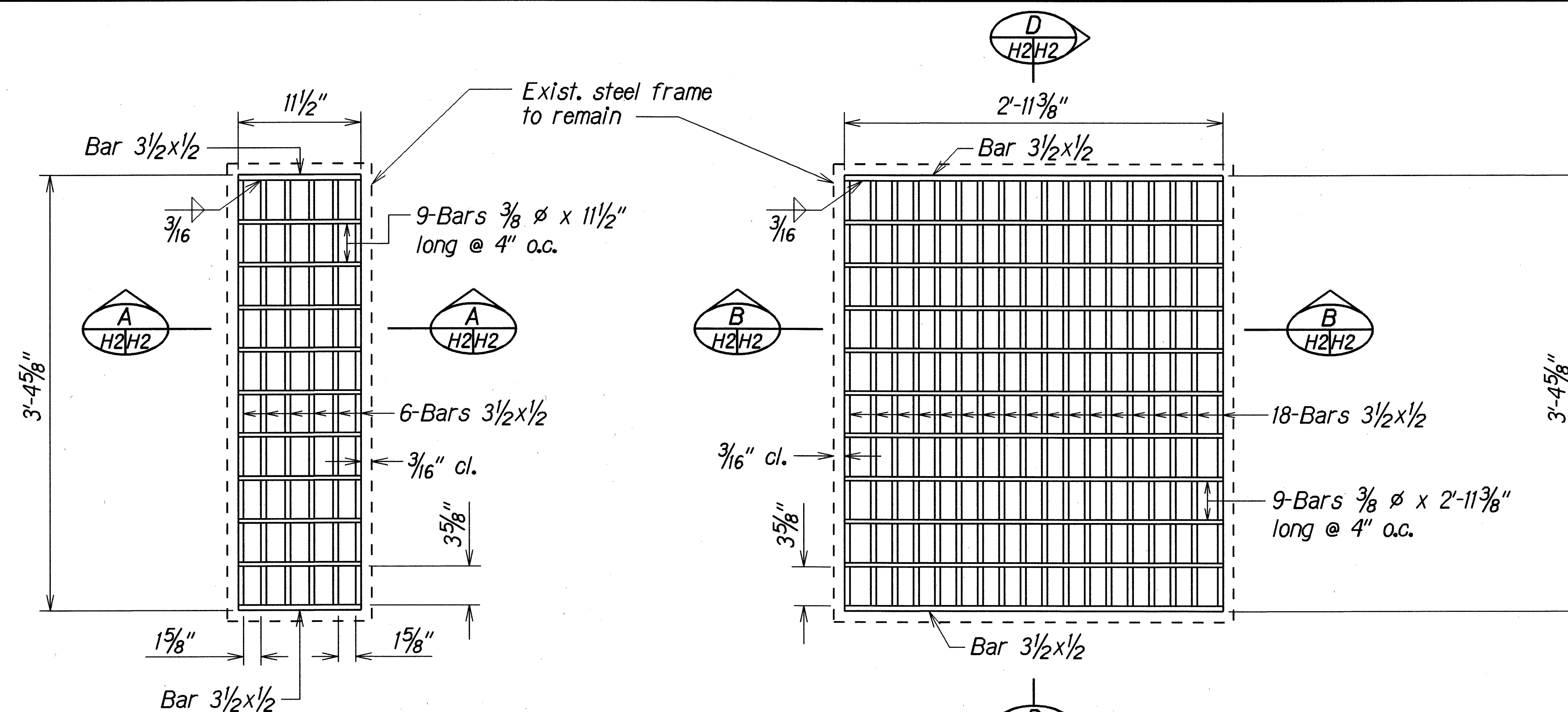
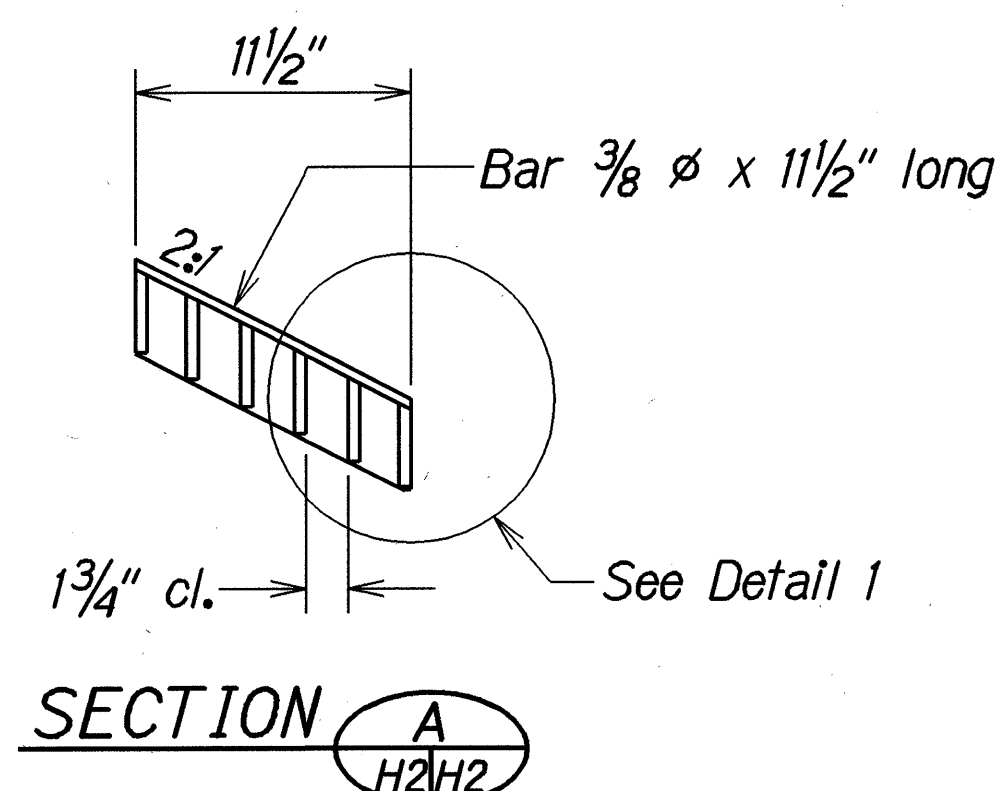


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-019-2(54)       | 2001        | 22        | 30           |

