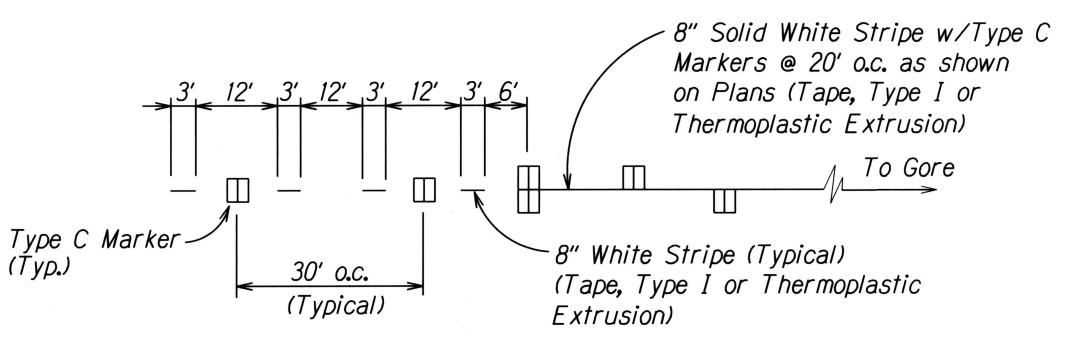
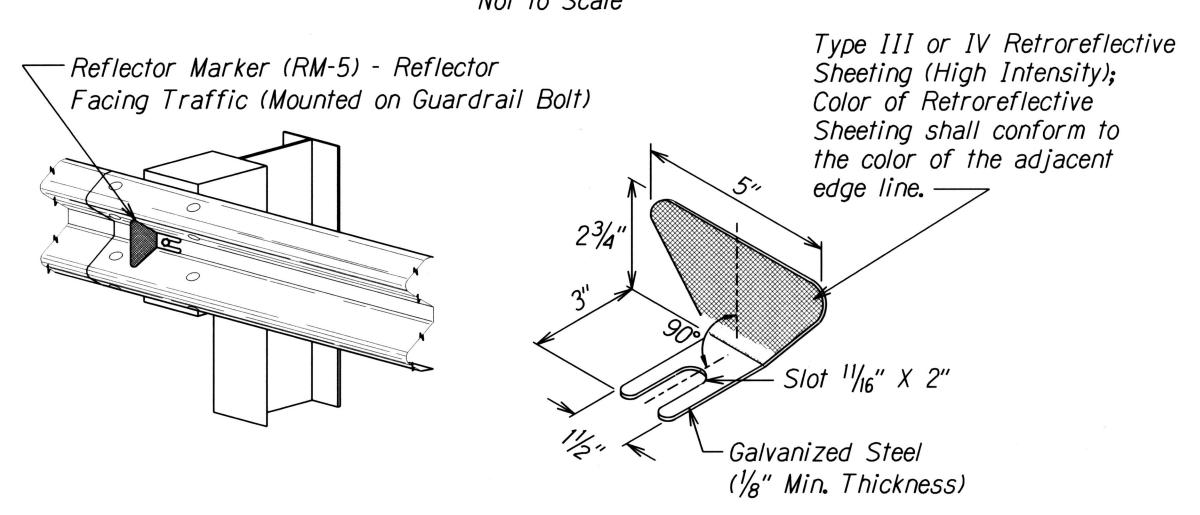


NOTES

- 1. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
- 2. Existing pavement markings not incorporated in the final traffic pattern shall be removed as directed by the Engineer. Costs shall be incidental to the various pavement marking items.
- 3. Raised pavement markers shall not be installed within crosswalks.
- 4. Final locations of all signs shall be approved by the Engineer prior to any installation work.
- 5. Existing signs not shown on these plans shall remain as posted unless otherwise directed by the Engineer. Removal and disposal of existing signs and/or posts as designated on these plans shall be incidental to the various signing items.
- 6. Final locations of all Stop Lines shall be approved by the Engineer prior to installation.
- 7. All pavement striping shall be as noted on the legend or plans.
- 8. All preformed pavement marking tapes over existing pavement shall be applied with an approved primer as recommended by the tape manufacturer and as approved by the Engineer. The primer shall be allowed to dry to the tacky stage prior to tape application.
- 9. All Pedestrian warning signs with supplemental sign shall be on a fluorescent yellow-green retroflective backgroung with a legend and border.



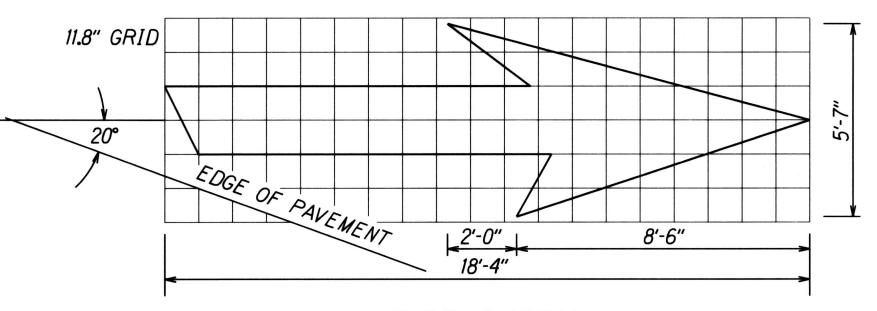
LANE DROP MARKING Not to Scale



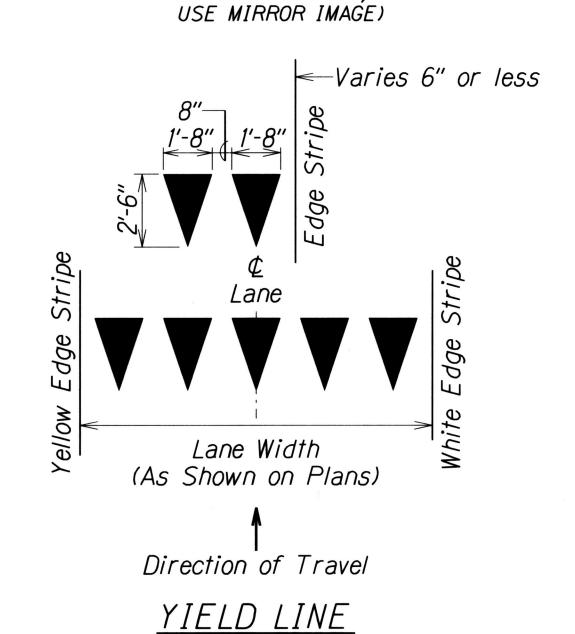
REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION

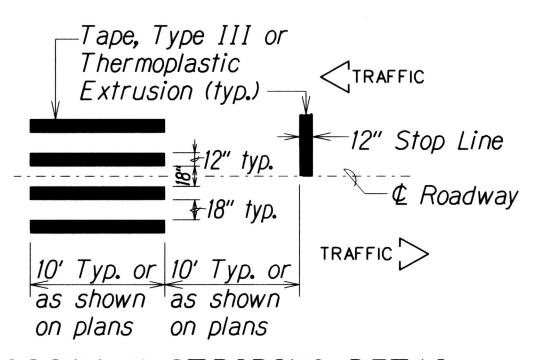
Reflector Markers (RM-5) mounted on guardrails shall be spaced every 25 feet. RM-5's shall not be installed on Terminal Sections. Furnishing and installing of each RM-5 shall be paid for under Contract Item No. 632.4200 - Reflector Marker (RM-5) mounted on new and existing guardrail. The Contractor shall be responsible for mounting RM-5's on all new and existing metal quardrails even when not shown on plans.





TYPE VI ARROW RIGHT LANE DROP ARROW (FOR LEFT LANE,





CROSSWALK STRIPING DETAIL

Not to Scale

Not to Scale

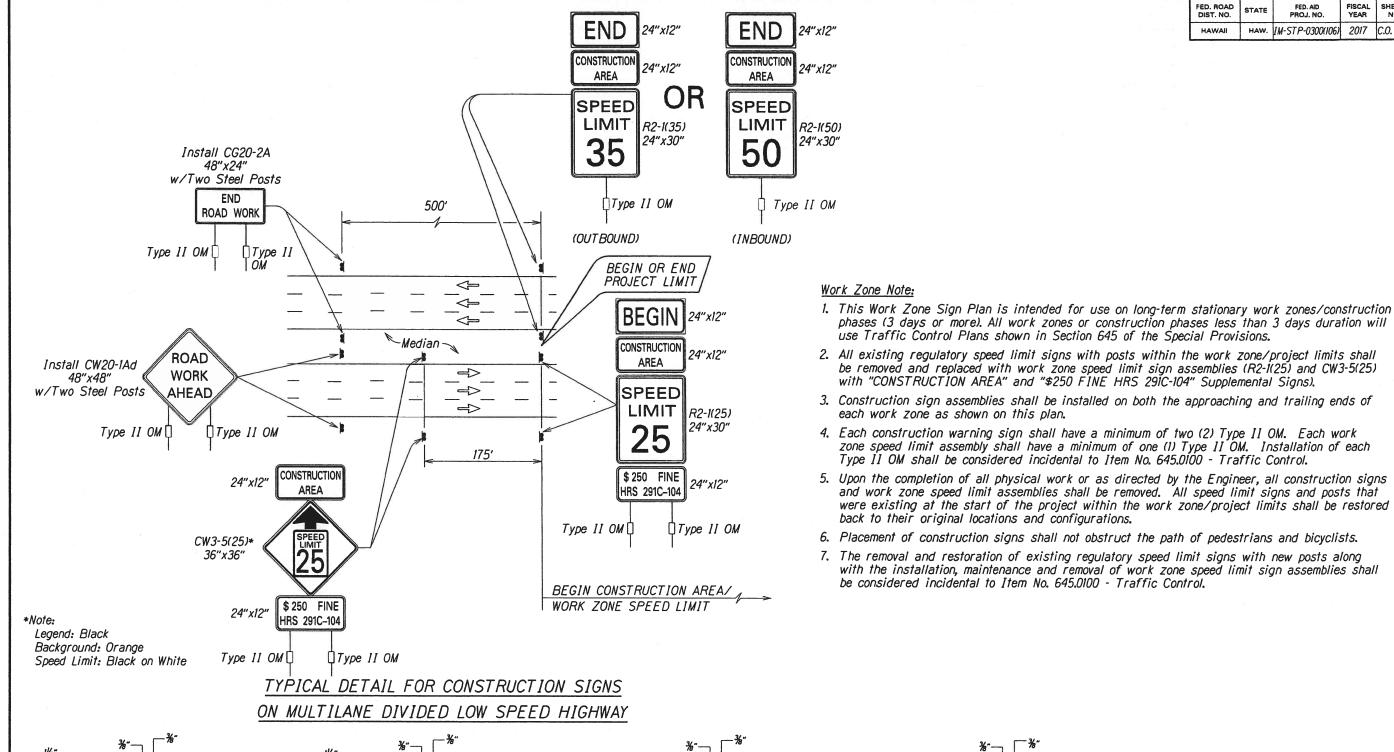


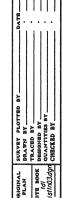
STATE OF HAWAII

Guardrail and Shoulder Improvements Federal-Aid Project No. IM-STP-0300(106) Date: July, 2017

Scale: As Noted

SHEET No. 71 OF 51 SHEETS





AREA

LEGEND: BLACK

BACKGROUND: WHITE

LEGEND: BLACK

BACKGROUND: ORANGE



LEGEND: BLACK

ORANGE

BACKGROUND:

LEGEND: BLACK BACKGROUND: ORANGE

Revised Plan Detail and Added Sign. DATE REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

FISCAL YEAR

FED. AID PROJ. NO.

SHEET NO.

2017 C.O. 136 193

TOTAL

LOW SPEED DIVIDED HIGHWAY

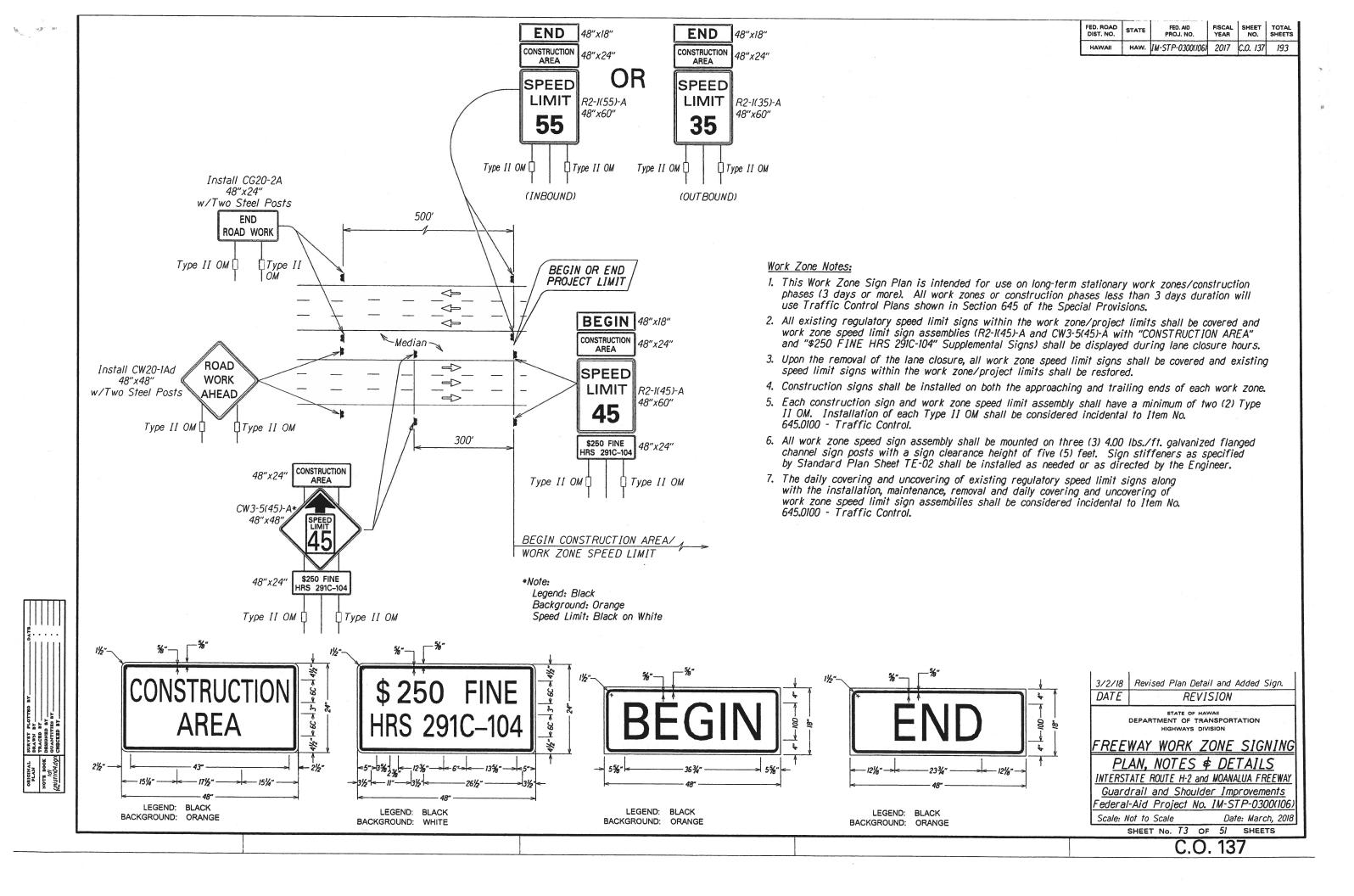
WORK ZONE SIGNING PLAN, NOTES&DETAILS

INTERSTATE ROUTE H-2 and MOANALUA FREEWAY Guardrail and Shoulder Improvements

Federal-Aid Project No. 1M-STP-0300(106) Scale: Not to Scale Date: March, 2018

SHEET No. 72 OF 51 SHEETS

C.O. 136



CONSTRUCTION PHASE NOTES

- 1. Relocation and/or removal of temporary signs, posts, Inertial Barrier Systems and portable concrete barriers used for Construction Phase shall be considered incidental to various contract items.
- 2. All temporary signs and delineators for the purposes of Construction Phase shall become the property of the Contractor at the completion of the project.
- 3. The Contractor shall delete the use of the ground anchorage steel pin for State Furnished Portable Concrete Barrier.
- 4. Portable concrete barrier panels not in use during construction work shall not be stockpiled or otherwise stored within the highway rights-of-way except at locations approved by the Engineer.
- 5. The Contractor shall periodically wash down signs, delineators and portable concrete barriers called for in the Construction Phase Plans as deemed necessary by the Engineer. This work shall be considered incidental to the various contract items and no payment will be made therefore.

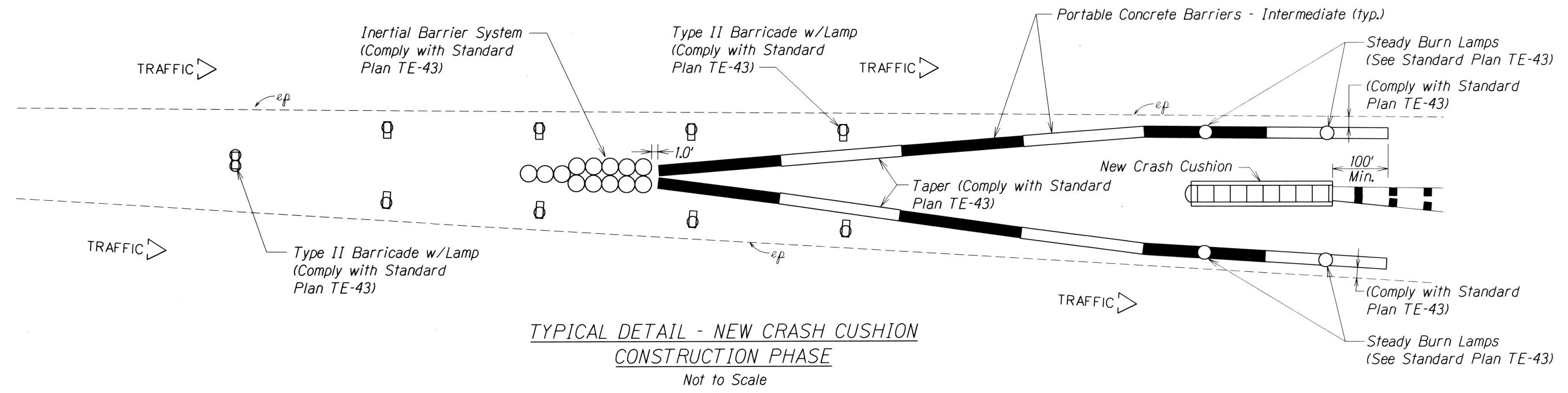
CONSTRUCTION PHASE NOTES (CONT.)

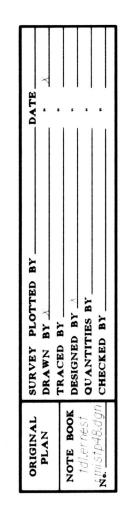
- 6. The location of pavement markings and signs, delineators and portable concrete guardrail panels used in the Construction Phase shall be as shown on the plans and/or as determined in the field by the Engineer.
- 7. Damage to signs, temporary pavement markers, delineators, barricades, Inertial Barrier Systems and portable concrete barriers caused by the public shall be repaired or replaced by the Contractor as directed by the Engineer. This work shall be paid for under Item No. 645.0200 -Police Officers and/or Additional Traffic Control Devices. Damage caused by the Contractor's negligence shall be repaired or replaced at the Contractor's expense.
- 8. Work required in the State's Construction Phase Plans will be paid under applicable contract items or as otherwise specified herein. All other traffic control work shall be in accordance with Section 645 - Traffic Control. Work required for lane closures during the working day will not be paid for but shall be considered incidental to various contract items. Advance Construction Warning Signs as required under Section 645 of the Special Provisions shall be installed on all approaches to construction areas including on-ramps. This work shall be considered incidental to the various contract items.

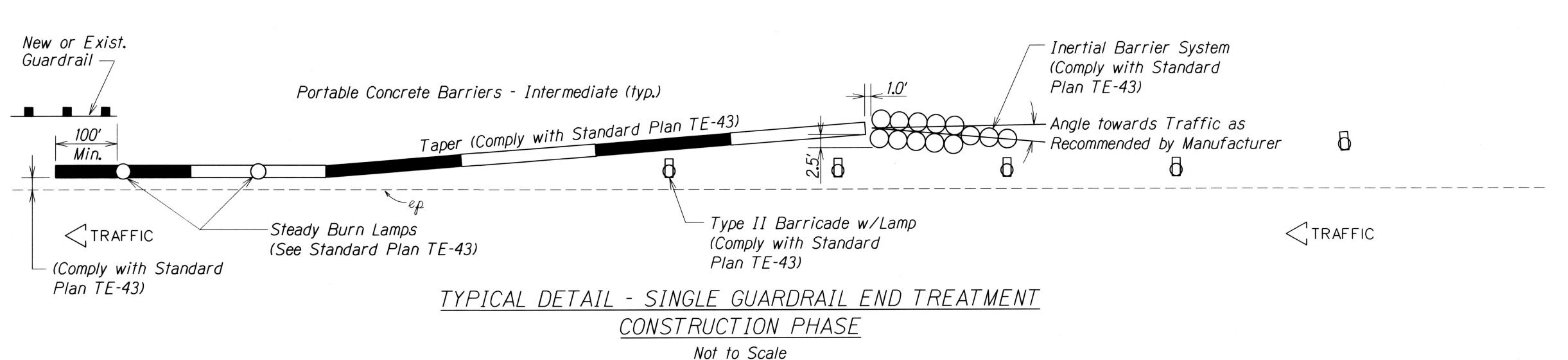
FISCAL SHEET TOTAL YEAR NO. SHEETS FED. AID PROJ. NO. FED. ROAD STATE HAW. [M-STP-0300(106)] 2017 | 138 | 193

CONSTRUCTION PHASE NOTES (CONT.)

- 9. Install Steady Burn Amber Lamps on portable concrete barrier @ 20.0' o.c. Installing, maintaining and changing batteries of the Portable Mounted Steady Burn Amber Lamps shall be considered incidental to the various contract items and no payment will be made therefore.
- 10. The Type II Barricades with steady burn amber lamp used during Construction Phase shall be considered incidental to the various contract items.
- 11. The Contractor shall schedule their work such that there are no more than four (4) individual work zones occuring at the same time or as indicated by the contract.







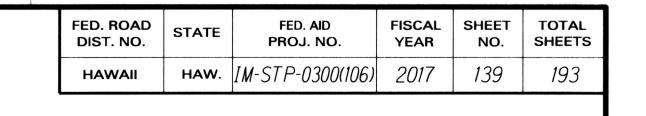
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION

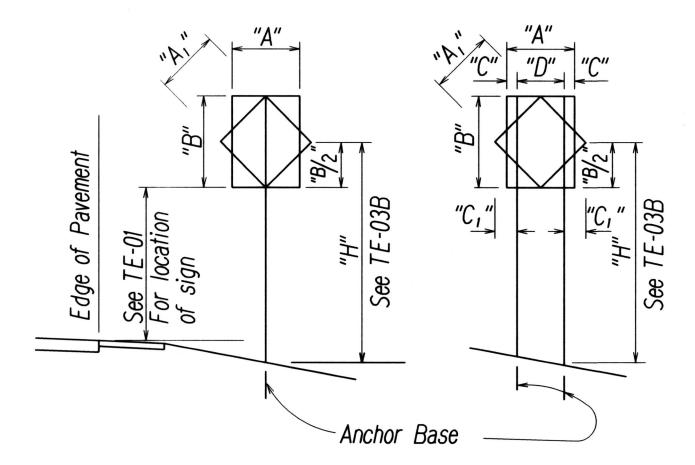
CONSTRUCTION PHASE

INTERSTATE ROUTE H-2 and MOANALUA FREEWAY Guardrail and Shoulder Improvements Federal-Aid Project No. IM-STP-0300(106) Date: July, 2017

Scale: As Noted

SHEET No. 74 OF 51 SHEETS





1 - POST "A" or "A₁" less than 36"

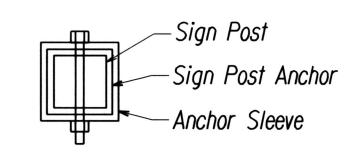
2 - POST "A" or "A," less than 60"

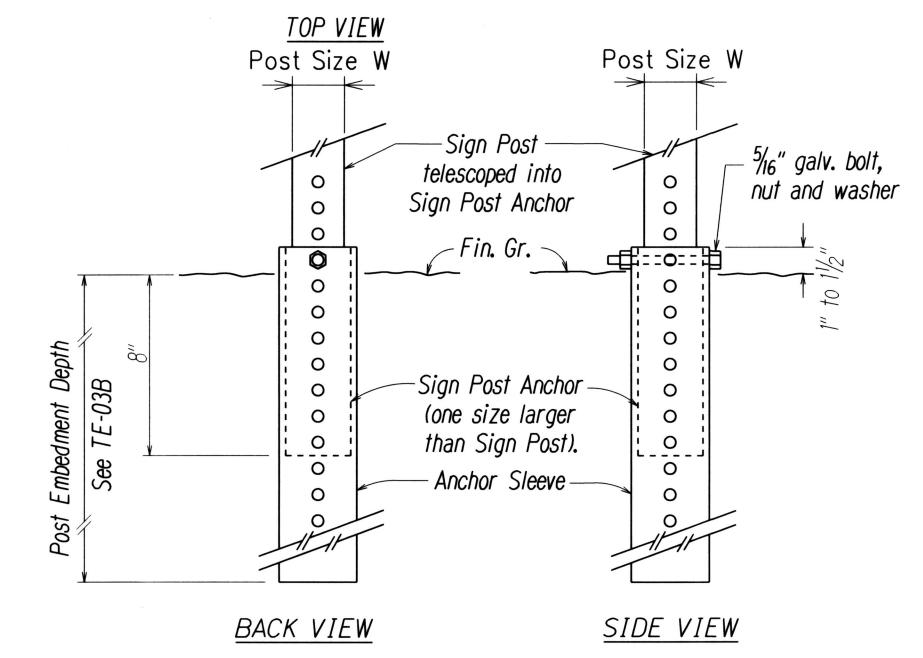
"A" or "A;"	"C"	"C , "
Less than 36"	6"	-
Greater than 36" and less than 48"	9"	19"
Greater than 48"	12"	24"

SURVEY PLOT
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

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

TYPICAL INSTALLATION





SIGN POST INSTALLATION

ANCHOR BASE DETAIL

GENERAL NOTES

1. Design Specifications:

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

2. Loads:

- (A) Basic Wind Speed: 105 mph.
- (B) Recurrence Interval of 10 years.

