INDEX TO DRAWINGS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STANDARD PLANS SUMMARY
3-4	GENERAL NOTES
5	ABBREVIATIONS & LEGEND
6-7	WATER POLLUTION & EROSION CONTROL NOTES
8	ROCKFALL PROTECTION FENCE NOTES
9	FENCING PLAN
10	TYPICAL SECTION
11-12	FENCING DETAILS
13	EROSION MAT DETAILS
14-18	TRAFFIC CONTROL PLAN
19	LOW SPEED UNDIVIDED HIGHWAY WORK ZONE SIGNING PLAN, NOTES & DETAILS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	1	19

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

HONOLULU, HAWAII

PLANS FOR

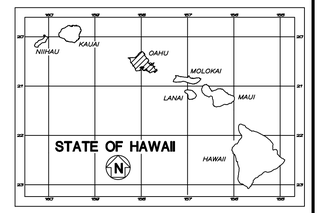
KAMEHAMEHA HIGHWAY

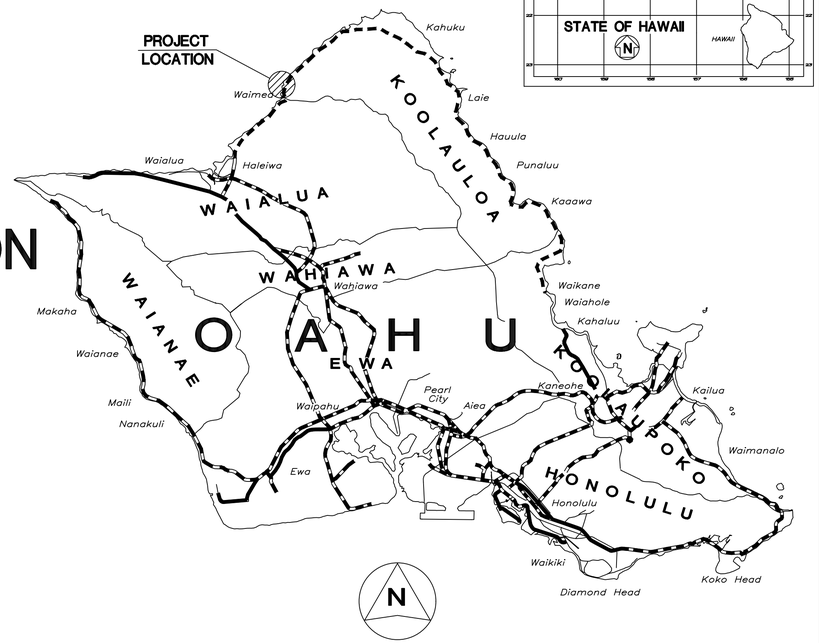
WAIMEA BAY ROCKFALL PROTECTION PHASE 2

FEDERAL AID PROJECT NO. NH-083-1(090)

DISTRICT OF KOOLAULOA

ISLAND OF OAHU

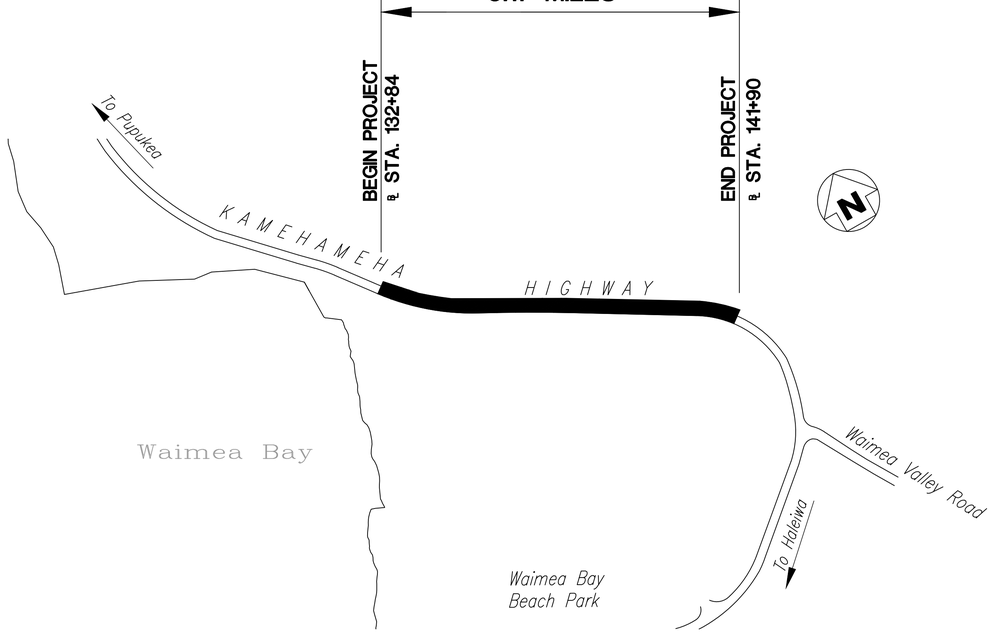




4 0 4 8

SCALE IN MILES

MILE POST 5.50 TO MILE POST 5.75



LAYOUT PLAN

SCALE: 1" = 200'

200 0 200 400

SCALE: 1"=200'

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED:

For DIR. OF TRANSPORTATION — DATE 12/10/2025

AECOM — DESIGNED BY

HWY-DS — MANAGED BY

521-3051 — PHONE

December 2025 — DATE

ORIGINAL PLAN

NOTE BOOK

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

No. _____

STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	2	19

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
TE-13	STREET NAME SIGN ON MAST ARM	07/11/08
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

STANDARD PLAN NO.	TITLE	DATE
	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
TE-32	TYPE I & II TRAFFIC SIGNAL SYSTEM MISC. DETAILS	05/31/07
TE-33	TYPE II TRAFFIC SIGNAL SYSTEM	08/16/06
TE-33A.1	TYPE II TRAFFIC SIGNAL STANDARD	05/31/07
TE-33A.2	TYPE II TRAFFIC SIGNAL STANDARD	05/31/07
TE-34	LOOP DETECTOR DETAILS	07/11/08
TE-35	LOOP DETECTORS & DUCT DETAILS	07/11/08
TE-36	TRAFFIC SIGNAL DETAILS	07/11/08
TE-37	PULLBOX & COVER DETAILS	07/11/08
TE-37A	TYPE "A" TRAFFIC PULLBOX	05/31/07
TE-37B	TYPE "A" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37C	TYPE "B" TRAFFIC PULLBOX	05/31/07
TE-37D	TYPE "B" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37E	TYPE "B" TRAFFIC PULLBOX FOUNDATION	05/31/07
TE-37F	TYPE "C" TRAFFIC PULLBOX	05/31/07
TE-37G	TYPE "C" TRAFFIC PULLBOX REINFORCING	05/31/07
TE-37H	TYPE "C" TRAFFIC PULLBOX FOUNDATION	05/31/07
TE-37J	TRAFFIC PULLBOX COVER AND DETAILS	05/31/07
TE-38	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
TE-38A.1	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
TE-38A.2	TYPE III TRAFFIC SIGNAL STANDARD	05/31/07
TE-39	METAL GUARDRAIL CONNECTION TO CONCRETE BARRIER	07/11/08
TE-40	CONCRETE BARRIER TRANSITION	05/31/07
TE-40A	CONCRETE BARRIER TRANSITION SECTIONS	05/31/07
TE-41	GUARDRAIL TYPE 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 ●)

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMMARY
KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)
Date: December 2025

SHEET No. 1 OF 1 SHEETS

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	3	19

GENERAL NOTES:

1. The scope of work consists of the removal of an existing rockfall protection fence and installation of a new rockfall protection fence.

2. The Contractor is reminded of the requirements of Subsection 105.16 – Subcontracts, which requires him/her to perform work amounting to not less than 30 percent of the total contract cost less deductible items. Non-compliance with this Subsection may be grounds for rejection of bid.

3. The Contractor's attention is directed to the following Sections of the Standard Specifications and Special Provisions: Subsection 107.06 – Contractor Duty Regarding Public Convenience; Subsection 107.11 – Safety: Accident Prevention; Subsection 107.12 – Protection of Persons and Property; and Section 645 – Work Zone Traffic Control.

4. 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. The Contractor shall also clean up construction debris generated from project work on a daily basis.

5. The existence and location of underground utilities, manholes, monuments, and structures as shown in 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 or government agencies to verify the exact locations and depths of the existing utilities and obstructions. The Contractor shall exercise proper care in excavating 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. 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 and shall include all upgrades and betterments to the standards of the utility or agency.

6. The existing drainage system will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to various contract items.

7. All saw cutting work shall be considered incidental to structural excavation or roadway excavation.

8. The Contractor shall comply with the directives of the State of Hawaii Occupational Safety And Health Law (HIOSH). Any citation (fine) received by the State for noncompliance by the Contractor shall be deducted from the progress payment.

9. The Contractor shall follow the requirements of various permits and Best Management Practices (BMP) during the construction.

10. No work or equipment shall take place or be located within 10' of any overhead wires or any HECO utility pole without prior acceptance from the Engineer and HECO. No excavation shall take place within 5' of any HECO utility pole without prior acceptance from the Engineer and HECO.

11. The Contractor is advised that in addition to other Contractors working in the same areas, various utility companies (or their contractors) including Hawaiian Electric Company, Hawaiian Telcom, Spectrum, Hawaii Gas, and the Board of Water Supply (BWS) may be performing work within the project area. Comply with Subsection 105.09 Coordination Between the Contractors.

12. The Contractor shall coordinate all work with other Contractors in the areas.

13. Smooth riding connections shall be constructed at all limits of the project, including the beginning and end of project, connecting approaches, side streets, driveways and all trench repairs as shown on the plans and/or as directed by the Engineer. Test in the presence of the Engineer with a 12-foot straight edge all pavement surface areas mentioned. It shall not vary more than 1/8 inch from the lower edge of a straightedge. Driveways may be excluded by the Engineer and another method used.

14. All necessary construction permits shall be obtained by the Contractor at his own cost. All environmental permits will be obtained by the State prior to start of the work.

15. All monuments shall be preserved during all construction phases whenever the center of a survey monument is less than three (3) feet from the edge of construction. The Contractor shall retain a Hawaii Licensed Surveyor to reference the location of said survey monument. If monuments are disturbed or destroyed, the Cadastral Engineering Section (HWY-DC) shall be notified prior to groundbreaking. Reconciliation to the Right-of-Way Baseline and/or a boundary study and determination may be required prior to re-installation of the disturbed or destroyed monuments. HWY-DC shall be contacted for guidelines and procedures. As to construction, a State of Hawaii Licensed Surveyor shall perform the location and staking of the reset monument. The DOT Standard Plans & Specifications, with the exception of NGS monuments which shall have a NGS approved "brass disk" marker, shall be referenced for the monument type and materials.

16. Any NGS vertical monuments that are deemed necessary for relocation due to construction shall follow the NGS benchmark reset procedures written by Curtis Smith dated September 2010 or newer. All work must be done by an electronic digital level that is acceptable by NGS for second-order class one or higher work. The surveyor must use two one-piece invar barcode rods with current certifications with struts with 15 lbs turning plate or turtles; and/or turning pin with driving cap and temperature readings. Contact NGS prior to any work to ensure all equipment meets reset specifications. A State of Hawaii Licensed Surveyor shall perform the relocation. All work must be submitted both in electronic and hard copy formats to NGS and HWY-DC. All monument work shall be considered incidental to this project.

17. The Contractor shall indemnify the State and its agents officially working on its behalf and be solely responsible for the protection of adjacent properties, utilities, curbs, sidewalks, and existing structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense. All repaired work shall be approved in writing by the Engineer.

18. The Contractor shall observe and comply with the administrative rules of The Department of Health regarding noise control of Oahu.

19. All public notices and advertisements for roadway closures due to this project shall be incidental to lump sum traffic control item 645.0100 – Traffic Control, and shall not be paid separately, unless otherwise directed by Engineer.

20. All work specified in the Contract but not listed separately in the proposal schedule shall be considered incidental to the various contract items and shall not be paid for separately.

21. The Contractor shall independently tone areas of excavation not more than 30 days prior to excavation. Provide written notice of scheduled toning and specific locations to the Engineer at least one week ahead of toning. The Contractor shall obtain DOT as-builts at the DOT Kapolei Kakuhihewa Building to locate potential conflicts with utilities prior to excavation. If there is a potential conflict, contractor shall inform DOT within 24 hours of discovery. Contractor shall probe around area and take precautions to not damage utilities. This work shall be incidental to various contract items and shall not be paid for separately.

22. Submit requests for detours, ramp, and lane closures in accordance with Hawaii Standard Specification Subsection 645.03(F). Refer to minimum time frames required for implementation.