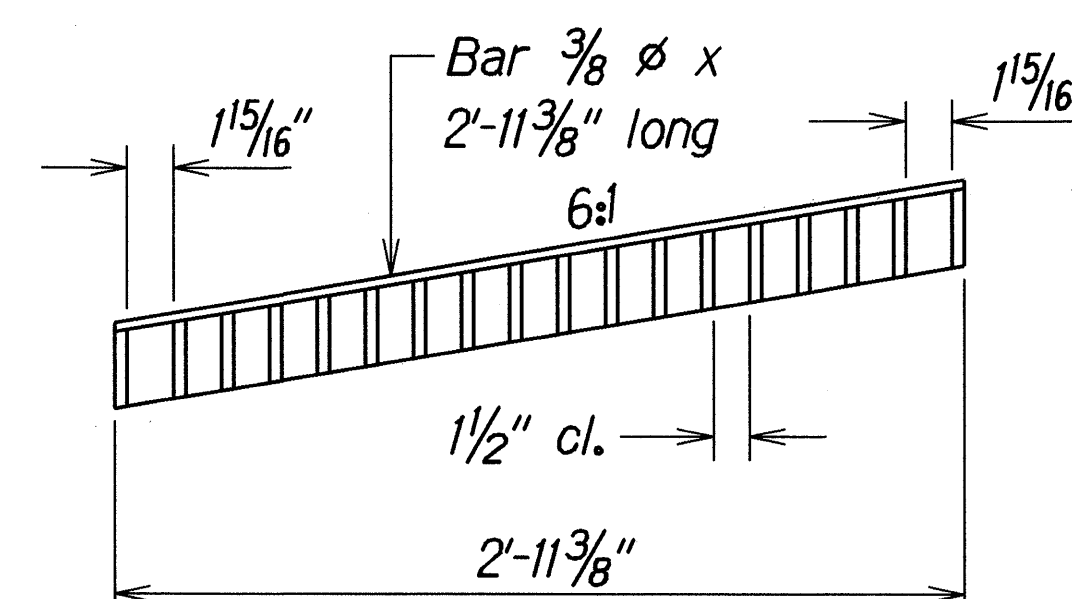


PLAN

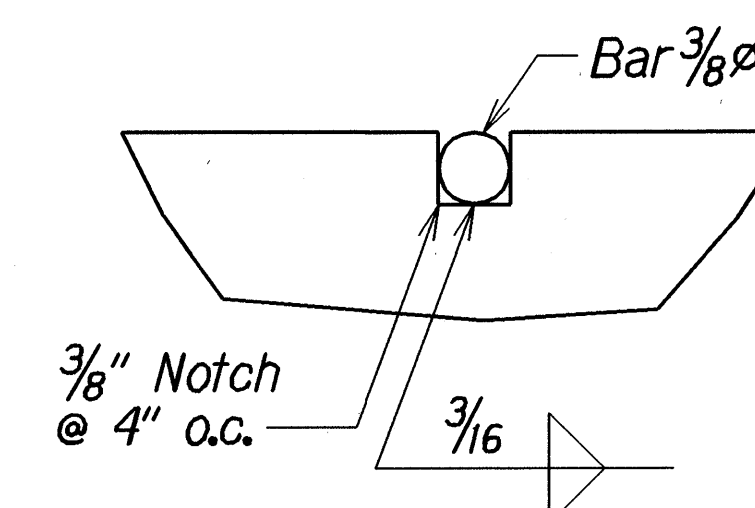
PLAN



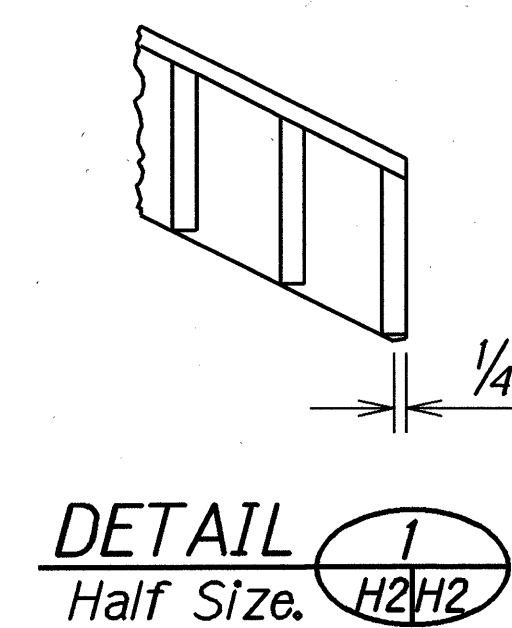
SECTION A  
H2H2



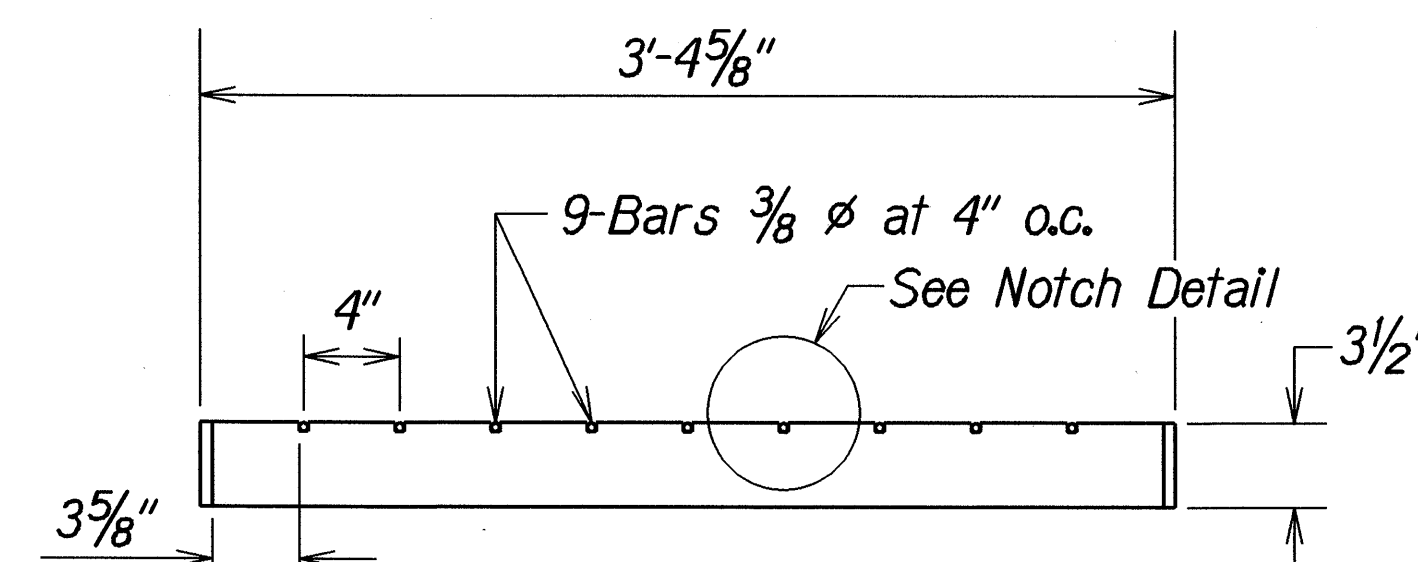
SECTION B  
H2H2



NOTCH DETAIL  
Full Size



DETAIL 1  
Half Size. H2H2



SECTION D  
H2H2

# TYPE 61214P STEEL GRATES

Scale: 1/2"=1'-0"

## NOTES:

- Grates shall be hot dip galvanized after fabrication.
- All welds 3/8" unless otherwise noted.

|                   |         |
|-------------------|---------|
| ORIGINAL          | DATE    |
| SURVEY LOCATED BY | 4/14/00 |
| PLAN              |         |
| DRAWN BY          |         |
| DESIGNED BY       |         |
| CHECKED BY        |         |
| QUANTITIES BY     |         |
| APPROVED BY       |         |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**

