FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	1	53

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STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

HONOLULU, HAWAII

PLANS FOR

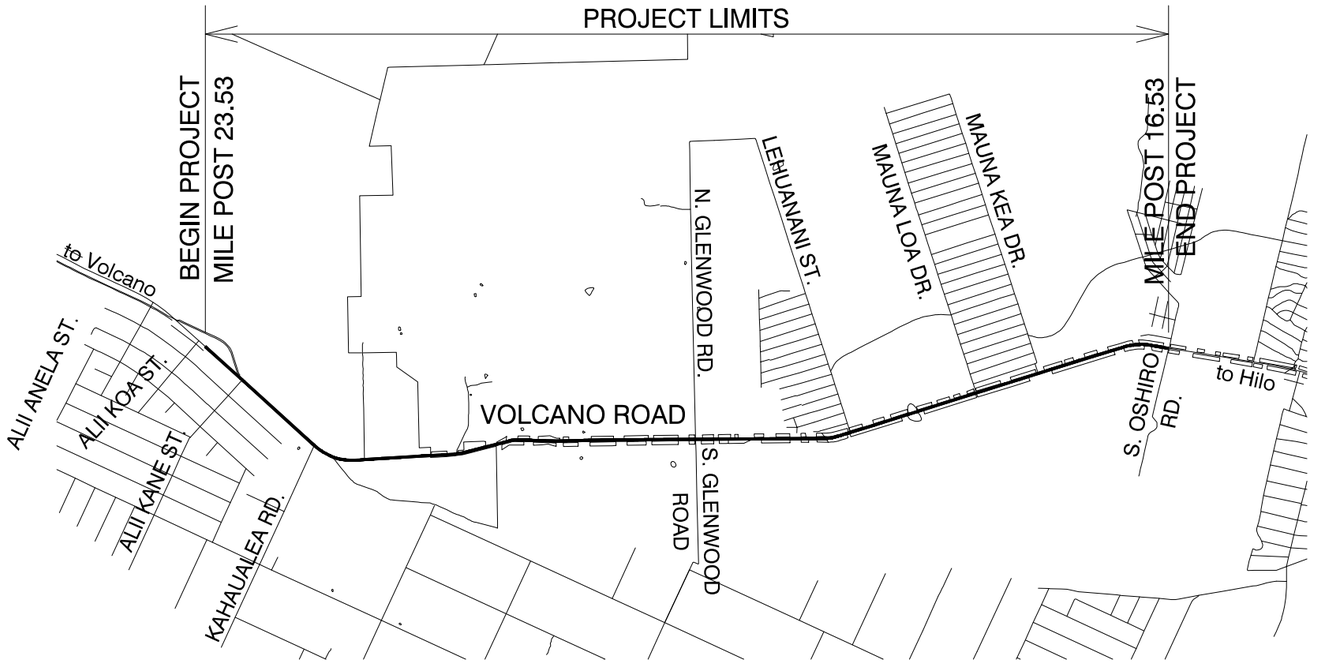
VOLCANO ROAD REHABILITATION,

OSHIRO ROAD TO ALII KOA STREET

FEDERAL-AID PROJECT NO. STP-011-2(046)

DISTRICT OF PUNA

ISLAND OF HAWAII

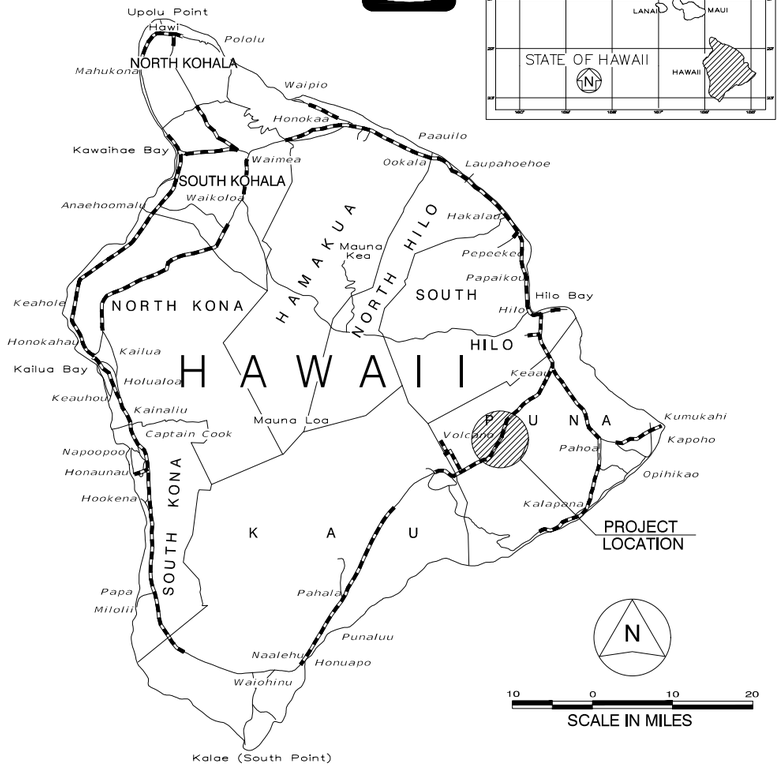


LAYOUT PLAN

LENGTH OF PROJECT..... 7.00 MILES

6 0 6 12 18

SCALE IN THOUSAND FEET



FEDERAL AID PROJECTS PREVIOUSLY CONSTRUCTED OR UNDER CONSTRUCTION

MILE POST 16.53 TO MILE POST 23.53

DESIGN DESIGNATION

ADT (2022)..... 8,700
ADT (2032)..... 9,900
DHV..... 270
D 60/40
T ..... 5 %
V .....55 M.P.H.

DESIGNED BY

MANAGED BY

PHONE

DATE

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED:

Aug 7, 2026

HIGHWAYS ADMINISTRATOR DATE

STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	2	53

STANDARD PLAN NO.	TITLE	DATE
B-01 ●	NOTES & MISCELLANEOUS DETAILS	05/31/07
B-03	BACKFILL DETAILS AT EARTH RETAINING STRUCTURES	05/31/07
B-12	PRESTRESSED CONCRETE PILES & COMPRESSION SPLICE	05/31/07
	CAN DETAILS	
B-12A	PRESTRESSED CONCRETE PILES, PILE & COMPRESSION	05/31/07
	SPLICE CAN DETAILS & NOTES	
B-12B	PILE INTERACTION DIAGRAM	05/31/07
B-13	PRESTRESSED CONCRETE PILE BUILD-UP DETAILS	05/31/07

D-01	CATTLE GATE	05/31/07
D-02	CHAIN LINK FENCE WITH TOPRAIL	05/31/07
D-03	CHAIN LINK FENCE WITHOUT TOPRAIL	05/31/07
D-04	WIRE FENCE WITH METAL POSTS	05/31/07
D-05	TYPICAL DETAILS OF CURBS AND/OR GUTTERS	05/31/07
D-06	TYPICAL DETAIL OF REINFORCED CONCRETE DROP DRIVEWAY	05/31/07
D-07 ●	CENTERLINE AND REFERENCE SURVEY MONUMENTS	05/31/07
D-08	STREET SURVEY MONUMENT	05/31/07
D-15	CONCRETE SIDEWALK	05/31/07
D-16	P.C.C. BUS PAD	05/31/07
D-17	P.C.C. BUS PAD	05/31/07
D-18	P.C.C. PAVEMENT LAYOUT	05/31/07
D-19	P.C.C. PAVEMENT W/ PERMEABLE BASE JOINT DETAILS	05/31/07
D-20	P.C.C. PAVEMENT W/ PERMEABLE BASE JOINT DETAILS	05/31/07
D-21	P.C.C. LONGITUDINAL JOINT DETAILS	05/31/07
D-22	P.C.C. CONNECTION TO CURBS AND GUTTERS	05/31/07
D-23	JOINTS	05/31/07

L-01	TREE PLANTING	08/16/06
L-02	TREE PLANTING	08/16/06
L-03	TREE TRANSPLANTING	08/16/06
L-04	PALM PLANTING	08/16/06
L-05	SHRUB PLANTING	08/16/06
L-06	LANDSCAPE DETAILS	08/16/06
L-07	LANDSCAPE DETAILS	08/16/06
L-08	LANDSCAPE DETAILS	08/16/06
L-09	LANDSCAPE DETAILS	08/16/06
L-10	LANDSCAPE DETAILS	08/16/06
L-11	PLANTING NOTES	08/16/06
L-12	IRRIGATION DETAILS	08/16/06
L-13	IRRIGATION DETAILS	08/16/06
L-14	IRRIGATION DETAILS	08/16/06
L-15	IRRIGATION DETAILS	08/16/06
L-16	IRRIGATION DETAILS	08/16/06
L-17	IRRIGATION DETAILS	08/16/06
L-18	IRRIGATION DETAILS	08/16/06
L-19	IRRIGATION DETAILS	08/16/06
L-20	IRRIGATION DETAILS	08/16/06
L-21	IRRIGATION DETAILS	08/16/06
L-22	IRRIGATION DETAILS	08/16/06
L-23	IRRIGATION DETAILS	08/16/06
L-24	IRRIGATION NOTES	08/16/06

STANDARD PLAN NO.	TITLE	DATE
H-01A	TYPE A CATCH BASIN	05/31/07
H-01B	TYPE B CATCH BASIN	05/31/07
H-01C	TYPE C CATCH BASIN	05/31/07
H-01D	TYPE D CATCH BASIN	05/31/07
H-01E	CATCH BASIN SECTIONS	05/31/07
H-02A	TYPE A1 CATCH BASIN	05/31/07
H-02B	TYPE B2 CATCH BASIN	05/31/07
H-02C	TYPE C1 CATCH BASIN	05/31/07
H-02D	TYPE D1 CATCH BASIN	05/31/07
H-02E	CATCH BASIN SECTION	05/31/07
H-03	TYPE A,B, AND C STORM DRAIN MANHOLE	05/31/07
H-04	TYPE D STORM DRAIN MANHOLE	05/31/07
H-05	TYPICAL REINFORCING DETAILS FOR DRAINAGE STRUCTURES	05/31/07
H-06	TYPICAL REINFORCING DETAILS FOR DRAINAGE STRUCTURES	05/31/07
H-07	CATCH BASIN AND MANHOLE CASTINGS	05/31/07
H-08	TYPE 1A-9 AND 1A-9P GRATED DROP INLET	05/31/07
H-09	TYPE 2A-9 AND 2A-9P GRATED DROP INLET	05/31/07
H-10	TYPE A-9 OR A-9P STEEL FRAMES	05/31/07
H-11	TYPE A-9 AND A-9P STEEL GRATES	05/31/07
H-12	TYPE 61614P AND 1211214P GRATED DROP INLET	05/31/07
H-13	TYPE 61616P AND 1211216P GRATED DROP INLET	05/31/07
H-14	TYPE 61214P GRATED DROP INLET	05/31/07
H-15	TYPE 1211214, 1211214P, 1211216, 1211216P STEEL	05/31/07
	FRAME AND GRATES	
H-16	TYPE 61614, 61614P, 61616, 61616P STEEL FRAME	05/31/07
	AND GRATES	
H-17	TYPE 61214 STEEL FRAMES AND GRATES	05/31/07
H-18	TYPE 61214P STEEL GRATES	05/31/07
H-19	TYPE 61614B STEEL FRAME AND GRATES	05/31/07
H-20	CEMENT RUBBLE MASONRY STRUCTURES	05/31/07
H-21	CONCRETE AND CEMENT RUBBLE MASONRY STRUCTURES	05/31/07
H-22	INLET/OUTLET STRUCTURE	05/31/07
H-23	INLET/OUTLET STRUCTURE	05/31/07
H-24	FLARED END SECTION FOR CULVERTS	05/31/07
H-25	FLARED END SECTION FOR CULVERTS	05/31/07
H-26	CONCRETE SPILLWAY INLET	05/31/07
H-27	CAP COUPLING DETAILS STANDARD JOINT	05/31/07
H-28	REINFORCED CONCRETE COLLAR & JACKET	05/31/07
H-29	UNDERDRAIN CLEANOUT STEEL FRAME AND COVER	05/31/07
H-30	UNDERDRAIN CONNECTION TO DRAINAGE STRUCTURE	05/31/07

TE-01 ●	SIGN HEIGHT AND LOCATION	07/11/08
TE-1A ●	SIGN INSTALLATION	07/11/08
TE-02A	GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING	05/31/07
TE-02B	GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING	05/31/07
TE-02C	GALVANIZED FLANGED CHANNEL SIGN POST MOUNTING	05/31/07
TE-03A	GALVANIZED SQUARE TUBE SIGN POST MOUNTING	05/31/07
TE-03B ●	GALVANIZED SQUARE TUBE SIGN POST MOUNTING	05/31/07
TE-04 ●	REGULATORY SIGNS	07/11/08
TE-05 ●	WARNING SIGNS	07/11/08
TE-06 ●	MISCELLANEOUS SIGNS	07/11/08
TE-07 ●	CONSTRUCTION SIGNS	07/11/08
TE-08	MISCELLANEOUS INTERSECTION SIGNS	07/11/08

STANDARD PLAN NO.	TITLE	DATE
TE-09	BIKE ROUTE SIGN & SUPPLEMENTARY PLATES	07/11/08
TE-10	INTERSTATE ROUTE MARKER	07/11/08
TE-11 ●	STATE ROUTE MARKER AND AUXILIARY MARKERS	07/11/08
TE-12	STATE ROUTE MARKER AND BORDER DETAIL FOR	07/11/08
	GUIDE SIGNS	
TE-12A	ROUTE SIGN ASSEMBLIES	07/11/08 1
TE-13	STREET NAME SIGN ON MAST ARM	07/11/08 1
TE-14 ●	MISCELLANEOUS REFLECTOR MARKERS	07/11/08
TE-15 ●	OBJECT MARKERS	07/11/08
TE-16 ●	MILE POSTS	07/11/08
TE-17A	CANTILEVER OVERHEAD SIGN ELEVATION & DETAILS	05/31/07
TE-17B	CANTILEVER SIGN FRAME DETAIL AND SECTION	05/31/07
TE-17C	CANTILEVER SIGN FRAME DETAIL	05/31/07
TE-17D	CANTILEVER SIGN FRAME SECTION	05/31/07
TE-17E	CANTILEVER SIGN FRAME DETAILS	05/31/07
TE-18A	TWO POST OVERHEAD SIGN FRAME ELEVATIONS	05/31/07
TE-18B	TWO POST SIGN FRAMING PLAN SECTION	05/31/07
TE-18C	TWO POST SIGN FRAMING SECTIONS AND DETAILS	05/31/07
TE-18D	TWO POST SIGN FRAME DETAILS	05/31/07
TE-18E	TWO POST SIGN FRAME DETAILS	05/31/07
TE-19A	OVERHEAD SIGN FRAMING SCHEDULE	05/31/07
TE-19B	SIGN POST DRILLED SHAFT FOUNDATION	05/31/07
TE-19C	SPREAD FOOTING	05/31/07
TE-19D	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.1	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.2	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.3	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.4	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19D.5	SIGN FRAME FOUNDATION SCHEDULE	05/31/07
TE-19E	ANCHORAGE DETAILS	05/31/07
TE-19F	ANCHORAGE DETAILS	05/31/07
TE-19G	MISCELLANEOUS SIGN FRAME DETAILS	05/31/07
TE-19H	LUMINAIRE WALKWAY SUPPORT	05/31/07
TE-19J	FIXED MESSAGE LUMINAIRE SUPPORT	05/31/07
TE-19K	MISCELLANEOUS SIGN DETAILS	05/31/07
TE-19L	MISCELLANEOUS SIGN DETAILS	05/31/07
TE-19M	MISCELLANEOUS SIGN FRAME DETAILS	05/31/07
TE-20	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-20A	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-20B	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-20C	SUPPORTS FOR GROUND MOUNTED GUIDE SIGN	05/31/07
TE-21A	SIGN BREAKAWAY MOUNTS	05/31/07
TE-21B	SIGN BREAKAWAY MOUNTS	05/31/07
TE-22	LAMINATED ALUMINUM SIGN PANELS (OVERHEAD)	05/31/07
TE-23	LAMINATED ALUMINUM SIGN PANELS (GROUND MOUNTED)	07/11/08
TE-24	SOLID ALUMINUM EXTRUDED SIGN PANEL AND	05/31/07
	ACCESSORY DETAILS	
TE-25	GUIDE SIGNS LUMINAIRE MOUNTINGS	05/31/07
TE-26 ●	RAISED PAVEMENT MARKERS AND STRIPING	07/11/08
TE-27 ●	RAISED PAVEMENT MARKERS AND STRIPING	07/11/08
TE-28 ●	ENTRANCE AND EXIT PAVEMENT MARKINGS	07/11/08
TE-28A	MISCELLANEOUS PAVEMENT MARKINGS	07/11/08
TE-29 ●	PAVEMENT ARROWS AND SYMBOLS	07/11/08
TE-30 ●	PAVEMENT ALPHABETS, NUMBERS & SYMBOLS	07/11/08
TE-31 ●	PAVEMENT ALPHABETS, NUMBERS & SYMBOLS	07/11/08

STANDARD PLAN NO.	TITLE	DATE
TE-32	TYPE I & II TRAFFIC SIGNAL SYSTEM MISC. DETAILS	05/31/07
TE-33	TYPE II TRAFFIC SIGNAL SYSTEM	08/16/06
TE-33A.1	TYPE II TRAFFIC SIGNAL STANDARD	05/31/07
TE-33A.2	TYPE II TRAFFIC SIGNAL STANDARD	05/31/07
TE-34 ●	LOOP DETECTOR DETAILS	07/11/08
TE-37	PULLBOX & COVER DETAILS	07/11/08
TE-37A	TYPE "A" TRAFFIC PULLBOX	05/31/07
TE-37B	TYPE "A" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37C	TYPE "B" TRAFFIC PULLBOX	05/31/07
TE-37D	TYPE "B" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37E	TYPE "B" TRAFFIC PULLBOX FOUNDATION	05/31/07
TE-37F	TYPE "C" TRAFFIC PULLBOX	05/31/07
TE-37G	TYPE "C" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37H	TYPE "C" TRAFFIC PULLBOX FOUNDATION	05/31/07
TE-37J	TRAFFIC PULLBOX COVER AND DETAILS	05/31/07
TE-38	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
TE-38A.1	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
TE-38A.2	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
TE-39	METAL GUARDRAIL CONNECTION TO CONCRETE BARRIER	07/11/08
TE-40	CONCRETE BARRIER TRANSITION	05/31/07
TE-40A	CONCRETE BARRIER TRANSITION SECTIONS	05/31/07
TE-41	GUARDRAIL TYPE 4 (RIGID BARRIER)	05/31/07
TE-42	PORTABLE CONCRETE BARRIER	05/31/07
TE-43	PORTABLE CONCRETE BARRIER	05/31/07
TE-44	GUARDRAIL TYPE 4 MISCELLANEOUS DETAILS	07/11/08
TE-45	BARRICADES	07/11/08
TE-46	DELINEATION & PAVEMENT MARKINGS AT NARROW BRIDGES	07/11/08
TE-47	HIGHWAY LIGHT STANDARD	05/31/07

NOTE:

STANDARD PLANS APPLICABLE TO THIS PROJECT ARE INDICATED BY A " ● NEXT TO THE STANDARD PLAN NO. (FOR EXAMPLE: D-07 ●)

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Date: September 2026

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	3	53

GENERAL NOTES

1. The scope of work includes cold planing, resurfacing; reconstruction of weakened pavement areas; pavement marking and striping; guardrail improvements; and installation of milled rumble strips.

2. The location and existence of underground utilities, manholes, monuments and other structures as shown on the plans are from the latest available data, but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall make an independent check on the ground by probing and/or checking with the various utility companies and government agencies to verify the exact locations and depths of the existing utilities and obstructions. The Contractor shall exercise proper care excavating and cold planing in the area. Whenever connections of new 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 excavating new lines. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations. All damaged portions shall be replaced or repaired in accordance with the standards and specifications of the affected utility company at the Contractor's expense. Refer to Hawaii Standard Specification Subsection 104.11 Utilities and Services.

3. The Contractor shall verify the presence of existing aerial and underground utilities which may conflict with construction activities and shall coordinate with the utility company for temporary relocations, as necessary. All costs associated with temporary relocations shall be borne by the Contractor.

4. The Contractor shall indemnify and be solely responsible for the protection of adjacent properties, utilities and existing structures from damages due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer. Refer to Hawaii Standard Specification Subsection 107.12 Protection of Persons and Property.

5. Prior to resurfacing operations, the Contractor shall be responsible for locating, preserving and marking all utility and highway facilities that will require adjustments to the new finished pavement grade. Additionally, the Contractor shall submit to the Engineer a list of all items, including water, drainage, sewer, electrical, telephone, and cable utilities to be adjusted to the new finished grade.

6. The exact locations and limits of areas to be reconstructed and cold planed shall be determined in the field by the Contractor. The Contractor shall not begin work until the limits of work are verfied and accepted by the Engineer. The Contractor shall provide drawings showing locations including the outlines of the proposed repair areas. The total area of repairs shall be calculated and provided to the Engineer with the drawings. The Contractor shall not begin any repair until the Engineer verifies and accepts the location and size of the area to be repaired.

7. The Contractor shall obtain all permits and licenses required to perform the work prior to start of work. The Contractor assumes exclusive responsiblity for identifying, acquiring and paying for all permits and licenses required to perform the work. Refer to Hawaii Standard Specifications Subsection 107.02 Permits and Licenses.

8. The Contractor shall obtain a Permit to Perform Work Upon State Highways from the Hawaii District Office, State Highways, at 50 Makaala Street, prior to commencement of work within the State's highway right-of-way.

   The Permit to Perform Work Upon State Highways may be revoked because of default in any of the following, but not limited to, conditions:
   a. Work performed before or after permitted hours.
   b. Failure to maintain roadway surfaces in a smooth and safe condition.
   c. Failure to clean up construction debris generated from project work.
   d. Failure to provide proper traffic control.
   e. Failure to replace damaged pavement markings and signs.

   Any revocation of the permit shall be at the Contractor's expense and no additional cost to the State and no additional contract time will be added.

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

10. The Contractor shall remove and dispose of all existing raised pavement markers and traffic tapes prior to the overlaying of Asphalt Concrete.

11. All holes, depressions and wheel ruts shall be filled and compacted with Hot Mix Asphalt Pavement, Mix No. V prior to resurfacing.

12. The existing drainage system shall be kept functional at all times during construction. The Contractor shall furnish materials, equipment, labor, tools and incidentals necessary to maintain flow.

13. Smooth riding connections shall be constructed at all limits of resurfacing including the beginning and end of project, connecting approaches, side streets, walkways and driveways as shown on the plans and/or as directed by the Engineer.

14. The Contractor shall clean and remove any accumulation of aggregates along the roadside within 10 feet of the edge of pavement.

15. Existing facilities and/or pavement to remain which has been damaged by the Contractor shall be restored to its original condition at no cost to the State.

16. The Contractor shall be held liable for any damages incurred to the existing landscaping as a result of his operations.

17. Contractor shall dispose or deliver any removed material at no cost to the State.

18. After completion of resurfacing, the Contractor and the Engineer will test for and determine ponding areas (i.e. low spots within resurfaced area). It shall be the responsibility of the Contractor to correct and resurface and/or repair all such ponding areas. Corrective measures shall be approved by the Engineer.

19. The Contractor is to take special measures to reduce dust from cold planing operations including but not limited to use of water misters on cold planing equipment and vacuum sweepers. Use of power brooms to sweep road is not allowed if a dust nuisance is created.

20. The Contractor shall not perform any construction work during periods of heavy rainfall.

21. The vertical riding surface drop-off between adjacent surfaces shall not exceed 3-inches. This shall include differences in height between adjacent pavement surfaces, cold planed surfaces, bridge decks and new concrete slabs. If a vertical riding surface drop-off exists at the end of each day's work, the Contractor shall provide temporary transition tapers with maximum slopes of 48:1 for travel in the longitudinal direction and 6:1 for transverse movements. See detail on Sheet No. 7.

22. The Contractor shall submit Site-Specific Traffic Control Plans, in accordance with Hawaii Standard Specification Section 645 to the Engineer for review and approval, prior to implementation.

23. The Contractor shall coordinate with the Hawaii District Police Department Special Duty Section to hire police officers for traffic control operations and transporting of project equipment to ensure minimal delay due to lane closures. The Contractor shall furnish a minimum of two (2) police officers for each location that requires work zone traffic control, in accordance with Special Provisions Subsection 645.03 Construction.

24. Any Survey Monuments that are disturbed shall be restored under the supervision of a licensed land surveyor registered in the State of Hawaii at no cost to the State. All survey data shall be certified by the surveyor and submitted to the Engineer.

25. The Contractor shall submit requests for detours and lane closures in accordance with Hawaii Standard Specification Subsection 645.03(F) and refer to minimum timeframes required for implementation. Once the request has been approved by the Engineer, the Contractor is required to provide a written Weekly Lane Closure Request to the Engineer at least 1-week ahead of all upcoming work.

26. The Contractor shall provide and maintain for access to and from all existing driveways, sidewalks, ADA access routes complying with 2010 ADAAG Section 206.1, side streets, and cross streets at all times. This work shall be considered incidental to various contract items and will not be paid for separately.

27. Refer to Special Provisions Subsection 645.03(F) Lane Closures.

28. The Contractor shall obtain a Community Noise Permit for all construction activities.

29. All work called for in the contract documents but not itemized in the proposal and all work not called for but required for the construction in the project shall be considered incidental to the various contract items.

30. Contractor shall submit a Daily Inspection Report signed by the Contractor's authorized representative daily to the Engineer and Inspector. Submittal frequency may be changed upon written request and approval from the Engineer.

31. The Contractor shall follow Hawaii Standard Specifications Subsection 105.10 -Construction Stakes, Lines and Grades.

32. The Contractor shall furnish and place HMA Pavement, Mix No. V, Leveling as required to correct existing roadway surface irregularities, including but not limited to depressions, sags, and settlements, to achieve a smooth and uniform longitudinal profile and cross slope, or as directed by the Engineer. The existing pavement may contain surface distortions of varying depth. No additional compensation will be made for leveling required to achieve the specified finished profile and cross slope. Work under this item may include, but is not limited to, development of a revised roadway profile, placement in multiple lifts, cold planing, survey work, and all incidentals necessary to complete the work. The Contractor shall be responsible for field verification of existing roadway conditions prior to bidding. All such work shall be included in and paid for under the contract unit price for HMA Pavement, Mix No. V, Leveling.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES AND LEGEND

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Date: March 2026

SHEET No. 1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	4	53

ENDANGERED SPECIES NOTES

1. All work lights shall be shielded so the bulb can only be seen from below bulb height, shall contain less than 2% wavelengths less than 500 nm, shall be situated so that light does not shine on reflective surfaces, and shall only be used when construction is occurring in the area illuminated by the light.

2. Woody plants greater than 15 feet tall shall not be disturbed, removed, or trimmed during the Hawaiian hoary bat birthing and pup rearing season, June 1 through September 15.

HAWAII ONE CALL CENTER:

1. Before conduction any excavation in the public right of way or on private property, call the Hawaii One Call Center at least five (5) working days before planning to dig. Be sure to give them the address and location of the nearest cross street(s) near where digging is planned.

   Call 811 toll-free 24 hours a day.
   For more information, go to www.callbeforeyoudig.org

2. The Hawaii One Call Center will contact all utility companies to tone, mark or identify the location of their underground utilities for free. Mark the area where the Contractor plans to excavate in white and label all of the other utilites as listed below.

RED	Electric power lines, cables, or conduits, and lighting cables.
YELLOW	Gas, oil, steam, petroleum or other hazardous liquid or gaseous materials.
ORANGE	Communications, cable TV, alarm or signal lines, cables, or conduits.
BLUE	Water, irrigation, and slurry lines.
GREEN	Sewers, storm sewer facilities or other drain lines.
WHITE	Proposed excavation.
PINK	Temporary survey markings.
PURPLE	Reclaimed water, irrigation and slurry lines.

3. In accordance with Hawaii State Law Section 269E-7, the Hawaii One Call Center (HOCC) shall provide an inquiry identification number and utility marks shall remain valid for not more than twenty-eight (28) calendar days from the date of issuance and after that date shall require the Contractor to submit a new request for HOCC revalidation. The Contractor shall provide all inquiry identification numbers for each location request to the Engineer.