23. The Contractor is reminded to call the Hawaii One Call Center at (866) 423-7287 prior to starting any excavation work. The Contractor shall contact Hawaii One Call Center to have respective utility companies and agencies mark where their underground utilities are located. The Contractor shall comply with all requirements of Hawaii One Call law. The Contractor shall be liable for any damage if Hawaii One Call requirements are not strictly adhered to. 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.

24. If the traffic control plan or any traffic control device is not installed per plan, specification, or is deemed unsafe, the Engineer reserves the right to shut down the work at no additional cost/time to the State or withhold payment.

25. The Contractor shall provide oversight for quality control of work. The Contractor shall submit copies of all measurements and test results to the Engineer once obtained. This includes, but not limited to, strength, compaction, density, and core data for concrete, asphalt, and soils. All sampling and testing shall be done by a person certified in the material test method. Submit certifications to the Engineer prior to testing.

26. The exact locations and limits of areas to be excavated or cleared shall be located in the field by the Contractor and accepted by the Engineer. The Contractor shall not begin any work until the Engineer verifies and accepts the location and limits of the area. Any area that is not accepted by the Engineer will be considered unauthorized work and shall not be paid for.

27. The Contractor shall verify the presence of existing utilities which may conflict with construction activities and shall coordinate with the utility company for temporary relocation, as necessary. All costs associated with the temporary relocation shall be borne by the Contractor and shall be incidental to the various pay items.

28. The Contractor shall comply with utility coordination requirements per Standard Specification Section 104.11. As part of coordination requirements, the Contractor shall carbon copy the Engineer in all correspondences with utility agencies.

29. The Contractor shall inform the Engineer of all scheduled work to facilitate inspection per Subsection 105.11 – Inspection of the Work and Materials. See schedule requirements in Subsections 108.06 – Progress Schedules and 108.07 – Weekly Meetings. Failure to inform the Engineer shall result in withholding payment or the work being considered unauthorized and subject to Subsection 105.12 – Removal of Non-Conforming and Unauthorized Work.

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

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES – 1

KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Date: December 2025

SHEET No. 1 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	4	19

GENERAL NOTES (CON'T):

30. If not shown in the project plans, the Contractor shall provide any traffic control plan that is needed to accomplish the work. Submit traffic control plans for review and approval. This work shall be considered incidental to lump sum traffic control item 645.0100 – Traffic Control and show not be paid for separately.

31. The Contractor shall implement a one-lane, two-way operation with flaggers during approved lane closure periods. Construction will take place at night between the hours of 8:00 pm to 5:00 am, Sunday through Thursday nights.

32. Lane closures that are unauthorized or not on the approved lane closure schedule will not be allowed and shall be subject to rental fees in accordance with Subsection 108.09.

33. All materials shall be new and free of defects, such as rust, damage, or corrosion. The Engineer will determine acceptability. No payment will be made for material that is not accepted by the Engineer.

34. The Contractor shall allow access to all materials that will be used in the project for inspection and/or testing (this includes but is not limited to access the project site, access to contractor or subcontractor's base yards, manufacturer yard, production plant, separate storage areas). The Engineer reserves the right to reject any material for which access or inspection is not allowed.

35. The Permit to Perform Work Upon State Highway may be suspended or revoked due to non-compliance with any of the permit conditions therein, including, but not limited to:

    a) Performing work or implementing lane closures before or after permitted hours.
    b) Failure to maintain roadway surfaces in a smooth and safe condition.
    c) Failure to clean up construction debris generated from project work.
    d) Failure to provide proper traffic control.
    e) Failure to replace damaged pavement markings and signs.
    f) Failure to maintain highway lights and/or traffic signal systems.
    g) Failure to maintain or install traffic control devices.
    h) Failure to address public complaints as approved by the Engineer.
    i) Unauthorized lane closures.

35. All material generated by the project and taken off-site shall be considered solid waste. The Contractor shall dispose of all removed material at an approved Department of Health waste management facility. Provide a copy of all the disposal receipts from the facility permitted by the Department of Health to receive solid waste to the Engineer by the last day of the month. Provide documentation from any intermediary facility where solid waste is handled or processed, haul tags, or any documentation as requested by the Engineer. If the Contractor elects to reclassify material as inert full, DOH HEER testing guidance shall be followed at no additional cost to the State. No material generated from this project shall be classified as inert fill material for reuse without testing, obtaining required approvals/permits, providing disposal locations/quantities, and obtaining prior written approval from the engineer. Failure to comply with these requirements may result in fines/liquidated damages in accordance with Special Provisions Section 209 and HDOT's Enforcement Response Plan.

36. Prior to paving or demolition operations, the Contractor shall be responsible for locating, preserving, referencing, and marking all utility and highway facilities that will require adjustments to the new finished grade. The Contractor shall coordinate with the Engineer for site verification and subsequently submit a list of all items to be adjusted to the new finished grade. Coordination with state Construction Surveyor shall be done separately.

37. The Contractor shall develop construction phasing strategies to accomplish construction activities and shall be accepted by HDOT prior to implementation.

38. All dimensions and details shown on the drawings shall be checked and verified by the Contractor prior to the start of construction, and any discrepancies shall be immediately brought to the attention of the Engineer for clarification in writing. Any additional costs due to misinterpretation of any of the contract documents as determined by HDOT shall be absorbed by the Contractor.

39. Contractor shall inspect and verify all construction dimensions carefully and inform the Engineer in case there are any discrepancies.

40. The terms "Engineer" or "State" used in these documents are interchangeable and shall be defined as the State of Hawaii officer-in-charge including all personnel authorized for this project.

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

42. The Contractor shall be responsible for conformance with the applicable provisions of the water quality and water pollution control standards contained in Hawaii Administrative Rules, Title 11, Chapter 54, "Water Quality Standards" and Title 11, Chapter 55, "Water Pollution Control", as well as Chapter 14 of the Revised Ordinances of Honolulu, as amended. Best management practices shall be employed at all times during construction

43. Contractors working at height – A fall protection plan is required whenever a worker is working at height. Any task to be performed that involves risk of fall from 6 feet or higher is considered as working at height and requires the use of some form of industry approved fall protection. Workers affected by the fall protection plan shall be trained in all its elements and the plan shall be made available to them all. All workers working at height or on steep slopes are required to have a certificate of training or training refresher course from an independent government approved or commercial training facility for working at height dated within 12 months prior to work on steep slopes. The Contractor shall be responsible for safety rock scaling and to perform their work safely and at no additional cost to the State.

44. Any rock scaling or removal of potentially loose rocks within the vicinity of the project area, which may be considered necessary for successful performance of work and protection of the Contractor's working crew and inspection team, shall be performed by the Contractor with prior approval by the State and at no additional cost to the State.

45. Endangered Species Act listed species that may occur in the project area. The Contractor shall comply with all requirements for the protection of endangered species listed in Section 671 of the Standard Specifications.

46. The Contractor shall comply with all environmental mitigation measures and commitments as identified in the project permits and consultations (i.e. National Historic Preservation Act Section 106, Endangered Species Act Section 7, Essential Fish Habitat, Division of Aquatic Resources 195D, Division of Forestry and Wildlife 195D, HRS Chapter 6E, and Archaeological Monitoring Plan).

HAWAII ONE CALL CENTER:

1. Before conducting 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 Contractor plans to excavate in white and label all of the other utilities 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.

ARCHAEOLOGICAL NOTES:

1. In the event that an archaeological or historic structure within the work area is inadvertently damaged during construction, cease work in the vicinity of the site and notify the Engineer and the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources of the damage. SHPD will determine the appropriate mitigation measures. The Contractor shall comply with Standard Specification Section 212 – Archeological Monitoring.

2. In the event that a previously unknown archaeological feature is exposed by construction, cease work in the vicinity of the new feature and notify the Engineer and SHPD of the new discovery.

3. In the event that previously unknown human remains are exposed by construction, cease all work in the area of the remains, and protect the area with an appropriate material. Notify the Engineer and SHPD at 692-8015.

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

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

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

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES – 2

KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Date: December 2025

SHEET No. 2 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	5	19

BOARD OF WATER SUPPLY NOTES:

1. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the Standard Specifications for Road and Bride Construction, Dated 2005, as amended, of the Hawaii Highways Division, Department of Transportation, and the City and County of Honolulu Board of Water Supply's "WATER SYSTEM STANDARDS", DATED 2002, THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 2021, and all subsequent amendments and additions.

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

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

4. The existence and location of underground utilities and structures as shown on the plans are from the latest available data, but are not guaranteed as to their accuracy or the encountering of other obstacles during the course of the work. The Contractor shall be responsible and pay for all damages to existing utilities. The Contractor shall not assume that where no utilities are shown, that none exist.

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

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

7. The Contractor shall notify Board of Water Supply Capital Projects Division, Construction Section in writing one week prior to commencing construction activities.

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

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

10. Maintain 3'-0" minimum cover for all existing waterlines from new finish grade.

11. Two-way blue reflective hydrant markers Type DB shall be installed at all fire hydrant locations.

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

13. At the electrical/cable/signal ductline water crossings, adjust all electrical/cable/signal ductline elevations to maintain 12" vertical clear separation from all waterlines at no cost to the Board of Water Supply.

14. Maintain the required minimum horizontal clear separation between all water mains, and the nearest electrical/cable/signal ductlines paralleling the water system. Conformance to the Board of Water Supply 2002 Water System Standards as amended shall be at no cost and adhered to.

15. Maintain the required minimum horizontal clear separation between electrical/cable/signal appurtenances, (including any modular units) and the nearest water mains or water appurtenance. Contractor shall field verify for any conflicts at each electrical/cable/signal appurtenance location. Where conflicts occur, the Contractor shall coordinate with the project engineer to revise the electrical/cable/signal appurtenance to provide the required clearances. Conformance to the Board of Water Supply 2002 Water System Standards as amended shall be at no cost and adhered to.

PUBLIC HEALTH, SAFETY, AND CONVENIENCE NOTES:

1. The Contractor shall observe and comply with all Federal, State, and Local laws required for the protection of public health and safety and environmental quality.

2. The Contractor, at his own expense, shall keep the project and its surrounding areas free from dust nuisance. The work shall be in conformance with the air pollution control standards and regulations of the State Department of Health. The City may require supplementary measures as necessary.

3. No Contractor shall perform any trenching operation so as to cause falling rocks, soil or debris in any form to fall, slide or flow onto adjoining properties, streets or natural water-courses. Should such violations occur, the cost incurred shall be borne by the Contractor. For any remedial action by the Director, HDOT shall be payable by the Contractor.

4. The Contractor shall provide, install and maintain all necessary signs, lights, flares, barricades, markers, cones, and other protective facilities and shall take all necessary precautions for the protection, convenience, and safety of the public. The Contractor shall apply for a construction permit with a noise pollution control plan if work should extend beyond permitted working hours.

ABBREVIATIONS:

AFG	Above Finished Grade
℄	Base Line
BC	Bottom Curb
cb	Catch Basin
℄	Center Line
CRM	Concrete Rubble Masonry
di	Drain Inlet
Dia.	Diameter
e/p	Existing Edge of Pavement
E/P	Edge of Pavement
e/s	Existing Edge of Shoulder
E/S	Edge of Shoulder
et	Existing Edge of Travel Way
ET	Edge of Travel Way
Exist.	Existing
F'c	Minimum Specified Compressive Strength of Concrete
HDOT	Hawaii Deportment of Transportation
HMA	Hot Mix Asphalt
KAL	Kalanianaole Highway Alignment
LF	Linear Feet
Lt.	Left
MBGR	Existing Metal Beam Guardrail
Max.	Maximum
MGS	Midwest Guardrail System
Min.	Minimum
NGS	National Geodetic Survey
No.	Number
NTS	Not to Scale
NWC	Normal Weight Concrete
o.c.	On Center
O/S, o/s	Offset
PC	Point of Curvature
PCF	Pounds per Cubic Foot
PT	Point of Tangency
P	Property Line
R	Radius
RPM	Raised Pavement Marker
R/W, r/w	Right-of-way
Rt.	Right
SF	Square Feet
Shts.	Sheets
SOH	State of Hawaii
Sta.	Station
TC	Top Curb
Thk.	Thick
TMK	Tax Map Key
Typ.	Typical
UNO	Unless Noted Otherwise

LEGEND

- mon. — Existing Monument
- Existing Traffic Sign
- r/w — Existing Right-of-Way Line
- Existing Fence

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

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ABBREVIATIONS & LEGEND

KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Date: December 2025

SHEET No. 3 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	6	19

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

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

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

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

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

8. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMP requirements and do not constitute an acceptable and/or complete Erosion Control Plan. The Contractor shall incorporate additional BMPs based upon their means and methods considering site conditions and construction sequence in accordance with the Contract Documents including applicable permit document requirements. Cost shall be included in Pay Item 209.0100, Installation, Maintenance, Monitoring, and Removal of BMP."

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 30 calendar days of contract execution. 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 measure weekly. Inspections are only required during the project's normal working hours. The discharge point water classification may be found in the SWPPP.

