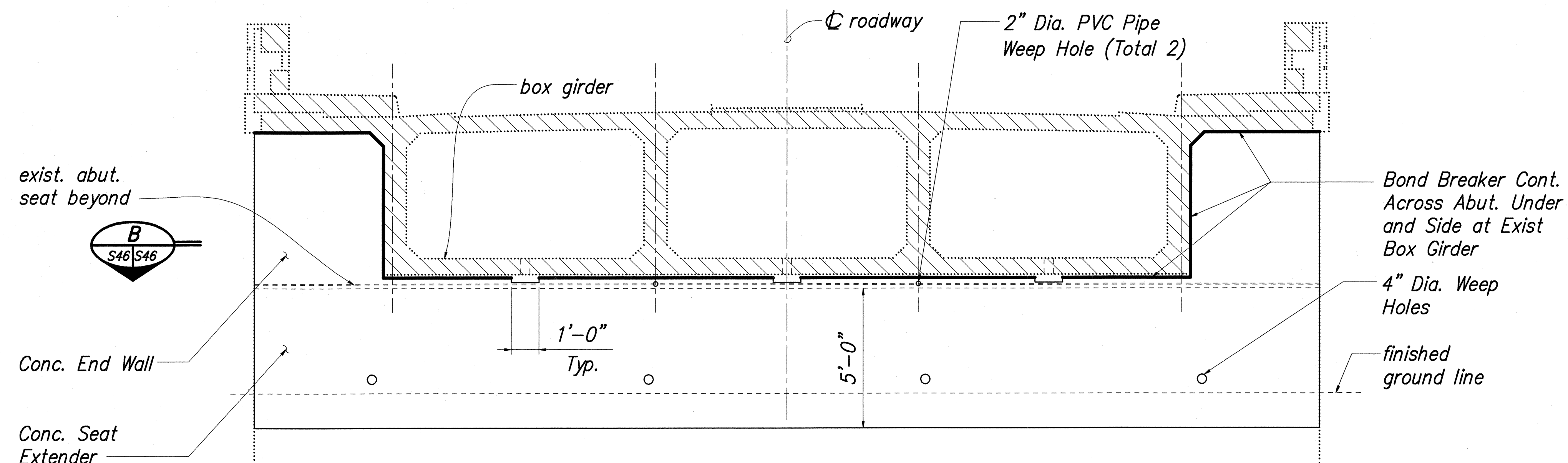


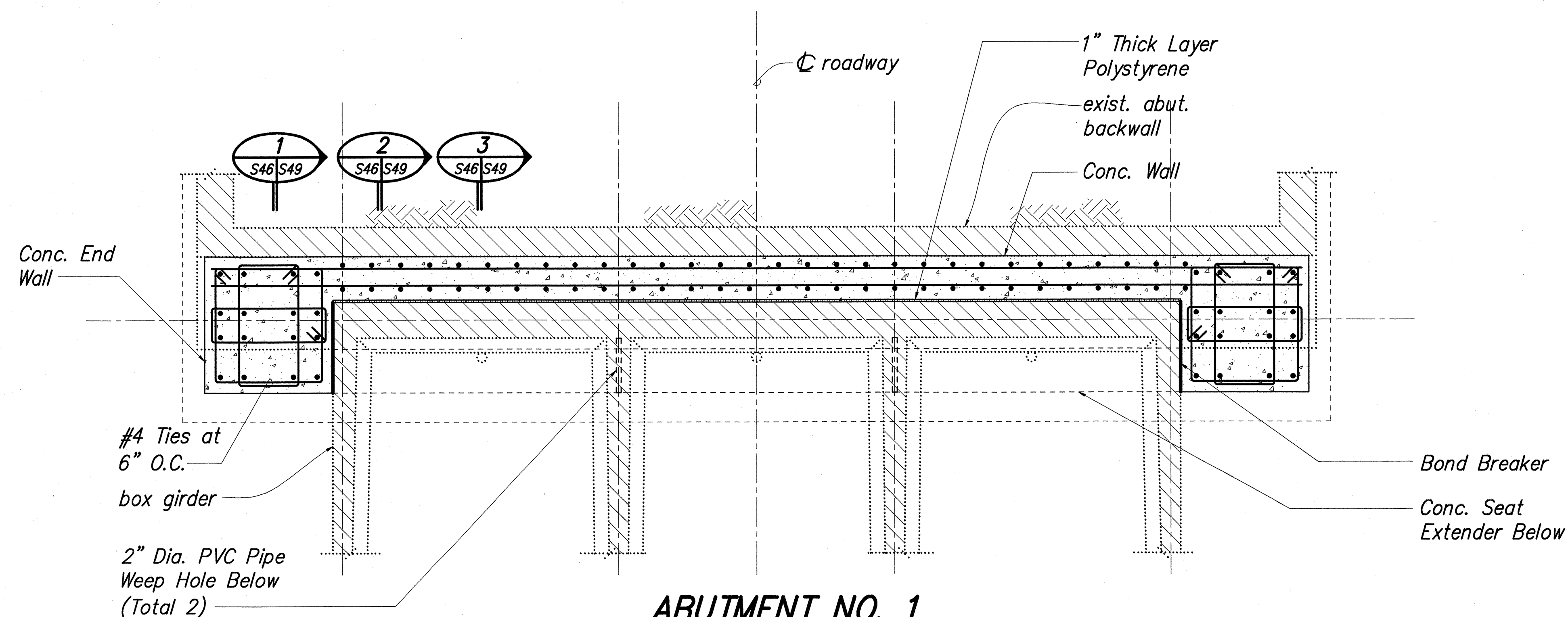


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(44)       | 1998        | 49        | 61           |



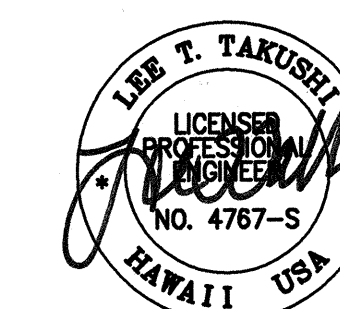
**ABUTMENT NO. 1- NEW CONDITIONS  
NORMAL TO GIRDERS ELEVATION**

SCALE: 3/8"=1'-0"



**ABUTMENT NO. 1  
NEW CONDITIONS SECTION PLAN**

SCALE: 3/8"=1'-0"



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**MANOWAIOPAE BRIDGE  
ABUTMENT NO. 1 - NEW CONDITIONS  
ELEVATION AND SECTION**

HAWAII BELT ROAD, SEISMIC RETROFIT OF VARIOUS BRIDGES,  
VICINITY OF LAUPAHOEHOE  
FEDERAL AID PROJECT NO. BR-019-2(44)