**KAMEHAMEHA AVE. BIKEWAY IMPROVEMENTS**

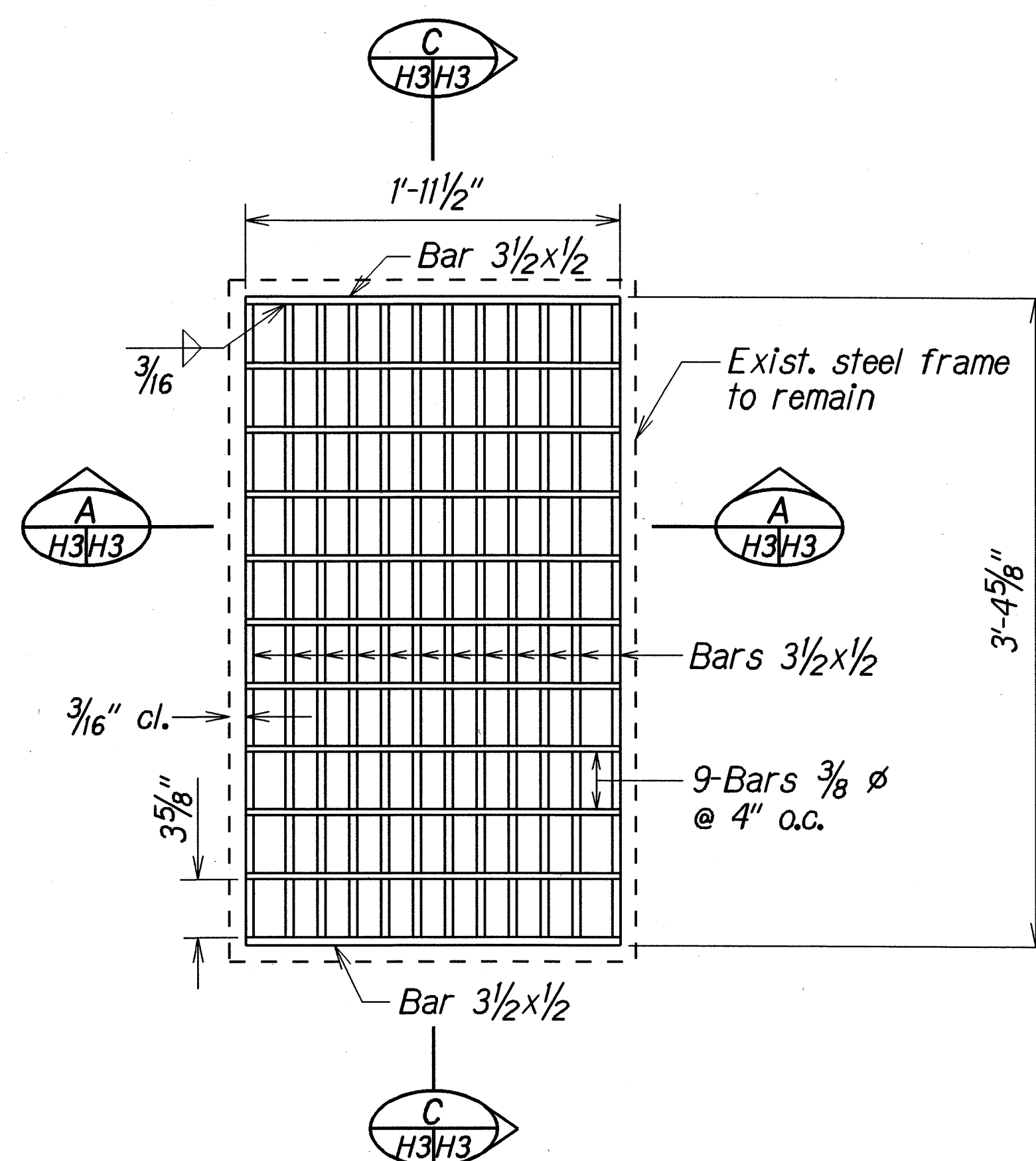
**Hilo Bayfront Hwy. to Kalaniana'ole Ave.**

**Fed. Aid Project No. NH-019-2(54)**

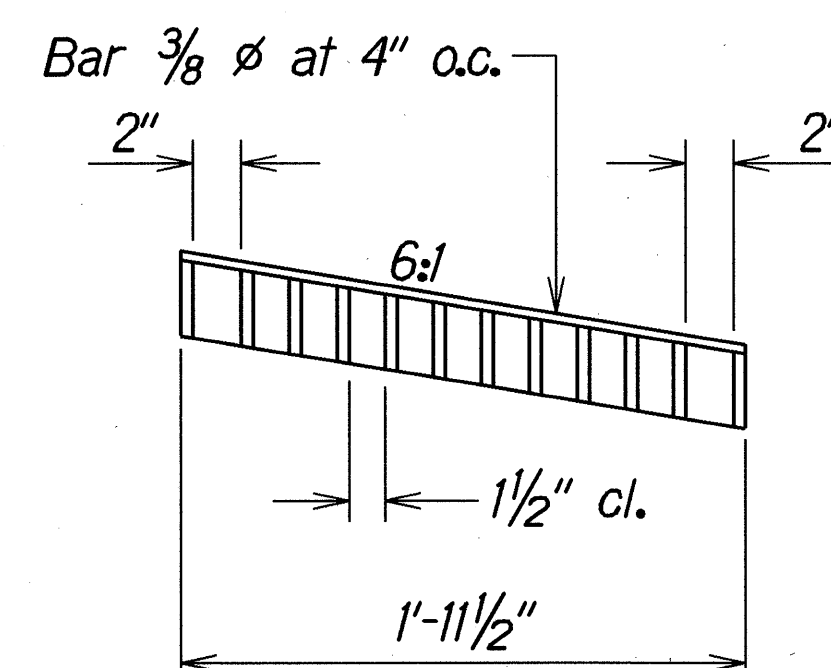
Scale: 1/2"=1'-0" Date: March, 2000

SHEET No. H2 OF 5 SHEETS

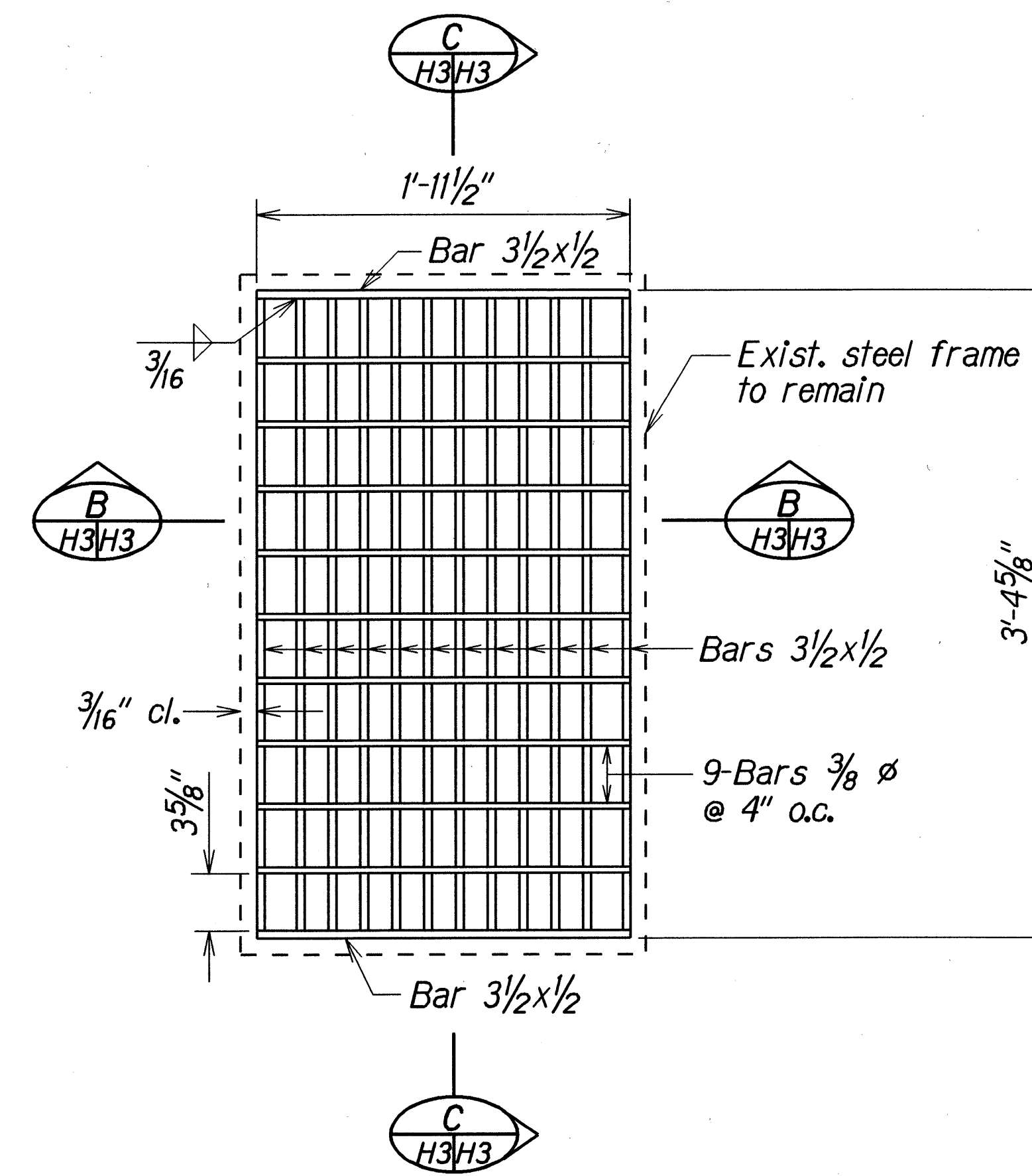
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-019-2(54)       | 2001        | 23        | 30           |



