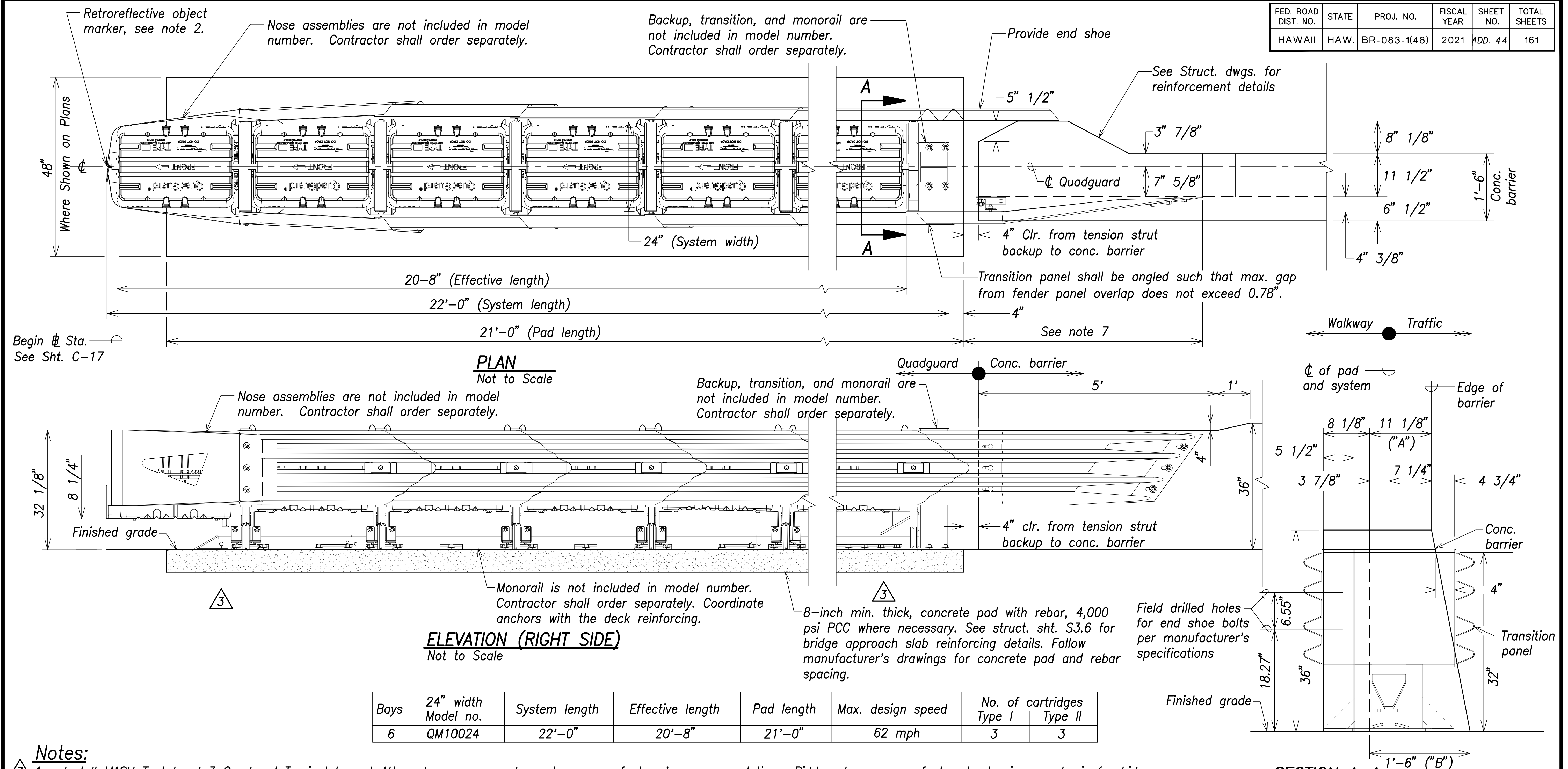
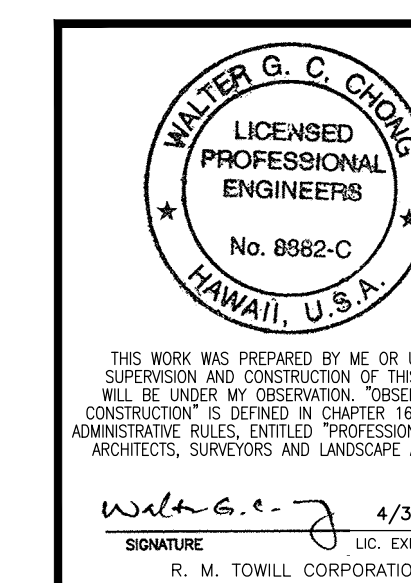