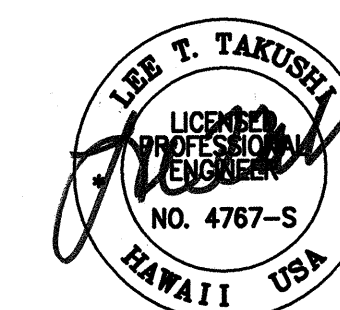
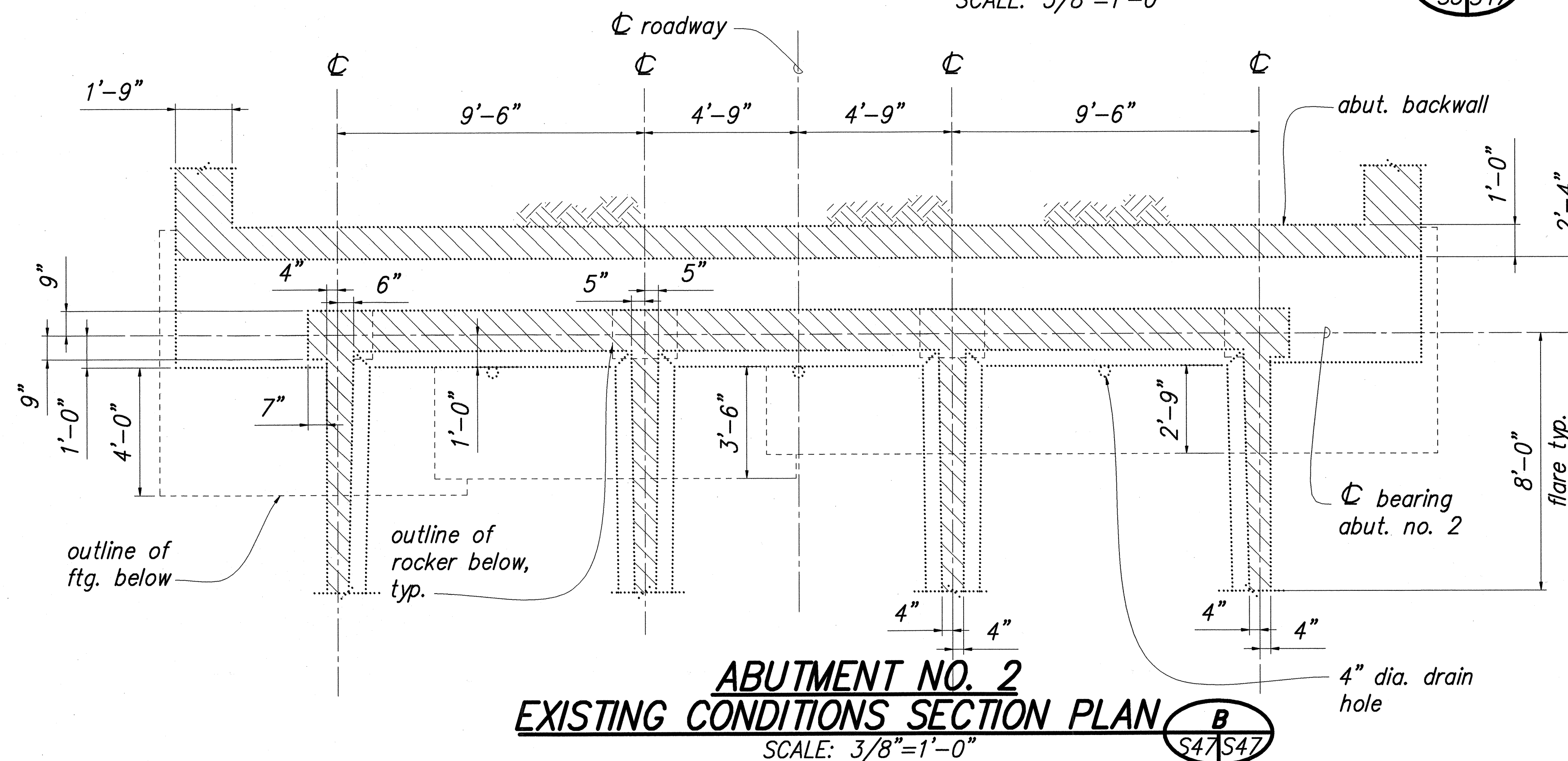
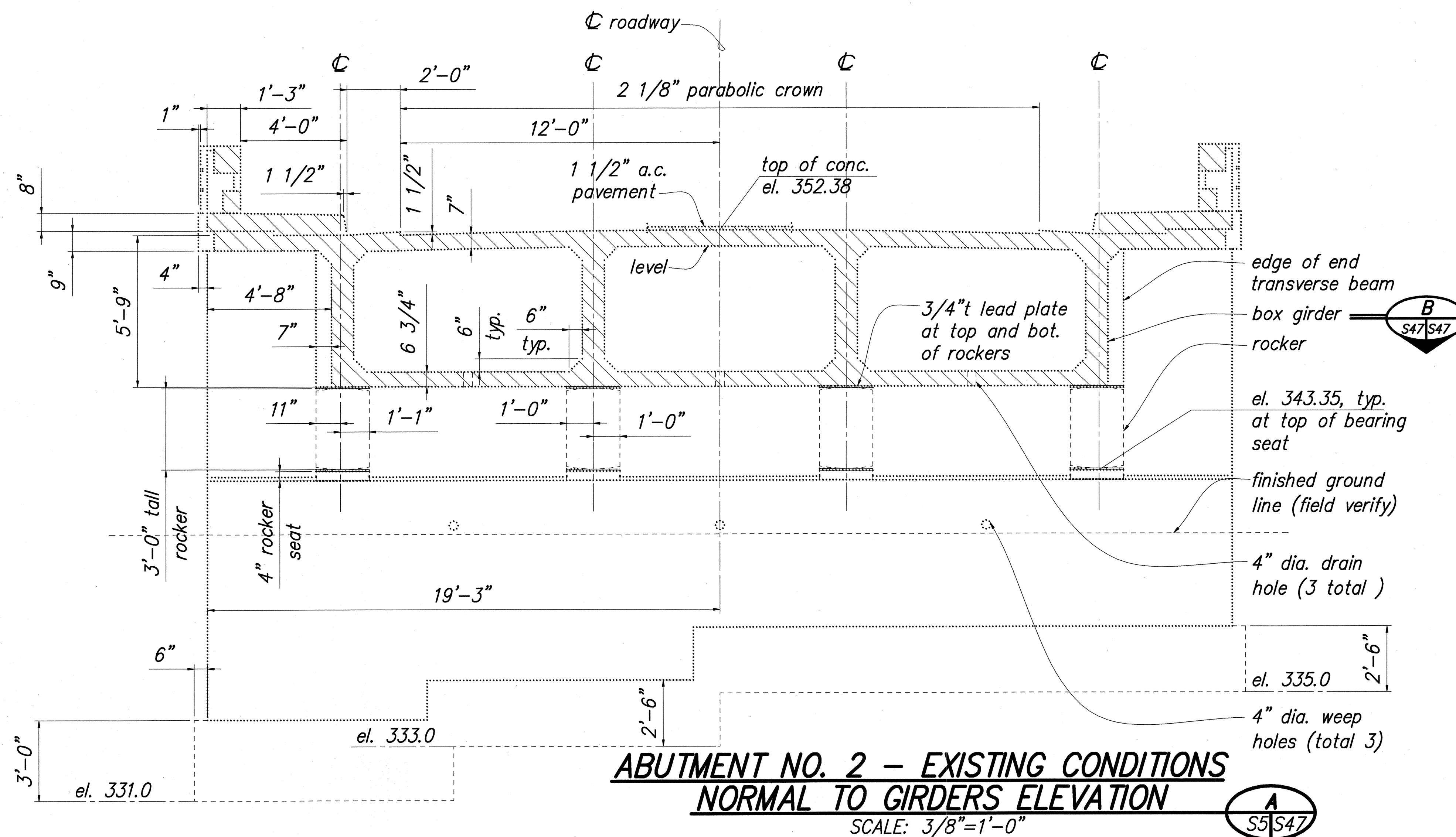
SCALE: AS NOTED DATE: APRIL 1998

