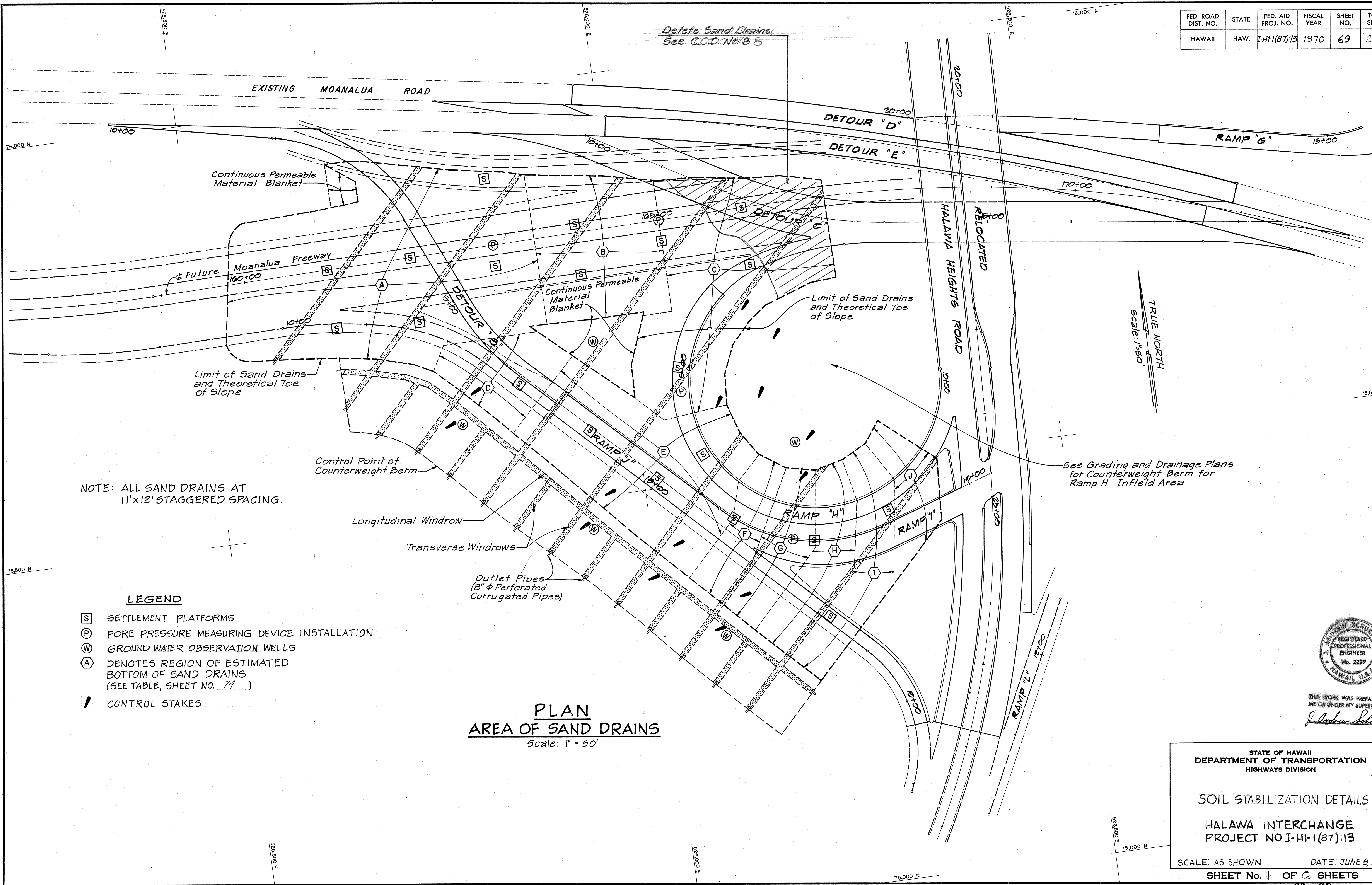


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-HI-1(87):13      | 1970        | 69        | 244          |

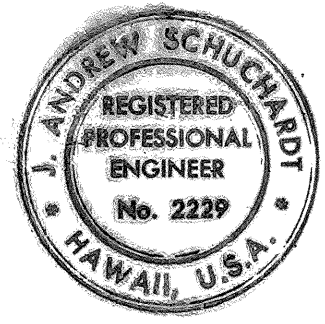


NOTE: ALL SAND DRAINS AT 11'x12' STAGGERED SPACING.

LEGEND

- (S) SETTLEMENT PLATFORMS
- (P) PORE PRESSURE MEASURING DEVICE INSTALLATION
- (W) GROUND WATER OBSERVATION WELLS
- (A) DENOTES REGION OF ESTIMATED BOTTOM OF SAND DRAINS (SEE TABLE, SHEET NO. 74...)
- ! CONTROL STAKES

PLAN  
AREA OF SAND DRAINS  
Scale: 1" = 50'

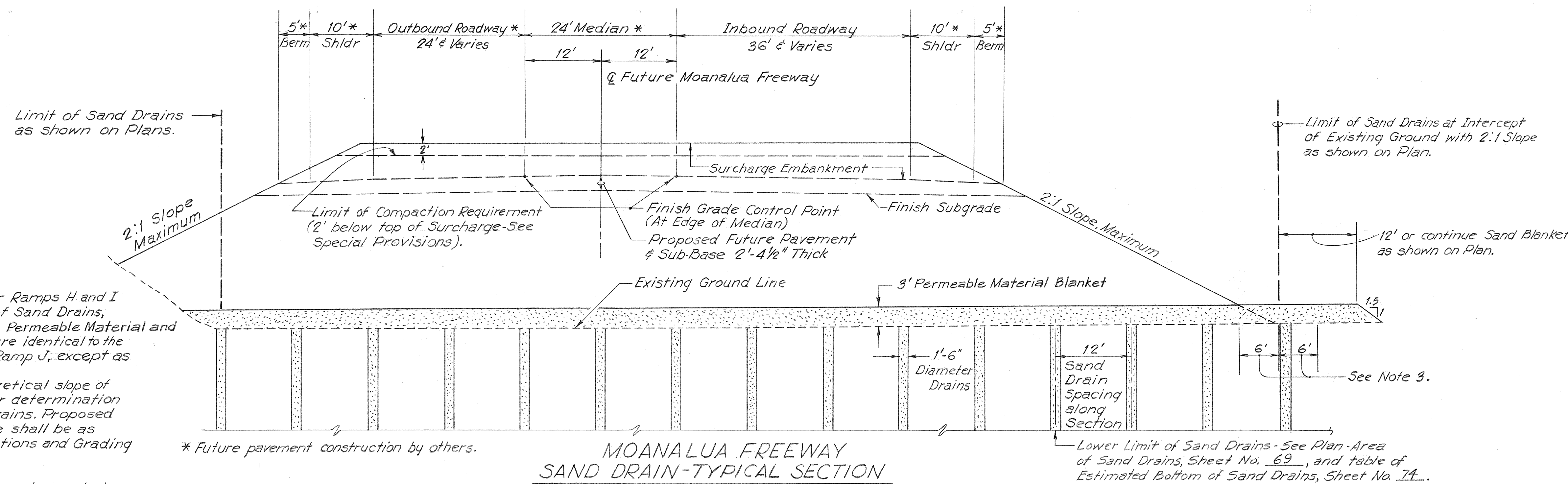


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*J. Andrew Schuchardt*

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
  
SOIL STABILIZATION DETAILS  
  
HALAWA INTERCHANGE  
PROJECT NO I-HI-1(87):13  
  
SCALE: AS SHOWN      DATE: JUNE 8, 1970  
SHEET No. 1 OF 6 SHEETS

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

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | IHI-1(87):13       | 1970        | 70        | 244          |

