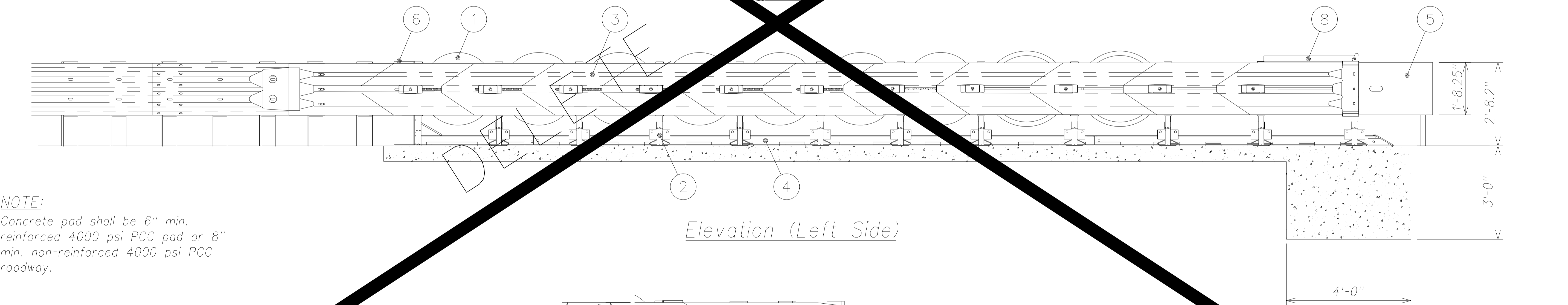
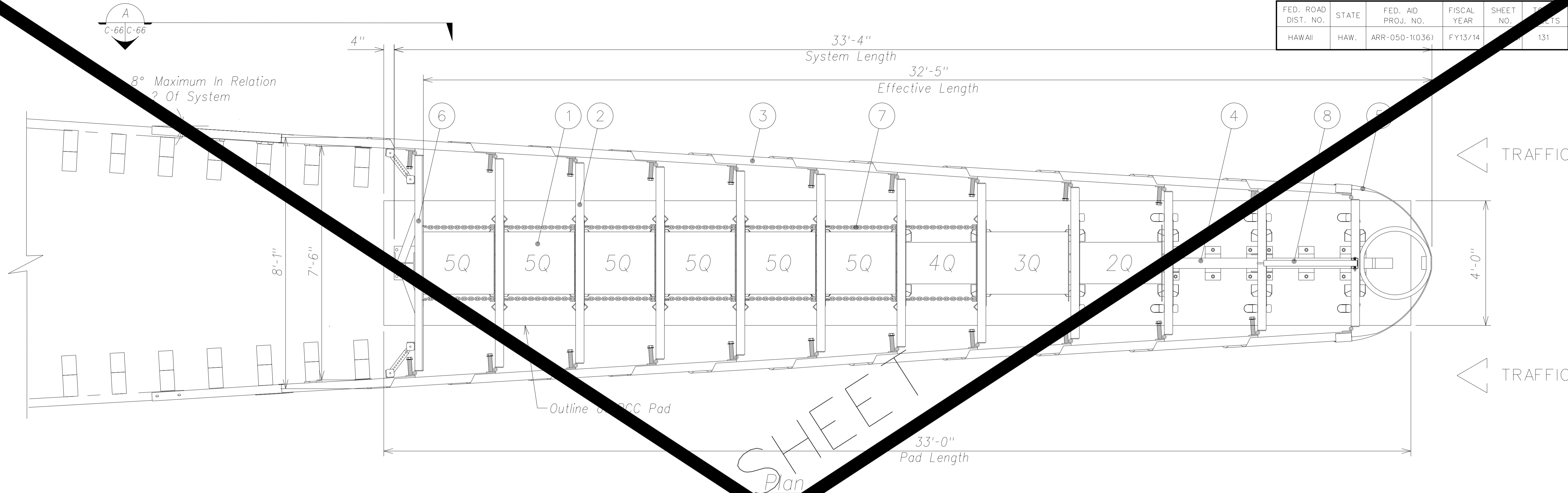


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-050-1(036)	FY13/14	131	131




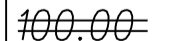
NOTE:
Concrete pad shall be 6" min.
reinforced 4000 psi PCC pad or 8"
min. non-reinforced 4000 psi PCC
roadway.