SHEET No. S46 OF 58 SHEETS

|                   |      |
|-------------------|------|
| SURVEY PLOTTED BY | DATE |
| DRAWN BY          | " "  |
| CHECKED BY        | " "  |
| NOTE BOOK         | " "  |
| NO.               | " "  |

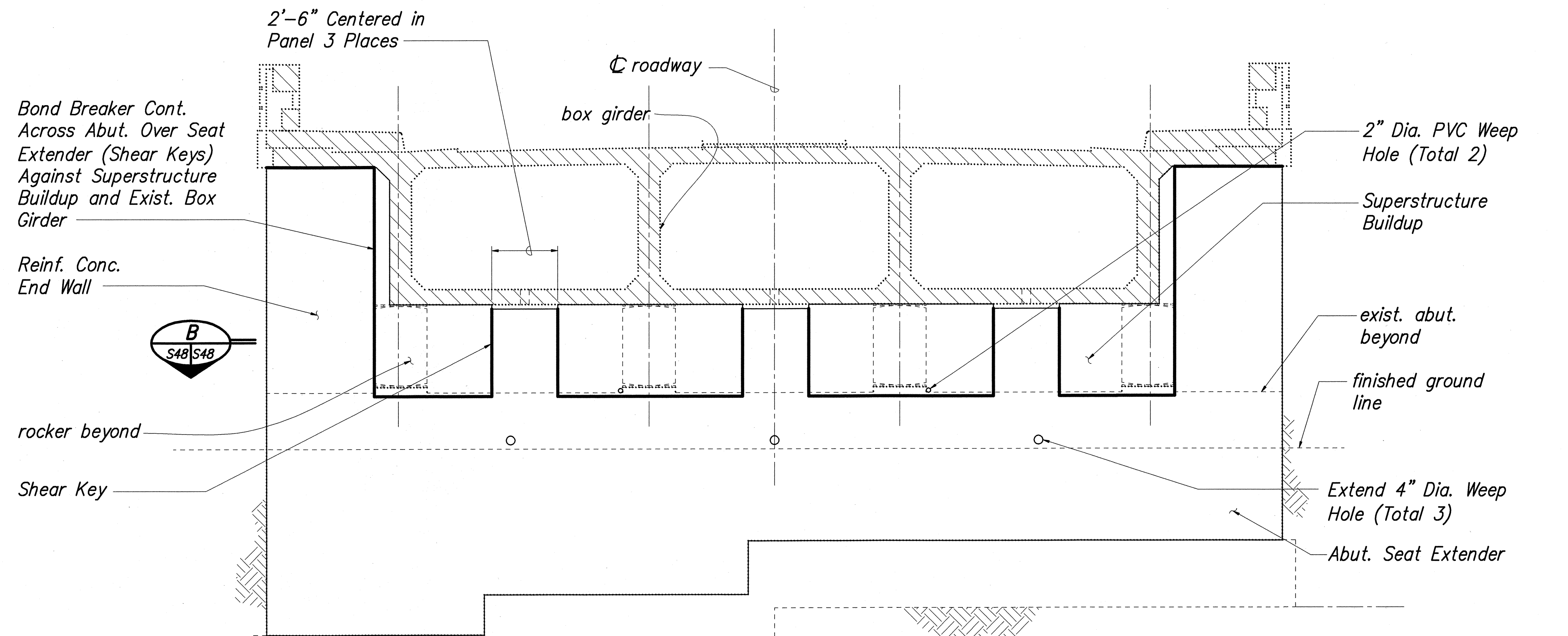
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(44)       | 1998        | 50        | 61           |



|                                                                                                                           |                  |
|---------------------------------------------------------------------------------------------------------------------------|------------------|
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>HIGHWAYS DIVISION                                                      |                  |
| <b>MANOWAIOPAE BRIDGE</b><br><b>ABUTMENT NO.2 - EXISTING CONDITIONS</b><br><b>ELEVATION AND SECTION</b>                   |                  |
| HAWAII BELT ROAD, SEISMIC RETROFIT OF VARIOUS BRIDGES,<br>VICINITY OF LAUPAHOEHOE<br>FEDERAL AID PROJECT NO. BR-019-2(44) |                  |
| SCALE: AS NOTED                                                                                                           | DATE: APRIL 1998 |
| SHEET No. S47 OF 58 SHEETS                                                                                                |                  |