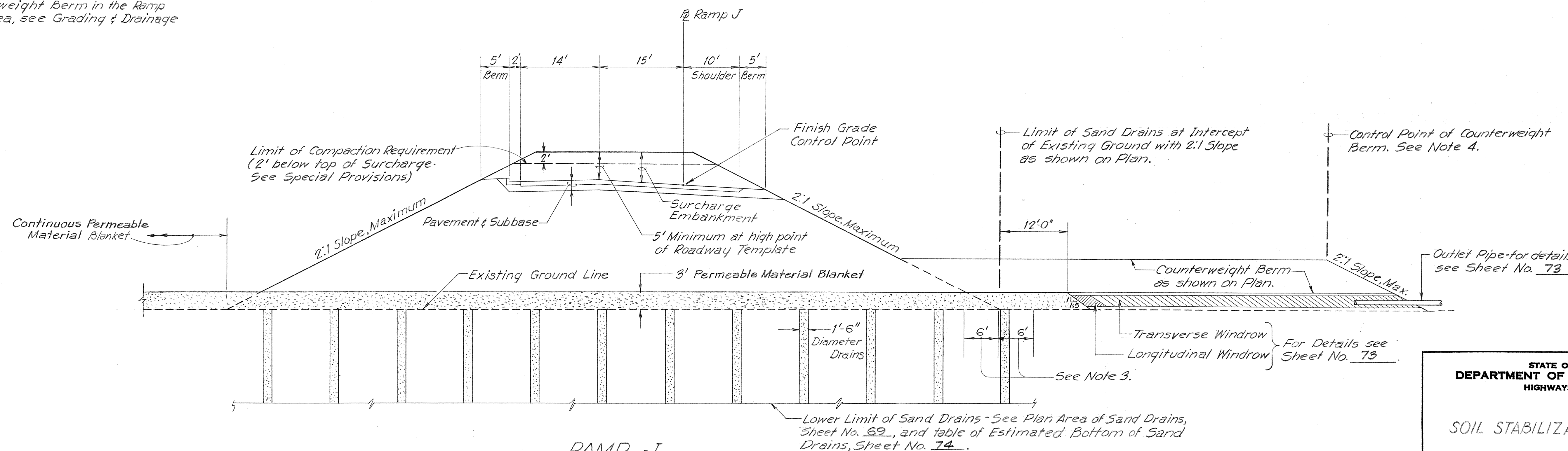


MOANALUA FREEWAY  
SAND DRAIN-TYPICAL SECTION

Scale: 1" = 10'-0"

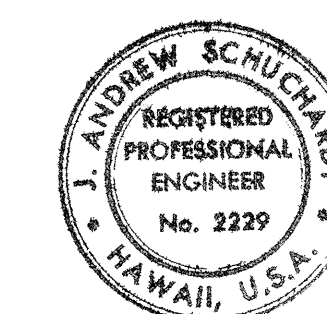
# NOTES:

1. Typical Sections for Ramps H and I (not shown): Limit of Sand Drains, Sand Drain Spacing, Permeable Material and Surcharge Details are identical to the Section shown for Ramp J, except as noted below.
2. For Ramp H: A theoretical slope of 2:1 shall be used for determination of Limit of Sand Drains. Proposed Embankment Slope shall be as shown on Cross-sections and Grading Plans.
3. Last Sand Drain in each row to be not more than 6' inside of Limit of Sand Drains, or not more than 6' outside of Limit of Sand Drains.
4. A. For Counterweight Berm adjacent to Ramp J, see Profile, Ramp J, Sheet No. 72.  
B. For Counterweight Berm in the Moanalua Freeway-Ramp J-Ramp H infield area, see Grading & Drainage Plans.  
C. For Counterweight Berm in the Ramp H infield area, see Grading & Drainage Plans.



RAMP J  
SAND DRAIN-TYPICAL SECTION

Scale: 1" = 10'-0"



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HIGHWAYS DIVISION

SOIL STABILIZATION DETAILS

HALAWA INTERCHANGE  
PROJECT NO I-HI-1(87):13

SCALE: AS SHOWN

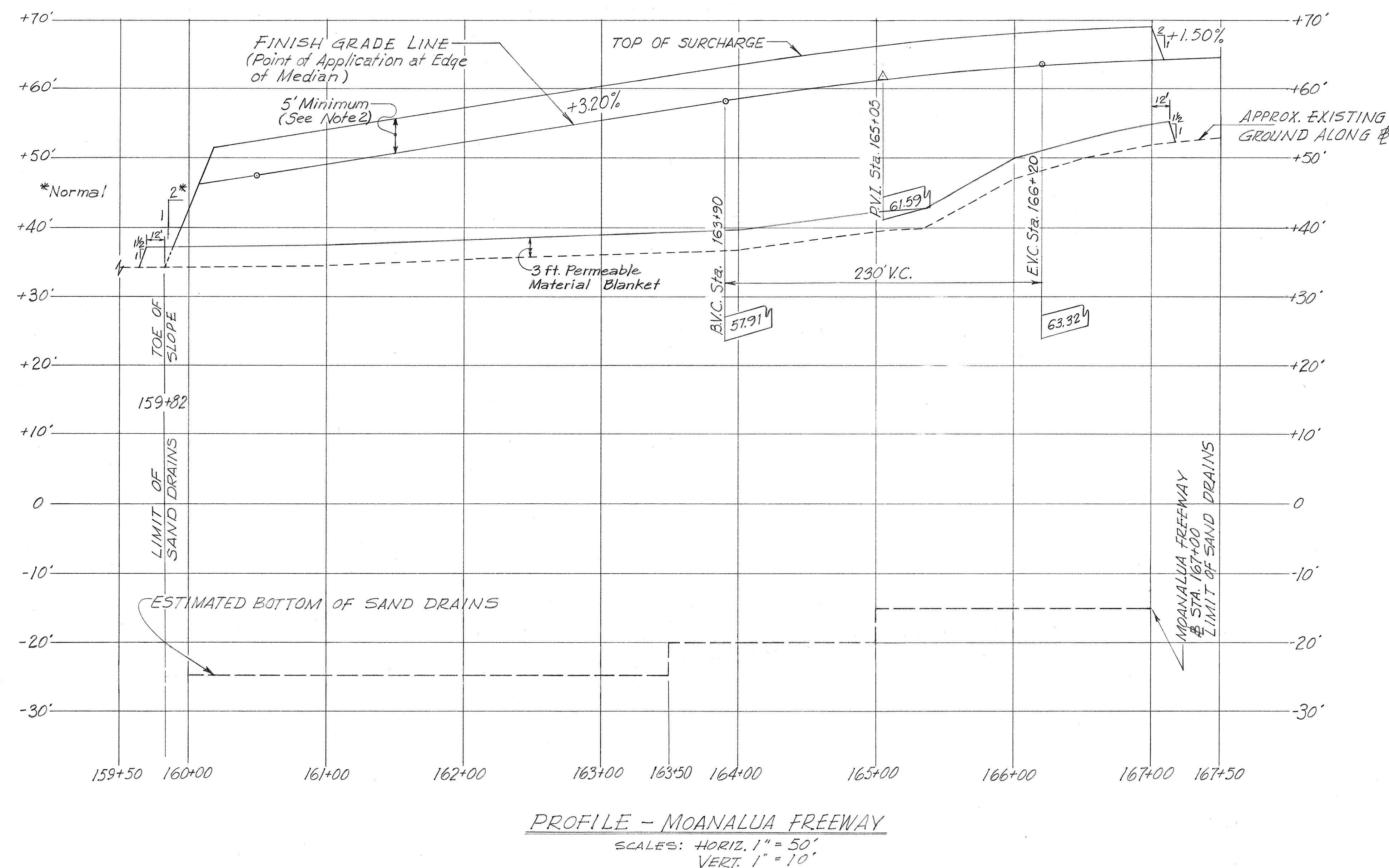
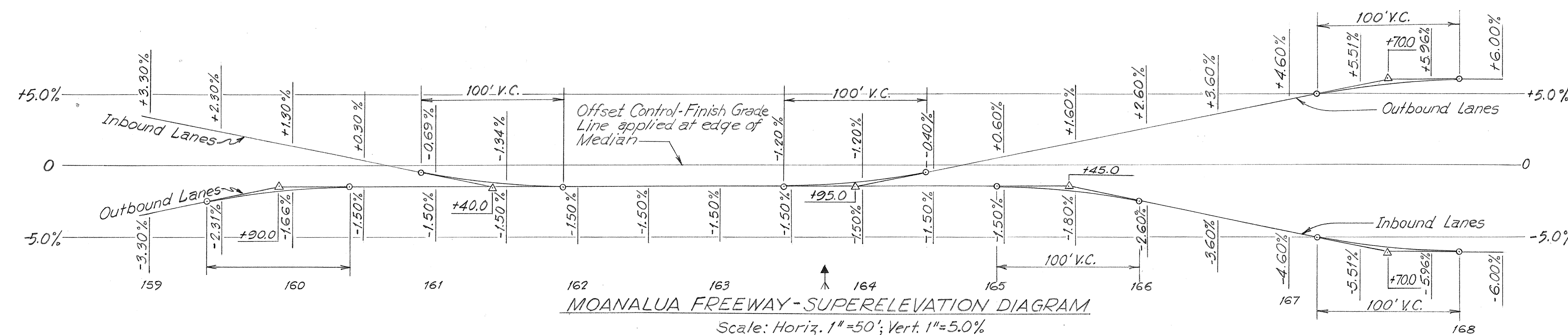
DATE: 6/8/70