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-083-1(48)	2021	ADD. 44	161



Notes:

- Notes:**
- ③ 1. Install MASH Test Level 3 Quadguard Terminal Impact Attenuator or approved equal per manufacturer's recommendations. Bidders to use manufacturer's drawings as basis for bid.
  2. The contractor shall order crash cushion object marker from the Quadguard manufacturer and install on the nose of the Quadguard per the manufacturer's specifications. Object marker shall be considered incidental to the Quadguard attenuator.
  3. In compliance with the AASHTO 2011 Roadside Design Guide, manufacturer recommends removal of all curbs and islands to ensure proper impact performance.
  4. Provision shall be made for rear fender panels to slide rearward upon impact 30 inches, min.
  - ③ 5. 8" min. reinforced 4,000 PSI PC concrete pad or 8" min. non-reinforced 4,000 PSI concrete roadway, measuring at least 12'-0" wide by 50'-0" long.
  6. See the "Quadguard M10 System Product Manual" for a description of its impact performance characteristics and design limitations before placing a system at a given site.
  7. Where necessary, the customer shall supply an adequate transition from the Quadguard M10 system to the object being shielded.
  8. Backup, monorail, and nose assemblies are not included in model number, order separately.



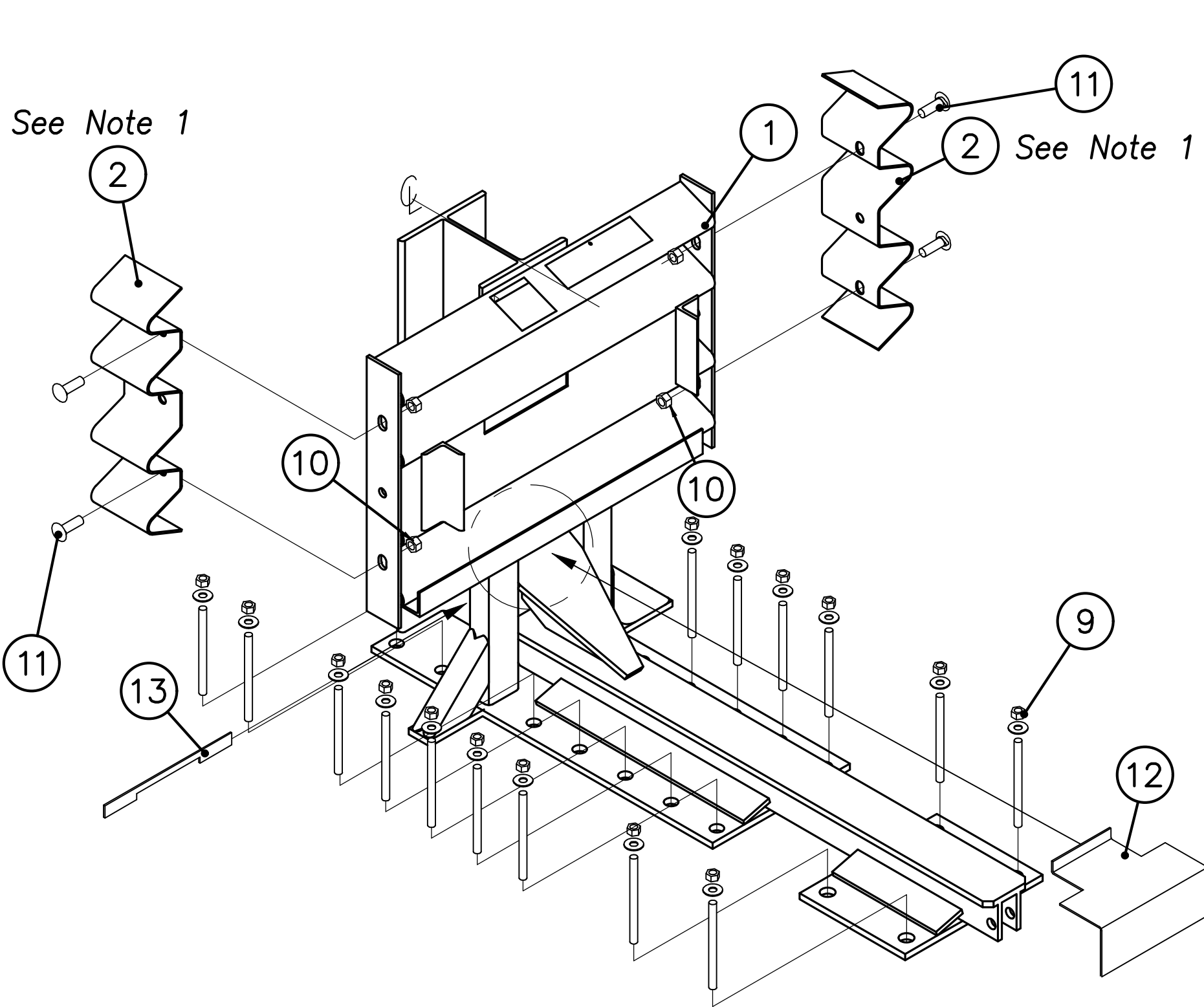
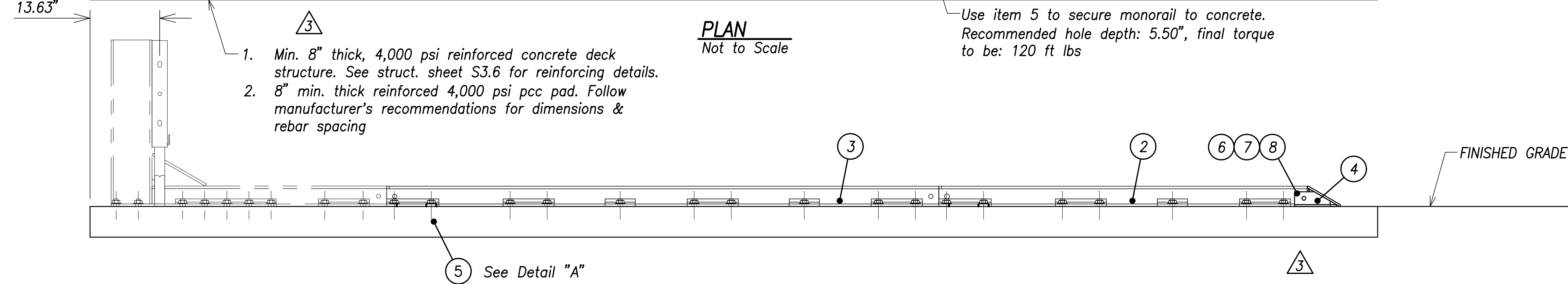
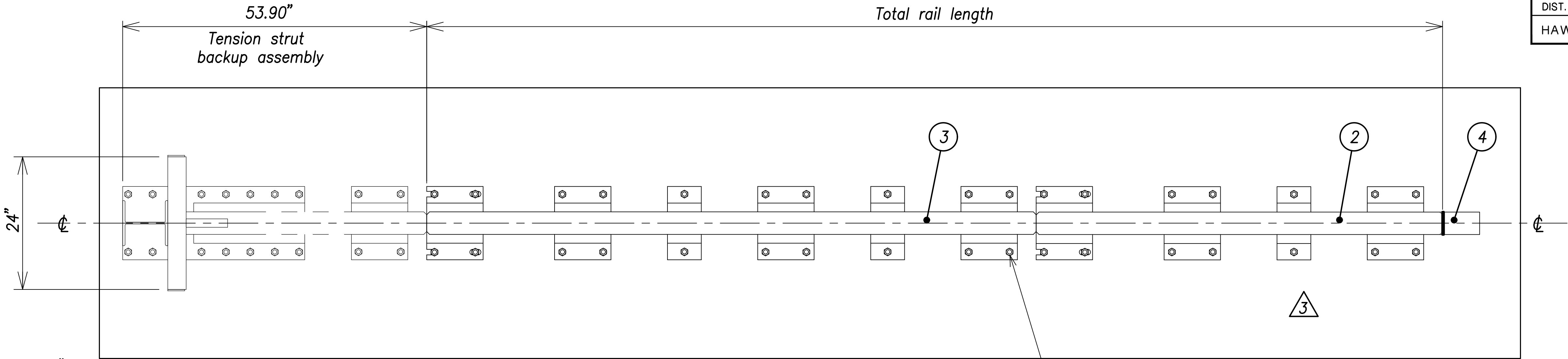
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