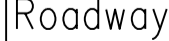
Legend:

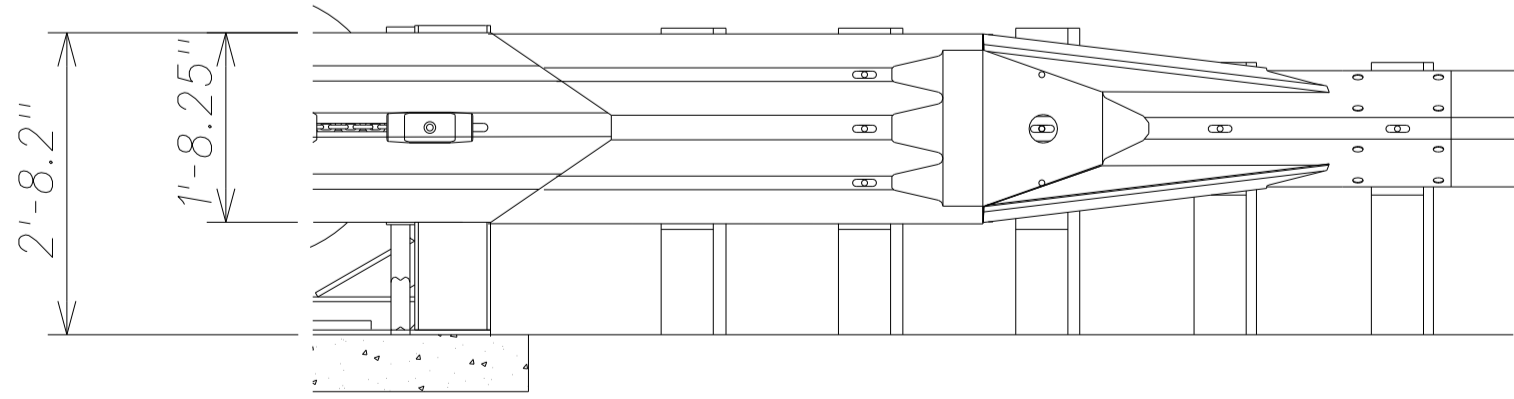
- | | |
|----------------------|-----------------|
| ① Quadguard Cylinder | ⑤ Base Assembly |
| ② Diaphragm | ⑥ Backup |
| ③ Fender Panel | ⑦ Chain Assy |
| ④ Monorail | ⑧ Hit Indicator |

LEGEND FOR
AS-BUILT POSTINGS

 Squiggly line for
as-built deletion

 Double line for
as-built deletion

 Text for as-built
posting



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION AND
CONSTRUCTION OF THIS PROJECT
WILL BE UNDER MY OBSERVATION.

April 30, 2016
SIGNATURE EXPIRATION DATE
OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RFI-D-186
QUADGUARD LMC 90 DETAILS