SHEET No. 2 OF 6 SHEETS

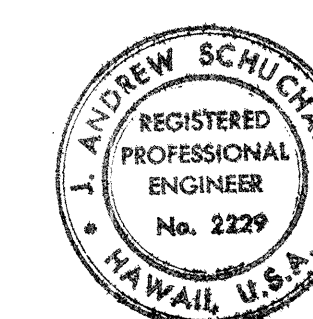
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-HI-1(87)-13      | 1970        | 71        | 244          |

# NOTES:

- Superelevation Diagram shown applies to future finished pavement grade of Moanalua Freeway.
- 5' Minimum Surcharge applies to high point of roadway template, as determined from the S.E. Diagram.



| DATE          | BY |
|---------------|----|
| DESIGNED BY   |    |
| CHECKED BY    |    |
| NOTED BY      |    |
| ORIGINAL PLAN |    |



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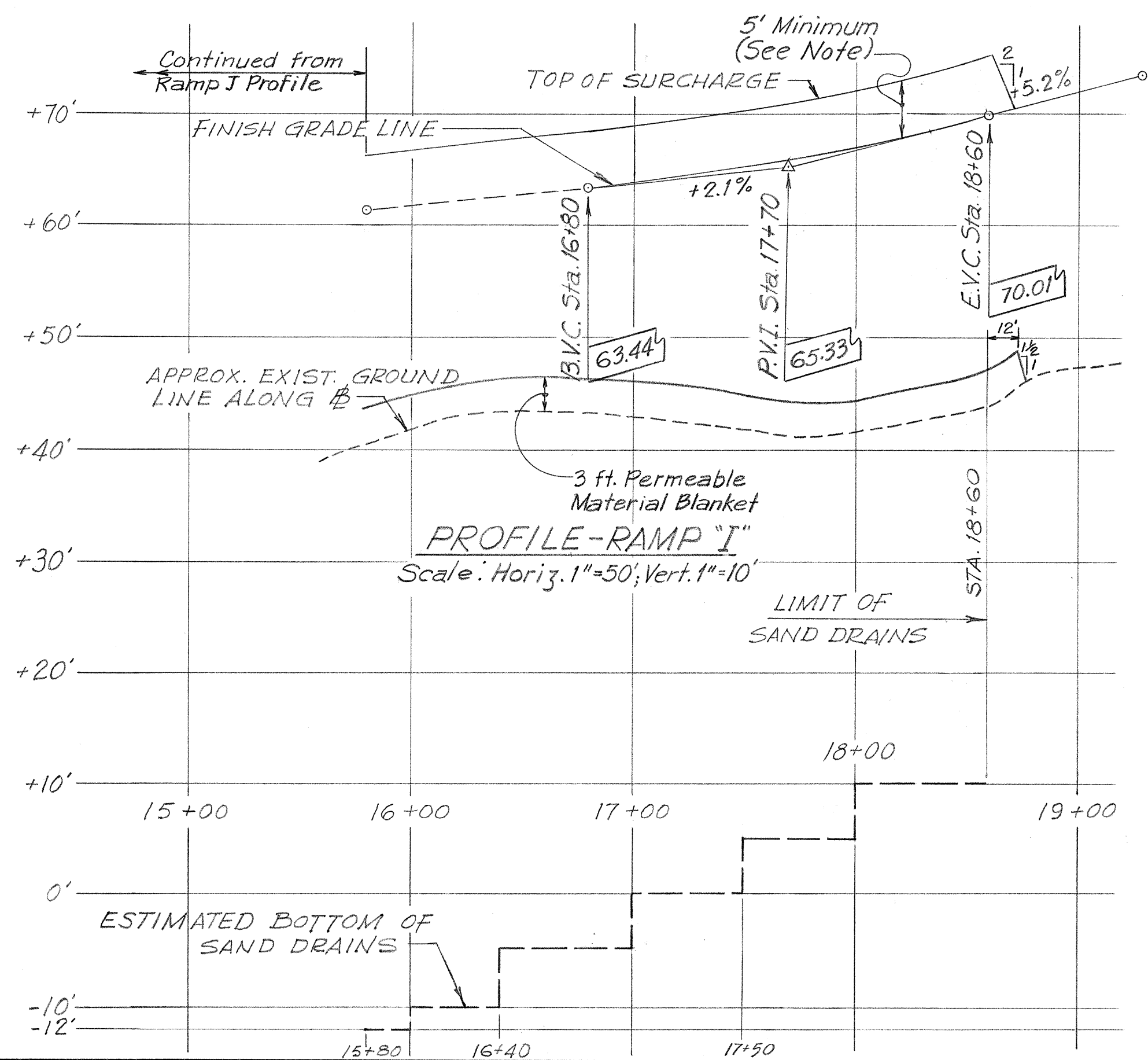
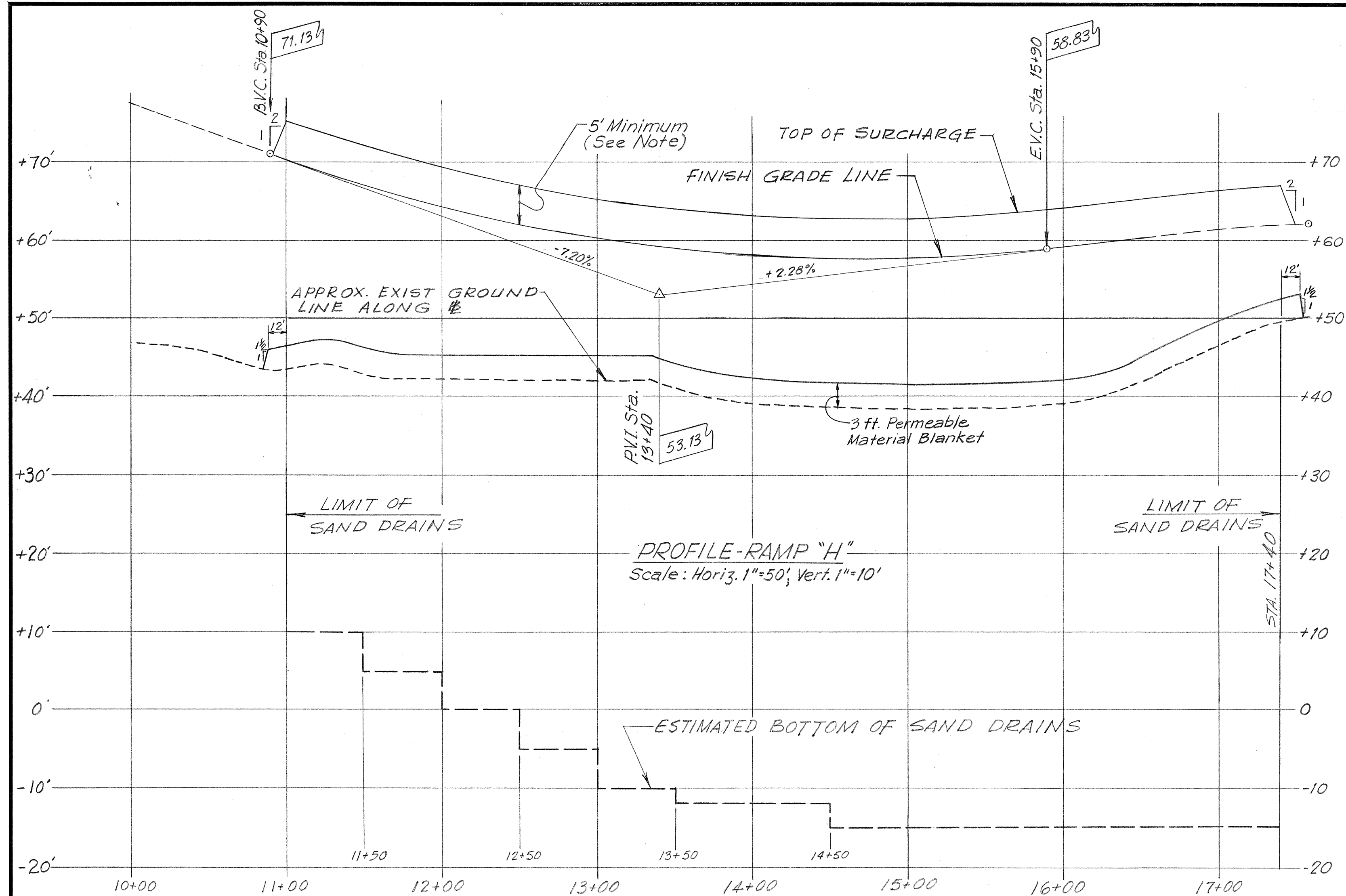
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