QUADGUARD DETAILS

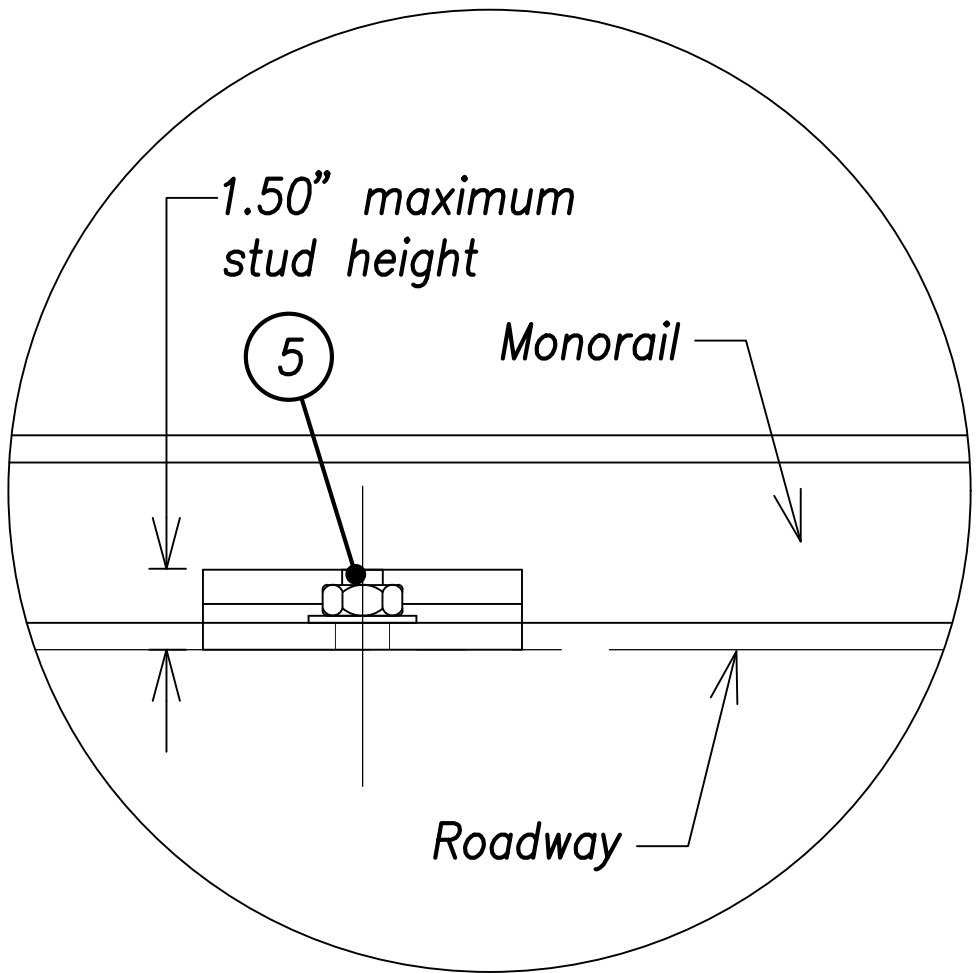
Kamehameha Highway  
Kaipapau Stream Bridge Replacement  
Federal Aid Project No. BR-083-1(48)

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-083-1(48)	2021	ADD. 45	161

Note:  
Monorail & backup assembly must be straight to within 0.5".



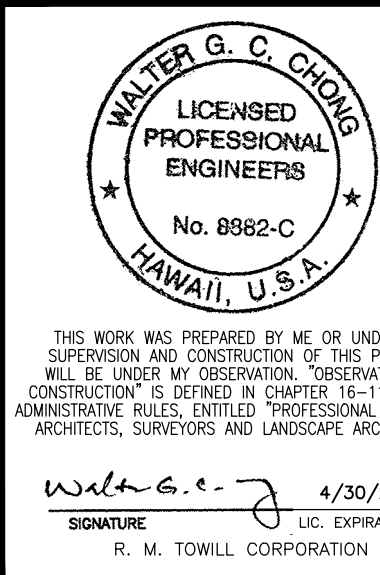
ELEVATION (W/ TENSION STRUT BACKUP)  
Not to Scale



DETAIL "A"  
Not to Scale

- Notes:
1. Use monorail(s) (items 1, 2 and 3) as template(s) to locate mp-3 anchor bolts (item 5) and install per manufacturer's directions.
  2. Cross slope of pad shall not exceed 2% in any direction.
  3. Units of measurement are inches unless otherwise noted.
  4. Every stud must be embedded to a depth of 5.50-inches. If rebar is encountered in a pcc pad, drill through it. If rebar is encountered on a deck structure, ask the engineer for direction.

7/21/21	REV. CONC PAD
DATE	REVISION



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

QUADGUARD DETAILS  
Kamehameha Highway  
Kaipapau Stream Bridge Replacement  
Federal Aid Project No. BR-083-1(48)

Scale: As Noted  
Date: February 2021

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