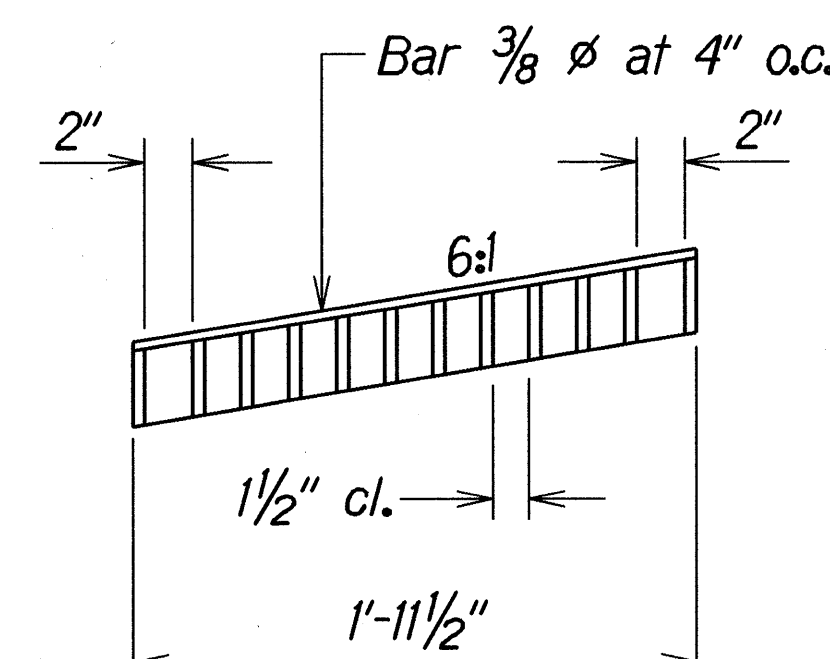
PLAN



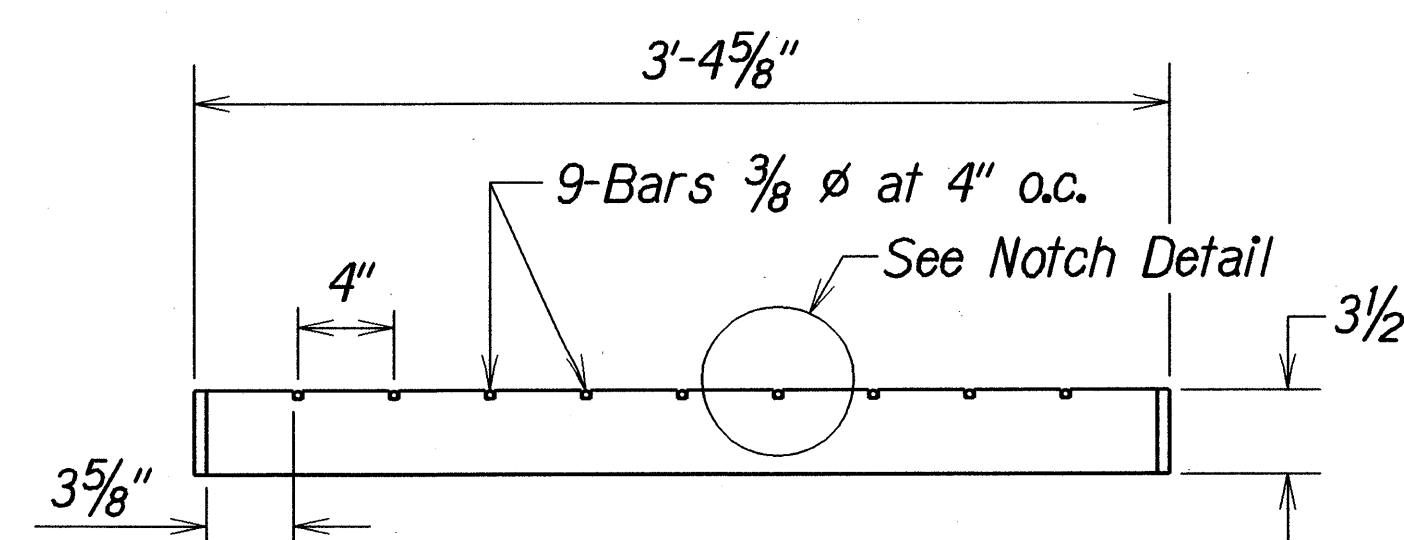
SECTION A  
H3/H3



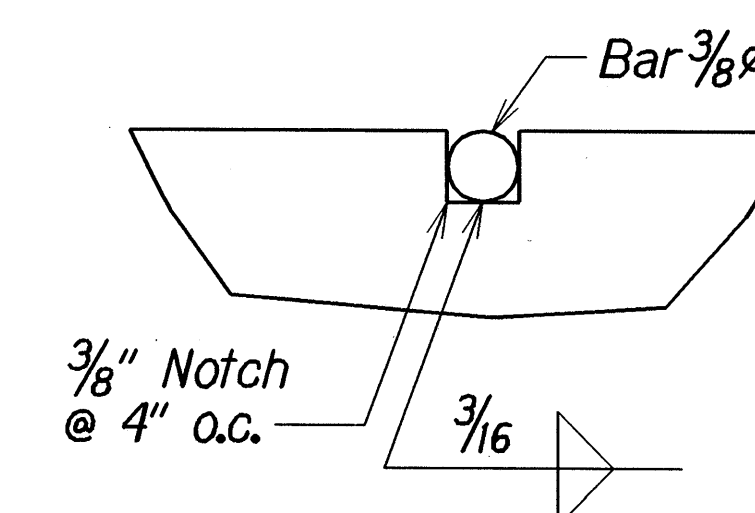
PLAN



SECTION B  
H3/H3



SECTION C  
H3/H3



NOTCH DETAIL  
Full Size

**NOTES:**

1. Grates shall be hot dip galvanized after fabrication.
2. All welds 3/8" unless otherwise noted.

**TYPE 6161P STEEL GRATES**

Scale: 1 1/2"=1'-0"

|                   |         |
|-------------------|---------|
| ORIGINAL PLAN     | DATE    |
| SURVEY PLOTTED BY | 4/14/00 |
| DRAWN BY          | AS      |
| DESIGNED BY       | CHL/ET  |
| CHECKED BY        | CHL/ET  |
| APPROVED BY       | CHL/ET  |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**