SOIL STABILIZATION DETAILS

HALAWA INTERCHANGE  
PROJECT NO I-HI-1(87):13

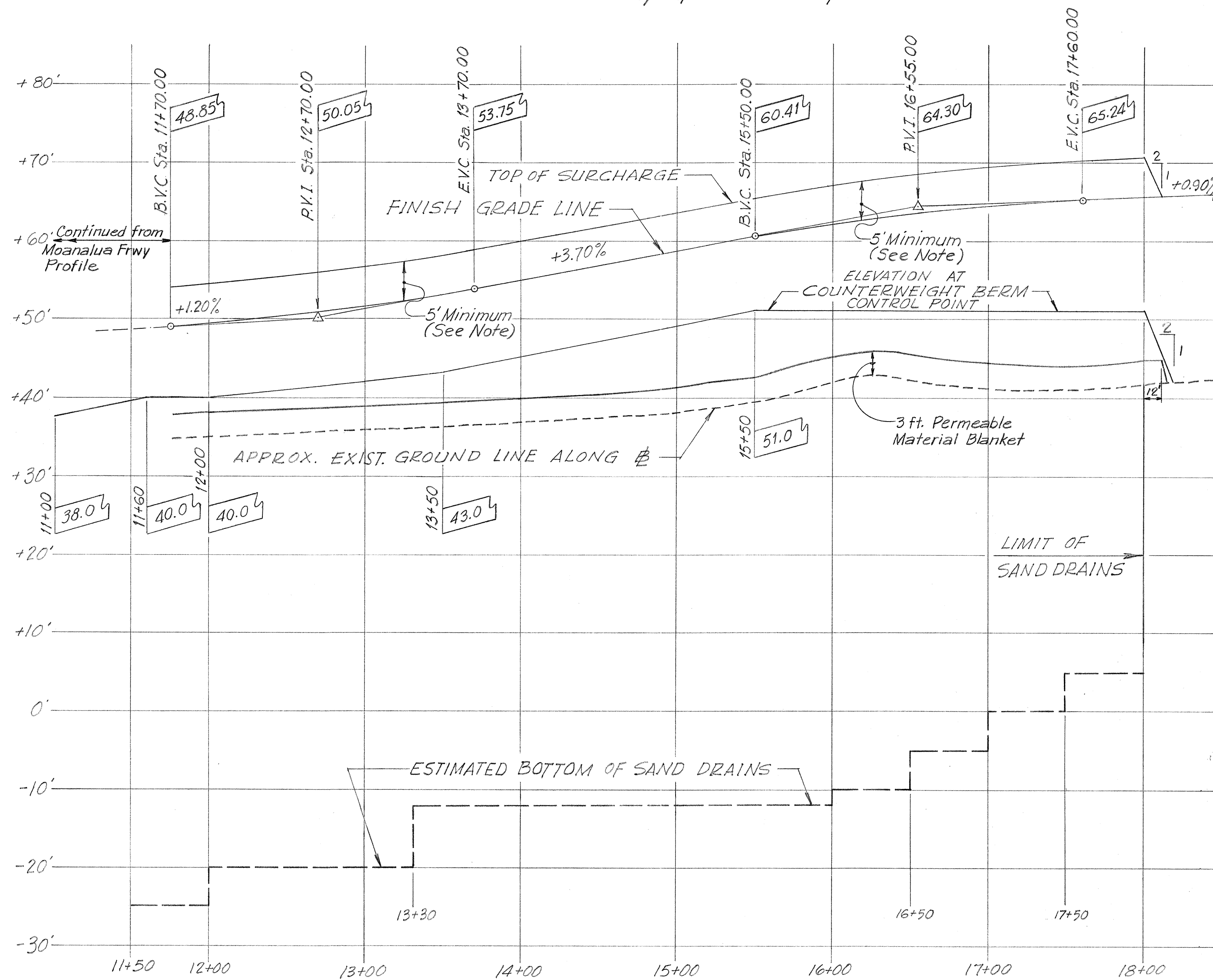
SCALE: AS SHOWN DATE: 6/8/70  
SHEET No. 3 OF 6 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-HI-1(87):13      | 1970        | 72        | 244          |



NOTE:

5' Minimum Surcharge applies to high point of Roadway Template as determined from Roadway Superelevation Diagrams.



PROFILE-RAMP "J"  
SCALE HORIZ. 1"=50'  
VERT. 1"=10'

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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

