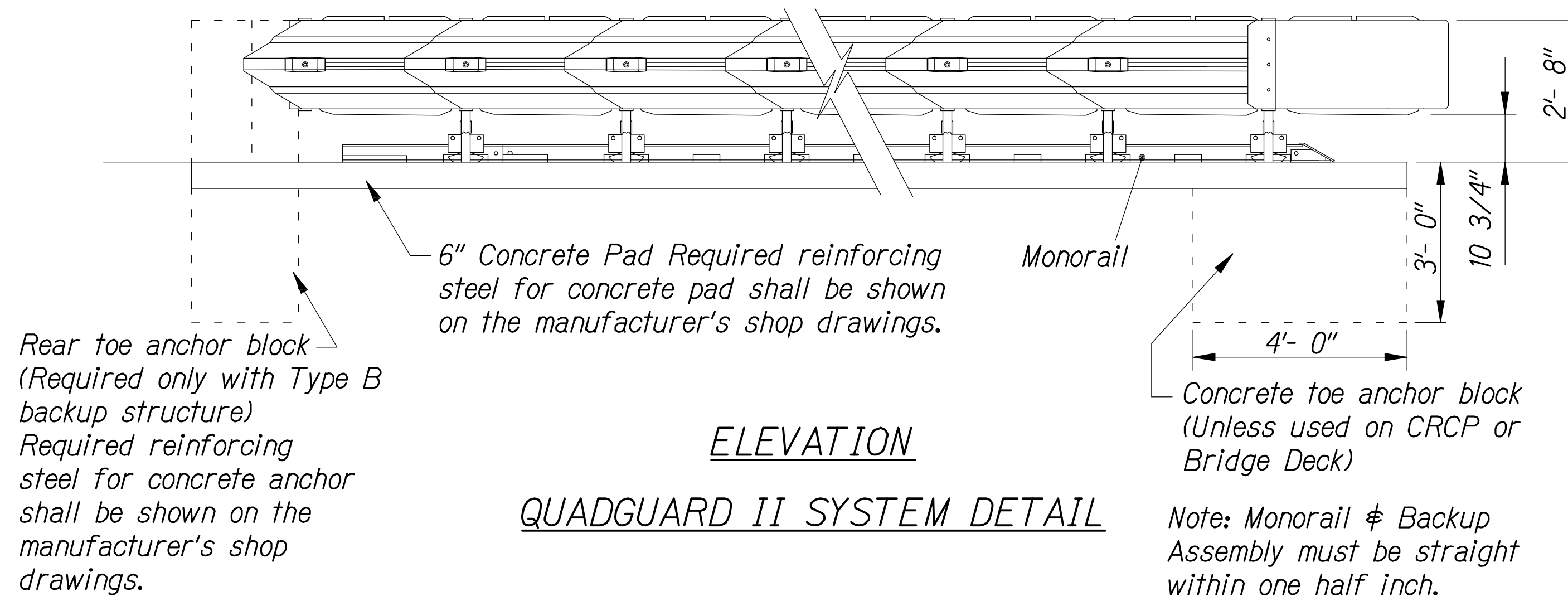
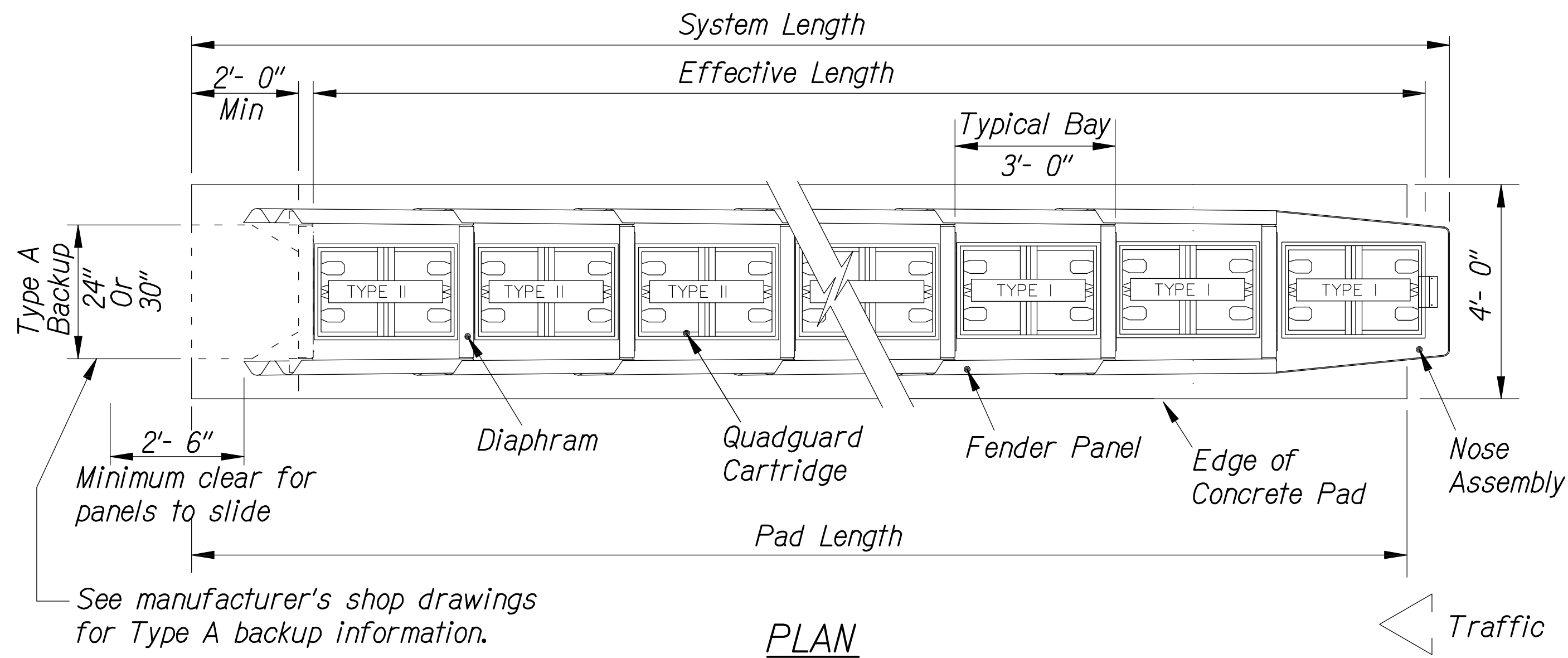


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1 (260)	2014	1	200

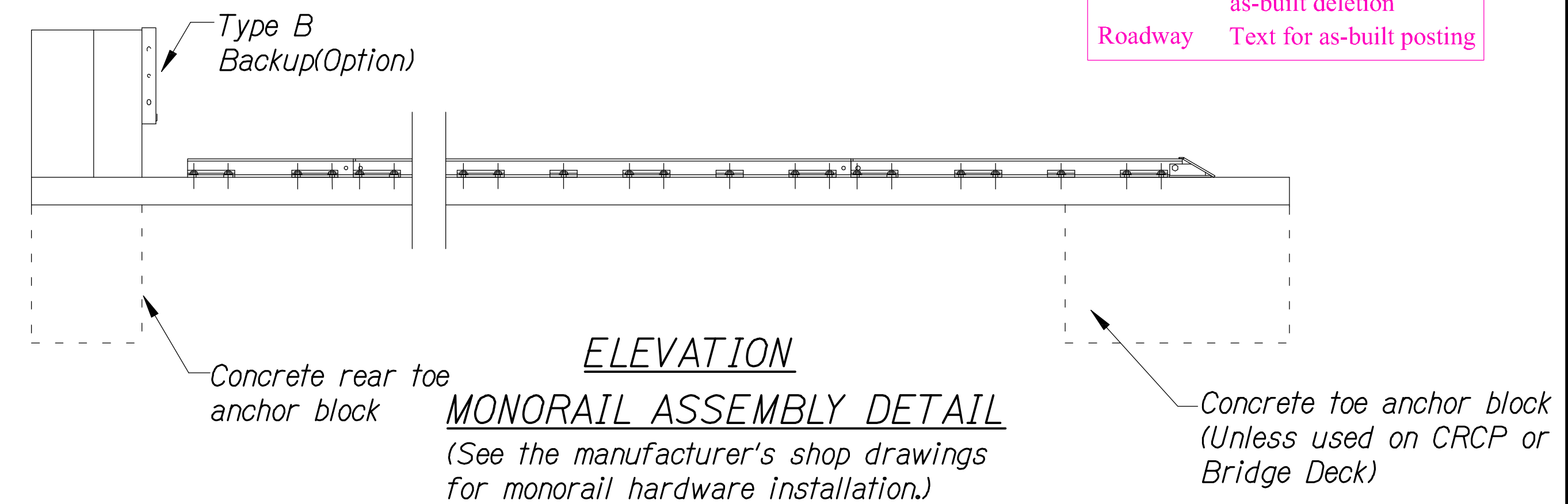


#### GENERAL NOTES

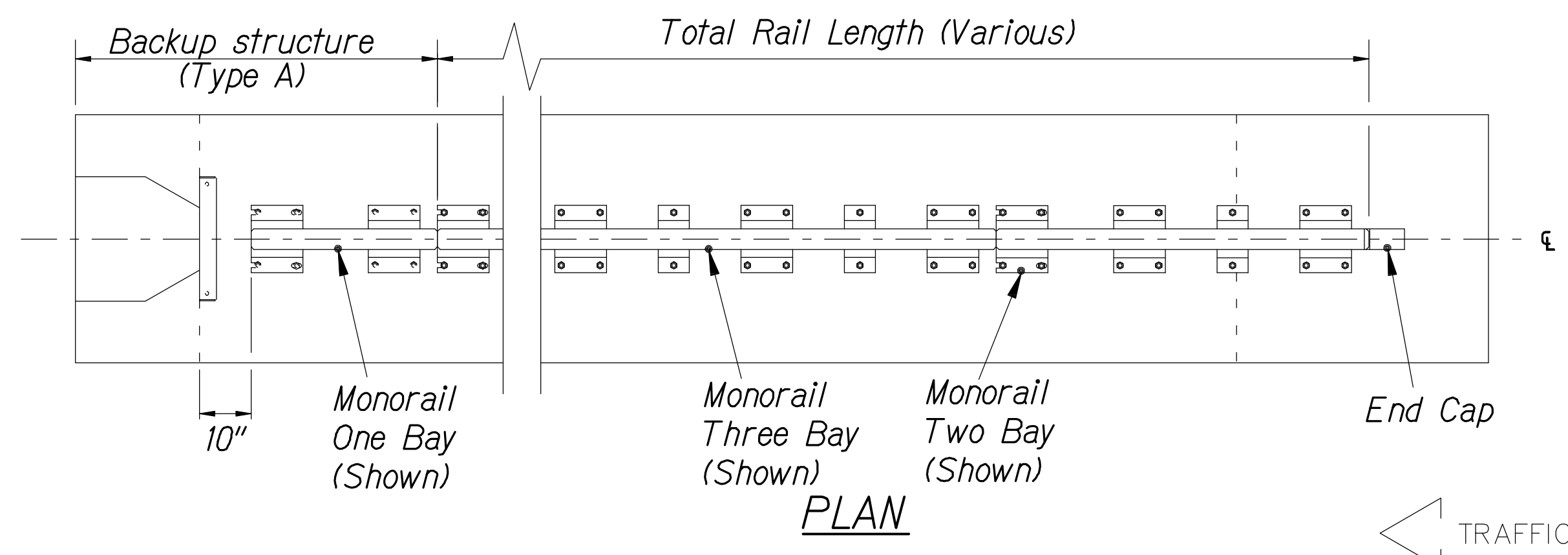
- Attenuator shall be the Quadguard System or equivalent.
- Additional designs and details required for the installation of the Quadguard System shall be provided by the manufacturer.
- The installation of the Quadguard System and all appurtenances shall be in accordance with the manufacturer's recommendations and requirements.