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

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

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

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

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

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

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

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

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

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

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

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

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

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Date: December 2025

SHEET No. 1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	7	19

WATER POLLUTION AND EROSION CONTROL NOTES (CONTINUED):

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.

E. PERMIT REQUIREMENTS:

1. The calculated land disturbance area for this project based on the construction plans is 0.31 acres not including Contractor Staging and Storage areas. If the total of the disturbed area and the Contractor Staging and Storage area is one acre or greater, the Contractor shall obtain the NPDES Construction Activities Permit using HDOT's latest SWPPP template. See Hawaii Administrative Rules Chapter 11-55, Appendix C for the definition of land disturbance. The Contractor shall be responsible for obtaining the required NPDES Construction Activities Permit and complying with requirements of HAR 11-55 including, but not limited to:
   a. Deadlines for initiating and completing initial stabilization
   b. Increased inspection frequency and installation of rain gage if applicable
   c. Deadlines to initiate and complete repairs to BMPs
   d. Reporting requirements and corrective action reports
2. Comply with all applicable State and Federal Permit conditions.

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. SC-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
No. _____
SURVEY PLOTTED BY _____ DATE
DRAWN BY _____ " " "
TRACED BY _____ " " "
DESIGNED BY _____ " " "
QUANTITIES BY _____ " " "
CHECKED BY _____

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION & EROSION CONTROL NOTES

KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Date: December 2025

SHEET No. 2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	8	19

ROCKFALL PROTECTION FENCE SYSTEM NOTES:

1. Prior to ordering the materials, the Contractor shall stake-out the proposed barrier alignment in the field using Engineer's barrier markings and barrier alignment shown on the site plan as a guide. The Contractor shall not order materials or begin construction until the barrier alignment has been reviewed in the field and approved by the Engineer.

2. The Contractor shall furnish materials, labor and equipment necessary to install the rockfall protection fence system as shown on the plans and as specified below, in place complete and operational.

3. The Contractor shall submit to the Engineer shop drawings, calculations, and test results for the rockfall protection fence system and the fence post foundation as applicable to be used for review and approval. No work shall begin without the Engineer's approval of the above documents.

4. Post foundations shall be designed by an independent Engineer licensed in the State of Hawaii. Foundation design shall be based on design loads provided by the fence manufacturer and the guidelines and requirements referred to by these documents. The Engineer shall be hired and paid for by the Contractor.

5. Effective height of the rockfall protection fence is determined as the overall height from the known existing grade to the top supporting rope of the barrier. If Contractor's construction operation result in a lower finish grade at post location(s), then effective height shall be assumed from the pre-existing grade at the post location to top supporting rope.

6. The rockfall protection fence system shall meet the following:

   A. 4.8m (~16FT.) minimum effective height.

   B. 5000KJ barrier minimum energy design load.

   C. Materials and fabrication shall be to industry standards and shall be by an established manufacturer.

   D. Capable of being installed along a sloped site and up steep grades.

   E. Wire rope anchors shall be field tested to the maximum design loads provided by the manufacturer, see specifications.

   F. No metal portions of the fence system shall be in contact with earth. Clearance between bottom of mesh and ground shall not exceed 6 inches maximum, or as recommended by the Manufacturer, whichever is more stringent.

   G. All steel components, not identified as stainless steel in these documents, including but not limited to steel cables, attachment components, steel bar anchors, miscellaneous materials, etc. shall be hot-dipped galvanized. Hot-dip galvanization shall be per manufacturer and meet the respective ASTM requirements.

   H. The main barrier mesh panels shall be a combination of steel ring net and steel wire meshing. See specifications for details.

   I. All exposed surfaces shall be powder coated flat black to 3 mm thickness. An applied coating of black rubberized paint shall be used in those areas where powder coating has been removed. A certification letter from the powder coating company is required to certify that galvanization of the barrier materials is not damaged in any way during the powder coating process.

   J. At the Contractor's expense, the fence post foundations shall be designed and stamped by an independent civil or structural engineer familiar with the proposed rockfall system and licensed in the State of Hawaii. Post foundation shop drawings, calculations, and other details shall be submitted to the Engineer for review and approval prior to fabrication. The fence post concrete foundation shall be designed such that excavation shall not exceed a maximum of 2.0 feet of native soil and shall be supported by a system of four (min.) grouted micropiles.

   K. The maximum post to post span of the rockfall protection fence shall be 10.0 m (32.8 ft).

   L. The angle between the upslope bracing cable and the post (in a plane formed by the upslope bracing cable and the post) shall be between 45 to 50 degrees.

   M. At its south east end, the proposed rockfall protection fence shall either connect directly to the adjacent existing 16' high rockfall protection fence in a manner approved by the fence manufacturer or be terminated with a manufacturer approved overlap. There shall be no open gaps between the new and existing fence other than through above overlap.

   N. Fence alignment segments shall be limited to a distance of 250 feet (max). Shop drawings shall identify locations of any shared posts, anchors, and the supporting cables.

   O. The fence posts shall typically be supported at the foundation level with a post hinge. The angle of post inclination towards the highway shall be typically limited to 5 degrees (max) from vertical.

   P. Contractor shall have the area between the rockfall protection fence and the cliffs (fall zone) toned for presence of underground utilities. Also, refer to Sheet 3, General Notes – 1, for related information. It is known that an existing 16" diameter waterline is located within the fall zone. Upon identifying the location of the waterline, the Contractor shall mark the location of the ground for inspection by the Engineer. The waterline alignment is expected to cross the rockfall protection fence alignment at the south east end of the site. Contractor shall expose the waterline at this crossing and at every 100' (min.) and at every crossing with the proposed rockfall fence using hand excavation prior to any excavation or micro-pile drilling and make any necessary adjustments to post foundation locations where required. Waterline trench backfill shall adhere to detail P10 in Division 400 – Standard Details of the Board of Water Supply 2002 Water System Standards as amended. The scope of this work shall be performed by the Contractor at no additional cost to the State.

7. Rockfall protection fence system shall be certified by either ETAG 27 (European Standards) or BAFU (Swiss Standards) and shall consist of, but not limited to the following main components: post foundation system; ground plates; steel posts; ring net panels; top and bottom support ropes, and ground anchors. Contractor shall submit all relevant information on proposed system for review and approval prior to ordering materials.

8. Rockfall protection fence system shall be assembled and installed per strict adherence to the manufacturer's written recommendations.

9. Provide the Engineer a schedule of anchor grouting at least 3 days prior to grouting. All anchor installations and grouting operations shall be performed according to the schedule and installation shall be observed by the Engineer. Grouting performed not in the presence of the Engineer shall be grounds for rejection of the anchor. Notify the Engineer in writing at least 3 working days prior for any changes to the scheduled grouting operation.

10. It is anticipated that the contractor may experience difficulties during drilling of the subsurface due to loose and buried rock material at or around the fence area. Contractor shall be responsible to achieve the minimum requirements set forth in the contract documents at no additional cost to the State.

11. Refer to construction plans for the "Kamehameha Highway, Waimea Bay, Emergency Rockfall Remediation (Federal-Aid Project No. STP-083-1(45)" Project for historic geotechnical information.

12. Contractor shall mark locations of all anchors to be drilled to be reviewed and approved by the Engineer. Any work performed to drill and install an anchors without such prior approval shall be subject for rejection.

13. Contractor shall provide a method statement in the form of a report to show how they plan to perform this project, including public safety measures in sufficient details so that the Engineer may review and approve the processes.

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

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROCKFALL PROTECTION FENCE NOTES

KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Date: December 2025

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	9	19

NOTES:

1. Contractor shall phase the removal of existing fence, by section, and install new fence to greatly enhance rockfall protection and coverage to the extent possible during construction. At the end of each working day, the Contractor shall secure the work site and maintain full coverage of the rockfall fence, no gaps, whether with the existing, final, or temporary. Existing fence post foundations to remain if not interfering with proper installation of the new fence.

2. Contractor shall verify location of existing 16-in water main and ensure that a 10-ft minimum clearance between water main and new concrete fence post footing is maintained prior to any excavation activities. The above minimum separation distance between the waterline and the post foundation may be shortened if the site conditions are reviewed and approved by the Engineer in writing.

3. Fence location shown on plan is approximate and the Contractor shall verify with the Engineer for review that the new fence alignment, anchor locations, and limits are all located entirely within the State R/W prior to starting work.

4. Contractor shall remove and maintain existing vegetation away from the fence and along the entire fence for the duration of the project.

5. Fence shall have a minimum effective height of 16-ft and a minimum energy design load of 5,000 KJ.

6. At a minimum, there shall be two (2) micropiles installed on each side of the fence post foundation centerline (total of four (4) micropiles per footing) for the fence post footing, drilled in a 4-inch diameter hole, and with an embedment depth of 25 feet (Min). Anchor bar shall be #10 solid bars, Grade 75 steel, and grout with compressive strength of 5,000 PSI in 3 days. Concrete for the fence post foundation shall have a minimum compressive strength of 4,000 PSI at 28 days. Refer to the project specifications for additional information.

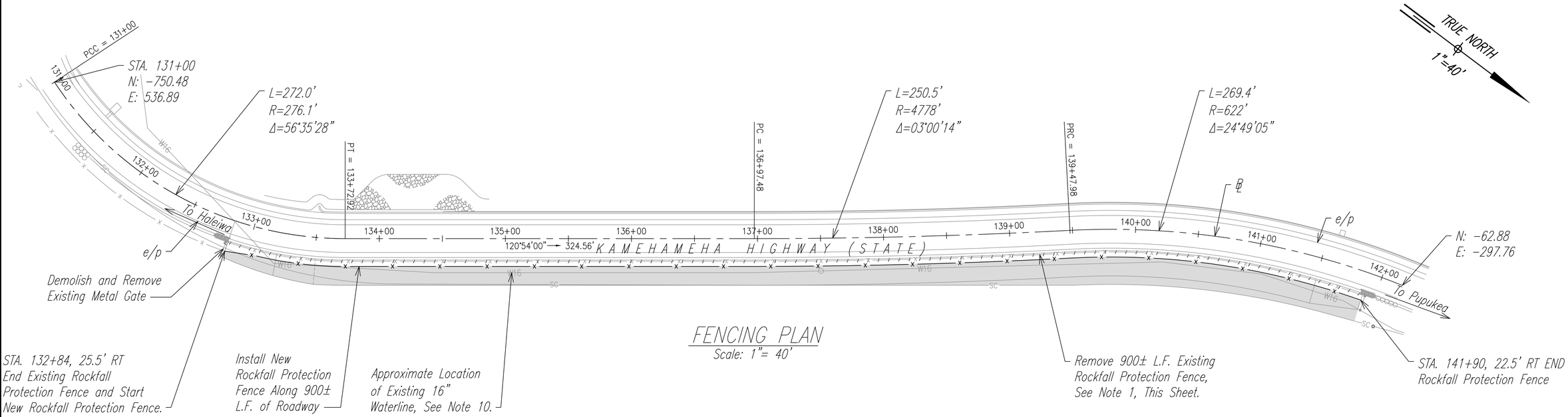
7. The entire catchment area within the limits of the new rockfall protection fence and between the existing concrete barrier and the cliff face shall be cleared of vegetation, trees, fallen rocks and other debris and as needed and shall be covered with erosion matting. Erosion mat shall be North American Green, VMax C350 or approved equal. See details on Sheet 13 In addition, where the upslope ground anchors are marked, all vegetation and fallen rocks and debris shall be removed within a 5 feet radius of the upslope ground anchor location.

8. The maximum depth of excavation for concrete post foundations shall not exceed 2 feet. All excavation for the concrete post foundations shall be performed using hand-tools and without the use of heavy equipment.

9. The Contractor shall clear all fallen rocks and other debris from inland side of the existing fence prior to start of any other work. All fallen rocks, vegetation, trees, and debris shall be removed from the site and taken to an off-site disposal location as coordinated and approved by the State.

10. Contractor shall perform surface toning and mark locations of the existing 16" diameter waterline alignment. For verification purposes, the Contractor shall hand dig the location of the waterline and expose it at every 100 feet (min) and at every crossing of waterline with the new fence prior to installation of the concrete post foundations with no additional cost to the State. See Sheet 8, Note 6P.

11. After marking of locations for the upslope anchors by the Contractor and a closer inspection of the site, the Engineer may require the Contractor in writing to apply a layer of reinforced shotcrete to the cliff at some of the upslope anchor locations per Shotcrete Pad Detail on Sheet 12. Shotcrete will be paid for under line item 628.0100.



