FED. ROAD DIST. NO.	STATE	FED.–AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH–H1–1(279)R	2024	1	411

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11	– 13	WATER POLLUTION AND EROSION CONTROL NOTES
14	– 37	DEMOLITION AND EROSION CONTROL PLANS AND DETAILS
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STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION
HONOLULU, HAWAII

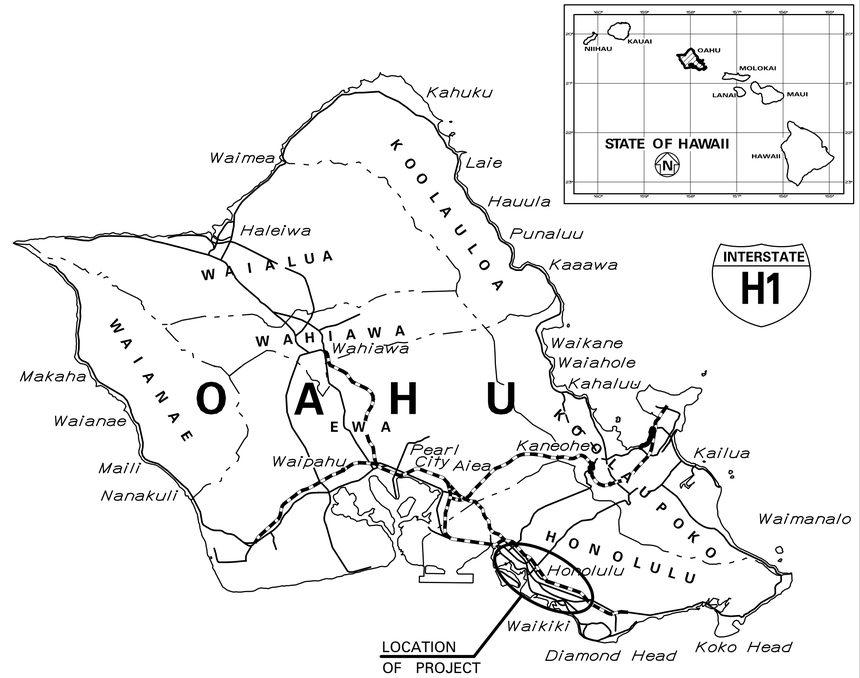
PLANS FOR

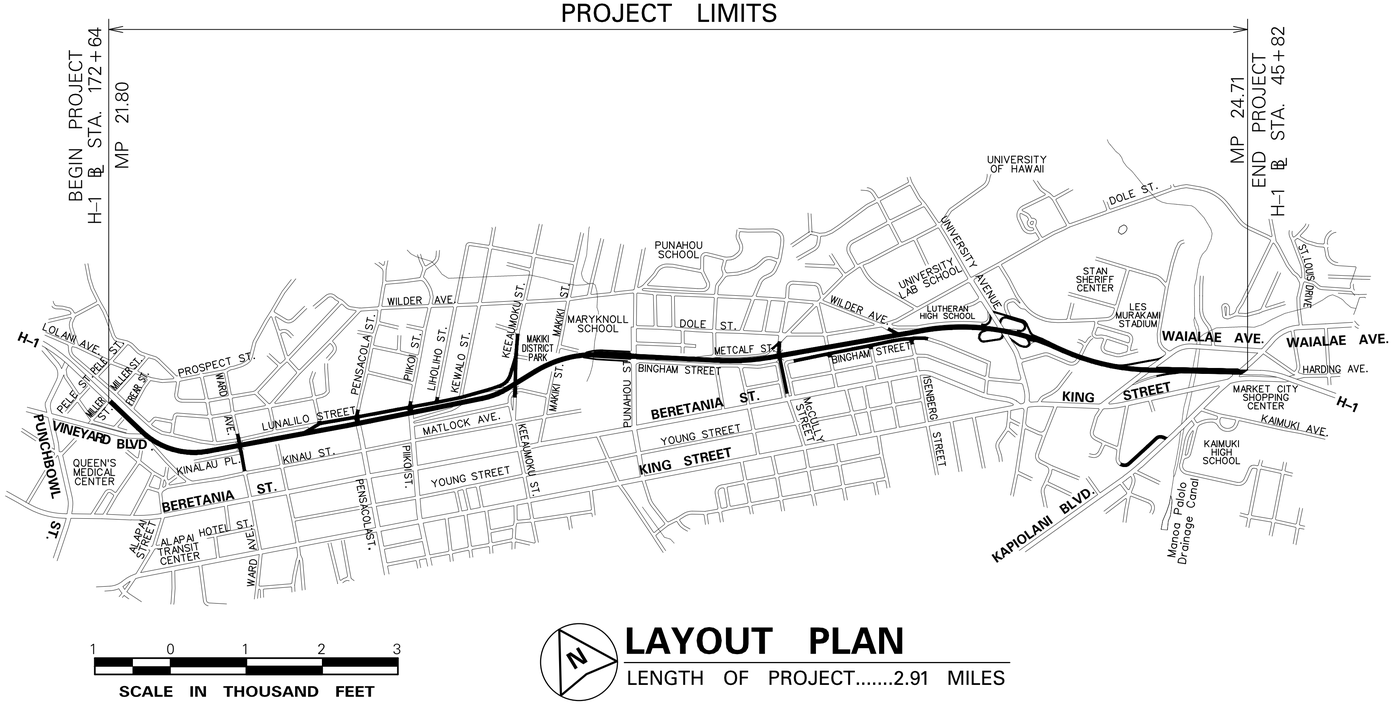
INTERSTATE ROUTE H–1 RESURFACING

MILLER PEDESTRIAN OVERPASS TO KAPIOLANI INTERCHANGE

FEDERAL–AID PROJECT NO. NH–H1–1(279)R

DISTRICT OF HONOLULU
ISLAND OF OAHU





1 0 1 2 3
SCALE IN THOUSAND FEET

LAYOUT PLAN

LENGTH OF PROJECT.....2.91 MILES

4 0 4 8
SCALE IN MILES

FEDERAL–AID INTERSTATE PROJECTS PREVIOUSLY CONSTRUCTED OR UNDER CONSTRUCTION

MILE POST 21.80 TO MILE POST 24.71

DESIGN DESIGNATION				
	MP 21.80 – 23.07	MP 23.07 – 24.13	MP 24.13 – 24.41	MP 24.41 – 24.71
ADT (2017)	201,100	147,800	130,200	116,200
ADT (2027)	225,700	167,900	147,800	132,000
DHV	16,930	12,590	11,090	9,900
D	60/40	60/40	60/40	60/40
T	3.5 %	3.5 %	3.5 %	3.5 %
T24	4.0 %	4.0 %	4.0 %	4.0 %

DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

APPROVED:

Dec 18, 2024

HIGHWAYS ADMINISTRATOR DATE

SSFM INTL. DESIGNED BY
HWY-DS Managed By
692-7545 PHONE
DATE

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING – MILLER TO KAPIOLANI\01 CIVIL DRAWINGS\T1 TITLE SHEET.DWG 12/2/2024 9:43 AM

STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	2	411

STANDARD PLAN NO.	TITLE	DATE
B-01 ●	Notes & Miscellaneous Details	05/31/07
B-03	Backfill Details at Earth Retaining Structures	05/31/07
B-12	Prestressed Concrete Piles and Compression	
	Splice Can Details	05/31/07
B-12A	Prestressed Concrete Piles, Pile and Compression	
	Splice Can Details and Notes	05/31/07
B-12B	Pile Interaction Diagram	05/31/07
B-13	Prestressed Concrete Pile Build-Up Details	05/31/07
D-01	Cattle Gate	05/31/07
D-02	Chain Link Fence with Toprail	05/31/07
D-03 ●	Chain Link Fence without Toprail	05/31/07
D-04	Wire Fence with Metal Posts	05/31/07
D-05 ●	Typical Details of Curbs and/or Gutters	05/31/07
D-06 ●	Typical Detail of Reinforced Concrete	
	Drop Driveway	05/31/07
D-07 ●	Centerline and Reference Survey Monuments	05/31/07
D-08 ●	Street Survey Monument	05/31/07
D-15 ●	Concrete Sidewalk	05/31/07
D-16	P.C.C. Bus Pad	05/31/07
D-17	P.C.C. Bus Pad	05/31/07
D-18 ●	P.C.C. Pavement Layout	05/31/07
D-19 ●	P.C.C. Pavement w/ Permeable Base Joint Details	05/31/07
D-20	P.C.C. Pavement w/ Permeable Base Joint Details	05/31/07
D-21 ●	P.C.C. Longitudinal Joint Details	05/31/07
D-22	P.C.C. Connection to Curb and Gutters	05/31/07
D-23	Joints	05/31/07
L-01	Tree Planting	08/16/06
L-02	Tree Planting	08/16/06
L-03	Tree Transplanting	08/16/06
L-04	Palm Planting	08/16/06
L-05	Shrub Planting	08/16/06
L-06	Landscape Details	08/16/06
L-07	Landscape Details	08/16/06
L-08	Landscape Details	08/16/06
L-09	Landscape Details	08/16/06
L-10	Landscape Details	08/16/06
L-11	Planting Notes	08/16/06
L-12	Irrigation Details	08/16/06
L-13	Irrigation Details	08/16/06
L-14	Irrigation Details	08/16/06
L-15	Irrigation Details	08/16/06
L-16	Irrigation Details	08/16/06
L-17	Irrigation Details	08/16/06
L-18	Irrigation Details	08/16/06
L-19	Irrigation Details	08/16/06
L-20	Irrigation Details	08/16/06
L-21	Irrigation Details	08/16/06
L-22	Irrigation Details	08/16/06
L-23	Irrigation Details	08/16/06
L-24	Irrigation Notes	08/16/06

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 B1 Catch Basin	05/31/07
H-02C	Type C1 Catch Basin	05/31/07
H-02D	Type D1 Catch Basin	05/31/07
H-02E	Catch Basin Sections	05/31/07
H-03	Type A, B, and C Storm Drain Manhole	05/31/07
H-04	Type D Storm Drain Manhole	05/31/07
H-05	Typical Reinforcing Details For Drainage	
	Structures	05/31/07
H-06	Typical Reinforcing Details For Drainage	
	Structures	05/31/07
H-07	Catch Basin and Manhole Castings	05/31/07
H-08	Type 1A-9 And 1A-9P Grated Drop Inlet	05/31/07
H-09	Type 2A-9 And 2A-9P Grated Drop Inlet	05/31/07
H-10	Type A-9 or A-9P Steel Frames	05/31/07
H-11	Type A-9 and A-9P Steel Grates	05/31/07
H-12	Type 61614P and 1211214P Grated Drop Inlet	05/31/07
H-13	Type 61616P and 1211216P Grated Drop Inlet	05/31/07
H-14	Type 61214P Grated Drop Inlet	05/31/07
H-15	Type 1211214, 1211214P, 1211216, 1211216P Steel	
	Frame and Grates	05/31/07
H-16	Type 61614, 61614P, 61616, 61616P Steel Frame	
	and Grates	05/31/07
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

STANDARD PLAN NO.	TITLE	DATE
TE-08	Miscellaneous Intersection Signs	07/11/08
TE-09 ●	Bike Route Sign & Supplementary Plates	07/11/08
TE-10 ●	Interstate Route Marker	07/11/08
TE-11 ●	State Route Marker and Auxiliary Markers	07/11/08
TE-12 ●	State Route Marker and Border Detail For	
	Guide Signs	07/11/08
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 Sections	05/31/07
TE-17C	Cantilever Sign Frame Detail	05/31/07
TE-17D	Cantilever Sign Frame Sections	05/31/07
TE-17E	Cantilever Sign Frame Details	05/31/07
TE-18A	Two Post Overhead Sign Frame Elevations	05/31/07
TE-18B	Two Post Sign Framing Plan Section	05/31/07
TE-18C	Two Post Sign Framing Sections and Details	05/31/07
TE-18D	Two Post Sign Frame Details	05/31/07
TE-18E	Two Post Sign Frame Details	05/31/07
TE-19A	Overhead Sign Framing Schedule	05/31/07
TE-19B	Sign Post Drilled Shaft Foundation	05/31/07
TE-19C	Spread Footing	05/31/07
TE-19D	Sign Frame Foundation Schedule	05/31/07
TE-19D.1	Sign Frame Foundation Schedule	05/31/07
TE-19D.2	Sign Frame Foundation Schedule	05/31/07
TE-19D.3	Sign Frame Foundation Schedule	05/31/07
TE-19D.4	Sign Frame Foundation Schedule	05/31/07
TE-19D.5	Sign Frame Foundation Schedule	05/31/07
TE-19E	Anchorage Details	05/31/07
TE-19F	Anchorage Details	05/31/07
TE-19G	Miscellaneous Sign Frame Details	05/31/07
TE-19H	Luminaire Walkway Support	05/31/07
TE-19J	Fixed Message Luminaire Support	05/31/07
TE-19K	Miscellaneous Sign Details	05/31/07
TE-19L	Miscellaneous Sign Details	05/31/07
TE-19M	Miscellaneous Sign Frame Details	05/31/07
TE-20 ●	Supports For Ground Mounted Guide Sign	05/31/07
TE-20A ●	Supports For Ground Mounted Guide Sign	05/31/07
TE-20B ●	Supports For Ground Mounted Guide Sign	05/31/07
TE-20C ●	Supports For Ground Mounted Guide Sign	05/31/07
TE-21A ●	Sign Breakaway Mounts	05/31/07
TE-21B ●	Sign Breakaway Mounts	05/31/07
TE-22	Laminated Aluminum Sign Panels (Overhead)	05/31/07
TE-23	Laminated Aluminum Sign Panels (Ground Mounted)	07/11/08

STANDARD PLAN NO.	TITLE	DATE
TE-24	Solid Aluminum Extruded Sign Panel and	
	Accessory Details	05/31/07
TE-25	Guide Signs Luminaire Mountings	07/11/08
TE-26	Raised Pavement Markers and Striping	07/11/08
TE-27	Raised Pavement Markers and Striping	07/11/08
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 Miscellaneous	
	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 ●)

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A — Date: November 2024

SHEET No. G1 OF 12 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIT\01 CIVIL DRAWINGS\G1 STANDARD PLANS SUMMARY.DWG 8/1/2024 3:01 pm

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	3	411

GENERAL CONSTRUCTION NOTES:

1. The scope of work for this project consists of resurfacing, repairing/reconstruction of weakened pavement; upgrading of existing guardrails; pavement marking and signage; freeway lighting upgrades and other site improvements required to complete this project.

2. The Contractor's attention is directed to the following Sections of the Special Provisions: Subsection 104.11 - Utilities and Services, and Section 107 - Legal Relations and Responsibility to Public. Attention is also directed to the following Section of the Hawaii Standard Specifications Subsection 107.02 - Permits and Licenses, which states the Contractor shall obtain all permits and licenses required to perform the work and that the Contractor assumes exclusive responsibility for identifying, acquiring and paying for all permits and licenses required to perform the work.

3. The Contractor shall notify the State in writing, two (2) weeks prior to starting paving operations and/or guardrail work.

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

   The Permit to Perform Work Upon State Highways may be suspended or revoked because of default in any of the following, but not limited to, conditions:

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

   The Contractor shall obtain all necessary permits prior to start of work at his own cost. Any revocation of the permit shall be at the Contractor's expense and no additional cost to the State and no additional contract time will be added.

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.

5. The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data, but the accuracy is not guaranteed. The encountering of other obstacles during the course of the 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 depth 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. Furnishing and installation of construction signs and temporary restriping to provide adequate space for traffic control measures shall be considered incidental to the various contract items.

7. No section where guardrails have been removed shall be left unshielded at the end of each work day. Open sections shall be shielded by portable physical barriers. Furnishing, installing and maintaining physical barriers shall be considered incidental to the various contract items.

8. Removal and disposal of the existing guardrail, bridge railing, concrete reinforcement bars and bridge endpost shall be considered incidental to the various guardrail items.

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

10. Preformed Pavement Marking Tape shall be removed prior to resurfacing. Removal shall be by scraping, grinding or other method approved by the Engineer. Payment shall be incidental to the various pavement markings items.

11. The Contractor shall remove and dispose of all existing raised pavement markers prior to the overlaying of Asphalt Concrete. This work shall be considered incidental to the various pavement markings items.

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

13. Existing drainage system shall be functional at all times during construction. Contractor shall furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to the various contract items.

14. The Contractor shall provide and maintain access to and from all existing driveways, sidewalks, ADA access routes, side streets and cross streets at all times. This work shall be considered incidental to the various contract items.

15. All saw cutting and safety edge work shall be considered incidental to Hot Mix Asphalt Pavement, Mix No. IV.

16. Unprotected pavement drop offs greater than 2" shall not be allowed during non-working hours, except where approved by the Engineer in writing.

17. The Contractor shall place an advertisement in the newspaper for temporary road closures. The "Notice to Motorist" shall be placed in the Honolulu Star Advertiser for three consecutive days within one week before the temporary lane closures. The "Notice to Motorist" shall be in accordance with the current Hawaii Standards Specifications for Road and Bridge Construction, 2005, Subsection 107.06 - Contractor Duty Regarding Public Convenience, and Subsection 645.03(H) - Advertisement. The Contractor shall submit requests for detours and lane closures in accordance with Hawaii Standard Specifications Subsection 645.03(F), refer to minimum timeframes required for implementation. Once the request has been approved by HDOT, the Contractor is required to provide a written Weekly Lane Closure Request to the HDOT Construction Field Office at least 1-week ahead of all upcoming work. All public notices and advertisements shall be incidental to lump sum traffic control item 645.0100 - Traffic Control, and shall not be paid for separately.

18. Temporary striping on cold planed surfaces shall be with paint (tape will not be allowed). Temporary striping on final overlay shall be with temporary tape. This work shall be considered incidental to the various pavement marking items.

19. At the end of each work day, the AC shall be brought up to 2" below finish grade. The final 2" lift of AC shall occur once a large area is available to pave for an entire work day. This is to limit the number of AC joints on the finish surfaces.

20. Pavement striping shall be done with alkyd-based thermoplastic.

21. Lane closures and detours shall occur during nighttime. A noise variance permit shall be obtained at the Contractor's cost with no additional time.

22. The Contractor shall obtain all permits and licenses required to perform the work and assumes exclusive responsibility for identifying, acquiring and paying for all permits and licenses required to perform the work as stated in the Hawaii Standard Specification Subsection 107.02.

23. Cold planing of adjacent travel ways shall be completed on the same day. Temporary pavement markings shall be installed prior to the end of each work day.

24. The Contractor shall stop all work and contact the Fish and Wildlife Service (808 792-9400) if bats or birds are seen flying around the work area at night.

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

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A Date: November 2024

SHEET No. G2 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	4	411

GENERAL CONSTRUCTION NOTES (CONTINUED):

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

27. Verify and check all dimensions and details shown on the drawings prior to the start of construction. Any discrepancy shall be immediately brought to the attention of the Engineer for direction.

28. In accordance with Hawaii Standard Specification Subsection 107.12 - Protection of Persons and Property no Contractor shall perform any construction activity so as to cause falling rock, soil or debris in any form to fall, slide or flow onto adjoining properties, streets or natural water courses. Should such violations occur, the costs incurred for any remedial action shall be payable by the Contractor.

29. The underground pipes, cables or ductlines known to exist by the Engineer from his search of records are indicated on the plans. In accordance with Hawaii Standard Specification Subsection 104.11 - Utilities and Services, the Contractor shall verify the locations and depths of the facilities and exercise proper care in excavating in the area. All damaged portions shall be replaced in accordance with the standards and specifications of the affected utility company and shall be the Contractor's responsibility. Personal injury resulting from contact with existing utilities shall be the Contractor's responsibility. Wherever connections of new utilities to existing utilities are shown on the plans, the Contractor shall expose the existing lines at the proposed connections to verify their locations and depths prior to excavation for new lines.

30. The Contractor shall be responsible for conformance with the applicable provisions of Chapter 54, Water Quality Standards, and Chapter 55, Water Pollution Control, of Title 11, Administrative Rules of the State Department of Health.

31. 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 HDOT as-builts at the HDOT Kapolei Kakuhihewa Building to locate potential conflicts with utilities prior to excavation. If there is a potential conflict, the Contractor shall inform HDOT within 24 hours of discovery. Contractor shall probe around area and take precautions to not damage utilities.

32. HAWAII ONE CALL CENTER
The Contractor shall contact Hawaii One Call Center (HOCC) to have respective utility companies and agencies mark where their undeground utilities are located. The Contractor shall comply with all requirements of Hawaii One Call Law. The Contractor shall be liable for any damages if Hawaii One Call requirements are not strictly adhered to.

    a. 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

    b. 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 light 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

    c. In accordance with Hawaii State Law Section 269E-7, the HOCC shall provide an inquiry identification number for each location request provided by the Contractor. The 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.

33. Construction of this project shall not affect transit operations. Bus routes and bus stops shall remain open and accessible at all times. Any work affecting bus operations, routes or stops must be submitted to DTS-TMD for review no less than 30 days prior to the start date.

    Point of Contact Information (Notification is required to all phone numbers and emails):

    DTS-TMD: (808) 768-8371
    thebusstop@honolulu.gov and handivan@honolulu.gov

    Oahu Transit Services
    Bus Operations: (808) 768-9520 and (808) 768-9534
    Sean-benneth.paio@thebus.org, Joshua.vaoalii@thebus.org and Walter.oba@thebus.org

    Paratransit Operations: (808) 768-9801, (808) 768-9851 and (808) 454-5021
    Tracie.coelho@thebus.org and Richard.mole@thebus.org

34. The Contractor shall restore to their original condition or better, all improvements damaged as a result of the construction, including pavements, embankments, curbs, signs, landscaping, structures, utilities, walls, fences, etc. unless provided for specifically in the proposal. Demolition and restoration of existing items shall be incidental to the various contract items.

35. The Contractor shall probe near utility lines before installing guardrail posts. This shall be considered incidental to various guardrail items. All materials including but not limited to guardrail, lighting, signage, and fencing shall be brand new and free of defects, such as rust, damage, or corrosion. The contractor shall promptly replace any material exhibiting any of these characteristics at no additional cost or time to HDOT. No signs, fencing, lightning, or guardrail removed shall be reused.

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

    The Contractor shall allow HDOT personnel unlimited and unimpeded access to materials that will be used in the project at all times for inspection and/or testing (this includes but is not limited to access to contractor or subcontractor's base yards, manufacturer yard, production plant, separate storage areas). The Engineer reserves the right to reject any material from being used in the project that the contractor refuses to provide access material too.

37. The Contractor shall designate a Quality Manager (QM) that performs in a separate role from the Contractor's project manager, superintendent, and foreman at no additional cost or time to HDOT.

38. The contractor shall perform Quality Control (QC) in accordance with the contract and specifications. Contractor QC responsibilities shall include (but not limited too) all specified QC material testing and general quality control monitoring of all construction activities to ensure all materials and workmanship meet contract requirements and complies with all local, state, and federal laws/regulations at no additional cost or time to HDOT.

39. The contractor shall create a Quality Management Quality Control Plan (QMQC Plan) and submit and receive approval from the Engineer at least 2 weeks prior to the start of construction. At a minimum, the QMQC Plan shall include the following requirements:

    a. Quality Control and Production Organization - specify the purpose and persons designated as the Quality Manager (QM, contractor-employed or third-party), Foreman, and Quality Control (QC) Technician(s) who will perform any contractor sampling and testing on the project with contact information for all project personnel and attach a personnel organizational chart.

    b. Project QC Implementation - the QCQM Plan shall incorporate submittals as performed by the QM for the weekly schedules, overall project schedules, work plans, and weekly meetings with the Engineer in accordance with Hawaii Standard Specification Section 108. In addition, a pre-activity meeting is required in advance of the start of each new activity, except when waived by the Engineer.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A — Date: November 2024

SHEET No. G3 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	5	411

GENERAL CONSTRUCTION NOTES (CONTINUED):

c. Inspection and Testing - submit a QC sampling and testing plan for each material or line item specified within the contract with method of documenting compliance. Reporting of contractor QC tests shall be submitted to the Engineer as soon as practical, but no later than the day following the test. Test data shall be immediately provided to the Engineer upon request at any time, including prior to the submission of the test report. No payment will be made for the work performed until applicable satisfactory QC test results have been received by the Engineer and confirmed by QA test results.

d. Hold Points - events in the work process that require approval from HDOT prior to continuing work. Hold Points shall be determined by the Engineer. Additional Hold Points can be added by the Engineer when necessary.

e. Material Receiving - all material delivered to the project, excluding testable material, will be inspected for appropriate dimensions, quantity, condition, markings, etc., and accompanied with appropriate documentation. At receipt, the Contractor QC Staff shall inspect general condition of material and determine if material is compliant based on the contract requirements. HDOT shall be given access to the material location with opportunity to inspect the material prior the utilization within the project.

f. Quality Documentation - the contractor shall submit the following documentation at the specified frequency:

1) Daily Inspection Report (DIR) and lane closure inspection checklist within 24-hours after the work shift ends.
2) Submit a traffic control inspection report with any deficiencies and corrective measures taken to address the issue once per week.
3) Submit a material receiving inspection report with pictures for each shipment of material that is not testable but is applicable to the project.
4) Submit a request for transfer of inspected material for applicable material that has been approved on another state project.

g. Quality documentation shall be submitted to the Engineer electronically via email or as otherwise specified by the Engineer, and a hardcopy shall be provided for the previous week in each weekly meeting. The materials receiving inspection report shall also be made available to the project inspector(s).

h. Control of Nonconforming Work and Material - The contractor shall submit a Non-Conformance Report (NCR) to the Engineer as soon as practical for any work, material, temporary traffic control, and/or BMP erosion control that is not in compliance with the contract. The contractor shall propose a resolution to the non-conforming item. Acceptance of a resolution by the Engineer is required before closure of the NCR.

i. Corrective Action - In the event that a non-conforming condition persists or the severity of the condition meets at least one of the criteria listed in the Corrective Action Request (CAR) definition below, then the QM shall issue a CAR to the Engineer. The CAR may also be initiated by the State.

j. The contractor shall propose a resolution to the corrective action request. Acceptance of a resolution by the Engineer is required before closure of the CAR, and work can resume (if ordered to cease in the CAR).

k. No direct payment will be made for compliance with the Quality Management Quality Control Plan notes.

l. The QMQC Plan does not give the contractor authority to deviate from any contract requirements or preclude the responsibility of the contractor to obtain any and all necessary approvals and permits from the appropriate federal, state, and local agencies prior to the start of construction. If there are any discrepancies between the requirements listed in these notes and HDOT Standard Specifications, Job Special Provisions, Plan Sheets, or other contract requirements, the contractor shall notify the Engineer in writing.

40. Quality Management Quality Control Definitions:

a. Daily Inspection Report (DIR) - The DIR shall include a detailed diary that describes the work performed as well as observations made by QC Inspection staff regarding quality control. The DIR shall include other items such as weather conditions, location of work, installed quantities, removed material (with disposal location), tests performed, personnel that performed the work, equipment used, and a list of all subcontractors that performed work on that date. The DIR shall be digitally signed by the responsible person that filled out the document.

b. Lane Closure Inspection (LCI) - checklist that shall be performed daily when a lane closure is used. LCI shall be submitted in conjunction with the DIR. The LCI shall list the exact times (specify as to the nearest minute) that the lane closure began and ended during each work shift.

c. Traffic Control Inspection Report - weekly inspection of temporary traffic control used in a work zone. Each traffic control item shall be inspected with deficiencies noted. Deficiencies shall be corrected by the end of the work shift on the same day of discovery. Deficiencies that pose a direct safety hazard to the public and/or personnel on the project shall be corrected immediately (these deficiencies shall be classified as 'major deficiencies'). Immediately notify the Engineer after the discovery of a major deficiency.

d. Materials Receiving Report - inspection report for each non-testable material shipment associated with the project. The receiving report shall list the name of the responsible party for receiving the material, inspection parameters (identification, quantity, damage, required markings, conformance to specifications, material certification on file, test report, dimensions verified, cleanliness/good condition, properly stored and protected), associated line number, unit, description of the material/equipment, quantity, storage location, and installation location. The Materials Receiving report shall be digitally signed and submitted to the Engineer prior to the use of the material within the project.

e. Materials Request for Transfer of Inspected Material - inspection and transfer report to be addressed to the District Construction Engineer for any approved materials that the contractor wishes to transfer from another State project to this project. The request for transfer shall include type of material, quantity, present location, supplier/manufacturer, and identification (Lot Numbers, Heat Numbers, DOT Sample Card Numbers, or Other Identification on labels or tags). Prior to approval, the material shall be made available to HDOT personnel for re-inspection and testing.

f. Nonconformance Report (NCR) - Report shall be created by the Quality Manager for any for any work, material, temporary traffic control, and/or BMP erosion control that is not in compliance with the contract. The report shall include a description of the nonconformance item with applicable pictures and documentation attached. The NCR shall be digitally signed and email to the Engineer with a proposed resolution to the problem.

g. Corrective Action Request (CAR) - A CAR may be issued for the following conditions:

1) Recurring or systemic non-conformances

2) A situation that threatens public and/or worker safety, could severely damage a utility, reduces the integrity of an existing or new structure, reduces the life span of the work, causes excessive rework or repair, or results in work that deviates from the contract requirements.

3) If the QM and/or the State consider it necessary, the Engineer will request to stop the work that has caused the problem, or in some instances, stop all work on the project. A State issued Corrective Action Request will in the form of a HDOT Order Record (OR).

h. Pre-activity Meeting - Meeting held in advanced before the start of each new activity. At a minimum, the discussion topics shall include: safety precautions, any QC testing, traffic impacts, and any required Hold Points. Attendees shall include the Engineer, the Quality Manager and the foreman who will be leading the new activity. Pre-activity meetings may be held in conjunction with the weekly project meeting.

i. Hold Points - Hold Points are events that require approval by the Engineer prior to continuation of work. Hold Points occur at definable stages of work when, in the opinion of the Engineer, a review of the preceding work is necessary before continuation to the next stage. Use of the Hold Point process will only be required for the project-specific list of Hold Points, if any, that the Engineer submits to the contractor in advance of the work. The Engineer may make changes to the Hold Point list at any time. Prior to all Hold Point inspections, the contractor shall verify the work has been completed in accordance with the contract and specifications. If the Engineer identifies any corrective actions needed during a Hold Point inspection, the corrections shall be completed prior to continuing work. The Engineer may require a new Hold Point to be scheduled if the corrections require a follow-up inspection. Re-scheduling of Hold Points require a minimum 24-hour advance notification from the contractor unless otherwise allowed by the Engineer.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A Date: November 2024

SHEET No. G4 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	6	411

GENERAL CONSTRUCTION NOTES (CONTINUED):

41. The Contractor shall submit copies of all paving quality control measurements and test results to the Engineer on a weekly basis. This includes compaction, density, and pavement core thickness results.

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

43. No material and/or equipment shall be stockpiled or otherwise stored within the highway right-of-way except at locations designated in writing and approved by the Engineer. If use of location is approved by the Engineer, the contractor shall obtain a permit to use the property within the highway right-of-way from Oahu District office at telephone no. 831-6712.

44. Prior to paving operations, the Contractor shall be responsible for locating, preserving, 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, including water, drainage, sewer, gas, electrical, telephone and cable utilities, etc. to be adjusted to the new finished grade. Coordination with State Construction Surveyor shall be done separately.

45. After completion of resurfacing, the Contractor shall test for and determine ponding areas (ie, low spots within the resurfaced area). It shall be the responsibility of the Contractor to correct and resurface and/or repair all such ponding areas at no cost to the State.

46. The final asphalt paved surface shall not have any trench lines on the final roadway surface, unless approved by Engineer.

47. The Contractor shall verify the presence of existing utilities which may conflict with 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.

48. The Contractor shall furnish and maintain all temporary physical barriers needed for all work on the project. This work shall be paid for under lump sum traffic control item No. 645.0100 and shall not be paid for separately.

49. The Contractor shall be responsible for preserving all survey monuments on State property. All survey monuments disturbed or destroyed by the Contractor shall be reinstalled at no cost to the State. Only licensed State of Hawaii Land Surveyors shall reference, locate, adjust or reinstall monuments. The Contractor shall coordinate with the State Construction Surveyor prior to construction to locate and verify all monuments. Adjusted or reset monuments shall comply with Standard Plan D-07 or D-08 where applicable. Following the completion of the monuments, their locations shall be checked. The monuments must check within a tolerance of the smaller of and error ratio of 0.03 feet. Failure to meet the tolerance will require the Contractor to reset the monuments. All costs associated with coordination, referencing, preserving, adjusting, installation, and verification of survey monuments is included in the various contract pay items related to survey monuments.

50. The Contractor shall place Hot Mix Asphalt around manholes and compact properly with a vibrating plate compactor. If a plate compactor is not used, the Contractor shall use a pneumatic roller to roll the area around the manhole. The Contractor shall fog seal or brush emulsion seal on the material placed as backfill on the area around the manhole that was not compacted by the roller.

51. The Contractor shall provide the proper equipment and utilize the necessary means and methods to meet the pavement smoothness requirements noted in the paving specifications. The Contractor shall provide all necessary surveying and engineering services necessary to meet the requirements. Payment for this work shall be included in the various paving pay items and shall not be paid for separately.

52. The Contractor shall comply with utility coordination requirements per Standard Specification Section 104.11. As part of coordination requirements, the Contractor shall include the Engineer in all email correspondences with utilities.

53. Highway lights shall be kept operational and maintained during construction. This work shall be paid for in the highway lighting pay item and shall not be paid for separately.

54. Traffic signals shall be kept operational during construction. Temporary microwave devices shall be installed three working days prior to any signalized intersection disturbance work. All work shall be done in accordance to the requirements of the Department of Transportation Services, City and County of Honolulu. This work shall be paid for inclusive in the various contract pay items and shall not be paid for separately.

55. Initial preparation of shoulder areas shall be done by the Contractor. Shoulder preparation shall consist of clearing, grubbing, grading, reshaping and compacting the unpaved shoulders with suitable excavated material from roadway reconstruction and cold planing, as shown on the plans and/or as directed by the Engineer. Contractor shall also be responsible for finish rolling and maintaining the shoulders until project completion. This work shall be considered incidental to Item No. 401.0100 - Hot Mix Asphalt Pavement, Mix No. IV.

56. All walkways shall conform to ADA requirements. Contractor shall maintain access to existing bus stops, bus routes, HandiVan operations and bicycle facilities during construction. Coordinate with The Bus and the HandiVan as necessary.

57. Contractor shall maintain at least one paved shoulder free and clear of debris for pedestrian and bicycle traffic at the end of each work day.

58. The Contractor shall notify all agencies to verify the actual locations of all utilities in the project area prior to excavating. The Contractor shall coordinate all work to all appropriate agencies.

59. Prior to placement of asphalt concrete base, the exposed subbase or subgrade shall be recompacted to a dense and unyielding condition. The work shall be considered incidental to item No. 301.0100 Hot Mix Asphalt Base Course.

60. The Contractor shall coordinate the construction of the concrete gutters, driveways and sidewalks with property owners to minimize disruptions and allow vehicular access by the end of the work day, either with phased construction or utilizing high-early strength concrete. Concrete mix designs shall be submitted to the Engineer for review and approval.

61. Bed course material for concrete curb ramps, sidewalks and gutter shall be considered incidental to the various contract items.

62. Monuments that are disturbed shall be restored under the Hawaii licensed land surveyor's direction. Any new data such as elevations shall be certified by the surveyor, and submitted to the Engineer.

63. Pedestrian walkways shall be maintained in a safe and passable condition, or other facilities for pedestrians shall be provided. Passages between walkways at intersections shall likewise be provided.

64. No blasting shall be allowed on this project.

65. The Contractor shall notify the One Call Center at (866) 423-7287 at least five (5) days prior to the start of excavation or trenching.

66. The Contractor shall coordinate utility relocation activities with the respective utility agencies as required to maintain contract duration.

67. Dressing of shoulder, sidewalk and bus turnout shall consist of clearing, grubbing, grading, reshaping and compacting the unpaved shoulders with suitable material as shown on the plans and/or as directed by the Engineer. Suitable materials shall include materials from roadway excavation, including topsoil and base material therefrom and if necessary, additional materials from borrow outside the limits of the right of way. This Work shall be considered incidental to the various contract items.

68. All holes, depressions and wheel ruts shall be filled and compacted with Hot Mix Asphalt Pavement, Mix No. V prior to resurfacing. This work shall be considered incidental to the various contract items.

69. The Contractor shall exercise care and protect all existing electrical and street light poles throughout the project's construction duration. Contractor shall be held liable for any damages incurred to the existing electrical and light poles. All damaged poles shall be replaced with the requirements of the affected owner or user at the Contractor's expense.

70. The Contractor shall ensure that no debris will fall off from bridge/culvert crossings into the stream.

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

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: N/A — Date: November 2024

SHEET No. G5 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	7	411

GENERAL CONSTRUCTION NOTES (CONTINUED):

72. Unauthorized occupancy of a lane, shoulder, or location encroached upon or occupied beyond the time periods authorized in the contract or by the Engineer may be subject to rental fees in accordance with Special Provisions Section 108.09.

73. The Contractor is advised that in addition to other Contractors working in the same areas, various utility companies (or their Contractors) may be performing work within the project area. The Contractor shall coordinate all work with other Contractors in the area and coordinate the design. In case of unreasonable conflict among Contractors regarding access or work sites, the Engineer will make the final determination of priorities.

WATER NOTES:

1. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with 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. 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.

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 BWS 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 BWS Capital Projects Division, Construction Section in writing or call (808) 748-5730 and submit six (6) sets of 24"x 36" approved construction plans one week prior to commencing construction activities.

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 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. The contractor shall probe the waterline and service laterals and submit the probing data to BWS Capital Projects Division, Construction Section.

11. Any adjustments to the existing water system required during construction, to meet the minimum cover and the requirements of the BWS standards, whether shown on plans or not, shall be done by the Contractor at no cost to BWS.

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

13. The Contractor and State DOT-HWYs shall notify BWS Capital Projects Division, Construction Section (748-5730) sixty (60) days prior to construction at or near areas in conflict with the BWS project (Job No. 21-053B and Kalawahine 180 2.0 MG Reservoir - Pipeline) to avoid delays and conflict during construction. The Contractor shall allow BWS's contractor to install new water mains prior to any resurfacing work at areas in conflict. BWS shall not be liable for any delays due to the contractor's failure to coordinate the construction schedule for this project.

SEWER NOTES:

1. All sewer construction shall be performed in accordance with the City's Standard Specifications, Sept. 1986, the Department of Public Works Standard Details, Sept. 1984, Current City Practices And Revised Ordinances of Honolulu, 1990, as Amended, and Design Standards of the Department of Wastewater Management Vol. 1, July 1993.

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

3. The Contractor shall be responsible for the protection of all sewer lines and maintaining continuous sewer service to all affected areas during construction.

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

5. Maintain 3'-0" min. horizontal clear separation between all sewer sytems and nearest street lighting ductlines, pullboxes, and handholes paralleling the sewer system at no cost to the city.

6. Maintain 5'-0" horizontal clear separation between street lighting and traffic signal standards (including any modular units) and nearest sewer line system. The Contractor shall field verify for conflicts at each lighting and traffic signal standard location. Where conflicts occur, the Contractor shall coordinate with the Project Engineer to revise the street lighting and traffic signal standard to provide the required clearances at no cost to the city.

7. At the electrical/signal ductline sewer crossing, adjust all electrical/signal ductline elevations to maintain 24" vertical clear separation from all sewerlines or provide reinforced concrete jackets on sewerlines at no cost to the city.

8. For sewer manhole (SMH) adjustment upward less than 3", see City Std. Details S-25. For SMH adjustments upward greater than 3" or for any adjustments downward, reconstruct SMH top from below the cone section.

9. The Contractor shall adjust all manhole frames within the resurfaced area prior to resurfacing. The Contractor shall be responsible for "referencing" these manholes to facilitate the adjustments.

10. The Contractor shall notify the Inspection, Wastewater, Wastewater Branch, DDC At 527-5855 or 523-4345 to arrange for inspection services. Submit 4 sets of approved construction plans. Call 7 days prior to commencement of sewer work. The contractor shall pay for all inspection costs.

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

APPROVED:

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

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A Date: November 2024

SHEET No. G6 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	8	411

HAWAIIAN ELECTRIC COMPANY NOTES:

1. LOCATION OF HAWAIIAN Electric FACILITIES
The location of Hawaiian Electric's overhead and underground facilities shown on the plans are from existing records with varying degrees of accuracy and are not guaranteed as shown. The Contractor shall verify in the field the locations of the facilities and shall exercise proper care in excavating and working in the area. Wherever connections of new utilities to existing utilities and utility crossings are shown, the Contractor shall expose the existing lines at the proposed connections and crossings to verify the depths prior to excavation for the new lines. The Contractor shall be responsible for any damages to Hawaiian Electric's facilities whether shown or not shown on the plans.

2. COMPLIANCE WITH HAWAII OCCUPATIONAL SAFETY AND HEALTH LAWS
The Contractor shall comply with the State of Hawaii's occupational safety and health laws and regulations, including without limitation, those related to working on or near exposed or energized Electrical lines and equipment.

3. EXCAVATION CLEARANCE
The Contractor shall obtain an excavation clearance from Hawaiian Electric's planning and design section of the customer installations division (543-5654) located at 820 Ward Avenue, 4th floor, a minimum of ten (10) working days prior to starting construction.

4. CAUTION!!! ELECTRICAL HAZARD!!!
Existing Hawaiian Electric overhead and underground lines are energized and will remain energized during construction unless prior special arrangements have been made with Hawaiian Electric. Only Hawaiian Electric personnel are to handle these energized lines and erect temporary guards to protect these lines from damage. The Contractor shall work cautiously at all times to avoid accidents and damage to existing Hawaiian Electric facilities, which can result in electrocution.

5. OVERHEAD LINES
State law (OSHA) requires that a worker and the longest object he or she may contact cannot come closer than a specified minimum radial clearance when working close to or under any overhead lines. It is the Contractor's responsibility to be informed of and comply with the law.

At any time should the Contractor anticipate that his work will result in the need to encroach within the minimum required clearance as stated in the law, the Contractor shall notify Hawaiian Electric at least three (3) months prior to the planned encroachment so that, if feasible, the necessary protections (e.g. relocate or de-energize Hawaiian Electric lines) can be investigated. Hawaiian Electric may also be able to blanket its distribution (12kv and below) lines to provide a visual aid in preventing accidental contact. Hawaiian Electric's cost of safeguarding or identifying its lines will be charged to the Contractor.

Contact Hawaiian Electric's customer installations division at 543-7070 for assistance in identifying and safeguarding overhead power lines.

6. POLE BRACING
Contractor shall not excavate within 10 feet of Hawaiian Electric's utility poles or any anchor system supporting the utility pole. If Contractor must excavate an area more than 12 inches deep by 12 inches wide, and closer than 10 feet from a utility pole or its anchor system, Contractor will be responsible for protecting, supporting, securing and taking all precautions to prevent damage to or leaning of existing poles.

Before commencing such excavation, Contractor must notify Hawaiian Electric which may lead to implementing pole bracing requirements. Hawaiian Electric requires a minimum of ten (10) working days to conduct the review of Contractor's submittal. Contractor shall submit its bracing calculations and drawings, prepared and stamped by a licensed structural engineer, to Hawaiian Electric's customer installations division (543-7070) for review. Contractor shall be responsible for the design, installation, and removal of the temporary pole bracing system, as well as all costs incurred by Hawaiian Electric to review Contractor's drawings and to repair or straighten poles impacted by Contractor's activities, including response and restoration costs incurred by Hawaiian Electric arising out of or related to outages caused by Contractor's failure to meet the foregoing requirements. Hawaiian Electric's receipt of pole bracing calculation or drawing submittals of any Contractor, including work procedure, shall not relieve Contractor from any liability resulting from Contractor's excavation near or around Hawaiian Electric's utility poles.

7. UNDERGROUND LINES
The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of underground lines. Hawaiian Electric's existing Electrical cables are energized and will remain energized during construction. Only Hawaiian Electric personnel are to break into existing Hawaiian Electric facilities, handle these cables, and erect temporary guards to protect these cables from damage. The cost of Hawaiian Electric's assistance in providing proper support and protection of its underground lines will be charged to the Contractor. For assistance/
coordination in providing proper support and protection of these lines, the Contractor shall call Hawaiian Electric's customer installations division at 543-7070 a minimum of ten (10) working days in advance.

Special precautions are required when excavating near Hawaiian Electric's 138kv or 46kv underground lines (see Hawaiian Electric instructions to
consultants/Contractors on "excavation near Hawaiian Electric's underground 138kv and/or 46kv lines" for detailed requirements).

For verification of underground lines, the Contractor shall call the Hawaii One Call Center at 866-423-7287 minimum of five (5) working days in advance.

8. UNDERGROUND FUEL PIPELINES
The Contractor shall exercise extreme caution whenever construction crosses or is in close proximity of Hawaiian Electric's underground fuel oil pipelines. Special precautions are required when excavating near Hawaiian Electric's underground fuel oil pipelines (see Hawaiian Electric's specific fuel pipeline "guidelines" to consultants/Contractors on excavation near Hawaiian Electric's underground fuel pipelines for detailed requirements).

9. EXCAVATIONS
When trench excavation is adjacent to or beneath Hawaiian Electric's existing structures or facilities, the Contractor is responsible for:

a) Arranging for Hawaiian Electric standby personnel to observe work at Contractor's cost.
b) Sheeting, bracing, or otherwise supporting the excavation and stabilizing the existing ground to render it safe and secure and to prevent possible slides, cave-ins, and settlements.
c) Properly supporting existing structures or facilities with beams, struts,
under-pinnings, or other necessary methods to fully protect it from damage.
d) Backfilling with proper backfill material including special thermal backfill where existing (refer to engineering division for thermal backfill specifications).

10. RELOCATION OF HAWAIIAN ELECTRIC FACILITIES
Any work required to relocate or modify Hawaiian Electric facilities shall be done by Hawaiian Electric, or by the Contractor under Hawaiian Electric's supervision. The Contractor shall be responsible for all coordination, and shall provide necessary support for Hawaiian Electric's work, which may include, but not be limited to, staking of pole/anchor locations, identifying right of way and property lines, excavation and backfill, permits and traffic control, barricading, and restoration of pavement, sidewalks, and other facilities.

All costs associated with any relocation or modification (either temporary or permanent) for the convenience of the Contractor, or to enable the Contractor to perform his work in a safe and expeditious manner in fulfilling his contract obligations shall be borne by the Contractor.

11. CONFLICTS
Any redesign or relocation of Hawaiian Electric's facilities not shown on the plans may be cause for lengthy delays. The Contractor acknowledges that Hawaiian Electric is not responsible for any delay or damage that may arise as a result of any conflicts discovered or identified with respect to the location or construction of Hawaiian Electric's electrical facilities in the field, regardless of whether the Contractor has met the requested minimum advance notices. In order to minimize any delay or impact arising from such conflicts, Hawaiian Electric should be notified immediately upon discovery or identification of such conflict.

12. DAMAGE TO HAWAIIAN ELECTRIC FACILITIES
The Contractor shall be responsible for the protection of all Hawaiian Electric surface and subsurface utilities and shall be responsible for any damages to Hawaiian Electric's facilities as a result of his operations. The Contractor shall immediately report such damages or any hazardous conditions related to Hawaiian Electric's lines to Hawaiian Electric's trouble dispatcher at 548-7961. Repair work shall be done by Hawaiian Electric or by the Contractor under Hawaiian Electric's supervision. Costs for damages to Hawaiian Electric's facilities shall be borne by the Contractor.

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A Date: November 2024

SHEET No. G7 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
' HAWAII	HAW.	NH-HI-1(279)R	2024	9	411

HAWAIIAN ELECTRIC COMPANY NOTES (CONTINUED):

In case of damage or suspected damage to Hawaiian Electric's fuel pipeline, the Contractor shall immediately notify Hawaiian Electric's security command center at 543-7685 (a 24-hour number) so Hawaiian Electric personnel can secure the damaged section and report any oil spills to the proper authorities. All costs associated with the damage, repair, and oil spill cleanup shall be borne by the Contractor.

13. HAWAIIAN ELECTRIC STAND-BY PERSONNEL
The Contractor may request Hawaiian Electric to provide an inspector to stand-by during construction near Hawaiian Electric's facilities. The cost of such inspection will be charged to the Contractor.

The Contractor shall call Hawaiian Electric's customer installations division at 543-7070 a minimum of three (3) months in advance to arrange for Hawaiian Electric stand-by personnel.

14. CLEARANCES
The following clearances shall be maintained between Hawaiian Electric's ductline and all adjacent structures (charted and uncharted) in the trench:

GUIDELINES FOR MINIMUM HORIZONTAL (PARALLEL) CLEARANCES BETWEEN HAWAIIAN ELECTRIC AND OTHER UNDERGROUND UTILITIES

Underground Utility	Hawaiian Electric Direct Buried Cable	Hawaiian Electric Direct Buried In Conduit (no concrete encasement)	Hawaiian Electric 3" (Minimum) Concrete Encasement	Applicable Notes:
Hawaiian Electric DB Conduits	12"	3"	0"	
Hawaiian Electric 3" Encasement	0"	0"	0"	
Telephone/CATV DB	12"	12"	6"	
Telephone/CATV DB Ducts	12"	12"	6"	
Telephone/CATV 3" Encasement	0"	0"	0"	5
Traffic Signal	12"	12"	12"	
Water DB (BWS Owned)	36"	36"	36"	1, 4
Customer Owned Water Service Laterals	12"	12"	12"	
Water (Concrete Jacketed) (BWS Owned)	36"	36"	36"	1, 4
Gas DB	12"	12"	12"	1
Gas (Concrete Jacketed)	12"	12"	12"	1
Sewer DB	36"	36"	36"	1, 2
Sewer (Concrete Jacketed)	36"	36"	36"	1, 2
Drain	12"	12"	12"	1
Fuel Pipelines				3

NOTES:
1. Where space is available, parallel clearance to other utilities, or foreign structures other than communication or traffic signal shall be 36".

2. If 36" clearance cannot be met:
   - If clearance is less than 12", Jacket sewer line with reinforced concrete (per Hawaiian Electric's std. 30-1030) for a distance of 5' plus pipe diameter.
   - If clearance is between 12" and 36", jacket sewer line with plain concrete.
3. All Fuel Pipeline crossings shall be reviewed and approved by the company that owns and maintains it.
4. 5 feet clear to water mains 16" and larger.
5. For situations with 0" minimum separation, a 6" separation is recommended.
6. Clearances measured from outer edges or diameters of utilities. Whenever concrete jackets are involved, clearances shall be total clear distance between the concrete jacket and utility concerned.

GUIDELINES FOR MINIMUM VERTICAL (CROSSING) CLEARANCES BETWEEN HAWAIIAN ELECTRIC AND OTHER UNDERGROUND UTILITIES

Underground Utility	Hawaiian Electric Direct Buried Cable	Hawaiian Electric Direct Buried In Conduit (no concrete encasement)	Hawaiian Electric 3" (Minimum) Concrete Encasement	Applicable Notes:
Hawaiian Electric DB Conduits	6"	3"	0"	
Hawaiian Electric 3" Encasement	0"	0"	0"	
Telephone/CATV DB	12"	12"	6"	
Telephone/CATV DB Ducts	12"	12"	6"	
Telephone/CATV 3" Encasement	0"	0"	0"	3
Traffic Signal	12"	12"	6"	
Water DB (BWS Owned)	12"	12"	12"	5
Customer Owned Water Service Laterals	6"	6"	6"	
Water (Concrete Jacketed) (BWS Owned)	12"	12"	12"	5
Gas DB	12"	12"	12"	
Gas (Concrete Jacketed)	12"	12"	12"	
Sewer DB	24"	24"	24"	1
Sewer (Concrete Jacketed)	24"	24"	24"	1
Drain	12"	12"	6"	
Fuel Pipelines				2

NOTES:
1. If clearance cannot be met:
   - If clearance is less than 12", Jacket sewer line with reinforced concrete (per HAWAIIAN ELECTRIC's std. 30-1030) for a distance of 5' plus pipe diameter.
   - If clearance is between 12" and 24", jacket sewer line with plain concrete.
2. All Fuel Pipeline crossings shall be reviewed and approved by the company that owns and maintains it.
3. For situations with 0" minimum separation, a 6" separation is recommended.
4. Clearances measured from outer edges or diameters of utilities. Whenever concrete jackets are involved, clearances shall be total clear distance between the concrete jacket and utility concerned
5. 36" clearance is required for trenchless installation work.

15. AUTHORITY
All construction, restoration work, and inspection shall be subject to whichever governmental agency has authority over the work.

16. SPECIFICATIONS
Construction of Hawaiian Electric's underground facilities shall be constructed in accordance with the latest revisions of Hawaiian Electric Specifications cs7001, cs7003, cs7202, cs9301, and cs9401 and applicable Hawaiian Electric standards.

17. CONSTRUCTION
Contractor shall furnish all labor, materials, equipment, and services to properly perform and fully complete all work shown on the contract, drawings, and specifications. All materials shall be new and manufactured in the United States of America. All manhole, handhole, and ductline installations shall be inspected and approved by Hawaiian Electric prior to excavation and prior to placing concrete. Contractor shall notify Hawaiian Electric's inspection group at 543-2567 at least five (5) working days prior to installing facilities or placing concrete.

Contractor to coordinate work to break into Hawaiian Electric's existing electrical facilities with Hawaiian Electric's inspection group at 543-2567 at least ten (10) working days in advance.

18. STAKEOUT
The Contractor shall arrange for toneouts of all underground facilities and shall stakeout all proposed Hawaiian Electric facilities within the project area so as to not conflict with any utility (existing or proposed) and any proposed construction or improvement work for verification by Hawaiian Electric before proceeding with Hawaiian Electric work.

19. DUCTLINES
All ductline installations shall be PVC schedule 40 encased in concrete, unless otherwise noted. All completed ductlines shall be mandrel tested by the Contractor in the presence of Hawaiian Electric's inspector using Hawaiian Electric's standard practice. The Contractor shall install 1800# tensile strength muletape pull line in all completed ductlines after mandrel testing is complete.

20. JOINT POLE REMOVAL
The last joint pole occupant off the poles shall remove the poles.

21. AS-BUILT PLANS
The Contractor shall provide Hawaiian Electric with a set of electronic and hard copy plans of each sheet showing the offsets, stationing, and vertical elevation of the duct line(s) constructed.

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: N/A Date: November 2024

SHEET No. G8 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	10	411

LEGEND:

e	Existing Electrical Line
E	New Electrical Line
jp	Existing Joint Pole
pp	Existing Power Pole
emh	Existing Electric Manhole
EMH	Adjusted Elec. MH Frame/Cover
EMH	New Electric Manhole
EB	Adjusted Electric Box
t	Existing Telephone Line
T	New Telephone Line
tp	Existing Telephone Pole
tmh	Existing Telephone Manhole
tpb	Existing Telephone Pullbox
TMH	Adjusted Tele. MH Frame/Cover
TMH	New Telephone Manhole
w 12	Existing 12" Water Line
W 12	New 12" Water Line
wmh	Existing Water Manhole
WMH	Adjusted Water MH Frame/Cover
WMH	New Water Manhole
av	Existing Water Air Valve
AV	Adjusted Water Air Valve
AV	New Water Air Valve
wv	Existing Water Valve Box
WV	Adjusted Water Valve Box
WV	New Water Valve Box
wm	Existing Water Meter
WM	Adjusted Water Meter
WM	New Water Meter
fh	Existing Fire Hydrant
FH	New Fire Hydrant
bfp	Existing Water Backflow Preventer
s 12	Existing Sewer Line
S 12	New 12" Sewer Line
smh	Existing Sewer Manhole
SMH	Adjusted Sewer MH Frame/Cover
SMH	New Sewer Manhole
g 6	Existing 6" Gas Line
G 6	New 6" Gas Line
gv	Existing Gas Valve Box
GV	Adjusted Gas Valve Box
GV	New Gas Valve Box
gmh	Existing Gas Manhole
GMH	Adjusted Gas MH Frame/Cover
GMH	New Gas Manhole
mon.	Existing Monument
MON.	Adjusted Monument
MON.	New Monument
d 24	Existing 24" Drain Line
24" RCP	New 24" RCP Drain Line
sdmh	Existing Storm Drain Manhole
SDMH	Adjusted Storm Drain MH Frame/Cover
SDMH	New Storm Drain Manhole
gdi	Existing Grated Drop Inlet
cb	Existing Catch Basin
TS	Adjusted Traffic Sensor
	Existing Traffic Sign With 1 Post
	New Traffic Sign With 1 Post
	Existing Traffic Sign With 2 Posts
	New Traffic Sign With 2 Posts
	Existing Traffic Sign With 3 Posts
	New Traffic Sign With 3 Posts
	Existing Highway Lighting Standard
	Existing Single Metal Guardrail
	New Single Metal Guardrail
	Existing Double Metal Guardrail
	34" Type KAT Transition Structure
	Right-of-Way
x	Existing Fence
x	New Fence
tsb	Existing Traffic Signal Box
tsp	Existing Traffic Signal Pole
lpb	Existing Street Lamp Pullbox
	Existing Concrete Barrier

ABBREVIATION LIST:

A.C.	Asphalt Concrete
ACB	Asphalt Concrete Base
ADT	Average Daily (two-way) Traffic volume
Ah.	Ahead
Approx.	Approximately
ASTM	American Society for Testing and Materials
Avg.	Average
AV/AVE.	Avenue
Az.	Azimuth
Blvd./BLVD	Boulevard
℄	Baseline
Bk.	Back
BVC	Beginning of Vertical Curve
C	Chord Length
℄	Center Line
CLSM	Controlled Low-Strength Material
Conc.	Concrete
CRM	Concrete Rubble Masonry
D	The directional distribution of traffic during the design hour. It is the one-way volume in the predominant direction of travel expressed as a percentage of DHV.
D, Dia.	Diameter
DIST.	District
Demo	Demolition
Det.	Detail
DHV	Design Hourly Volume. It is normally the estimated 30th highest hour two-way traffic volume for the design year selected.
DI	Drop Inlet
Dir.	Director
Div.	Division
EB	Eastbound
EG	Existing Ground
EMH	Electric Manhole
EP	Edge of Pavement
Elev.	Elevation
ES	Edge of Shoulder
Exist./Ext'g	Existing
FAP	Federal Aid Project
Fed.	Federal
Fin. Gr.	Finished Grade
Ft.	Foot
H	Height
Haw.	Hawaii
HDOT	Hawaii Department of Transportation
HMA	Hot Mix Asphalt
HMAB	Hot Mix Asphalt Base Course
Horiz.	Horizontal
ht.	Height
Hwy.	Highway
Inv.	Invert
L	Length
Lc	Length of Curve
LF	Linear Foot
Lt.	Left
Max.	Maximum
Min.	Minimum
Mix.	Mixture
M.L.	Match Line
MON.	Monument
MPH	Miles Per Hour
MUTCD	Manual on Uniform Traffic Control Devices
N/A	Not Applicable
No., #	Number
NPDES	National Pollutant Discharge Elimination System
N.T.S.	Not To Scale
o.c.	On Center
o/s	Offset
Pavt./Pav't.	Pavement
P.C.	Point of Curvature
P.C.C.	Portland Cement Concrete
PL	Place
PMA	Polymer-Modified Asphalt
POB	Point of Beginning
POE	Point of Ending
psi	Pounds per Square Inch
Proj.	Project
P.T.	Point of Tangency
PWE	Pressurized Welding Enclosure
R	Radius
Recon.	Reconstruction
RD	Road
RM	Reflective Marker
RPM	Raised Pavement Marker
Rt.	Right
R/W	Right of Way
S	Spread
SDMH	Storm Drain Manhole
S.E.	Superelevation
SMA	Stone Matrix Asphalt
SMH	Sewer Manhole
SSD	Stopping Sight Distance
Sht.	Sheet
Sq.	Square
St./ST.	Street
Sta.	Station
Std.	Standard
T	Tangent Length
T_{24}	The proportion of trucks, exclusive of light delivery trucks, expressed as a percentage of DHA Percent Trucks
TCP	Traffic Control Plan
TCS	Traffic Counting System
T.M.K.	Tax Map Key
Trv.	Traverse
Typ.	Typical
V	The design speed in MPH.
VC	Vertical Curve
Vert.	Vertical
W	Width
WB	Westbound
WMH	Water Manhole
WV	Water Valve

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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — SIGNATURE

04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LEGEND AND ABBREVIATIONS

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A — Date: November 2024

SHEET No. G9 OF 12 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\G9 LEGEND AND ABBREVIATIONS.DWG 8/21/2024 8:51 am

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	11	411

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.

B. WASTE DISPOSAL:

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

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

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

C. EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES:

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

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

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

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

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

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

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

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

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

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

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

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION AND EROSION CONTROL NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A Date: November 2024

SHEET No. G10 OF 12 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\G10 WATER POLLUTION AND EROSION CONTROL NOTES.DWG 8/1/2024 3:55 pm

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	12	411

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.):

11. 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.

12. 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.

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

D. GOOD HOUSEKEEPING BEST MANAGEMENT PRACTICES:

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

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

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

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

3. Onsite and Offsite Product Specific Plan
   The following product specific practices shall be followed onsite:
   a. Petroleum Based Products:
      Monitor all onsite vehicles for leaks and perform regular preventive maintenance to reduce the chance of leakage. Store petroleum products in tightly sealed containers which are clearly labeled. Apply asphalt substances used onsite according to the manufacturer's recommendation.
   b. Fertilizers:
      Apply fertilizers used only in the minimum amounts recommended by the manufacturer and federal, state, and local requirements. Avoid applying just before a heavy rain event. Apply at the appropriate time of year for the location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth. Once applied, work fertilizer into the soil to limit exposure to storm water. Do not apply to storm conveyance channels with flowing water. Storage shall be in a covered shed or in an area where fertilizer will not come into contact with precipitation or stormwater. Transfer the contents of any partially used bags of fertilizer to a sealable plastic bin to avoid spills.
   c. Paints:
      Seal and store all containers when not required for use. Do not discharge excess paint to the drainage system, sanitary sewer system, or State waters. Dispose properly according to manufacturers' instructions and State and local regulations.
   d. Concrete Trucks:
      Washout or discharge concrete truck drum wash water only at a designated site as far as practicable from storm drain inlets or State waters. Do not discharge water in the drainage system or State waters. Disposal by percolation is prohibited. Clean disposal site as required or as requested by the Engineer.

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER POLLUTION AND EROSION CONTROL NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A Date: November 2024

SHEET No. G11 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	13	411

WATER POLLUTION AND EROSION CONTROL NOTES (Cont.):

E. PERMIT REQUIREMENTS:

1. The calculated land disturbance area for this project based on the construction plans is 0.34 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 the 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 gauge 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. EC-5 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.

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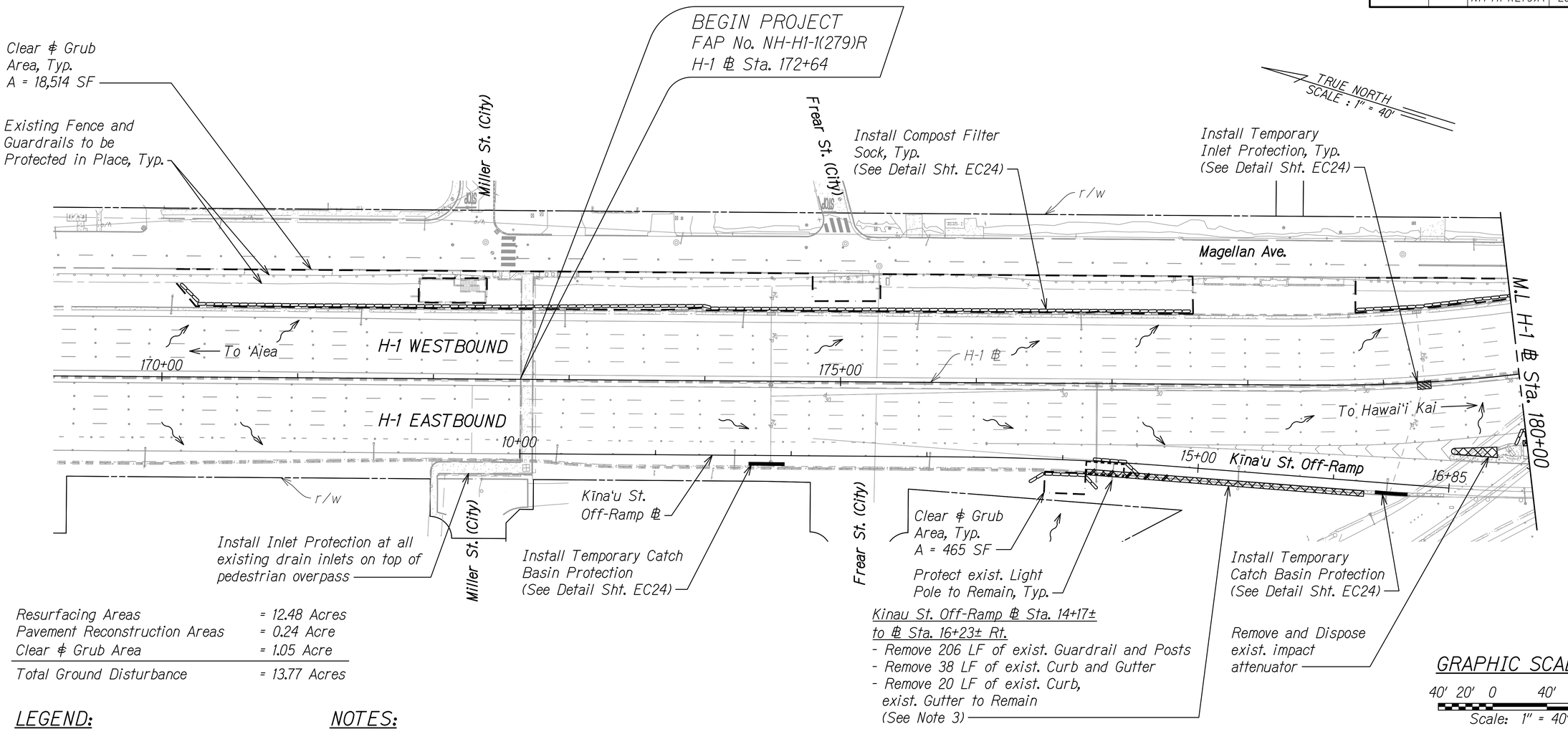
WATER POLLUTION AND EROSION CONTROL NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: N/A Date: November 2024

SHEET No. G12 OF 12 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	14	411



Resurfacing Areas	= 12.48 Acres
Pavement Reconstruction Areas	= 0.24 Acre
Clear & Grub Area	= 1.05 Acre
Total Ground Disturbance	= 13.77 Acres

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

LEGEND:

- Catch Basin Protection
- Flow Arrow
- Inlet Protection
- Remove Exist. Guardrails or Impact Attenuator
- Limits of Clear & Grub
- Demolish Exist. Curb and/or Gutter
- Filter Socks
- Limits of Excavation for Concrete Barrier Footing

NOTES:

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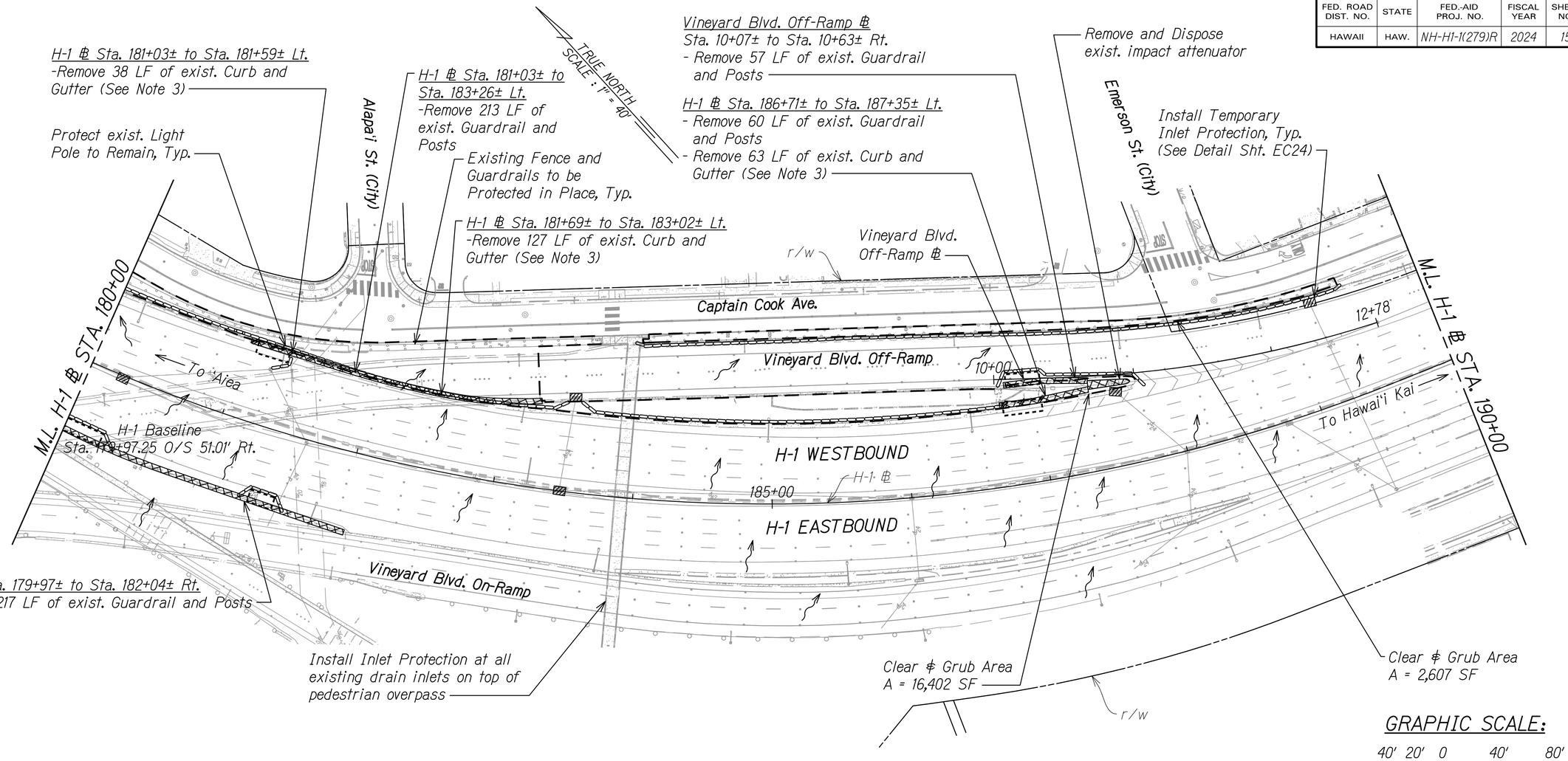
DEMOLITION AND EROSION CONTROL

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC1 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	15	411



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Scale: 1" = 40'

LEGEND:

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- Inlet Protection
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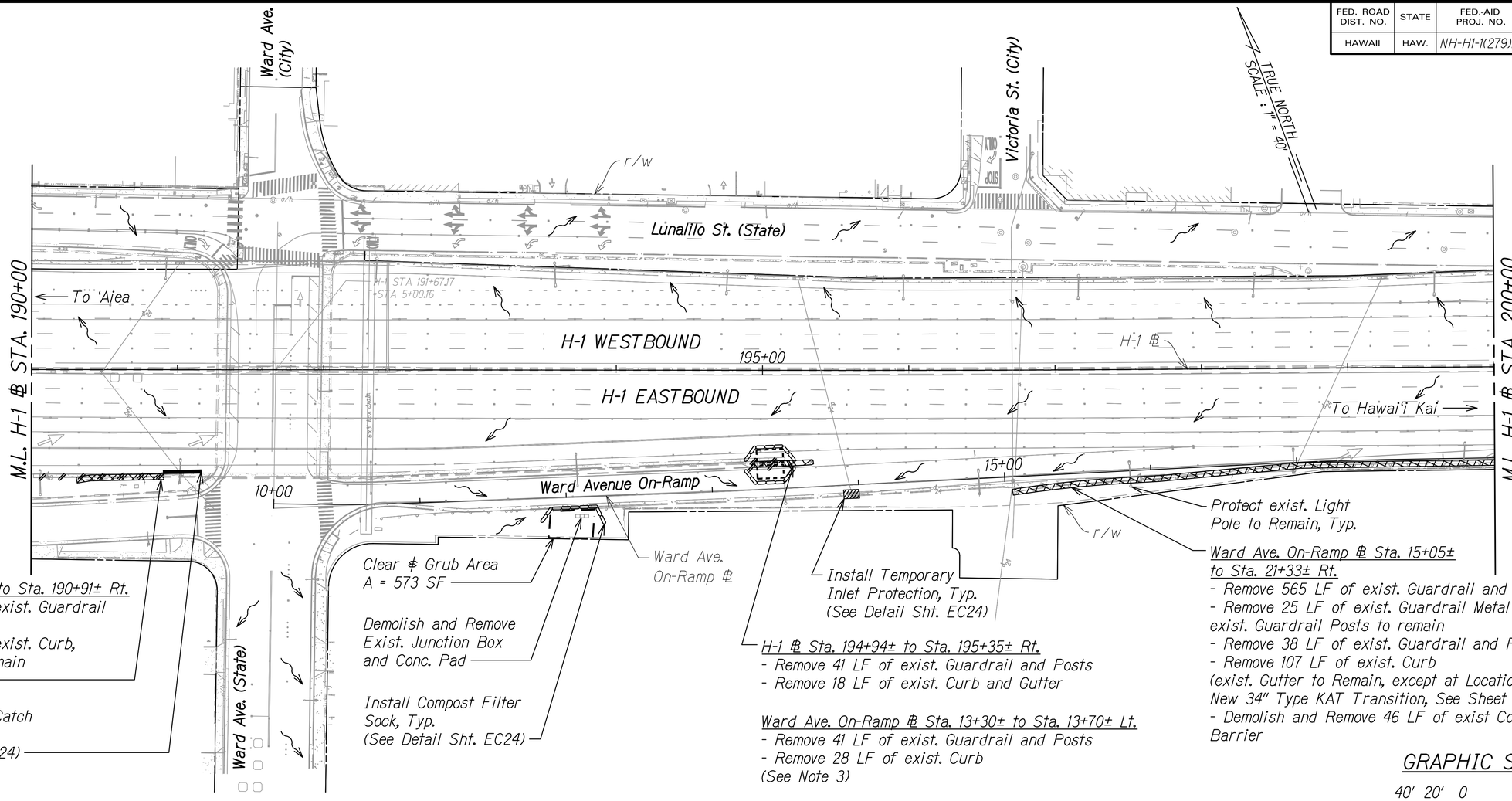
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC2 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\EC1-EC4 DEMO AND EC PLAN.DWG 8/1/2024 4:03 pm

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	16	411



GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

LEGEND:

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- Flow Arrow
- Inlet Protection
- Remove Exist. Guardrails
- Limits of Clear & Grub
- Demolish Exist. Curb and/or Gutter
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INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC3 OF 24 SHEETS

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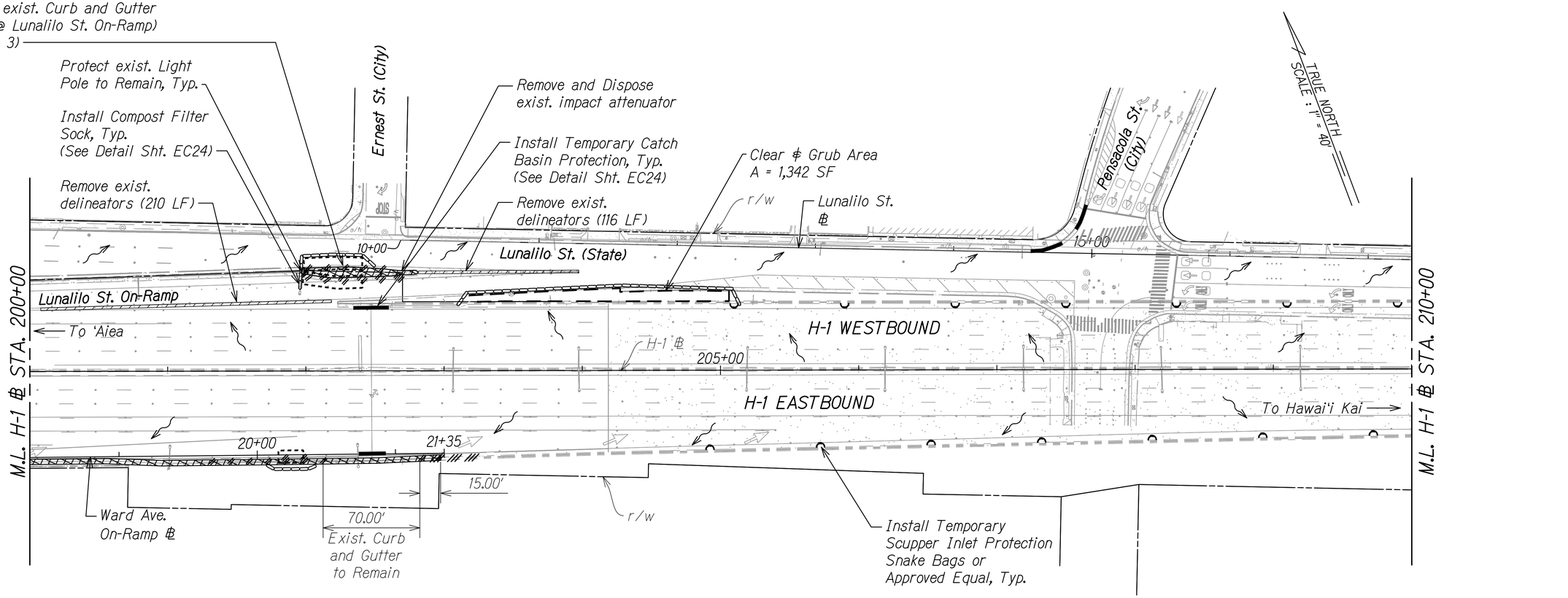
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	17	411

H-1 ℄ Sta. 201+97± to Sta. 202+68± Lt.
- Remove 143 LF of exist. Guardrail and Posts
- Remove exist. Curb (54± LF @ Lunalilo St.)
- Remove exist. Curb and Gutter (69± LF @ Lunalilo St. On-Ramp) (See Note 3)



LEGEND:

- Catch Basin Protection
- Flow Arrow
- Snake Bags or Approved Equal
- Remove Exist. Guardrails or Impact Attenuator
- Limits of Clear ⊕ Grub
- Remove Exist. Delineators
- Demolish Exist. Curb and/or Gutter
- Demolish Exist. Concrete Barrier
- Filter Socks
- Limits of Excavation for Concrete Barrier Footing

NOTES:

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GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

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DEMOLITION AND EROSION CONTROL

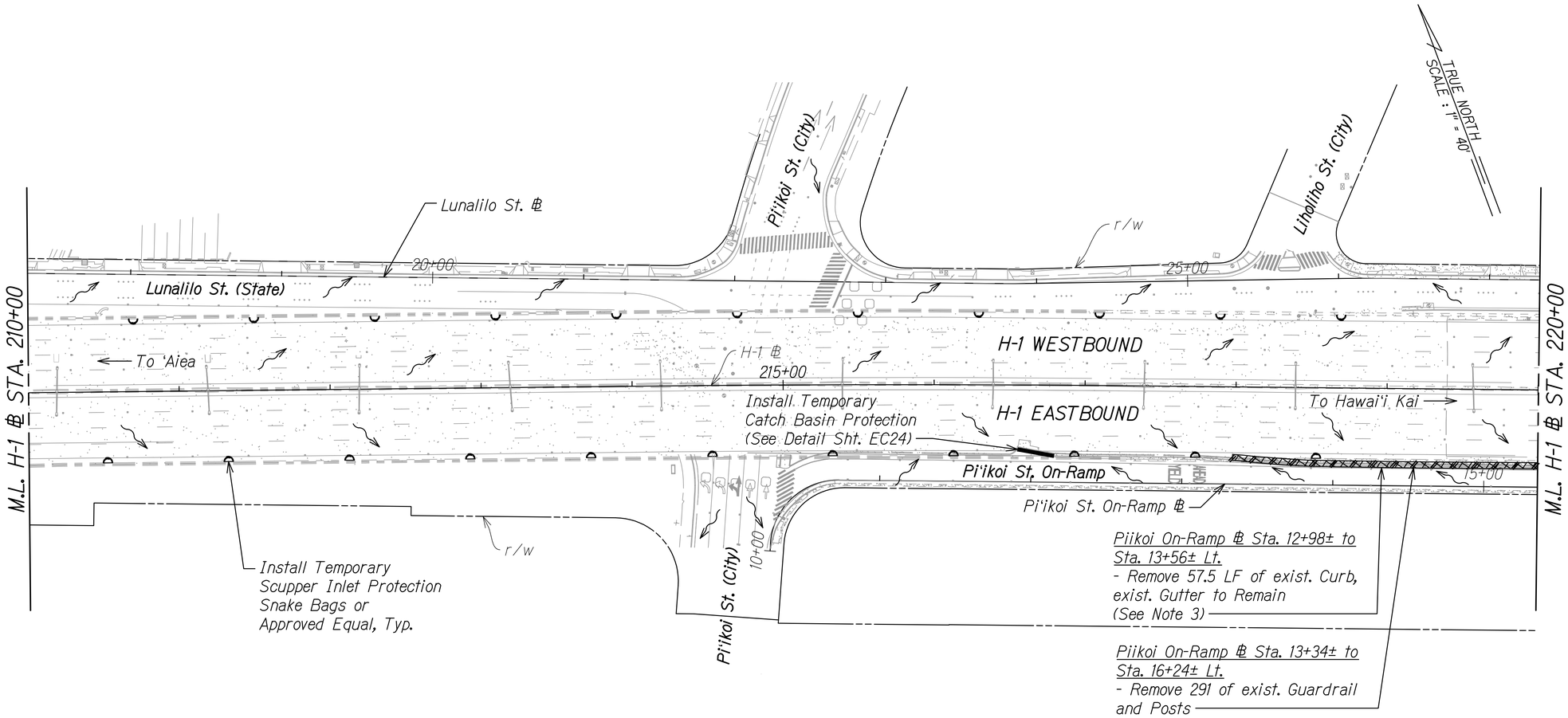
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC4 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\EC1-EC4 DEMO AND EC PLAN.DWG 8/1/2024 4:03 pm

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	18	411



LEGEND:

- Catch Basin Protection
- Flow Arrow
- Snake Bags or Approved Equal
- Remove Exist. Guardrails
- Demolish Exist. Curb

NOTES:

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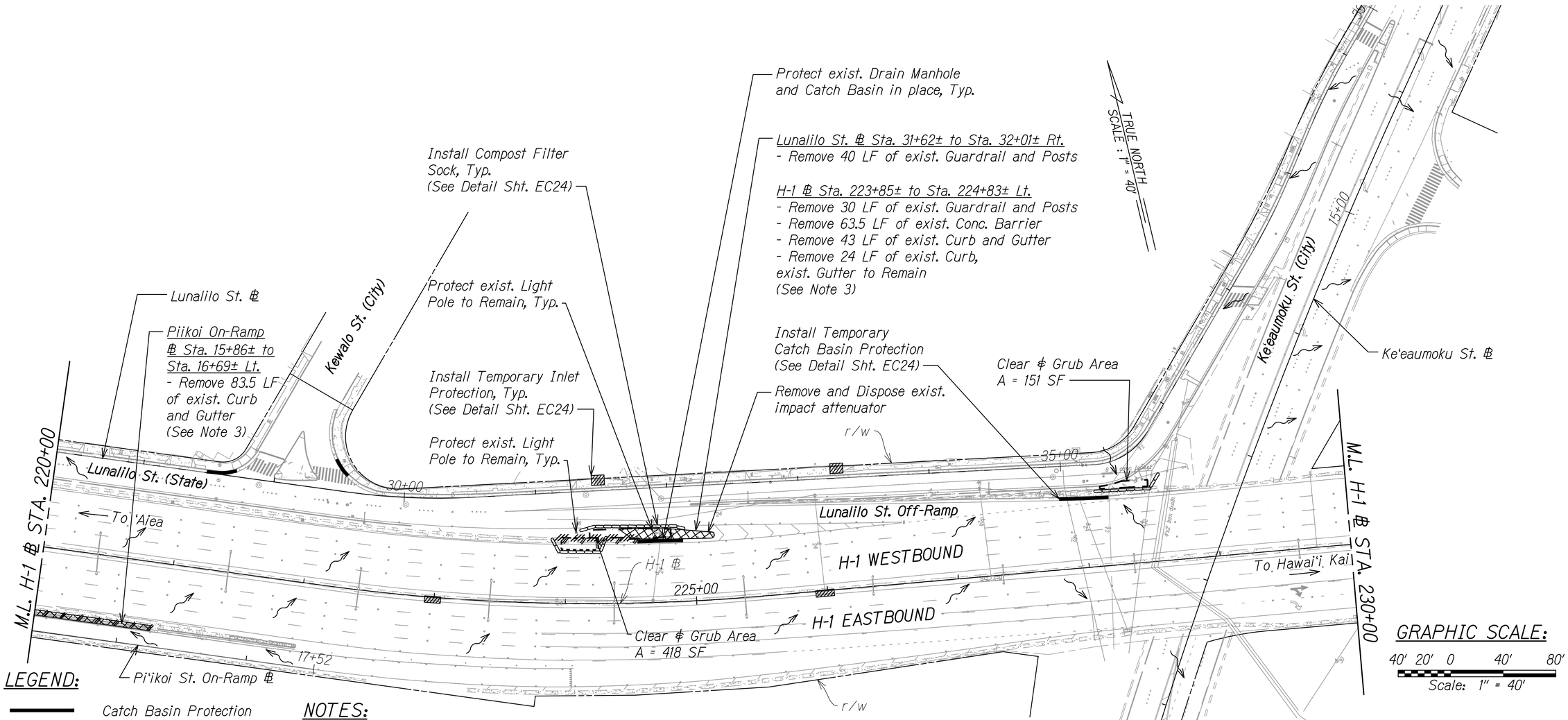
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC5 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	19	411



GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

LEGEND:

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- Flow Arrow
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INTERSTATE ROUTE H-1 RESURFACING
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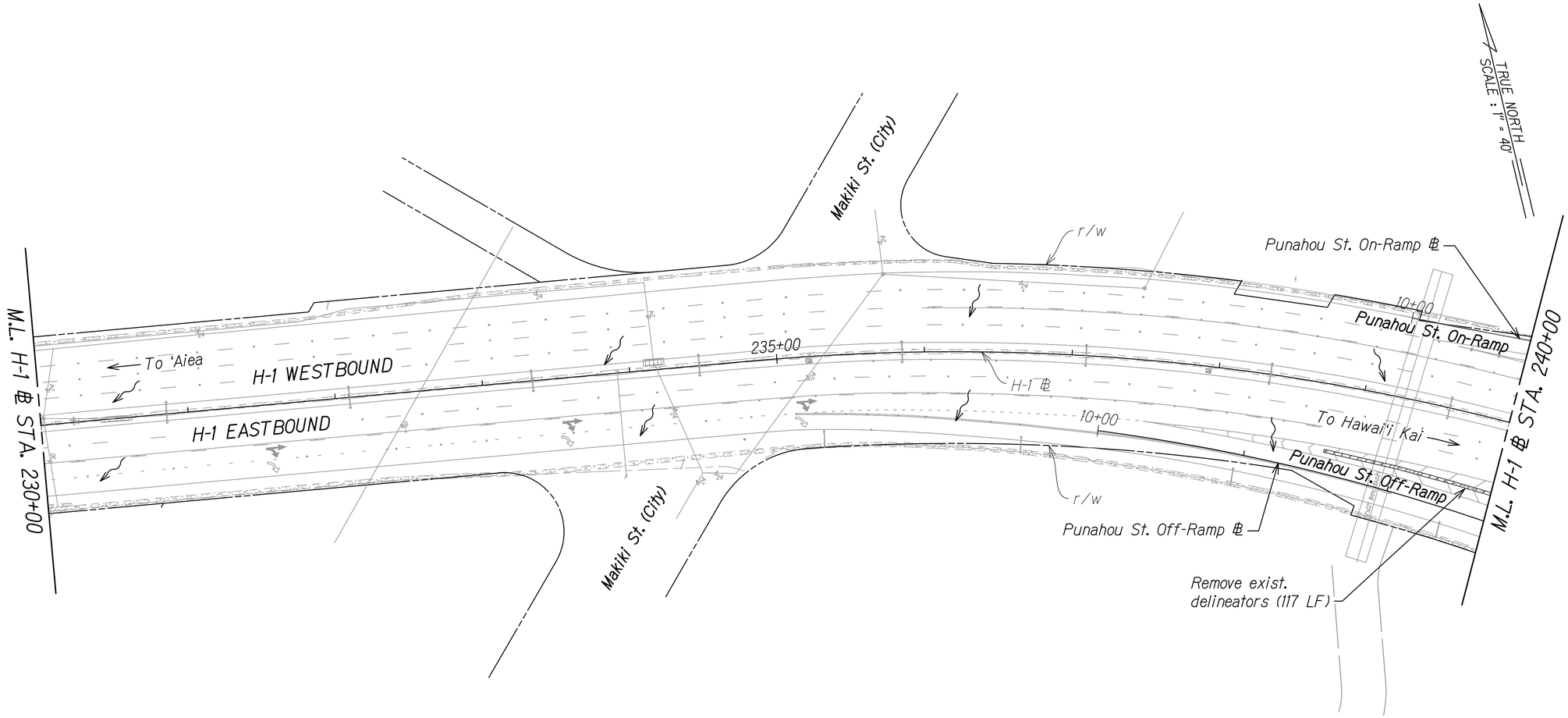
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC6 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\EC5-EC8 DEMO AND EC PLAN.DWG 8/1/2024 4:23 pm

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	20	411



LEGEND:

Flow Arrow

Remove Exist. Delineators

NOTES:

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NO. 13480-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — SIGNATURE

04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DEMOLITION AND EROSION CONTROL

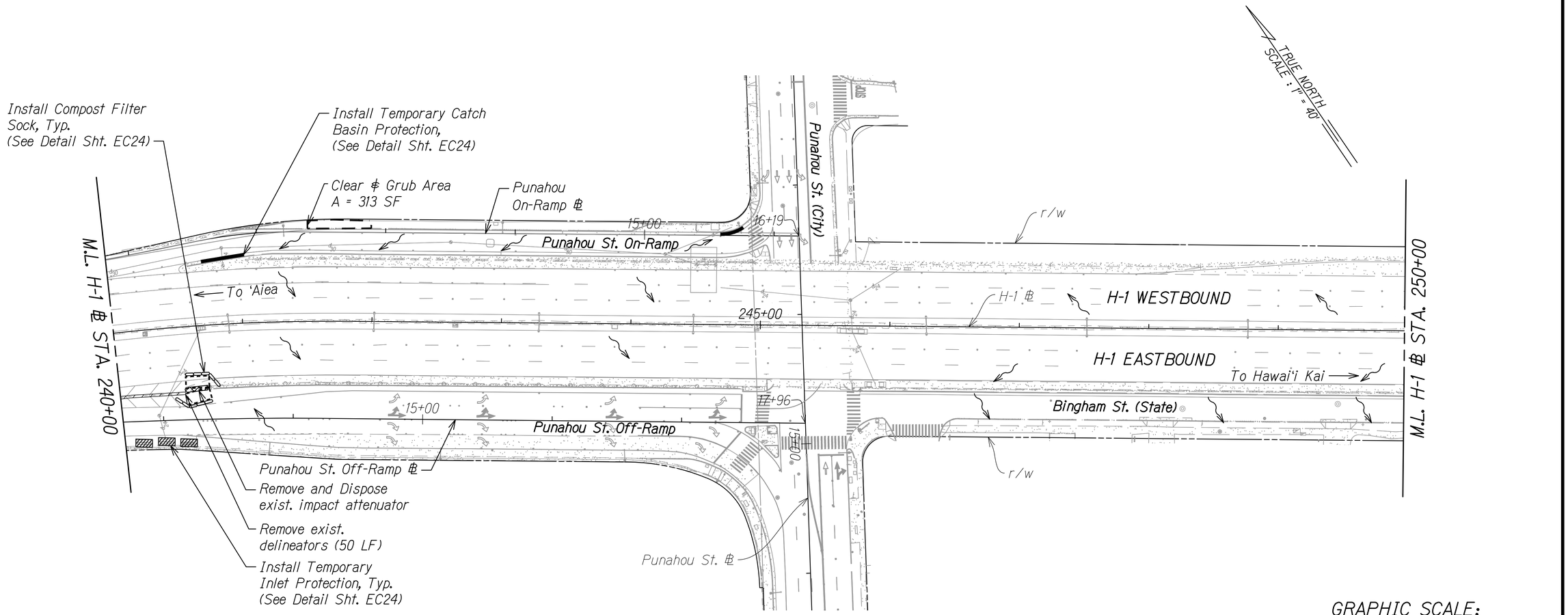
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC7 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\EC5-EC8 DEMO AND EC PLAN.DWG 8/1/2024 4:23 pm

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	21	411



GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

LEGEND:

- Catch Basin Protection
- Flow Arrow
- Inlet Protection
- Remove Exist. Impact Attenuator
- Limits of Clear & Grub
- Remove Exist. Delineators
- Filter Socks
- Limits of Excavation for Concrete Barrier Footing

NOTES:

1. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment and 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.
2. The Contractor shall take proper precautions and make necessary measures to ensure compliance to all applicable but not limited to Federal, State, and HDOT guidelines.
3. Limits of milling, new roadway pavement and curb/curb and gutter reconstruction are shown in Roadway Plans R1 to R26.
4. Traffic sign relocations and any other sign-related works resulting from the proposed improvements are shown in the Pavement Marking and Signing Plans M3 - M25.
5. The Contractor shall only remove existing bushes and vegetation that may hinder construction work for this project related activities/phases and within the right-of-way. The Contractor shall be responsible to protect all open bare areas during all phases of construction to prevent erosion. Best Management Practices shall not be removed until final stabilization is complete for that phase. Bushes and vegetation shall be restored to pre-construction condition prior to final acceptance.

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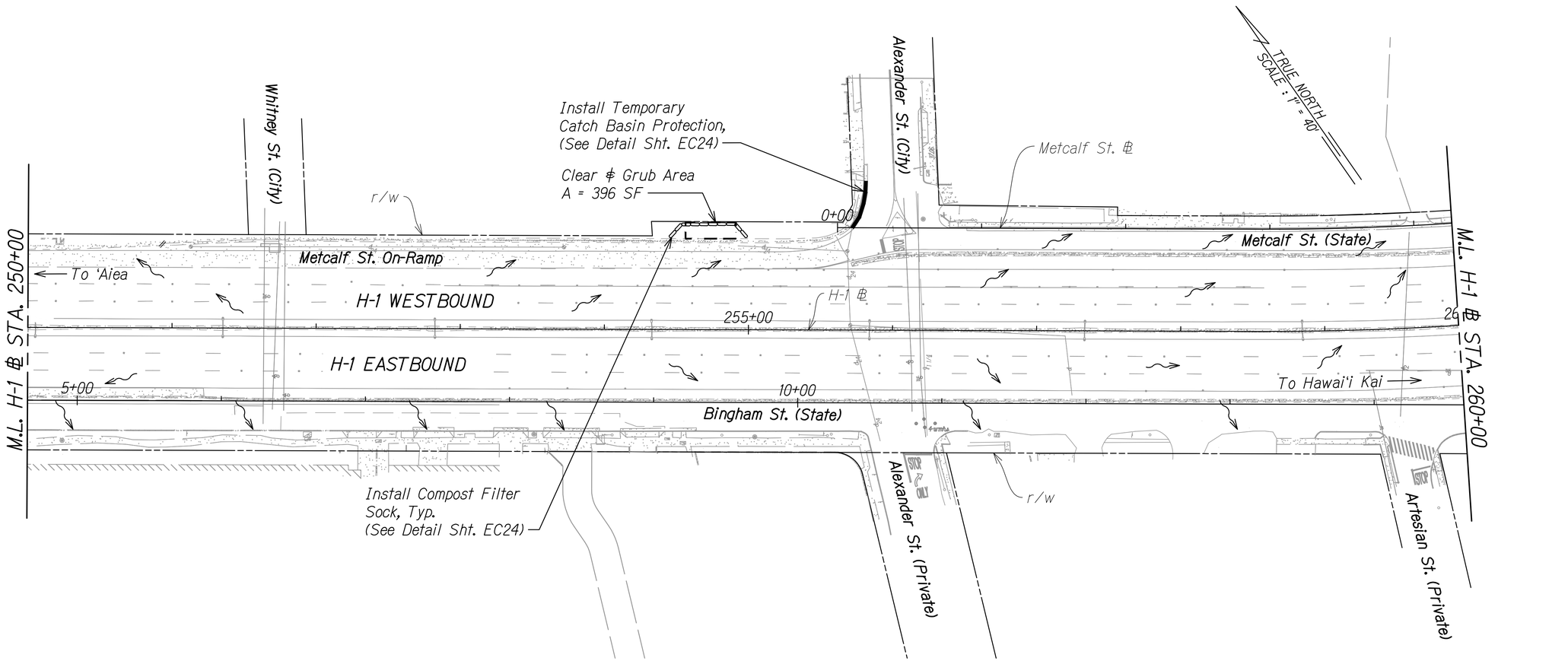
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC8 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIT\01 CIVIL DRAWINGS\EC5-EC8 DEMO AND EC PLAN.DWG 8/1/2024 4:23 pm

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	22	411



GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

LEGEND:

- Catch Basin Protection
- Flow Arrow
- Limits of Clear ⊄ Grub
- Filter Socks

NOTES:

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HIGHWAYS DIVISION

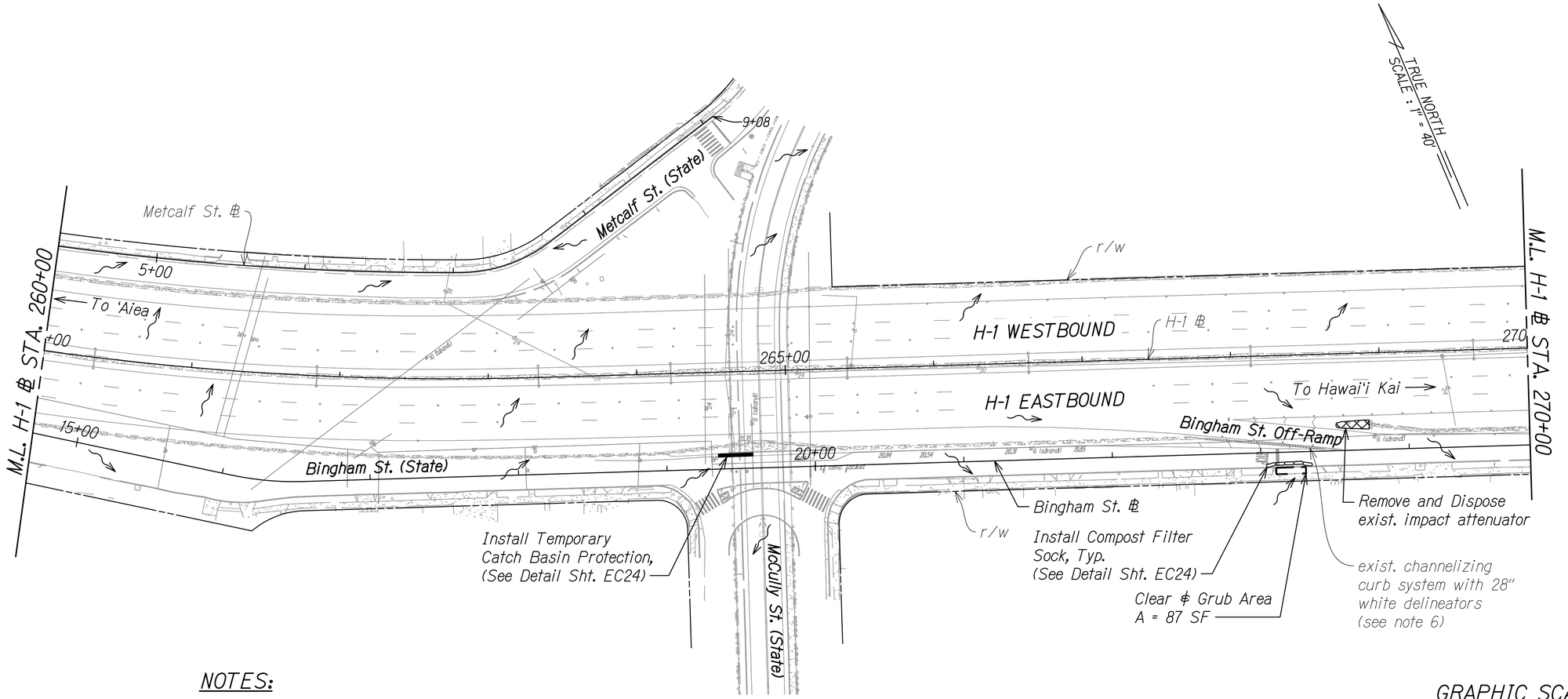
DEMOLITION AND EROSION CONTROL

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC9 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	23	411



LEGEND:

- Catch Basin Protection
- Flow Arrow
- Remove Exist. Impact Attenuator
- Limits of Clear ⊄ Grub
- Filter Socks

NOTES:

1. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment and 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.
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6. The Contractor shall remove the existing Delineators and Channelizing Curb System and reinstall after pavement resurfacing on Bingham Street Off-Ramp is done.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

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STATE OF HAWAII
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HIGHWAYS DIVISION

DEMOLITION AND EROSION CONTROL

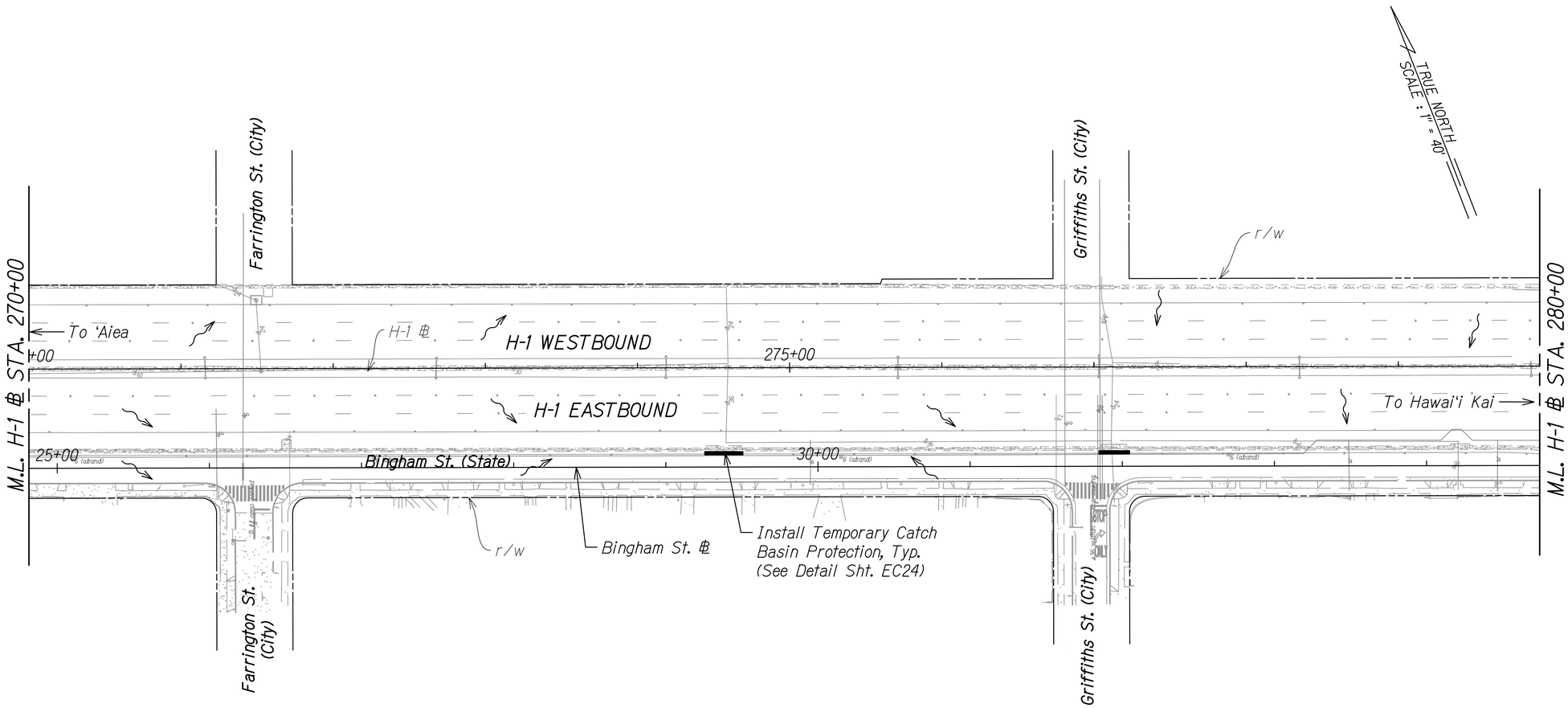
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC10 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\T01 CIVIL DRAWINGS\EC9-EC12 DEMO AND EC PLAN.DWG 7/18/2024 2:14 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	24	411



LEGEND:

Catch Basin Protection

Flow Arrow

NOTES:

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3. Limits of milling, new roadway pavement and curb/curb and gutter reconstruction are shown in Roadway Plans R1 to R26.

4. Traffic sign relocations and any other sign-related works resulting from the proposed improvements are shown in the Pavement Marking and Signing Plans M3 - M25.