PHASE 1 - KAAHULU HIGHWAY
LIHUE MILL BRIDGE TO LUCE STREET
PHASE 2 - NAWILIWILI STREET BRIDGE
AND MAUKA WIDENING

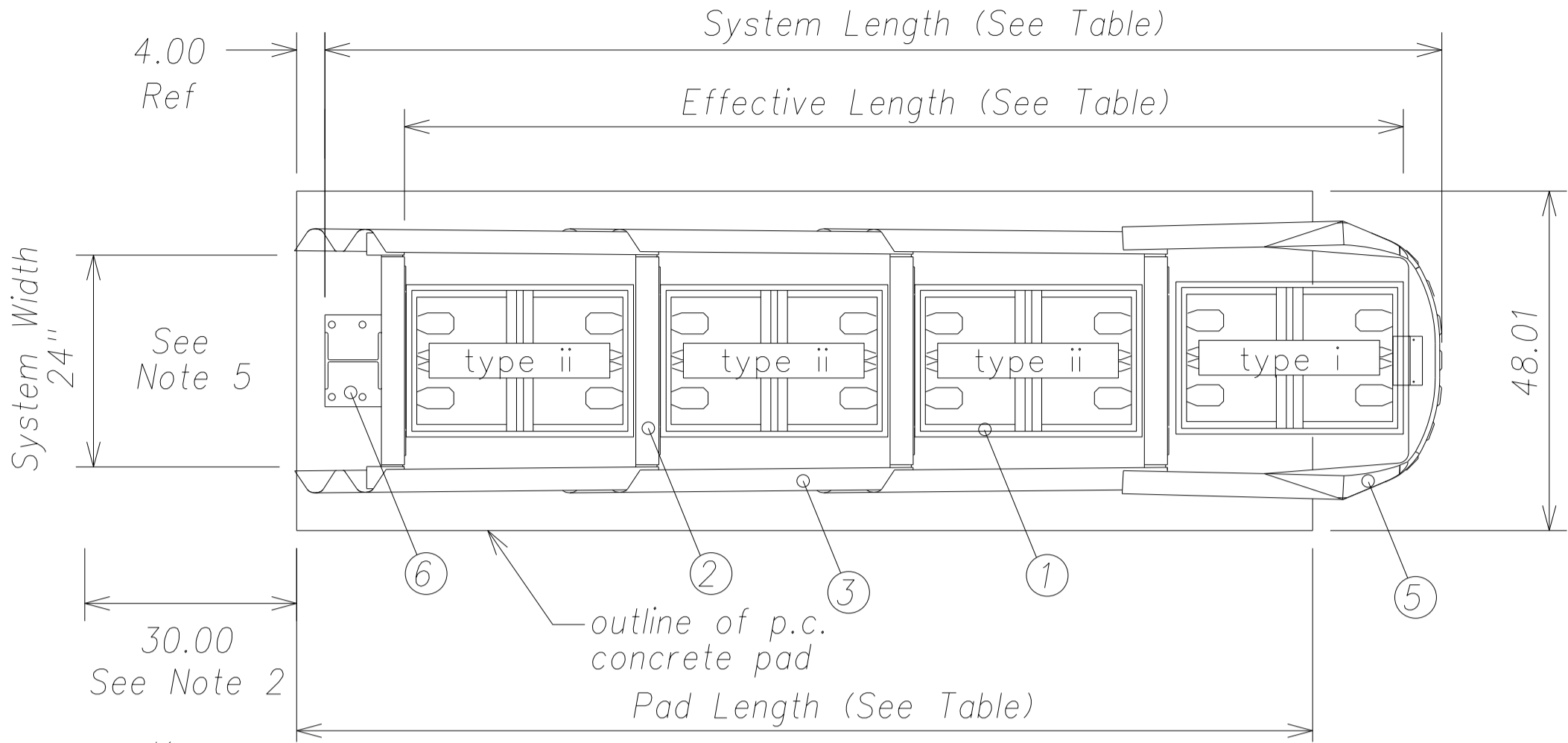
Scale: As Shown Date: March 25, 2016
SHEET No. C-66 OF 84 SHEETS

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

"AS-BUILT"