FENCING PLAN
Scale: 1"= 40'

LEGEND

- Existing Rockfall Protection Fence
- New Rockfall Protection Fence
- Erosion Control Mat

0 40 80 120
SCALE: 1" = 40' FEET

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

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

4/30/26
SIGNATURE EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FENCING PLAN

KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Scale: 1"=40' Date: December 2025

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	10	19

NOTES:

1. Contractor shall phase the removal of existing fence, by section, and install new fence to greatly enhance rockfall protection and coverage to the extent possible during construction. At the end of each working day, the Contractor shall secure the work site and maintain full coverage of the rockfall fence, no gaps, whether with the existing, final, or temporary. Existing fence post foundations to remain if not interfering with proper installation of the new fence.

2. Contractor shall verify location of existing 16-in water main and ensure that a 10-ft minimum clearance between water main and new concrete fence post footing is maintained prior to any excavation activities. The above minimum separation distance between the waterline and the post foundation may be shortened if the site conditions are reviewed and approved by the Engineer in writing.

3. Fence location shown on plan is approximate and the Contractor shall verify with the Engineer for review that the new fence alignment, anchor locations, and limits are all located entirely within the State R/W prior to starting work.

4. Contractor shall remove and maintain existing vegetation away from the fence and along the entire fence for the duration of the project.

5. Fence shall have a minimum effective height of 16-ft and a minimum energy design load of 5,000 KJ.

6. At a minimum, there shall be two (2) micropiles installed on each side of the fence post foundation centerline (total of four (4) micropiles per footing) for the fence post footing, drilled in a 4-inch diameter hole, and with an embedment depth of 25 feet (Min). Anchor bar shall be #10 solid bars, Grade 75 steel, and grout with compressive strength of 5,000 PSI in 3 days. Concrete for the fence post foundation shall have a minimum compressive strength of 4,000 PSI at 28 days. Refer to the project specifications for additional information.

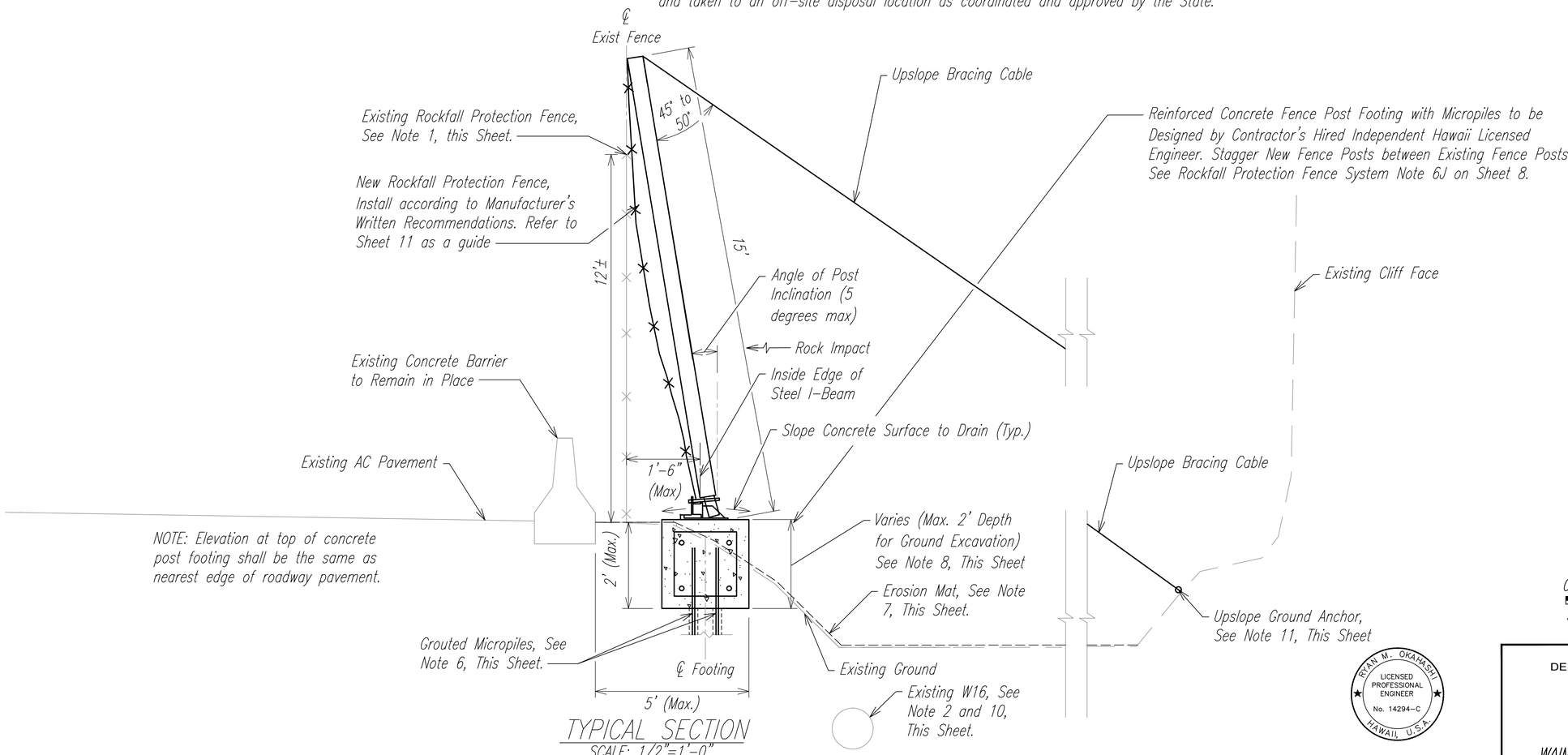
7. The entire catchment area within the limits of the new rockfall protection fence and between the existing concrete barrier and the cliff face shall be cleared of vegetation, trees, fallen rocks and other debris and as needed and shall be covered with erosion matting. Erosion mat shall be North American Green, VMax C350 or approved equal. See details on Sheet 13. In addition, where the upslope ground anchors are marked, all vegetation and fallen rocks and debris shall be removed within a 5 feet radius of the upslope ground anchor location.

8. The maximum depth of excavation for concrete post foundations shall not exceed 2 feet. All excavation for the concrete post foundations shall be performed using hand-tools and without the use of heavy equipment.

9. The Contractor shall clear all fallen rocks and other debris from inland side of the existing fence prior to start of any other work. All fallen rocks, vegetation, trees, and debris shall be removed from the site and taken to an off-site disposal location as coordinated and approved by the State.

10. Contractor shall perform surface toning and mark locations of the existing 16" diameter waterline alignment. For verification purposes, the Contractor shall hand dig the location of the waterline and expose it at every 100 feet (min) and at every crossing of waterline with the new fence prior to installation of the concrete post foundations with no additional cost to the State. See Sheet 8, Note 6P.

11. After marking of locations for the upslope anchors by the Contractor and a closer inspection of the site, the Engineer may require the Contractor in writing to apply a layer of reinforced shotcrete to the cliff at some of the upslope anchor locations per Shotcrete Pad Detail on Sheet 12. Shotcrete will be paid for under line item 628.0100.



TYPICAL SECTION
SCALE: 1/2"=1'-0"

0 2 4 6
SCALE: 1/2" = 1' FEET

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL SECTION

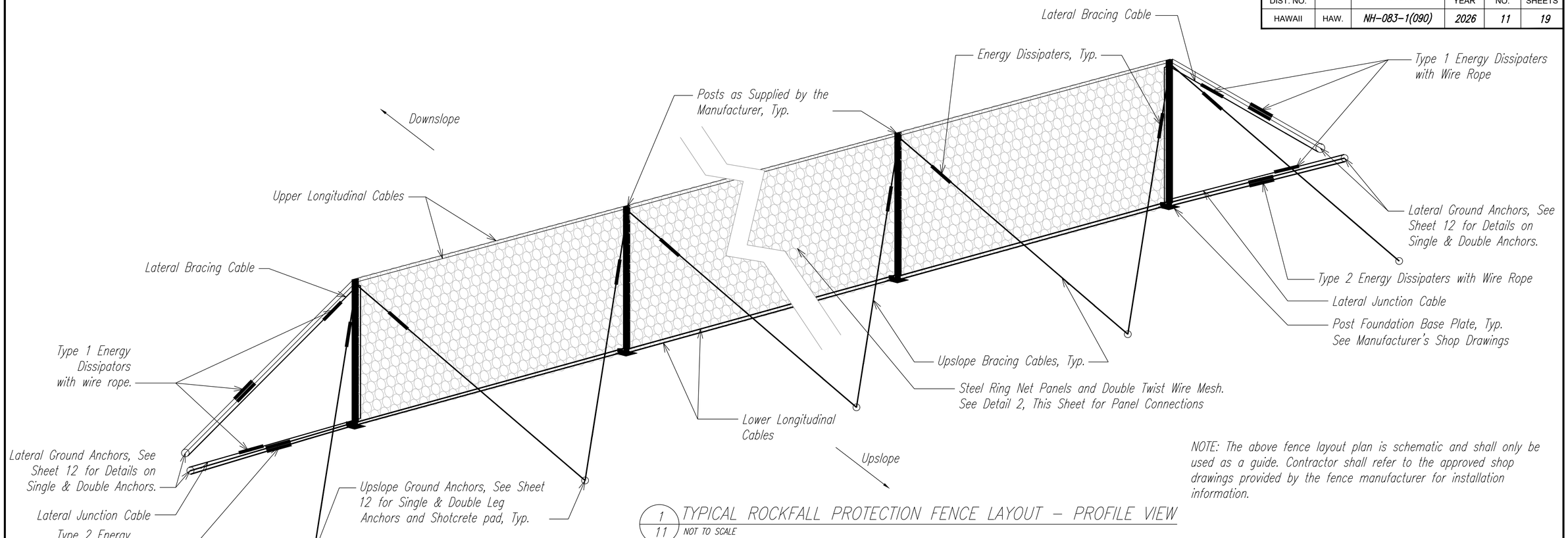
KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Scale: 1/2"=1' Date: December 2025

SHEET No. 1 OF 1 SHEETS

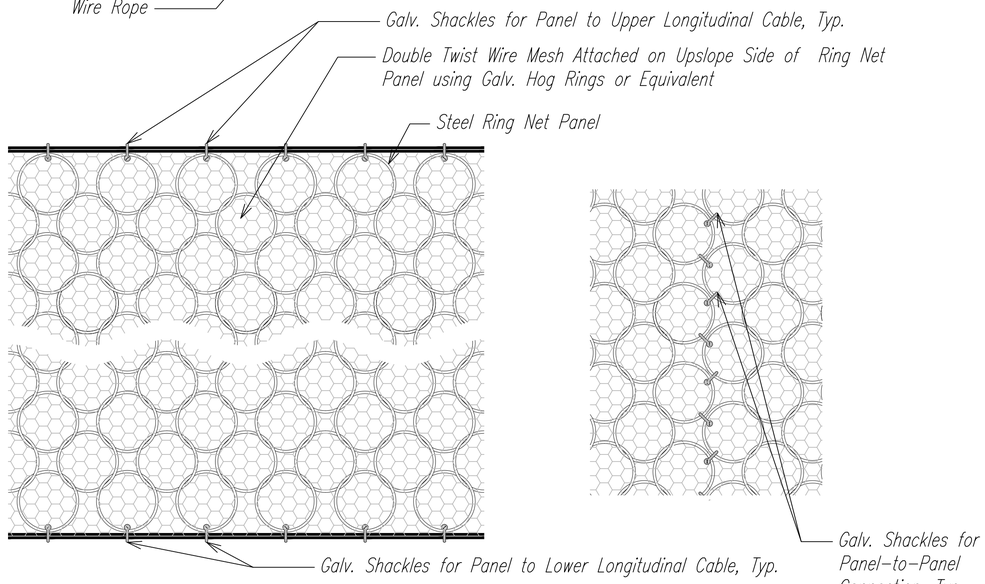
ORIGINAL PLAN
NOTE BOOK
No.
SURVEY PLOTTED BY
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY
DATE

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	11	19



1/11 TYPICAL ROCKFALL PROTECTION FENCE LAYOUT – PROFILE VIEW
NOT TO SCALE

NOTE: The above fence layout plan is schematic and shall only be used as a guide. Contractor shall refer to the approved shop drawings provided by the fence manufacturer for installation information.



2/11 PANEL CONNECTIONS
NOT TO SCALE

NOTES:

1. Rockfall protection fence details shown here are for minimum requirements and general guidance. Contractor shall follow the manufacturer's approved design drawings and details for construction.
2. Post spacing shall be per manufacturer's recommendations and those identified in these documents, whichever is shorter.
3. Number and spacing of clips for the wire ropes shall be per manufacturer's recommendations with minimum requirements specified in these documents.
4. All exposed metal components, which are not stainless steel, shall be hot-dipped galvanized and powder coated flat black, see Note 6G and I on Sheet 8
5. See Sheet 8 for additional rockfall protection fence notes.
6. All bottom shackles (along bottom 6 FT. height) of the barrier shall be welded using JB metal weld or similar on the screw pin threads to prevent them from being opened and removed.
7. Fence post footing and micropiles shall be designed by the Contractor's Hawaii Licensed Engineer and shall follow Manufacturer's recommendations. At a minimum, steel anchors shall be #10 solid galvanized bars, Grade 75, and grout with compressive strength of 5,000 PSI in 3 days.
8. All steel here referred to as galvanized shall be hot-dipped galvanized.