3. <u>Materials:</u>

- (A) Post shall conform to the Standard Specifications.
- (B) All connection bolts shall be AASHTO M164 bolts and anchor bolts shall be AASHTO M314-105 bolt.
- (C) Lap splice nuts and bolts shall be M180, with an ultimate tensile strength of 180 ksi, min.
- (D) Aluminum members and surfaces in contact with structural steel shall be isolated with neoprene material as approved by the Engineer.

4. <u>General:</u>

- (A) See General Notes on B-01, TE-01, and TE-03B for additional information.
- (B) All square tube posts shall be 12 gauge unless otherwise specified or shown on the plans.
- (C) Square tube posts shall be perforated with $\frac{1}{16}$ % holes, 1" o.c., 4 sides, along entire length of post.
- (D) All accessories, fittings and stiffener details (as required) shall be submitted to the Engineer for approval 20 days prior to installation.
- (E) Alternate designs in accordance with the plans and specifications shall use the Service Load Design Method and shall be stamped by a registered structural engineer of the State of Hawaii and submitted to the Engineer for approval.
- (F) All sign support posts without break away anchor base shall be outside of the clear zone or shielded by an appropriate traffic barrier system. The traffic barrier system shall be submitted to the Engineer for his approval.
- (G) The Contractor shall use templates while installing the anchor bolts. Anchor bolts shall be vertical.
- (H) Excavation and backfill shall be considered incidental to the cost of the sign foundation.

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

<u>GALVANIZED SQUARE TUBE</u> <u>SIGN POST MOUNTING</u>

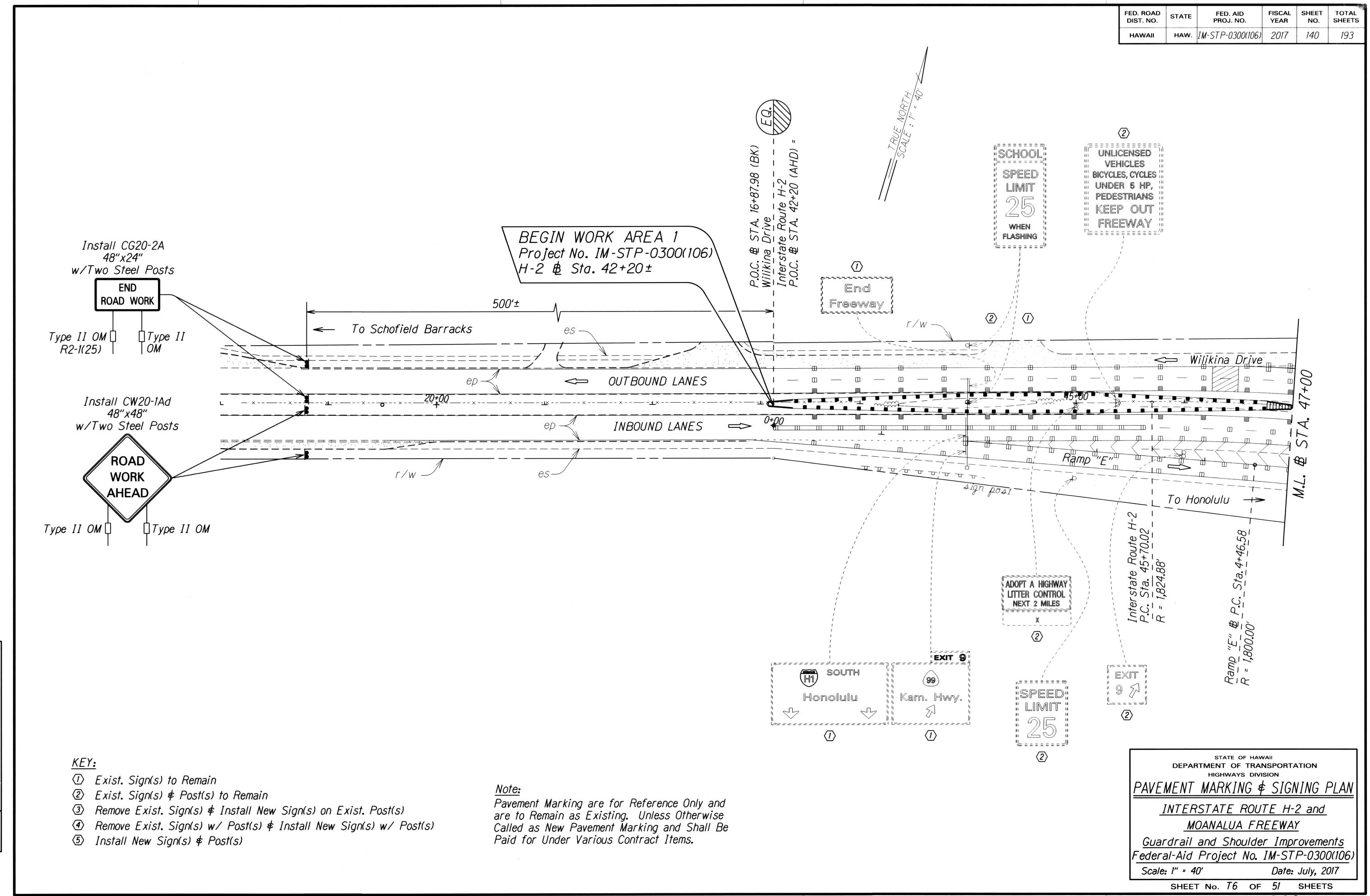
INTERSTATE ROUTE H-2 and MOANALUA FREEWAY
Guardrail and Shoulder Improvements

Federal-Aid Project No. IM-STP-0300(106)

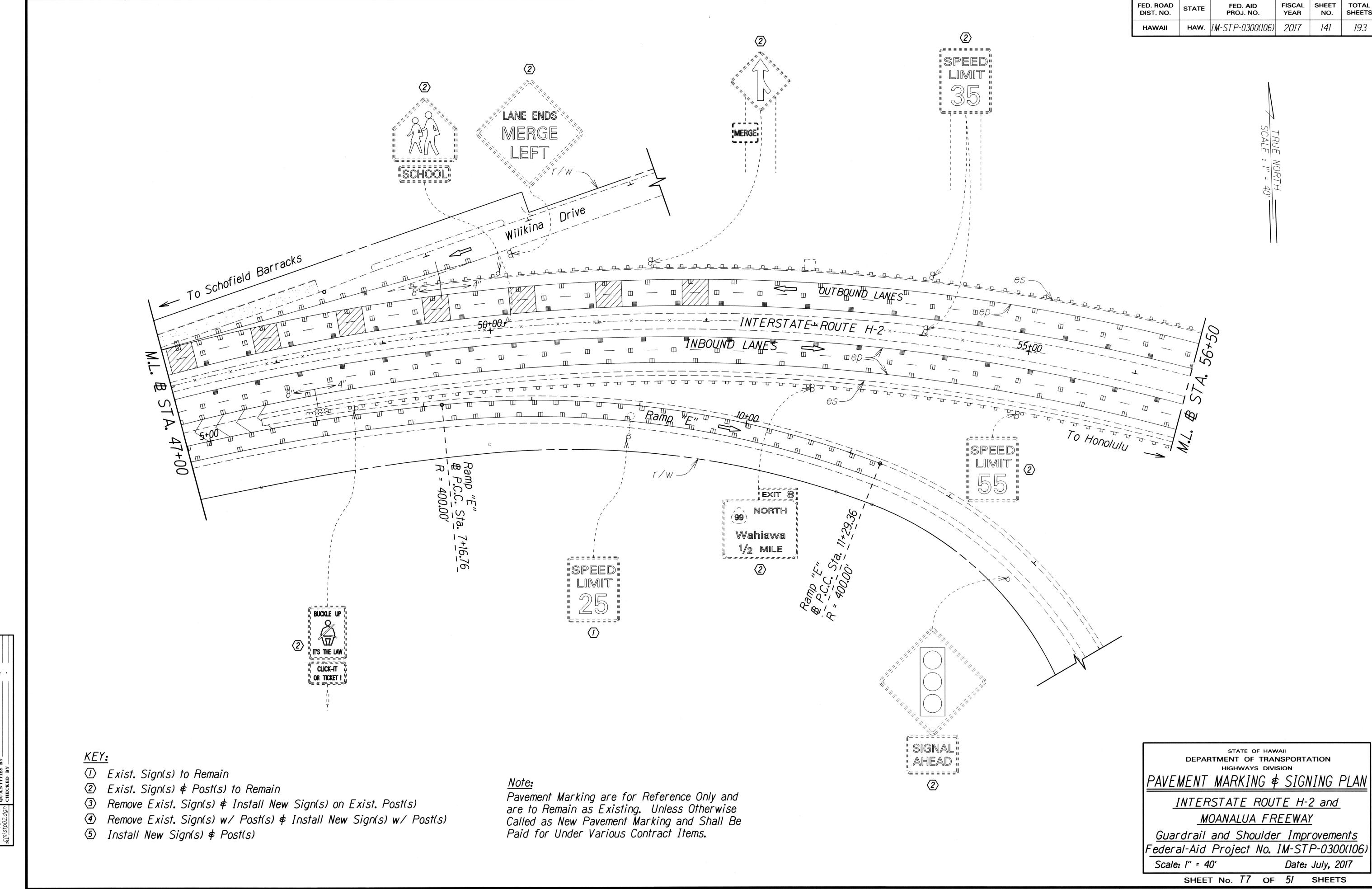
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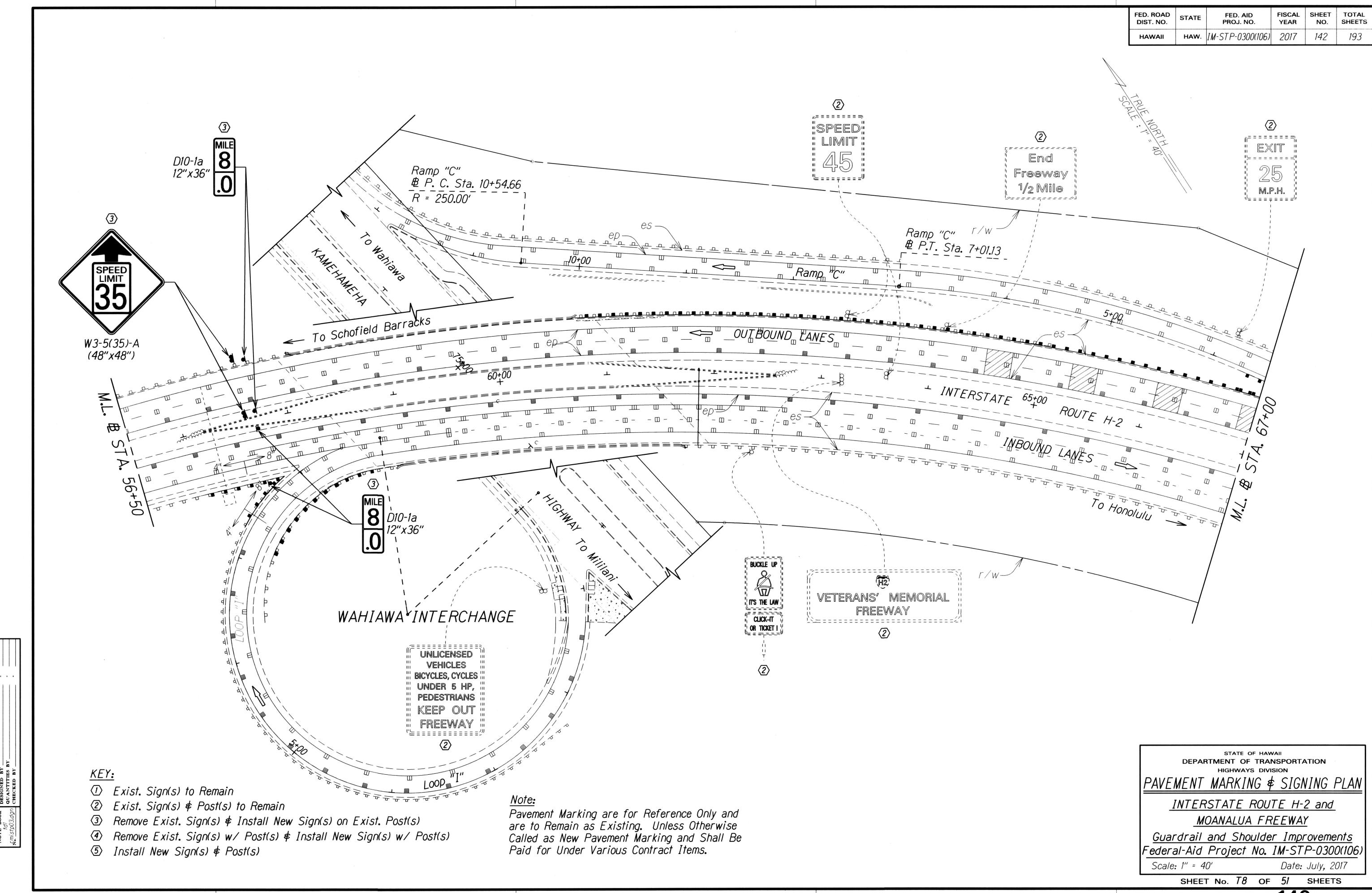
Date: July, 2017