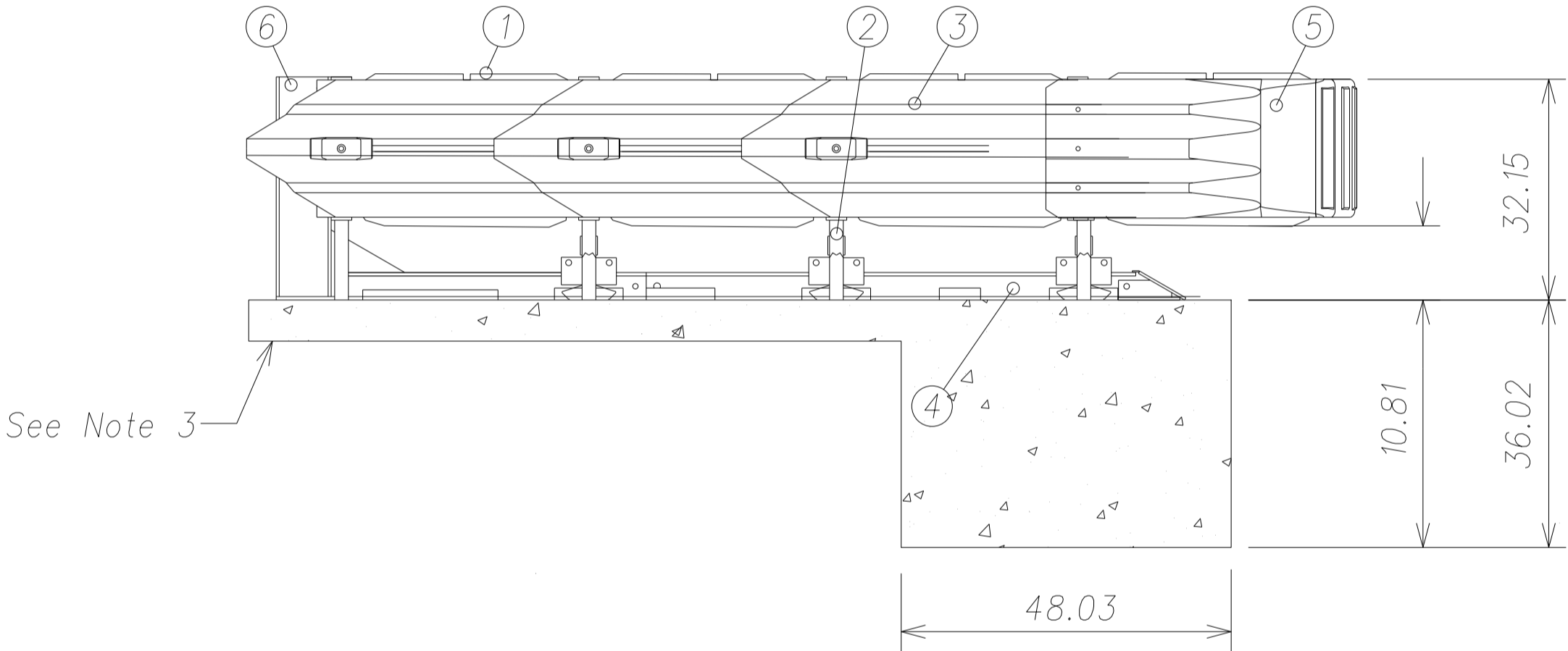
MODEL S1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ARR-050-1(036)	FY13/14	Model	131



- Key
- | | |
|-----------------------|------------------------|
| ① Quadguard cartridge | ④ Monorail |
| ② Diaphragm | ⑤ Nose assembly |
| ③ Fender panel | ⑥ Tension strut backup |

PLAN



ELEVATION

NOTES:

- In compliance with the AASHTO 2002 Roadside Design Guide, manufacturer recommends removal of all curbs and islands to ensure proper impact performance.
- Provision shall be made for rear fender panels to slide rearward upon impact 30.00 minimum.
- 6.00 minimum reinforced 4000 psi p.c. concrete pad or 8.00 minimum non-reinforced 4000 psi p.c. concrete roadway.
- See the "Quadguard System Design Manual" coded ene 820-796 for a description of its impact performance characteristics and design limitations before placing a sytem at a given site. information and copies of above manual are available by calling customer service department at (312) 467-6750.
- Where necessary, the customer shall supply a transition from the quadguard system to the object being shielded.