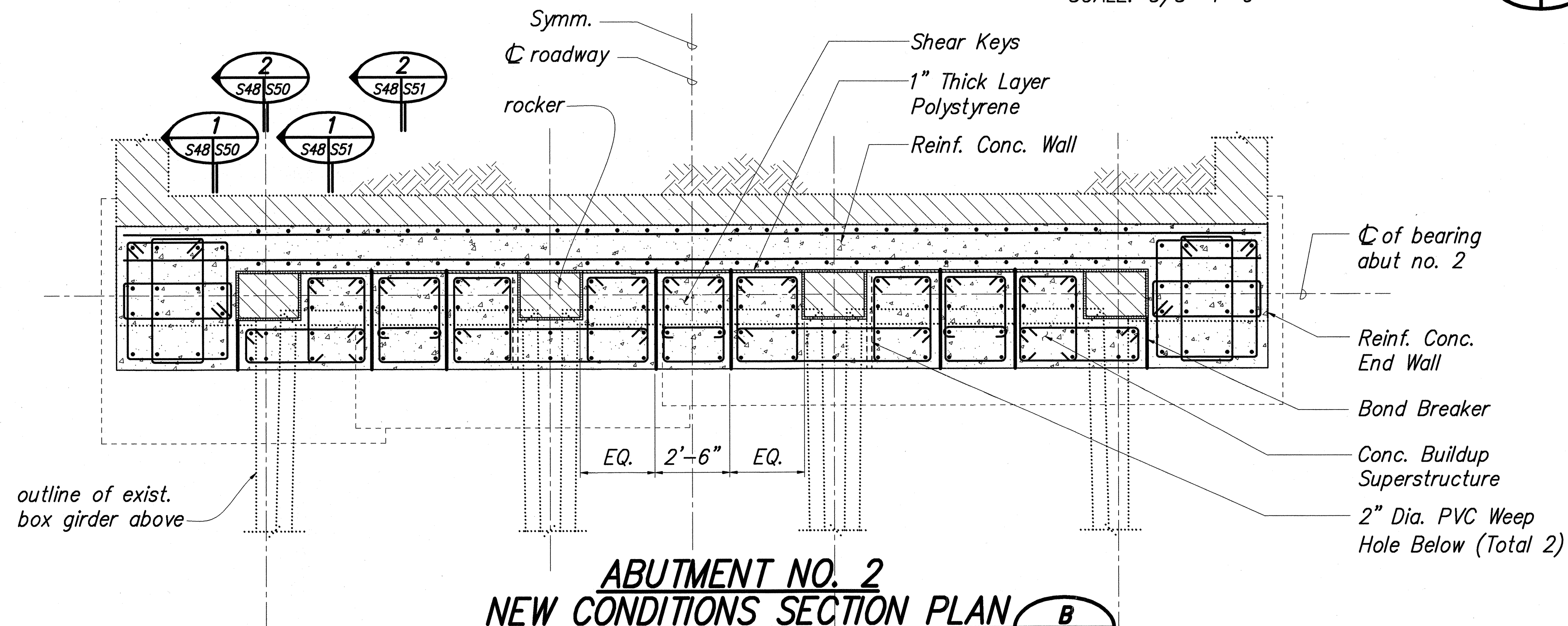
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(44)       | 1998        | 51        | 61           |



**ABUTMENT NO. 2 – NEW CONDITIONS  
NORMAL TO GIRDERS ELEVATION**

SCALE: 3/8"=1'-0"

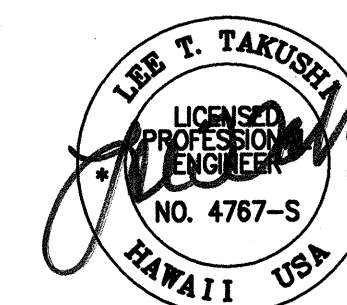
**A**  
S5 S48



**ABUTMENT NO. 2  
NEW CONDITIONS SECTION PLAN**

SCALE: 3/8"=1'-0"

**B**  
S48 S48



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**MANOWAIOPAE BRIDGE  
ABUTMENT NO.2 - NEW CONDITIONS  
ELEVATION AND SECTION**

HAWAII BELT ROAD, SEISMIC RETROFIT OF VARIOUS BRIDGES,  
VICINITY OF LAUPAHOEHOE  
FEDERAL AID PROJECT NO. BR-019-2(44)