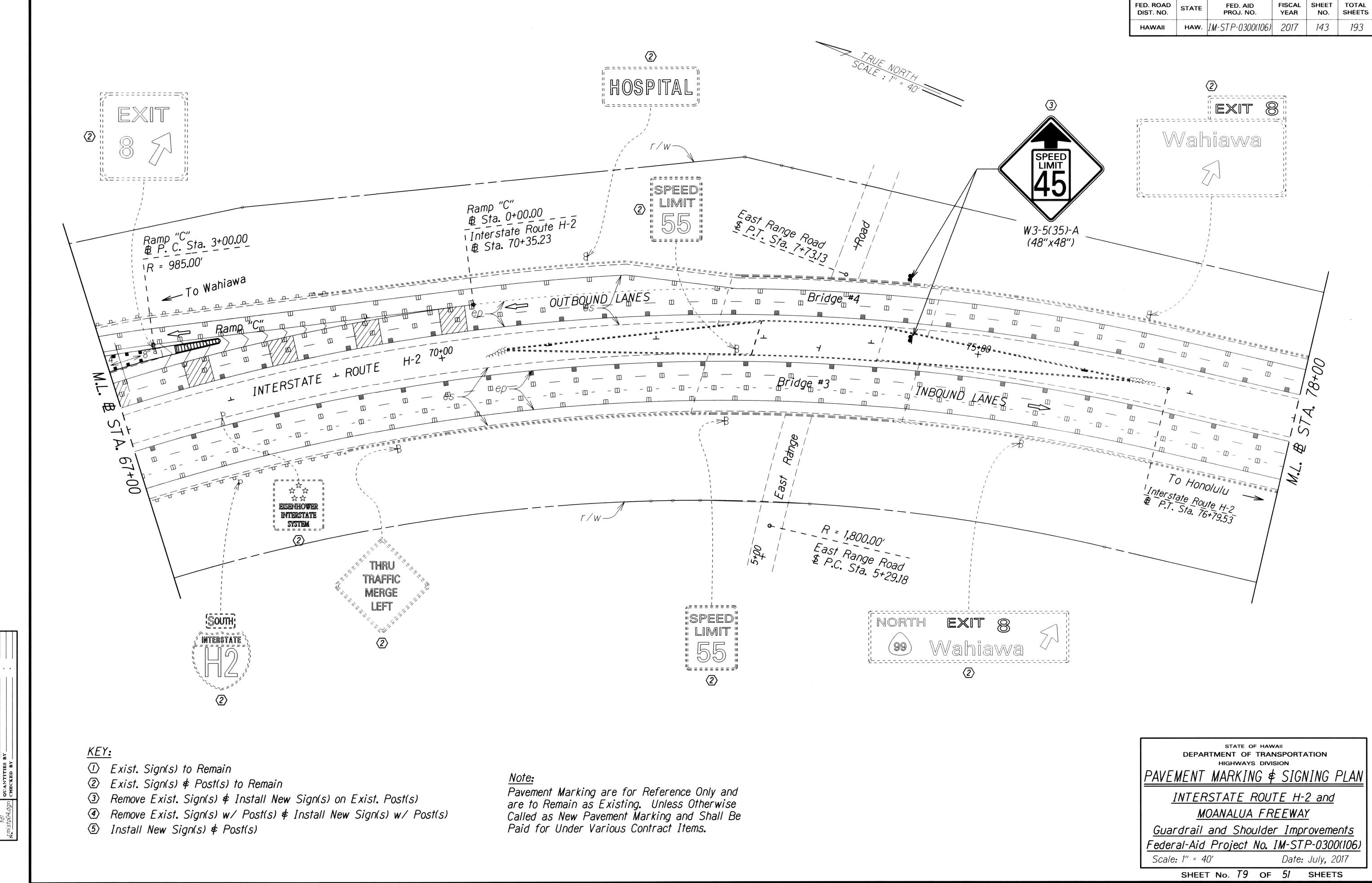
SHEET No. 75 OF 51 SHEETS

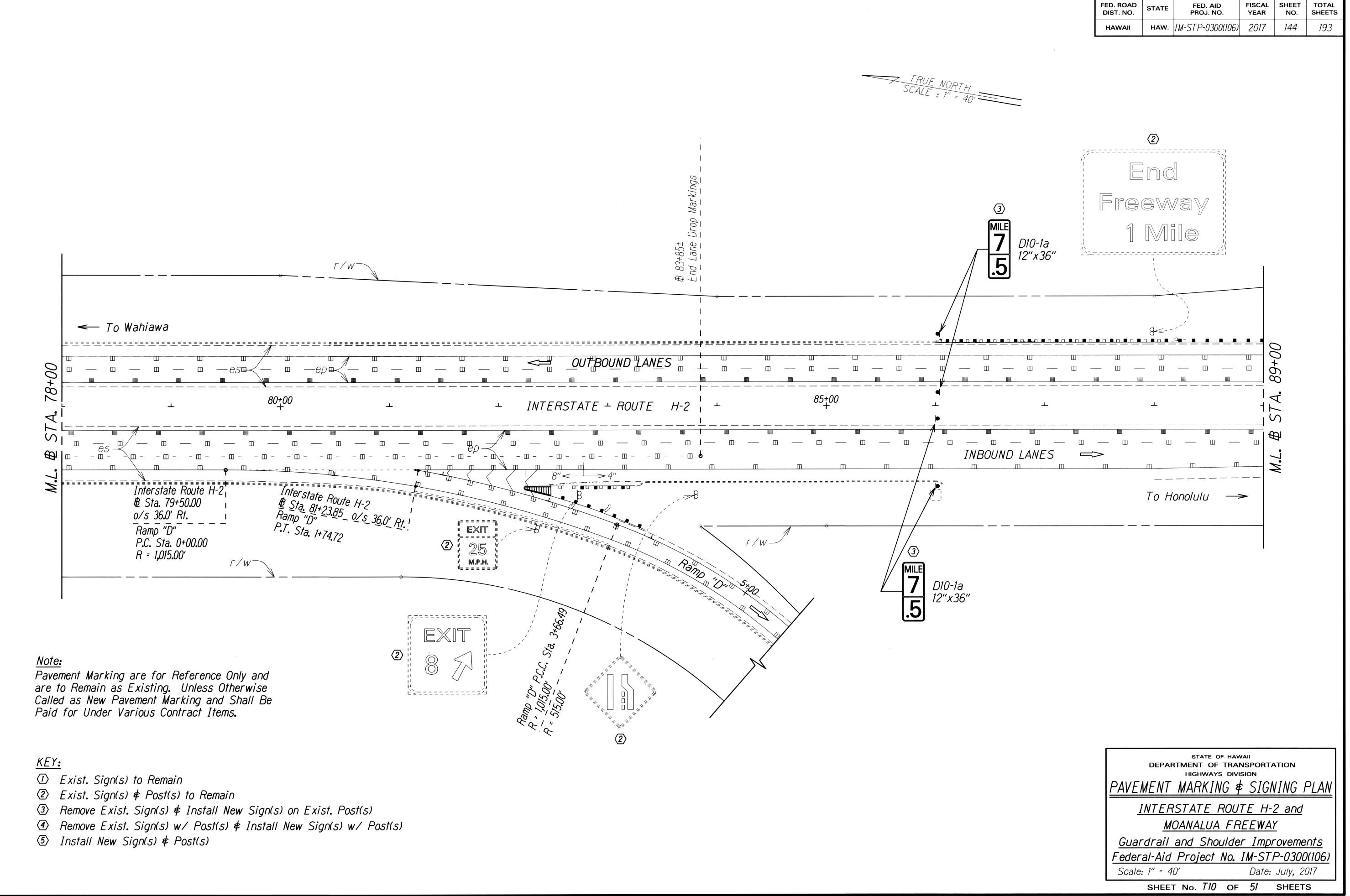


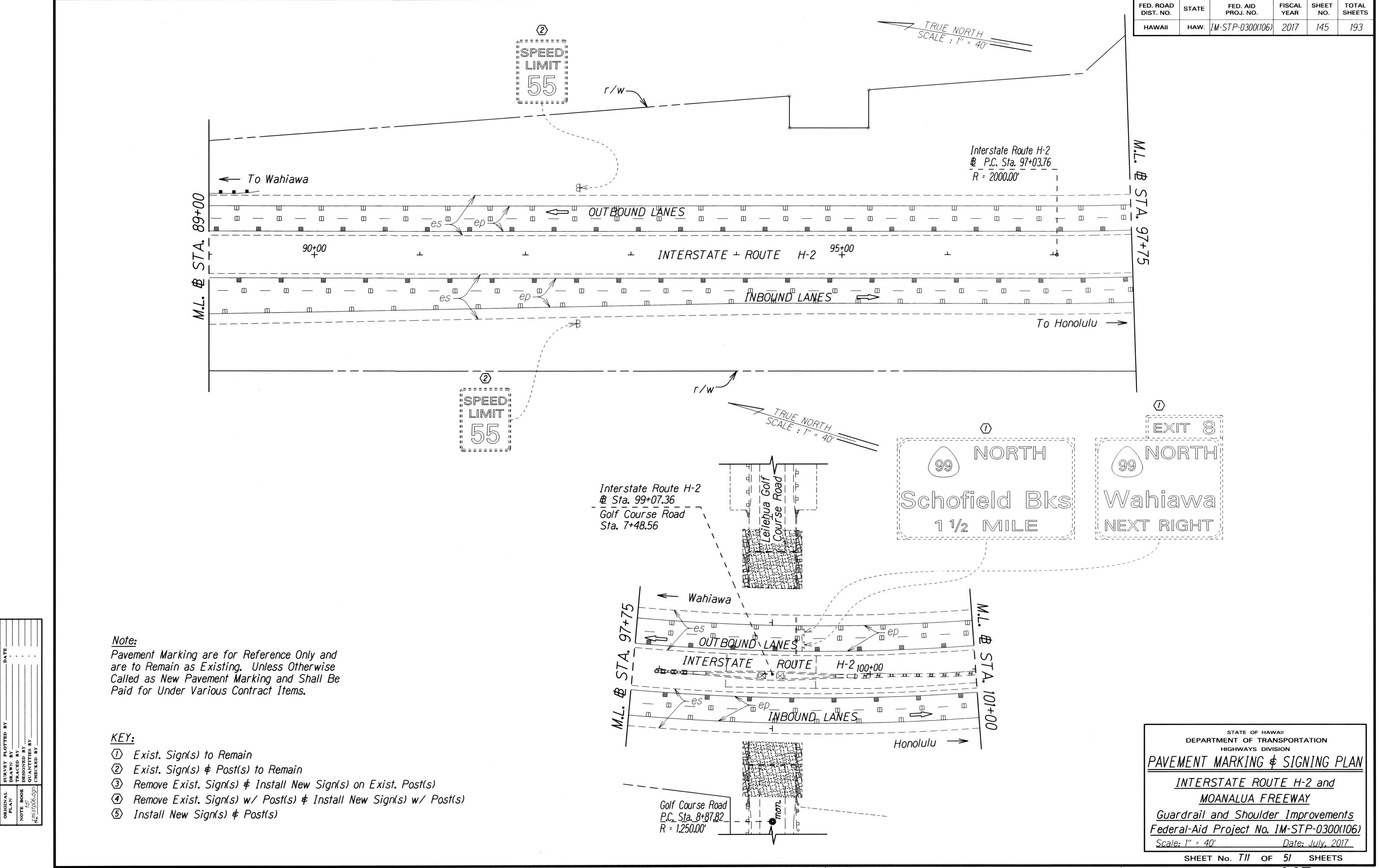
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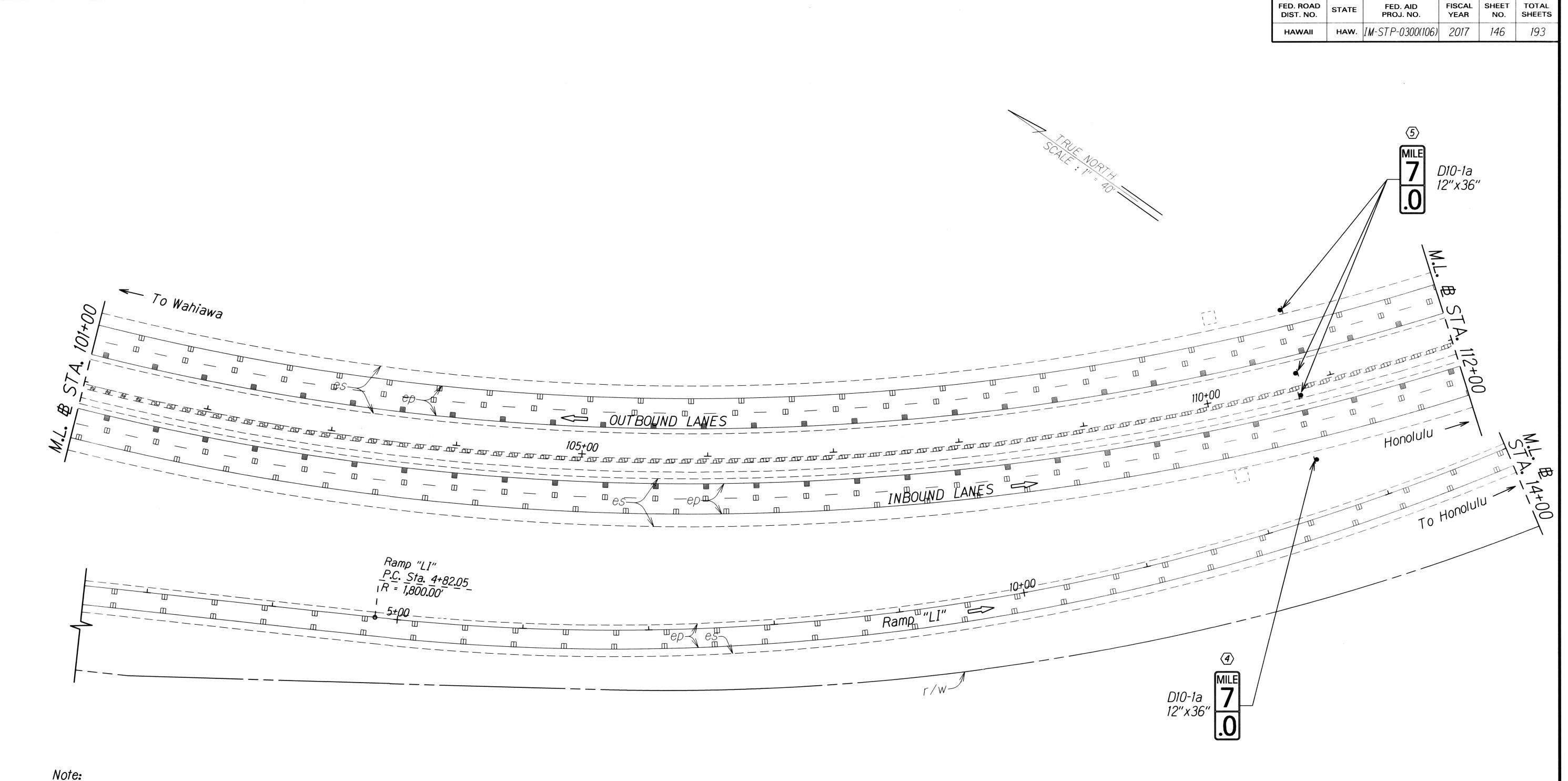


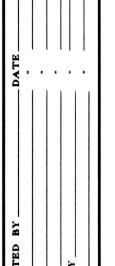












Pavement Marking are for Reference Only and are to Remain as Existing. Unless Otherwise Called as New Pavement Marking and Shall Be Paid for Under Various Contract Items.

KEY:

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

 Install New Sign(s) w/ Post(s)

 A limit of the sign of the sign
- ⑤ Install New Sign(s) \$ Post(s)

DEPARTMENT OF TRANSPORTATION

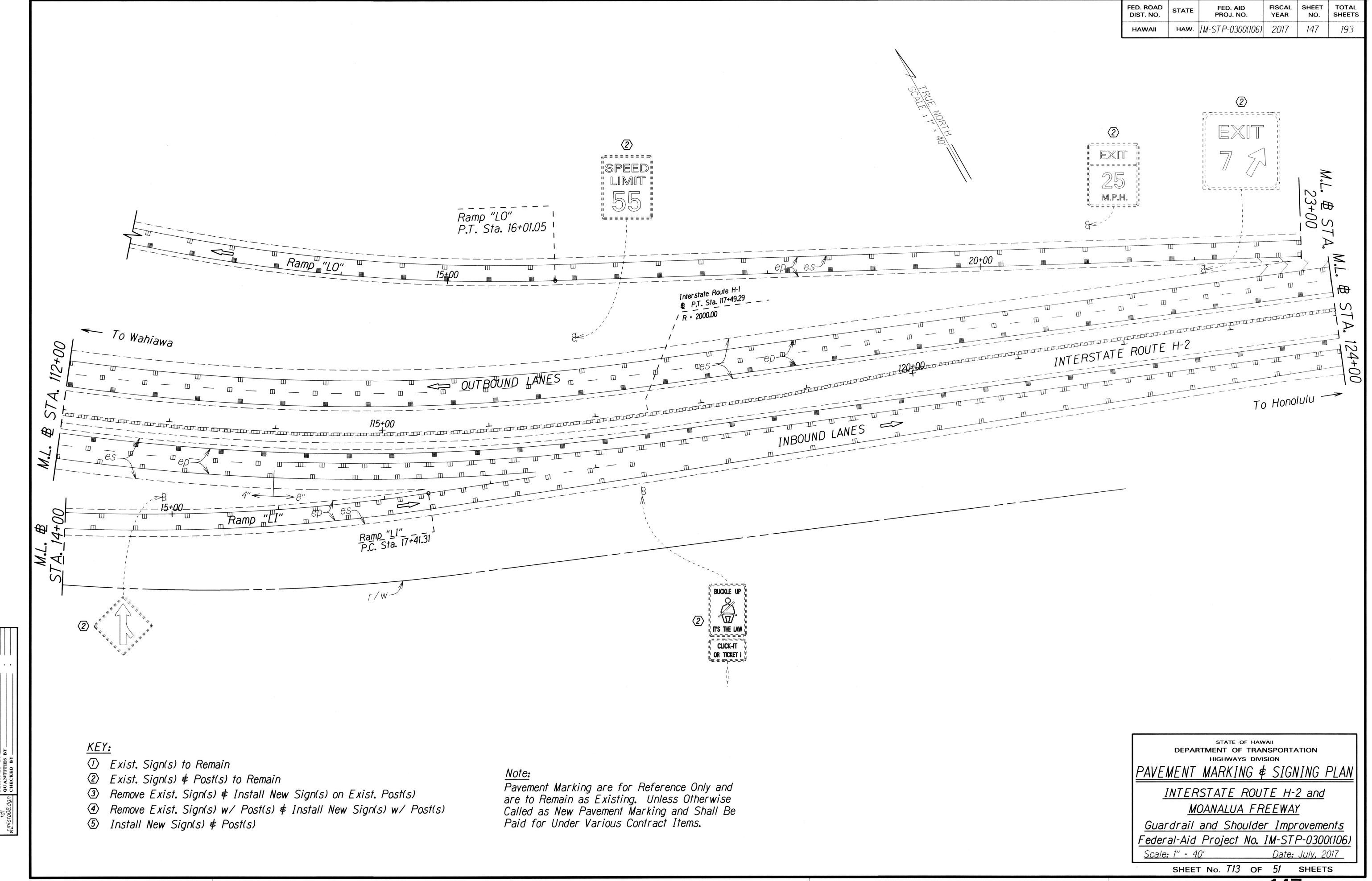
PAVEMENT MARKING & SIGNING PLAN

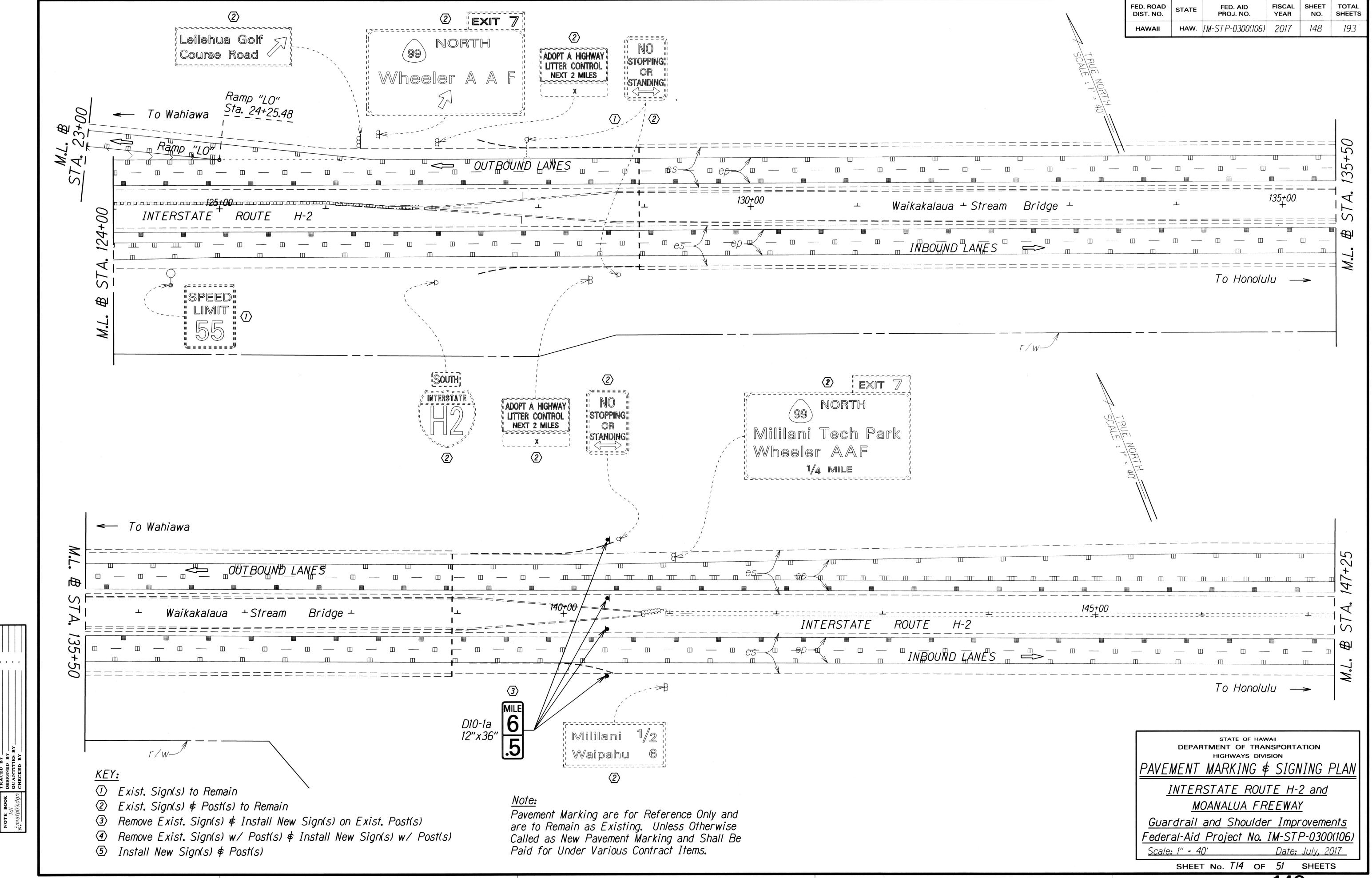
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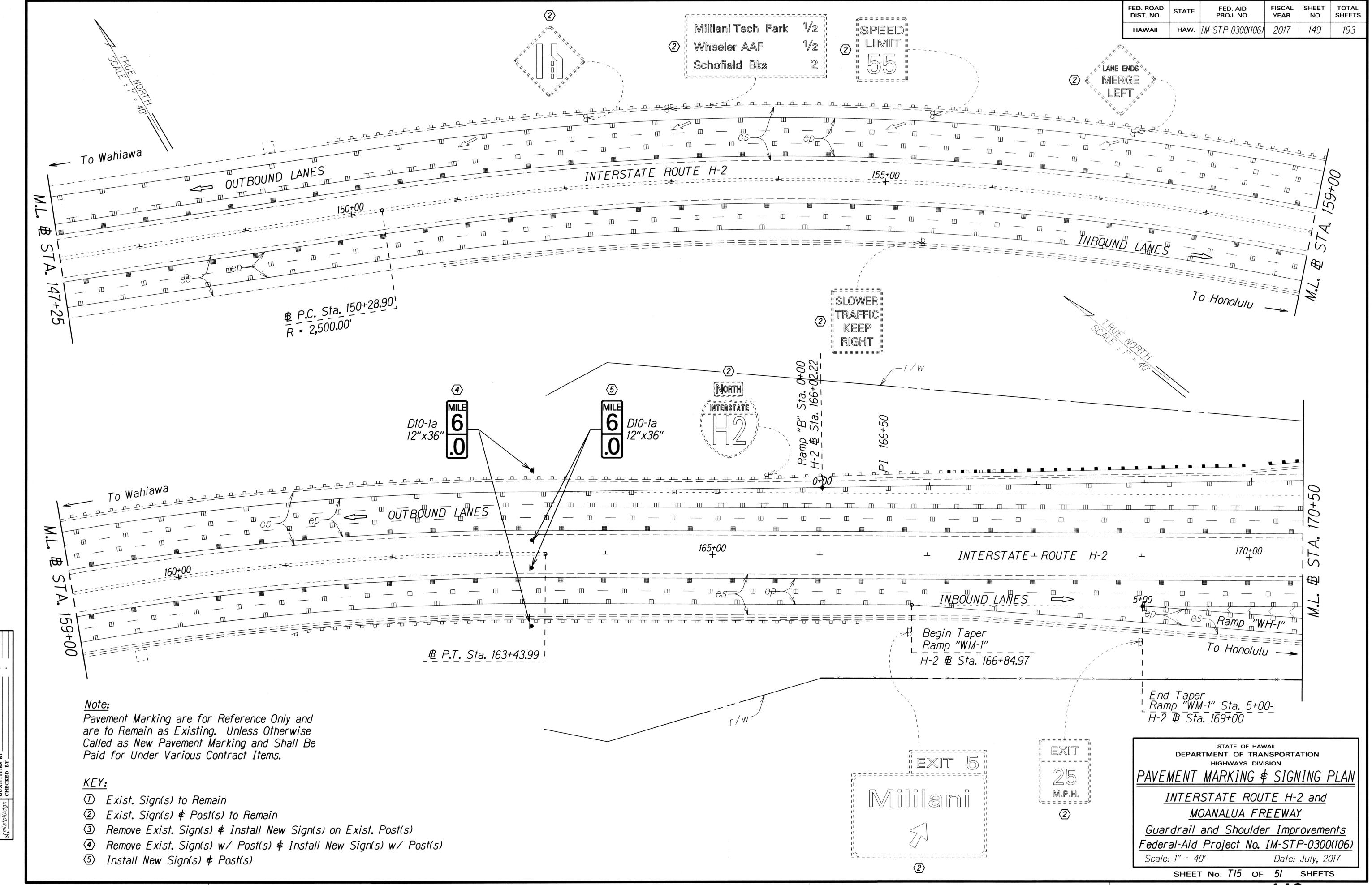
Guardrail and Shoulder Improvements

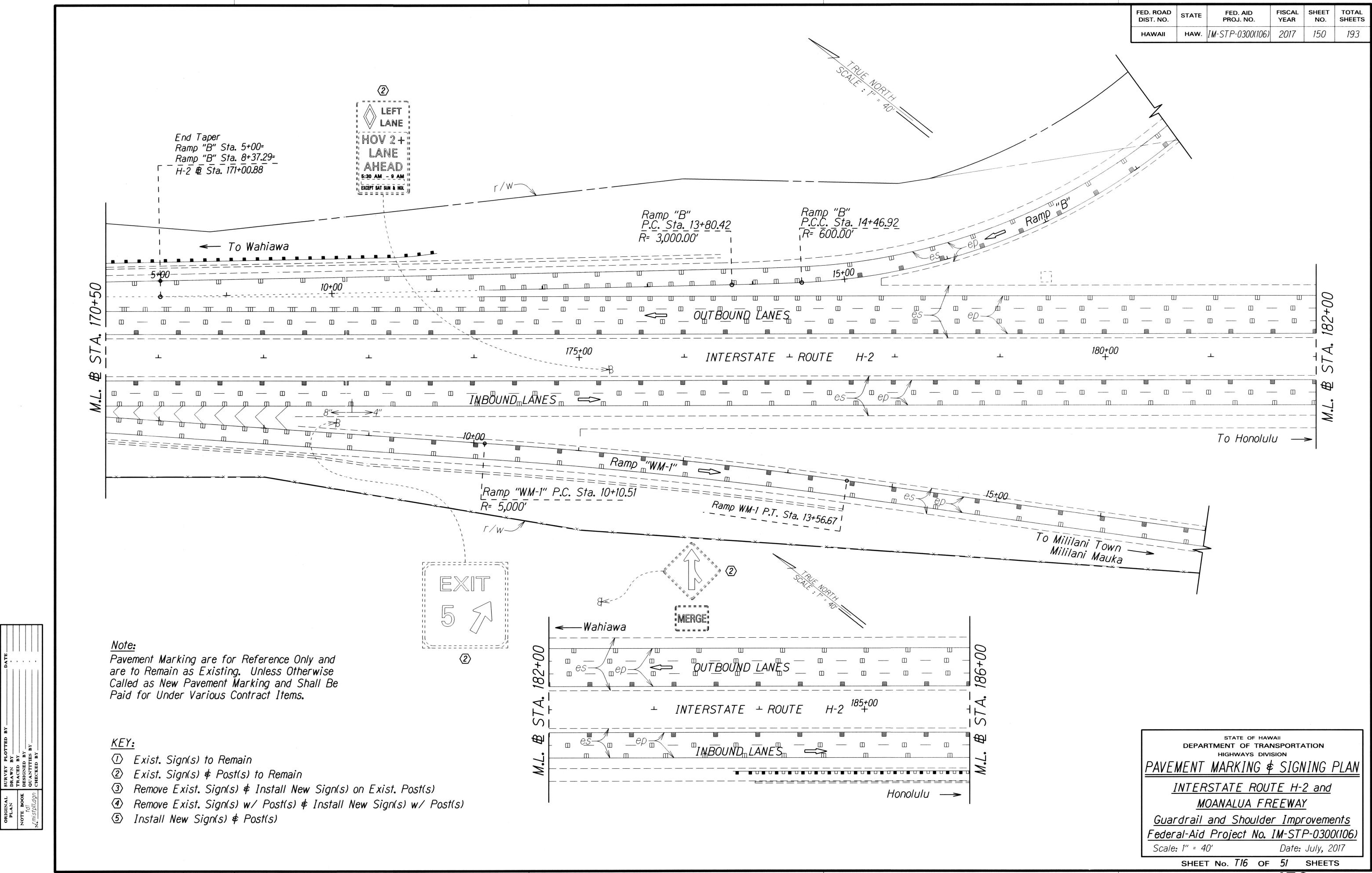
Federal-Aid Project No. IM-STP-0300(106) Scale: 1" = 40' Date: July, 2017