LEGEND

- Reconstruction Type A
- Reconstruction Type B
- Reconstruction Type C
- —e— Existing Electrical Line
- ○ep Existing Joint Pole
- ○pp Existing Power Pole
- ○emh Existing Electric Manhole
- —t— Existing Telephone Line
- —dats— Existing DATS Line
- ○tp Existing Telephone Pole
- ○tmh Existing Telephone Manhole
- —w—42— Existing 42" Water Line
- —w—12— Existing 12" Water Line
- —w—6— Existing 6" Water Line
- —w—3— Existing 3" Water Line
- ○wmh Existing Water Manhole
- ○wv Existing Water Valve Box
- ▭wm Existing Water Meter
- ▭irr Existing Irrigation Box
- ⊹fh Existing Fire Hydrant
- —s—8— Existing 8" Sewer Line
- ○smh Existing Sewer Manhole
- —g—8— Existing 8" Gas Line
- —g—6— Existing 6" Gas Line
- —g—4— Existing 4" Gas Line
- —g—2— Existing 2" Gas Line
- ○gv Existing Gas Valve Box
- ○gmh Existing Gas Manhole
- ◎mon. Existing Monument
- —d—60— Existing 60" Drain Line
- —d—36— Existing 36" Drain Line
- —d—30— Existing 30" Drain Line
- —d—24— Existing 24" Drain Line
- ○sdmh Existing Storm Drain Manhole
- ▭gdi Existing Grated Drop Inlet
- cb Existing Catch Basin
- ○sl Existing Highway Lighting Standard
- ▭slpb Existing Highway Lighting Standard Pullbox
- ▭tspb Existing Traffic Signal Pullbox
- Existing Metal Guardrail
- es Existing edge of shoulder
- ep Existing edge of pavement
- ES New Edge of Shoulder
- EP New Edge of Pavement
- ▭utbox Existing Utility Pullbox
- ▭ltbox Existing Lighting Pullbox
- Existing Traffic Sign
- Existing Reflector

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES AND LEGEND

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Date: March 2026

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	5	53

WATER POLLUTION AND EROSION CONTROL NOTES:

A. GENERAL:

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

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

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

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

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

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

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

B. WASTE DISPOSAL:

1. Waste Materials
Collect and store all waste materials in a securely lidded metal dumpster or roll off container with cover to keep rain out or loss of waste during windy conditions. The dumpster shall meet all local and State solid waste management regulations. Deposit all trash and construction debris from the site in the dumpster. Empty the dumpster weekly or when the container is two-thirds full, whichever is sooner. Do not bury construction waste materials onsite. The Contractor's supervisory personnel shall be instructed regarding the correct procedure for waste disposal. Post notices stating these practices in the office trailer, on a weatherproof bulletin board, or other accessible location acceptable to the Engineer. The Contractor shall be responsible for seeing that these procedures are followed. Submit the Solid Waste Disclosure Form for Construction Sites to the Engineer within 21 calendar days of date of award. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer monthly. This should also include documentation from any intermediary facility where solid waste is handled or processed.

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

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

C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

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

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

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

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

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

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

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

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

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

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

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

ORIGINAL PLAN
SURVEY PLOTTED BY: DATE 12/23/25
DRAWN BY: X
TRACED BY: X
DESIGNED BY: X
QUANTITIES BY:
CHECKED BY:
NOTE BOOK dd.x
No. X.dgn

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Date: March 2026

SHEET No. 1 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	6	53

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.):

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

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

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

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

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

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

   b. Use Material Management Practices to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff. Make an effort to store only enough product as is required to do the job.
   c. Store all materials stored onsite in a neat, orderly manner in their appropriate containers and if possible under a roof or other enclosure.
   d. Keep products in their original containers with the original manufacturer's label.
   e. Do not mix substances with one another unless recommended by the manufacturer.
   f. Whenever possible, use a product up completely before disposing of the container.
   g. Follow manufacturer's recommendations for proper use and disposal.
   h. Conduct a daily inspection to ensure proper use and disposal of materials onsite.

2. Hazardous Material Pollution Prevention Plan
   a. Keep products in original containers unless they are not resealable.
   b. Retain original labels and Safety Data Sheets (SDS), formerly Material Safety Data Sheets (MSDS).
   c. Dispose of surplus products according to manufacturers' instructions and local and State regulations.

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

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

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

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

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

4. Spill Control Plan
   a. Post a spill prevention plan to include measures to prevent and clean up each spill.
   b. The Contractor shall be the spill prevention and cleanup coordinator. Designate at least three site personnel who shall receive spill prevention and cleanup training. These individuals shall each become responsible for a particular phase of prevention and cleanup. Post the names of responsible spill personnel in the material storage area on a weatherproof bulletin board or other accessible location acceptable to the Engineer and in the office trailer onsite.
   c. Clearly post manufacturers' recommended methods for spill cleanup. Make site personnel aware of the procedures and the location of the information and cleanup supplies.
   d. Keep ample materials and equipment necessary for spill cleanup in the material storage area onsite.
   e. Clean up all spills immediately after discovery.
   f. Keep the spill area well ventilated. Personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
   g. Report spills of toxic hazardous material to the appropriate State or local government agency, regardless of the size. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24-hour period, the Contractor shall notify the Engineer as soon as the Contractor has knowledge of the discharge. The Engineer will notify the National Response Center (NRC) at (800) 424-8802, the Clean Water Branch during regular business hours at 586-4309, and the Hawaii State Hospital Operator at 247-2191 and the Clean Water Branch (DOH-CWB) via email at cleanwaterbranch@doh.hawaii.gov during non-business hours immediately. The Contractor shall also provide to the Engineer, within 7 calendar days of knowledge of the release, a description of the release, the circumstances leading to the release, and the date of the release. The Engineer will provide this information to the DOH-CWB. The Engineer will provide information to the NRC if requested.

ORIGINAL PLAN

NOTE BOOK dxx.x
No. X.dgn

SURVEY PLOTTED BY: DATE: 12/23/25
DRAWN BY: X.X
TRACED BY: X.X
DESIGNED BY: X.X
QUANTITIES BY:
CHECKED BY:

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Date: March 2026

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	7	53

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.):

E. PERMIT REQUIREMENTS:

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

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

   a. NPDES Permit for Construction Activities

   b. NPDES Permit for Construction Dewatering

   c. NPDES Permit for Hydrotesting Waters

   d. Water Quality Certification

   e. Stream Channel Alteration Permit

   f. Section 404 Army Corps of Engineer Permit

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

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

Follow the requirements below:

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

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

3. Control offsite runoff from entering construction area
   a. EC-3 Run-On Diversion
   b. EC-6 Earth Dike, Swales, and Ditches

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

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

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

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

ORIGINAL PLAN
NOTE BOOK dd.x x.dgn
SURVEY PLOTTED BY
DRAWN BY xx DATE 12/23/25
TRACED BY
DESIGNED BY xx
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

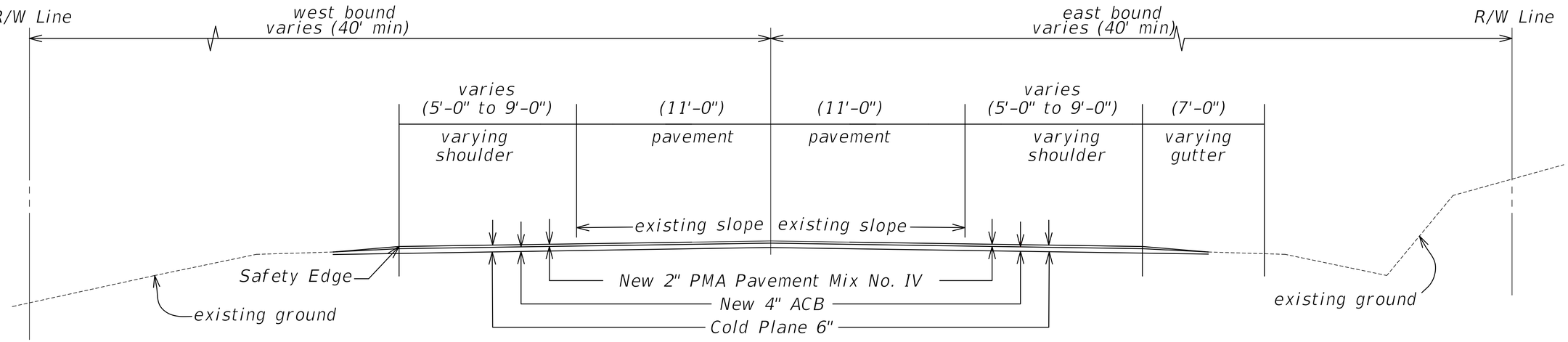
WATER POLLUTION & EROSION CONTROL NOTES

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Date: March 2026

SHEET No. 3 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	8	53



TYPICAL SECTION @ STA. 310+00 TO STA. 587+00 (VARIES)

Scale: N.T.S.

General Notes:

1. Improvements consists of cold planing section of the existing traveled way; reconstructing a weakened pavement area; resurfacing and levelling the existing pavement; adjusting and reconstructing centerline monuments; and installing pavement markers, stripping, and marking.
2. Existing pavement resurface variable. Surface indicated on Typical Sections is not intended to represent any specific location.
3. Existing Preformed Pavement Marking Tape shall be removed prior to resurfacing. Removal shall by scraping or the method approved by the Engineer. Payment shall be incidental to Item No. 401.0500-Aspahlt Concrete Pavement. Mix No. V.
4. Asphalt concrete for leveling shall be paid for under Item No. 401.0500-Aspahlt Concrete Pavement. Mix No. V.
5. Smooth and easy riding connections shall be constructed at beginning and ending of project and at the ending of daily work.
6. Initial preparation of shoulder areas shall be done by the State. Contractor shall be responsible for rolling and maintaining the shoulders thereafter. This work shall be considered incidental to Item No. 401.0500-Aspahlt Concrete Pavement. Mix No. V.
7. All lanes shall be opened to traffic during morning peak hours from 6:00 a.m. to 8:00 a.m. and during afternoon peak hours from 3:30 a.m. to 3:30 p.m. and during off-work hours or as directed by the Engineer. Only one lane or the highway shall be closed during work hours.
8. During work stoppages and on work hours, the Contractor shall restore to smooth-riding condition all pavement drop-offs located within four feet of the travelway.
9. Depths and locations of roadway dips to be leveled with A.C. Mix No. V are approximate. Locations shall be staked out and vertical controls provided by the Engineer in the field.
10. The exact locations and limited of areas to be reconstructed and/or cold planed shall be determined in the field by the Engineer.
11. Recompact Subgrade with at least 10 passes with a 10-ton vibratory roller. Work shall be incidental to the various pavement contract items.

ORIGINAL PLAN
NOTE BOOK
No.
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DESIGNED BY " "
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CHECKED BY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

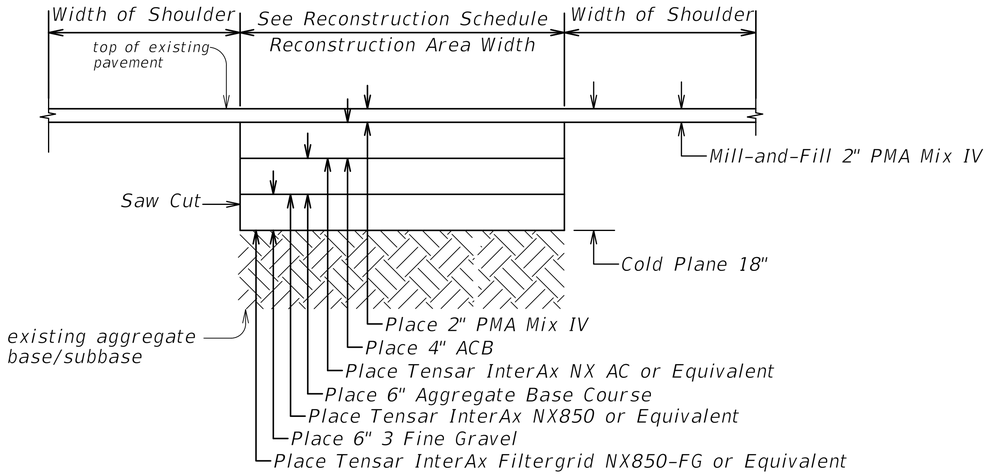
TYPICAL SECTIONS & DETAILS

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

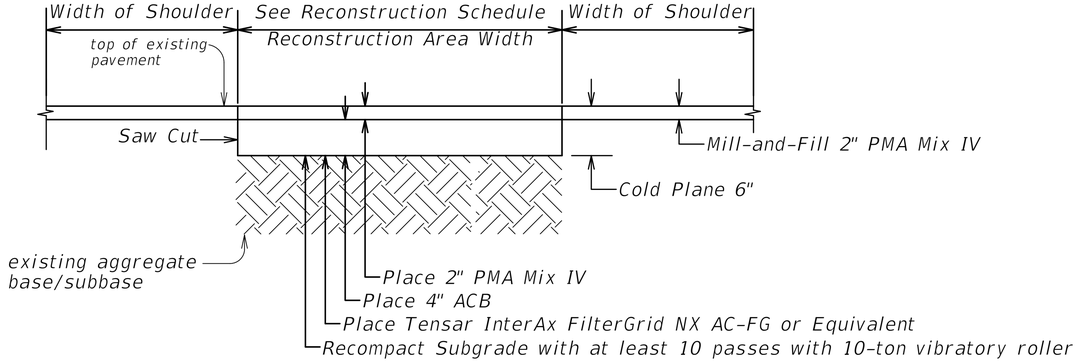
Scale: NTS Date: March 2026

SHEET No. 1 OF 2 SHEETS

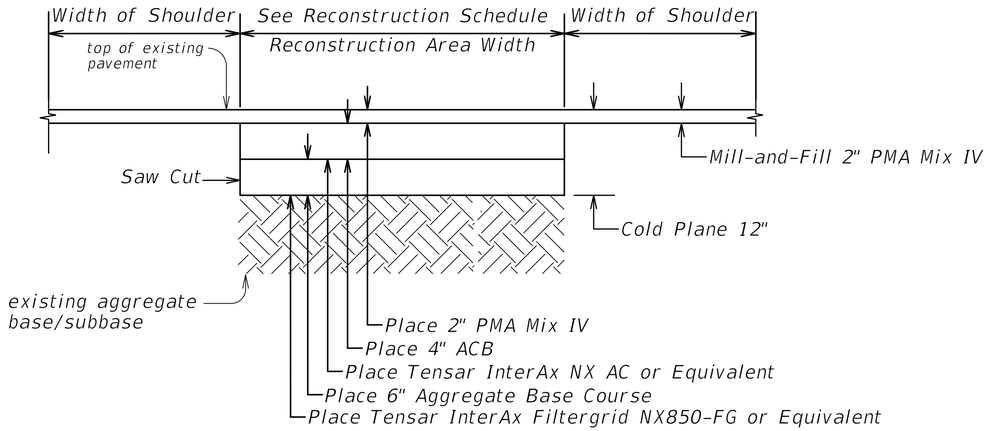
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	9	53



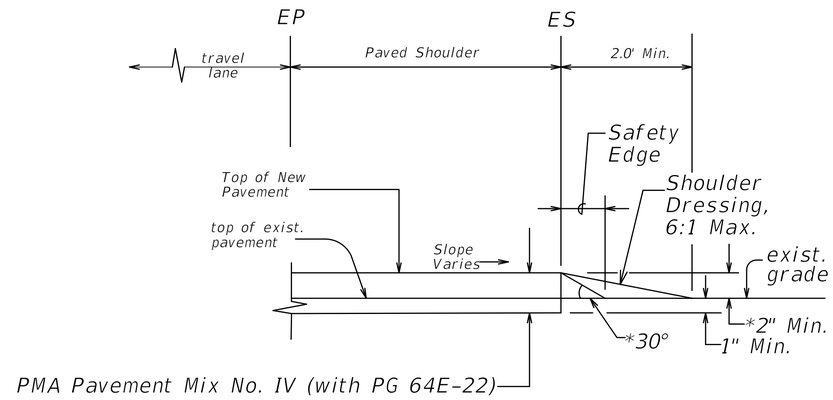
RECONSTRUCTION TYPE A
No. 1 STA. 348±00 TO STA. 355±50 Inbound Direction
No. 2 STA. 453±00 TO STA. 456±00 Outbound Direction
Scale: N.T.S.



RECONSTRUCTION TYPE C
No. 5 STA. 517±00 TO STA. 531±00 Outbound Direction
No. 6 STA. 548±50 TO STA. 550±00 Outbound Direction
Scale: N.T.S.



RECONSTRUCTION TYPE B
No. 3 STA. 476±00 TO STA. 481±00 Outbound Direction
No. 4 STA. 487±00 TO STA. 492±00 Inbound Direction
Scale: N.T.S.



*Notes:

1. Contractor shall mount a device directly on the paver screed extension to provide a 30° beveled shoulder "safety edge."
2. For shoulder edge grade differences of less than 2", Safety Edge is not required, but shoulder shall be dressed according to detail.
3. The ground under the safety edge shall be compacted.
4. See specs 323, 324, and 325 for details.

TYPICAL PAVEMENT EDGE DETAIL
Scale: N.T.S.

ORIGINAL PLAN
NOTE BOOK
No.
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTIONS & DETAILS

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: NTS Date: March 2026

SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	10	53

Reconstruction Area (Inbound)				
℄ Station		Length (Linear Feet)	Width (Linear Feet)	Approximate Area (Square Feet)
From	To			
Reconstruction Type A				
348+00	355+50	750	22	16500
Reconstruction Type B				
487+00	492+00	500	22	11000
Typical Section				
310+00	348+00	13868	22	305096
355+50	487+00	13183	22	290026
492+00	587+00	9500	22	209000

Reconstruction Area (Outbound)				
℄ Station		Length (Linear Feet)	Width (Linear Feet)	Approximate Area (Square Feet)
From	To			
Reconstruction Type A				
453+00	456+00	300	22	6600
Reconstruction Type B				
476+00	481+00	500	22	11000
Reconstruction Type C				
517+00	531+00	1400	22	30800
548+50	550+00	150	22	3300
Typical Section				
310+00	453+00	24400	22	536800
456+00	476+00	2000	22	44000
481+00	517+00	3600	22	79200
531+00	548+50	1750	22	38500
550+00	587+00	3700	22	81400

Note: See Typical Section Sheets for Reconstruction Type A, B, and C Details.

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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

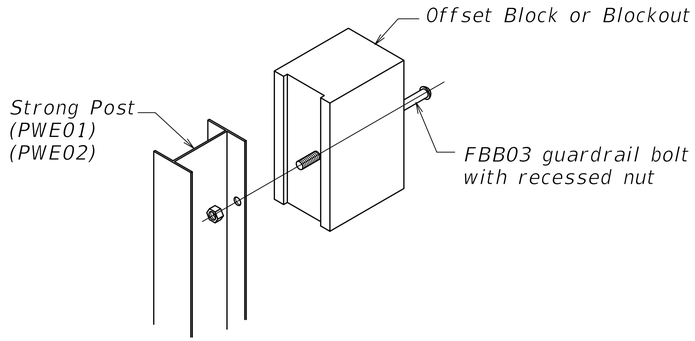
RECONSTRUCTION SCHEDULE

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Date: March 2026

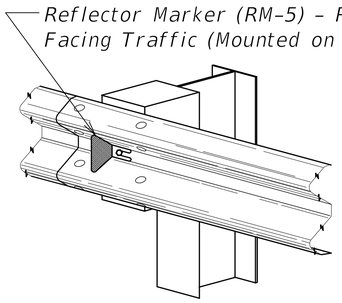
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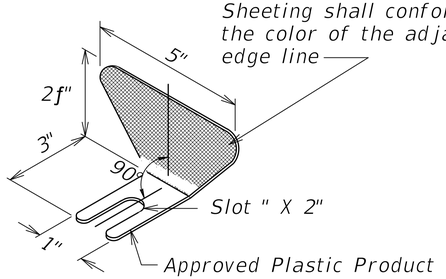
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	11	53



Exploded View
(Rail and washer not shown)

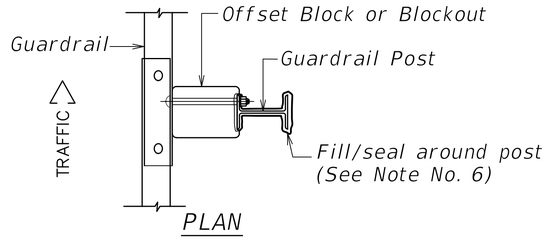
STEEL POST AND BLOCK DETAIL



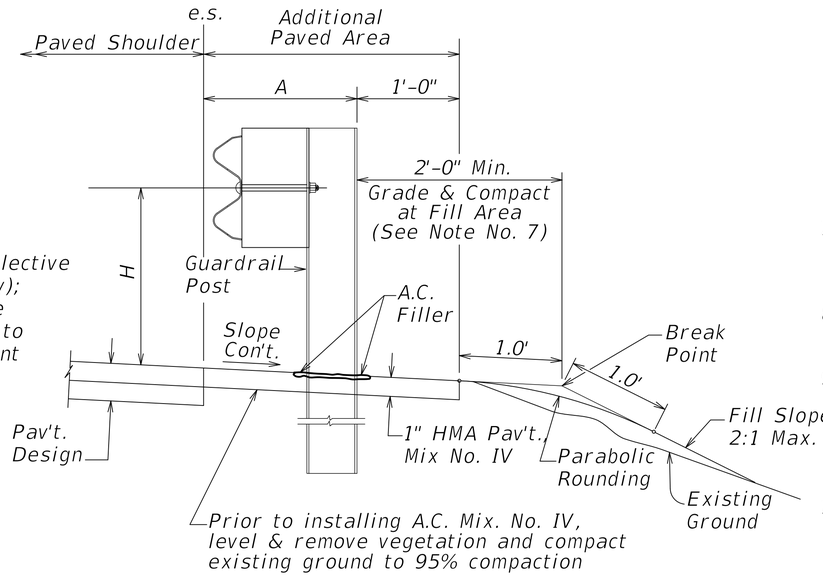


REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION

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



PLAN



ELEVATION

TYPICAL GUARDRAIL INSTALLATION

GENERAL NOTES

1. All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
2. Where conditions require, special post lengths in increments of 6 inches may be specified by the Engineer.
3. All fasteners, posts, and rail elements (i.e. FBB03, PWE01, RWM02b, etc.) shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Subcommittee On New Highway Materials, Task Force 13 Report. Dimensions of fastners, posts and rail elements have been converted from metric units into their present form.
4. The Blockout or Offset Block shall be approved by the State.
5. All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
6. After the guardrail posts are installed in the paved area, the Contractor shall fill/seal around each guardrail post and all cracks in the paved area caused during the guardrail post installation. If required by the inspector/engineer, the Contractor shall tamper the paved area around the guardrail post prior to filling/sealing. All costs associated with this work shall not be paid for separately, but shall be considered incidental to the various guardrail items.
7. When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
8. New A.C. pavement at guardrails shall extend 6 feet longi-tudinally beyond terminal ends.
9. Reflector Markers (RM-5) mounted on guardrails shall be spaced every 25 feet. RM-5's shall not be installed on Terminal Sections. Furnishing and installing of each RM-5 shall be considered incidental to the guardrail system.
10. 10.All work related to guardrail installation will be considered incidental to pay item 606.1000 – Guardrail Type MGS.

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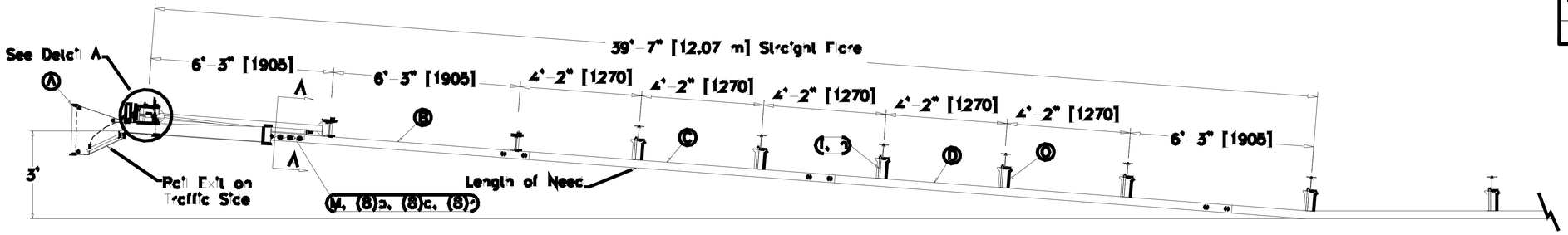
GUARDRAIL DETAILS & NOTES

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

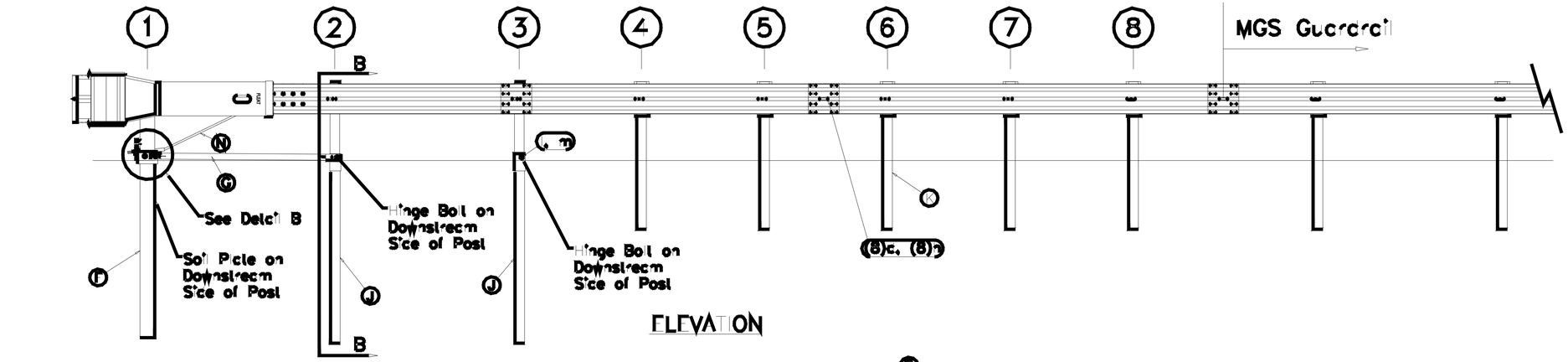
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SHEET No. 1 OF 2 SHEETS

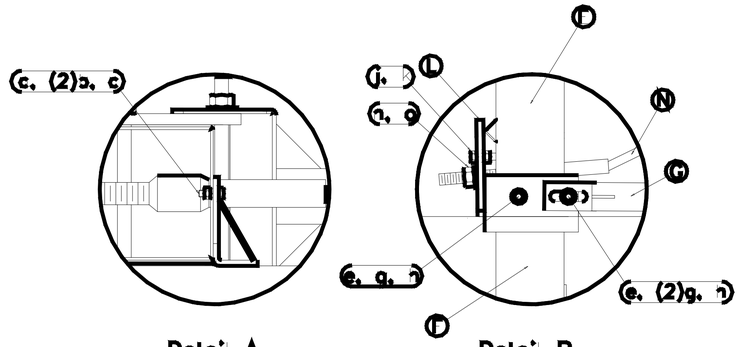
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	12	53

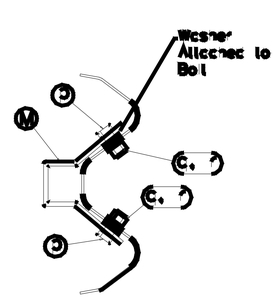


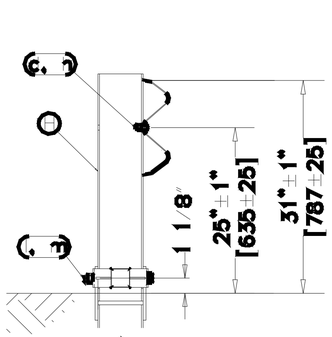
PLAN



ITEM	QTY	BILL OF MATERIALS	ITEM NO.
A	1	FLAT IMPACT HEAD	MF3000
B	1	FLAT ANCHOR PAL 12' 6"	SF1303
C	1	FLAT SECOND PAL 10' 5"	F1324
D	1	FLAT THIRD PAL 15' 6 1/2"	F1334
E	1	FIPS POST TOP (6x6x3/16" tube)	MP1A
F	1	FIPS POST BOTTOM (6" WF x 15)	MP1B
G	1	GROUND STRUT	MS785
H	2	HINGE POST UPPER	MHP2A
J	2	HINGED POST LOWER	HP2B
K	3	STEEL LINE POST 6'	P621
L	1	WASHER BEARING PLATE	MF750
M	1	CABLE ANCHOR BOX	S760
N	1	BCT CABLE ANCHOR ASSEMBLY	F770
O	3	RECYCLED PLASTIC BLOCK OR EQUIV.	CBSP-14
		HARDWARE (ALL DIMENSIONS IN INCHES)	
a	2	5/16 x 1 HEX BOLT GRD 5	B5160104A
b	4	5/16 WASHER	W0516
c	2	5/16 HEX NUT	N0516
d	18	5/8 x 1 1/4 SPLICE BOLT	B580122
e	2	5/8 x 9 HEX BOLT GRD 5	B580904A
f	3	5/8 x 10 H.G.P. BOLT	B581002
g	3	5/8 WASHER	W050
h	28	5/8 H.G.P NUT	N050
j	1	5/8 x 5" BOLT FULL THREAD GRD A449	B580504A
k	1	5/8 HEX NUT	N055
l	2	3/4 x 8 1/2 HEX BOLT GRD A449	B340854A
m	2	3/4 HEX NUT	N030
n	2	1 ANCHOR CABLE HEX NUT	N100
o	2	1 ANCHOR CABLE WASHER	W100
p	8	1/2 PSS SHOULDER BOLT w/WASHER	SB12A
q	8	1/2 STRUCTURAL NUT	N012A
r	8	1/2 STRUCTURAL WASHER	W012A







GENERAL NOTES:

1. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
2. The lower sections of the Posts 1, 2 & 3 shall not protrude more than 4 in above the ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
3. The lower sections of the hinged posts should not be driven with the upper post attached. If the post is placed in a drilled hole, the backfill material must be satisfactorily compacted to prevent settlement.
4. When competent rock is encountered, a 12" Ø post hole, 20 in. deep cored into the rock surface may be used if approved by the engineer for Posts 1 and/or 2. Granular material will be placed in the bottom of the hole, approximately 2.5" deep to provide drainage. The first and/or second post can be field cut to length, placed in the hole and backfilled with suitable backfill. The soil plate may be trimmed if required.
5. The breakaway cable assembly must be taut. A locking device (vice grips or channel lock pliers) should be used to prevent the cable from twisting when tightening nuts.

