. Trench Restoration Work, Including but Not Limited to Pavement and Striping, Shall be Considered Incidental to Item No. 627.1001 Pathway Lighting System.

** NOTES:

1. If Trench Aligned Transverse to Direction of Travel, 6 Feet Minimum on Each Side of Trench. See Plan Sht. No. ADD. 37 for Resurfacing Width for Trench Restoration Through Kamaaha Avenue.
2. If Trench Aligned Along Direction of Travel, to Edge of Lane in Which Edge of Trench is Located.
3. Smoothness of Paved Surfaces; the Distance from the Paved Surface to the Testing Edge of a Ten-Foot Straight Edge Between Two Points of Contact Shall Not Exceed 3/16".

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

	Date	Revision
1	3/3/20	Added Note No. 6, Removed Notes and Revised Notes

RUSSELL K. MORI LICENSED PROFESSIONAL ENGINEER No. 9013-E 3/10/20 HAWAII, U.S.A.

MK ENGINEERS, LTD. LICENSE EXPIRATION DATE: 4/30/20 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DUCT SECTION (CONC ENCASED) FOR PAVED AREAS

FORT BARRETTE ROAD OPERATIONAL IMPROVEMENTS
Roosevelt Avenue to Farrington Highway
Project No. 901A-01-19

Scale: Not to Scale Date: Jan. 2020

SHEET No. E-29 OF 32 SHEETS

ADD. 164