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FENCING DETAIL – 1

KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Date: December 2025

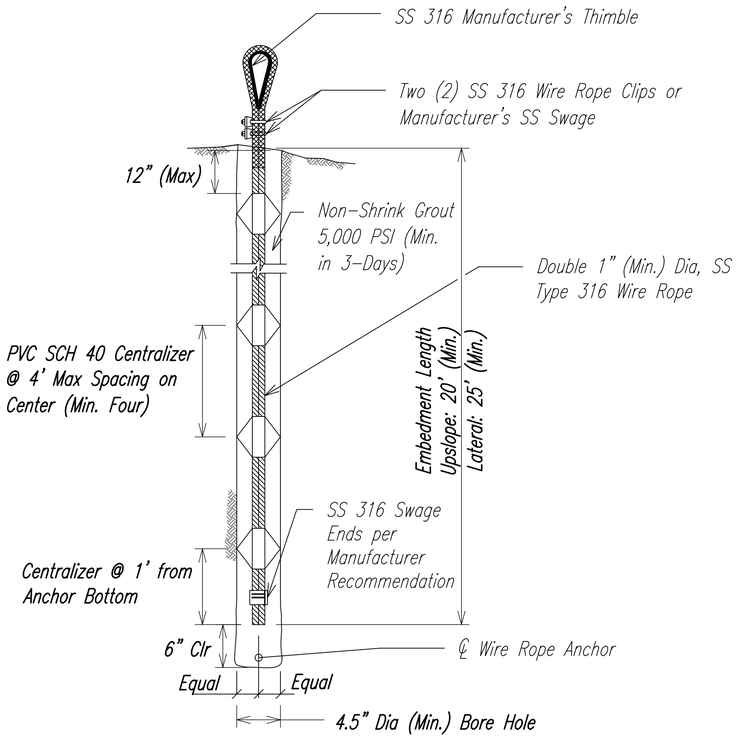
SHEET No. 1 OF 2 SHEETS

11

ORIGINAL PLAN
NOTE BOOK
No.

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

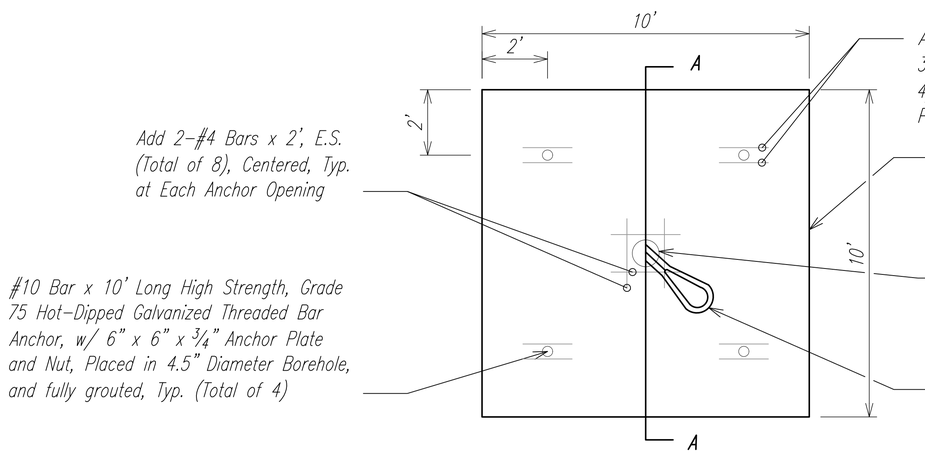
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	12	19



1/12 DOUBLE LEG WIRE ROPE GROUND ANCHOR, TYP.
NOT TO SCALE

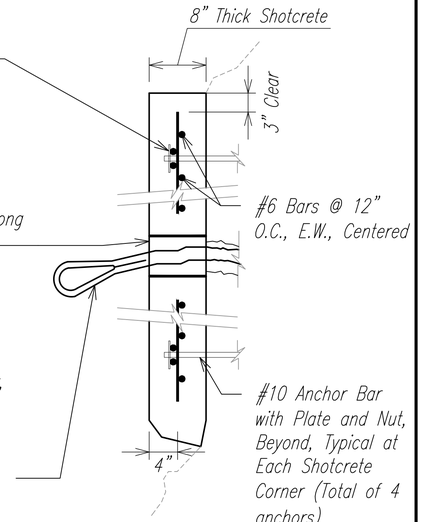
NOTES:

1. All metal components of ground anchor shall be stainless steel 316.
2. Single leg wire rope anchors may also be used as an alternative at the Contractor's discretion. See Detail 2, this sheet.
3. Contractor is responsible to achieve anchor pullout strengths specified by the barrier manufacturer at no additional cost.
4. Anchor embedment lengths here are minimum.
5. Upon completing marking of all anchor locations and review and approval by the Engineer, Contractor shall install and test two (2) pre-production sacrificial anchors at the embedment depths as shown in the anchor details above for each of the upslope anchors and lateral anchors (total of 4 anchors) at locations selected by the Engineer at no additional cost to the State. Refer to specifications for additional information.
6. After marking location of all anchors on site, the Contractor shall develop and submit to Engineer for approval a map of all anchors to be installed prior to start of drilling for any production anchors. Each anchor shall have a unique designation identified on the map and at its physical location on site for ease of identification and reference. Direction of each anchor penetration shall be identified on the map for review, commenting, and approval by the Engineer.
7. Referring to the Shotcrete Pad Detail this sheet, all clear distances between any embedded steel and exterior shotcrete surfaces shall be 3" (Min).
8. Shotcrete finish shall be color stained to match the adjacent rock slope area.

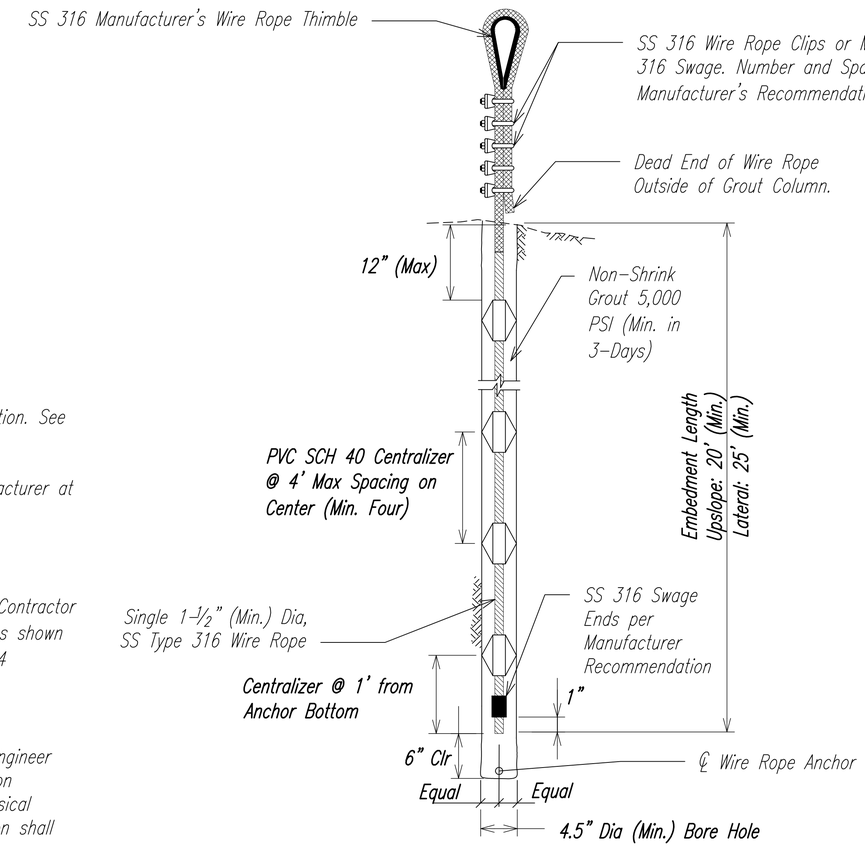


3/12 SHOTCRETE PAD DETAIL
NOT TO SCALE

Upslope Cable Anchor, Keep Anchor at Center of Pipe and Fill in the Opening with Packing Grout