**KAMEHAMEHA AVE. BIKEWAY IMPROVEMENTS**

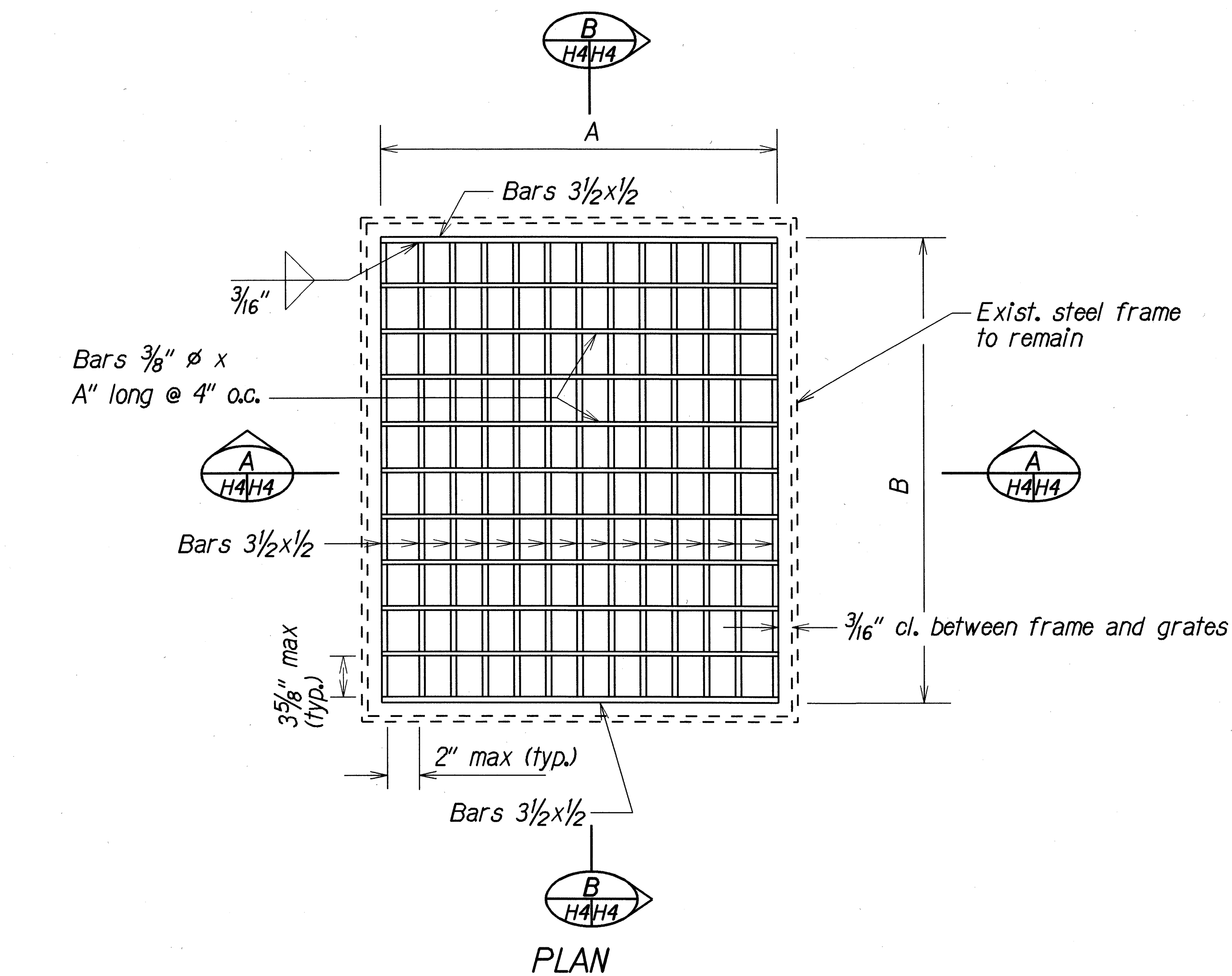
**Hilo Bayfront Hwy. to Kalaniana'ole Ave.**