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GRAPHIC SCALE:

40' 20' 0 40' 80'

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DEMOLITION AND EROSION CONTROL

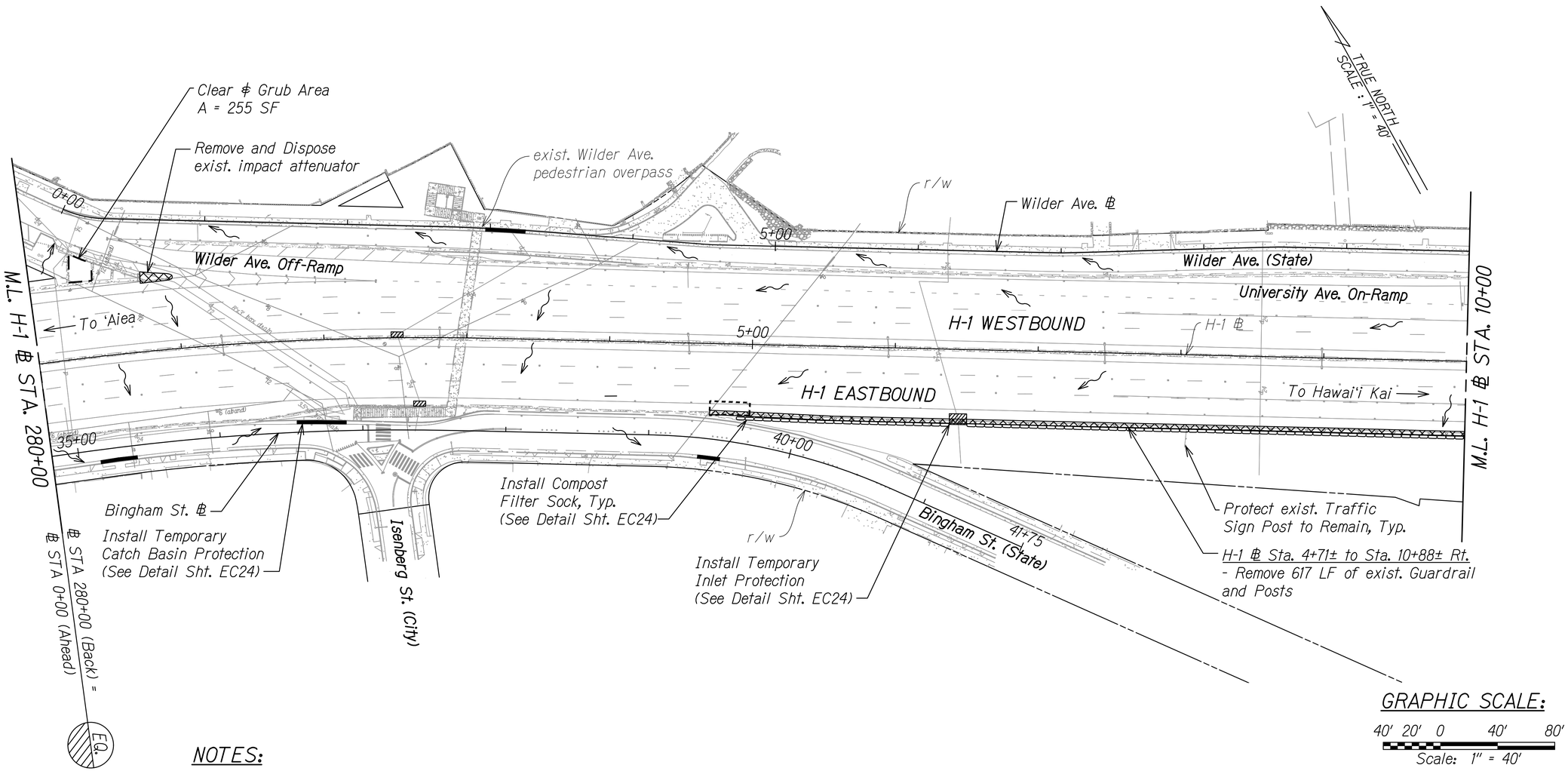
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC11 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI\01 CIVIL DRAWINGS\EC9-EC12 DEMO AND EC PLAN.DWG 7/18/2024 3:21 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	25	411



GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

LEGEND:

- Catch Basin Protection
- Flow Arrow
- Inlet Protection
- Filter Socks
- Remove Exist. Guardrail or Impact Attenuator
- Limits of Clear & Grub
- Filter Socks
- Limits of Excavation for Concrete Barrier Footing

NOTES:

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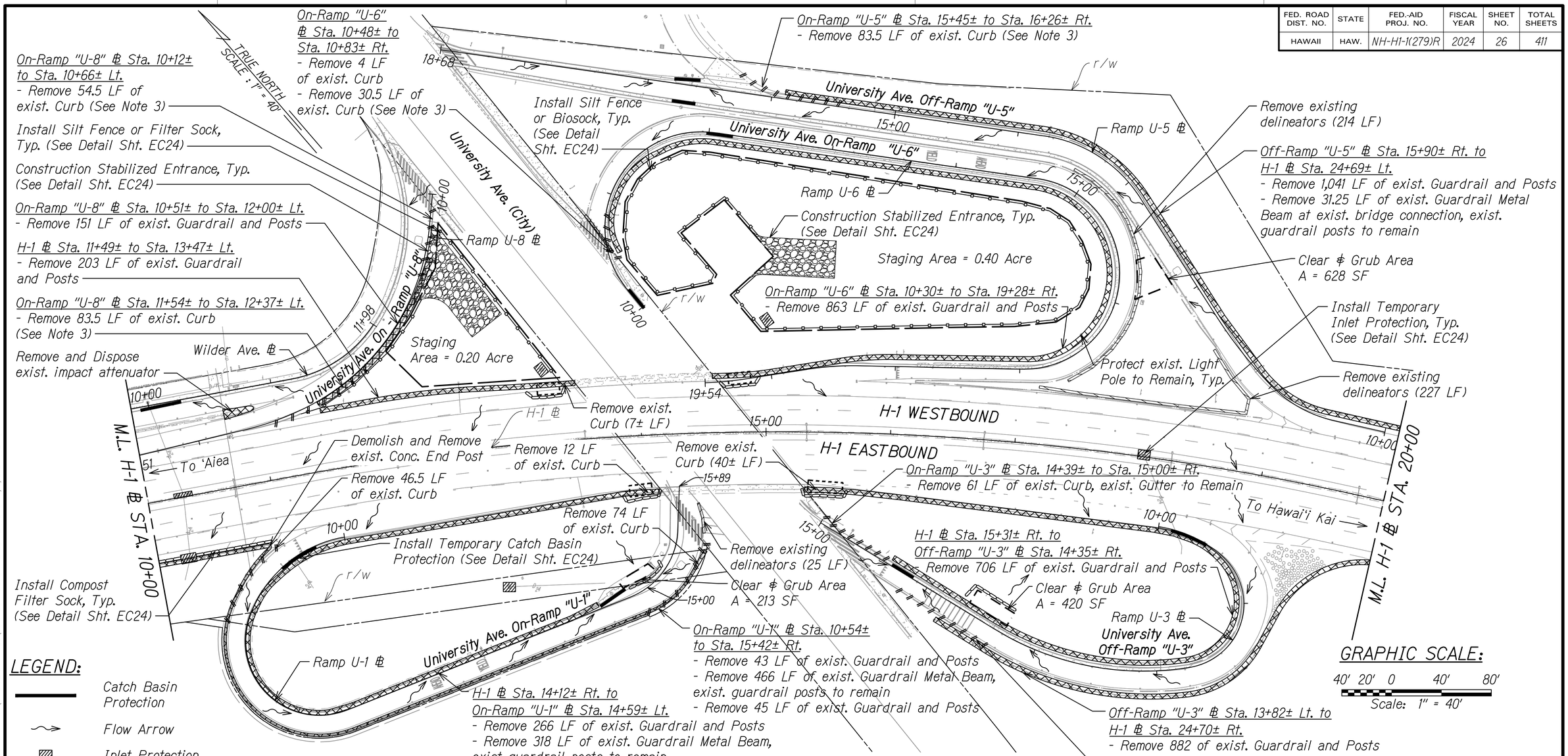
DEMOLITION AND EROSION CONTROL

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC12 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	26	411



LEGEND:

- Catch Basin Protection
- Flow Arrow
- Inlet Protection
- Filter Socks
- Remove Exist. Guardrail or Impact Attenuator
- Silt Fence
- Limits of Clear ⊄ Grub
- Remove Exist. Delineators
- Demolish Exist. Curb or Fence
- Limits of Excavation for Concrete Barrier Footing

NOTES:

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40' 20' 0 40' 80'
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DEMOLITION AND EROSION CONTROL

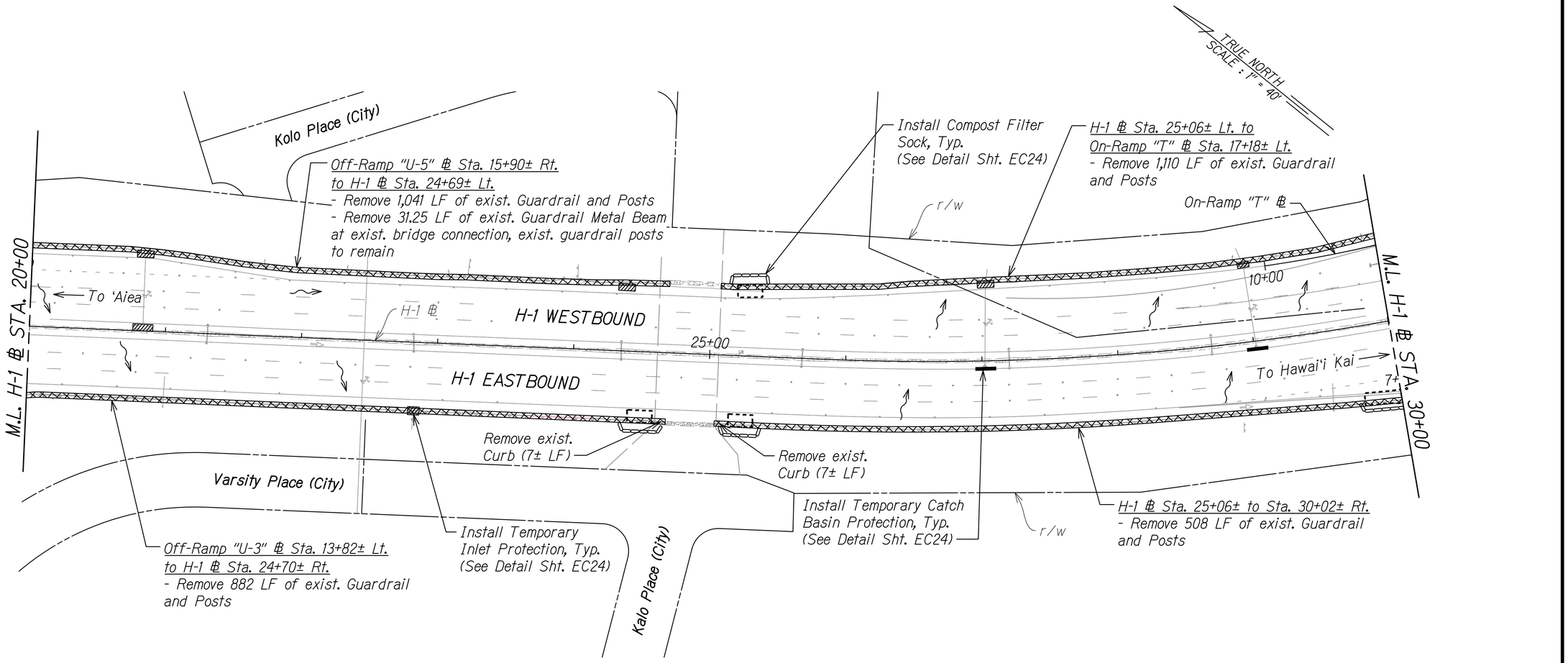
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC13 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\T\01 CIVIL DRAWINGS\EC13-EC17 DEMO AND EC PLAN.DWG 8/2/2024 7:24 am

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	27	411



LEGEND:

- Catch Basin Protection
- Flow Arrow
- Inlet Protection
- Remove Exist. Guardrail
- Filter Socks
- Limit of Excavation for Concrete Barrier Footing

NOTES:

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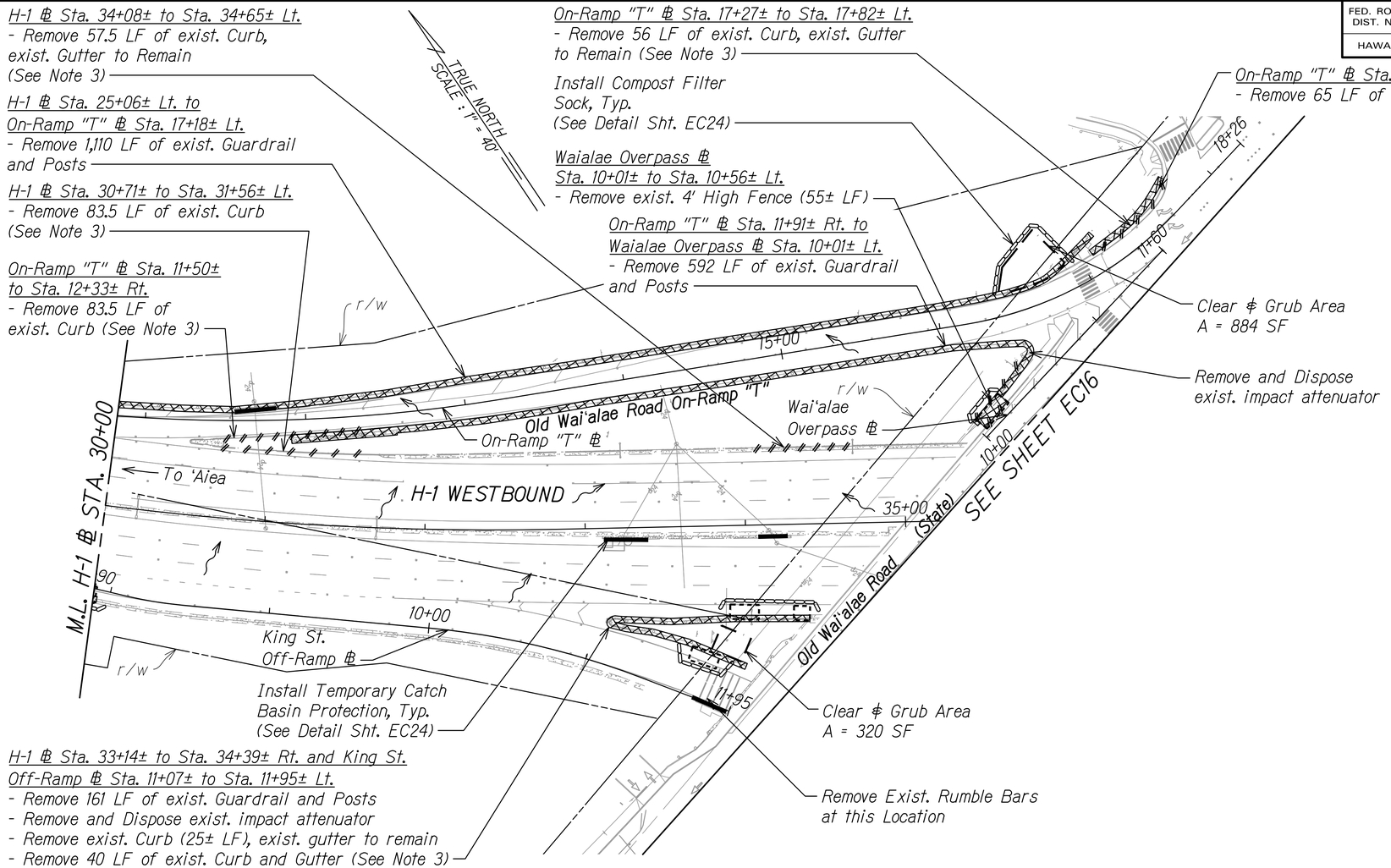
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC14 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\01 CIVIL DRAWINGS\EC13-EC17 DEMO AND EC PLAN.DWG 7/18/2024 3:33 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	28	411



LEGEND:

- Catch Basin Protection
- Flow Arrow
- Remove Exist. Guardrail and Exist. Sidewalk
- Demolish Exist. Curb or Fence
- Limits of Clear ⊄ Grub
- Demolish Exist. Concrete Barrier
- Filter Socks
- Limit of Excavation for Concrete Barrier Footing

NOTES:

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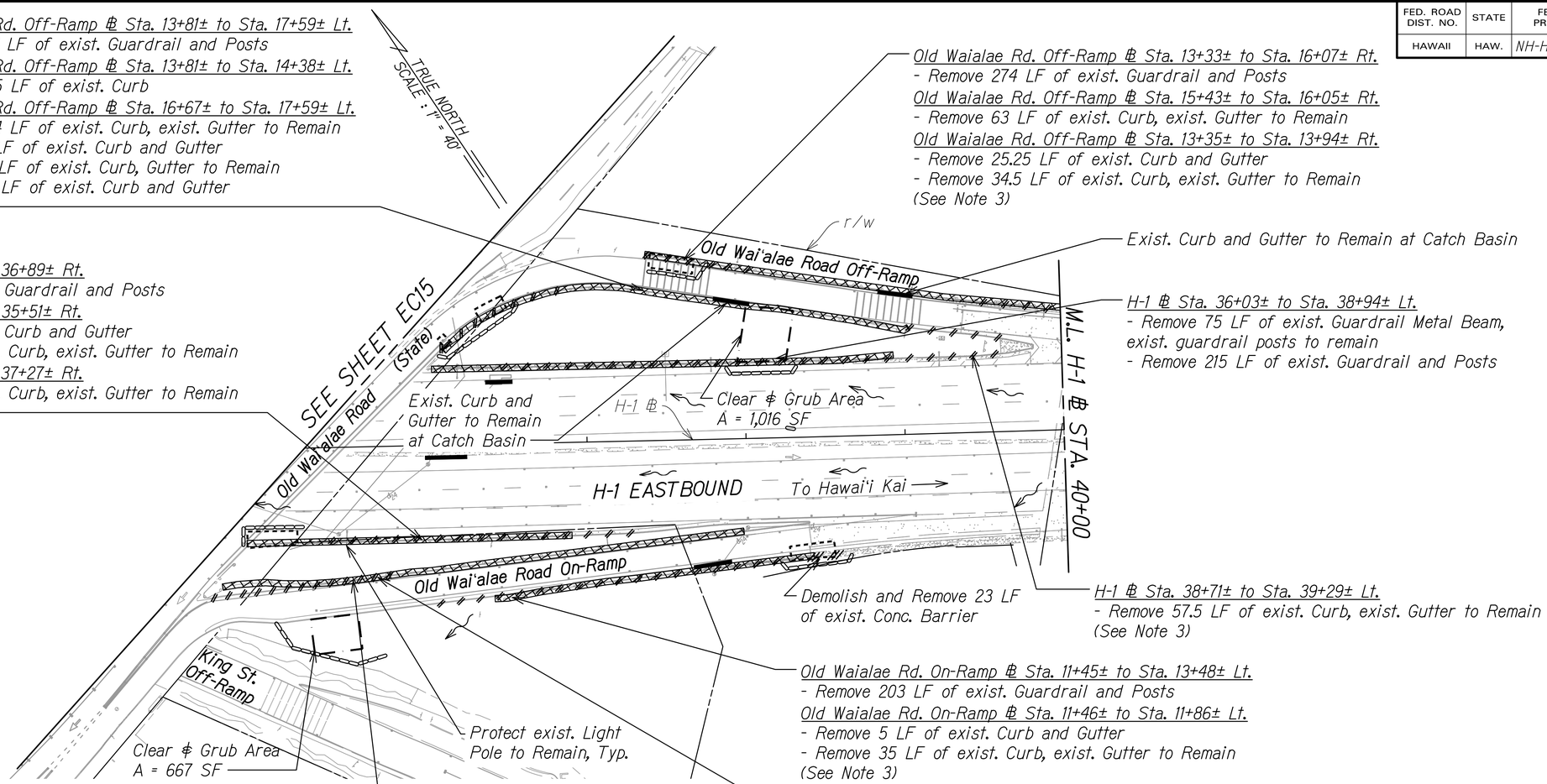
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC15 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	29	411



Old Waialae Rd. Off-Ramp ℄ Sta. 13+81± to Sta. 17+59± Lt.
- Remove 304 LF of exist. Guardrail and Posts

Old Waialae Rd. Off-Ramp ℄ Sta. 13+81± to Sta. 14+38± Lt.
- Remove 57.5 LF of exist. Curb

Old Waialae Rd. Off-Ramp ℄ Sta. 16+67± to Sta. 17+59± Lt.
- Remove 34.4 LF of exist. Curb, exist. Gutter to Remain
- Remove 18 LF of exist. Curb and Gutter
- Remove 23 LF of exist. Curb, Gutter to Remain
- Remove 7.5 LF of exist. Curb and Gutter

(See Note 3)

H-1 ℄ Sta. 34+86± to Sta. 36+89± Rt.
- Remove 204 LF of exist. Guardrail and Posts

H-1 ℄ Sta. 34+85± to Sta. 35+51± Rt.
- Remove 31.5 LF of exist. Curb and Gutter
- Remove 34.5 LF of exist. Curb, exist. Gutter to Remain

H-1 ℄ Sta. 36+44± to Sta. 37+27± Rt.
- Remove 83.5 LF of exist. Curb, exist. Gutter to Remain

(See Note 3)

Old Waialae Rd. Off-Ramp ℄ Sta. 13+33± to Sta. 16+07± Rt.
- Remove 274 LF of exist. Guardrail and Posts

Old Waialae Rd. Off-Ramp ℄ Sta. 15+43± to Sta. 16+05± Rt.
- Remove 63 LF of exist. Curb, exist. Gutter to Remain

Old Waialae Rd. Off-Ramp ℄ Sta. 13+35± to Sta. 13+94± Rt.
- Remove 25.25 LF of exist. Curb and Gutter
- Remove 34.5 LF of exist. Curb, exist. Gutter to Remain

(See Note 3)

H-1 ℄ Sta. 36+03± to Sta. 38+94± Lt.
- Remove 75 LF of exist. Guardrail Metal Beam, exist. guardrail posts to remain
- Remove 215 LF of exist. Guardrail and Posts

H-1 ℄ Sta. 38+71± to Sta. 39+29± Lt.
- Remove 57.5 LF of exist. Curb, exist. Gutter to Remain

(See Note 3)

Old Waialae Rd. On-Ramp ℄ Sta. 11+45± to Sta. 13+48± Lt.
- Remove 203 LF of exist. Guardrail and Posts

Old Waialae Rd. On-Ramp ℄ Sta. 11+46± to Sta. 11+86± Lt.
- Remove 5 LF of exist. Curb and Gutter
- Remove 35 LF of exist. Curb, exist. Gutter to Remain

(See Note 3)

Old Waialae Rd. On-Ramp ℄ Sta. 11+88± to Sta. 15+18± Rt.
- Remove 330 LF of exist. Guardrail and Posts

Old Waialae Rd. On-Ramp ℄ Sta. 14+12± to Sta. 15+25± Lt.
- Remove 113.5 LF of exist. Curb

Old Waialae Rd. On-Ramp ℄ Sta. 11+87± to Sta. 12+34± Lt.
- Remove 5 LF of exist. Curb and Gutter
- Remove 47 LF of exist. Curb

(See Note 3)

LEGEND:

- Catch Basin Protection
- Flow Arrow
- Remove Exist. Guardrail and Exist. Sidewalk
- Demolish Exist. Curb or Fence
- Limits of Clear & Grub
- Demolish Exist. Concrete Barrier
- Filter Socks
- Limit of Excavation for Concrete Barrier Footing

NOTES:

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GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — SIGNATURE

04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

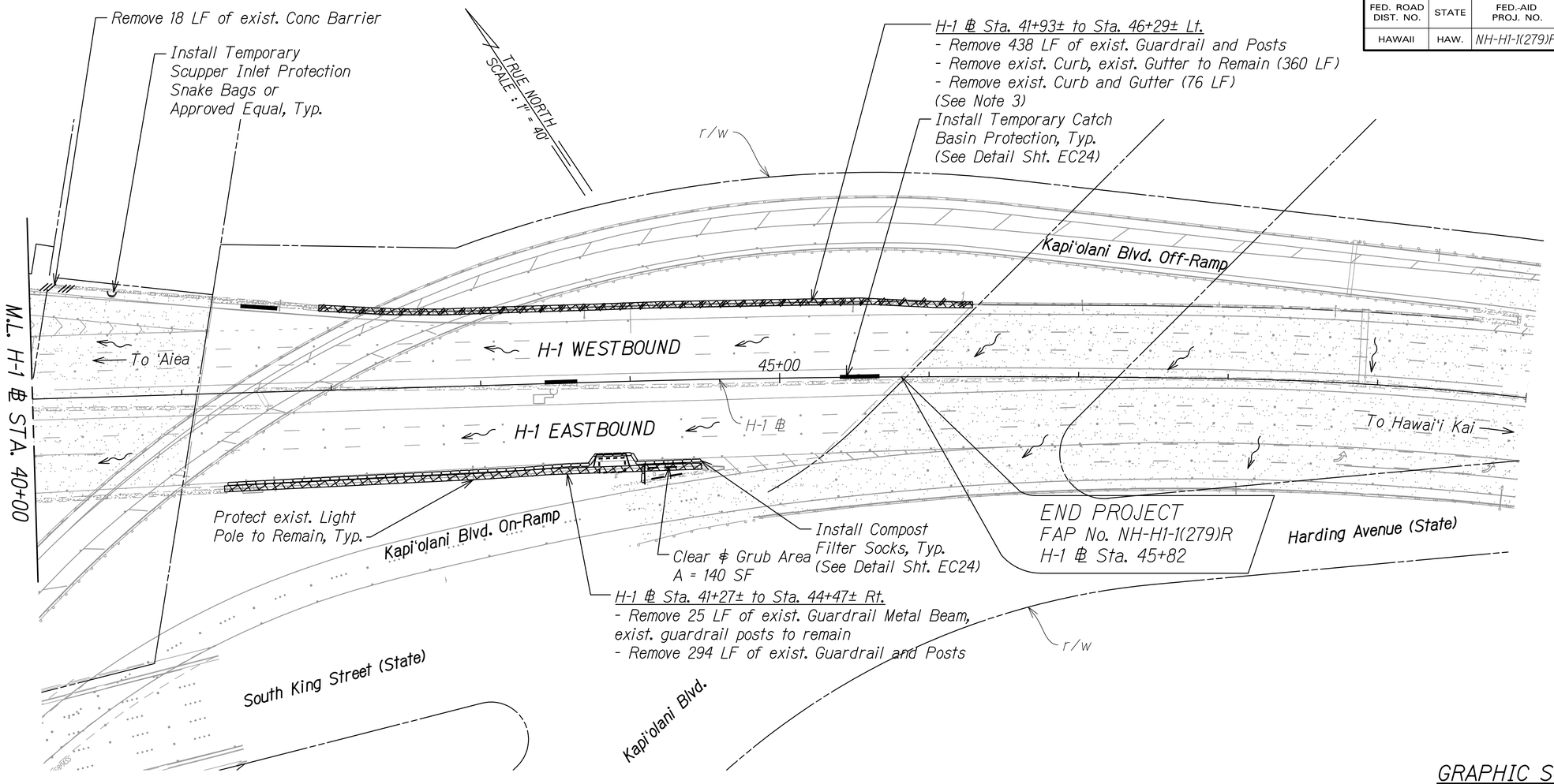
DEMOLITION AND EROSION CONTROL

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC16 OF 24 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	30	411



LEGEND:

- Catch Basin Protection
- Flow Arrow
- Snake Bags or Approved Equal
- Filter Socks
- Remove Exist. Guardrail
- Limits of Clear & Grub
- Demolish Exist. Curb or Fence
- Demolish Exist. Concrete Barrier
- Limit of Excavation for Concrete Barrier Footing

NOTES:

1. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment and 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.
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DEMOLITION AND EROSION CONTROL

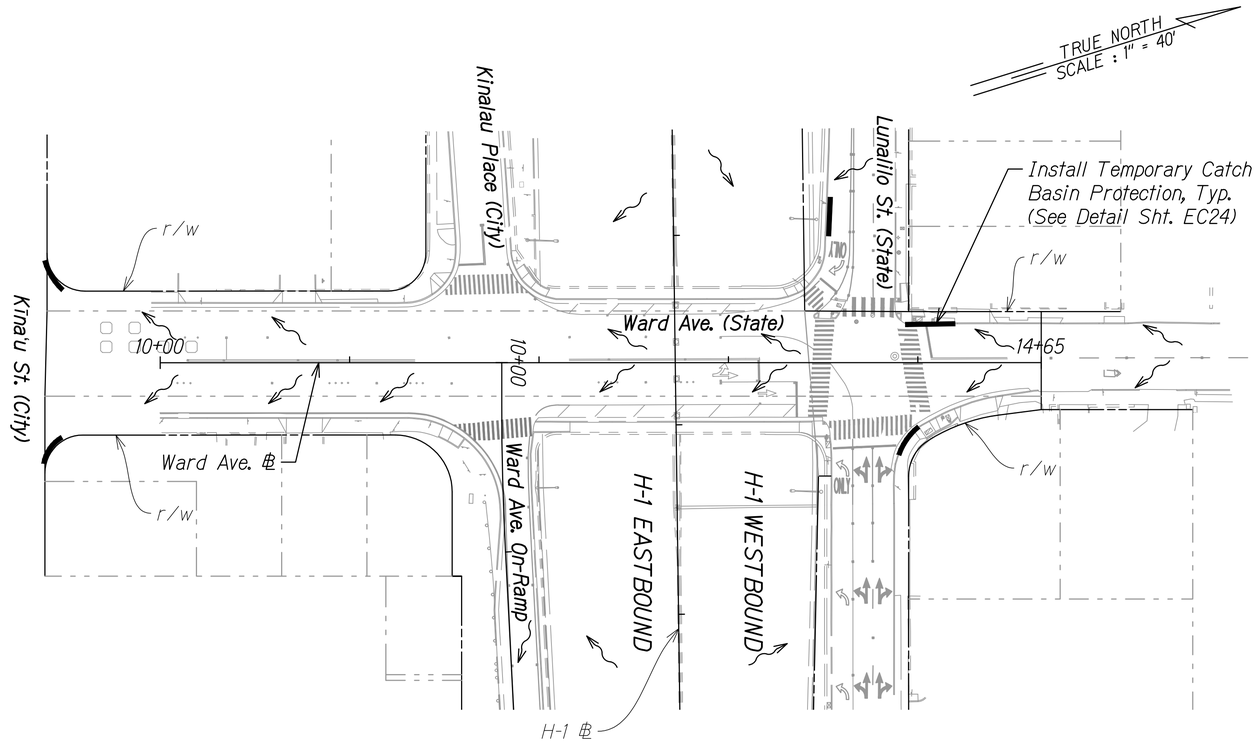
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC17 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\EC13-EC17 DEMO AND EC PLAN.DWG 7/18/2024 2:49 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	31	411



LEGEND:

Catch Basin Protection

Flow Arrow

NOTES:

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STATE OF HAWAII
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HIGHWAYS DIVISION

DEMOLITION AND EROSION CONTROL

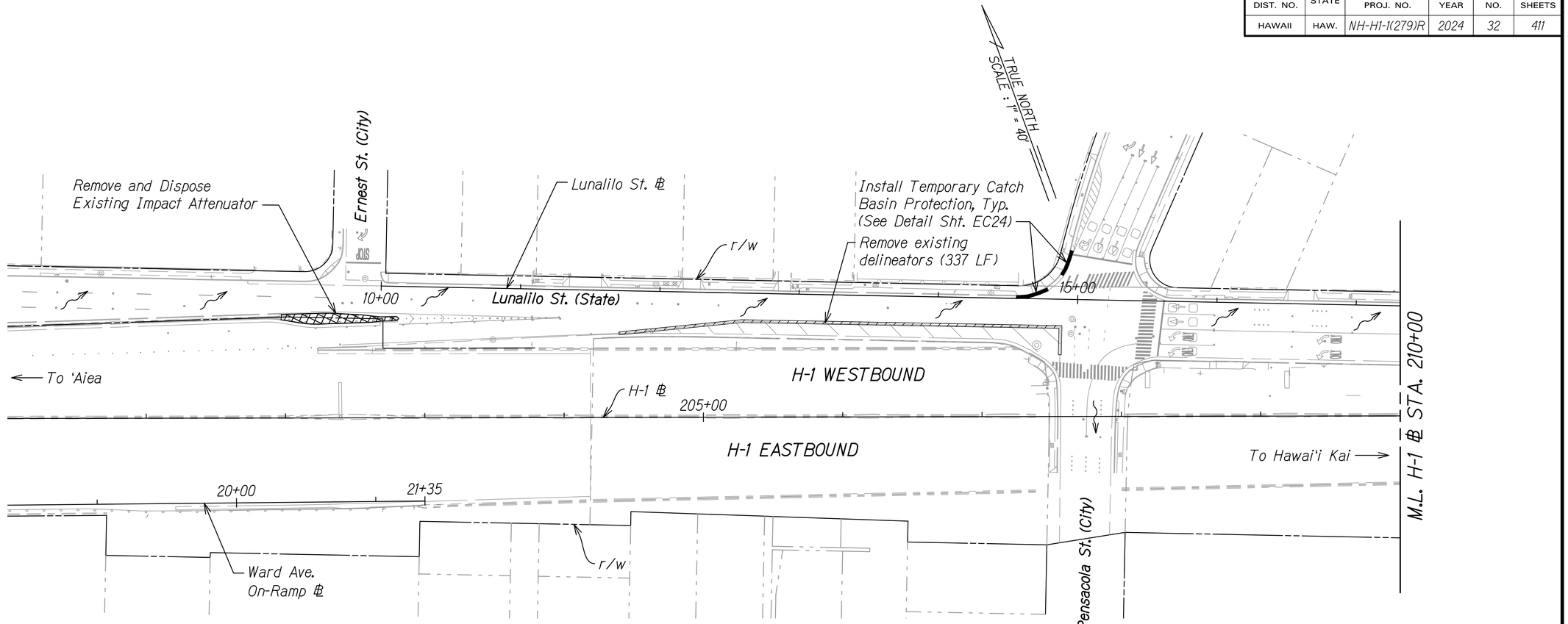
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC18 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\EC18-EC23 DEMO AND EC PLAN.DWG 7/3/2024 2:58 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	32	411



LEGEND:

- Catch Basin Protection
- Flow Arrow
- Remove Exist. Guardrail
- Remove Exist. Delineators

NOTES:

1. Sediment and Erosion Control BMP measures shown in the Contract Documents are minimum BMPs requirements and do not constitute an acceptable and/or complete Sediment and 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.
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DEMOLITION AND EROSION CONTROL

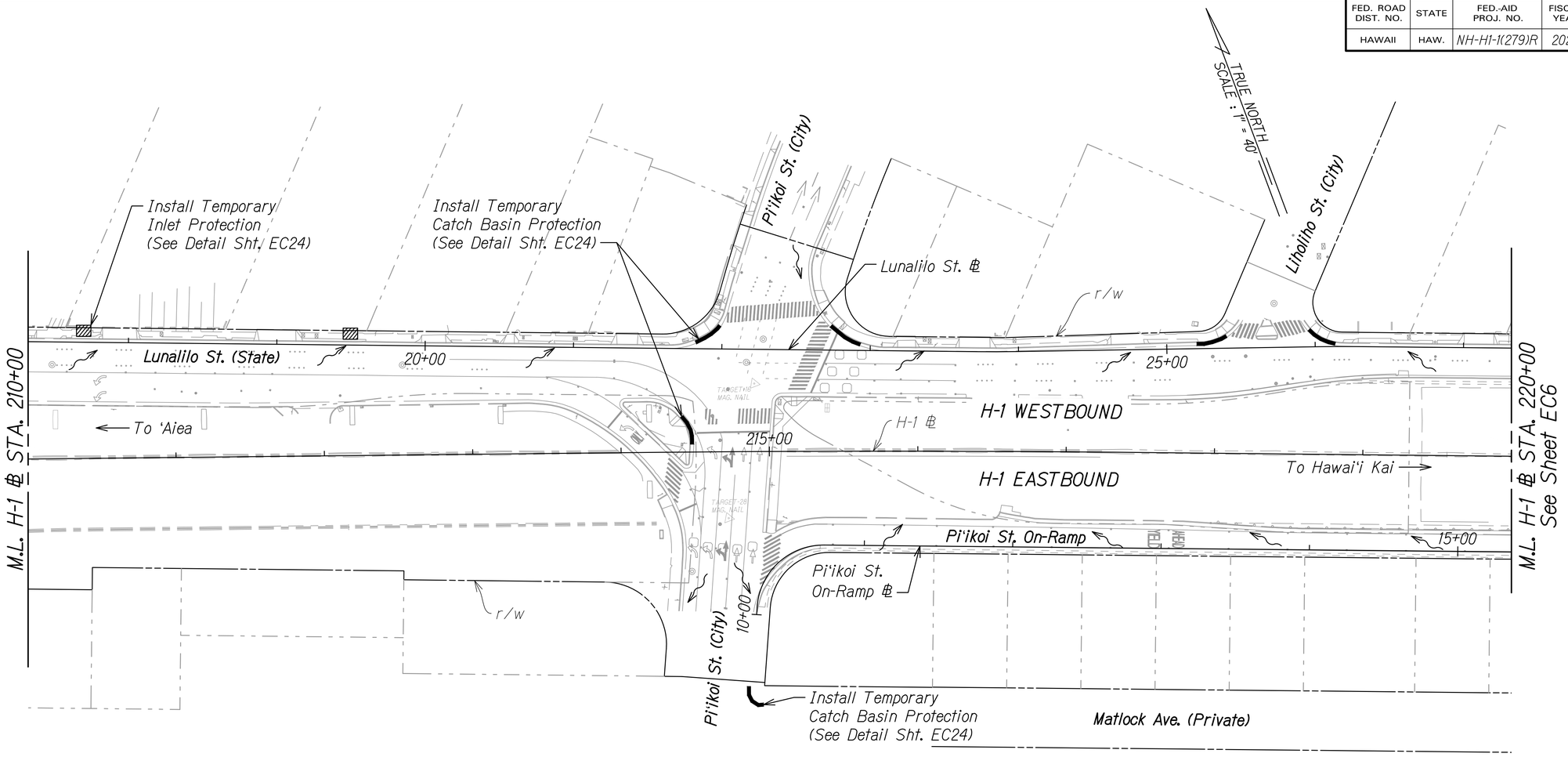
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC19 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\EC18-EC23 DEMO AND EC PLAN.DWG 7/3/2024 2:58 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	33	411



LEGEND:

- Catch Basin Protection
- Flow Arrow
- Inlet Protection

NOTES:

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DEMOLITION AND EROSION CONTROL

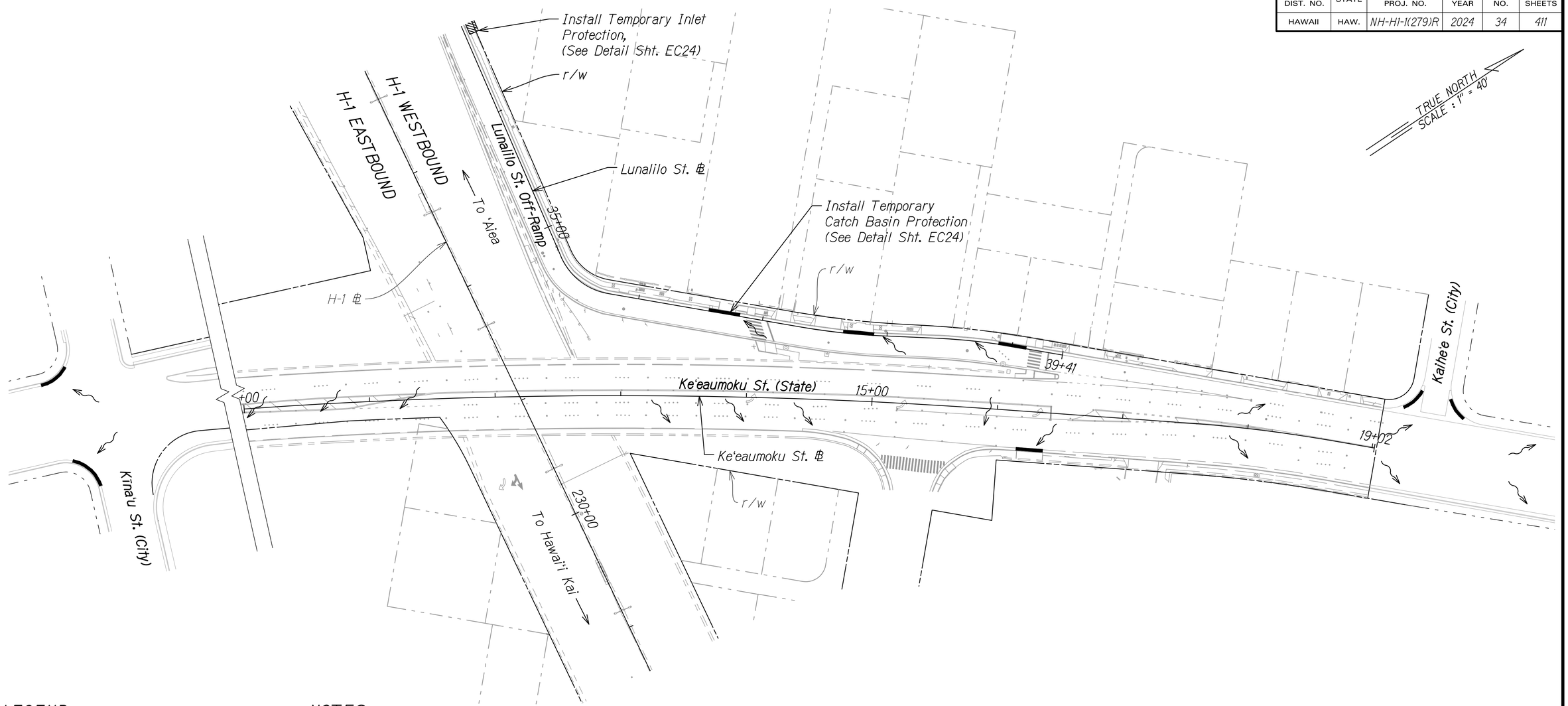
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC20 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\EC18-EC23 DEMO AND EC PLAN.DWG 7/3/2024 2:58 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	34	411



LEGEND:

- Inlet Protection
- Catch Basin Protection
- Flow Arrow

NOTES:

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DEMOLITION AND EROSION CONTROL

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC21 OF 24 SHEETS

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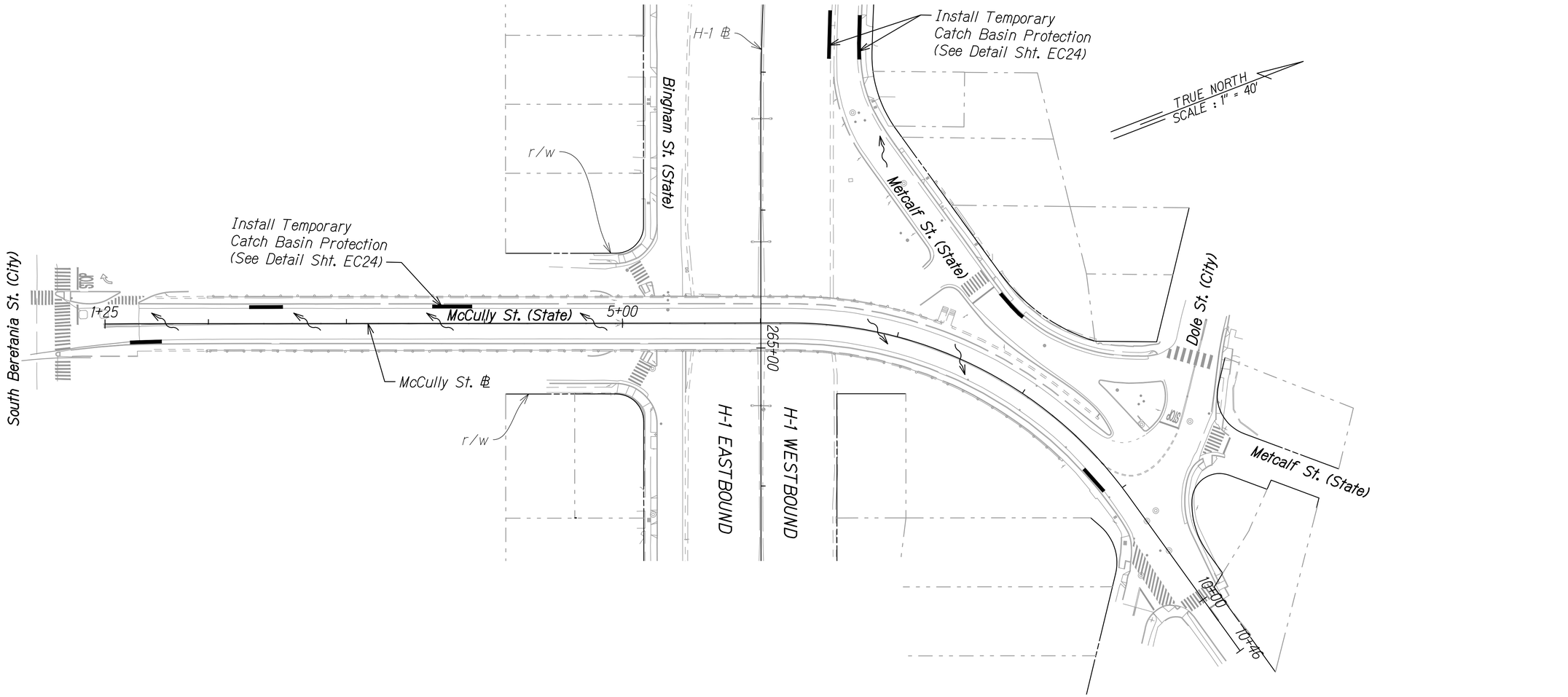
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	35	411



LEGEND:

Catch Basin Protection

Flow Arrow

NOTES:

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DEMOLITION AND EROSION CONTROL

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40′ Date: November 2024

SHEET No. EC22 OF 24 SHEETS

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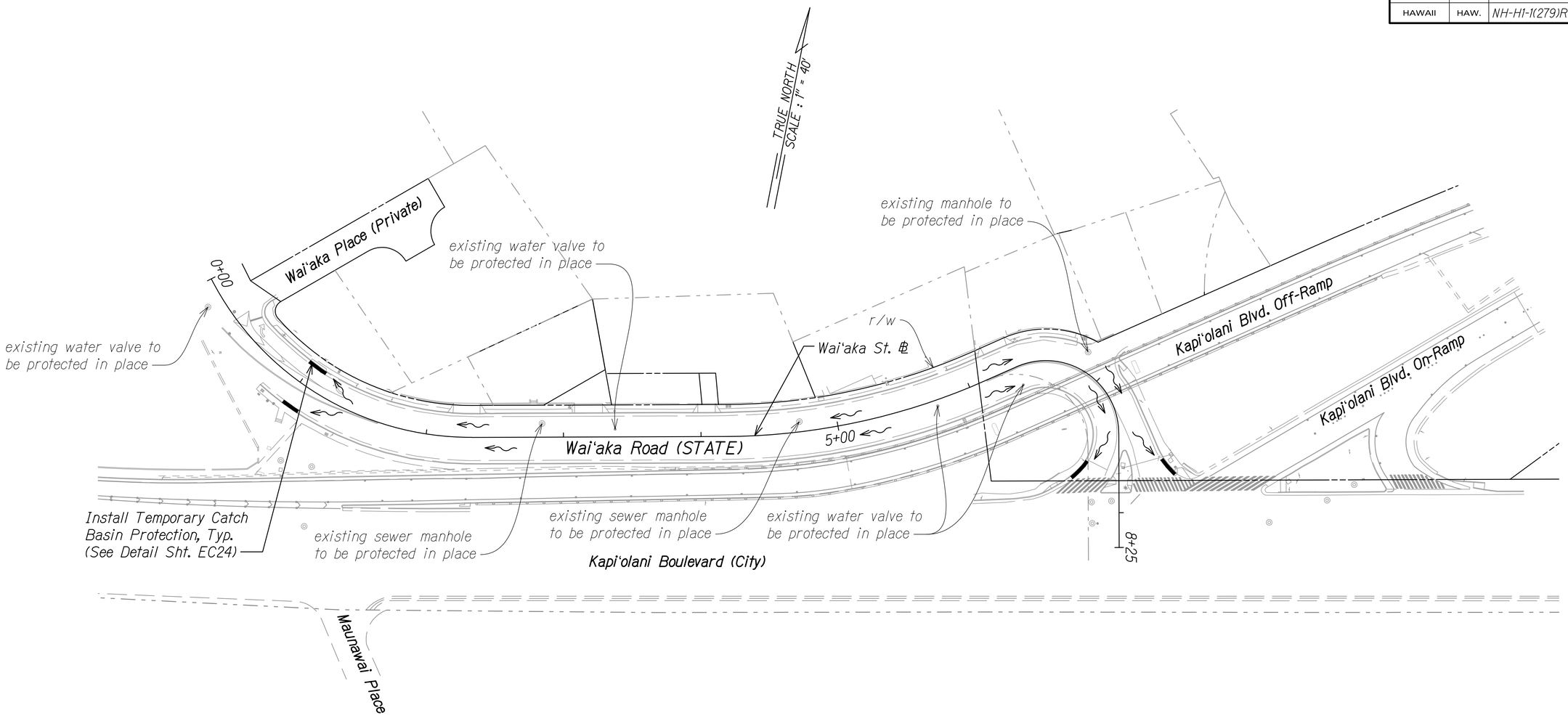
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	36	411



LEGEND:

Catch Basin Protection

Flow Arrow

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DEMOLITION AND EROSION CONTROL

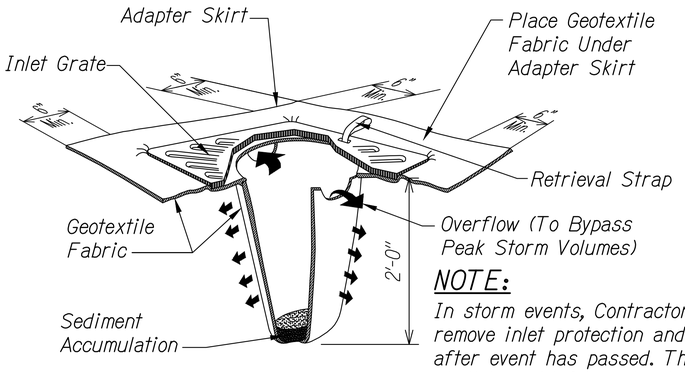
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. EC23 OF 24 SHEETS

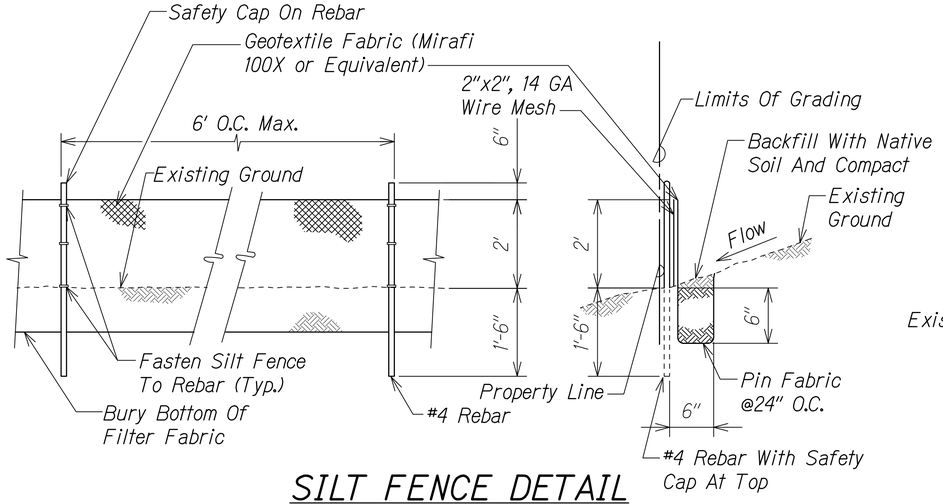
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\TV01 CIVIL DRAWINGS\EC18-EC23 DEMO AND EC PLAN.DWG 7/3/2024 2:58 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	37	411

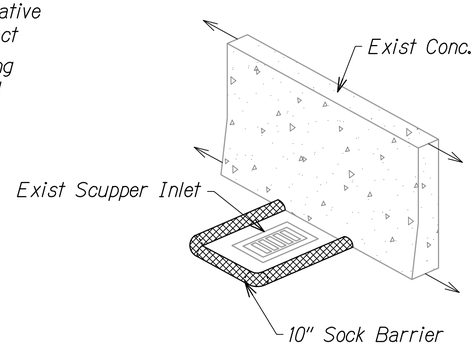


NOTE:
In storm events, Contractor shall remove inlet protection and replace after event has passed. This work shall be paid for under lump sum Item No. 209.0100.

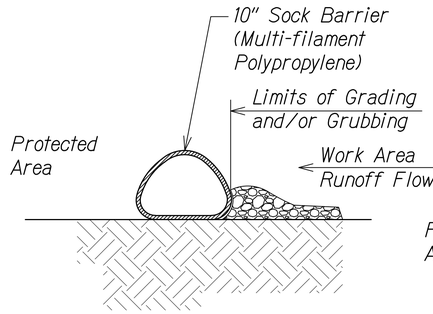
TEMPORARY INLET PROTECTION DETAIL
NOT TO SCALE



SILT FENCE DETAIL
NOT TO SCALE



TEMPORARY SCUPPER INLET PROTECTION
NOT TO SCALE



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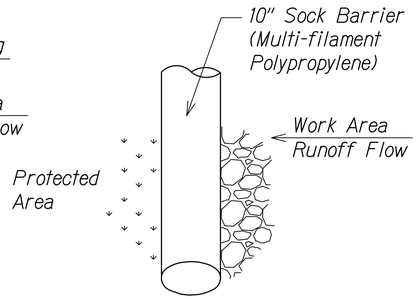
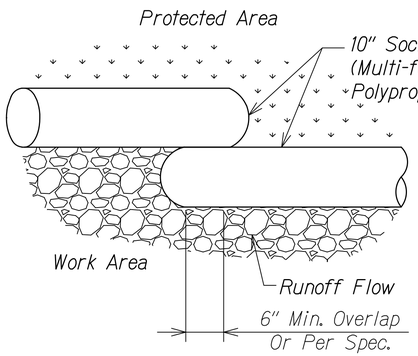


PLAN



OVERLAP

NOTES:
1. *Fill composition is wood mulch.*
2. *Fill shall not contain biosolids and should be consistent with EPA Guidelines.*

FILTER SOCK BARRIER DETAILS
NOT TO SCALE

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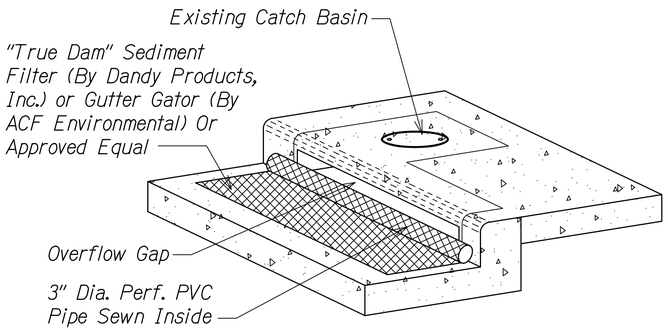
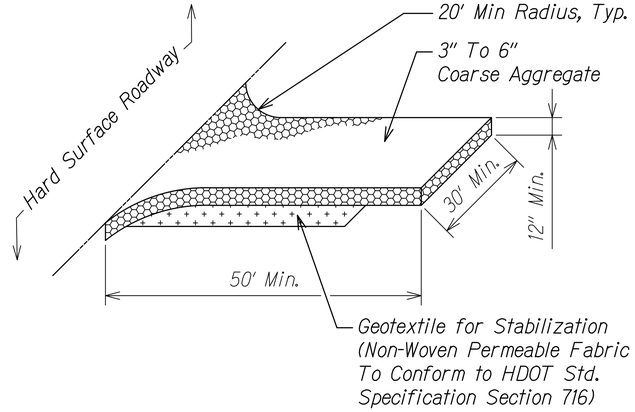


TEMPORARY CATCH BASIN PROTECTION DETAIL
NOT TO SCALE



STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

ROBYN R. MCKINNEY
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STATE OF HAWAII
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HIGHWAYS DIVISION

EROSION CONTROL DETAILS

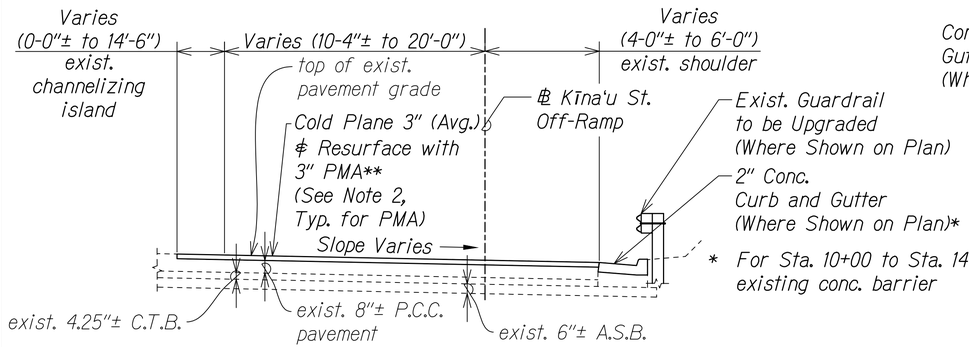
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown — Date: November 2024

SHEET No. EC24 OF 24 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\EC24 EROSION CONTROL DETAILS.DWG 7/3/2024 3:04 PM

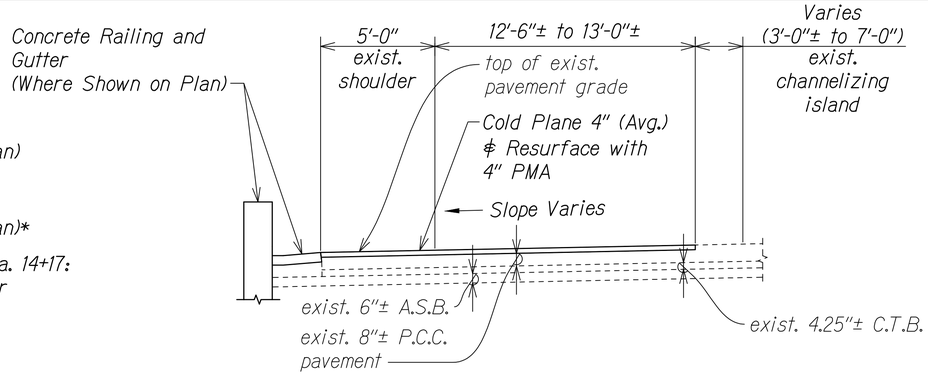
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	38	411



** Place Tensar Rapid Repair PG100 under PMA

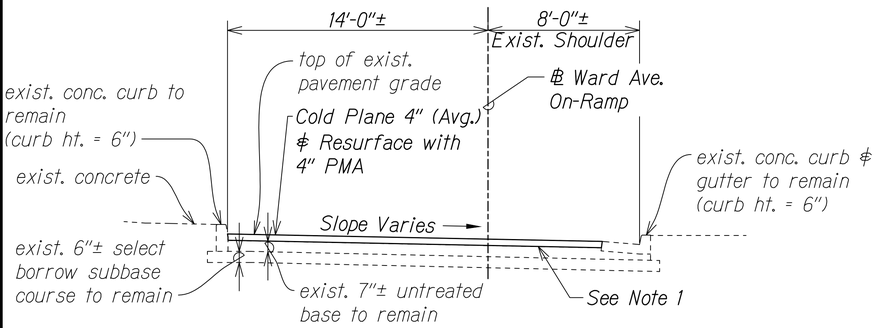
(STA. 10+00± TO STA. 16+85±)
EB KĪNA'U ST. OFF-RAMP
PAVEMENT RESURFACING SECTION

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



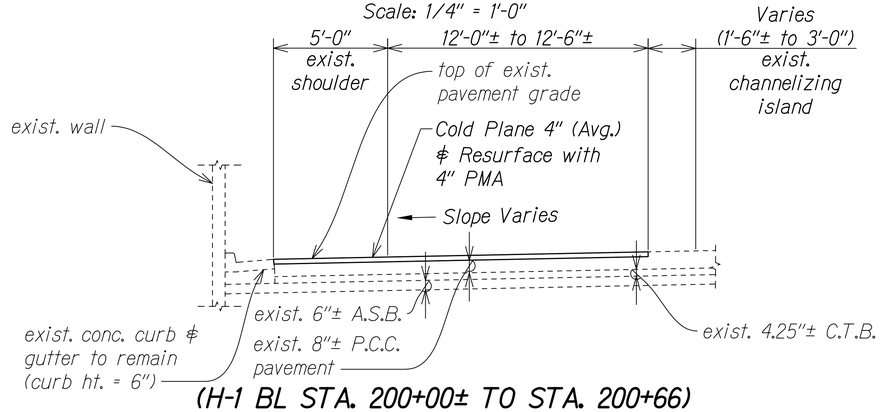
(H-1 BL STA. 200+66 TO STA. 202+68±)
WB LUNALILO ST. ON-RAMP
PAVEMENT RESURFACING SECTION

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



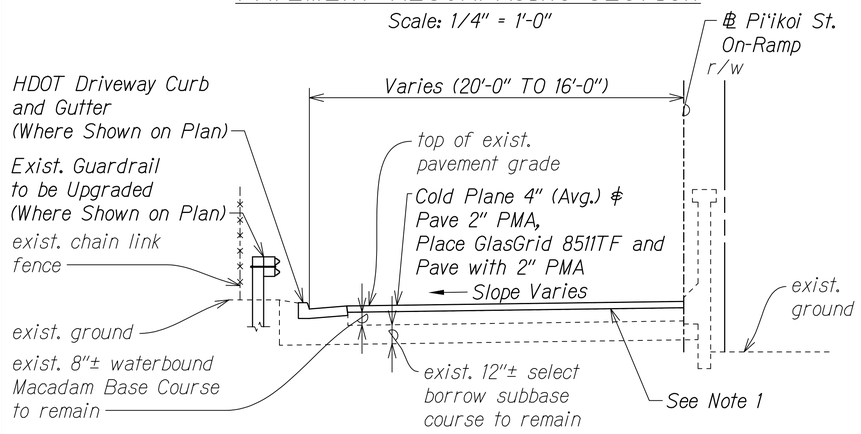
(STA. 10+26± TO STA. 13+71±)
EB WARD AVE. ON-RAMP
PAVEMENT RESURFACING SECTION

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



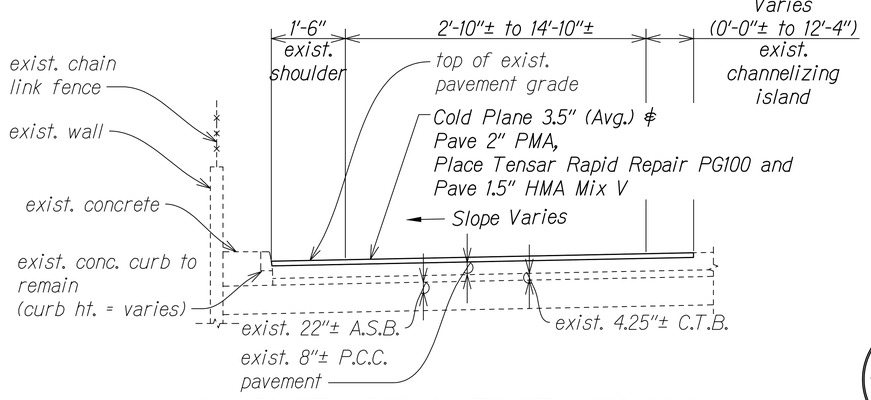
(H-1 BL STA. 200+00± TO STA. 200+66)
WB LUNALILO ST. ON-RAMP
PAVEMENT RESURFACING SECTION

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



(STA. 10+15± TO STA. 17+35±)
EB PI'IKOI ST. ON-RAMP
PAVEMENT RESURFACING SECTION

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



(H-1 BL STA. 225+12± TO STA. 228+38±)
WB LUNALILO ST. OFF-RAMP
PAVEMENT RESURFACING SECTION

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

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement.
2. PMA refers to Mix No. IV with PG 64E-22.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP TYPICAL SECTIONS

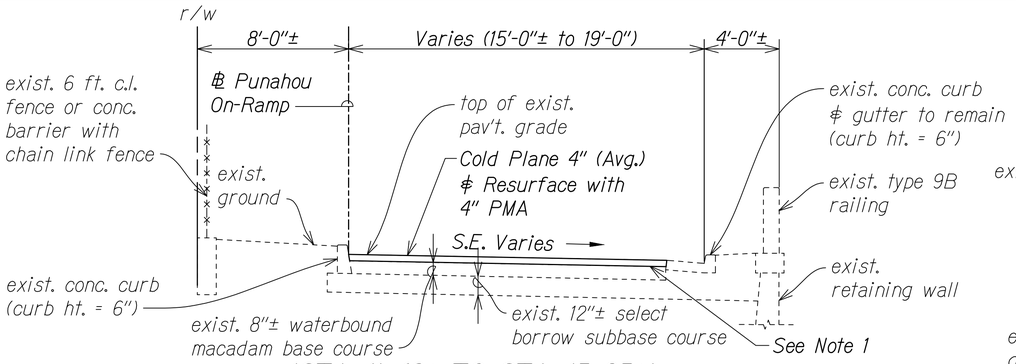
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: As Shown — Date: November 2024

SHEET No. C1 OF 19 SHEETS

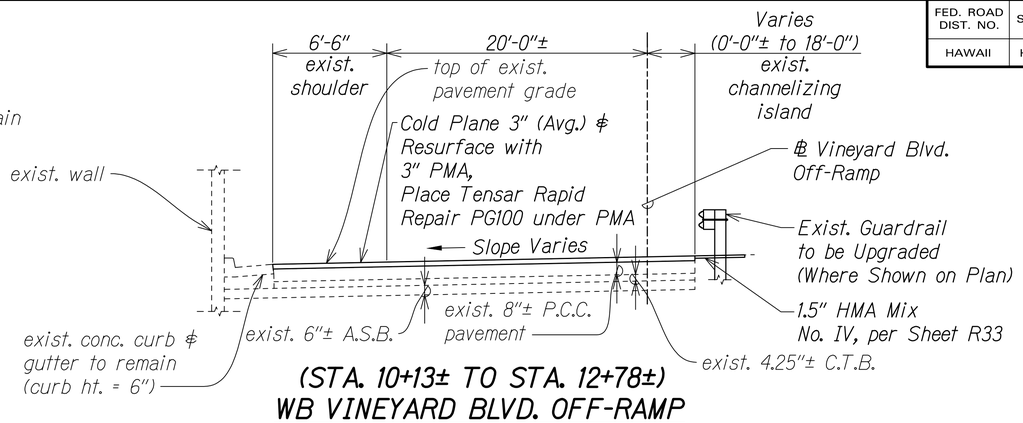
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\C1 RAMP TYPICAL SECTIONS.DWG 7/19/2024 10:58 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	39	411



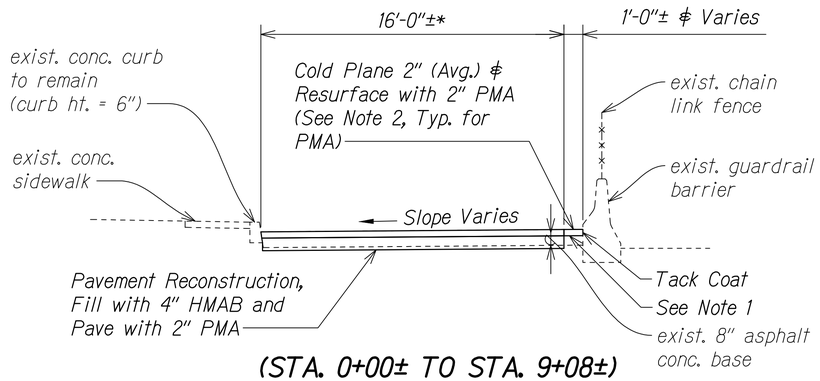
(STA. 11+42± TO STA. 15+95±)
WB PUNAHOU ST. ON-RAMP
PAVEMENT RESURFACING SECTION

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



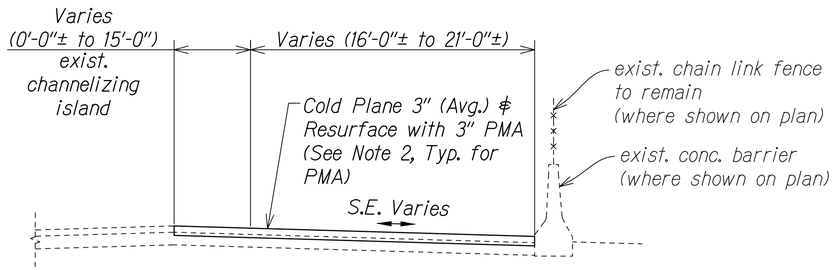
(STA. 10+13± TO STA. 12+78±)
WB VINEYARD BLVD. OFF-RAMP
PAVEMENT RESURFACING SECTION

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



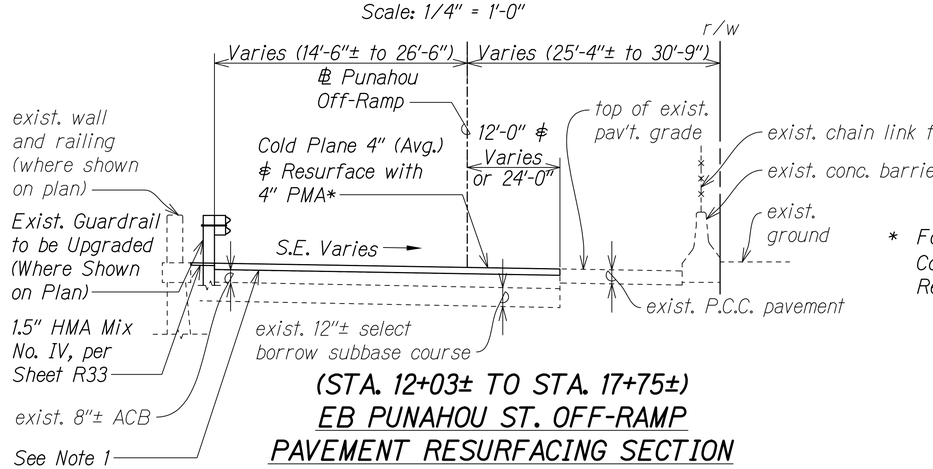
(STA. 0+00± TO STA. 9+08±)
WB METCALF ST. ON-RAMP
PAVEMENT RESURFACING SECTION

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



(H-1 BL STA. 1+00± TO STA. 2+37±)
WB WILDER AVE. OFF-RAMP
PAVEMENT RESURFACING SECTION

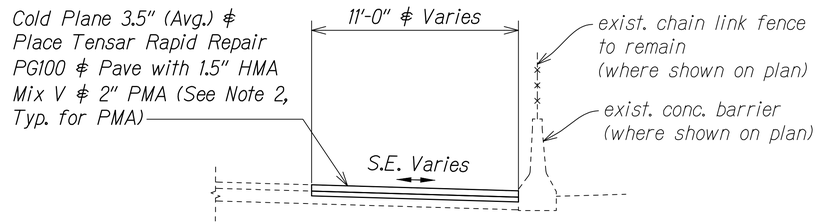
Scale: 1/4" = 1'-0"



* For Sta. 12+03 to Sta. 12+97: Cold Plane 3" (Avg.) ∉ Resurface with 3" PMA

(STA. 12+03± TO STA. 17+75±)
EB PUNAHOU ST. OFF-RAMP
PAVEMENT RESURFACING SECTION

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



(H-1 BL STA. 266+38± TO STA. 268+94±)
EB BINGHAM ST. OFF-RAMP
PAVEMENT RESURFACING SECTION

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

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement.
2. PMA refers to Mix No. IV with PG 64E-22.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP TYPICAL SECTIONS

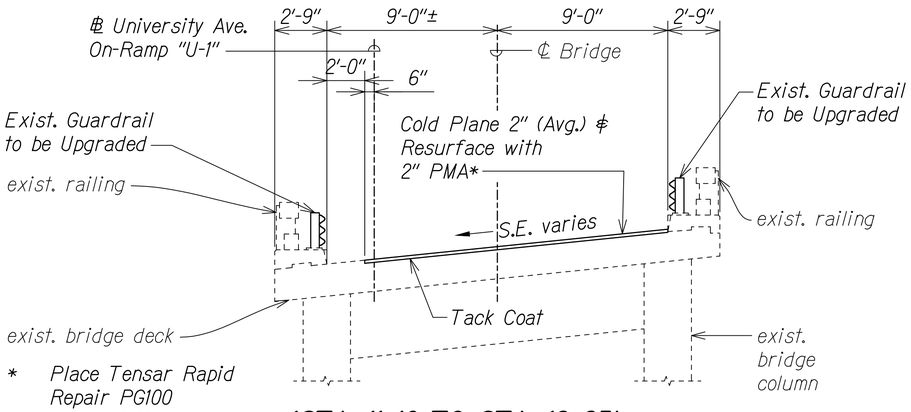
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: As Shown — Date: November 2024

SHEET No. C2 OF 19 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\T\01 CIVIL DRAWINGS\C2 RAMP TYPICAL SECTIONS.DWG 7/19/2024 10:58 AM

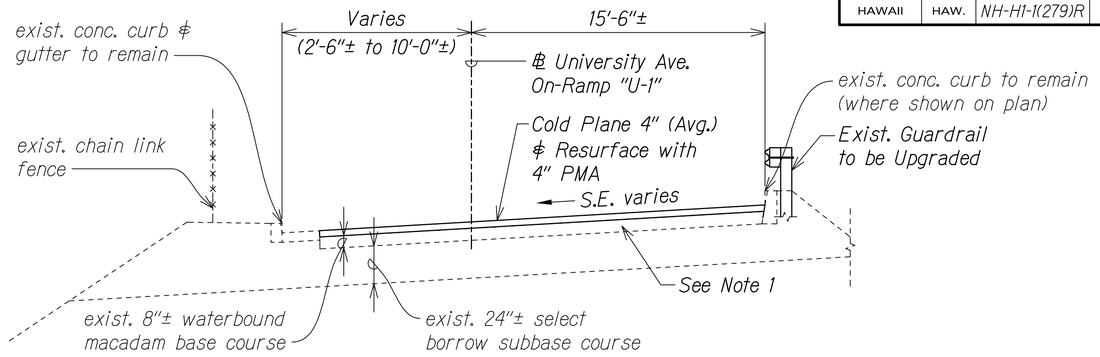
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	40	411



* Place Tensar Rapid Repair PG100 under PMA

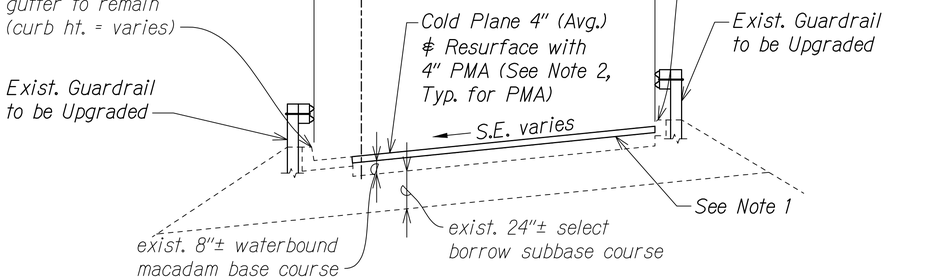
(STA. 11+16 TO STA. 13+35)
EB UNIVERSITY AVE. ON-RAMP "U-1"
PAVEMENT RESURFACING SECTION

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



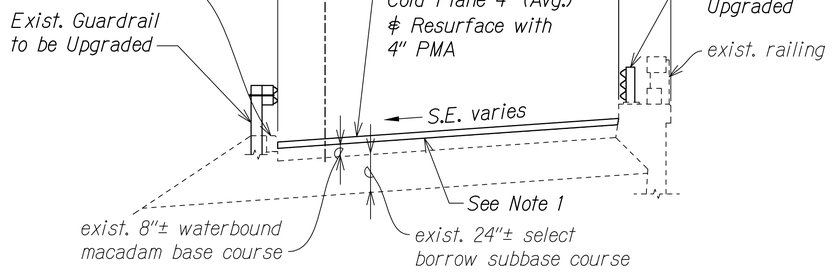
(STA. 14+58 TO STA. 15+69±)
EB UNIVERSITY AVE. ON-RAMP "U-1"
PAVEMENT RESURFACING SECTION

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



(STA. 10+36± TO STA. 11+16)
EB UNIVERSITY AVE. ON-RAMP "U-1"
PAVEMENT RESURFACING SECTION

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



(STA. 13+35 TO STA. 14+58)
EB UNIVERSITY AVE. ON-RAMP "U-1"
PAVEMENT RESURFACING SECTION

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

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement.
2. PMA refers to Mix No. IV with PG 64E-22.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP TYPICAL SECTIONS

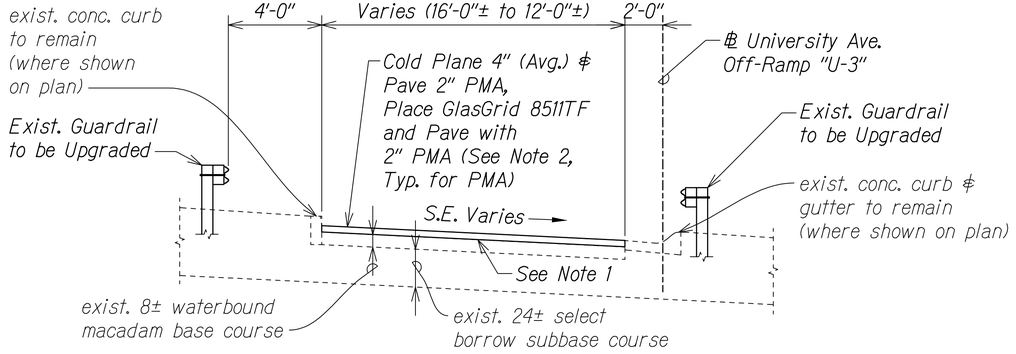
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

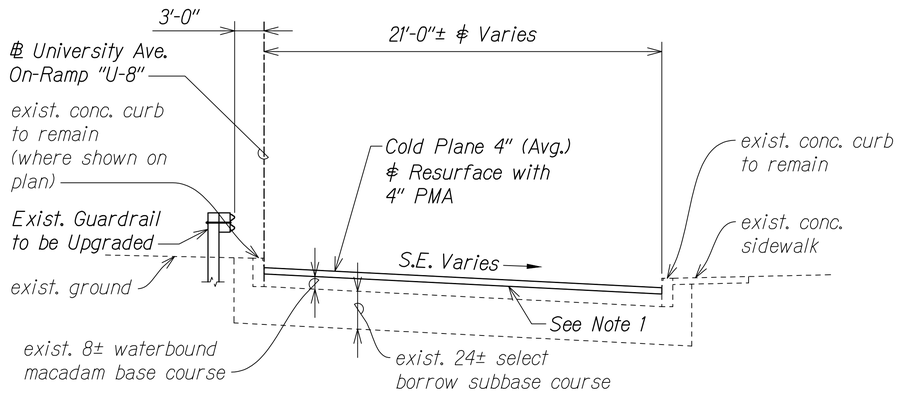
SHEET No. C3 OF 19 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI\01 CIVIL DRAWINGS\C3 RAMP TYPICAL SECTIONS.DWG 8/2/2024 8:19 am

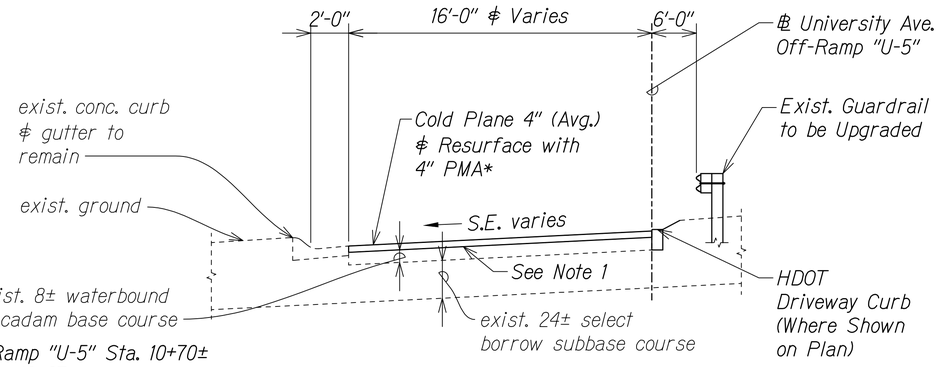
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	41	411



(STA. 10+49± TO STA. 14+97±)
EB UNIVERSITY AVE. OFF-RAMP "U-3" PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"

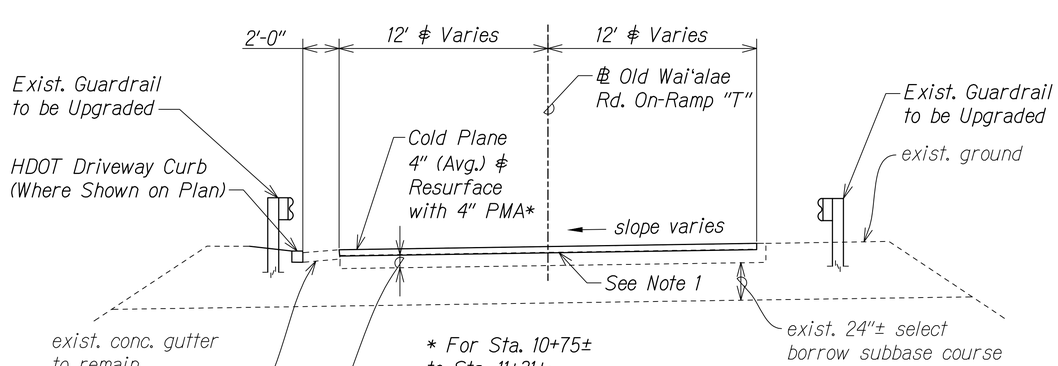


(STA. 10+00 TO STA. 12+77±)
WB UNIVERSITY AVE. ON-RAMP "U-8" PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"



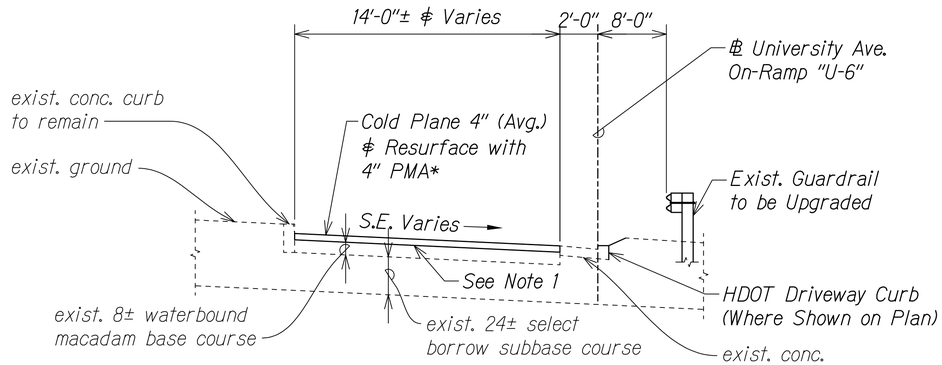
*For Ramp "U-5" Sta. 10+70± to Sta. 10+87±:
Cold Plane 3" (Avg.), Place Tensar Rapid Repair PG100, Pave with 1" HMA Mix V ∉ Pave 2" PMA

(STA. 10+86± TO STA. 18+68±)
WB UNIVERSITY AVE. OFF-RAMP "U-5" PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"



* For Sta. 10+75± to Sta. 11+31±:
Cold Plane 3" (Avg.) ∉ Resurface with 3" PMA

(STA. 10+75± TO STA. 17+55±)
WB OLD WAI'ALAE RD. ON-RAMP "T" PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"



*For Ramp "U-6" Sta. 17+27 to Sta. 19+11±:
Cold Plane 3" (Avg.) ∉ Resurface with 3" PMA

(STA. 10+45± TO STA. 19+11±)
WB UNIVERSITY AVE. ON-RAMP "U-6" PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement.
2. PMA refers to Mix No. IV with PG 64E-22.

NOTE:

Existing Type A-1 Curb from Sta. 11+64± to Sta. 13+40± (Rt.) not shown.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — SIGNATURE — 04/30/26 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP TYPICAL SECTIONS

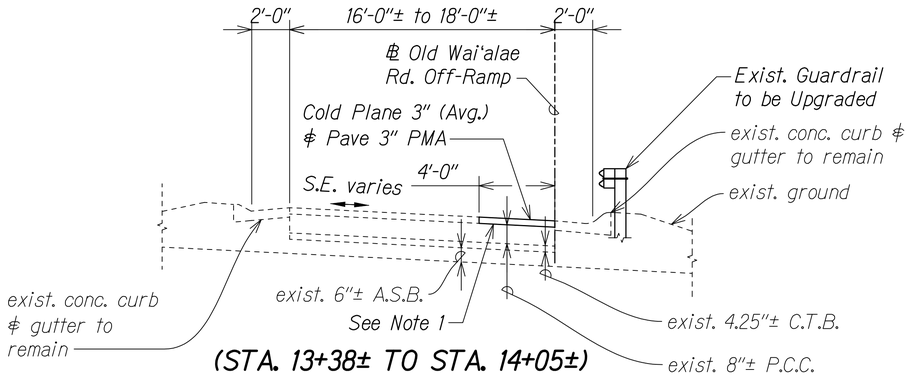
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

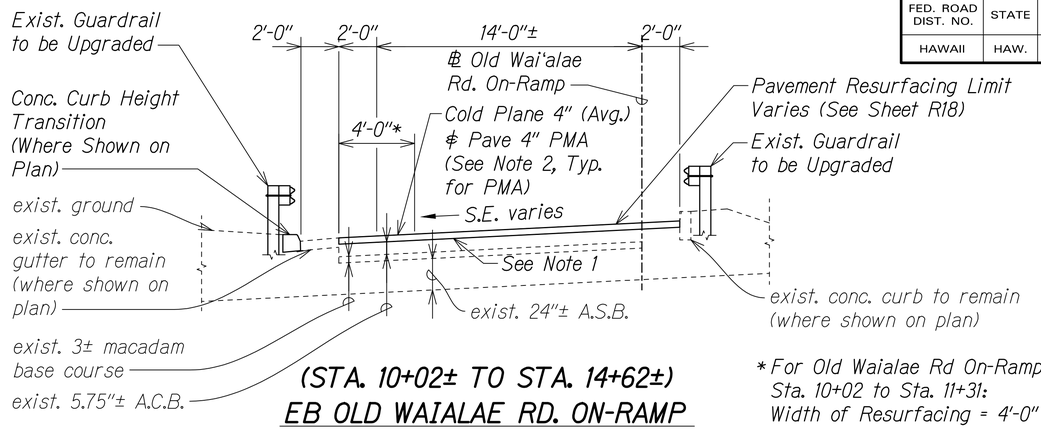
SHEET No. C4 OF 19 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\C4 RAMP TYPICAL SECTIONS.DWG 7/19/2024 11:01 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	42	411

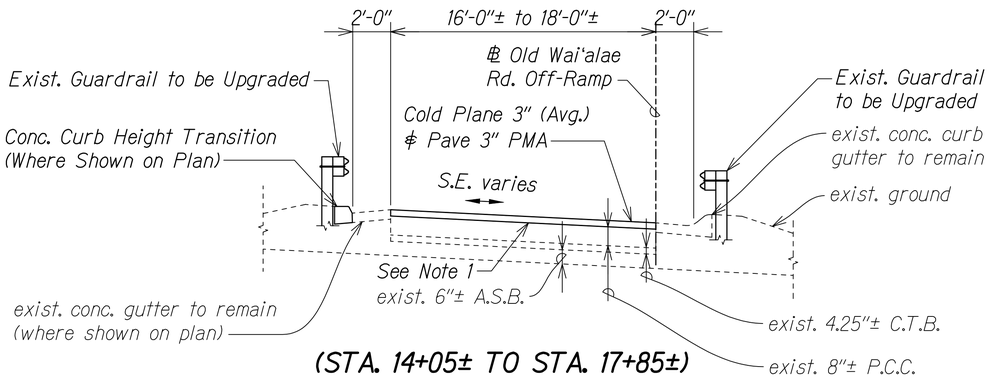


(STA. 13+38± TO STA. 14+05±)
WB OLD WAIALAE RD. OFF-RAMP
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"

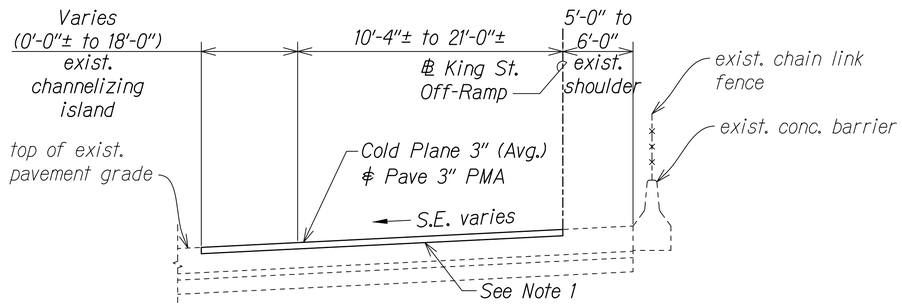


(STA. 10+02± TO STA. 14+62±)
EB OLD WAIALAE RD. ON-RAMP
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"

*For Old Waialae Rd On-Ramp Sta. 10+02 to Sta. 11+31: Width of Resurfacing = 4'-0"



(STA. 14+05± TO STA. 17+85±)
WB OLD WAIALAE RD. OFF-RAMP
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"



(H-1 BL STA. 29+51± TO STA. 8+15±)
EB KING ST. OFF-RAMP
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement.
2. PMA refers to Mix No. IV with PG 64E-22.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RAMP TYPICAL SECTIONS

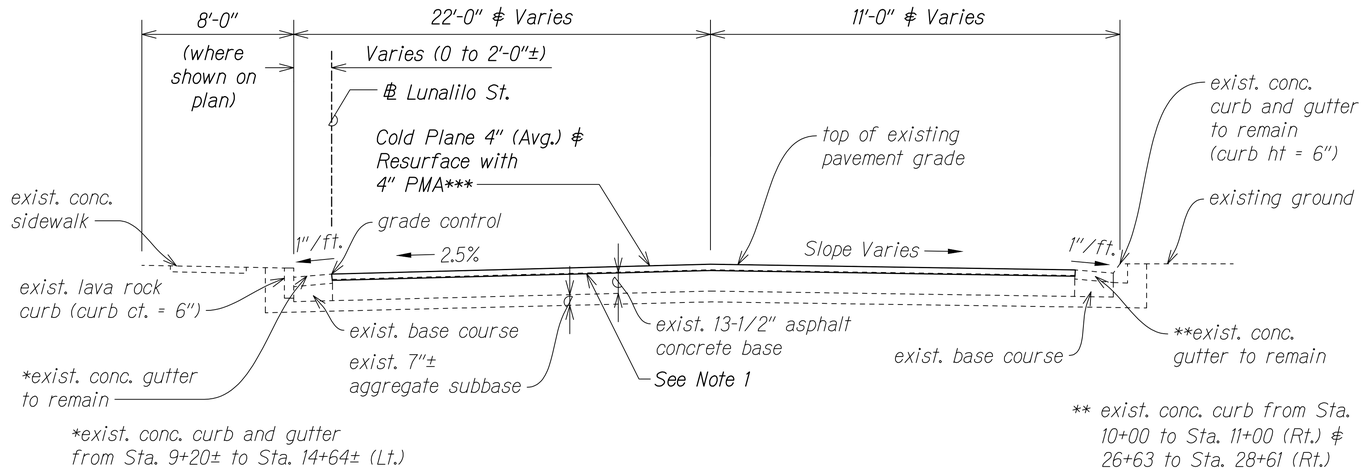
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: As Shown — Date: November 2024

SHEET No. C5 OF 19 SHEETS

W:_CIVIL 30 PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\T\01 CIVIL DRAWINGS\C5 RAMP TYPICAL SECTIONS.DWG 7/19/2024 11:02 AM

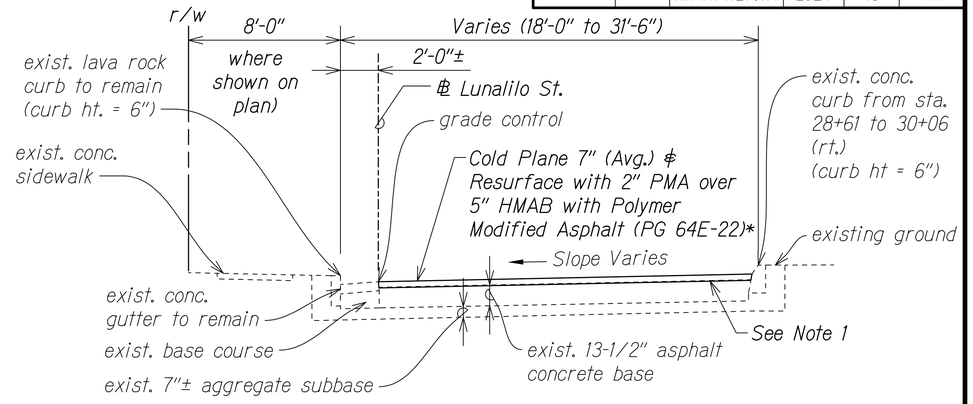
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	43	411



** exist. conc. curb from Sta. 10+00 to Sta. 11+00 (Rt.) ∉ 26+63 to Sta. 28+61 (Rt.)

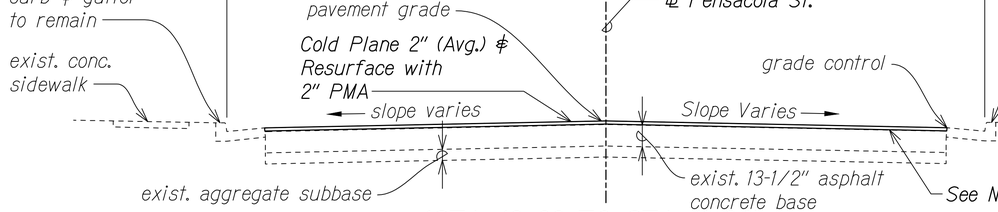
*** For Lunalilo St. Sta. 10+00 to Sta. 14+64±: Cold Plane 7" (Avg.) ∉ Resurface with 2" PMA over 5" HMAB with Polymer Modified Asphalt (PG 64E-22)

(STA. 9+00 TO STA. 28+61±)
LUNALILO STREET
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"

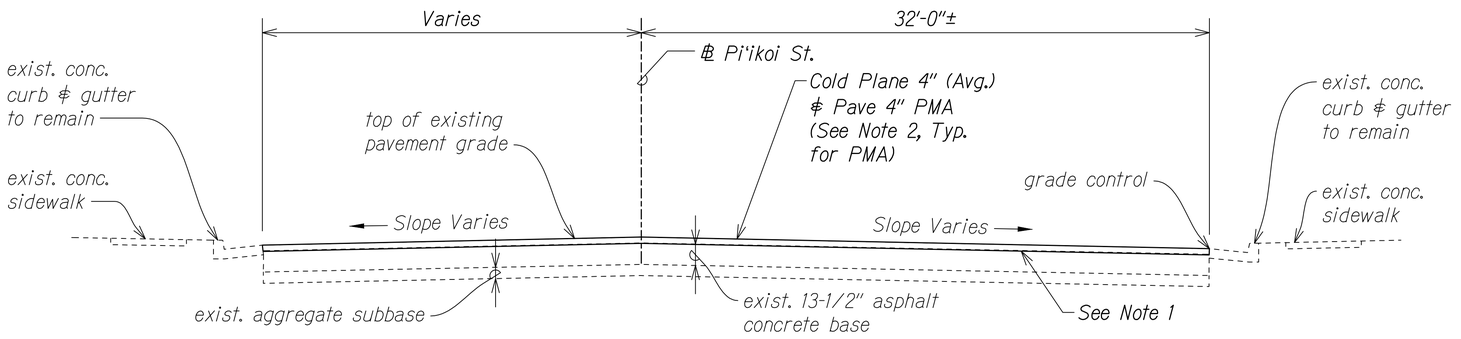


* For Lunalilo St. Sta. 36+32 to Sta. 39+41±: Cold Plane 4" (Avg.) ∉ Resurface with 4" PMA

(STA. 28+61± TO STA. 39+41±)
LUNALILO STREET
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"



(STA. 10+00 TO STA. 11+04)
(STA. 11+49 TO STA. 12+79)
PENSACOLA STREET
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"



PI'IKOI STREET
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"

NOTES:
1. Apply Tack Coat in between exist. and new A.C. Pavement
2. PMA refers to Mix No. IV with PG 64E-22.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LUNALILO ST. TYPICAL SECTIONS

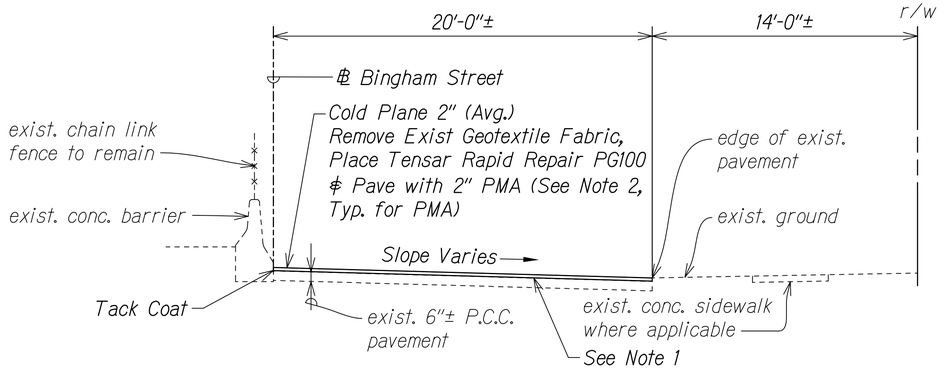
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: As Shown Date: November 2024

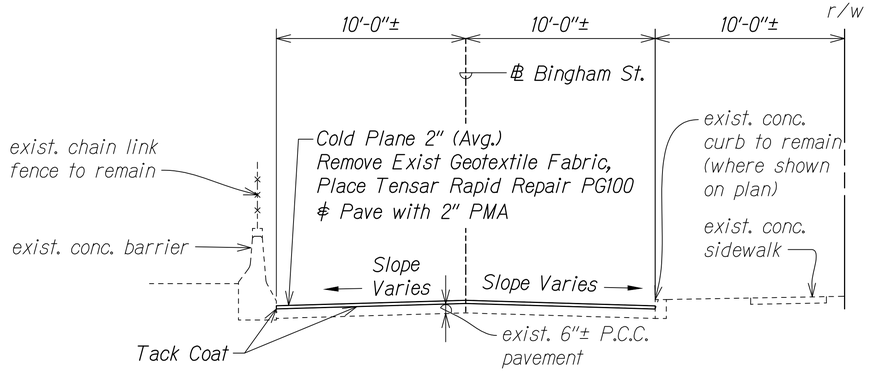
SHEET No. C6 OF 19 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\C6 LUNALILO ST. TYPICAL SECTIONS.DWG 7/24/2024 9:09 AM

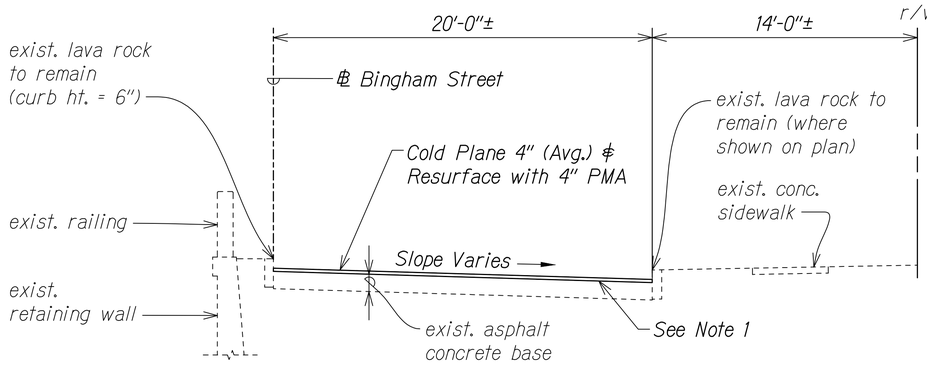
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	44	411



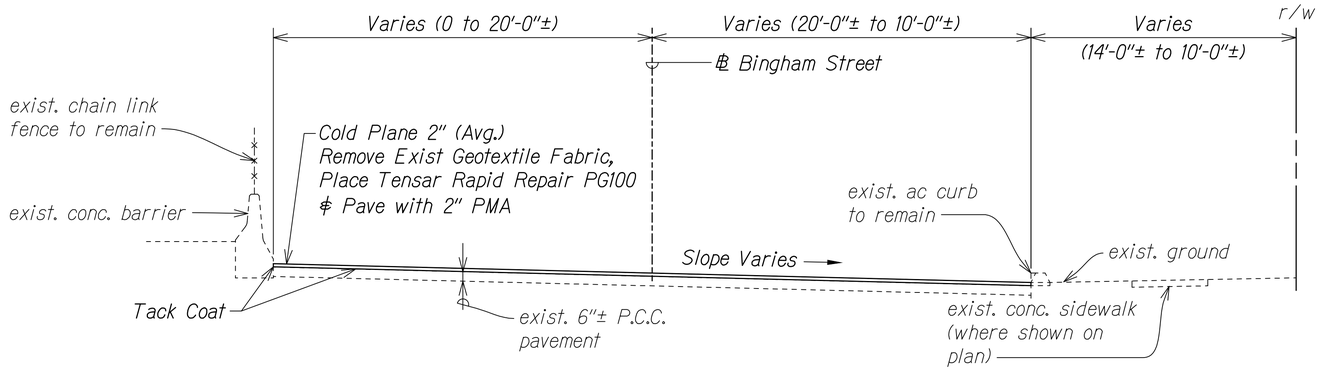
(STA. 11+19± TO STA. 13+66±)
BINGHAM STREET
P.C.C. PAVEMENT WEAKENED SECTION
Scale: 1/4" = 1'-0"



(STA. 17+60± TO STA. 21+20±)
BINGHAM STREET
P.C.C. PAVEMENT WEAKENED SECTION
Scale: 1/4" = 1'-0"



(STA. 0+53± TO STA. 11+19)
BINGHAM STREET
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"



(STA. 13+66± TO STA. 17+60±)
BINGHAM STREET
P.C.C. PAVEMENT WEAKENED SECTION
Scale: 1/4" = 1'-0"

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement
2. PMA refers to Mix No. IV with PG 64E-22.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BINGHAM ST. TYPICAL SECTIONS

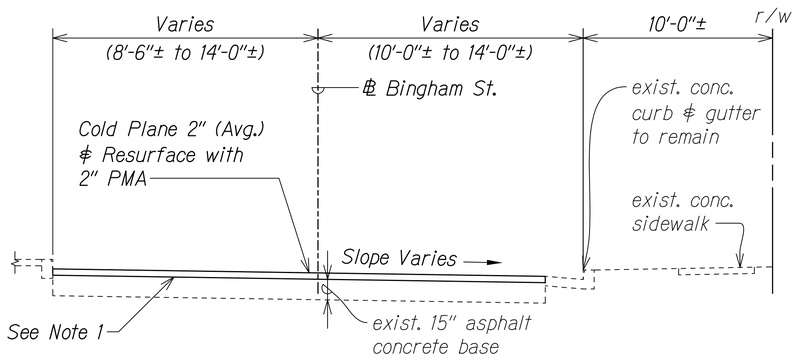
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: As Shown Date: November 2024

SHEET No. C7 OF 19 SHEETS

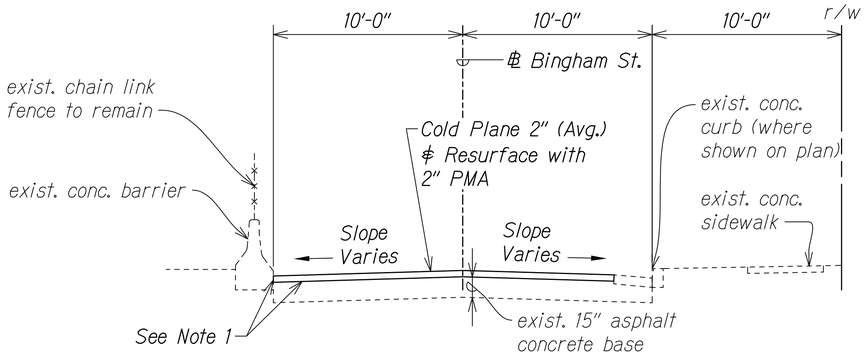
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\C7 BINGHAM ST. TYPICAL SECTIONS.DWG 7/19/2024 11:04 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	45	411



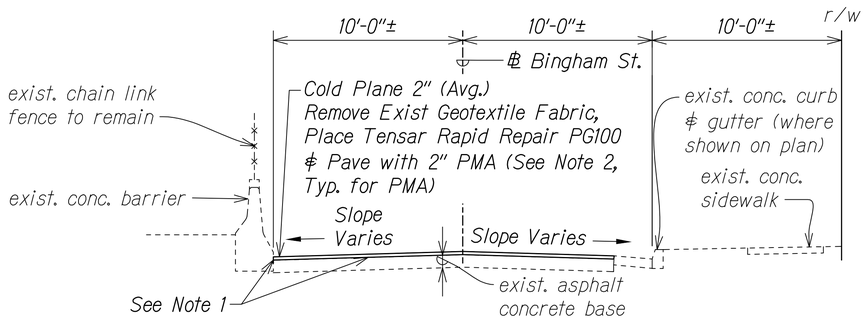
(STA. 36+28± TO STA. 40+75±)
BINGHAM STREET
PAVEMENT RESURFACING SECTION

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



(STA. 30+57± TO STA. 36+28±)
BINGHAM STREET
PAVEMENT RESURFACING SECTION

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



(STA. 21+20± TO STA. 30+57±)
BINGHAM STREET
P.C.C. PAVEMENT WEAKENED SECTION

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

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement
2. PMA refers to Mix No. IV with PG 64E-22.

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BINGHAM ST. TYPICAL SECTIONS

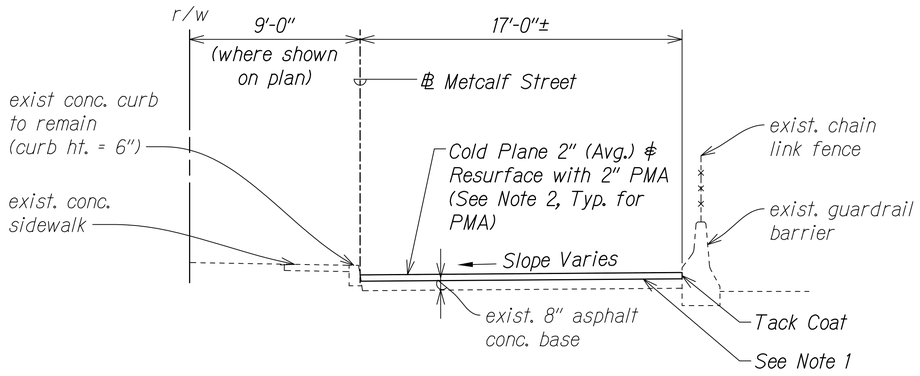
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: As Shown Date: November 2024

SHEET No. C8 OF 19 SHEETS

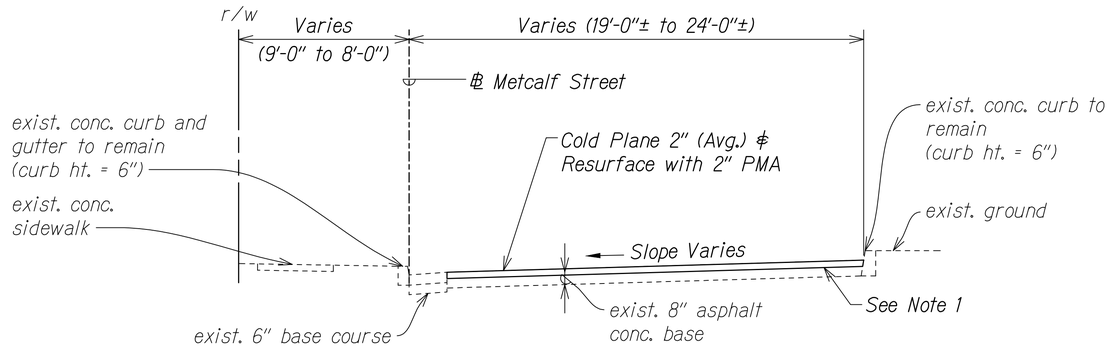
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI\01 CIVIL DRAWINGS\C8 BINGHAM ST. TYPICAL SECTIONS.DWG 7/19/2024 11:05 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	46	411



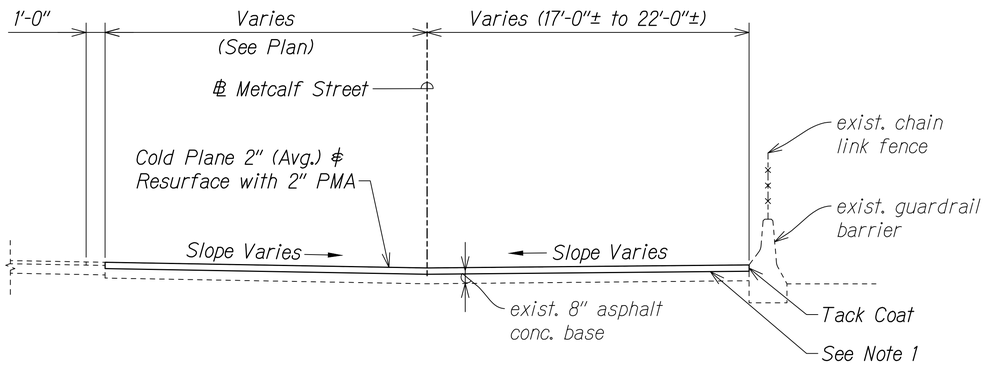
(STA. 0+79 TO STA. 1+00)
METCALF STREET
PAVEMENT RESURFACING SECTION

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



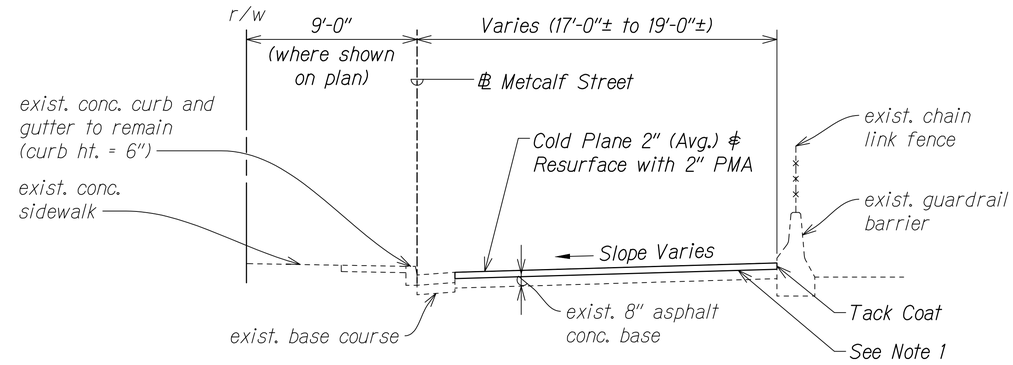
(STA. 7+04.59 TO McCully ℄ STA. 9+05±)
METCALF STREET
PAVEMENT RESURFACING SECTION

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



(STA. 0+47± TO STA. 0+79)
METCALF STREET
PAVEMENT RESURFACING SECTION

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



(STA. 1+00 TO STA. 7+04.59)
METCALF STREET
PAVEMENT RESURFACING SECTION

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

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement
2. PMA refers to Mix No. IV with PG 64E-22.

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

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

METCALF ST. TYPICAL SECTIONS

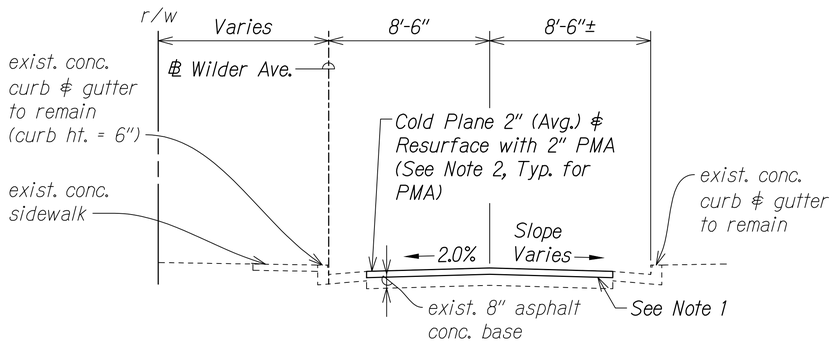
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

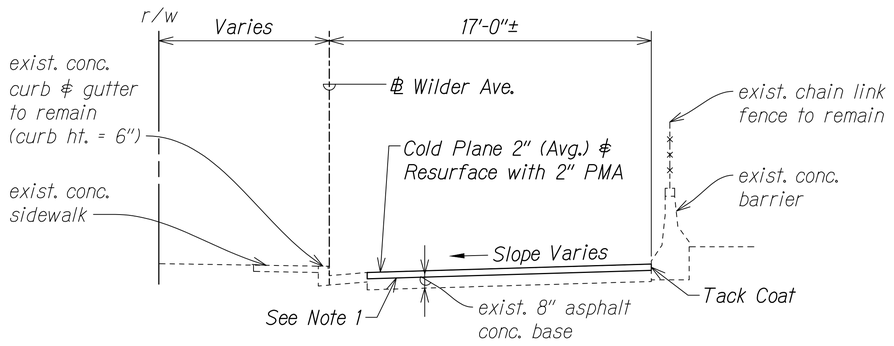
SHEET No. C9 OF 19 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\C9 METCALF ST. TYPICAL SECTIONS.DWG 7/19/2024 11:06 AM

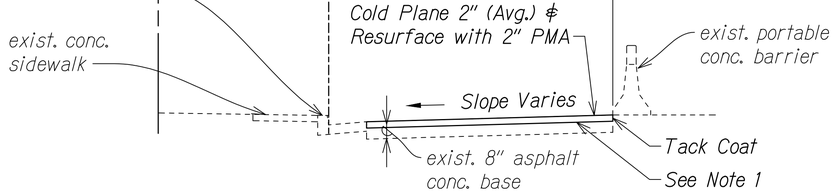
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	47	411



(STA. 2+35± TO STA. 4+25±)
WILDER AVENUE
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"



(STA. 4+25± TO STA. 11+95±)
WILDER AVENUE
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"



(H-1 ℄ STA. 0+18± TO STA. 2+35±)
WILDER AVENUE
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement
2. PMA refers to Mix No. IV with PG 64E-22.