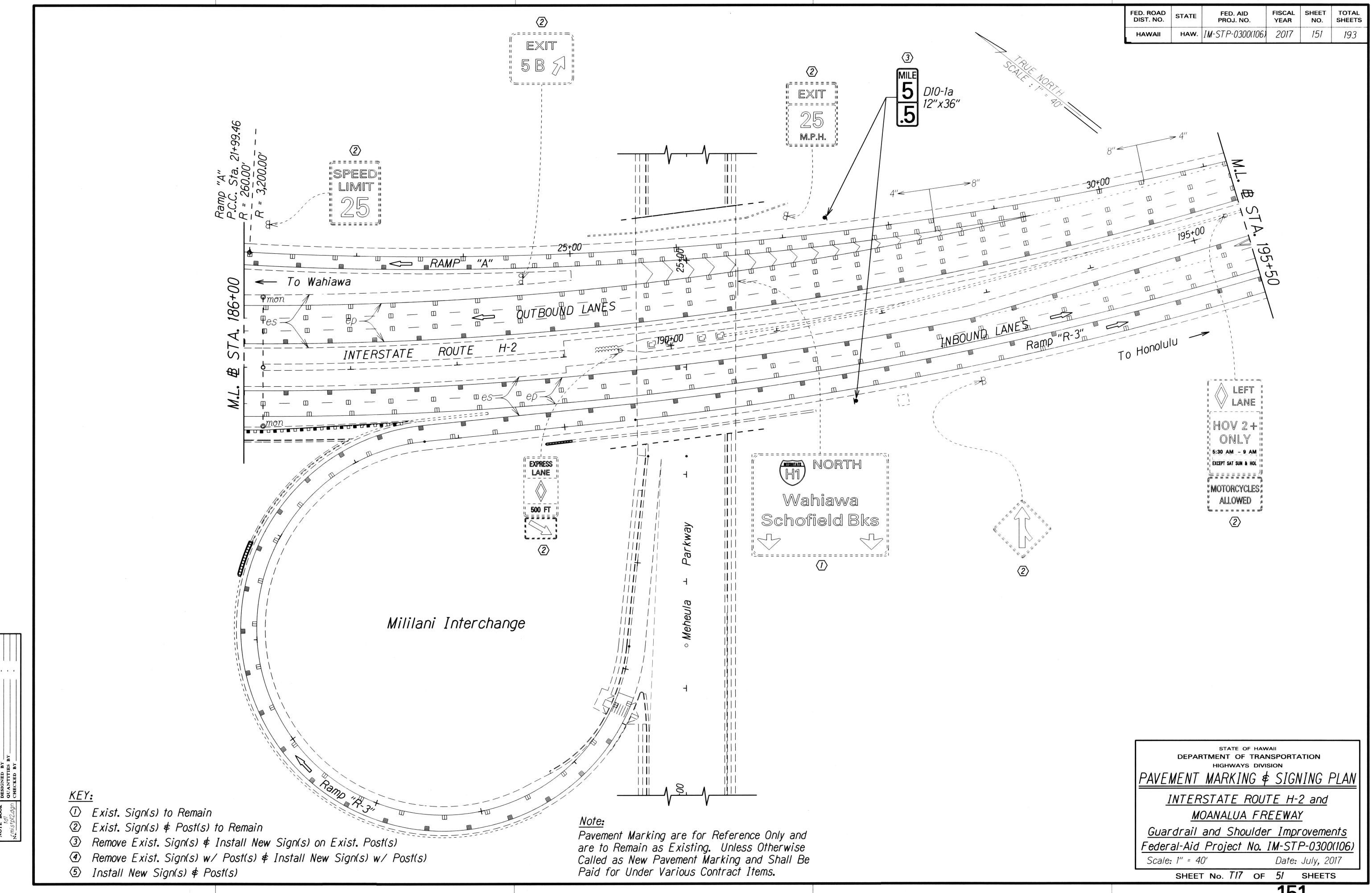
SHEET No. *T12* OF *51* SHEETS

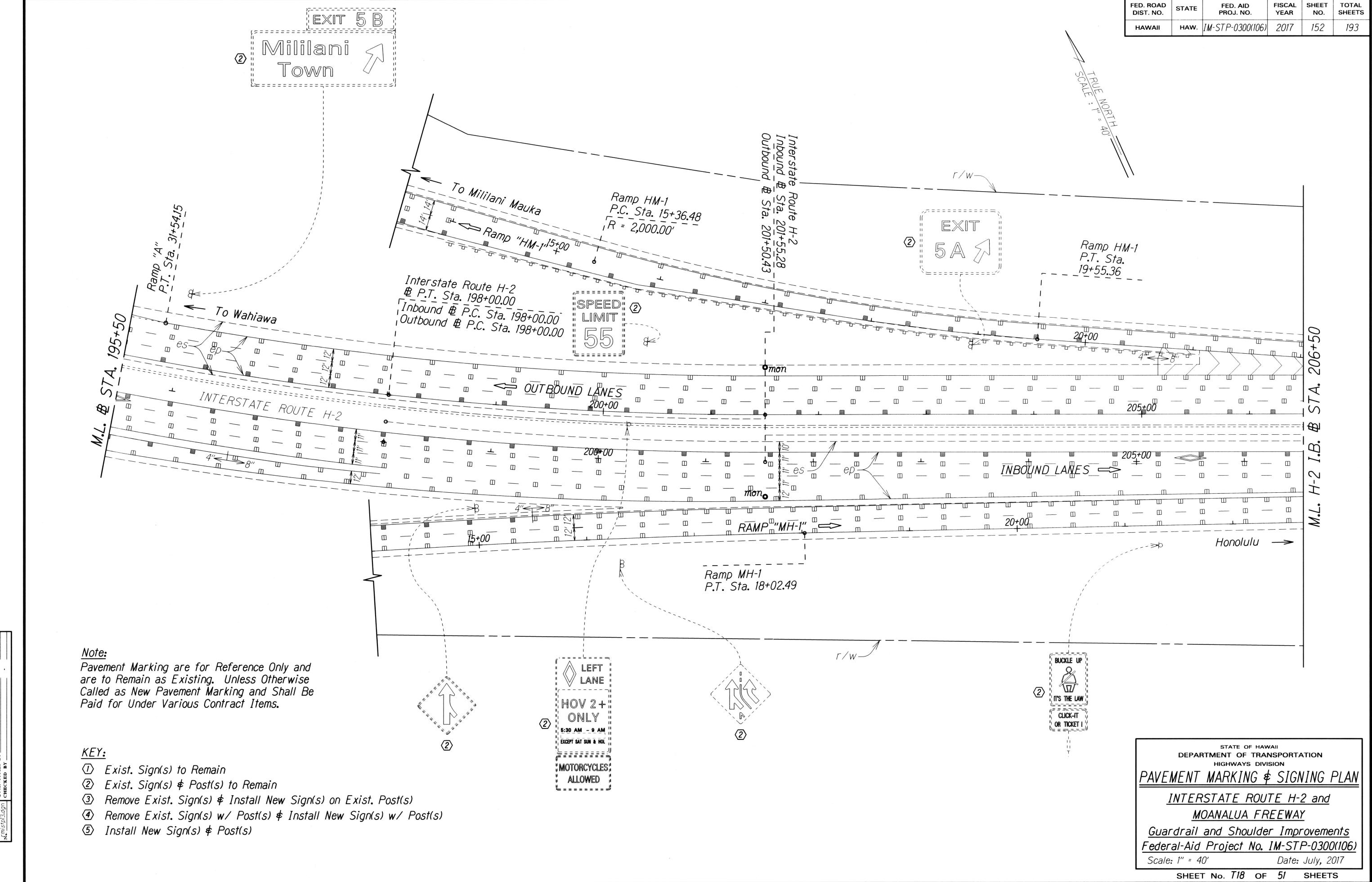


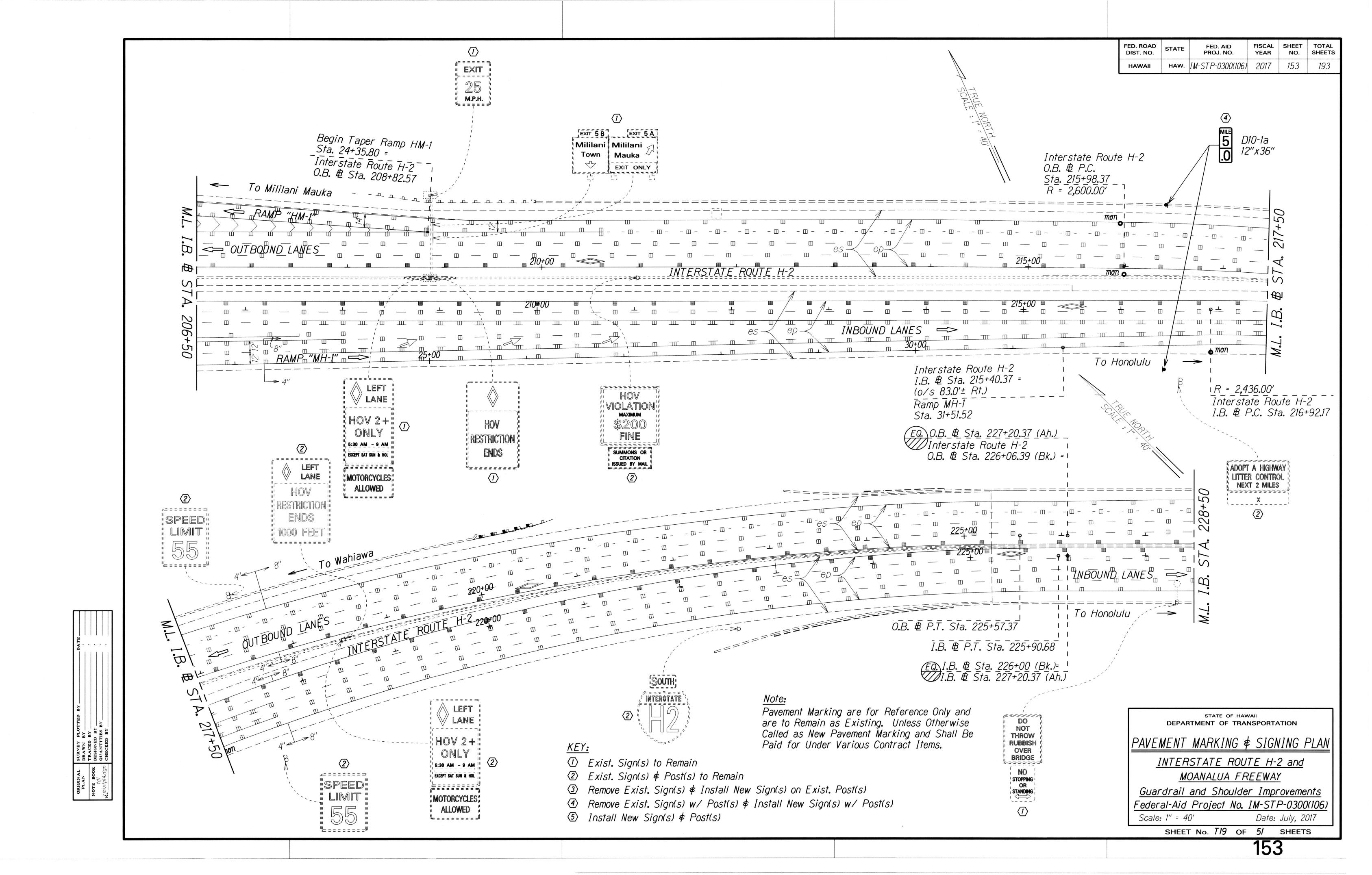


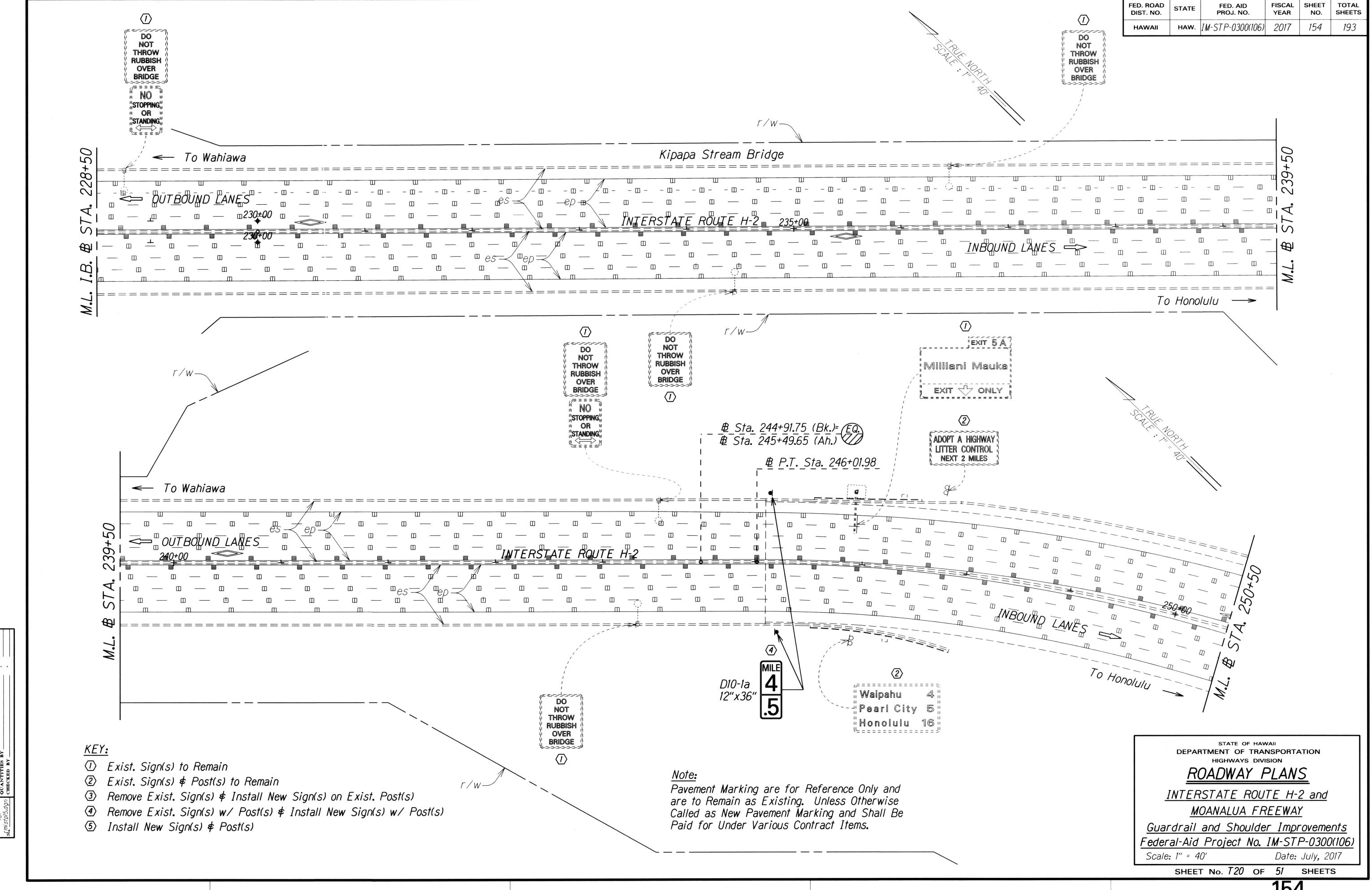


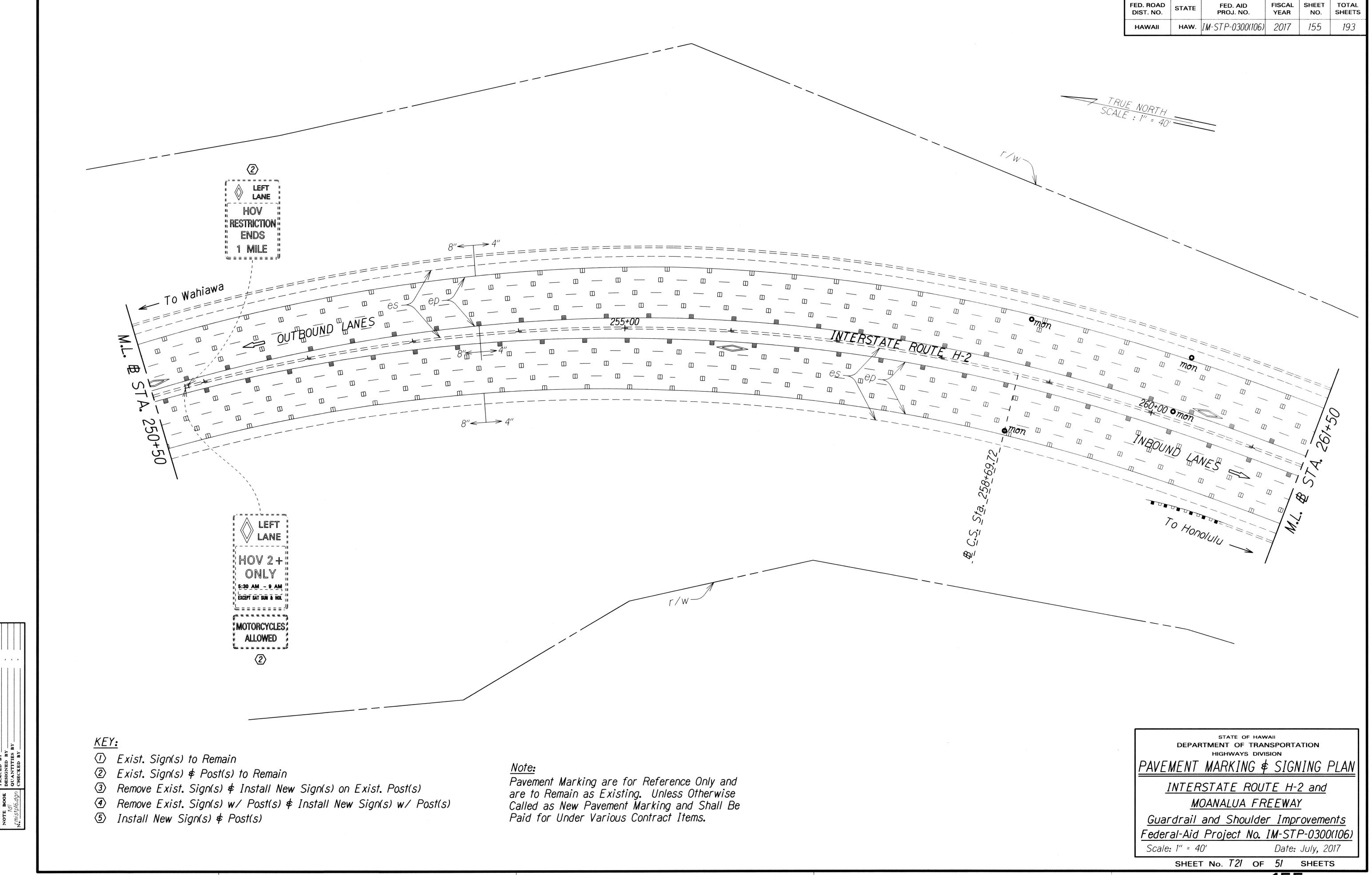


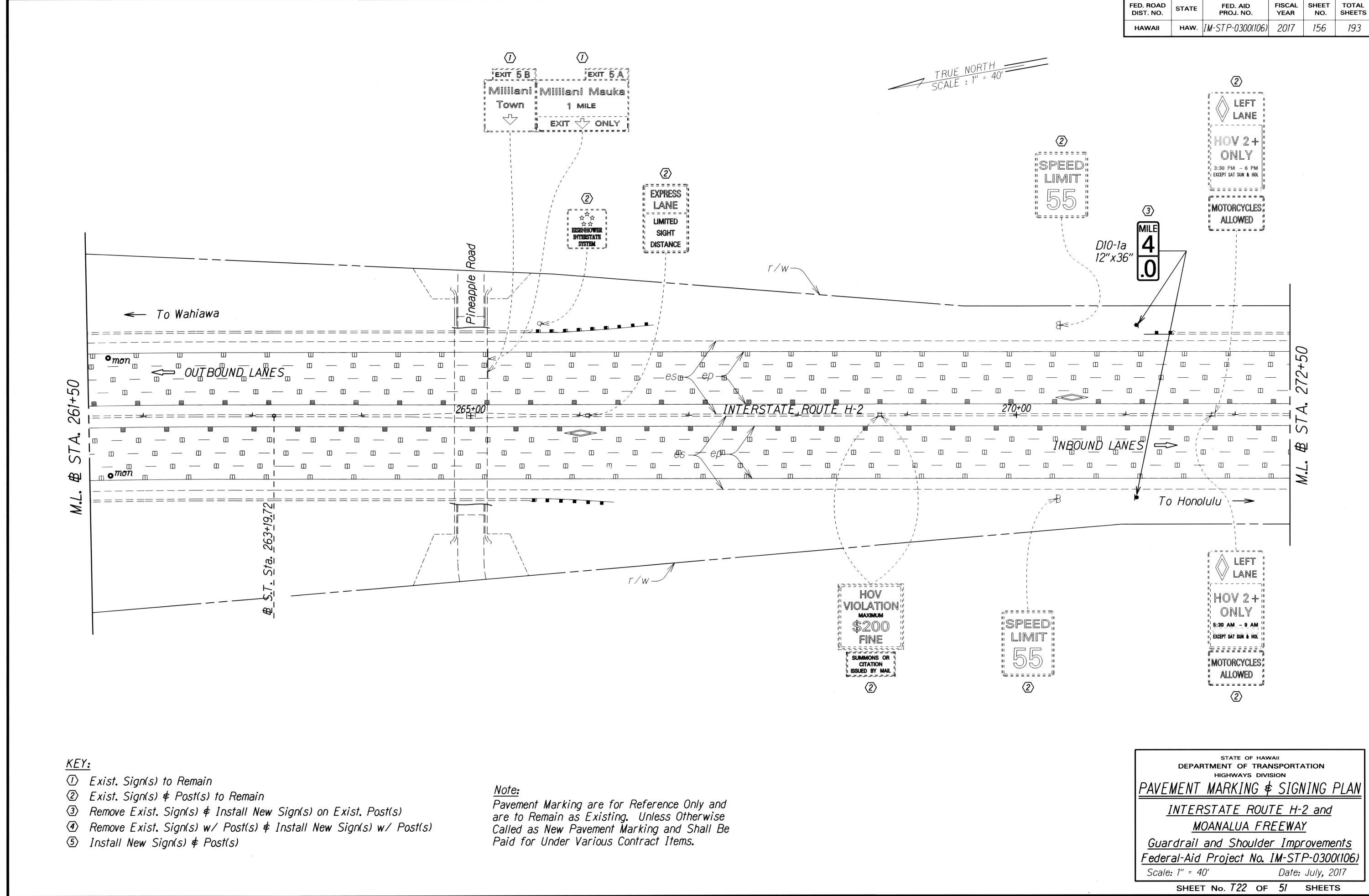








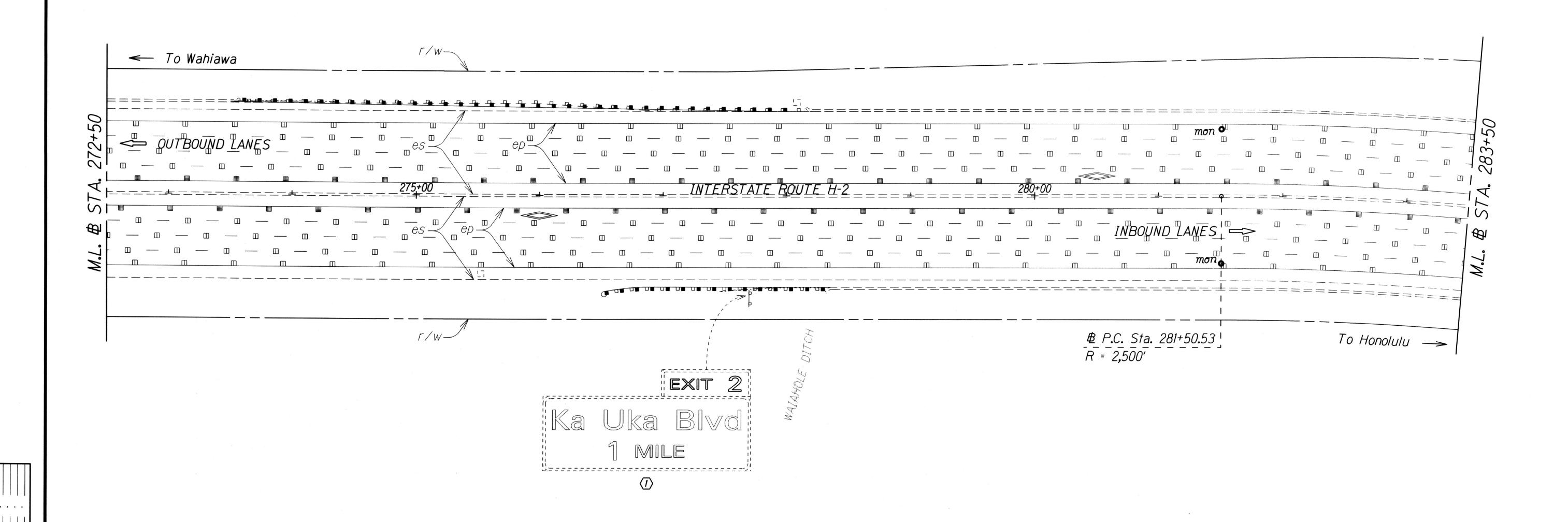




SURVEY PLOTT
DRAWN BY
TRACED BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	HAWAII	HAW.	IM-STP-0300(106)	2017	157	193





KEY

① Exist. Sign(s) to Remain

② Exist. Sign(s) \$ Post(s) to Remain

③ Remove Exist. Sign(s) & Install New Sign(s) on Exist. Post(s)

Remove Exist. Sign(s) w/ Post(s)

 Finstall New Sign(s) w/ Post(s)

⑤ Install New Sign(s) \$ Post(s)

Note:

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

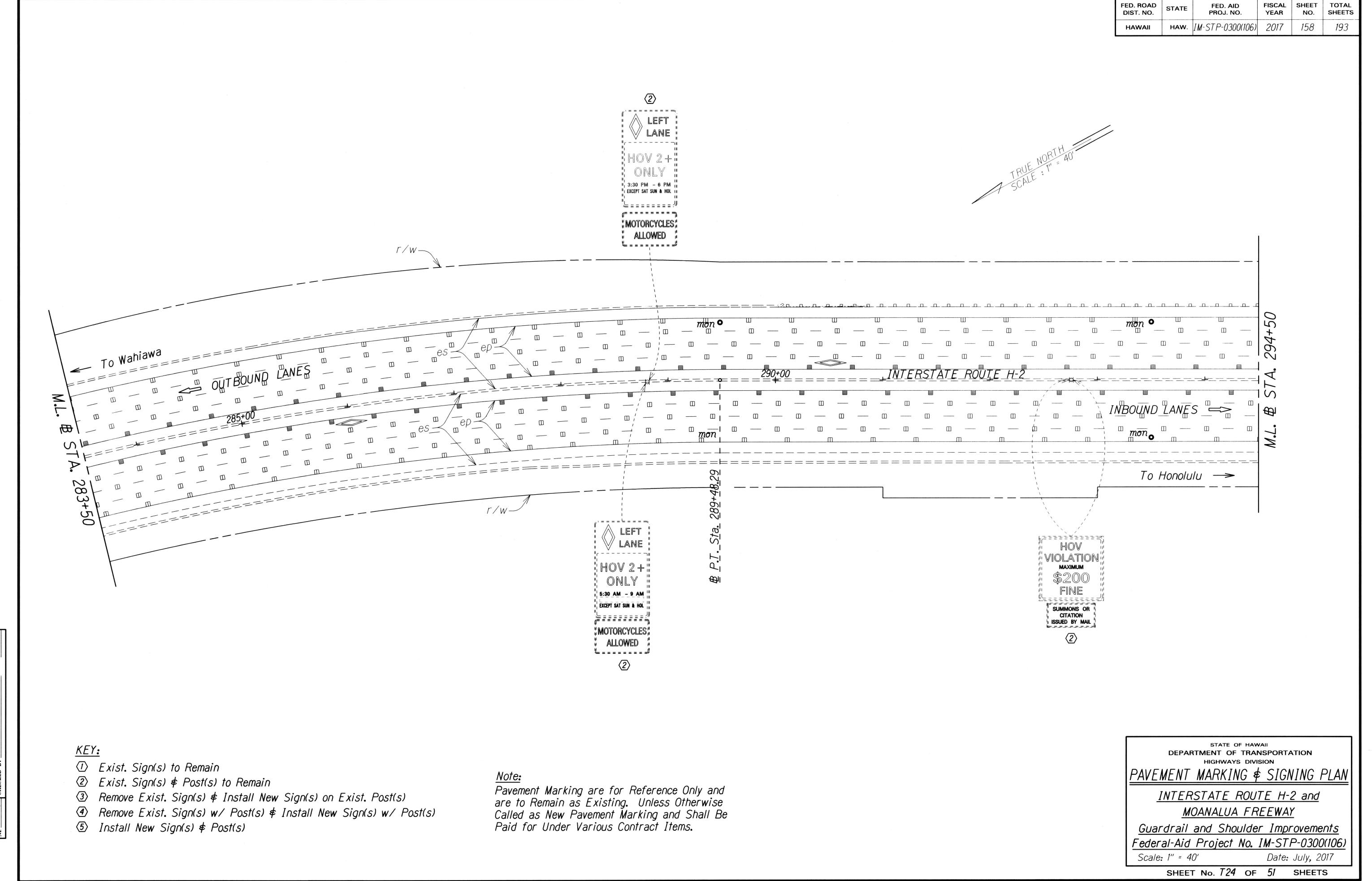
PAVEMENT MARKING & SIGNING PLAN

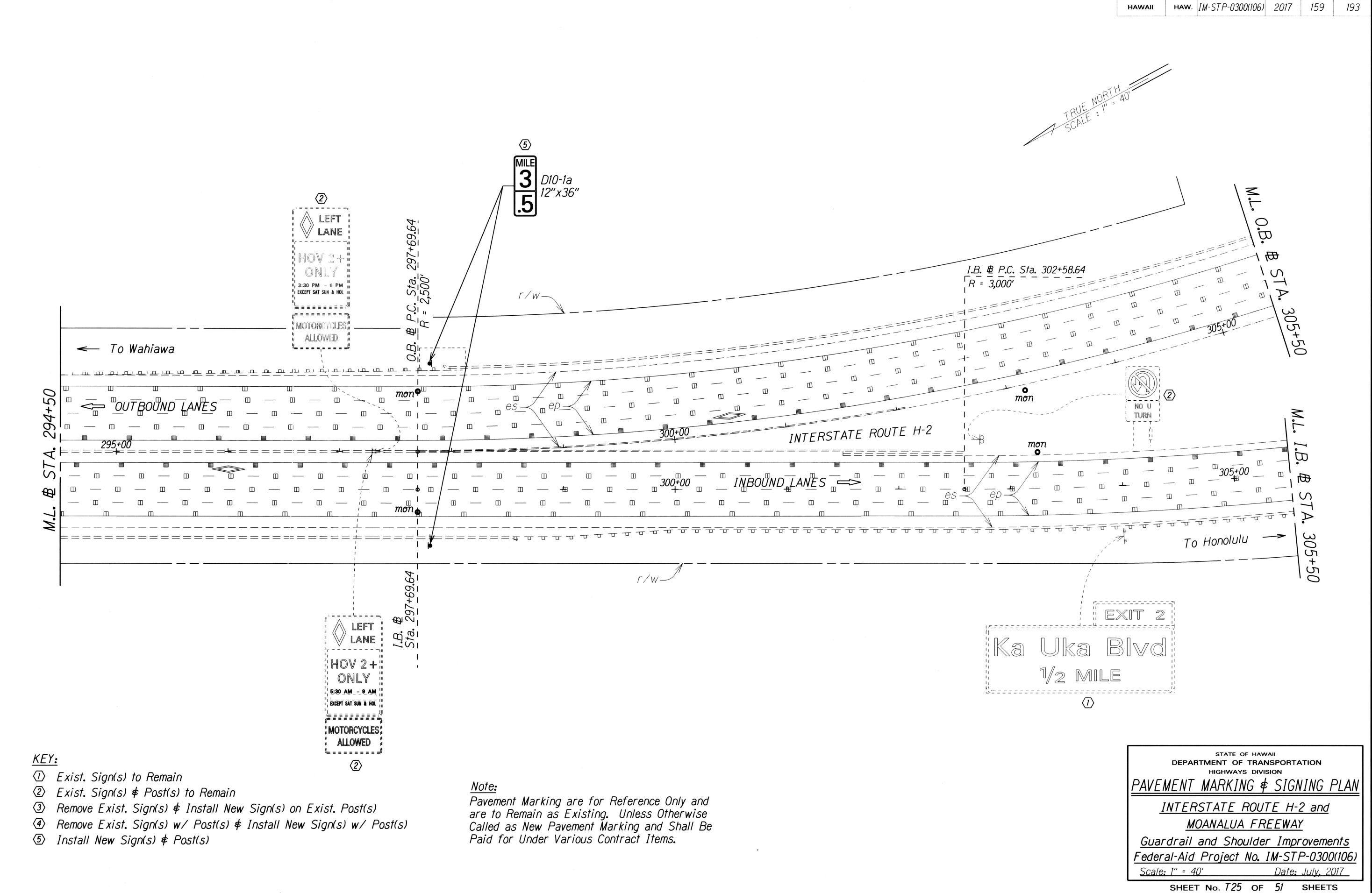
INTERSTATE ROUTE H-2 and MOANALUA FREEWAY

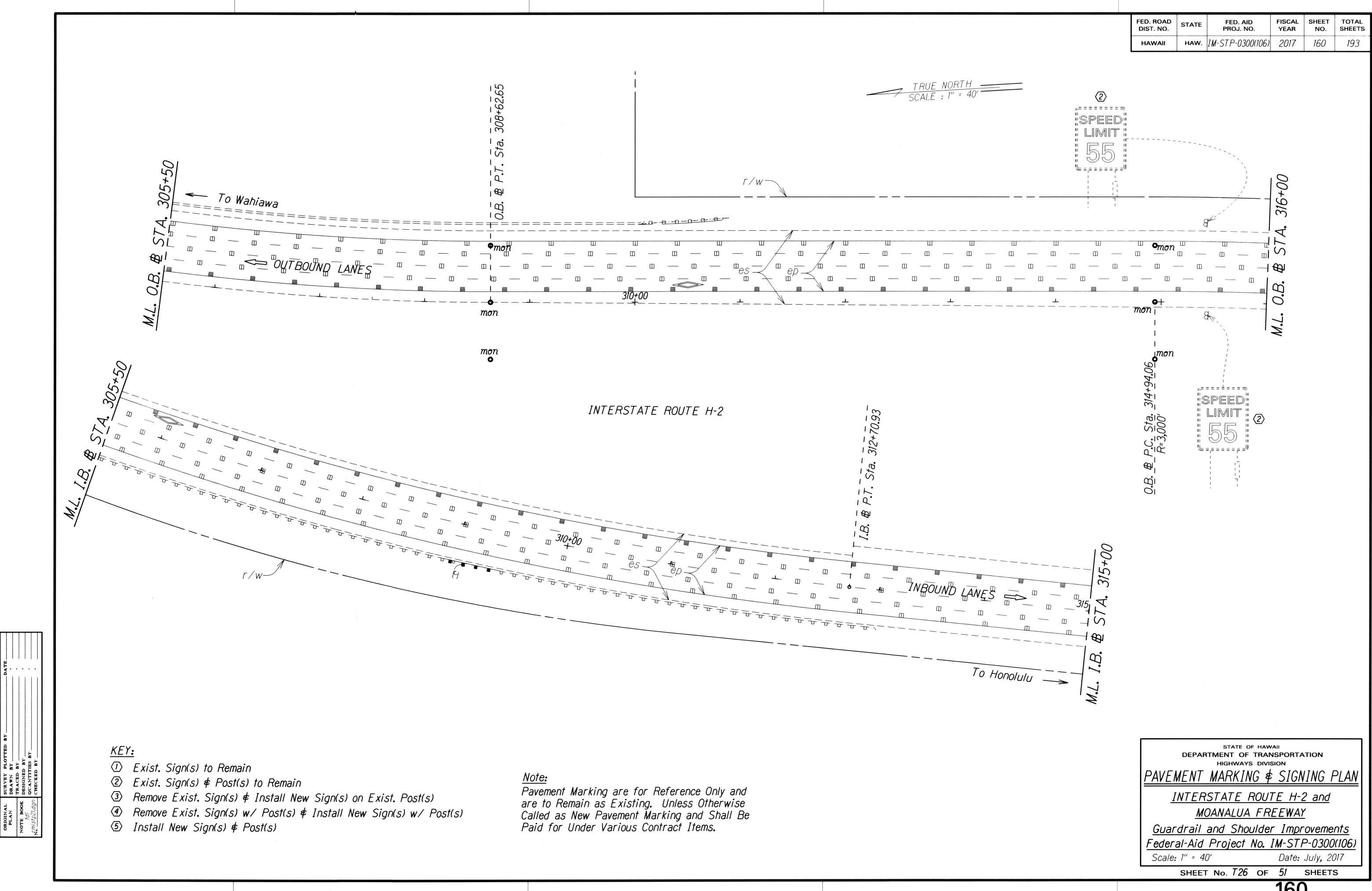
Guardrail and Shoulder Improvements
Federal-Aid Project No. IM-STP-0300(106)

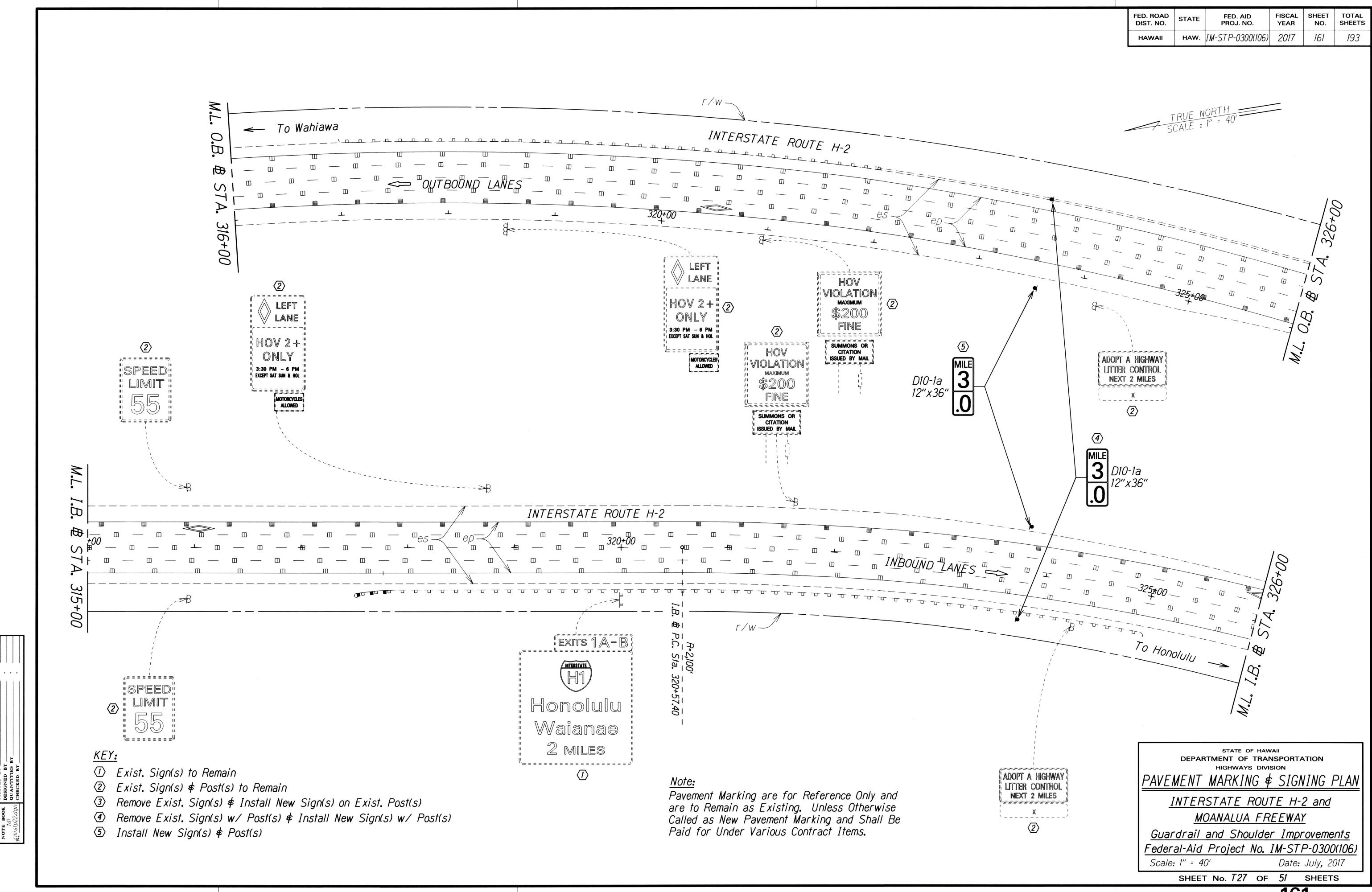
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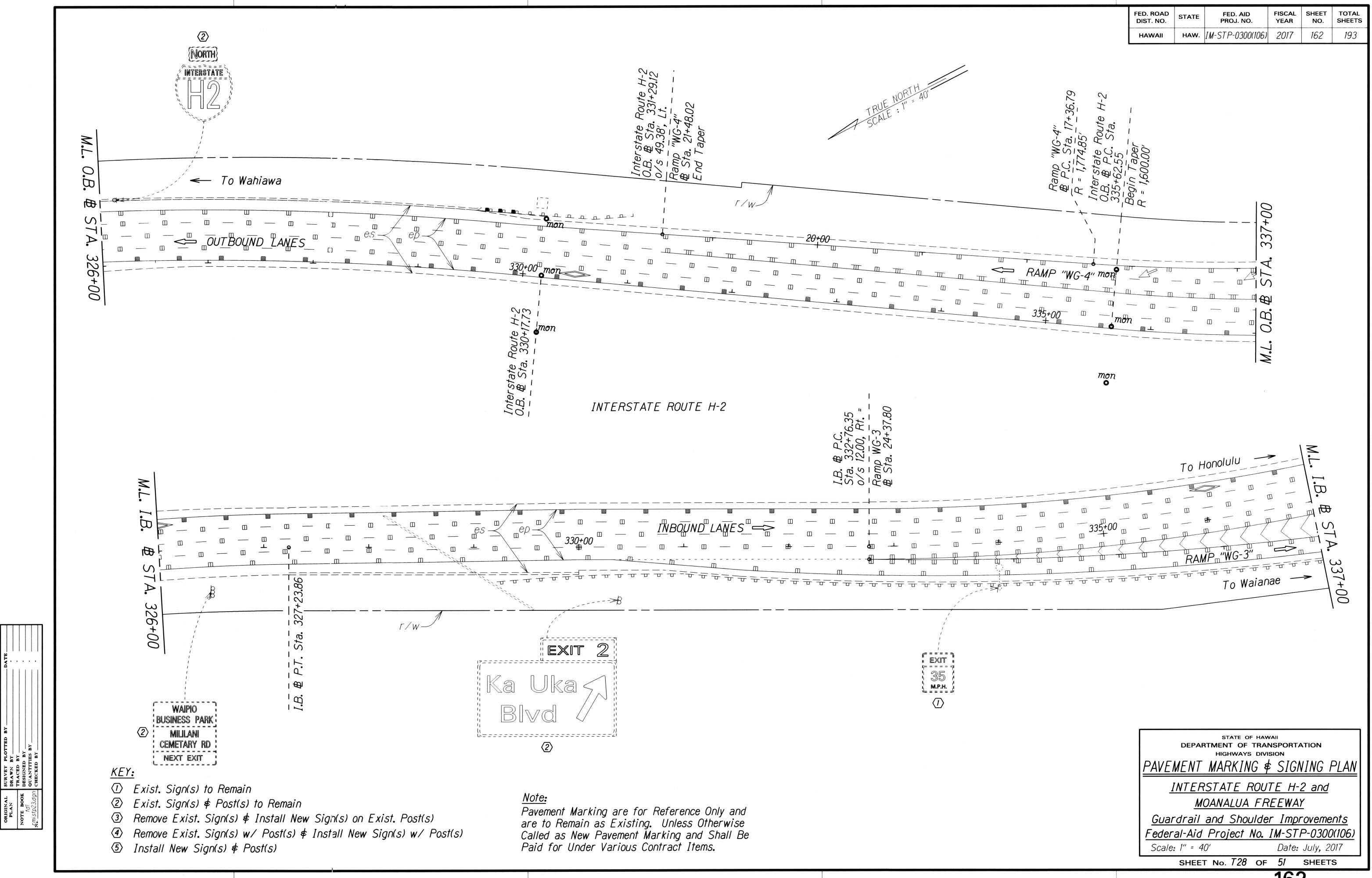
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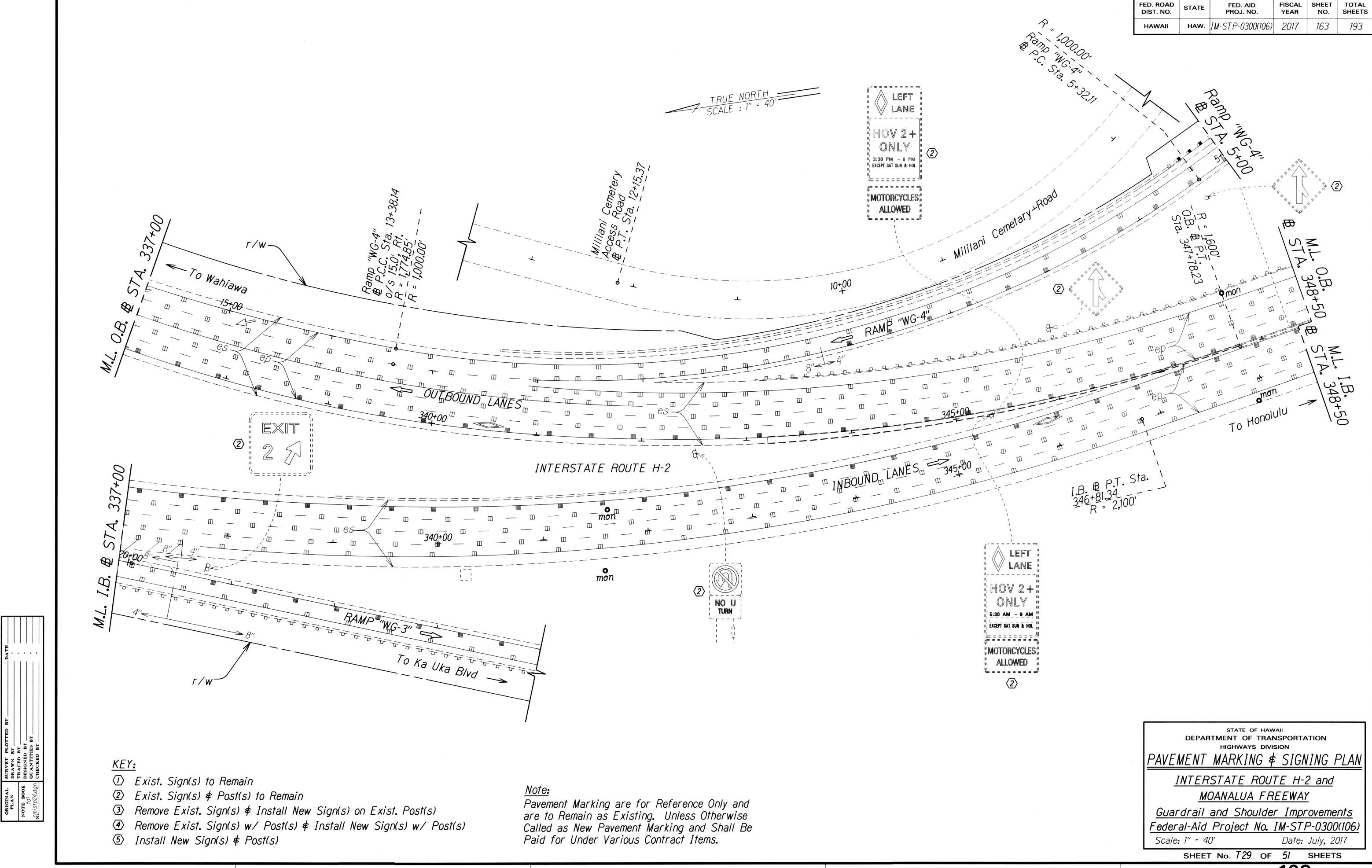