**Fed. Aid Project No. NH-019-2(54)**

Scale: 1 1/2"=1'-0" Date: March, 2000

SHEET No. H3 OF 5 SHEETS

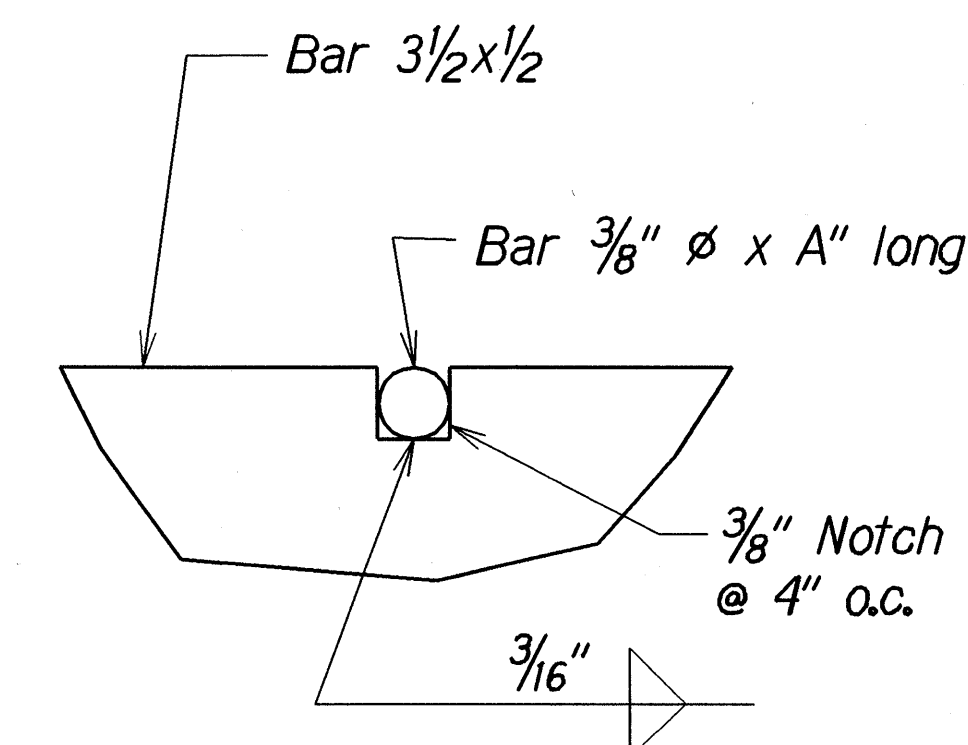
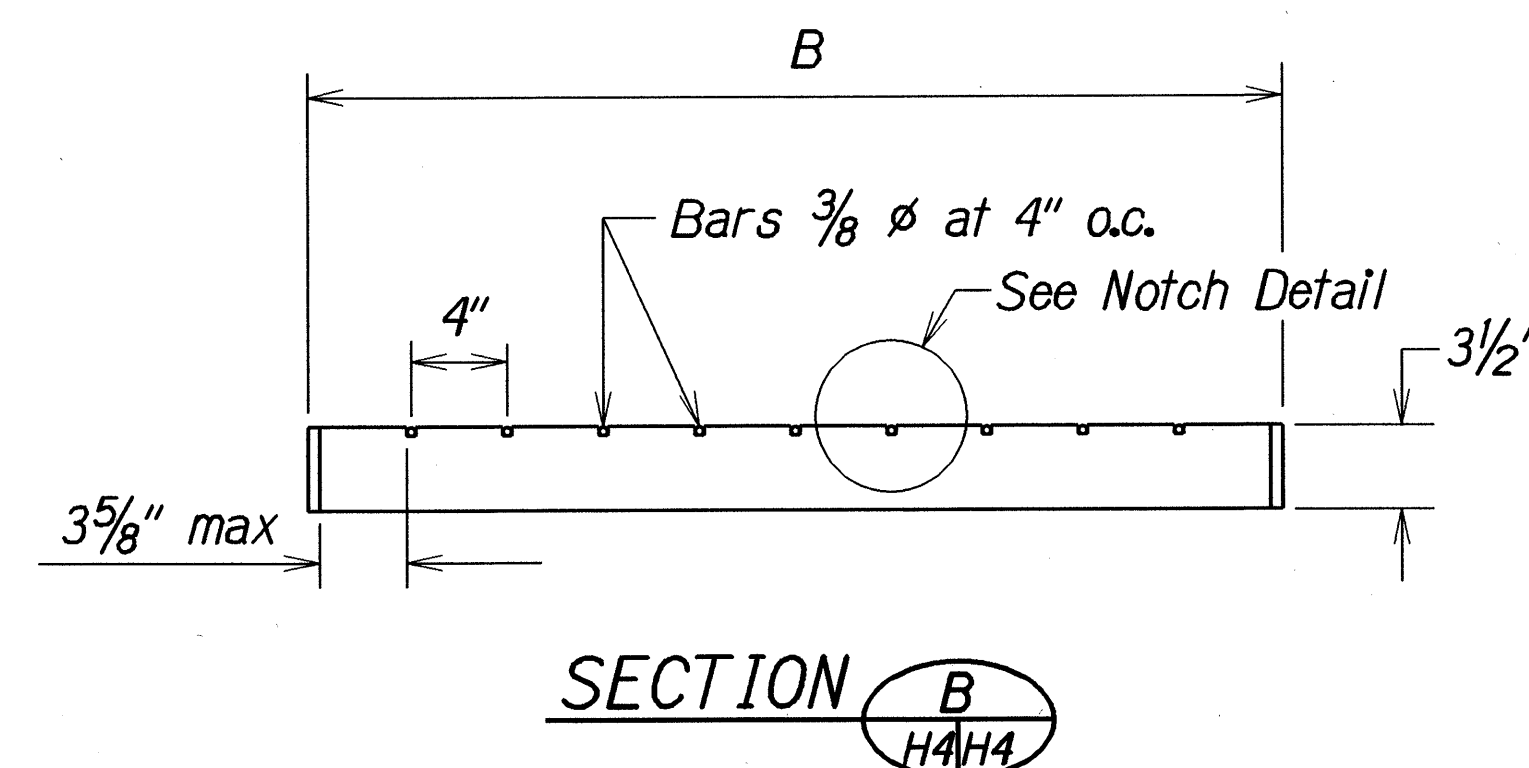
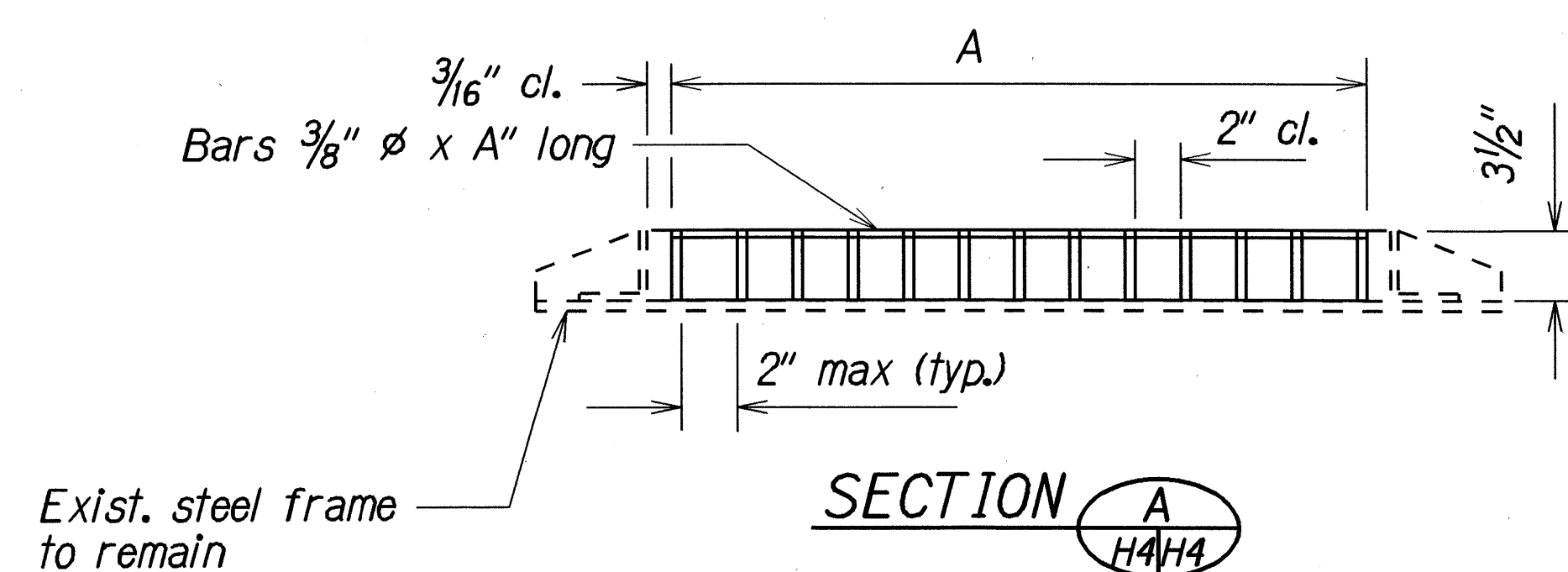
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-019-2(54)       | 2001        | 24        | 30           |



#### NOTES

- Grates shall be hot dip galvanized after fabrication.
- All welds  $\frac{3}{8}$  inch unless otherwise noted.
- Dimensions A and B shall be verified prior to fabrication of grates such that the  $3\frac{1}{2} \times \frac{1}{2}$  Bars are oriented parallel to the direction of flow.

| LOCATION                             | A      | B      |
|--------------------------------------|--------|--------|
| H.B. Hwy. @ Sta. 53+42±, o/s 40± Rt. | 3'-0"± | 3'-9"± |
| Kam. Ave. @ Sta. 23+24±, o/s 52± Rt. | 3'-0"± | 3'-0"± |
| Kam. Ave. @ Sta. 27+90±, o/s 24± Rt. | 3'-3"± | 4'-1"± |