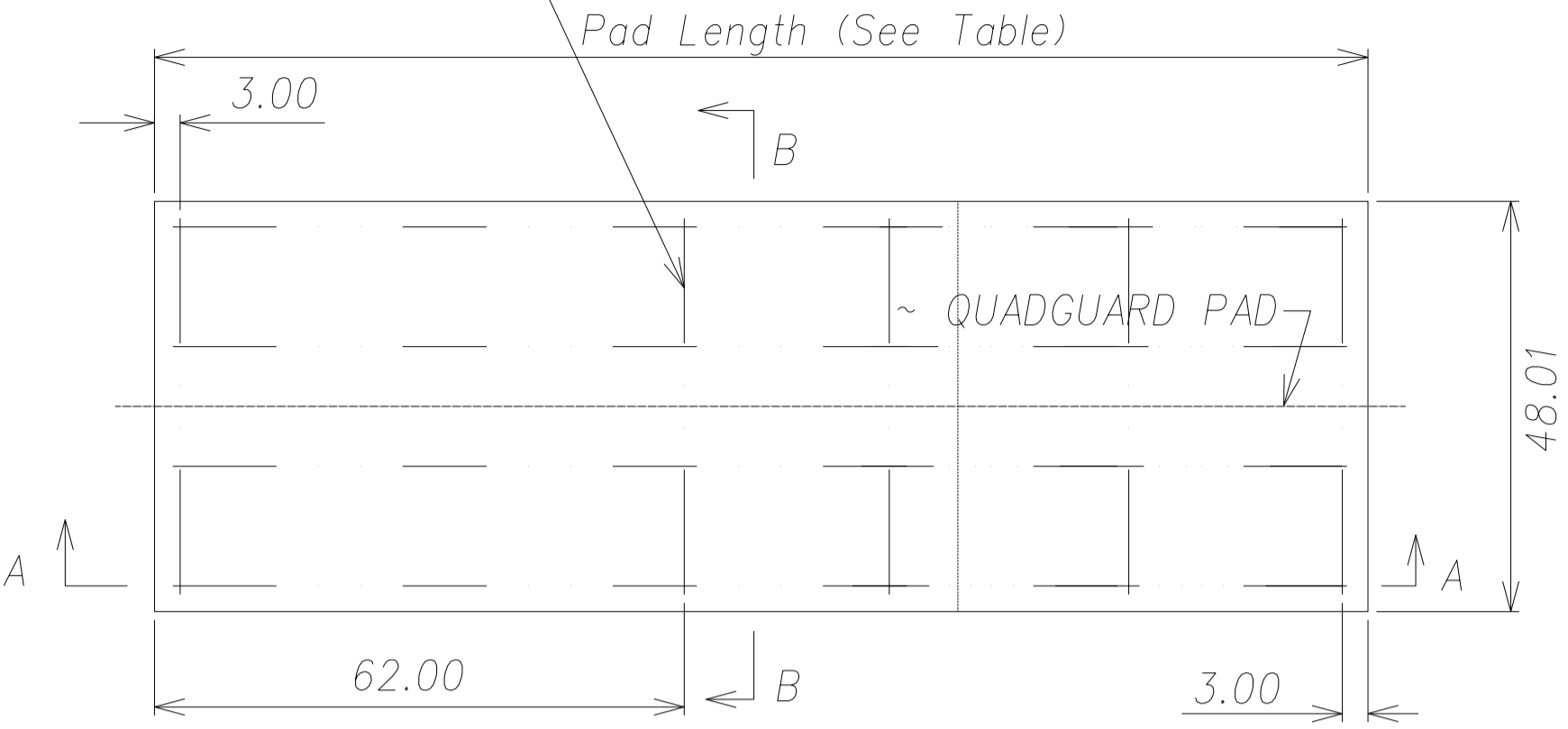
QUADGUARD II SYSTEM W/ TENSION STRUT BACKUP
Not to scale

BAYS	24" Width Model#		SYSTEM LENGTH	EFFECTIVE LENGTH	PAD LENGTH	REBAR REQUIRED	YDS. OF CONC. IN PAD
	GREY	YELLOW	ft-in	ft-in	ft-in	ft-in	YARDS ³
4	QS2404G	QS2404Y	16'-1"	14'-8"	15'-0"	83'-8"	2.6