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

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WILDER AVE. TYPICAL SECTIONS

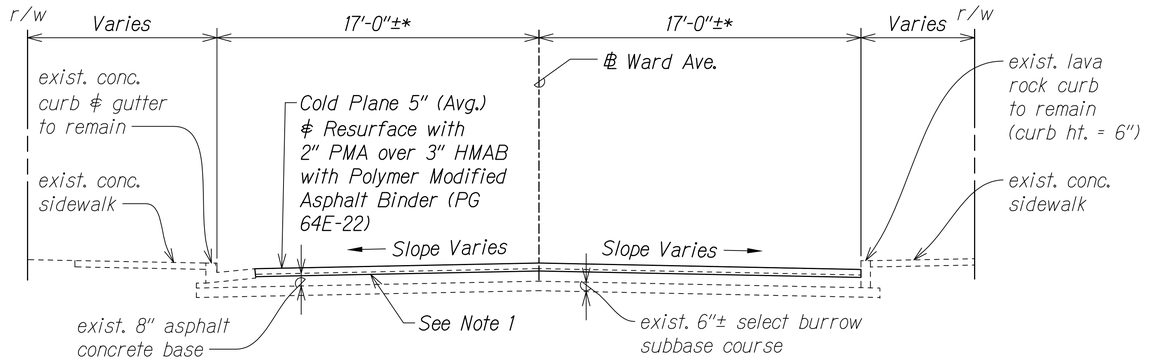
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

SHEET No. C10 OF 19 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIINT\01 CIVIL DRAWINGS\C10 WILDER AVE. TYPICAL SECTIONS.DWG 7/19/2024 11:07 AM

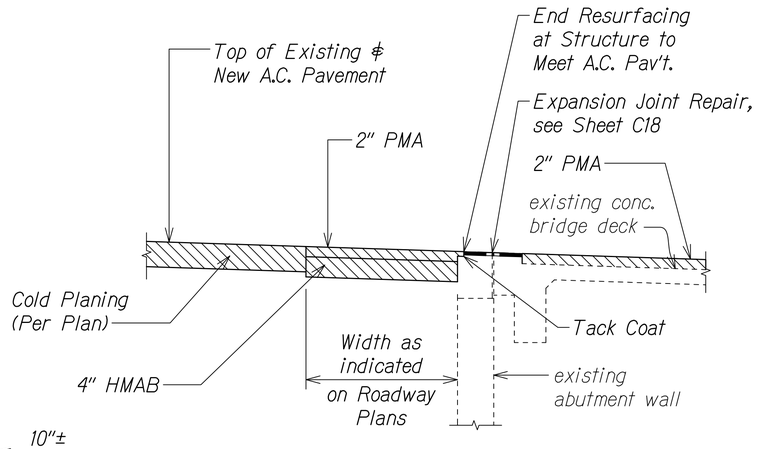
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	48	411



* For Ward Ave Sta. 13+49± to Sta. 13+94±:
Pavement Reconstruction,
Fill with 4" HMAB and Pave with 2" PMA

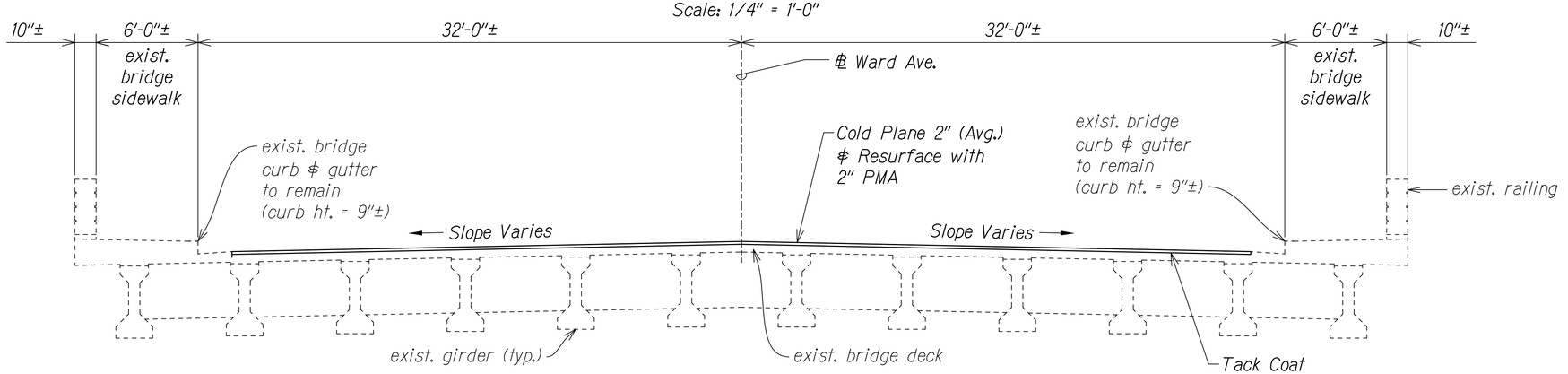
(STA. 13+49± TO STA. 14+65±)
WARD AVENUE
PAVEMENT RESURFACING SECTION

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



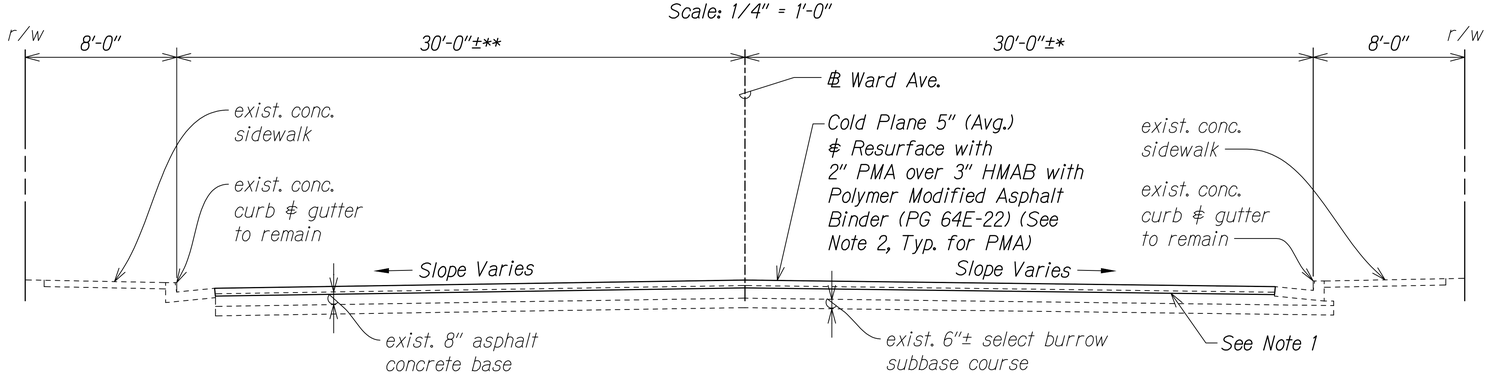
WARD AVENUE OVERPASS
COLD PLANED TRANSITION BETWEEN STRUCTURE AND A.C. PAVEMENT
LONGITUDINAL SECTION

Not to Scale



(STA. 11+94± TO STA. 13+49±)
WARD AVENUE OVERPASS
PAVEMENT RESURFACING SECTION

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



* For Ward Ave Sta. 11+45± to Sta. 11+94± (NB):
Pavement Reconstruction,
Fill with 4" HMAB and Pave with 2" PMA

** For Ward Ave Sta. 10+86± to Sta. 11+94± (SB):
Pavement Reconstruction,
Fill with 4" HMAB and Pave with 2" PMA

(STA. 10+00 TO STA. 11+94±)
WARD AVENUE
PAVEMENT RESURFACING SECTION

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

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement.
2. PMA refers to Mix No. IV with PG 64E-22.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WARD AVE. TYPICAL SECTIONS

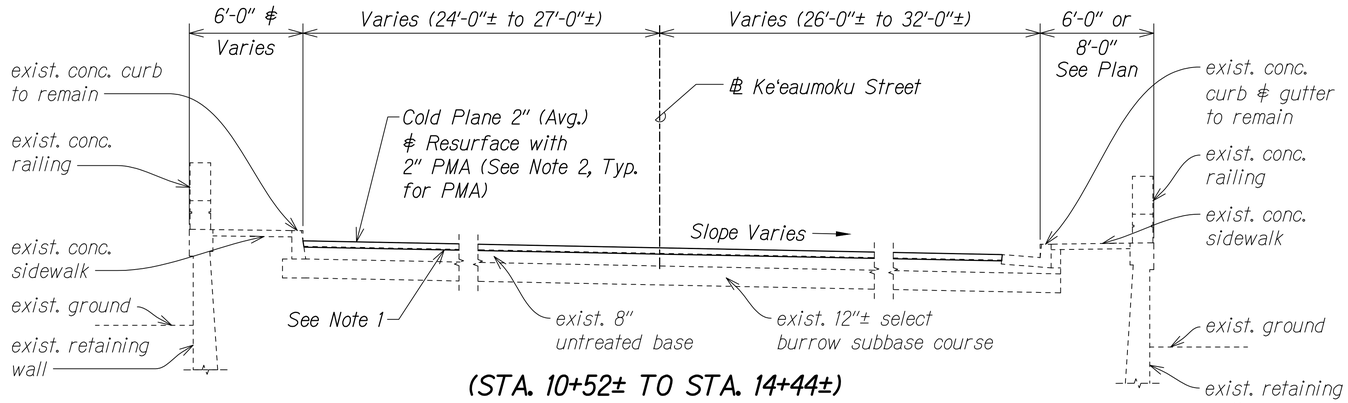
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

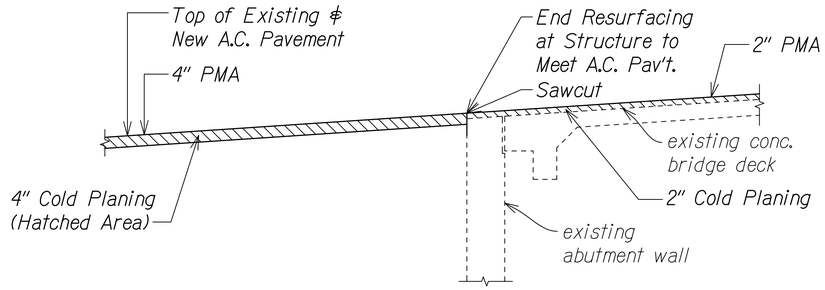
SHEET No. C11 OF 19 SHEETS

W:_CIVIL 30 PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\01 CIVIL DRAWINGS\C11 WARD AVE. TYPICAL SECTIONS.DWG 8/2/2024 8:25 am

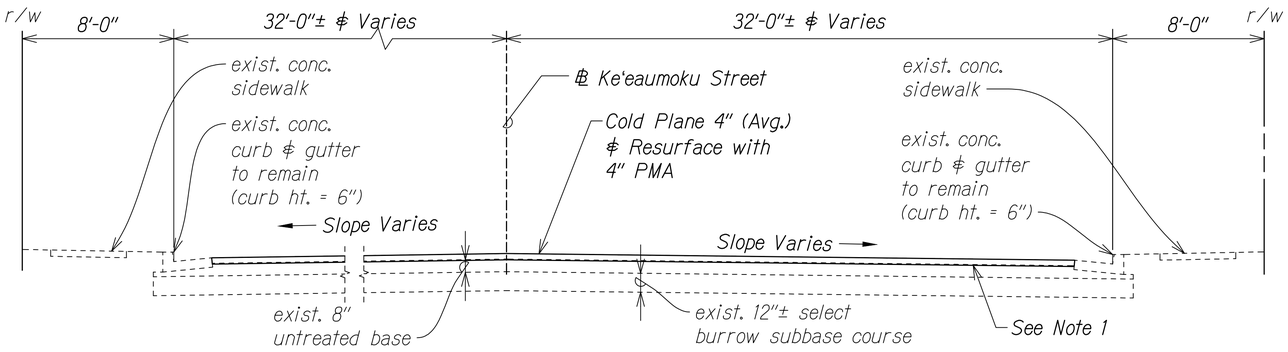
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	49	411



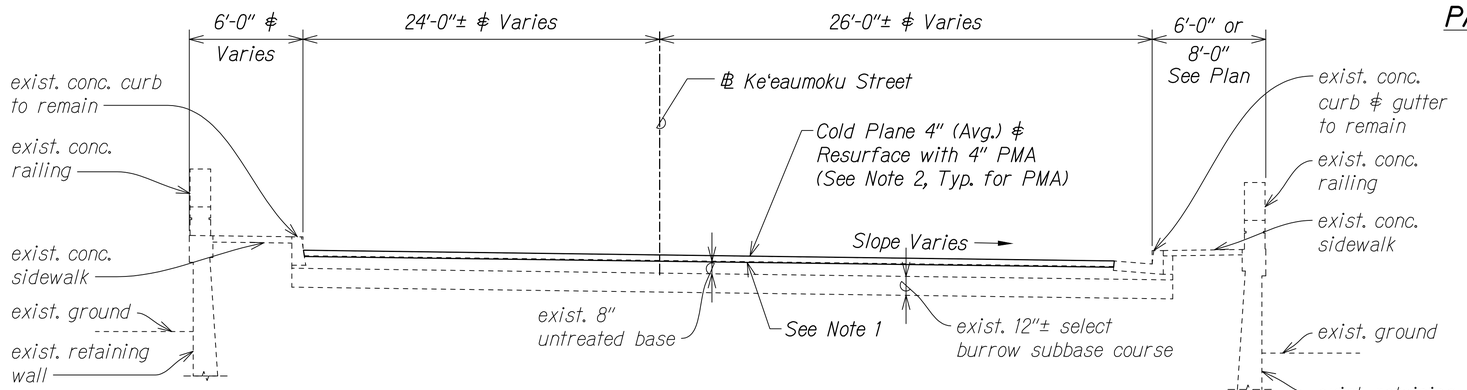
(STA. 10+52± TO STA. 14+44±)
KE'EAUMOKU STREET
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"



KE'EAUMOKU STREET OVERPASS
COLD PLANED TRANSITION BETWEEN
STRUCTURE AND A.C. PAVEMENT
Not to Scale



(STA. 16+47± TO STA. 19+02±)
KE'EAUMOKU STREET
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"



(STA. 10+00± TO STA. 10+52±)
(STA. 14+44± TO STA. 16+47±)
KE'EAUMOKU STREET
PAVEMENT RESURFACING SECTION
Scale: 1/4" = 1'-0"

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement.
2. PMA refers to Mix No. IV with PG 64E-22.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KEEAUMOKU ST. TYPICAL SECTIONS

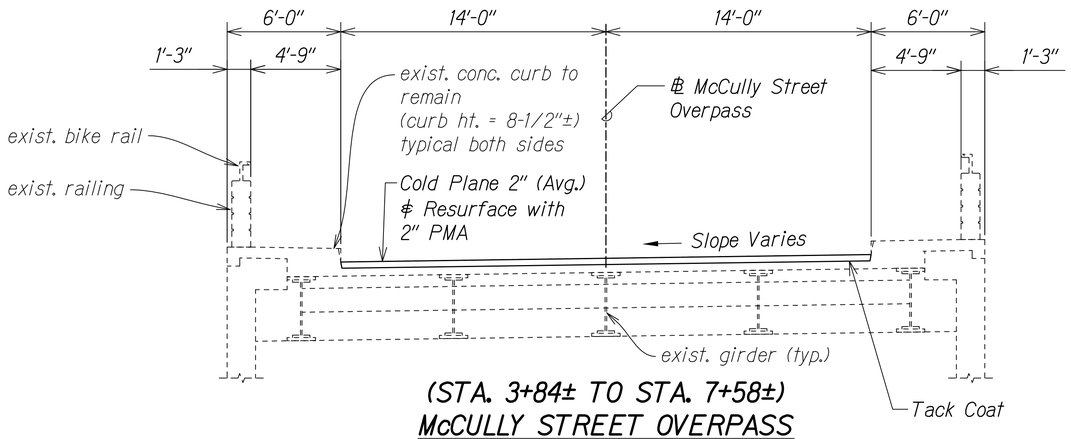
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

SHEET No. C12 OF 19 SHEETS

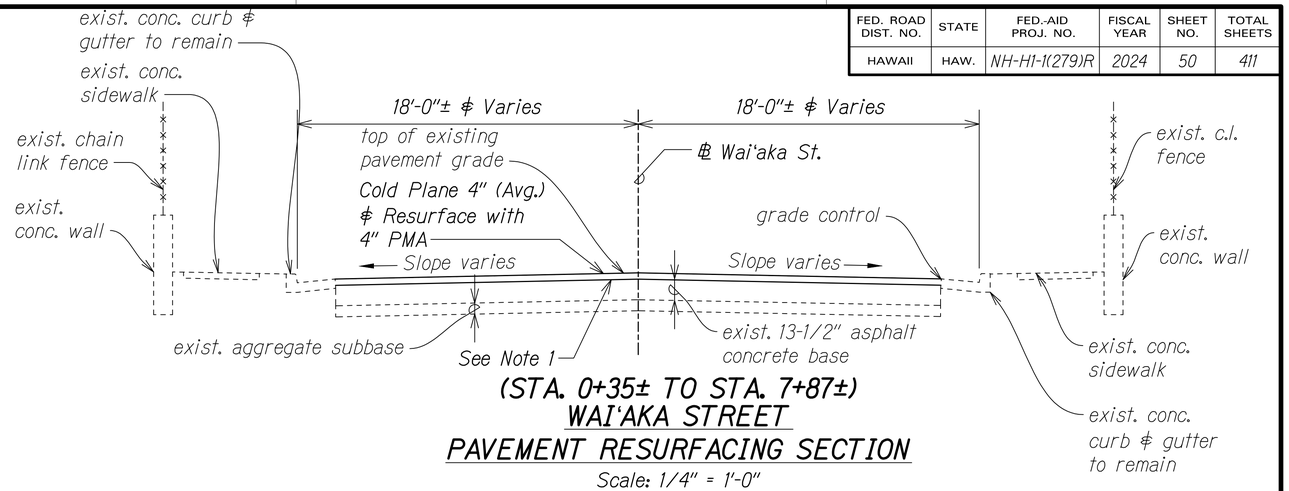
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\C12 KEEAUMOKU ST. TYPICAL SECTIONS.DWG 7/19/2024 11:08 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	50	411



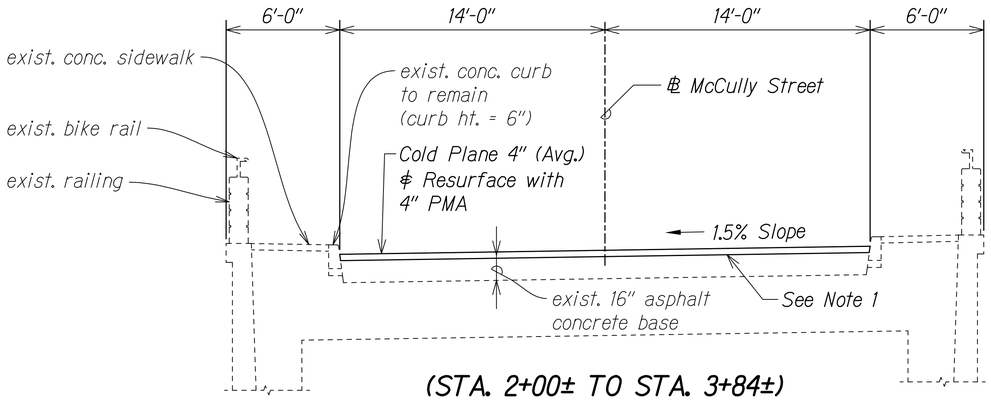
(STA. 3+84± TO STA. 7+58±)
McCULLY STREET OVERPASS
PAVEMENT RESURFACING SECTION

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



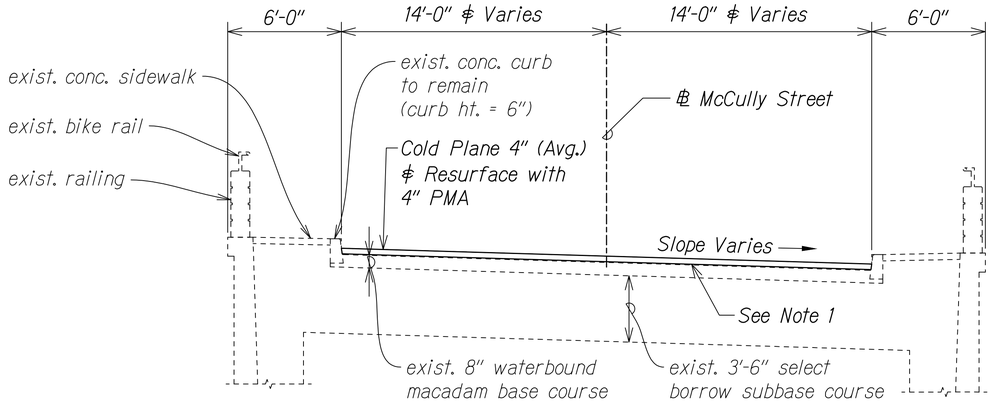
(STA. 0+35± TO STA. 7+87±)
WAI'AKA STREET
PAVEMENT RESURFACING SECTION

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



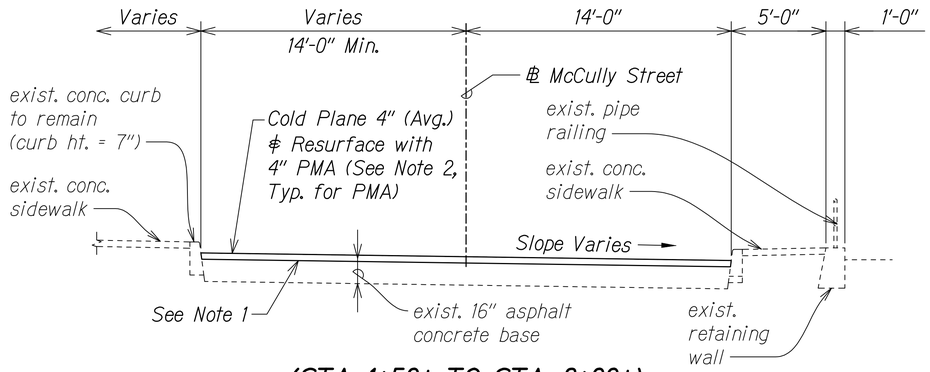
(STA. 2+00± TO STA. 3+84±)
McCULLY STREET
PAVEMENT RESURFACING SECTION

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



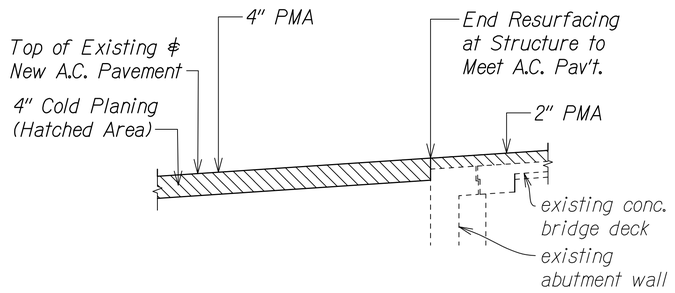
(STA. 7+58± TO STA. 10+06±)
McCULLY STREET
PAVEMENT RESURFACING SECTION

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



(STA. 1+50± TO STA. 2+00±)
McCULLY STREET
PAVEMENT RESURFACING SECTION

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



McCULLY STREET OVERPASS
COLD PLANED TRANSITION BETWEEN
STRUCTURE AND A.C. PAVEMENT

Not to Scale

NOTES:

1. Apply Tack Coat in between exist. and new A.C. Pavement.
2. PMA refers to Mix No. IV with PG 64E-22.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MCCULLY ST. TYPICAL SECTIONS

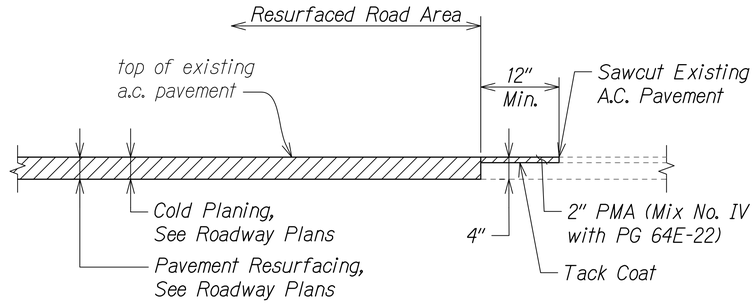
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown — Date: November 2024

SHEET No. C13 OF 19 SHEETS

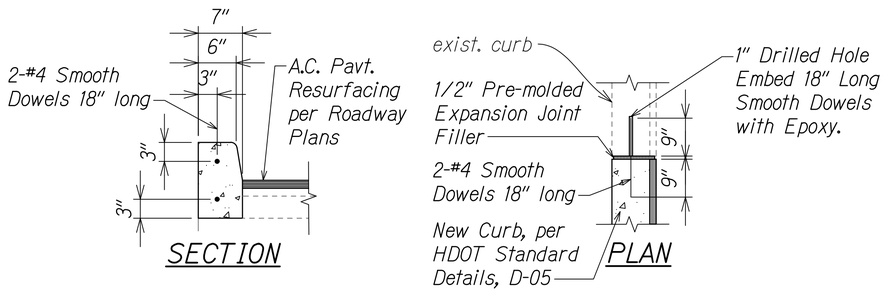
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\C13 MCCULLY ST. TYPICAL SECTIONS.DWG 7/19/2024 11:09 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	51	411



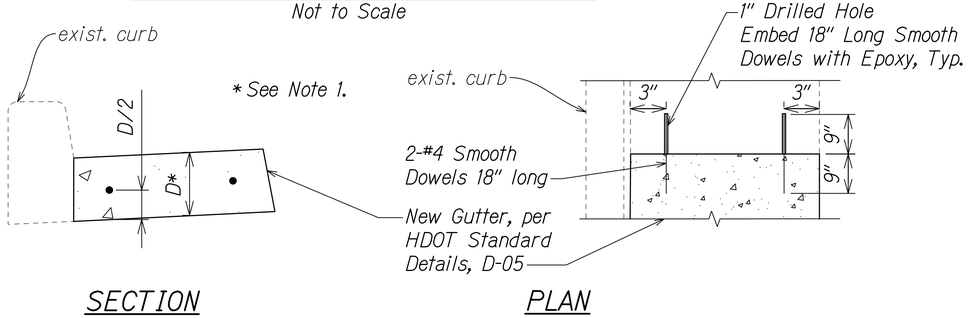
COLD PLANING AND PAVING DETAIL AT FREEWAY RAMPS AND SIDE STREETS

Not to Scale



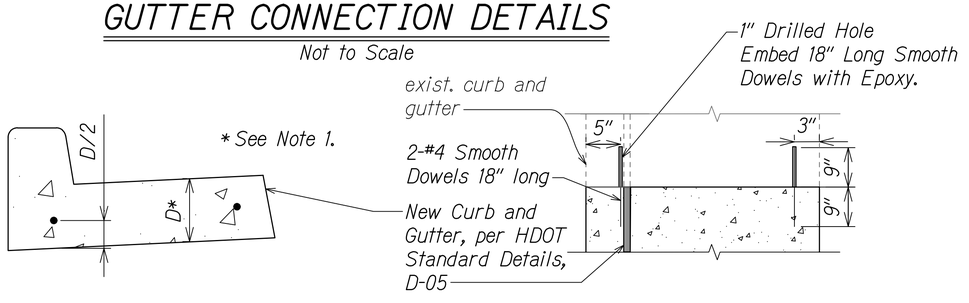
CURB CONNECTION DETAILS

Not to Scale



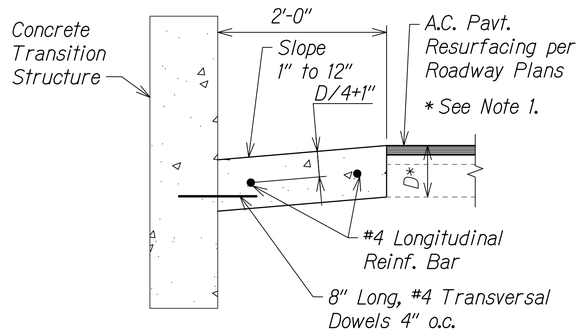
GUTTER CONNECTION DETAILS

Not to Scale



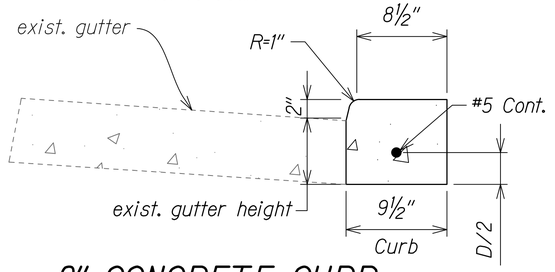
CURB AND GUTTER CONNECTION DETAILS

Not to Scale



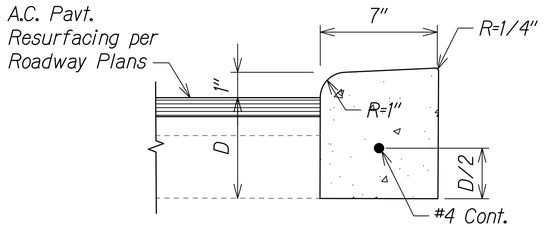
CONCRETE GUTTER ON CONCRETE STRUCTURE LOCATION

Not to Scale



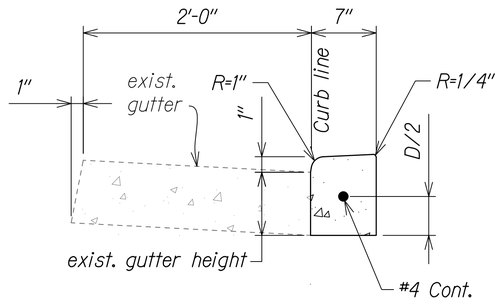
2" CONCRETE CURB (WITH EXIST. GUTTER)

Not to Scale



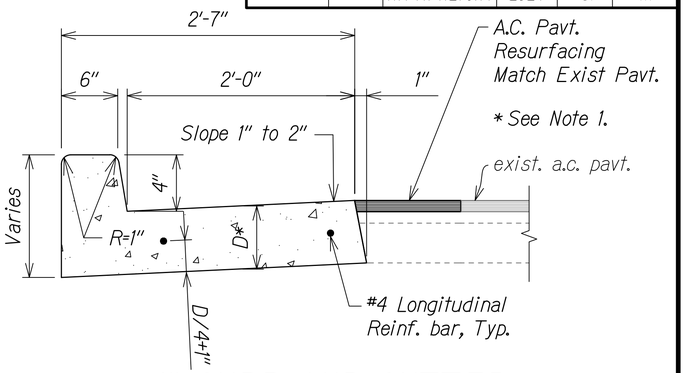
HDOT DRIVEWAY CURB

Not to Scale



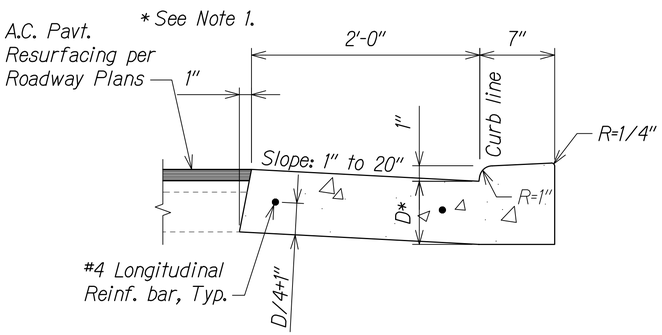
HDOT DRIVEWAY CURB (WITH EXIST. GUTTER)

Not to Scale



4" CURB AND GUTTER

Not to Scale



HDOT DRIVEWAY CURB AND GUTTER

Not to Scale

NOTE:

1. For AC pavement areas, D equals to thickness of AC + AC base but not less than 10".

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SITE DETAILS

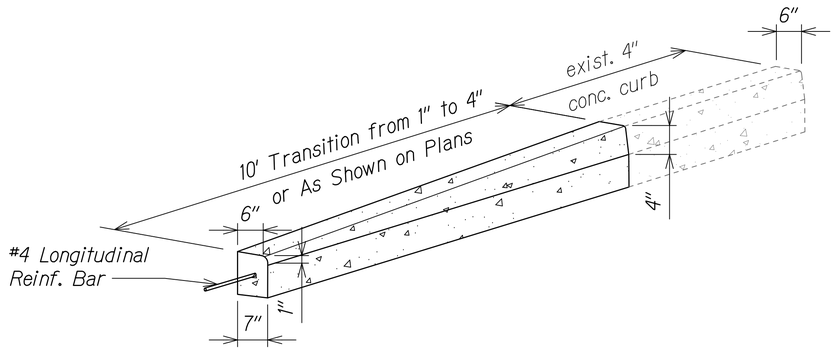
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

SHEET No. C14 OF 19 SHEETS

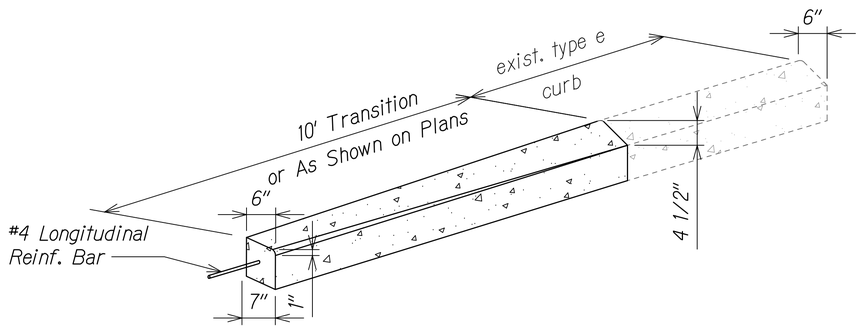
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\C14 SITE DETAILS.DWG 8/2/2024 5:36 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	52	411



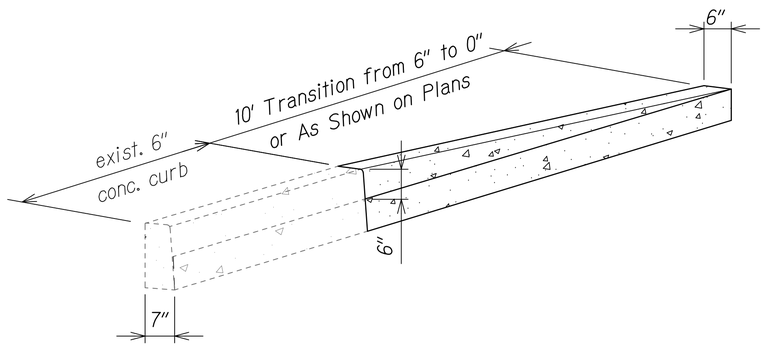
HDOT DRIVEWAY CURB TO EXIST. 4" CURB TRANSITION

Not to Scale



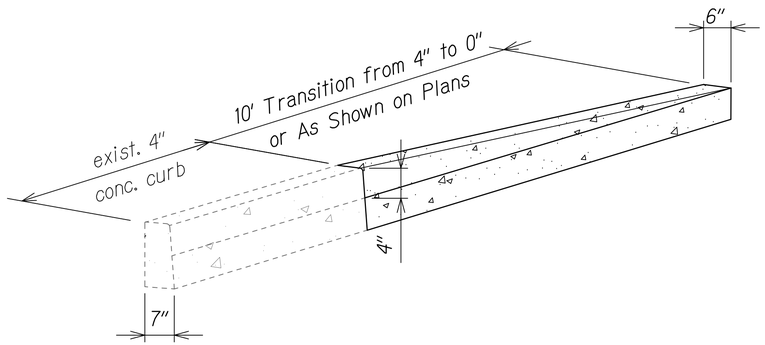
HDOT DRIVEWAY CURB TO EXIST. TYPE E CURB TRANSITION

Not to Scale



EXIST. 6" CURB TO 0" TRANSITION

Not to Scale



EXIST. 4" CURB TO 0" TRANSITION

Not to Scale

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STATE OF HAWAII
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CURB TRANSITION DETAILS

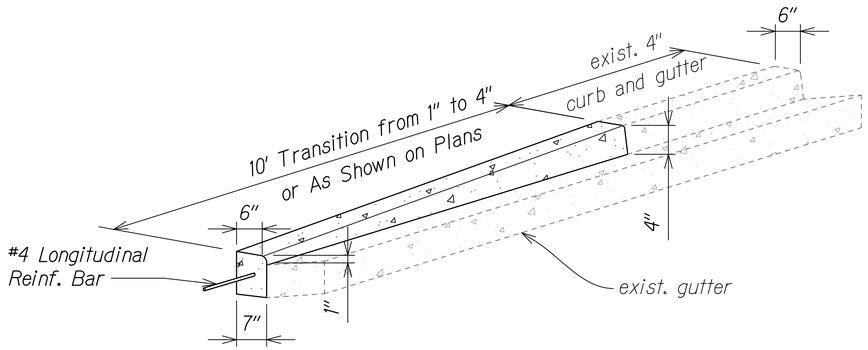
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: As Shown Date: November 2024

SHEET No. C15 OF 19 SHEETS

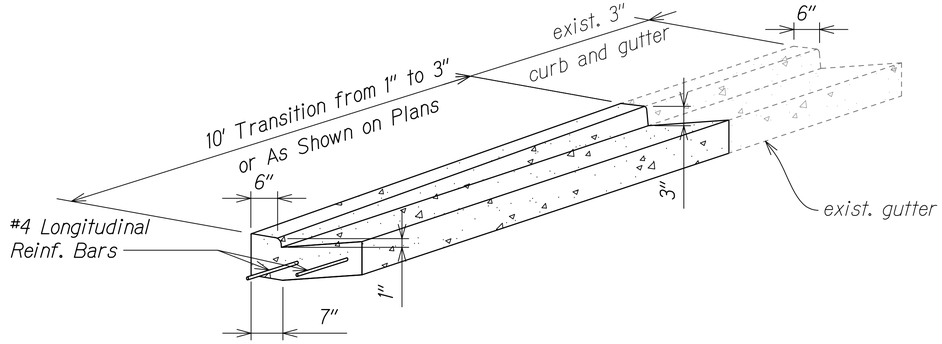
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\01 CIVIL DRAWINGS\C15-C17 CURB TRANSITION DETAILS.DWG 8/2/2024 2:39 pm

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	53	411



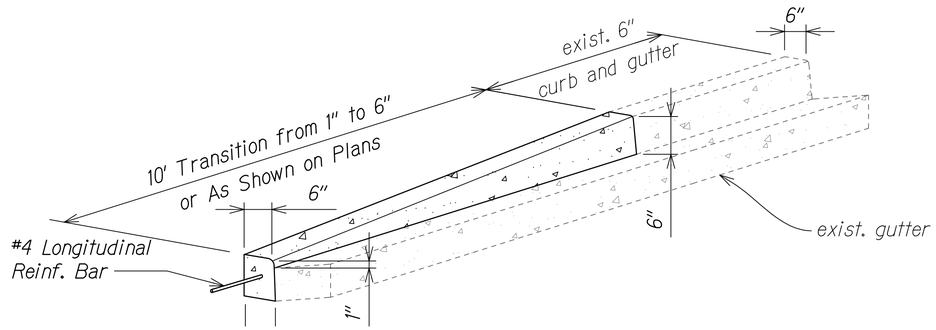
HDOT DRIVEWAY CURB TO EXIST. 4" CURB TRANSITION (WITH EXIST. GUTTER)

Not to Scale



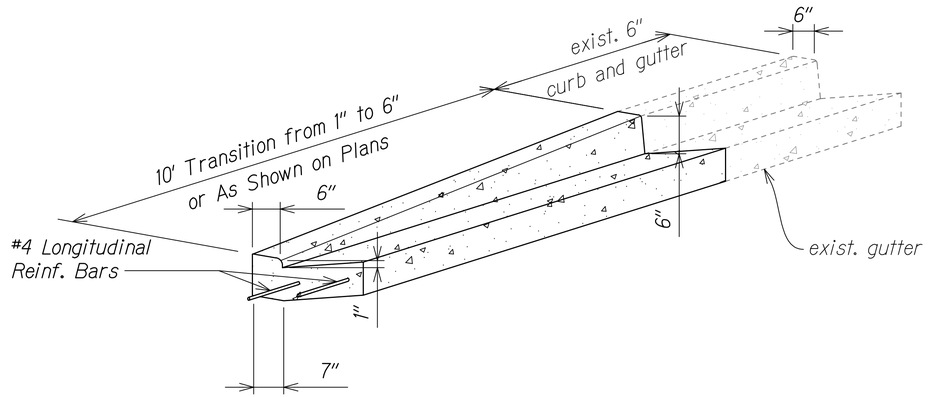
HDOT DRIVEWAY CURB AND GUTTER TO EXIST. 3" CURB AND GUTTER TRANSITION

Not to Scale



HDOT DRIVEWAY CURB TO EXIST. 6" CURB TRANSITION (WITH EXIST. GUTTER)

Not to Scale



HDOT DRIVEWAY CURB AND GUTTER TO EXIST. 6" CURB AND GUTTER TRANSITION

Not to Scale

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

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB TRANSITION DETAILS

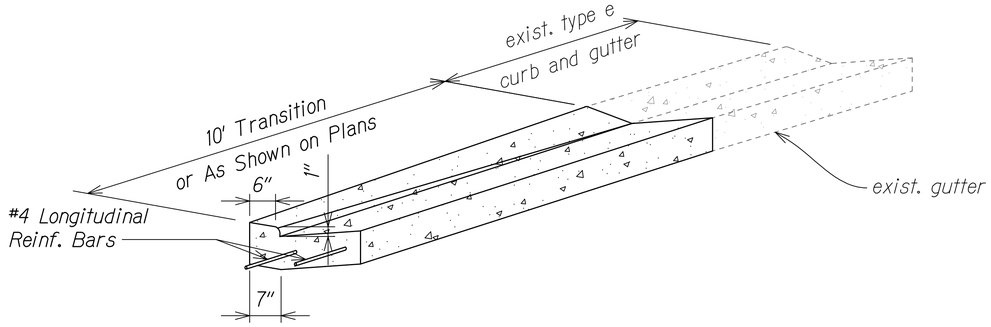
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: As Shown Date: November 2024

SHEET No. C16 OF 19 SHEETS

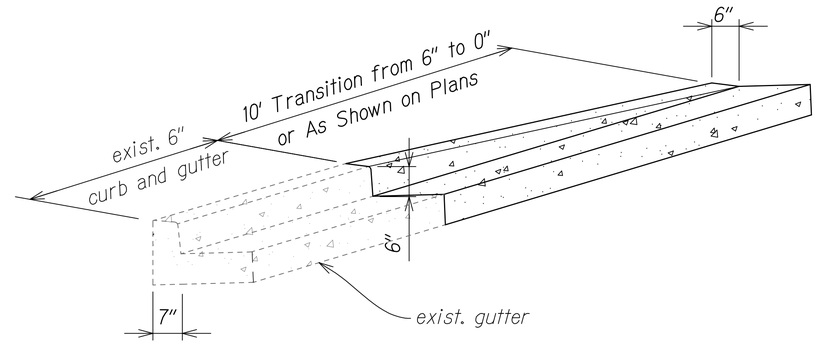
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\C15-C17 CURB TRANSITION DETAILS.DWG 8/2/2024 2:46 pm

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	54	411



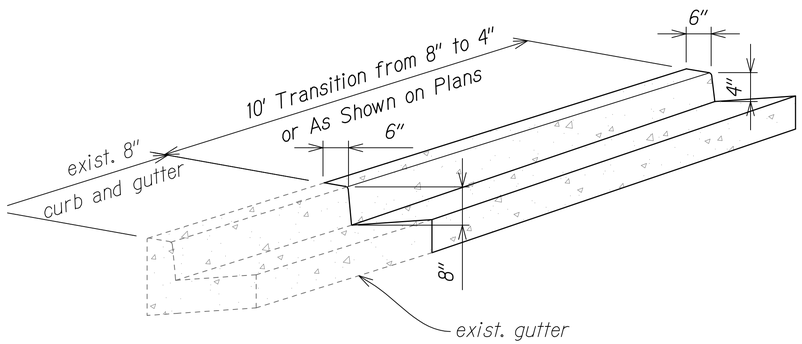
HDOT DRIVEWAY CURB AND GUTTER TO EXIST. TYPE E CURB AND GUTTER TRANSITION

Not to Scale



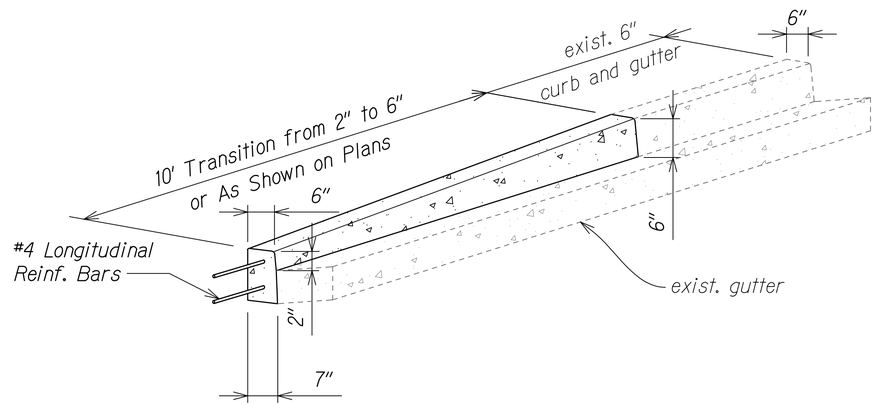
EXIST. 6" CURB AND GUTTER TO 0" TRANSITION

Not to Scale



EXIST. 8" CURB AND GUTTER TO 4" CURB AND GUTTER TRANSITION

Not to Scale



2" CONCRETE CURB TO EXIST. 6" CURB TRANSITION (WITH EXIST. GUTTER)

Not to Scale

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB TRANSITION DETAILS

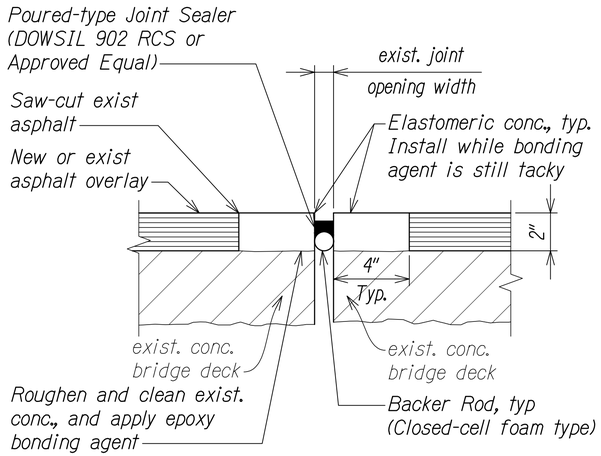
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: As Shown Date: November 2024

SHEET No. C17 OF 19 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\C15-C17 CURB TRANSITION DETAILS.DWG 8/2/2024 3:07 pm

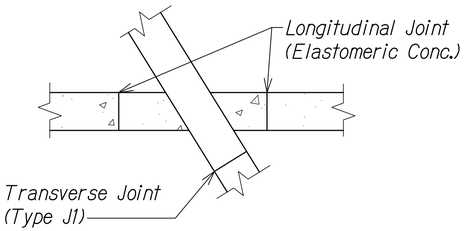
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	55	411



(For Concrete Bridge with A.C. wearing surface)

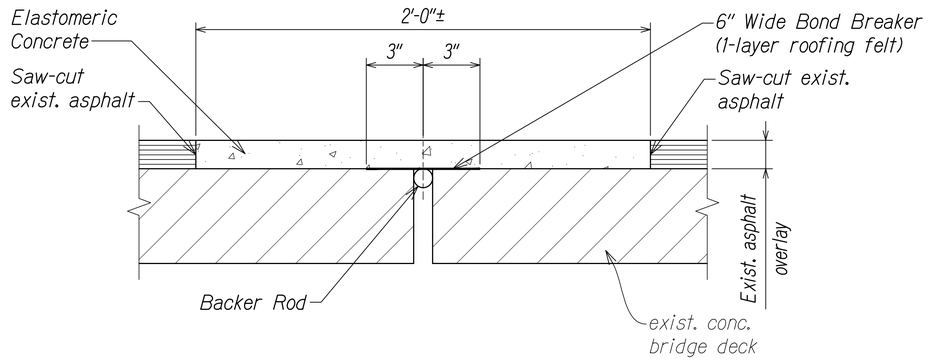
TRANSVERSE JOINT DETAIL (TYPE J1)

Not to Scale



DETAIL AT INTERSECTION OF LONGITUDINAL AND TRANSVERSE JOINTS

Not to Scale



LONGITUDINAL JOINT DETAIL

Not to Scale

NOTES:

A. Elastomeric Concrete
   1. Elastomeric concrete shall be a three-component, polyurethane 100% solids material. The following product, or an approved equal, shall be provided: "Wabocrete II" by Watson Bowman Acme.
   2. Existing concrete surface shall be sandblasted roughened and cleaned of all debris and other bond inhibiting materials.
   3. Epoxy bonding agent shall be "Wabo Epoxy Bonding Agent", or equal approved by the Engineer.
   4. Elastomeric concrete shall be installed per manufacturer's recommendations.
   5. Contractor shall not allow traffic until Elastomeric concrete has cured a minimum of 3 hours, or a longerb time as recommended by the Manufacturer and approved by the Engineer.

B. Poured-Type Joint Sealer
   1. Poured-type joint sealer shall be a cold applied, two part, self-leveling, low modulus silicone sealant. Contractor shall submit catalog cut of proposed sealant for Engineer's approval.
   2. Substrate shall be clean, dry and free of any contaminants. Joint interfaces shall be sandblasted.
   3. Joint sealer shall be installed per manufacturer's recommendations.
   4. Contractor shall not allow traffic until Joint sealer has cured a minimum of 4 hours, or a longer time as recommended by the manufacturer and approved by the Engineer.

C. For maintenance and control of traffic, see Special Provision sub-section 104.04.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL EXPANSION JOINT DETAILS

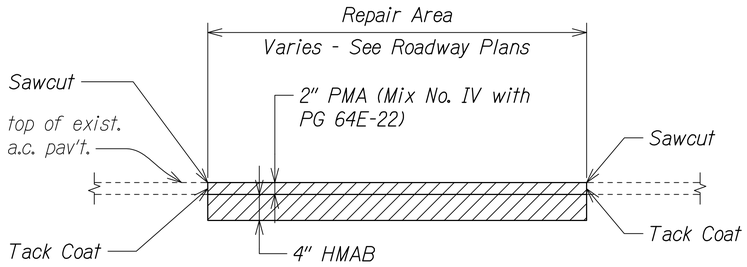
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

SHEET No. C18 OF 19 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\T\01 CIVIL DRAWINGS\C18 TYPICAL EXPANSION JOINT DETAILS.DWG 7/19/2024 11:18 AM

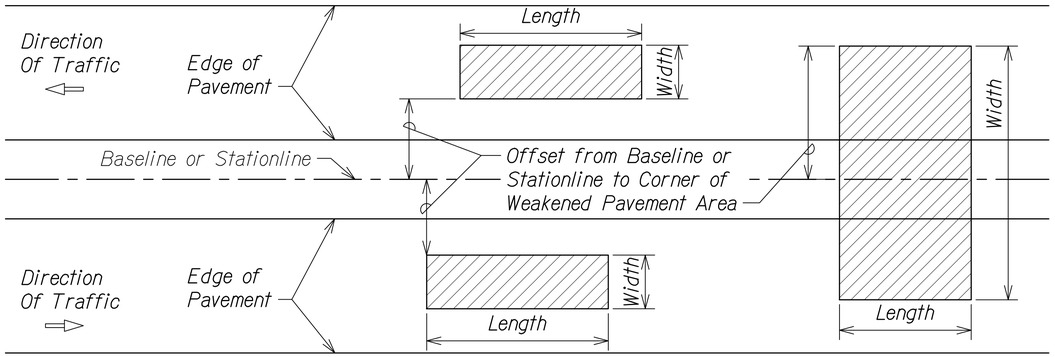
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	56	411



A.C. WEAKENED PAVEMENT REPAIR DETAIL
(SIDESTREETS AND RAMPS ONLY)

Not to Scale

SCHEDULE-RECONSTRUCTION OF WEAKENED PAVEMENT AREAS					
DRAWING NO.	LOCATION	STATION	OFFSET	WIDTH x LENGTH (Feet x Feet)	AREA (Sq. Ft.)
R9	Metcalf St.	℄ 0+14	4' Lt.	20 x 35	700
	Metcalf St.	℄ 0+42	16' Lt.	24 x 23	552
	Metcalf St.	℄ 3+85	9' Rt.	7 x 30	210
R10	Metcalf St.	℄ 5+37	9' Rt.	8 x 26	208
	Metcalf St.	℄ 6+80	10' Rt.	8 x 26	208
	Metcalf St.	℄ 7+16	6' Rt.	6 x 46	276
R12	Wilder Ave. Off-Ramp	℄ 0+06	8' Rt.	6 x 26	156
R18	Ward Ave.	℄ 10+13	13' Lt.	24 x 32	768
	Ward Ave.	℄ 10+86	1' Lt.	28 x 59	1,652
	Ward Ave.	℄ 11+45	29' Lt.	56 x 50	2,800
	Ward Ave.	℄ 13+49	23' Lt.	55 x 46	2,530



TYPICAL LOCATION PLAN
FOR WEAKENED PAVEMENT AREAS

Not to Scale

NOTES:

1. All holes, depressions and wheel ruts shall be filled and compacted with HMA (Mix V), prior to resurfacing. This work shall be considered incidental to various contract items and will not be paid for separately.
2. The Contractor may elect to reconstruct the entire depth of pavement reconstruction with base course in preparation of cold planing but the State will not pay for the additional asphalt concrete base.
3. Prior to placement of the asphalt base course, the exposed subbase or subgrade shall be compacted to 95% relative compaction. The work shall be considered incidental to the Hot Mix Asphalt Base Course item.
4. All sawcutting will not be paid for separately and shall be considered incidental to the various contract items.

LEGEND:

Pavement Reconstruction:
2" PMA (Mix No. IV with PG 64E-22)
4" HMAB

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STATE OF HAWAII
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HIGHWAYS DIVISION

WEAKENED PAVEMENT DETAILS AND SCHEDULES

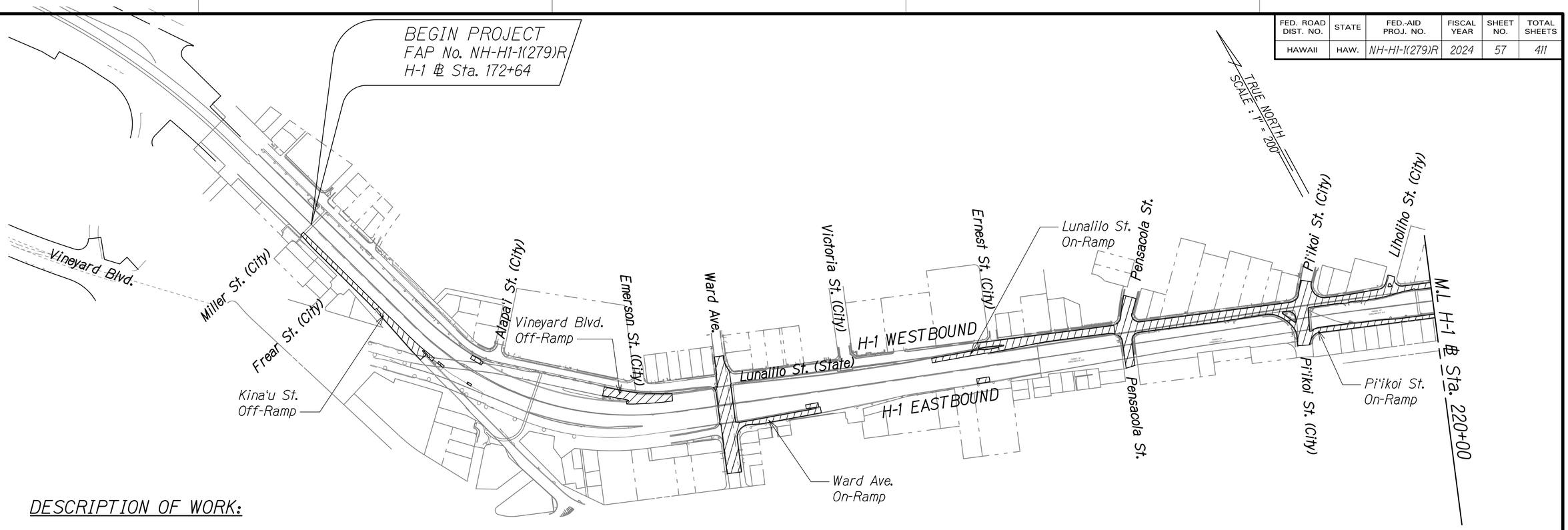
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: As Shown Date: November 2024

SHEET No. C19 OF 19 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\C19 WEAKENED PAVEMENT DETAILS AND SCHEDULES.DWG 7/9/2024 10:34 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	57	411



DESCRIPTION OF WORK:

1. General. The Interstate Route H-1 Freeway Resurfacing, vicinity of Punchbowl off ramp to Kapiolani Interchange, includes resurfacing of the following roadways and ramps:

   A. Freeway on and off ramps (eastbound):

      1) Portion of Kinau Street Off-Ramp
      2) Ward Avenue On-Ramp
      3) Piikoi Street On-Ramp
      4) Punahou Street Off-Ramp
      5) Bingham Street Off-Ramp
      6) University Avenue On-Ramp "U-1"
      7) University Avenue Off-Ramp "U-3"
      8) Portion of King Street Off-Ramp
      9) Portion of Old Waialae Road On-Ramp

   B. Freeway on and off ramps (westbound):

      1) Portion of Vineyard Boulevard Off-Ramp
      2) Lunalilo Street On-Ramp
      3) Lunalilo Street Off-Ramp
      4) Punahou Street On-Ramp
      5) Portion of Metcalf Street On-Ramp
      4) Wilder Avenue Off-Ramp
      5) University Avenue On-Ramp "U-8"
      6) University Avenue Off-Ramp "U-5"
      7) University Avenue On-Ramp "U-6"
      8) Old Waialae Road On-Ramp "T"
      9) Old Waialae Road Off-Ramp

   C. Frontage Roads

      1) Lunalilo Street from Station 10+00 to Station 39+41 including Pensacola and Piikoi Streets beneath the Piikoi Viaduct within the State DOT right-of-way
      2) Bingham Street from Station 0+00 to Station 40+75
      3) Waiaka Road from Station 0+35 to Station 7+87
      4) Metcalf Street from Station 0+00 to Station 9+08
      5) Wilder Avenue from Station 0+00 to Station 11+15

   D. Cross Streets

      1) Ward Avenue from Station 10+00 to Station 14+65
      2) Keeaumoku Street from Station 10+00 to Station 19+02
      3) McCully Street from Station 1+50 to Station 10+06
      4) Pensacola Street from Station 10+00 to Station 12+79
      5) Piikoi Street from Station 10+00 to Station 12+56

2. The following roadways are excluded from resurfacing work:

   A. Punahou Street
   B. University Avenue
   C. Kalo Lane
   D. King Street
   E. Harding Avenue
   F. Kapahulu Avenue
   G. Old Waialae Road beneath the Kapiolani Interchange
   H. Kinalau Place
   I. Papaku Place

3. Street lighting upgrade work is limited to H-1 Freeway only.

LEGEND:

General Resurfacing Limits

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STATE OF HAWAII
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GENERAL PLAN

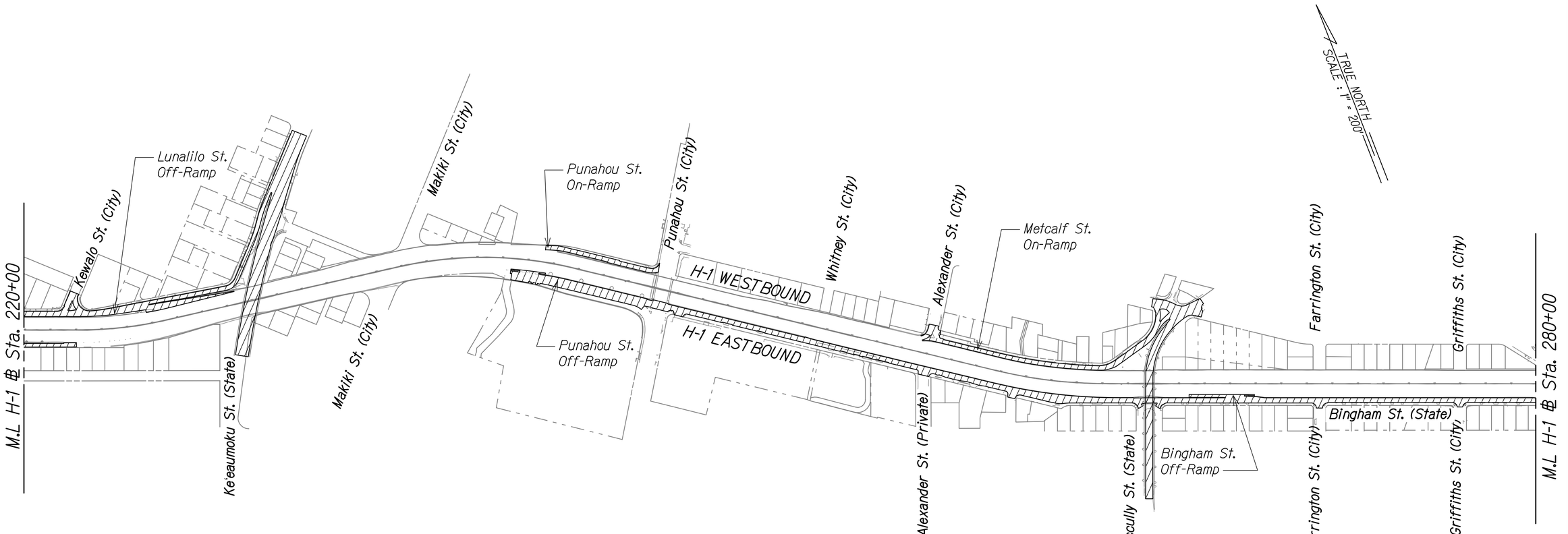
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 200' Date: November 2024

SHEET No. GP1 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\T\01 CIVIL DRAWINGS\GP1 GENERAL PLAN.DWG 8/2/2024 3:10 pm

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	58	411



LEGEND:

General Resurfacing Limits

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NO. 13480-C
HAWAII, USA

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL PLAN

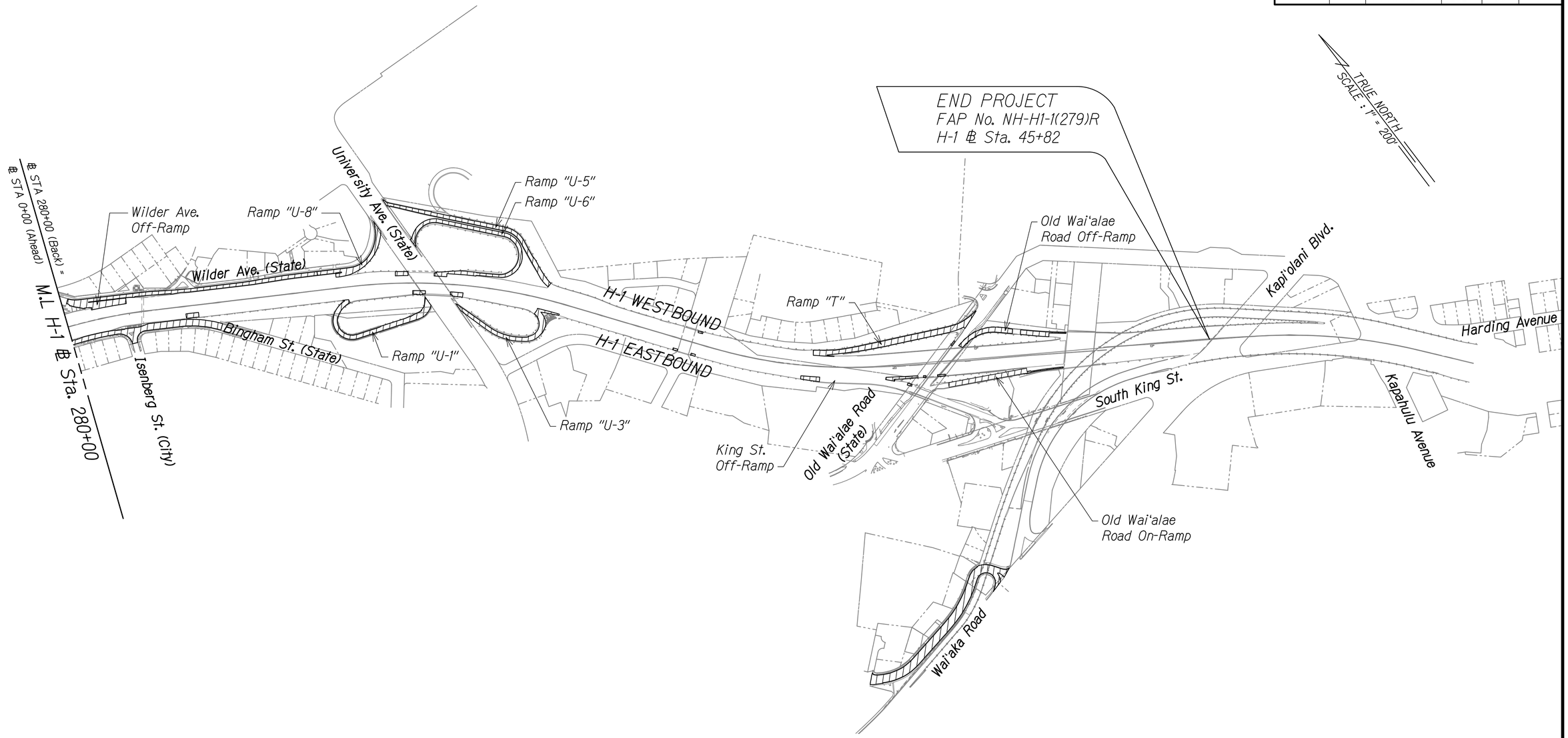
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 200' Date: November 2024

SHEET No. GP2 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\GP2 GENERAL PLAN.DWG 7/4/2024 8:29 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	59	411



LEGEND:

General Resurfacing Limits

ROBYN R. McKINNEY
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HAWAII, USA

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04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL PLAN

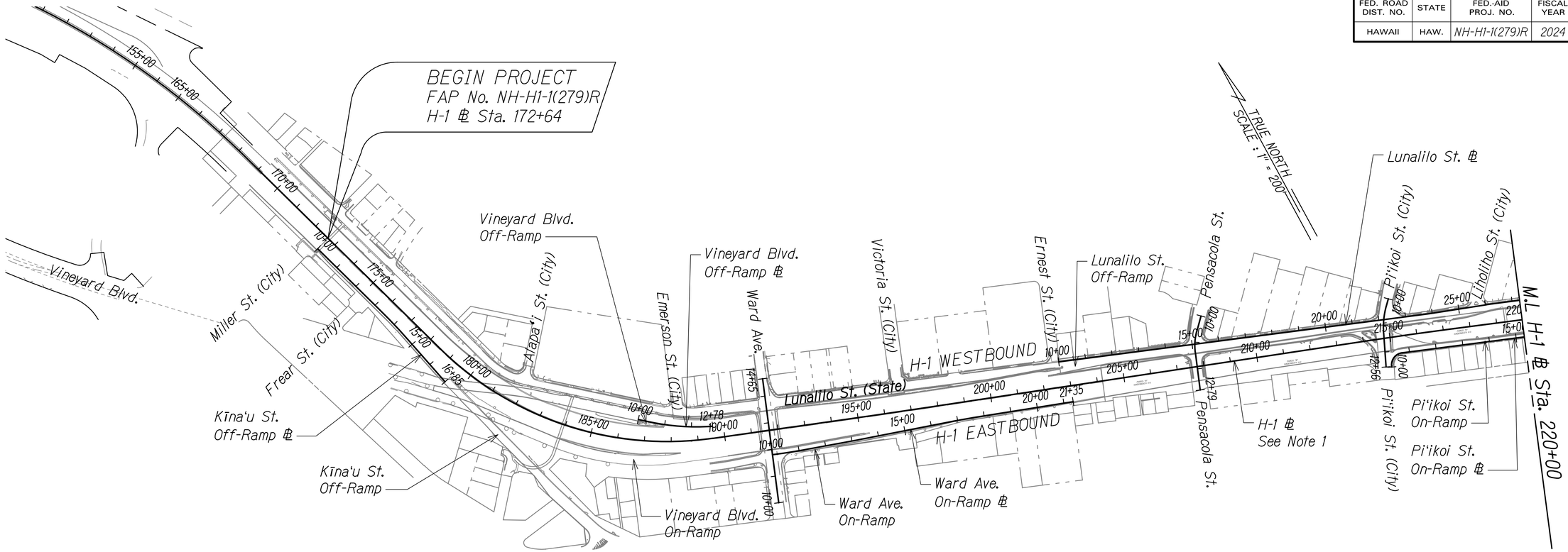
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 200' Date: November 2024

SHEET No. GP3 OF 3 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPINT\01 CIVIL DRAWINGS\GP3 GENERAL PLAN.DWG 7/4/2024 8:29 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	60	411



BASELINE HORIZONTAL DATA (℄)

ROAD NAMES	TYPE	H-1 STATION	OFFSET	STATION	AZIMUTH	DISTANCE	Δ	Δ/2	R	T	L_C	C
Kīna'u St. Off-Ramp	POB	172+64	54.75' Rt.	10+00.00	343°05'13"	318.35'						
	PC			13+18.35			4°05'03"	2°2'31.5"	2300.00'	82.01'	163.95'	163.92'
	PT			14+82.30	347°10'16"	203.09'						
	POE	179+42.78	78.85' Rt.	16+85.39								
Vineyard Blvd, Off-Ramp	POB	186+70.06	77.19' Lt.	10+00.00	310°28'24"	45.92'						
	PC			10+45.92			15°57'13"	7°58'36.5"	824.00'	115.47'	229.44'	228.70'
	PT			12+75.36	294°31'10"	2.74'						
	POE	189+60.3	44.63' Lt.	12+78.10								
Ward Ave.	POB	191+63.59	271.91' Rt.	10+00.00	201°08'43"	465.13'						
	POE	191+69.70	193.18' Lt.	14+65.13								
Ward Ave On-Ramp	POB	191+65.96	91.61' Rt.	10+00.00	291°08'43"	22.39'						
	PC			10+22.39			2°56'17"	1°26'38.5"	1500.00'	38.47'	76.92'	76.91'
	PT			10+99.31	288°12'26"	182.84'						
	PC			12+82.15			0°47'22"	0°23'41"	2514.00'	17.32'	34.64'	34.64'
	PT			13+16.79	287°25'04"	374.19'						
	PC			16+90.98			2°01'00"	1°00'30"	2000.00'	35.20'	70.40'	70.39'
	PT			17+61.38	289°26'04"	373.95'						
	POE	203+00	59.77' Rt.	21+35.33								

ROAD NAMES	TYPE	H-1 STATION	OFFSET	STATION	AZIMUTH	DISTANCE	Δ	Δ/2	R	T	L_C	C
Pensacola St.	POB	208+17.60	183.90' Lt.	10+00.00	43°54'36"	58.81'						
	PC			10+58.81			22°45'47"	11°22'53.5"	200.00'	40.26'	79.46'	78.94'
	PT			11+38.27	21°08'49"	141.05'						
	POE	207+73.35	87.87' Rt.	12+79.32								
Pi'ikoi St.	POB	215+14.47	143.16' Lt.	10+00.00	43°28'47"	29.86'						
	PC			10+29.86			19°02'47"	7°58'36.5"	300.00'	50.33'	99.73'	99.27'
	PT			11+29.59	24°26'00"	126.25'						
	POE	214+69.75	106.60' Rt.	12+55.84								
Pi'ikoi St. On-Ramp	POB	214+90.71	109.87' Rt.	10+00.00	204°26'00"	4.98'						
	PC			10+04.98			86°42'24"	43°21'12"	45.00'	42.49'	68.10'	61.79'
	PT			10+73.08	291°05'31"	678.82'						
	POE	222+16.44	64.41' Rt.	17+51.90								

NOTE:

1. The H-1 Freeway Baseline Alignment and Stations shown on this plan area based on information provided by Controlpoint Surveying Inc. on June 28, 2018.

ROBYN R. McKINNEY
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HORIZONTAL CONTROL PLAN

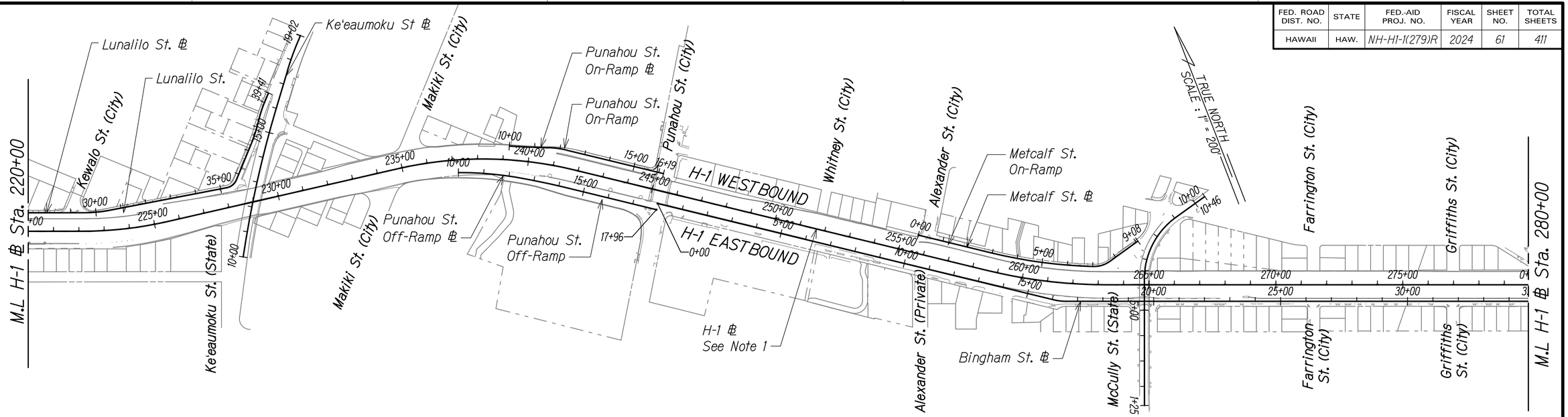
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 200' Date: November 2024

SHEET No. HC1 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\HC1 HORIZONTAL CONTROL PLAN.DWG 8/2/2024 3:30 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	61	411



BASELINE HORIZONTAL DATA (℄)

ROAD NAMES	TYPE	H-1 STATION	OFFSET	STATION	AZIMUTH	DISTANCE	Δ	Δ/2	R	T	L_C	C
Lunalilo St. Off-Ramp	POB	202+68.92	94.62' Lt.	10+00.00	291°07'13"	1371.85'						
	PC			23+71.85			1°31'13"	0°45'36.5"	1000.00'	13.27'	26.53'	26.53'
	PT			23+98.38	289°36'00"	204.45'						
	PC			26+02.83			1°29'20"	0°44'40"	1000.00'	12.99'	25.99'	25.99'
	PT			26+28.82	291°05'20"	328.29'						
	PC			29+57.11			10°50'24"	5°25'12"	500.00'	47.44'	94.60'	94.46'
	PT			30+51.71	280°14'56"	473.93'						
	PC			35+25.64			56°42'59"	28°21'29.5"	50.00'	26.99'	49.49'	47.50'
	PT			35+75.13	223°31'57"	156.70'						
	PC			37+31.83			7°22'50"	3°41'25"	500.00'	32.25'	64.41'	64.36'
	PT			37+96.24	216°09'07"	41.32'						
	PC			38+37.56			7°15'26"	3°37'43"	500.00'	31.71'	63.33'	63.29'
	PT			39+00.89	223°24'32"	39.77'						
	POE	230+52.53	404.31' Lt.	39+40.66								
Ke'eaumoku St.	POB/PC	228+11.48	202.26' Rt.	10+00.00			8°12'27"	4°6'13.5"	4200.00'	301.33'	601.64'	601.12'
	PT			16+01.64	217°49'46"	154.33'						
	PC			17+55.97			5°42'00"	2°51'00"	1100.00'	54.76'	109.43'	109.39'
	PT			18+65.40	223°31'46"	36.46'						
	POE	232+26.01	596.68' Lt.	19+01.86								
Punahou St. On-Ramp	POB/PC	239+21.54	54.03' Lt.	10+00.00			2°16'10"	1°08'05"	3120.00'	61.80'	123.59'	123.58'
	PT			11+23.59	292°40'16"	30.27'						
	PC			11+53.86			12°05'55"	6°02'57.5"	350.00'	37.09'	73.91'	73.77'

ROAD NAMES	TYPE	H-1 STATION	OFFSET	STATION	AZIMUTH	DISTANCE	Δ	Δ/2	R	T	L_C	C
Punahou St. On-Ramp	PT			12+27.77	304°46'11"	391.47'						
	POE	245+29.25	68.99' Lt.	16+19.24								
Punahou St. Off-Ramp	POB/PC	237+20.80	50.14' Rt.	10+00.00			11°18'17"	5°39'8.5"	1359.00'	134.51'	268.14'	267.70'
	PT			12+68.14	302°14'01"	38.36'						
	PC			13+06.5			2°38'32"	1°19'16"	2500.00'	57.65'	115.29'	115.28'
	PT			14+21.79	304°52'33"	373.86'						
	POE	245+35.48	75.57' Rt.	17+95.65								
Metcalf St. On-Ramp	POB	255+61.60	71.00' Lt.	0+00.00	304°50'15"	295.39'						
	PC			2+95.39			12°09'15"	6°04'37.5"	1929.00'	205.37	409.20'	408.43'
	PCC			7+04.59			37°06'57"	18°33'28.5"	100.47'	33.73	65.08'	63.95'
	PT			7+69.67	255°17'51"	1659.36						
	POE	264+56.34	171.91' Lt.	9+07.95								
McCully St.	POB	264+82.24	475.22' Rt.	1+25.00	201°06'04"	496.83'						
	PC			6+21.83			54°16'37"	27°08'18.5"	300.57'	154.06'	284.73'	274.21'
	PT			9+06.56	255°22'41"	139.20'						
	POE	267+19.69	347.10' Lt.	10+45.76								

NOTE:

1. The H-1 Freeway Baseline Alignment and Stations shown on this plan area based on information provided by Controlpoint Surveying Inc. on June 28, 2018.

ROBYN R. MCKINNEY
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HORIZONTAL CONTROL PLAN

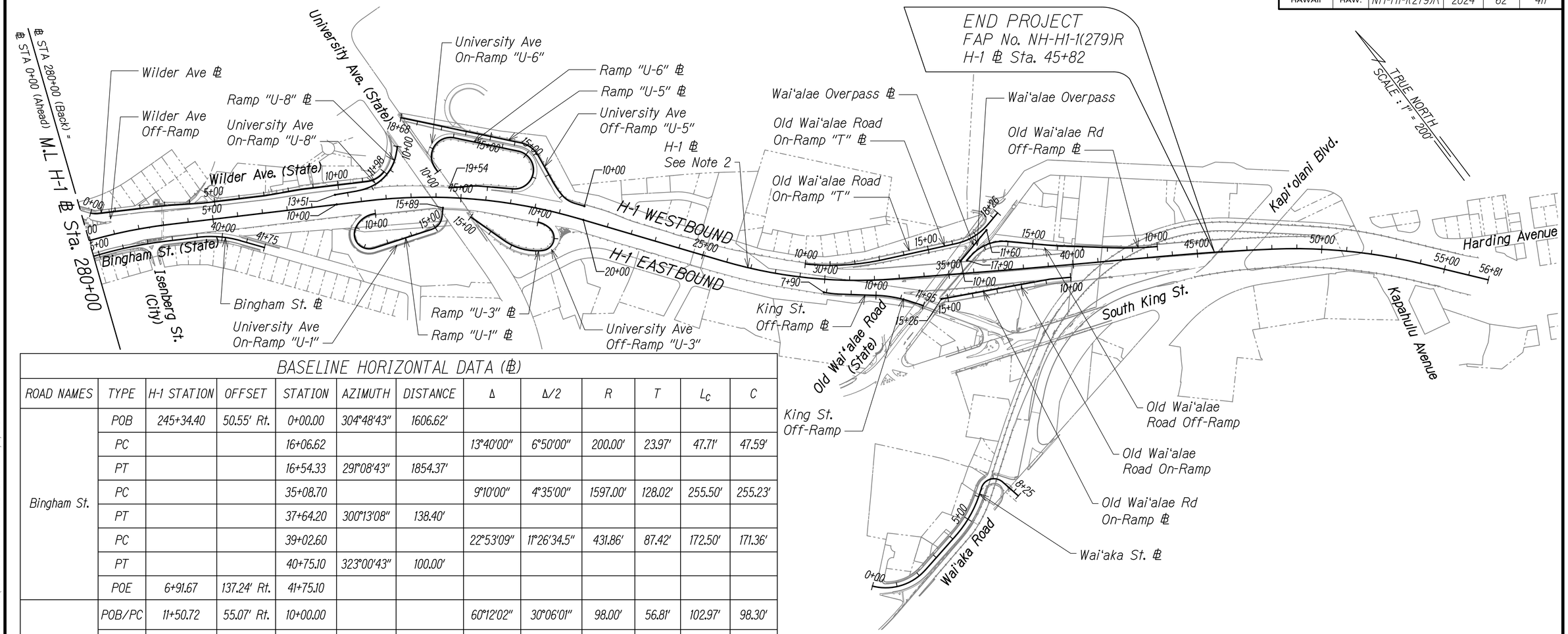
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 200' Date: November 2024

SHEET No. HC2 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\HC2 HORIZONTAL CONTROL PLAN.DWG 8/2/2024 3:29 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	62	411



BASELINE HORIZONTAL DATA (℄)

ROAD NAMES	TYPE	H-1 STATION	OFFSET	STATION	AZIMUTH	DISTANCE	Δ	Δ/2	R	T	L_C	C
Bingham St.	POB	245+34.40	50.55' Rt.	0+00.00	304°48'43"	1606.62'						
	PC			16+06.62			13°40'00"	6°50'00"	200.00'	23.97'	47.71'	47.59'
	PT			16+54.33	291°08'43"	1854.37'						
	PC			35+08.70			9°10'00"	4°35'00"	1597.00'	128.02'	255.50'	255.23'
	PT			37+64.20	300°13'08"	138.40'						
	PC			39+02.60			22°53'09"	11°26'34.5"	431.86'	87.42'	172.50'	171.36'
	PT			40+75.10	323°00'43"	100.00'						
	POE	6+91.67	137.24' Rt.	41+75.10								
University Ave On-Ramp "U-1"	POB/PC	11+50.72	55.07' Rt.	10+00.00			60°12'02"	30°06'01"	98.00'	56.81'	102.97'	98.30'
	PCC			11+02.97			131°50'23"	65°55'11.5"	59.50'	133.14'	136.91'	108.64'
	PT			12+39.88	289°04'57"	244.79'						
	PC			14+84.67			66°10'01"	33°05'00.5"	60.00'	39.09'	69.29'	65.50'
	PT			15+53.96	222°54'56"	35.39'						
	POE	14+28.77	41.91' Rt.	15+89.35								
University Ave On-Ramp "U-6"	POB	14+05.40±	102.41' Lt.	10+00	181°49'35"	20.00'						
	PC			10+20.00			137°04'20"	68°32'10"	77.00'	195.84'	184.21'	143.32'
	PT			12+04.21	318°53'55"	261.96'						
	PC			14+66.17			171°34'02"	85°47'01"	76.80'	1041.74'	229.97'	153.18'
	PT			16+96.15	131°59'48"	131.49'						
	PC			18+27.64			9°57'22"	4°58'41"	250.00'	21.78'	43.44'	43.39'
	PT			18+71.08	122°02'25"	51.76'						
	PC			19+22.84			7°01'38"	3°30'40"	250.00'	15.35'	30.66'	30.64'
	POE	14+52.22	40.21' Lt.	19+53.50								

NOTES:

1. For remaining Baseline Horizontal Data, see Sheet HC4.
2. The H-1 Freeway Baseline Alignment and Stations shown on this plan area based on information provided by Controlpoint Surveying Inc. on June 28, 2018.

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HORIZONTAL CONTROL PLAN

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 200' Date: November 2024

SHEET No. HC3 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\T\01 CIVIL DRAWINGS\HC3 HORIZONTAL CONTROL PLAN.DWG 8/2/2024 3:29 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	63	411

BASELINE HORIZONTAL DATA (℄)

ROAD NAMES	TYPE	H-1 STATION	OFFSET	STATION	AZIMUTH	DISTANCE	Δ	Δ/2	R	T	L_C	C
University Ave On-Ramp "U-8"	POB	12+56.02	207.24' Lt.	10+00.00	45°49'08"	25.25'						
	PC			10+25.25			59°17'50"	29°38'55"	181.00'	103.03'	187.32'	179.07'
	PCC			12+12.57			12°05'53"	6°02'56.5"	230.00'	24.37'	48.56'	48.47'
	PT			12+61.13	117°12'51"	90.34'						
	POE	9+97.58	39.08' Lt.	13+51.47								
University Ave Off-Ramp "U-3"	POB/PC	18+24.01	53.91' Rt.	10+00.00			32°02'38"	16°01'19"	100.00'	28.72'	55.93'	55.20'
	PCC			10+55.93			130°03'58"	65°01'59"	51.50'	110.61'	116.91'	93.38'
	PCC			11+72.84			40°58'03"	20°29'1.5"	227.50'	84.99'	162.67'	159.22'
	PT			13+35.51	162°15'12"	162.27'						
	POE	15+46.96	73.77' Rt.	14+97.78								
University Ave Off-Ramp "U-5"	POB	19+88.78	54.09' Lt.	10+00.00	143°32'43"	42.59'						
	PC			10+42.59			33°06'16"	16°33'8"	100.00'	29.72'	57.78'	56.98'
	PCC			11+00.37			11°24'20"	5°42'10"	350.00'	34.95'	69.67'	69.56'
	PT			11+70.04	188°03'19"	114.82'						
	PC			12+84.86			49°06'09"	24°33'4.5"	110.00'	50.25'	94.27'	91.41'
	PT			13+79.13	138°57'10"	489.21'						
	POE	12+73.79	321.61' Lt.	18+68.34								
Old Wai'alae Road On-Ramp "T"	POB/PC	29+15.59	53.91' Lt.	10+00			18°16'25"	9°8'12.5"	1000'	160.83'	318.93'	317.58'
	PT			13+18.93	294°39'36"	296.93'						
	PC			16+15.86			37°41'11"	18°50'35.5"	230'	78.49'	151.28'	148.57'
	PT			17+67.14	256°58'25"	59.31'						
	POE	37+13.91	231.53' Lt.	18+26.45								
Wai'alae Overpass	POB	35+51.62	51.61' Lt.	10+00.00	257°03'19"	160.33'						
	POE	36+63.95	166.01' Lt.	11+60.33								
King St. Off-Ramp	POB/PC	32+03.67	61.61' Rt.	10+00.00			15°34'06"	7°47'03"	500.00'	68.35'	135.86'	135.44'
	PT			11+35.86	324°41'37"	59.28'						
	POE	33+87.29	115.76' Rt.	11+95.14								
Wai'aka Road	POB/PC	31+67.99	1227.41' Rt.	0+00.00			63°04'00"	31°32'00"	212.00'	130.08'	233.35'	221.75'
	PT			2+33.35	258°42'43"	183.55'						
	PC			4+16.90			23°47'05"	11°53'32.5"	471.00'	99.19'	195.52'	194.12'
	PT			6+12.42	234°55'37"	24.55'						
	PC			6+36.97			113°47'05"	56°53'32.5"	53.00'	81.28'	105.25'	88.79'
	PT			7+42.22	348°42'43"	83.08'						
	POE	37+06.71	907.33' Rt.	8+25.30								

BASELINE HORIZONTAL DATA (℄)

ROAD NAMES	TYPE	H-1 STATION	OFFSET	STATION	AZIMUTH	DISTANCE	Δ	Δ/2	R	T	L_C	C
Wilder Ave	POB/PC	0+29.62	105.18' Lt.	0+00.00			22°42'00"	11°21'00"	75.00'	15.05'	29.71'	29.52'
	PT			0+29.71	300°19'46"	246.17'						
	PI			2+75.89	301°32'52"	42.72'						
	PI			3+18.61	303°19'17"	136.70'						
	PI			4+55.30	300°18'43"	245.59'						
	PI			7+00.89	297°19'54"	151.18'						
	PI			8+52.07	300°16'58"	265.10'						
	PC			11+17.16			46°21'01"	23°10'30.5"	100.00'	42.81'	80.90'	78.71'
	POE/PT	11+99.55	109.74' Lt.	11+98.06								
Old Wai'alae Road On-Ramp	POB	39+84.99	50.61' Rt.	10+00.00		75.07						
	PC		50.72' Rt.	10+75.07	122°01'20"		5°17'02"	2°38'31"	174.00	8.03	16.05'	16.04'
	PT		51.51' Rt.	10+91.12	166°44'18"							
	POE	34+65.78	94.91' Rt.	15+22.00		430.88						
Old Wai'alae Road Off-Ramp	POB/PC	43+42.39	41.18' Lt.	10+00.00			6°57'51"	3°28'55.5"	1500.00'	91.27'	182.32'	182.21'
	PT			11+82.32	129°03'22"	159.58'						
	PC			11+41.91			3°23'27"	1°41'43.5"	2600.00'	76.96'	153.87'	153.85'
	PT			14+95.78	132°26'49"	107.14'						
	PC			16+02.91			55°09'27"	27°34'43.5"	174.00'	90.88'	167.51'	161.11'
	PT			17+70.42	77°17'22"	19.58'						
	POE	35+76.33	50.84' Lt.	17+90.00								

NOTE:

1. For locations of Baselines indicated on these Tables, see Sheet HC3.

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HORIZONTAL CONTROL PLAN

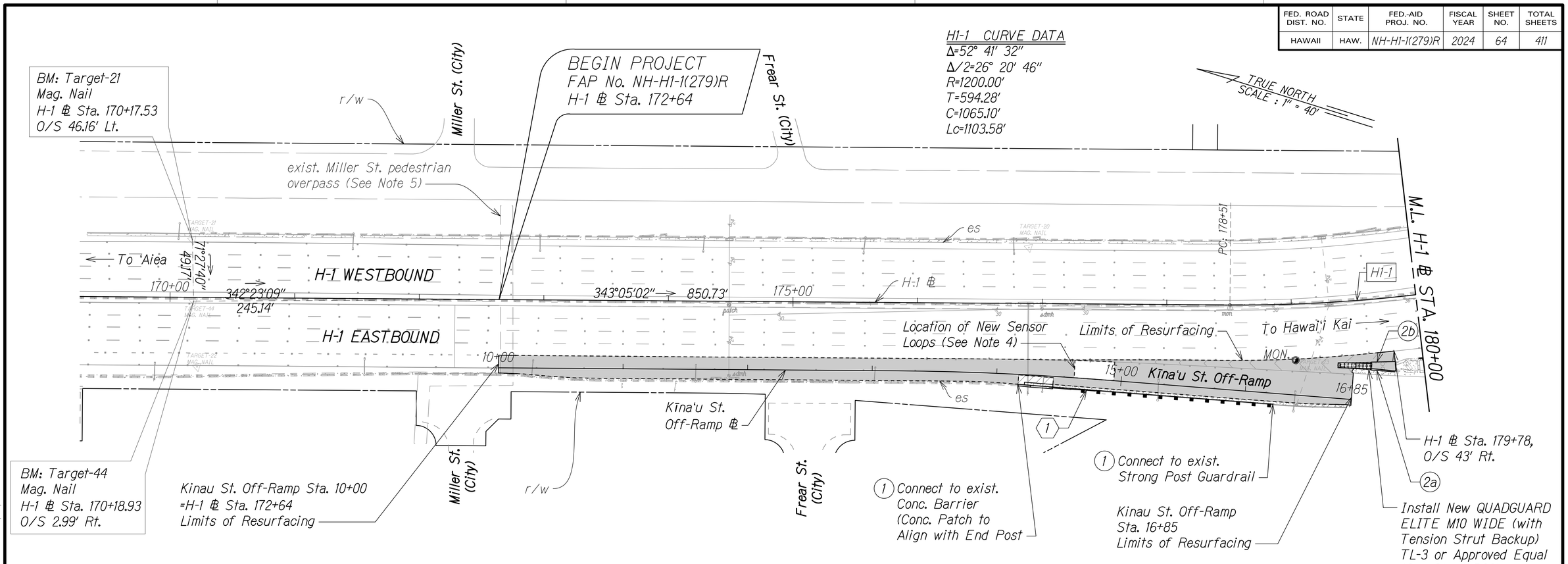
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A Date: November 2024

SHEET No. HC4 OF 4 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\HC4 HORIZONTAL CONTROL PLAN.DWG 8/2/2024 3:27 pm

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	64	411



(1) Kinau St. Off-Ramp ℄ Sta. 14+23±, 8'± Rt. to Sta. 14+80±, 9'± Rt.
- 38 LF Conc. Gutter (Connect to exist. Gutter at Both Ends)
- 10 LF 2" Conc. Curb (with exist. Gutter)
- 10 LF 2" Conc. Curb to exist. 6" Curb Transition (with exist. Gutter)
Connect to exist. Curb
(See Sheets C14 and C17)

(1) Kinau St. Off-Ramp ℄ Sta. 14+17±, 8'± Rt. to Sta. 16+23±, 9'± Rt.
(See Note 2)
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 1)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition (Reverse)
- 125 LF Midwest Guardrail System
- MGS Transition to Strong Post Guardrail

(2a) H-1 ℄ Sta. 179+59±, 57'± Rt. to Sta. 179+77±, 60'± Rt.
(See Notes 2 and 6)
- 19 LF Transition, QUADGUARD (TL-3) to Thrie Beam or Approved Equal

(2b) H-1 ℄ Sta. 179+60±, 50'± Rt. to Sta. 179+78±, 51'± Rt.
(See Notes 2 and 6)
- 19 LF Transition, QUADGUARD (TL-3) to Thrie Beam or Approved Equal

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

LEGEND:

Resurfacing Limits:
3" Cold Plane
3" Mix No. IV with PG 64E-22

Pavt. Recon. Limits (Ramp):
3" Mix No. IV with PG 64E-22 CLSM (Thickness varies to meet Exist. Pavt. Grade, 21" Min.)

MON. Monument to be Reinstalled (See Notes 50 and 64 on Sheet G5)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Schedule of Existing Guardrail Upgrade, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. For Traffic Counting Station Plan and Pavement Section at Sensor Loops on Kinau Street Off-Ramp, See Sheet TC1.
5. For work on Miller Street Pedestrian Overpass, See Structural Sheet SM-1.
6. The impact attenuator transition assembly shall include all metal beam panels, posts, blockouts, bolts and other necessary parts.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

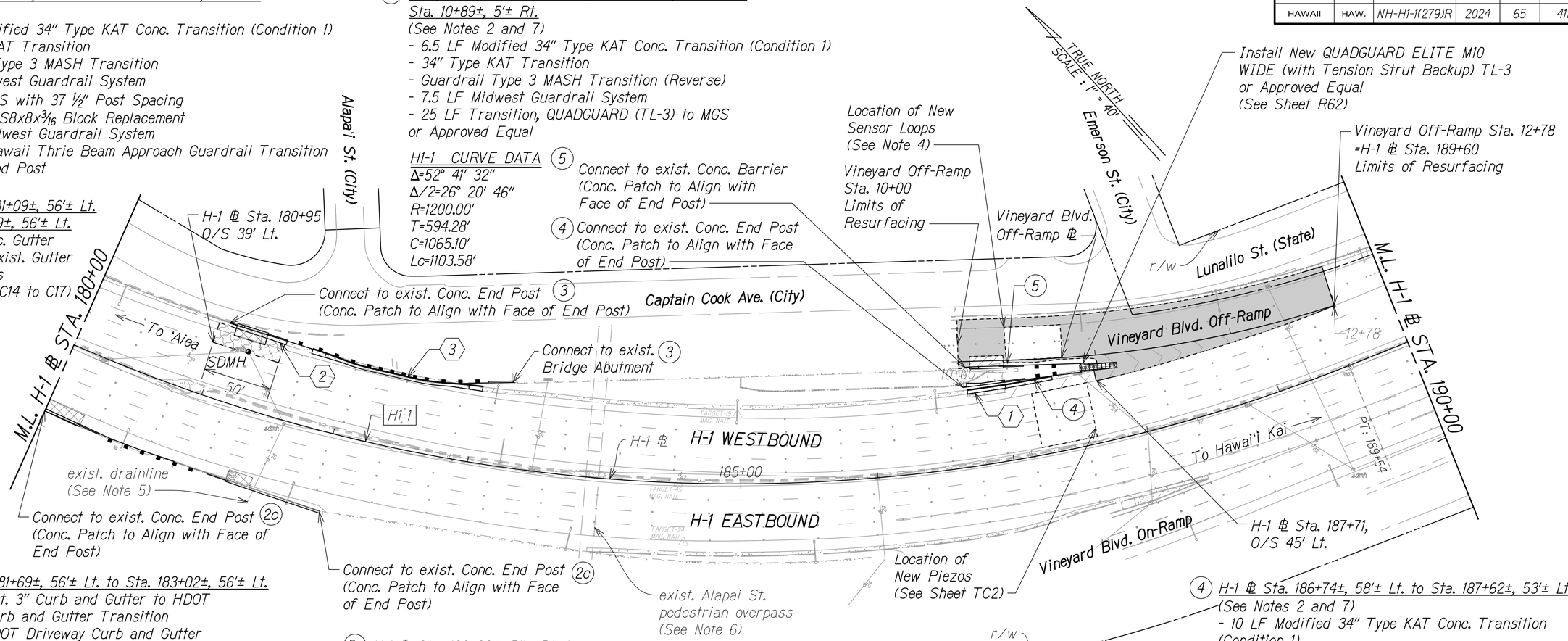
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R1 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R1-R4 ROADWAY PLAN.DWG 7/24/2024 3:33 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	65	411



(3) *H-1 ℄ Sta. 181+09±, 56'± Lt. to Sta. 183+25±, 62'± Lt.*
(See Note 2)
- 5.5 LF Modified 34" Type KAT Conc. Transition (Condition 1)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition
- 53 LF Midwest Guardrail System
- 34.5 LF MGS with 37 ½" Post Spacing
- 34.5 LF HSS8x8x$^3/_{16}$ Block Replacement
- 26.5 LG Midwest Guardrail System
- Modified Hawaii Thrie Beam Approach Guardrail Transition
- Type D2 End Post

(2) *H-1 ℄ Sta. 181+09±, 56'± Lt. to Sta. 181+49±, 56'± Lt.*
- 38 LF Conc. Gutter
Connect to exist. Gutter at Both Ends
(See Sheets C14 to C17)

(3) *H-1 ℄ Sta. 181+69±, 56'± Lt. to Sta. 183+02±, 56'± Lt.*
- 10 LF exist. 3" Curb and Gutter to HDOT Driveway Curb and Gutter Transition
- 108 LF HDOT Driveway Curb and Gutter
- 10 LF HDOT Driveway Curb and Gutter to exist. 3" Curb and Gutter Transition
Connect to exist. Curb and Gutter at Both Ends
(See Sheets C14 and C16)

(5) *Vineyard Blvd. Off-Ramp ℄ Sta. 10+08±, 4'± Rt. to Sta. 10+89±, 5'± Rt.*
(See Notes 2 and 7)
- 6.5 LF Modified 34" Type KAT Conc. Transition (Condition 1)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition (Reverse)
- 7.5 LF Midwest Guardrail System
- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal

H1-1 CURVE DATA
Δ=52° 41' 32"
Δ/2=26° 20' 46"
R=1200.00'
T=594.28'
C=1065.10'
Lc=1103.58'

(2c) *H-1 ℄ Sta. 180+00±, 51'± Rt. to Sta. 182+04±, 57'± Rt.*
(See Note 2)
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 1)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition (Reverse)
- 65 LF Midwest Guardrail System
- Guardrail Type 3 MASH Transition
- 34" Type KAT Transition
- 54 LF Modified 34" Type KAT Conc. Transition (Condition 2)

(1) *H-1 ℄ Sta. 186+74±, 55'± Lt. to Sta. 187+39±, 55'± Lt.*
- 10 LF exist. 6" Curb and Gutter to HDOT Driveway Curb and Gutter Transition
- 42.5 LF HDOT Driveway Curb and Gutter
- 10 LF HDOT Driveway Curb and Gutter to exist. 6" Curb and Gutter Transition
Connect to exist. Curb and Gutter at Both Ends
(See Sheets C14 and C16)

(4) *H-1 ℄ Sta. 186+74±, 58'± Lt. to Sta. 187+62±, 53'± Lt.*
(See Notes 2 and 7)
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 1)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition
- 7.5 LF Midwest Guardrail System
- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal

LEGEND:

Resurfacing Limits:
7.25" Cold Plane
2" SMA
2" HMA
3.25" HMAB

Resurfacing Limits:
3" Cold Plane
3" Mix No. IV with PG 64E-22

Pavt. Recon. Limits (H-1):
2" SMA
2" HMA
CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)

Pavt. Recon. Limits (Ramp):
3" Mix No. IV with PG 64E-22
CLSM (Thickness varies to meet Exist. Pavt. Grade, 21" Min.)

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. For Typical Pavement Section at Sensor Loops on Side Street/Ramps, See Sheet TC3. For Traffic Counting Station Plan, see Sheet TC2.
5. Verify location and depth of existing drainlines and other existing utilities crossing the guardrails prior to excavation. Contractor to clear guardrail posts from existing utilities.
6. For work on Alapai Street Pedestrian Overpass, See Structural Sheet SA-2.
7. The impact attenuator transition assembly shall include all metal beam panels, posts, blockouts, bolts and other necessary parts.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

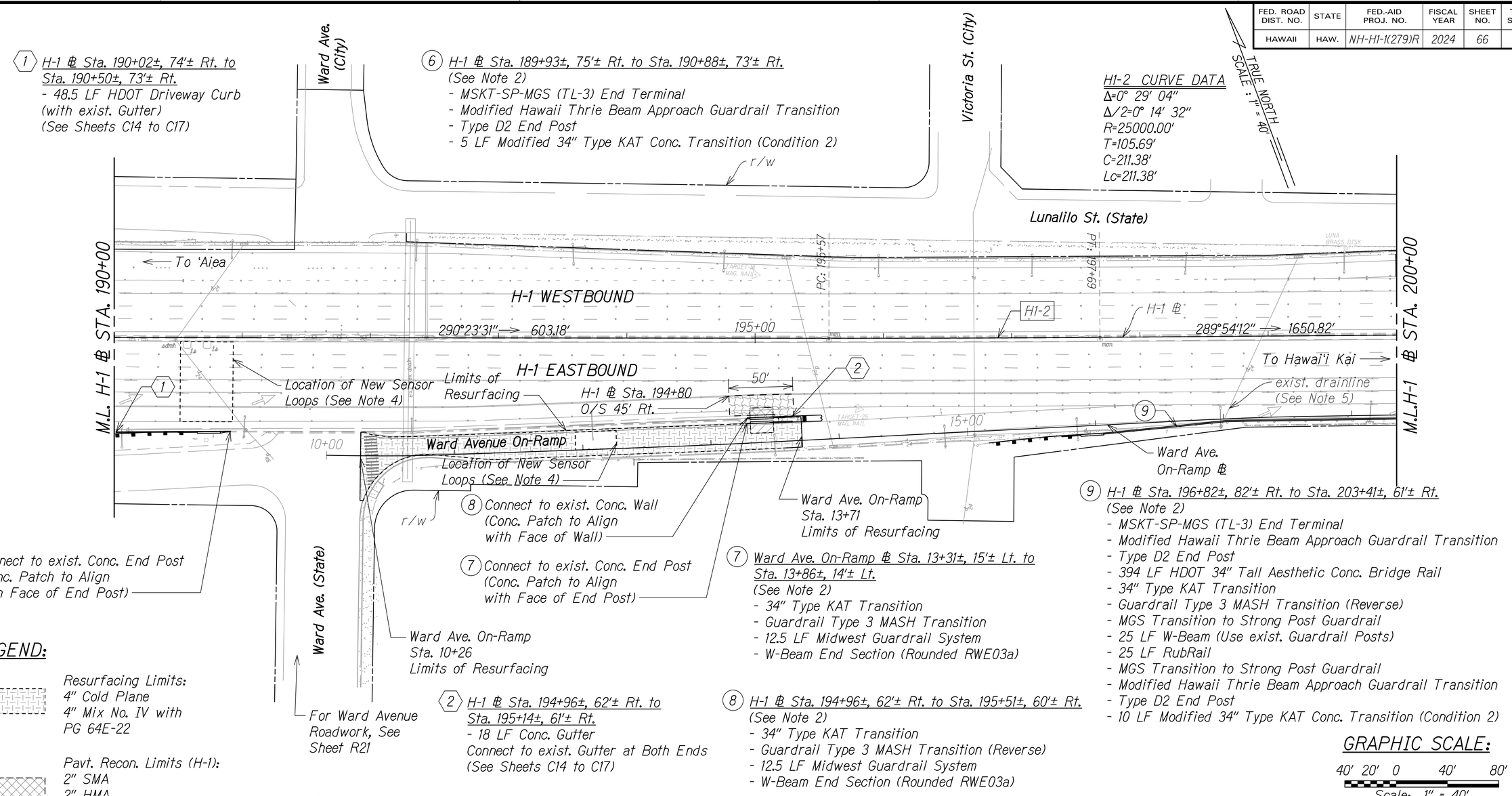
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R2 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\T\01 CIVIL DRAWINGS\R1-R4 ROADWAY PLAN.DWG 10/29/2024 7:39 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	66	411



1 H-1 ℄ Sta. 190+02±, 74'± Rt. to Sta. 190+50±, 73'± Rt.
- 48.5 LF HDOT Driveway Curb (with exist. Gutter)
(See Sheets C14 to C17)

6 H-1 ℄ Sta. 189+93±, 75'± Rt. to Sta. 190+88±, 73'± Rt.
(See Note 2)
- MSKT-SP-MGS (TL-3) End Terminal
- Modified Hawaii Thrie Beam Approach Guardrail Transition
- Type D2 End Post
- 5 LF Modified 34" Type KAT Conc. Transition (Condition 2)

H1-2 CURVE DATA
Δ=0° 29' 04"
Δ/2=0° 14' 32"
R=25000.00'
T=105.69'
C=211.38'
Lc=211.38'

6 Connect to exist. Conc. End Post (Conc. Patch to Align with Face of End Post)

7 Connect to exist. Conc. End Post (Conc. Patch to Align with Face of End Post)

8 Connect to exist. Conc. Wall (Conc. Patch to Align with Face of Wall)

Ward Ave. On-Ramp Sta. 10+26 Limits of Resurfacing

2 H-1 ℄ Sta. 194+96±, 62'± Rt. to Sta. 195+14±, 61'± Rt.
- 18 LF Conc. Gutter
Connect to exist. Gutter at Both Ends
(See Sheets C14 to C17)

7 Ward Ave. On-Ramp ℄ Sta. 13+31±, 15'± Lt. to Sta. 13+86±, 14'± Lt.
(See Note 2)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition
- 12.5 LF Midwest Guardrail System
- W-Beam End Section (Rounded RWE03a)

8 H-1 ℄ Sta. 194+96±, 62'± Rt. to Sta. 195+51±, 60'± Rt.
(See Note 2)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition (Reverse)
- 12.5 LF Midwest Guardrail System
- W-Beam End Section (Rounded RWE03a)

9 H-1 ℄ Sta. 196+82±, 82'± Rt. to Sta. 203+41±, 61'± Rt.
(See Note 2)
- MSKT-SP-MGS (TL-3) End Terminal
- Modified Hawaii Thrie Beam Approach Guardrail Transition
- Type D2 End Post
- 394 LF HDOT 34" Tall Aesthetic Conc. Bridge Rail
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition (Reverse)
- MGS Transition to Strong Post Guardrail
- 25 LF W-Beam (Use exist. Guardrail Posts)
- 25 LF RubRail
- MGS Transition to Strong Post Guardrail
- Modified Hawaii Thrie Beam Approach Guardrail Transition
- Type D2 End Post
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 2)

LEGEND:

Resurfacing Limits:
4" Cold Plane
4" Mix No. IV with PG 64E-22

Pavt. Recon. Limits (H-1):
2" SMA
2" HMA
CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)

Pavt. Recon. Limits (Ramp):
4" Mix No. IV with PG 64E-22
CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)

Resurfacing Limits:
7.25" Cold Plane
2" SMA
2" HMA
3.25" HMAB

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. For Traffic Counting Station Plan and Pavement Section at Sensor Loops on Ward Avenue On-Ramp, See Sheet TC3 and for Pavement Section at Sensor Loops on Eastbound Freeway, See Sheet TC2.
5. Verify location and depth of existing drainlines and other existing utilities crossing the guardrails prior to excavation. Contractor to clear guardrail posts from existing utilities.

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

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

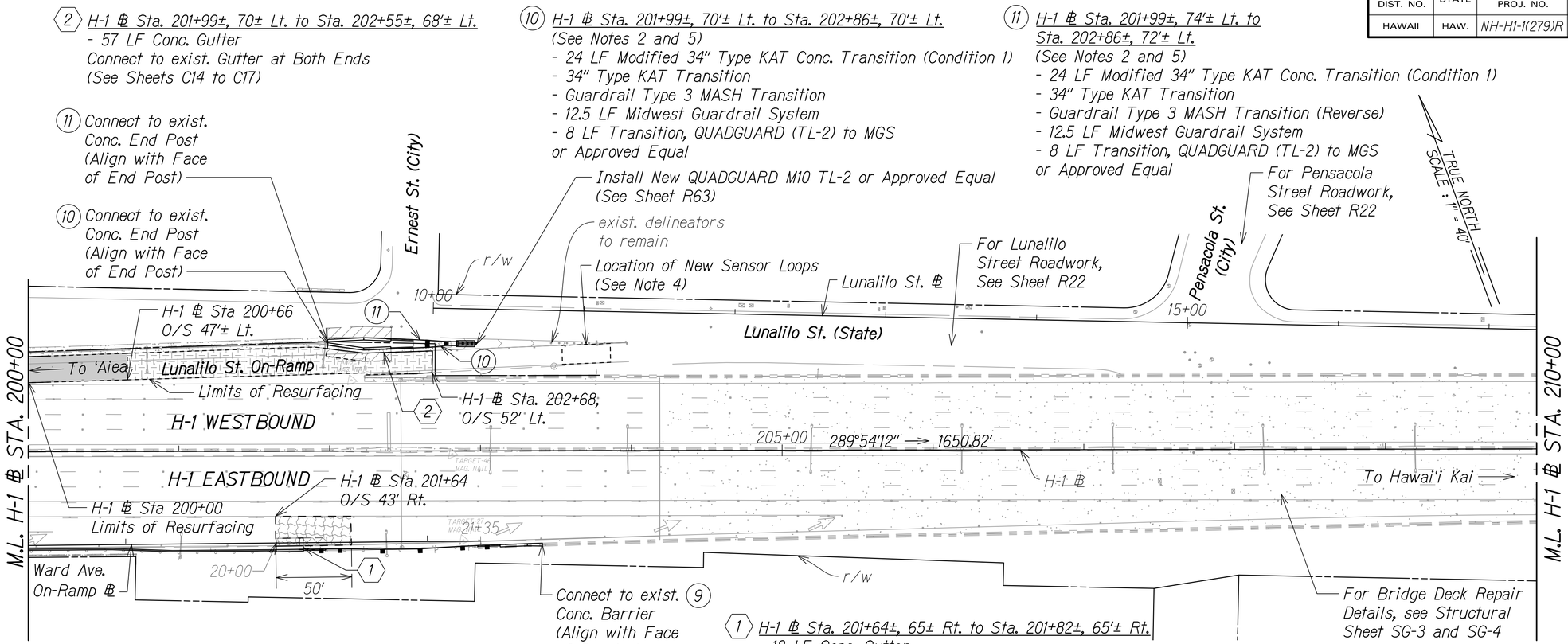
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R3 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI CIVIL DRAWINGS\R1-R4 ROADWAY PLAN.DWG 8/1/2024 8:13 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	67	411



LEGEND:

- Resurfacing Limits: 3" Cold Plane, 3" Mix No. IV with PG 64E-22
- Resurfacing Limits: 4" Cold Plane, 4" Mix No. IV with PG 64E-22
- Pavt. Recon. Limits (Lunalilo St. and On-Ramp): 4" Mix No. IV with PG 64E-22 CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)
- Pavt. Recon. Limits (H-1): 2" SMA, 2" HMA, CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)
- Resurfacing Limits: 7.25" Cold Plane, 2" SMA, 2" HMA, 3.25" HMAB

NOTES:

1. The Contractor shall inspect and clean all drain culverts including downspouts on the Makiki Viaduct within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. For Typical Pavement Section at Sensor Loops on Side Street and Ramps, See Sheet TC3. For Traffic Counting Station Plan, see Sheet TC4.
5. The impact attenuator transition assembly shall include all metal beam panels, posts, blockouts, bolts and other necessary parts.

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

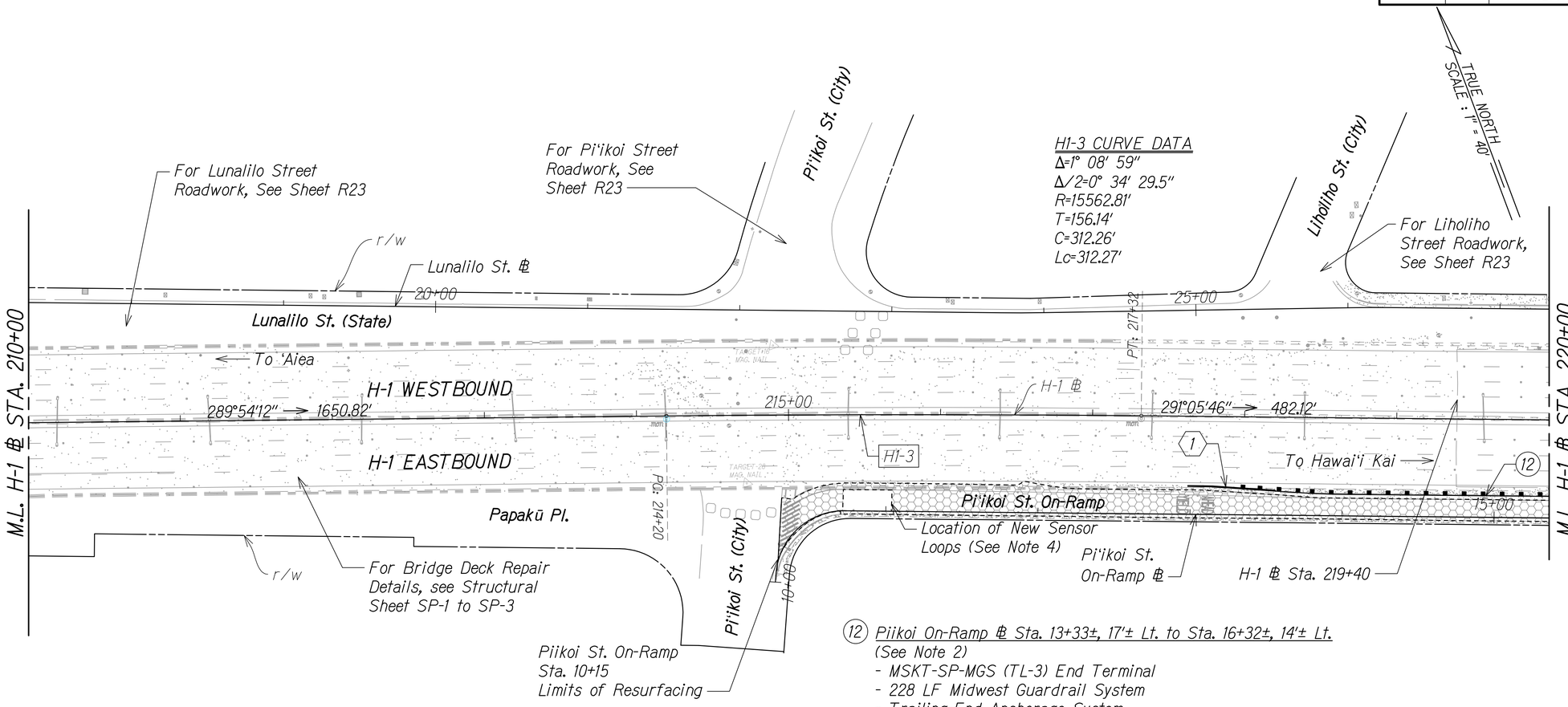
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R4 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI\01 CIVIL DRAWINGS\R1-R4 ROADWAY PLAN.DWG 8/1/2024 8:13 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	68	411



(12) *Piikoi On-Ramp ℄ Sta. 13+33±, 17'± Lt. to Sta. 16+32±, 14'± Lt.*
(See Note 2)
- *MSKT-SP-MGS (TL-3) End Terminal*
- *228 LF Midwest Guardrail System*
- *Trailing-End Anchorage System*

(1) *Piikoi On-Ramp ℄ Sta. 12+98±, 18'± Lt. to Sta. 13+56±, 16'± Lt.*
- *10 LF exist. 6" Curb and Gutter to HDOT Driveway Curb and Gutter Transition*
- *37.5 LF HDOT Driveway Curb and Gutter*
- *10 LF HDOT Driveway Curb and Gutter to exist. 6" Curb and Gutter Transition Connect to exist. Curb and Gutter at Both Ends*

(See Sheets C14 and C16)

LEGEND:

Resurfacing Limits:
4" Cold Plane
2" Mix No. IV with PG 64E-22
GlasGrid 8511TF
2" Mix No. IV with PG 64E-22

NOTES:

1. *The Contractor shall inspect and clean all drain culverts including downspouts on the Makiki Viaduct within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.*
2. *For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.*
3. *The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.*
4. *For Typical Pavement Section at Sensor Loops on Side Street and Ramps, See Sheet TC3. For Traffic Counting Station Plan, see Sheet TC5.*

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R5 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\101 CIVIL DRAWINGS\R5-R8 ROADWAY PLAN.DWG 7/19/2024 10:55 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	69	411

LEGEND:

Resurfacing Limits:
4" Cold Plane
2" Mix No. IV with PG 64E-22
GlasGrid 8511TF
2" Mix No. IV with PG 64E-22

Resurfacing Limits:
7" Cold Plane
2" Mix No. IV with PG 64E-22
5" HMAB with Polymer Modified Asphalt (PG 64E-22)

Resurfacing Limits:
3.5" Cold Plane
2" Mix No. IV with PG 64E-22
1.5" HMA Mix V
Tensar Rapid Repair PG100

Resurfacing Limits:
4" Cold Plane
4" Mix No. IV with PG 64E-22

Pavt. Recon. Limits (H-1):
2" SMA
2" HMA
CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)

Resurfacing Limits:
7.25" Cold Plane
2" SMA
2" HMA Mix No. IV
3.25" HMA Conc. Base

Resurfacing Limits:
4" Cold Plane
Emulsified Asphalt (LTBC)
4" Mix No. IV with PG 64E-22

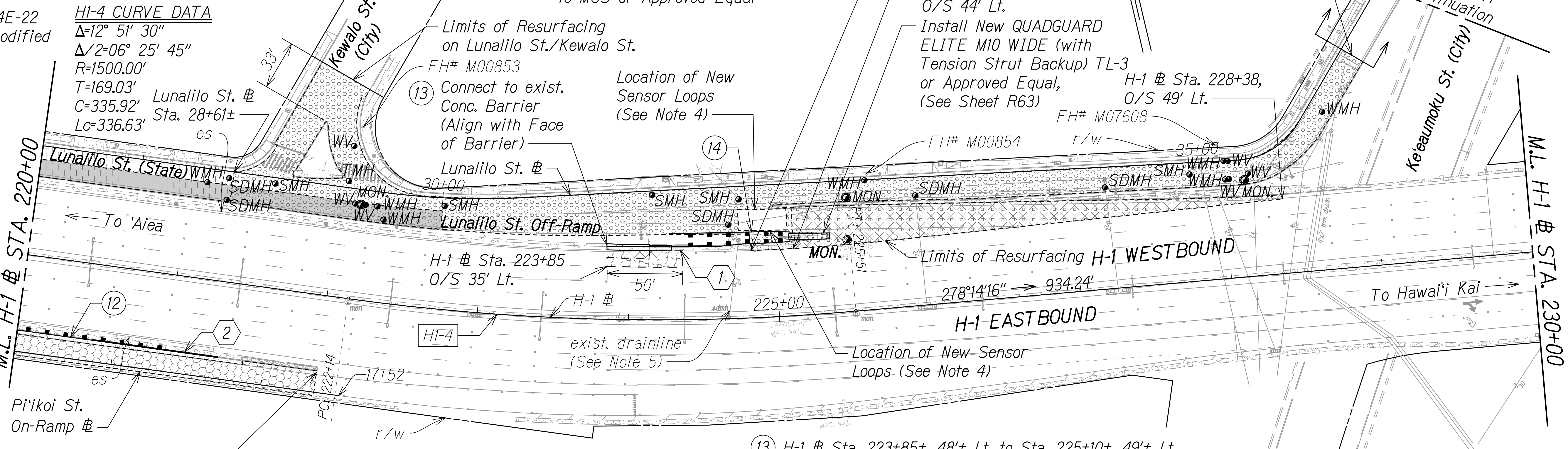
Resurfacing Limits:
7" Cold Plane
Emulsified Asphalt (LTBC)
2" Mix No. IV with PG 64E-22
5" HMAB with Polymer Modified Asphalt (PG 64E-22)

MON. Monument to be Reinstalled (See Notes 50 and 64 on Sheet G5)

(2) Piikoi On-Ramp ℄ Sta. 15+86±, 14'± Lt. to Sta. 16+69±, 14'± Lt.
- 10 LF exist. 6" Curb and Gutter to HDOT Driveway Curb and Gutter Transition
- 63.5 LF HDOT Driveway Curb and Gutter
- 10 LF HDOT Driveway Curb and Gutter to exist. 6" Curb and Gutter Transition
Connect to exist. Curb and Gutter at Both Ends
(See Sheets C14 and C16)

(14) Lunalilo St. ℄ Sta. 31+48±, 29'± Rt. to Sta. 32+28±, 32'± Rt.
(See Notes 2 and 6)
- Trailing-End Anchorage System
- 15.5 LF Midwest Guardrail System
- 37.5 LF Nested W-Beam Guardrail
- 12.5 LF W-Beam (One Post Omitted)
- 3 LF Midwest Guardrail System
- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal

H1-4 CURVE DATA
Δ=12° 51' 30"
Δ/2=06° 25' 45"
R=1500.00'
T=169.03'
C=335.92'
Lc=336.63'



(13) H-1 ℄ Sta. 223+85±, 48'± Lt. to Sta. 225+10±, 49'± Lt.
(See Notes 2 and 6)
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 1)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition
- 28 LF Midwest Guardrail System
- 37.5 LF Nested W-Beam Guardrail
- 12.5 LF W-Beam (One Post Omitted)
- 3 LF Midwest Guardrail System
- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal

(1) H-1 ℄ Sta. 223+85±, 48'± Lt. to Sta. 224+54±, 48'± Lt.
- 43 LF Conc. Gutter (Connect to exist. Gutter at Both Ends)
- 14 LF 2" Conc. Curb (with exist. Gutter)
- 10 LF 2" Conc. Curb to exist. 6" Curb Transition (with exist. Gutter)
Connect to exist. Curb
(See Sheets C14 and C17)

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

NOTES:

1. The Contractor shall inspect and clean all drain culverts including downspouts on the Piikoi Viaduct within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. For Typical Pavement Section at Sensor Loops on Side Street and Ramps, See Sheet TC3. For Traffic Counting Station Plan, See Sheet TC6.
5. Verify location and depth of existing drainlines and other existing utilities crossing the guardrails prior to excavation. Contractor to clear guardrail posts from existing utilities.
6. The impact attenuator transition assembly shall include all metal beam panels, posts, blockouts, bolts, and other necessary parts.