SOIL STABILIZATION DETAILS

HALAWA INTERCHANGE  
PROJECT NO I-HI-1(87):13

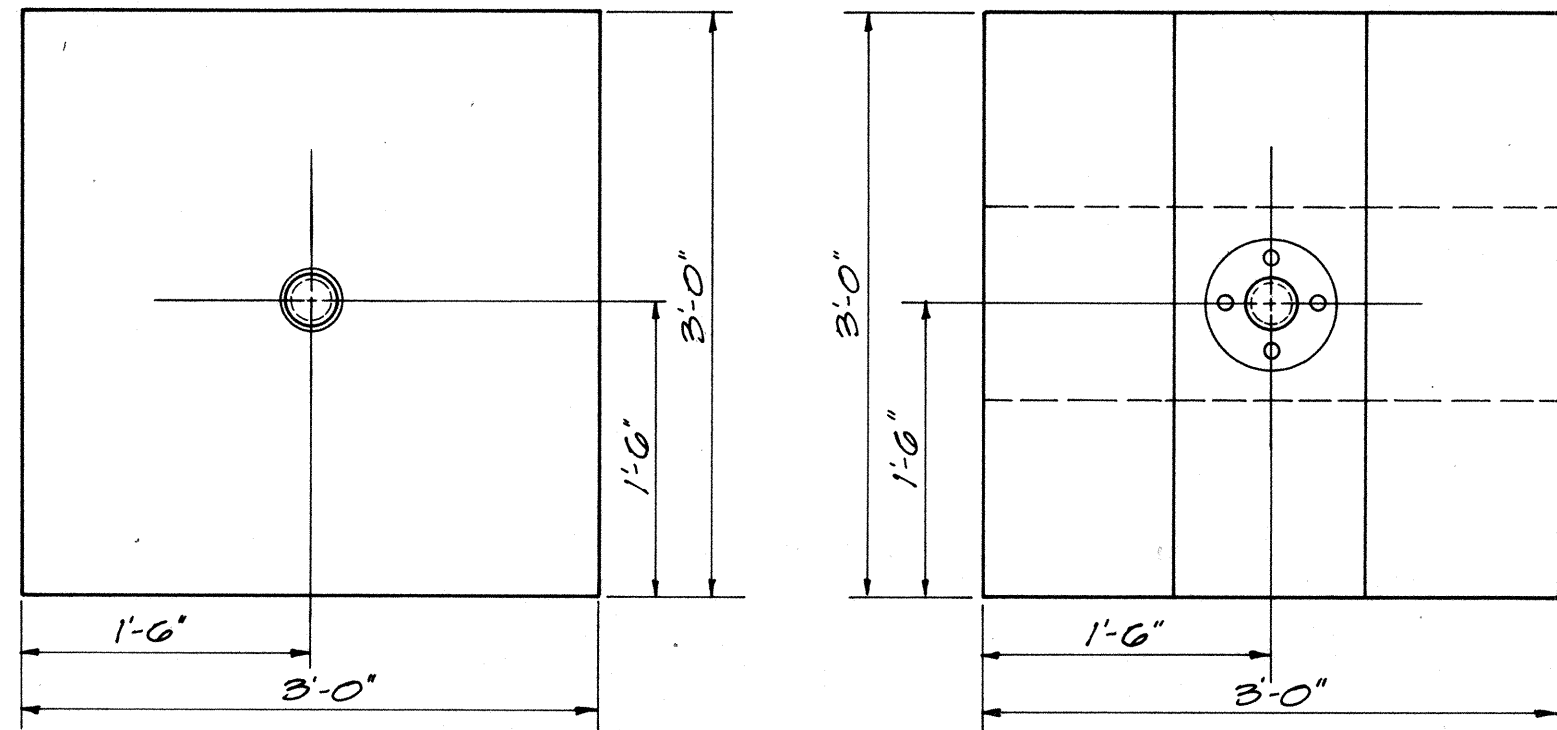
SCALE: AS SHOWN

DATE: 6/8/70

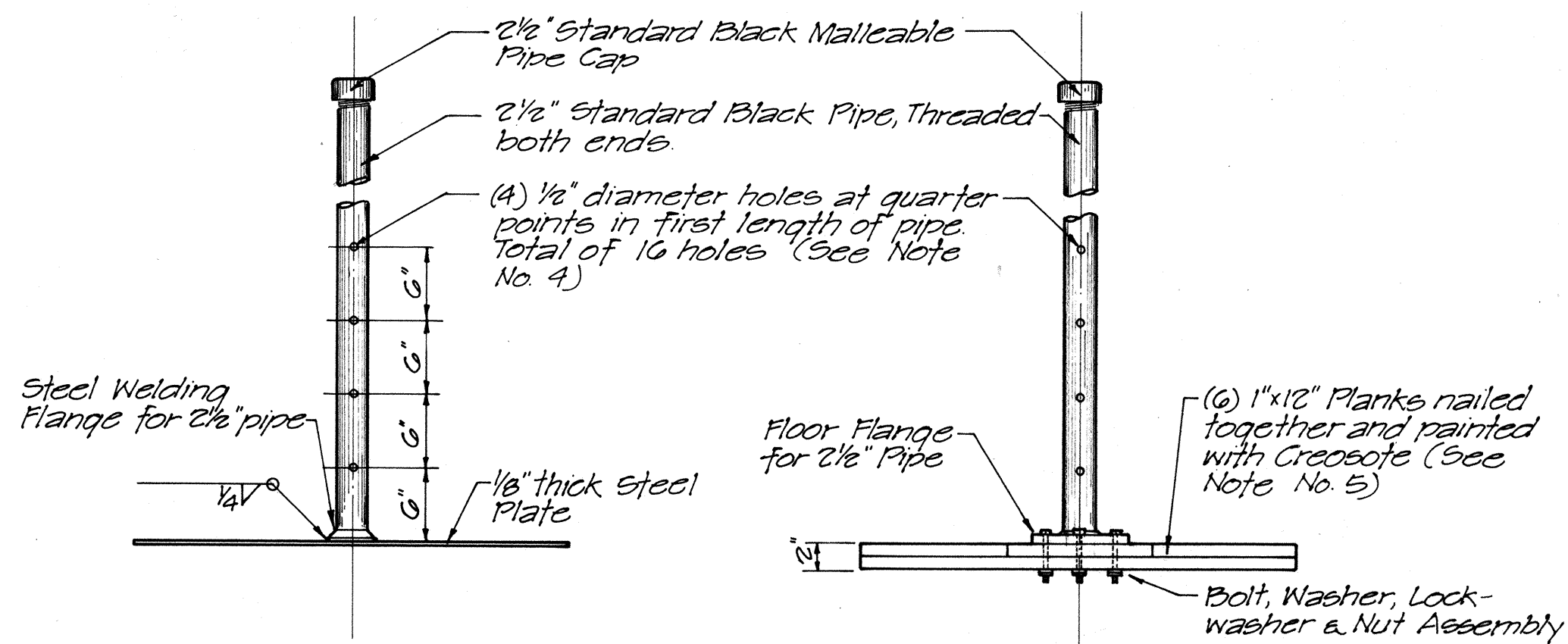
SHEET No. 4 OF 6 SHEETS

|                   |       |
|-------------------|-------|
| DATE              | _____ |
| SURVEY PLOTTED BY | _____ |
| DRAWN BY          | _____ |
| CHECKED BY        | _____ |
| DESIGNED BY       | _____ |
| NOTED BY          | _____ |
| QUANTITIES BY     | _____ |
| CHECKED BY        | _____ |
| No.               | _____ |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-H-1(87)13        | 1970        | 73        | 244          |