- Slope and grade of the concrete pad shall be determined in the field.

**LEGEND FOR AS-BUILT POSTINGS**

~~~~~ Squiggly line for as-built deletion  
=+00.00= Double line for as-built deletion  
Roadway Text for as-built posting

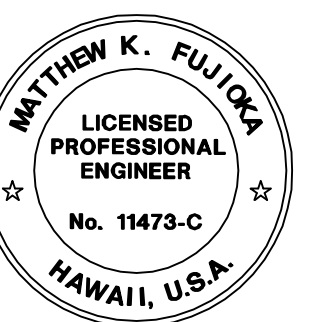


| QUADGUARD II (NARROW) SYSTEM |            |                       |                   |                   |
|------------------------------|------------|-----------------------|-------------------|-------------------|
| DESIGN SPEED (MPH)           | NO.OF BAYS | UNIT EFFECTIVE LENGTH | PAD LENGTH TYPE A | PAD LENGTH TYPE B |
| 60                           | 5          | 17'- 8"               | 18'- 0"           | 17'- 6"           |



Additional bays may be added if special considerations warrant and site conditions will accommodate additional length.

QUAD(N) units are available in 24", 30", or 36" widths from 3 to 12 bays. Unit width, number of bays, and backup type shall be specified elsewhere in the plans.