APPROVED:

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

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE 04/30/26 EXPIRATION DATE OF THE LICENSE

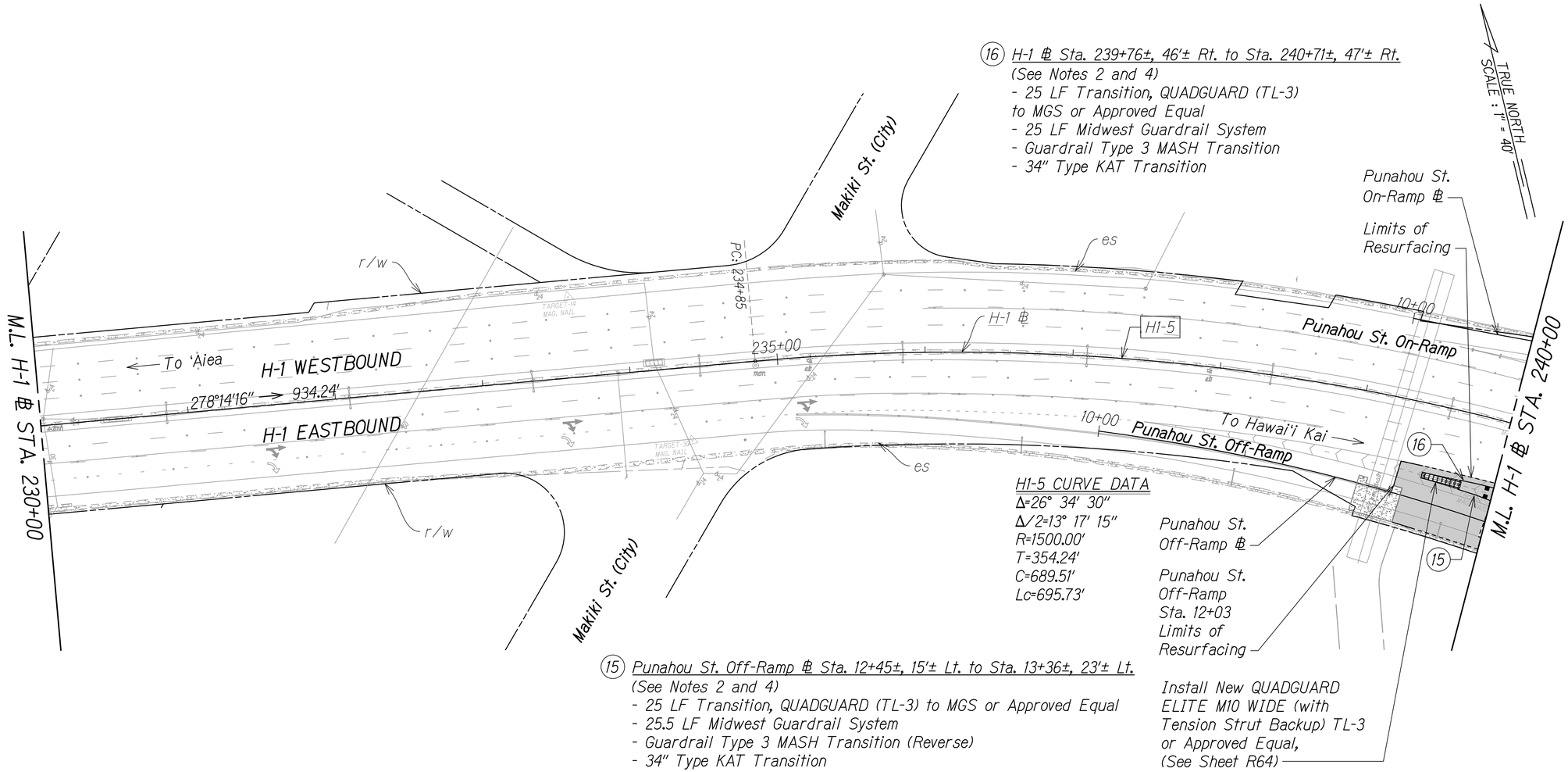
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R
Scale: 1" = 40' Date: November 2024

SHEET No. R6 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	70	411



(16) *H-1 ⊕ Sta. 239+76±, 46'± Rt. to Sta. 240+71±, 47'± Rt.*
(See Notes 2 and 4)
- *25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal*
- *25 LF Midwest Guardrail System*
- *Guardrail Type 3 MASH Transition*
- *34" Type KAT Transition*

HI-5 CURVE DATA
Δ=26° 34' 30"
Δ/2=13° 17' 15"
R=1500.00'
T=354.24'
C=689.51'
Lc=695.73'

(15) *Punahou St. Off-Ramp ⊕ Sta. 12+45±, 15'± Lt. to Sta. 13+36±, 23'± Lt.*
(See Notes 2 and 4)
- *25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal*
- *25.5 LF Midwest Guardrail System*
- *Guardrail Type 3 MASH Transition (Reverse)*
- *34" Type KAT Transition*

LEGEND:

Resurfacing Limits:
3" Cold Plane
3" Mix No. IV with PG 64E-22

NOTES:

1. *The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.*
2. *For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.*
3. *The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.*
4. *The impact attenuator transition assembly shall include all metal beam panels, posts, blockouts, bolts and other necessary parts.*

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE *04/30/26* *EXPIRATION DATE OF THE LICENSE*

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

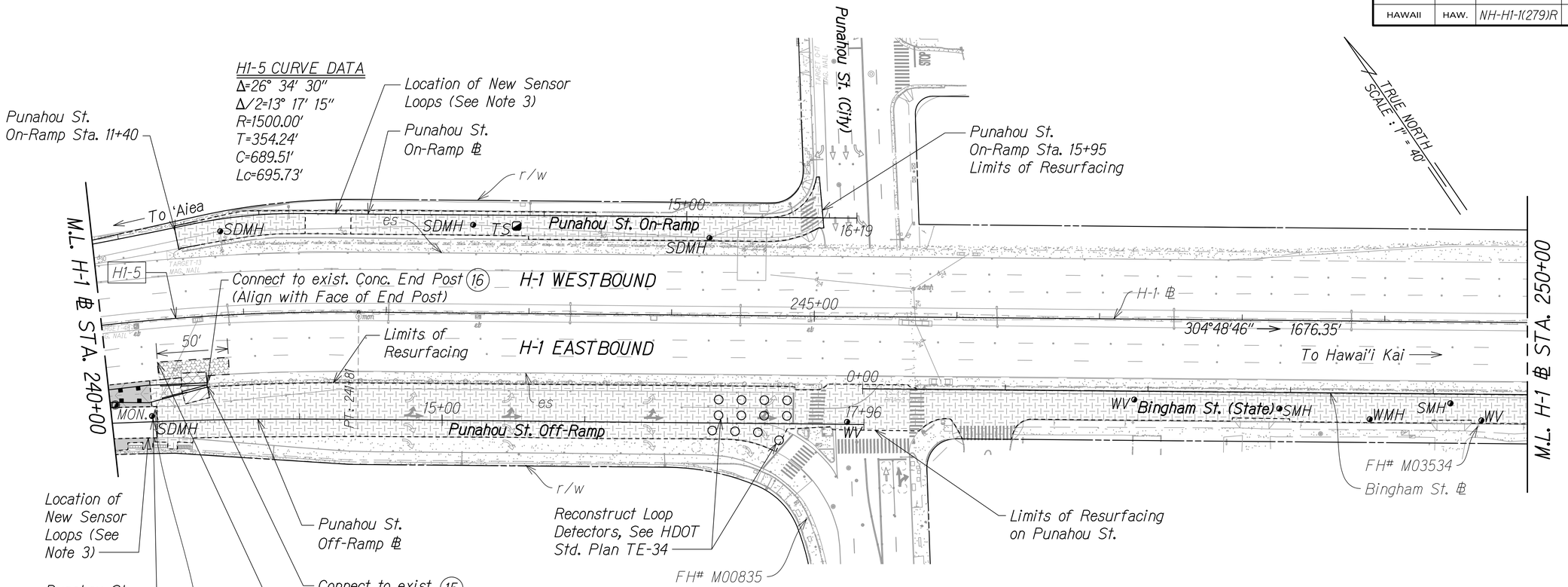
ROADWAY PLAN

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' *Date: November 2024*

SHEET No. R7 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	71	411



LEGEND:

- Resurfacing Limits: 4" Cold Plane, 4" Mix No. IV with PG 64E-22
- Resurfacing Limits: 3" Cold Plane, 3" Mix No. IV with PG 64E-22
- Pavt. Recon. Limits (H-1): 2" SMA, 2" HMA, CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)
- Pavt. Recon. Limits (Ramp): 4" Mix No. IV with PG 64E-22, CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)
- MON. Monument to be Reinstalled (See Notes 50 and 64 on Sheet G5)
- Resurfacing Limits: 8" Cold Plane, 2" SMA, 2" HMA, 4" HMAB

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
3. For Typical Pavement Section at Sensor Loops on Side Street and Ramps, See Sheet TC3. For Traffic Counting Station Plan, See Sheet TC7.
4. Verify location and depth of existing drainlines and other existing utilities crossing the guardrails prior to excavation. Contractor to clear guardrail posts from existing utilities.
5. For Punahou Street overpass work, See Structural Sheet SPU-3.

APPROVED:

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

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

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

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Robyn McKinney — SIGNATURE — 04/30/26 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

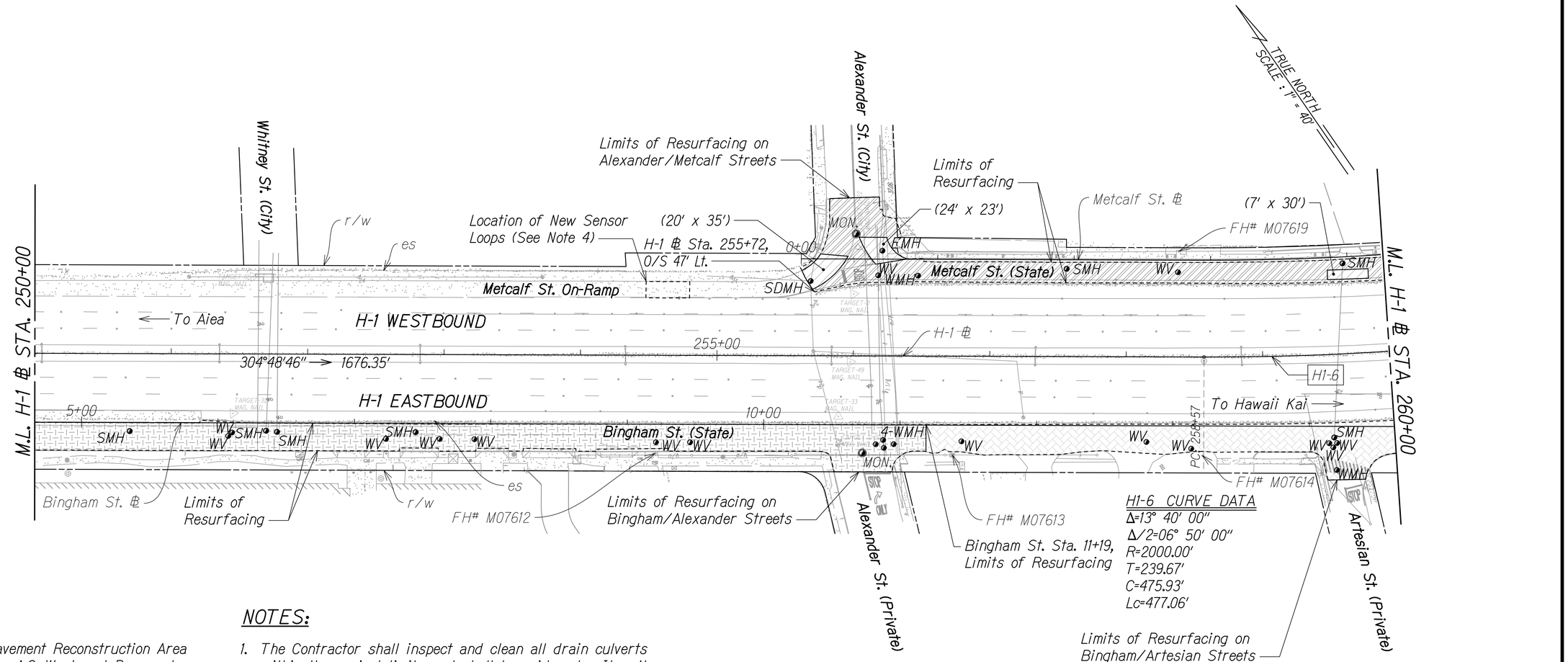
ROADWAY PLAN

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R8 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	72	411



LEGEND:

Pavement Reconstruction Area
See A.C. Weakened Pavement Repair Schedule on Sheet C19

Resurfacing Limits:
4" Cold Plane
4" Mix No. IV with PG 64E-22

Resurfacing Limits:
2" Cold Plane
2" Mix No. IV with PG 64E-22
Tensar Rapid Repair PG100
Remove Existing Geotextile Fabric

Resurfacing Limits:
2" Cold Plane
2" Mix No. IV with PG 64E-22

MON. Monument to be Reinstalled
(See Notes 50 and 64 on Sheet G5)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Pavement Elevations, See Sheet GR1 to GR21.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. For Typical Pavement Section at Sensor Loops on Metcalf St. On-Ramp, See Traffic Counting Station Plan TC8.

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

APPROVED:

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

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

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

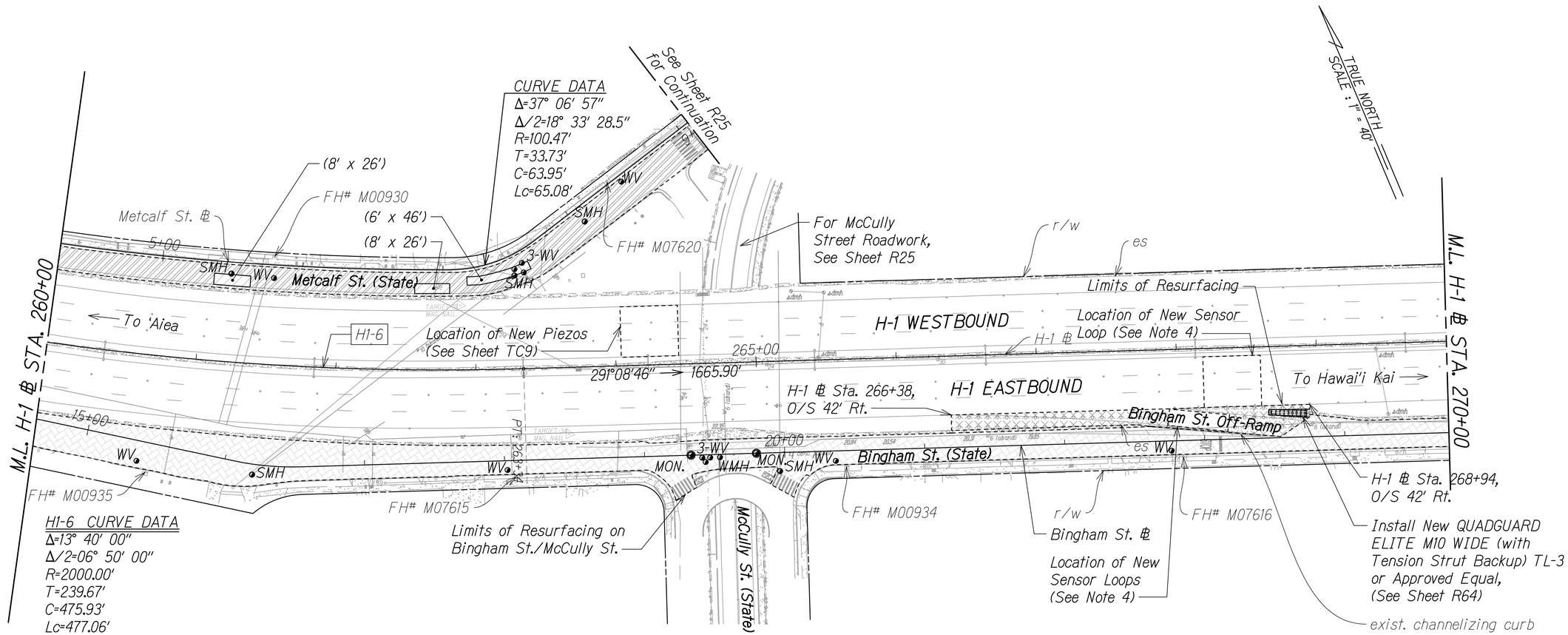
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R9 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI\01 CIVIL DRAWINGS\R9-R12 ROADWAY PLAN.DWG 7/9/2024 7:38 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	73	411



LEGEND:

- Pavement Reconstruction Area
  See A.C. Weakened Pavement Repair Schedule on Sheet C19
- Resurfacing Limits:
  2" Cold Plane
  2" Mix No. IV with PG 64E-22
  Tensar Rapid Repair PG100
  Remove Existing Geotextile Fabric
- Resurfacing Limits:
  3.5" Cold Plane
  2" Mix No. IV with PG 64E-22
  1.5" HMA Mix V
  Tensar Rapid Repair PG100
- Resurfacing Limits:
  2" Cold Plane
  2" Mix No. IV with PG 64E-22
- MON. Monument to be Reinstalled (See Notes 50 and 64 on Sheet G5)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Pavement Elevations, See Sheet GR1 to GR21.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. For Typical Pavement Section at Sensor Loops, See Sheet TC3 for Side Street/Ramps and See Sheet TC2 for Freeways. For Traffic Counting Station Plan, See Sheet TC9.
5. The Contractor shall remove the existing Delineators and Channelizing Curb System and reinstall after pavement resurfacing on Bingham Street Off-Ramp is done.

APPROVED:

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

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

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

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Robyn McKinney 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

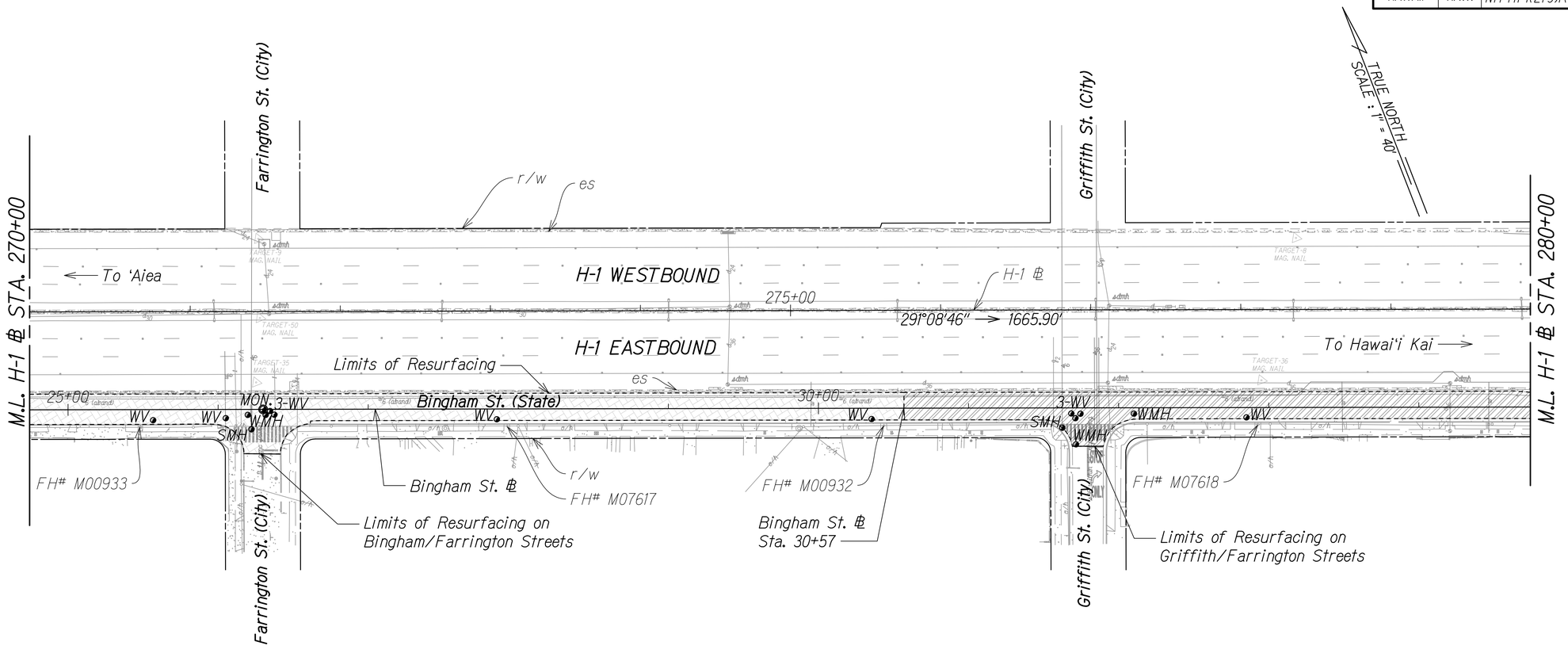
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R10 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R9-R12 ROADWAY PLAN.DWG 10/29/2024 9:45 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	74	411



LEGEND:

Resurfacing Limits:
2" Cold Plane
2" Mix No. IV with PG 64E-22
Tensar Rapid Repair PG100
Remove Existing Geotextile Fabric

Resurfacing Limits:
2" Cold Plane
2" Mix No. IV with PG 64E-22

MON. Monument to be Reinstalled
(See Notes 50 and 64 on Sheet G5)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Pavement Elevations, See Sheet GR1 to GR21.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

APPROVED:

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

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

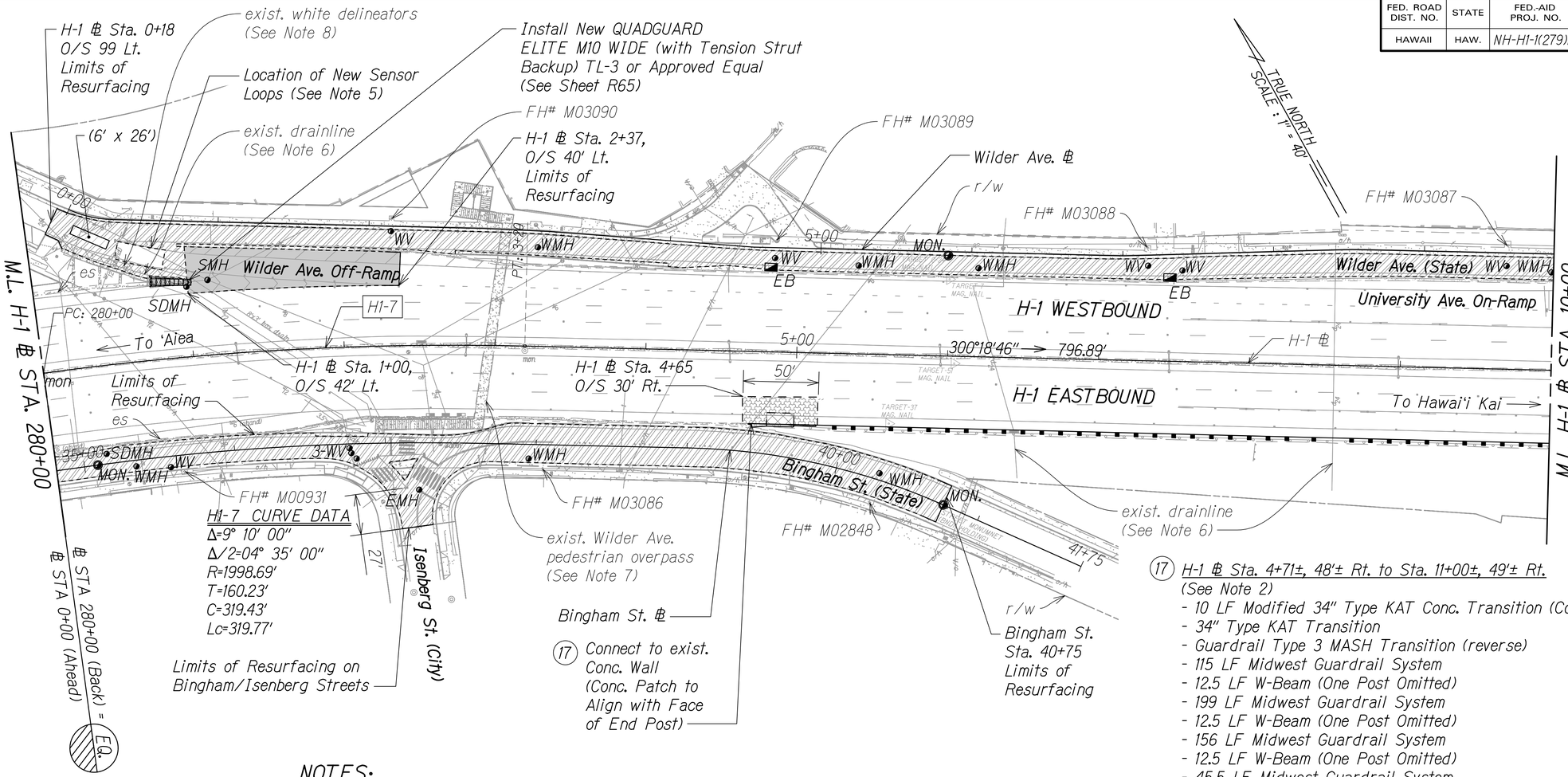
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R11 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R9-R12 ROADWAY PLAN.DWG 7/9/2024 7:38 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	75	411



(17) *H-1 ℄ Sta. 4+71±, 48'± Rt. to Sta. 11+00±, 49'± Rt.*
(See Note 2)
- *10 LF Modified 34" Type KAT Conc. Transition (Condition 2)*
- *34" Type KAT Transition*
- *Guardrail Type 3 MASH Transition (reverse)*
- *115 LF Midwest Guardrail System*
- *12.5 LF W-Beam (One Post Omitted)*
- *199 LF Midwest Guardrail System*
- *12.5 LF W-Beam (One Post Omitted)*
- *156 LF Midwest Guardrail System*
- *12.5 LF W-Beam (One Post Omitted)*
- *45.5 LF Midwest Guardrail System*
- *Trailing-End Anchorage System*

LEGEND:

- Pavement Reconstruction Area See A.C. Weakened Pavement Repair Schedule on Sheet C19
- Resurfacing Limits: 2" Cold Plane 2" Mix No. IV with PG 64E-22
- Resurfacing Limits: 3" Cold Plane 3" Mix No. IV with PG 64E-22
- Pavt. Recon. Limits (H-1): 2" SMA 2" HMA CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)
- Resurfacing Limits: 8" Cold Plane 2" SMA 2" HMA 4" HMAB
- MON. Monument to be Reinstalled (See Notes 50 and 64 on Sheet G5)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. For Pavement Elevations, See Sheet GR1 to GR21.
4. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
5. For Typical Pavement Section at Sensor Loops on Side Street and Ramps, See Sheet TC3. For Traffic Counting Station Plan, See Sheet TC10
6. Verify location and depth of existing drainlines and other existing utilities crossing the guardrails prior to excavation. Contractor to clear guardrail posts from existing utilities.
7. For work on Wilder Avenue Pedestrian Overpass, See Structural Sheet SWI-3.
8. The Contractor shall remove the existing White Delineators and reinsall after pavement resurfacing on Wilder Avenue Off-Ramp is done.

APPROVED:

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

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — SIGNATURE — 04/30/26 EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

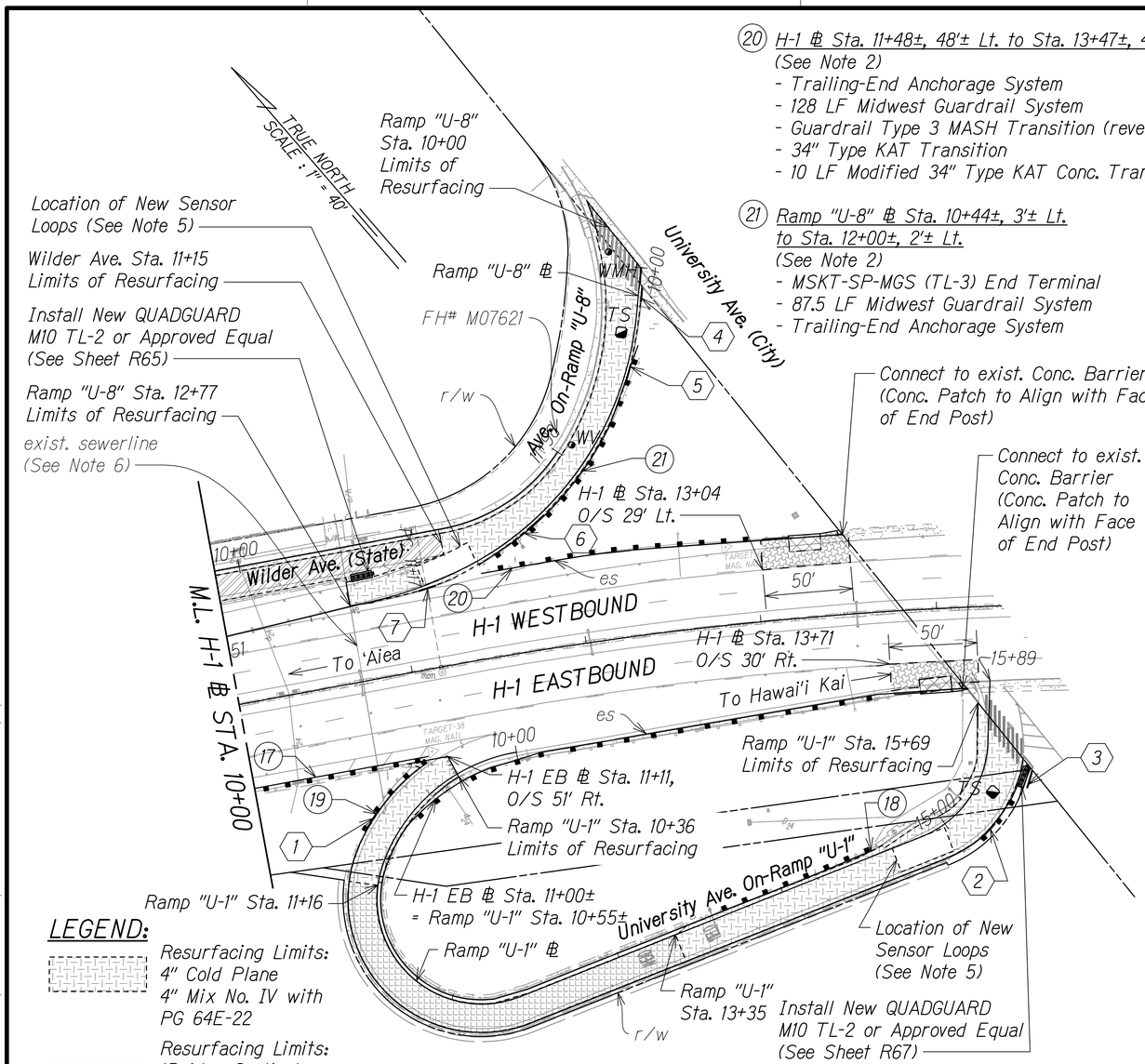
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R12 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI\01 CIVIL DRAWINGS\R9-R12 ROADWAY PLAN.DWG 7/25/2024 7:27 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	76	411



LEGEND:

- Resurfacing Limits: 4" Cold Plane, 4" Mix No. IV with PG 64E-22
- Resurfacing Limits: (Bridge Section) 2" Cold Plane, 2" Mix No. IV with PG 64E-22
- Resurfacing Limits: 2" Cold Plane, 2" Mix No. IV with PG 64E-22
- Pavt. Recon. Limits (H-1): 2" SMA, 2" HMA, CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)
- Resurfacing Limits: 8" Cold Plane, 2" SMA, 2" HMA, 4" HMAB

(1) Ramp "U-1" ℄ Sta. 10+82±, 16'± Rt. to Sta. 10+90±, 16'± Rt.
- 10 LF 0" to exist. 6" Curb Transition
Connect to exist. Curb at the End of Transition
(See Sheets C14 and C15)

(2) Ramp "U-1" ℄ Sta. 15+10±, 19'± Rt. to Sta. 15+17±, 20'± Rt.
- 10 LF exist. 6" Curb to 0" Transition
Connect to exist. Curb at the Start of Transition
(See Sheets C14 and C15)

(3) Ramp "U-1" ℄ Sta. 15+37±, 27'± Rt. to Sta. 15+43±, 27'± Rt.
- 10 LF exist. 6" Curb to 0" Transition
Connect to exist. Curb at the Start of Transition
(See Sheets C14 and C15)

APPROVED:

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

(20) H-1 ℄ Sta. 11+48±, 48'± Lt. to Sta. 13+47±, 45'± Lt.
(See Note 2)
- Trailing-End Anchorage System
- 128 LF Midwest Guardrail System
- Guardrail Type 3 MASH Transition (reverse)
- 34" Type KAT Transition
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 2)

(21) Ramp "U-8" ℄ Sta. 10+44±, 3'± Lt. to Sta. 12+00±, 2'± Lt.
(See Note 2)
- MSKT-SP-MGS (TL-3) End Terminal
- 87.5 LF Midwest Guardrail System
- Trailing-End Anchorage System

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. For Pavement Elevations, See Sheet GR1 to GR21.
4. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
5. For Typical Pavement Section at Sensor Loops on Side Street and Ramps, see Sheet TC3. For Traffic Counting Station Plan, see Sheet TC11.
6. Verify location and depth of existing drainlines and other existing utilities crossing the guardrails prior to excavation. Contractor to clear guardrail posts from existing utilities.
7. The impact attenuator transition assembly shall include all metal beam panels, posts, blockouts, bolts and other necessary parts.

(18) H-1 ℄ Sta. 14+13±, 46'± Rt. to Ramp "U-1" ℄ Sta. 14+58±, 4'± Lt.
(See Note 2)
- 6 LF Modified 34" Type KAT Conc. Transition (Condition 2)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition
- 194 LF Midwest Guardrail System
- MGS Transition to Strong Post Guardrail
- 66 LF Retro-Rail System
- 66 LF W-Beam (Use exist. Guardrail Posts)
- Thrie Beam Connection to exist. Railing (Reverse)
- 227 LF Thrie Beam (Use exist. Guardrail Posts)
- Thrie Beam Connection to exist. Railing
- MGS Transition to Strong Post Guardrail
- 17 LF Midwest Guardrail System
- MSKT-SP-MGS (TL-3) End Terminal

(4) Ramp "U-8" ℄ Sta. 10+12±, 2'± Lt. to Sta. 10+19±, 2'± Lt.
- 7.5 LF exist. 4" Curb to 0" Transition
Connect to exist. Curb at the Start of Transition
(See Sheets C14 and C15)

(5) Ramp "U-8" ℄ Sta. 10+56±, 1'± Lt. to Sta. 10+66±, 2'± Lt.
- 10 LF 0" to exist. 4" Curb Transition
Connect to exist. Curb at the End of Transition
(See Sheets C14 and C15)

(6) Ramp "U-8" ℄ Sta. 11+54±, 2'± Lt. to Sta. 11+64±, 2'± Lt.
- 10 LF exist. 4" Curb to 0" Transition
Connect to exist. Curb at the Start of Transition
(See Sheets C14 and C15)

(19) Ramp "U-1" ℄ Sta. 10+46±, 15'± Rt. to Sta. 15+37±, 21'± Rt.
(See Notes 2 and 7)
- Trailing-End Anchorage System
- MGS Transition to Strong Post Guardrail
- Thrie Beam Connection to exist. Railing (Use exist. Guardrail Posts)
- 417 LF Thrie Beam (Use exist. Guardrail Posts)
- Thrie Beam Connection to exist. Railing (Reverse) (Use exist. Guardrail Posts)
- MGS Transition to Strong Post Guardrail
- 8 LF Transition, QUADGUARD (TL-2) to MGS or Approved Equal

(7) Ramp "U-8" ℄ Sta. 12+27±, 2'± Lt. to Sta. 12+37±, 2'± Lt.
- 10 LF 0" to exist. 4" Curb Transition
Connect to exist. Curb at the End of Transition
(See Sheets C14 and C15)

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

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

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

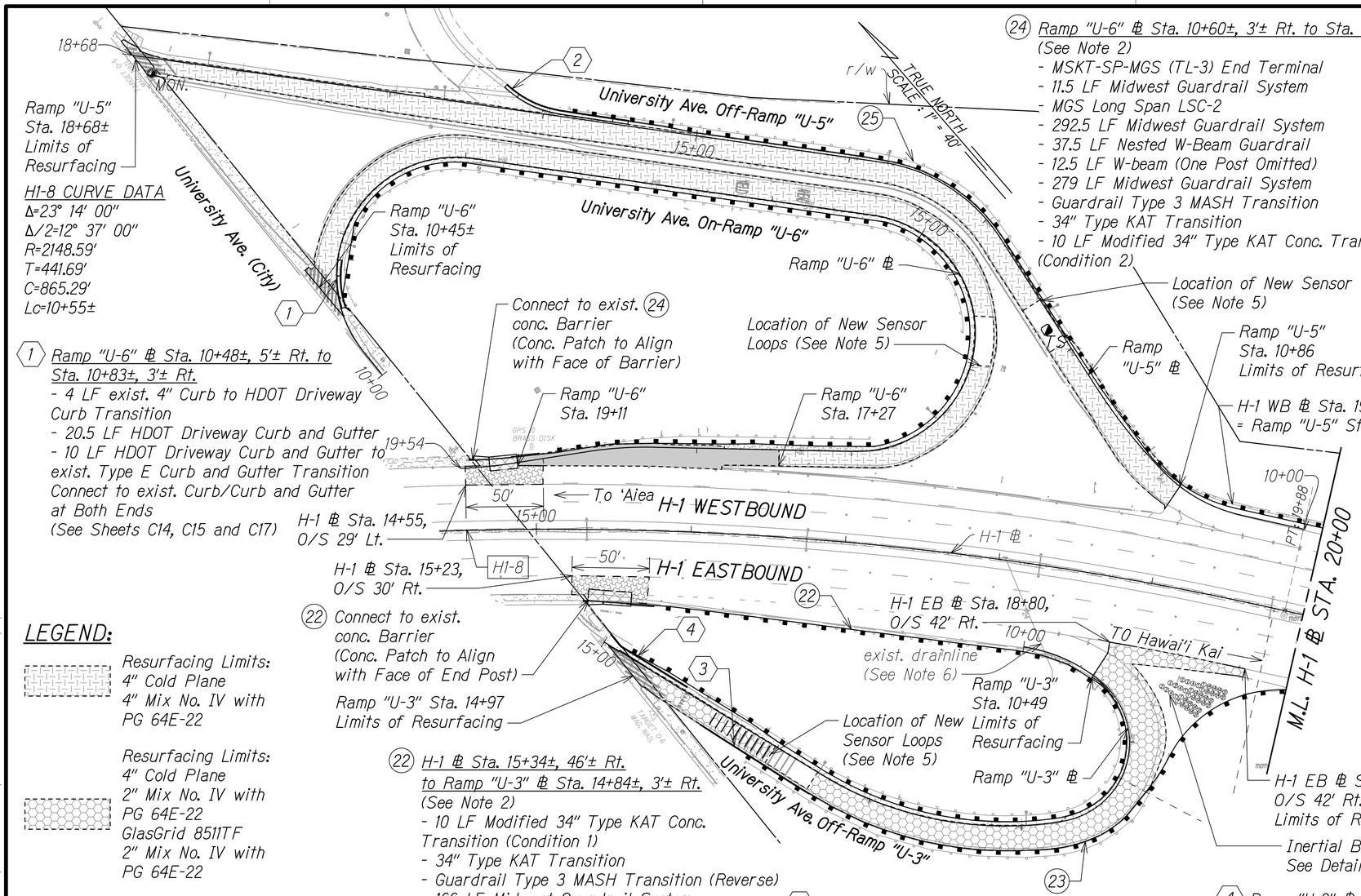
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R13 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\01 CIVIL DRAWINGS\R13-R15 ROADWAY PLAN.DWG 7/31/2024 1:35 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	77	411



NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. For Pavement Elevations, See Sheet GR1 to GR21.
4. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
5. For Typical Pavement Section at Sensor Loops on Side Street and Ramps, See Sheet TC3. For Traffic Counting Station Plan, see Sheet TC12.
6. Verify location and depth of existing drainlines and other existing utilities crossing the guardrails prior to excavation. Contractor to clear guardrail posts from existing utilities.

LEGEND:

- Resurfacing Limits: 4" Cold Plane, 4" Mix No. IV with PG 64E-22
- Resurfacing Limits: 4" Cold Plane, 2" Mix No. IV with PG 64E-22, GlasGrid 8511TF, 2" Mix No. IV with PG 64E-22
- Resurfacing Limits: 3" Cold Plane, 3" Mix No. IV with PG 64E-22
- Pavt. Recon. Limits (H-1): 2" SMA, 2" HMA, CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)
- Resurfacing Limits: 8" Cold Plane, 2" SMA, 2" HMA, 4" HMAB
- MON. Monument to be Reinstalled (See Notes 50 and 64 on Sheet G5)

(1) Ramp "U-6" ℄ Sta. 10+48±, 5'± Rt. to Sta. 10+83±, 3'± Rt.
- 4 LF exist. 4" Curb to HDOT Driveway Curb Transition
- 20.5 LF HDOT Driveway Curb and Gutter
- 10 LF HDOT Driveway Curb and Gutter to exist. Type E Curb and Gutter Transition
Connect to exist. Curb/Curb and Gutter at Both Ends
(See Sheets C14, C15 and C17)

(2) Ramp "U-5" ℄ Sta. 16+26±, 15'± Rt. to Sta. 15+45±, 3'± Rt.
- 10 LF exist. Type E Curb and Gutter to HDOT Driveway Curb and Gutter Transition
- 63.5 LF HDOT Driveway Curb and Gutter
- 10 LF HDOT Driveway Curb and Gutter to exist. Type E Curb and Gutter Transition
Connect to exist. Curb and Gutter at Both Ends
(See Sheets C14 and C17)

(3) Ramp "U-3" ℄ Sta. 14+19±, 13'± Lt. to Sta. 13+36±, 14'± Lt.
- 10 LF exist. Type E Curb to HDOT Driveway Curb Transition
- 63.5 LF HDOT Driveway Curb
- 10 LF HDOT Driveway Curb to exist. 4" Curb Transition
Connect to exist. Curb at Both Ends
(See Sheets C14 and C15)

(4) Ramp "U-3" ℄ Sta. 14+39±, 3'± Rt. to Sta. 14+99±, 6'± Rt.
- 10 LF exist. Type E Curb to HDOT Driveway Curb Transition (with exist. Gutter)
- 40.5 LF HDOT Driveway Curb
- 10 LF HDOT Driveway Curb to exist. 6" Curb Transition (with exist. Gutter)
Connect to exist. Curb at Both Ends
(See Sheets C14 and C16)

(22) H-1 ℄ Sta. 15+34±, 46'± Rt. to Ramp "U-3" ℄ Sta. 14+84±, 3'± Rt.
(See Note 2)
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 1)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition (Reverse)
- 166 LF Midwest Guardrail System
- MGS Long Span LSC-2
- 300 LF Midwest Guardrail System
- 37.5 LF Nested W-Beam Guardrail
- 12.5 LF W-Beam (One Post Omitted)
- 31.5 LF Midwest Guardrail System
- Trailing-End Anchorage System

(23) Ramp "U-3" ℄ Sta. 13+82±, 14'± Lt. to H-1 ℄ Sta. 24+69±, 51'± Rt.
(See Note 2)
- Trailing-End Anchorage System
- 277 LF Midwest Guardrail System
- 12.5 LF W-Beam (One Post Omitted)
- 368 LF Midwest Guardrail System
- 12.5 LF W-Beam (One Post Omitted)
- 127 LF Midwest Guardrail System
- Guardrail Type 3 MASH Transition
- 34" Type KAT Transition
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 2)

(24) Ramp "U-6" ℄ Sta. 10+60±, 3'± Rt. to Sta. 19+45±, 5'± Rt.
(See Note 2)
- MSKT-SP-MGS (TL-3) End Terminal
- 11.5 LF Midwest Guardrail System
- MGS Long Span LSC-2
- 292.5 LF Midwest Guardrail System
- 37.5 LF Nested W-Beam Guardrail
- 12.5 LF W-beam (One Post Omitted)
- 279 LF Midwest Guardrail System
- Guardrail Type 3 MASH Transition
- 34" Type KAT Transition
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 2)

(25) Ramp "U-5" ℄ Sta. 15+91±, 3'± Rt. to H-1 ℄ Sta. 24+68±, 51'± Lt.
(See Note 2)
- Trailing-End Anchorage System
- 655 LF Midwest Guardrail System
- 12.5 LF W-Beam (One Post Omitted)
- 151 LF Midwest Guardrail System
- 12.5 LF W-Beam (One Post Omitted)
- 156.5 LF Midwest Guardrail System
- MGS Transition to Strong Post Guardrail
- 6.25 LF Transition Section Thrie Beam to Strong Post (Use exist. Guardrail Posts)
- 12.5 LF Thrie Beam Guardrail (Use exist. Guardrail Posts)
- 12.5 LF Nested Thrie Beam Guardrail (Use exist. Guardrail Posts)
- Thrie Beam Connector

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

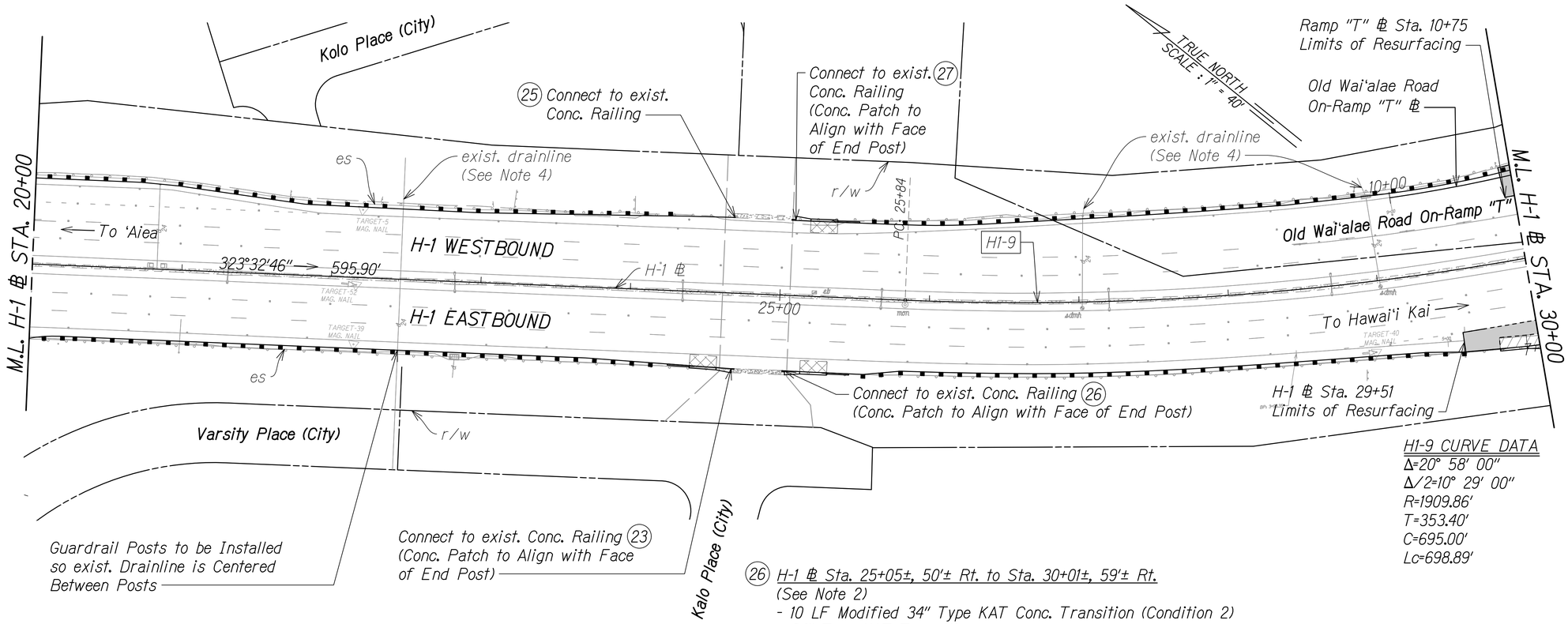
ROADWAY PLAN

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R14 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	78	411



H1-9 CURVE DATA
Δ=20° 58' 00"
Δ/2=10° 29' 00"
R=1909.86'
T=353.40'
C=695.00'
Lc=698.89'

(26) H-1 ℄ Sta. 25+05±, 50'± Rt. to Sta. 30+01±, 59'± Rt.
(See Note 2)
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 2)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition (reverse)
- 25 LF MGS on a 2:1 Fill Slope
- 377.5 LF Midwest Guardrail System
- Guardrail Type 3 MASH Transition
- 34" Type KAT Transition
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 1)

(27) H-1 ℄ Sta. 25+09±, 50'± Lt. to On-Ramp "T" ℄ Sta. 17+20±, 26'± Lt.
(See Note 2)
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 2)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition
- 133.5 LF Midwest Guardrail System
- 12.5 LF W-Beam (One Post Omitted)
- 177.5 LF Midwest Guardrail System
- 12.5 LF W-Beam (One Post Omitted)
- 90 LF Midwest Guardrail System
- MGS Long Span LSC-2
- 407 LF MGS on a 2:1 Fill Slope
- 50 LF Midwest Guardrail System
- W-Beam End Section (Rounded RWE03a)

LEGEND:

Resurfacing Limits:
3" Cold Plane
3" Mix No. IV with PG 64E-22

Pavt. Recon. Limits (H-1):
2" SMA
2" HMA
CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)

Pavt. Recon. Limits (Ramp):
3" Mix No. IV with PG 64E-22
CLSM (Thickness varies to meet Exist. Pavt. Grade, 21" Min.)

NOTES:

1. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
2. For Pavement Elevations, See Sheet GR1 to GR21.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. Verify location and depth of existing drainlines and other existing utilities crossing the guardrails prior to excavation.

GRAPHIC SCALE:

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

40' 20' 0 40' 80'
Scale: 1" = 40'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R15 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\T\01 CIVIL DRAWINGS\R13-R15 ROADWAY PLAN.DWG 7/9/2024 9:12 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	79	411

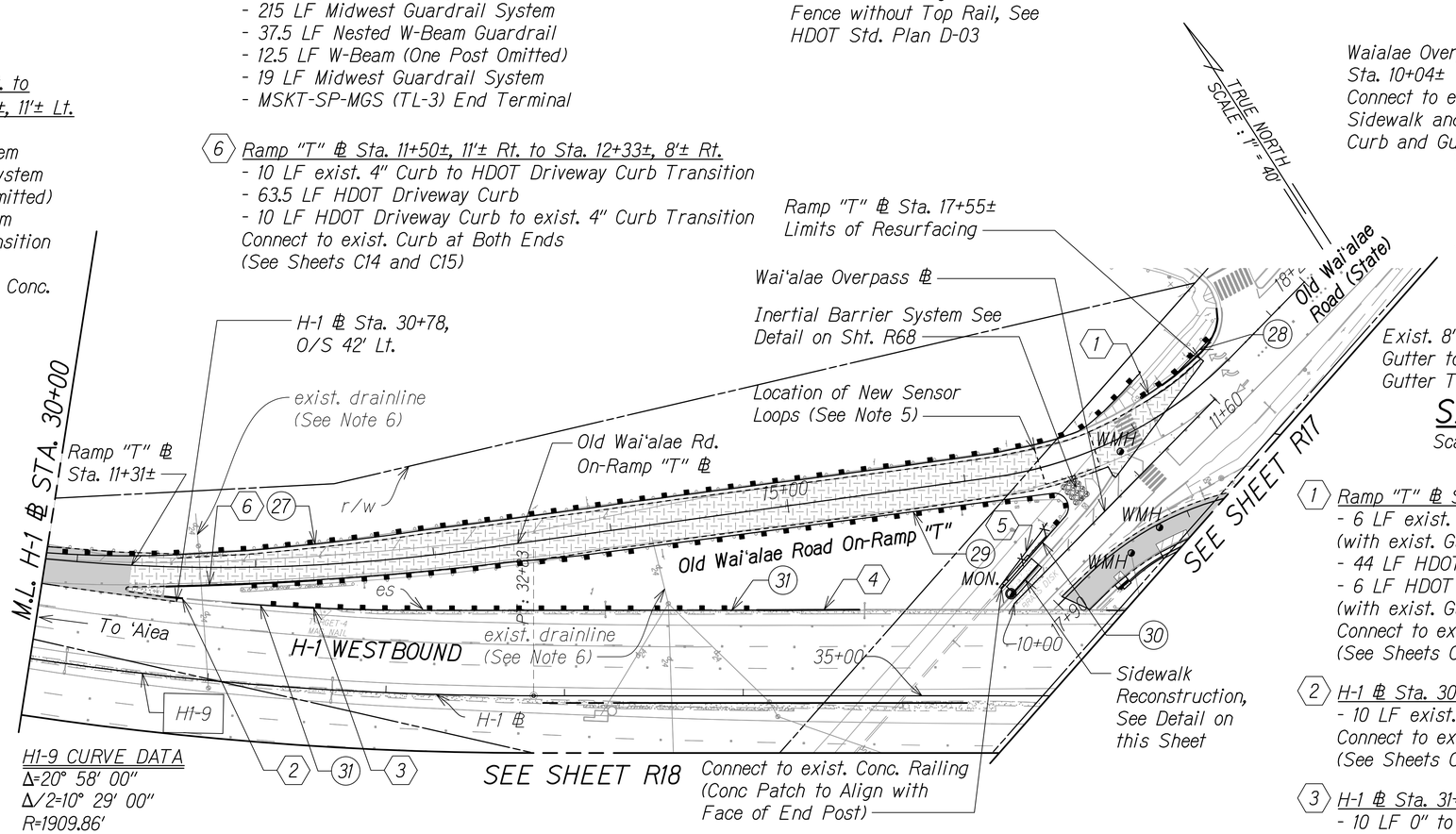
(28) Ramp "T" ℄ Sta. 17+13±, 13'± Lt. to Sta. 17+68±, 15'± Lt.
(See Note 2)
- W-Beam End Section (Rounded RWE03a)
- 22 LF Midwest Guardrail System
- MAX-Tension TL-2

(29) (30) Ramp "T" ℄ Sta. 11+88±, 9'± Rt. to Waialae Overpass ℄ Sta. 10+04±, 11'± Lt.
(See Note 2)
- Trailing-End Anchorage System
- 207 LF Midwest Guardrail System
- 12.5 LF W-Beam (One Post Omitted)
- 243 Midwest Guardrail System
- Guardrail Type 3 MASH Transition
- 34" Type KAT Transition
- 3 LF Modified 34" Type KAT Conc. Transition (Condition 1)

(31) H-1 ℄ Sta. 31+10±, 44'± Lt. to Sta. 34+30±, 48'± Lt.
(See Note 2)
- Trailing-End Anchorage System
- 215 LF Midwest Guardrail System
- 37.5 LF Nested W-Beam Guardrail
- 12.5 LF W-Beam (One Post Omitted)
- 19 LF Midwest Guardrail System
- MSKT-SP-MGS (TL-3) End Terminal

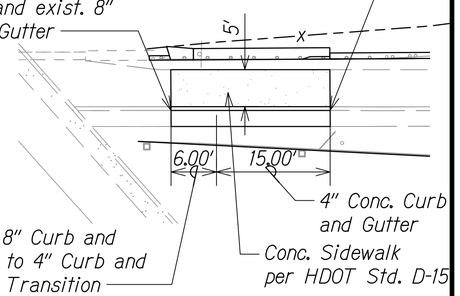
(6) Ramp "T" ℄ Sta. 11+50±, 11'± Rt. to Sta. 12+33±, 8'± Rt.
- 10 LF exist. 4" Curb to HDOT Driveway Curb Transition
- 63.5 LF HDOT Driveway Curb
- 10 LF HDOT Driveway Curb to exist. 4" Curb Transition
Connect to exist. Curb at Both Ends
(See Sheets C14 and C15)

(5) Waialae Overpass ℄ Sta. 10+01±, 12'± Lt. to ℄ Sta. 10+45±, 19'± Lt.
New 45 LF 6' High Chainlink Fence without Top Rail, See HDOT Std. Plan D-03



Waialae Overpass ℄ Sta. 10+04± Connect to exist. Conc. Sidewalk and exist. 8" Curb and Gutter

Waialae Overpass ℄ Sta. 10+25± Connect to exist. Conc. Sidewalk and exist. 4" Curb and Gutter



SIDEWALK RECONSTRUCTION
Scale: 1" = 10'

(1) Ramp "T" ℄ Sta. 17+27±, 13'± Lt. to Sta. 17+82±, 25'± Lt.
- 6 LF exist. 4" Curb to HDOT Driveway Curb Transition (with exist. Gutter)
- 44 LF HDOT Driveway Curb (with exist. Gutter)
- 6 LF HDOT Driveway Curb to exist. 4" Curb Transition (with exist. Gutter)
Connect to exist. Curb at Both Ends
(See Sheets C14 and C16)

(2) H-1 ℄ Sta. 30+71±, 44'± Lt. to Sta. 30+81±, 44'± Lt.
- 10 LF exist. 4" Curb to 0" Transition
Connect to exist. Curb at the Start of Transition
(See Sheets C14 and C15)

(3) H-1 ℄ Sta. 31+46±, 45'± Lt. to Sta. 31+56±, 45'± Lt.
- 10 LF 0" to exist. 4" Curb Transition
Connect to exist. Curb at the End of Transition
(See Sheets C14 and C15)

H1-9 CURVE DATA
Δ=20° 58' 00"
Δ/2=10° 29' 00"
R=1909.86'
T=353.40'
C=695.00'
Lc=698.89'

(4) H-1 ℄ Sta. 34+08±, 48'± Lt. to Sta. 34+65±, 48'± Lt.
- 10 LF exist. 6" Curb to HDOT Driveway Curb Transition (with exist. Gutter)
- 37.5 LF HDOT Driveway Curb (with exist. Gutter)
- 10 LF HDOT Driveway Curb to exist. 6" Curb Transition (with exist. Gutter)
Connect to exist. Curb at Both Ends
(See Sheets C14 and C16)

LEGEND:

- Resurfacing Limits: 4" Cold Plane 4" Mix No. IV with PG 64E-22
- Resurfacing Limits: 3" Cold Plane 3" Mix No. IV with PG 64E-22
- Pavt. Recon. Limits (Ramp): 3" Mix No. IV with PG 64E-22 CLSM (Thickness varies to meet Exist. Pavt. Grade, 21" Min.)
- MON. Monument to be Reinstalled (See Notes 50 abd 64 on Sheet G5)
- New Fence

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. For Pavement Elevations, See Sheet GR1 to GR21.
4. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
5. For Typical Pavement Section at Sensor Loops on Side Street and Ramps, See Sheet TC3. For Traffic Counting Station Plan, See Sheet TC13.
6. Verify location and depth of existing drainlines and other existing utilities crossing the guardrails prior to excavation. Contractor to clear guardrail posts from existing utilities.

APPROVED:

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

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

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R16 OF 68 SHEETS

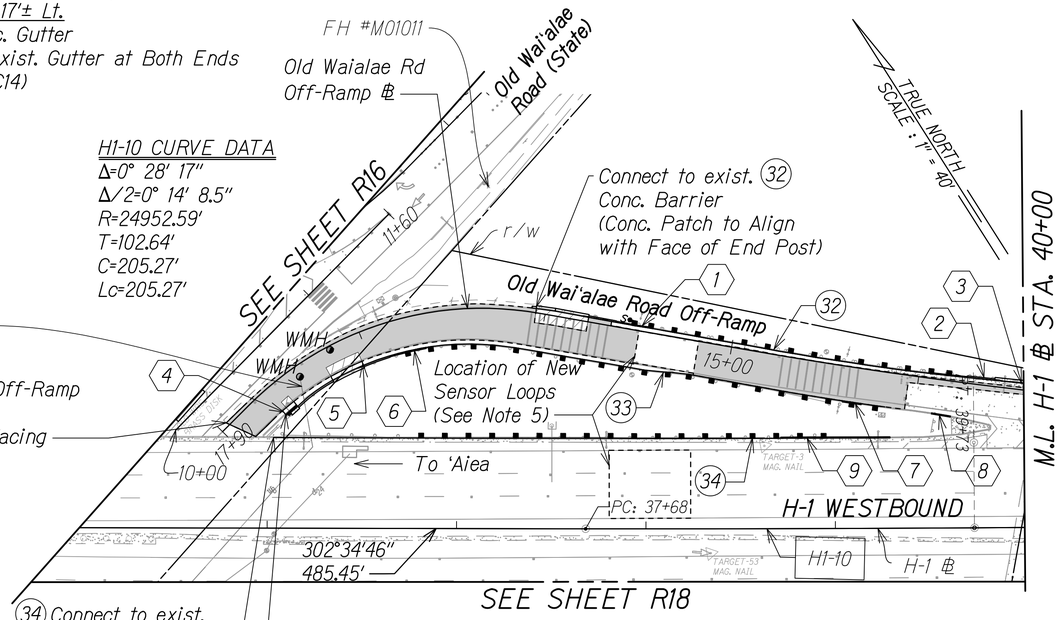
W:_CIVIL 30 PROJECTS\2016_202 000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R16-R20 ROADWAY PLAN.DWG 7/25/2024 2:45 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	80	411

(4) *Old Waialae Rd Off-Ramp ℄ Sta. 17+59±, 17'± Lt. to Sta. 17+50±, 17'± Lt.*
- 7.5 LF exist. 6" Curb to 0" Curb and Gutter Transition
Connect to exist. Curb and Gutter at the Start of Transition and to exist. Gutter at the other end
(See Sheets C14 and C17)

(5) *Old Waialae Rd Off-Ramp ℄ Sta. 17+25±, 17'± Lt. to Sta. 17+05±, 17'± Lt.*
- 18 LF Conc. Gutter
Connect to exist. Gutter at Both Ends
(See Sheet C14)

(6) *Old Waialae Rd Off-Ramp ℄ Sta. 16+89±, 17'± Lt. to Sta. 16+67±, 18'± Lt.*
- 10 LF 2" Conc. Curb (with exist. Gutter)
- 10 LF 2" Conc. Curb to exist. 6" Curb Transition (with exist. Gutter)
Connect to exist. Curb at the End of Transition
(See Sheets C14 and C17)



(34) Connect to exist. Conc. End Post

(33) Connect to exist. Conc. Railing (Conc. Patch to Align with Face of Conc. Railing)

(9) *H-1 ℄ Sta. 38+71±, 48'± Lt. to ℄ Sta. 39+29±, 48'± Lt.*
- 10 LF exist. 6" Curb to HDOT Driveway Curb Transition (with exist. Gutter)
- 37.5 LF HDOT Driveway Curb (with exist. Gutter)
- 10 LF HDOT Driveway Curb to exist. 6" Curb Transition (with exist. Gutter)
Connect to exist. Curb at Both Ends
(See Sheets C14 and C16)

(32) *Old Waialae Rd Off-Ramp ℄ Sta. 16+05±, 2'± Rt. to Sta. 13+17±, 4'± Rt.*
(See Note 2)
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 1)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition
- 96.5 LF Midwest Guardrail System
- 37.5 LF Nested W-Beam Guardrail
- 12.5 LF W-Beam (One Post Omitted)
- 59.5 LF Midwest Guardrail System
- Guardrail Type 3 MASH Transition (Reverse)
- 34" Type KAT Transition
- 25.25 LF Modified 34" Type KAT Conc. Transition (Condition 2)

(33) *Old Waialae Rd Off-Ramp ℄ Sta. 17+56±, 18'± Lt. to Sta. 14+15±, 18'± Lt.*
(See Note 2)
- 5 LF Modified 34" Type KAT Conc. Transition (Condition 1)
- 23 LF HDOT 34" Tall Aesthetic Conc. Bridge Rail
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition (Reverse)
- 114.5 LF Midwest Guardrail System
- 37.5 LF Nested W-Beam Guardrail
- 12.5 LF W-Beam (One Post Omitted)
- 81.5 LF Midwest Guardrail System
- MSKT-SP-MGS (TL-3) End Terminal

(34) *H-1 ℄ Sta. 36+03±, 48'± Lt. to Sta. 38+94±, 48'± Lt.*
(See Note 2)
- Thrie Beam Connection to exist. Railing
- 50 LF W-Beam (Use exist. Guardrail Posts)
- 50 LF Retro-Rail System
- MGS Transition to Strong Post Guardrail
- 141 LF Midwest Guardrail System
- MSKT-SP-MGS (TL-3) End Terminal

(1) *Old Waialae Rd Off-Ramp ℄ Sta. 15+62±, 2'± Rt. to Sta. 15+43±, 2'± Rt.*
- 10 LF 2" Conc. Curb (with exist. Gutter)
- 10 LF 2" Conc. Curb to exist. 6" Curb Transition (with exist. Gutter)
Connect to exist. Curb at the End of Transition
(See Sheets C14 and C17)

(2) *Old Waialae Rd Off-Ramp ℄ Sta. 13+94±, 3'± Rt. to Sta. 13+75±, 3'± Rt.*
- 10 LF exist. 6" Curb to 2" Conc. Curb Transition (with exist. Gutter)
- 10 LF 2" Conc. Curb (with exist. Gutter)
Connect to exist. Curb at the Start of Transition
(See Sheets C14 and C17)

(3) *Old Waialae Rd Off-Ramp ℄ Sta. 13+60±, 3'± Rt. to Sta. 13+35±, 4'± Rt.*
- 25.5 LF Conc. Gutter
Connect to exist. Gutter at Both Ends
(See Sheet C14)

(7) *Old Waialae Rd Off-Ramp ℄ Sta. 14+38±, 19'± Lt. to Sta. 14+28±, 18'± Lt.*
- 10 LF exist. 6" Curb to 0" Transition
Connect to exist. Curb at the Start of Transition
(See Sheets C14 and C15)

(8) *Old Waialae Rd Off-Ramp ℄ Sta. 13+91±, 18'± Lt. to Sta. 13+81±, 18'± Lt.*
- 10 LF 0" to exist. 6" Curb Transition
Connect to exist. Curb at the End of Transition
(See Sheets C14 and C15)

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

LEGEND:

Resurfacing Limits:
3" Cold Plane
3" Mix No. IV with PG 64E-22

Pavt. Recon. Limits (Ramp):
3" Mix No. IV with PG 64E-22
CLSM (Thickness varies to meet Exist. Pavt. Grade, 21" Min.)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. For Pavement Elevations, See Sheet GR1 to GR21.
4. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
5. For Typical Pavement Section at Sensor Loops, See Sheet TC3 for Side Street/Ramps and Sheet TC2 for Freeway. For Traffic Counting Station Plan, See Sheet TC14.
6. Verify location and depth of existing drainlines and other existing utilities crossing the guardrails prior to excavation. Contractor to clear guardrail posts from existing utilities.

APPROVED:

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

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

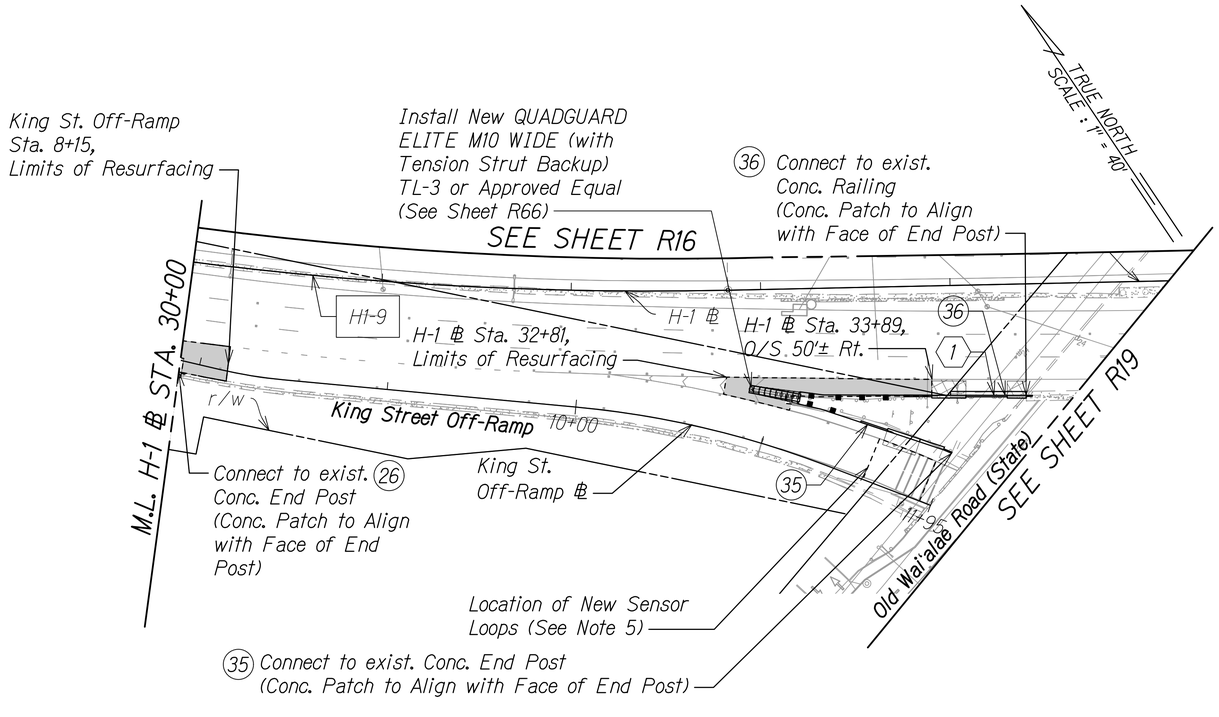
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R17 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R16-R20 ROADWAY PLAN.DWG 10/29/2024 9:58 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	81	411



(1) H-1 ℄ Sta. 33+99±, 59'± Rt. to Sta. 34+39±, 59'± Rt.
- 40 LF Conc. Gutter

Connect to exist. Gutter at Both Ends
(See Sheet C14)

(35) King St. Off-Ramp ℄ Sta. 11+12±, 26'± Lt. to Sta. 11+91±, 30'± Lt.
(See Notes 2 and 6)
- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal
- Guardrail Type 3 MASH Transition (Reverse)
- 34" Type KAT Transition
- 13.5 LF Modified 34" Type KAT Conc. Transition (Condition 2)

(36) H-1 ℄ Sta. 33+20±, 54'± Rt. to Sta. 34+39±, 59'± Rt.
(See Notes 2 and 6)
- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal
- 20.5 LF Midwest Guardrail System
- Guardrail Type 3 MASH Transition
- 34" Type KAT Transition
- 22 LF HDOT 34" Tall Aesthetic Conc. Bridge Rail
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 1)

LEGEND:

Resurfacing Limits:
3" Cold Plane
3" Mix No. IV with
PG 64E-22

Pavt. Recon. Limits (H-1):
2" SMA
2" HMA
CLSM (Thickness varies to meet
Exist. Pavt. Grade, 20" Min.)

Pavt. Recon. Limits
(King St. Off-Ramp):
3" Mix No. IV with PG 64E-22
CLSM (Thickness varies to meet
Exist. Pavt. Grade, 21" Min.)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. For Pavement Elevations, See Sheet GR1 to GR21.
4. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
5. For Typical Pavement Section at Sensor Loops on Side Street and Ramps, See Sheet TC3. For Traffic Counting Station Plan, See Sheet TC13.
6. The impact attenuator transition assembly shall include all metal beam panels, posts, blockouts, bolts and other necessary parts.

APPROVED:

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

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

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

THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R18 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\01 CIVIL DRAWINGS\R16-R20 ROADWAY PLAN.DWG 7/25/2024 2:03 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	82	411

(37) Old Waialae Rd On-Ramp ℄ Sta. 13+48±, 18'± Lt. to Sta. 11+23±, 18'± Lt.
(See Note 2)
- MSKT-SP-MGS (TL-3) End Terminal
- 84.5 LF Midwest Guardrail System
- 12.5 LF W-Beam (One Post Omitted)
- 28 LF Midwest Guardrail System
- Guardrail Type 3 MASH Transition
- 34" Type KAT Transition
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 1)

(38) Old Waialae Rd On-Ramp ℄ Sta. 15+18±, 8'± Rt. to Sta. 11+88±, 2'± Rt.
(See Note 2)
- W-Beam End Section (Rounded RWE03a)
- 307 LF Midwest Guardrail System
- Trailing-End Anchorage System

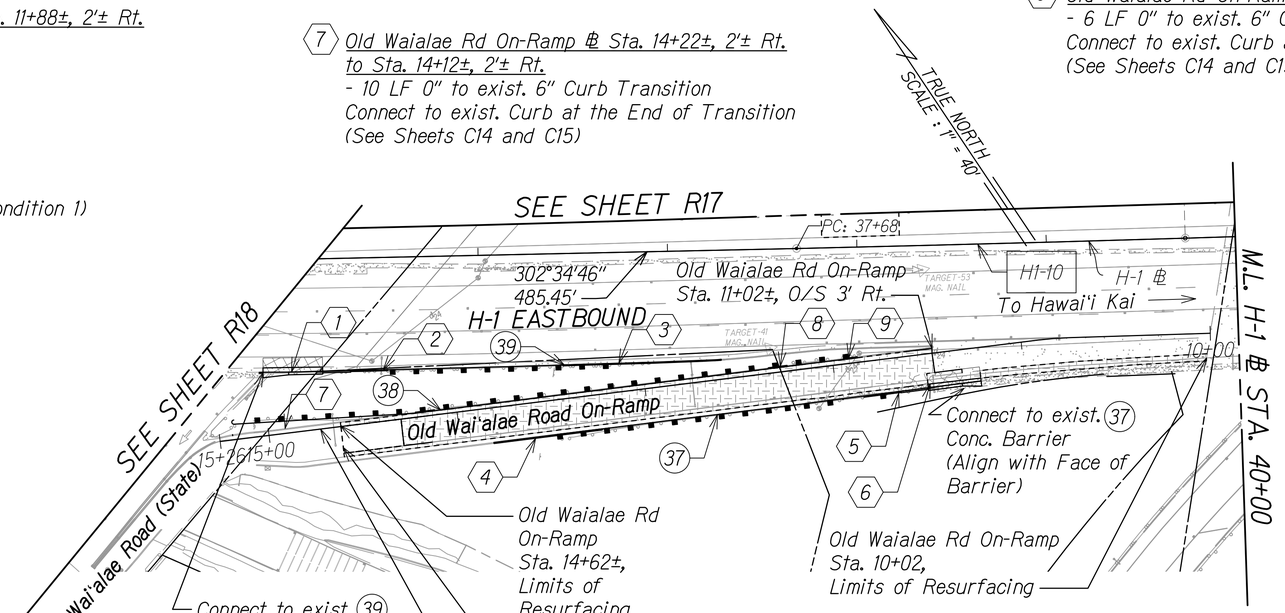
(39) H-1 ℄ Sta. 34+85±, 59'± Rt. to Sta. 36+89±, 58'± Rt.
(See Note 2)
- 13.5 LF Modified 34" Type KAT Conc. Transition (Condition 1)
- 34" Type KAT Transition
- Guardrail Type 3 MASH Transition (Reverse)
- 125 LF Midwest Guardrail System
- Trailing-End Anchorage System

(1) H-1 ℄ Sta. 34+85±, 59'± Rt. to Sta. 35+17±, 59'± Rt.
- 31.5 LF Conc. Gutter
Connect to exist. Gutter at Both Ends
(See Sheet C14)

(2) H-1 ℄ Sta. 35+31±, 59'± Rt. to Sta. 35+51±, 59'± Rt.
- 10 LF 2" Conc. Curb (with exist. Gutter)
- 10 LF 2" Conc. Curb to exist. 6" Curb Transition (with exist. Gutter)
Connect to exist. Curb at the End of Transition
(See Sheets C14 and C17)

(3) H-1 ℄ Sta. 36+44±, 59'± Rt. to Sta. 37+27±, 58'± Rt.
- 10 LF exist. 6" Curb to HDOT Driveway Curb Transition (with exist. Gutter)
- 63.5 LF HDOT Driveway Curb (with exist. Gutter)
- 10 LF HDOT Driveway Curb to exist. 6" Curb Transition (with exist. Gutter)
Connect to exist. Curb at Both Ends
(See Sheets C14 and C16)

(7) Old Waialae Rd On-Ramp ℄ Sta. 14+22±, 2'± Rt. to Sta. 14+12±, 2'± Rt.
- 10 LF 0" to exist. 6" Curb Transition
Connect to exist. Curb at the End of Transition
(See Sheets C14 and C15)



(8) Old Waialae Rd On-Ramp ℄ Sta. 12+34±, 2'± Rt. to Sta. 12+24±, 2'± Rt.
- 10 LF exist. 6" Curb to 0" Transition
Connect to exist. Curb at the Start of Transition
(See Sheets C14 and C15)

(9) Old Waialae Rd On-Ramp ℄ Sta. 11+93±, 2'± Rt. to Sta. 11+87±, 2'± Rt.
- 6 LF 0" to exist. 6" Curb Transition
Connect to exist. Curb at the End of Transition
(See Sheets C14 and C15)

(4) Old Waialae Rd On-Ramp ℄ Sta. 13+83±, 18'± Lt. to Sta. 13+25±, 18'± Lt.
- 10 LF exist. 6" Curb to HDOT Driveway Curb Transition (with exist. Gutter)
- 37.5 LF HDOT Driveway Curb (with exist. Gutter)
- 10 LF HDOT Driveway Curb to exist. 6" Curb Transition (with exist. Gutter)
Connect to exist. Curb at Both Ends
(See Sheets C14 and C16)

(5) Old Waialae Rd On-Ramp ℄ Sta. 11+86±, 18'± Lt. to Sta. 11+66±, 18'± Lt.
- 10 LF exist. 6" Curb to 2" Conc. Curb Transition (with exist. Gutter)
- 10 LF 2" Conc. Curb (with exist. Gutter)
Connect to exist. Curb at the Start of Transition
(See Sheets C14 to C17)

(6) Old Waialae Rd On-Ramp ℄ Sta. 11+51±, 18'± Lt. to Sta. 11+23±, 18'± Lt.
- 28 LF Conc. Gutter
Connect to exist. Gutter at Both Ends
(See Sheets C14)

LEGEND:

Resurfacing Limits:
4" Cold Plane
4" Mix No. IV with
PG 64E-22

Pavt. Recon. Limits (H-1):
2" SMA
2" HMA
CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)

Pavt. Recon. Limits
(King St. Off-Ramp):
3" Mix No. IV with PG 64E-22
CLSM (Thickness varies to meet Exist. Pavt. Grade, 21" Min.)

Pavt. Recon. Limits
(Old Waialae Road On-Ramp):
4" Mix No. with PG 64E-22
CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. For Pavement Elevations, See Sheet GR1 to GR21.
4. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
5. For Typical Pavement Section at Sensor Loops on Side Street and Ramps, See Sheet TC3. For Traffic Counting Station Plan, See Sheet TC14.

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

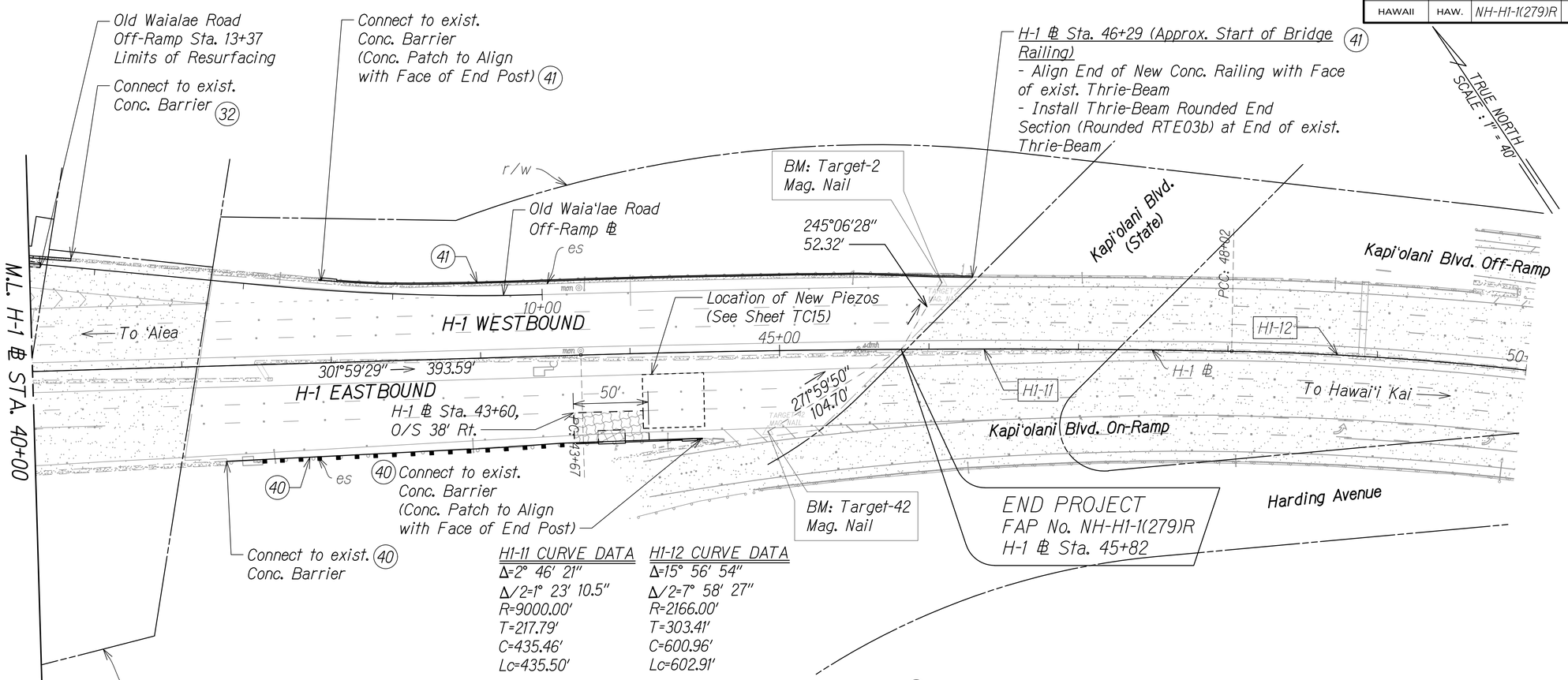
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R19 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R16-R20 ROADWAY PLAN.DWG 8/2/2024 10:33 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	83	411



H1-11 CURVE DATA
Δ=2° 46' 21"
Δ/2=1° 23' 10.5"
R=9000.00'
T=217.79'
C=435.46'
Lc=435.50'

H1-12 CURVE DATA
Δ=15° 56' 54"
Δ/2=7° 58' 27"
R=2166.00'
T=303.41'
C=600.96'
Lc=602.91'

(40) H-1 ℄ Sta. 41+29±, 64'± Rt. to Sta. 44+44±, 58'± Rt.
(See Note 2)
- Thrie Beam Connection to exist. Railing (Reverse)
(Use exist. Guardrail Posts)
- MGS Transition to Strong Post Guardrail
- 171 LF Midwest Guardrail System
- Guardrail Type 3 MASH Transition
- 34" Type KAT Transition
- 38 LF HDOT 34" Tall Aesthetic Conc. Bridge Rail
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 2)

(41) H-1 ℄ Sta. 41+95±, 55'± Lt. to Sta. 46+29±, 48'± Lt.
(See Note 2)
- 10 LF Modified 34" Type KAT Conc. Transition (Condition 2)
- 426 LF HDOT 34" Tall Aesthetic Conc. Bridge Rail

LEGEND:

Resurfacing Limits:
3" Cold Plane
3" Mix No. IV with
PG 64E-22

Pavt. Recon. Limits (H-1):
2" SMA
2" HMA
CLSM (Thickness varies to meet Exist. Pavt. Grade, 20" Min.)

Resurfacing Limits:
7" Cold Plane
2" SMA
2" HMA
3" HMAB

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. For Full Guardrail System Upgrade Description, See Sheets R27 to R32. For Details, See Sheets R33 to R61.
3. For Pavement Elevations, See Sheet GR1 to GR21.
4. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

ROBYN R. MCKINNEY
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No. 13480-C
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

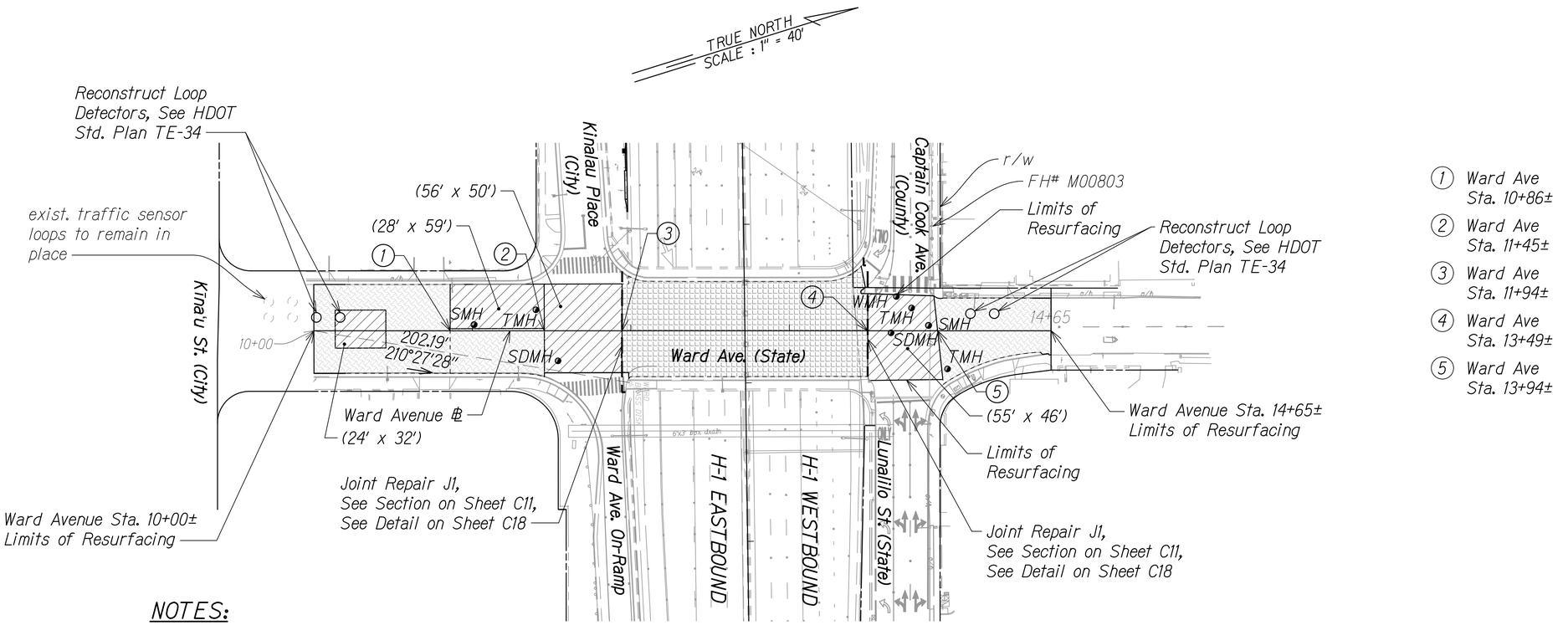
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R20 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R16-R20 ROADWAY PLAN.DWG 8/2/2024 10:33 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	84	411



LEGEND:

Pavement Reconstruction Area
See A.C. Weakened Pavement Repair Schedule on Sheet C19

Resurfacing Limits:
5" Cold Plane
2" Mix No. IV with PG 64E-22
3" HMAB with Polymer Modified Asphalt (PG 64E-22)

Resurfacing Limits:
(Bridge Section)
2" Cold Plane
2" Mix No. IV with PG 64E-22

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

APPROVED:

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

APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD — DATE
City and County of Honolulu

ROBYN R. McKINNEY
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No. 13480-C
HAWAII, USA

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HIGHWAYS DIVISION

ROADWAY PLAN

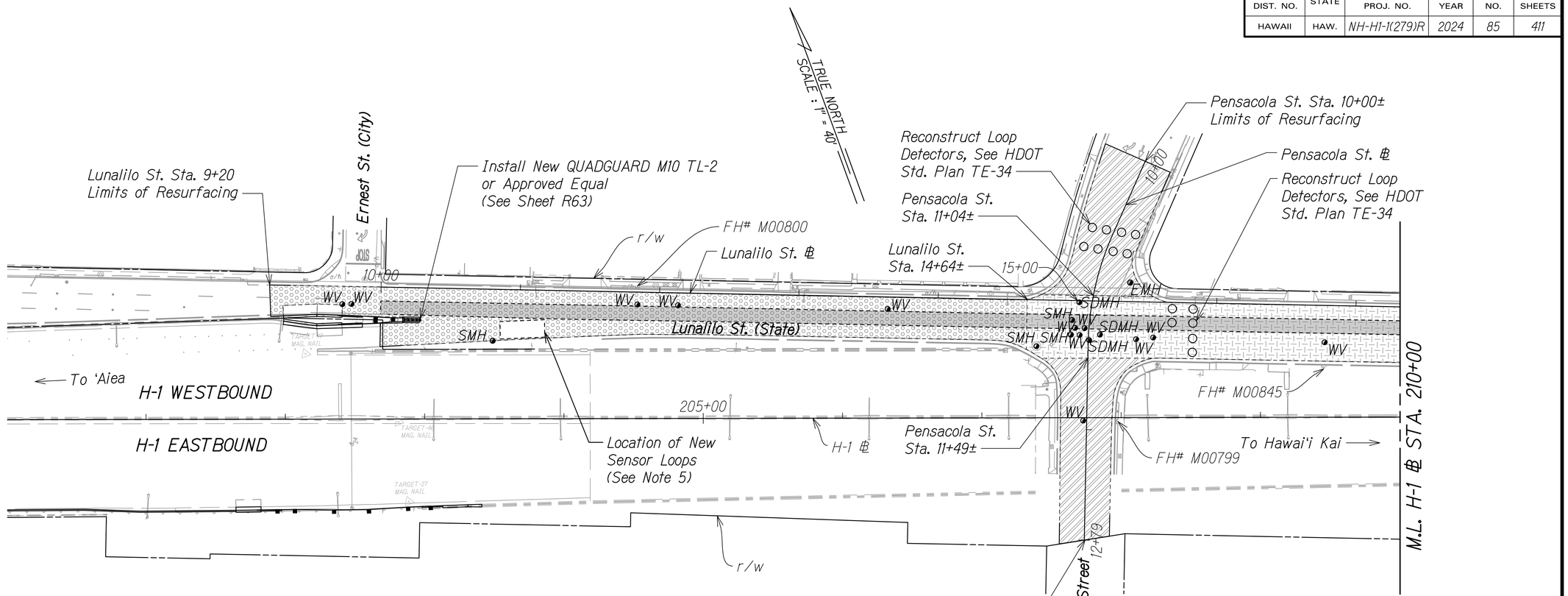
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R21 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI\01 CIVIL DRAWINGS\R21-R26 ROADWAY PLAN.DWG 7/25/2024 10:59 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	85	411



LEGEND:

- Resurfacing Limits: 2" Cold Plane, 2" Mix No. IV with PG 64E-22
- Resurfacing Limits: 4" Cold Plane, 4" Mix No. IV with PG 64E-22
- Resurfacing Limits: 7" Cold Plane, 2" Mix No. IV with PG 64E-22, 5" HMAB with Polymer Modified Asphalt (PG 64E-22)
- Resurfacing Limits: 4" Cold Plane, Emulsified Asphalt (LTBC), 4" Mix No. IV with PG 64E-22
- Resurfacing Limits: Emulsified Asphalt (LTBC), 7" Cold Plane, 2" Mix No. IV with PG 64E-22, 5" HMAB with Polymer Modified Asphalt (PG 64E-22)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
3. The Board of Water Supply's Water System Improvement Project (Job No. 19-062) includes installation of a waterline along Pensacola Street. Portion of this waterline is located within this project's limits. Contractor shall coordinate with BWS and its Contractor during construction to avoid any potential construction conflicts.
4. See Water Note 12 in Sheet G6 for Construction work near BWS Facilities.
5. For Typical Pavement Section at Sensor Loops on Side Street and Ramps, See Sheet TC3.

APPROVED:

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

APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD DATE
City and County of Honolulu

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

ROBYN R. MCKINNEY
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No. 13480-C
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Robyn McKinney 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

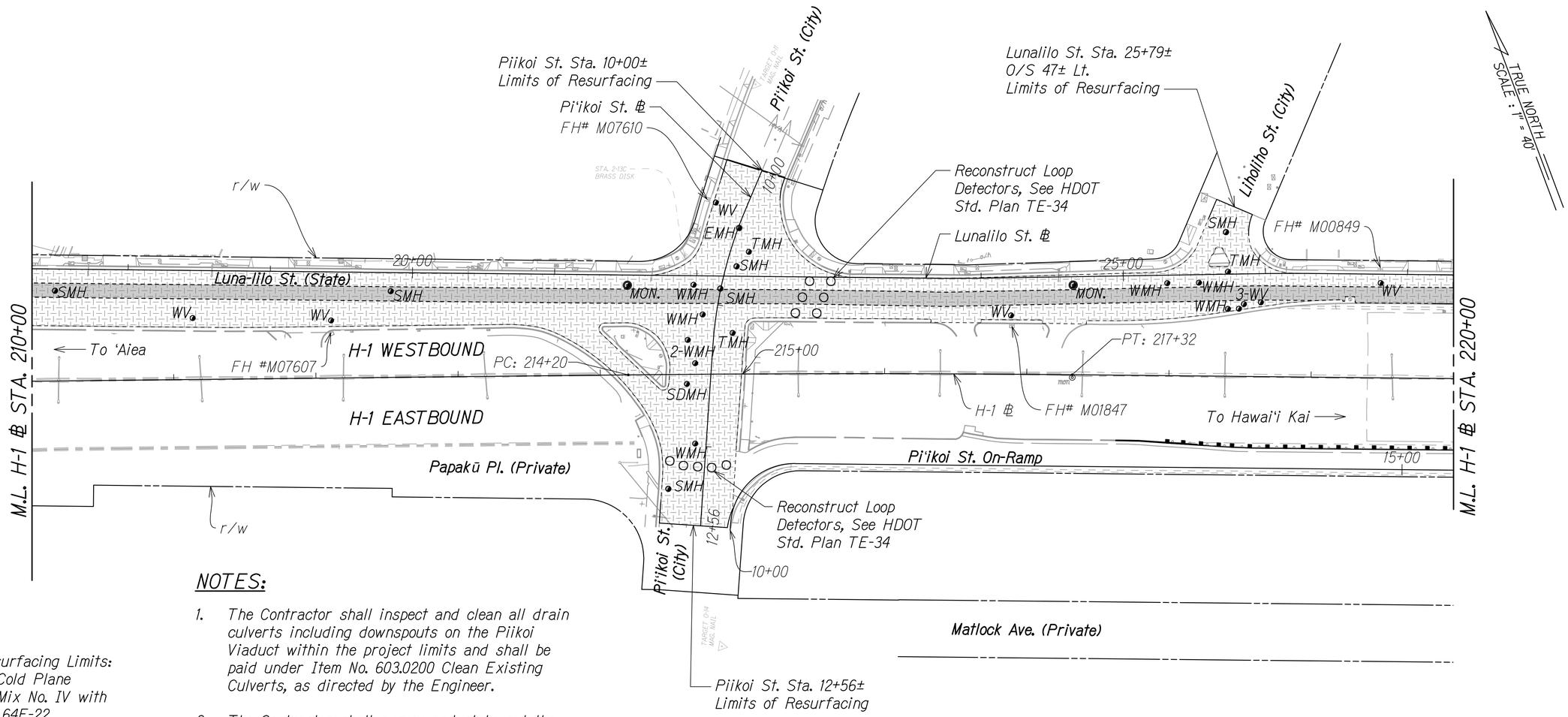
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R22 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R21-R26 ROADWAY PLAN.DWG 7/3/2024 11:37 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	86	411



LEGEND:

Resurfacing Limits:
4" Cold Plane
4" Mix No. IV with
PG 64E-22

Resurfacing Limits:
4" Cold Plane
Emulsified Asphalt (LTBC)
4" Mix No. IV with
PG 64E-22

MON. Monument to be Reinstalled (See Notes 50 and 60 on Sheet G5)

NOTES:

1. The Contractor shall inspect and clean all drain culverts including downspouts on the Piikoi Viaduct within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.

2. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

APPROVED:

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

APPROVED:

CHIEF, TRANSPORTATION TECHNOLOGY DIVISION, TTD DATE
City and County of Honolulu

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
No. 13480-C
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

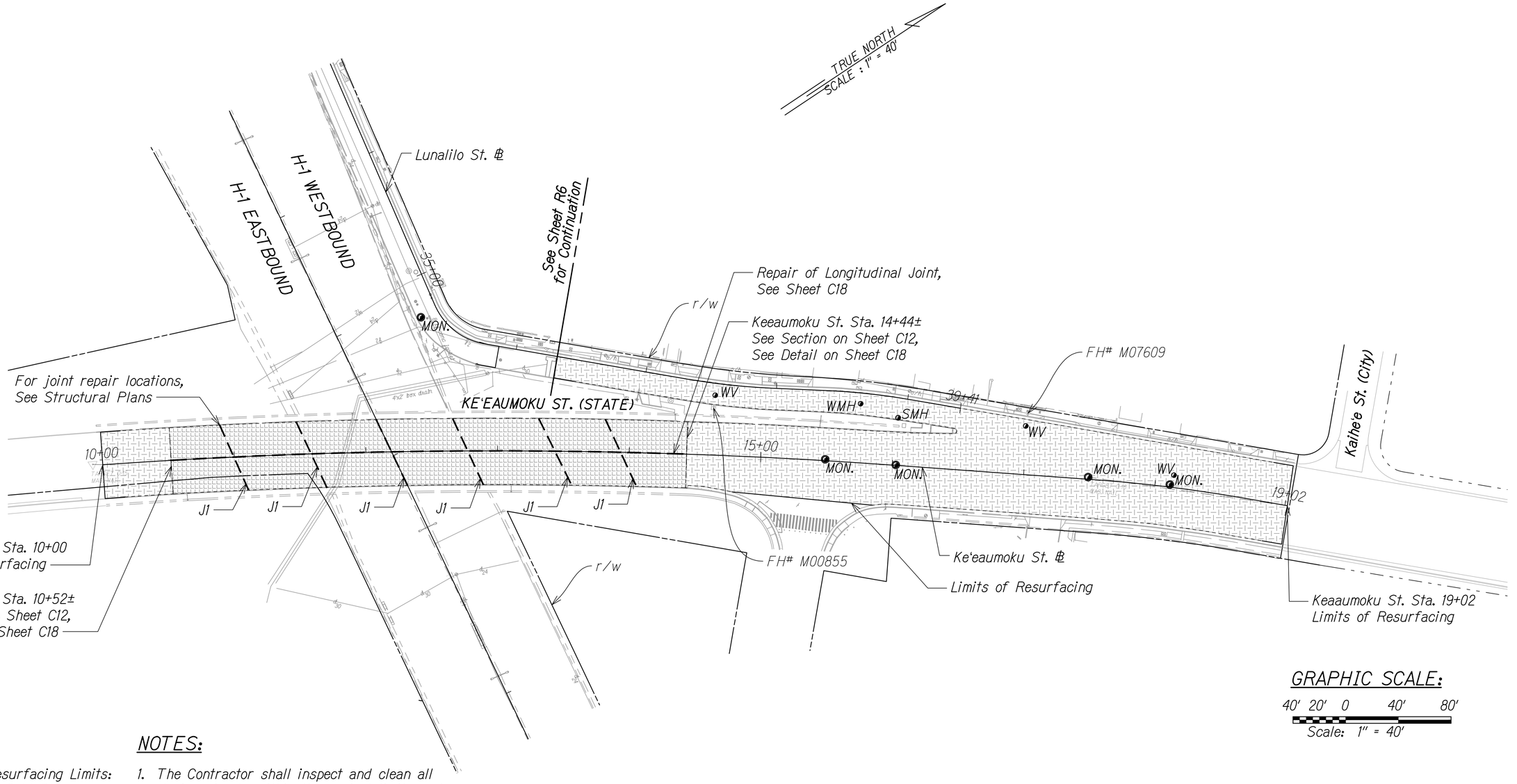
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R23 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R21-R26 ROADWAY PLAN.DWG 7/3/2024 11:37 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	87	411



GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

LEGEND:

Resurfacing Limits:
4" Cold Plane
4" Mix No. IV with PG 64E-22

Resurfacing Limits:
(Bridge Section)
2" Cold Plane
2" Mix No. IV with PG 64E-22

MON. Monument to be Reinstalled (See Notes 50 and 64 on Sheet G5)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
3. J1, etc. denotes expansion joint repair type, See Sheet C18.

APPROVED:

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

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

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Robyn McKinney 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

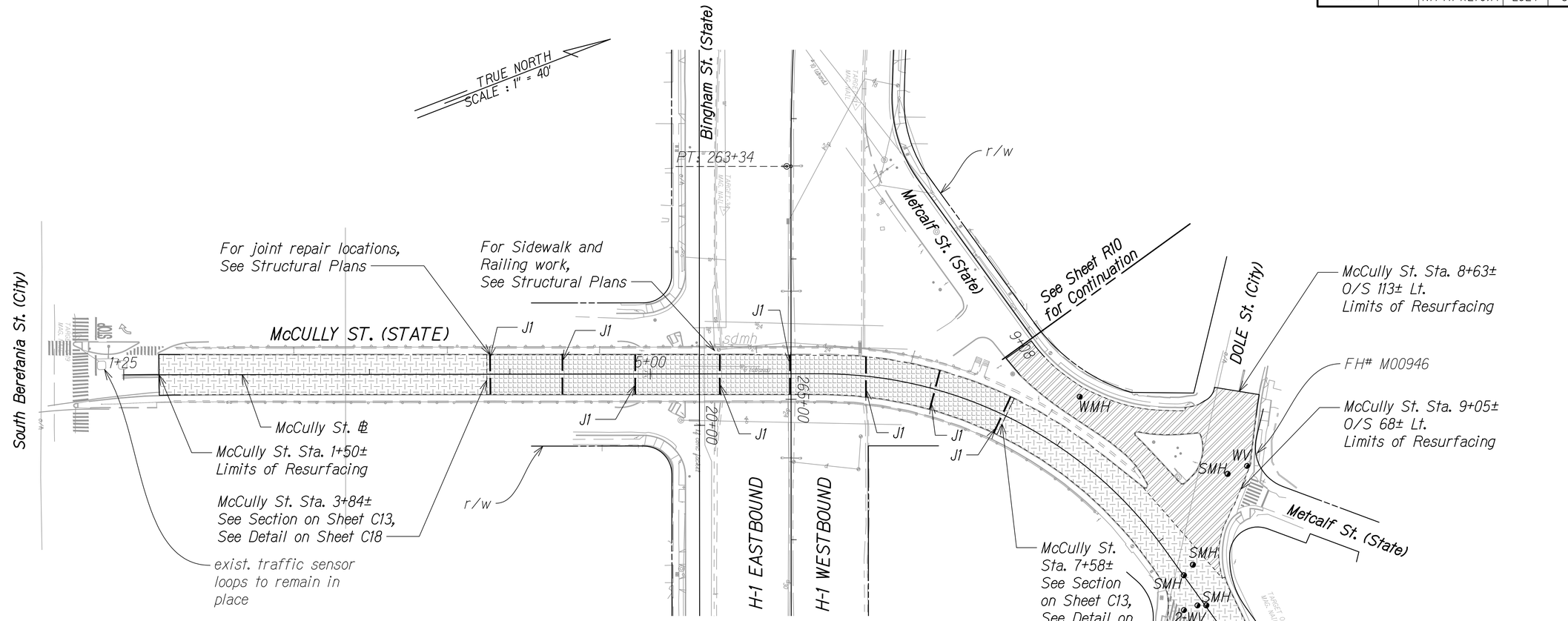
ROADWAY PLAN

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R24 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	88	411



LEGEND:

- Resurfacing Limits: (Bridge Section) 2" Cold Plane 2" Mix No. IV with PG 64E-22
- Resurfacing Limits: 4" Cold Plane 4" Mix No. IV with PG 64E-22
- Resurfacing Limits: 2" Cold Plane 2" Mix No. IV with PG 64E-22
- MON. Monument to be Reinstalled (See Notes 50 and 64 on Sheet G5)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.
2. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
3. J1, etc. denotes expansion joint repair type. See Sheet C18.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

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

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

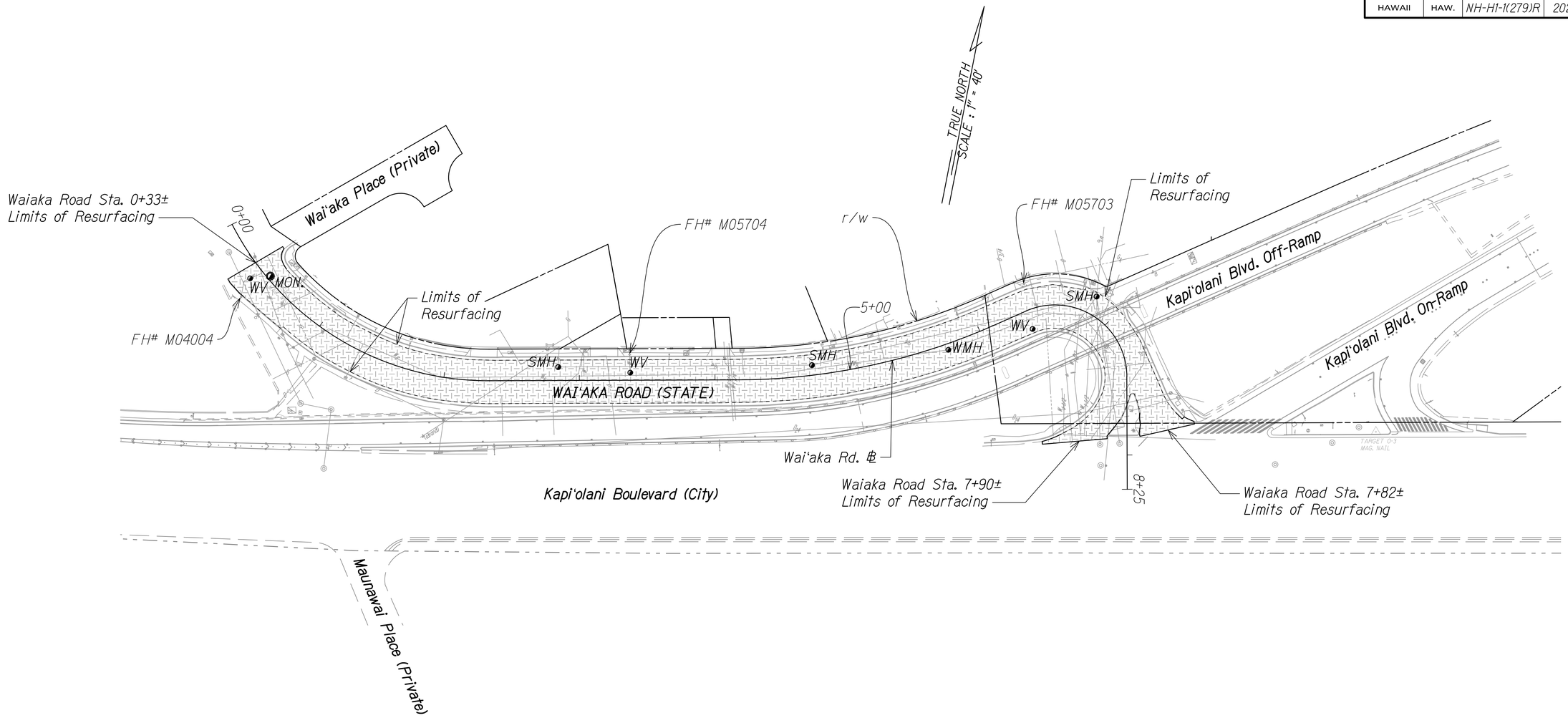
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R25 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R21-R26 ROADWAY PLAN.DWG 7/3/2024 11:37 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	89	411



LEGEND:

Resurfacing Limits:
4" Cold Plane
4" Mix No. IV with PG 64E-22

MON. Monument to be Reinstalled
(See Notes 50 and 64 on Sheet G5)

NOTES:

1. The Contractor shall inspect and clean all drain culverts within the project limits and shall be paid under Item No. 603.0200 Clean Existing Culverts, as directed by the Engineer.

2. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

APPROVED:

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

GRAPHIC SCALE:

40' 20' 0 40' 80'
Scale: 1" = 40'

ROBYN R. MCKINNEY
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NO. 13480-C
HAWAII, USA

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SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. R26 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R21-R26 ROADWAY PLAN.DWG 7/3/2024 11:37 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	90	411

INDEX OF GUARDRAIL DETAILS

SCHEDULE - EXISTING GUARDRAIL UPGRADE

DRAWING NO.		DESCRIPTION	FROM	TO	DISTANCE (Feet)	GUARDRAIL UPGRADE (Feet)
R1	1	Kinau St. Off-Ramp (Rt.)	--	--	--	- Conc. Patch
			℄ 14+17±	℄ 14+27±	10	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 14+27±	℄ 14+46±	--	- 34" Type KAT Transition
			℄ 14+45±	℄ 14+70±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 14+70±	℄ 15+95±	125	- Midwest Guardrail System
			℄ 15+95±	℄ 16+23±	--	- MGS Transition to Strong Post Guardrail
R1 to R2	2a	H-1 EB Shoulder	℄ 179+59±	℄ 179+77±	--	- 19 LF Transition, QUADGUARD (TL-3) to Thrie-Beam or Approved Equal
	2b	H-1 EB Shoulder	℄ 179+60±	℄ 179+78±	--	- 19 LF Transition, QUADGUARD (TL-3) to Thrie-Beam or Approved Equal
	2c	H-1 EB Shoulder	--	--	--	- Conc. Patch
			℄ 180+00±	℄ 180+09±	10	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 180+09±	℄ 180+27±	--	- 34" Type KAT Transition
			℄ 180+26±	℄ 180+50±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 180+50±	℄ 181+12±	65	- Midwest Guardrail System
			℄ 181+12±	℄ 181+36±	--	- Guardrail Type 3 MASH Transition
			℄ 181+35±	℄ 181+52±	--	- 34" Type KAT Transition
			℄ 181+52±	℄ 182+04±	54	- Modified 34" Type KAT Conc. Transition (Condition 2)
			--	--	--	- Conc. Patch

SCHEDULE - EXISTING GUARDRAIL UPGRADE

DRAWING NO.		DESCRIPTION	FROM	TO	DISTANCE (Feet)	GUARDRAIL UPGRADE (Feet)
R2	3	H-1 WB Shoulder	--	--	--	- Conc. Patch
			℄ 181+09±	℄ 181+14±	5.5	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 181+14±	℄ 181+33±	--	- 34" Type KAT Transition
			℄ 181+33±	℄ 181+59±	--	- Guardrail Type 3 MASH Transition
			℄ 181+59±	℄ 182+14±	53	- Midwest Guardrail System
			℄ 182+14±	℄ 182+50±	34.5	- MGS with 37 1/2" Post Spacing
			℄ 182+14±	℄ 182+50±	34.5	- HSS8x8x3/16 Block Replacement
			℄ 182+50±	℄ 182+78±	26.5	- Midwest Guardrail System
			℄ 182+78±	℄ 183+06±	--	- Modified Hawaii Thrie Beam Approach Guardrail Transition
			℄ 183+06±	℄ 183+25±	--	- Type D2 End Post
R2	4	H-1 WB Shoulder	--	--	--	- Conc. Patch
			℄ 186+74±	℄ 186+84±	10	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 186+84±	℄ 187+03±	--	- 34" Type KAT Transition
			℄ 187+02±	℄ 187+29±	--	- Guardrail Type 3 MASH Transition
			℄ 187+29±	℄ 187+36±	7.5	- Midwest Guardrail System
			℄ 187+36±	℄ 187+62±	--	- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal
R2	5	Vineyard Blvd Off-Ramp (Rt.)	--	--	--	- Conc. Patch
			℄ 10+08±	℄ 10+15±	6.5	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 10+15±	℄ 10+33±	--	- 34" Type KAT Transition
			℄ 10+32±	℄ 10+57±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 10+57±	℄ 10+64±	7.5	- Midwest Guardrail System
			℄ 10+64±	℄ 10+89±	--	- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal
R2 to R3	6	H-1 EB Shoulder	℄ 189+93±	℄ 190+40±	--	- MSKT-SP-MGS (TL-3) End Terminal
			℄ 190+40±	℄ 190+69±	--	- Modified Hawaii Thrie Beam Approach Guardrail Transition
			℄ 190+65±	℄ 190+83±	--	- Type D2 End Post
			℄ 190+83±	℄ 190+88±	5	- Modified 34" Type KAT Conc. Transition (Condition 2)
			--	--	--	- Conc. Patch
R3	7	Ward Ave. On-Ramp (Lt.)	--	--	--	- Conc. Patch
			℄ 13+31±	℄ 13+49±	--	- 34" Type KAT Transition
			℄ 13+49±	℄ 13+74±	--	- Guardrail Type 3 MASH Transition
			℄ 13+74±	℄ 13+86±	12.5	- Midwest Guardrail System
			--	--	--	- W-Beam End Section (Rounded RWE03a)

ROBYN R. MCKINNEY
LICENSED PROFESSIONAL ENGINEER
NO. 13480-C
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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL SCHEDULE

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A — Date: November 2024

SHEET No. R27 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R27_R32 GUARDRAIL SCHEDULE.DWG 7/24/2024 4:54 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	91	411

SCHEDULE - EXISTING GUARDRAIL UPGRADE

DRAWING NO.		DESCRIPTION	FROM	TO	DISTANCE (Feet)	GUARDRAIL UPGRADE (Feet)
R3	8	H-1 EB Shoulder	--	--	--	- Conc. Patch
			℄ 194+96±	℄ 195+14±	--	- 34" Type KAT Transition
			℄ 195+13±	℄ 195+38±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 195+38±	℄ 195+51±	12.5	- Midwest Guardrail System
			--	--	--	- W-Beam End Section (Rounded RWE03a)
R3 to R4	9	H-1 EB Shoulder	℄ 196+82±	℄ 197+29±	--	- MSKT-SP-MGS (TL-3) End Terminal
			℄ 197+29±	℄ 197+57±	--	- Modified Hawaii Thrie Beam Approach Guardrail Transition
			℄ 197+53±	℄ 197+71±	--	- Type D2 End Post
			℄ 197+71±	℄ 201+64±	394	- HDOT 34" Tall Aesthetic Conc. Bridge Rail
			℄ 201+64±	℄ 201+82±	--	- 34" Type KAT Transition
			℄ 201+82±	℄ 202+07±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 202+07±	℄ 202+35±	--	- MGS Transition to Strong Post Guardrail
			℄ 202+35±	℄ 202+60±	25	- W-Beam (use exist. guardrail posts)
			℄ 202+35±	℄ 202+60±	25	- RubRail
			℄ 202+60±	℄ 202+88±	--	- MGS Transition to Strong Post Guardrail
			℄ 202+88±	℄ 203+17±	--	- Modified Hawaii Thrie Beam Approach Guardrail Transition
			℄ 203+13±	℄ 203+31±	--	- Type D2 End Post
			℄ 203+31±	℄ 203+41±	10	- Modified 34" Type KAT Conc. Transition (Condition 2)
R4	10	H-1 WB Shoulder	℄ 201+99±	℄ 202+23±	24	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 202+23±	℄ 202+41±	--	- 34" Type KAT Transition
			℄ 202+40±	℄ 202+65±	--	- Guardrail Type 3 MASH Transition
			℄ 202+65±	℄ 202+78±	12.5	- Midwest Guardrail System
			℄ 202+78±	℄ 202+86±	--	- 8 LF Transition, QUADGUARD (TL-2) to MGS or Approved Equal
R4	11	H-1 WB Shoulder (along Lunalilo On-Ramp)	℄ 201+99±	℄ 202+23±	24	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 202+23±	℄ 202+41±	--	- 34" Type KAT Transition
			℄ 202+40±	℄ 202+65±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 202+65±	℄ 202+78±	12.5	- Midwest Guardrail System
			℄ 202+78±	℄ 202+86±	--	- 8 LF Transition, QUADGUARD (TL-2) to MGS or Approved Equal
R5 to R6	12	Piikoi On-Ramp (Lt.)	℄ 13+33±	℄ 13+80±	--	- MSKT-SP-MGS (TL-3) End Terminal
			℄ 13+80±	℄ 16+08±	228	- Midwest Guardrail System
			℄ 16+08±	℄ 16+32±	--	- Trailing-End Anchorage System
R6	13	H-1 WB Shoulder	℄ 223+85±	℄ 223+95±	10	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 223+95±	℄ 224+14±	--	- 34" Type KAT Transition
			℄ 224+13±	℄ 224+39±	--	- Guardrail Type 3 MASH Transition
			℄ 224+39±	℄ 224+68±	28	- Midwest Guardrail System
			℄ 224+52±	℄ 224+90±	37.5	- Nested W-Beam Guardrail
			℄ 224+68±	℄ 224+81±	12.5	- W-Beam (One Post Omitted)
			℄ 224+81±	℄ 224+84±	3	- Midwest Guardrail System
			℄ 224+84±	℄ 225+10±	--	- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal

SCHEDULE - EXISTING GUARDRAIL UPGRADE

DRAWING NO.		DESCRIPTION	FROM	TO	DISTANCE (Feet)	GUARDRAIL UPGRADE (Feet)
R6	14	Lunalilo Street (Rt.)	℄ 31+48±	℄ 31+72±	--	- Trailing-End Anchorage System
			℄ 31+72±	℄ 31+87±	15.5	- Midwest Guardrail System
			℄ 31+72±	℄ 32+09±	37.5	- Nested W-Beam Guardrail
			℄ 31+87±	℄ 32+00±	12.5	- W-Beam (One Post Omitted)
			℄ 32+00±	℄ 32+03±	3	- Midwest Guardrail System
			℄ 32+03±	℄ 32+28±	--	- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal
R7 to R8	15	Punahou St Off-Ramp (Lt.)	℄ 12+45±	℄ 12+69±	--	- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal
			℄ 12+69±	℄ 12+95±	25.5	- Midwest Guardrail System
			℄ 12+95±	℄ 13+19±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 13+19±	℄ 13+36±	--	- 34" Type KAT Transition
R7 to R8	16	H-1 EB Shoulder	℄ 239+76±	℄ 240+02±	--	- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal
			℄ 240+02±	℄ 240+28±	25	- Midwest Guardrail System
			℄ 240+28±	℄ 240+53±		- Guardrail Type 3 MASH Transition
			℄ 240+53±	℄ 240+71±	--	- 34" Type KAT Transition
R12 to R13	17	H-1 EB Shoulder	--	--	--	- Conc. Patch
			℄ 04+71±	℄ 04+81±	10	- Modified 34" Type KAT Conc. Transition (Condition 2)
			℄ 04+81±	℄ 04+99±	--	- 34" Type KAT Transition
			℄ 04+98±	℄ 05+23±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 05+23±	℄ 06+39±	115	- Midwest Guardrail System
			℄ 06+39±	℄ 06+51±	12.5	- W-Beam (One Post Omitted)
			℄ 06+51±	℄ 08+50±	199	- Midwest Guardrail System
			℄ 08+50±	℄ 08+63±	12.5	- W-Beam (One Post Omitted)
			℄ 08+63±	℄ 10+19±	156	- Midwest Guardrail System
			℄ 10+19±	℄ 10+31±	12.5	- W-Beam (One Post Omitted)
			℄ 10+31±	℄ 10+77±	45.5	- Midwest Guardrail System
			℄ 10+77±	℄ 11+00±	--	- Trailing-End Anchorage System

NOTE:

Refer to Sheet R27 for Index of Guardrail Details.

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

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Robyn McKinney 04/30/26

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL SCHEDULE

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A Date: November 2024

SHEET No. R28 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R27_R32 GUARDRAIL SCHEDULE.DWG 7/26/2024 11:53 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	92	411

SCHEDULE - EXISTING GUARDRAIL UPGRADE

DRAWING NO.		DESCRIPTION	FROM	TO	DISTANCE (Feet)	GUARDRAIL UPGRADE (Feet)
R13	18	H-1 EB Shoulder and On-Ramp "U-1" (Lt.)	--	--	--	- Conc. Patch
			℄ 14+13±	℄ 14+07±	6	- Modified 34" Type KAT Conc. Transition (Condition 2)
			℄ 14+07±	℄ 13+88±	--	- 34" Type KAT Transition
			℄ 13+89±	℄ 13+63±	--	- Guardrail Type 3 MASH Transition
			℄ 13+63±	℄ 11+65±	194	- Midwest Guardrail System
			H-1 EB ℄ 11+65±	U-1 ℄ 10+15±	--	- MGS Transition to Strong Post Guardrail
			℄ 10+15±	℄ 10+84±	66	- Retro-Rail System
			℄ 10+15±	℄ 10+84±	66	- W-Beam (use exist. guardrail posts)
			℄ 10+84±	℄ 11+09±	--	- Thrie Beam Connection to exist. Railing (reverse)
			℄ 11+09±	℄ 13+41±	227	- Thrie Beam (use exist. guardrail posts)
			℄ 13+41±	℄ 13+66±	--	- Thrie Beam Connection to exist. Railing
			℄ 13+66±	℄ 13+94±	--	- MGS Transition to Strong Post Guardrail
			℄ 13+94±	℄ 14+11±	17	- Midwest Guardrail System
			℄ 14+11±	℄ 14+58±	--	- MSKT-SP-MGS (TL-3) End Terminal
R13	19	On-Ramp "U-1" (Rt.)	℄ 10+46±	℄ 10+66±	--	- Trailing-End Anchorage System
			℄ 10+66±	℄ 10+90±	--	- MGS Transition to Strong Post Guardrail
			℄ 10+90±	℄ 11+11±	--	- Thrie Beam Connection to exist. Railing (use exist. guardrail posts)
			℄ 11+11±	℄ 14+91±	417	- Thrie Beam (use exist. guardrail posts)
			℄ 14+91±	℄ 15+10±	--	- Thrie Beam Connection to exist. Railing (reverse) (use exist. guardrail posts)
			℄ 15+10±	℄ 15+31±	--	- MGS Transition to Strong Post Guardrail
			℄ 15+31±	℄ 15+37±	--	- 8 LF Transition, QUADGUARD (TL-2) to MGS or Approved Equal
R13	20	H-1 WB Shoulder	℄ 11+48±	℄ 11+71±	--	- Trailing-End Anchorage System
			℄ 11+71±	℄ 12+96±	128	- Midwest Guardrail System
			℄ 12+96±	℄ 13+20±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 13+20±	℄ 13+37±	--	- 34" Type KAT Transition
			℄ 13+37±	℄ 13+47±	10	- Modified 34" Type KAT Conc. Transition (Condition 2)
			--	--	--	- Conc. Patch
R13	21	Ramp "U-8" Shoulder (Lt.)	℄ 10+44±	℄ 10+90±	--	- MSKT-SP-MGS (TL-3) End Terminal
			℄ 10+90±	℄ 11+77±	87.5	- Midwest Guardrail System
			℄ 11+77±	℄ 12+00±	--	- Trailing-End Anchorage System

SCHEDULE - EXISTING GUARDRAIL UPGRADE

DRAWING NO.		DESCRIPTION	FROM	TO	DISTANCE (Feet)	GUARDRAIL UPGRADE (Feet)
R14	22	H-1 EB Shoulder and Off-Ramp "U-3" (Rt.)	--	--	--	- Conc. Patch
			℄ 15+34±	℄ 15+44±	10	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 15+44±	℄ 15+62±	--	- 34" Type KAT Transition
			℄ 15+62±	℄ 15+87±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 15+87±	℄ 17+57±	166	- Midwest Guardrail System
			H-1 EB ℄ 17+57±	U-3 ℄ 11+13±	--	- MGS Long Span LSC-2
			℄ 11+13±	℄ 14+17±	300	- Midwest Guardrail System
			℄ 14+02±	℄ 14+39±	37.5	- Nested W-Beam Guardrail
			℄ 14+17±	℄ 14+30±	12.5	- W-Beam (One Post Omitted)
			℄ 14+30±	℄ 14+61±	31.5	- Midwest Guardrail System
			℄ 14+61±	℄ 14+84±	--	- Trailing-End Anchorage System
R14 to R15	23	Off-Ramp "U-3" (Lt.) and H-1 EB Shoulder	℄ 13+82±	℄ 13+58±	--	- Trailing-End Anchorage System
			℄ 13+58±	℄ 11+13±	277	- Midwest Guardrail System
			U-3 ℄ 11+13±	H-1 EB ℄ 11+05±	12.5	- W-Beam (One Post Omitted)
			℄ 11+05±	22+78	368.5	- Midwest Guardrail System
			℄ 22+78±	℄ 22+90±	12.5	- W-Beam (One Post Omitted)
			℄ 22+90±	℄ 24+17±	127	- Midwest Guardrail System
			℄ 24+17±	℄ 24+42±	--	- Guardrail Type 3 MASH Transition
			℄ 24+41±	℄ 24+59±	--	- 34" Type KAT Transition
			℄ 24+59±	℄ 24+69±	10	- Modified 34" Type KAT Conc. Transition (Condition 2)
			--	--	--	- Conc. Patch
R14	24	On-Ramp "U-6" (Rt.)	℄ 10+60±	℄ 11+09±	--	- MSKT-SP-MGS (TL-3) End Terminal
			℄ 11+09±	℄ 11+21±	11.5	- Midwest Guardrail System
			℄ 11+21±	℄ 13+00±	--	- MGS Long Span LSC-2
			℄ 13+00±	℄ 15+98±	292.5	- Midwest Guardrail System
			℄ 15+81±	℄ 16+21±	37.5	- Nested W-Beam Guardrail
			℄ 15+98±	℄ 16+11±	12.5	- W-Beam (One Post Omitted)
			℄ 16+11±	℄ 18+92±	279	- Midwest Guardrail System
			℄ 18+92±	℄ 19+17±	--	- Guardrail Type 3 MASH Transition
			℄ 19+17±	℄ 19+35±	--	- 34" Type KAT Transition
			℄ 19+35±	℄ 19+45±	10	- Modified 34" Type KAT Conc. Transition (Condition 2)
			--	--	--	- Conc. Patch

NOTE:

Refer to Sheet R27 for Index of Guardrail Details.

ROBYN R. MCKINNEY
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THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL SCHEDULE

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: N/A Date: November 2024

SHEET No. R29 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI\01 CIVIL DRAWINGS\R27_R32 GUARDRAIL SCHEDULE.DWG 7/26/2024 11:53 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	93	411

SCHEDULE - EXISTING GUARDRAIL UPGRADE

DRAWING NO.		DESCRIPTION	FROM	TO	DISTANCE (Feet)	GUARDRAIL UPGRADE (Feet)
R14 to R15	25	Off-Ramp "U-5" (Rt.) and H-1 WB Shoulder	℄ 15+91±	℄ 15+67±	--	- Trailing-End Anchorage System
			U-5 ℄ 15+67±	H-1 WB ℄ 20+77±	655	- Midwest Guardrail System
			℄ 20+77±	℄ 20+89±	12.5	- W-Beam (One Post Omitted)
			℄ 20+89±	℄ 22+40±	151	- Midwest Guardrail System
			℄ 22+40±	℄ 22+52±	12.5	- W-Beam (One Post Omitted)
			℄ 22+52±	℄ 24+09±	156.5	- Midwest Guardrail System
			℄ 24+09±	℄ 24+37±	--	- MGS Transition to Strong Post Guardrail
			℄ 24+37±	℄ 24+43±	--	- 6.25 LF Transition Section Thrie Beam to Strong Post (use exist. guardrail posts)
			℄ 24+43±	℄ 24+56±	--	- 12.5 LF Thrie Beam Guardrail (use exist. guardrail posts)
			℄ 24+56±	℄ 24+68±	--	- 12.5 LF Nested Thrie Beam Guardrail (use exist. guardrail posts)
			--	--	--	- Thrie Beam Connector
R15 and R18	26	H-1 EB Shoulder	--	--	--	- Conc. Patch
			℄ 25+05±	℄ 25+15±	10	- Modified 34" Type KAT Conc. Transition (Condition 2)
			℄ 25+15±	℄ 25+33±	--	- 34" Type KAT Transition
			℄ 25+33±	℄ 25+58±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 25+58±	25+83	25	- MGS on a 2:1 Fill Slope
			25+83	℄ 29+50±	377.5	- Midwest Guardrail System
			℄ 29+50±	℄ 29+75±	--	- Guardrail Type 3 MASH Transition
			℄ 29+74±	℄ 29+91±	--	- 34" Type KAT Transition
			℄ 29+91±	℄ 30+01±	10	- Modified 34" Type KAT Conc. Transition (Condition 1)
			--	--	--	- Conc. Patch
R15 to R16	27	H-1 WB Shoulder and Ramp "T" (Lt.) Old Waialae Road	--	--	--	- Conc. Patch
			℄ 25+09±	℄ 25+19±	10	- Modified 34" Type KAT Conc. Transition (Condition 2)
			℄ 25+19±	℄ 25+37±	--	- 34" Type KAT Transition
			℄ 25+36±	℄ 25+61±	--	- Guardrail Type 3 MASH Transition
			℄ 25+61±	℄ 26+97±	133.5	- Midwest Guardrail System
			℄ 26+97±	℄ 27+10±	12.5	- W-Beam (One Post Omitted)
			℄ 27+10±	℄ 28+93±	177.5	- Midwest Guardrail System
			℄ 28+93±	℄ 29+06±	12.5	- W-Beam (One Post Omitted)
			H-1 WB ℄ 29+06±	Old Waialae Rd ℄ 10+80±	90	- Midwest Guardrail System
			℄ 10+80±	℄ 12+56±	--	- MGS Long Span LSC-2
			℄ 12+56±	℄ 16+68±	407	- MGS on a 2:1 Fill Slope
			℄ 16+68±	℄ 17+20±	50	- Midwest Guardrail System
			--	--	--	- W-Beam End Section (Rounded RWE03a)
R16	28	Ramp "T" (Lt.) Old Waialae Road	--	--	--	- W-Beam End Section (Rounded RWE03a)
			℄ 17+13±	℄ 17+36±	22	- Midwest Guardrail System
			℄ 17+36±	℄ 17+68±	--	- MAX-Tension TL-2

SCHEDULE - EXISTING GUARDRAIL UPGRADE

DRAWING NO.		DESCRIPTION	FROM	TO	DISTANCE (Feet)	GUARDRAIL UPGRADE (Feet)
R16	29 - 30	Ramp "T" (Rt.) Old Waialae Road and Waialae Overpass (Lt.)	℄ 11+88±	℄ 12+11±	--	- Trailing-End Anchorage System
			℄ 12+11±	℄ 14+16±	207	- Midwest Guardrail System
			℄ 14+16±	℄ 14+29±	12.5	- W-Beam (One Post Omitted)
			℄ 14+29±	℄ 10+49±	243	- Midwest Guardrail System
			Waialae Overpass ℄ 10+24±	Ramp T ℄ 10+49±	--	- Guardrail Type 3 MASH Transition
			℄ 10+07±	℄ 10+25±	--	- 34" Type KAT Transition
			℄ 10+04±	℄ 10+07±	3	- Modified 34" Type KAT Conc. Transition (Condition 1)
			--	--	--	- Conc. Patch
R16	31	H-1 WB Shoulder	℄ 31+10±	℄ 31+33±	--	- Trailing-End Anchorage System
			℄ 31+33±	℄ 33+52±	215	- Midwest Guardrail System
			℄ 33+36±	℄ 33+74±	37.5	- Nested W-Beam Guardrail
			℄ 33+52±	℄ 33+64±	12.5	- W-Beam (One Post Omitted)
			℄ 33+64±	℄ 33+83±	19	- Midwest Guardrail System
			℄ 33+83±	℄ 34+30±	--	- MSKT-SP-MGS (TL-3) End Terminal
R17 and R20	32	Old Waialae Rd Off-Ramp (Rt.)	--	--	--	- Conc. Patch
			℄ 16+05±	℄ 15+95±	10	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 15+95±	℄ 15+77±	--	- 34" Type KAT Transition
			℄ 15+78±	℄ 15+53±	--	- Guardrail Type 3 MASH Transition
			℄ 15+53±	℄ 14+56±	96.5	- Midwest Guardrail System
			℄ 14+72±	℄ 14+34±	37.5	- Nested W-Beam Guardrail
			℄ 14+56±	℄ 14+44±	12.5	- W-Beam (One Post Omitted)
			℄ 14+44±	℄ 13+84±	59.5	- Midwest Guardrail System
			℄ 13+84±	13+59	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 13+60±	℄ 13+42±	--	- 34" Type KAT Transition
			℄ 13+42±	℄ 13+17±	25.25	- Modified 34" Type KAT Conc. Transition (Condition 2)

NOTE:

Refer to Sheet R27 for Index of Guardrail Details.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL SCHEDULE

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A Date: November 2024

SHEET No. R30 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R27_R32 GUARDRAIL SCHEDULE.DWG 7/26/2024 12:00 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	94	411

SCHEDULE - EXISTING GUARDRAIL UPGRADE

DRAWING NO.		DESCRIPTION	FROM	TO	DISTANCE (Feet)	GUARDRAIL UPGRADE (Feet)
R17	33	Old Waialae Rd Off-Ramp (Lt.)	--	--	--	- Conc. Patch
			℄ 17+56±	℄ 17+50±	5	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 17+50±	℄ 17+25±	23	- HDOT 34" Tall Aesthetic Conc. Bridge Rail
			℄ 17+25±	℄ 17+05±	--	- 34" Type KAT Transition
			℄ 17+06±	℄ 16+78±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 16+78±	℄ 15+56±	114.5	- Midwest Guardrail System
			℄ 15+71±	℄ 15+34±	37.5	- Nested W-Beam Guardrail
			℄ 15+56±	℄ 15+43±	12.5	- W-Beam (One Post Omitted)
			℄ 15+43±	℄ 14+62±	81.5	- Midwest Guardrail System
			℄ 14+62±	℄ 14+15±	--	- MSKT-SP-MGS (TL-3) End Terminal
R17	34	H-1 EB Shoulder	℄ 36+03±	℄ 36+28±	--	- Thrie Beam Connection to exist. Railing
			℄ 36+28±	℄ 36+78±	50	- W-Beam (use exist. guardrail posts)
			℄ 36+28±	℄ 36+78±	50	- Retro-Rail System
			℄ 36+78±	℄ 37+06±	--	- MGS Transition to Strong Post Guardrail
			℄ 37+06±	℄ 384+77±	141	- Midwest Guardrail System
			℄ 38+47±	℄ 38+94±	--	- MSKT-SP-MGS (TL-3) End Terminal
R18	35	King St Off-Ramp (Lt.)	℄ 11+12±	℄ 11+35±	--	- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal
			℄ 11+35±	℄ 11+60±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 11+60±	℄ 11+78±	--	- 34" Type KAT Transition
			℄ 11+78±	℄ 11+91±	13.5	- Modified 34" Type KAT Conc. Transition (Condition 2)
			--	--	--	- Conc. Patch
R18	36	H-1 EB Shoulder	℄ 33+20±	℄ 33+44±	--	- 25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal
			℄ 33+44±	℄ 33+65±	20.5	- Midwest Guardrail System
			℄ 33+65±	℄ 33+90±	--	- Guardrail Type 3 MASH Transition
			℄ 33+89±	℄ 34+07±	--	- 34" Type KAT Transition
			℄ 34+07±	℄ 34+29±	22	- HDOT 34" Tall Aesthetic Conc. Bridge Rail
			℄ 34+29±	℄ 34+39±	10	- Modified 34" Type KAT Conc. Transition (Condition 1)
			--	--	--	- Conc. Patch
R19	37	Old Waialae Road On-Ramp (Lt.)	℄ 13+48±	℄ 13+01±	--	- MSKT-SP-MGS (TL-3) End Terminal
			℄ 13+01±	℄ 12+16±	84.5	- Midwest Guardrail System
			℄ 12+16±	℄ 12+04±	12.5	- W-Beam (One Post Omitted)
			℄ 12+04±	℄ 11+76±	28	- Midwest Guardrail System
			℄ 11+76±	℄ 11+51±	--	- Guardrail Type 3 MASH Transition
			℄ 11+51±	℄ 11+33±	--	- 34" Type KAT Transition
			℄ 11+33±	℄ 11+23±	10	- Modified 34" Type KAT Conc. Transition (Condition 1)
R19	38	Old Waialae Road On-Ramp (Rt.)	--	--	--	- W-Beam End Section (Rounded RWE03a)
			℄ 15+18±	℄ 12+12±	307	- Midwest Guardrail System
			℄ 12+12±	℄ 11+88±	--	- Trailing-End Anchorage System

SCHEDULE - EXISTING GUARDRAIL UPGRADE

DRAWING NO.		DESCRIPTION	FROM	TO	DISTANCE (Feet)	GUARDRAIL UPGRADE (Feet)
R19	39	H-1 EB Shoulder	--	--	--	- Conc. Patch
			℄ 34+85±	℄ 34+99±	13.5	- Modified 34" Type KAT Conc. Transition (Condition 1)
			℄ 34+99±	℄ 35+17±	--	- 34" Type KAT Transition
			℄ 35+16±	℄ 35+41±	--	- Guardrail Type 3 MASH Transition (reverse)
			℄ 35+41±	℄ 36+66±	125	- Midwest Guardrail System
			℄ 36+66±	℄ 36+89±	--	- Trailing-End Anchorage System
R20	40	H-1 EB Shoulder	℄ 41+29±	℄ 41+54±	--	- Thrie Beam Connection to exist. Railing (reverse) (use exist. guardrail posts)
			℄ 41+54±	℄ 41+82±	--	- MGS Transition to Strong Post Guardrail
			℄ 41+82±	℄ 43+53±	171	- Midwest Guardrail System
			℄ 43+53±	℄ 43+78±	--	- Guardrail Type 3 MASH Transition
			℄ 43+77±	℄ 43+95±	--	- 34" Type KAT Transition
			℄ 43+95±	℄ 44+34±	38	- HDOT 34" Tall Aesthetic Conc. Bridge Rail
			℄ 44+34±	℄ 44+44±	10	- Modified 34" Type KAT Conc. Transition (Condition 2)
			--	--	--	- Conc. Patch
R20	41	H-1 WB Shoulder	--	--	--	- Conc. Patch
			℄ 41+95±	℄ 42+05±	10	- Modified 34" Type KAT Conc. Transition (Condition 2)
			℄ 42+05±	℄ 46+29±	426	- HDOT 34" Tall Aesthetic Conc. Bridge Rail
			--	--	--	- Thrie-Beam End Section (Rounded RTE03b)

NOTE:

Refer to Sheet R27 for Index of Guardrail Details.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL SCHEDULE

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A Date: November 2024

SHEET No. R31 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	95	411

SUMMARY - EXISTING GUARDRAIL UPGRADE

DESCRIPTION	QTY
Midwest Guardrail System	7183.5 LF
MSKT-SP-MGS (TL-3) End Terminal	10 EA
Trailing-End Anchorage System	13 EA
MGS Transition to Strong Post Guardrail	10 EA
MGS on a 2:1 Fill Slope	432 LF
MGS Long Span LSC-2	3 EA
MAX-Tension TL-2	1 EA
Guardrail Type 3 MASH Transition	17 EA
Guardrail Type 3 MASH Transition (reverse)	15 EA
34" Type KAT Transition	32 EA
Modified 34" Type KAT Conc. Transition (Condition 1)	171.5 LF
Modified 34" Type KAT Conc. Transition (Condition 2)	193.75 LF
Conc. Patch	26 EA
Retro-Rail System	116 LF
HDOT 34" Tall Aesthetic Conc. Bridge Rail	903 LF
W-Beam End Section (Rounded RWE03a)	5 EA
Modified Hawaii Thrie Beam Approach Guardrail Transition	4 EA
Type D2 End Post	4 EA
W-Beam (use exist. guardrail posts)	141 LF
W-Beam (One Post Omitted)	225 LF
Nested W-Beam Guardrail	262.5 LF
RubRail	25 LF
MGS with 37 1/2" Post Spacing	34.5 LF
HSS8x8x3/16 Block Replacement	34.5 LF
Thrie Beam (use exist. guardrail posts)	644 LF
Thrie Beam Connection to exist. Railing	2 EA
Thrie Beam Connection to exist. Railing (reverse)	1 EA
Thrie Beam Connection to exist. Railing (use exist. guardrail posts)	1 EA
Thrie Beam Connection to exist. Railing (reverse) (use exist. guardrail posts)	2 EA
6.25 LF Transition Section Thrie Beam to Strong Post (use exist. guardrail posts)	1 EA
12.5 LF Thrie Beam Guardrail (use exist. guardrail posts)	1 EA
12.5 LF Nested Thrie Beam Guardrail (use exist. guardrail posts)	1 EA
Thrie Beam Connector	1 EA
Thrie-Beam End Section (Rounded RTE03b)	1 EA
Crash Attenuators	
Quadguard Elite M10 Wide (with Tension Strut Backup) TL-3	7 EA
19 LF Transition, QUADGUARD (TL-3) to Thrie-Beam or Approved Equal	2 EA
25 LF Transition, QUADGUARD (TL-3) to MGS or Approved Equal	8 EA
Quadguard M10 TL-2	3 EA
8 LF Transition, QUADGUARD (TL-2) to MGS or Approved Equal	3 EA

NOTE:

Refer to Sheet R27 for Index of Guardrail Details.

ROBYN R. MCKINNEY
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SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

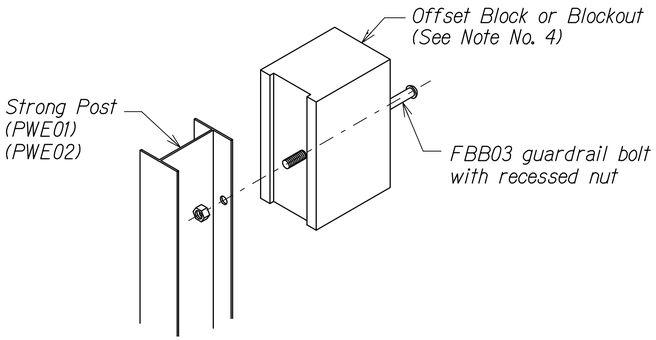
GUARDRAIL SCHEDULE

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: N/A Date: November 2024

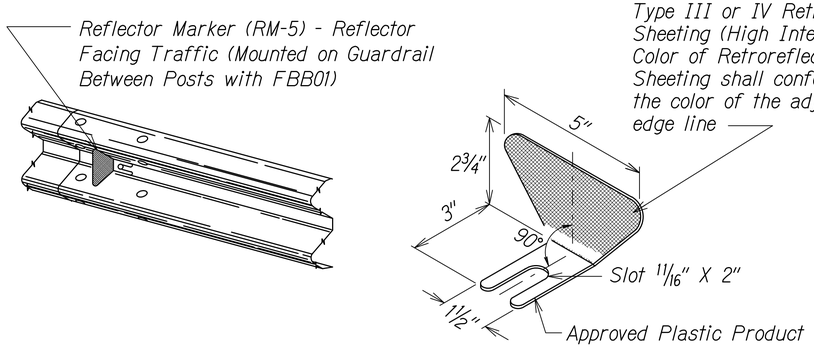
SHEET No. R32 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	96	411



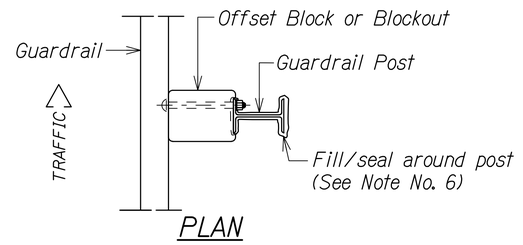
EXPLODED VIEW
(Rail and washer not shown)

STEEL POST AND BLOCK DETAIL

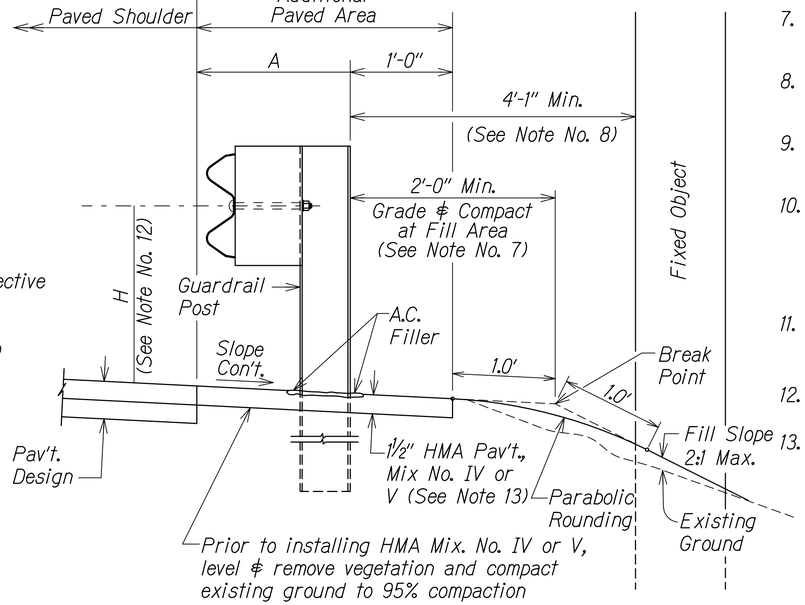


REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION

GUARDRAIL TYPE	DIMENSION	
	H	A
MGS w/ Standard 8" Offset Block	2'-1"	1'-6"
MGS w/ No Blockout	2'-⅞"	9¼"



PLAN



ELEVATION

TYPICAL GUARDRAIL INSTALLATION

GENERAL NOTES

1. All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
2. Where conditions require, special post lengths in increments of 6 inches may be specified by the Engineer.
3. All fasteners, posts, and rail elements (i.e. FBB03, PWE01, RWM04b, etc.) shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Subcommittee On New Highway Materials, Task Force 13 Report. Dimensions of fastners, posts and rail elements have been converted from metric units into their present form.
4. The Blockout or Offset Block shall be approved by the State.
5. All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
6. After the guardrail posts are installed in the paved area, the Contractor shall fill/seal around each guardrail post and all cracks in the paved area caused during the guardrail post installation. If required by the inspector/engineer, the Contractor shall tamper the paved area around the guardrail post prior to filling/sealing. All costs associated with this work shall not be paid for separately, but shall be considered incidental to the various guardrail items.
7. When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
8. Minimum working width (clear distance) between back of MGS post to any fixed object is 4'-1" (49").
9. New Hot Mix Asphalt (HMA) pavement at guardrails shall extend 6 feet longitudinally beyond terminal ends.
10. Reflector Markers (RM-5) mounted on guardrails shall be spaced every 25 feet. RM-5's shall not be installed on Terminal Sections. Furnishing and installing of each RM-5 shall be considered incidental to the guardrail system.
11. Locations and depth of all buried utilities shall be disclosed prior to installation of guardrail posts.
12. Refer to Section A-A on Sheet R34 for other locations.
13. Refer to Typical Section Sheets C1 to C5 for locations of additional paving at guardrail posts.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

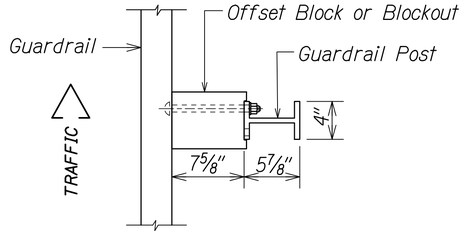
GUARDRAIL DETAILS AND NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

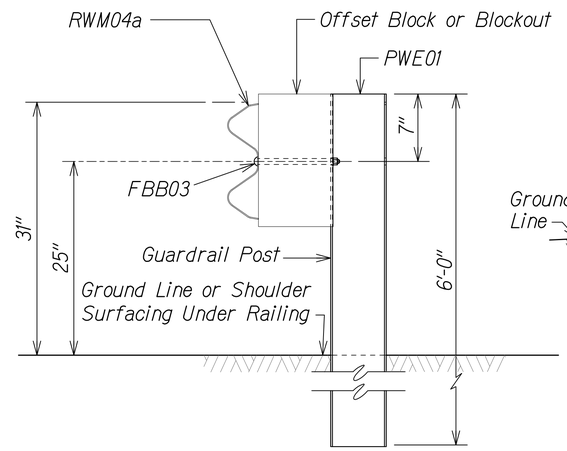
Scale: N/A Date: November 2024

SHEET No. R33 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	97	411

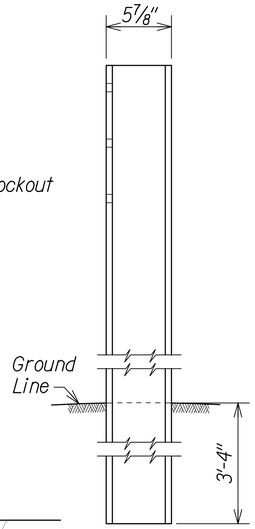


PLAN

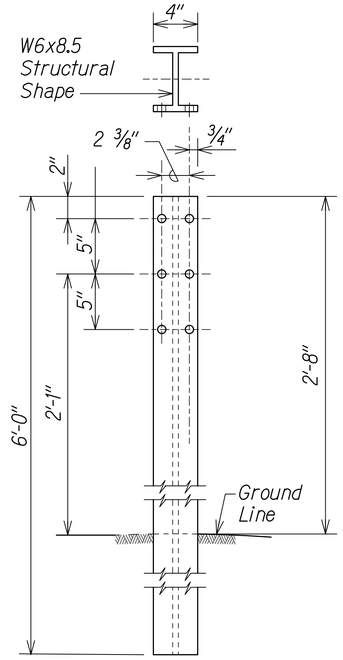


SECTION A-A

NOTE:
All Holes are
3/4" Dia.

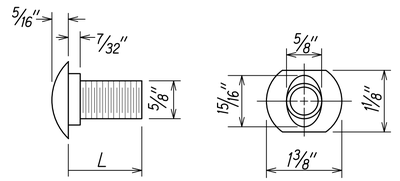


SIDE

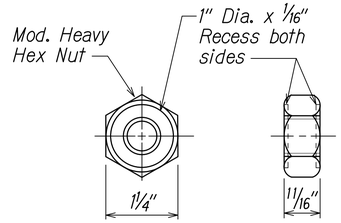


FRONT

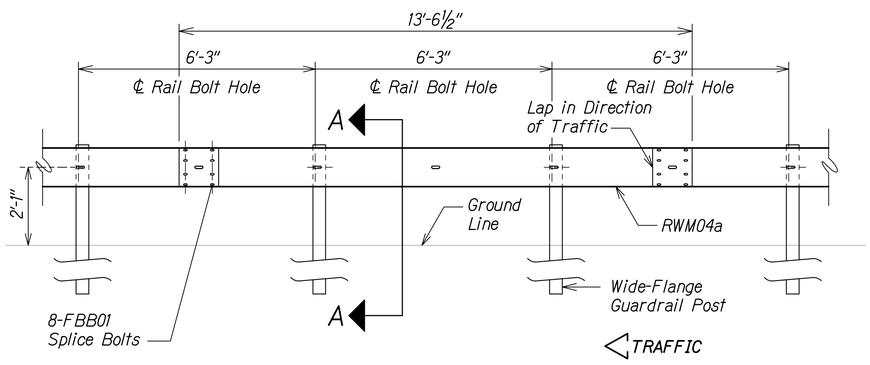
WIDE-FLANGED GUARDRAIL POST (PWE01)



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



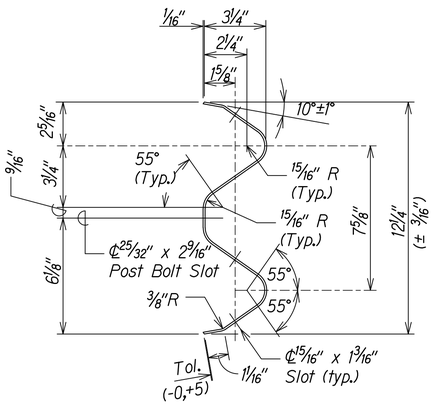
GUARDRAIL BOLTS AND RECESSED NUT

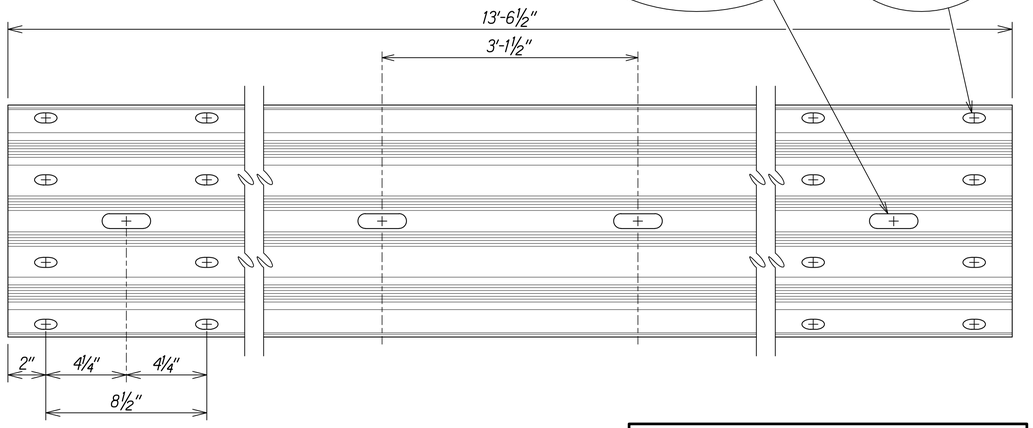


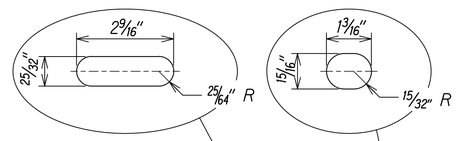
ELEVATION

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

DESIGNATOR	BASE METAL THICKNESS
RWM04a	12 Gauge







4 SPACE W-BEAM GUARDRAIL (RWM04a)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

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

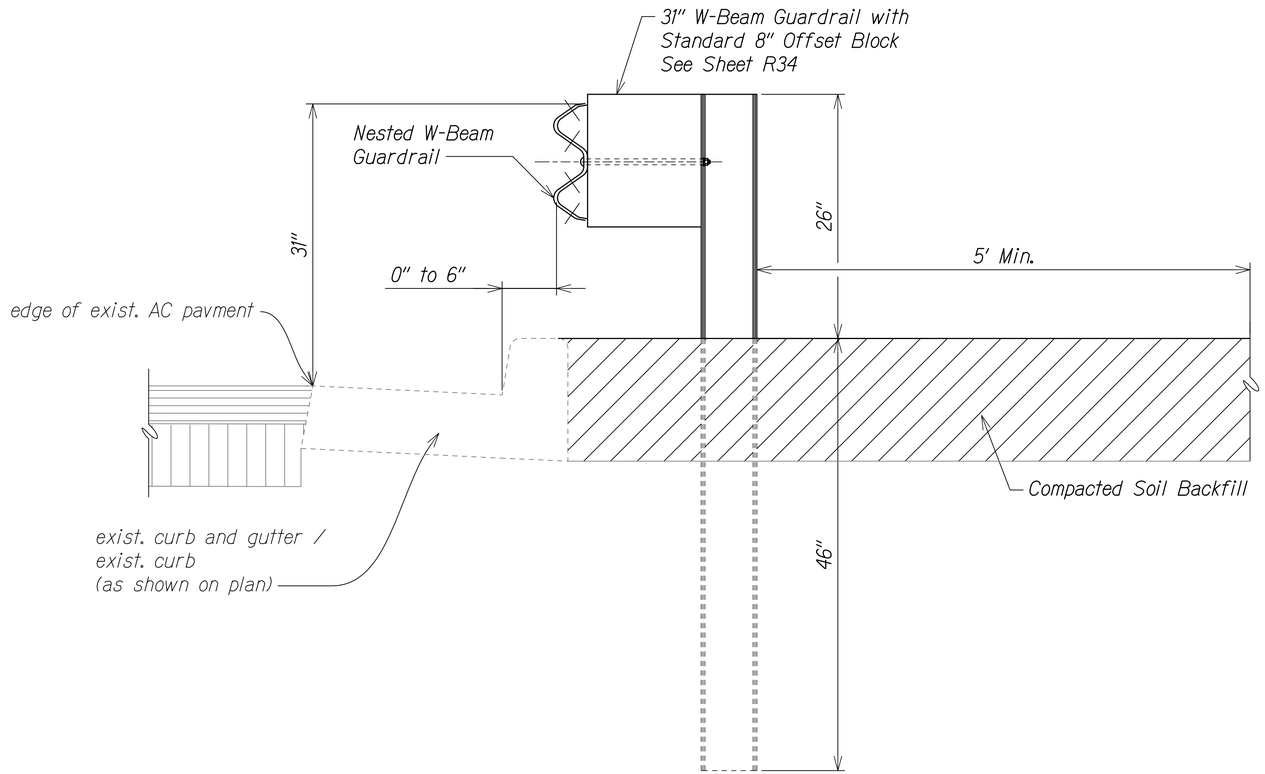
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: NTS Date: November 2024

SHEET No. R34 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R34 W-BEAM GUARDRAIL WITH STANDARD OFFSET BLOCK.DWG 7/29/2024 8:27 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	98	411



SECTION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MGS WITH CURB AND OMITTED POST

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

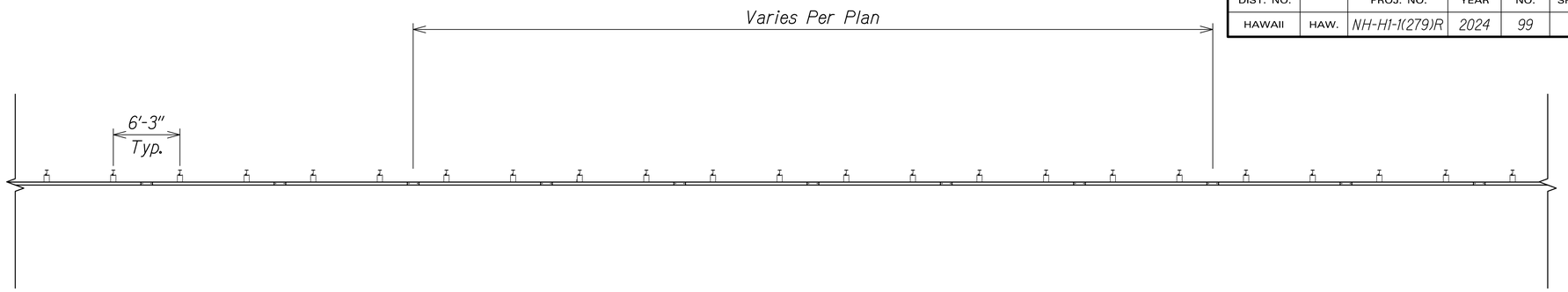
Scale: NTS Date: November 2024

SHEET No. R35 OF 68 SHEETS

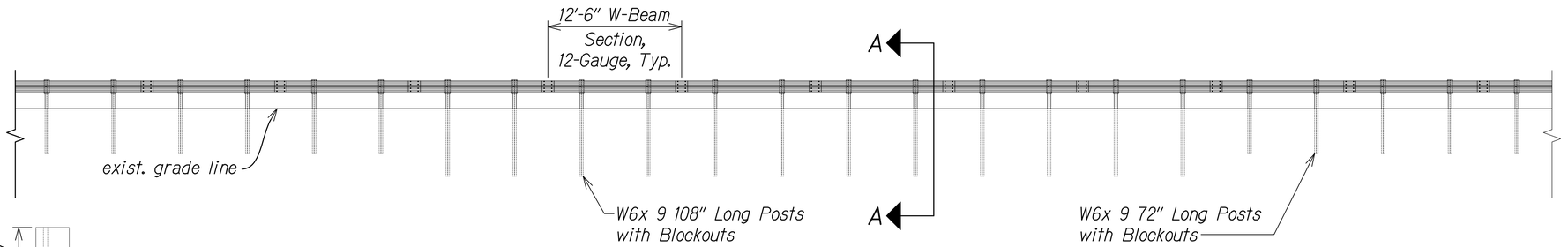
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	99	411

NOTE:

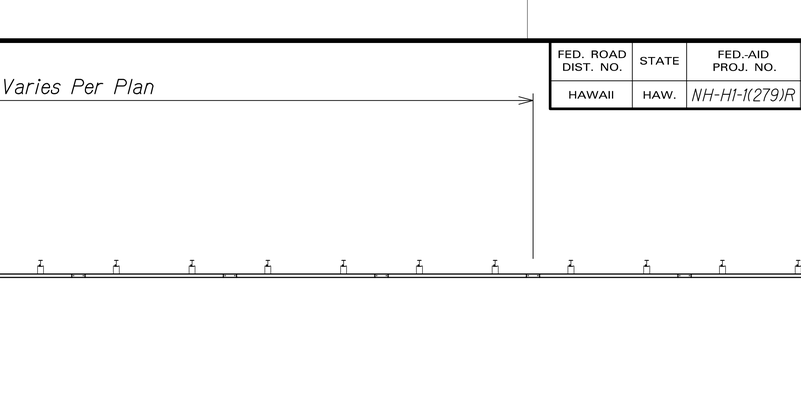
For typical Midwest Guardrail System details, see Sheet R34.



PLAN VIEW

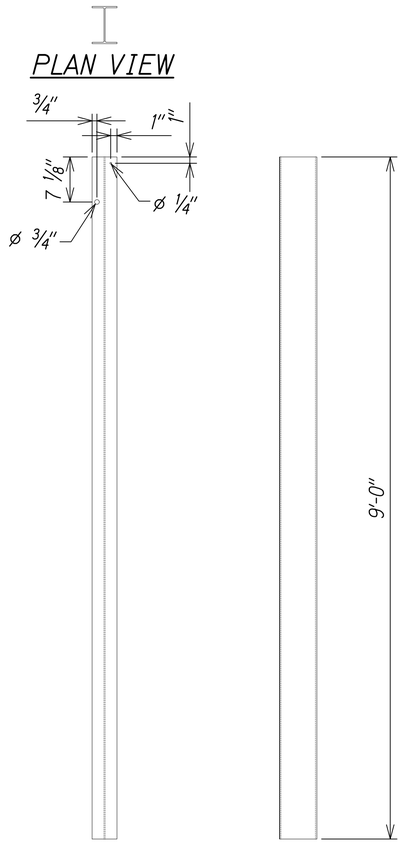


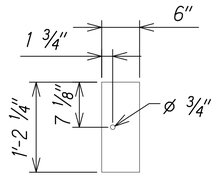
FRONT VIEW



SECTION A-A

PLAN VIEW

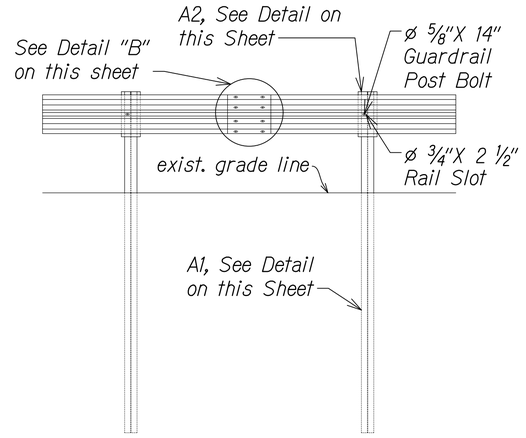




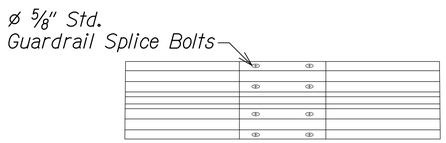
W-BEAM BLOCKOUT PART A2

FRONT VIEW SIDE VIEW

W6x 9 POST PART A1



SPLICE DETAIL



DETAIL "B"

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

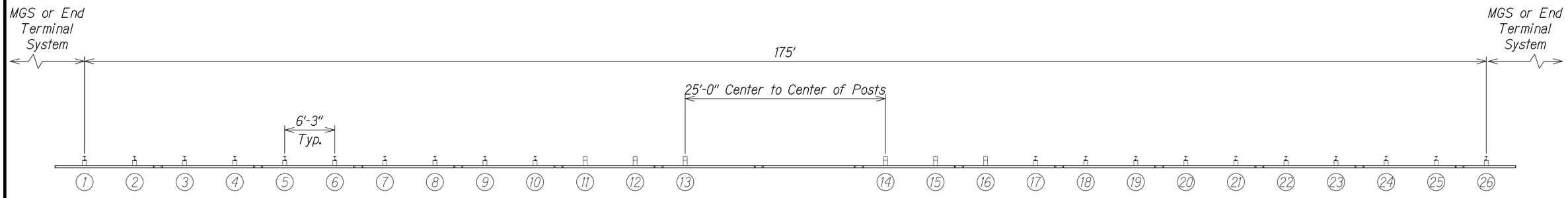
MGS ON A 2:1 FILL SLOPE

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

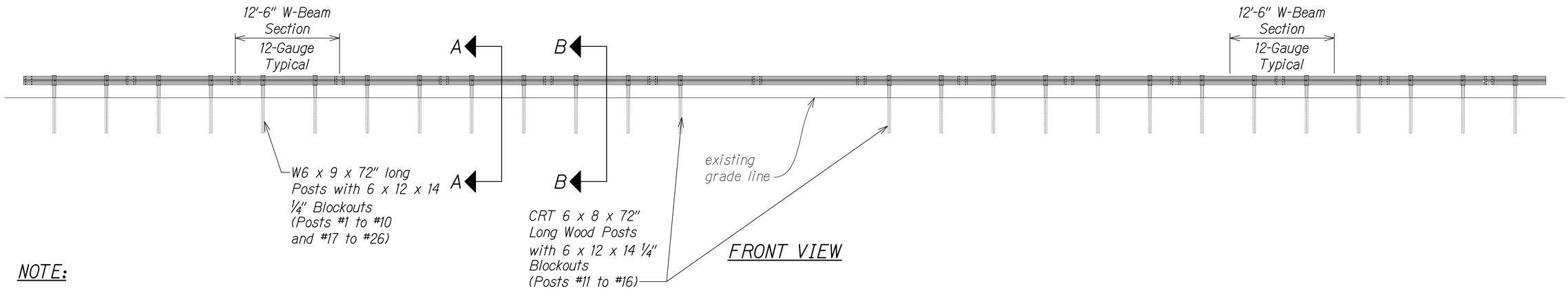
Scale: NTS Date: November 2024

SHEET No. R36 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	100	411



PLAN VIEW



FRONT VIEW

NOTE:

For Sections A-A and B-B, see Sheet R38.

MGS LONG SPAN LSC-2 DETAILS

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

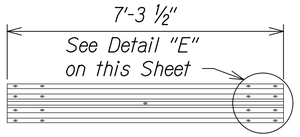
MGS LONG SPAN LSC-2

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

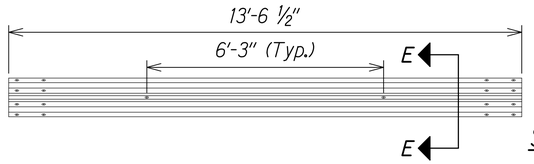
Scale: NTS Date: November 2024

SHEET No. R37 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	101	411

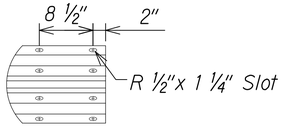


6'-3" W-BEAM SECTION, 12 GAUGE

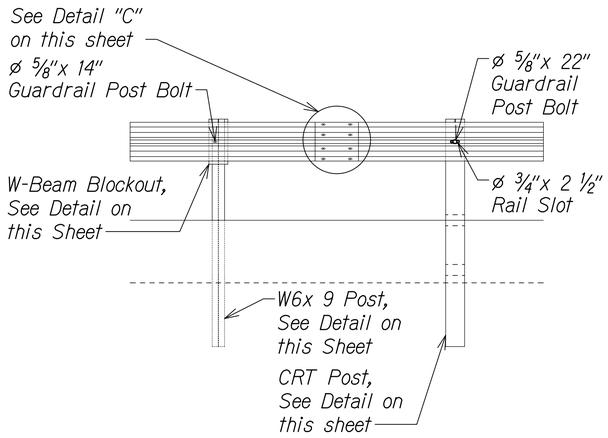


12'-6" W-BEAM SECTION, 12 GAUGE

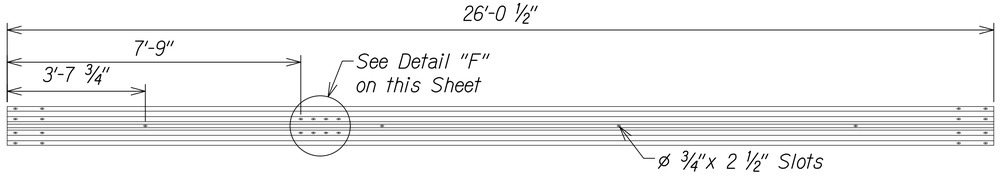
SECTION E-E



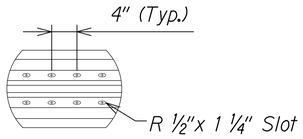
DETAIL "E"



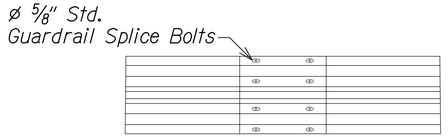
SPLICE DETAIL



25' W-BEAM SECTION, 12 GAUGE, END SECTION

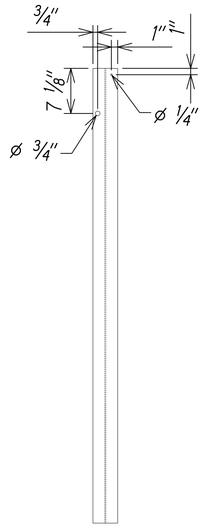


DETAIL "F"

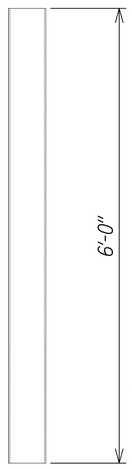


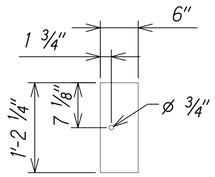
DETAIL "C"

PLAN VIEW

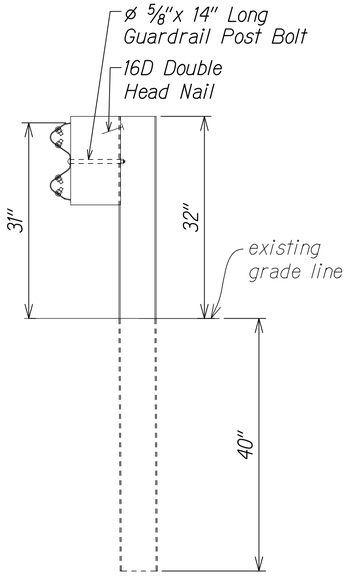


PLAN VIEW





W-BEAM BLOCKOUT

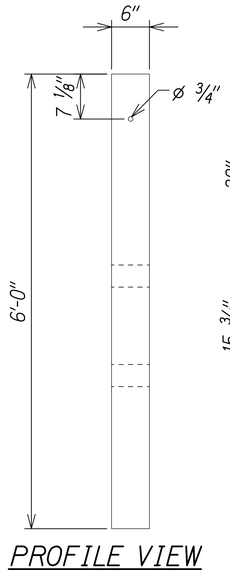


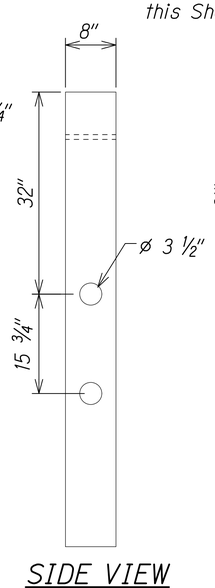
SECTION A-A

PROFILE VIEW SIDE VIEW

W6x 9-BEAM POSTS

(Posts #1 to #10 and #17 to #26)

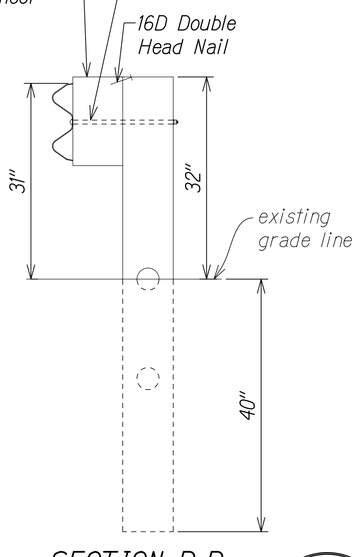




PROFILE VIEW SIDE VIEW

CRT WOOD POSTS

(Posts #11 to #16)



SECTION B-B

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MGS LONG SPAN LSC-2

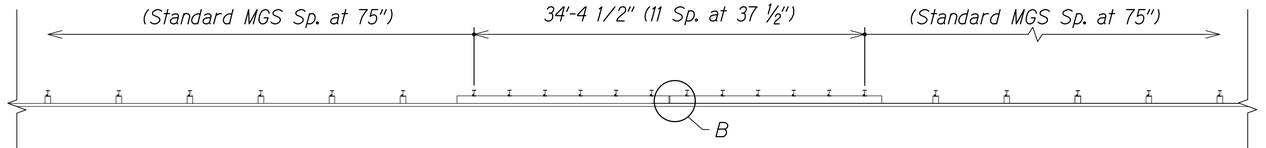
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: NTS Date: November 2024

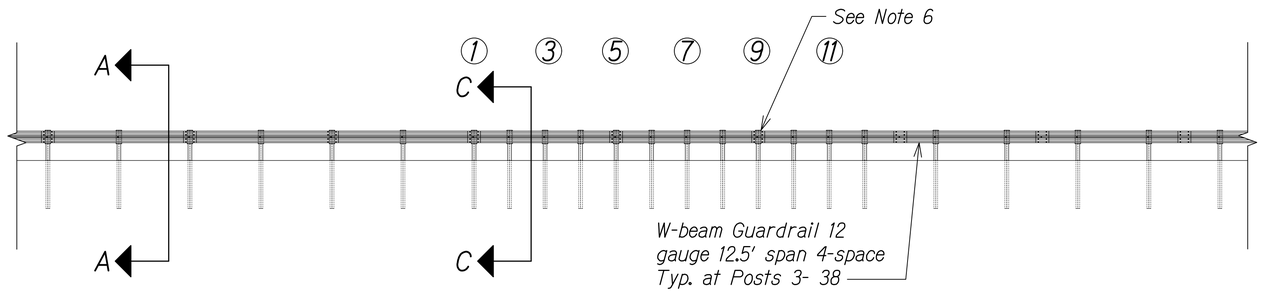
SHEET No. R38 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R37_R38 MGS LONG SPAN LSC-2.DWG 7/2/2024 4:11 PM

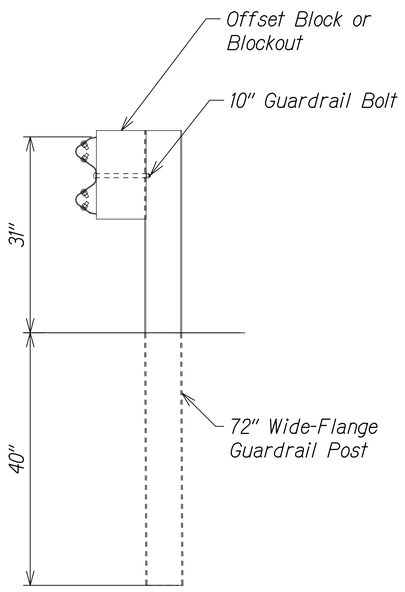
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	102	411



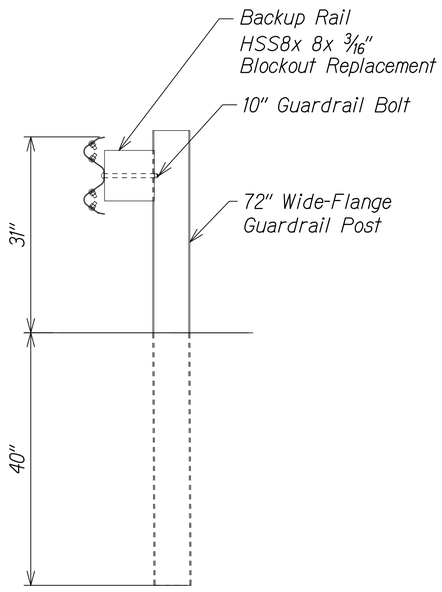
PLAN VIEW



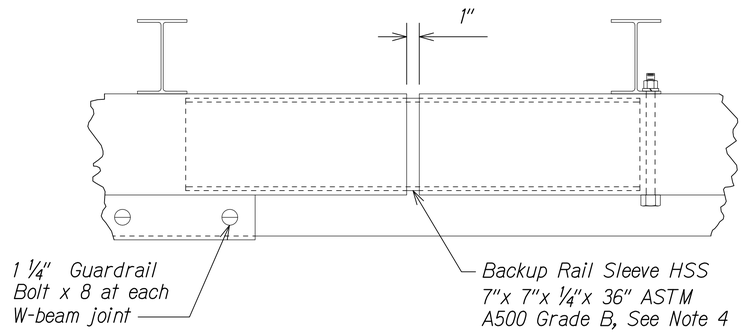
FRONT VIEW



SECTION A-A



SECTION C-C



DETAIL B

NOTES:

1. Drill ø24"post holes and backfill with Type D grade 1 crushed concrete road base, compacted according to Geotechnical Report.
2. Recessed Guardrail Nut on all ⅝" Bolts (Button-head Guardrail Bolts and hex head).
3. All steel parts shall be galvanized.
4. Backup Rail Sleeve has no holes, welds, etc, and is not detailed on following sheets.
5. ø3" holes in the bottom of the Backup Rails are for access to ⅝"x 2" (or similar length) bolts used to temporarily secure Backup Rails to Posts for easier W-beam installation. These bolts will be removed and replaced with 10" Guardrail Bolts after placing W-beam rail sections.
6. No guardrail bolts at Posts 1, 5, and 9.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STIFFENED MGS HALF POST SPACING

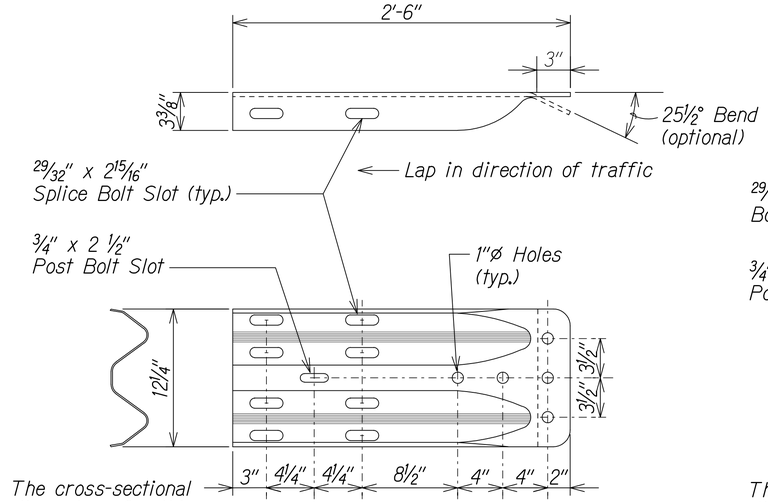
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: NTS Date: November 2024

SHEET No. R39 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R39 STIFFENED MGS QUARTER POST SPACING.DWG 7/25/2024 10:26 AM

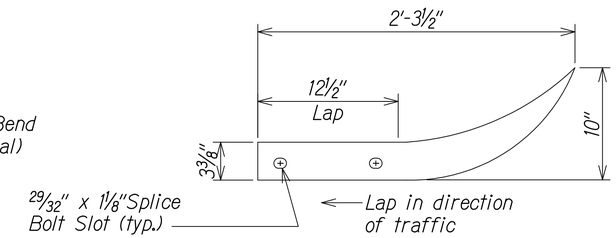
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	103	411



The cross-sectional dimensions for this part are to fit over part RWM02a on the approach end and under part RWM02a on the trailing end.

DESIGNATOR	BASE METAL THICKNESS
RWE02b	10 Gauge

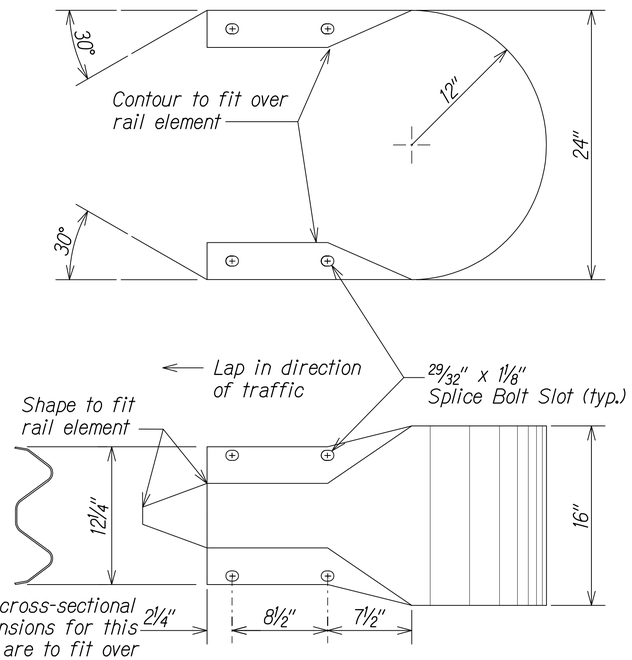
W-BEAM TERMINAL CONNECTOR (RWE02b)



The cross-sectional dimensions for this part are to fit over part RWM02a on the approach end and under part RWM02a on the trailing end.

DESIGNATOR	BASE METAL THICKNESS
RWE01a	12 Gauge

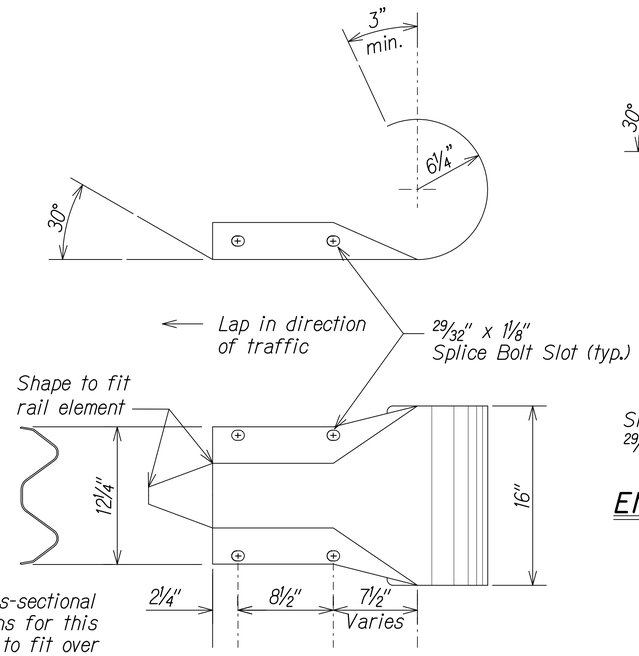
W-BEAM END SECTION (FLARED RWE01a)



The cross-sectional dimensions for this part are to fit over part RWM02a

DESIGNATOR	BASE METAL THICKNESS
RWE06a	12 Gauge

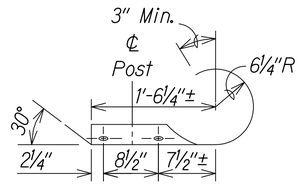
W-BEAM END SECTION (BUFFER RWE06a)



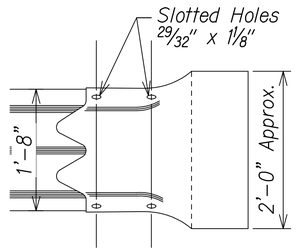
The cross-sectional dimensions for this part are to fit over part RWM02a

DESIGNATOR	BASE METAL THICKNESS
RWE03a	12 Gauge

W-BEAM END SECTION (ROUNDED RWE03a)

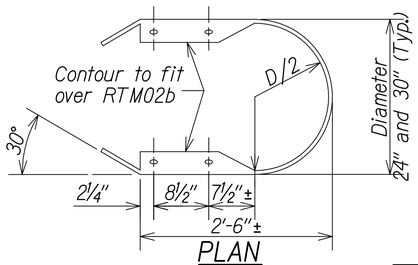


PLAN

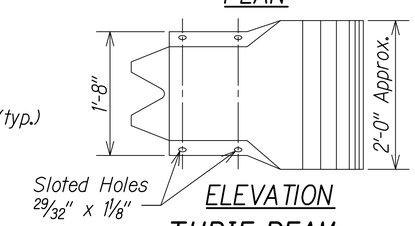


DESIGNATOR	BASE METAL THICKNESS
RTE02b	10 Gauge

THRIE-BEAM SECTION (ROUNDED) (RTE02b)



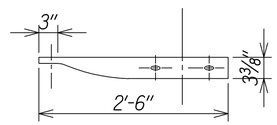
PLAN



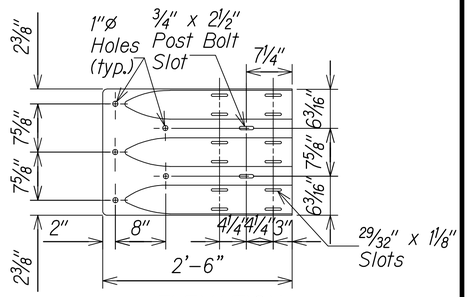
ELEVATION

THRIE-BEAM END SECTION (BUFFER RTE03b or RTE04b)

DESIGNATOR	BASE METAL THICKNESS
RTE03b & RTE04b	10 Gauge



PLAN



ELEVATION

DESIGNATOR	BASE METAL THICKNESS
RTE01b	10 Gauge

THRIE-BEAM TERMINAL CONNECTOR (RTE01b)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARDRAIL TERMINAL CONNECTORS AND END SECTIONS

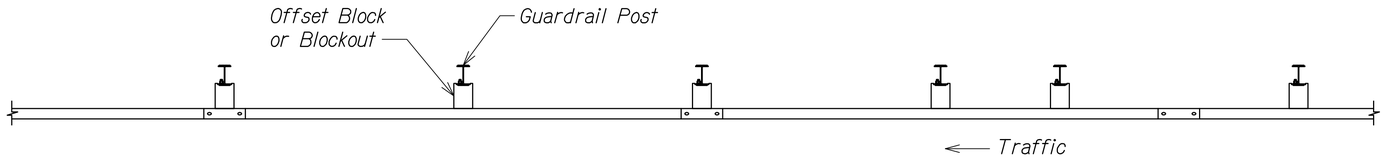
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: NTS Date: November 2024

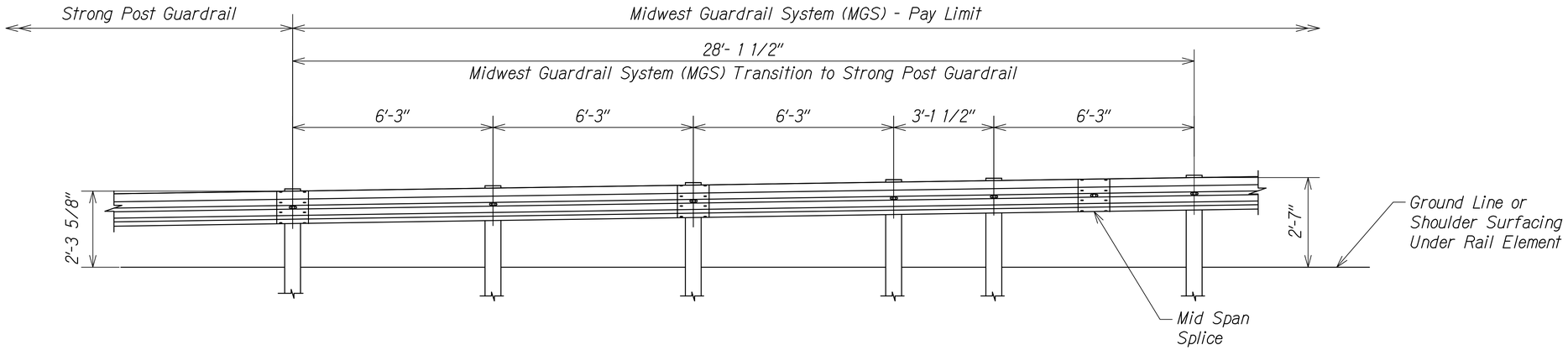
SHEET No. R40 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIT\01 CIVIL DRAWINGS\R40 GUARDRAIL TERMINAL CONNECTOR AND END SECTIONS.DWG 7/2/2024 4:11 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	104	411



PLAN



ELEVATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

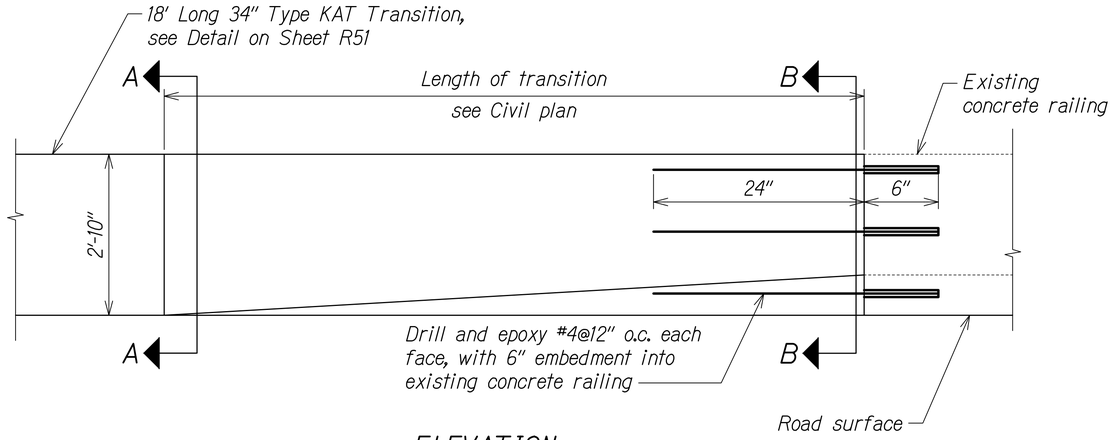
MGS TRANSITION TO STRONG POST GUARDRAIL

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

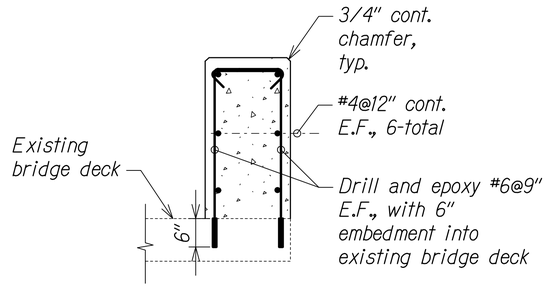
Scale: NTS Date: November 2024

SHEET No. R41 OF 68 SHEETS

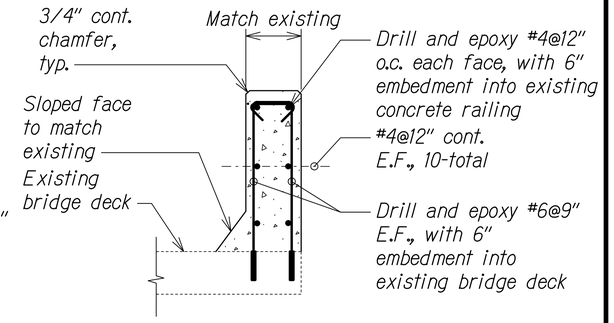
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	105	411



ELEVATION

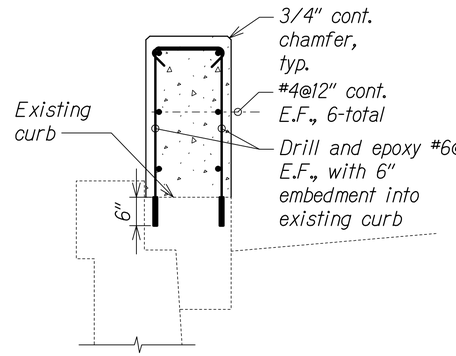


SECTION A-A

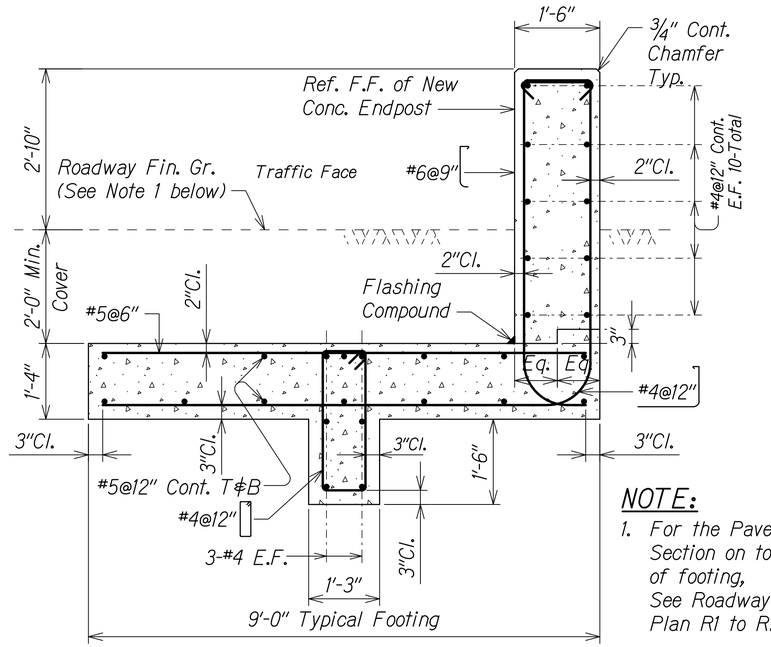


SECTION B-B

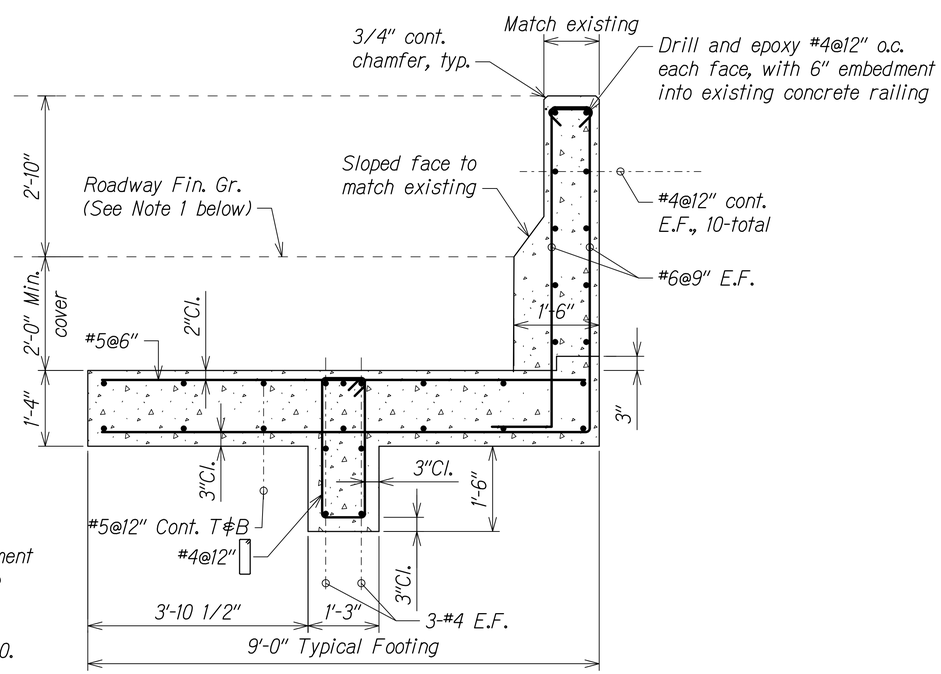
CONDITION 2: AT EXISTING BRIDGE DECK



CONDITION 2: ON TOP OF EXISTING CURB



SECTION A-A

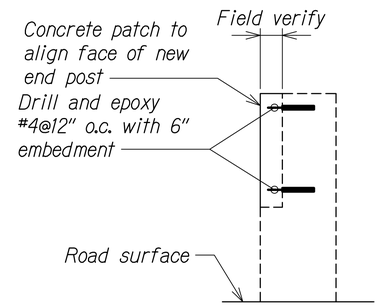


SECTION B-B

NOTE:

1. For the Pavement Section on top of footing, See Roadway Plan R1 to R20.

CONDITION 1: AT ROADWAY GRADE



CONCRETE PATCH DETAIL

TRANSITION DETAILS

KATHLEEN Y. WONG
LICENSED PROFESSIONAL ENGINEER
NO. 10469-S
HAWAII USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE

04/30/26
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MODIFIED 34" TYPE KAT CONCRETE TRANSITION

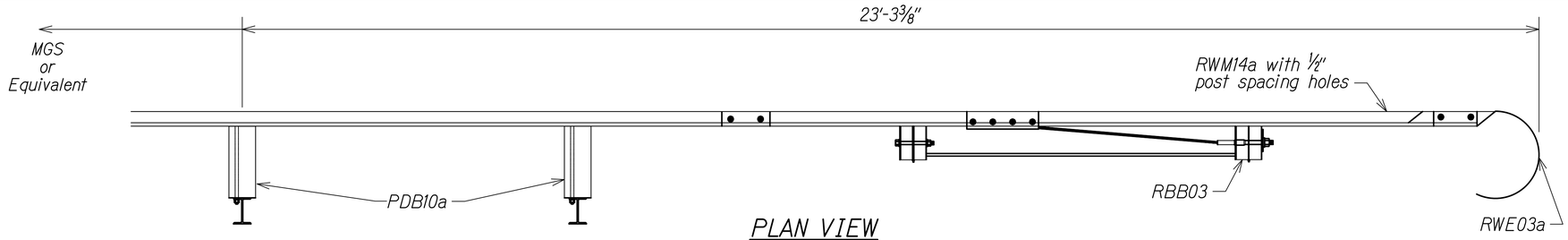
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

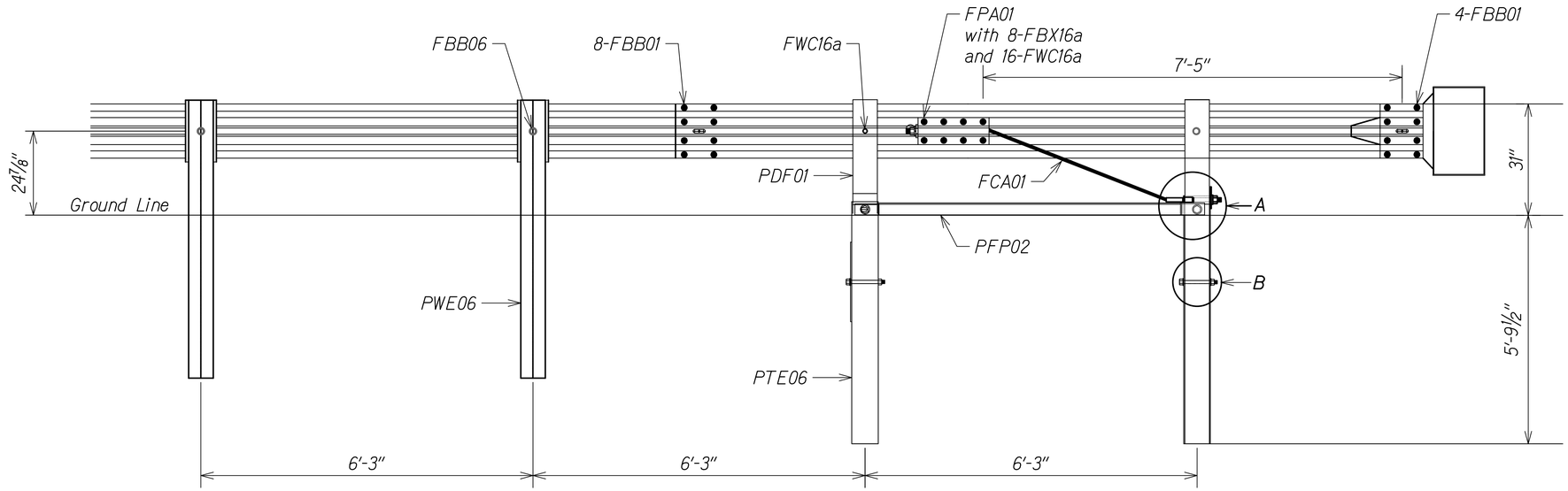
SHEET No. R42 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\01 CIVIL DRAWINGS\R42 MODIFIED 34IN TYPE KAT CONCRETE TRANSITION.DWG 7/25/2024 10:34 AM

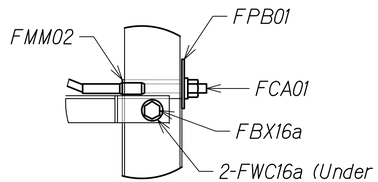
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	106	411



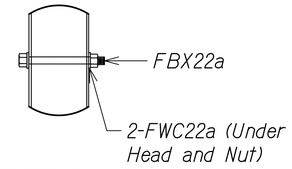
PLAN VIEW



ELEVATION VIEW
NON TRAFFIC SIDE

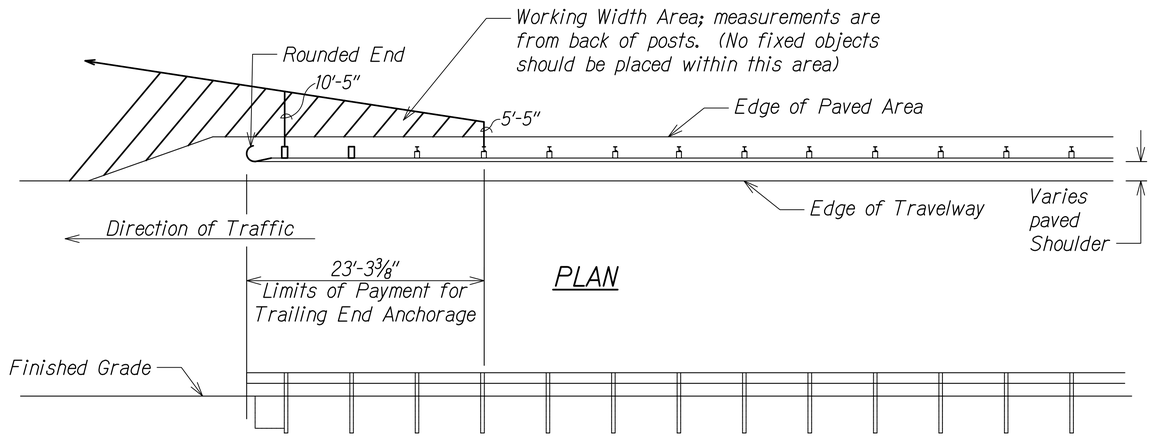


DETAIL "A"



DETAIL "B"

ITEM NO.	QTY	COMPONENTS
FBB01	12	Guardrail Bolt and Nut
FBB03	2	Guardrail Bolt and Nut
FBB06	1	Guardrail Bolt and Nut
FBX16a	2	Hex Head Bolt (10") and Nut
FBX16a	8	Hex Head Bolt (1½") and Nut
FBX22a	2	Hex Head Bolt (7½") and Nut
FCA01	1	BCT Anchor Cable Assembly
PDB10a	2	MGS Timber Blockout
PFP02	1	Strut and Yoke Assembly
PWE06	1	Wide-Flange Guardrail Post
FMM02	1	BCT Post Sleeve
FPA01	1	Anchor Bracket Assembly
FPB01	1	BCT Bearing Plate
FWC16a	22	Circular Washer
FWC22a	4	Circular Washer
PDF01	2	BCT Timber Post
PTE06	2	Foundation Tube
RWE03a	1	W-Beam Rounded End Section
RWM14a	1	W-Beam MGS End Section



PLAN

ELEVATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

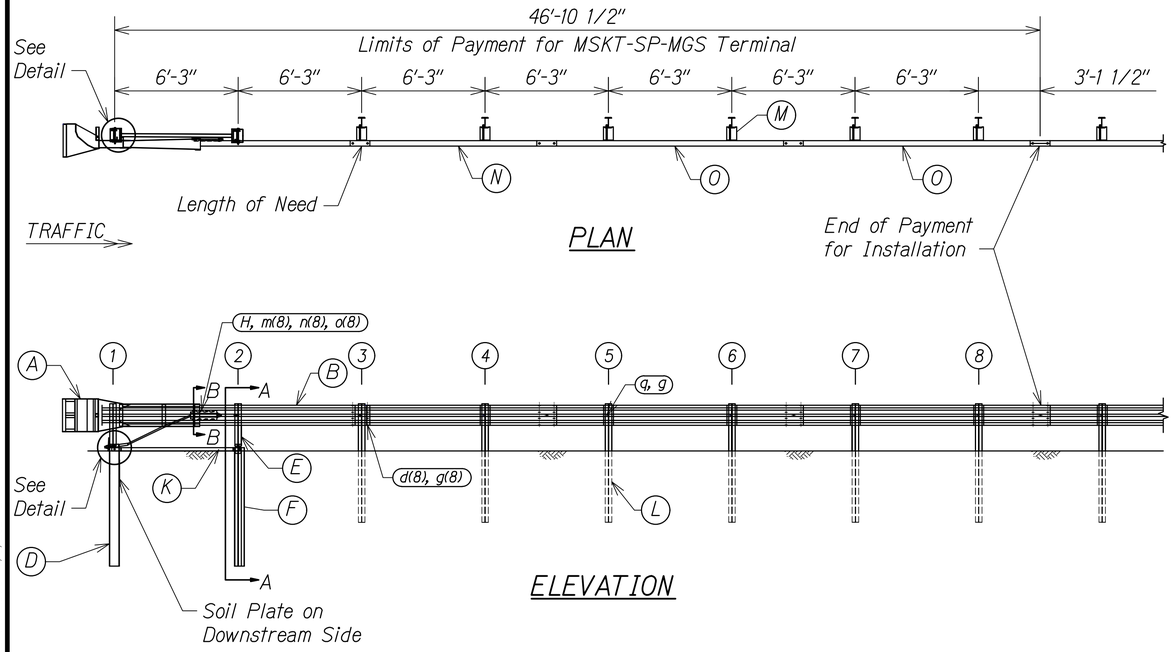
TRAILING-END ANCHORAGE SYSTEM

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: NTS Date: November 2024

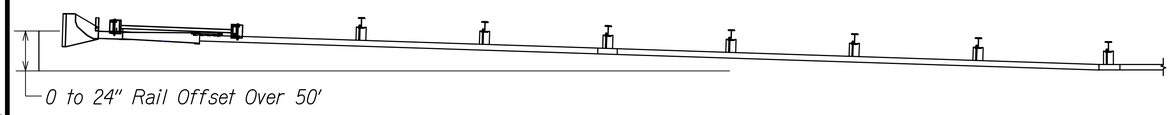
SHEET No. R43 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	107	411



PLAN

ELEVATION



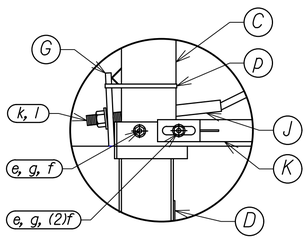
OPTIONAL FLARED INSTALLATION

25:1 maximum flare rate

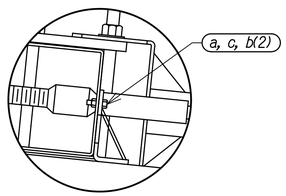
GENERAL NOTES:

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

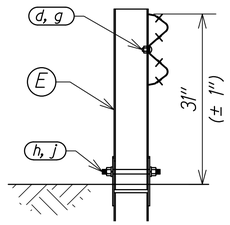
ITEM	QTY.	BILL OF MATERIALS	ITEM NO.
A	1	Impact Head	MS3000
B	1	W-Beam Guardrail End Section, 12 Ga.	SF1303
C	1	First Post Top (6x6x1/8" Tube)	MTPHP1A
D	1	First Post Bottom (6' W6x15)	MTPHP1B
E	1	Second Post Assembly Top	UHP2A
F	1	Second Post Assembly Bottom	HP2B
G	1	Bearing Plate	E750
H	1	Cable Anchor Box	S760
J	1	BCT Cable Anchor Assembly	E770
K	1	Strut	MS785
L	6	6x9 (6x8.5) Steel Post	P621
M	6	Recycled Plastic Block or Equiv.	CBSP-14
N	1	W-Beam MGS Rail Section (9'-4 1/2")	G12025
O	2	W-Beam MGS Rail Section (12'-6")	G1203A
		HARDWARE (All Dimension in Inches)	
a	2	5/16 x 1 Hex Bolt GRD 5	B5160104A
b	4	5/16 Washer	W0516
c	2	5/16 Hex Nut	N0516
d	25	5/8 Dia. x 1 1/4 Splice Bolt (Post #2)	B580122
e	2	5/8 Dia. x 9 Hex Bolt A449	B580904A
f	3	5/8 Washer	W050
g	33	5/8 Dia. H.G.R. Nut	N050
h	1	3/4 Dia. x 8-1/2 Hex Bolt GRD A449	B340854A
j	1	3/4 Dia. Hex Nut	N030
k	2	1 Anchor Cable Hex Nut	N100
l	2	1 Anchor Cable Washer	W100
m	8	1/2 RSI Shoulder Bolt W/ Washer	SB12A
n	8	1/2 Structural Nut	N012A
o	8	1/2 Structural Washer	W012A
p	1	Bearing Plate Retainer Tie	CT-100ST
q	6	5/8" x 10" H.G.R. Bolt	B581002



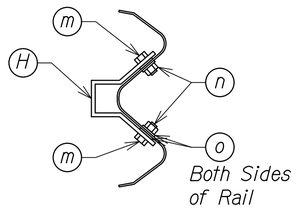
POST #1 CONNECTION DETAIL



IMPACT HEAD CONNECTION DETAIL



SECTION A-A AT POST #2



SECTION B-B ANCHOR BRACKET

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MSKT-SP-MGS TERMINAL (8" BLOCKS) TEST LEVEL 3

INTERSTATE ROUTE H-1 RESURFACING

Miller Pedestrian Overpass to Kapiolani Interchange

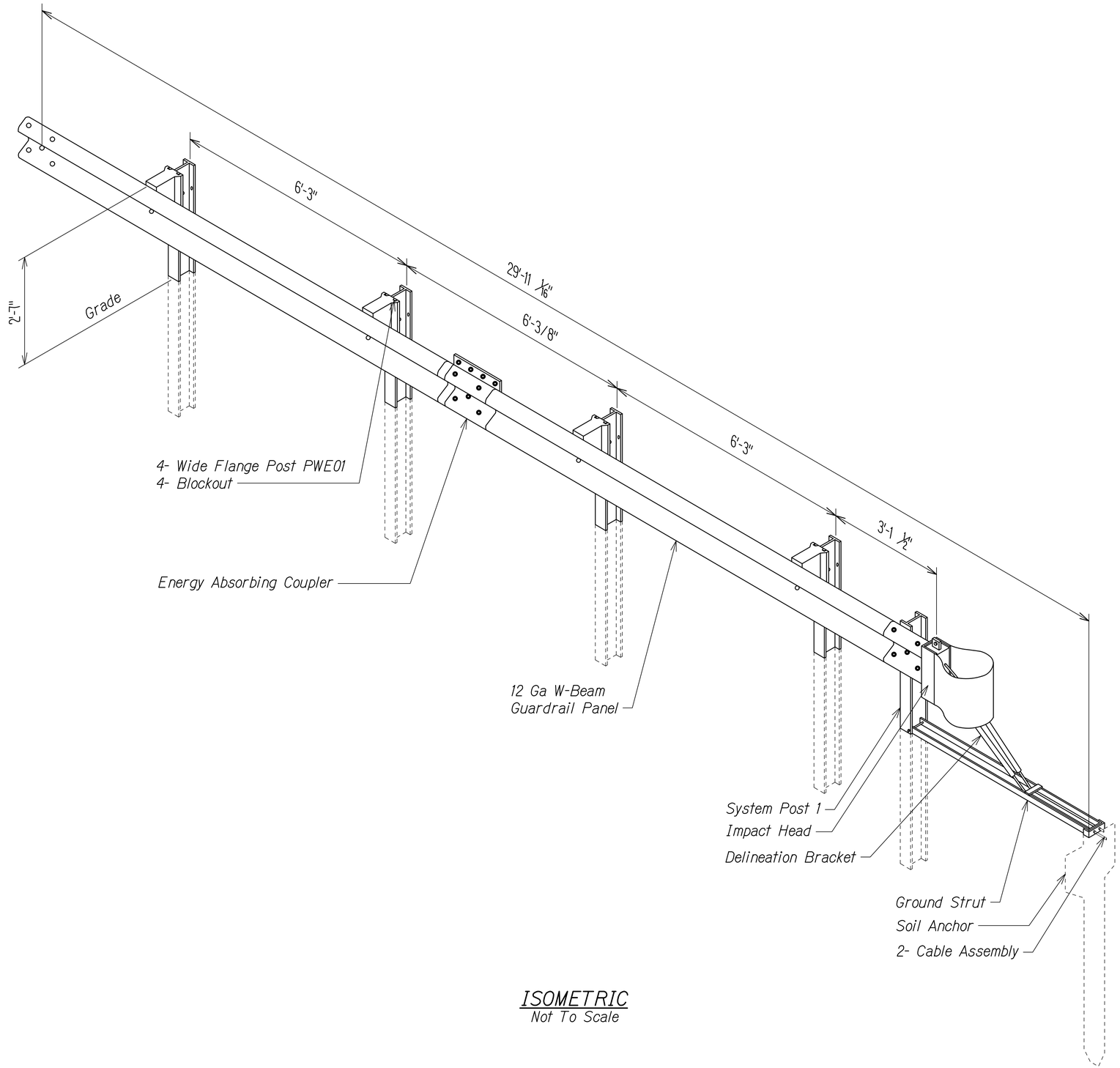
Federal-Aid Project No. NH-H1-1(279)R

Scale: NTS Date: November 2024

SHEET No. R44 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI\01 CIVIL DRAWINGS\R44 MSKT-SP-MGS TL-3 TERMINAL.DWG 7/3/2024 2:00 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	108	411



ISOMETRIC
Not To Scale

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MAX-TENSION TL-2 GUARDRAIL END TERMINAL

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: NTS Date: November 2024

SHEET No. R45 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	109	411

GENERAL NOTES FOR STANDARD BRIDGE RAILINGS AND TRANSITIONS:

DESIGN SPECIFICATIONS:

A. AASHTO LRFD Bridge Design Specifications, 8th Edition, 2017 including all interim revisions.
B. State of Hawaii, Department of Transportation, Highways Division, Design Criteria for Bridges and Structures, August 8, 2014 as amended by HWY-DB 2.5098, Changes to Design Criteria for Bridges and Structures, January 8, 2018.
C. AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 1st Edition, 2016 including all interim revisions.
D. AASHTO Manual for Assessing Safety Hardware, 2nd Edition, 2016
E. AASHTO Manual for Bridge Evaluation, 3rd Edition, 2018 including all interim revisions and requirements for emergency vehicle ratings as per FHWA's Memorandum, Load Rating for the FAST Act's Emergency Vehicles, November 3, 2016 as modified by "Draft Modifications to the "Design Criteria for Bridges and Structures, August 8, 2014" for the Manual for Bridge Evaluation 2nd Edition".

MATERIALS:

A. Concrete:
1. Concrete: 4,000 psi minimum unless otherwise specified.
2. Concrete Admixtures: See Special Provisions.
3. Concrete for Bridges, Bridge Rails, Concrete Barriers, Retaining Walls and Transitions shall meet the requirements of Section 601 Structural Concrete.
4. A shrinkage reducing admixture (SRA), Tetraguard AS20 by BASF or Eclipse by W.R. Grace & Co., or approved equal shall be added to the concrete. The minimum dosage requirement shall be 128 ozs per cubic yard of concrete. The concrete shall have a maximum shrinkage strain of .00006 at 28 days and .000145 at 56 days according to ASTM C512.

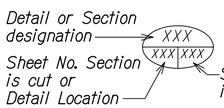
B. Steel Reinforcing Bars:
1. Deformed and Plain Carbon Steel Bars for Concrete Reinforcement shall meet the requirements of AASHTO M31M/M31-19, Grade 60 (ASTM A615/A615M-16, Grade 60).
2. Deformed and Plain Carbon Steel Bars for Concrete Reinforcement to be spliced by welding or otherwise welded or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

C. Structural Steel:
1. All structural steel in this section shall be hot-dip galvanized.
2. Zinc (Hot-Dip Galvanizing) Coatings for structural iron and steel products made from rolled, pressed and forged shapes, castings, bars and plates including unfabricated and fabricated products shall conform to ASTM A123/A123M-17.
3. W-Beam Structural Steel Shapes shall conform to ASTM A992/A992M-11(2015).
4. Structural Steel Plates and Bars shall conform to ASTM A36/A36M-14.
5. HSS Shapes shall conform to ASTM A500/A500M-13, Grade B.
6. Thrie Beam Sections, W-Beam Sections and Thrie Beam to W-Beam Asymmetric Transition Sections shall conform to AASHTO M180-18.
7. The Thrie Beam Terminal Connections shall be 10 gauge and conform to AASHTO M180-18 and have a minimum yield strength of 50 ksi and a minimum ultimate strength of 70 ksi.

D. Fasteners:
1. Bolts (Hex or Heavy Hex Bolts) shall conform to ASTM A307-14e1, Grade A unless otherwise specified and hot-dip galvanized in accordance with ASTM F2329/F2329M-15.
Nuts for ASTM A307-14e1 (Hex) bolts shall conform to ASTM A563-15, Hex Grade A and hot-dip galvanized in accordance with ASTM F2329/F2329M-15.
Nuts for ASTM A307-14e1 (Heavy Hex) bolts shall conform to ASTM A563-15, Heavy Hex Grade DH and hot-dip galvanized in accordance with ASTM F2329/F2329M-15.
Washers for ASTM A307 bolts shall conform to ASTM F844 and hot-dip galvanized in accordance with ASTM F2329/F2329M-15.
2. High Strength Bolts (Heavy Hex Structural Bolts) shall conform to ASTM F3125-18, Type 1 unless otherwise specified and hot-dip galvanized in accordance with ASTM F2329/F2329M-15.
Nuts for ASTM F3125-18 bolts shall conform to ASTM A563-15, Grade DH and hot-dip galvanized in accordance with ASTM F2329/F2329M-15.
Washers for ASTM F3125-18 bolts shall conform to ASTM F436-18a, Type 1 and hot-dip galvanized in accordance with ASTM F2329/F2329M-15.
3. Threaded Rods shall conform to ASTM A449-14, Type 1 and hot-dip galvanized in accordance to ASTM F2329/F2329M-15.
Nuts for ASTM A449-14 threaded rods shall conform to ASTM A563-15, Grade DH and hot-dip galvanized in accordance to ASTM F2329/F2329M-15.
Washers for ASTM A449-14 threaded rods shall conform to ASTM F436-18a, Type 1 and hot-dip galvanized in accordance to ASTM F2329/F2329M-15.
4. Anchor Bolts shall conform to ASTM F1554-18, Grade (36, 55, 105) and hot-dip galvanized in accordance to ASTM F2329/F2329M-15.
Nuts for anchor bolts shall conform to ASTM F1554-15, Section 6.7.1 and hot-dip galvanized in accordance to ASTM F2329/F2329M-15.
Washers for anchor bolts shall conform to ASTM F436-11, Type 1 and hot-dip galvanized in accordance to ASTM F2329/F2329M-15.
5. The material for the 3" x 3" x ¼" or 3½" x 3½" x ¼" square washers shall conform to ASTM A572-18, Grade 60.

E. Miscellaneous Materials:
1. Preformed Expansion Joint Filler for Concrete (Bituminous Type) shall conform to AASHTO M33-99 (2012), ASTM D994-11 (2016).
2. Timber Blockouts shall be Southern Yellow Pine (SYP), Grade No. 1 or better.
3. 14 3/16" x 12" x 5⅛" Composite Recycled Polymer Blockouts shall be Mondo Polymer MGS14SH or MASH (2016) approved equivalent.
4. 14 3/16" x 8" x 5⅛" Composite Recycled Polymer Blockouts shall be Mondo Polymer GB14SH2 or MASH (2016) approved equivalent.

SYMBOLS AND ABBREVIATIONS



(XX) - Bearing Abutment Seat Line

- Boring No. & Designation

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

CONSTRUCTION REQUIREMENTS:

A. Refer to Hawaii Standard Specifications for Road and Bridge Construction, 2005 edition and Special Provisions.
B. Except as noted otherwise, all vertical dimensions are measured plumb.
C. For steel reinforcing, stagger all splices where possible.
D. Steel reinforcing shall be supported, bent and placed as per AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014 including all interim revisions.
E. For cast-in-place concrete minimum reinforcement cover shall be as follows:
Concrete cast against earth: 3"
Walls: 2"
Curbs and Railings: 2"
Slab tops: 2"
Measured to the closest part of the bars.
F. At the time concrete is placed, reinforcing shall be free from mud, oil, laitance or other coatings which may adversely affect bond strength.
G. All reinforcement, dowels and other embedded items shall be positively secured before pouring.
H. Minimum clear spacing between parallel bars shall be one and one-half (1½") times the diameter of the larger bar (for non-bundled bars), but in no case shall the clear distance between the bars be less than one and one-half (1½") times the maximum coarse aggregate size.
I. All dimensions relating to reinforcing bars (e.g. spacing of bars etc.) are to centers of bars unless noted otherwise.
J. All footings shall bear on firm undisturbed natural soils or properly compacted structural fill.
K. The welding of reinforcing steel shall be in accordance with the Structural Welding Code-Reinforcing Steel AWS D1.4/D1.4M 2018.
L. The welding of structural steel shall be in accordance with the Structural Welding Code AWS D1.1/D1.1M 2015.
M. The Contractor shall conduct his work in such a manner and provide such temporary shoring or other measures as may be necessary to insure the safety of all concerned and to protect existing structures.
N. In the event of over excavation, the space between the footing or footing key and the ground shall be filled with a minimum of class D concrete at the Contractor's expense at no cost to the State.
O. Unless noted otherwise chamfer all exposed concrete edges three-quarters (3/4) of an inch.
P. Refer to Standard Plans for additional details and notes not covered by details and typical drawings.
Q. Anchor bolts shall have sufficient length when installed to ensure that the bolt projects at least ⅛" beyond the top of the nut but should not project more than ¼". Anchor bolts shall not be out of plumb more than 1:40 Horizontal: Vertical.
R. Bolts and high strength bolts shall have sufficient length when installed to ensure that the bolt projects at least ⅛" beyond the nut but should not project more than ¼".