PLAN



ELEVATION  
STEEL BASE PLATFORM

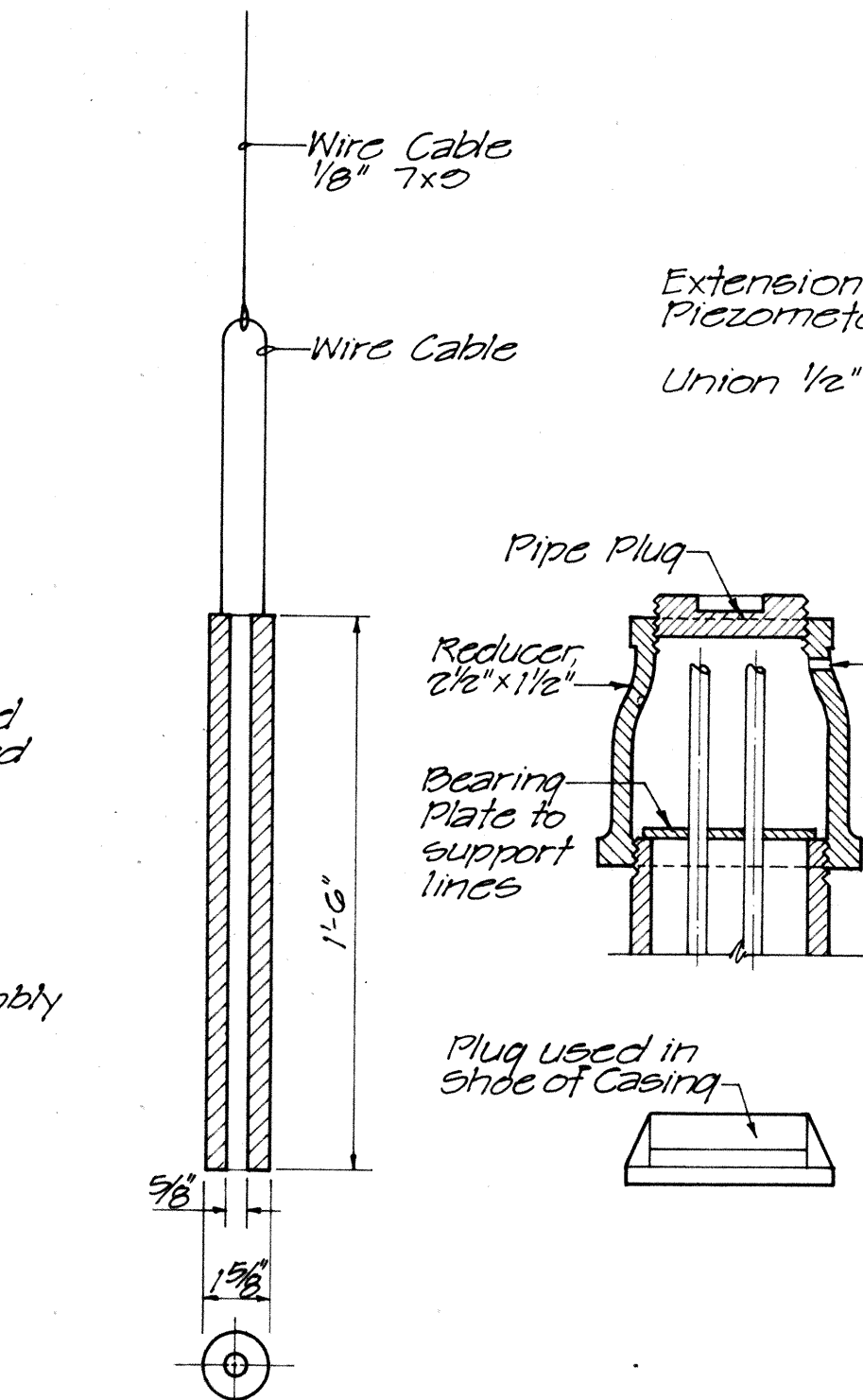
ELEVATION  
WOOD BASE PLATFORM

### SETTLEMENT PLATFORM DETAIL

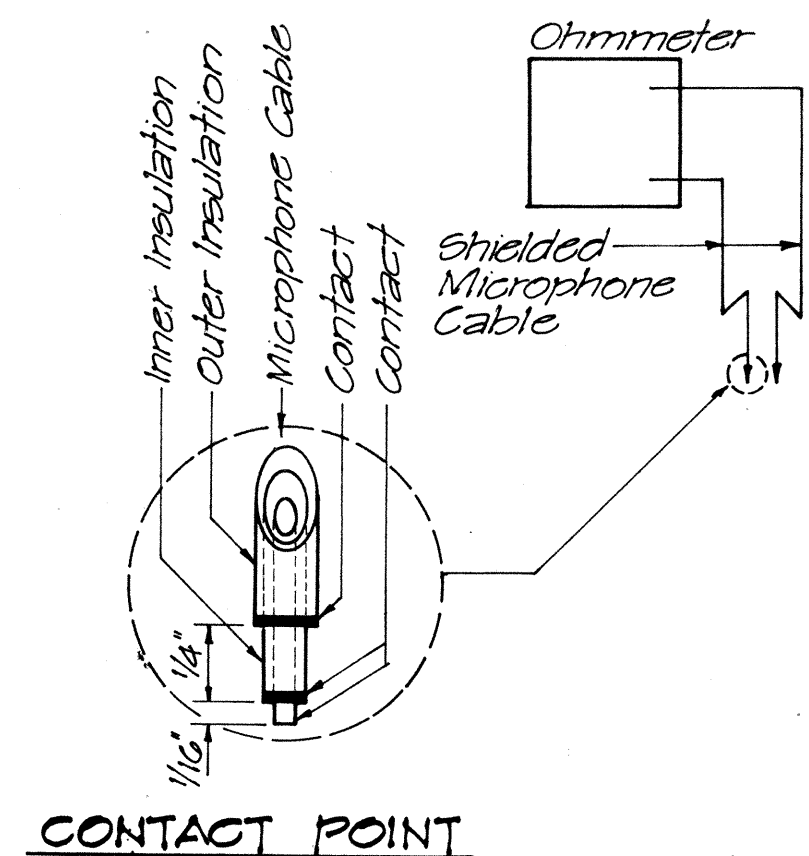
Scale: 1"=1'-0"

#### SETTLEMENT PLATFORM NOTES:

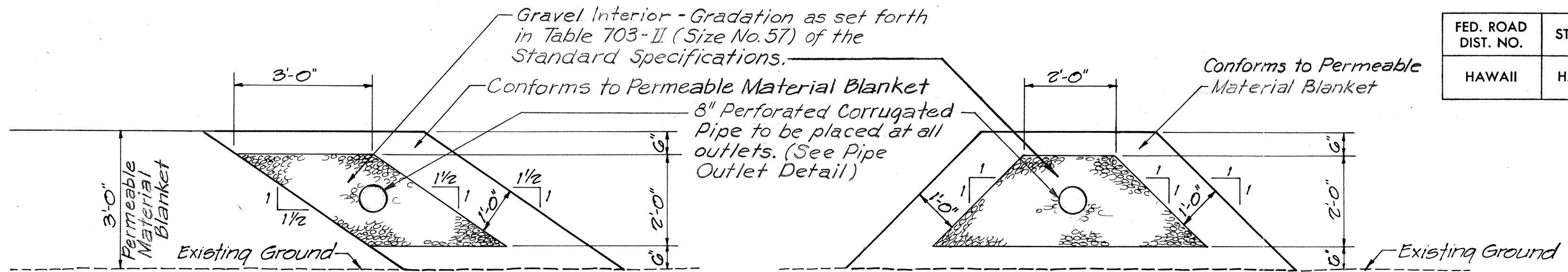
1. The use of either the Steel or Wood Base Settlement Platforms shall be the Contractor's option.
2. Contractor to furnish material and labor to extend pipe up through fill.
3. All vertical pipes of Settlement Platforms shall be accurately and consecutively numbered in one foot intervals measured from the bottom of the Settlement Platform base. The numbering and graduations shall be marked on the vertical pipe in durable yellow paint by the Contractor immediately after each section of pipe is added.
4. Holes to be drilled in first length of pipe, if specified.
5. Sound lumber must be used for the Wood Base Platform.



TAMPING HAMMER



CONTACT POINT

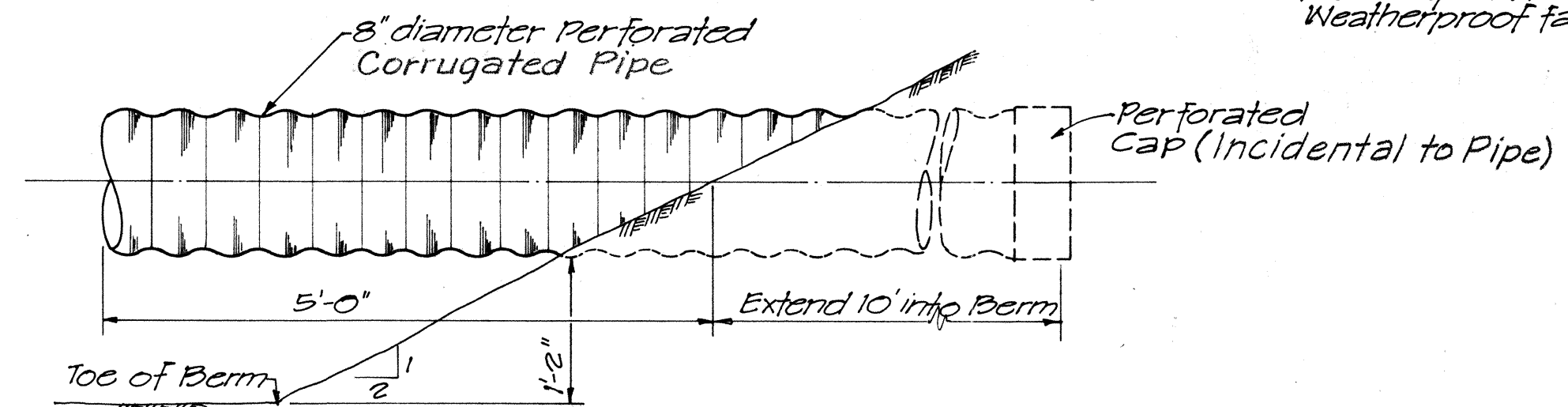


LONGITUDINAL WINDROW

TRANSVERSE WINDROW

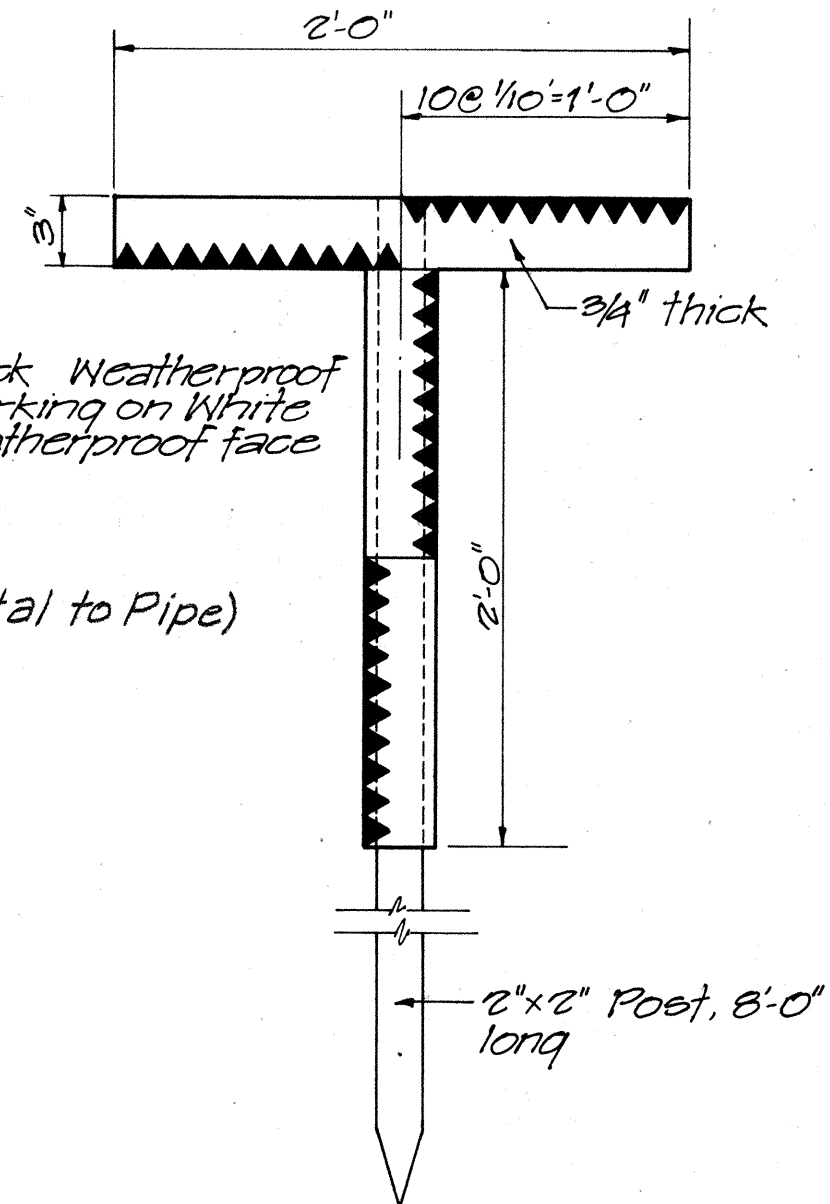
### DRAINAGE WINDROW DETAIL

Scale: 1"=2'-0"