**NOTCH DETAIL**  
Actual Size

#### GRATES

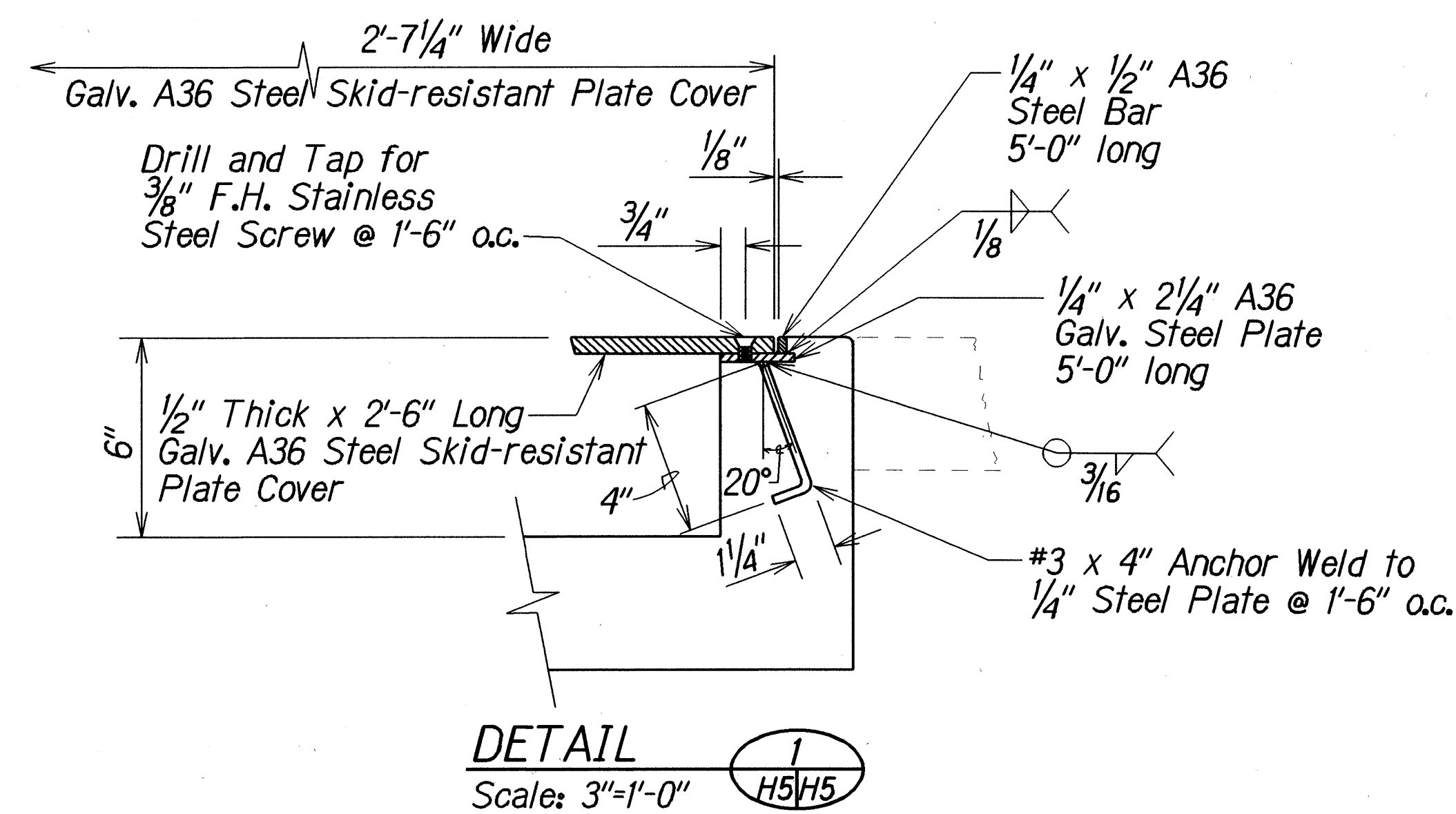
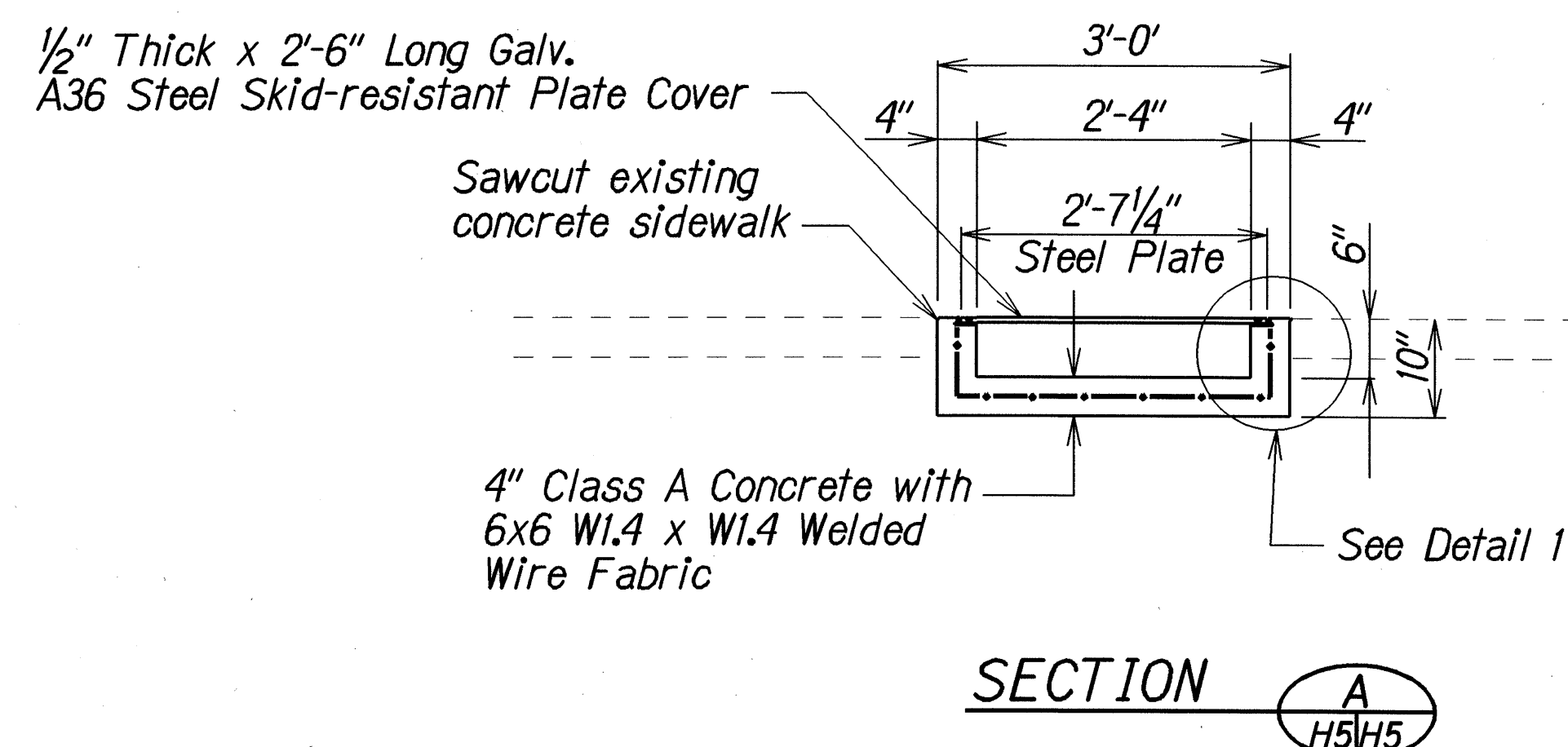
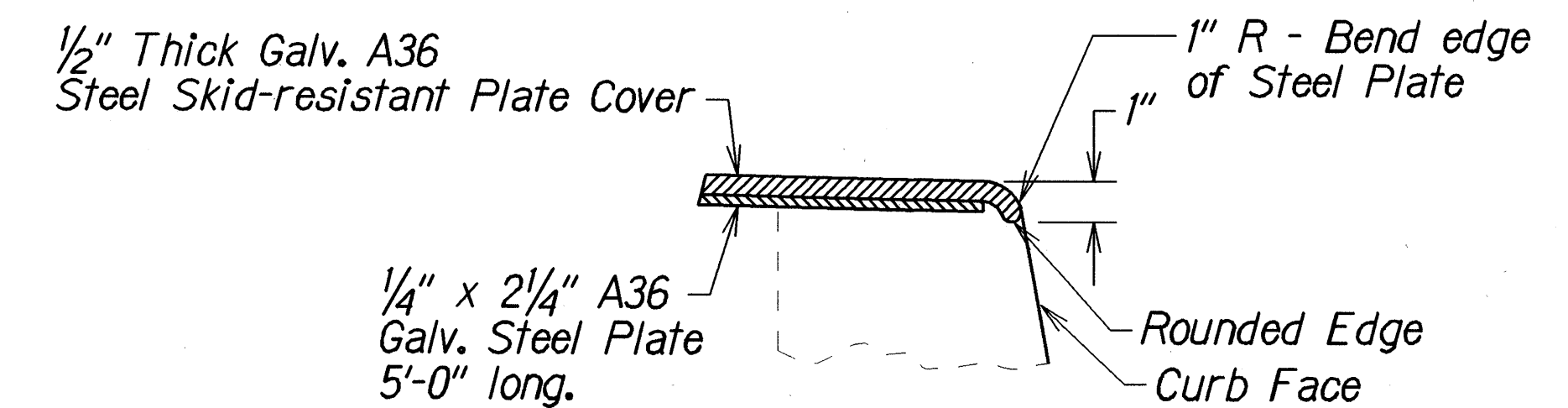
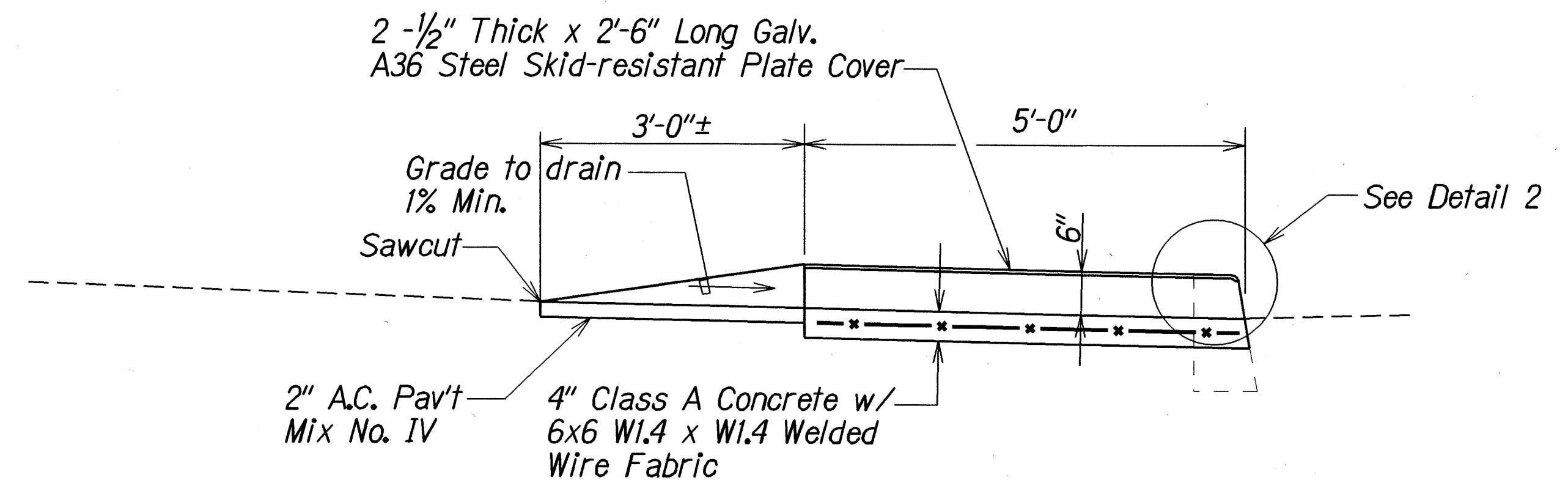
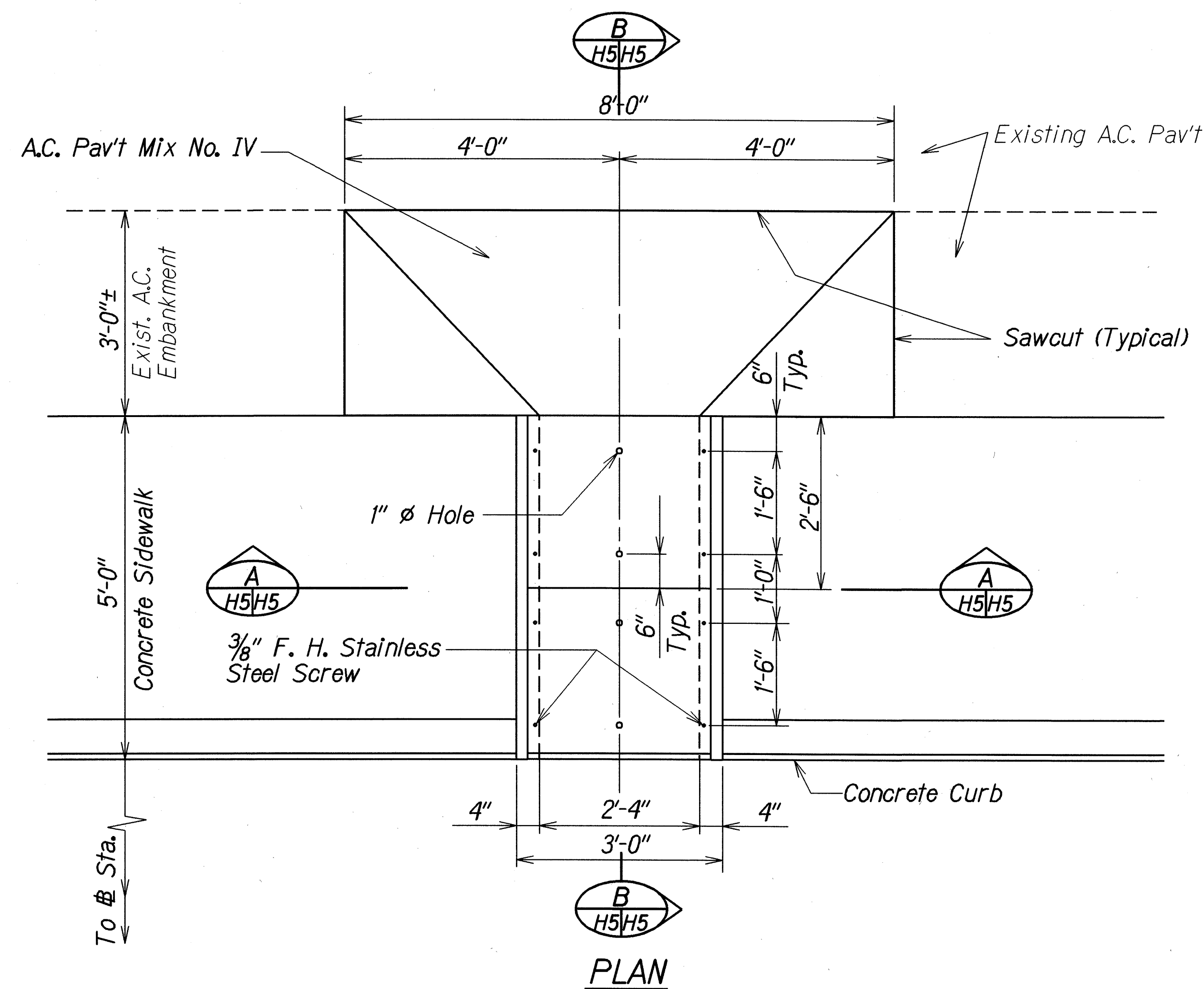
### DETAILS OF TYPE A GRATE