ORIGINAL PLAN

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DATE	REVISION
1/25/2024	Added this sheet.

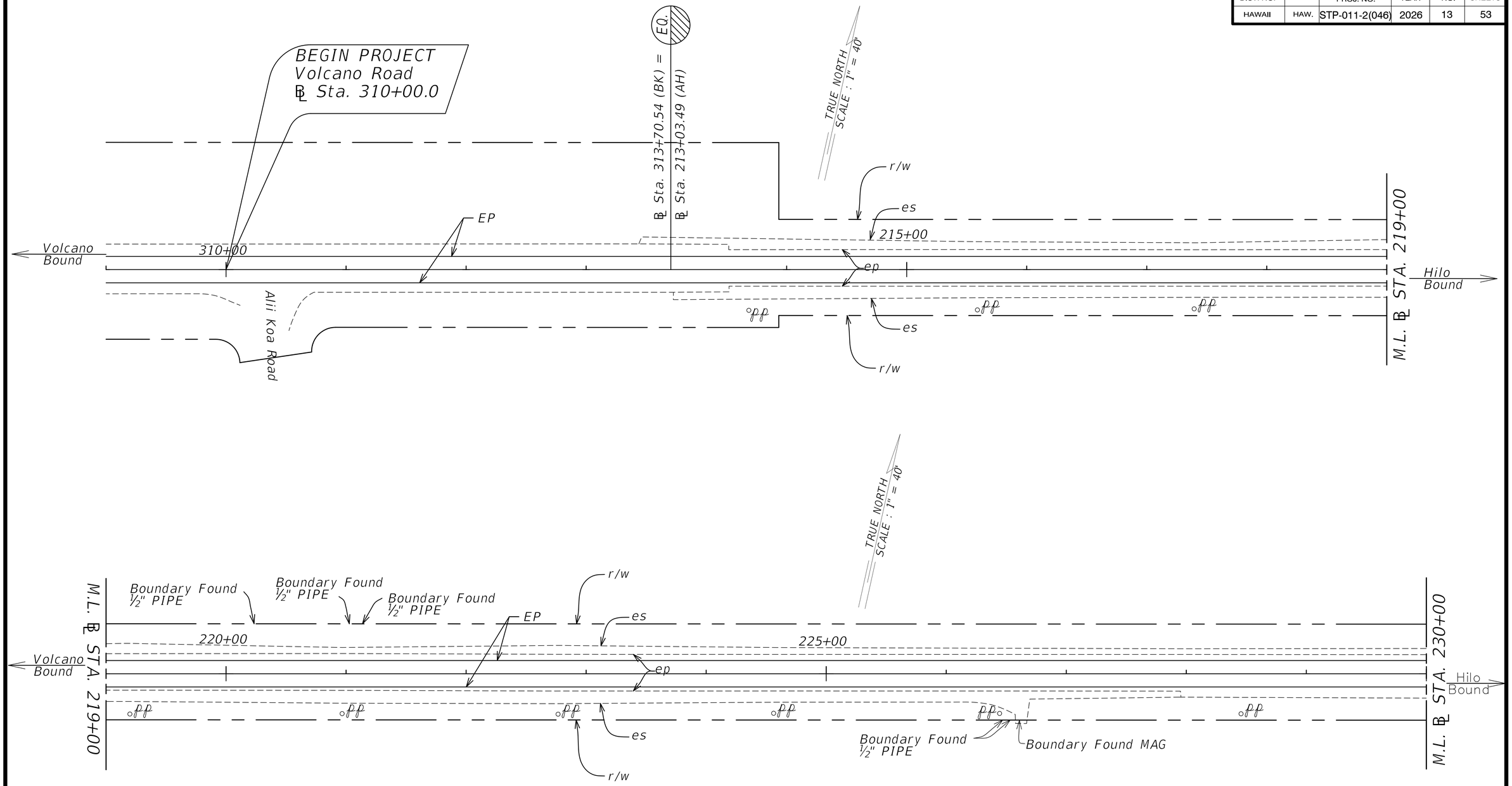
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MASH FLEAT TERMINAL
TL-3 STANDARD POST SYSTEM
VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: NTS Date: March 2026

SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	13	53



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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	DESIGNED BY	
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

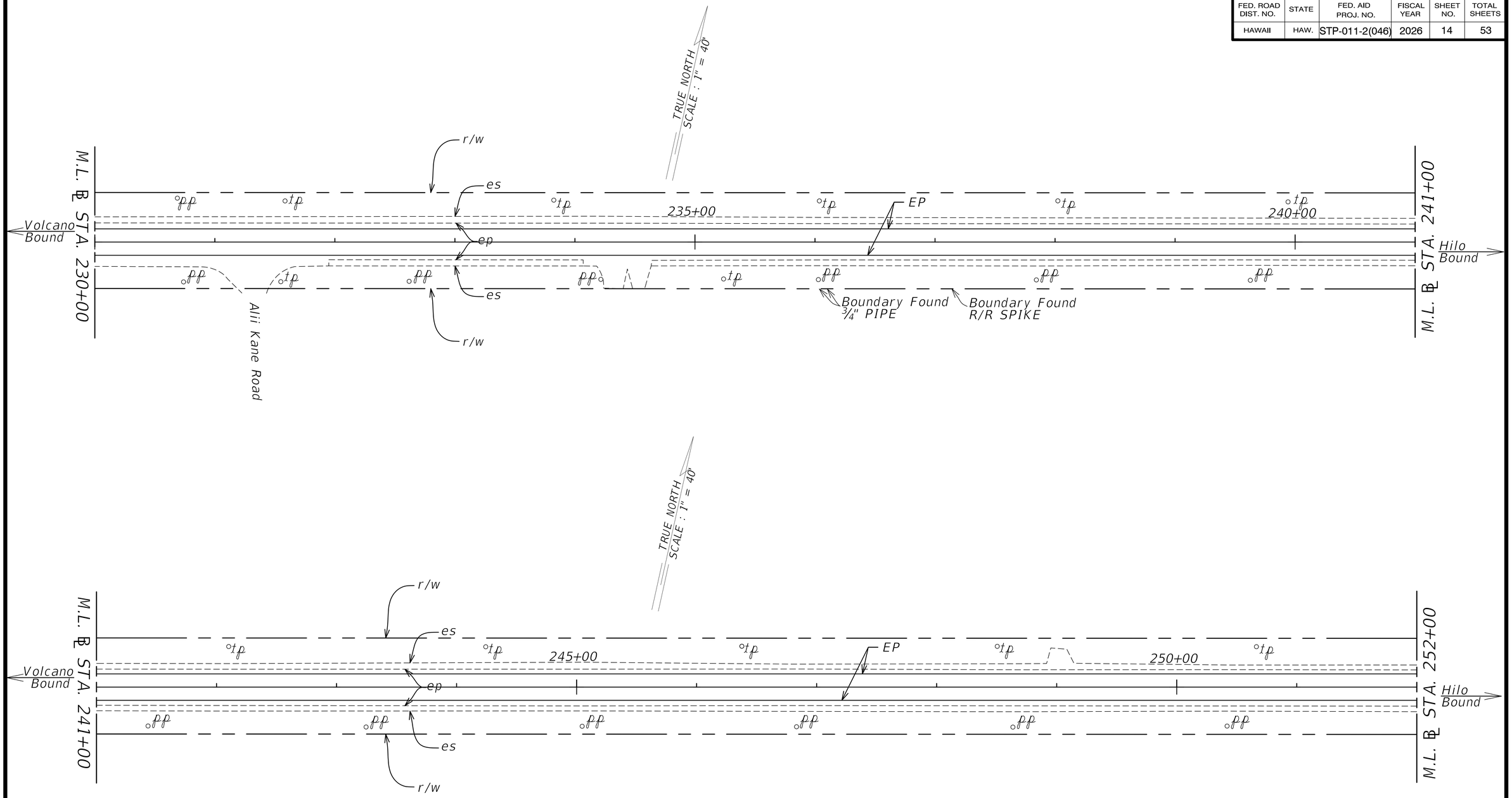
ROADWAY PLANS

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 1 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	14	53



ORIGINAL PLAN
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HIGHWAYS DIVISION

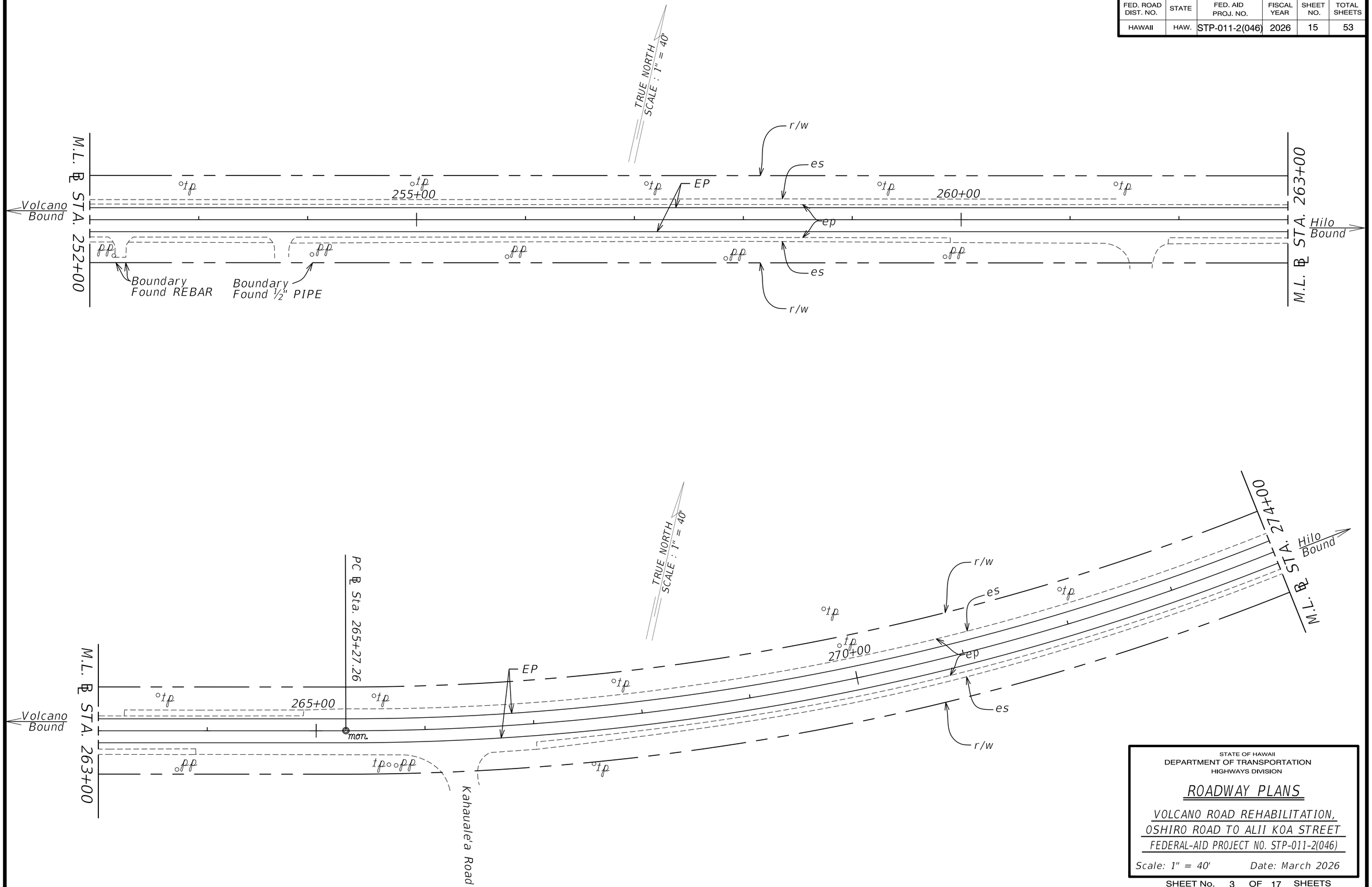
ROADWAY PLANS

VOLCANO ROAD REHABILITATION,
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FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 2 OF 17 SHEETS

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HAWAII	HAW.	STP-011-2(046)	2026	15	53



ORIGINAL PLAN
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HIGHWAYS DIVISION

ROADWAY PLANS

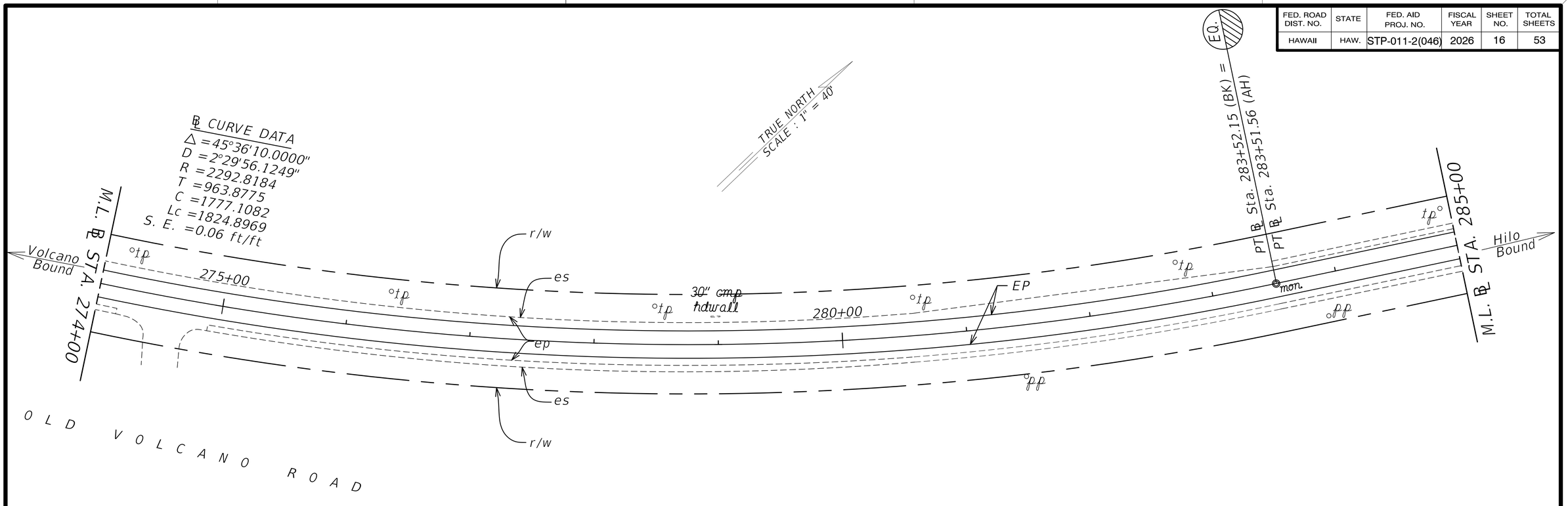
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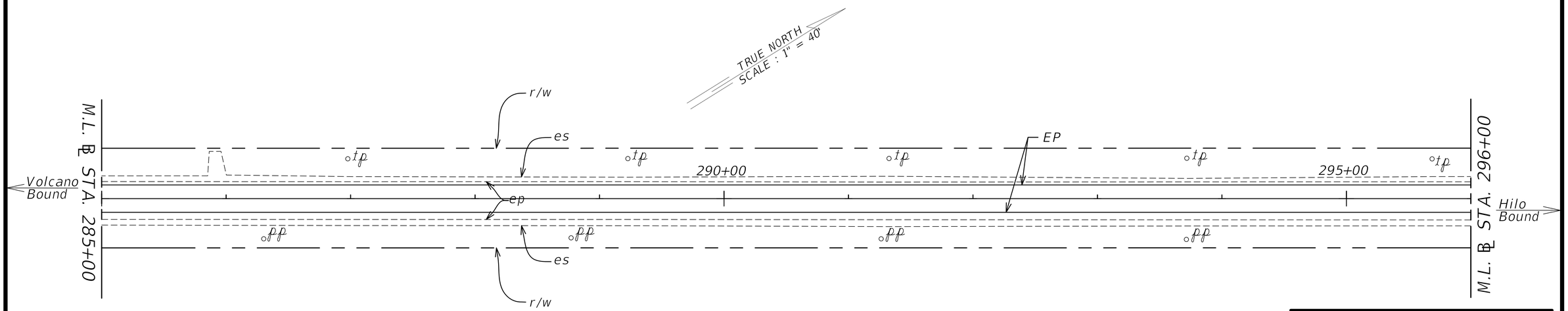
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 3 OF 17 SHEETS

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HAWAII	HAW.	STP-011-2(046)	2026	16	53





ORIGINAL PLAN

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DEPARTMENT OF TRANSPORTATION
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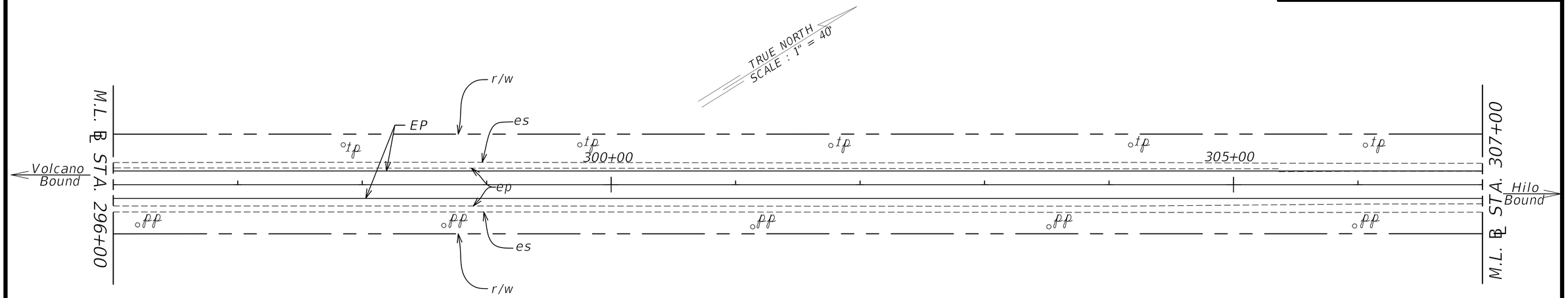
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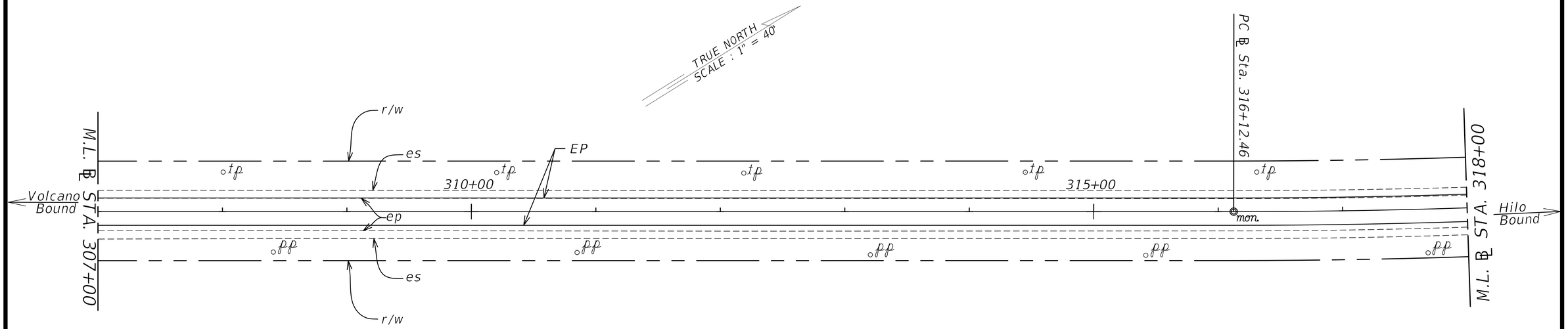
VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 4 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	17	53





ORIGINAL PLAN

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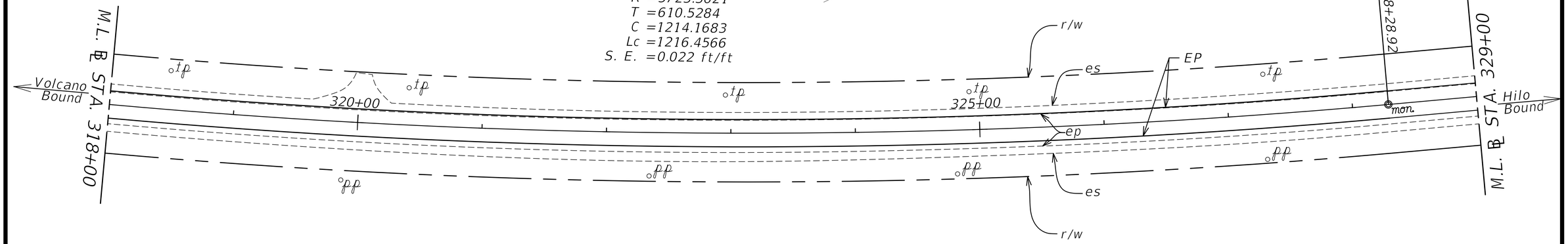
VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

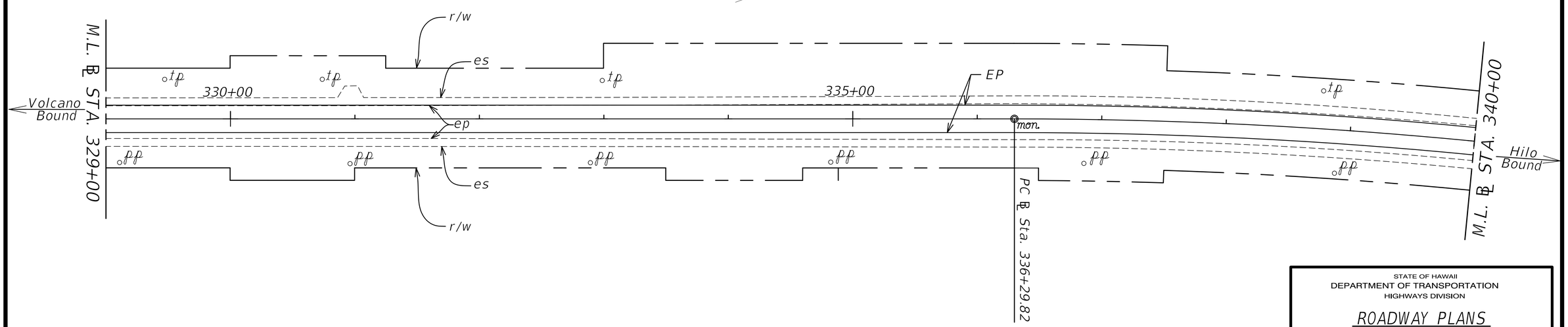
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HAWAII	HAW.	STP-011-2(046)	2026	18	53

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T =610.5284
C =1214.1683
Lc =1216.4566
S. E. =0.022 ft/ft

TRUE NORTH
SCALE : 1" = 40'



TRUE NORTH
SCALE : 1" = 40'



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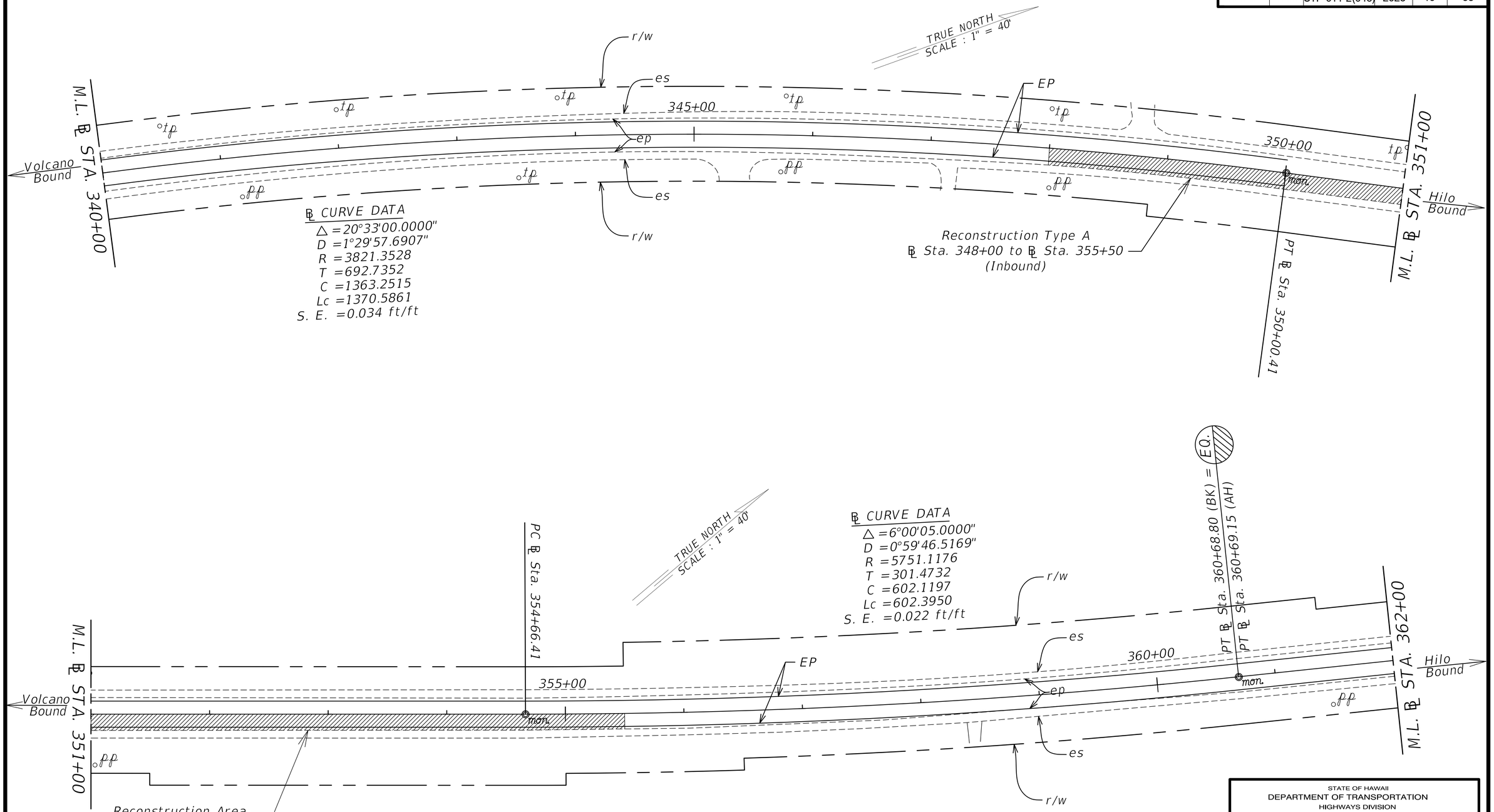
ROADWAY PLANS