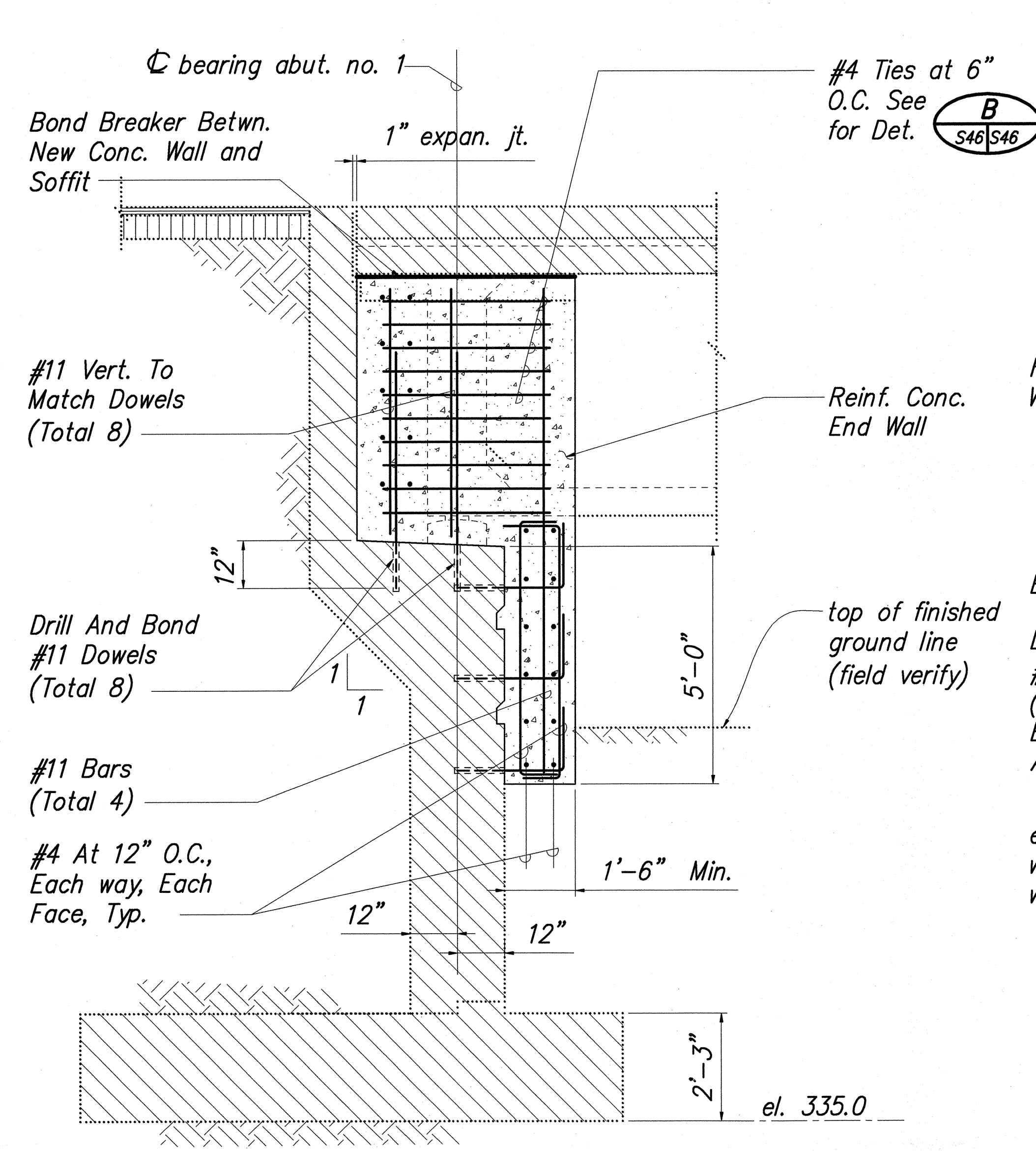
SCALE: AS NOTED DATE: APRIL 1998

SHEET No. S48 OF 58 SHEETS

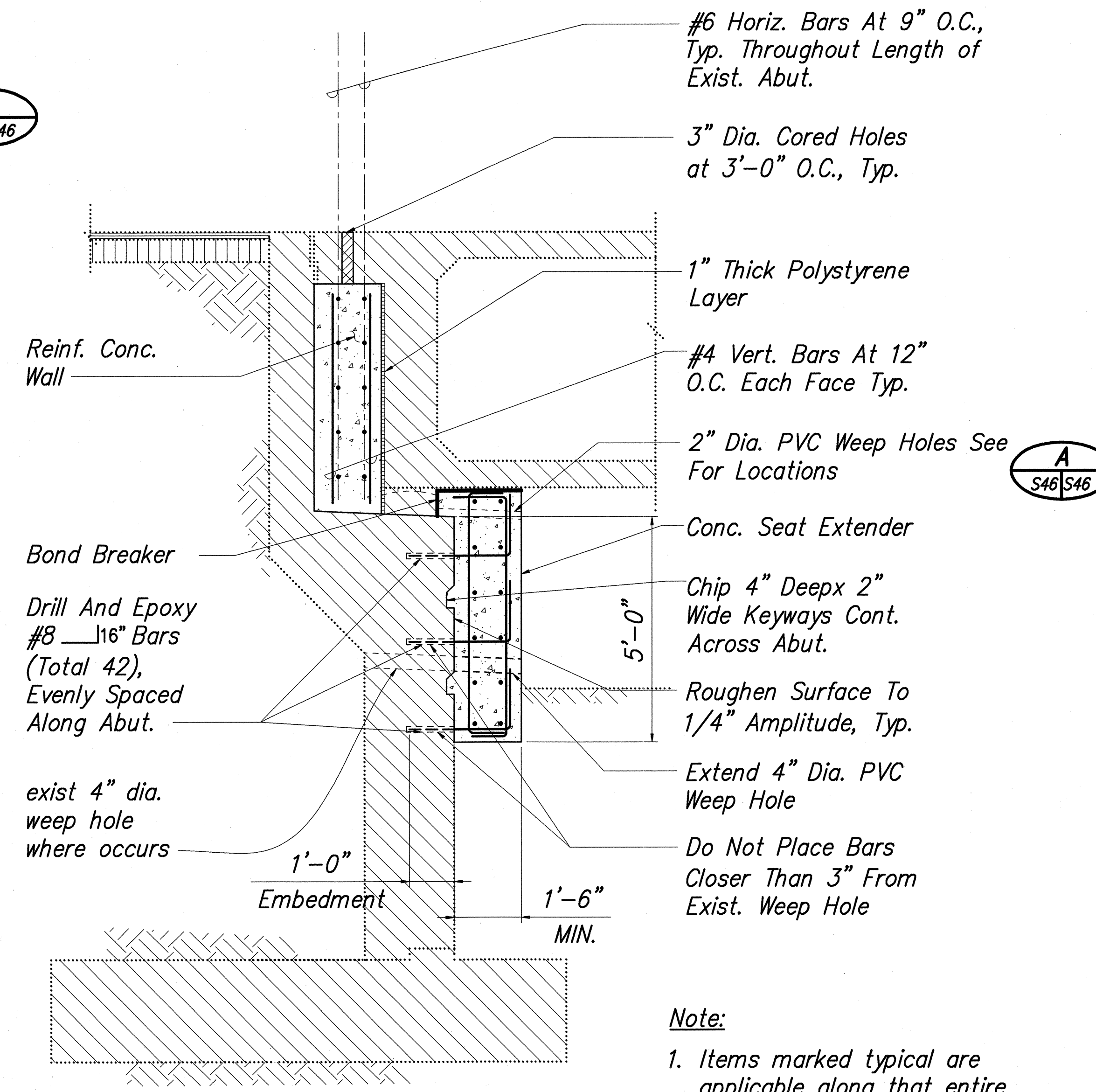
|                   |      |
|-------------------|------|
| SURVEY PLOTTED BY | DATE |
| DRAWN BY          | "    |
| CHECKED BY        | "    |
| DESIGNED BY       | "    |
| QUANTITIES BY     | "    |
| NO.               | "    |

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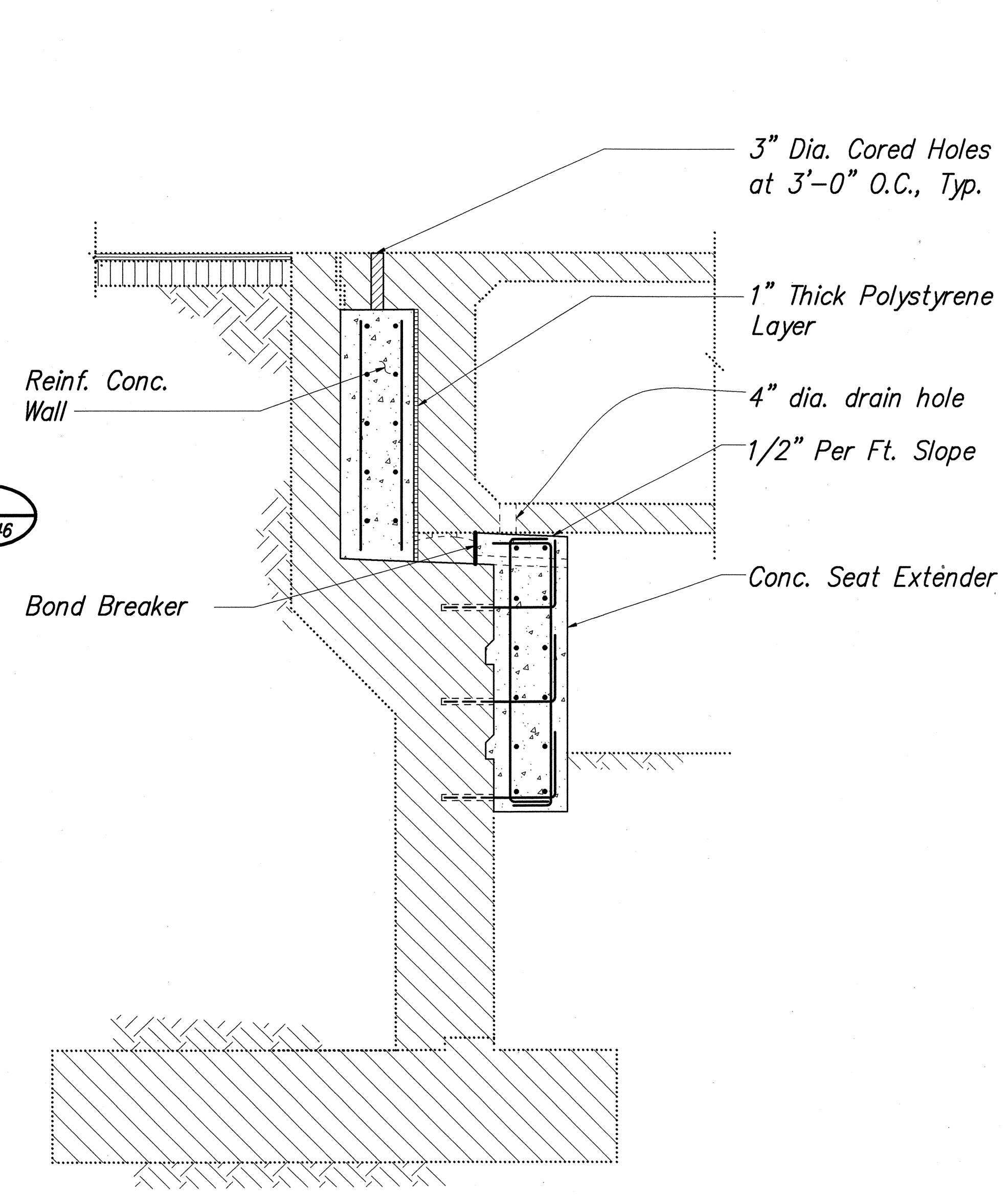
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(44)       | 1998        | 52        | 61           |