|                   |             |           |
|-------------------|-------------|-----------|
| ORIGINAL PLAN     | DATE        | 4/18/00   |
| SURVEY LOCATED BY | DRAWN BY    | B. L. OGB |
| DESIGNED BY       | DESIGNED BY | B. L. OGB |
| CHECKED BY        | CHECKED BY  | B. L. OGB |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**  
**KAMEHAMEHA AVE. BIKEWAY**  
**IMPROVEMENTS**  
Hilo Bayfront Hwy. to Kalanianaʻole Ave.  
Fed. Aid Proj. No. NH-019-2(54)  
Scale: 1/2"=1'-0" Date: March 2000

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | NH-019-2(54)       | 2001        | 25        | 30           |



# DETAILS OF SIDEWALK DRAIN

Scale: 3/4"=1'-0"

|                   |         |
|-------------------|---------|
| ORIGINAL PLAN     | DATE    |
| SURVEY PLANNED BY | 9/11/01 |
| DRAWN BY          |         |
| DESIGNED BY       |         |
| CHECKED BY        |         |
| NOTE BOOK         |         |
| QUANTITIES BY     |         |
| CHECKED BY        |         |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRAINAGE DETAILS**

**KAMEHAMEHA AVE. BIKEWAY IMPROVEMENTS**

**Hilo Bayfront Hwy. to Kalanianaʻole Ave.**

**Fed. Aid Project No. NH-019-2(54)**

Scale: As Shown Date: Sept., 2001

SHEET No. H5 OF 5 SHEETS