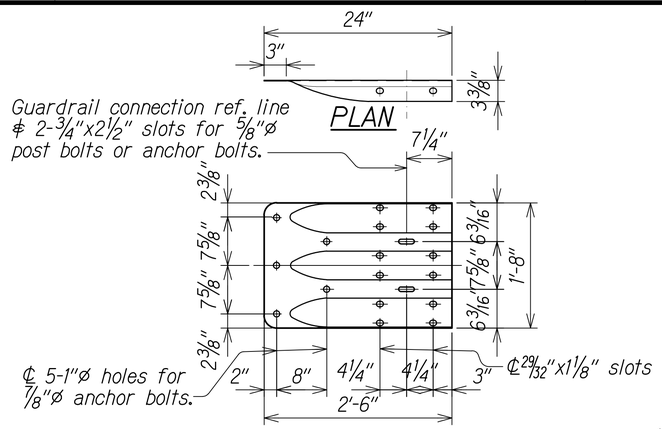
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD BRIDGE RAILINGS & TRANSITIONS
GENERAL NOTES and SYMBOLS and ABBREVIATIONS
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R
Scale: N/A Date: November 2024
SHEET No. R46 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R46 BRIDGE RAILINGS AND TRANSITION NOTES.DWG 7/3/2024 2:01 PM

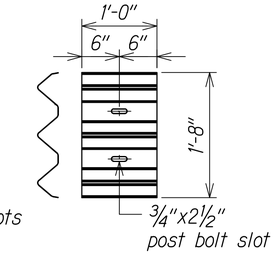
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	110	411

NOTES:

A. The work necessary to connect guardrail to the concrete end post shall include all labor, materials, tools, equipment and incidentals necessary to complete the work and will not be paid for separately.
B. Lap terminal connector and rail elements in the direction of traffic to prevent snagging.
C. Bolts shall have sufficient length when installed to ensure that the nut is at least flush but should not project more than ¼". The Contractor will not be allowed to cut, grind or otherwise alter the bolt to meet this requirement unless it is done during the fabrication of the bolt prior to galvanizing.
D. The first 25'-0" of guardrail adjoining the "Terminal Connector" shall be placed tangent to the concrete transition front face or parallel to the roadway, unless conditions at the site renders it impossible to do so. Flare point to be determined in field.
E. Head of all bolts shall be placed on the traffic side of the rail.
F. All W6x8.5, W6x9 and W6x15 guardrail posts shall be clearly stamped during fabrication "W6x8.5", "W6x9", or "W6x15", respectively, on each post.

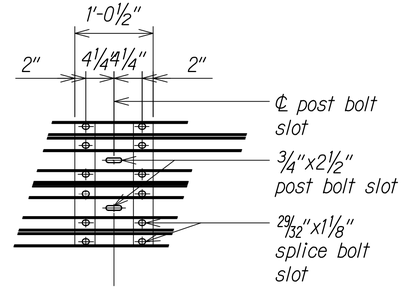


ELEVATION
TERMINAL CONNECTOR
Scale: 1" = 1'-0"

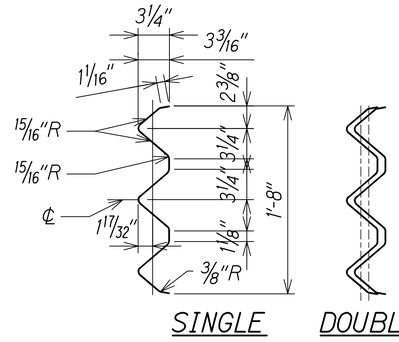


(Use at posts where splices do not occur.)

BACKUP PLATE
Scale: 1" = 1'-0"

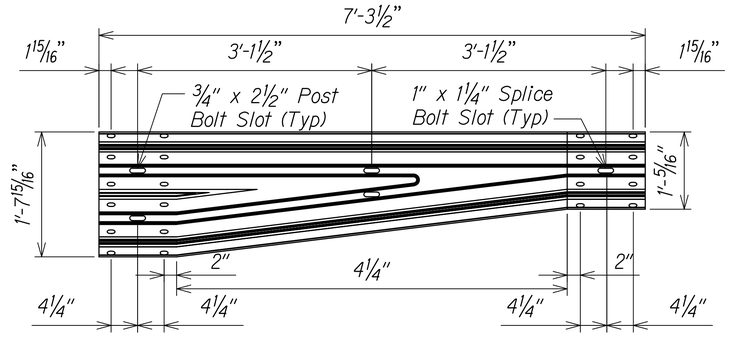


RAIL SPLICE
Scale: 1" = 1'-0"

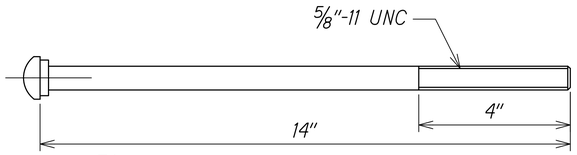


SINGLE DOUBLE

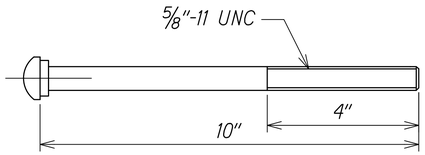
SECTION THRU
RAIL ELEMENT
Scale: 1½" = 1'-0"



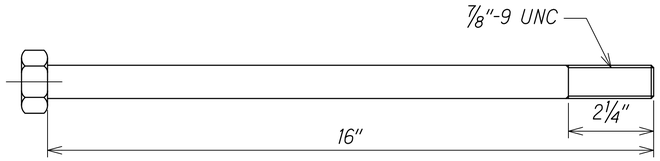
ASSYMMETRICAL
TRANSITION SECTION
Scale: 1" = 1'-0"



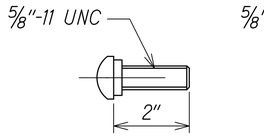
⅝"-11 UNC, 14" Long Guardrail Bolt



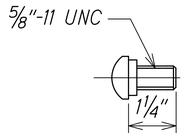
⅝"-11 UNC, 10" Long Guardrail Bolt



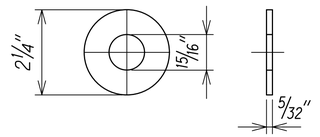
⅞"-9 UNC, 16" Long Heavy Hex Head Bolt



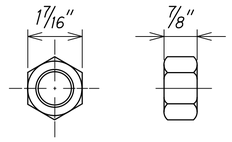
⅝"-11 UNC, 2" Long Guardrail Bolt



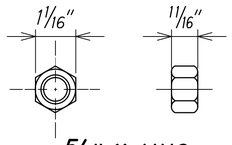
⅝"-11 UNC, 1¼" Long Guardrail Bolt



⅝" Dia. Plain USS Washer



⅞"-9 UNC Heavy Hex Nut



⅝"-11 UNC Heavy Hex Nut

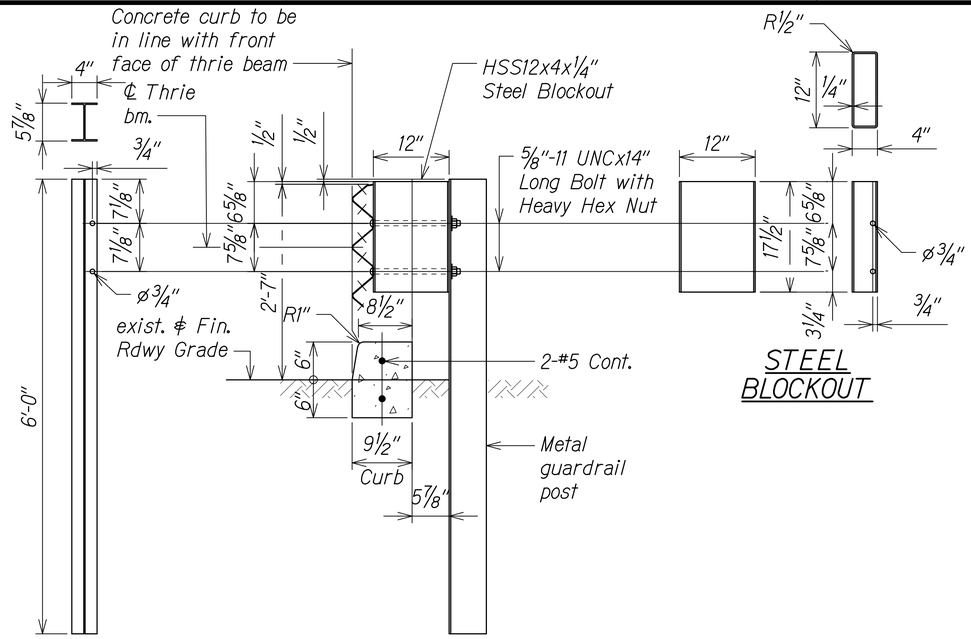
METAL GUARDRAIL TYPE 3 THRIE BEAM AND APPURTENANCES DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

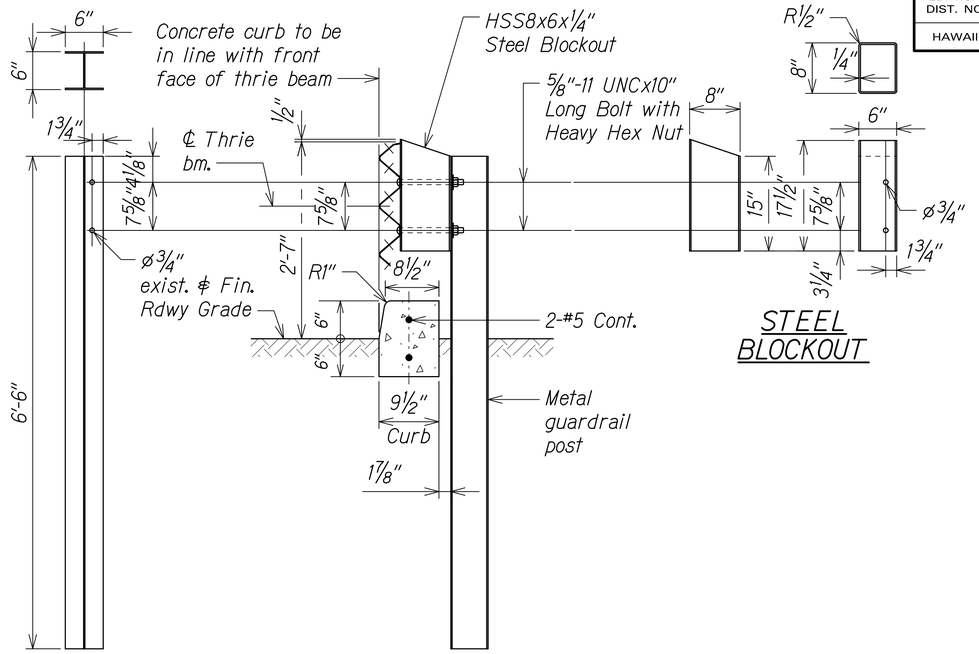
STANDARD BRIDGE RAILINGS & TRANSITIONS
METAL GUARDRAIL TYPE 3 THRIE BEAM
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R
Scale: As Shown Date: November 2024

SHEET No. R47 OF 68 SHEETS

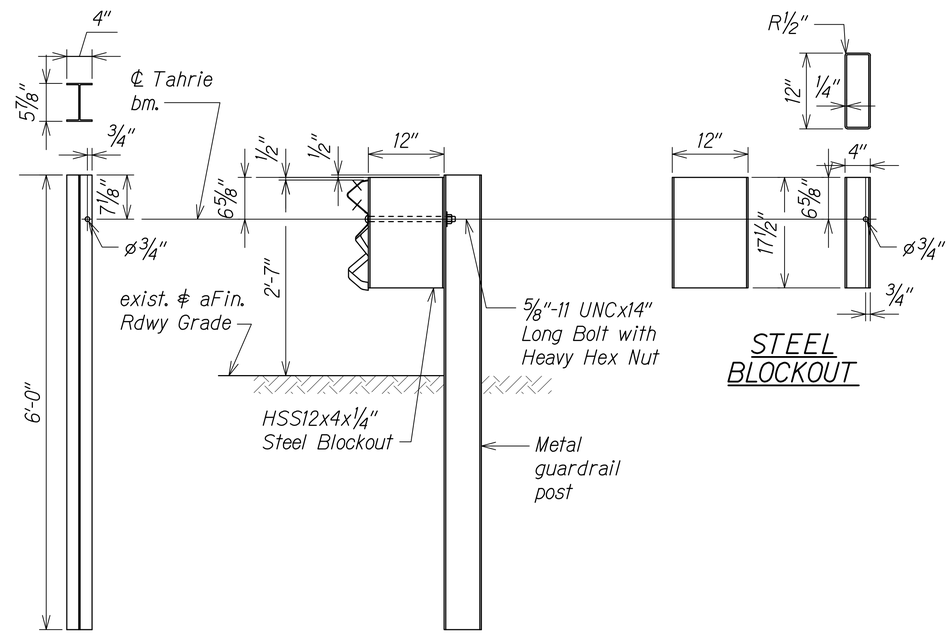
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	111	411



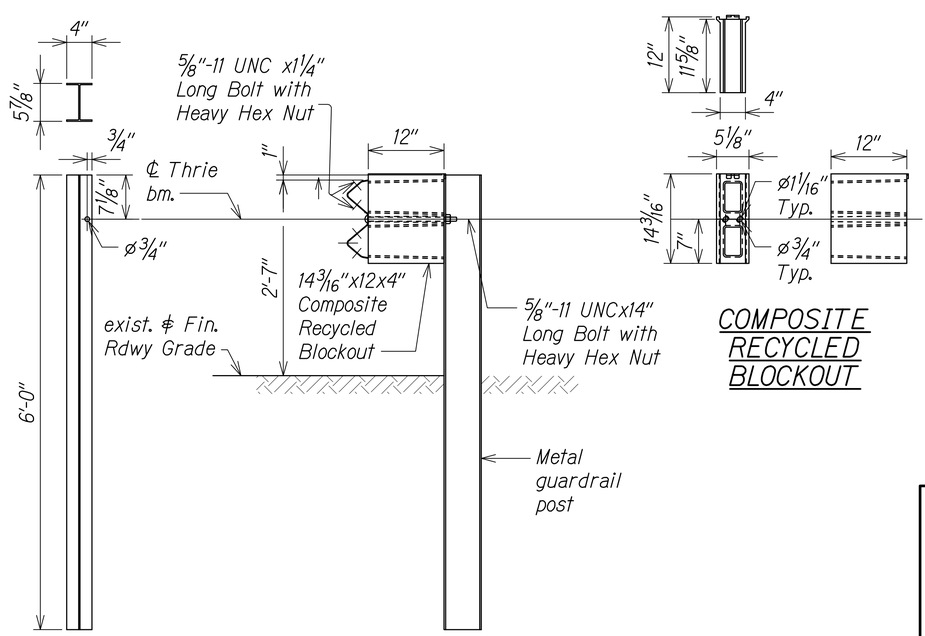
SECTION (G R51 | R48)
Scale: 1" = 1'-0"



SECTION (F R51 | R48)
Scale: 1" = 1'-0"



SECTION (H R51 | R48)
Scale: 1" = 1'-0"



SECTION (J R51 | R48)
Scale: 1" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

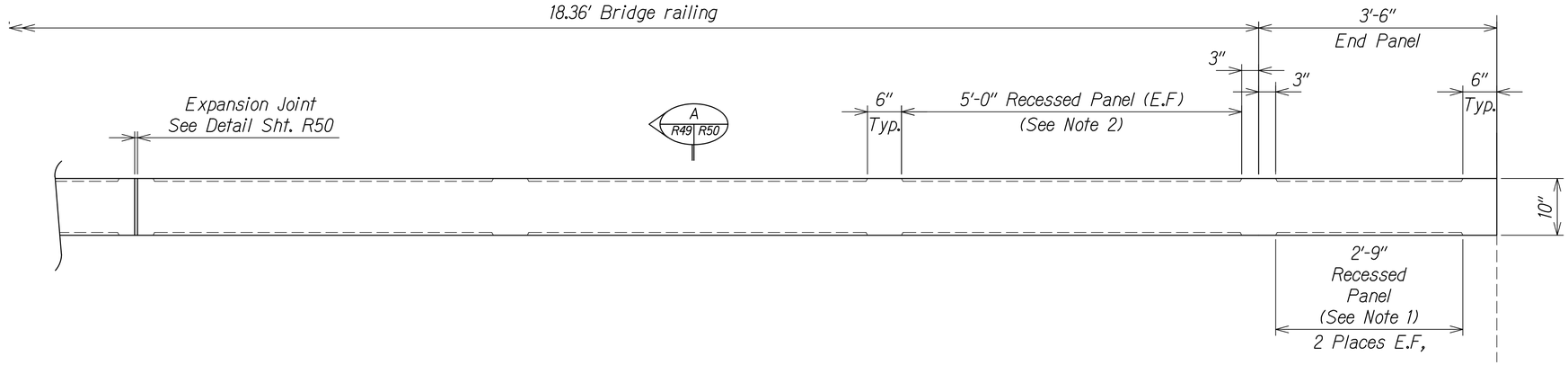
STANDARD BRIDGE RAILINGS & TRANSITIONS
METAL GUARDRAIL TYPE 3 THRIE BEAM
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

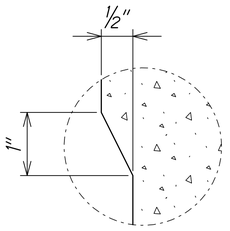
SHEET No. R48 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\01 CIVIL DRAWINGS\R48 METAL GUARDRAIL TYPE 3 THRIE BEAM 2.DWG 7/3/2024 2:01 PM

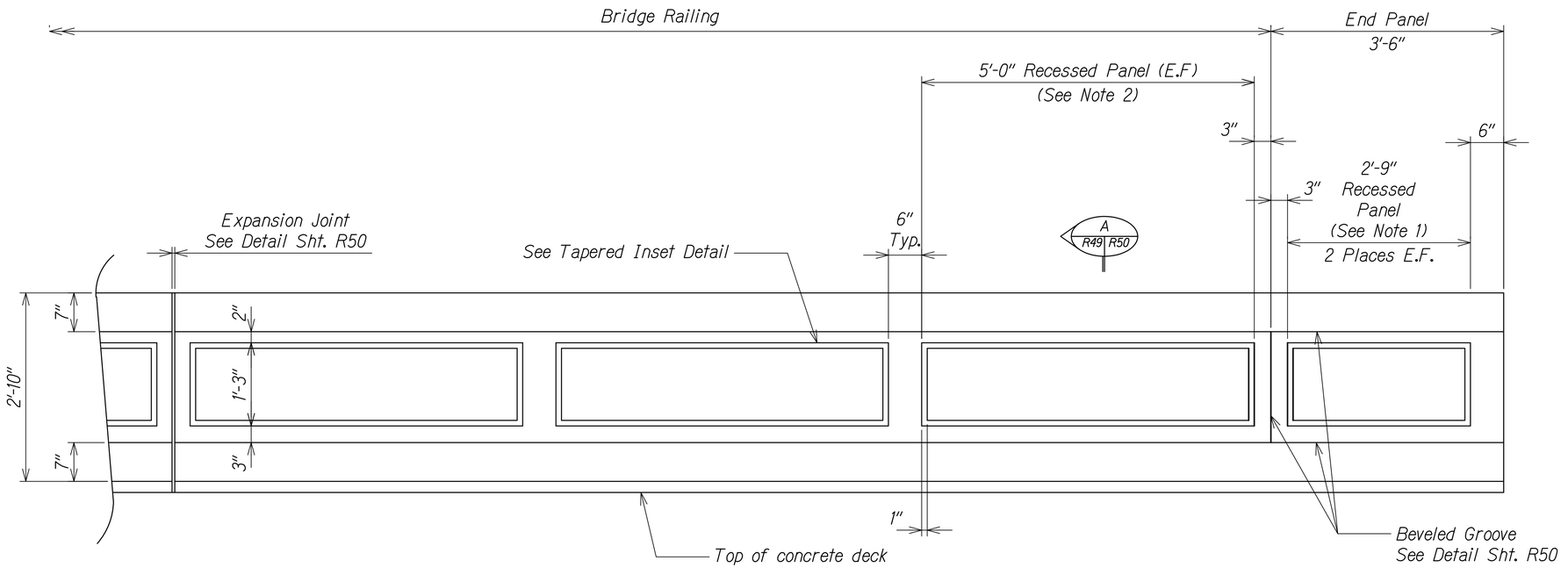
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	112	411



PLAN
Scale: 1" = 1'-0"



TAPERED INSET
Scale: N.T.S



ELEVATION
Scale: 1" = 1'-0"

NOTES:

1. Panel is not recessed when used for bridge name and date.
2. Length of panel varies from 4'-0" to 6'-0". Expansion joint max. distance is 30'-0".

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SOLID BRIDGE RAILING WITH RECESSED RECTANGULAR AESTHETIC PANELS

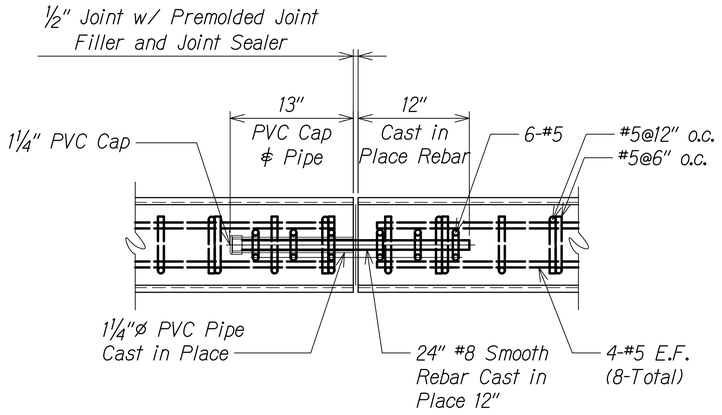
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

SHEET No. R49 OF 68 SHEETS

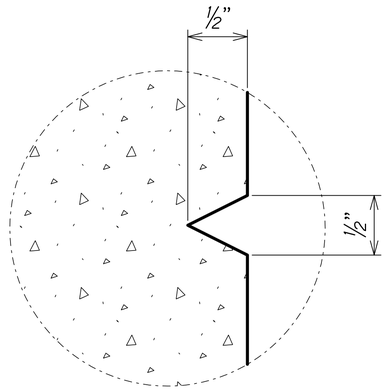
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R49 BRIDGE RAILING WITH RECESSED RECTANGULAR PANELS PLAN.DWG 7/3/2024 2:01 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	113	411



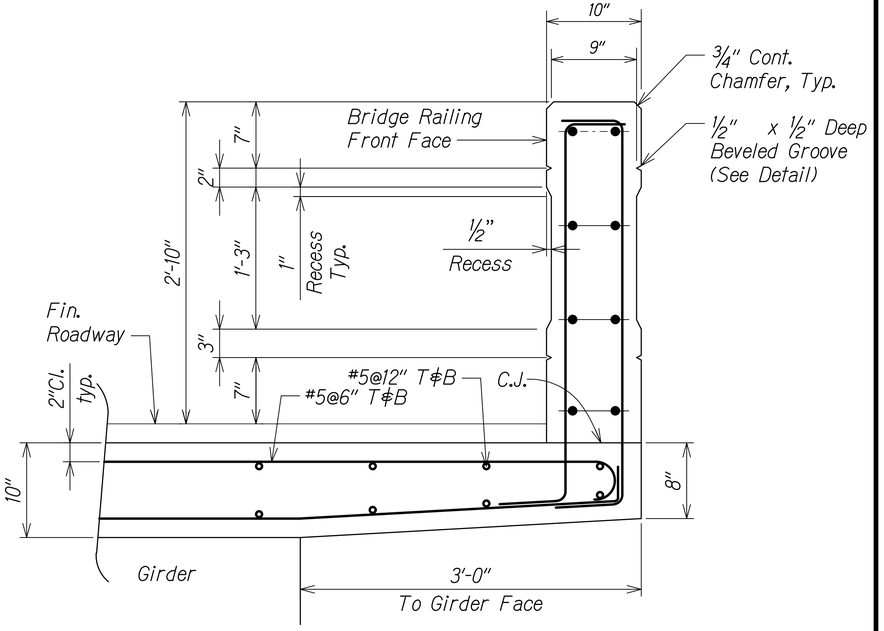
TOP VIEW

Scale: 1½" = 1'-0"



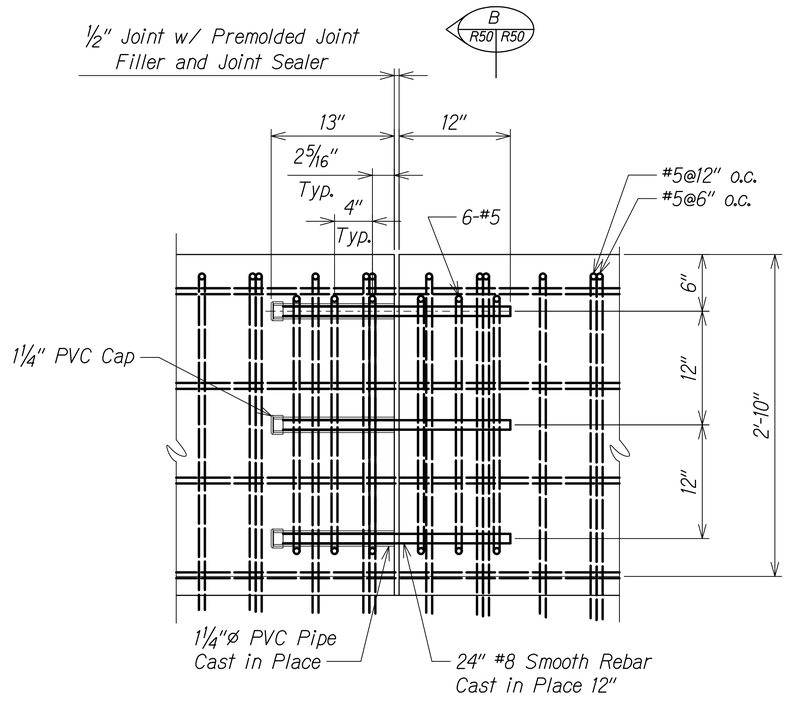
TYPICAL BEVELED GROOVE DETAIL

Scale: N.T.S.



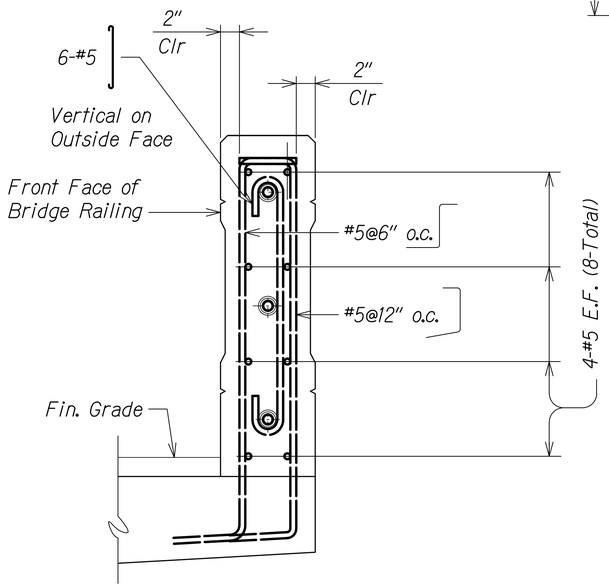
DECK SECTION (A R49 | R50)

Scale: 1½" = 1'-0"



EXPANSION JOINT DETAIL

Scale: 1½" = 1'-0"



SECTION (B R50 | R50)

Scale: 1½" = 1'-0"

NOTE:

Smooth Dowels are cast in place on one side of the expansion joint and inserted into plastic sleeves, which are cast into the railing on the other side of the expansion joint.

TYPICAL SECTIONS - RAIL DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SOLID BRIDGE RAILING WITH RECESSED RECTANGULAR AESTHETIC PANELS

INTERSTATE ROUTE H-1 RESURFACING

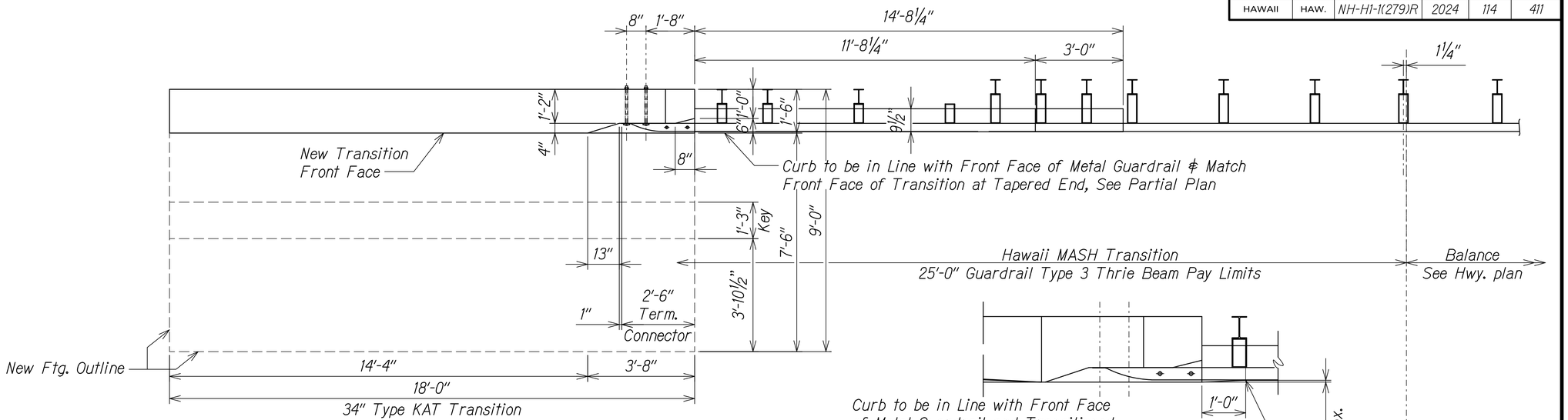
Miller Pedestrian Overpass to Kapiolani Interchange

Federal-Aid Project No. NH-H1-1(279)R

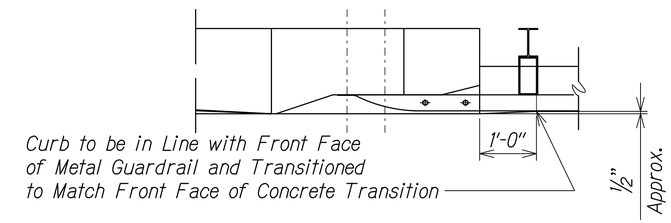
Scale: As Shown Date: November 2024

SHEET No. R50 OF 68 SHEETS

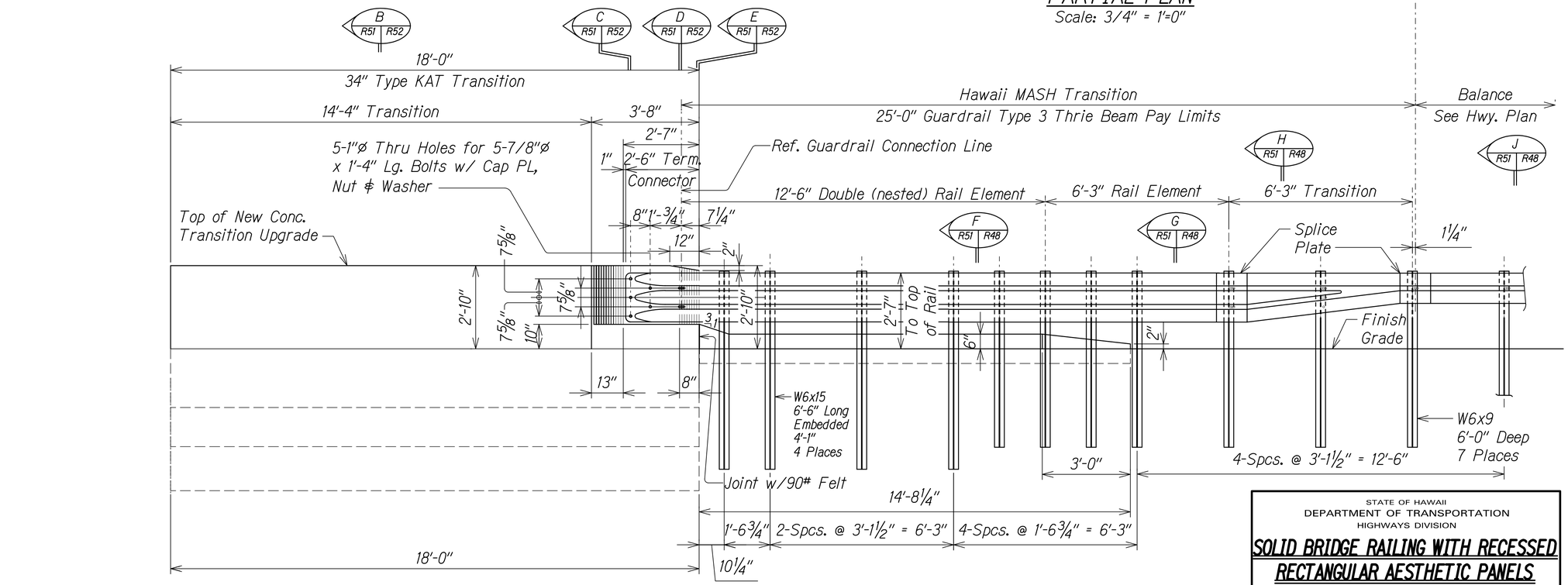
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	114	411



PLAN
Scale: 1/2" = 1'-0"



PARTIAL PLAN
Scale: 3/4" = 1'-0"



ELEVATION
Scale: 1/2" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SOLID BRIDGE RAILING WITH RECESSED RECTANGULAR AESTHETIC PANELS

INTERSTATE ROUTE H-1 RESURFACING

Miller Pedestrian Overpass to Kapiolani Interchange

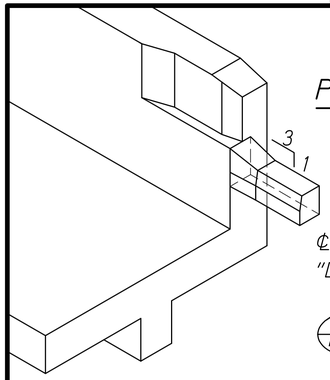
Federal-Aid Project No. NH-HI-1(279)R

Scale: As Shown Date: November 2024

SHEET No. R51 OF 68 SHEETS

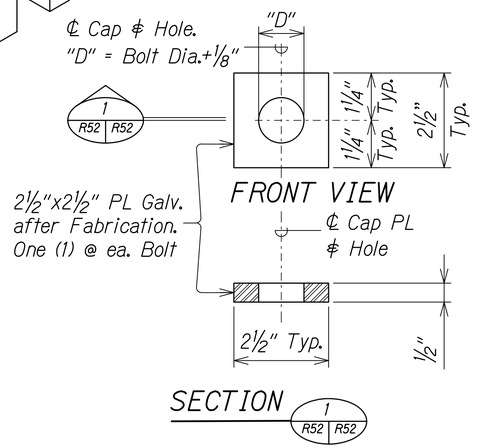
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R51 BRIDGE RAILING WITH RECESSED RECTANGULAR PANELS PLAN.DWG 7/3/2024 2:01 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	115	411



PARTIAL ISOMETRIC VIEW

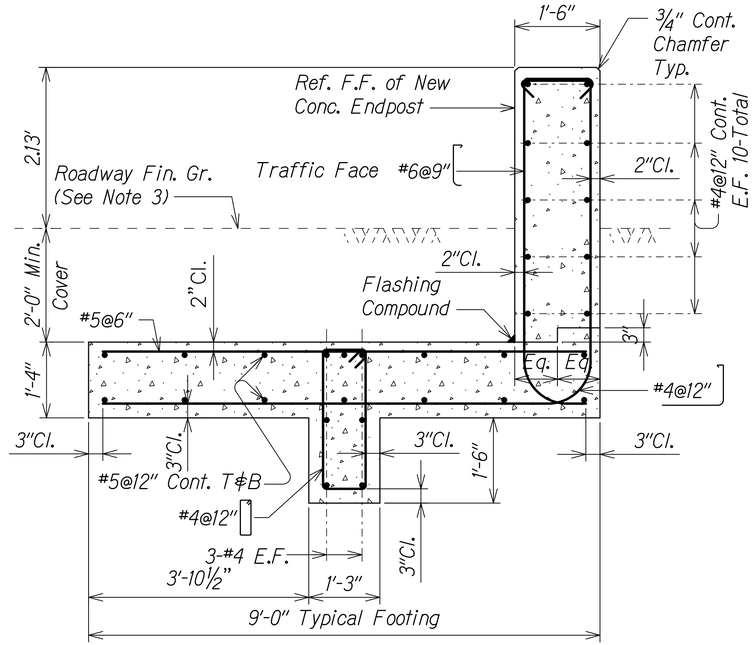
Scale: Not to Scale



SECTION 1 R52 R52

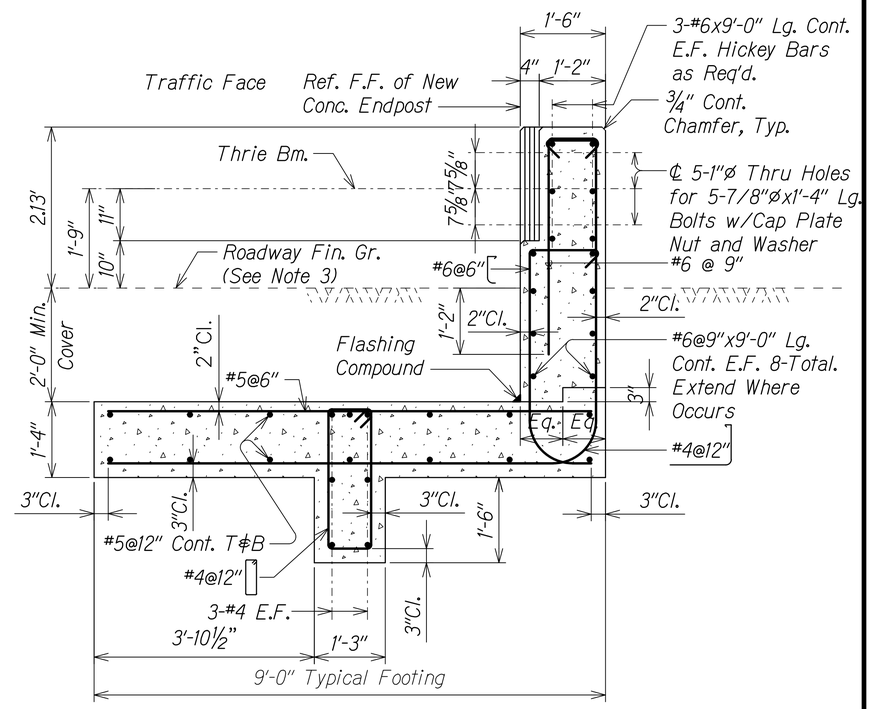
CAP (BEARING) PLATE DETAIL

Scale: 6" = 1'-0"



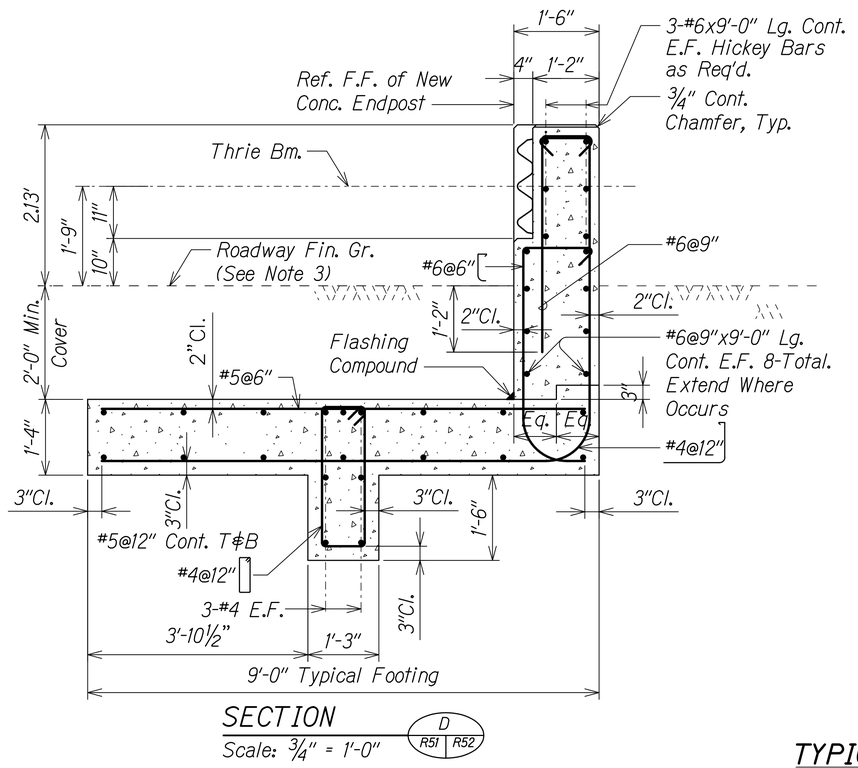
SECTION B R51 R52

Scale: ¾" = 1'-0"



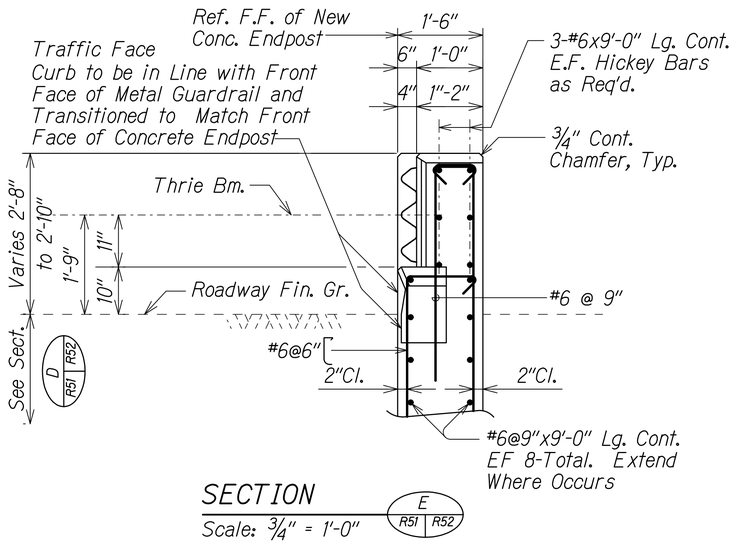
SECTION C R51 R52

Scale: ¾" = 1'-0"



SECTION D R51 R52

Scale: ¾" = 1'-0"



SECTION E R51 R52

Scale: ¾" = 1'-0"

NOTES:

1. Locate Horizontal Reinforcement to avoid Built Hole.
2. Concrete in Footing cast against soil.
3. For Pavement Section on top of Footing, see Roadway Plans R1 to R20.

TYPICAL 34" TYPE KAT TRANSITION SECTIONS ⌀ DETAIL

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SOLID BRIDGE RAILING WITH RECESSED RECTANGULAR AESTHETIC PANELS

INTERSTATE ROUTE H-1 RESURFACING

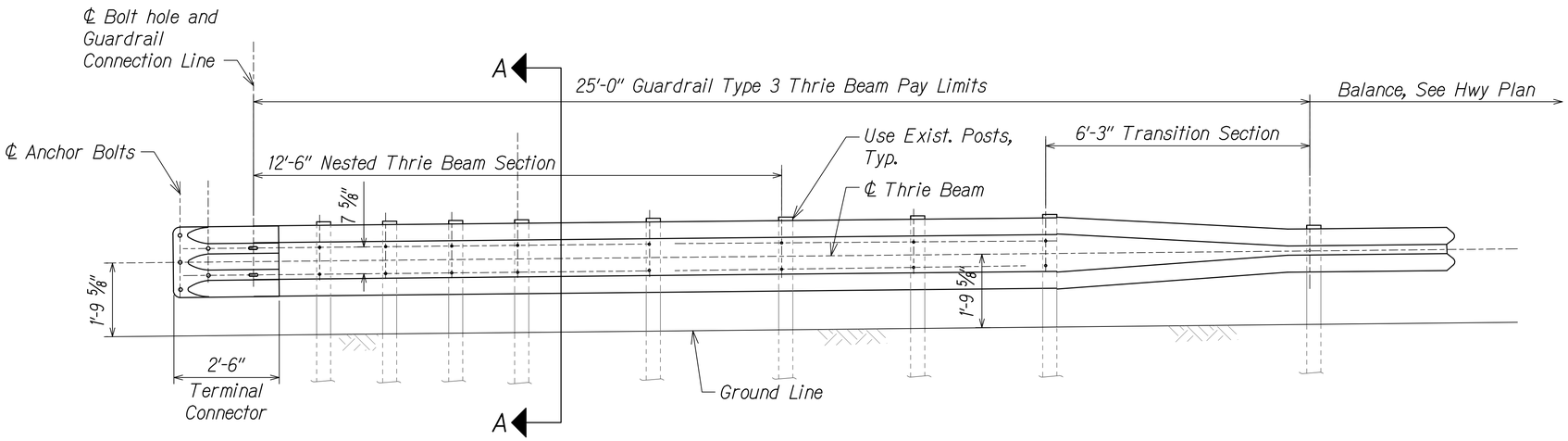
Miller Pedestrian Overpass to Kapiolani Interchange

Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

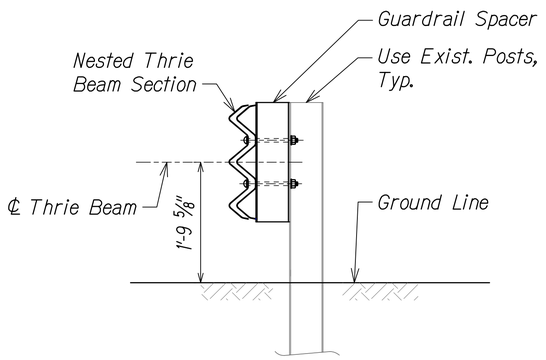
SHEET No. R52 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	116	411

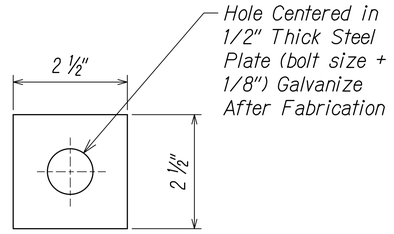


ELEVATION

TYPICAL TYPE 3 THRIE BEAM METAL GUARDRAIL RAILING REPLACEMENT



SECTION A



CAP PLATE DETAIL

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

THRIE BEAM CONNECTION TO EXISTING RAILING

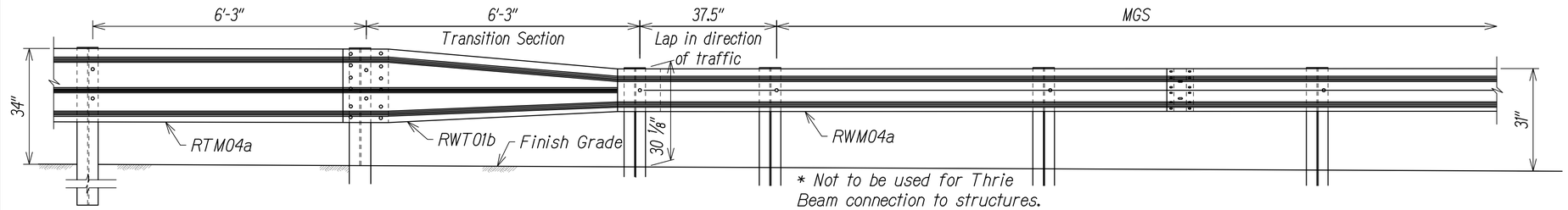
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: NTS Date: November 2024

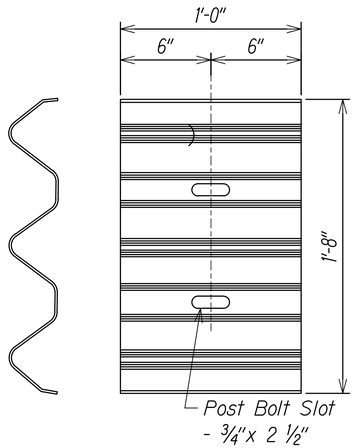
SHEET No. R53 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R53 THRIE BEAM CONNECTION TO EXISTING RAILING.DWG 7/3/2024 2:02 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	117	411

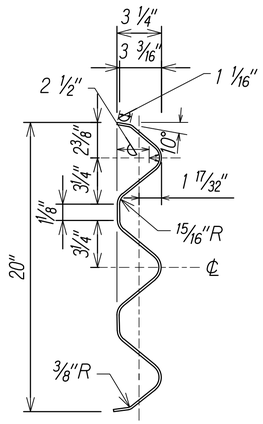


TRANSITION SECTION*

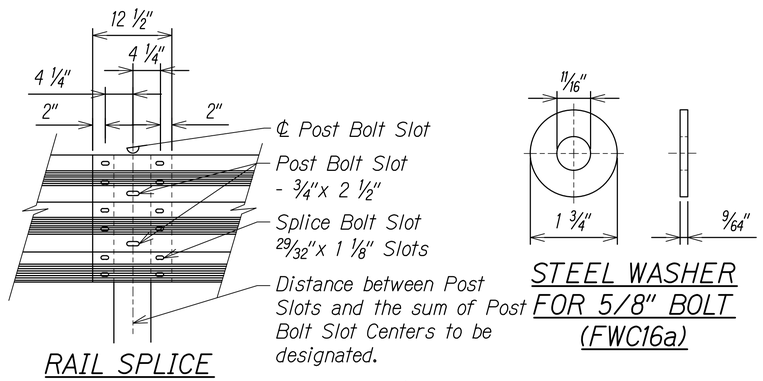


BACKUP PLATE (RTB01b)

(Use at Posts where Splices do not occur)

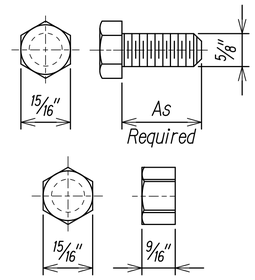


SECTION THRU RAIL ELEMENT (RTM04a)

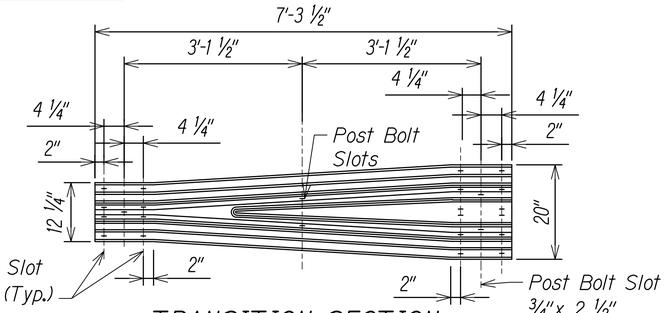


RAIL SPLICE

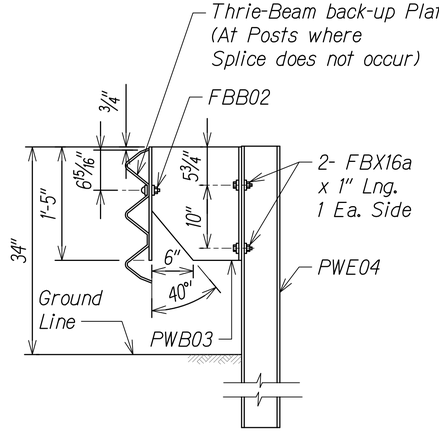
STEEL WASHER FOR 5/8" BOLT (FWC16a)



HEX BOLT & NUT (FBB16a)

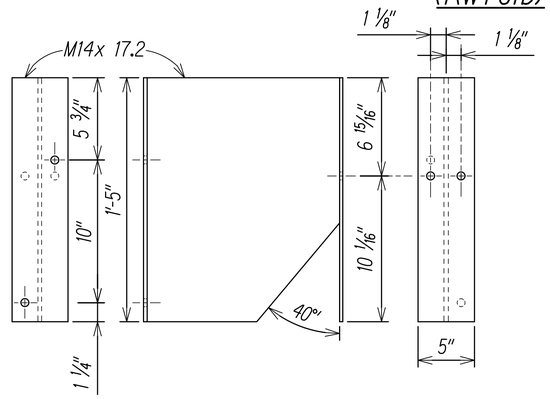


TRANSITION SECTION (RWT01b)



ELEVATION

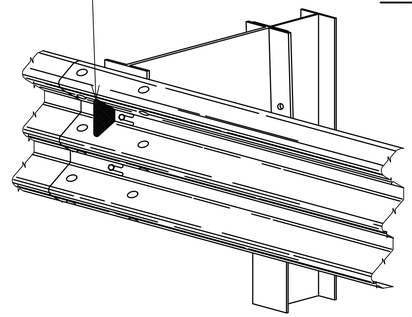
STRONG POST MODIFIED THRIE-BEAM GUARDRAIL (SGR09b)



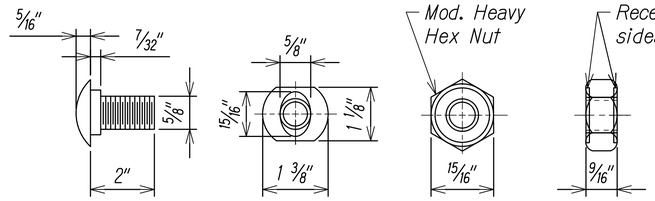
BACK SIDE FRONT

SPACER BLOCK (PWB03)

Reflector Marker (RM-5) Reflector Facing Traffic (Mounted on Guardrail Bolt). For details and notes, see Guardrail Details & Notes sheet.



TYPICAL INSTALLATION OF REFLECTOR MARKER (RM-5)

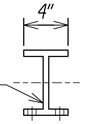


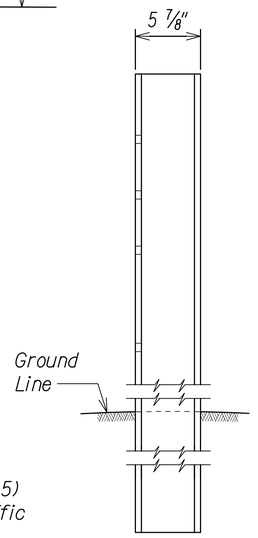
FBB02 FNX16a

GUARDRAIL BOLTS AND RECESSED NUT

NOTE:
All Holes are 3/4" Dia.

W6x 8.5 Structural Shape





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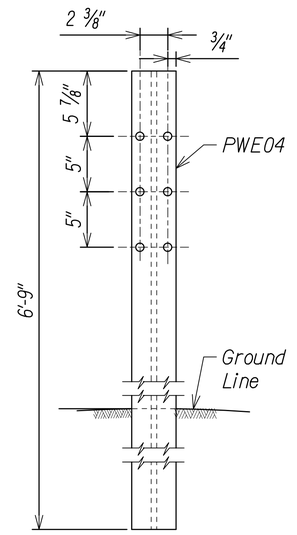


FRONT

THRIE-BEAM STRONG POST (PWE04)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

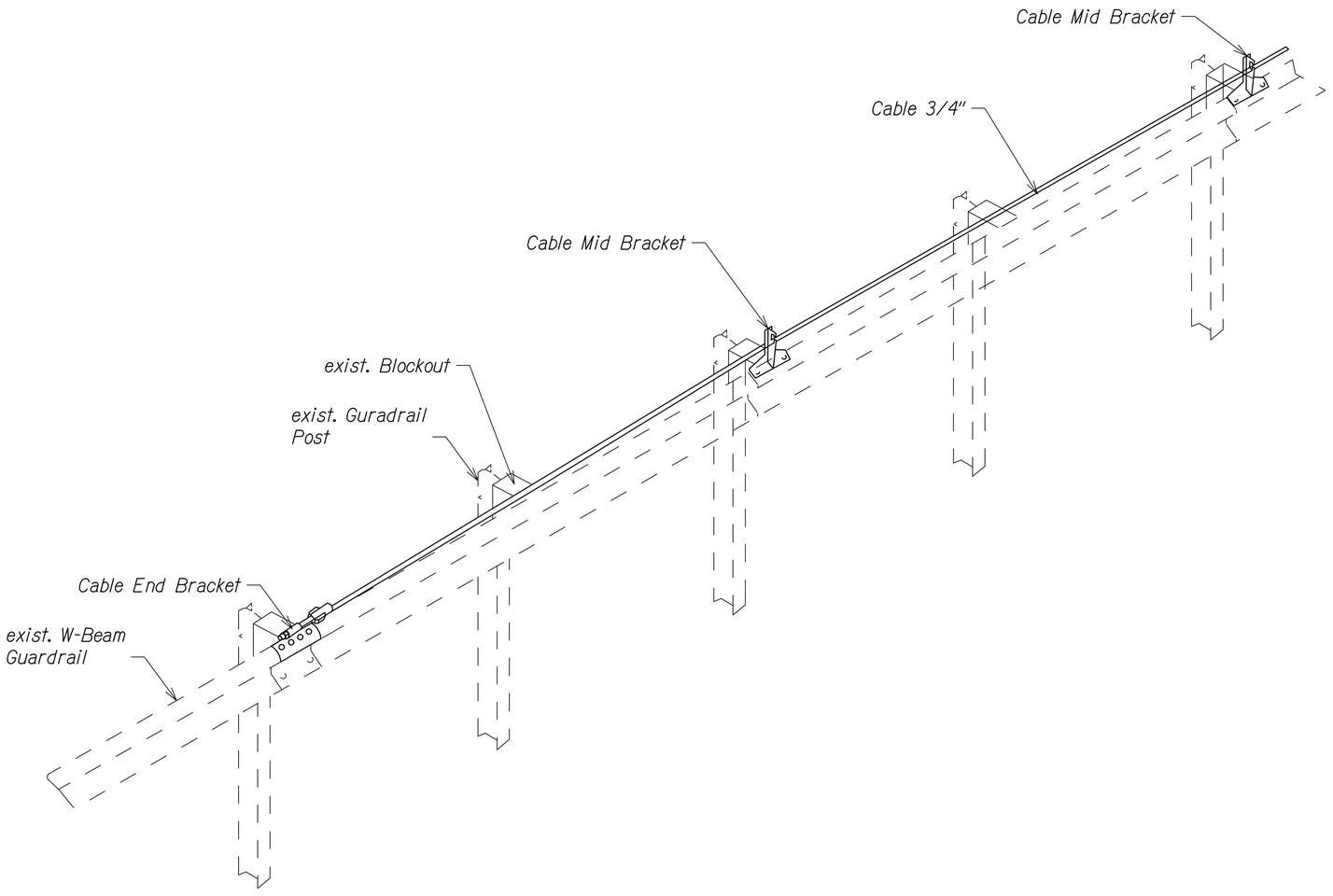
STRONG POST MODIFIED THRIE-BEAM GUARDRAIL (MASH)

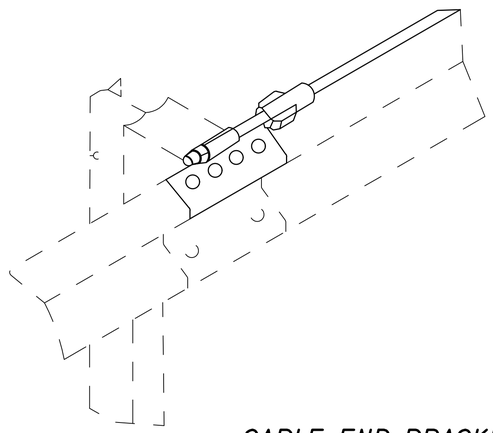
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: NTS Date: November 2024

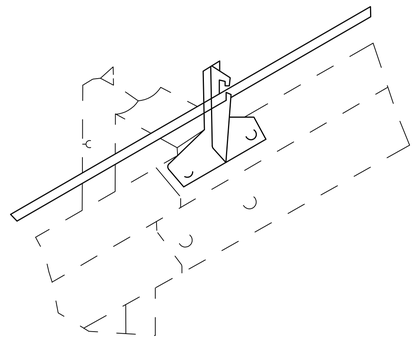
SHEET No. R54 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	118	411





CABLE END BRACKET



CABLE MID BRACKET

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — SIGNATURE

04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RETRO RAIL SYSTEM

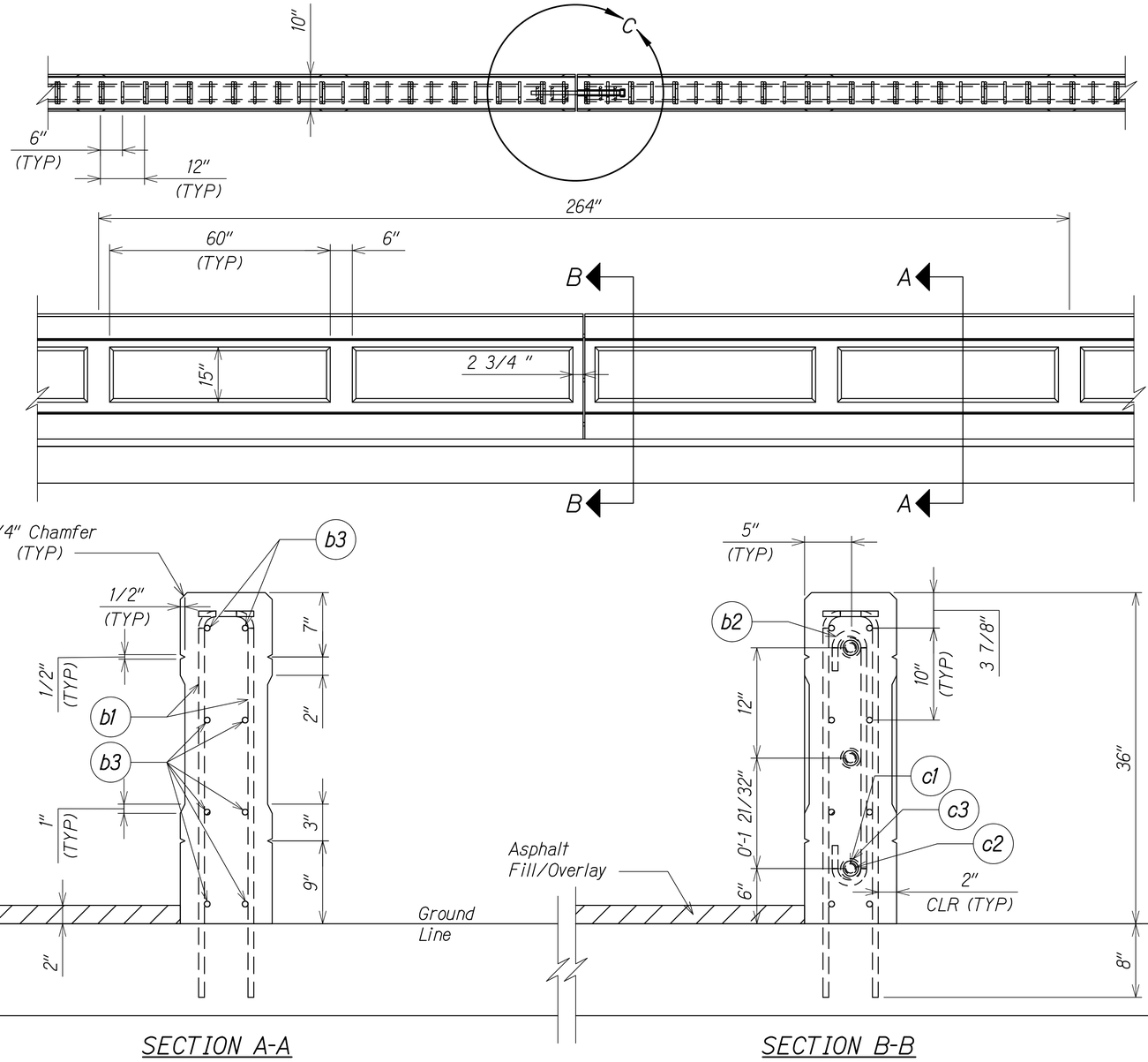
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown — Date: November 2024

SHEET No. R55 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\T\01 CIVIL DRAWINGS\R55 RETRO RAIL SYSTEM.DWG 7/3/2024 1:32 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	119	411



SECTION A-A

SECTION B-B

NOTES:

1. For Details at Barrier Connections (Detail "C"), see Sheet R57.
2. For Details of Rebars and PVC Cap, see Sheet R58.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

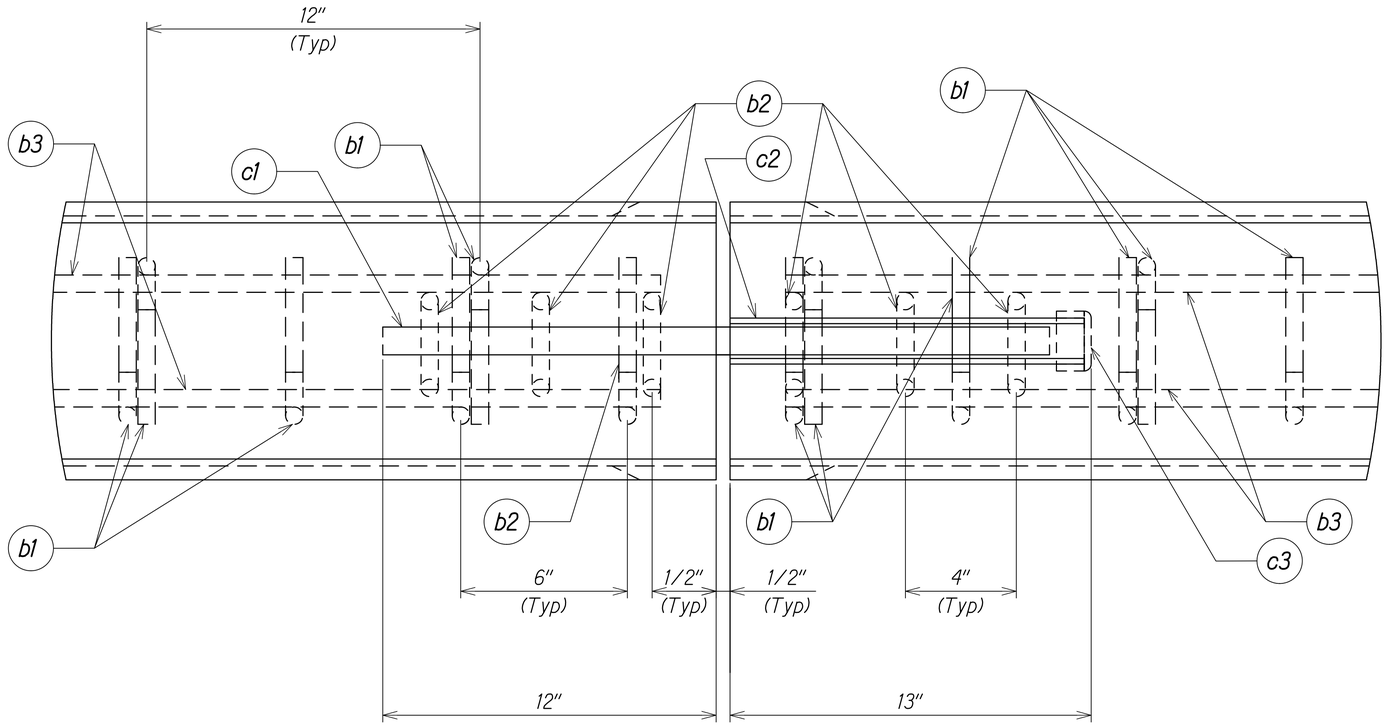
HDOT 34 INCHES TALL AESTHETIC CONCRETE BRIDGE RAIL

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

SHEET No. R56 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	120	411



DETAIL "C"

NOTES:

1. Smooth dowels are cast in place on one side of the expansion joint and inserted into plastic sleeves, which are cast into the barrier on the other side of the expansion joint.
2. For Details at Barrier Connections (Detail "C), see Sheet R57.
3. For Details of Rebars and PVC Cap, see Sheet R58.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HDOT 34 INCHES TALL AESTHETIC CONCRETE BRIDGE RAIL

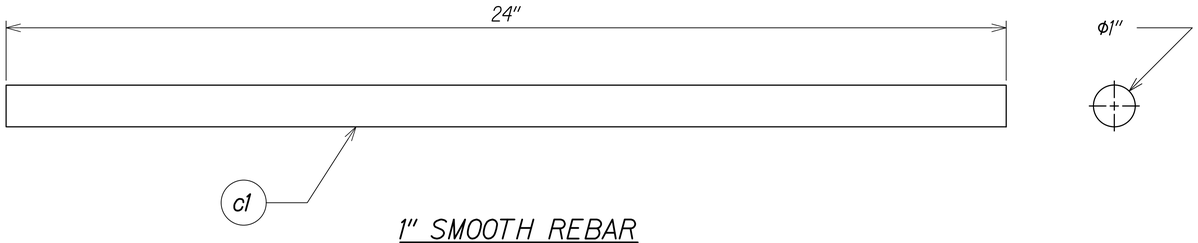
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

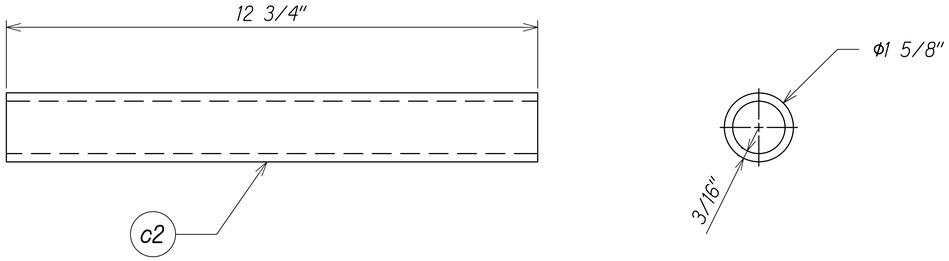
SHEET No. R57 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	121	411

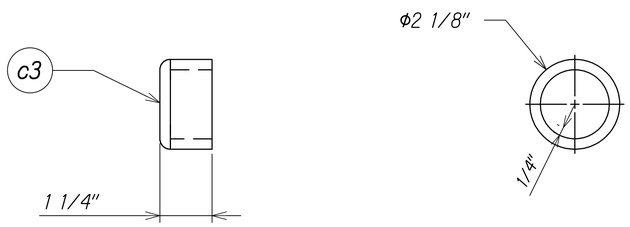
BILL OF BARS				
Part No.	Bar No.	No.	Unbent Length	Material
b1	#5	68	46 3/4"	ASTM A615 Gr. 60
b2	#5	6	38 7/8"	ASTM A615 Gr. 60
b3	#5	8	259 1/2"	ASTM A615 Gr. 60



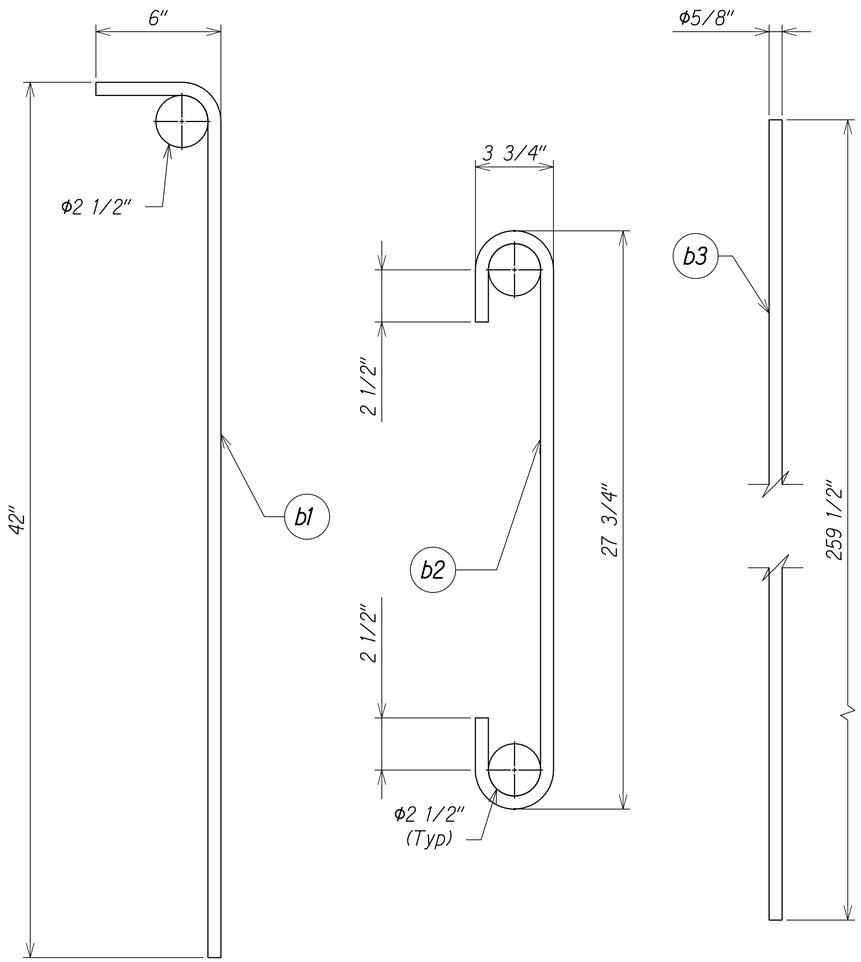
1" SMOOTH REBAR



1 1/4" DIA. PVC PIPE



1 1/4" PVC CAP



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

HDOT 34 INCHES TALL AESTHETIC CONCRETE BRIDGE RAIL

INTERSTATE ROUTE H-1 RESURFACING

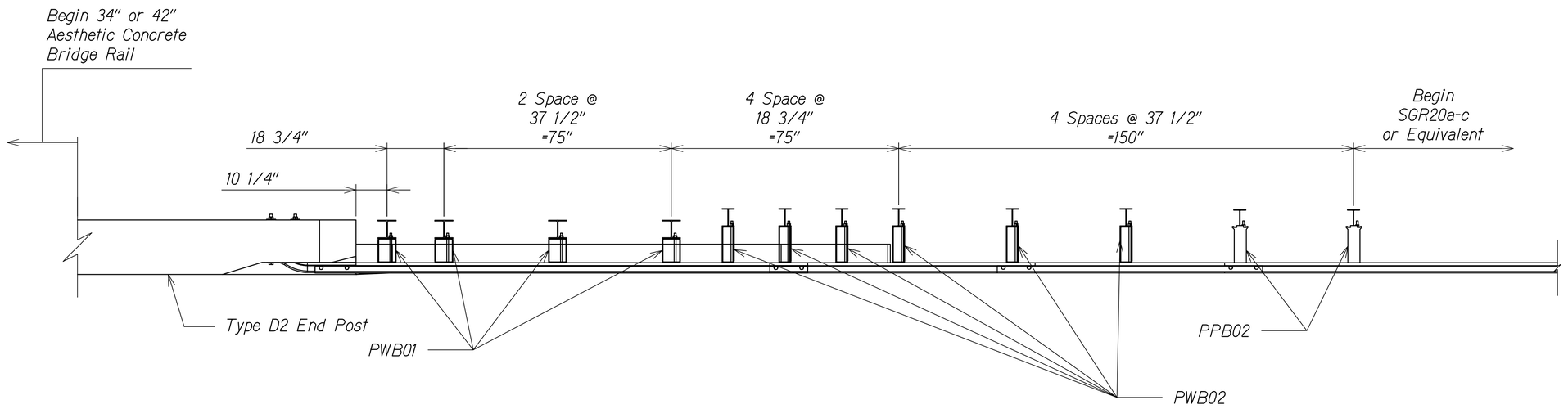
Miller Pedestrian Overpass to Kapiolani Interchange

Federal-Aid Project No. NH-H1-1(279)R

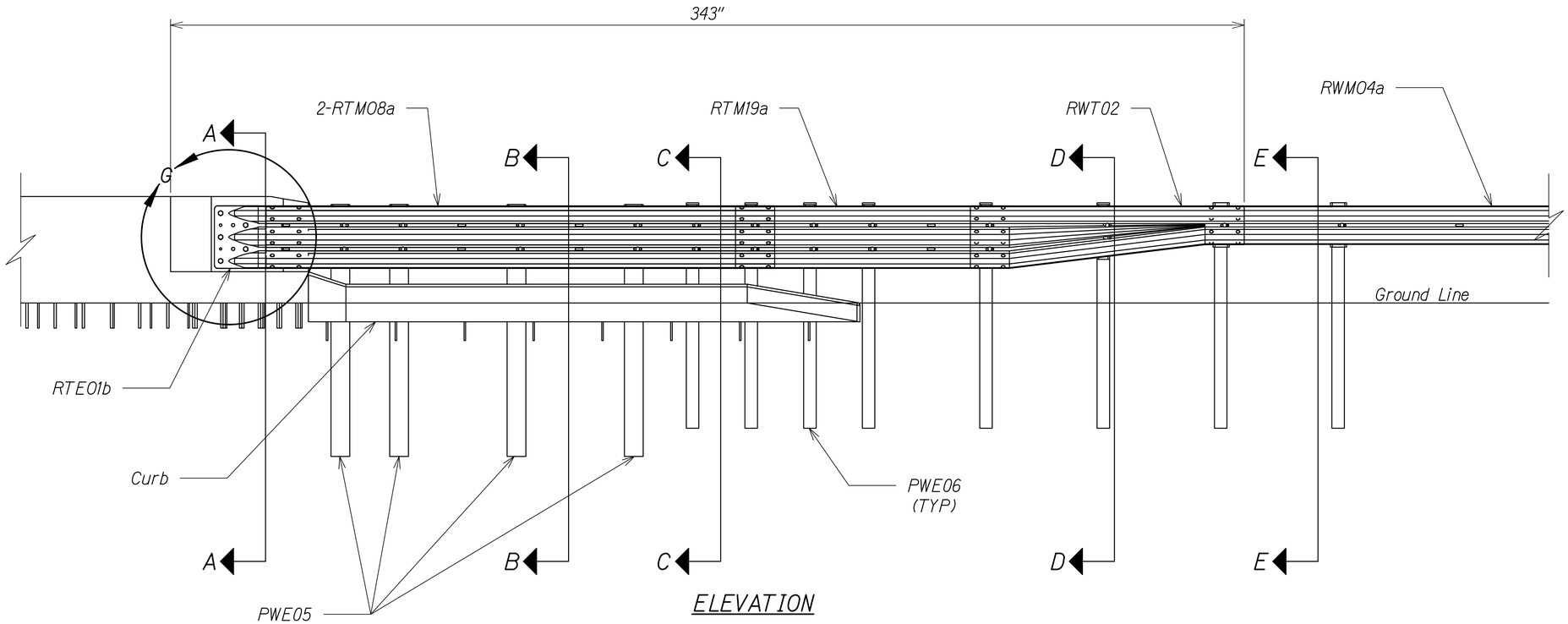
Scale: As Shown Date: November 2024

SHEET No. R58 OF 68 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	122	411



PLAN



ELEVATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

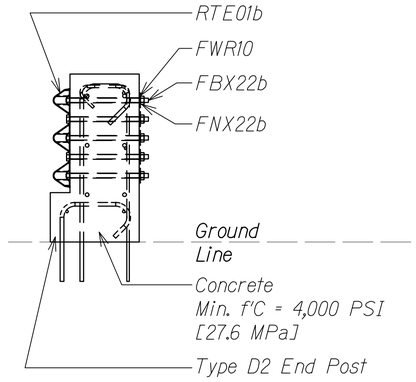
MODIFIED HAWAII THRIE BEAM APPROACH GUARDRAIL TRANSITION

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

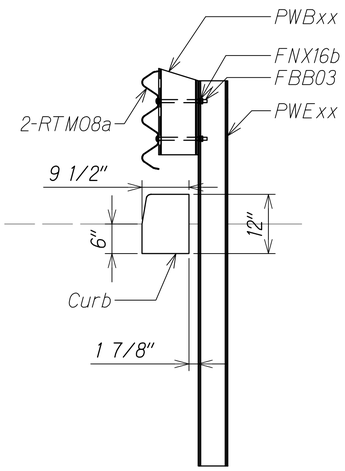
Scale: As Shown Date: November 2024

SHEET No. R59 OF 68 SHEETS

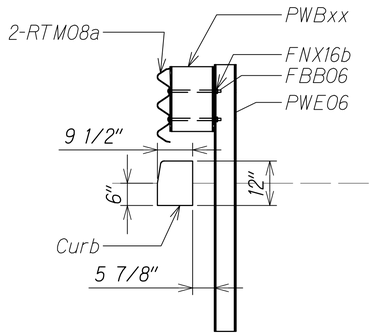
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	123	411



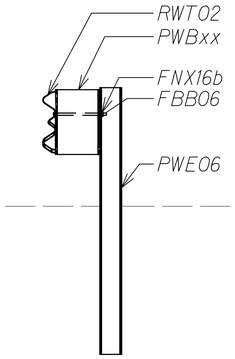
SECTION A-A



SECTION B-B



SECTION C-C



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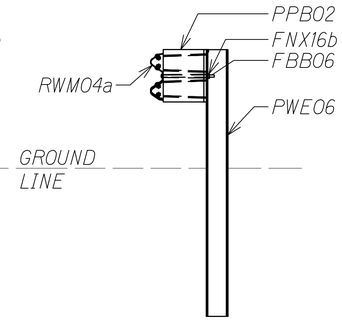

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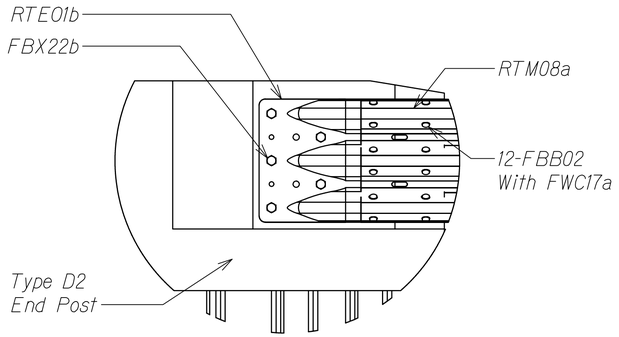
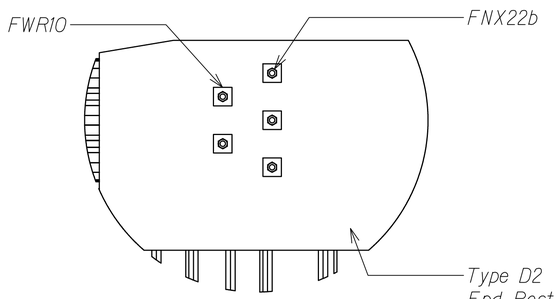


DETAIL G



DETAIL G
BACKSIDE VIEW

Unit Length = 35'-5"		
DESIGNATOR	COMPONENT	NUMBER
FBB01	5/8"-11 UNC, 1.25" Long Guardrail Bolt	20
FBB02	5/8"-11 UNC, 2" Long Guardrail Bolt	24
FBB03	5/8"-11 UNC, 10" Long Guardrail Bolt	8
FBB06	5/8"-11 UNC, 14" Long Guardrail Bolt	13
FBX22b	7/8"-9 UNC, 16" Long Heavy Hex Bolt	5
FNX16b	5/8"-11 UNC Heavy Hex Nut	64
FNX22b	7/8"-9 UNC Heavy Hex Nut	5
FWC16a	5/8" Dia. Plain USS Washer	24
FWR10	3"x3"x1/4" Square Washer Plate	5
PPB02	Composite Recycled Blockout	2
PWB02	17.5" Long, 12"x4"x0.25" Steel Blockout	6
PWB01	17.5" Long, 8"x6"x0.25" Steel Blockout	4
PWE06	W6x8.5 or W6x9, 72" Long Steel Post	8
PWE05	W6x15, 78" Long Steel Post	4
RET01b	Thrie Beam Terminal Connector	1
RTM08a	12'-6" Thrie Beam Section	2
RTM19a	6'-3" Thrie Beam Section	1
RWM04a	12'-6" W-Beam Section	1
RWT02	6'-3" Asymmetrical W- to Thrie Beam Transition	1
---	Concrete, Minimum 4,000 psi f'c	-
---	See Bill of Bars	-

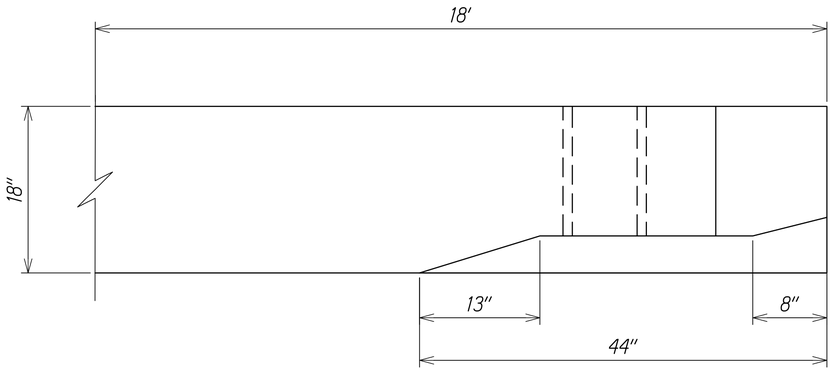
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MODIFIED HAWAII THRIE BEAM APPROACH GUARDRAIL TRANSITION

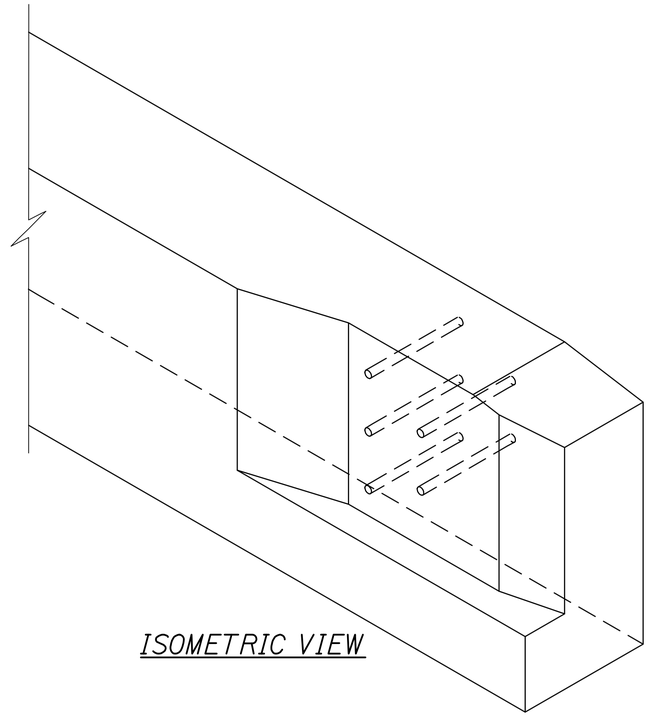
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

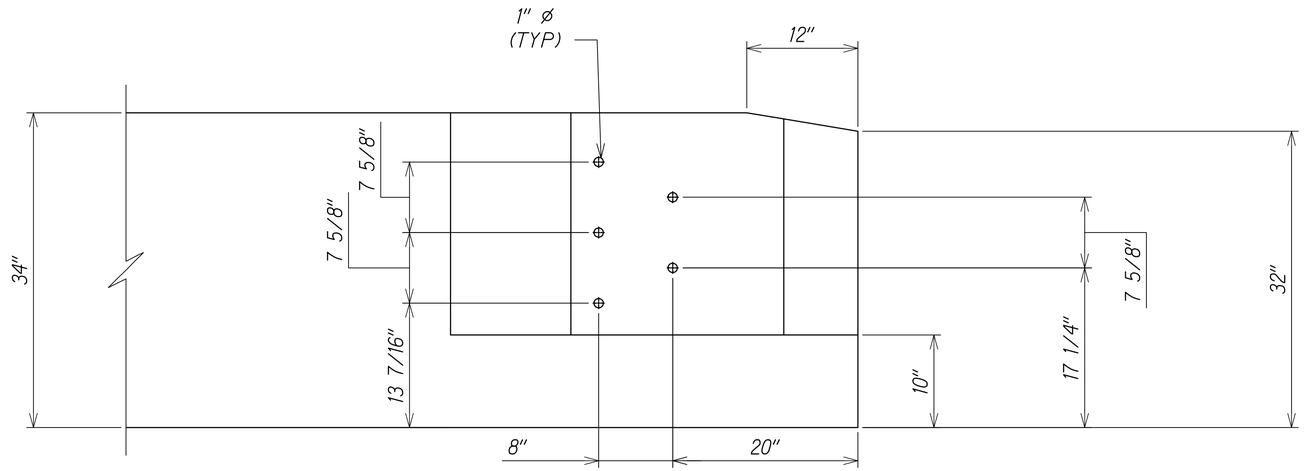
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	124	411



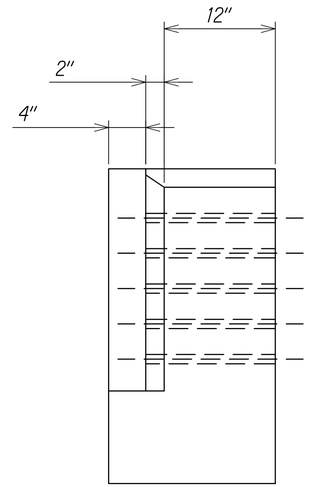
PLAN VIEW



ISOMETRIC VIEW



ELEVATION VIEW



PROFILE VIEW

TYPE D2 END POST

NOTE:

Type D2 End Post Required Length and Reinforcement per State Standards.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE D-2 END POST

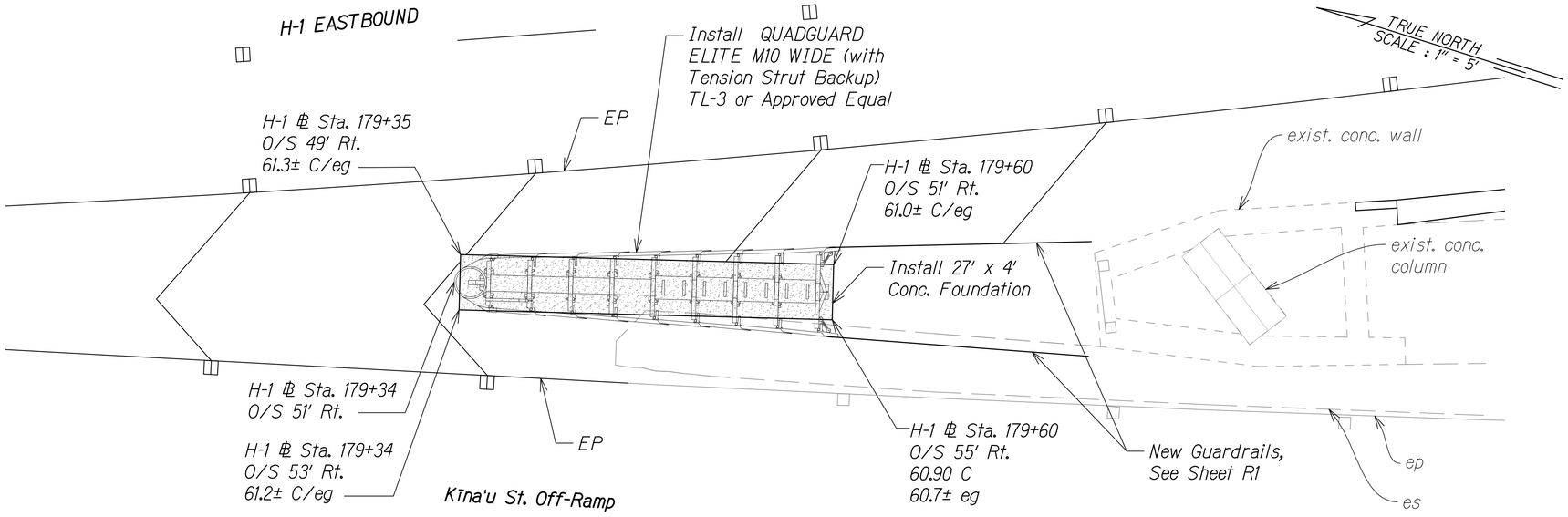
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

SHEET No. R61 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R59-R61 MODIFIED HAWAII THRIE BEAM AGT.DWG 7/3/2024 1:46 PM

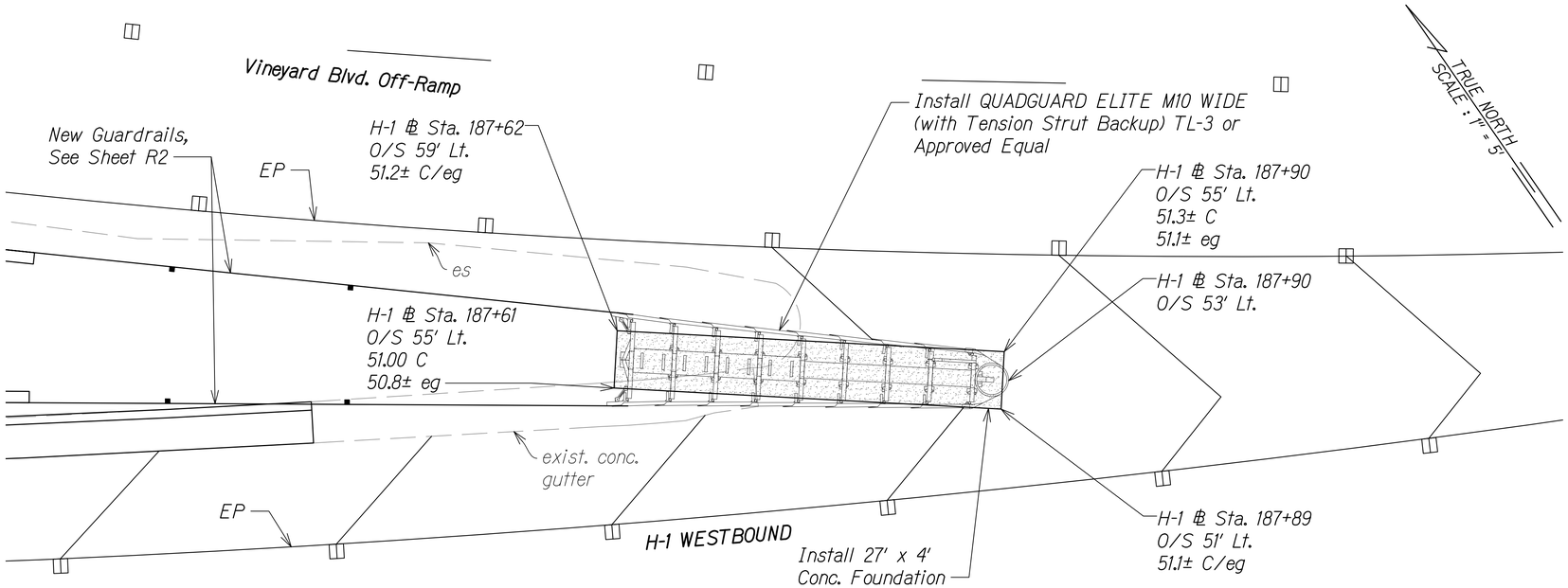
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	125	411



H-1 (EASTBOUND)

KĪNA'U STREET OFF-RAMP

SCALE: 1" = 5'



H-1 (WESTBOUND)

VINEYARD BLVD OFF-RAMP

SCALE: 1" = 5'

NOTES:

1. For specific information regarding installation and technical guidance of the system, the Contractor shall follow Manufacturer's product manual and recommendations.
2. Additional details for the transition options and foundation options will be shown on the Manufacturer's shop drawings furnished to the Engineer.
3. Concrete foundation shall be 6" minimum reinforced 4,000 psi P.C. concrete or 8" minimum non-reinforced 4,000 psi P.C. concrete.
4. Assembly cross-slope shall not exceed 8% and should not twist more than 2% over the length of the system.
5. The installation area shall be free from curbs, elevated objects, or depressions.

GRAPHICAL SCALE:

5' 0 5' 10'

Scale: 1" = 5'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IMPACT ATTENUATOR DETAILS

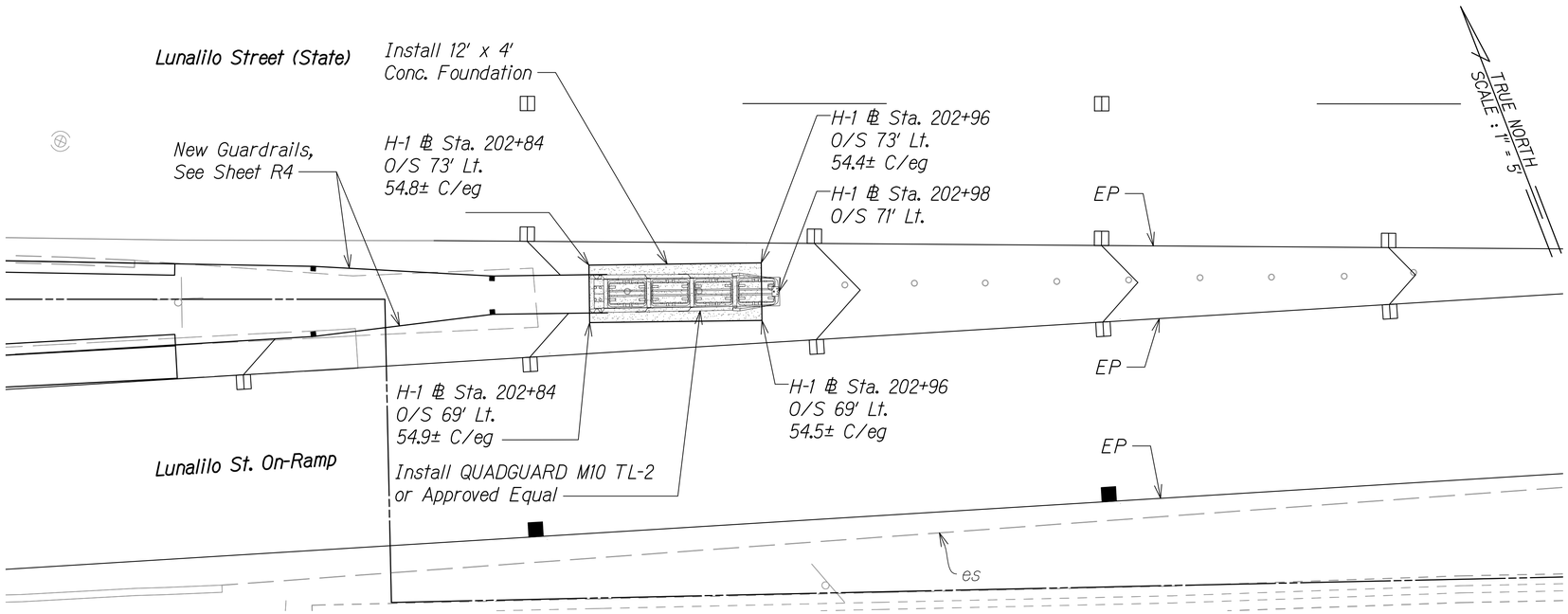
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 5' Date: November 2024

SHEET No. R62 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R62-R67 IMPACT ATTENUATOR DETAILS.DWG 7/3/2024 1:48 PM

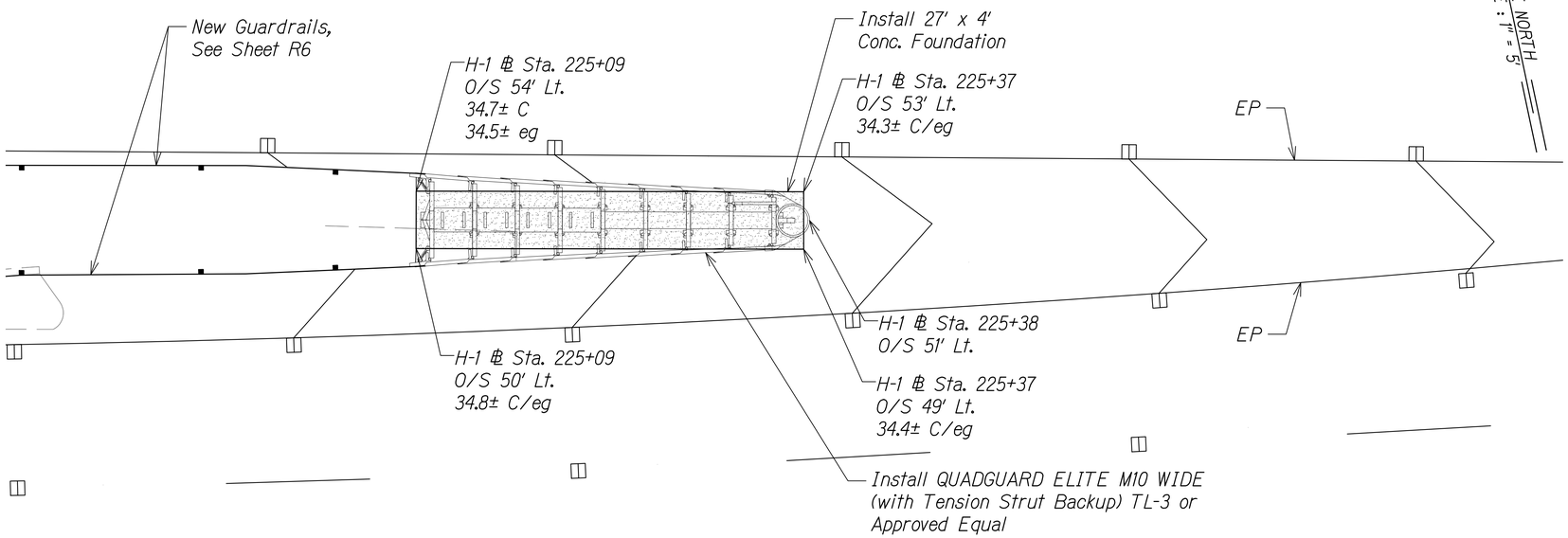
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	126	411



H-1 (WESTBOUND)

LUNALILO STREET ON-RAMP

SCALE: 1" = 5'



H-1 (WESTBOUND)

LUNALILO STREET OFF-RAMP

SCALE: 1" = 5'

NOTES:

1. For specific information regarding installation and technical guidance of the system, the Contractor shall follow Manufacturer's product manual and recommendations.
2. Additional details for the transition options and foundation options will be shown on the Manufacturer's shop drawings furnished to the Engineer.
3. Concrete foundation shall be 6" minimum reinforced 4,000 psi P.C. concrete or 8" minimum non-reinforced 4,000 psi P.C. concrete.
4. Assembly cross-slope shall not exceed 8% and should not twist more than 2% over the length of the system.
5. The installation area shall be free from curbs, elevated objects, or depressions.

GRAPHICAL SCALE:

5' 0 5' 10'

Scale: 1" = 5'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IMPACT ATTENUATOR DETAILS

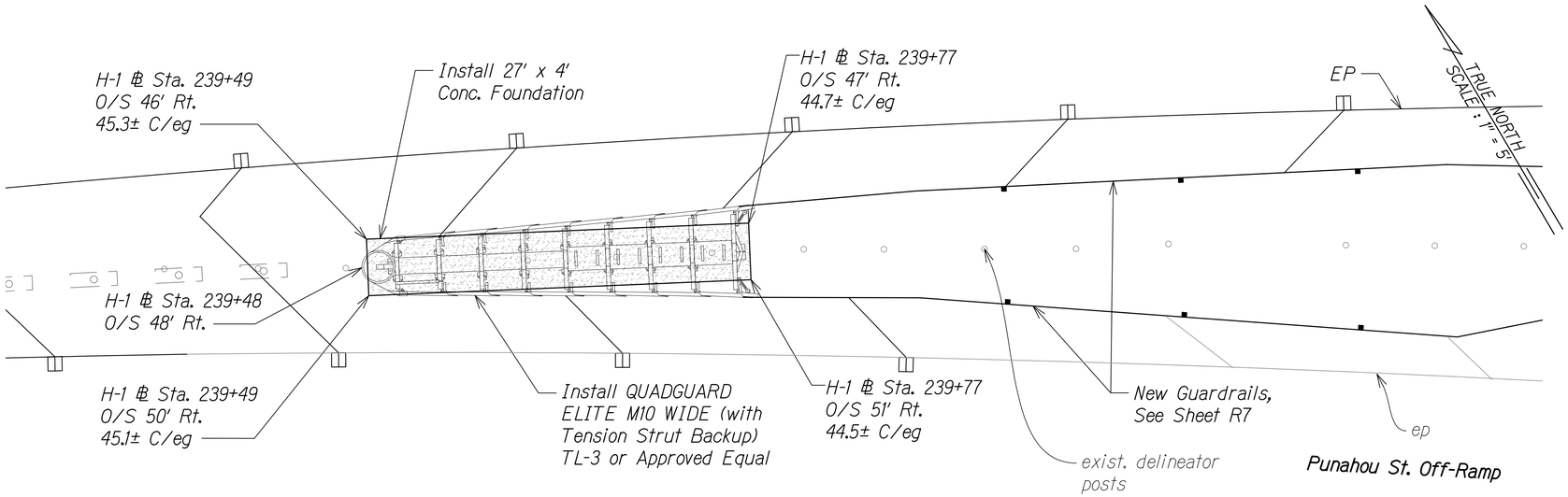
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 5' Date: November 2024

SHEET No. R63 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R62-R67 IMPACT ATTENUATOR DETAILS.DWG 7/3/2024 1:48 PM

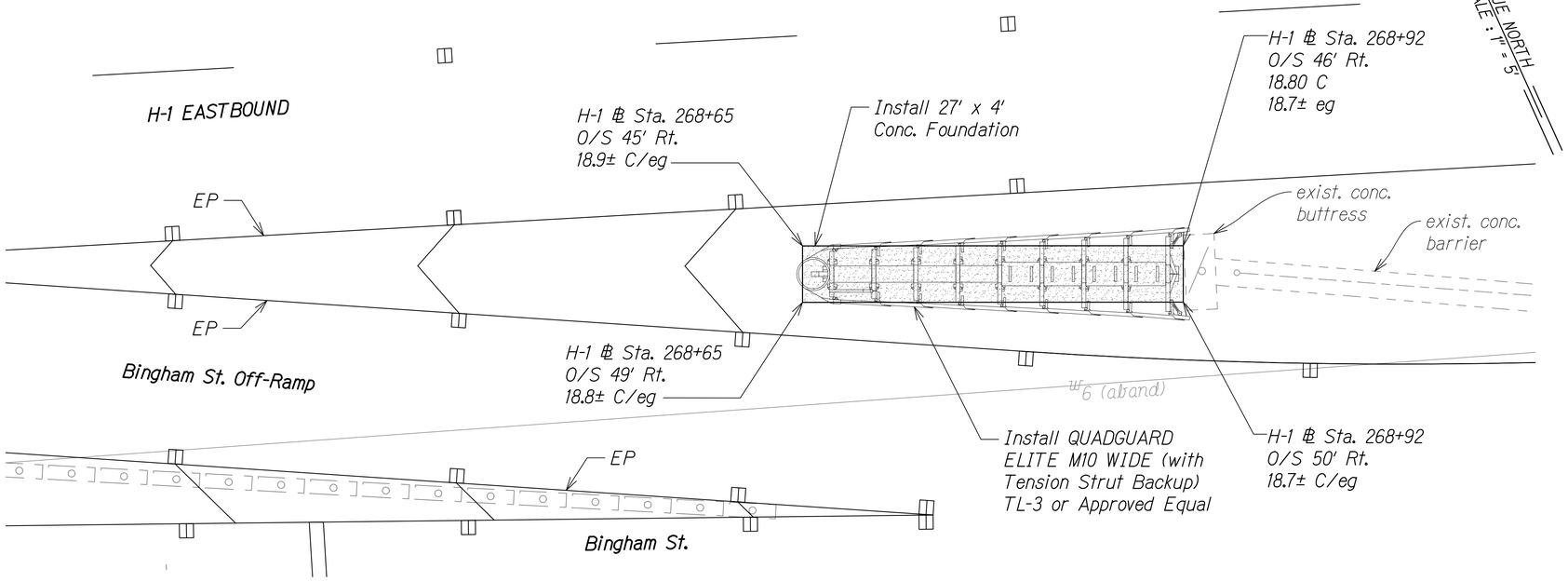
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	127	411



H-1 (EASTBOUND)

PUNAHOU STREET OFF-RAMP

SCALE: 1" = 5'



H-1 (EASTBOUND)

BINGHAM STREET OFF-RAMP

SCALE: 1" = 5'

NOTES:

1. For specific information regarding installation and technical guidance of the system, the Contractor shall follow Manufacturer's product manual and recommendations.
2. Additional details for the transition options and foundation options will be shown on the Manufacturer's shop drawings furnished to the Engineer.
3. Concrete foundation shall be 6" minimum reinforced 4,000 psi P.C. concrete or 8" minimum non-reinforced 4,000 psi P.C. concrete.
4. Assembly cross-slope shall not exceed 8% and should not twist more than 2% over the length of the system.
5. The installation area shall be free from curbs, elevated objects, or depressions.

GRAPHICAL SCALE:

5' 0 5' 10'

Scale: 1" = 5'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IMPACT ATTENUATOR DETAILS

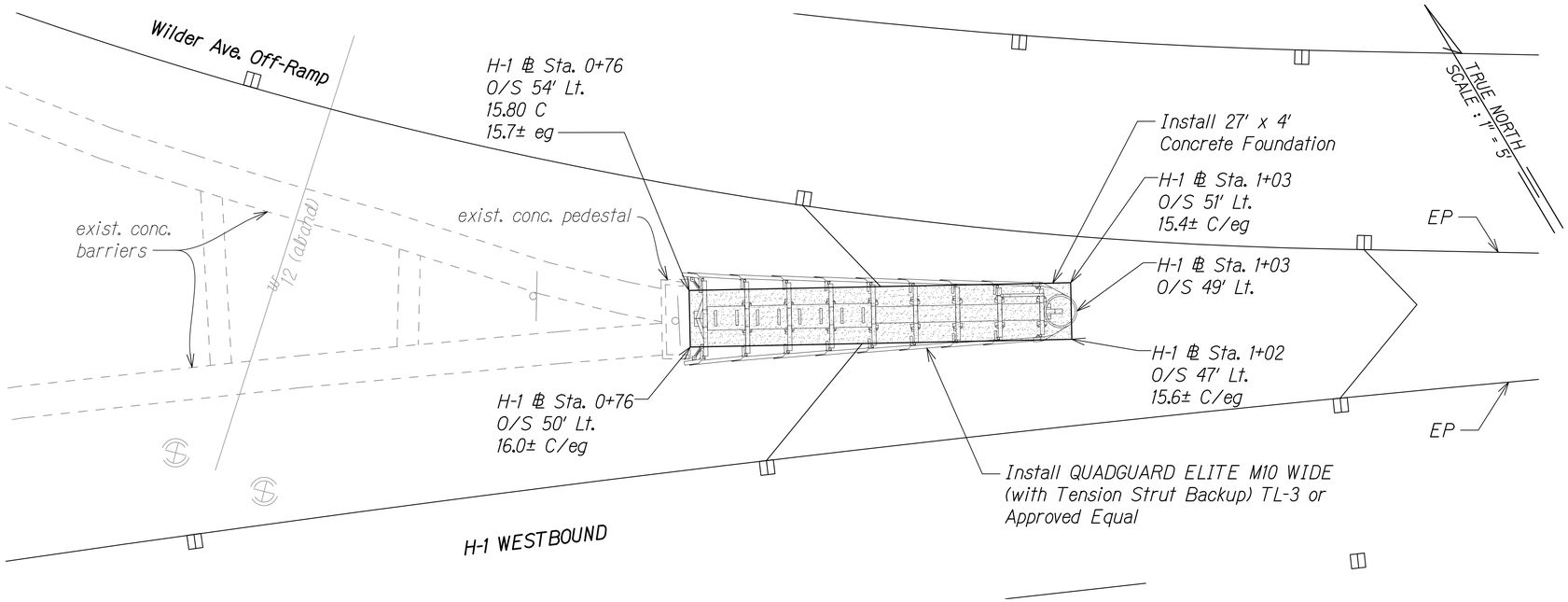
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 5' Date: November 2024

SHEET No. R64 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R62-R67 IMPACT ATTENUATOR DETAILS.DWG 7/3/2024 1:48 PM

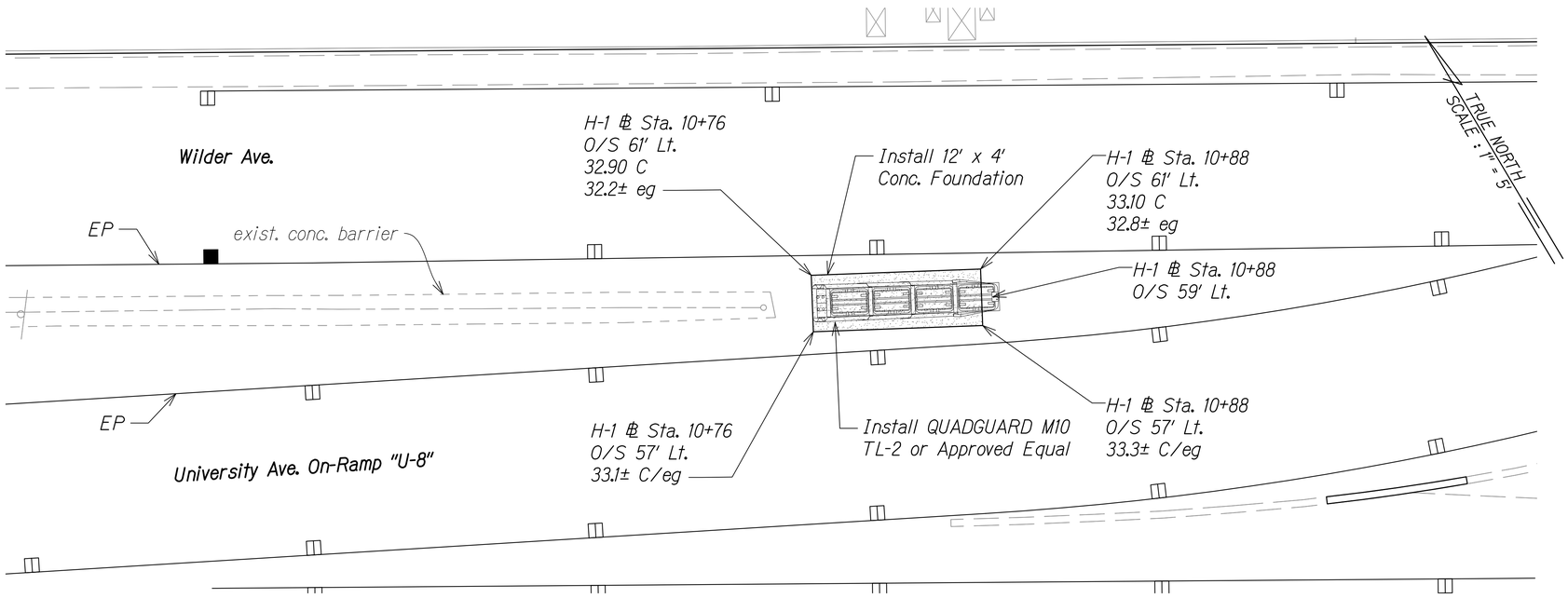
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	128	411



H-1 (WESTBOUND)

WILDER AVENUE OFF-RAMP

SCALE: 1" = 5'



H-1 (WESTBOUND)

UNIVERSITY AVENUE ON-RAMP "U-8"

SCALE: 1" = 5'

NOTES:

1. For specific information regarding installation and technical guidance of the system, the Contractor shall follow Manufacturer's product manual and recommendations.
2. Additional details for the transition options and foundation options will be shown on the Manufacturer's shop drawings furnished to the Engineer.
3. Concrete foundation shall be 6" minimum reinforced 4,000 psi P.C. concrete or 8" minimum non-reinforced 4,000 psi P.C. concrete.
4. Assembly cross-slope shall not exceed 8% and should not twist more than 2% over the length of the system.
5. The installation area shall be free from curbs, elevated objects, or depressions.

