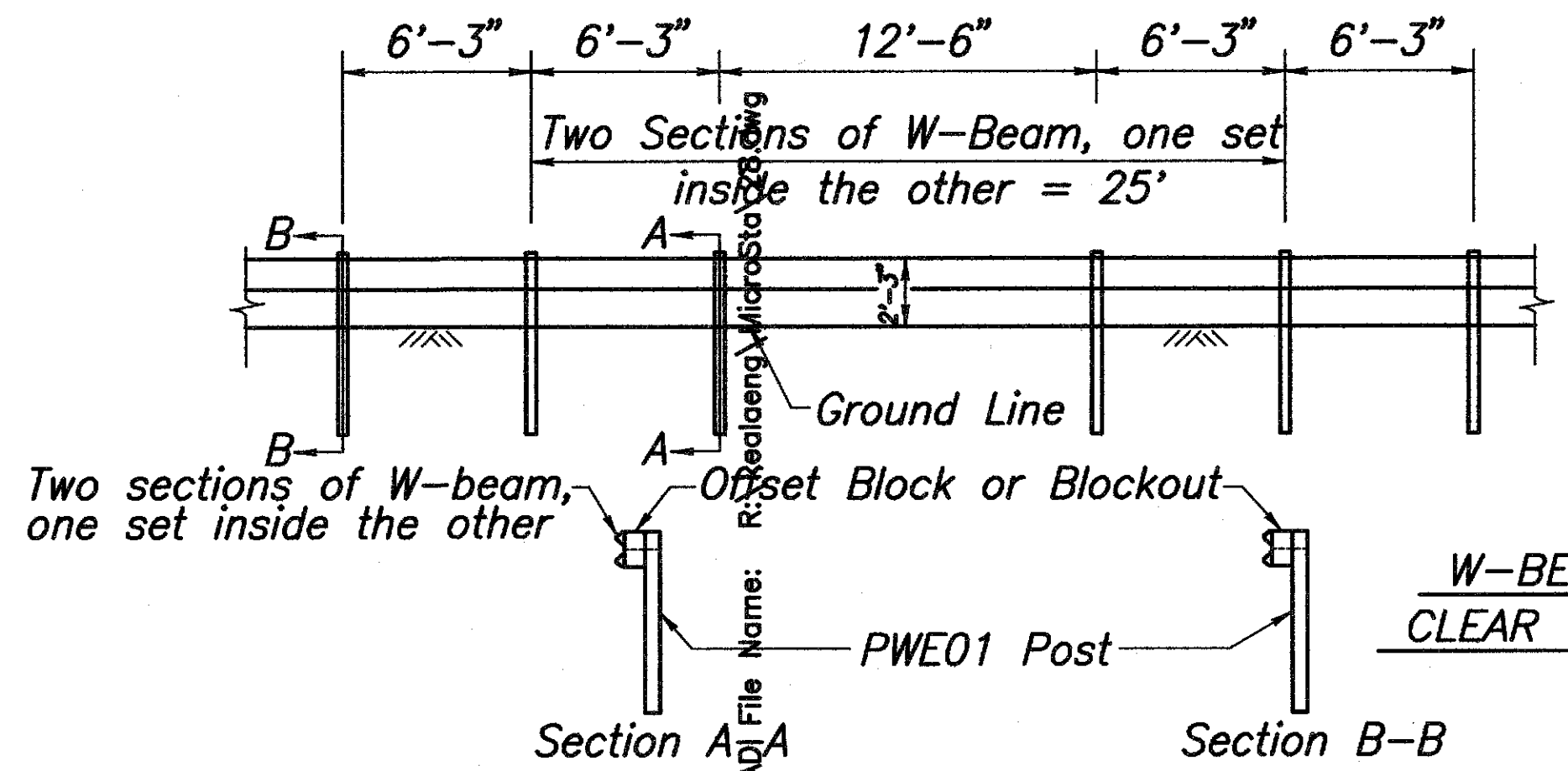
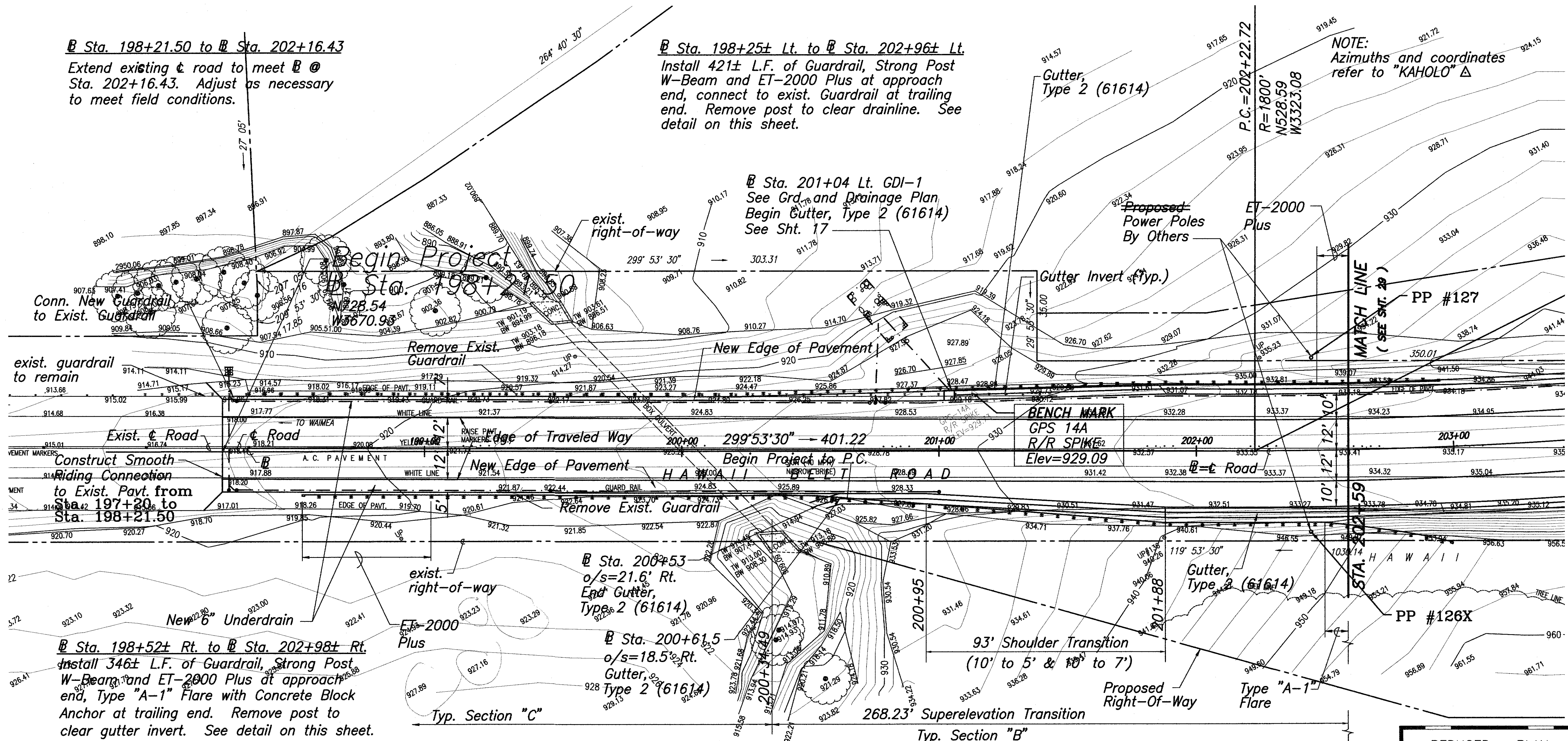


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(26)       | 2002        | 28        | 155          |

**B Sta. 198+21.50 to B Sta. 202+16.43**  
 Extend existing  $\bar{c}$  road to meet B @ Sta. 202+16.43. Adjust as necessary to meet field conditions.