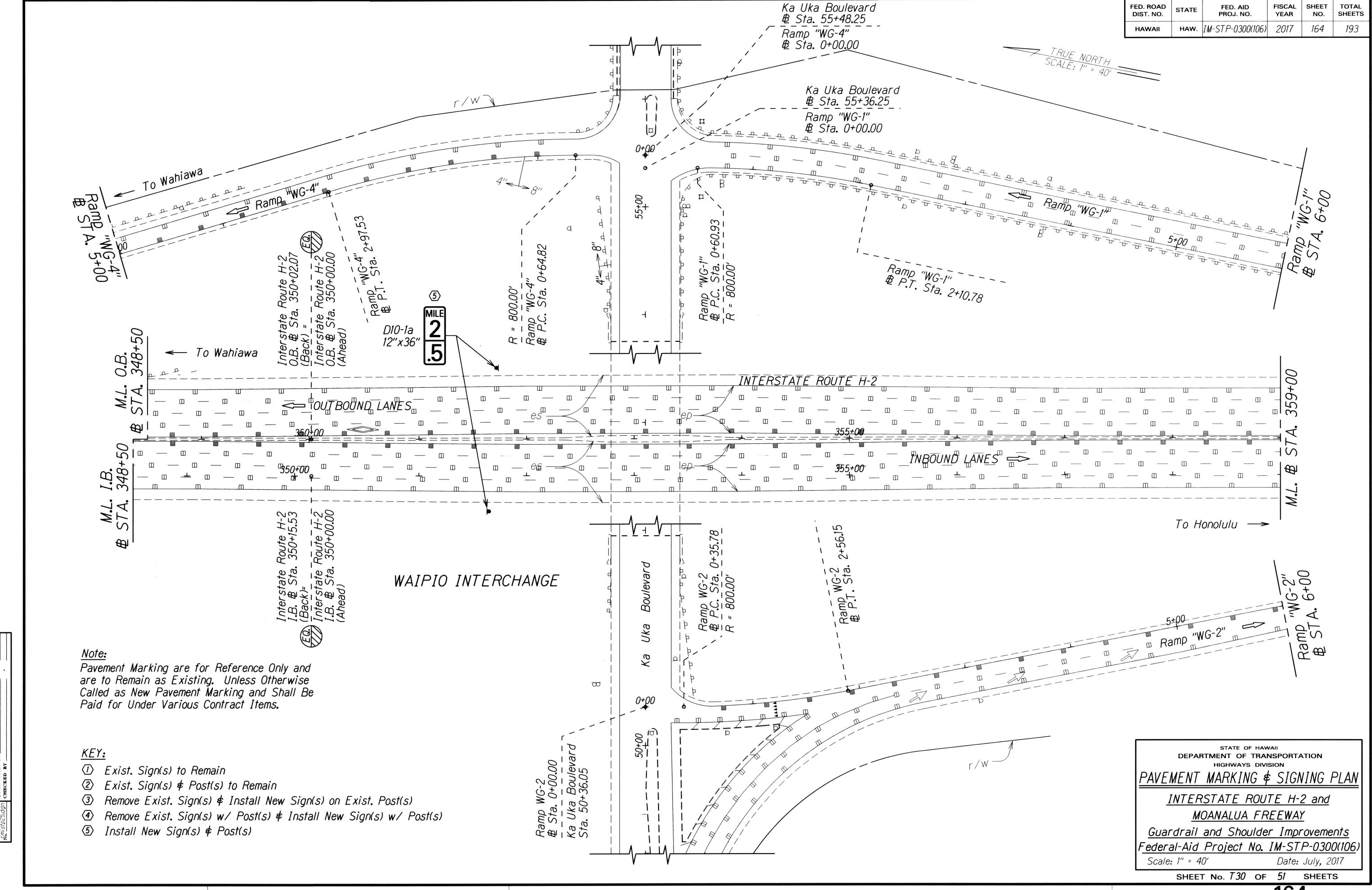


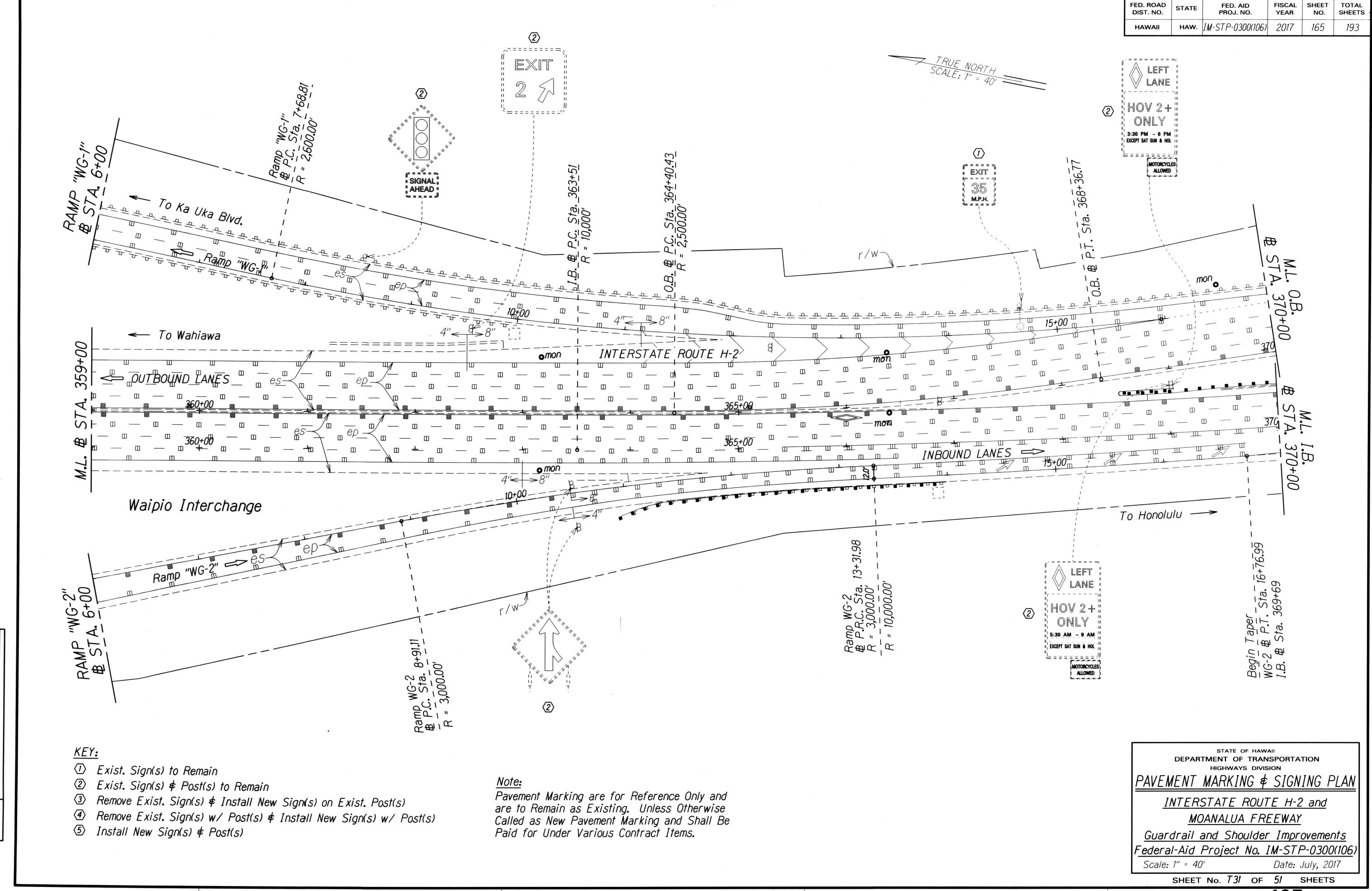


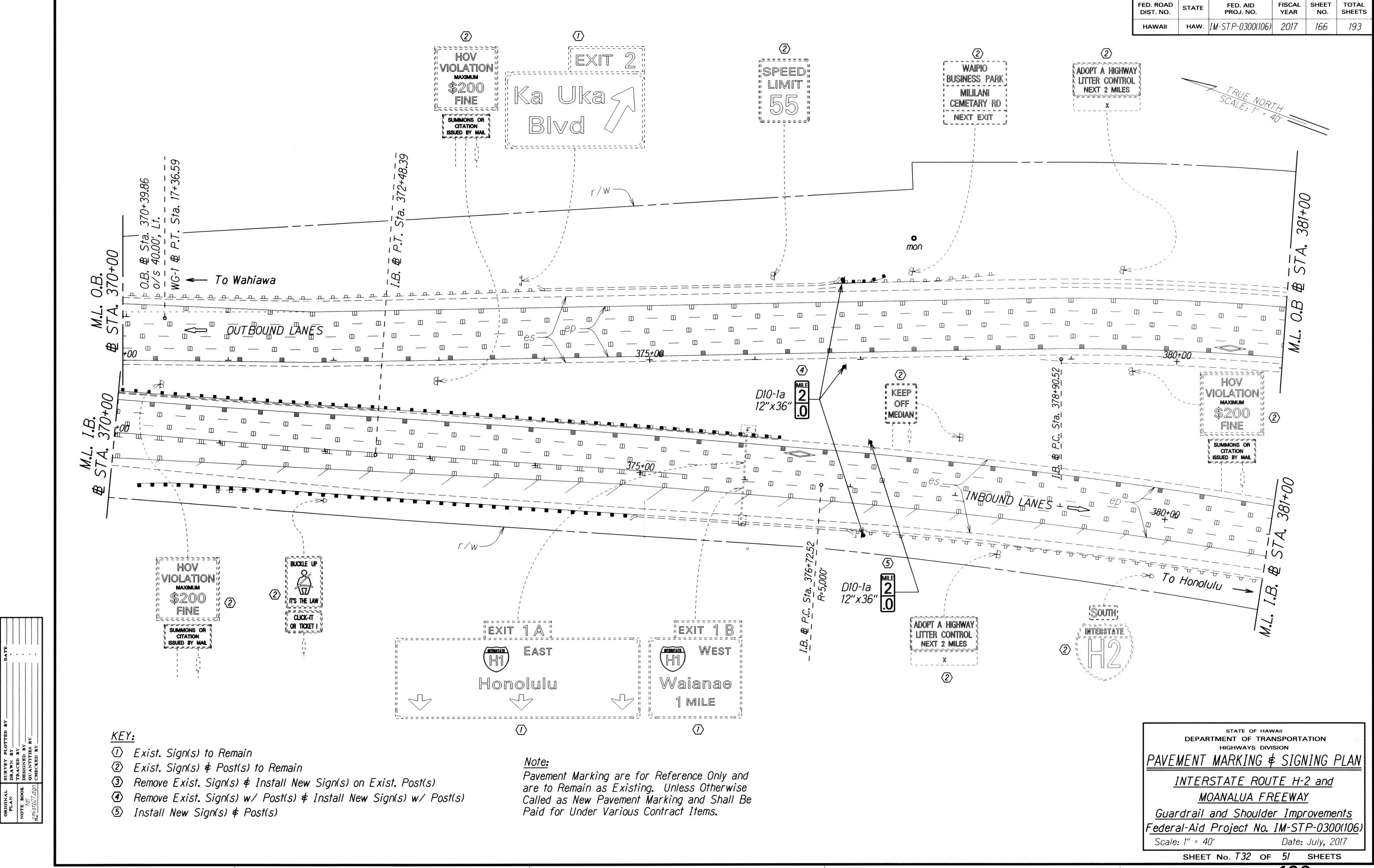




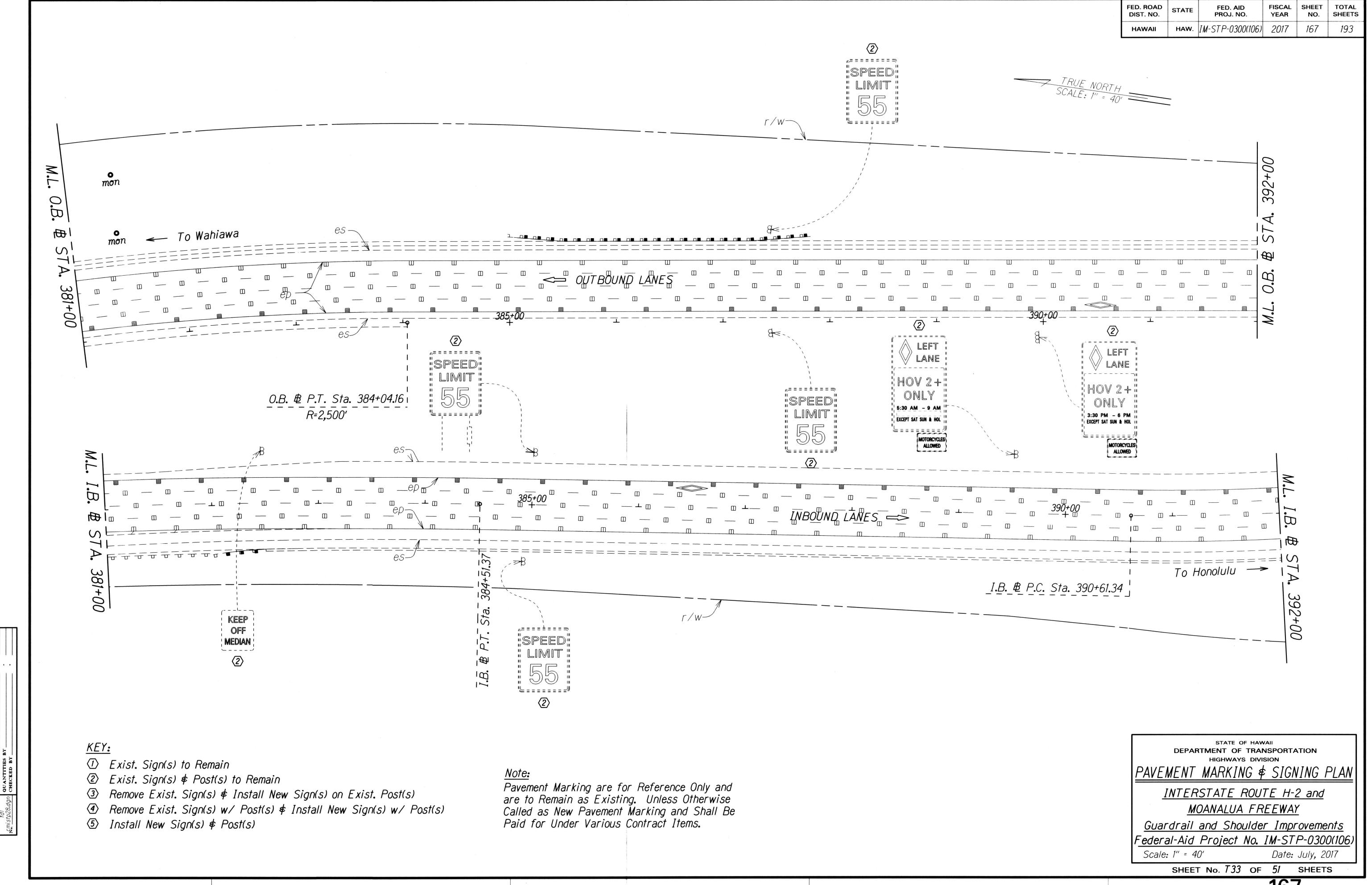


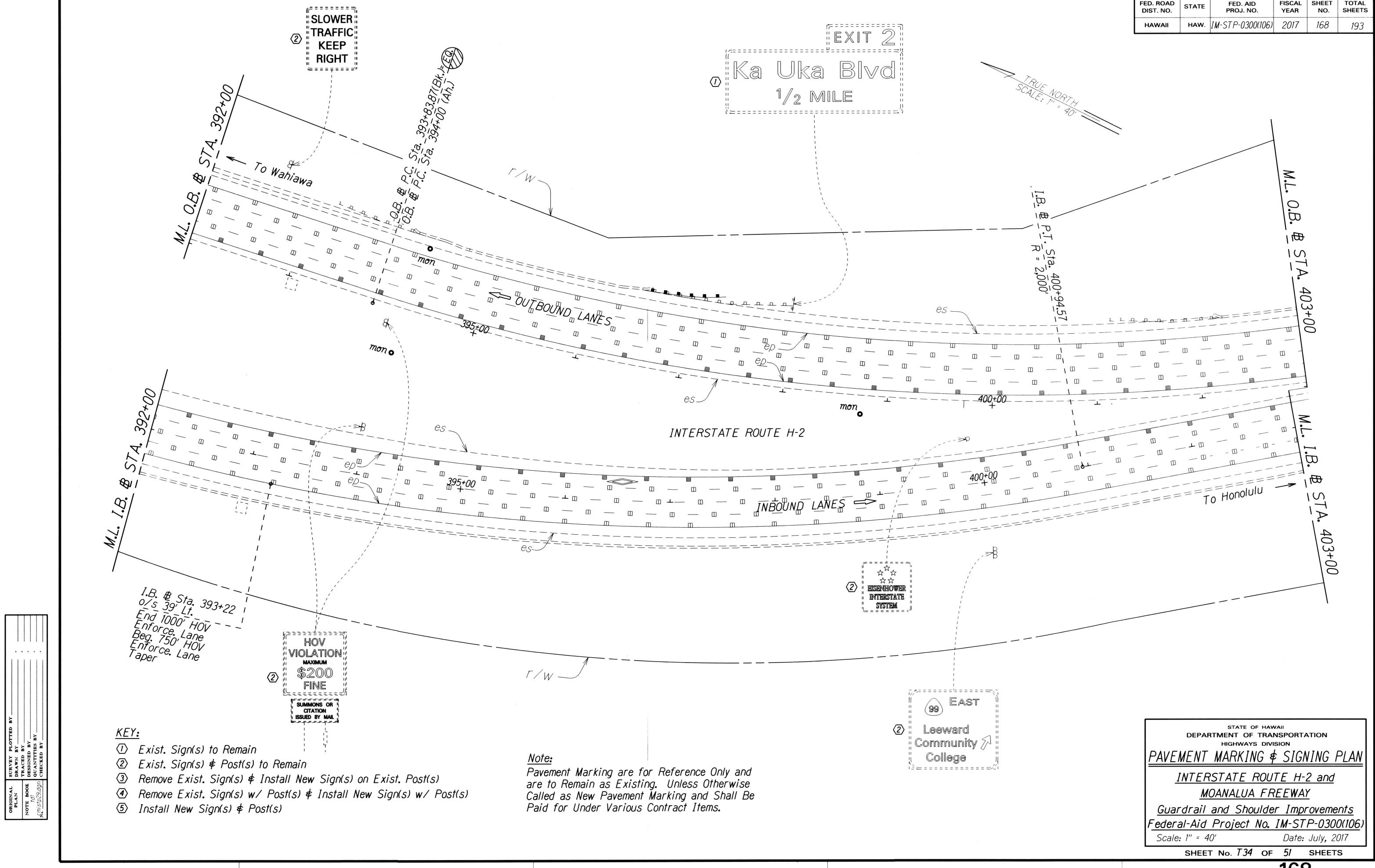


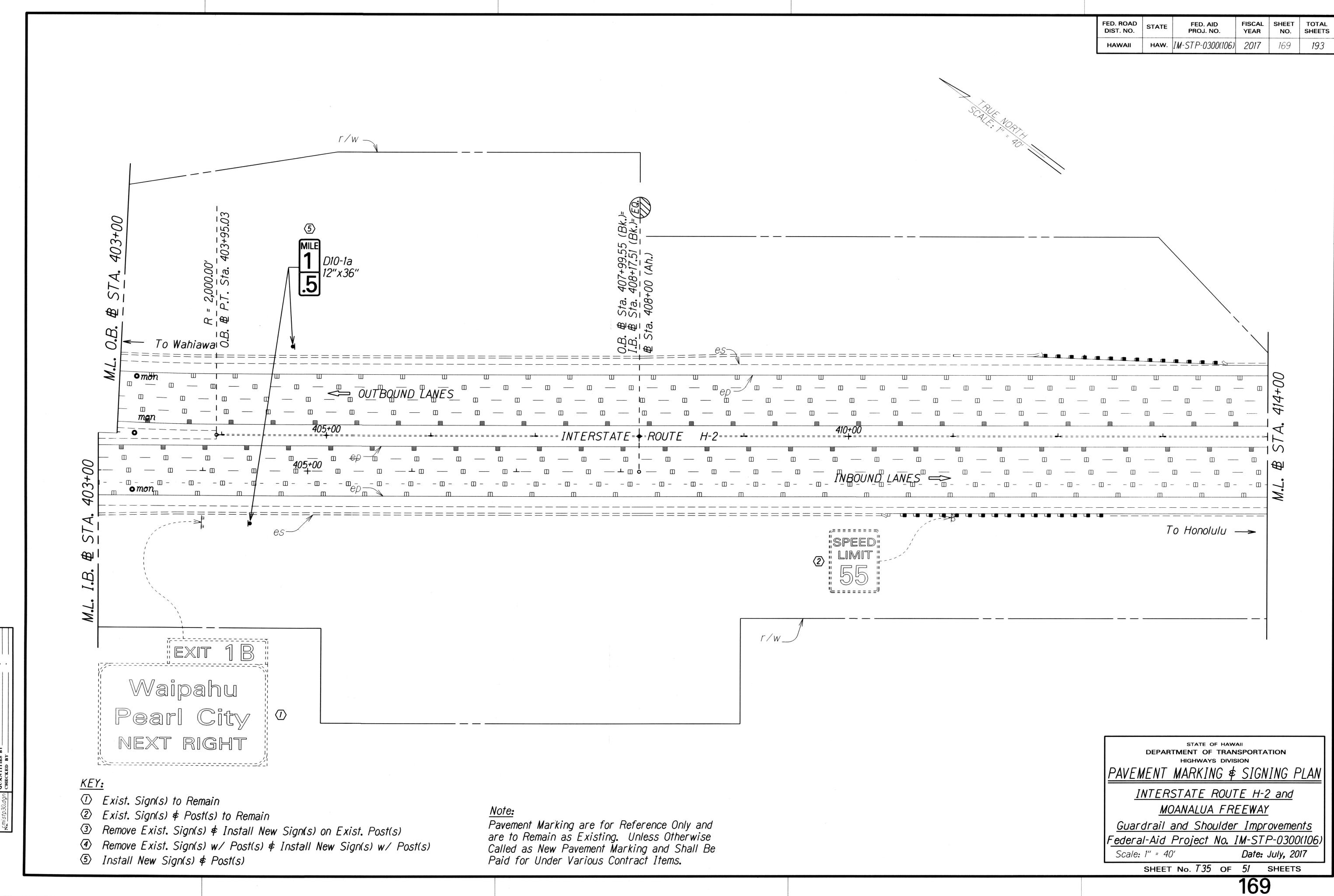


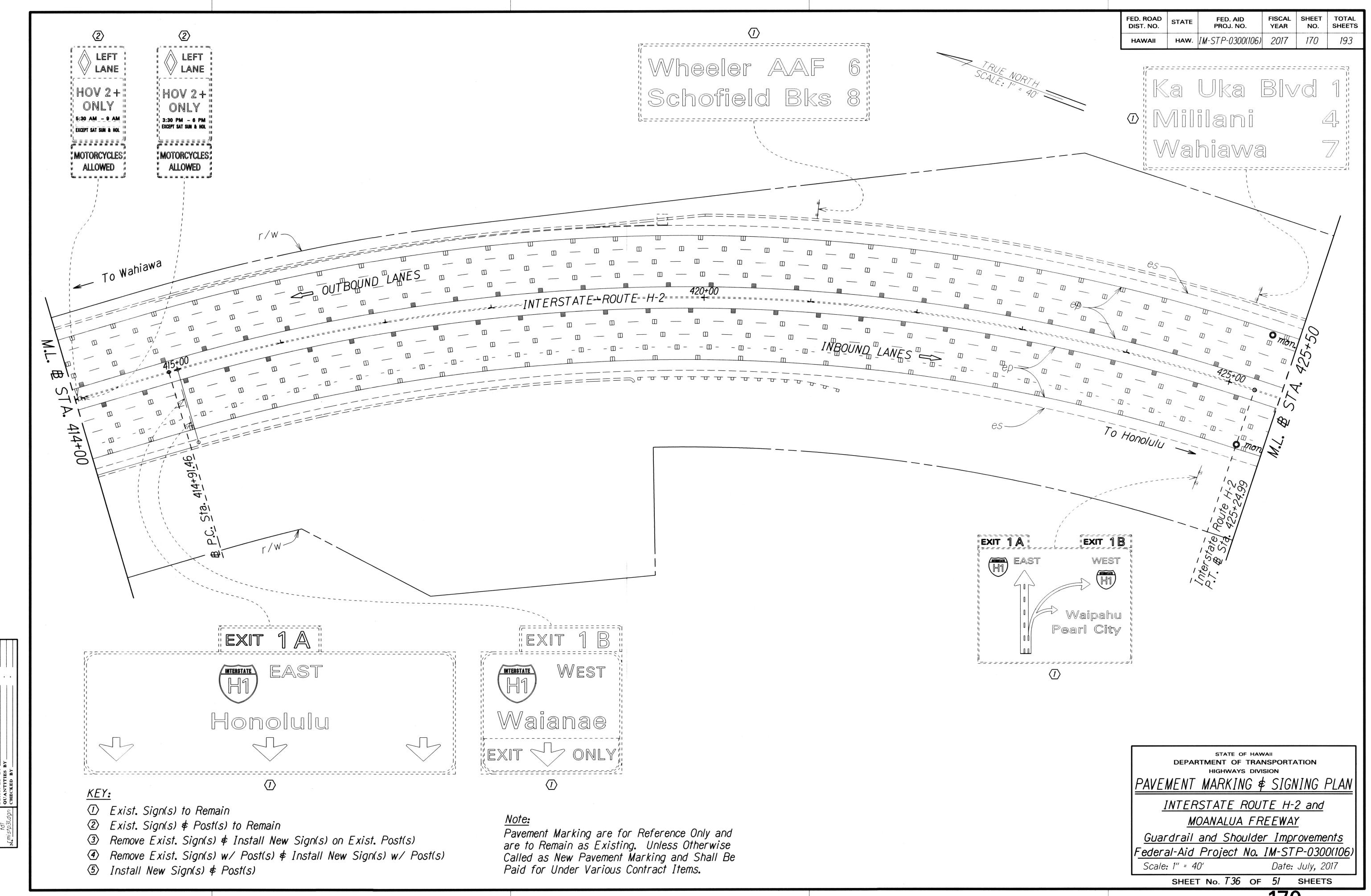


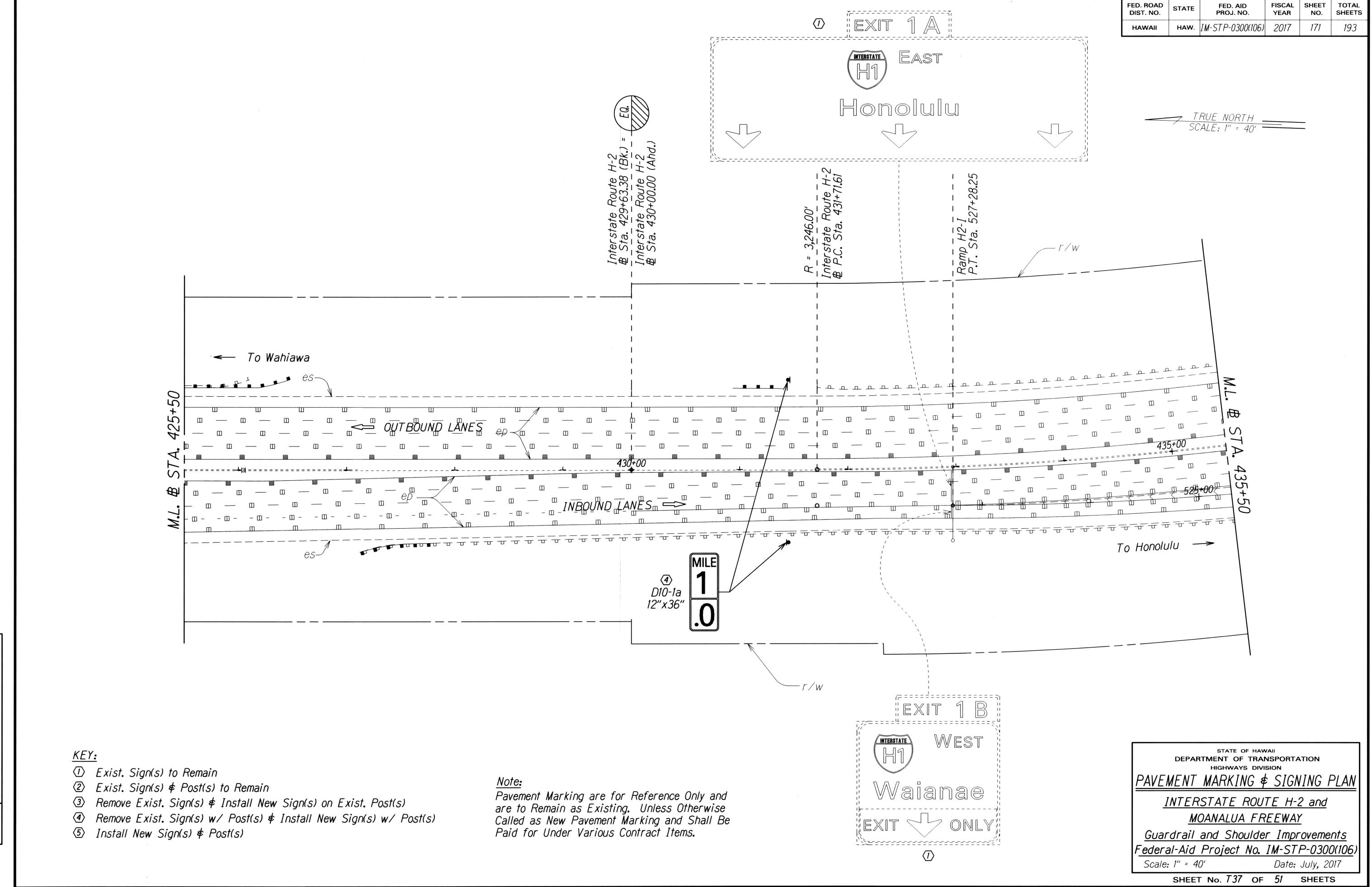
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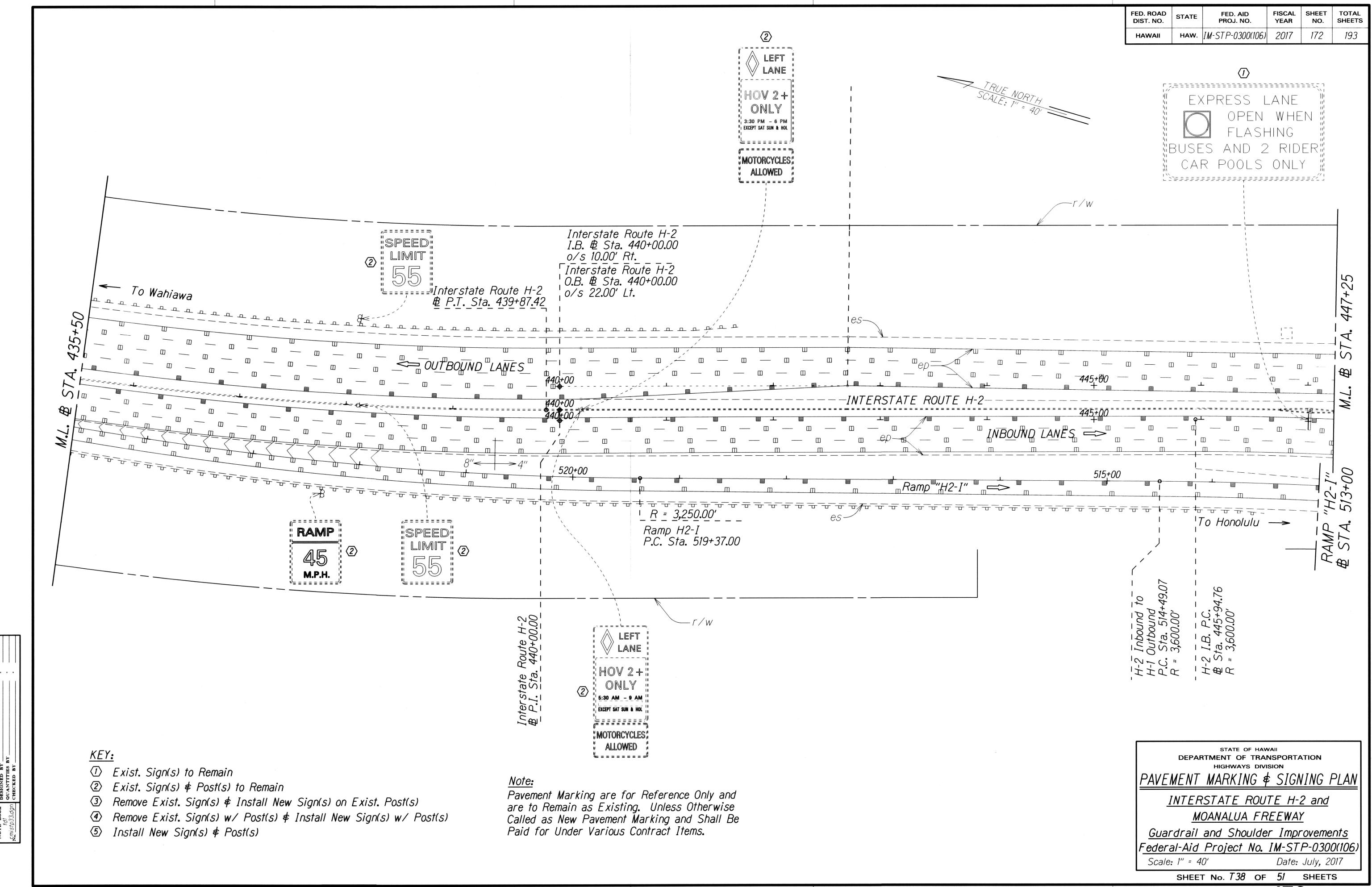