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 6 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	19	53



ORIGINAL PLAN
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STATE OF HAWAII
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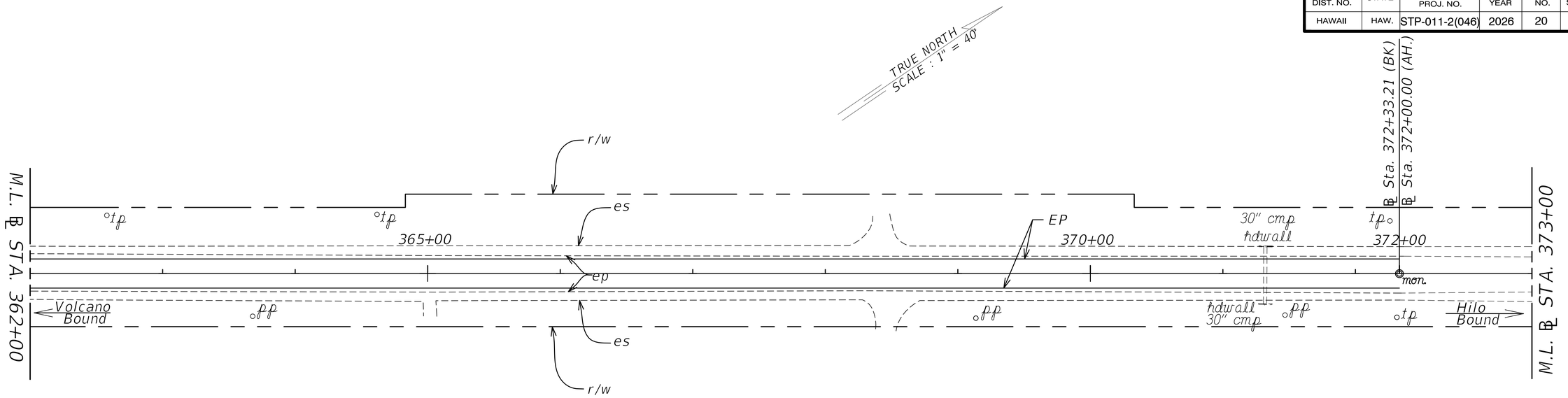
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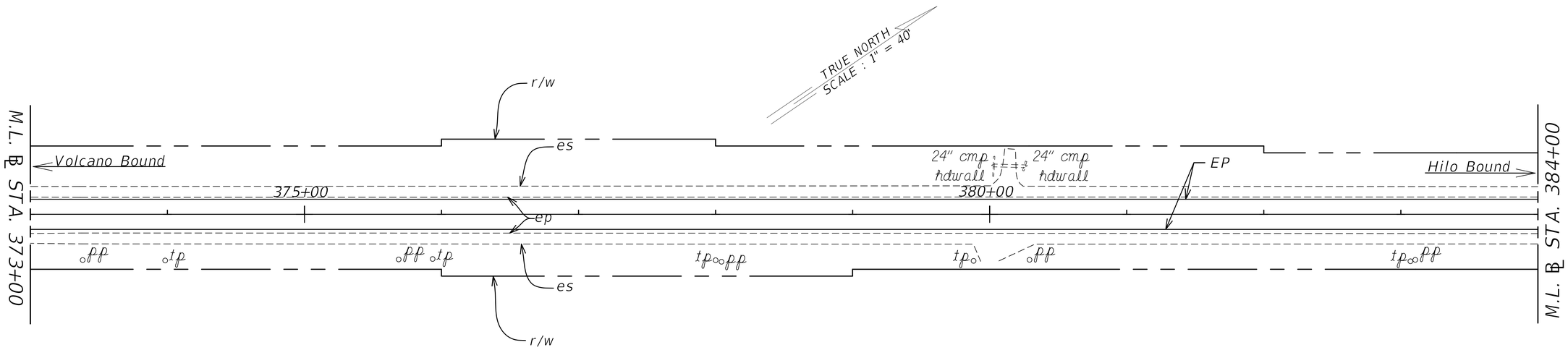
VOLCANO ROAD REHABILITATION,
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FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 7 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	20	53





ORIGINAL PLAN
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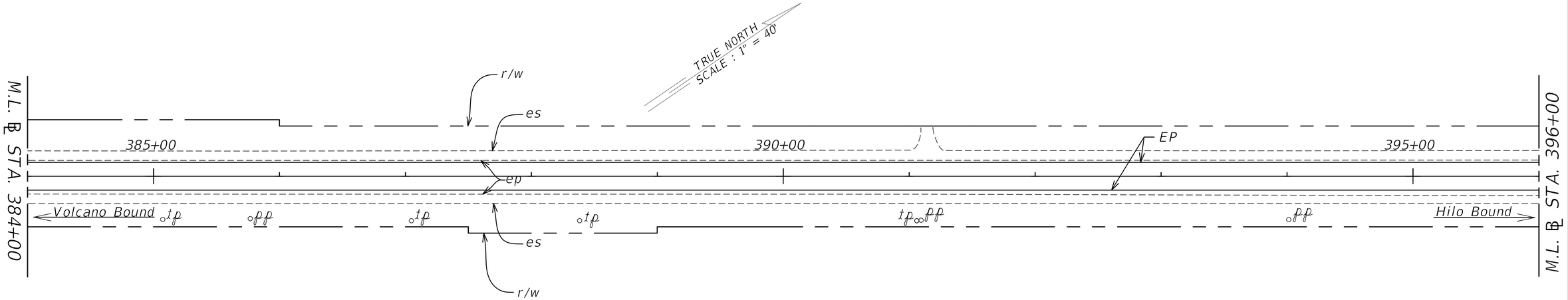
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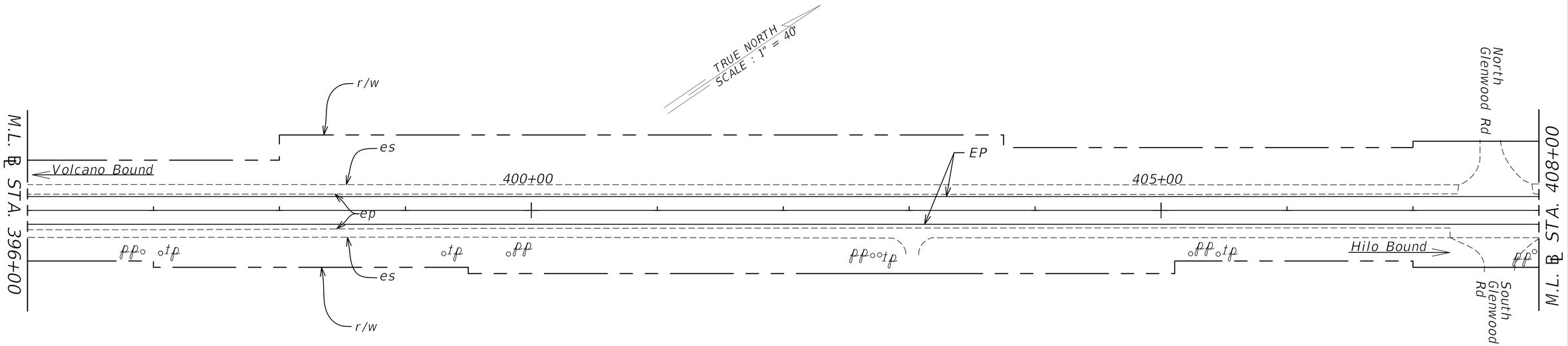
VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 8 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	21	53





ORIGINAL PLAN
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STATE OF HAWAII
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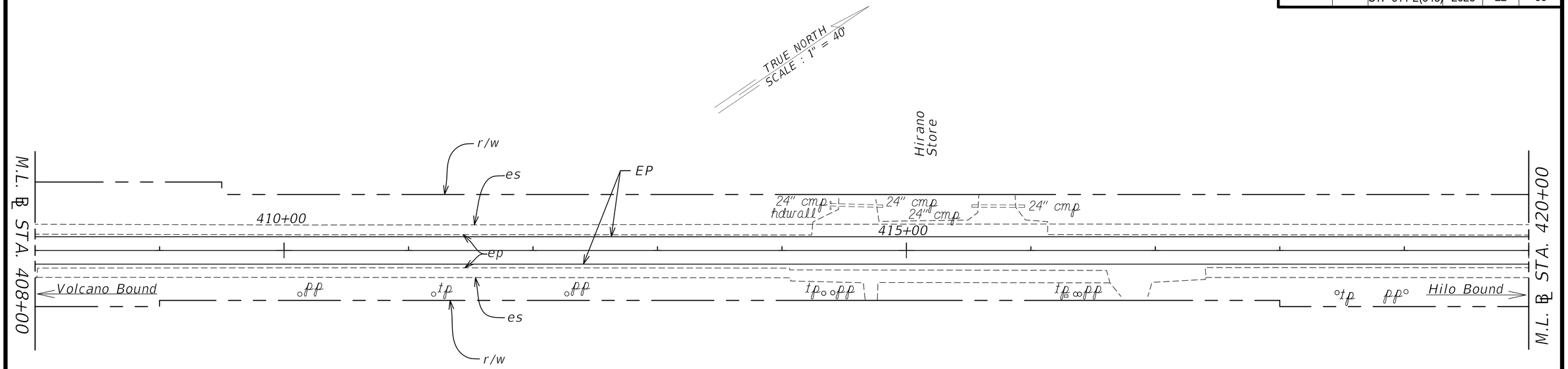
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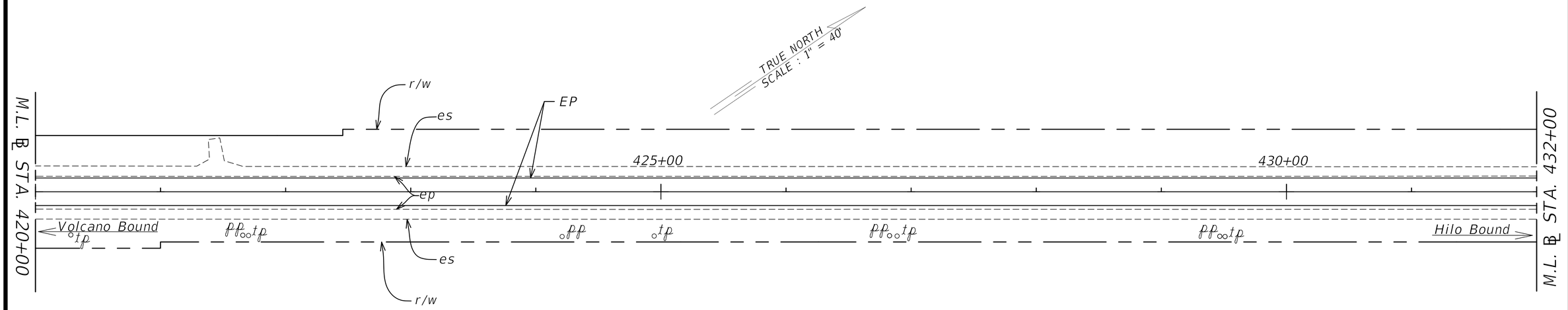
VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 9 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	22	53





ORIGINAL PLAN

NOTE BOOK No.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

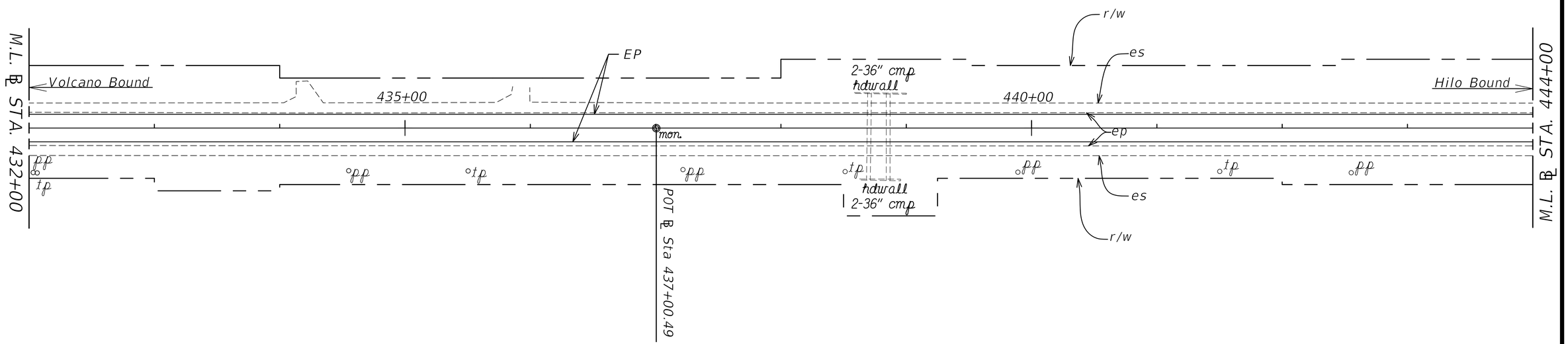
ROADWAY PLANS

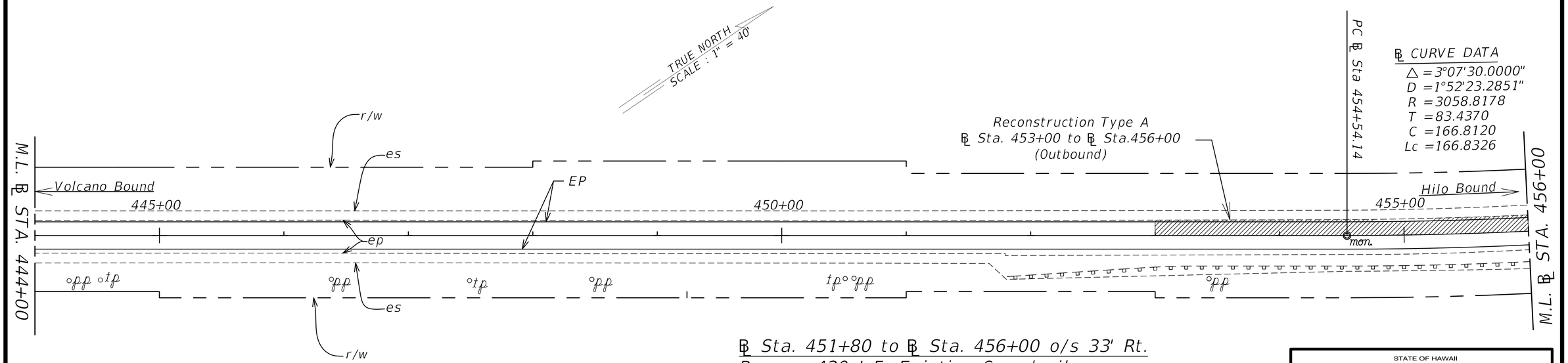
VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 10 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	23	53





℄ Sta. 451+80 to ℄ Sta. 456+00 o/s 33' Rt.
Remove 420 L.F. Existing Guardrail.
Install FLEAT TL-3 at Approaching End
Install 345 L.F of 31" W-Beam Guardrail with
Standard 8" Offset Block.
Install FLEAT TL-3 at Trailing End.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

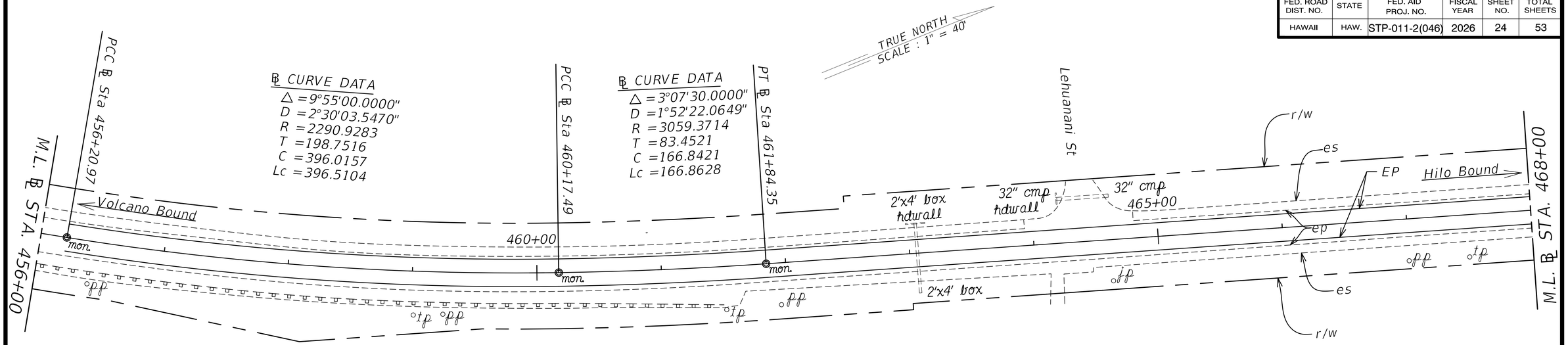
ROADWAY PLANS

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

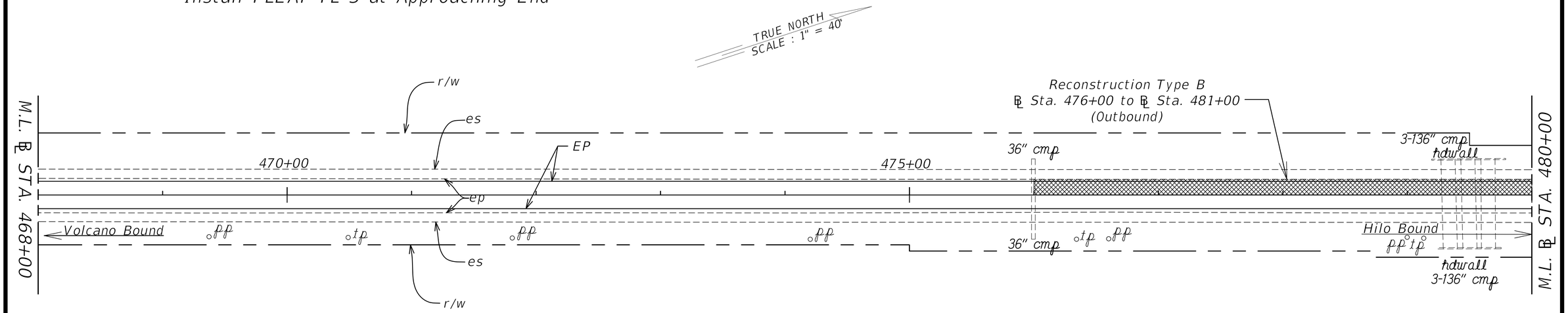
Scale: 1" = 40' Date: March 2026

SHEET No. 11 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	24	53



℄ Sta. 456+00 to ℄ Sta. 461+51 o/s 31' Rt.
Remove 551 L.F. Existing Guardrail.
Install FLEAT TL-3 at Trailing End
Install 476 L.F of 31" W-Beam Guardrail with
Standard 8" Offset Block.
Install FLEAT TL-3 at Approaching End



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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLANS

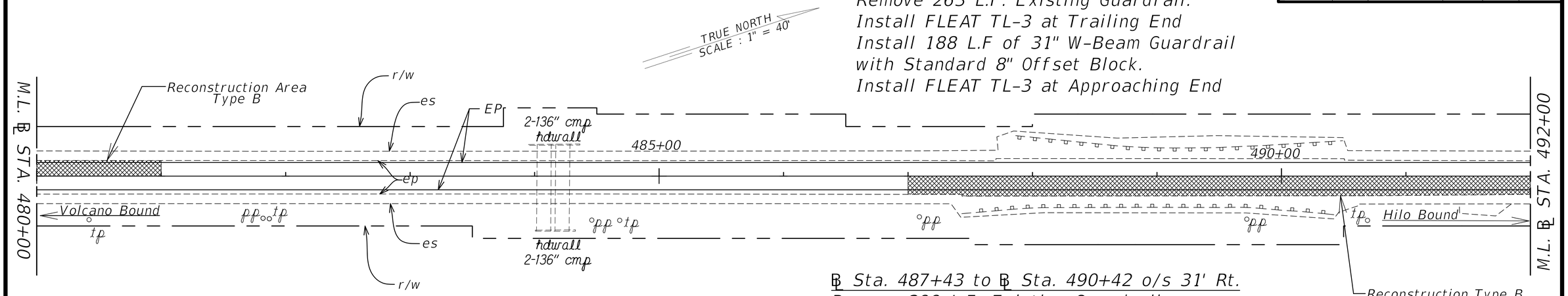
VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

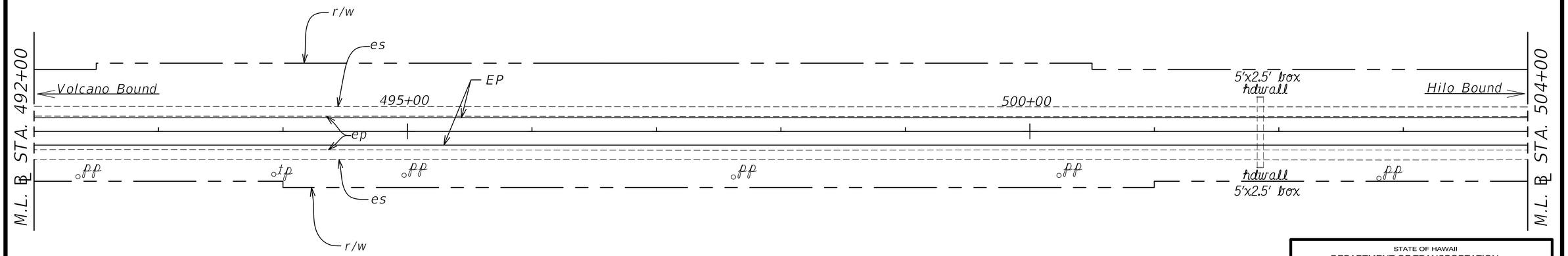
SHEET No. 12 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	25	53

℄ Sta. 487+86 to ℄ Sta. 490+49 o/s 33' Lt.
Remove 263 L.F. Existing Guardrail.
Install FLEAT TL-3 at Trailing End
Install 188 L.F of 31" W-Beam Guardrail
with Standard 8" Offset Block.
Install FLEAT TL-3 at Approaching End



℄ Sta. 487+43 to ℄ Sta. 490+42 o/s 31' Rt.
Remove 299 L.F. Existing Guardrail.
Install FLEAT TL-3 at Approaching End
Install 224 L.F of 31" W-Beam Guardrail with
Standard 8" Offset Block.
Install FLEAT TL-3 at Trailing End



ORIGINAL PLAN
NOTE BOOK
No.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

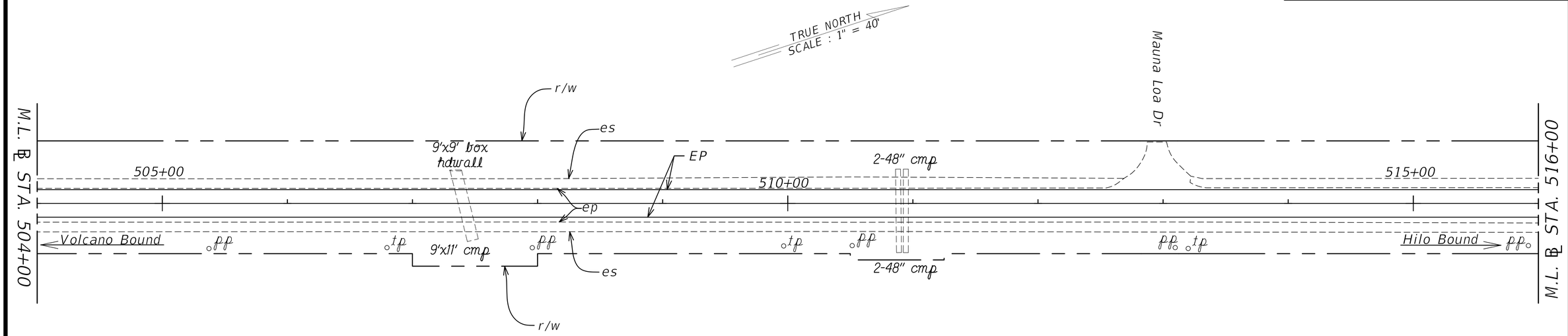
ROADWAY PLANS

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

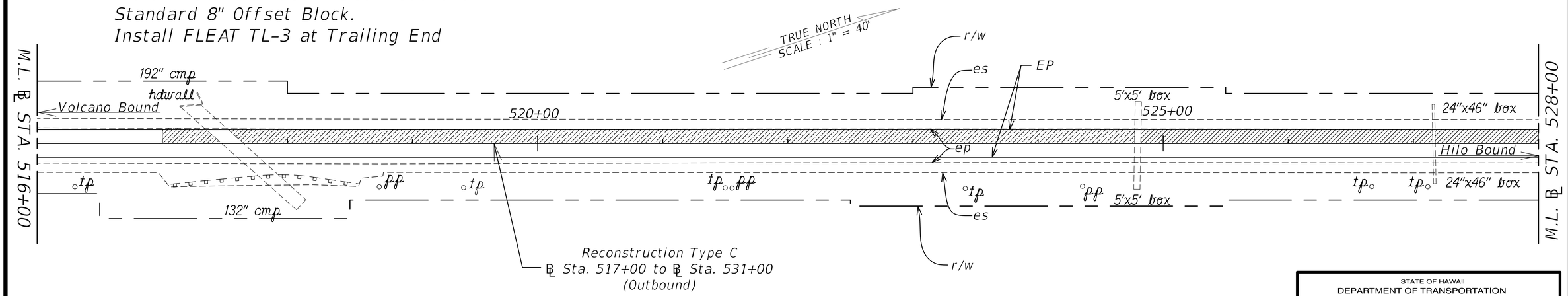
Scale: 1" = 40' Date: March 2026

SHEET No. 13 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	26	53



℄ Sta. 517+07 to ℄ Sta. 518+57 o/s 32' Rt.
Remove 150 L.F. Existing Guardrail.
Install FLEAT TL-3 at Approaching End
Install 75 L.F of 31" W-Beam Guardrail with
Standard 8" Offset Block.
Install FLEAT TL-3 at Trailing End



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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

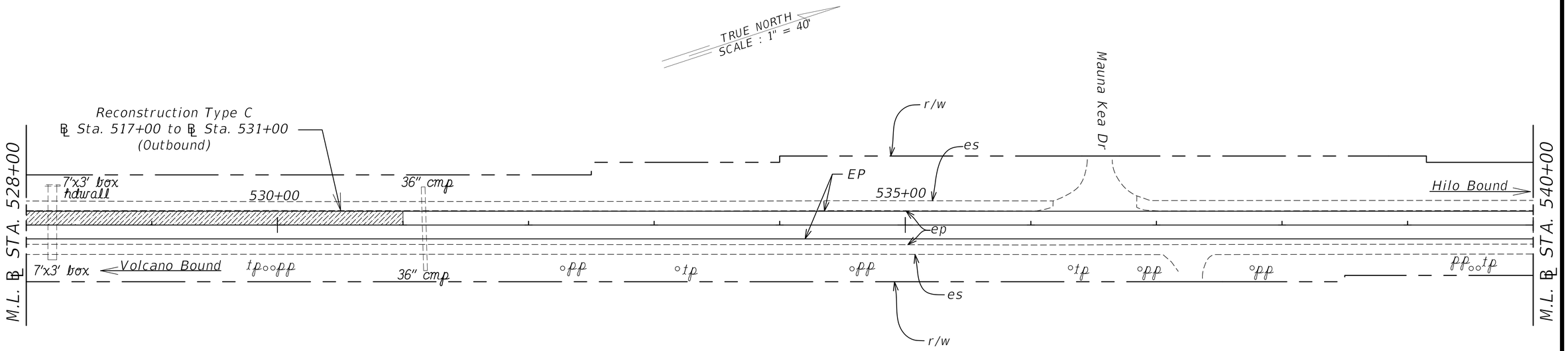
ROADWAY PLANS

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

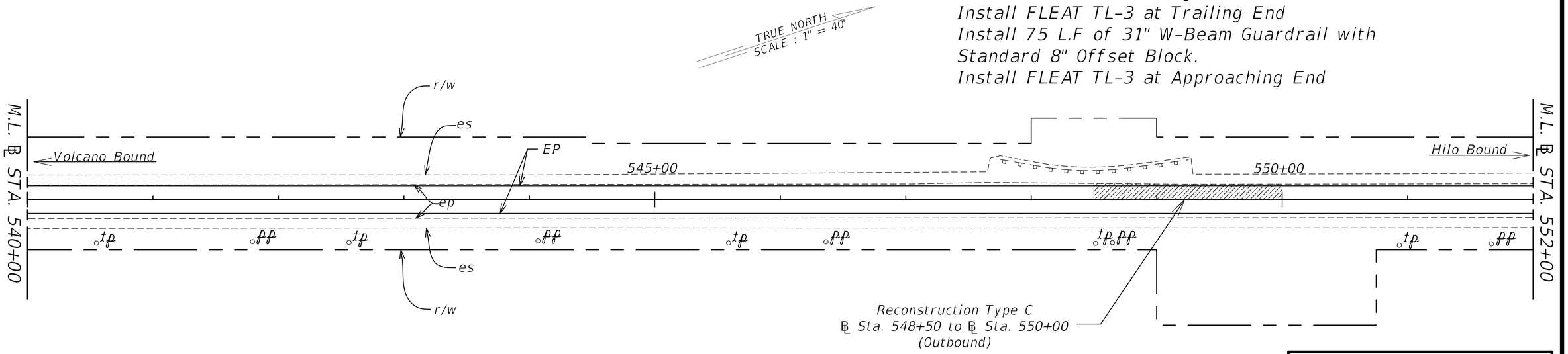
Scale: 1" = 40' Date: March 2026

SHEET No. 14 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	27	53



℄ Sta. 547+75 to ℄ Sta. 549+25 o/s 32' Lt.
Remove 150 L.F. Existing Guardrail.
Install FLEAT TL-3 at Trailing End
Install 75 L.F of 31" W-Beam Guardrail with
Standard 8" Offset Block.
Install FLEAT TL-3 at Approaching End