**DETAIL 1**  
 SCALE: 1/2"=1'-0" **S46/S49**



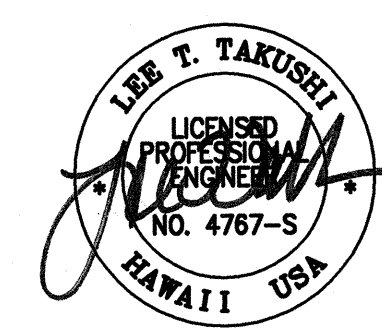
**DETAIL 2**  
 SCALE: 1/2"=1'-0" **S49**  
 S5, S46



**DETAIL 3**  
 SCALE: 1/2"=1'-0" **S46/S49**

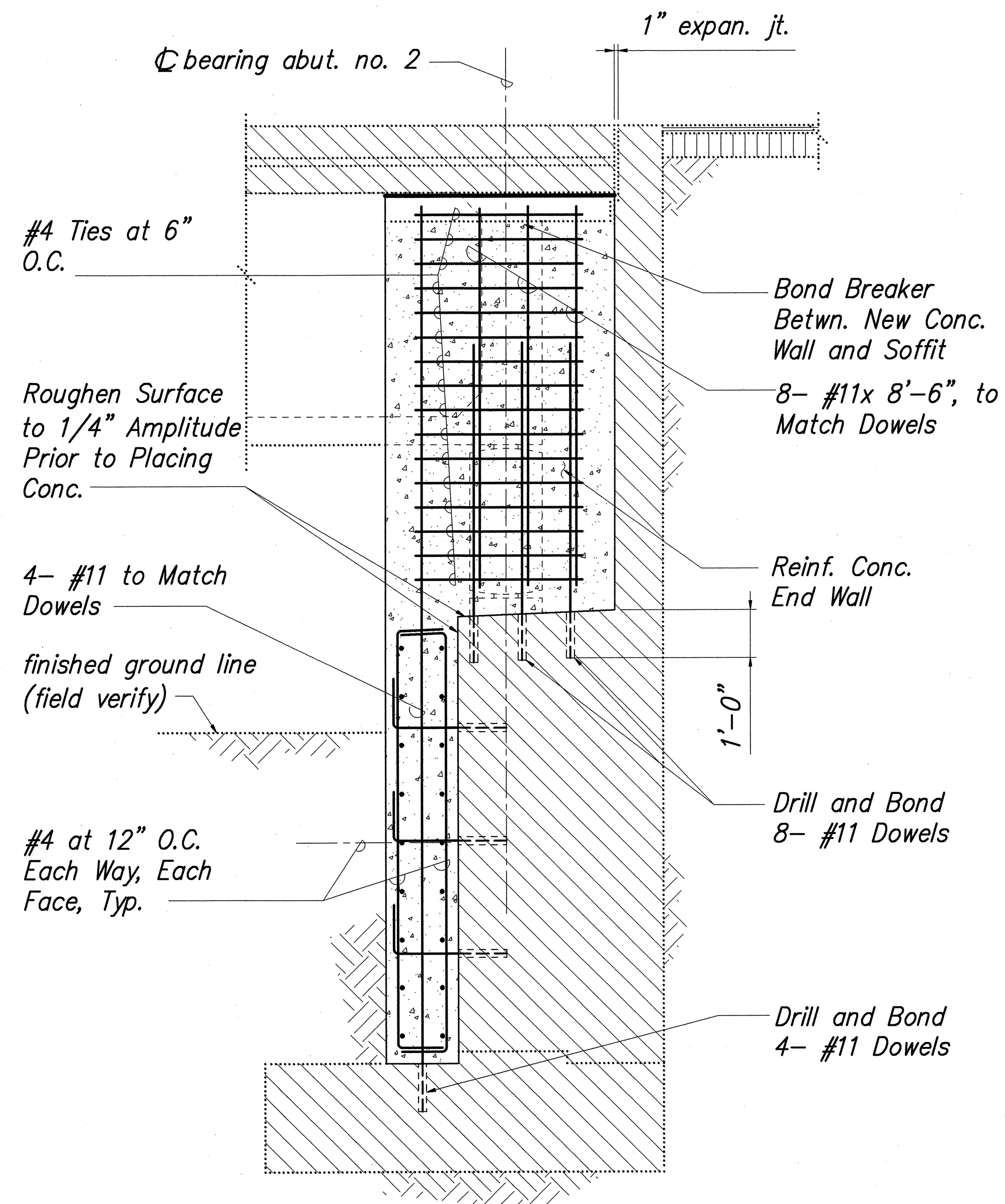
- Note:**
- Items marked typical are applicable along that entire abutment.
  - Provide a 48" minimum lap splice for #11 bars this sheet.