TRAFFIC

TRAFFIC

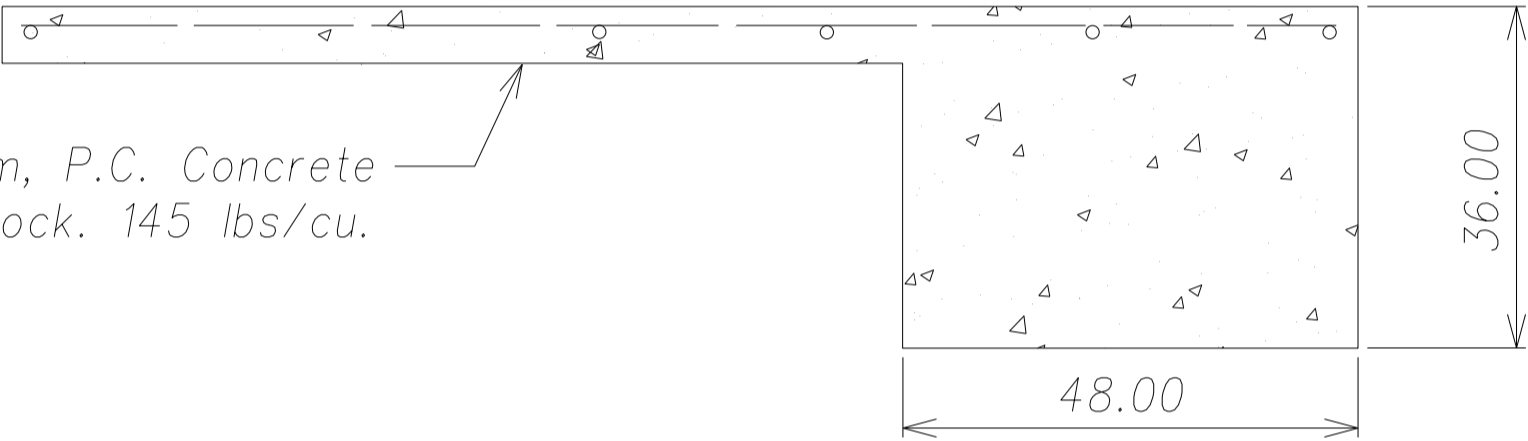
#5 Rebar at 24.00 Centers Begin
62.00 from Rear Edge of Pad



Place #5 Rebar at 3.00 From Edge for
All Pad Length

PLAN

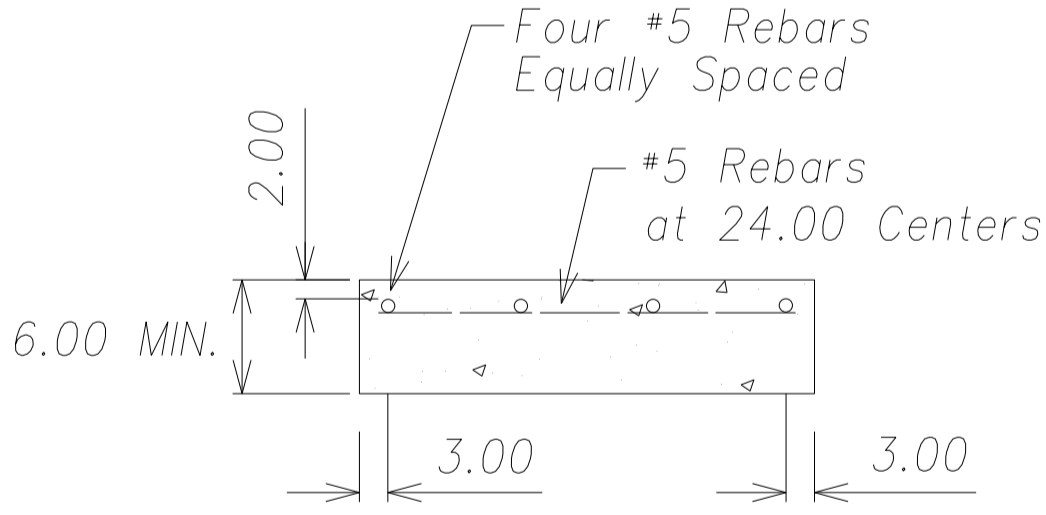
4000 p.s.i. Minimum, P.C. Concrete
Pad and Anchor Block. 145 lbs/cu.
ft.



SECTION A-A

Notes:

- Cross slope of pad shall not exceed 8%, and not vary more that 2% from front to back.



SECTION B-B

CONCRETE PAD
Not to Scale



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION AND
CONSTRUCTION OF THIS PROJECT
WILL BE UNDER MY OBSERVATION.

SIGNATURE
April 30, 2016
EXPIRATION DATE
OF THE LICENSE

RFI-D NO. 86
SUBSTITUTE
QUADGUARD II FOR
LMC 90

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

RFI-D NO. 86
QUADGUARD II DETAILS

PHASE 1 - KAUMUALII HIGHWAY
LIHUE MILL BRIDGE TO RICE STREET
PHASE 2 - NAWILIWILI STREAM BRIDGE
AND MAUKA WIDENING

Scale: As Shown
Date: March 25, 2013

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