4/12 SECTION A-A
NOT TO SCALE



2/12 SINGLE LEG WIRE ROPE GROUND ANCHOR, TYP.
NOT TO SCALE

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

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

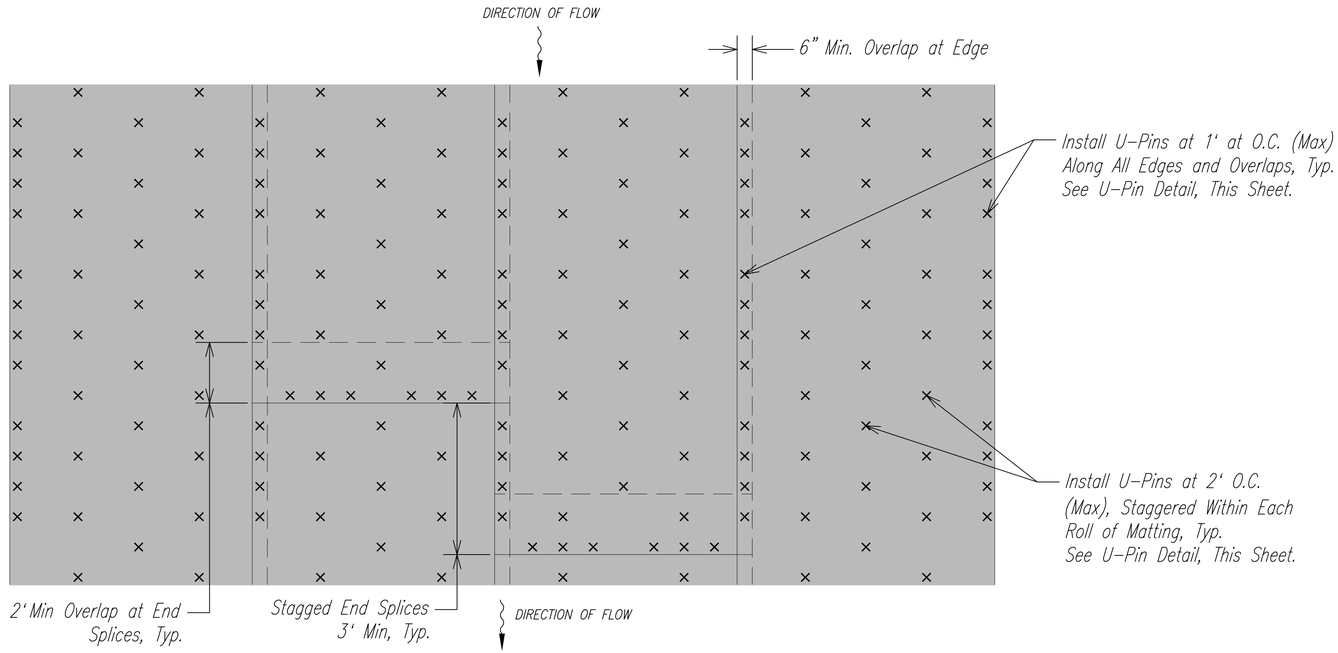
FENCING DETAIL - 2

KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

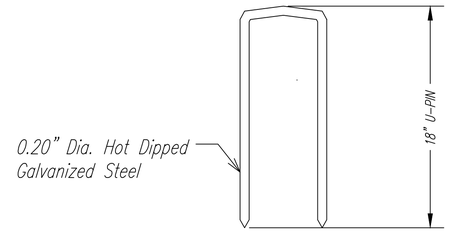
Date: December 2025

SHEET No. 2 OF 2 SHEETS

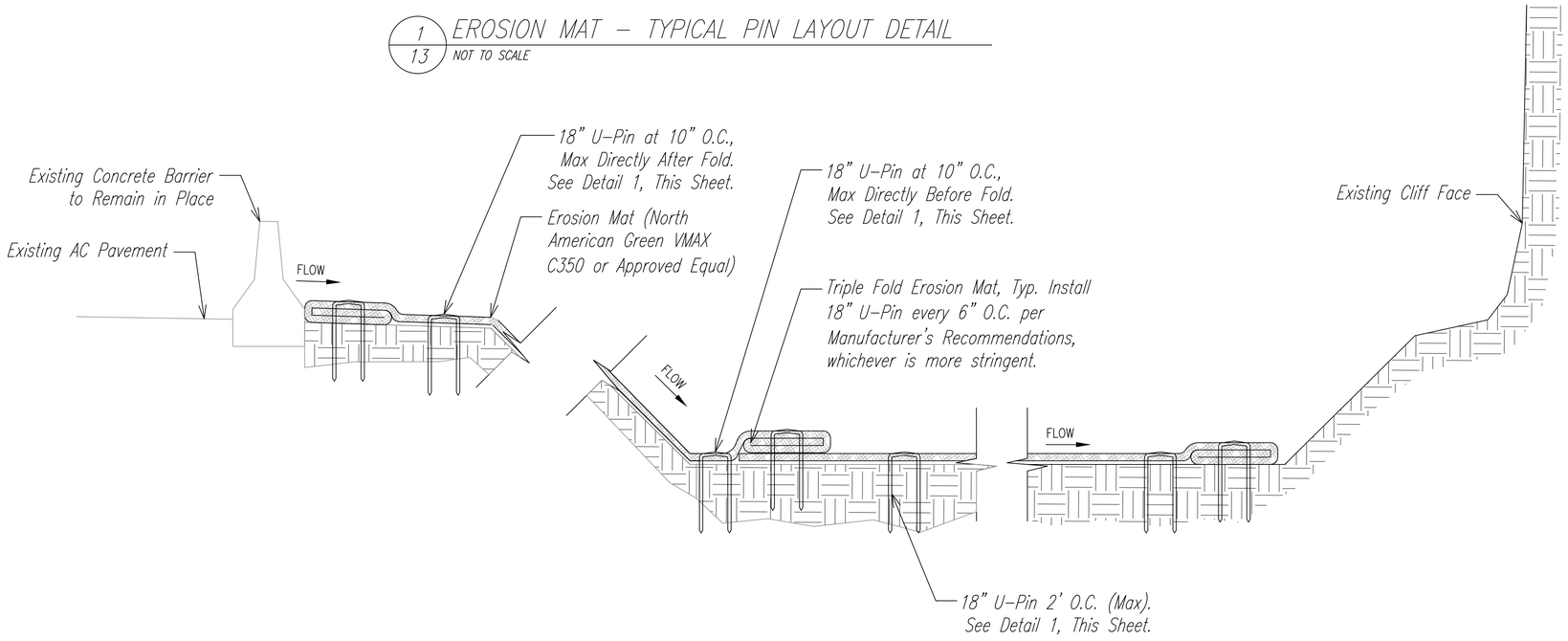
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	13	19



1/13 EROSION MAT – TYPICAL PIN LAYOUT DETAIL
NOT TO SCALE



2/13 U-PIN STAPLE DETAIL
NOT TO SCALE



3/13 EROSION MAT – SECTION VIEW
NOT TO SCALE

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

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

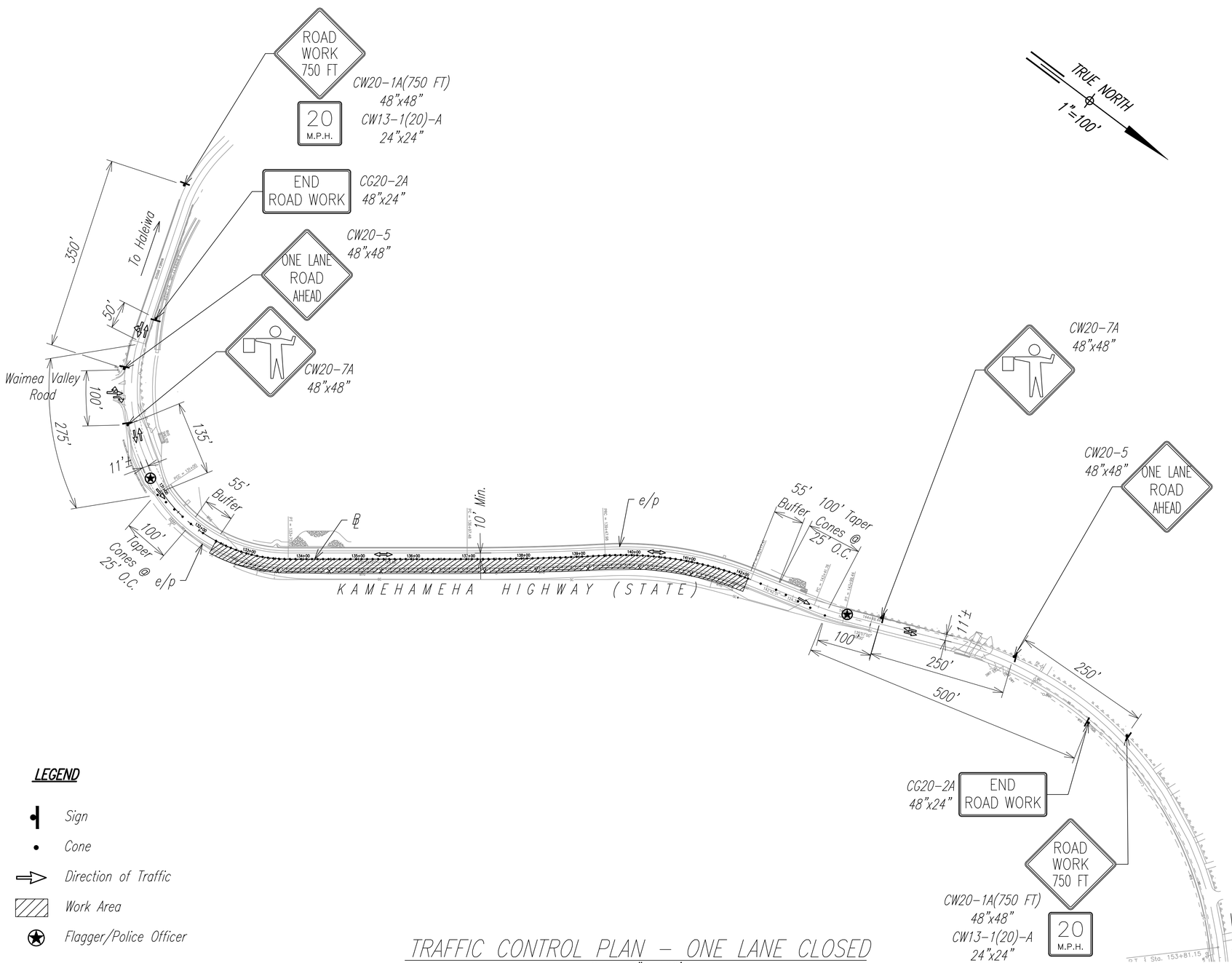
EROSION MAT DETAIL

KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Date: December 2025

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	14	19



LEGEND

- Sign
- Cone
- Direction of Traffic
- Work Area
- Flagger/Police Officer
- Cone or other channelizing device @ 10' o.c. unless otherwise noted.

TRAFFIC CONTROL PLAN – ONE LANE CLOSED
Scale: 1"= 100'
(See Note 1)

TRAFFIC CONTROL PLAN NOTES:

1. Full length traffic control plan shall only be used when required and with prior approval from the Engineer. See Sheets 15–18 for examples of phased traffic control plans as appropriate to facilitate construction and to be approved by Engineer.
2. One lane road (CW20-4) and flagger ahead (CW20-7) signs shall be removed or covered when no work is being performed and lane is not closed.
3. The Contractor shall make minor adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.
4. Cones or delineators shall be extended to a point where they are visible to approaching traffic.
5. Flaggers and/or police offices shall be in sight of each other or in direct communication at all times.
6. Sign spacings, taper lengths, and spacings of cones or delineators shall be as shown on the traffic control plans.
7. At the end of each days work or as soon as the work is completed, the contractor shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation.
8. Work required in the State's traffic control plans will be paid under applicable contract items or as otherwise specified herein. All other traffic control work shall be in accordance with HSS 645 – traffic control. Work required for lane closures during the working day will not be paid for but shall be considered incidental to various contract items. Advance construction warning signs as required under HSS 645 of the special provisions shall be installed on all approaches to construction areas. This work shall be considered incidental to the various contract items.
9. Damage to signs and temporary pavement markers caused by the public shall be repaired or replaced by the Contractor as soon as possible or as directed by the Engineer. This work shall be paid for under item no. 645.0200 – Additional Police Officers and/or Additional Traffic Control Devices, and Advertisement. Damage caused due to the Contractor's action shall be repaired or replaced at the Contractor's expense.

0 100 200 300
SCALE:1" = 100' FEET

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

RYAN M. OKAHASHI LICENSED PROFESSIONAL ENGINEER No. 14294-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

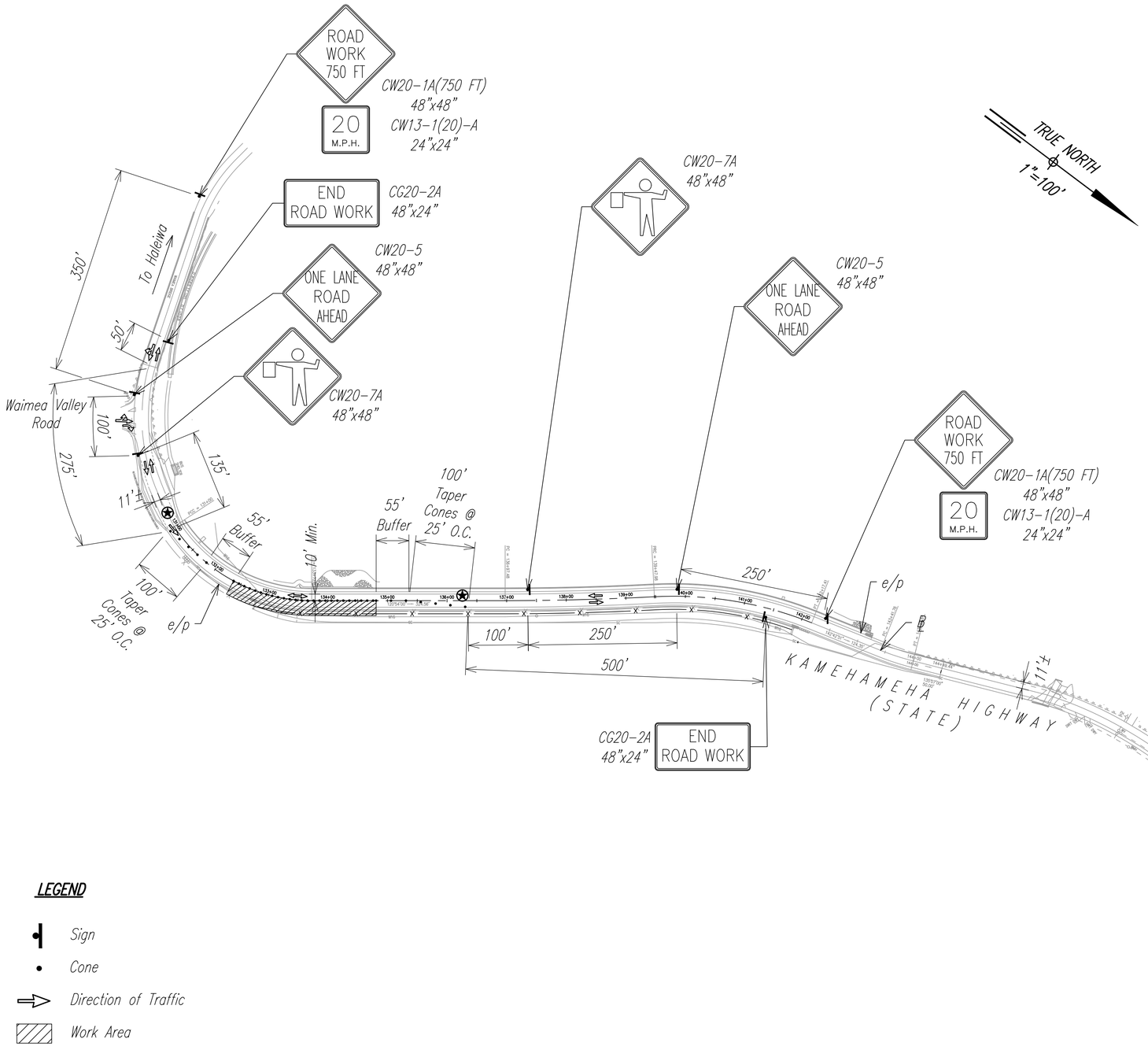
TRAFFIC CONTROL PLAN

KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Scale: 1"=100' Date: December 2025

SHEET No. 1 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	15	19



LEGEND

- Sign
- Cone
- Direction of Traffic
- Work Area
- Flagger/Police Officer
- Cone or other channelizing device @ 10' o.c. unless otherwise noted.

TRAFFIC CONTROL PLAN – ONE LANE CLOSED PHASED APPROACH PHASE 1

Scale: 1"= 100'
(See Note 1)

TRAFFIC CONTROL PLAN NOTES:

1. Full length traffic control plan shall only be used when required and with prior approval from the Engineer. See Sheets 15–18 for examples of phased traffic control plans as appropriate to facilitate construction and to be approved by Engineer.