ORIGINAL PLAN
NOTE BOOK
No.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

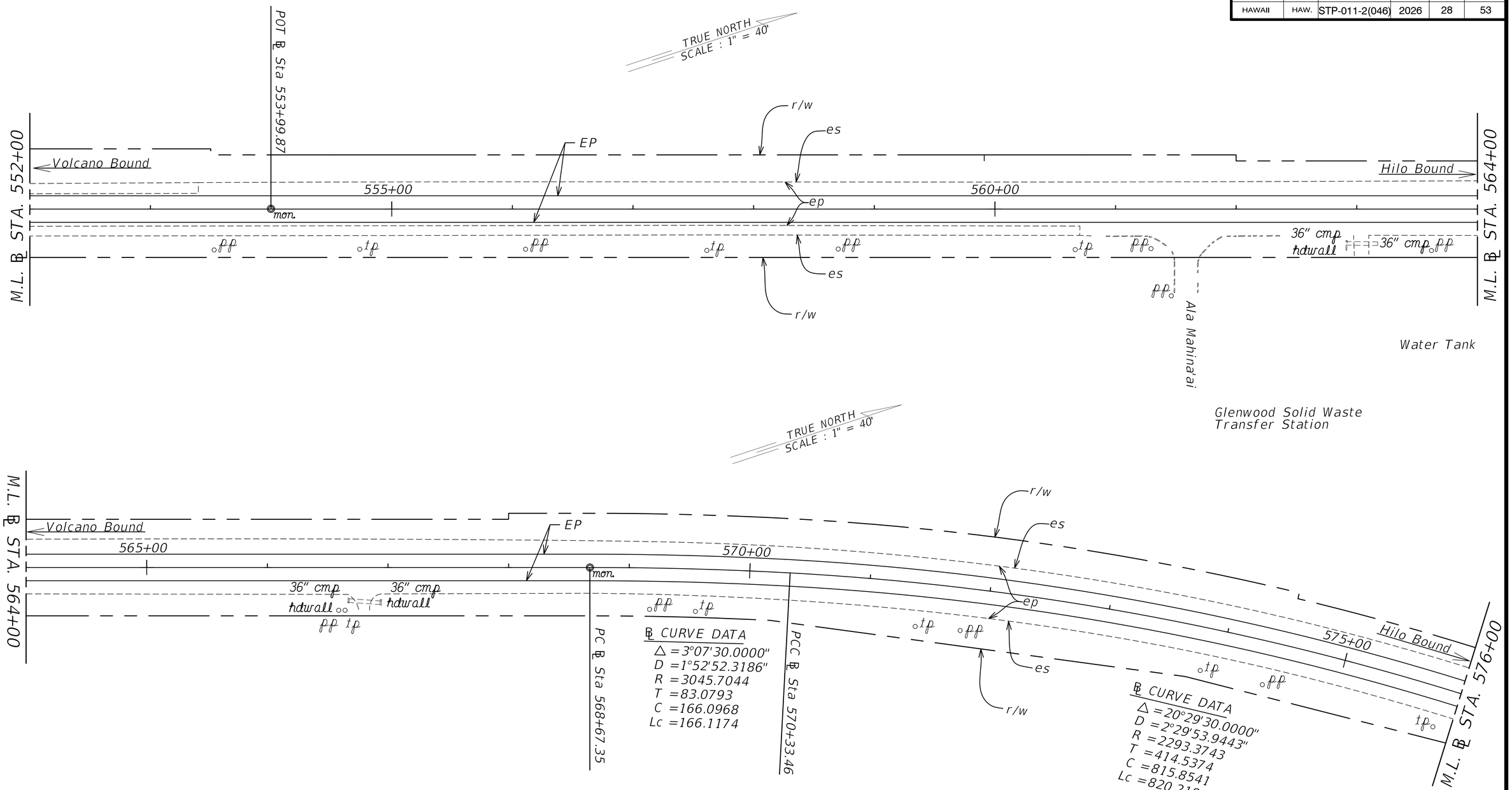
ROADWAY PLANS

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 15 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	28	53



ORIGINAL PLAN
NOTE BOOK
No.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLANS

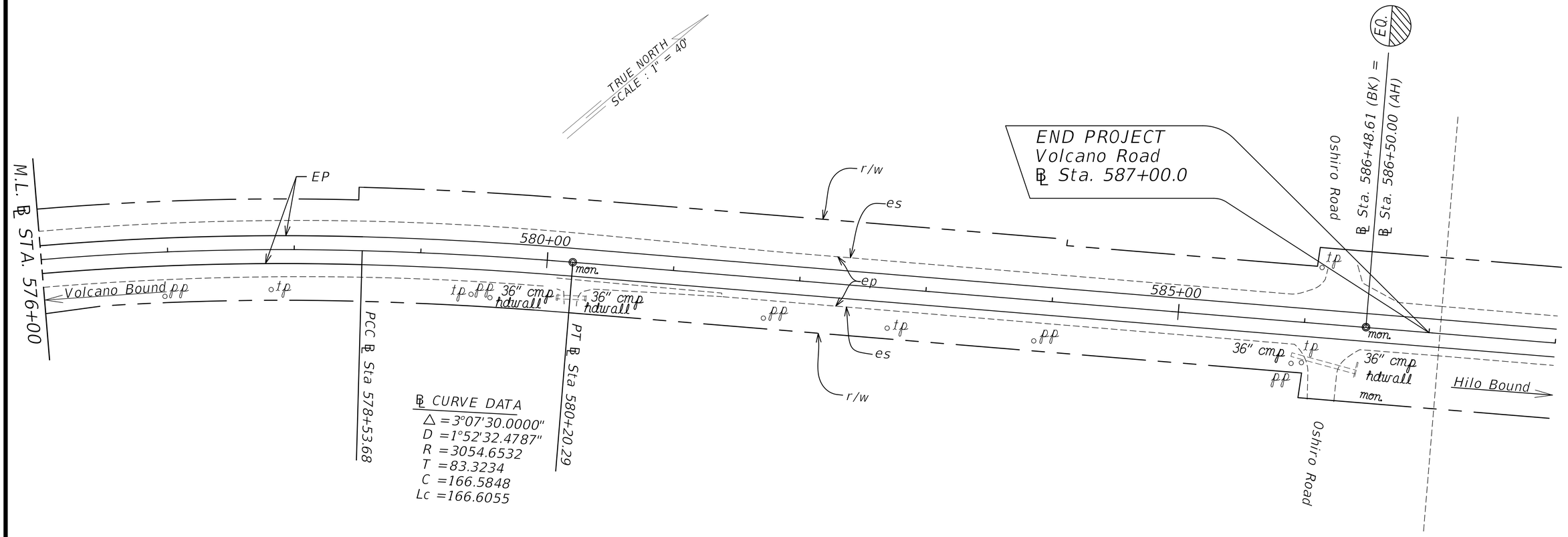
VOLCANO ROAD REHABILITATION, OSHIRO ROAD TO ALII KOA STREET

FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 16 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	29	53



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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLANS

VOLCANO ROAD REHABILITATION,
OSHIRO ROAD TO ALII KOA STREET
FEDERAL-AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: March 2026

SHEET No. 17 OF 17 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	30	53

LEGEND

10' White Profiled Thermoplastic Stripe (6" Wide)
Type C Raised Pavement Markers @ 40'-0" o.c.

10' Yellow Profiled Thermoplastic Stripe (6" Wide)
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)

6" Double Solid Yellow Stripes (4" Space) with Type D Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion))

6" Double Solid Yellow Stripes (4" Space) with Type H Raised Pavement Markers @ 20'-0" o.c. (Tape, Type II or Thermoplastic Exrusion))

6" Yellow Edge Stripe with Type H Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion))

6" Double Solid White Stripes (4" Space) 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 (6" Wide)
Type C Raised Pavement Markers @ 20'-0" o.c.
6" White Stripe (Tape, Type I or Thermoplastic Extrusion)

8" White Edge Stripe with Type C Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)

6" White Guide Line (Tape, Type III or Thermoplastic Extrusion except for bus bays)

12" Transverse Median Marking (Tape, Type II or Thermoplastic Extrusion)

12" Transverse Shoulder Marking (Tape, Type II or Thermoplastic Extrusion)

8" 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 (6" Wide)
Type D Raised Pavement Markers @ 40'-0" o.c.
Type H Raised Pavement Markers (Reflective Surface facing no-passing direction)
6" Single Solid Yellow Stripe (Tape, Type I or Thermoplastic Extrusion)

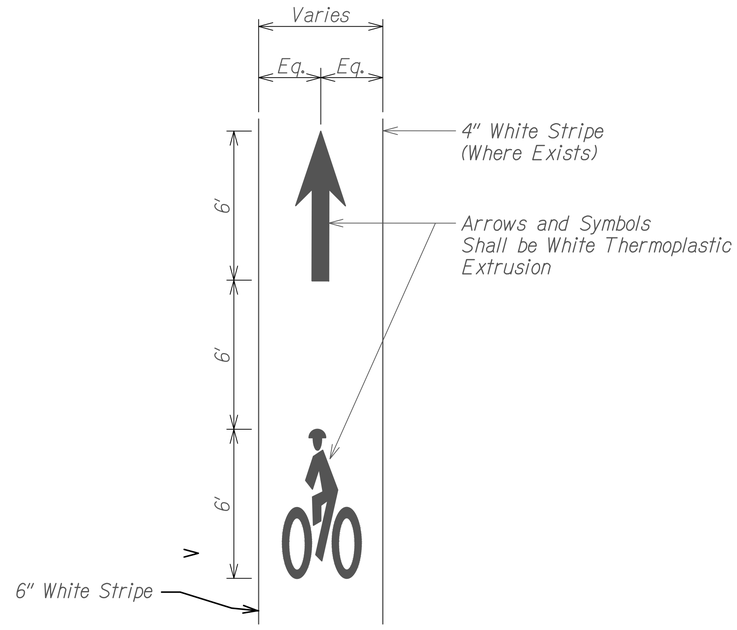
10' 10' 10' 10' Extension of Edge Line, 6" Wide x 2'-0" Long White Stripe @ 10'-0" o.c. w/Type C Markers @ 40'-0" o.c. (Tape, Type III or Thermoplastic Extrusion)

ORIGINAL PLAN | NOTE BOOK No. ____

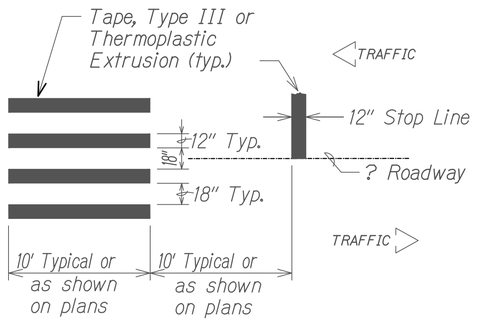
		DATE
PLOTTED BY	<NAME>	
DRAWN BY	<Name>	
TRACED BY	<Name>	
DESIGNED BY	<Name>	
QUANTITIES BY	<Name>	
CHECKED BY	<Name>	

NOTES:

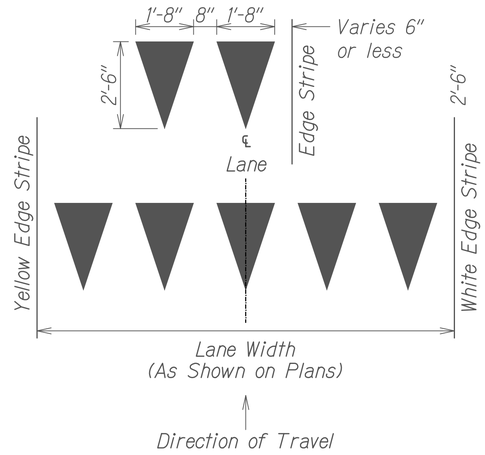
1. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
2. Existing pavement markings not incorporated in the final traffic pattern shall be removed as directed by the Engineer. Costs shall be incidental to the various pavement 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.



BIKE LANE PAVEMENT MARKING DETAIL
Not to Scale



CROSSWALK STRIPING DETAIL
Not to Scale



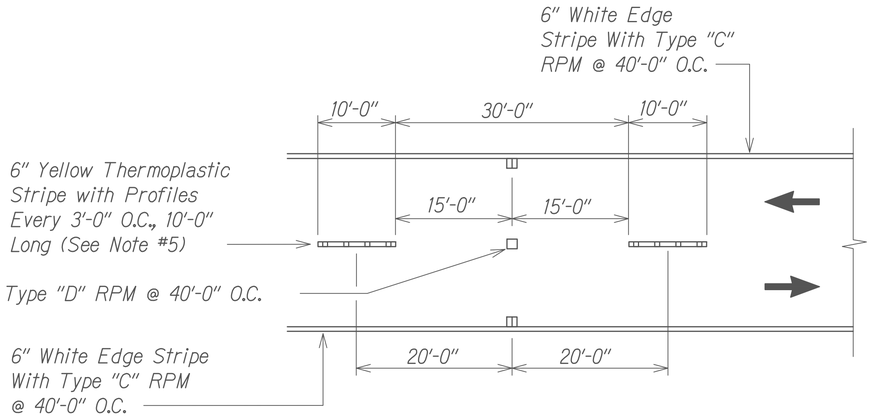
YIELD LINE
Not to Scale

✳ NOTE:
Standared Bus Pullout is 50'-50'-50'.
However, Field Office could Field Adjust Dim.
Based on Available Space.

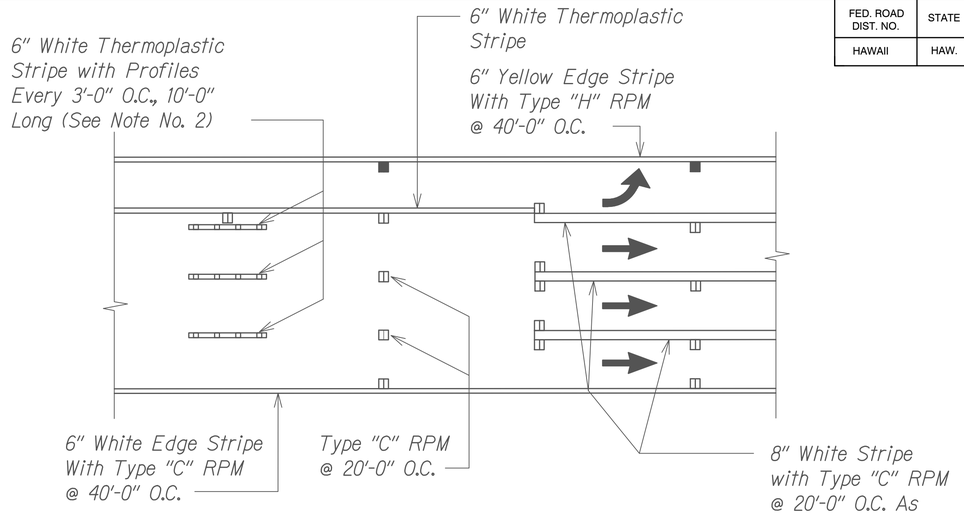
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKING
LEGEND, NOTES & DETAILS
VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)
Scale: 1" = 40' Date: Jun., 2026

SHEET No. T1 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	31	53

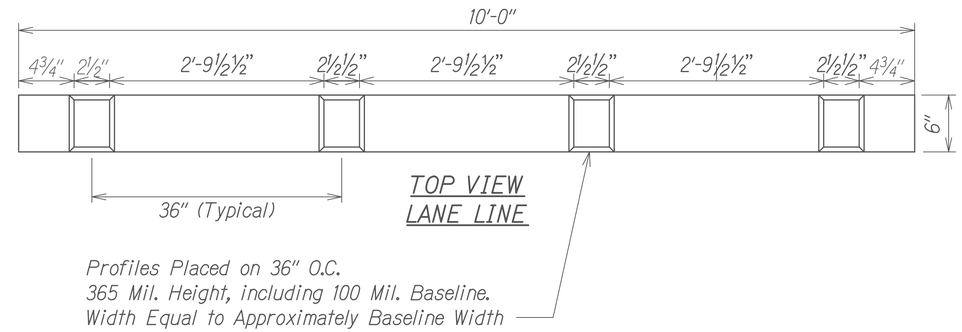


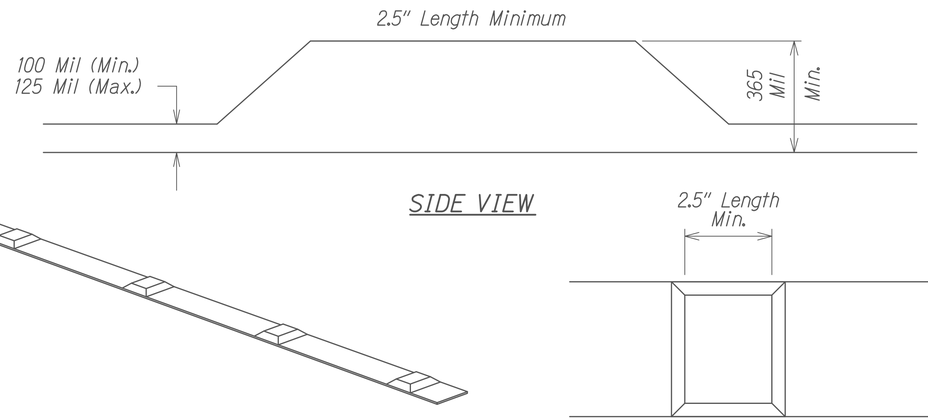
PASSING ZONE



LANE LINE

DETAIL
Not To Scale





PROFILED THERMOPLASTIC STRIPING
Not to Scale

NOTES:

1. The thermoplastic material shall be a alkyd-based compound formulated for profiled pavement marking. See specs subsection 629.03 for additional requirements.
2. The Engineer will include the longitudinal gaps for skip striping, up to thirty (30) feet long, in the measurement for payment.
3. Install white prfiled thermoplastic stripes as lane line.
4. Install yellow profiled thermoplastic stripes for centerline passing zone.
5. In areas with centerline milled rumble strips, install standard yellow thermoplastic stripes without raised profiles.

ORIGINAL PLAN	PLOTTED BY	DATE
	DRAWN BY	<NAME>
	TRACED BY	<Name>
NOTE BOOK	DESIGNED BY	<Name>
	QUANTITIES BY	<Name>
No.	CHECKED BY	<Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

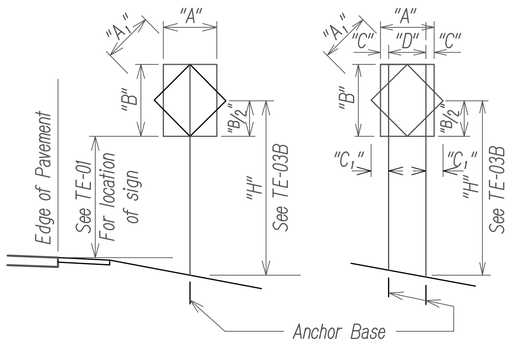
PAVEMENT MARKING
DETAILS

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T2 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	32	53



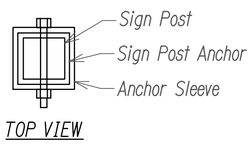
1 - POST
"A" or "A1" less than 36"

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

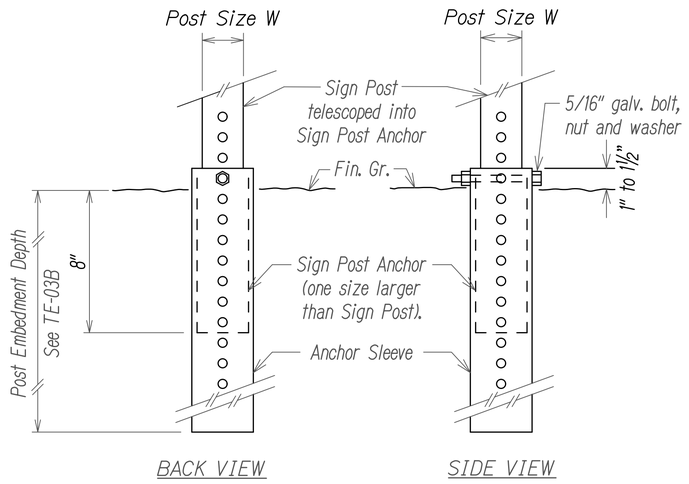
"A" or "A1"	"C"	"C1"
Less than 36"	6"	-
Greater than 36" and less than 48"	9"	19"
Greater than 48"	12"	24"

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

GENERAL NOTES

1. Design Specifications:
   (A) Design shall conform w/ the latest AASHTO Standard Specifications for the Structural Supports for Highway Signs, Luminaires & Traffic Signals and its interim supplements and modifications by the Highways Division, Department of Transportation State of Hawaii.
   (B) Latest HDOT Memorandum with subject title "Design Criteria for Bridges and Structures."

2. Loads:
   (A) Basic Wind Speed: 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 strenght of 180 ksi, min.
   (D) Aluminum members and surfaces in contact with structural by the Engineer.

4. General:
   (A) See General Nots on B-01, TE-01, and TE-03B for additional information.
   (B) All post shall be 12 gage unless otherwise specified or shown on the plans.
   (C) Square tube posts shall be perforated with 7/16"Φ holes, 1" o.c, 4 sides, along entire length of post.
   (D) All accessories, fittings and stiffener details (as required) shall be submitted to the Engineer for approval 20 days prior to installation.
   (E) Alternate designs in accordance with the plans and specifications shall use the Service Load Design Method and shall be stamped by a registered structural engineer of the State of Hawaii and submitted to the Engineer for approval.
   (F) All sign support posts shall be outside of the clear zone or shielded by an appropriate traffic barrier system. The traffic barrier system shall 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.

ORIGINAL PLAN	NOTE BOOK	No.	DATE
PLOTTED BY	<NAME>		
DRAWN BY	<Name>		
TRACED BY	<Name>		
DESIGNED BY	<Name>		
QUANTITIES BY	<Name>		
CHECKED BY	<Name>		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

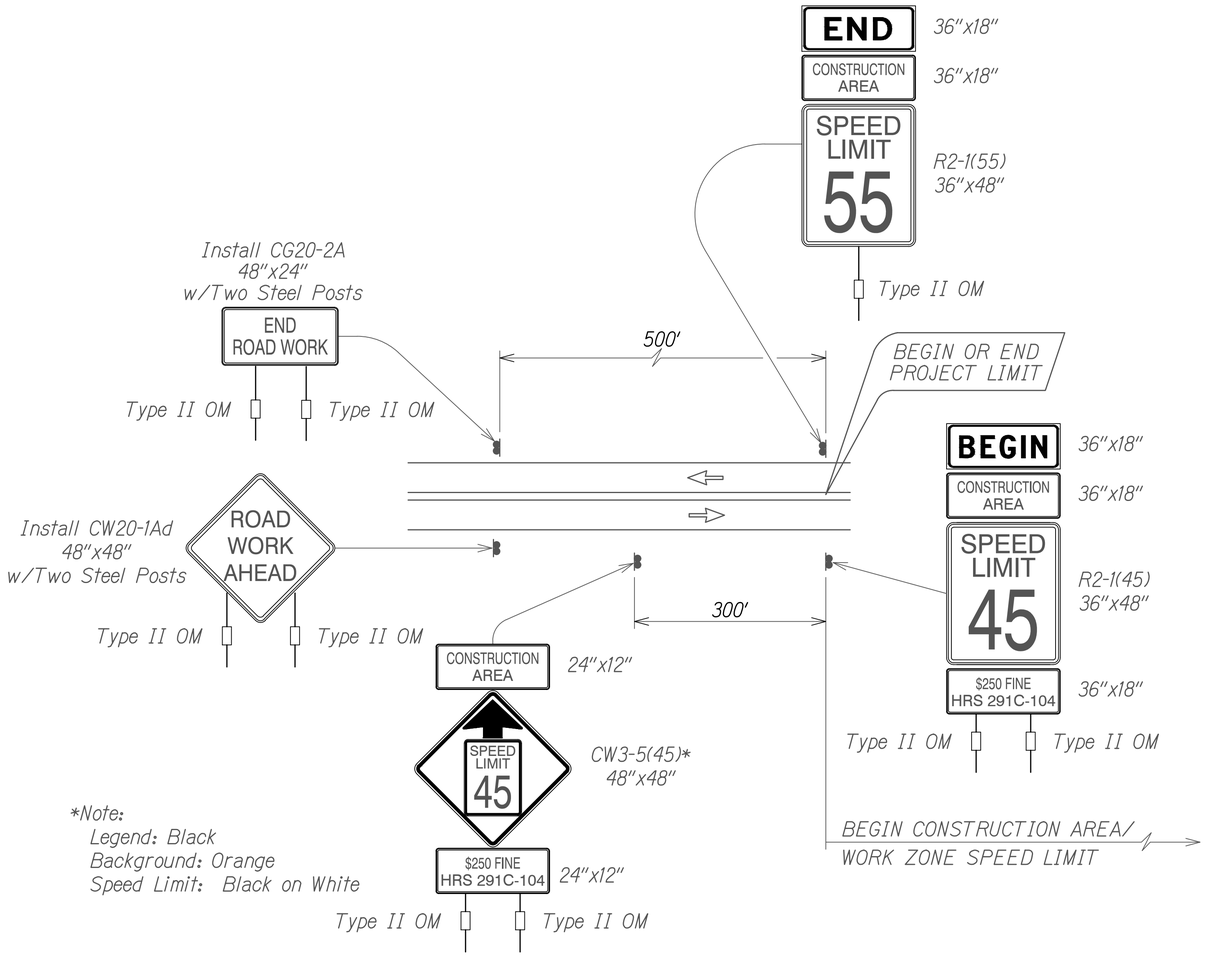
GALVANIZED SQUARE TUBE SIGN POST MOUNTING

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

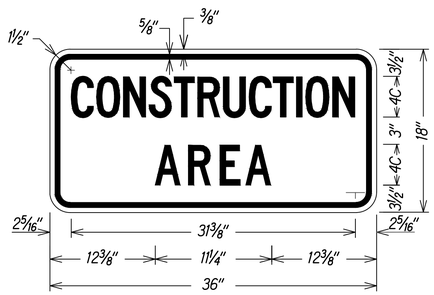
SHEET No. T3 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	33	53

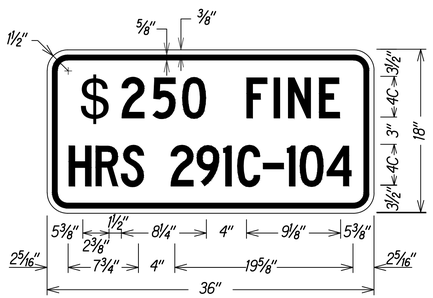


*Note:
Legend: Black
Background: Orange
Speed Limit: Black on White

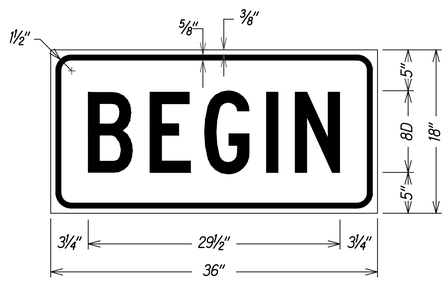
TYPICAL DETAIL FOR CONSTRUCTION SIGNS ON TWO LANE OR MULTILANE UNDIVIDED LOW SPEED HIGHWAY



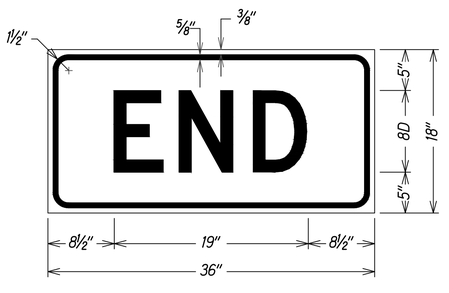
LEGEND: BLACK
BACKGROUND: ORANGE



LEGEND: BLACK
BACKGROUND: WHITE



LEGEND: BLACK
BACKGROUND: ORANGE



LEGEND: BLACK
BACKGROUND: ORANGE

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(45) and CW3-5(45) 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 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.