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

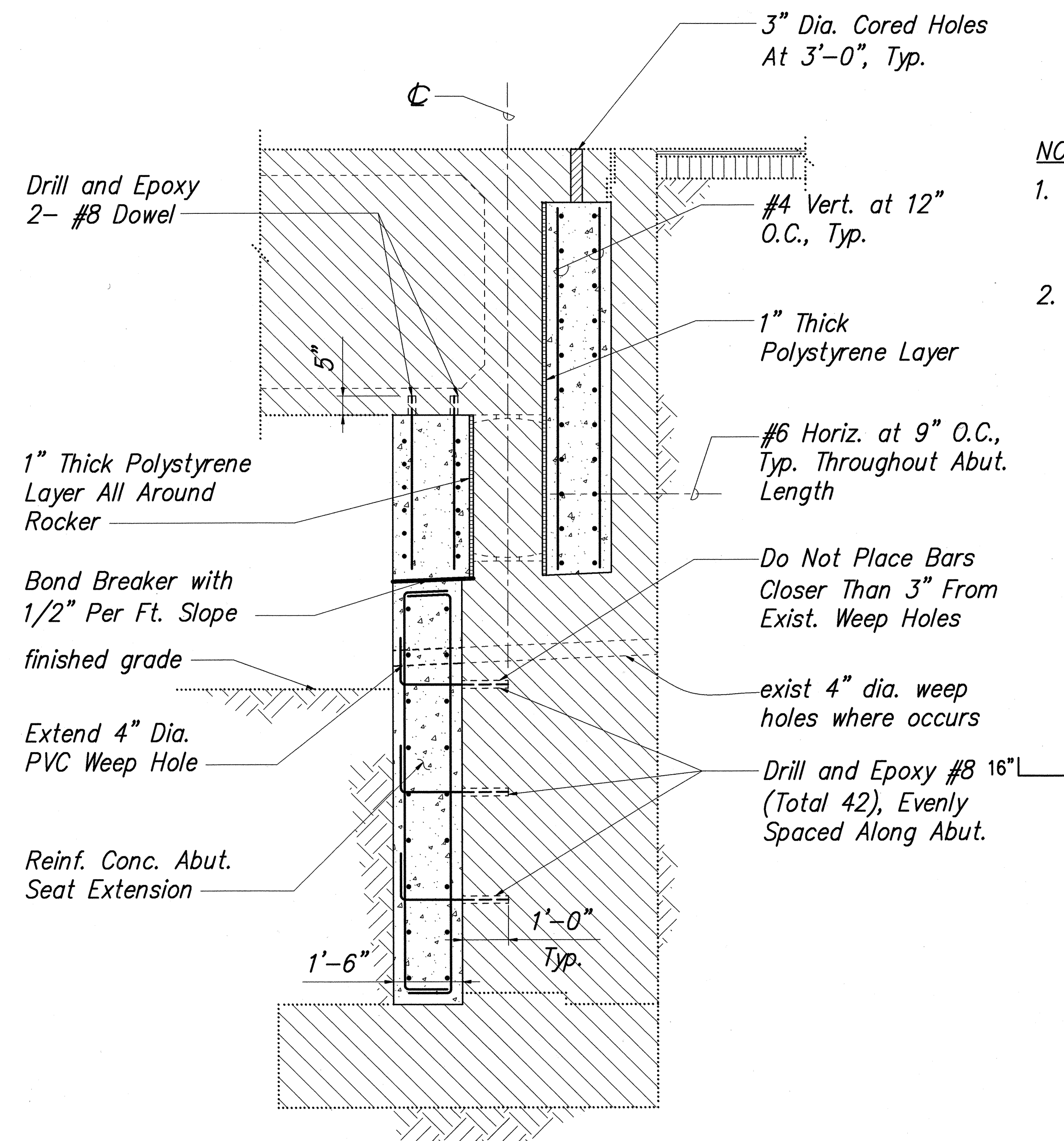


STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
  
**MANOWAIOPAE BRIDGE**  
**ABUTMENT NO. 1**  
**NEW CONDITIONS DETAILS**  
  
 HAWAII BELT ROAD, SEISMIC RETROFIT OF VARIOUS BRIDGES,  
 VICINITY OF LAUPAHOEHOE  
 FEDERAL AID PROJECT NO. BR-019-2(44)  
 SCALE: AS NOTED DATE: APRIL 1998  
 SHEET No. S49 OF 58 SHEETS

| FED. ROAD<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------------|-------|-----------------------|----------------|--------------|-----------------|
| HAWAII                 | HAW.  | BR-019-2(44)          | 1998           | 53           | 61              |



DETAIL 1  
 SCALE: 1/2"=1'-0" S48 S50



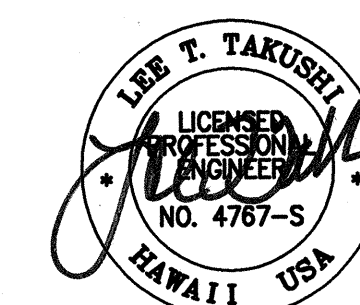
DETAIL 2  
 SCALE: 1/2"=1'-0" S48 S50

NOTES:

1. Items marked typical are applicable along that entire abutment.
2. Provide 60" min. lap splice for #11 bars this sheet.

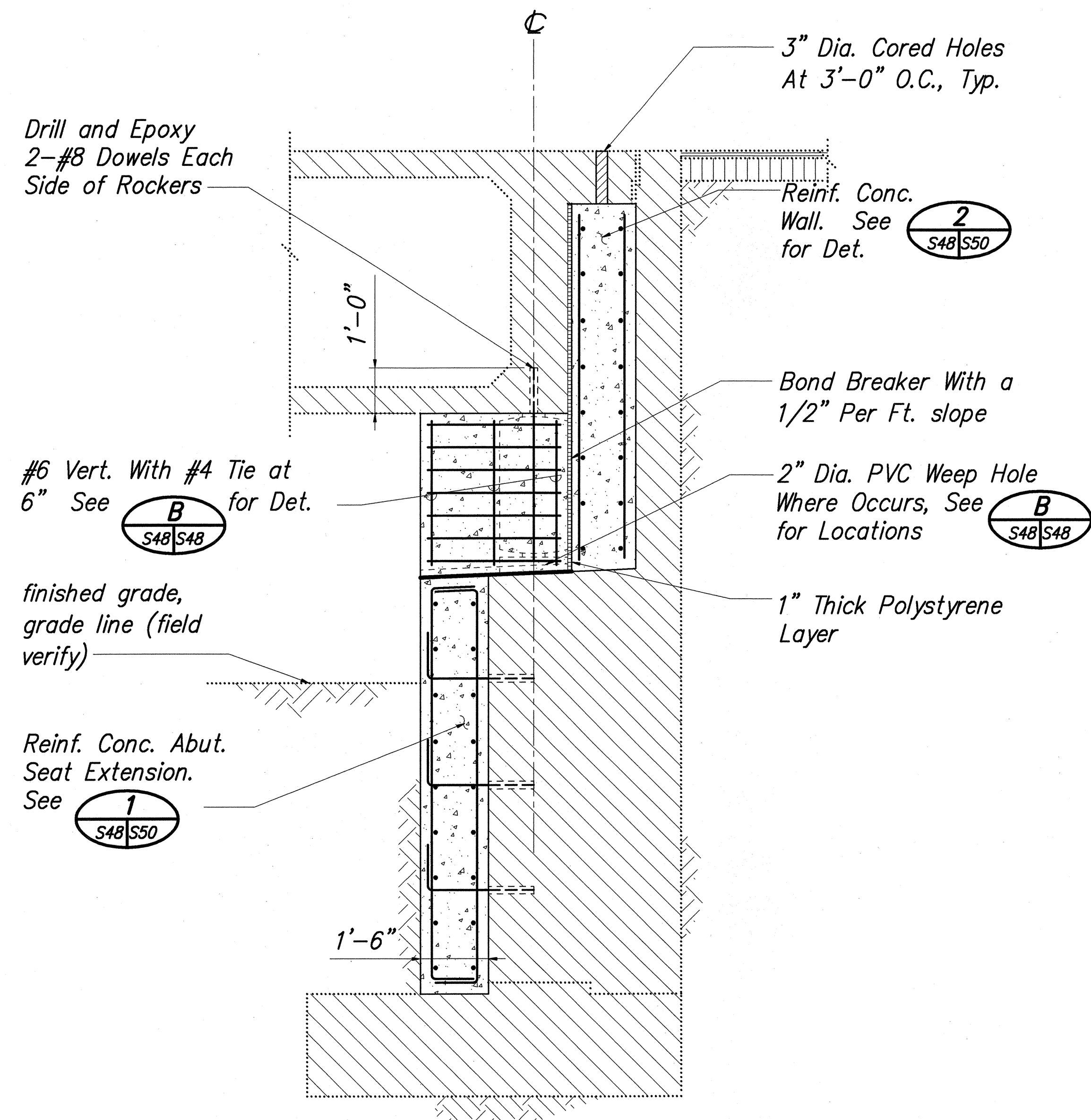
|               |                   |      |
|---------------|-------------------|------|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
| NOTE BOOK     | DRAWN BY          | " "  |
| No.           | DESIGNED BY       | " "  |
|               | CHECKED BY        | " "  |