**B Sta. 198+25± Lt. to B Sta. 202+96± Lt.**  
 Install 421± L.F. of Guardrail, Strong Post W-Beam and ET-2000 Plus at approach end, connect to exist. Guardrail at trailing end. Remove post to clear drainline. See detail on this sheet.

NOTE:  
 Azimuths and coordinates refer to "KAHOLO"  $\Delta$



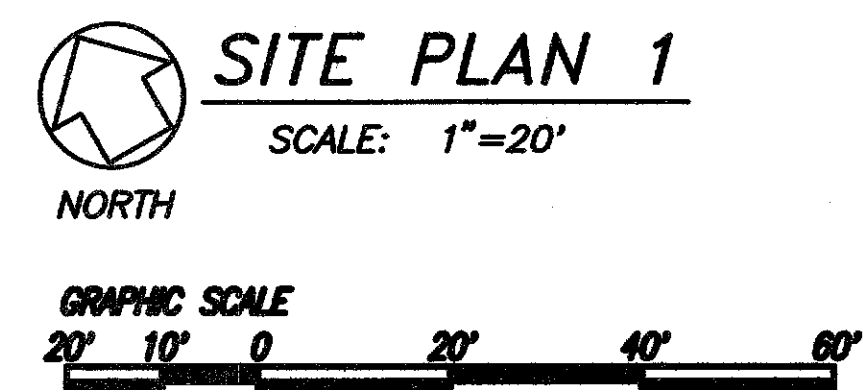
**LEGEND FOR AS-BUILT POSTING**

~~~~~ Squiggly line for as-built deletion

== Double line for as-built deletion

X "X" for as-built deletion

Roadway Text for as-built posting



STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**SITE PLAN 1**

**HAWAII BELT ROAD**

**KEALAKAHA STREAM BRIDGE REPLACEMENT**

**PROJECT NO. BR-019-2 (26)**

SCALE: AS NOTED DATE: NOVEMBER 2001