ORIGINAL PLAN | NOTE BOOK | No. ____

PLOTTED BY <NAME> DATE
DRAWN BY <Name>
TRACED BY <Name>
DESIGNED BY <Name>
QUANTITIES BY <Name>
CHECKED BY <Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HIGH SPEED UNDIVIDED HIGHWAY

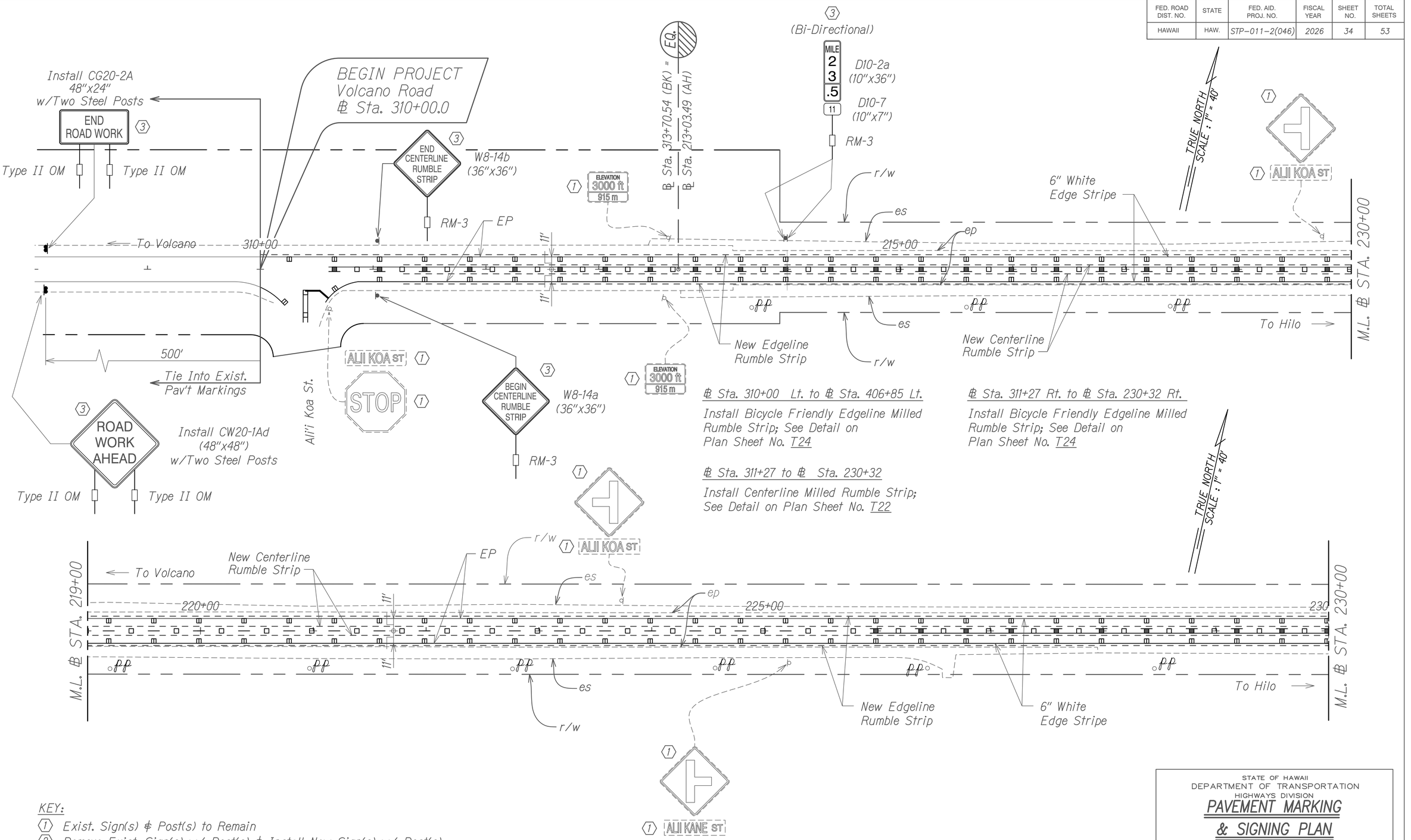
WORK ZONE SIGNING PLAN, NOTES & DETAILS

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T4 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	34	53



KEY:

1. Exist. Sign(s) & Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

ORIGINAL PLAN

NOTE BOOK

		DATE
PLOTTED BY	<NAME>	
DRAWN BY	<Name>	
TRACED BY	<Name>	
DESIGNED BY	<Name>	
QUANTITIES BY	<Name>	
CHECKED BY	<Name>	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

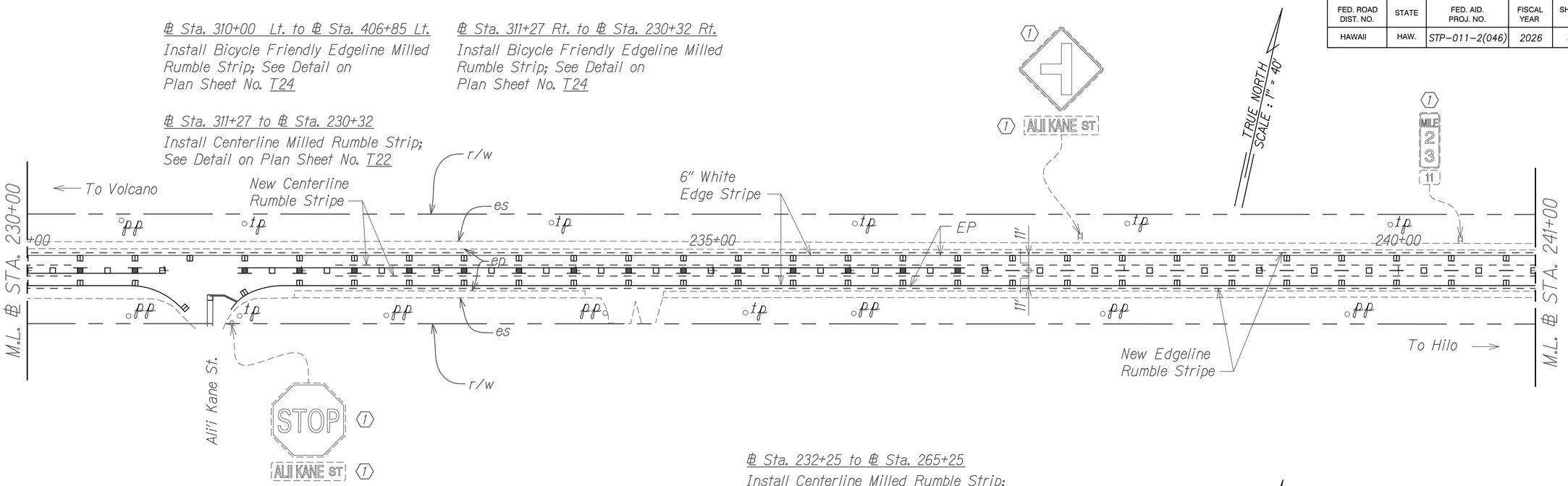
SHEET No. T5 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	35	53

℄ Sta. 310+00 Lt. to ℄ Sta. 406+85 Lt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

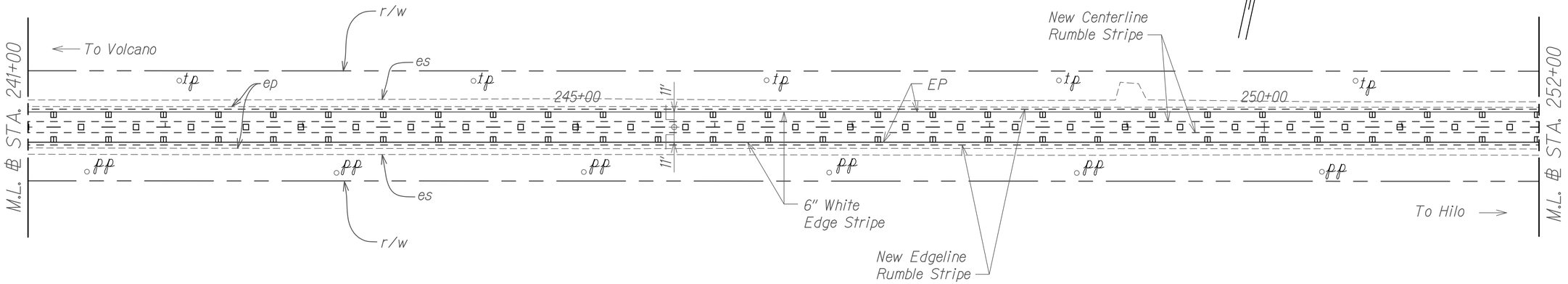
℄ Sta. 311+27 Rt. to ℄ Sta. 230+32 Rt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 311+27 to ℄ Sta. 230+32
Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22



℄ Sta. 232+25 to ℄ Sta. 265+25
Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

℄ Sta. 232+25 Rt. to ℄ Sta. 265+25 Rt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24



KEY:
1. Exist. Sign(s) & Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

		DATE
PLOTTED BY	<NAME>	
DRAWN BY	<Name>	
TRACED BY	<Name>	
DESIGNED BY	<Name>	
QUANTITIES BY	<Name>	
CHECKED BY	<Name>	
ORIGINAL PLAN	NOTE BOOK	No.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

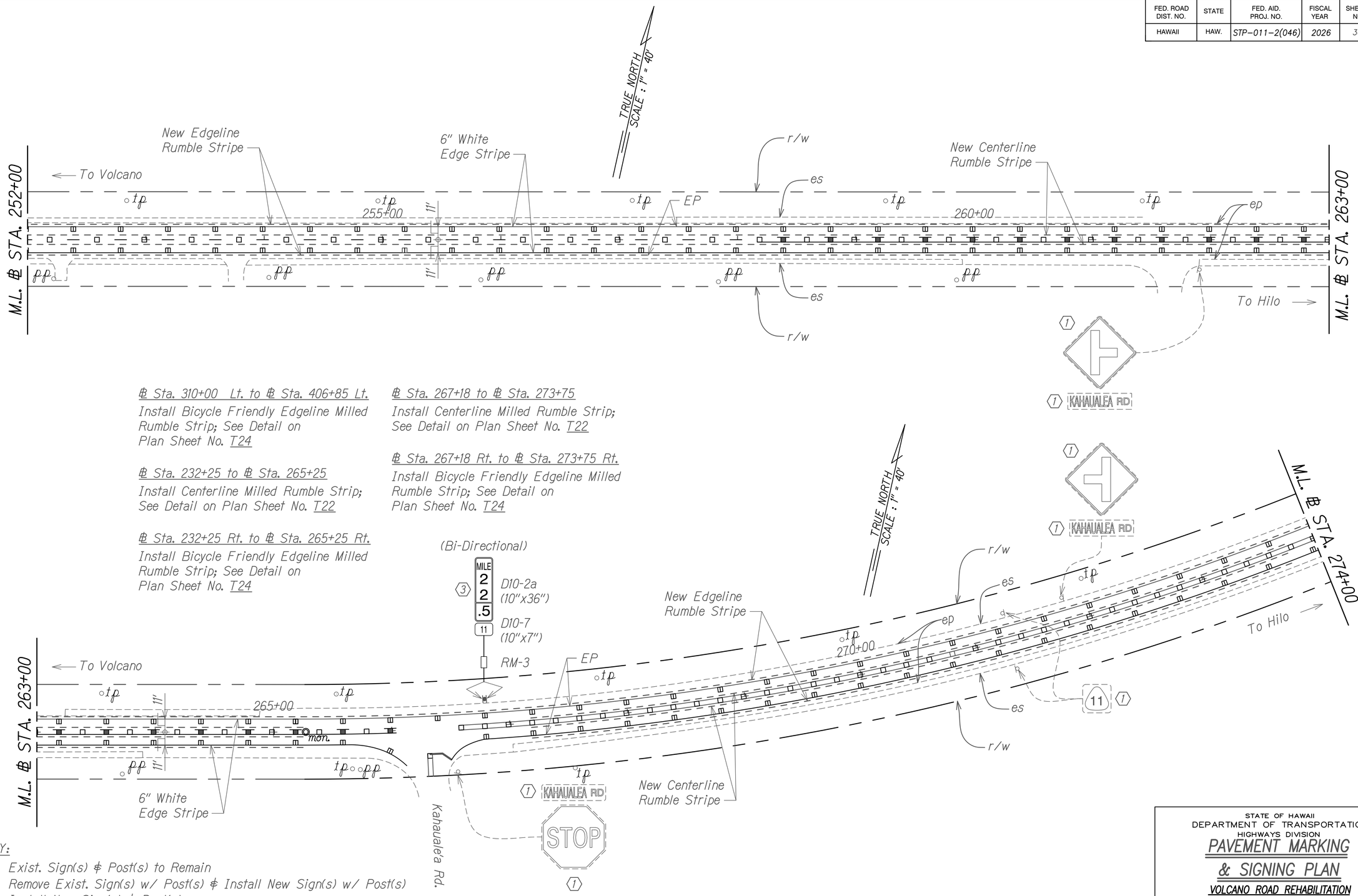
PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T6 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	36	53



℄ Sta. 310+00 Lt. to ℄ Sta. 406+85 Lt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 232+25 to ℄ Sta. 265+25
Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

℄ Sta. 232+25 Rt. to ℄ Sta. 265+25 Rt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 267+18 to ℄ Sta. 273+75
Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

℄ Sta. 267+18 Rt. to ℄ Sta. 273+75 Rt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

KEY:
1. Exist. Sign(s) & Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

ORIGINAL PLAN
NOTE BOOK
No. ____
PLOTTED BY <NAME> DATE
DRAWN BY <Name>
TRACED BY <Name>
DESIGNED BY <Name>
QUANTITIES BY <Name>
CHECKED BY <Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T7 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	37	53

℄ Sta. 310+00 Lt. to ℄ Sta. 406+85 Lt.

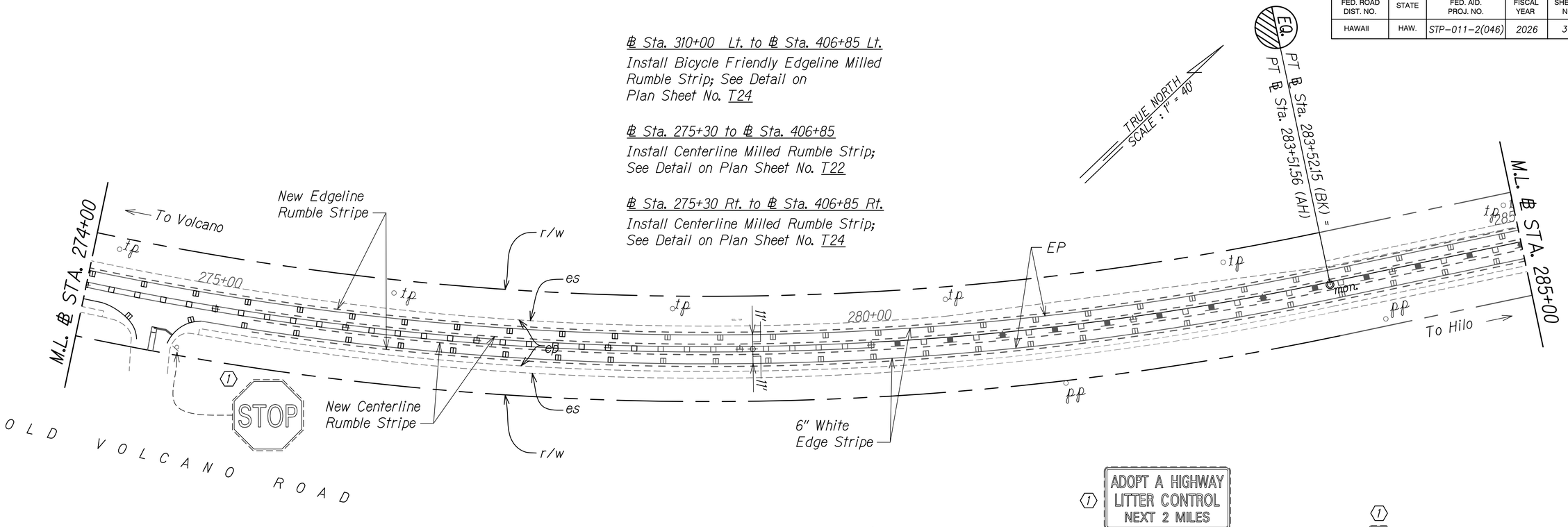
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

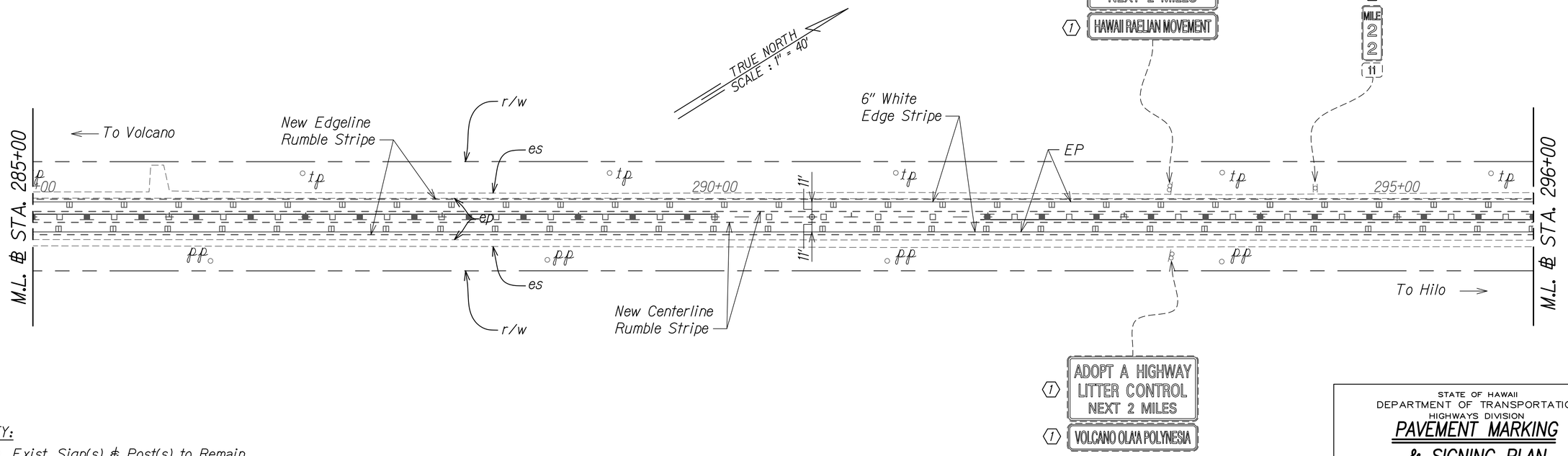
℄ Sta. 275+30 to ℄ Sta. 406+85

Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

℄ Sta. 275+30 Rt. to ℄ Sta. 406+85 Rt.

Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T24





KEY:

1. Exist. Sign(s) & Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

ORIGINAL PLAN	PLOTTED BY	<NAME> DATE
	DRAWN BY	<Name>
NOTE BOOK	TRACED BY	<Name>
	DESIGNED BY	<Name>
	QUANTITIES BY	<Name>
No.	CHECKED BY	<Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

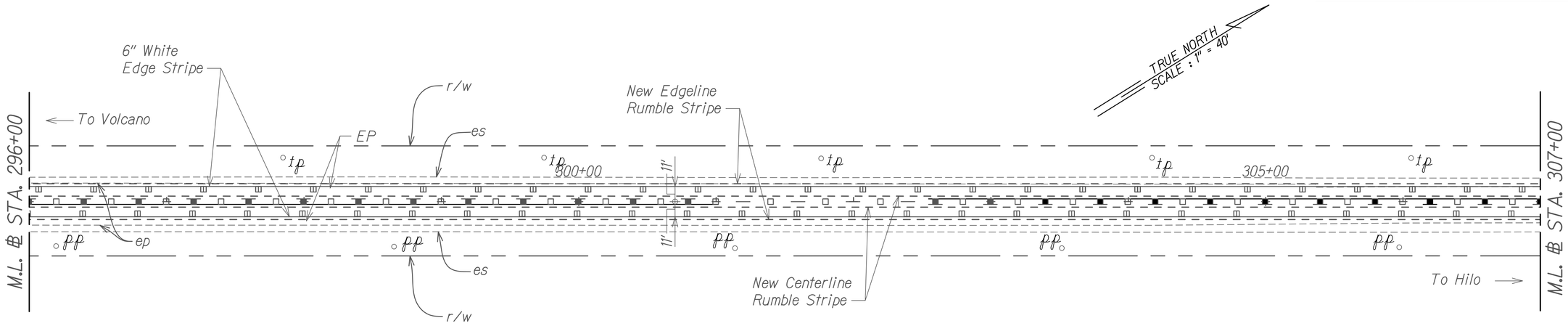
PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T8 OF 24 SHEETS

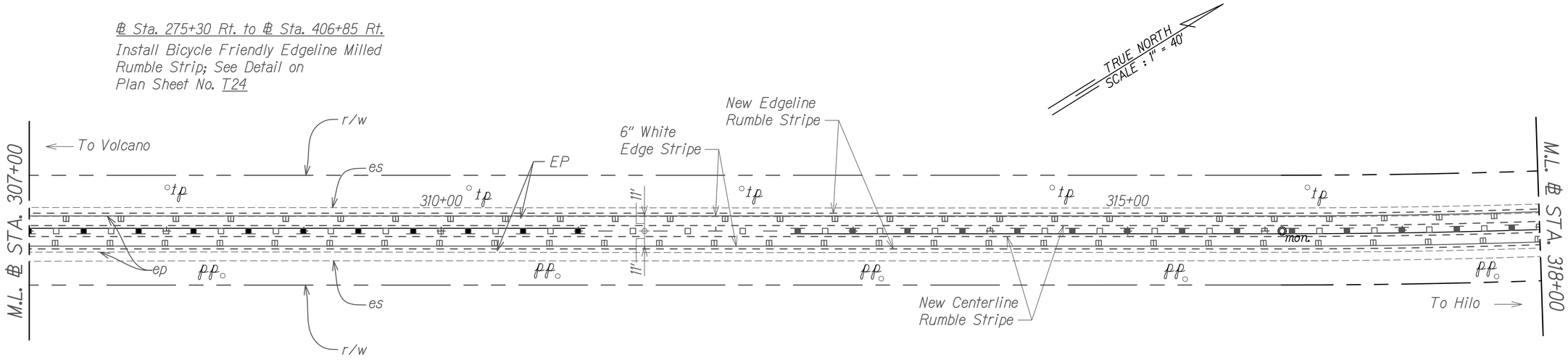
FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	38	53



℄ Sta. 310+00 Lt. to ℄ Sta. 406+85 Lt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 275+30 to ℄ Sta. 406+85
Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

℄ Sta. 275+30 Rt. to ℄ Sta. 406+85 Rt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24



KEY:
1. Exist. Sign(s) & Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

ORIGINAL PLAN
NOTE BOOK
No. ____
PLOTTED BY <Name> DATE :
DRAWN BY <Name> :
TRACED BY <Name> :
DESIGNED BY <Name> :
QUANTITIES BY <Name> :
CHECKED BY <Name> :

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

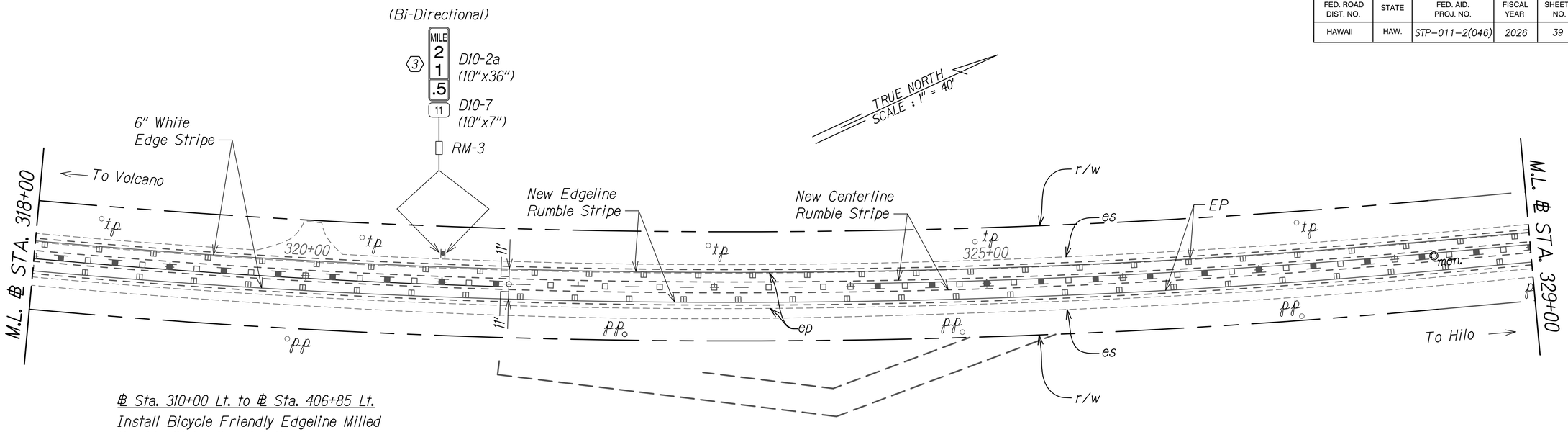
PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T9 OF 24 SHEETS

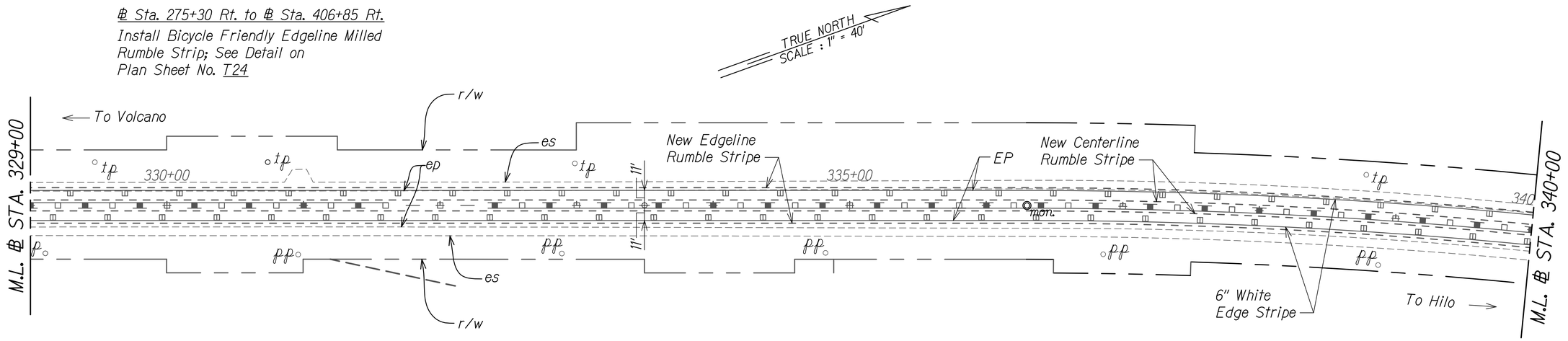
FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	39	53



℄ Sta. 310+00 Lt. to ℄ Sta. 406+85 Lt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 275+30 to ℄ Sta. 406+85
Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

℄ Sta. 275+30 Rt. to ℄ Sta. 406+85 Rt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24



KEY:
1. Exist. Sign(s) & Post(s) to Remain
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3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

PLOTTED BY	DATE
DRAWN BY	<NAME>
TRACED BY	<Name>
DESIGNED BY	<Name>
QUANTITIES BY	<Name>
CHECKED BY	<Name>
ORIGINAL PLAN	
NOTE BOOK	
No.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

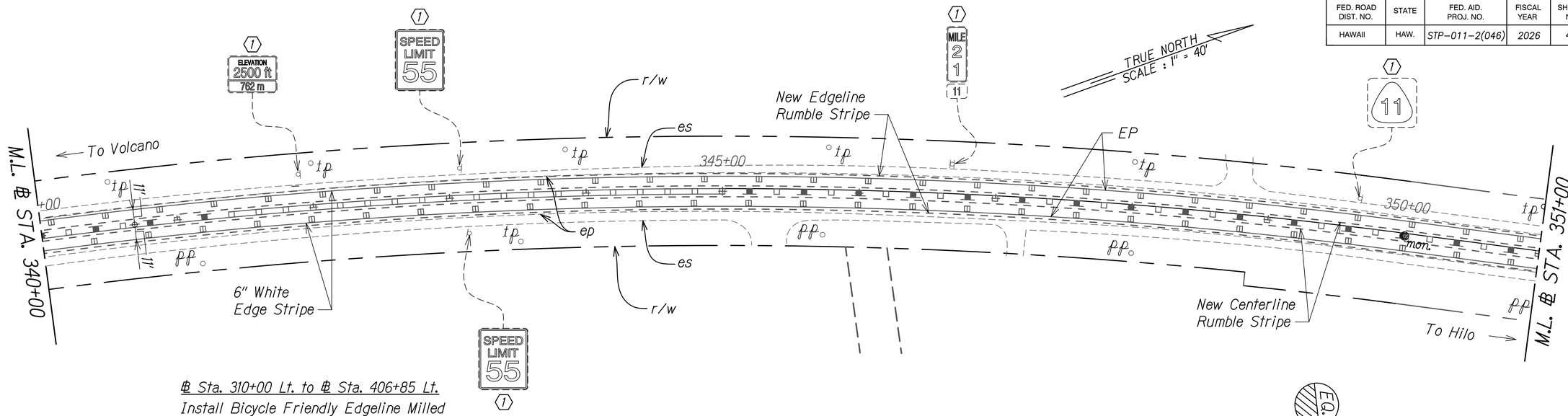
PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T10 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	40	53



℄ Sta. 310+00 Lt. to ℄ Sta. 406+85 Lt.