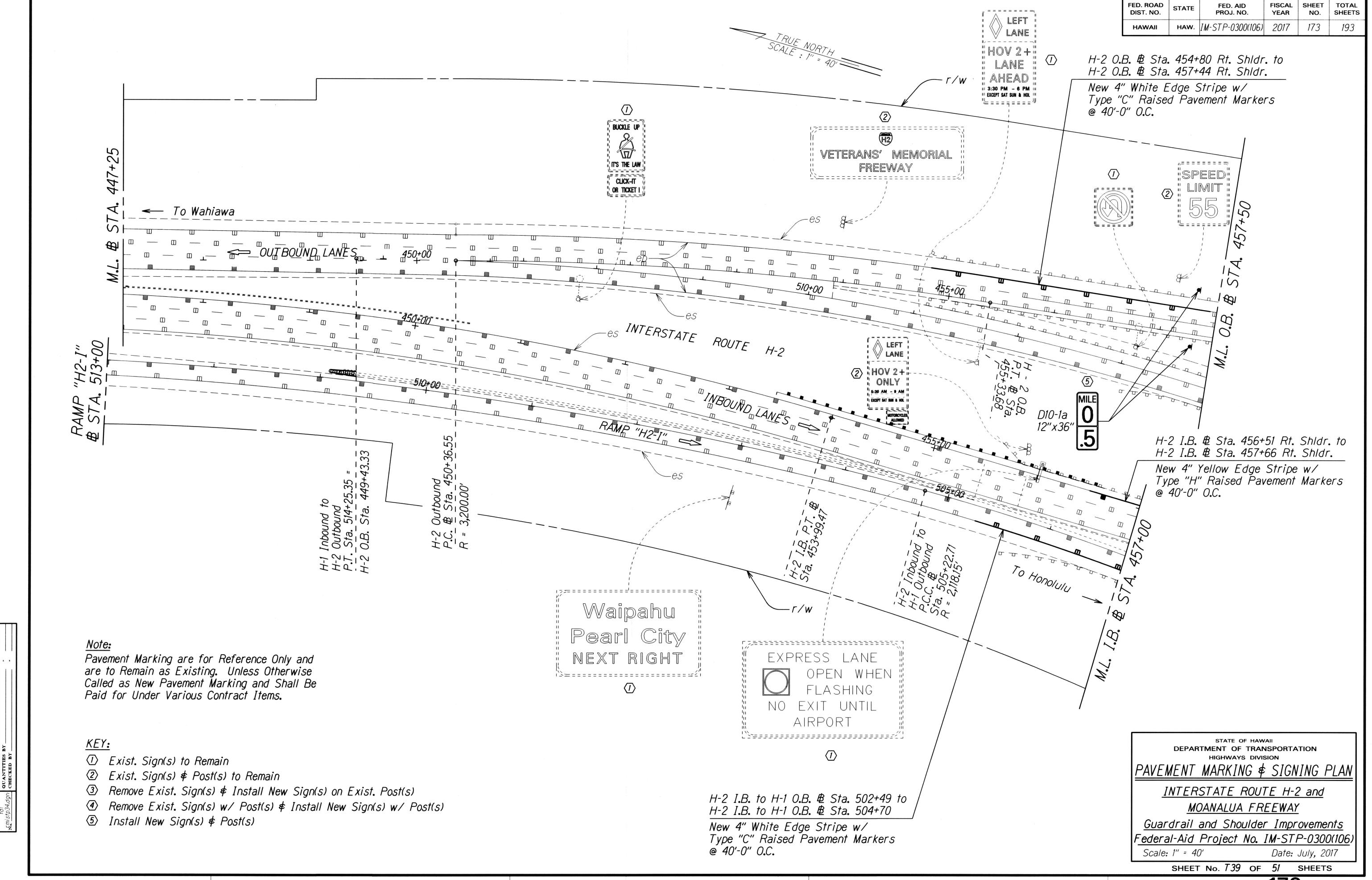


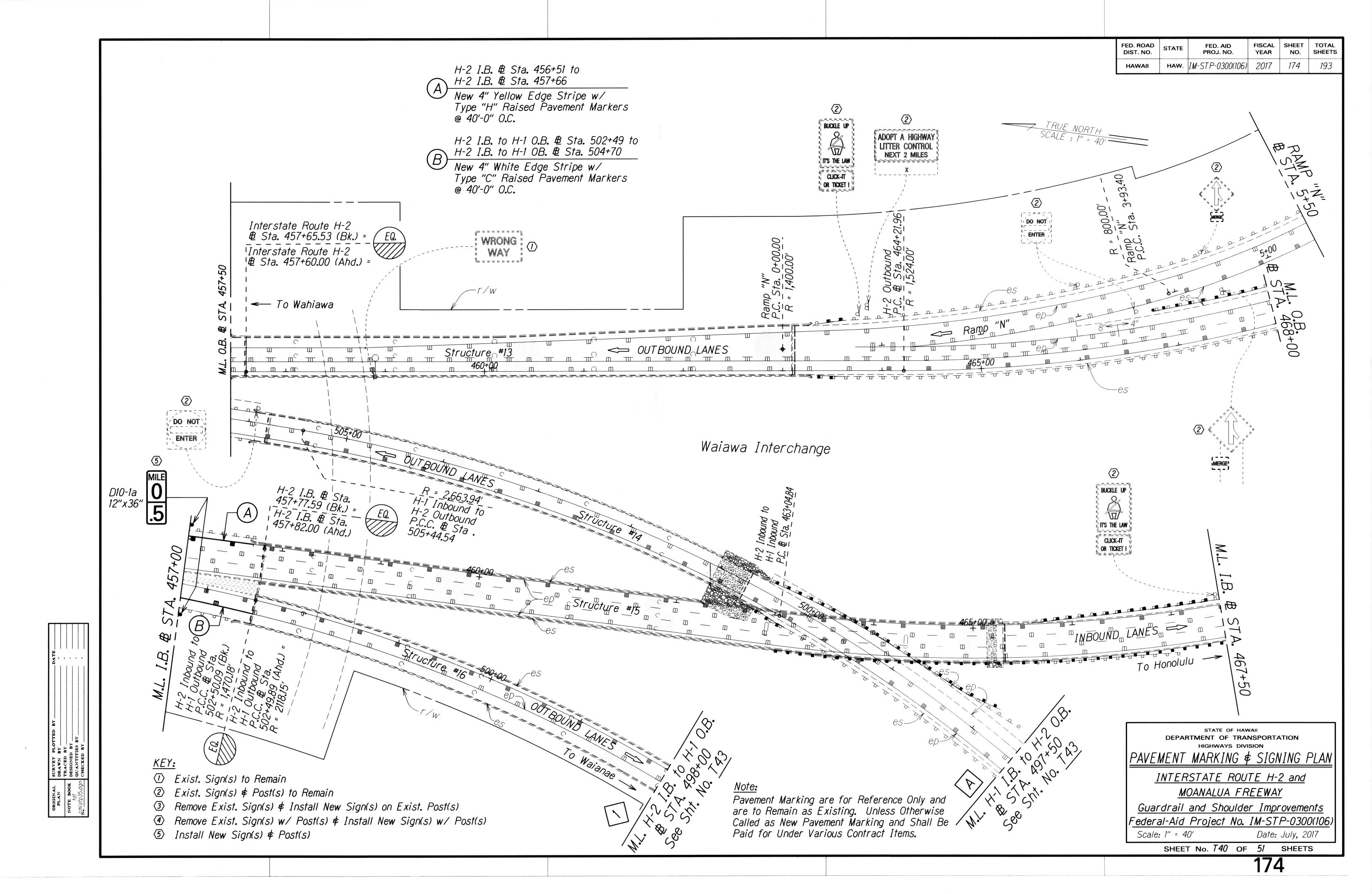


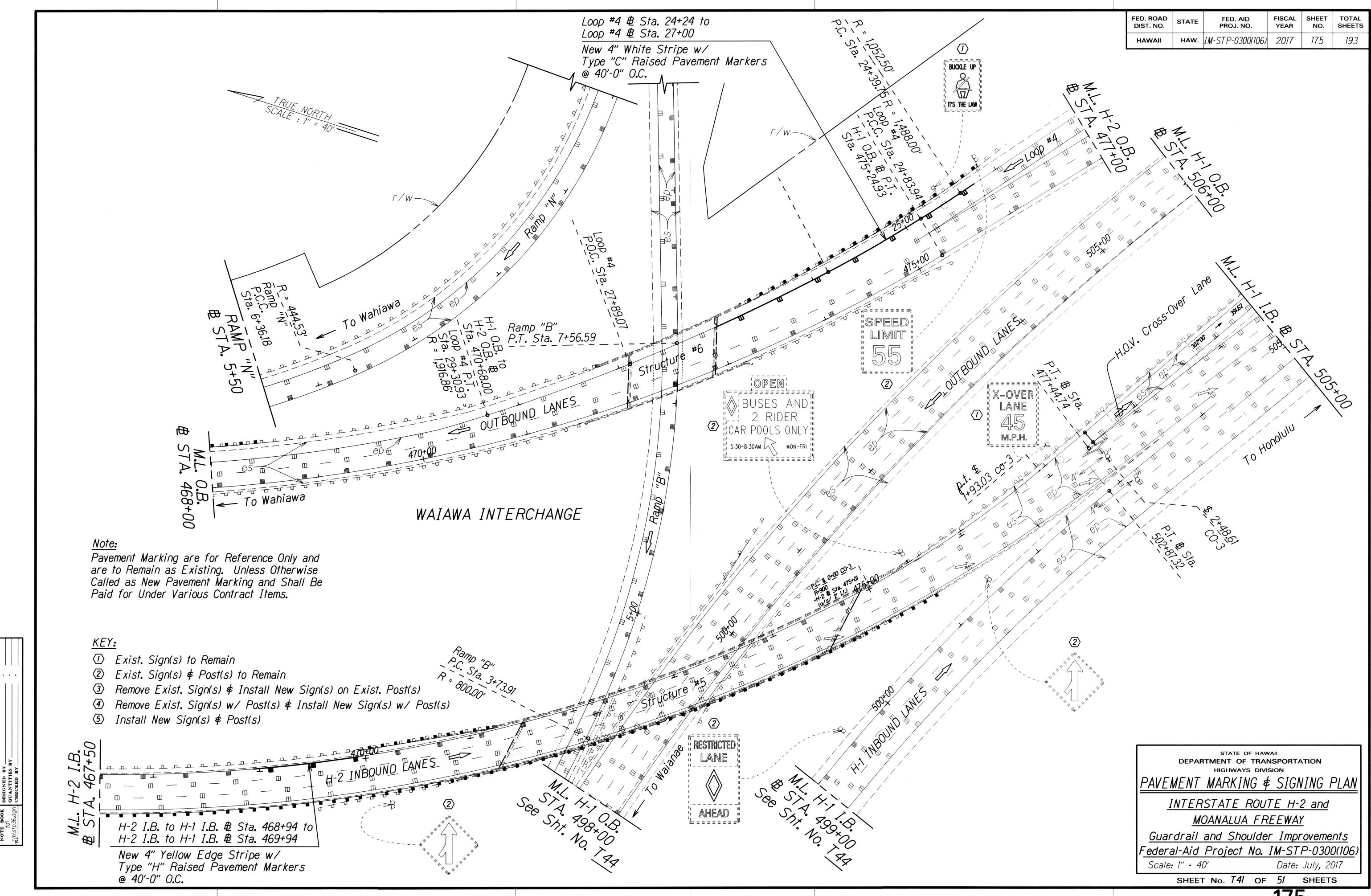


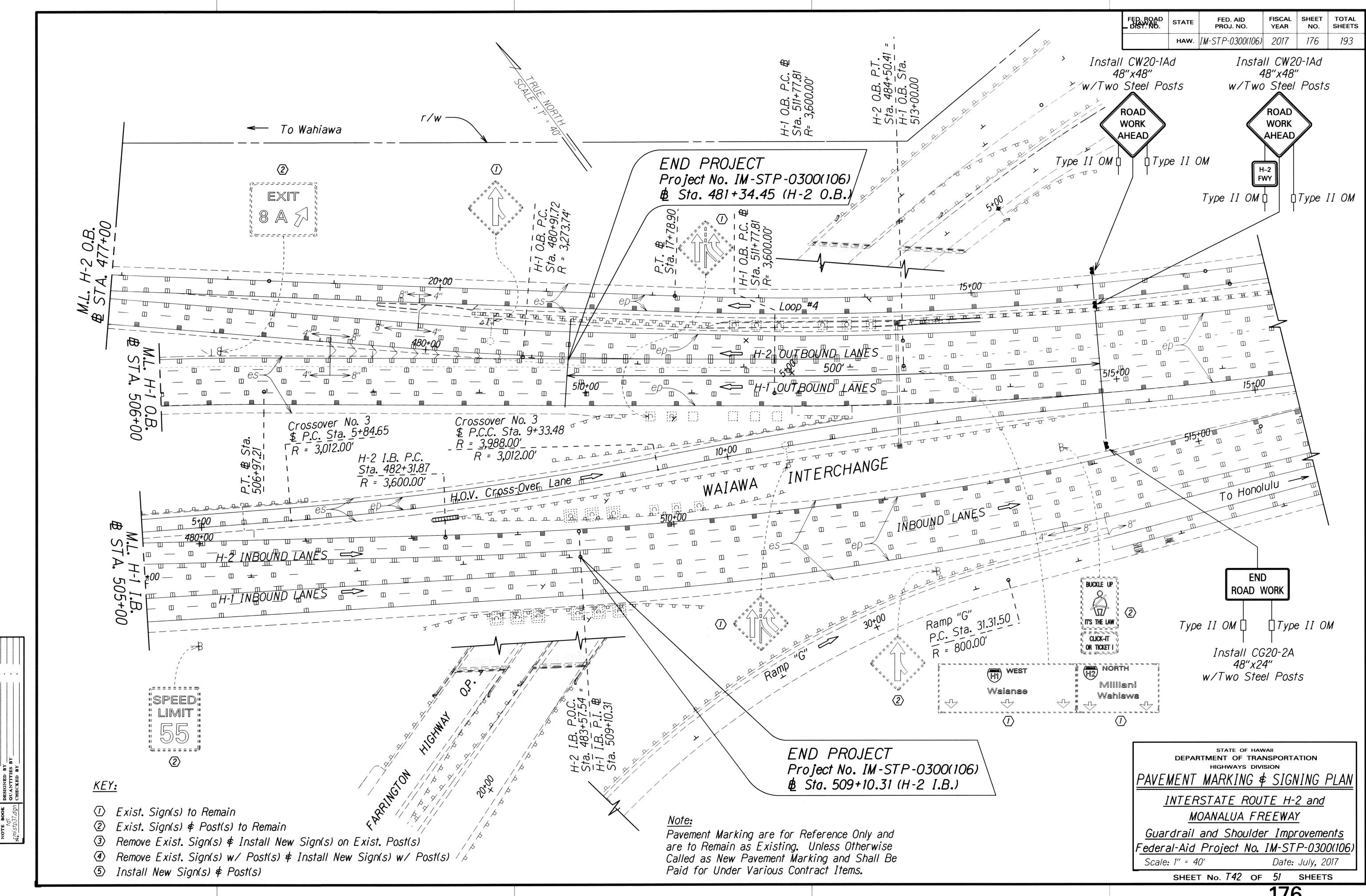
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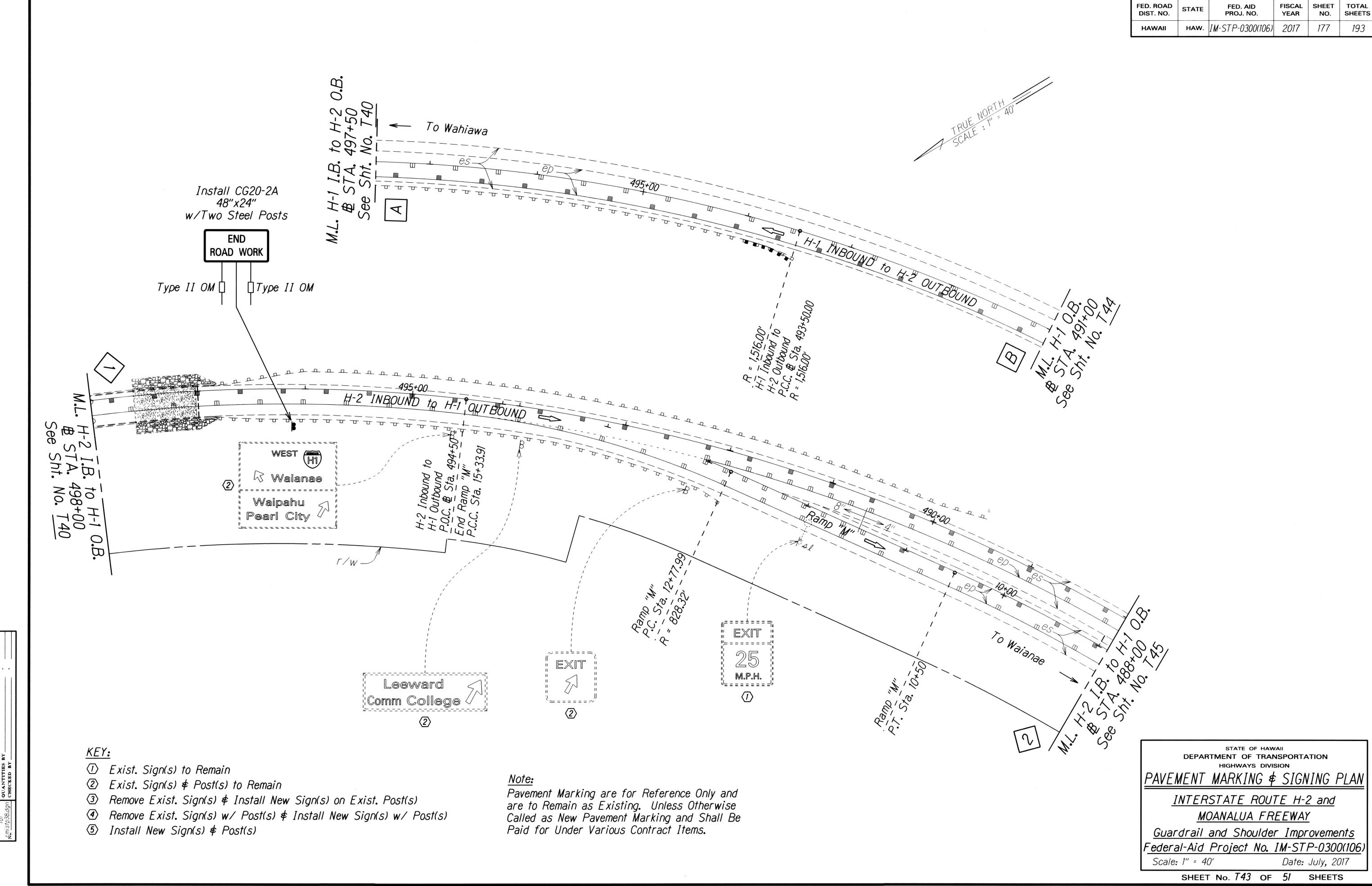