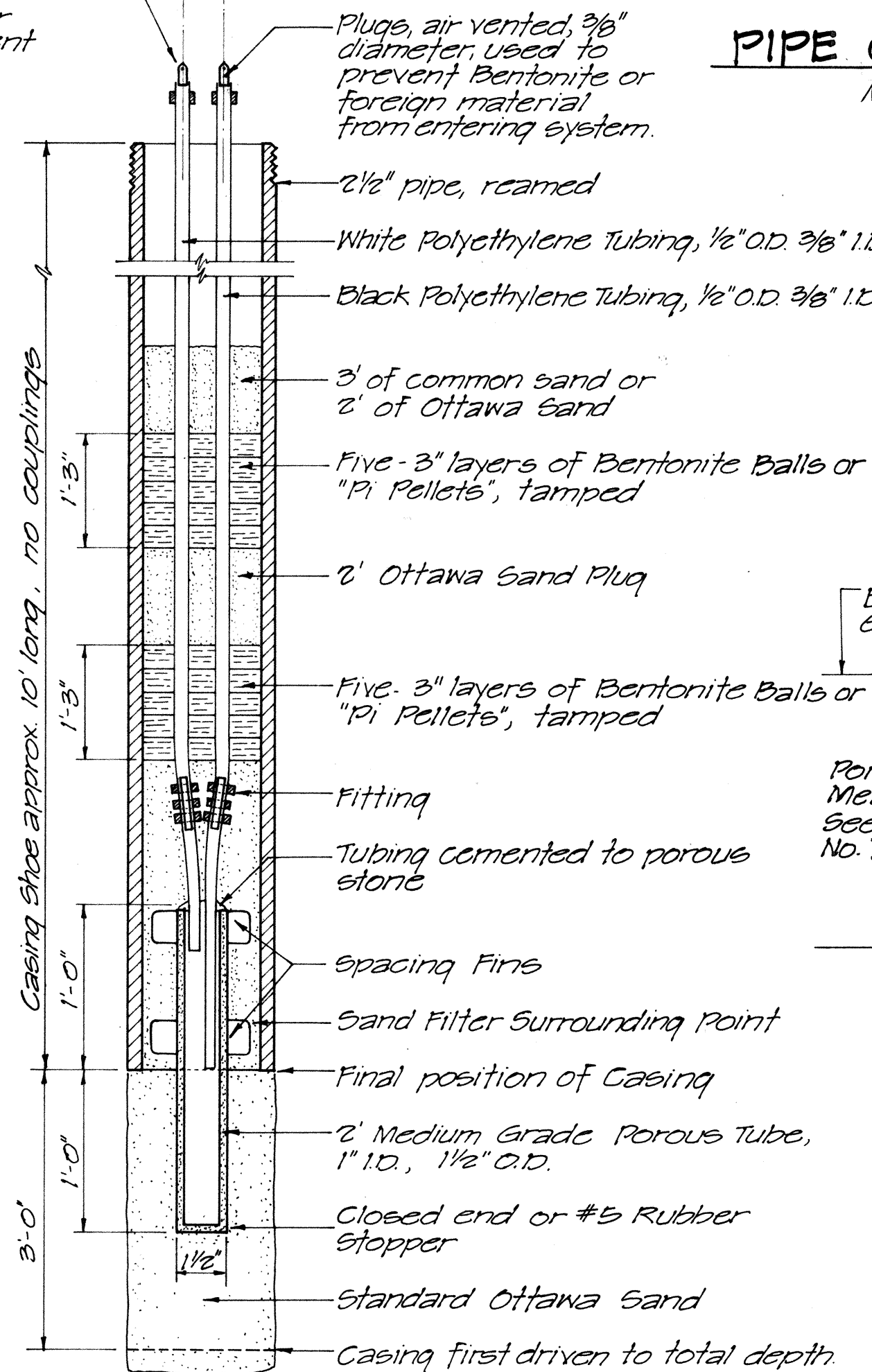
### PIPE OUTLET DETAIL

Not to Scale



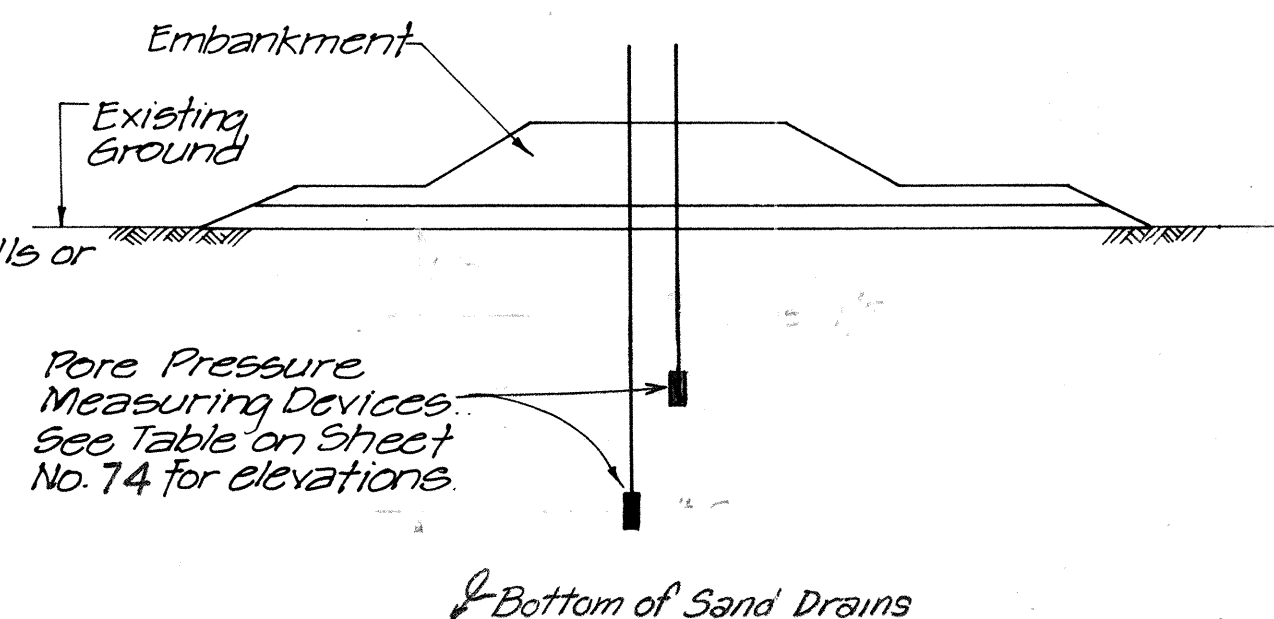
### CONTROL STAKE DETAIL

Not to Scale



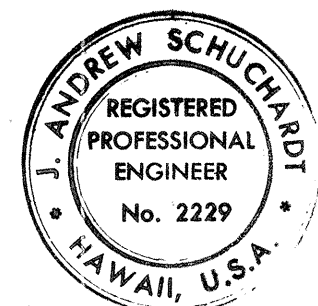
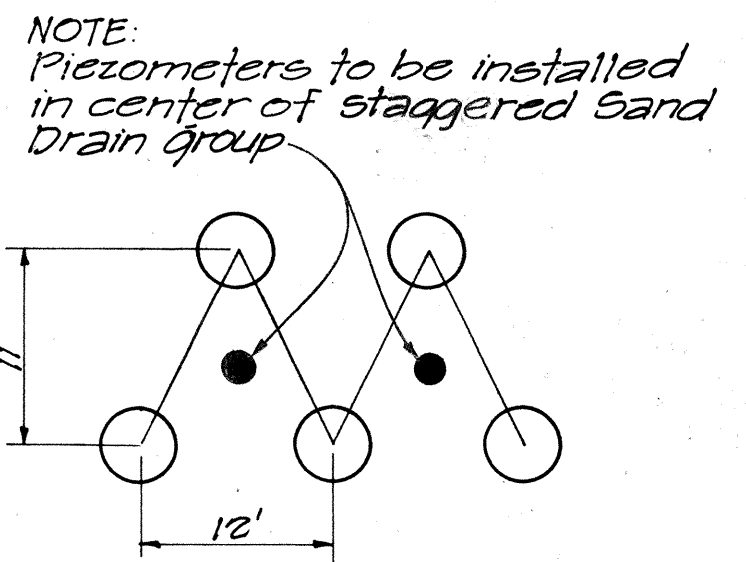
### PORE PRESSURE MEASURING DEVICE DETAIL