2. One lane road (CW20–4) and flagger ahead (CW20–7) signs shall be removed or covered when no work is being performed and lane is not closed.

3. The Contractor shall make minor adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.

4. Cones or delineators shall be extended to a point where they are visible to approaching traffic.

5. Flaggers and/or police offices shall be in sight of each other or in direct communication at all times.

6. Sign spacings, taper lengths, and spacings of cones or delineators shall be as shown on the traffic control plans.

7. At the end of each days work or as soon as the work is completed, the contractor shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation.

8. Work required in the State's traffic control plans will be paid under applicable contract items or as otherwise specified herein. All other traffic control work shall be in accordance with HSS 645 – traffic control. Work required for lane closures during the working day will not be paid for but shall be considered incidental to various contract items. Advance construction warning signs as required under HSS 645 of the special provisions shall be installed on all approaches to construction areas. This work shall be considered incidental to the various contract items.

9. Damage to signs and temporary pavement markers caused by the public shall be repaired or replaced by the Contractor as soon as possible or as directed by the Engineer. This work shall be paid for under item no. 645.0200 – Additional Police Officers and/or Additional Traffic Control Devices, and Advertisement. Damage caused due to the Contractor's action shall be repaired or replaced at the Contractor's expense.

0 100 200 300
SCALE:1" = 100' FEET

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

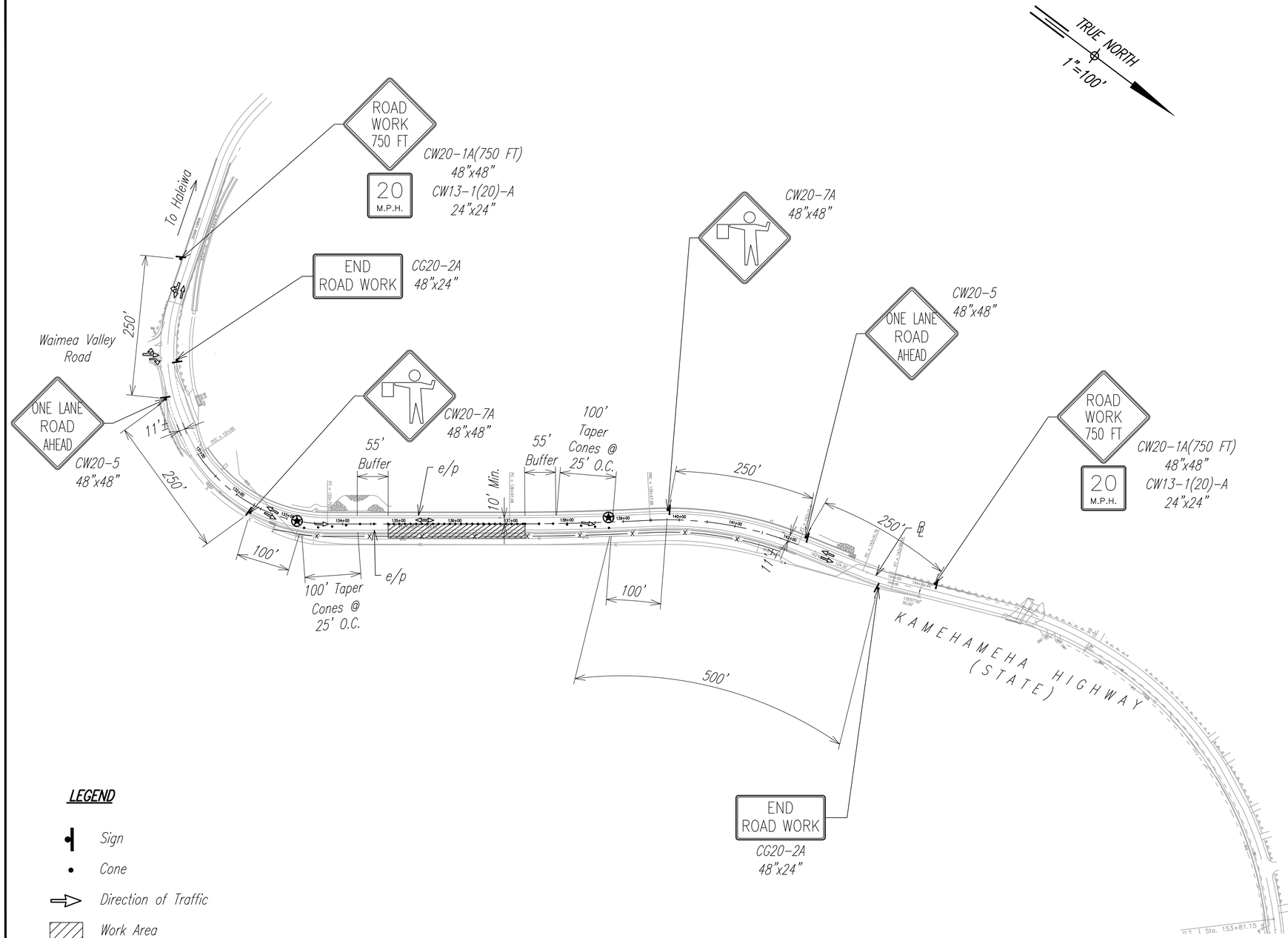
TRAFFIC CONTROL PLAN
KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Scale: 1"=100' Date: December 2025

SHEET No. 2 OF 5 SHEETS

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	16	19



LEGEND

- Sign
- Cone
- Direction of Traffic
- Work Area
- Flagger/Police Officer
- Cone or other channelizing device @ 10' o.c. unless otherwise noted.

TRAFFIC CONTROL PLAN – ONE LANE CLOSED
PHASED APPROACH PHASE 2
Scale: 1"= 100'
(See Note 1)

TRAFFIC CONTROL PLAN NOTES:

1. Full length traffic control plan shall only be used when required and with prior approval from the Engineer. See Sheets 15–18 for examples of phased traffic control plans as appropriate to facilitate construction and to be approved by Engineer.
2. One lane road (CW20–4) and flagger ahead (CW20–7) signs shall be removed or covered when no work is being performed and lane is not closed.
3. The Contractor shall make minor adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.
4. Cones or delineators shall be extended to a point where they are visible to approaching traffic.
5. Flaggers and/or police offices shall be in sight of each other or in direct communication at all times.
6. Sign spacings, taper lengths, and spacings of cones or delineators shall be as shown on the traffic control plans.
7. At the end of each days work or as soon as the work is completed, the contractor shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation.
8. Work required in the State's traffic control plans will be paid under applicable contract items or as otherwise specified herein. All other traffic control work shall be in accordance with HSS 645 – traffic control. Work required for lane closures during the working day will not be paid for but shall be considered incidental to various contract items. Advance construction warning signs as required under HSS 645 of the special provisions shall be installed on all approaches to construction areas. This work shall be considered incidental to the various contract items.
9. Damage to signs and temporary pavement markers caused by the public shall be repaired or replaced by the Contractor as soon as possible or as directed by the Engineer. This work shall be paid for under item no. 645.0200 – Additional Police Officers and/or Additional Traffic Control Devices, and Advertisement. Damage caused due to the Contractor's action shall be repaired or replaced at the Contractor's expense.

0 100 200 300
SCALE:1" = 100' FEET

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

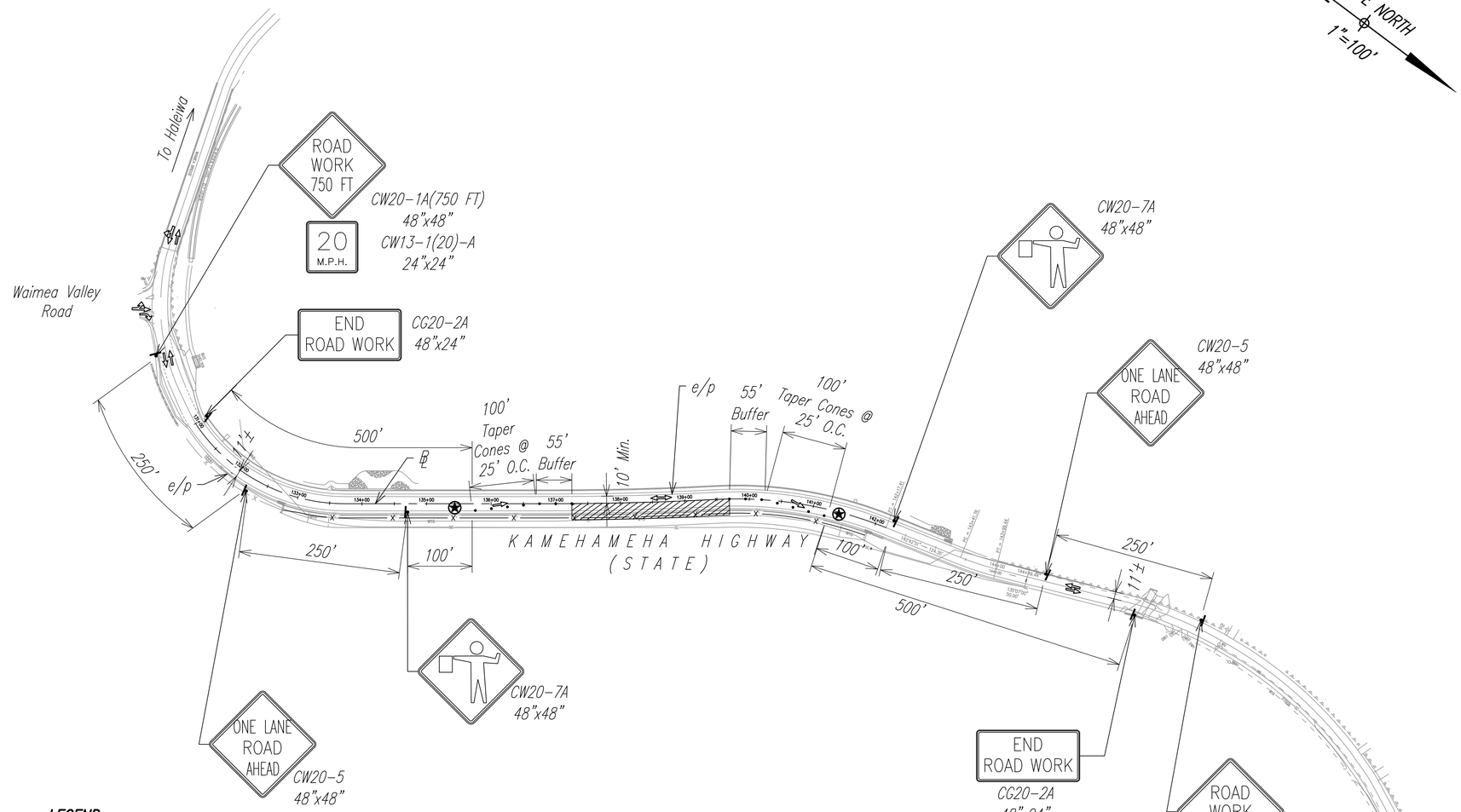
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN
KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)
Scale: 1"=100' Date: December 2025

SHEET No. 3 OF 5 SHEETS

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	17	19



LEGEND

- Sign
- Cone
- Direction of Traffic
- Work Area
- Flagger/Police Officer
- Cone or other channelizing device @ 10' o.c. unless otherwise noted.

TRAFFIC CONTROL PLAN – ONE LANE CLOSED PHASED APPROACH PHASE 3

Scale: 1"= 100'
(See Note 1)

TRAFFIC CONTROL PLAN NOTES:

1. Full length traffic control plan shall only be used when required and with prior approval from the Engineer. See Sheets 15–18 for examples of phased traffic control plans as appropriate to facilitate construction and to be approved by Engineer.
2. One lane road (CW20-4) and flagger ahead (CW20-7) signs shall be removed or covered when no work is being performed and lane is not closed.
3. The Contractor shall make minor adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.
4. Cones or delineators shall be extended to a point where they are visible to approaching traffic.
5. Flaggers and/or police offices shall be in sight of each other or in direct communication at all times.
6. Sign spacings, taper lengths, and spacings of cones or delineators shall be as shown on the traffic control plans.
7. At the end of each days work or as soon as the work is completed, the contractor shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation.
8. Work required in the State's traffic control plans will be paid under applicable contract items or as otherwise specified herein. All other traffic control work shall be in accordance with HSS 645 – traffic control. Work required for lane closures during the working day will not be paid for but shall be considered incidental to various contract items. Advance construction warning signs as required under HSS 645 of the special provisions shall be installed on all approaches to construction areas. This work shall be considered incidental to the various contract items.
9. Damage to signs and temporary pavement markers caused by the public shall be repaired or replaced by the Contractor as soon as possible or as directed by the Engineer. This work shall be paid for under item no. 645.0200 – Additional Police Officers and/or Additional Traffic Control Devices, and Advertisement. Damage caused due to the Contractor's action shall be repaired or replaced at the Contractor's expense.