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APRIL 30, 2016  
WILSON OKAMOTO CORPORATION LIC. EXP. DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

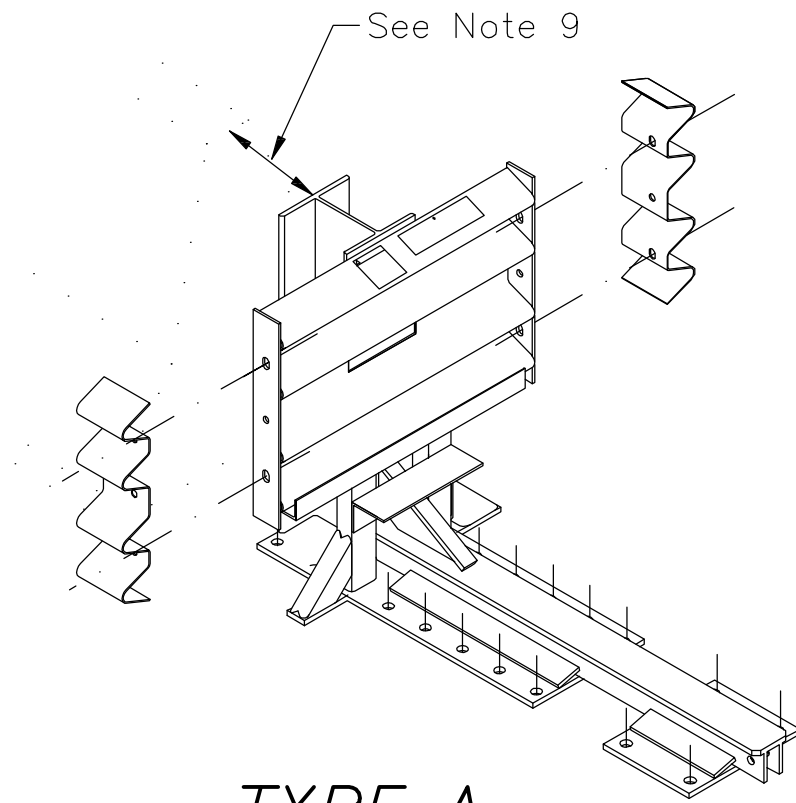
QUADGUARD ATTENUATOR

INTERSTATE ROUTE H-1  
PM CONTRAFLOW LANE, PHASE 3  
FEDERAL AID PROJECT NO. NH-HI-1 (260)  
Scale: 1" = XX' Date: December, 2014

SHEET No. GRD-10 OF 11 SHEETS

"AS-BUILT"

| FED. ROAD<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------------|-------|-----------------------|----------------|--------------|-----------------|
| HAWAII                 | HAW.  | NH-H1-1 (260)         | 2014           | 162          | 200             |

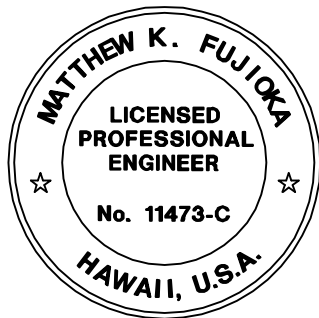


TYPE A  
TENSION STRUT BACKUP

*TENSION STRUT: Consists of diagonal struts, connections, and accessories, as detailed by the Manufacturer, located at the rear of the QUAD unit. Typical application is for QUAD units attached to double-face guardrail. When used, a 4'-0" x 4'-0" x 3'-0" concrete toe anchor block shall be provided beneath the front portion of the concrete pad, except where the QUAD unit is to be placed on continuously reinforced concrete pavement or bridge deck (7" minimum, 4,000 p.s.i.) or non-reinforced concrete pavement (8" minimum, 4,000 p.s.i.)*



|                             |      |      |              |
|-----------------------------|------|------|--------------|
| QC/QA REVIEW                | 100% | DATE | JUL 12, 2015 |
| <input type="checkbox"/> BY |      |      |              |
| <input type="checkbox"/> BY |      |      |              |
| <input type="checkbox"/> BY |      |      |              |
| <input type="checkbox"/> BY |      |      |              |

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



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OR UNDER MY SUPERVISION.  
*Matthew K. Fujioka*  
APRIL 30, 2016  
WILSON OKAMOTO CORPORATION LIC. EXP. DATE

LEGEND FOR  
AS-BUILT POSTINGS

-  Squiggly line for as-built deletion
-  Double line for as-built deletion
- Roadway Text for as-built posting

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

QUADGUARD ATTENUATOR

*INTERSTATE ROUTE H-1  
PM CONTRAFLOW LANE, PHASE 3  
FEDERAL AID PROJECT NO. NH-H1-1 (260)*

Scale: 1" = XX' Date: December, 2014

SHEET No. GRD-11 OF 11 SHEETS