Not to Scale



### TYPICAL PORE PRESSURE MEASURING DEVICE INSTALLATION

Not to Scale



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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### SOIL STABILIZATION DETAILS

INTERSTATE ROUTE H-1  
PROJECT NO. I-H-1(87)13

SCALE: AS SHOWN

DATE: 6/8/70

SHEET No. 5 OF 6 SHEETS

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

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-H-1(87):13       | 1970        | 74        | 244          |

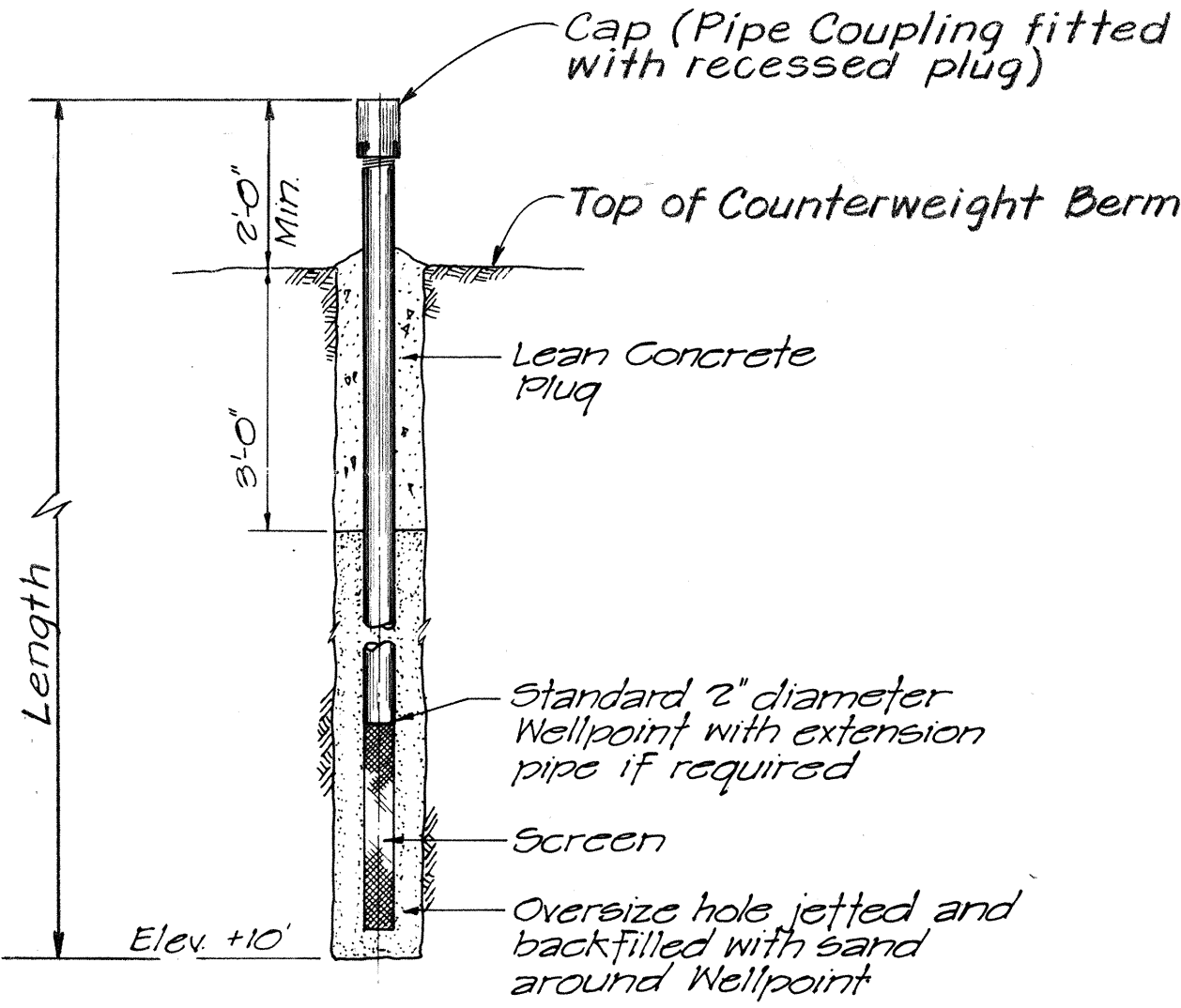
| LOCATION OF PORE PRESSURE MEASURING DEVICES TO BE PLACED AFTER SAND DRAINS |        |      |                              |
|----------------------------------------------------------------------------|--------|------|------------------------------|
| STATION                                                                    | OFFSET | TYPE | POROUS POINT ELEVATION (FT.) |
| MOANALUA FREEWAY                                                           |        |      |                              |
| 163+00                                                                     | 0      |      | +8, -8                       |
| 165+00                                                                     | 0      |      | +10, -5                      |
| RAMP H 14+75                                                               | 10'L   |      | +12, 0                       |
| RAMP I 16+75                                                               | 0      |      | +15, +3                      |

| LOCATION OF GROUND WATER OBSERVATION WELLS |        |              |
|--------------------------------------------|--------|--------------|
| STATION                                    | OFFSET | LENGTH (FT.) |
| MOANALUA FREEWAY                           |        |              |
| 164+00                                     | 130'R  | 41' ±        |
| RAMP H 13+00                               | 75'R   | 46' ±        |
| RAMP J 12+75                               | 75'R   | 34' ±        |
| RAMP J 14+75                               | 80'R   | 41' ±        |
| RAMP J 16+75                               | 85'R   | 43' ±        |

| SETTLEMENT PLATFORMS |                             |            |
|----------------------|-----------------------------|------------|
| STATION              | NO. OF SETTLEMENT PLATFORMS | OFFSETS    |
| MOANALUA FREEWAY     |                             |            |
| 161+00               | 2                           | 0.70'R     |
| 162+00               | 1                           | 0          |
| 163+00               | 2                           | 25'R, 80'L |
| 164+00               | 2                           | 50'R, 10'L |
| 165+00               | 1                           | 25'R       |
| 166+00               | 2                           | 0.70'R     |
| RAMP H 14+00         | 1                           | 10'L       |
| 15+00                | 1                           | 15'L       |
| RAMP I 16+00         | 1                           | 0          |
| 17+00                | 1                           | 0          |
| 18+00                | 1                           | 15'L       |
| RAMP J 11+62         | 1                           | 10'L       |
| 13+00                | 1                           | 5'L        |
| 14+00                | 1                           | 10'L       |
| 15+00                | 1                           | 10'L       |
| 17+60                | 1                           | 5'L        |

| CONTROL STAKES |               |            |
|----------------|---------------|------------|
| STATIONS       | NO. OF STAKES | OFFSETS    |
| RAMP H         |               |            |
| 12+75          | 2             | 30'R, 80'R |
| 14+50          | 2             | 30'R, 80'R |
| 16+00          | 2             | 30'R, 80'R |
| RAMP J         |               |            |
| 12+60          | 2             | 40'R, 90'R |
| 14+60          | 2             | 40'R, 90'R |
| 15+60          | 2             | 40'R, 90'R |
| 16+60          | 2             | 40'R, 90'R |

| ESTIMATED BOTTOM OF SAND DRAINS |           |
|---------------------------------|-----------|
| REGION                          | ELEVATION |
| A                               | -25       |
| B                               | -20       |
| C                               | -15       |
| D                               | -20       |
| E                               | -12       |
| F                               | -10       |
| G                               | -5        |
| H                               | 0         |
| I                               | +5        |
| J                               | +10       |



GROUND WATER  
OBSERVATION WELL DETAIL  
Not to Scale



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## SOIL STABILIZATION DETAILS

INTERSTATE ROUTE H-1  
PROJECT NO. I-H-1(87):13

SCALE: AS SHOWN

DATE: 6/8/70

SHEET No. 6 OF 6 SHEETS

ORIGINAL PLAN  
DATE: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
NOTE BOOK  
No. \_\_\_\_\_