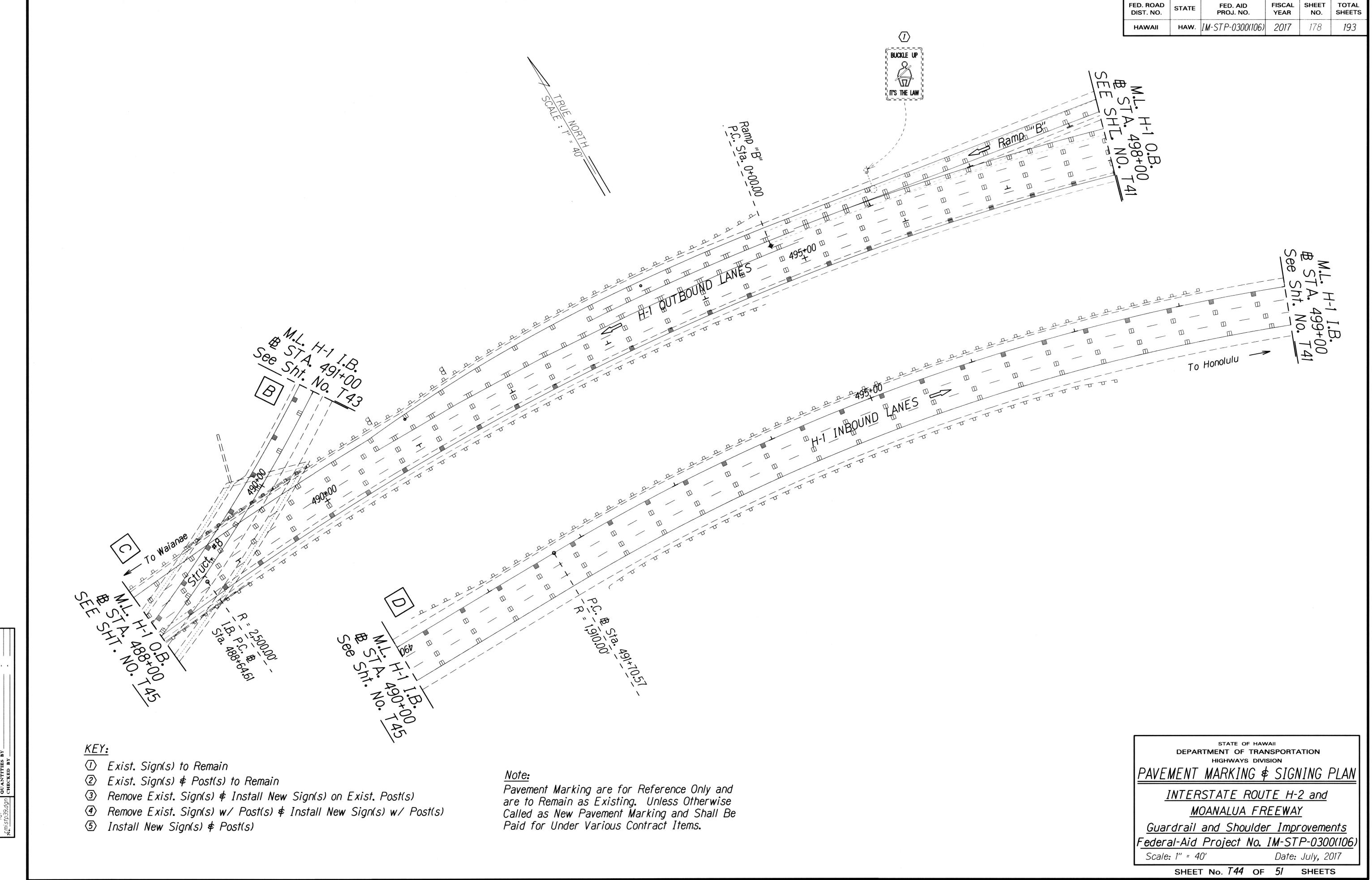


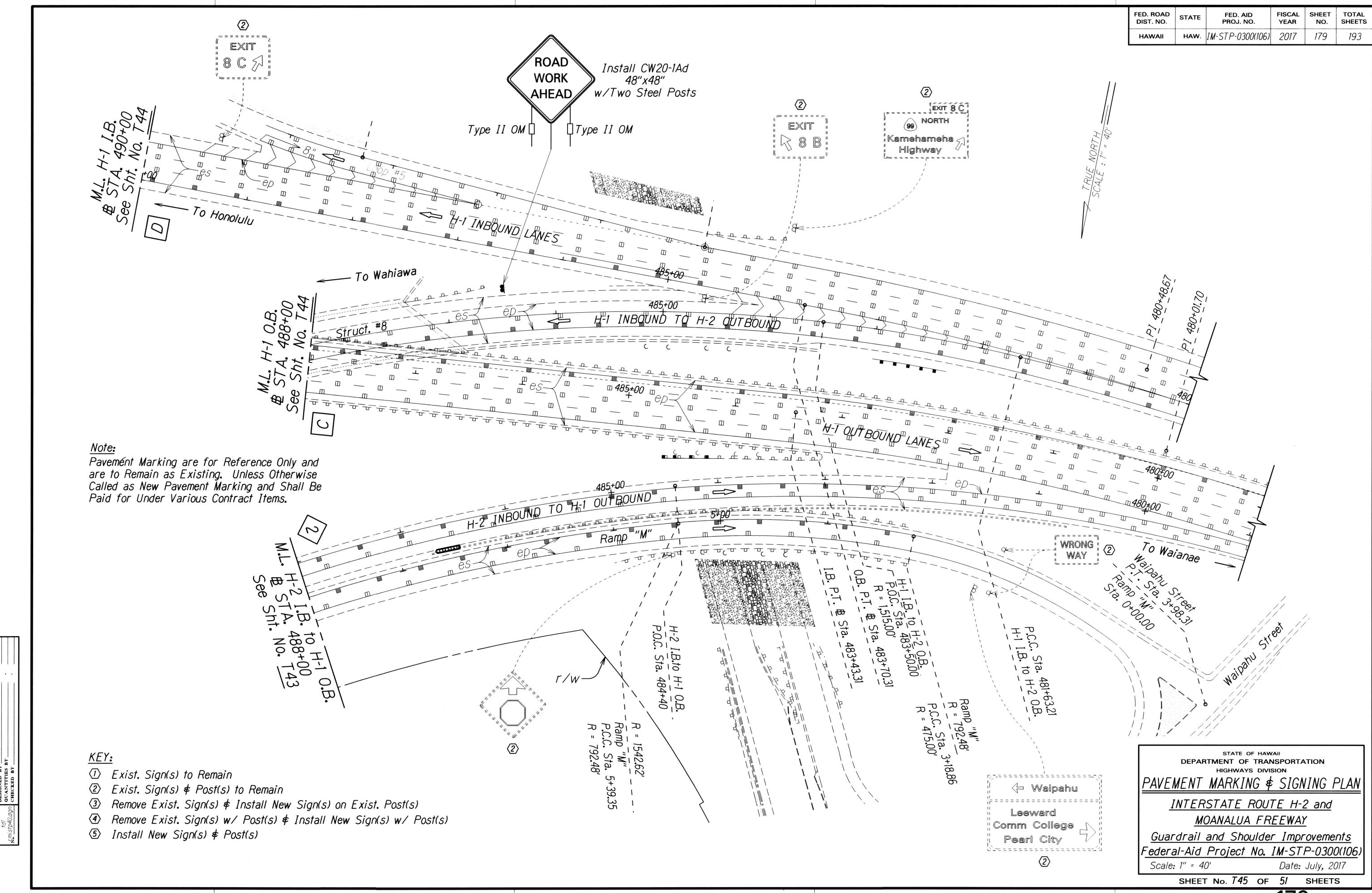


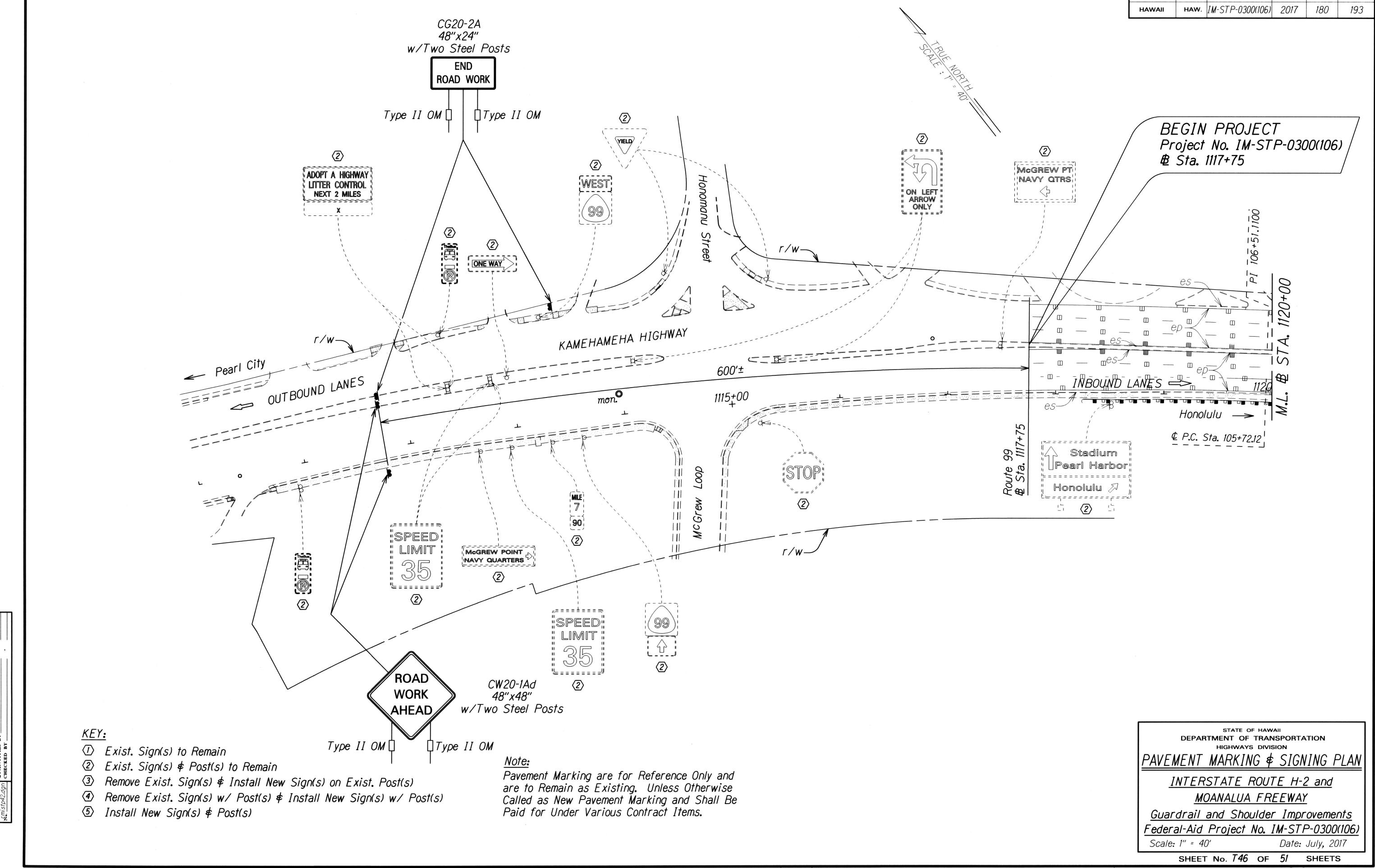






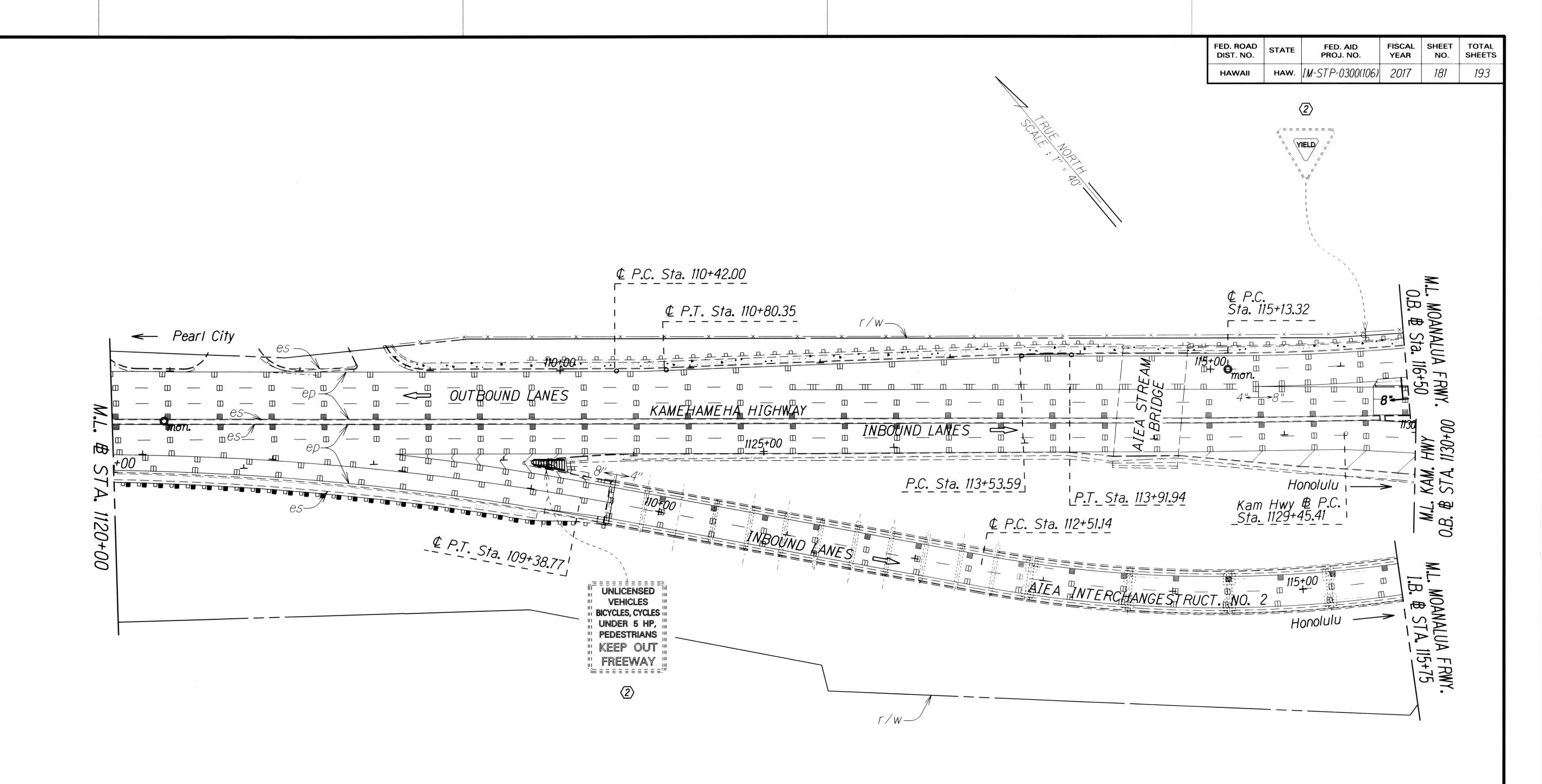


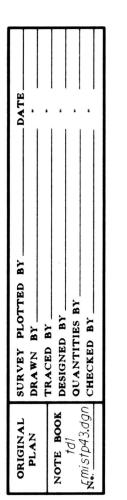




FED. ROAD DIST. NO. FISCAL SHEET YEAR NO.

FED. AID PROJ. NO.





KEY:

- ① Exist. Sign(s) to Remain
- ② Exist. Sign(s) \$ Post(s) to Remain
- ③ Remove Exist. Sign(s) & Install New Sign(s) on Exist. Post(s)
- Remove Exist. Sign(s) w/ Post(s)

 Finstall New Sign(s) w/ Post(s)
- ⑤ Install New Sign(s) \$ Post(s)

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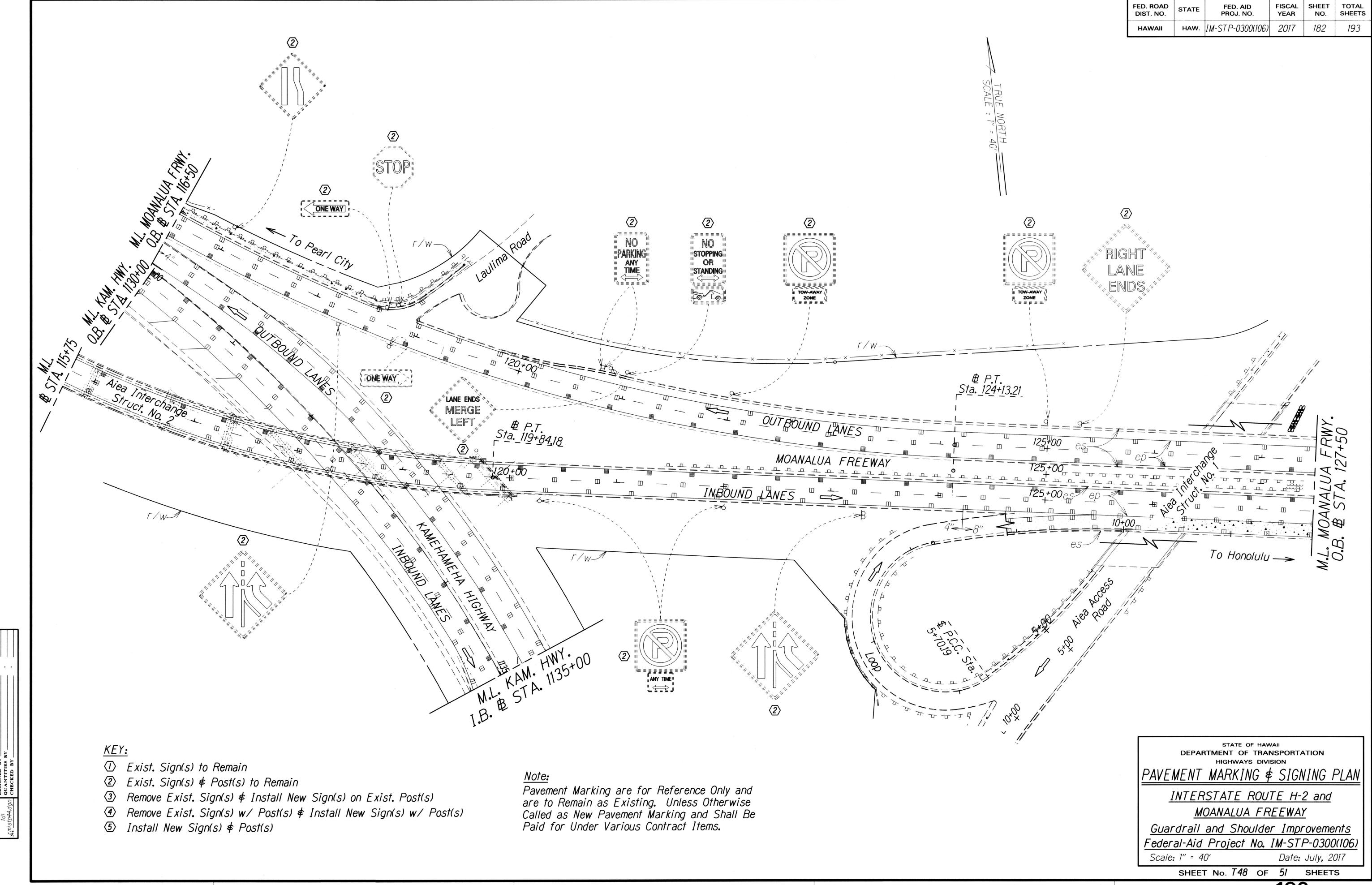
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

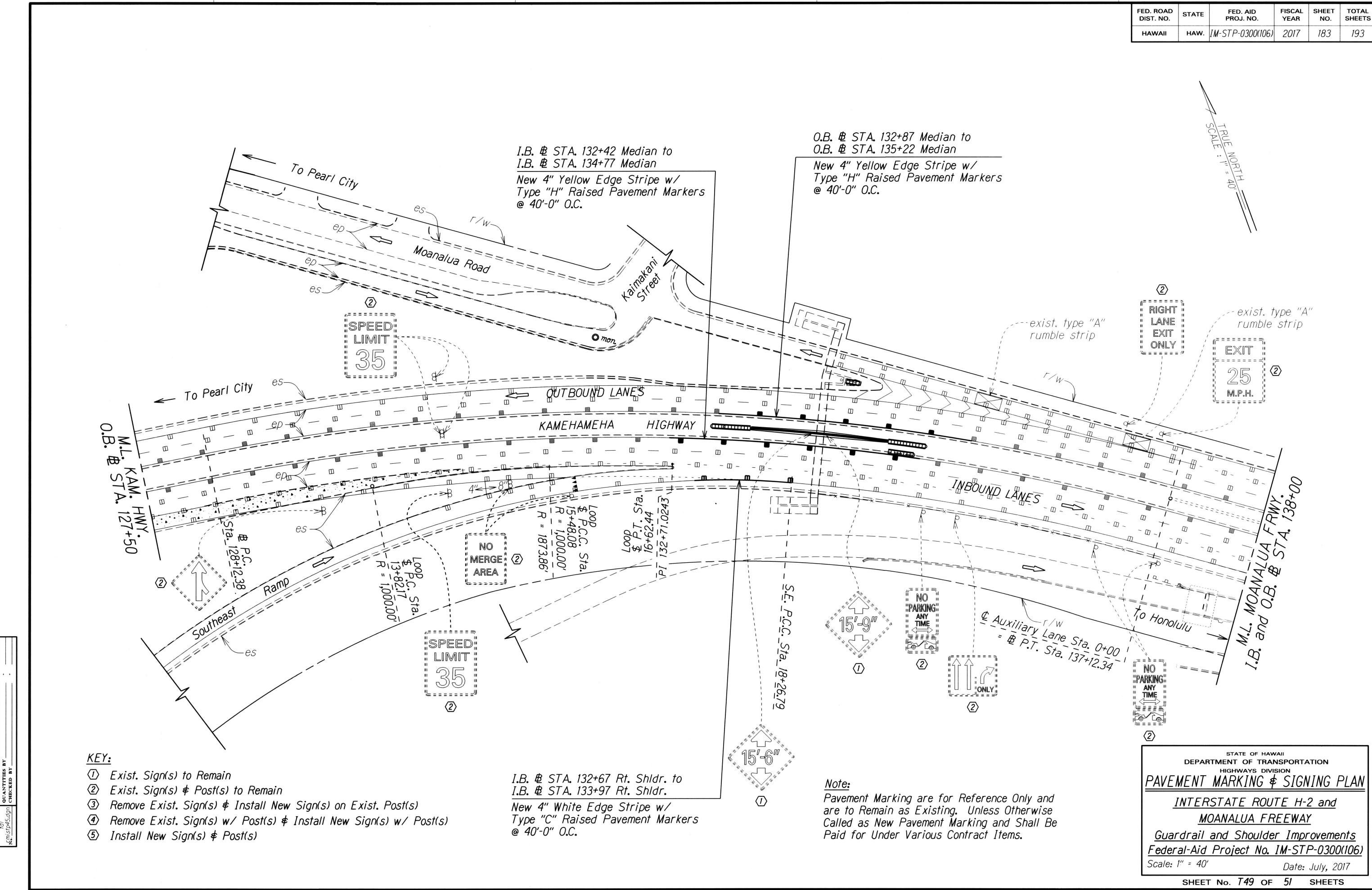
PAVEMENT MARKING ♦ SIGNING PLAN

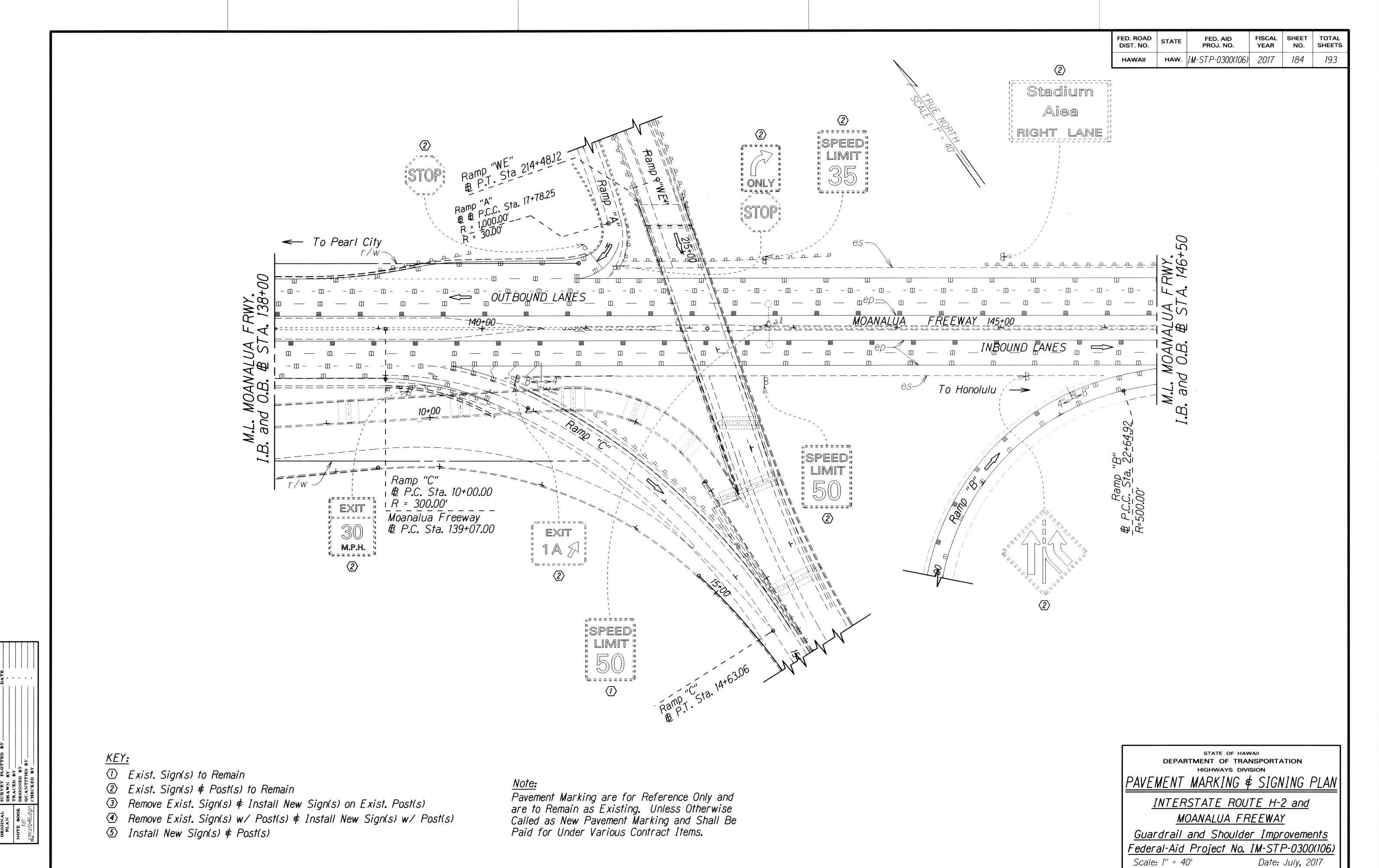
INTERSTATE ROUTE H-2 and
MOANALUA FREEWAY

Guardrail and Shoulder Improvements
Federal-Aid Project No. IM-STP-0300(106)
Scale: 1" = 40'
Date: July, 2017

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