0 100 200 300
SCALE:1" = 100' FEET

RYAN M. OKAHASHI LICENSED PROFESSIONAL ENGINEER No. 14294-C HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

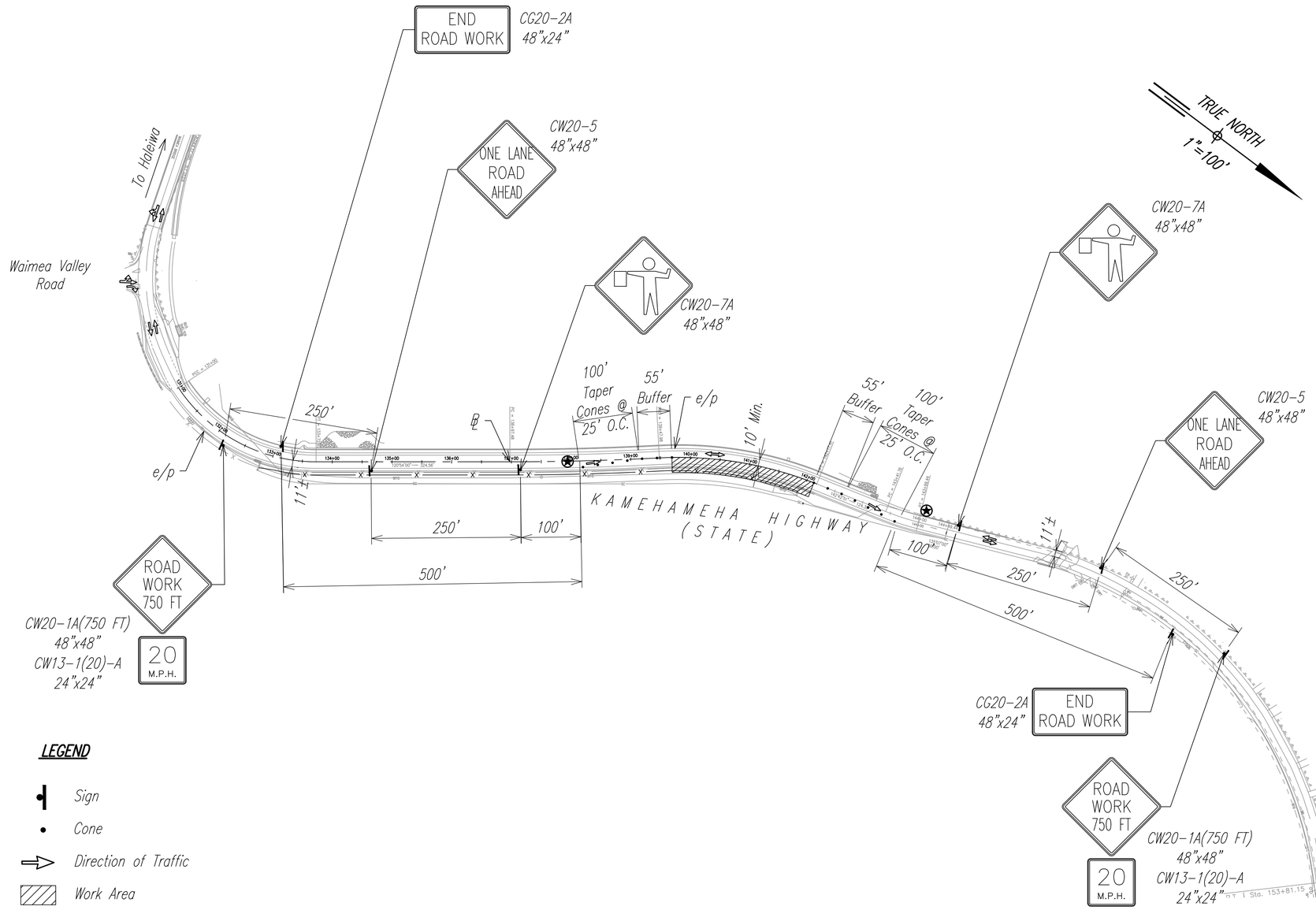
KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Scale: 1"=100' Date: December 2025

SHEET No. 4 OF 5 SHEETS

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	18	19



LEGEND

- Sign
- Cone
- Direction of Traffic
- Work Area
- Flagger/Police Officer
- Cone or other channelizing device @ 10' o.c. unless otherwise noted.

TRAFFIC CONTROL PLAN – ONE LANE CLOSED PHASED APPROACH PHASE 4

Scale: 1"= 100'
(See Note 1)

TRAFFIC CONTROL PLAN NOTES:

1. Full length traffic control plan shall only be used when required and with prior approval from the Engineer. See Sheets 15–18 for examples of phased traffic control plans as appropriate to facilitate construction and to be approved by Engineer.
2. One lane road (CW20–4) and flagger ahead (CW20–7) signs shall be removed or covered when no work is being performed and lane is not closed.
3. The Contractor shall make minor adjustments at intersections, driveways, bridges, structures, etc., to fit field conditions.
4. Cones or delineators shall be extended to a point where they are visible to approaching traffic.
5. Flaggers and/or police offices shall be in sight of each other or in direct communication at all times.
6. Sign spacings, taper lengths, and spacings of cones or delineators shall be as shown on the traffic control plans.
7. At the end of each days work or as soon as the work is completed, the contractor shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation.
8. Work required in the State's traffic control plans will be paid under applicable contract items or as otherwise specified herein. All other traffic control work shall be in accordance with HSS 645 – traffic control. Work required for lane closures during the working day will not be paid for but shall be considered incidental to various contract items. Advance construction warning signs as required under HSS 645 of the special provisions shall be installed on all approaches to construction areas. This work shall be considered incidental to the various contract items.
9. Damage to signs and temporary pavement markers caused by the public shall be repaired or replaced by the Contractor as soon as possible or as directed by the Engineer. This work shall be paid for under item no. 645.0200 – Additional Police Officers and/or Additional Traffic Control Devices, and Advertisement. Damage caused due to the Contractor's action shall be repaired or replaced at the Contractor's expense.

0 100 200 300
SCALE:1" = 100' FEET

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC CONTROL PLAN

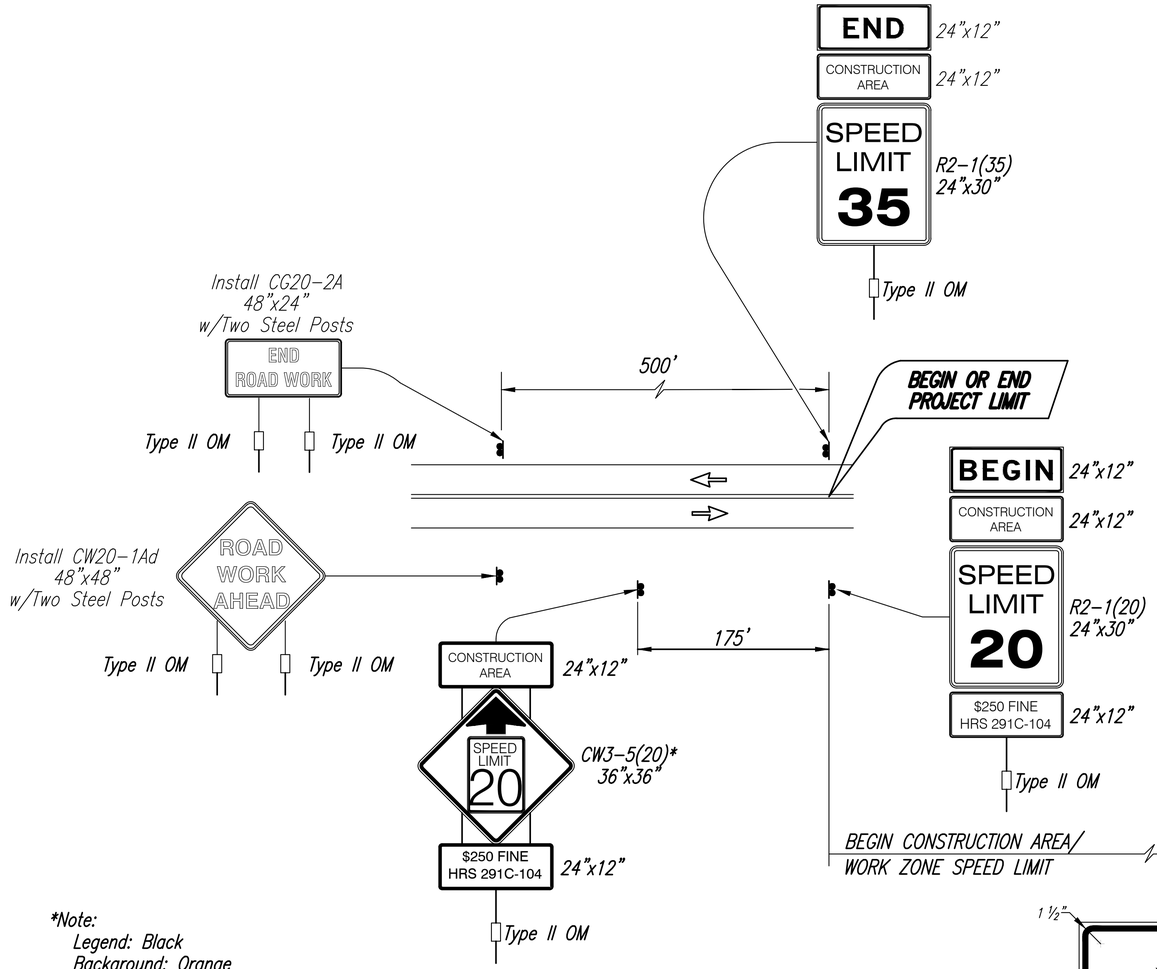
KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Scale: 1"=100' Date: December 2025

SHEET No. 5 OF 5 SHEETS

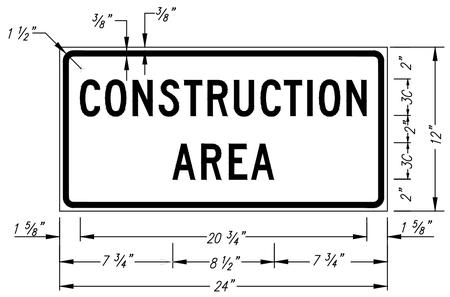
ORIGINAL PLAN
NOTE BOOK
SURVEY PLOTTED BY ____ DATE
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____
No. ____

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(090)	2026	19	19

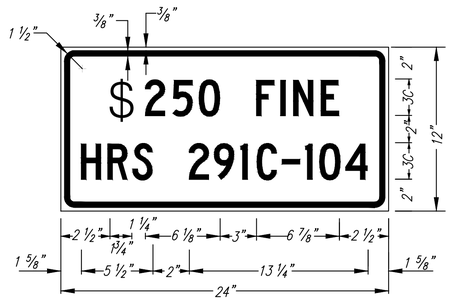


*Note:
Legend: Black
Background: Orange
Speed Limit: Black on White

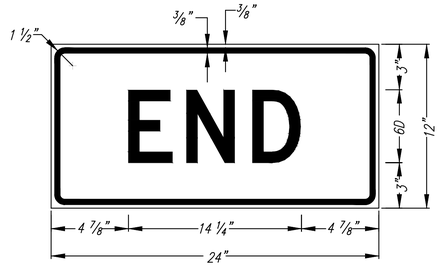
TYPICAL DETAIL FOR CONSTRUCTION SIGNS
ON TWO LANE OR MULTILANE UNDIVIDED LOW SPEED HIGHWAY



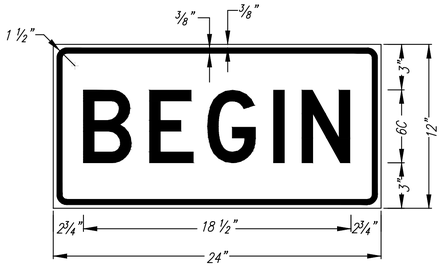
LEGEND: BLACK
BACKGROUND: ORANGE



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 shall comply with HDOT 2005 Standard Specifications, Section 645, Table 645-1 and Figure 1.*
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(20) and CW3-5(20) 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 assembly 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. Sign covers shall not allow any portion of the sign being covered to be visible. If the sign has more than one side, cover shall completely cover each side.*
8. *This Work Zone Signing Plan shall be used only for low speed highways (design speeds of 45 mph or less).*

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

RYAN M. OKAHASHI
LICENSED PROFESSIONAL ENGINEER
No. 14294-C
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE 4/30/26 EXPIRATION DATE OF LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LOW SPEED UNDIVIDED HIGHWAY
WORK ZONE SIGNING PLAN, NOTES & DETAILS
KAMEHAMEHA HIGHWAY
WAIMEA BAY ROCKFALL PROTECTION
PHASE 2
Federal Aid Project No. NH-083-1(090)

Date: December 2025

SHEET No. 1 OF 1 SHEETS