SHEET No. 1 OF 6 SHEETS

CAD File Name: R:\kedlaeng\MicroSta\28.dwg

|               |      |
|---------------|------|
| ORIGINAL PLAN | DATE |
| DRAWN BY      |      |
| TRACED BY     |      |
| DESIGNED BY   |      |
| CHECKED BY    |      |
| NO.           |      |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(26)       | 2002        | 29        | 155          |

**LEGEND FOR AS-BUILT POSTING**

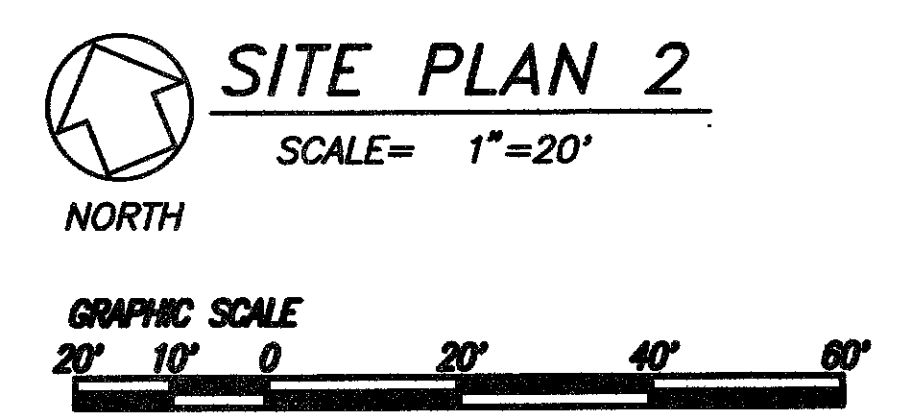
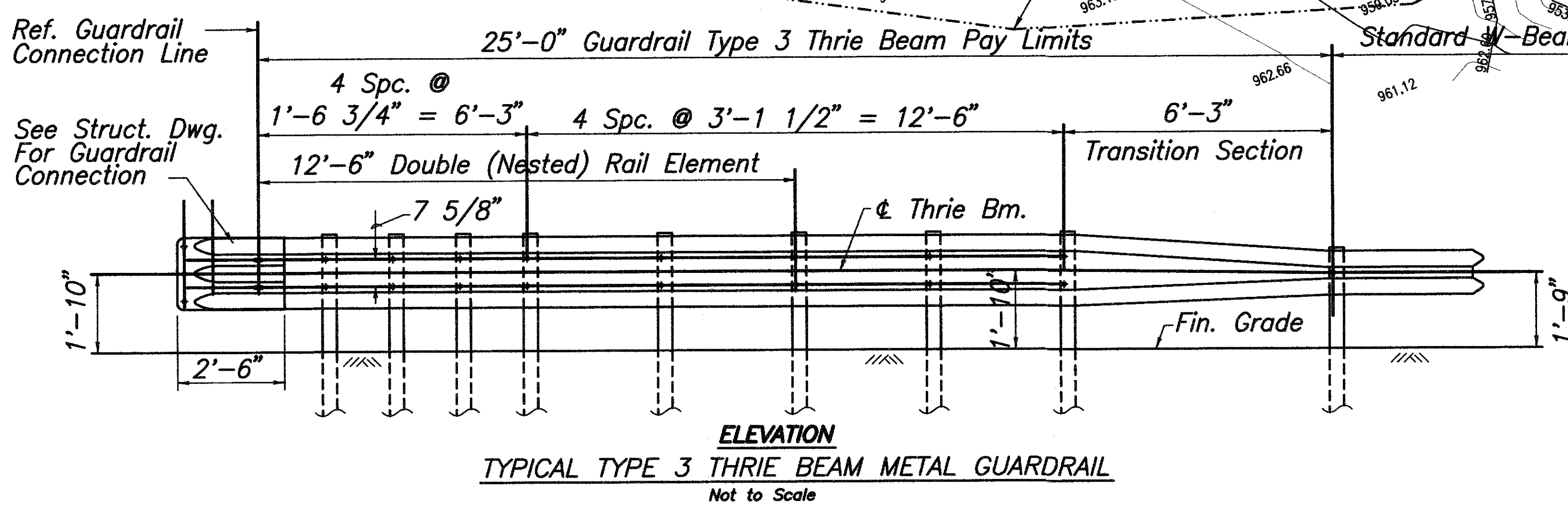
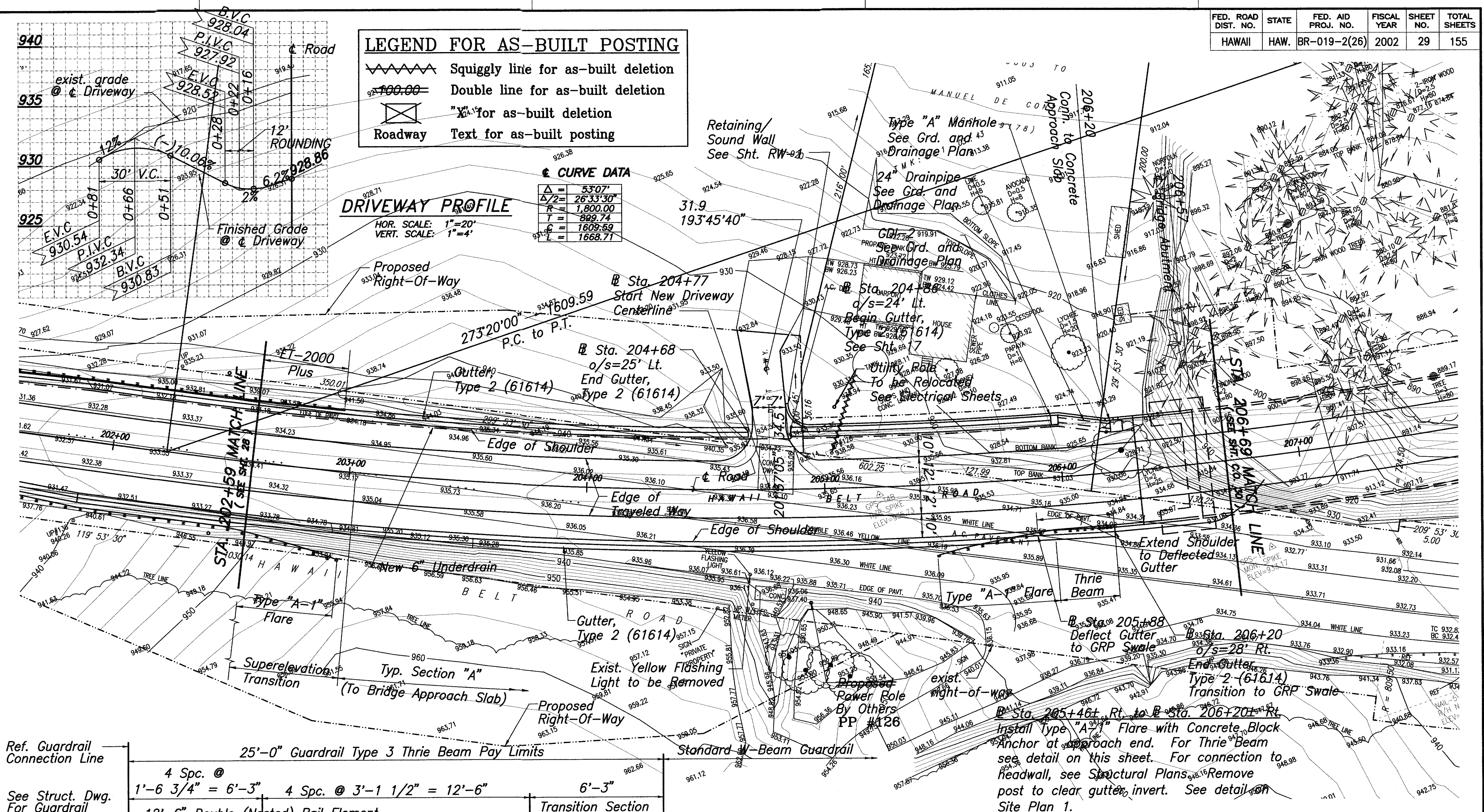
Squiggly line for as-built deletion  
 Double line for as-built deletion  
 X for as-built deletion  
 Roadway Text for as-built posting