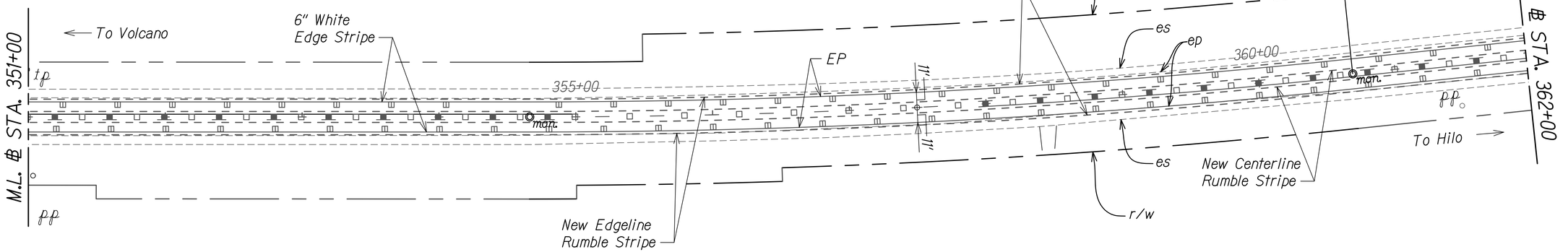
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 275+30 to ℄ Sta. 406+85

Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

℄ Sta. 275+30 Rt. to ℄ Sta. 406+85 Rt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24



KEY:

1. Exist. Sign(s) & Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

ORIGINAL PLAN	PLOTTED BY <NAME> DATE
	DRAWN BY <Name>
	TRACED BY <Name>
NOTE BOOK	DESIGNED BY <Name>
	QUANTITIES BY <Name>
No.	CHECKED BY <Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

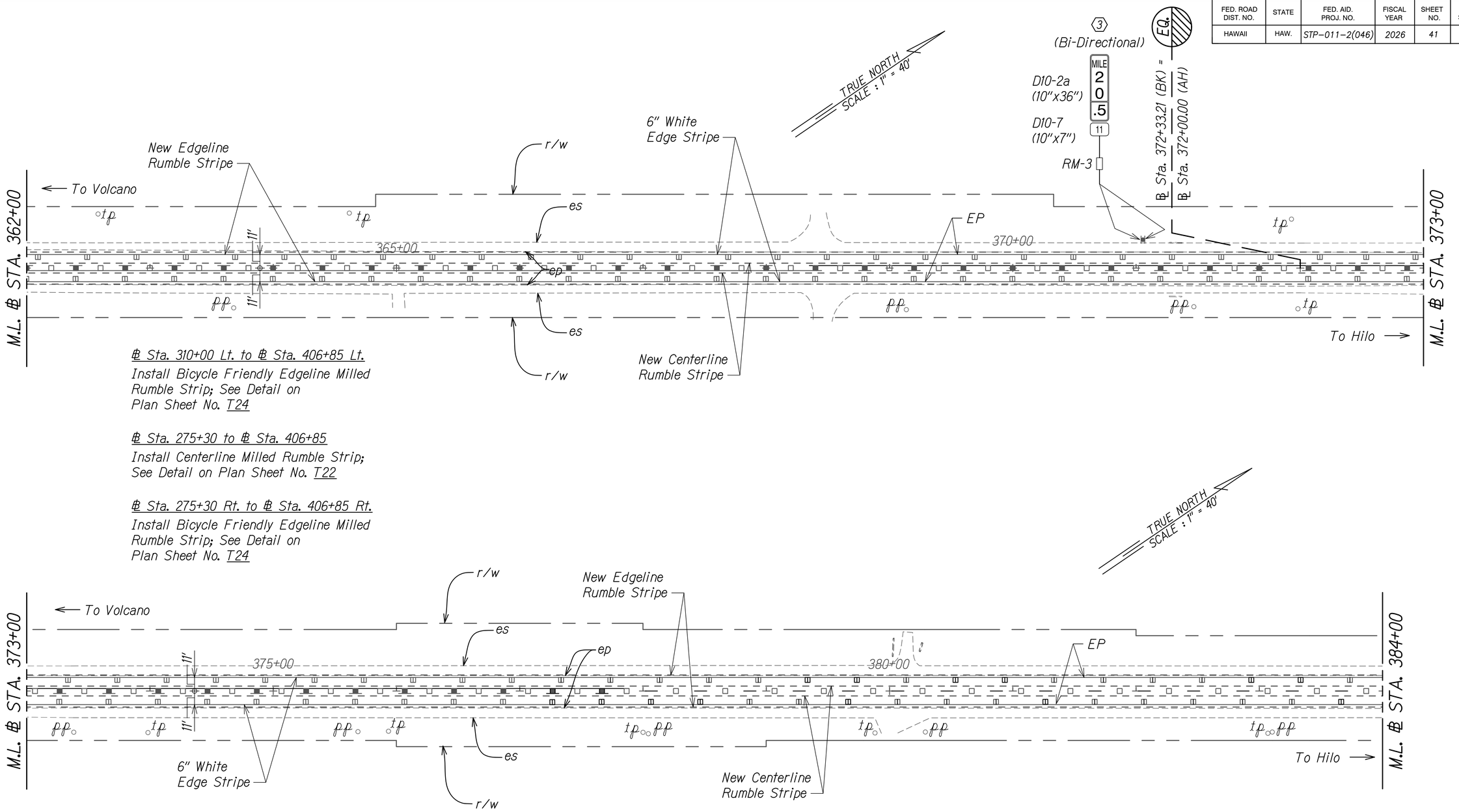
PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T11 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	41	53



℄ Sta. 310+00 Lt. to ℄ Sta. 406+85 Lt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 275+30 to ℄ Sta. 406+85

Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

℄ Sta. 275+30 Rt. to ℄ Sta. 406+85 Rt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

KEY:

(1) Exist. Sign(s) & Post(s) to Remain
(2) Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
(3) Install New Sign(s) & Post(s)
(4) Install New Sign(s)

ORIGINAL PLAN	PLOTTED BY	<NAME> DATE
	DRAWN BY	<Name>
	TRACED BY	<Name>
NOTE BOOK	DESIGNED BY	<Name>
	QUANTITIES BY	<Name>
No.	CHECKED BY	<Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

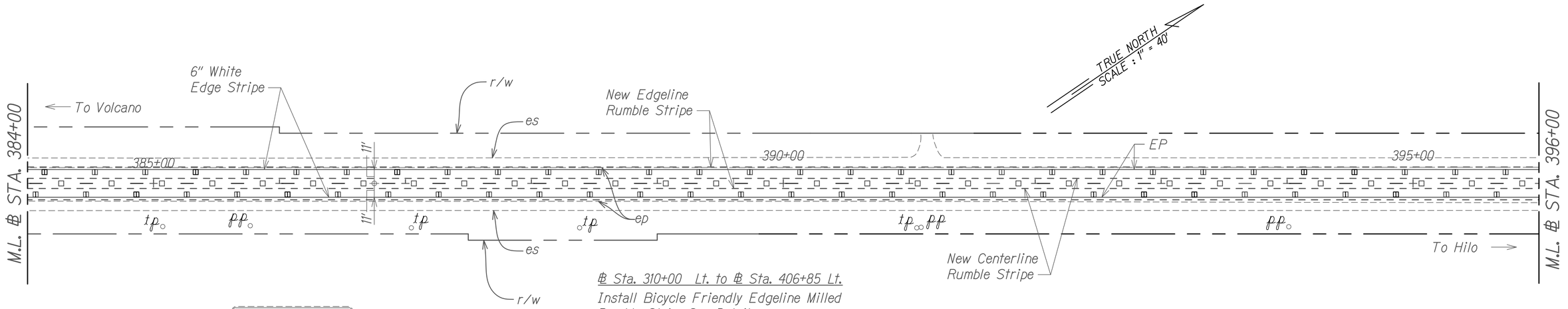
PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T12 OF 24 SHEETS

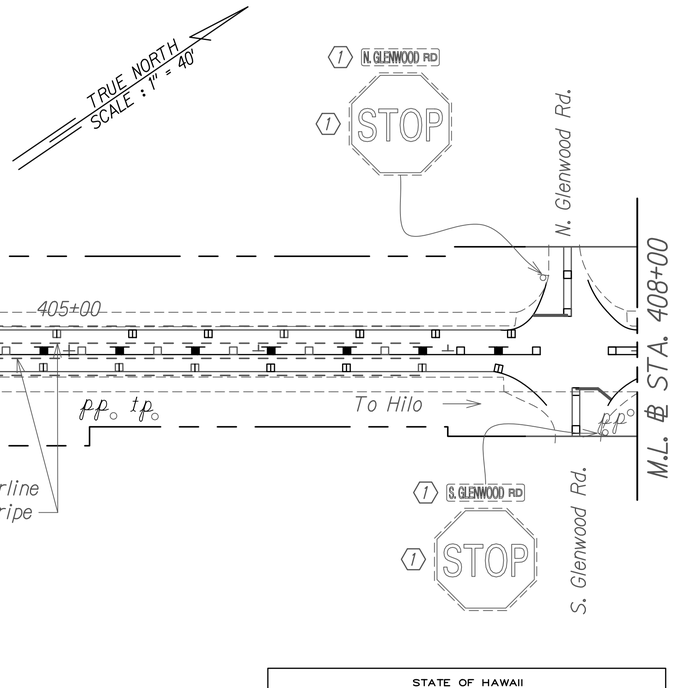
FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	42	53



℄ Sta. 310+00 Lt. to ℄ Sta. 406+85 Lt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 275+30 to ℄ Sta. 406+85
Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

℄ Sta. 275+30 Rt. to ℄ Sta. 406+85 Rt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24



KEY:
1. Exist. Sign(s) & Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

ORIGINAL PLAN	PLOTTED BY	DATE
	DRAWN BY	<NAME>
NOTE BOOK	TRACED BY	<Name>
	DESIGNED BY	<Name>
No.	QUANTITIES BY	<Name>
	CHECKED BY	<Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

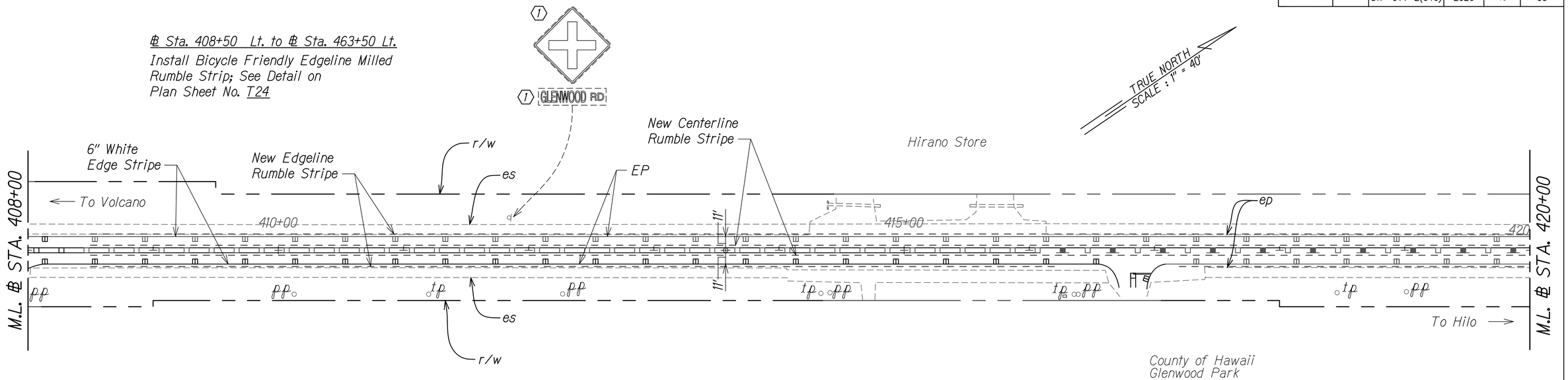
VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T13 OF 24 SHEETS

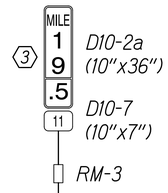
FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	43	53

℄ Sta. 408+50 Lt. to ℄ Sta. 463+50 Lt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24



℄ Sta. 408+50 to ℄ Sta. 463+50
Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

(Bi-Directional)



℄ Sta. 408+50 Rt. to ℄ Sta. 416+20 Rt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 417+20 Rt. to ℄ Sta. 560+80 Rt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

KEY:
1. Exist. Sign(s) & Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

ORIGINAL PLAN		DATE
	PLOTTED BY	<Name>
	DRAWN BY	<Name>
	TRACED BY	<Name>
	DESIGNED BY	<Name>
NOTE BOOK	QUANTITIES BY	<Name>
No.	CHECKED BY	<Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

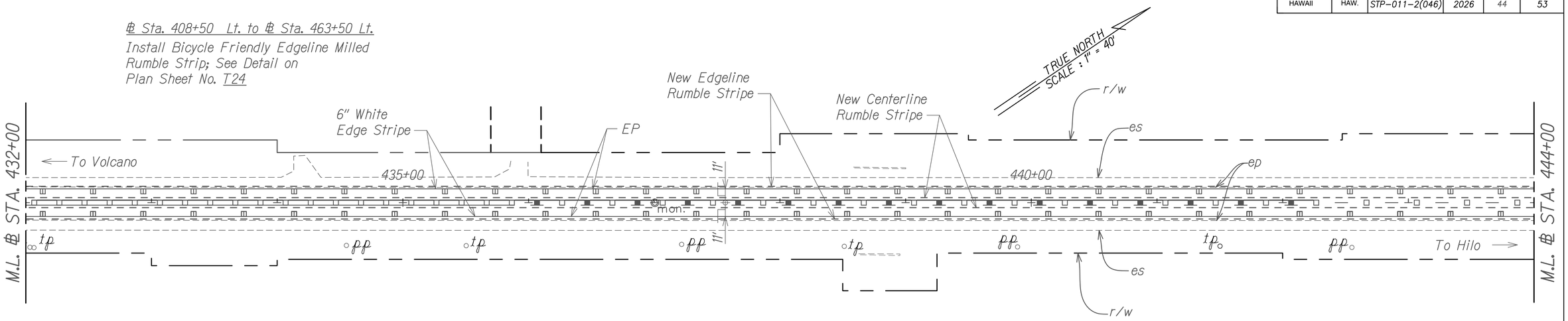
Scale: 1" = 40' Date: Jun., 2026

SHEET No. T14 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	44	53

℄ Sta. 408+50 Lt. to ℄ Sta. 463+50 Lt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

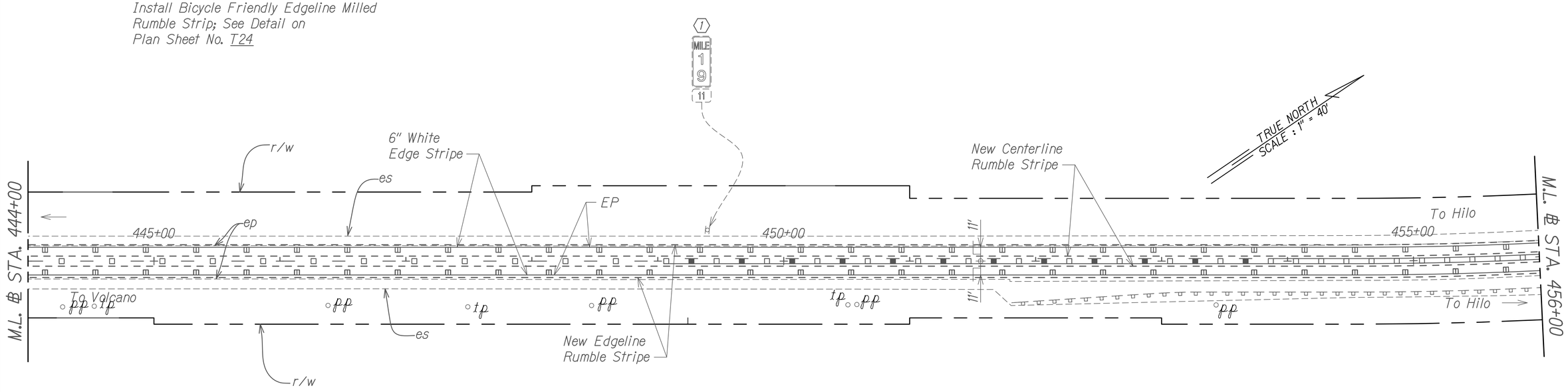


℄ Sta. 408+50 to ℄ Sta. 463+50

Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

℄ Sta. 417+20 Rt. to ℄ Sta. 560+80 Rt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24



KEY:

1. Exist. Sign(s) & Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

ORIGINAL PLAN		DATE
	PLOTTED BY	<Value>
	DRAWN BY	<Name>
	TRACED BY	<Name>
	DESIGNED BY	<Name>
NOTE BOOK	QUANTITIES BY	<Name>
	CHECKED BY	<Name>
No.		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T15 OF 24 SHEETS

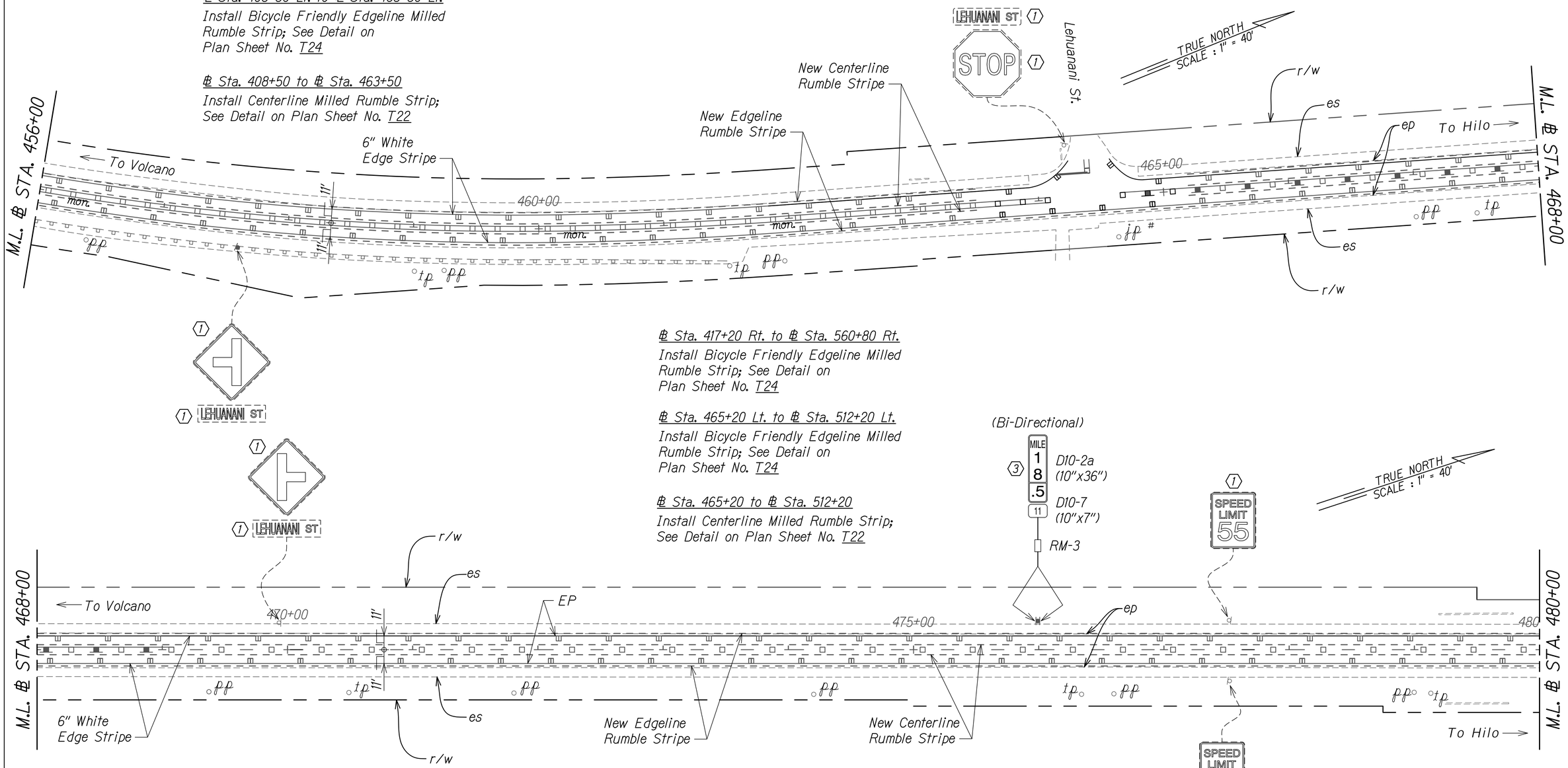
FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	45	53

℄ Sta. 408+50 Lt. to ℄ Sta. 463+50 Lt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 408+50 to ℄ Sta. 463+50

Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22



℄ Sta. 417+20 Rt. to ℄ Sta. 560+80 Rt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 465+20 Lt. to ℄ Sta. 512+20 Lt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 465+20 to ℄ Sta. 512+20

Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

(Bi-Directional)

KEY:

1. Exist. Sign(s) ⊕ Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) ⊕ Install New Sign(s) w/ Post(s)
3. Install New Sign(s) ⊕ Post(s)
4. Install New Sign(s)

ORIGINAL PLAN

	NAME	DATE
PLOTTED BY	<Name>	
DRAWN BY	<Name>	
TRACED BY	<Name>	
DESIGNED BY	<Name>	
QUANTITIES BY	<Name>	
CHECKED BY	<Name>	

NOTE BOOK

No.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

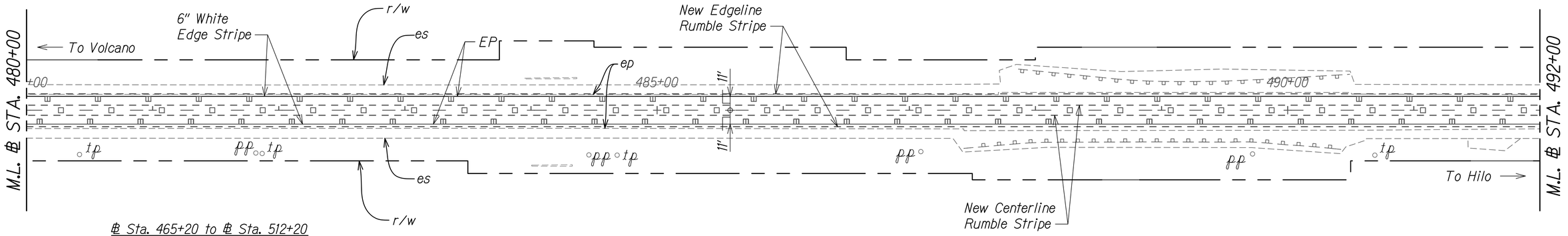
SHEET No. T16 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	46	53

℄ Sta. 465+20 Lt. to ℄ Sta. 512+20 Lt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

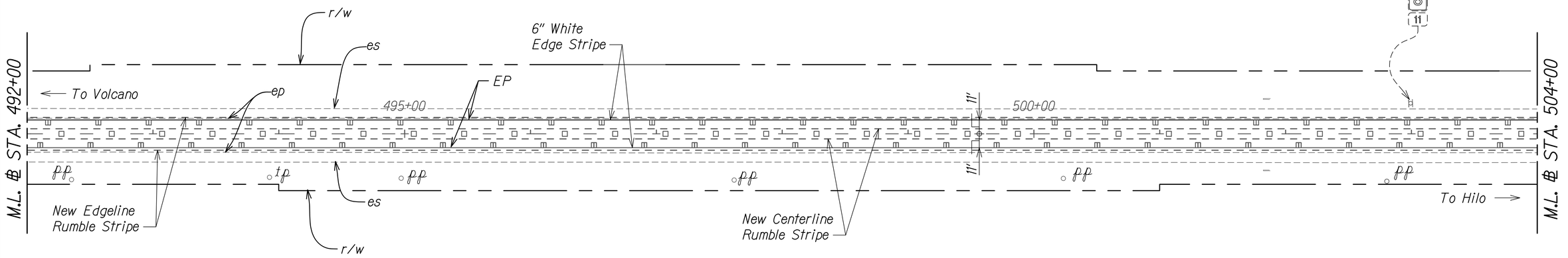
TRUE NORTH
SCALE : 1" = 40'



℄ Sta. 465+20 to ℄ Sta. 512+20

Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

TRUE NORTH
SCALE : 1" = 40'



KEY:

1. Exist. Sign(s) ⊄ Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) ⊄ Install New Sign(s) w/ Post(s)
3. Install New Sign(s) ⊄ Post(s)
4. Install New Sign(s)

℄ Sta. 417+20 Rt. to ℄ Sta. 560+80 Rt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

ORIGINAL PLAN
NOTE BOOK
No. _____
PLOTTED BY <NAME> DATE
DRAWN BY <Name>
TRACED BY <Name>
DESIGNED BY <Name>
QUANTITIES BY <Name>
CHECKED BY <Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T17 OF 24 SHEETS

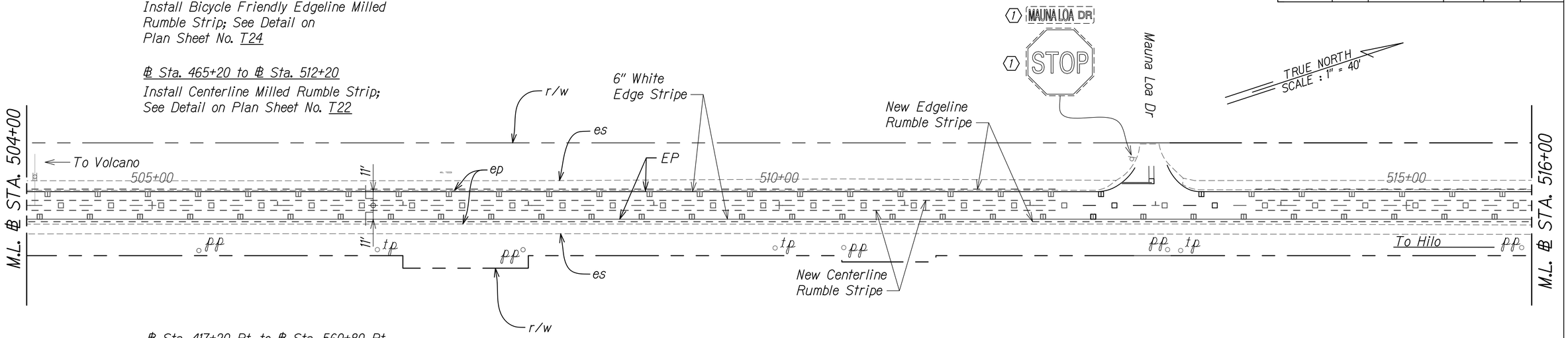
FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	47	53

℄ Sta. 465+20 Lt. to ℄ Sta. 512+20 Lt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 465+20 to ℄ Sta. 512+20

Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22



℄ Sta. 417+20 Rt. to ℄ Sta. 560+80 Rt.