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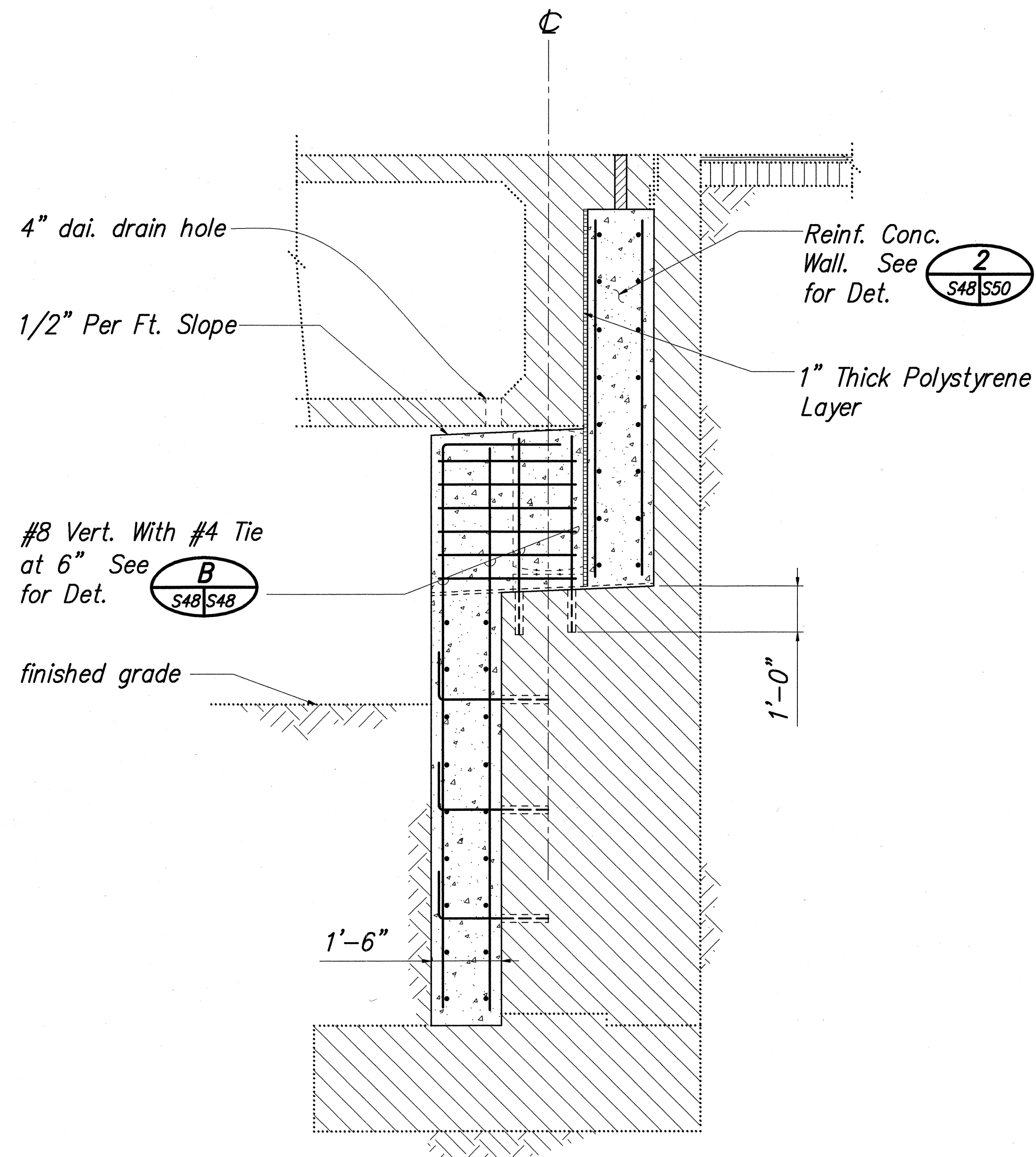


STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
  
**MANOWAIOPAE BRIDGE  
 ABUTMENT NO. 2  
 NEW CONDITIONS DETAILS**  
  
 HAWAII BELT ROAD, SEISMIC RETROFIT OF VARIOUS BRIDGES,  
 VICINITY OF LAUPAHOEHOE  
 FEDERAL AID PROJECT NO. BR-019-2(44)  
 SCALE: AS NOTED DATE: APRIL 1998  
 SHEET No. S50 OF 58 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(44)       | 1998        | 54        | 61           |



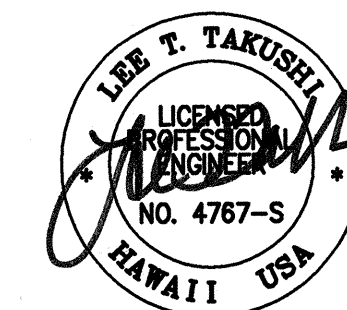
**DETAIL** 1  
S51 S51  
SCALE: 1/2"=1'-0"



**DETAIL** 2  
S48 S51  
SCALE: 1/2"=1'-0"

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

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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**MANOWAIOPAE BRIDGE**  
**ABUTMENT NO. 2**  
**NEW CONDITIONS DETAILS**

HAWAII BELT ROAD, SEISMIC RETROFIT OF VARIOUS BRIDGES,  
VICINITY OF LAUPAHOEHOE  
FEDERAL AID PROJECT NO. BR-019-2(44)  
SCALE: AS NOTED  
DATE: APRIL 1998

SHEET No. S51 OF 58 SHEETS