GRAPHICAL SCALE:

5' 0 5' 10'

Scale: 1" = 5'

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

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Robyn McKinney 04/30/26

SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IMPACT ATTENUATOR DETAILS

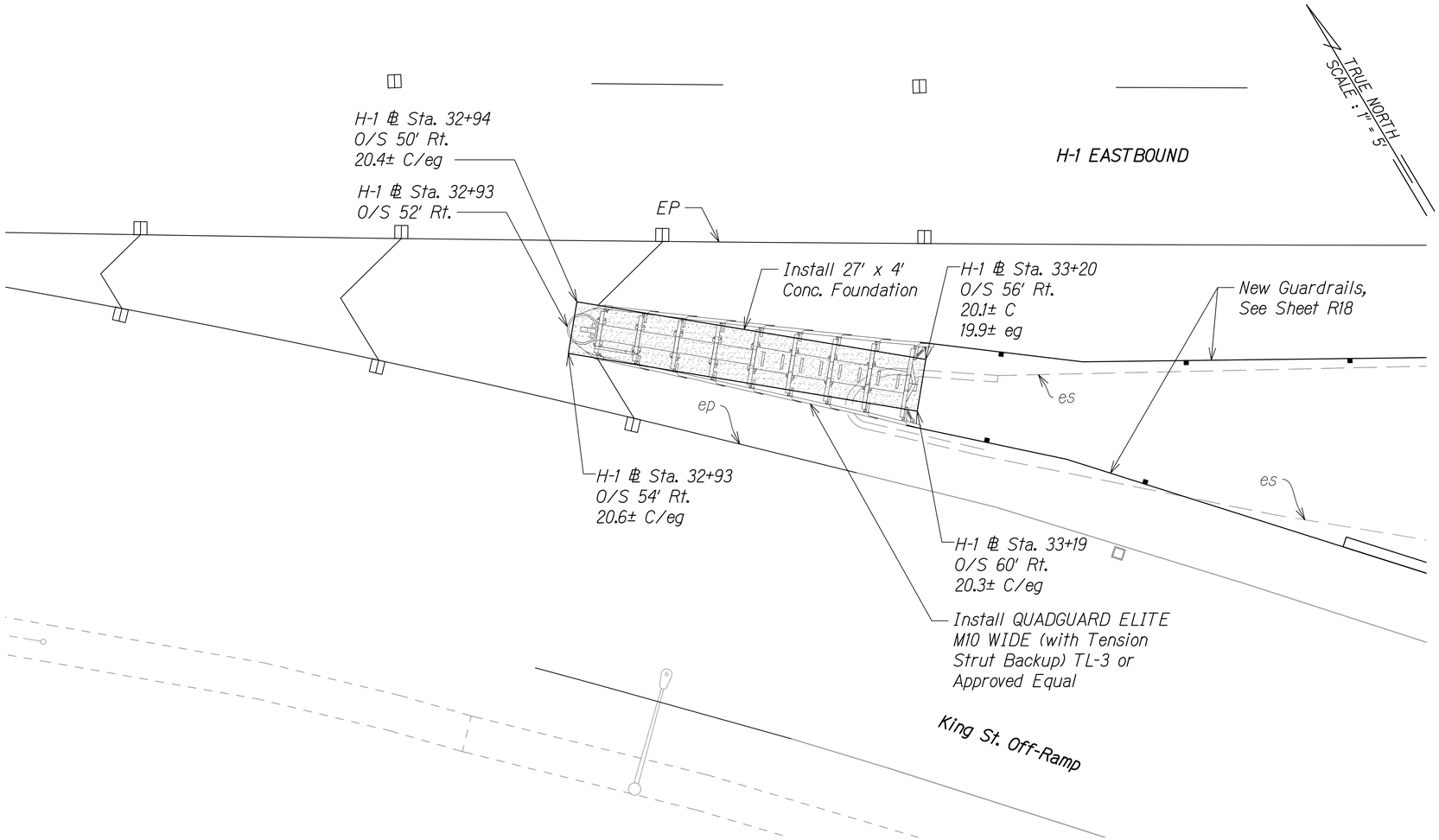
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 5' Date: November 2024

SHEET No. R65 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R62-R67 IMPACT ATTENUATOR DETAILS.DWG 7/3/2024 1:48 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	129	411



H-1 (EASTBOUND)

KING STREET OFF-RAMP

SCALE: 1" = 5'

NOTES:

1. For specific information regarding installation and technical guidance of the system, the Contractor shall follow Manufacturer's product manual and recommendations.
2. Additional details for the transition options and foundation options will be shown on the Manufacturer's shop drawings furnished to the Engineer.
3. Concrete foundation shall be 6" minimum reinforced 4,000 psi P.C. concrete or 8" minimum non-reinforced 4,000 psi P.C. concrete.
4. Assembly cross-slope shall not exceed 8% and should not twist more than 2% over the length of the system.
5. The installation area shall be free from curbs, elevated objects, or depressions.

GRAPHICAL SCALE:

5' 0 5' 10'

Scale: 1" = 5'

ROBYN R. MCKINNEY
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NO. 13480-C
HAWAII, USA

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IMPACT ATTENUATOR DETAILS

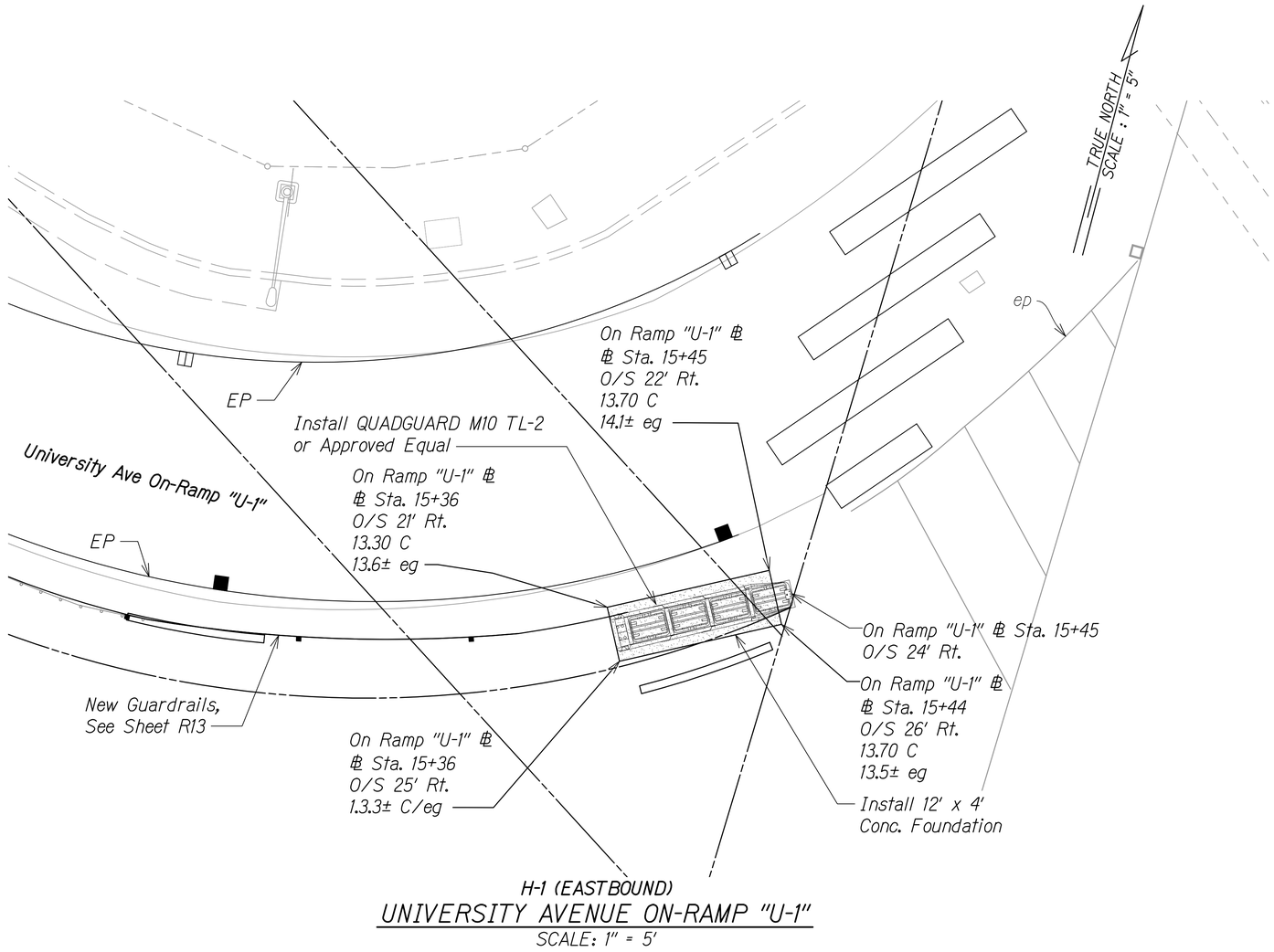
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 5' Date: November 2024

SHEET No. R66 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI\01 CIVIL DRAWINGS\R62-R67 IMPACT ATTENUATOR DETAILS.DWG 7/3/2024 1:48 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	130	411



UNIVERSITY AVENUE ON-RAMP "U-1"

SCALE: 1" = 5'

NOTES:

1. For specific information regarding installation and technical guidance of the system, the Contractor shall follow Manufacturer's product manual and recommendations.
2. Additional details for the transition options and foundation options will be shown on the Manufacturer's shop drawings furnished to the Engineer.
3. Concrete foundation shall be 6" minimum reinforced 4,000 psi P.C. concrete or 8" minimum non-reinforced 4,000 psi P.C. concrete.
4. Assembly cross-slope shall not exceed 8% and should not twist more than 2% over the length of the system.
5. The installation area shall be free from curbs, elevated objects, or depressions.

GRAPHICAL SCALE:

5' 0 5' 10'

Scale: 1" = 5'

ROBYN R. MCKINNEY
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NO. 13480-C
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IMPACT ATTENUATOR DETAILS

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 5' Date: November 2024

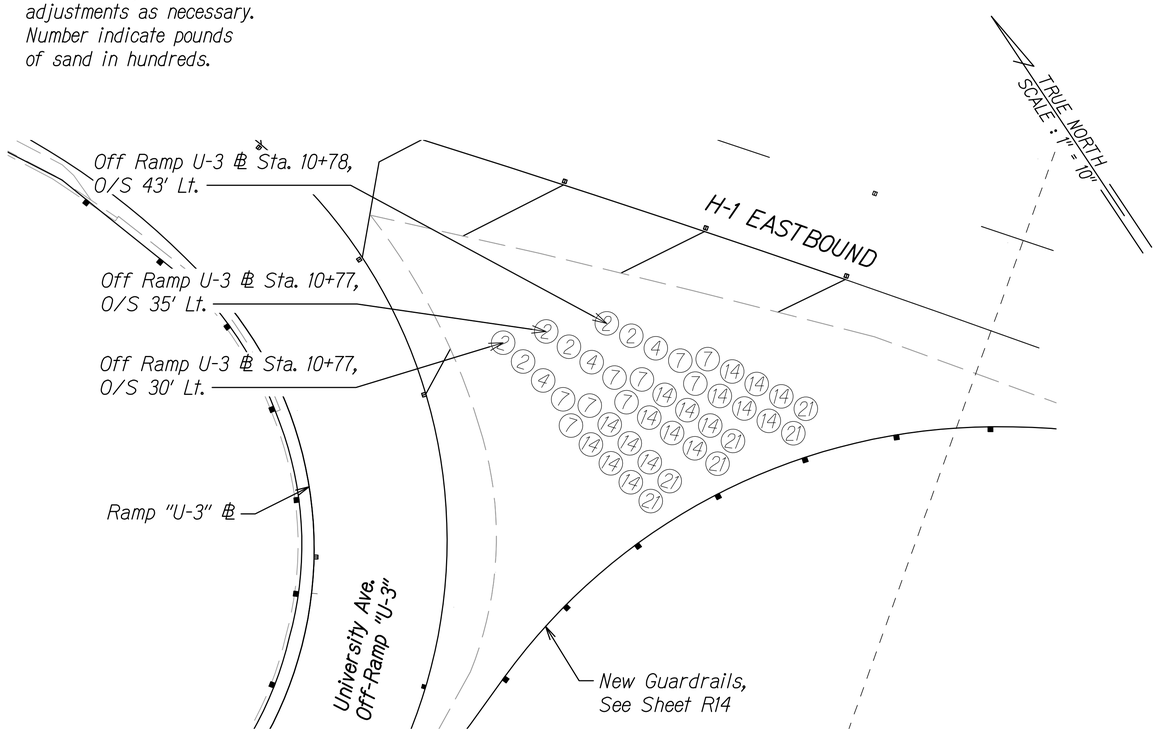
SHEET No. R67 OF 68 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPINT\01 CIVIL DRAWINGS\R62-R67 IMPACT ATTENUATOR DETAILS.DWG 7/3/2024 1:48 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	131	411

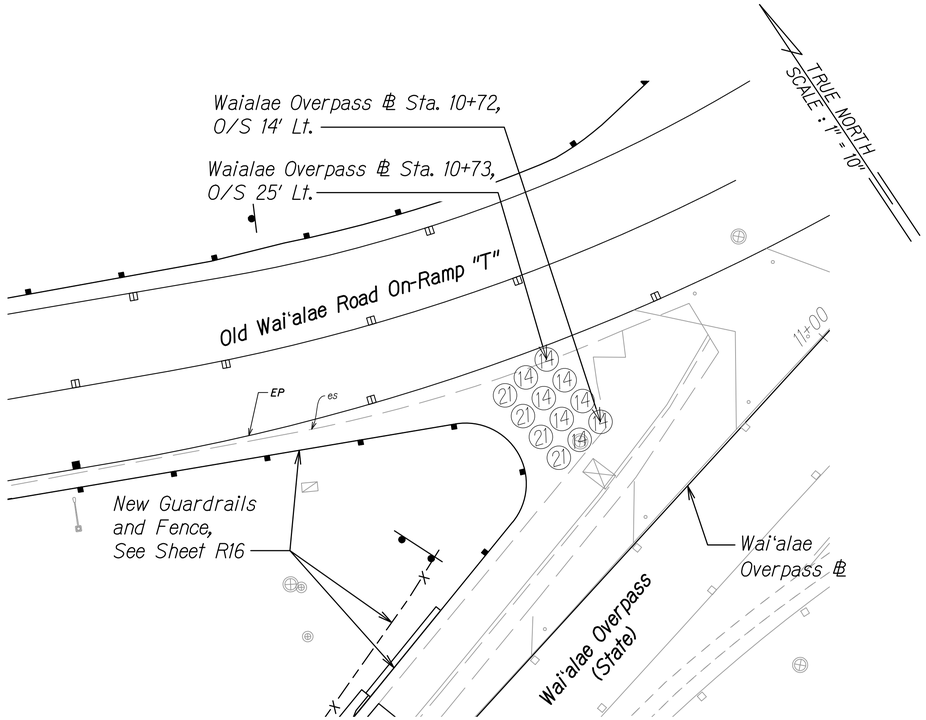
SAND BARREL NOTES:

1. The existing sand barrels shall be removed and replaced in its entirety.
2. The Contractor shall field verify the layout and make adjustments as necessary.
3. Number indicate pounds of sand in hundreds.



INERTIAL BARRIER SYSTEM LAYOUT AT UNIVERSITY OFF-RAMP "U-3"

Scale: 1" = 10'



INERTIAL BARRIER SYSTEM LAYOUT AT WAI'ALAE OVERPASS

Scale: 1" = 10'

GRAPHICAL SCALE:

10' 5' 0 10' 20'

Scale: 1" = 10'

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

IMPACT ATTENUATOR DETAILS

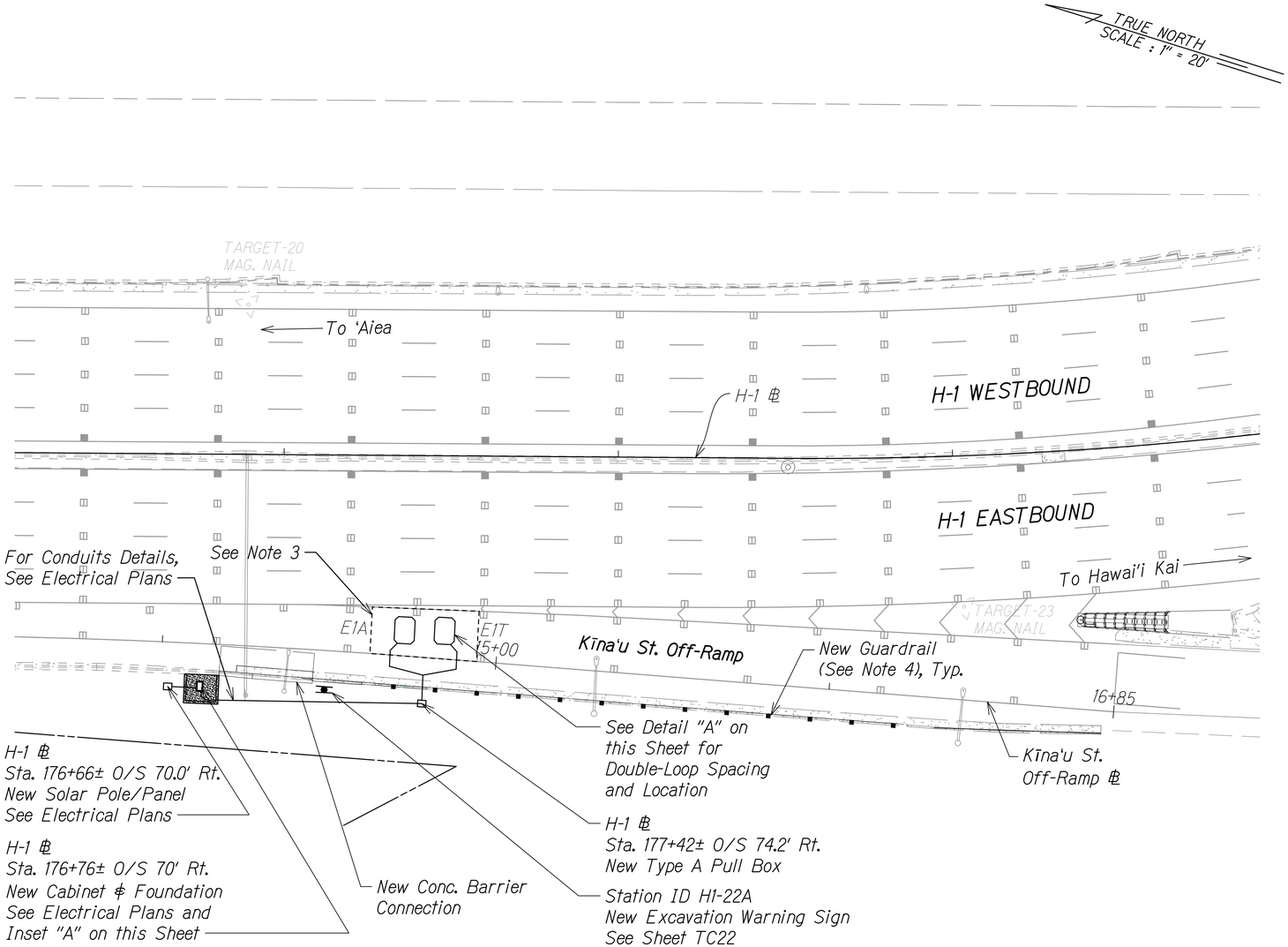
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

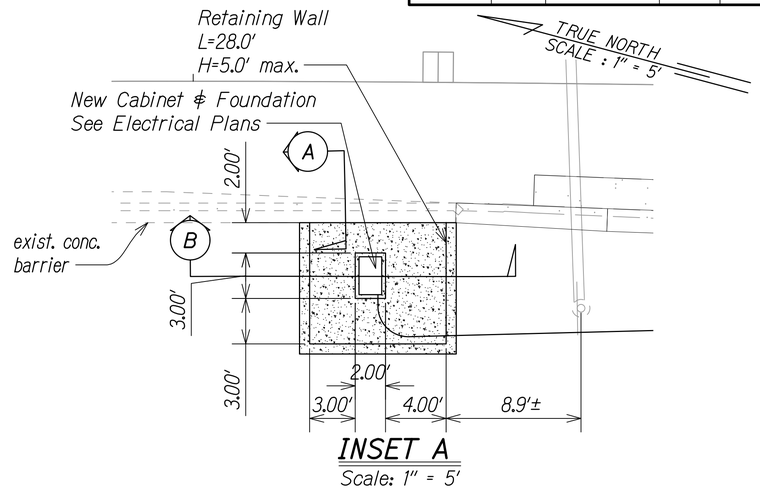
Scale: 1" = 10' Date: November 2024

SHEET No. R68 OF 68 SHEETS

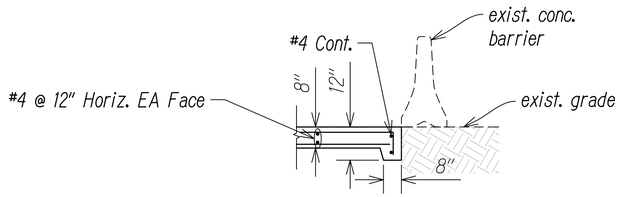
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\R68 IMPACT ATTENUATOR DETAILS.DWG 7/25/2024 7:25 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	132	411

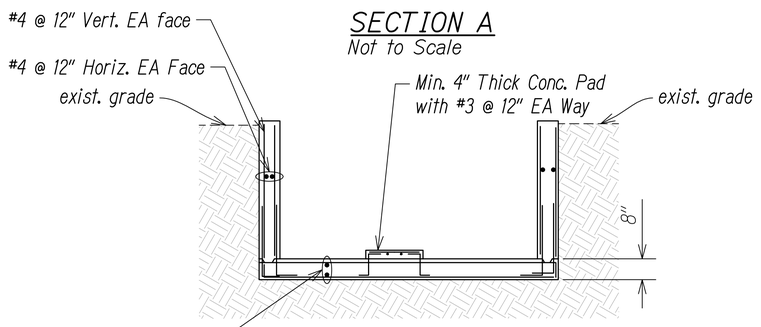




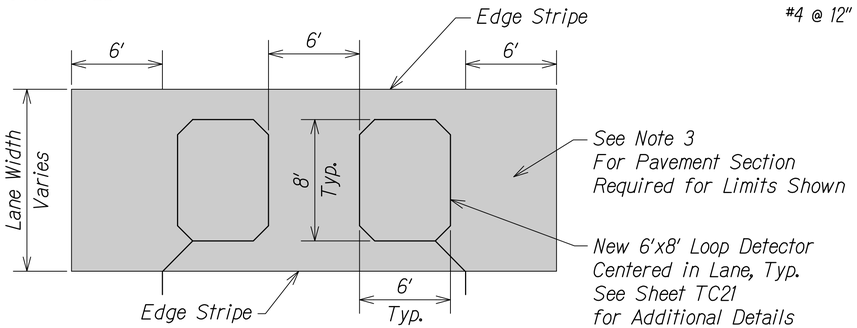
INSET A
Scale: 1" = 5'



SECTION A
Not to Scale



SECTION B
Not to Scale



DETAIL "A"

NOTES:

1. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.
2. Grading of Existing Ground shall be completed to ensure leveled base prior to installation of Cabinet Foundation.
3. Use the following pavement section within limits shown in Detail "A" on this Sheet:

   2" Mix No. IV with PG 64E-22
   6" HMAB
4. The Contractor shall coordinate and install conduits clear from guardrail posts.

KINAU ST. OFF-RAMP DOUBLE-LOOP SPACING AND DIMENSIONS

Not to Scale

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

ROBYN R. MCKINNEY
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NO. 13480-C
HAWAII, USA

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04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

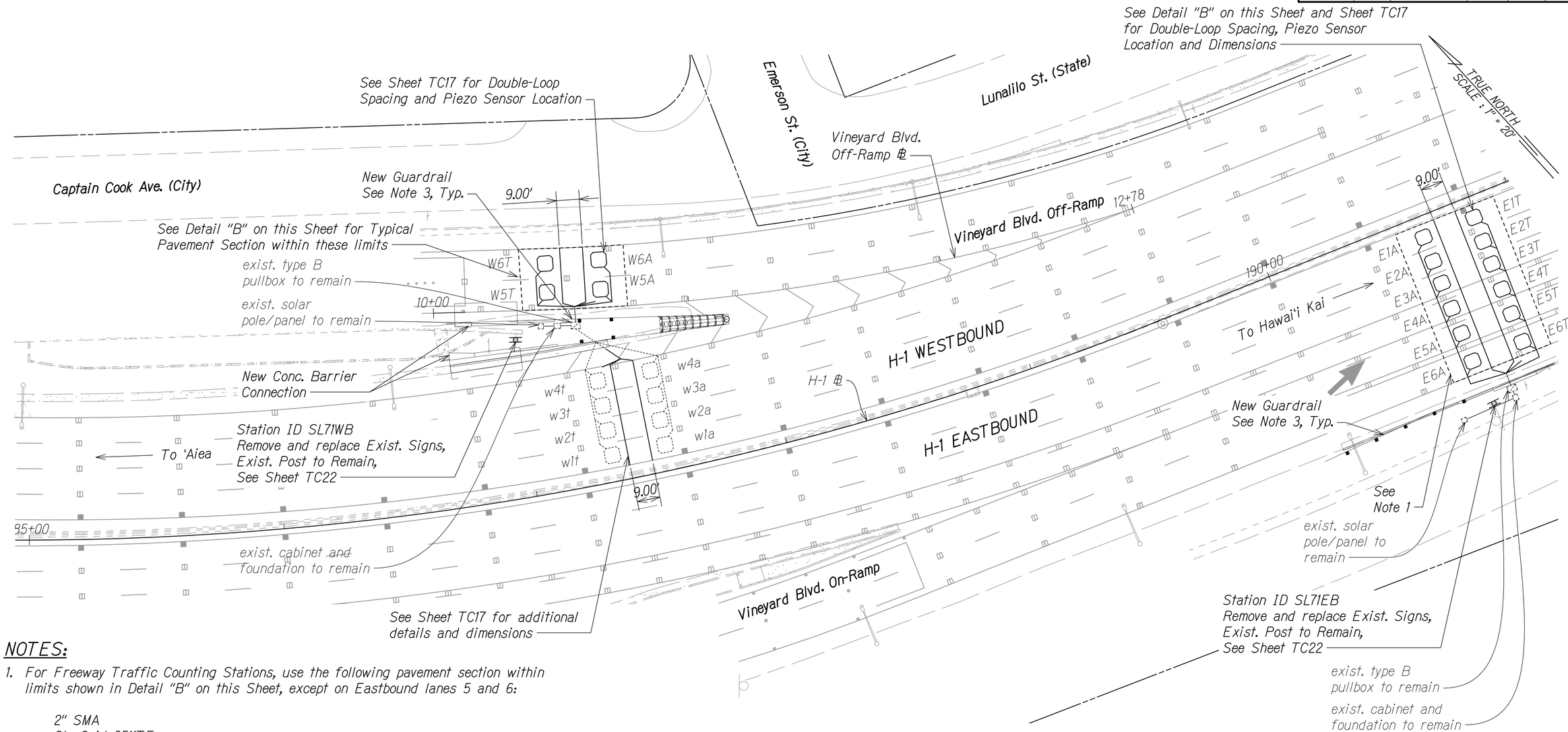
TRAFFIC COUNTING STATION PLAN AT MILEPOST 21.88

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

SHEET No. TC1 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	133	411



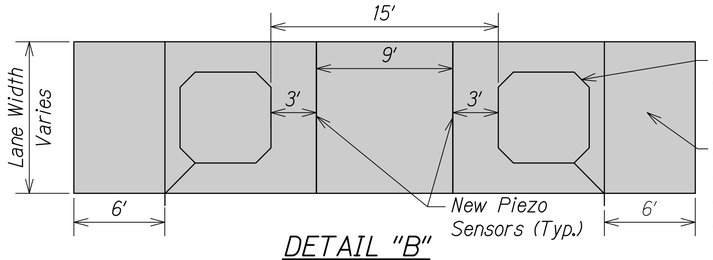
NOTES:

1. For Freeway Traffic Counting Stations, use the following pavement section within limits shown in Detail "B" on this Sheet, except on Eastbound lanes 5 and 6:

   2" SMA
   GlasGrid 8511TF
   2" Mix No. IV with PG 64E-22
   GlasGrid 8511TF
   4" HMAB

2. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops, Piezo and Road temperature sensors for approval prior to installation.

3. The Contractor shall coordinate and install conduits clear from guardrail posts.



DETAIL "B"

TYPICAL FREEWAY EVC SENSOR SPACING AND DIMENSIONS

Not to Scale

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

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Robyn McKinney 04/30/26

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

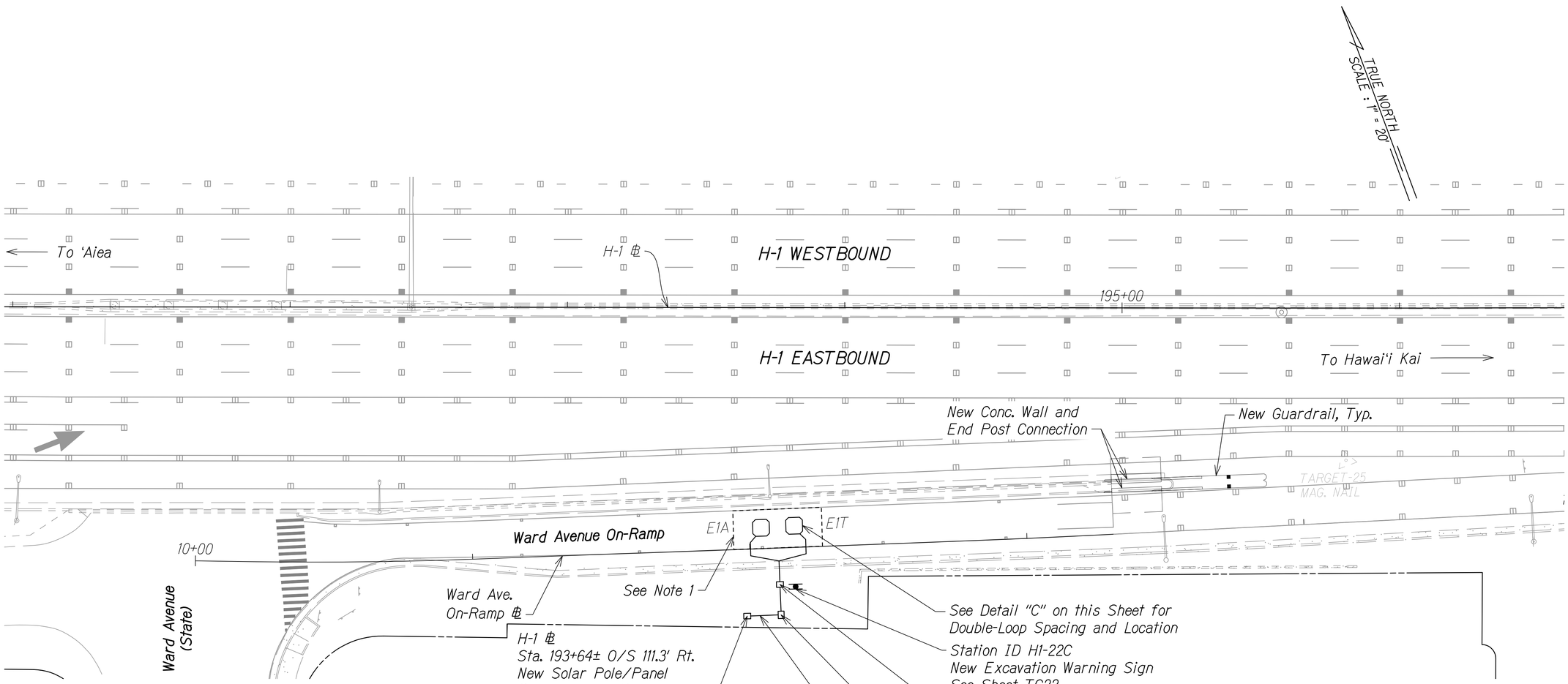
TRAFFIC COUNTING STATION PLAN AT MILEPOST 22.10

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 20' Date: November 2024

SHEET No. TC2 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	134	411

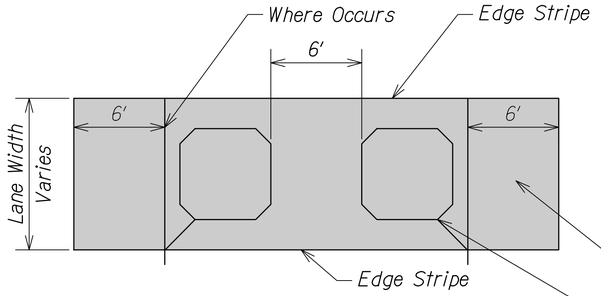


NOTES:

1. For Side Street/Ramp Traffic Counting Stations, use the following pavement section within limits shown in Detail "C" on this Sheet:

   2" Mix No. IV with PG 64E-22
   6" HMAB

2. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.



DETAIL "C"

TYPICAL SIDE STREET/RAMP DOUBLE-LOOP SPACING AND DIMENSIONS

Not to Scale

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

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

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Robyn McKinney — 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 22.19

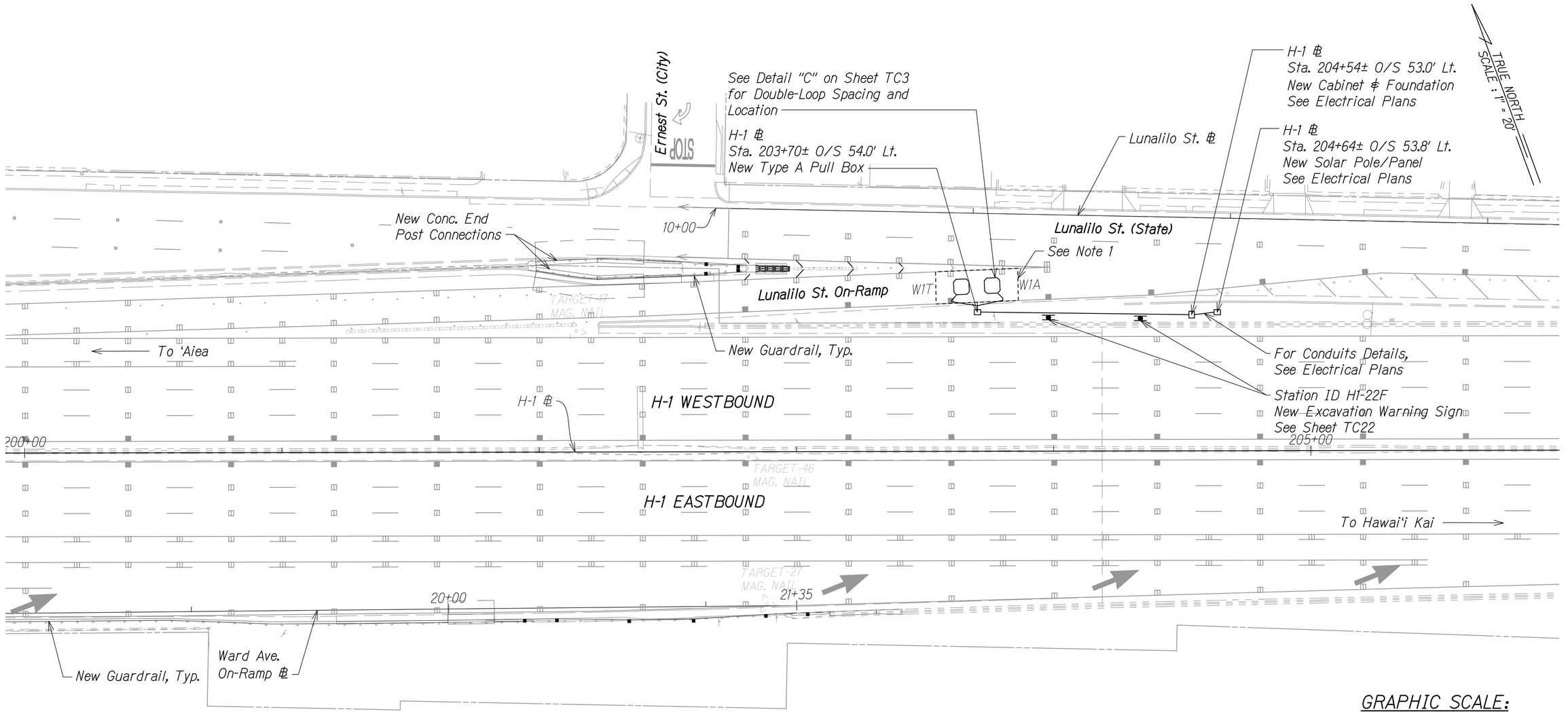
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 20' Date: November 2024

SHEET No. TC3 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\T\01 CIVIL DRAWINGS\TC1-TC4 TRAFFIC COUNTING STATION PLAN 1.DWG 10/29/2024 2:19 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	135	411



GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

NOTES:

1. For Side Street/Ramp Traffic Counting Stations, use the following pavement section within limits shown in Detail "C" on Sheet TC3:

   2" Mix No. IV with PG 64E-22
   6" HMAB

2. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.

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

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Robyn McKinney 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 22.49

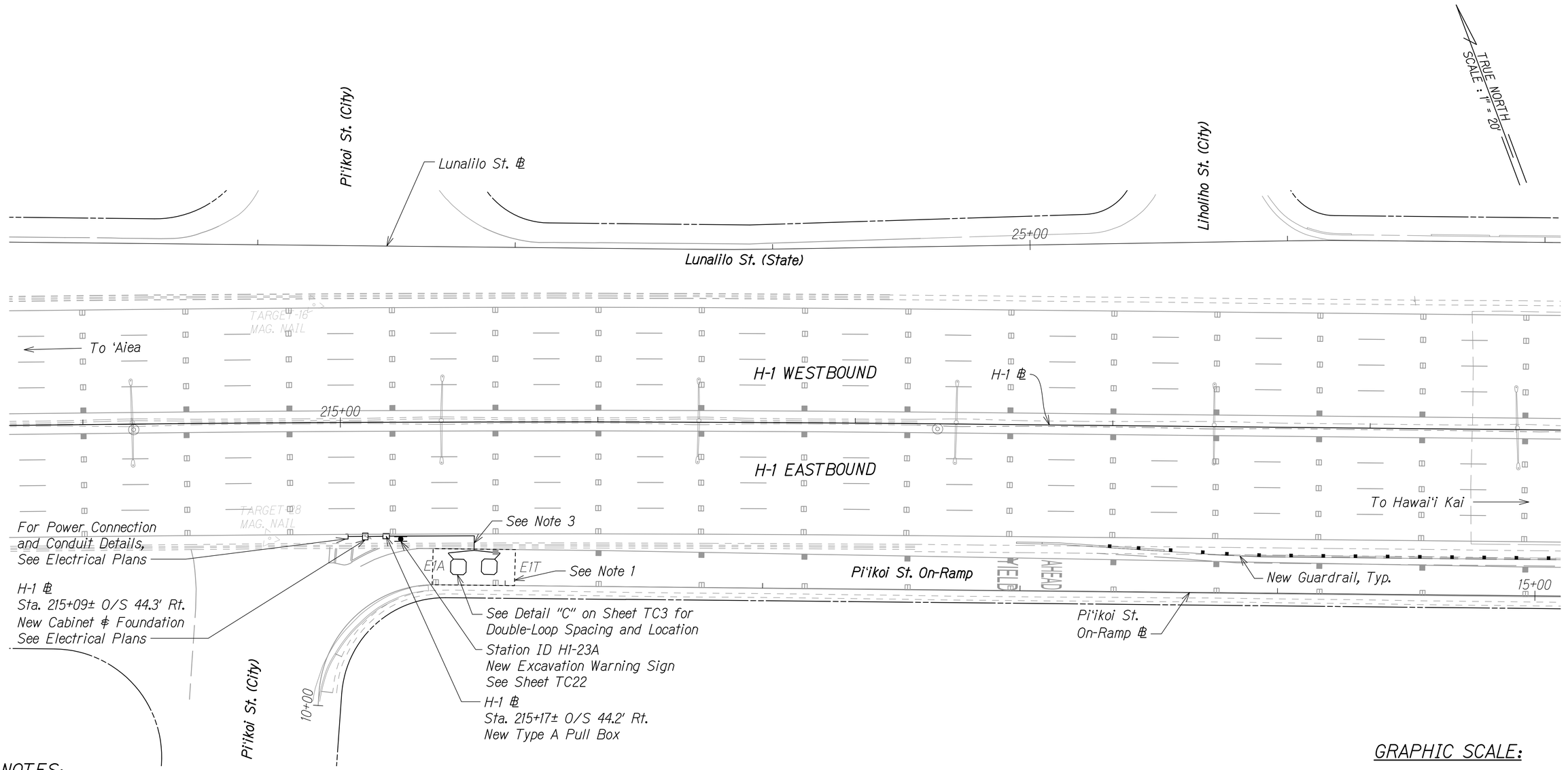
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 20' Date: November 2024

SHEET No. TC4 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIOLANI\CIVIL DRAWINGS\TC1-TC4 TRAFFIC COUNTING STATION PLAN 1.DWG 11/12/2024 9:14 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	136	411



NOTES:

1. For Side Street/Ramp Traffic Counting Stations, use the following pavement section within limits shown in Detail "C" on Sheet TC3:

   2" Mix No. IV with PG 64E-22
   6" HMAB

2. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.

3. Contractor shall reconstruct existing chain link fence as required and shall be considered incidental to this work.

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

ROBYN R. MCKINNEY
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NO. 13480-C
HAWAII, USA

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 22.62

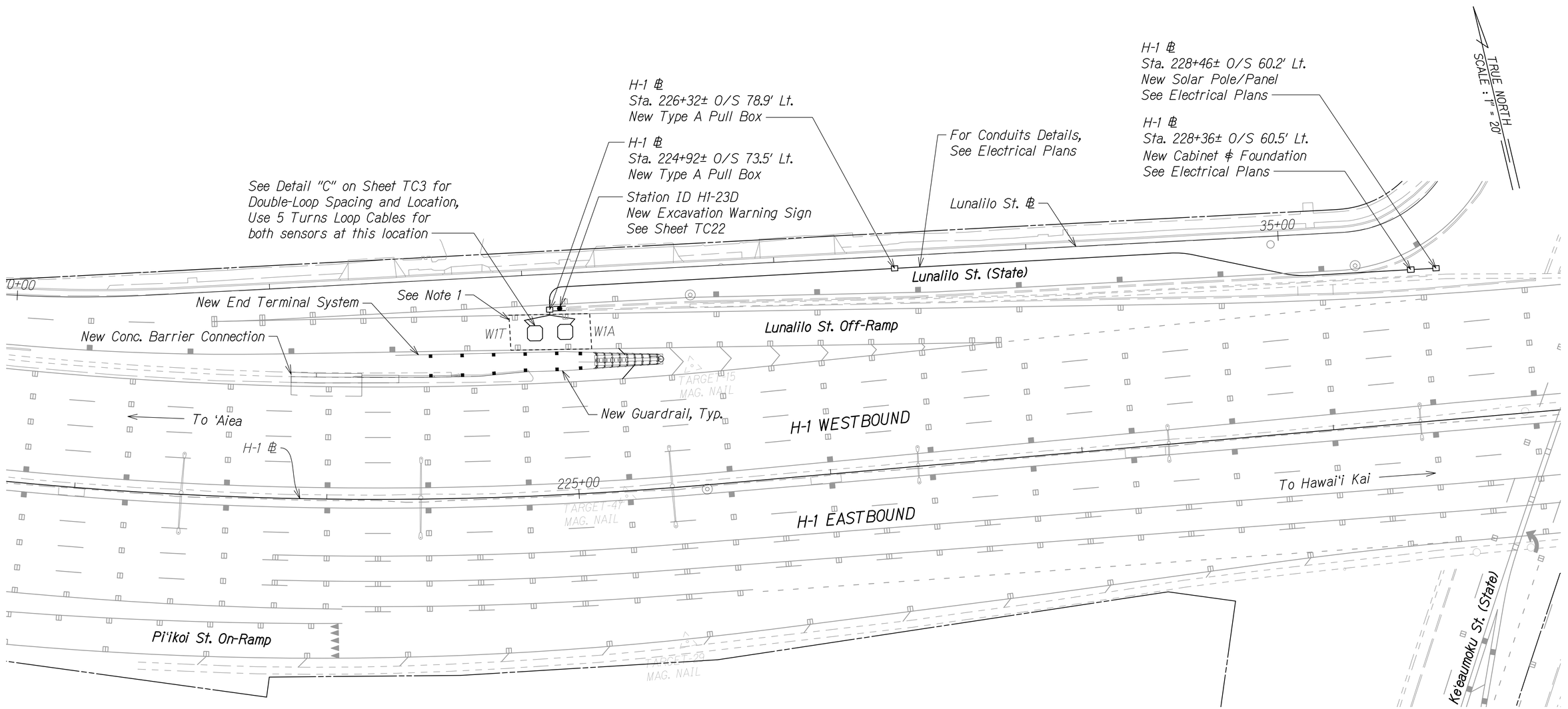
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 20' Date: November 2024

SHEET No. TC5 OF 22 SHEETS

W:_CIVIL 30 PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\TC5-TC8 TRAFFIC COUNTING STATION PLAN 2.DWG 10/29/2024 2:55 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	137	411



NOTES:

1. For Side Street/Ramp Traffic Counting Stations, use the following pavement section within limits shown in Detail "C" on Sheet TC3:

   2" Mix No. IV with PG 64E-22
   6" HMAB

2. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 22.78

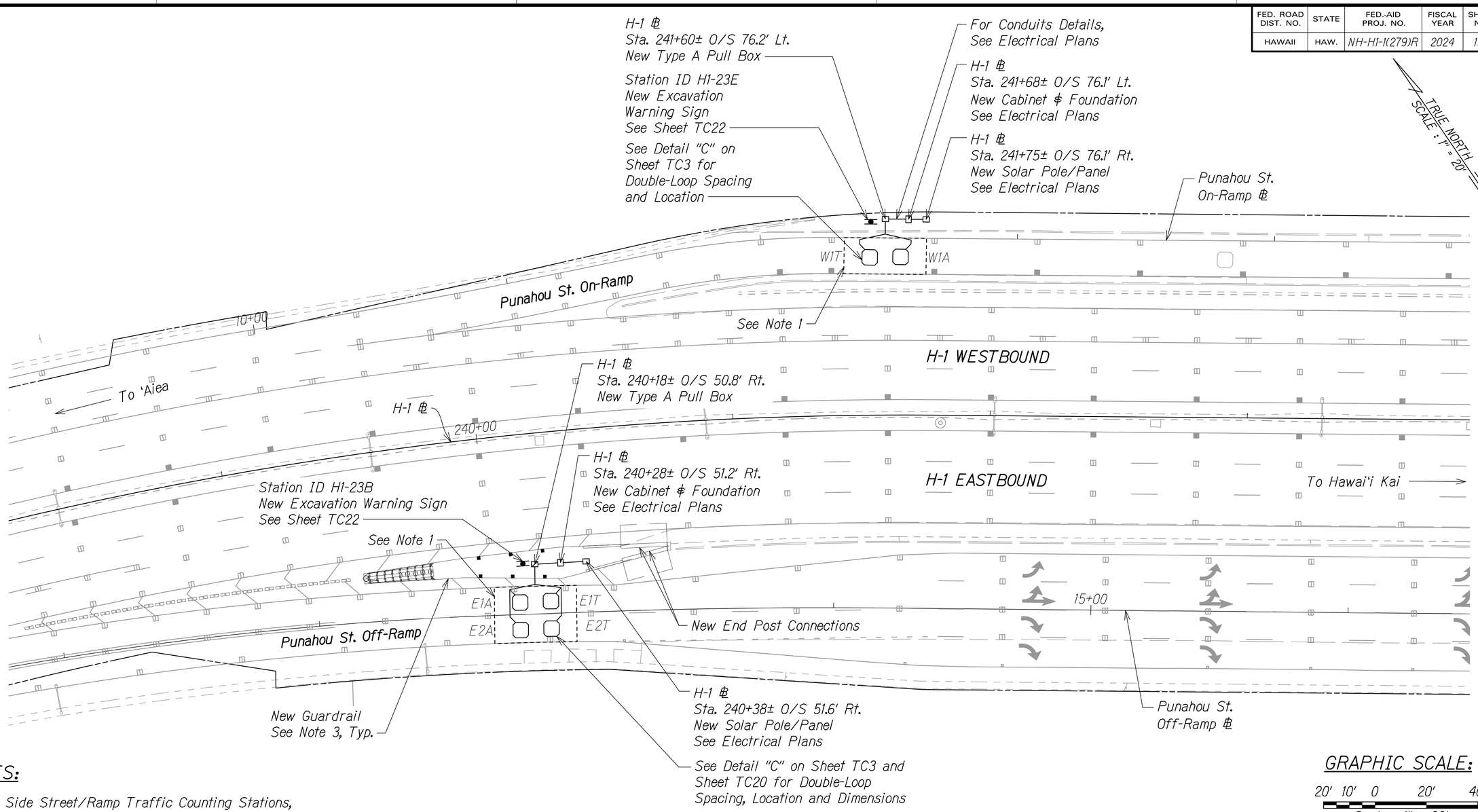
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 20' Date: November 2024

SHEET No. TC6 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\TC5-TC8 TRAFFIC COUNTING STATION PLAN 2.DWG 11/12/2024 11:33 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	138	411



NOTES:

1. For Side Street/Ramp Traffic Counting Stations, use the following pavement section within limits shown in Detail "C" on Sheet TC3:

   2" Mix No. IV with PG 64E-22
   6" HMAB

2. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.

3. The Contractor shall coordinate and install conduits clear from guardrail posts.

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

ROBYN R. MCKINNEY
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NO. 13480-C
HAWAII, USA

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HIGHWAYS DIVISION

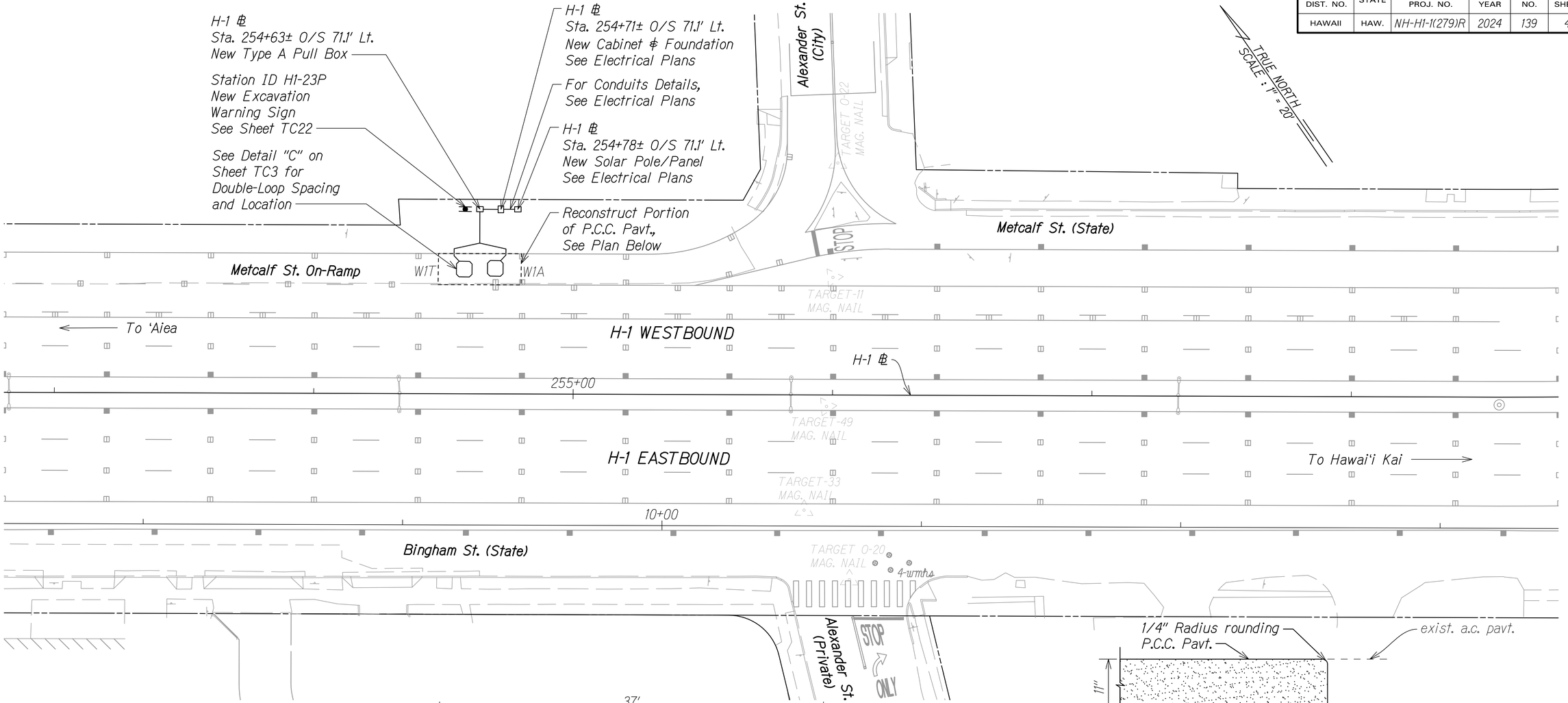
TRAFFIC COUNTING STATION PLAN AT MILEPOST 23.08

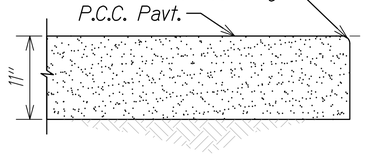
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 20' Date: November 2024

SHEET No. TC7 OF 22 SHEETS

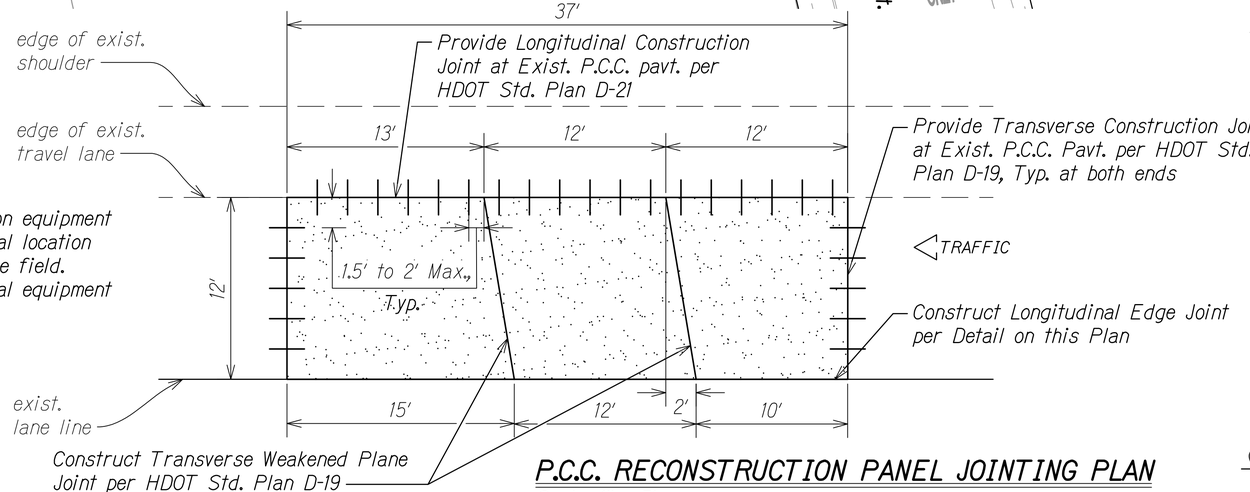
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	139	411





LONGITUDINAL EDGE JOINT

Scale: N.T.S



P.C.C. RECONSTRUCTION PANEL JOINTING PLAN

Scale: 1" = 5'

NOTE:

1. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.

GRAPHIC SCALES:

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

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

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

SIGNATURE

04/30/26
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 23.35

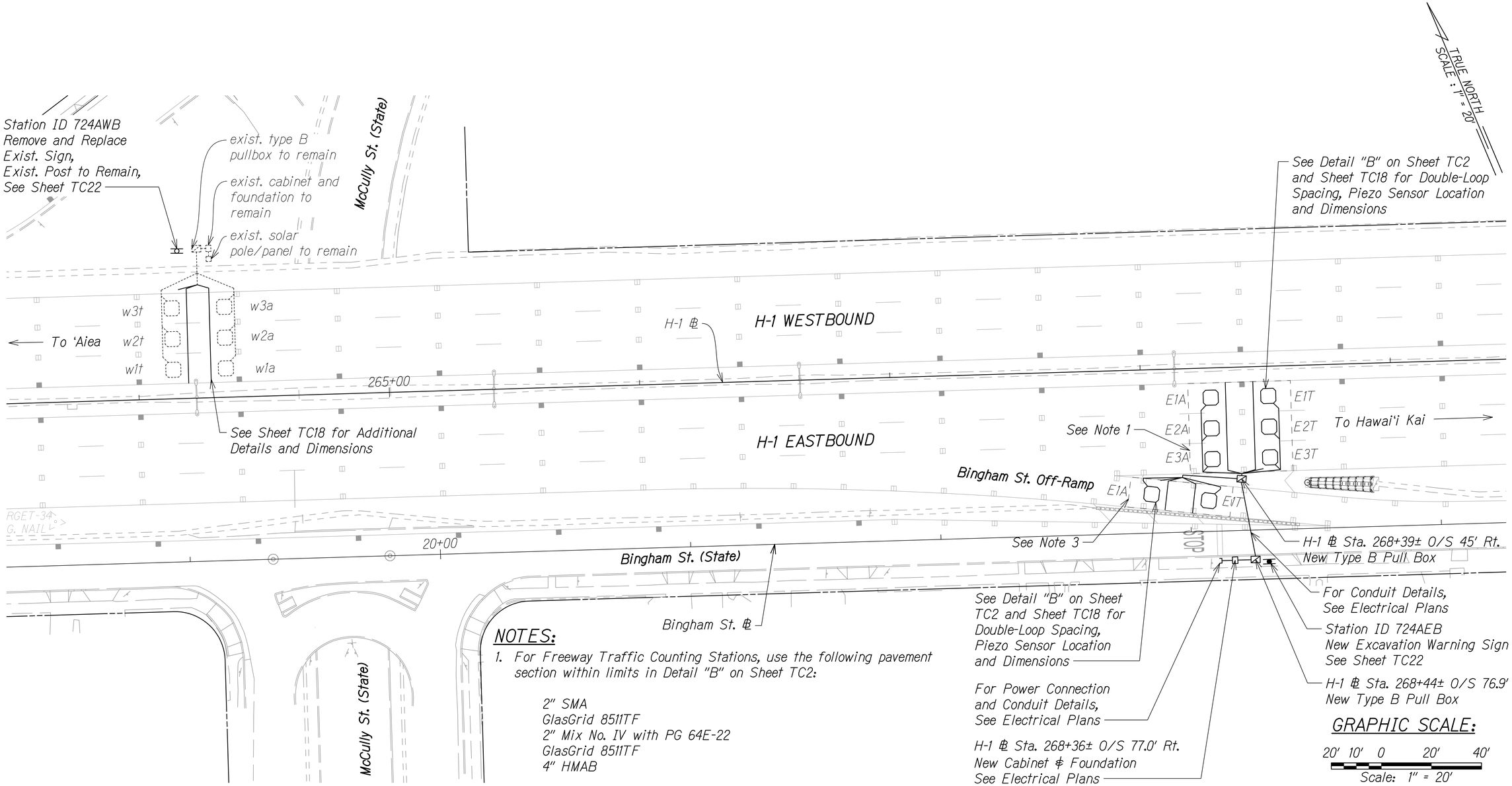
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: As Shown Date: November 2024

SHEET No. TC8 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\TC5-TC8 TRAFFIC COUNTING STATION PLAN 2.DWG 10/29/2024 5:21 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	140	411



NOTES:

1. For Freeway Traffic Counting Stations, use the following pavement section within limits in Detail "B" on Sheet TC2:

   2" SMA
   GlasGrid 8511TF
   2" Mix No. IV with PG 64E-22
   GlasGrid 8511TF
   4" HMAB

2. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops, Piezo and Road temperature sensors and conduit for approval prior to installation.

3. For Side Street/Ramp Traffic Counting Stations, use the following pavement section within limits shown in Detail "C" on Sheet TC3:

   2" Mix No. IV with PG 64E-22
   6" HMAB

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

ROBYN R. MCKINNEY
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NO. 13480-C
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Robyn McKinney — SIGNATURE

04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 23.55

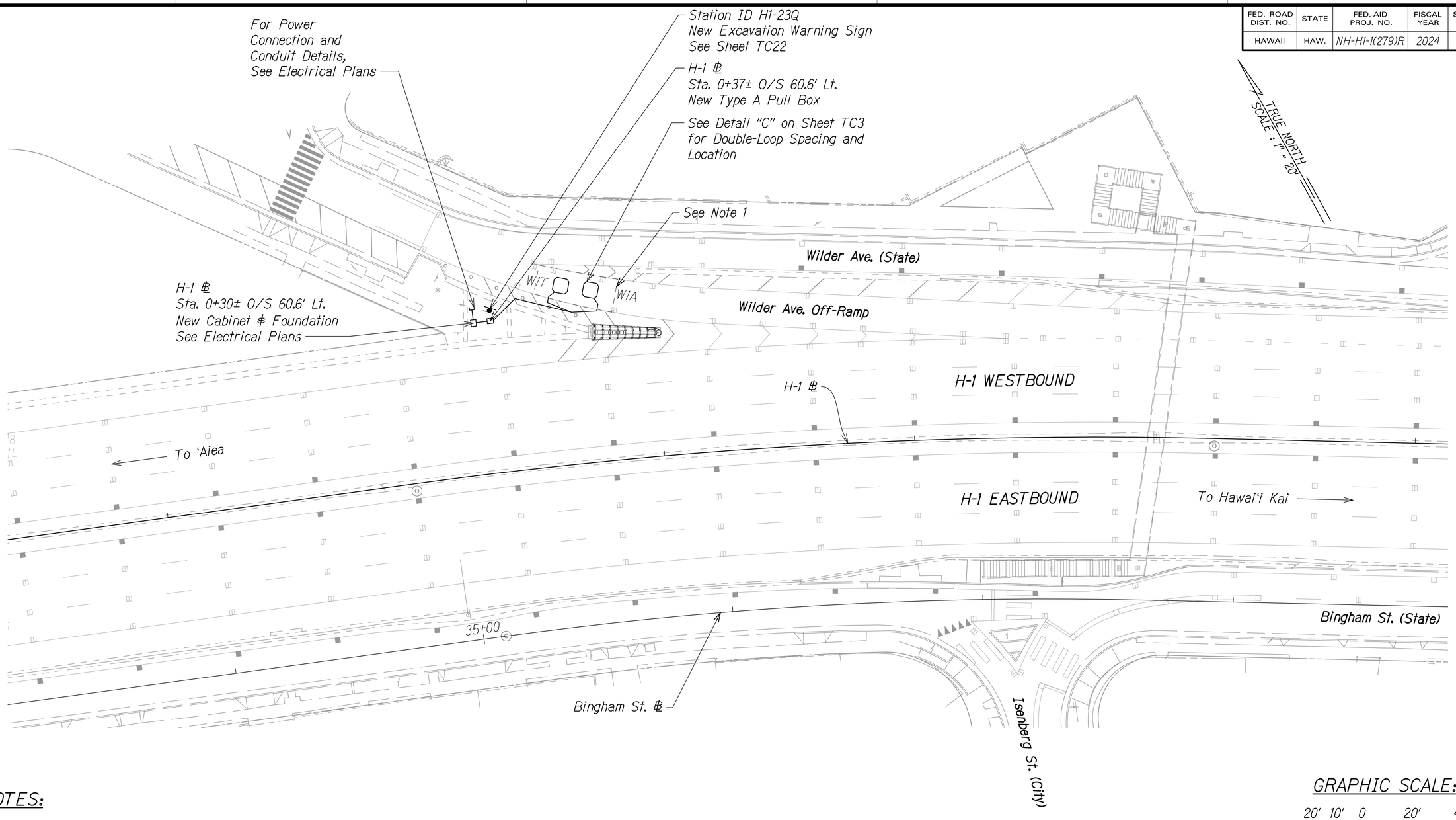
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 20' Date: November 2024

SHEET No. TC9 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\T\01 CIVIL DRAWINGS\TC9-TC12 TRAFFIC COUNTING STATION PLAN 3.DWG 11/5/2024 9:01 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	141	411



NOTES:

1. For Side Street/Ramp Traffic Counting Stations, use the following pavement section within limits shown in Detail "C" on Sheet TC3:

   2" Mix No. IV with PG 64E-22
   6" HMAB

2. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

ROBYN R. MCKINNEY
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NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 23.83

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

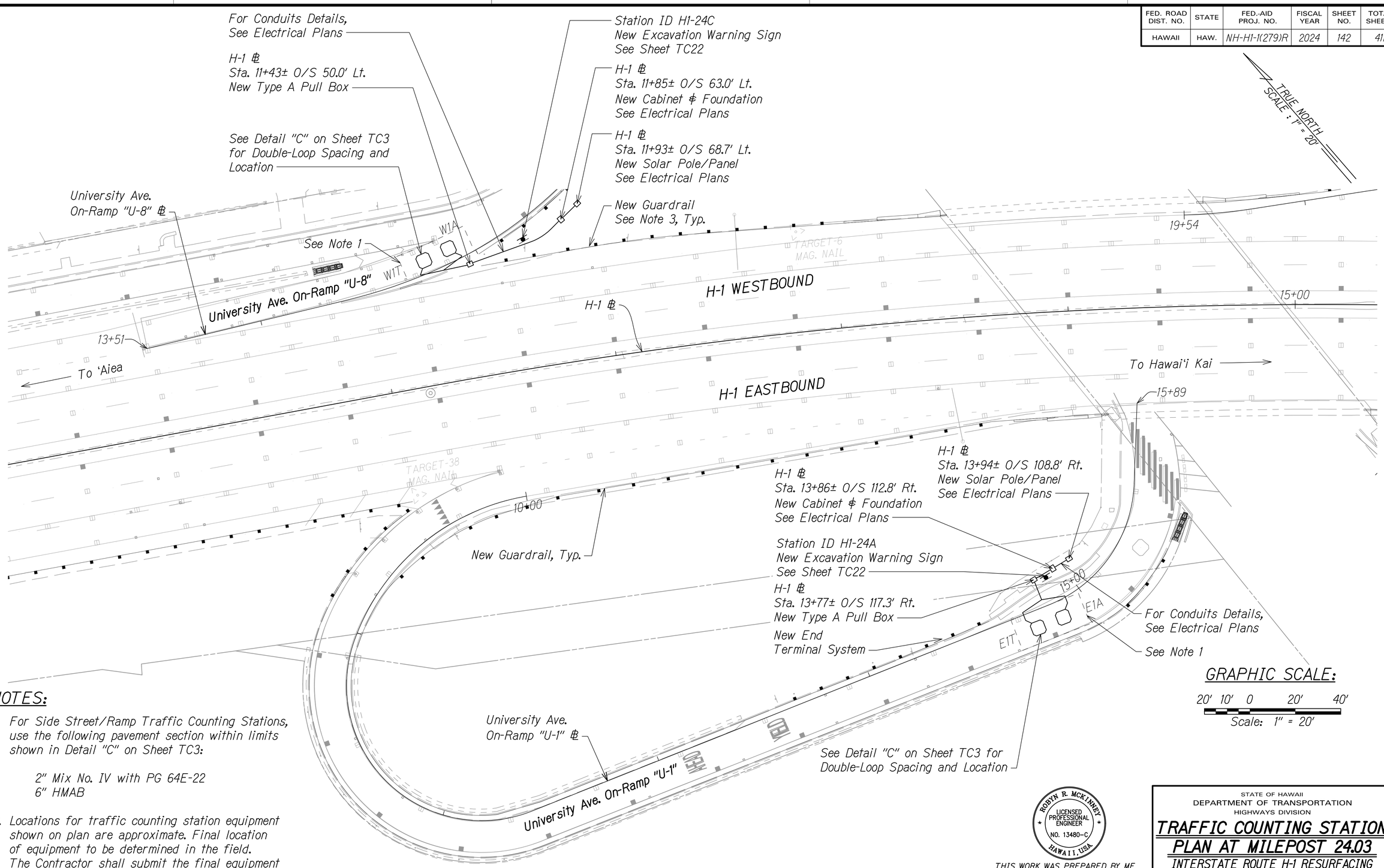
Scale: 1" = 20' Date: November 2024

SHEET No. TC10 OF 22 SHEETS

141

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIT\01 CIVIL DRAWINGS\TC9-TC12 TRAFFIC COUNTING STATION PLAN 3.DWG 10/25/2024 9:25 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	142	411



NOTES:

1. For Side Street/Ramp Traffic Counting Stations, use the following pavement section within limits shown in Detail "C" on Sheet TC3:

   2" Mix No. IV with PG 64E-22
   6" HMAB

2. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.

3. The Contractor shall coordinate and install conduits clear from guardrail posts.

GRAPHIC SCALE:

20′ 10′ 0 20′ 40′

Scale: 1" = 20′

ROBYN R. MCKINNEY
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NO. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 24.03

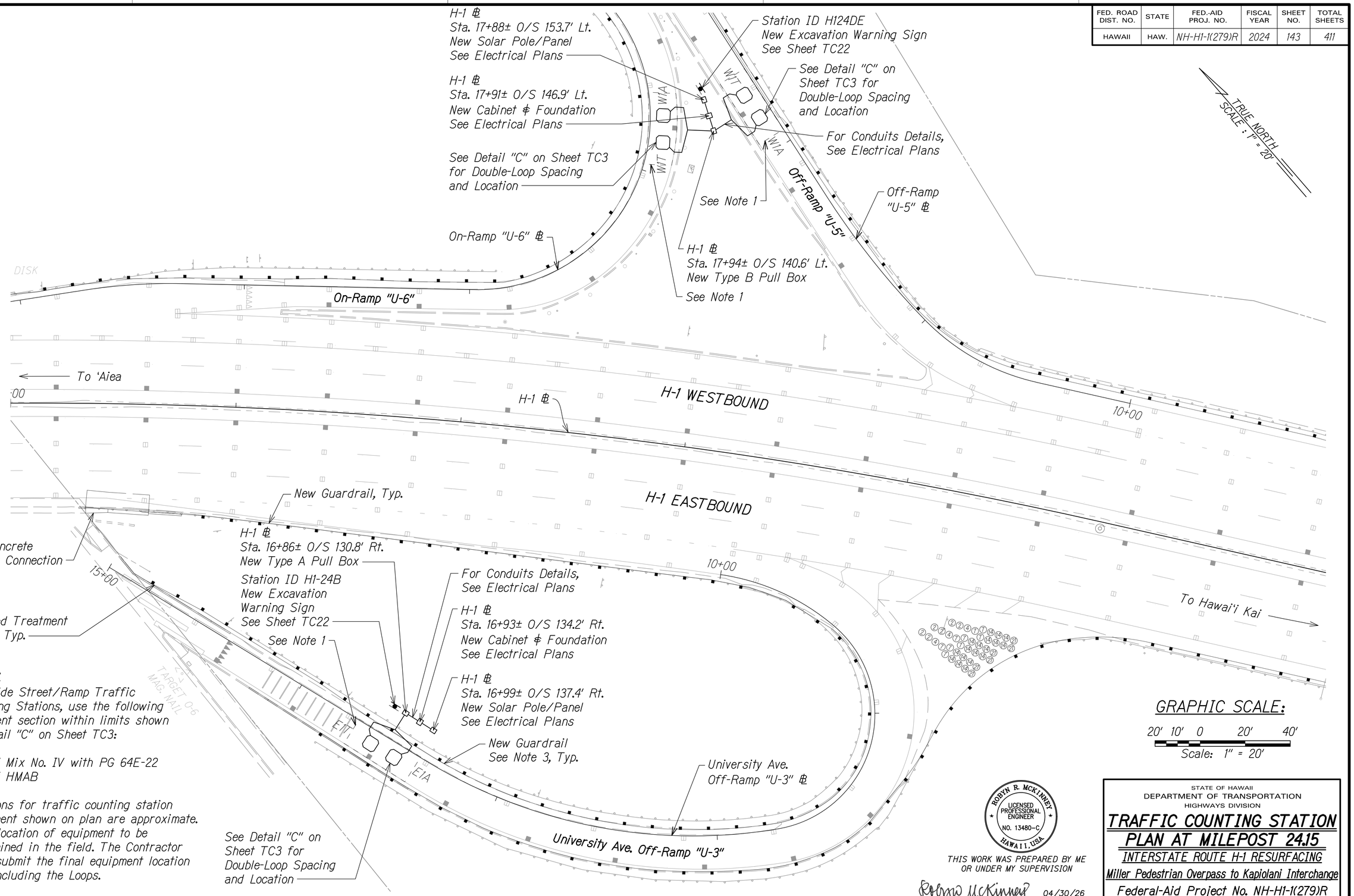
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 20′ Date: November 2024

SHEET No. TC11 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIʻOLANI\01 CIVIL DRAWINGS\TC9-TC12 TRAFFIC COUNTING STATION PLAN 3.DWG 10/29/2024 5:31 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	143	411



NOTES:

1. For Side Street/Ramp Traffic Counting Stations, use the following pavement section within limits shown in Detail "C" on Sheet TC3:

   2" Mix No. IV with PG 64E-22
   6" HMAB

2. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.

3. The Contractor shall coordinate and install conduits clear from guardrail posts.

GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

ROBYN R. MCKINNEY
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Robyn McKinney 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 24.15

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 20' Date: November 2024

SHEET No. TC12 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\TC9-TC12 TRAFFIC COUNTING STATION PLAN 3.DWG 10/29/2024 5:31 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	144	411

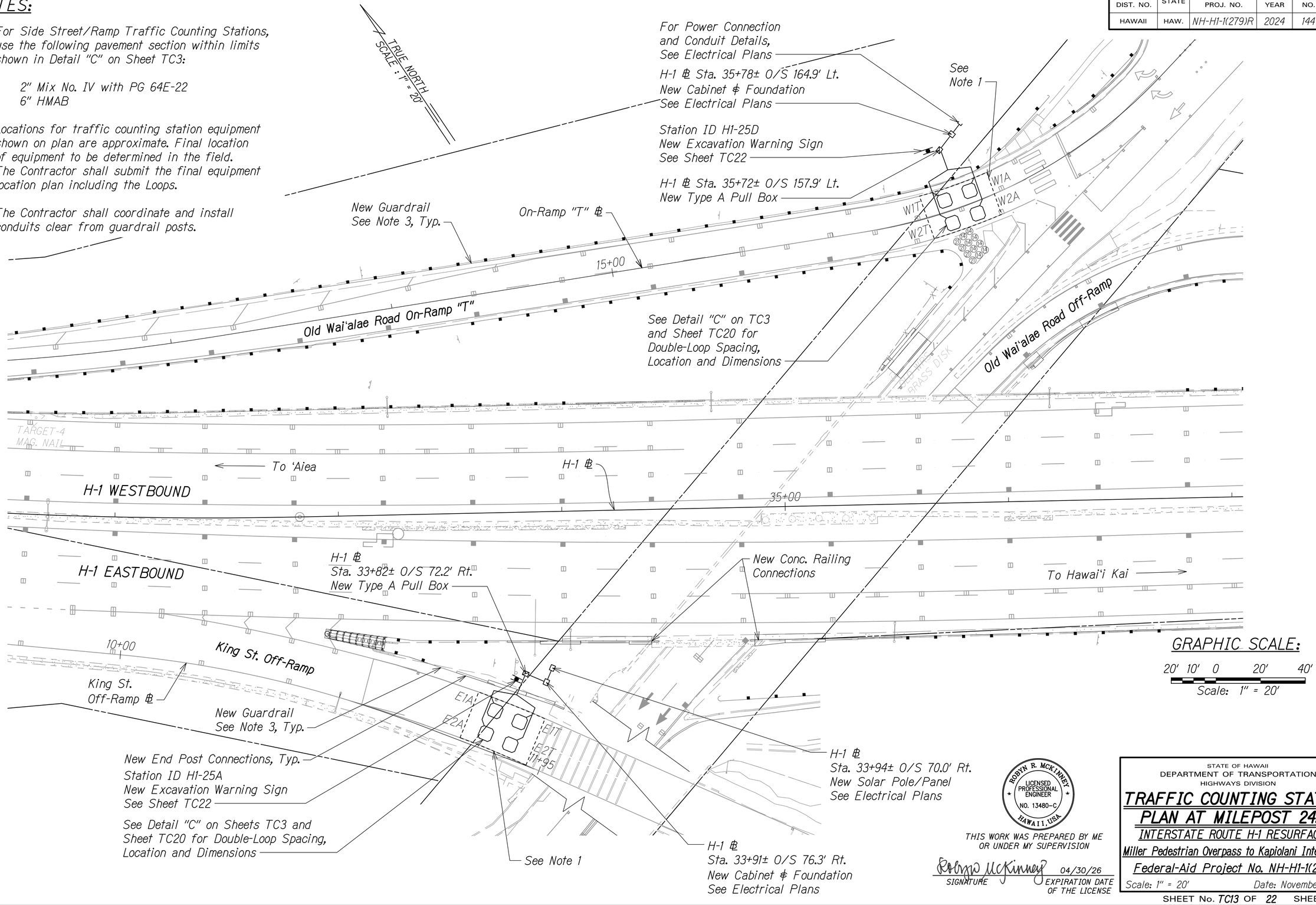
NOTES:

1. For Side Street/Ramp Traffic Counting Stations, use the following pavement section within limits shown in Detail "C" on Sheet TC3:

   2" Mix No. IV with PG 64E-22
   6" HMAB

2. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.

3. The Contractor shall coordinate and install conduits clear from guardrail posts.



GRAPHIC SCALE:

20' 10' 0 20' 40'

Scale: 1" = 20'

ROBYN R. MCKINNEY
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NO. 13480-C
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Robyn McKinney — 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 24.47

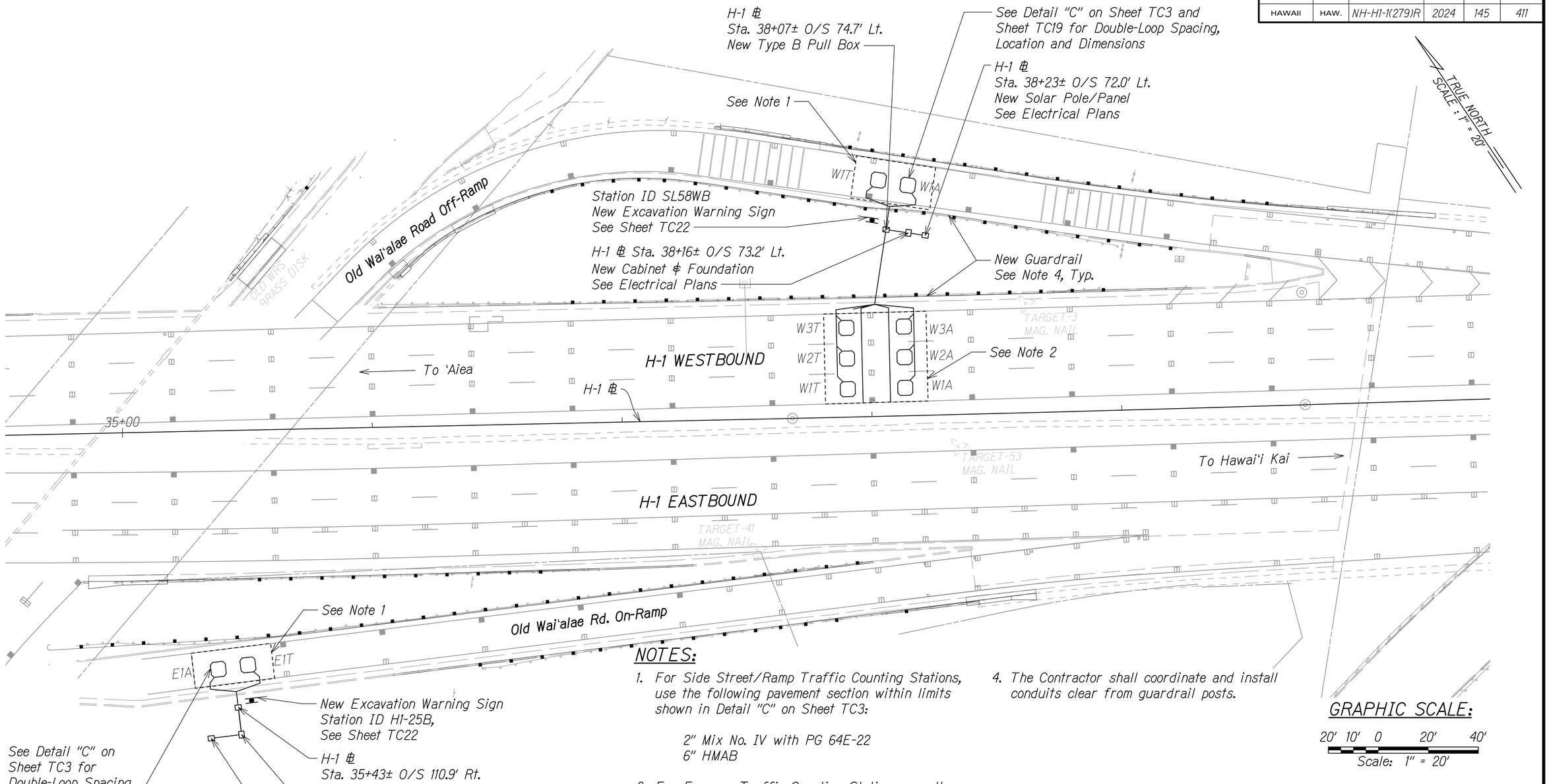
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 20' Date: November 2024

SHEET No. TC13 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\TC13-TC15 TRAFFIC COUNTING STATION PLAN 4.DWG 11/12/2024 11:34 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	145	411



NOTES:

1. For Side Street/Ramp Traffic Counting Stations, use the following pavement section within limits shown in Detail "C" on Sheet TC3:

   2" Mix No. IV with PG 64E-22
   6" HMAB

2. For Freeway Traffic Counting Stations, use the following pavement section within limits shown in Detail "B" on Sheet TC2:

   2" SMA
   GlassGrid 8511TF
   2" Mix No. IV with PG 64E-22
   4" HMAB

3. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops.

4. The Contractor shall coordinate and install conduits clear from guardrail posts.

GRAPHIC SCALE:

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

ROBYN R. McKINNEY
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NO. 13480-C
HAWAII, USA

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04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 24.50

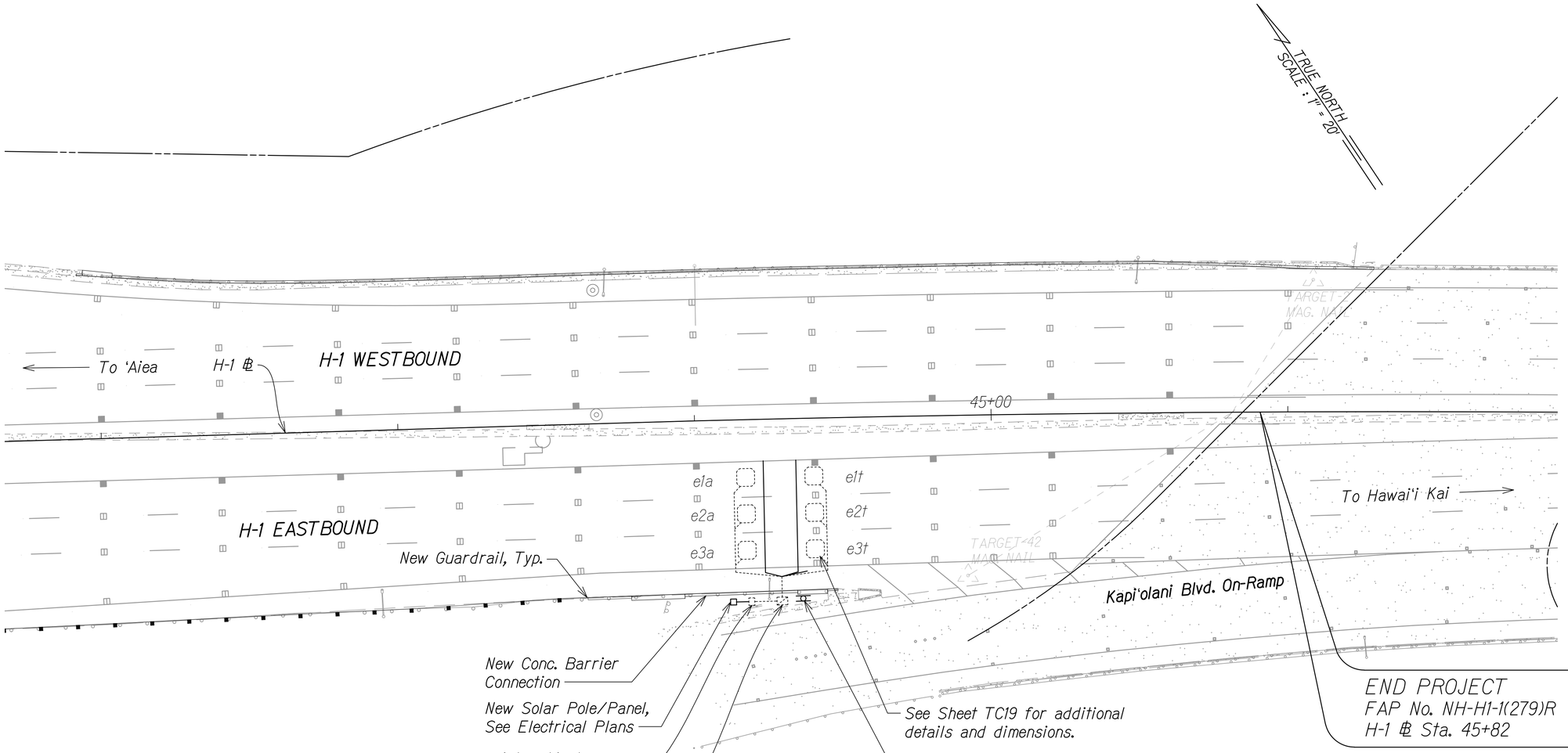
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 20' Date: November 2024

SHEET No. TC14 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\TV01 CIVIL DRAWINGS\TC13-TC15 TRAFFIC COUNTING STATION PLAN 4.DWG 11/8/2024 3:30 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	146	411



NOTE:

1. Locations for traffic counting station equipment shown on plan are approximate. Final location of equipment to be determined in the field. The Contractor shall submit the final equipment location plan including the Loops, Piezo and Road temperature sensors and conduit for approval prior to installation.

GRAPHIC SCALE:

20′ 10′ 0 20′ 40′

Scale: 1" = 20′

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

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC COUNTING STATION PLAN AT MILEPOST 24.58

INTERSTATE ROUTE H-1 RESURFACING

Miller Pedestrian Overpass to Kapiolani Interchange

Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 20′ Date: November 2024

SHEET No. TC15 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\T\01 CIVIL DRAWINGS\TC13-TC15 TRAFFIC COUNTING STATION PLAN 4.DWG 10/29/2024 5:40 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	147	411

ENHANCED VEHICLE CLASSIFICATION (EVC) SYSTEM NOTES

1. The location of new sensors shall be staked out in the field by the Contractor based on the location of permanent striping and markings, and approved by the Engineer prior to installation.

2. The Contractor shall inform the Engineer at least three days prior to saw cutting pavement and installing sensors.

3. Highway crossing conduits shall be provided with a minimum of 36" cover and shall be concrete encased, per Standard Plan TE-36.

4. The Contractor shall verify the location of existing utilities and underground structures whether or not shown on the plans.

5. The Contractor shall assume that underground utilities not shown on the plans may exist. The Contractor shall be responsible for contacting the different utility companies for information and toning.

6. The Contractor shall be held liable for any damages incurred to existing utilities and underground structures as a result of operations. All damaged portions shall be replaced in accordance with the standards and specifications of the affected utility company at no cost to the State.

7. Changes to the contract plans and specifications will not be permitted, unless approved by the Engineer in writing.

8. Saw cuts shall be made by wet cutting only after permanent striping and marking has been done. For saw cut dimensions, see Sheet TC21.

9. After the saw cuts are established, they shall be cleaned of dust, dirt, and refuse with water applied by pressure washer. Residual water within the saw cuts shall be vacuumed using a wet/dry vacuum. The saw cuts shall then be dried using an air compressor.

10. After saw cuts are dried, any remaining debris stuck within the cuts shall be removed. The saw cuts must be completely clean and dry before inserting the sensors and filling cuts and any voids surrounding the sensors or their leads with sealant.

11. The collected slurry shall be disposed of appropriately (i.e., either placed in a filter fabric-lined filtration box or a filter fabric-lined dug up retention/percolation basin). After filtration/percolation, the filter fabric and the retained sediments and any excavated pavement material shall be disposed of appropriately.

12. Sensor leads shall be pulled into conduits where indicated. Sensors and leads shall be tested for acceptance before and after installation into conduits.

13. Piezo sensor leads shall be continuous with no splices.

14. Sensor leads shall be terminated in the controller cabinet and shall have a minimum of 12" additional slack.

15. The Contractor shall restore all affected areas to their original condition or better. This item of work shall not be paid for separately, but shall be considered incidental to work of other paid items.

16. Poles for solar panel assemblies and excavation warning signs shall be located no more than 20 feet from the cabinet, as shown on Contract Plans or by direction of the Engineer.

LOOP SENSOR LAYOUT NOTES

1. Loop sensors shall consist of four turns of IC #14 wire (meeting IMSA Spec. 51-3 or equivalent) embedded in a 3/8" wide by 4" deep saw cut, except as noted. Loop sensors shall be provided a minimum of 2" cover.

2. Loop sensors shall be staggered on roadways with lanes that are less than 12 feet in width, and centered in lanes relative to permanent striping and markings, as shown on contract plans or by direction of the Engineer.

3. After laying the loop sensor wire in four (4) turns within the 4" deep cut, 1" long pieces of backer rods shall be pressed in each foot of the loop and the loop lead saw cut, to anchor the wire in the bottom of the cut before applying the loop sealant. Backer rod shall be embedded at 2" below the top of pavement. The backer rod shall be pressed into the saw cut with a blunt object such as a wooden paint stir stick. No sharp object (such as a screw driver) shall be used to press the backer rod into the saw cuts.

4. Loop sensor and lead shall be one continuous wire. Lead wires from the same loop shall be twisted in pairs, five twists per foot, from the end of the saw cut at the roadway edge to the pull box. Do not twist one loop wire pair with another loop wire pair.

5. Continuity of loop sensors and leads shall be tested and warrantied for one year from the date of acceptance by the Engineer.

6. Loop sensor leads shall be spliced to 2C #14 home-run cables (meeting IMSA Spec. 50-2 or equivalent) only at the closest pull box to the loop. Splices shall be made using a splice kit. Splice points of cables shall be suspended near the top of the pull box with a j-hook.

7. The Contractor shall label the loop and piezo sensor leads clearly to identify traffic direction, lane number, and sequence of loop and piezo sensors in each lane in each direction.

8. The left-most lane in the direction of traffic flow is designated as Lane 1, and the next lane to its right as Lane 2, and so on, as indicated on plans.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

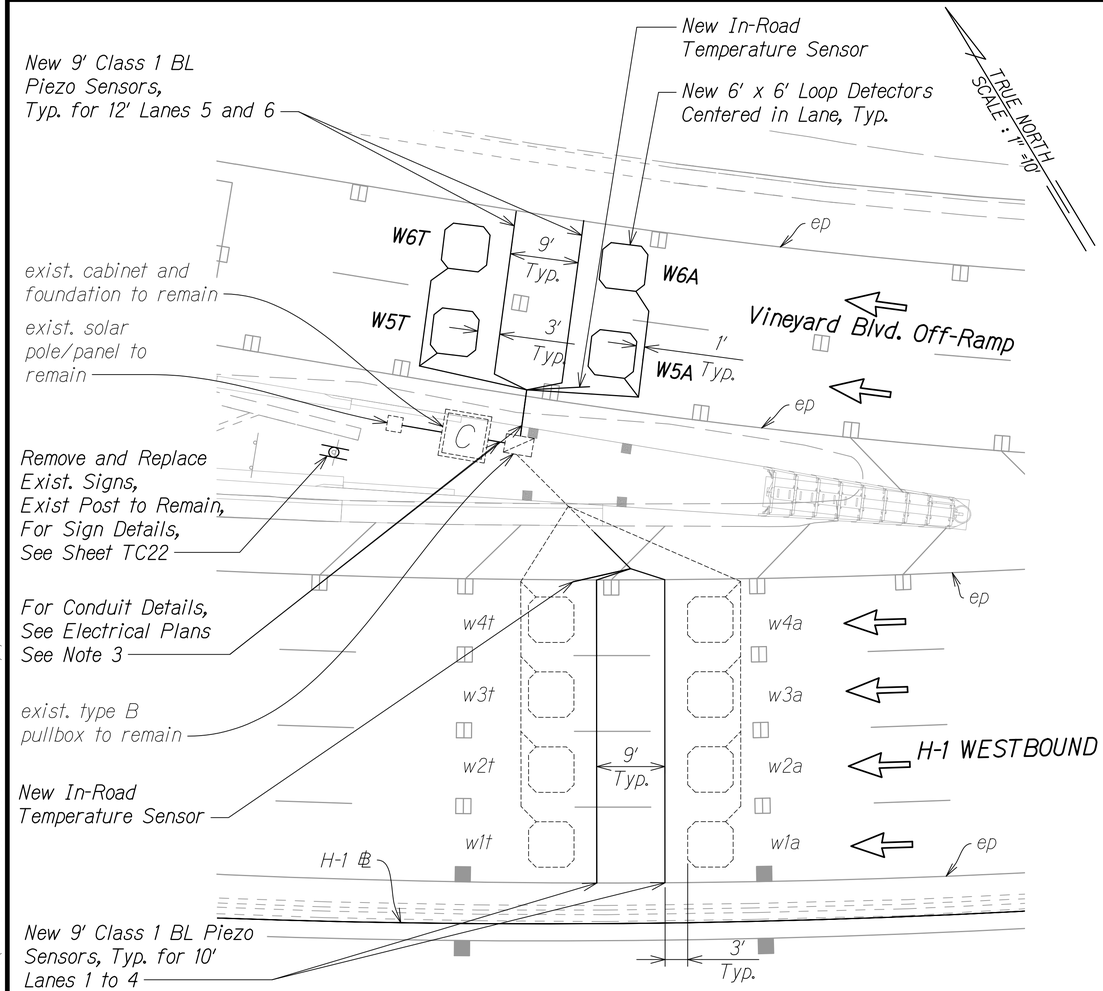
EVC TRAFFIC COUNTING SYSTEM NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

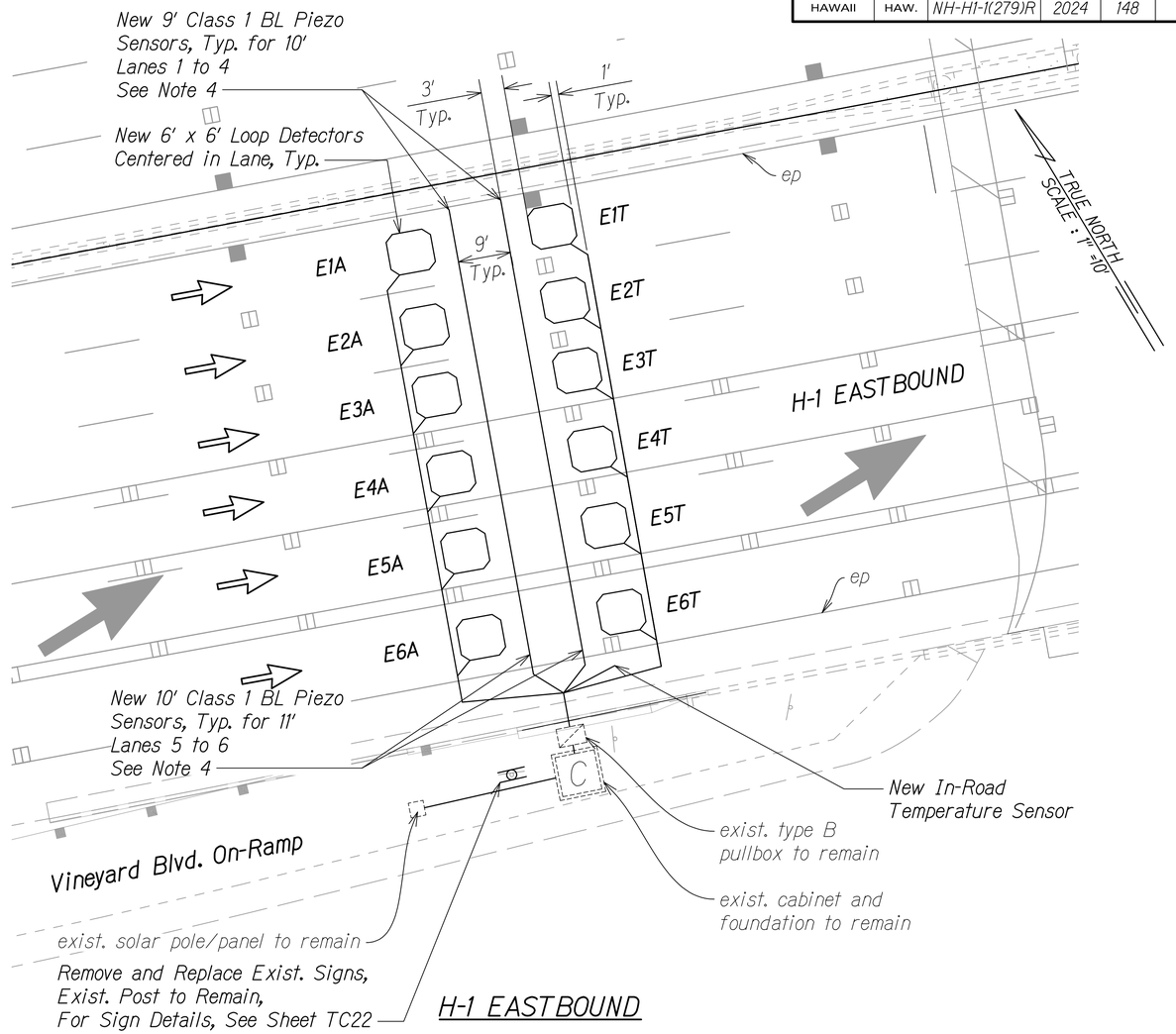
Scale: N/A Date: November 2024

SHEET No. TC16 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	148	411



VINEYARD BLVD. OFF-RAMP AND H-1 WESTBOUND



H-1 EASTBOUND

EVC TRAFFIC COUNTING SYSTEM LAYOUT DETAIL (STATION SL71)

Scale: 1" = 10'

GRAPHIC SCALE:

10' 5' 0 10' 20'

Scale: 1" = 10'

E 2 T
- T — Indicates approaching or trailing loop
- 2 — Indicates lane number
- E — Indicates directions

LOOP LABEL LEGEND

E = East
W = West
A = Approaching
T = Trailing

NOTES:

1. All dimensions and callouts are typical unless otherwise noted on plan.
2. Contractor shall coordinate service agreements and connections to electrical and communication service. Contractor shall also contact the appropriate State Dept. of Transportation Representative for service agreement. (Highway Planning, Contact, Richard Akana, P.E., at 587-6345).
3. All conduits shall be concrete encased.
4. Saw cut depth for Piezo Sensors in lanes 1 to 4 must be 2". Saw cut depth for Piezo Sensors in lanes 5 and 6 must be 3". The depth of piezo sensor placement in all saw cuts is the same. For Sensor Details, see Sheet TC21.

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Robyn McKinney — 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EVC TRAFFIC COUNTING SYSTEM LAYOUT

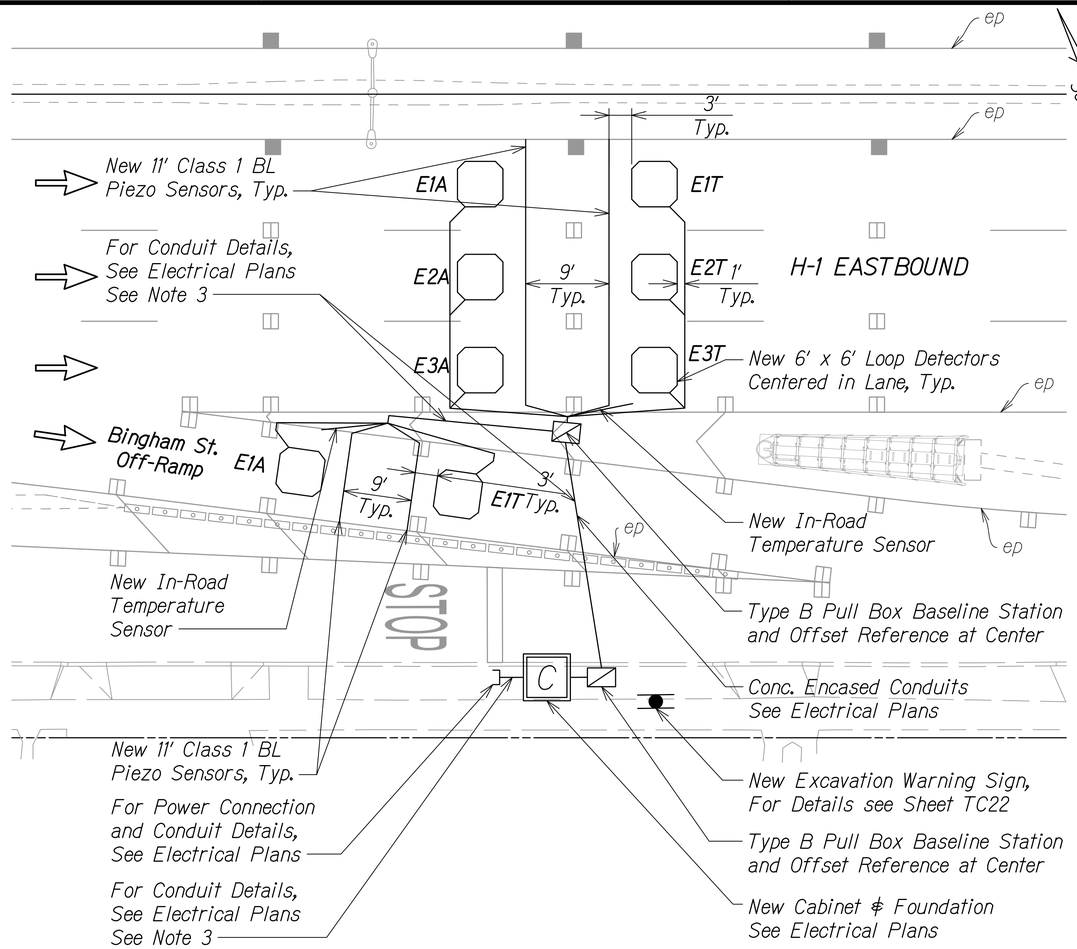
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 10' Date: November 2024

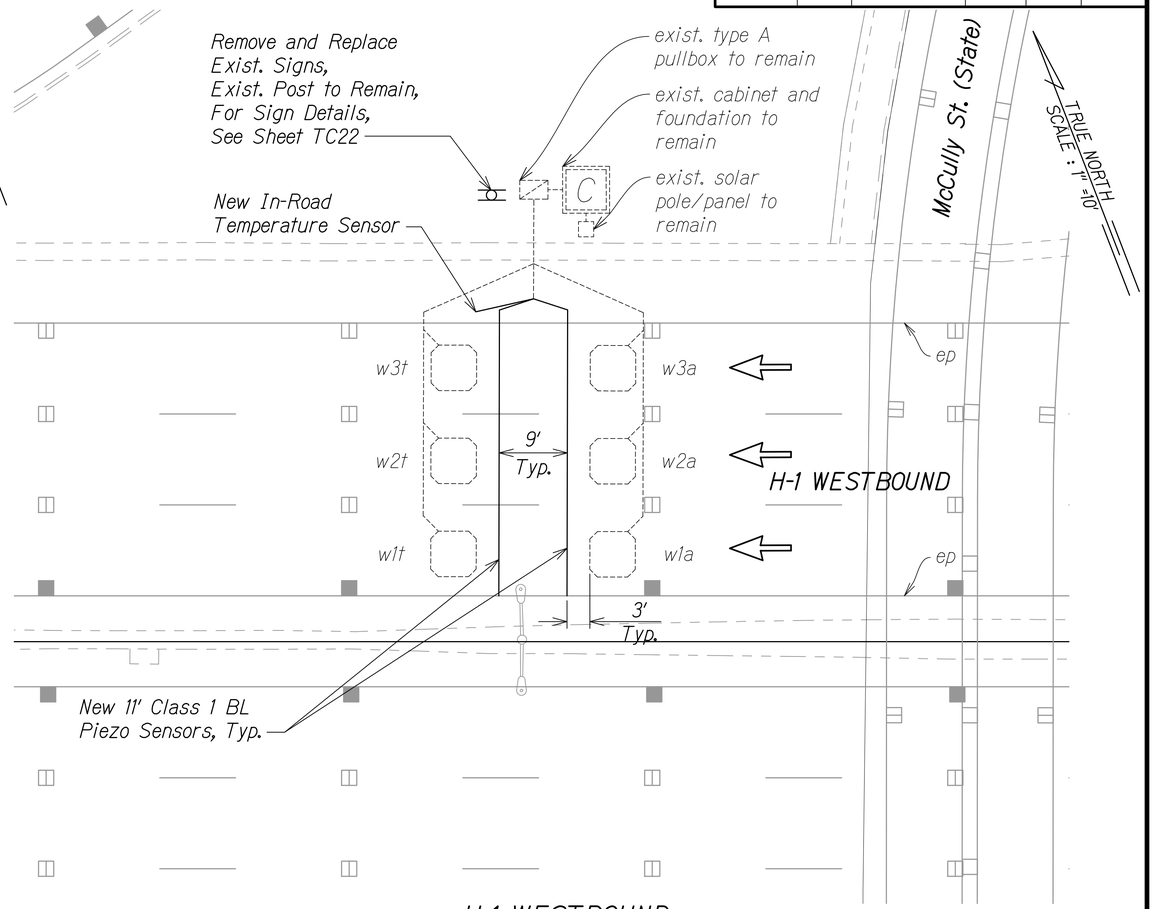
SHEET No. TC17 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\101 CIVIL DRAWINGS\TC17 EVC TRAFFIC COUNTING SYSTEM LAYOUT.DWG 11/8/2024 3:53 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	149	411



BINGHAM ST. OFF-RAMP AND H-1 EASTBOUND



H-1 WESTBOUND

EVC TRAFFIC COUNTING SYSTEM LAYOUT DETAIL (STATION 724A)

Scale: 1" = 10'

GRAPHIC SCALE:

10' 5' 0 10' 20'

Scale: 1" = 10'

E 2 T
- T — Indicates approaching or trailing loop
- 2 — Indicates lane number
- E — Indicates directions

LOOP LABEL LEGEND

E = East
W = West
A = Approaching
T = Trailing

NOTES:

1. All dimensions and callouts are typical unless otherwise noted on plan.
2. Contractor shall coordinate service agreements and connections to electrical and communication service. Contractor shall also contact the appropriate State Dept. of Transportation Representative for service agreement. (Highway Planning, Contact, Richard Akana, P.E., at 587-6345).
3. All conduits shall be concrete encased.