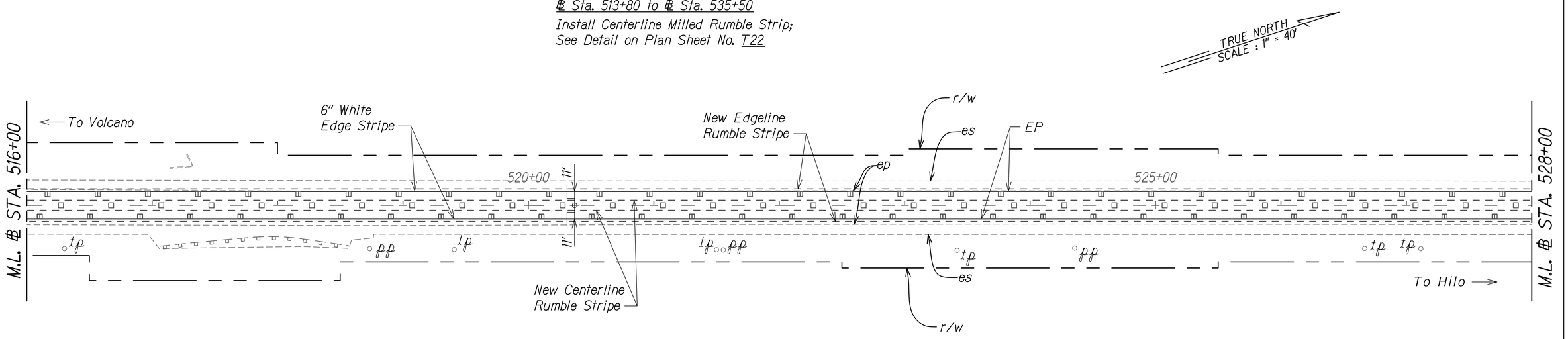
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 513+80 Lt. to ℄ Sta. 535+50 Lt.

Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 513+80 to ℄ Sta. 535+50

Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22



KEY:

1. Exist. Sign(s) & Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

ORIGINAL PLAN			
	NOTE BOOK	No.	
	PLOTTED BY	<NAME>	DATE
	DRAWN BY	<Name>	
	TRACED BY	<Name>	
	DESIGNED BY	<Name>	
	QUANTITIES BY	<Name>	
	CHECKED BY	<Name>	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T18 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	48	53

℄ Sta. 513+80 Lt. to ℄ Sta. 535+50 Lt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 513+80 to ℄ Sta. 535+50
Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

(Bi-Directional)
③ MILE 17.5 11
D10-2a (10"x36")
D10-7 (10"x7")
RM-3

To Volcano
ep
530+00
11'
11'
6" White Edge Stripe
New Edgeline Rumble Stripe
EP
535+00
r/w
es
New Centerline Rumble Stripe
es
r/w
To Hilo
M.L. ℄ STA. 528+00
M.L. ℄ STA. 540+00

① MAUNA KEA DR

① STOP

Mauna Kea Dr.

TRUE NORTH
SCALE : 1" = 40'

℄ Sta. 537+35 Lt. to ℄ Sta. 585+50 Lt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 537+35 to ℄ Sta. 560+80
Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

℄ Sta. 417+20 Rt. to ℄ Sta. 560+80 Rt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

① MAUNA KEA DR

① MAUNA KEA DR

TRUE NORTH
SCALE : 1" = 40'

M.L. ℄ STA. 540+00
+00
To Volcano
ep
r/w
es
EP
545+00
11'
11'
550+00
New Edgeline Rumble Stripe
es
r/w
6" White Edge Stripe
New Centerline Rumble Stripe
To Hilo
M.L. ℄ STA. 552+00

KEY:
① Exist. Sign(s) & Post(s) to Remain
② Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
③ Install New Sign(s) & Post(s)
④ Install New Sign(s)

ORIGINAL PLAN
NOTE BOOK
No. ____
PLOTTED BY <NAME> DATE
DRAWN BY <Name>
TRACED BY <Name>
DESIGNED BY <Name>
QUANTITIES BY <Name>
CHECKED BY <Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

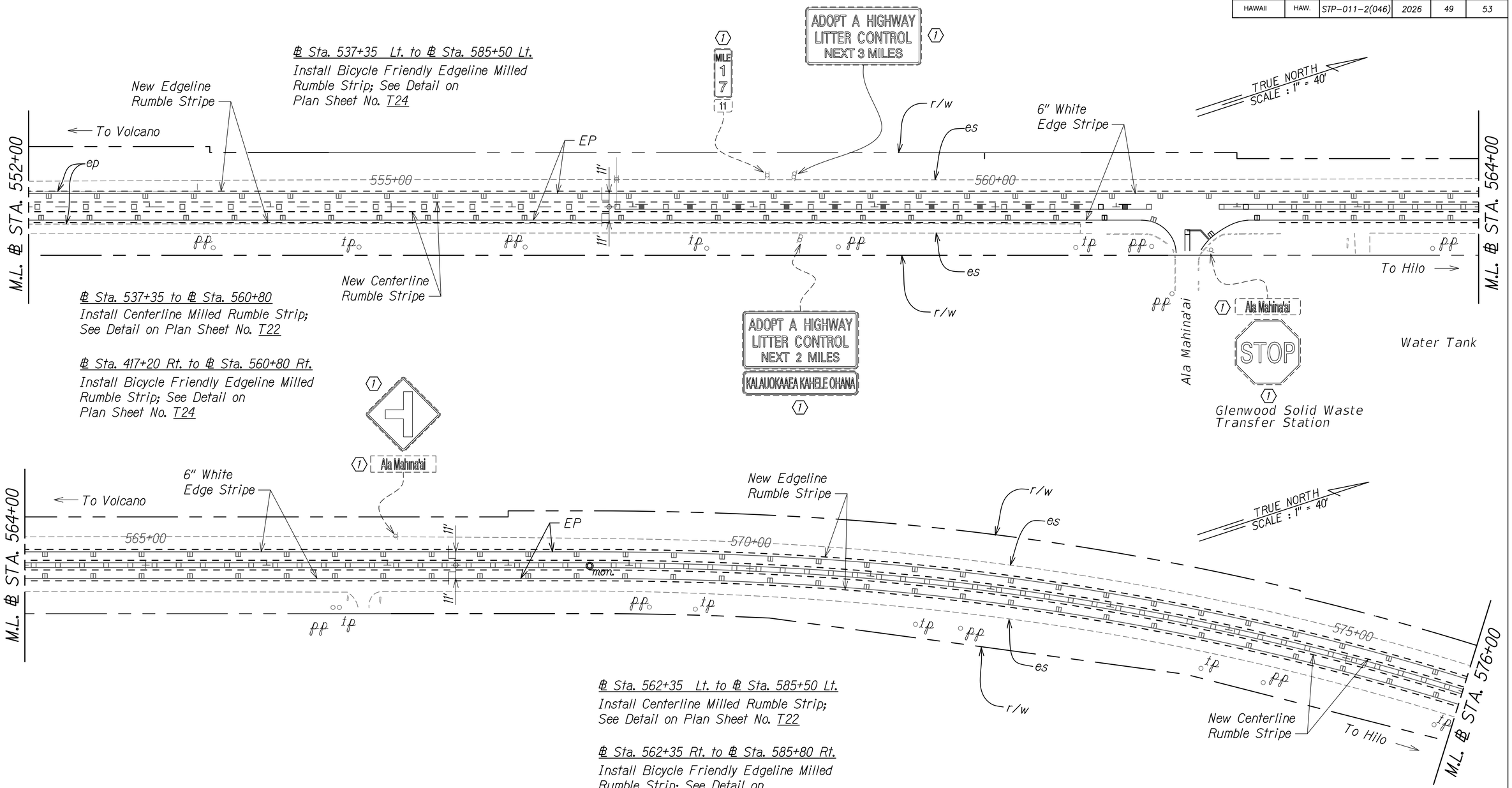
PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T19 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	49	53



KEY:

1. Exist. Sign(s) & Post(s) to Remain
2. Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
3. Install New Sign(s) & Post(s)
4. Install New Sign(s)

ORIGINAL PLAN

NOTE BOOK

PLOTTED BY <NAME> DATE
DRAWN BY <Name>
TRACED BY <Name>
DESIGNED BY <Name>
QUANTITIES BY <Name>
CHECKED BY <Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T20 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	50	53

℄ Sta. 537+35 Lt. to ℄ Sta. 585+50 Lt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

℄ Sta. 562+35 to ℄ Sta. 585+50
Install Centerline Milled Rumble Strip; See Detail on Plan Sheet No. T22

(Bi-Directional)

③ MILE 1 6 .5 — D10-2a (10"x36")
11 — D10-7 (10"x7")
RM-3

TRUE NORTH
SCALE : 1" = 40'

New Edgeline Rumble Stripe
To Volcano
EP
6" White Edge Stripe
① ELEVATION 2000 ft 610 m
r/w
es
11'
580+00
mon.
New Centerline Rumble Stripe
M.L. ℄ STA. 576+00
M.L. ℄ STA. 585+00
585
To Hilo

℄ Sta. 562+35 Rt. to ℄ Sta. 585+50 Rt.
Install Bicycle Friendly Edgeline Milled Rumble Strip; See Detail on Plan Sheet No. T24

① OSHIRO RD

END PROJECT
Volcano Road
℄ Sta. 587+00.0

③ W8-14a (36"x36") — BEGIN CENTERLINE RUMBLE STRIP — RM-3

① N. OSHIRO RD
① STOP
New Edgeline Rumble Stripe
To Volcano
N. Oshiro Rd.
M.L. ℄ STA. 585+00
+00
11'
mon.
590
500'
③ W8-14b (36"x36") — END CENTERLINE RUMBLE STRIP — RM-3
New Centerline Rumble Stripe
Oshiro Rd. ℄ Sta. 586+48.61 (BK) = ℄ Sta. 586+50.00 (AH)
OSHIRO RD ① STOP ④ EQ.
11 ①
TRUE NORTH
SCALE : 1" = 40'
Tie Into Exist. Pav't Markings
6" White Edge Stripe
To Hilo

③ ROAD WORK AHEAD — Install CW20-1Ad 48"x48" w/Two Steel Posts — Type II OM — Type II OM

Install CG20-2A 48"x24" w/Two Steel Posts
③ END ROAD WORK — Type II OM — Type II OM

KEY:
① Exist. Sign(s) & Post(s) to Remain
② Remove Exist. Sign(s) w/ Post(s) & Install New Sign(s) w/ Post(s)
③ Install New Sign(s) & Post(s)
④ Install New Sign(s)

ORIGINAL PLAN		
NOTE BOOK		
	PLOTTED BY	<NAME> DATE
	DRAWN BY	<Name>
	TRACED BY	<Name>
	DESIGNED BY	<Name>
	QUANTITIES BY	<Name>
	CHECKED BY	<Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

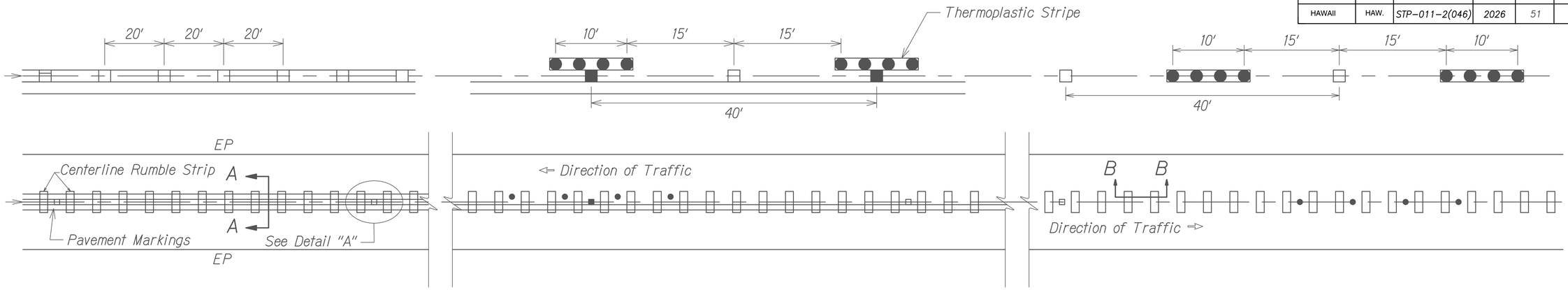
PAVEMENT MARKING & SIGNING PLAN

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

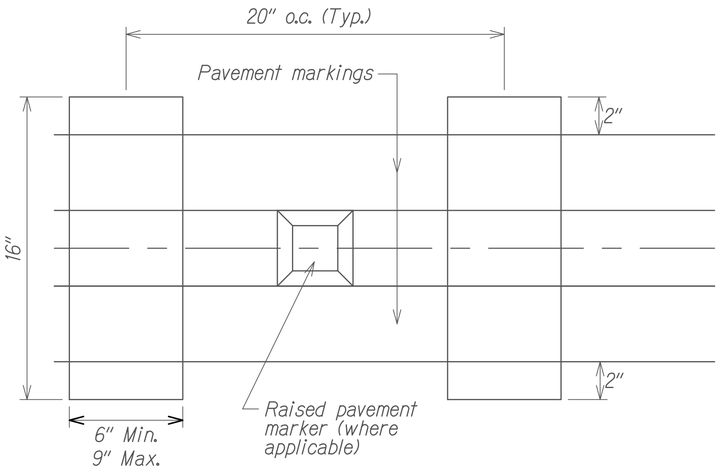
Scale: 1" = 40' Date: Jun., 2026

SHEET No. T21 OF 24 SHEETS

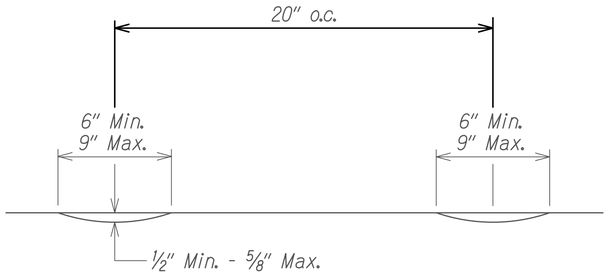
FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	51	53



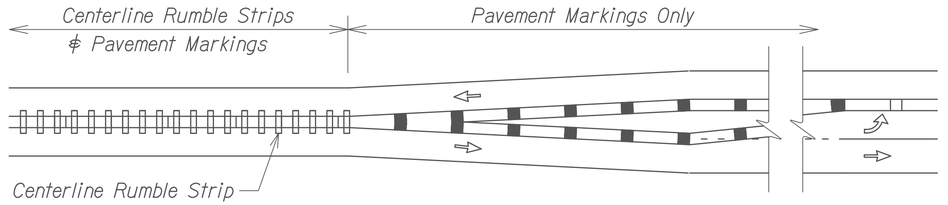
PLAN - CENTERLINE MILLED RUMBLE STRIP
Not to Scale



DETAIL "A"
Not to Scale



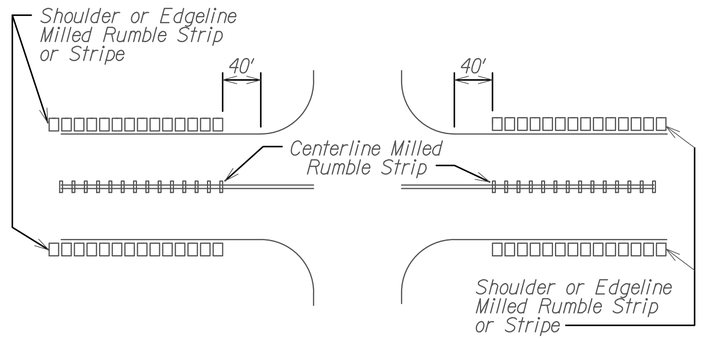
SECTION B-B - CENTERLINE MILLED RUMBLE STRIP
Not to Scale



CENTERLINE MILLED RUMBLE STRIP INSTALLATION LIMIT
Not to Scale

NOTES:

1. The method of constructing the centerline milled rumble strip shall be submitted to the Engineer for acceptance prior to the actual work.
2. Dimensions shown are approximate. Adjust rumble strip spacing to coordinate with pavement markings prior to installation.
3. Raised pavement markers shall be installed on level surface between the rumble strips. Do not install raised pavement markers inside the milled area.
4. The construction of the centerline milled rumble strip shall be paid for under Item No. 615.0100 - 16-inch Milled Rumble Strip, Centerline.
5. The milling apparatus and removal of existing pavement markings will not be paid for separately and shall be considered incidental to Item 615.0100 - 16-Inch Milled Rumble Strip, Centerline.
6. Do not install centerline rumble strips on bridge decks.
7. Where at-grade bridges are present, rumble strips shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.
8. Contractor shall install temporary striping after milling rumble strip by end of work day.
9. Hot spray thermoplastic shall be used for solid line markings within the milled centerline rumble strip area.



MILLED RUMBLE STRIP INSTALLATION LIMITS
Not to Scale

ORIGINAL PLAN	PLOTTED BY <NAME> DATE
	DRAWN BY <Name>
	TRACED BY <Name>
NOTE BOOK	DESIGNED BY <Name>
	QUANTITIES BY <Name>
No.	CHECKED BY <Name>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

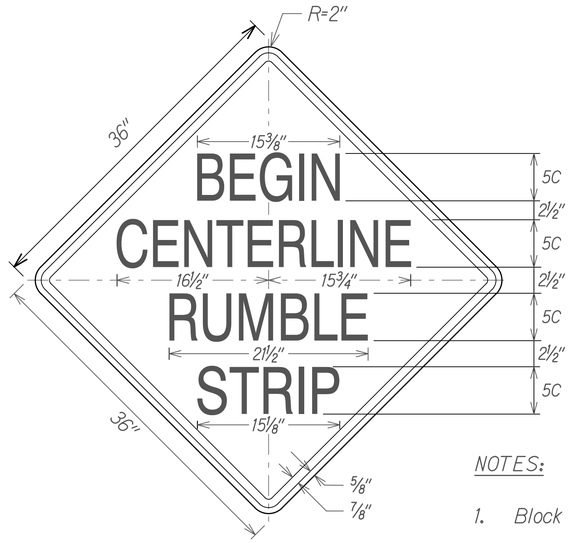
CENTERLINE MILLED RUMBLE STRIP DETAIL

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

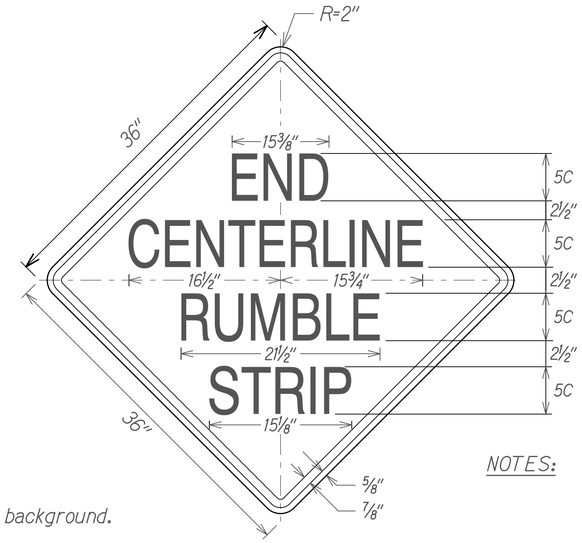
Scale: 1" = 40′ Date: Jun., 2026

SHEET No. T22 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	52	53



W8-14a



W8-14b

NOTES:

1. Block legend on reflectorized yellow background.
2. Begin Centerline Rumble Strip Signs shall be installed 50 feet before the first rumble strip depression. End Centerline Rumble Strip Signs shall be installed 50 feet beyond the last rumble strip depression.

NOTES:

SIGN NOTES

1. All signs shall conform to Section 631 of the Special Provisions and the latest editions and amendments of the following FHWA publications:
   a. "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD)
   b. "Standard Highway Signs"
   c. "Standard Alphabets for Highway Signs"
2. Borders, messages, arrows, symbols and shield shall conform to details as shown on the plans and as specified in the MUTCD.
3. Sign messages shall be as indicated on the plan, or as directed by the Engineer.
4. Backing for all new Regulatory and Warning Signs shall not be spliced.
5. Final locations of all signs shall be accepted by the Engineer prior to any installation work.
6. Existing signs that are to be replaced, shall not be removed until new signs are installed as replacements, or the messages are no longer necessary.
7. 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 designed on these plans shall be incidental to the various signings items.
8. All signs shall be installed on square tube posts, unless otherwise noted.
9. For centerline rumble strip sign (Shown on this sheet) each sign post shall have a Type II OM. Installation of Type II OM shall be considered incidental to sign items.
10. For all other new sign installations with post(s), each sign post shall have a RM-3 reflector marker. Installation of RM-3 shall be considered incidental to Sign Items.
11. Contractor shall mark the back of all signs using labels. Payment to be incdidental to various contract items

ORIGINAL PLAN	PLOTTED BY	<NAME>	DATE
NOTE BOOK	DRAWN BY	<Name>	
No.	TRACED BY	<Name>	
	DESIGNED BY	<Name>	
	QUANTITIES BY	<Name>	
	CHECKED BY	<Name>	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

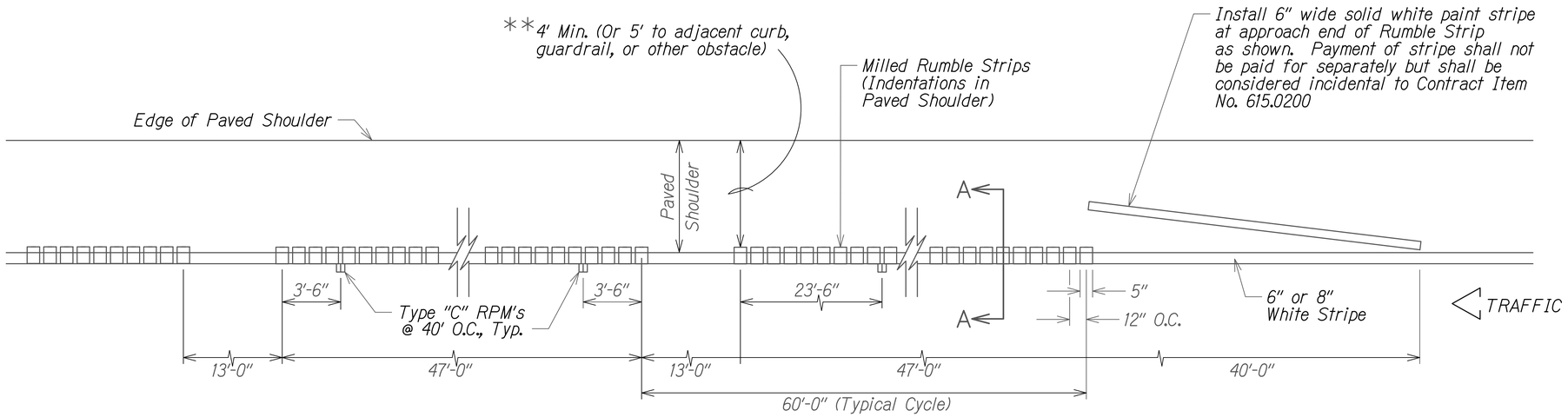
CENTERLINE RUMBLE STRIP
SIGN DETAILS AND NOTES

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

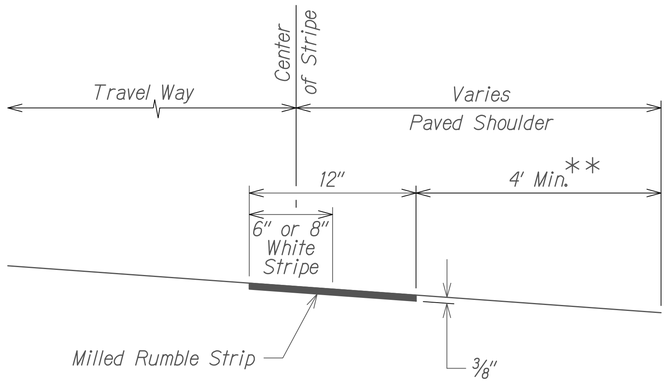
Scale: 1" = 40' Date: Jun., 2026

SHEET No. T23 OF 24 SHEETS

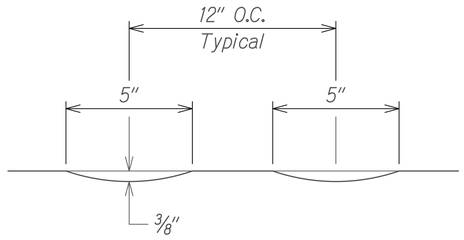
FED. ROAD DIST. NO.	STATE	FED. AID. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-011-2(046)	2026	53	53



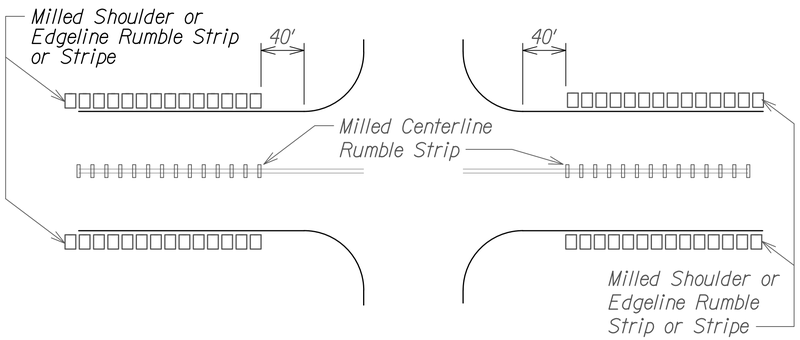
PLAN
Not to Scale



SECTION A-A
Not to Scale



CROSS SECTION
Not to Scale



INSTALLATION LIMITS
Not to Scale

NOTES:

1. Bicycle Friendly milled edgeline rumble strip shall not be installed where shoulder serves as a part time shoulder lane.

**2. Bicycle Friendly milled edgeline rumble strip should not be used unless 4 feet of clear shoulder width for bicycle use is available between the rumble strips and the outer edge of the paved shoulder.

3. Do not place Type "C" markers within 2 feet of the 13 feet rumble Strip opening.

4. Where at-grade bridges are present, rumble strip shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.

5. The construction of the Shoulder Rumble Strip shall be paid for under Item No. 615.0200 - 12-inch Milled Rumble Strip, Bicycle Friendly Edgeline.

6. The milling apparatus will no be paid for separately and shall be considered incidental to the various Millled Rumble Strip items.

7. Hot spray thermoplastic shall be used tor solid line marking within the milled edgeline rumble strip area.

ORIGINAL PLAN		DATE
	PLOTTED BY	<NAME>
	DRAWN BY	<Name>
	TRACED BY	<Name>
NOTE BOOK	DESIGNED BY	<Name>
	QUANTITIES BY	<Name>
No.	CHECKED BY	<Name>

BICYCLE FRIENDLY MILLED EDGELINE RUMBLE STRIPS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BICYCLE FRIENDLY MILLED EDGELINE RUMBLE STRIP DETAILS

VOLCANO ROAD REHABILITATION
Oshiro Road to Alii Koa Street
FEDERAL AID PROJECT NO. STP-011-2(046)

Scale: 1" = 40' Date: Jun., 2026

SHEET No. T24 OF 24 SHEETS