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

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

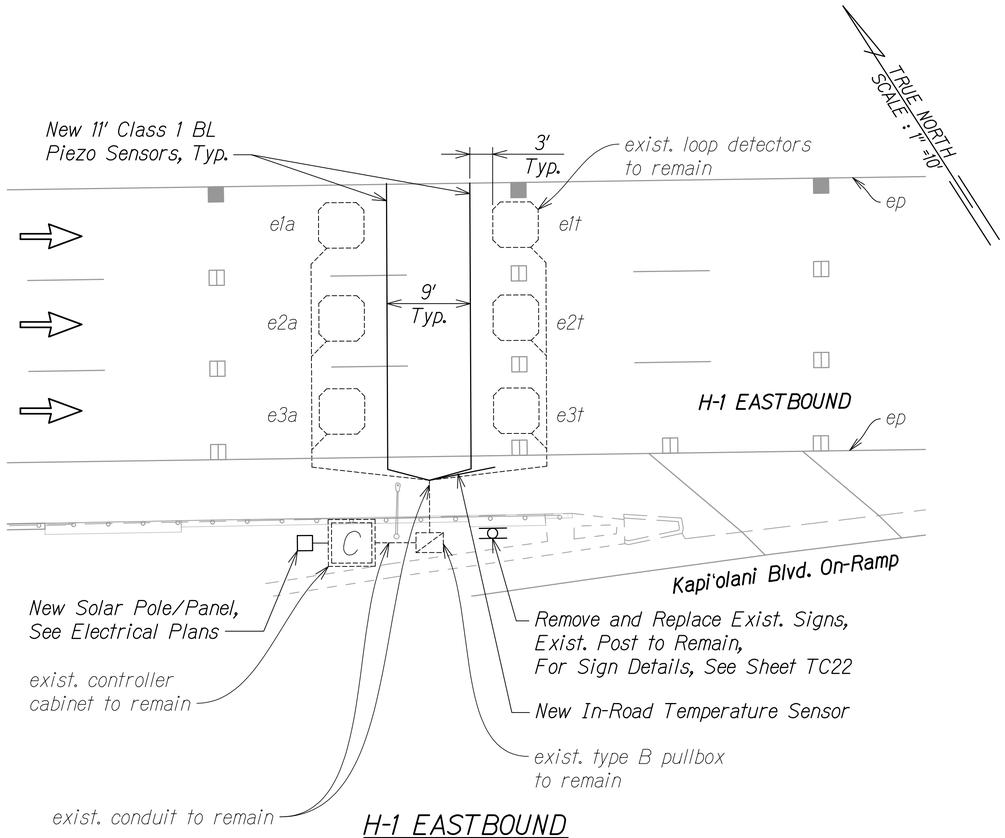
EVC TRAFFIC COUNTING SYSTEM LAYOUT

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

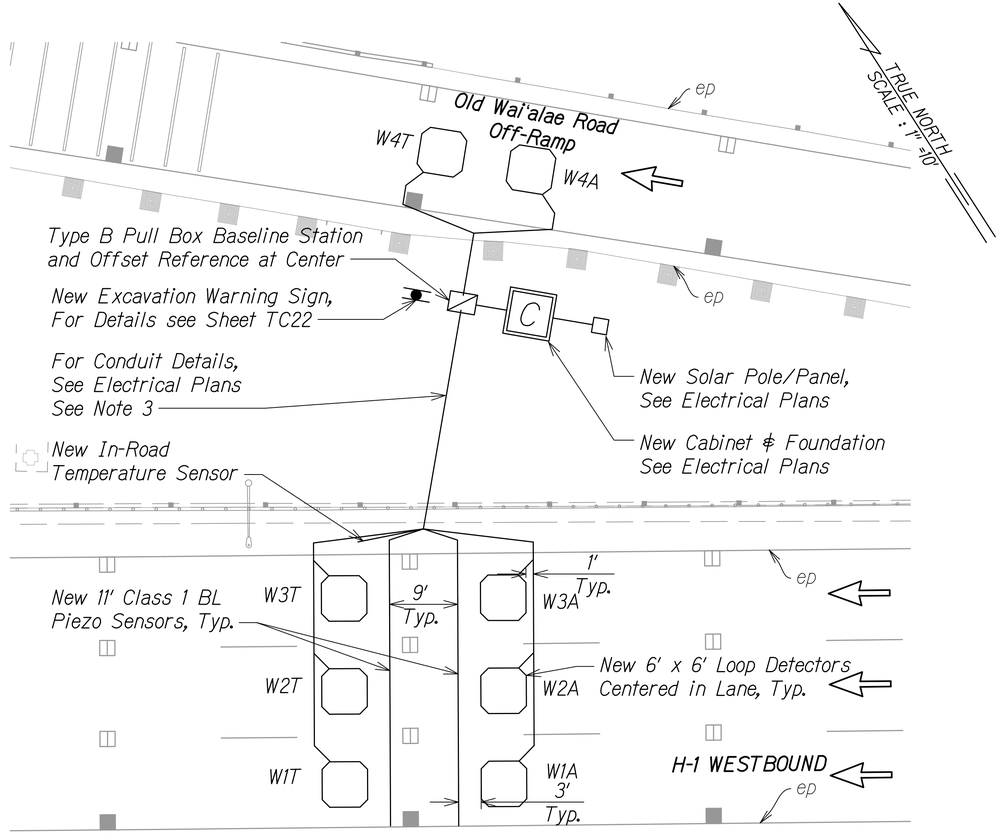
Scale: 1" = 10' Date: November 2024

SHEET No. TC18 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	150	411



H-1 EASTBOUND



OLD WAI'ALAE ROAD OFF-RAMP AND H-1 WESTBOUND

EVC TRAFFIC COUNTING SYSTEM LAYOUT DETAIL (STATION SL58)

Scale: 1" = 10'

GRAPHIC SCALE:

10' 5' 0 10' 20'

Scale: 1" = 10'

E 2 T
- E: Indicates directions
- 2: Indicates lane number
- T: Indicates approaching or trailing loop

LOOP LABEL LEGEND

E = East
W = West
A = Approaching
T = Trailing

NOTES:

1. All dimensions and callouts are typical unless otherwise noted on plan.
2. Contractor shall coordinate service agreements and connections to electrical and communication service. Contractor shall also contact the appropriate State Dept. of Transportation Representative for service agreement. (Highway Planning, Contact, Richard Akana, P.E., at 587-6345).
3. All conduits shall be concrete encased.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EVC TRAFFIC COUNTING SYSTEM LAYOUT

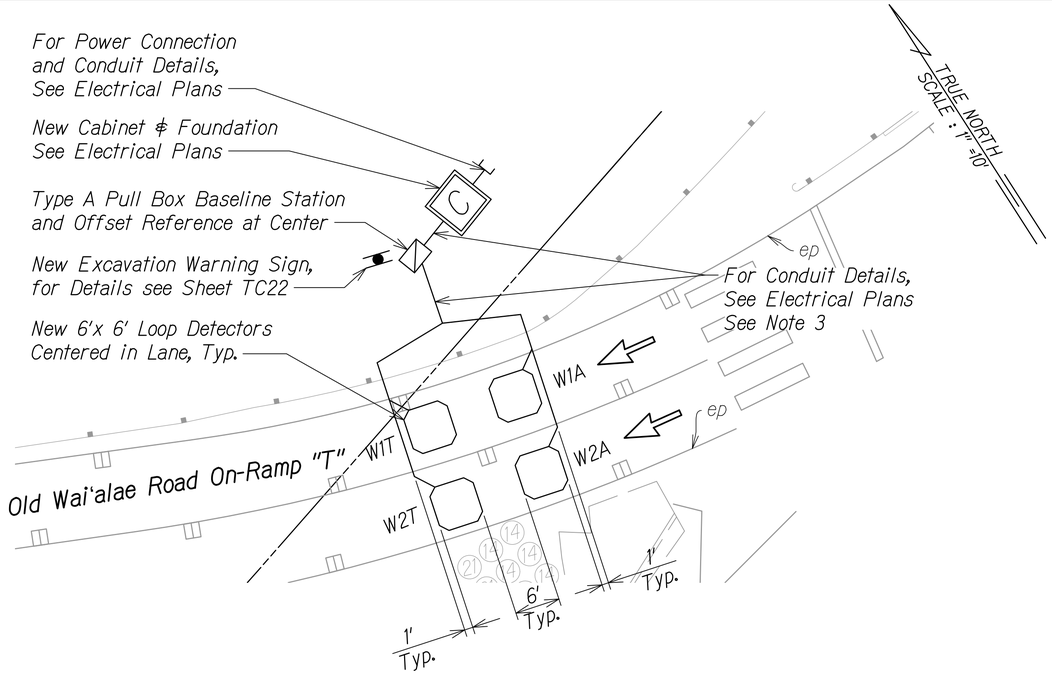
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 10' Date: November 2024

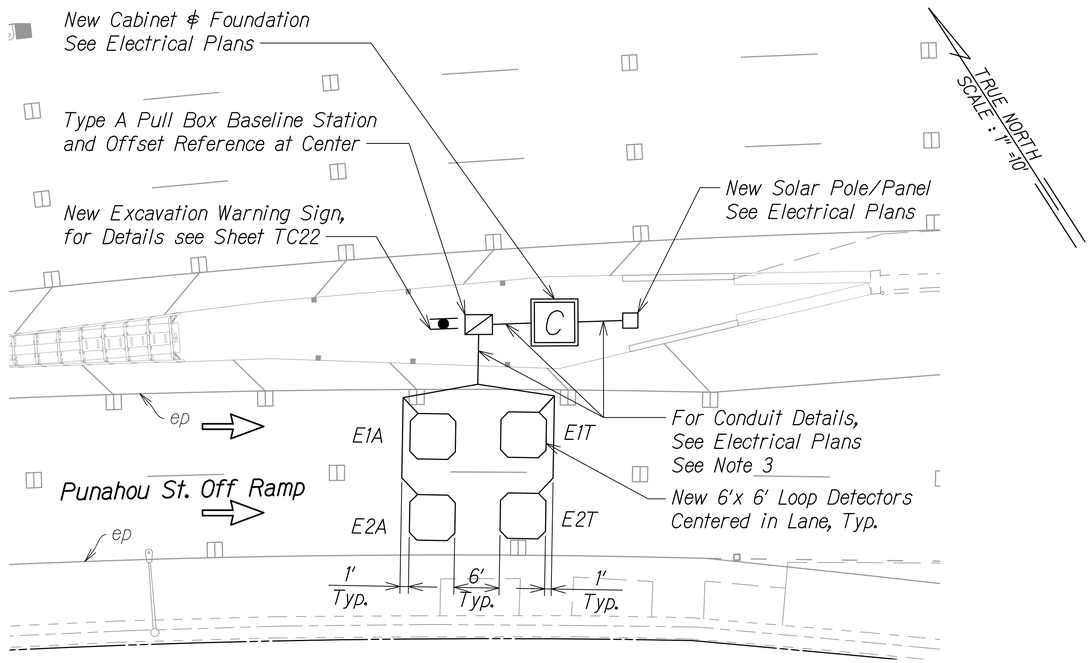
SHEET No. TC19 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\T\01 CIVIL DRAWINGS\TC19 EVC TRAFFIC COUNTING SYSTEM LAYOUT.DWG 11/8/2024 4:08 PM

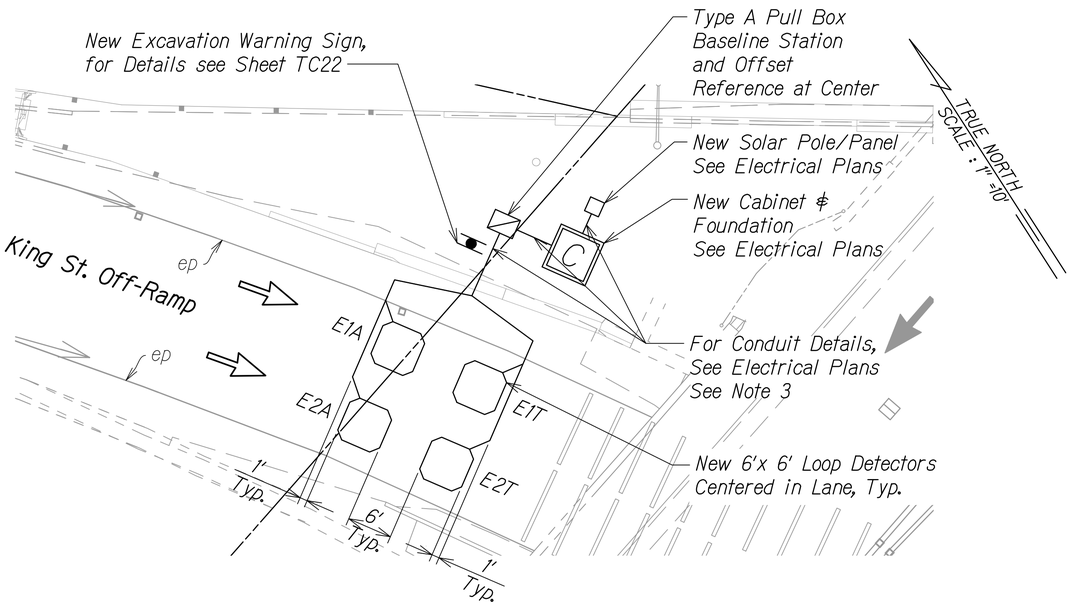
FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	151	411



OLD WAI'ALAE ROAD ON-RAMP "T" - WESTBOUND



PUNAHOU ST. OFF-RAMP - EASTBOUND



KING ST. OFF-RAMP - EASTBOUND

E 2 T
- T — Indicates approaching or trailing loop
- 2 — Indicates lane number
- E — Indicates directions

LOOP LABEL LEGEND
- E = East
- W = West
- A = Approaching
- T = Trailing

NOTES:
1. All dimensions and callouts are typical unless otherwise noted on plan.
2. Contractor shall coordinate service agreements and connections to electrical and communication service. Contractor shall also contact the appropriate State Dept. of Transportation Representative for service agreement. (Highway Planning, Contact, Richard Akana, P.E., at 587-6345).
3. All conduits shall be concrete encased.

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

EVC TRAFFIC COUNTING SYSTEM LAYOUT DETAIL
Scale: 1" = 10'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EVC TRAFFIC COUNTING SYSTEM LAYOUT

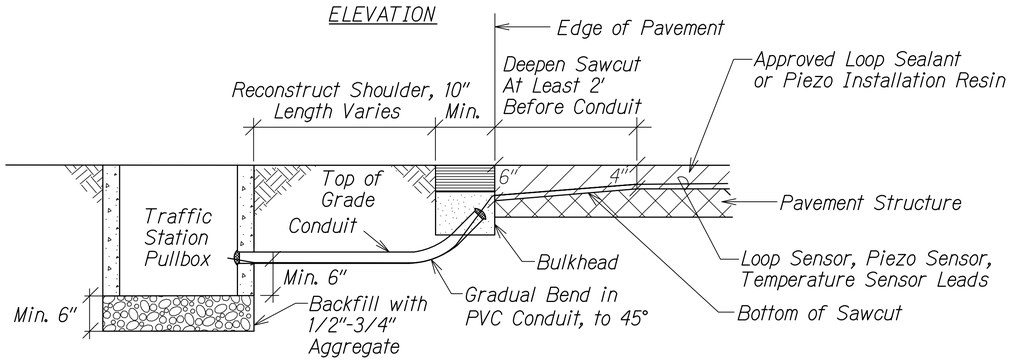
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 10' Date: November 2024

SHEET No. TC20 OF 22 SHEETS

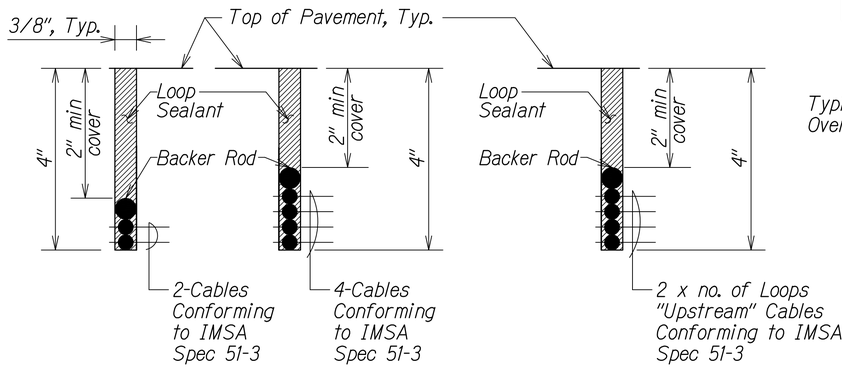
W:_CIVIL 3D PROJECTS\2016_202 000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\TC20 EVC TRAFFIC COUNTING SYSTEM LAYOUT.DWG 11/12/2024 9:59 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	152	411



EDGE OF ROADWAY DETAILS

Not to Scale



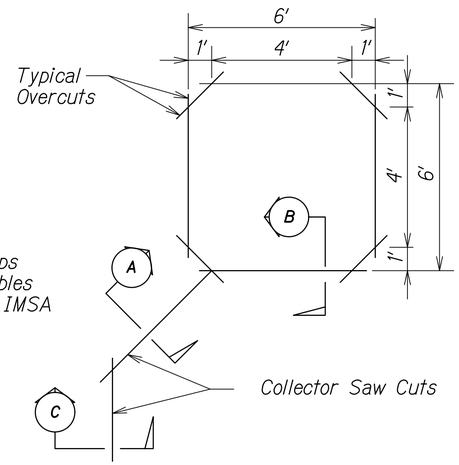
SECTION A
Not to Scale

SECTION B
Not to Scale

SECTION C
Not to Scale

TYPICAL SECTIONS LOOP SENSORS

Not to Scale



TYPICAL LOOP SENSOR SAW CUT DETAIL

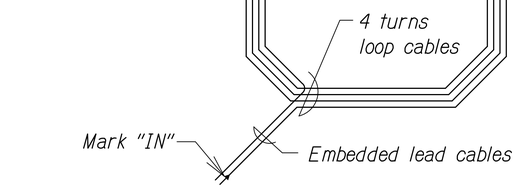
Not to Scale

NOTES ON CONSTRUCTION AT END OF SAWCUT:

1. Install conduit stub out at least 6 inches in from the edge of pavement. If the pavement thickness is 4 inches or less at the pavement edge, install conduit stub out at least 12 inches in from the edge of pavement.
2. Twist pairs of loop wires 5 twists per foot before pulling into conduit stub out.
3. Install bell ends on conduit and seal with duct seal compound after installation of leads.
4. Install temporary bulkhead/dam across saw cut to keep sealant in saw cut as it is placed.
5. Place approved loop sealant or approved piezo installation resin in saw cut.
6. Place sand to cover exposed sensor leads and protect and separate them from backfill.
7. Backfill over sand with approved permanent A.C. cold mix in stub out excavation pit.
8. Compact cold mix carefully, and reconstruct shoulder, curb, and gutter as required.

LOOP SENSOR SAW CUT NOTES:

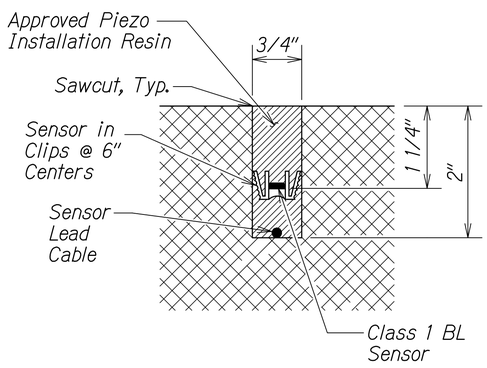
Keep the length of overcuts to a minimum. All overcuts shall be backfilled with Loop Sealant.



PLAN

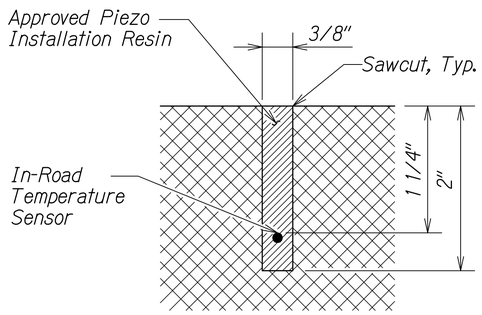
TYPICAL LOOP SENSOR WIRING DIAGRAM

Not to Scale



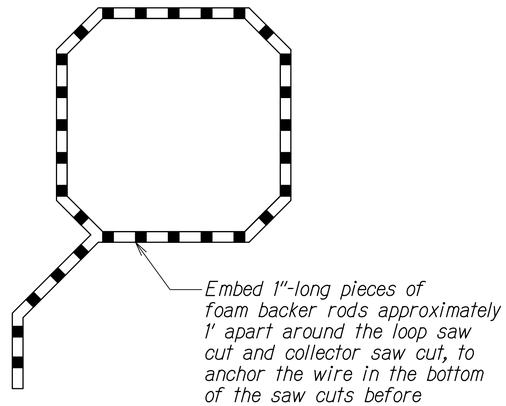
PIEZO SENSOR SAW CUT SECTION DETAIL

Not to Scale



TEMPERATURE SENSOR SAW CUT SECTION DETAIL

Not to Scale



TYPICAL LOOP SENSOR BACKER ROD PLACEMENT DIAGRAM

Not to Scale

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

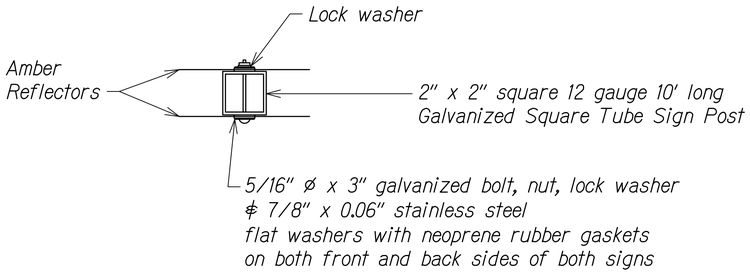
EVC TRAFFIC COUNTING SYSTEM SENSOR DETAILS

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

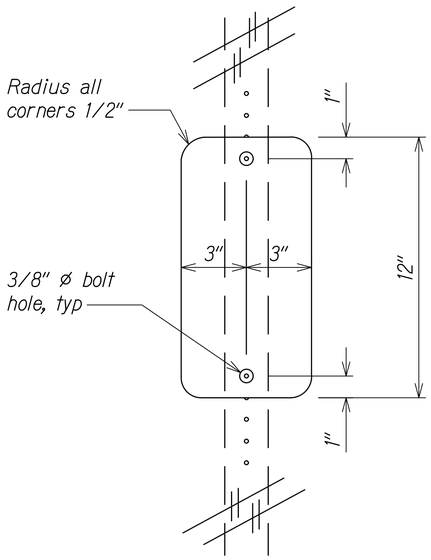
Scale: As Shown Date: November 2024

SHEET No. TC21 OF 22 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	153	411



PLAN



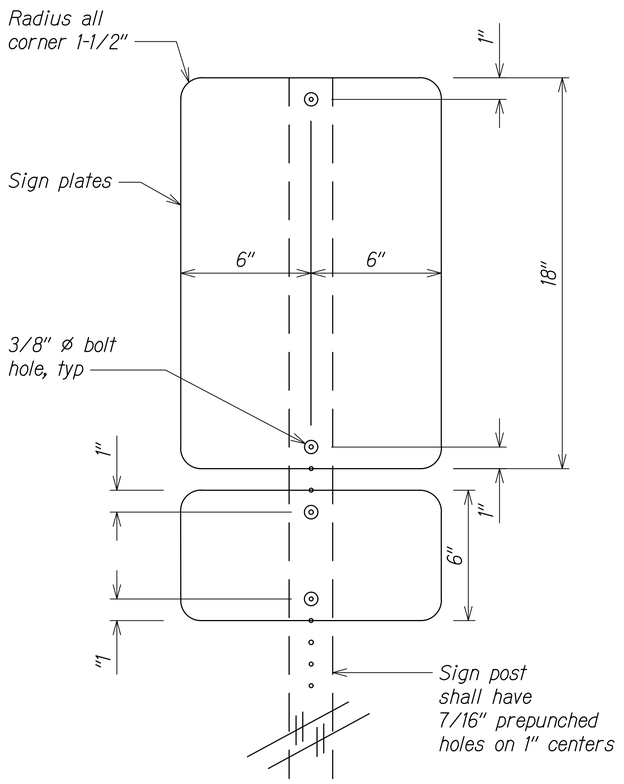
ELEVATION

NOTES:

1. Mount two (2) Reflectors on either side of the post and below the Warning and Station ID signs on the same post.
2. Mount Reflectors so that their bottom is 4' above finished grade.
3. Orient Reflectors perpendicular to the roadway and to the Warning and Station ID signs higher on the post.

TYPE II OBJECT MARKER (REFLECTOR) MOUNTING

Not to Scale



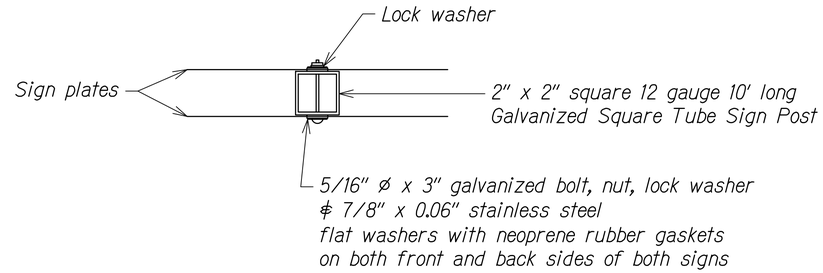
ELEVATION

NOTES:

1. Mount two (2) Warning signs and two (2) Station ID signs back to back, parallel to the roadway.
2. Mount Station ID signs so that their bottom is a minimum of 7' above finished grade.
3. Refer to Sheet M38 for Galvanized Square Tube Sign Post Details.

SIGN MOUNTING

Not to Scale



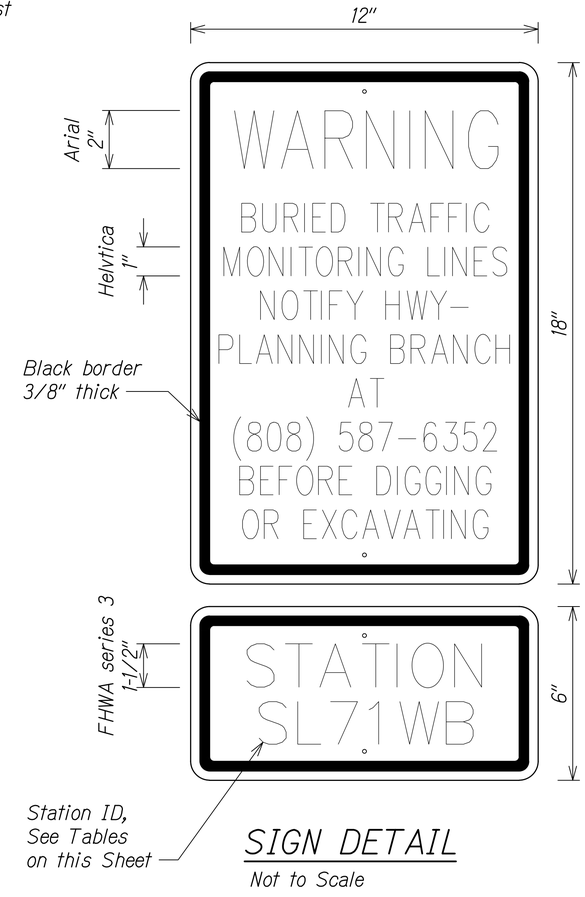
PLAN

Location (Mainline)	Station
Bingham St. ϕ H-1	724AWB and 724AEB
Old Wai'Alae Rd ϕ H-1	SL58WB and SL58EB
Vineyard Blvd ϕ H-1	SL71WB and SL71EB

Location (Ramp)	Station
Kinau St. Off-Ramp	H1-22A
Ward Ave. On-Ramp	H1-22C
Lunalilo St. On-Ramp	H1-22F
Piikoi St. On-Ramp	H1-23A
Punahou St. Off-Ramp	H1-23B
Lunalilo St. Off-Ramp	H1-23D
Punahou St. On-Ramp	H1-23E
Metcalf St. On-Ramp	H1-23P
Wilder Ave. Off-Ramp	H1-23Q
University Ave. On-Ramp "U-1"	H1-24A
University Ave. Off-Ramp "U-3"	H1-24B
University Ave. On-Ramp "U-8"	H1-24C
University Ave. Off-Ramp "U-5" and On-Ramp "U-6"	H124DE
King St. Off-Ramp	H1-25A
Old Waialae Rd. On-Ramp	H1-25B
Old Waialae Rd. On-Ramp "T"	H1-25D

NOTES:

1. Center text on signs both ways, using black text on yellow non-retro-reflective background.
2. Use existing Station ID on signs added as a retrofit. For new stations, use new HWY-PH station ID.
3. Place Station ID signs 1" below Warning signs.
4. Use 0.063" thick aluminum, single sided, for sign plates.



SIGN DETAIL

Not to Scale

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EVC TRAFFIC COUNTING SYSTEM SIGN DETAILS

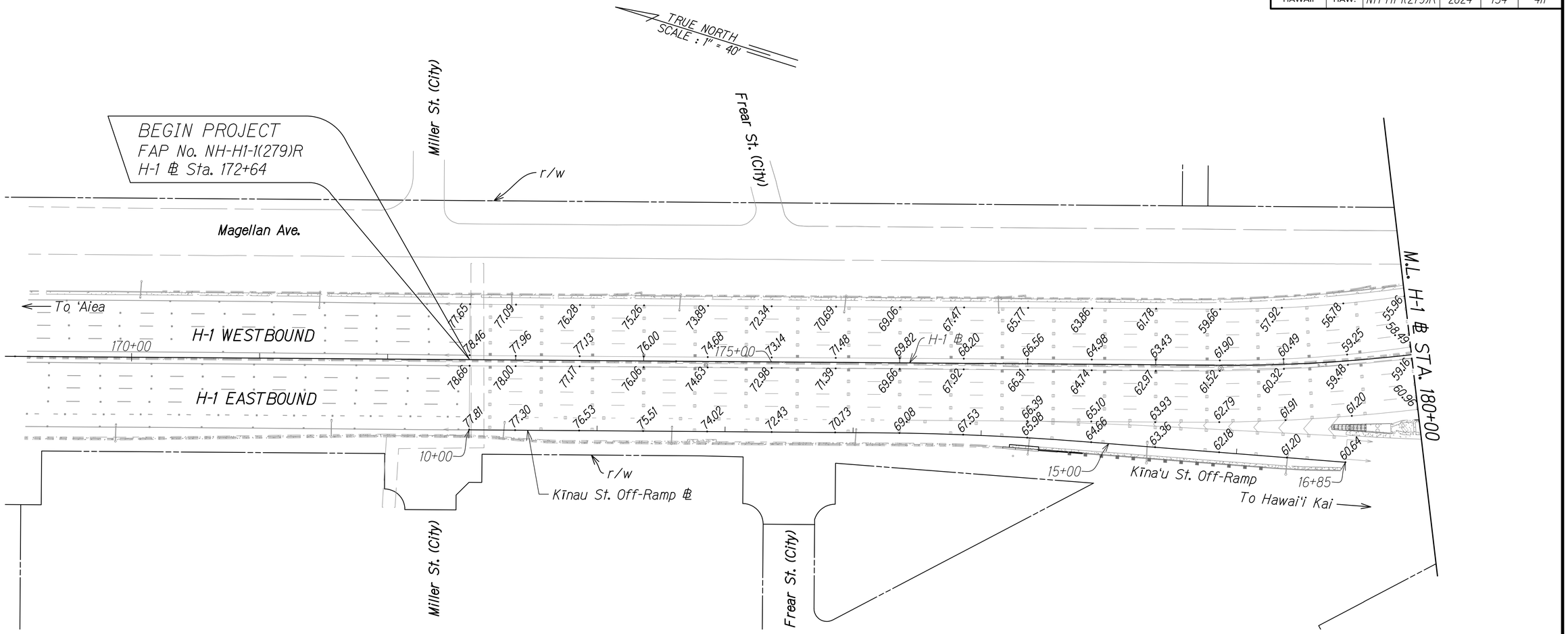
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

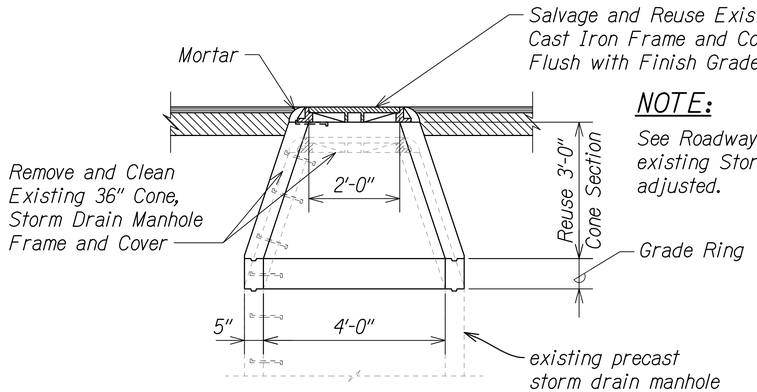
Scale: As Shown Date: November 2024

SHEET No. TC22 OF 22 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPINT\01 CIVIL DRAWINGS\TC22 EVC TRAFFIC COUNTING SYSTEM CABINET FOUNDATION AND OTHER DETAILS.DWG 11/13/2024 7:36 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	154	411





ADJUST TOP OF EXISTING STORM DRAIN MANHOLE TO FINISH GRADE

Not to Scale

NOTE:

See Roadway Plans for location of existing Storm Drain Manholes to be adjusted.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50' interval relative to H-1 ℄.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 01

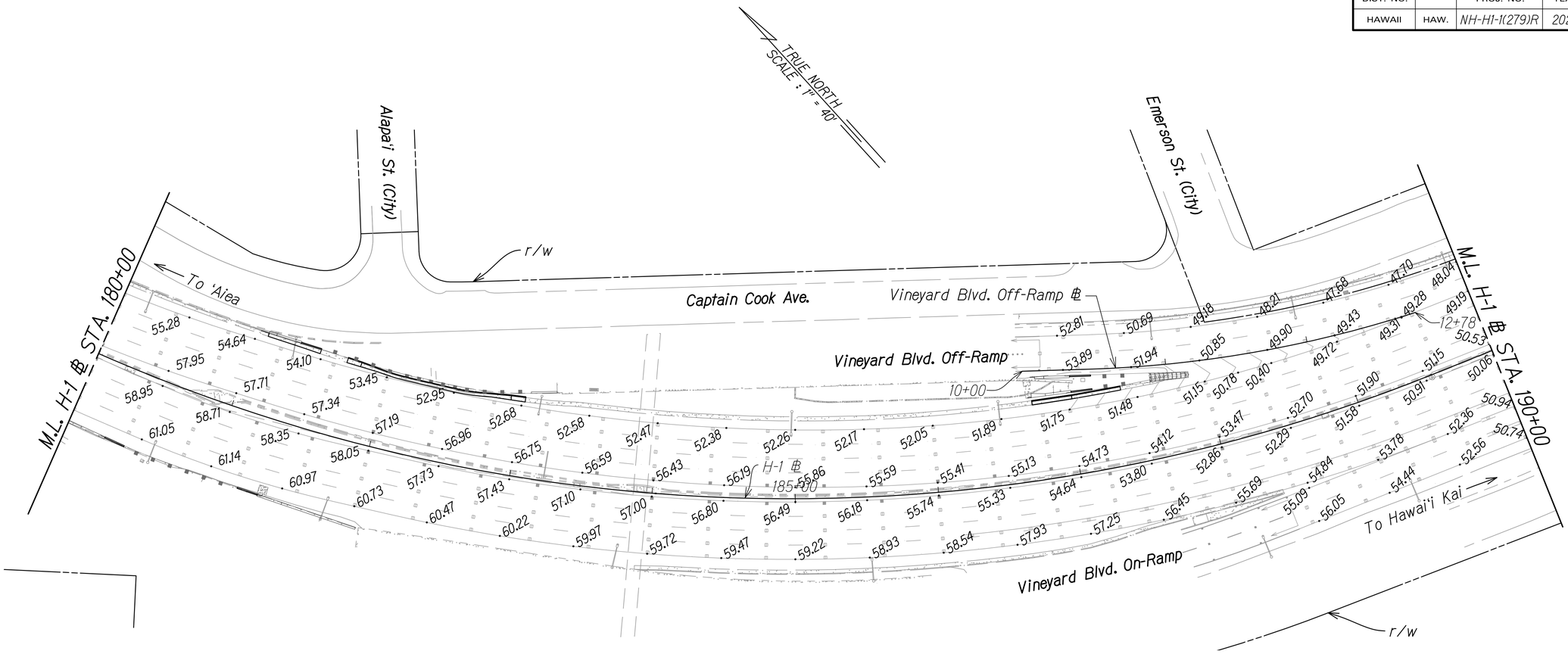
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR1 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\GR1 - GR15 PAVEMENT GRADE PLANS.DWG 7/25/2024 11:49 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	155	411



GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50' interval relative to H-1 ℄.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 02

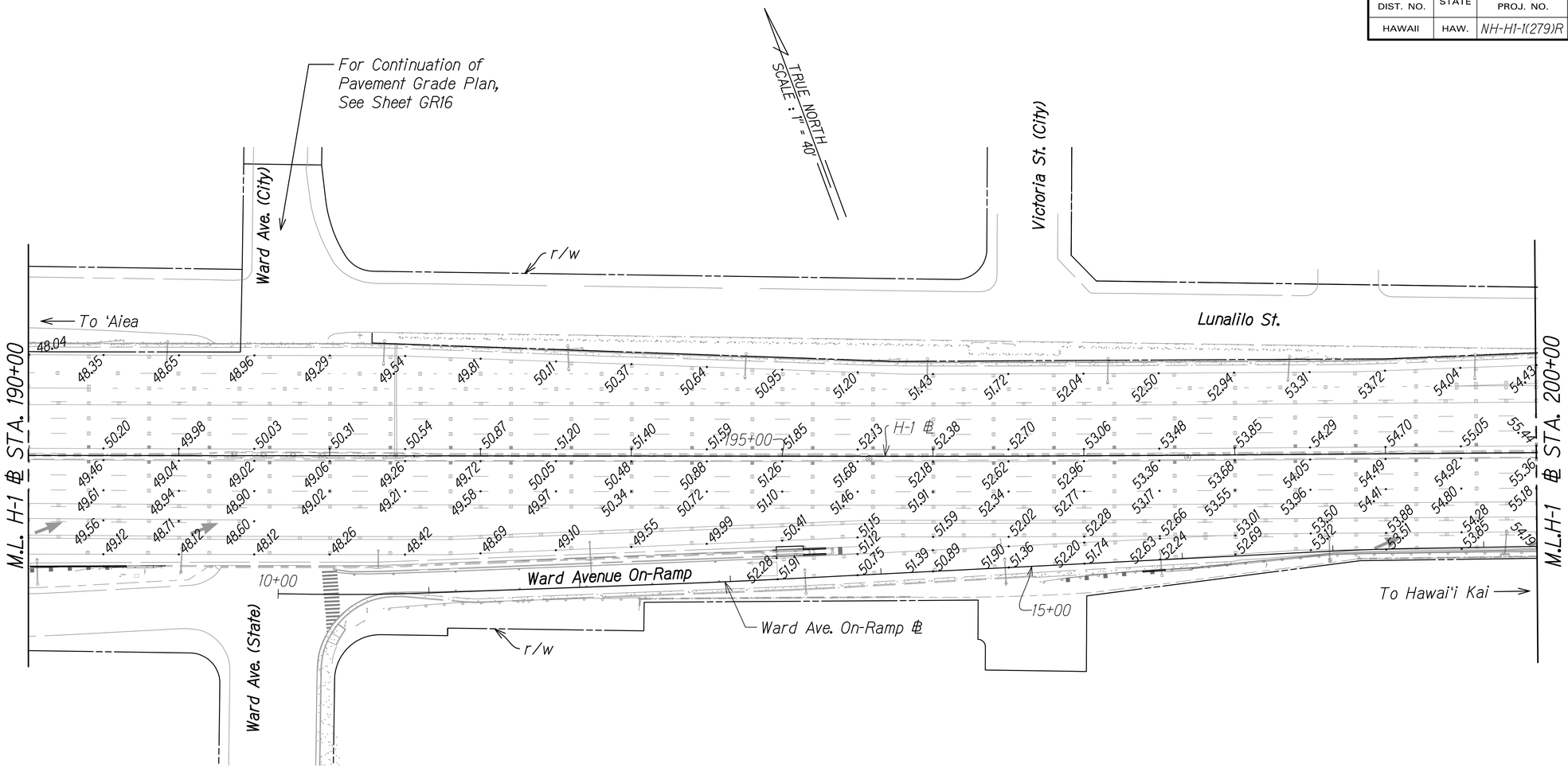
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR2 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\GR1 - GR15 PAVEMENT GRADE PLANS.DWG 7/25/2024 11:49 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	156	411



GRAPHIC SCALE:

40′ 20′ 0 40′ 80′

Scale: 1″ = 40′

NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.

2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.

3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

4. The Spot Elevations are at 50′ interval relative to H-1 ℄.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

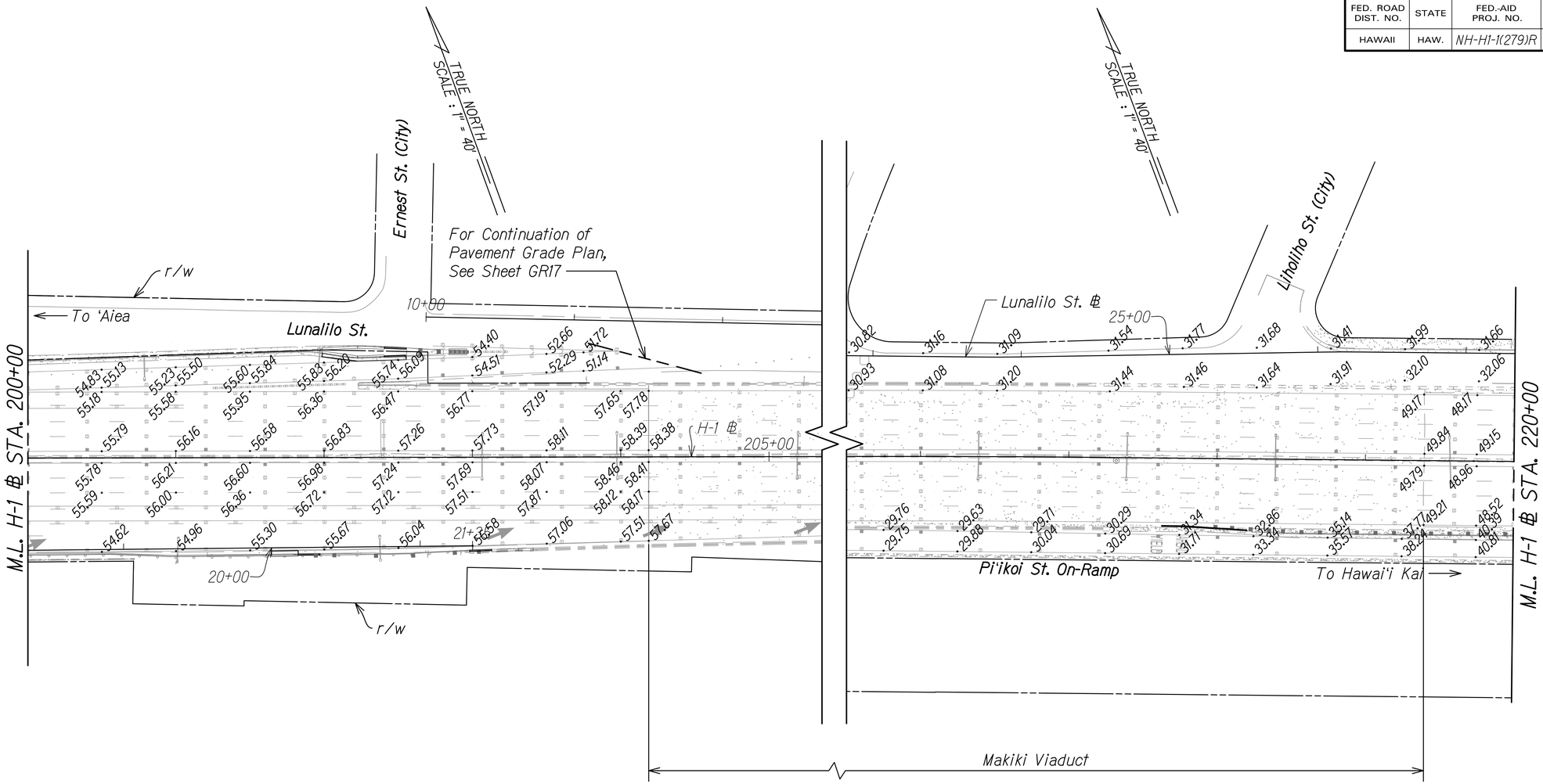
PAVEMENT GRADE PLAN 03

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1″ = 40′ Date: November 2024

SHEET No. GR3 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	157	411



GRAPHIC SCALE:

40′ 20′ 0 40′ 80′

Scale: 1" = 40′

NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50′ interval relative to H-1 ℄.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 04

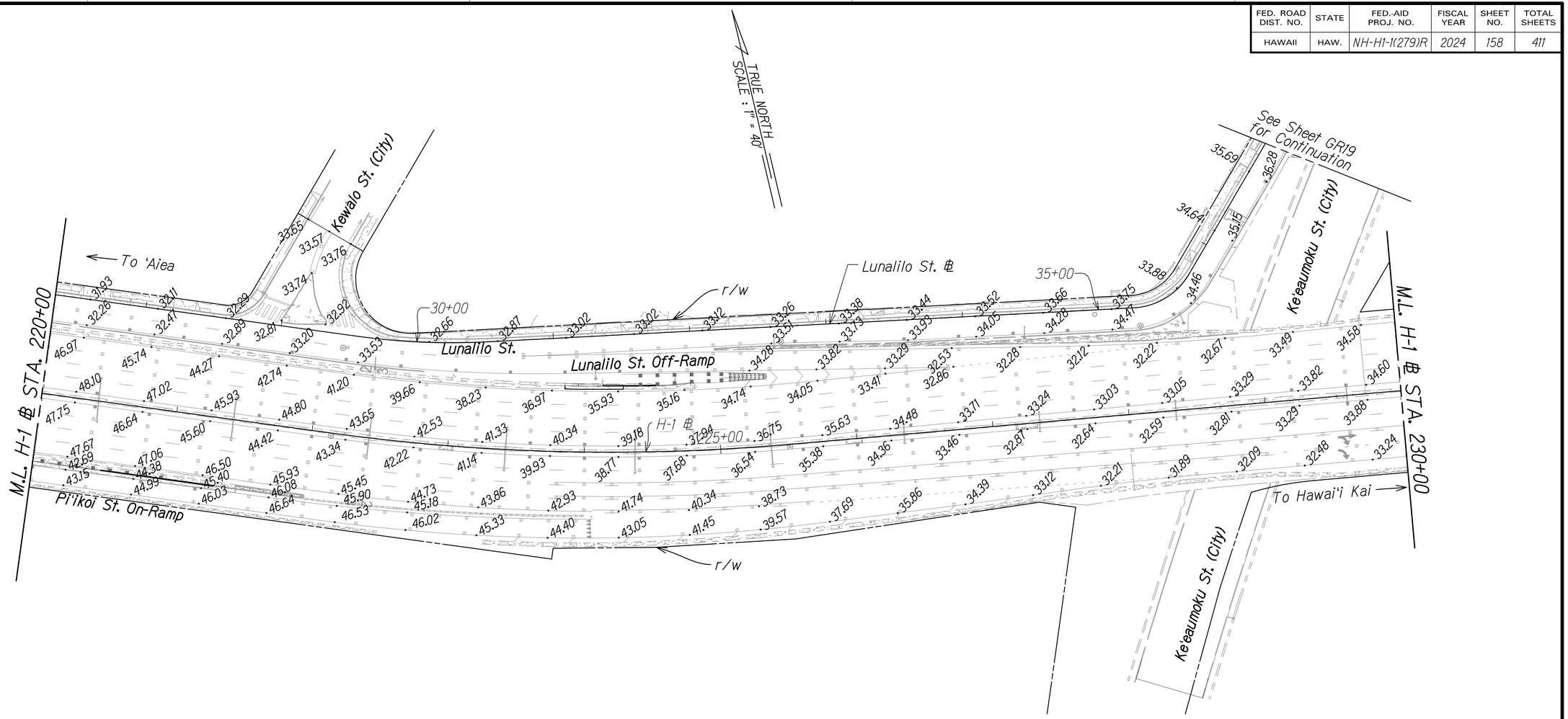
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40′ Date: November 2024

SHEET No. GR4 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\GR1 - GR15 PAVEMENT GRADE PLANS.DWG 7/26/2024 11:04 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	158	411



GRAPHIC SCALE:

40′ 20′ 0 40′ 80′

Scale: 1" = 40'

NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
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3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50′ interval relative to H-1 ℄.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — SIGNATURE

04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

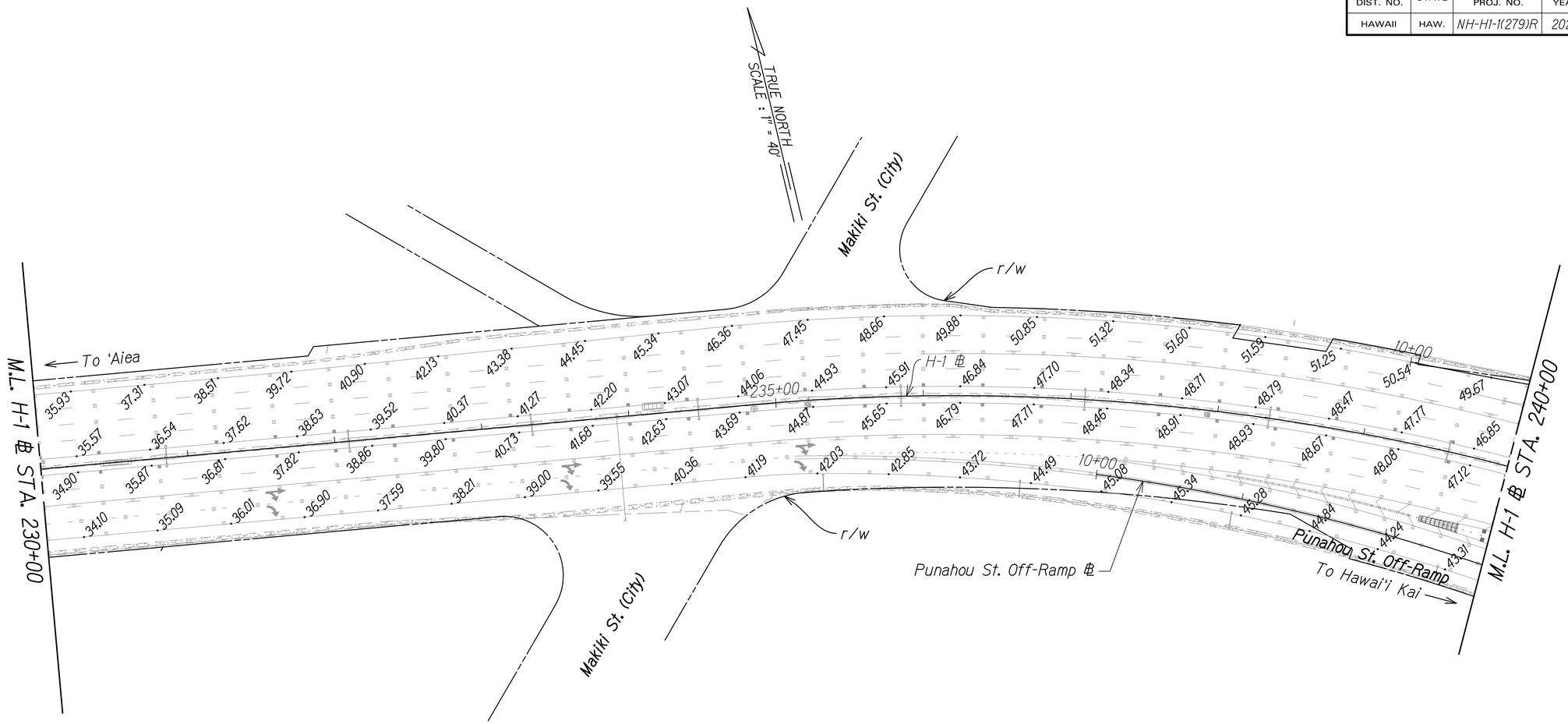
PAVEMENT GRADE PLAN 05

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40′ Date: November 2024

SHEET No. GR5 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	159	411



NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50' interval relative to H-1 ℄.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney — SIGNATURE

04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 06

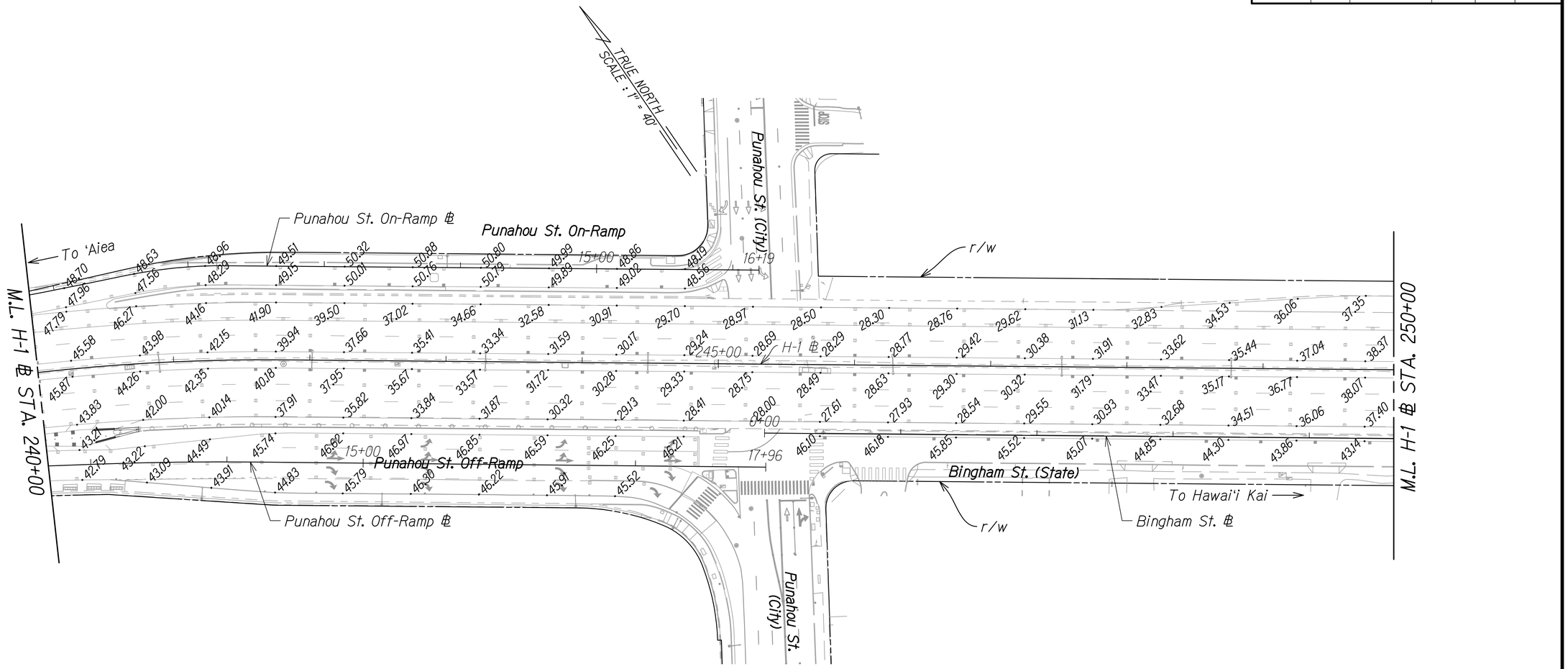
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR6 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\GR1 - GR15 PAVEMENT GRADE PLANS.DWG 7/26/2024 11:04 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	160	411



GRAPHIC SCALE:

40′ 20′ 0 40′ 80′

Scale: 1" = 40′

NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50′ interval relative to H-1 ℄.

ROBYN R. MCKINNEY
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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 07

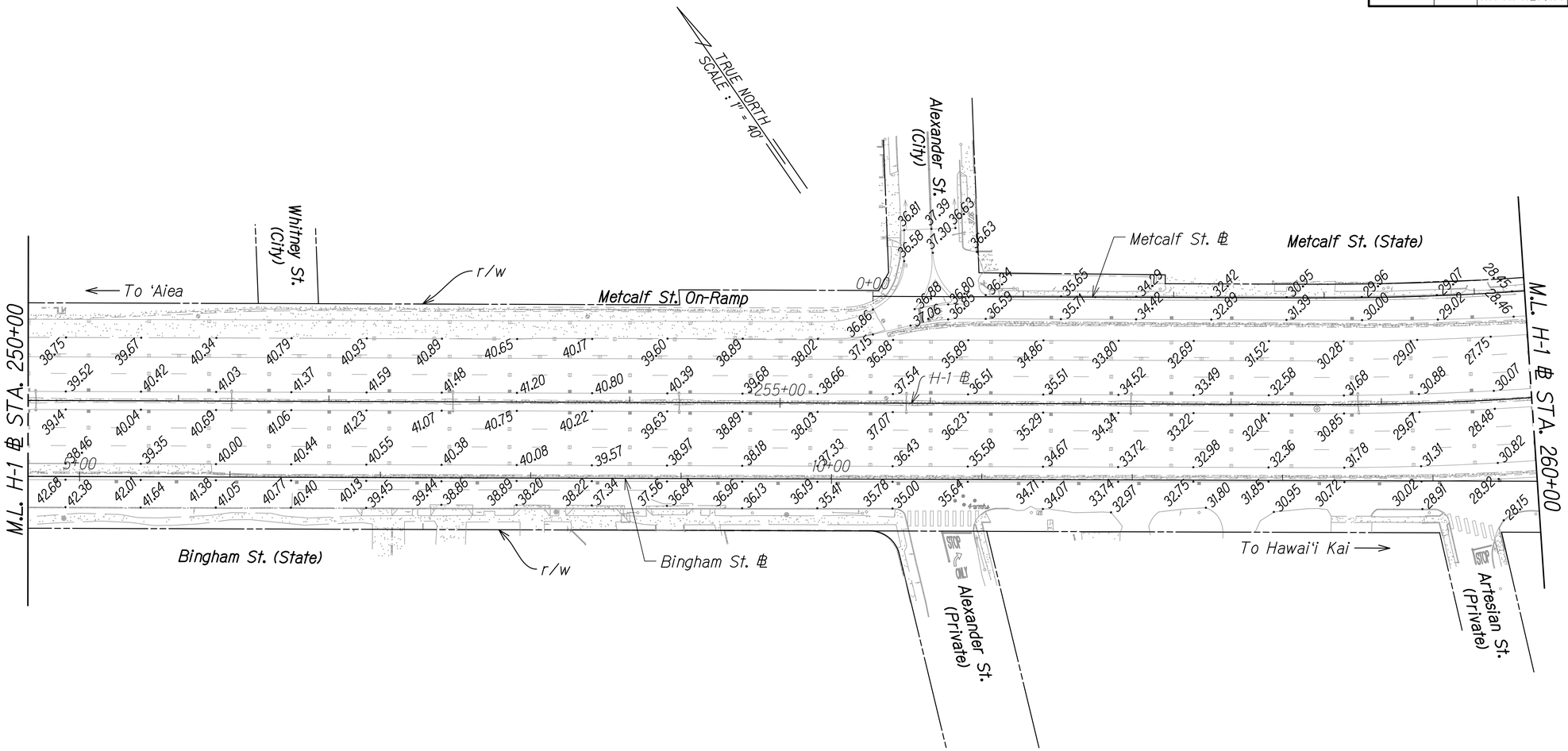
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40′ Date: November 2024

SHEET No. GR7 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\GR1 - GR15 PAVEMENT GRADE PLANS.DWG 7/25/2024 11:33 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	161	411



NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50' interval relative to H-1 ℄ and Metcalf ℄.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

ROBYN R. MCKINNEY
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No. 13480-C
HAWAII, USA

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Robyn McKinney 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

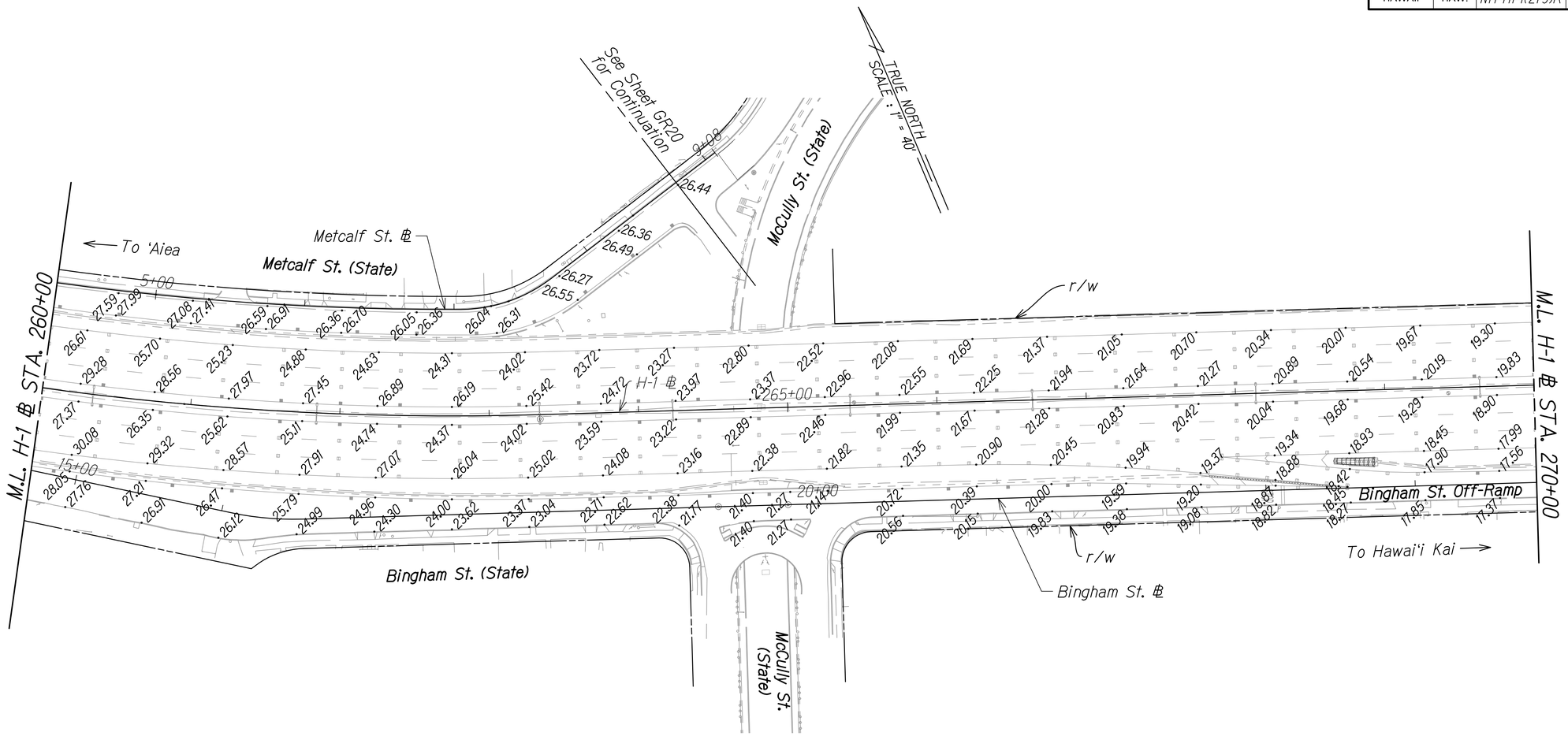
PAVEMENT GRADE PLAN 08

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR8 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	162	411



NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50' interval relative to H-1 ℄ and Metcalf St. ℄.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

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

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Robyn McKinney 04/30/26

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

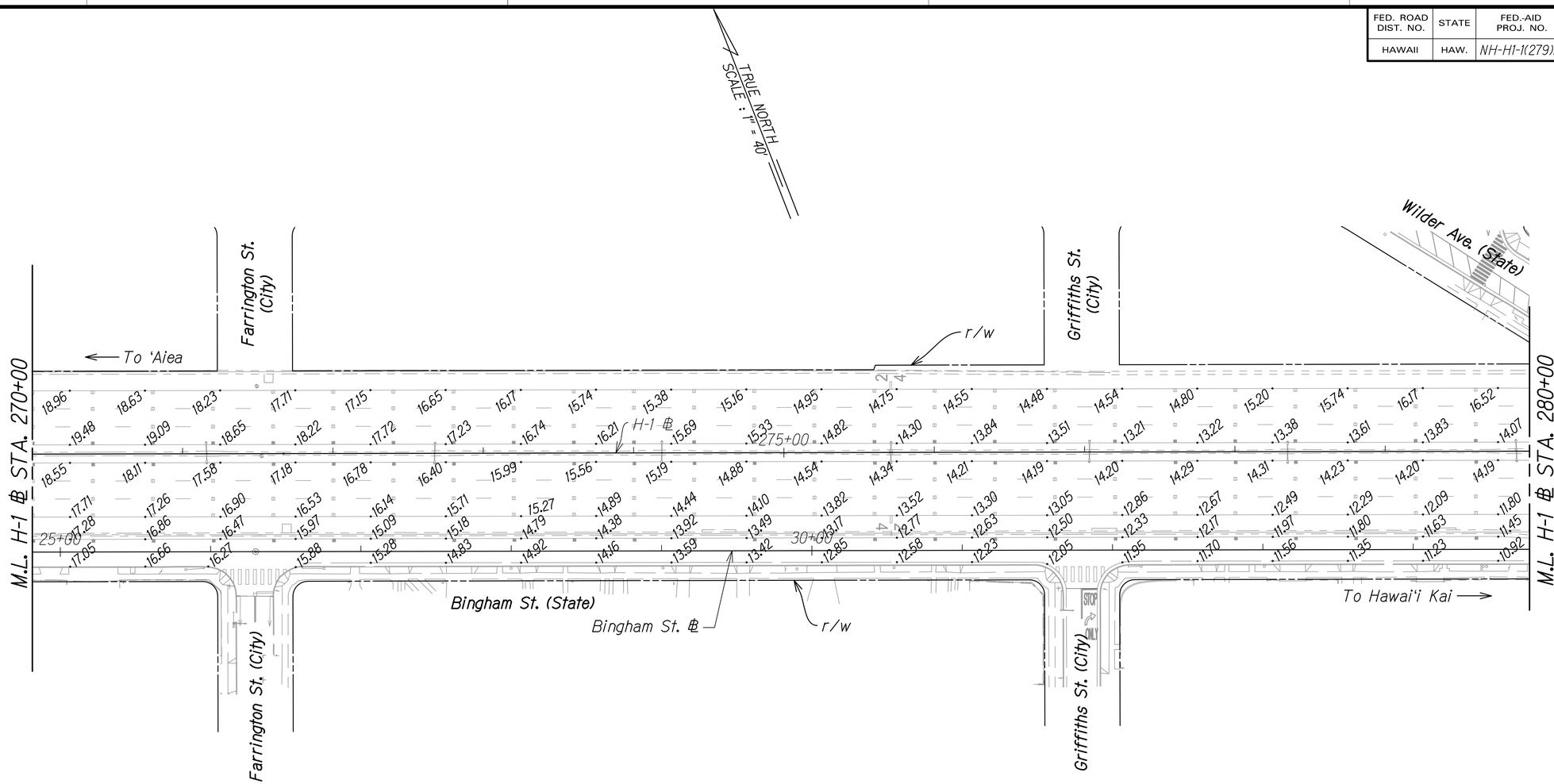
PAVEMENT GRADE PLAN 09

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR9 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	163	411



GRAPHIC SCALE:

40′ 20′ 0 40′ 80′

Scale: 1" = 40′

NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.

2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.

3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

4. The Spot Elevations are at 50′ interval relative to H-1 ℄.

ROBYN R. MCKINNEY
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NO. 13480-C
HAWAII, USA

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

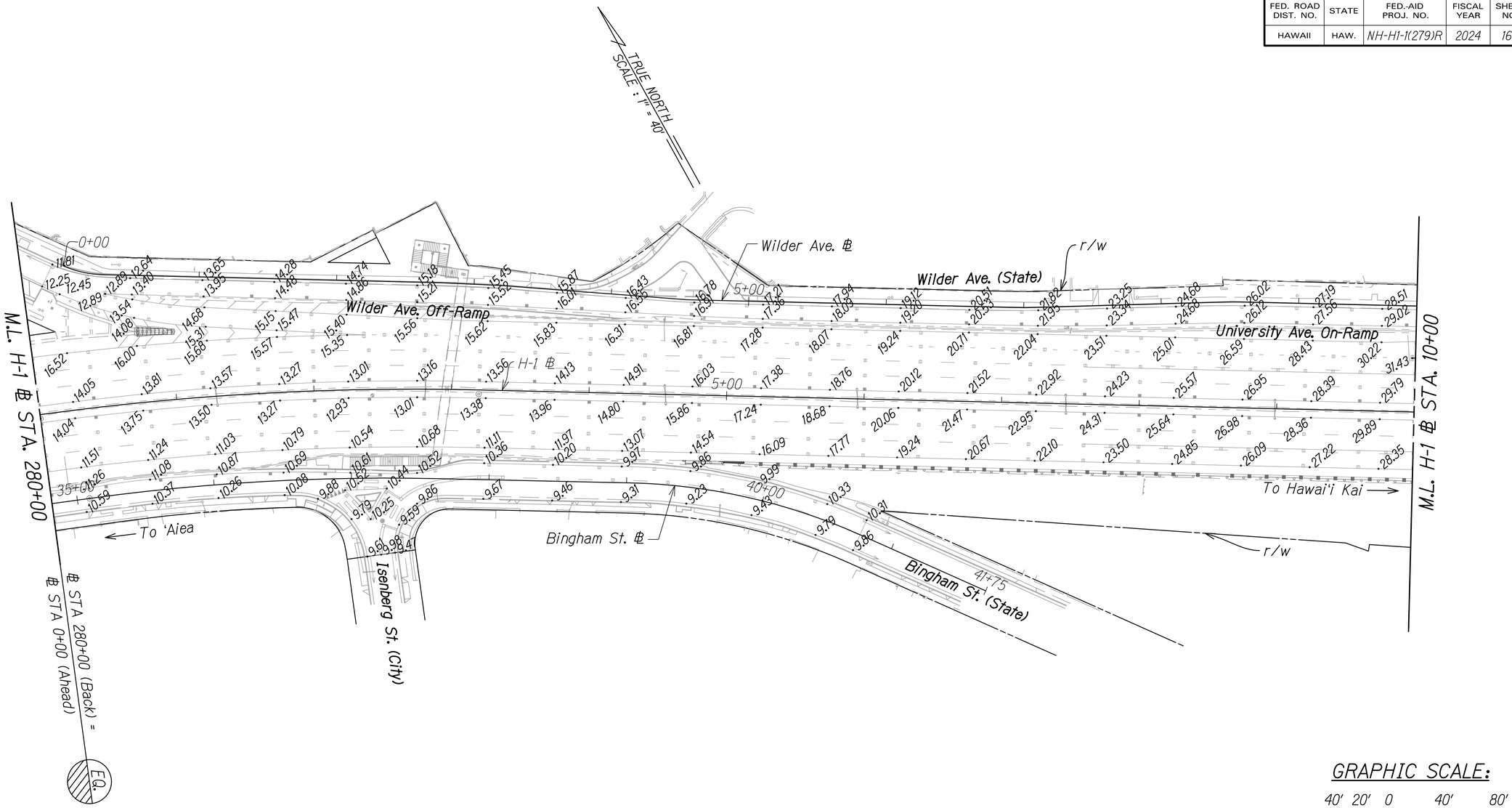
PAVEMENT GRADE PLAN 10

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40′ Date: November 2024

SHEET No. GR10 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	164	411



NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50' interval relative to H-1 ℄.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

ROBYN R. MCKINNEY
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NO. 13480-C
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Robyn McKinney — 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 11

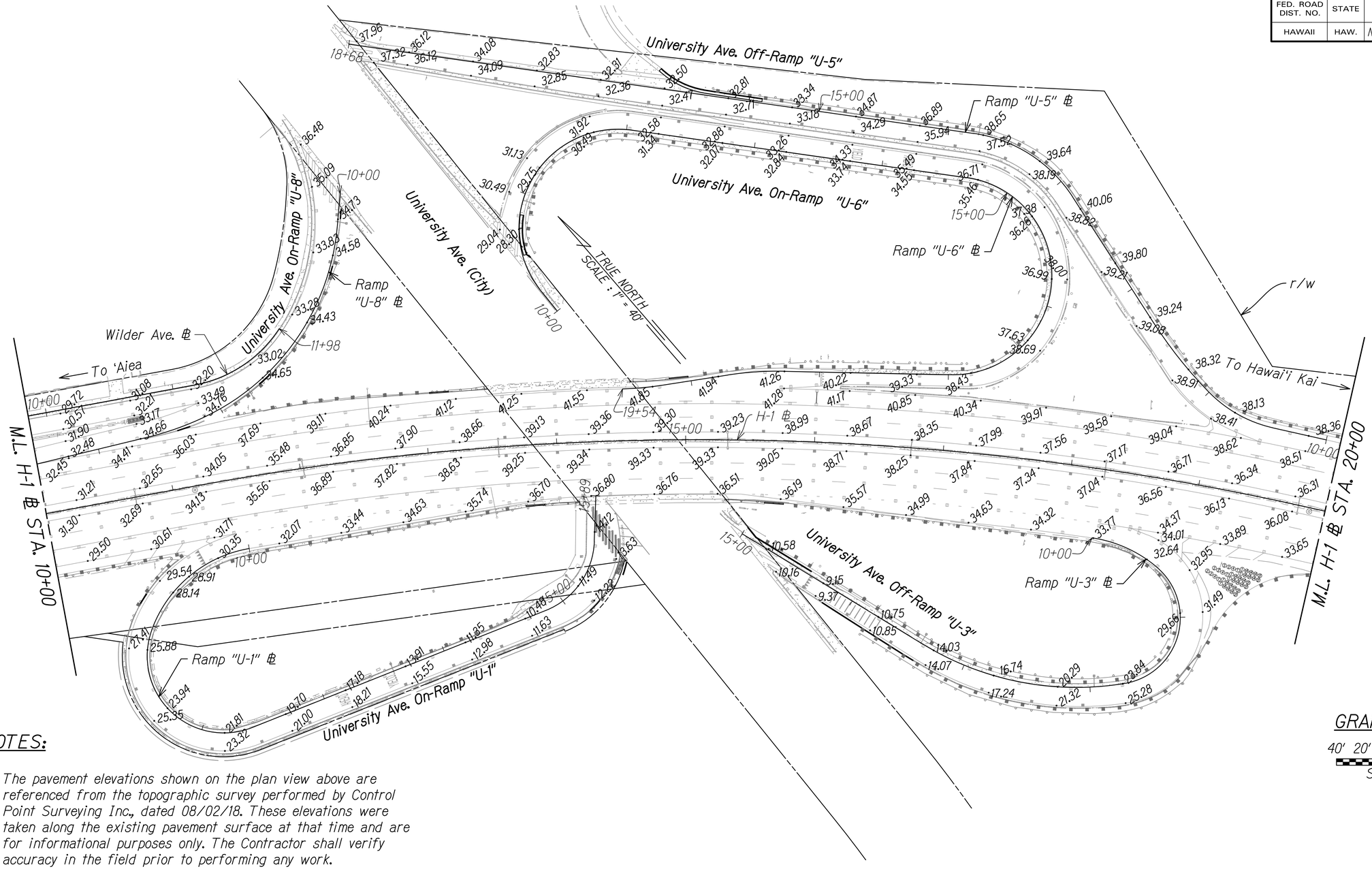
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR11 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\GR1 - GR15 PAVEMENT GRADE PLANS.DWG 7/25/2024 11:33 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	165	411



NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.

2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.

3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

4. The Spot Elevations are at 50' interval relative to H-1 ℄, Ramp U-1 ℄, Ramp U-3 ℄, Ramp U-5 ℄, Ramp U-6 ℄ and Ramp U-8 ℄.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

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

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Robyn McKinney 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 12

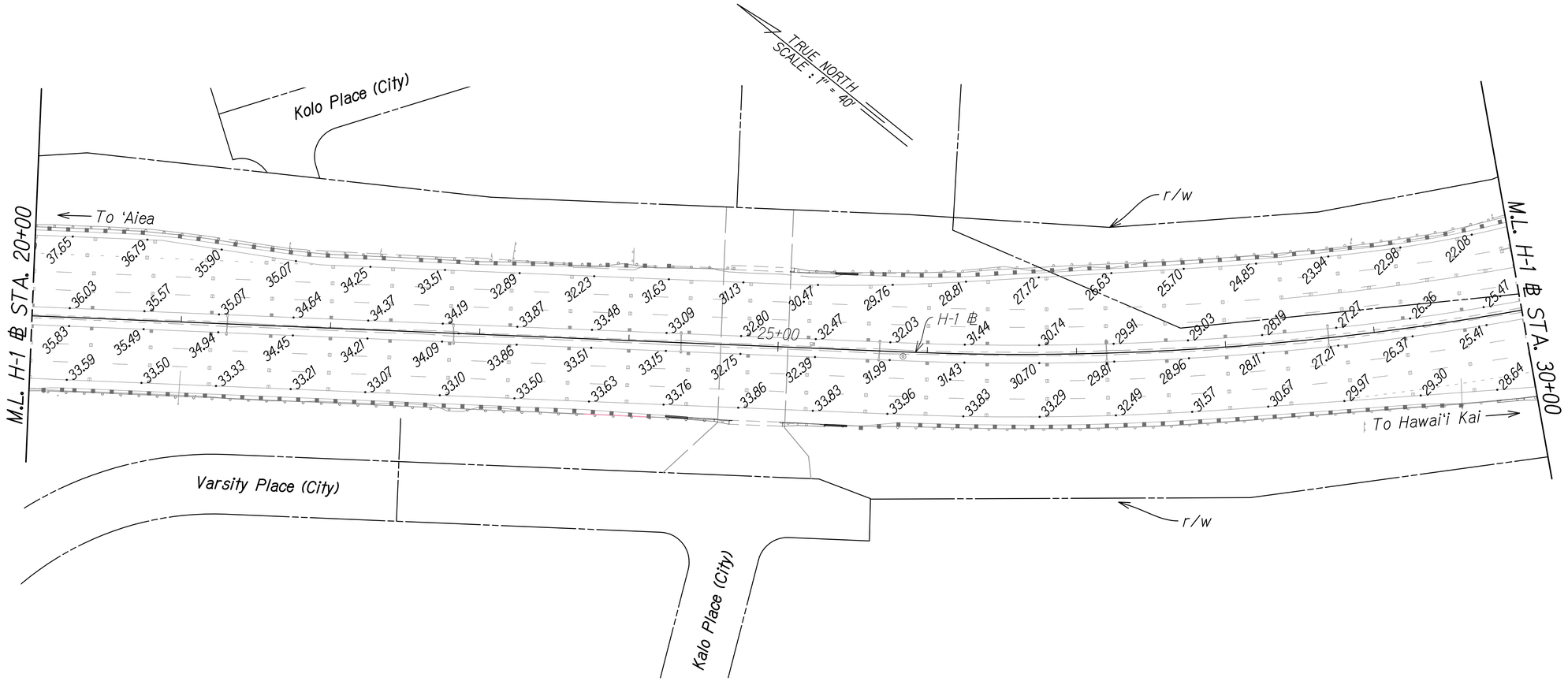
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR12 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIT\01 CIVIL DRAWINGS\GR1 - GR15 PAVEMENT GRADE PLANS.DWG 7/26/2024 11:04 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	166	411



NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.

2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.

3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

4. The Spot Elevations are at 50' interval relative to H-1 ℄.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

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

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Robyn McKinney 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 13

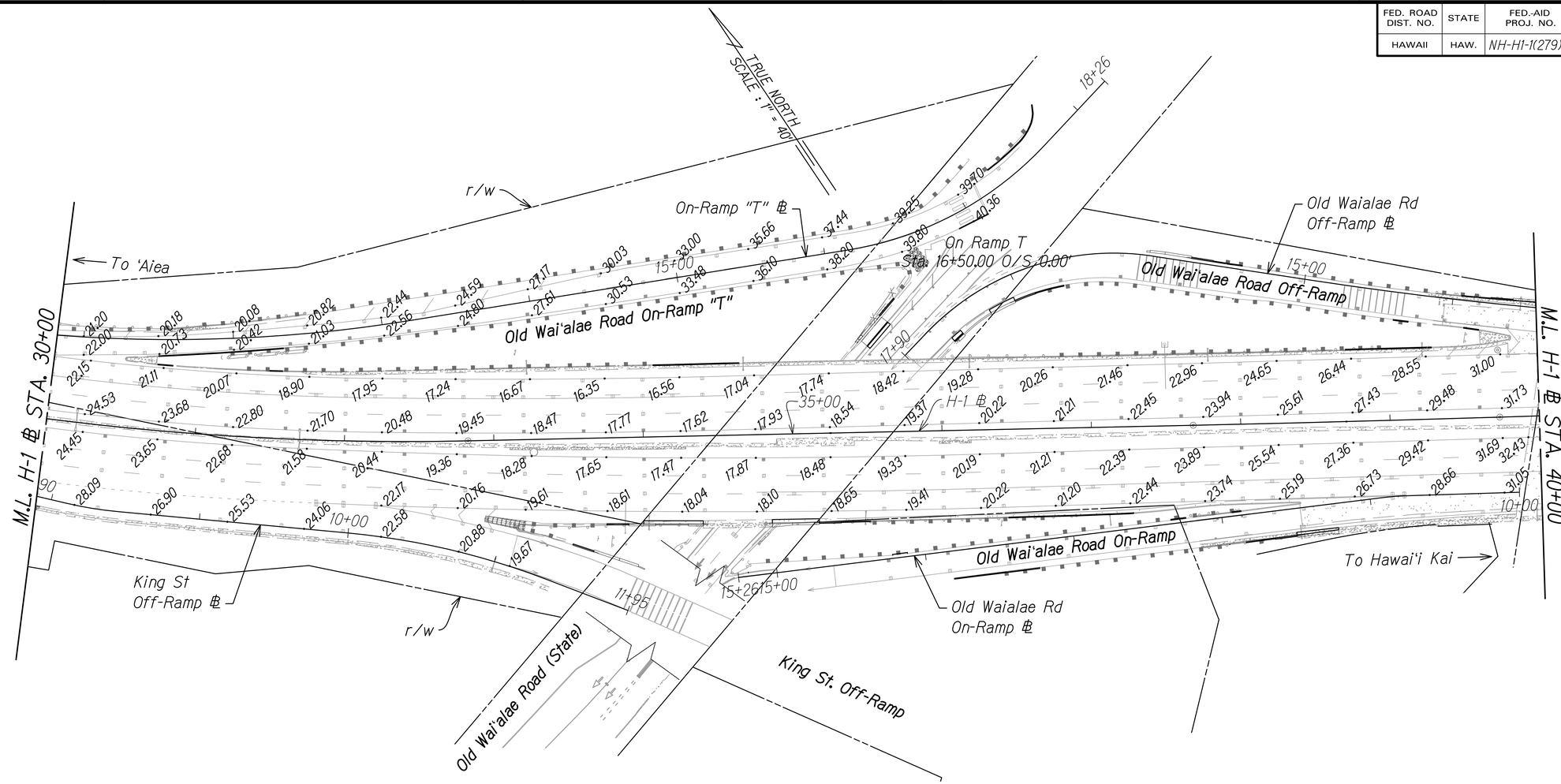
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR13 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\GR1 - GR15 PAVEMENT GRADE PLANS.DWG 7/22/2024 9:32 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	167	411



NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50' interval relative to H-1 ℄ and On-Ramp "T" ℄.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

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

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Robyn McKinney 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 14

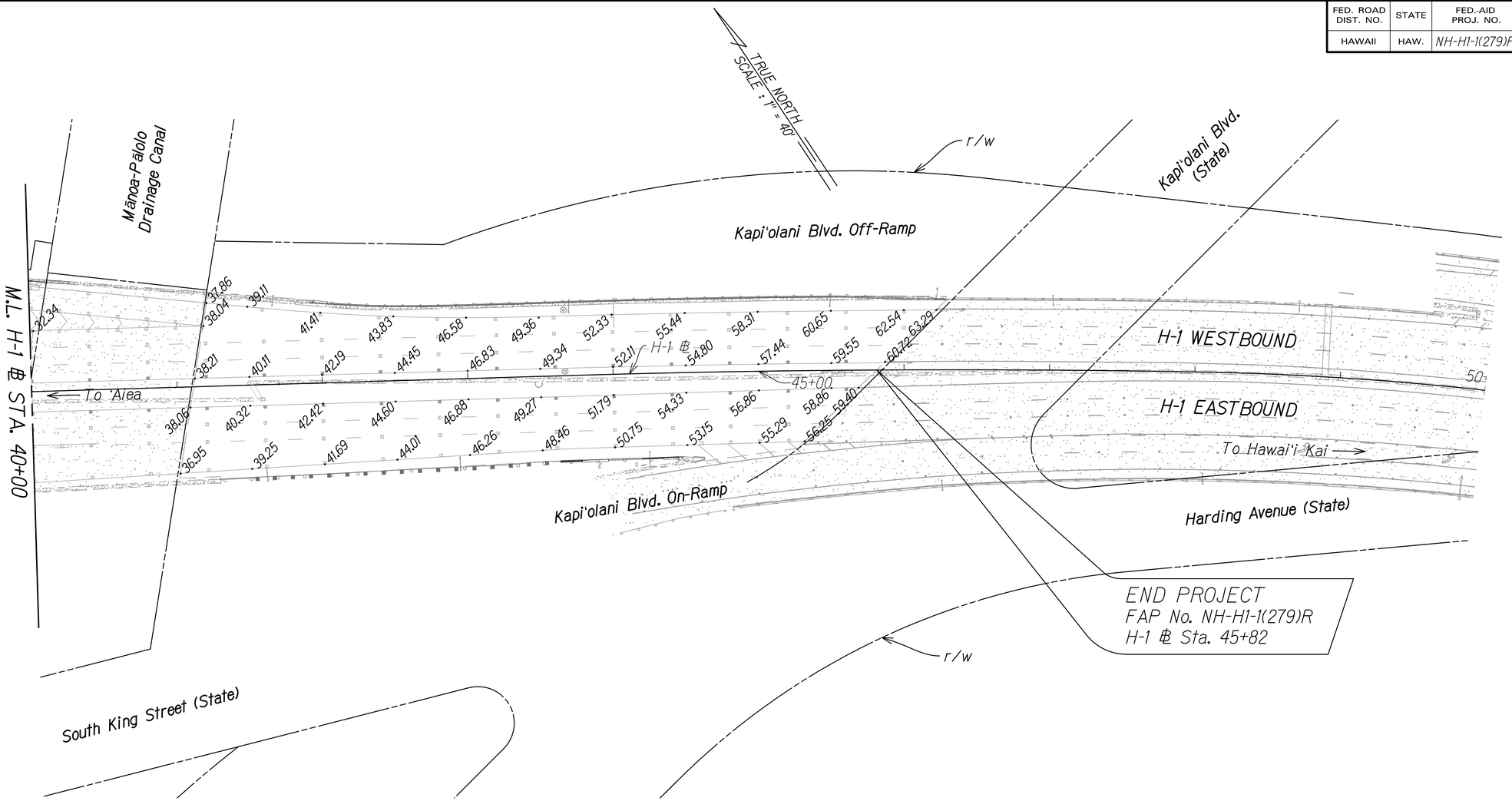
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR14 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPINT\01 CIVIL DRAWINGS\GR1 - GR15 PAVEMENT GRADE PLANS.DWG 7/25/2024 11:33 AM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	168	411



GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50' interval relative to H-1 ℄.

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

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Robyn McKinney — 04/30/26
SIGNATURE — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 15

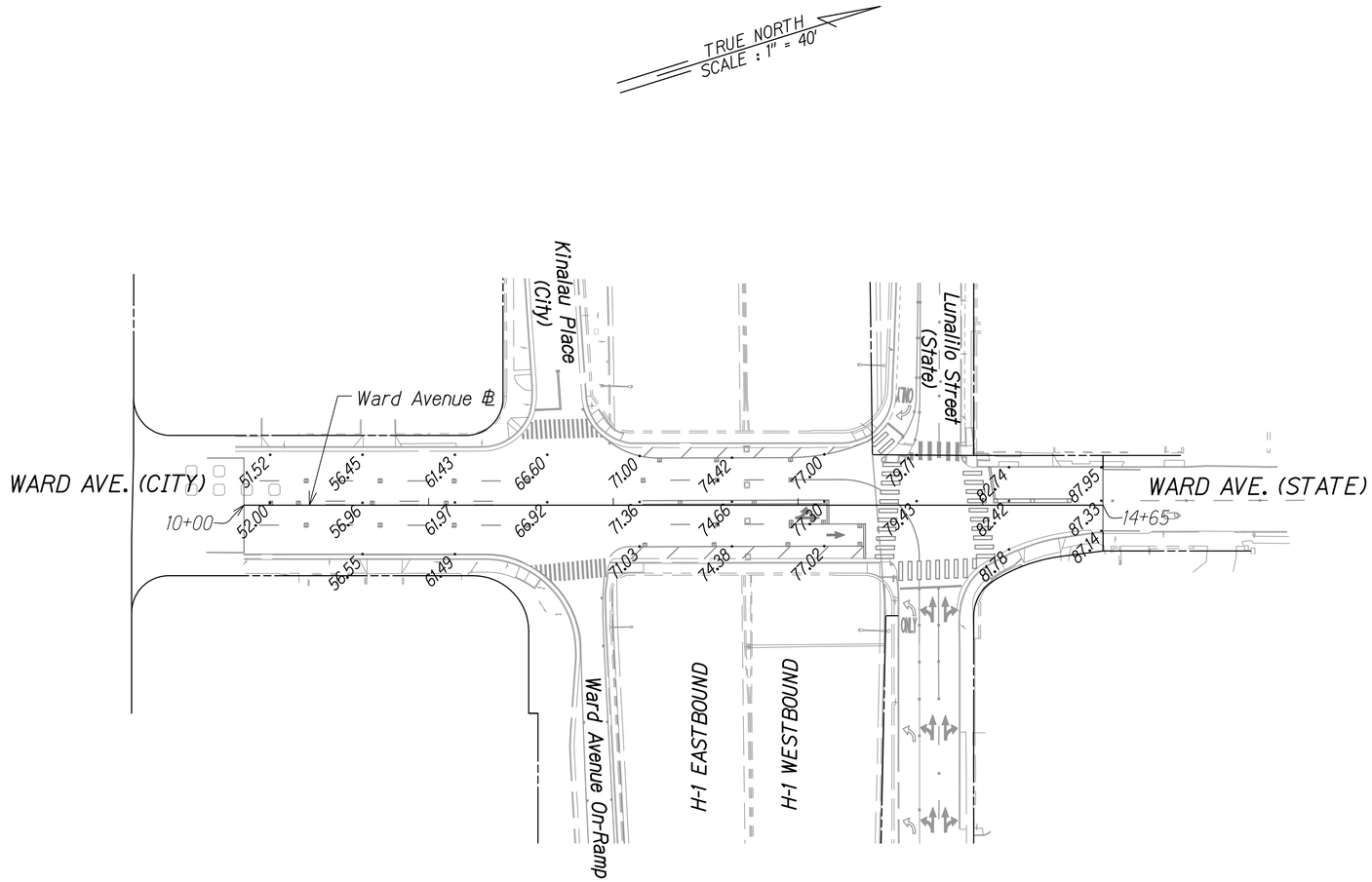
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR15 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\GR1 - GR15 PAVEMENT GRADE PLANS.DWG 7/19/2024 4:05 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	169	411



GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.

2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.

3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

4. The Spot Elevations are at 50' interval relative to Ward Avenue ℄.

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

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Robyn McKinney — SIGNATURE

04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 16

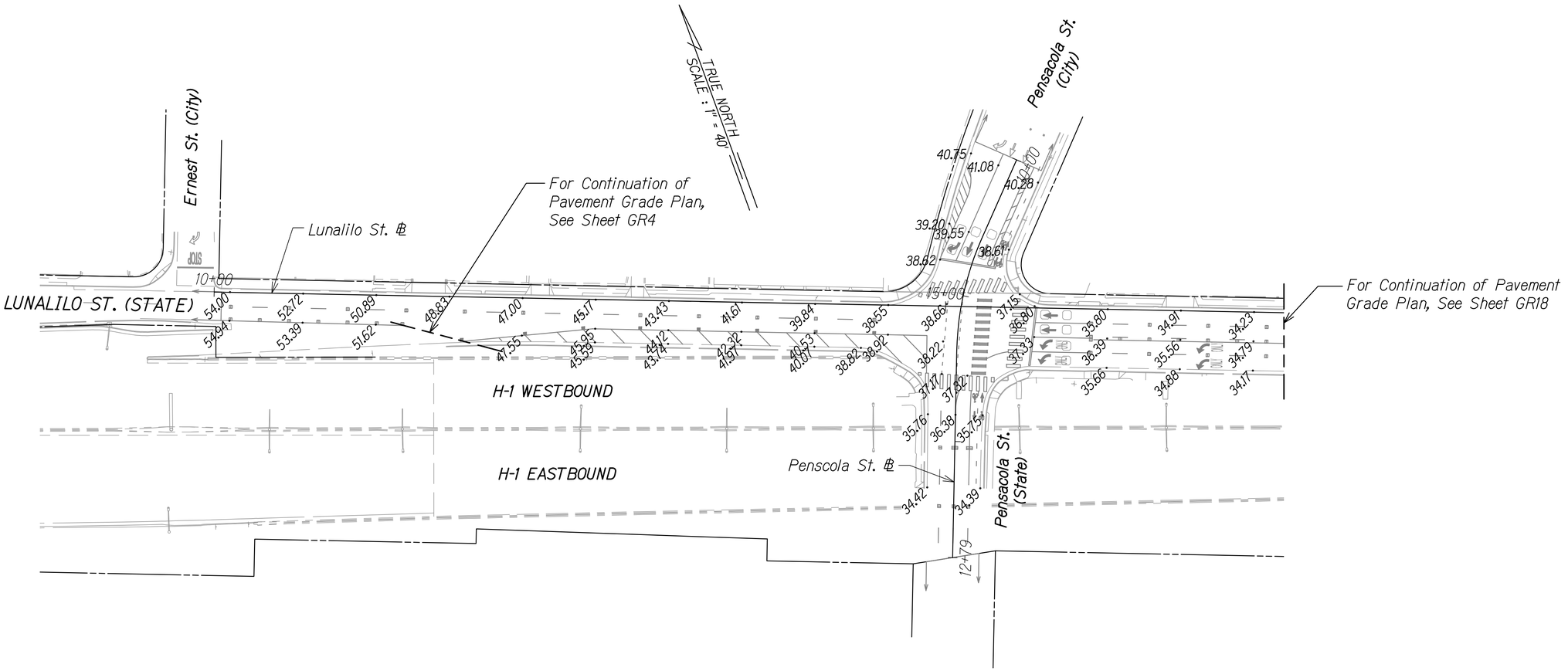
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR16 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\01 CIVIL DRAWINGS\GR16 - GR21 PAVEMENT GRADE PLANS.DWG 7/26/2024 2:04 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	170	411



NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.

2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.

3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

4. The Spot Elevations are at 50' interval relative to Lunalilo St. ℄ and Pensacola St. ℄.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

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

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

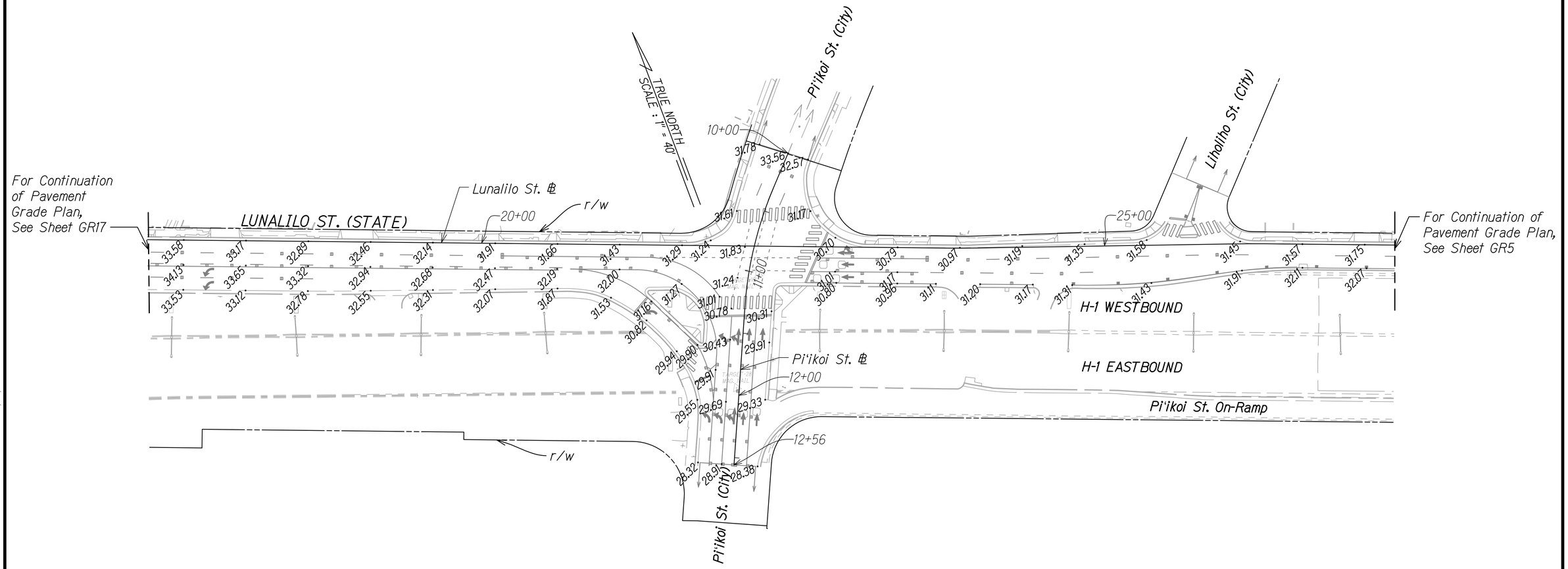
PAVEMENT GRADE PLAN 17

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR17 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	171	411



NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.

2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.

3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

4. The Spot Elevations are at 50' interval relative to Lunalilo St. ℄ and Piikoi St. ℄.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

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

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Robyn McKinney 04/30/26
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

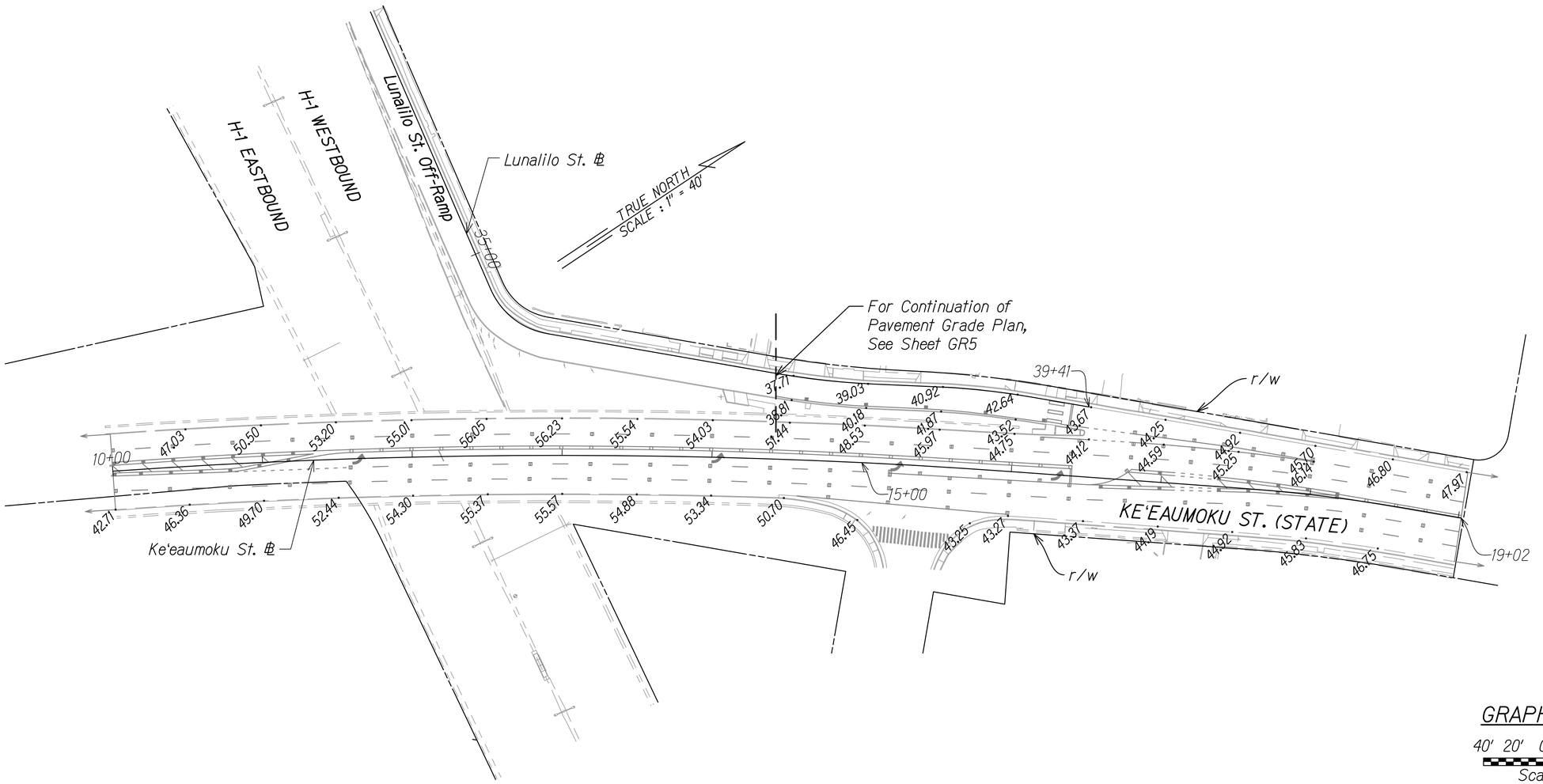
PAVEMENT GRADE PLAN 18

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR18 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	172	411



GRAPHIC SCALE:

40′ 20′ 0 40′ 80′

Scale: 1" = 40′

NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.

2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.

3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

4. The Spot Elevations are at 50′ interval relative to Keeaumoku St. ℄.

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

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 19

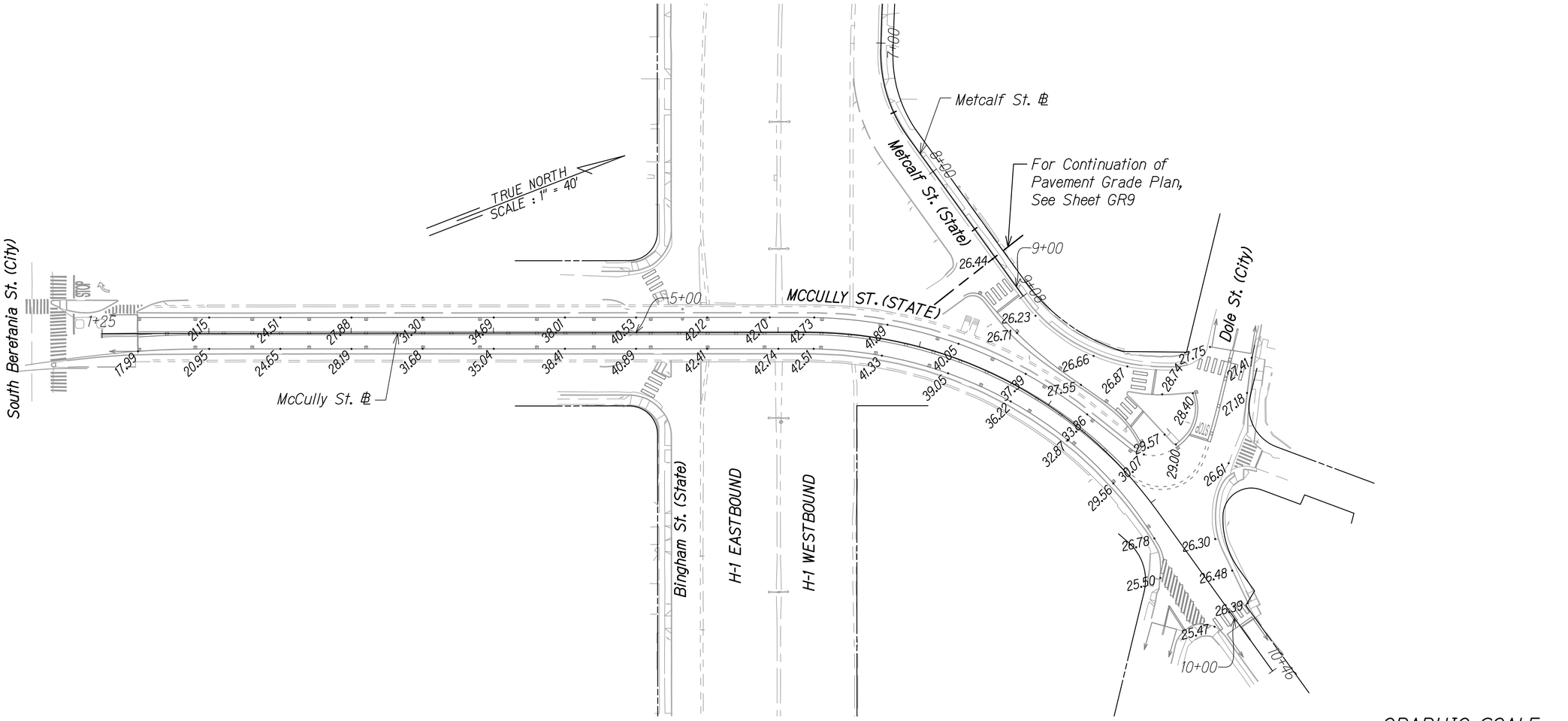
INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40′ Date: November 2024

SHEET No. GR19 OF 21 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIT\01 CIVIL DRAWINGS\GR16 - GR21 PAVEMENT GRADE PLANS.DWG 7/26/2024 2:04 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	173	411



NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.

2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.

3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.

4. The Spot Elevations are at 50' interval relative to McCully St. ℄ and Metcalf St. ℄.

GRAPHIC SCALE:

40' 20' 0 40' 80'

Scale: 1" = 40'

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

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Robyn McKinney — SIGNATURE

04/30/26 — EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

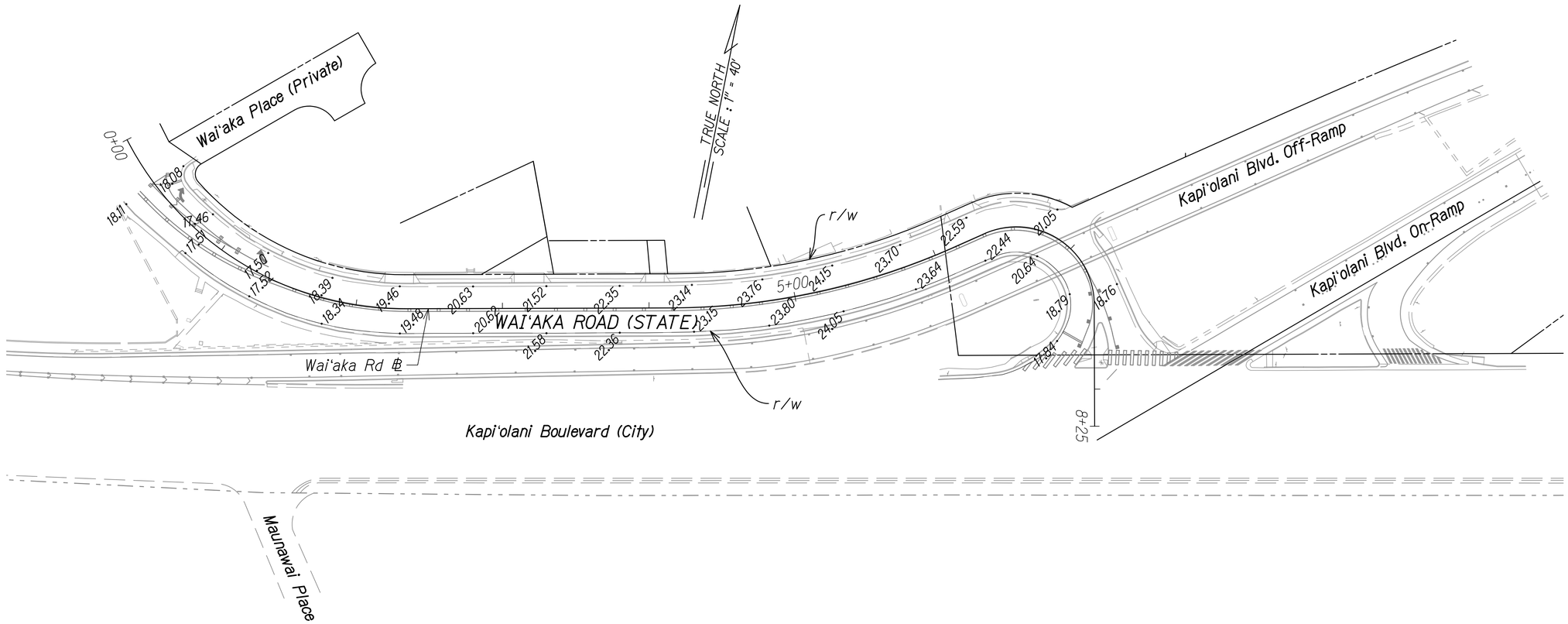
PAVEMENT GRADE PLAN 20

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40' Date: November 2024

SHEET No. GR20 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H1-1(279)R	2024	174	411



GRAPHIC SCALE:

40′ 20′ 0 40′ 80′

Scale: 1" = 40′

NOTES:

1. The pavement elevations shown on the plan view above are referenced from the topographic survey performed by Control Point Surveying Inc., dated 08/02/18. These elevations were taken along the existing pavement surface at that time and are for informational purposes only. The Contractor shall verify accuracy in the field prior to performing any work.
2. Survey Control Data along with baseline and curve data are shown on Roadway Plans, sheets R1 - R26.
3. The Contractor shall survey and stake out the roadway work in accordance with Section 105.10 Construction Stakes, Lines and Grades from the HDOT Standard Specifications.
4. The Spot Elevations are at 50′ interval relative to Waiaka Road ℄.

ROBYN R. MCKINNEY
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HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Robyn McKinney
SIGNATURE

04/30/26
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT GRADE PLAN 21

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-H1-1(279)R

Scale: 1" = 40′ Date: November 2024

SHEET No. GR21 OF 21 SHEETS

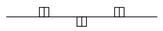
W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIN\01 CIVIL DRAWINGS\GR16 - GR21 PAVEMENT GRADE PLANS.DWG 7/26/2024 2:24 PM

FED. ROAD DIST. NO.	STATE	FED.-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(279)R	2024	175	411

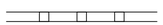
PAVEMENT MARKING LEGEND:

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

10' White Profiled Thermoplastic Stripe
Type D Raised Pavement Markers @ 40'-0" o.c.



8" White Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)

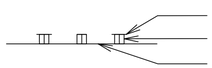


4" Double Solid Yellow with Type D Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)

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

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

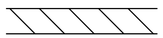
4" Double Solid White Stripes with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)



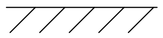
Lane Change Restriction Marking
10' White Profiled Thermoplastic Stripe
Type C Raised Pavement Markers At 20'-0" o.c.
4" White Stripe (Tape, Type I or Thermoplastic Extrusion)

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

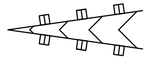
4" White Guide Lines (Tape, Type III or Thermoplastic Extrusion except for bus bays) (See HDOT Standard Plan TE-28)



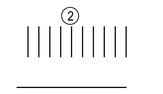
Transverse Median Marking (Tape, Type Ii Or Thermoplastic Extrusion)



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



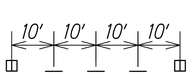
Channelizing Island or Deceleration Lane Gore (Tape, Type II or Thermoplastic Extrusion) (See HDOT Standard Plan TE-28)



Crosswalk and Stop Line. All Stop Lines shall be 10'-0" from Crosswalk unless otherwise noted. The circled number indicates the number of lanes for payment (Tape, Type III or Thermoplastic Extrusion)

Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)

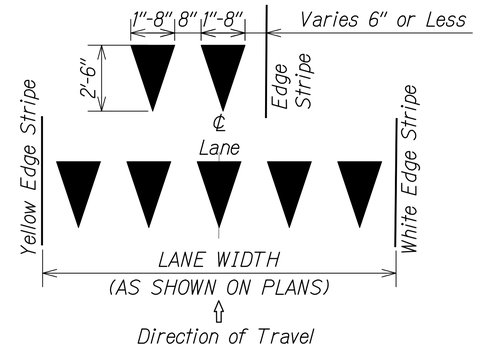
Pavement Word (Tape, Type Iii Or Thermoplastic Extrusion)



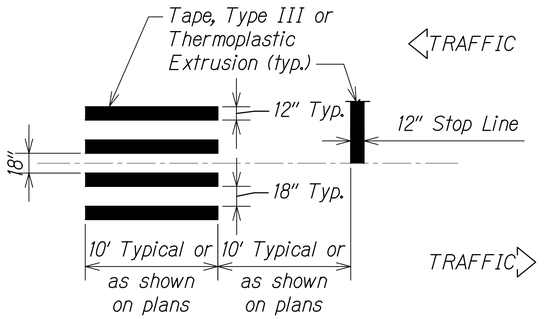
Extension of Edge Line, 4" Wide x 2'-0" Long White Stripe At 10'-0" o.c. w/ Type C Markers @ 40'-0" o.c. (Tape, Type III or Thermoplastic Extrusion)

PAVEMENT MARKING NOTES:

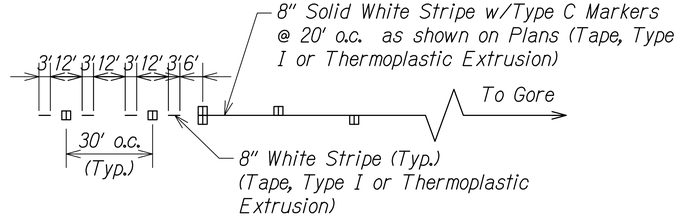
1. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
2. Existing pavement markings and striping not incorporated in the final traffic pattern shall be removed as directed by the Engineer. The removal of the existing pavement markings shall not be paid for separately and shall be considered incidental to the various pavement marking items.
3. Raised pavement markers shall not be installed within the crosswalks.
4. Final locations of all stop lines shall be approved by the Engineer prior to installation.
5. All pavement striping shall be as noted on the legend or plans.



YIELD LINE



CROSSWALK STRIPING DETAIL
Not to Scale



LANE DROP MARKING
Not to Scale

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Robyn McKinney 04/30/26
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING LEGEND AND NOTES

INTERSTATE ROUTE H-1 RESURFACING
Miller Pedestrian Overpass to Kapiolani Interchange
Federal-Aid Project No. NH-HI-1(279)R

Scale: N/A Date: November 2024

SHEET No. M1 OF 38 SHEETS

W:_CIVIL 3D PROJECTS\2016_202.000 DOT-HWYS H1 RESURFACING - MILLER TO KAPIO\01 CIVIL DRAWINGS\M1 - M2 PAVEMENT MARKING LEGEND AND NOTES.DWG 7/3/2024 3:32 PM