**CURVE DATA**

|       |           |
|-------|-----------|
| Δ =   | 53°07'    |
| Δ/2 = | 26°33'30" |
| R =   | 1,800.00  |
| T =   | 899.74    |
| C =   | 1609.59   |
| L =   | 1668.71   |

**DRIVEWAY PROFILE**

HOR. SCALE: 1"=20'  
VERT. SCALE: 1"=4'



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SITE PLAN 2**

**HAWAII BELT ROAD**

**KEALAKAHA STREAM BRIDGE REPLACEMENT**

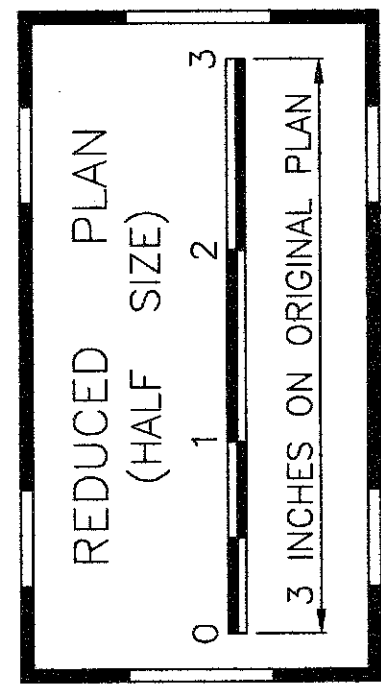
**PROJECT NO. BR-019-2 (26)**

SCALE: AS NOTED DATE: NOVEMBER 2001

SHEET No. 2 OF 6 SHEETS

LIANA S.F. CHOY  
LICENSED PROFESSIONAL ENGINEER  
No. 9209-C  
HAWAII U.S.A.

SATO & ASSOCIATES, INC.  
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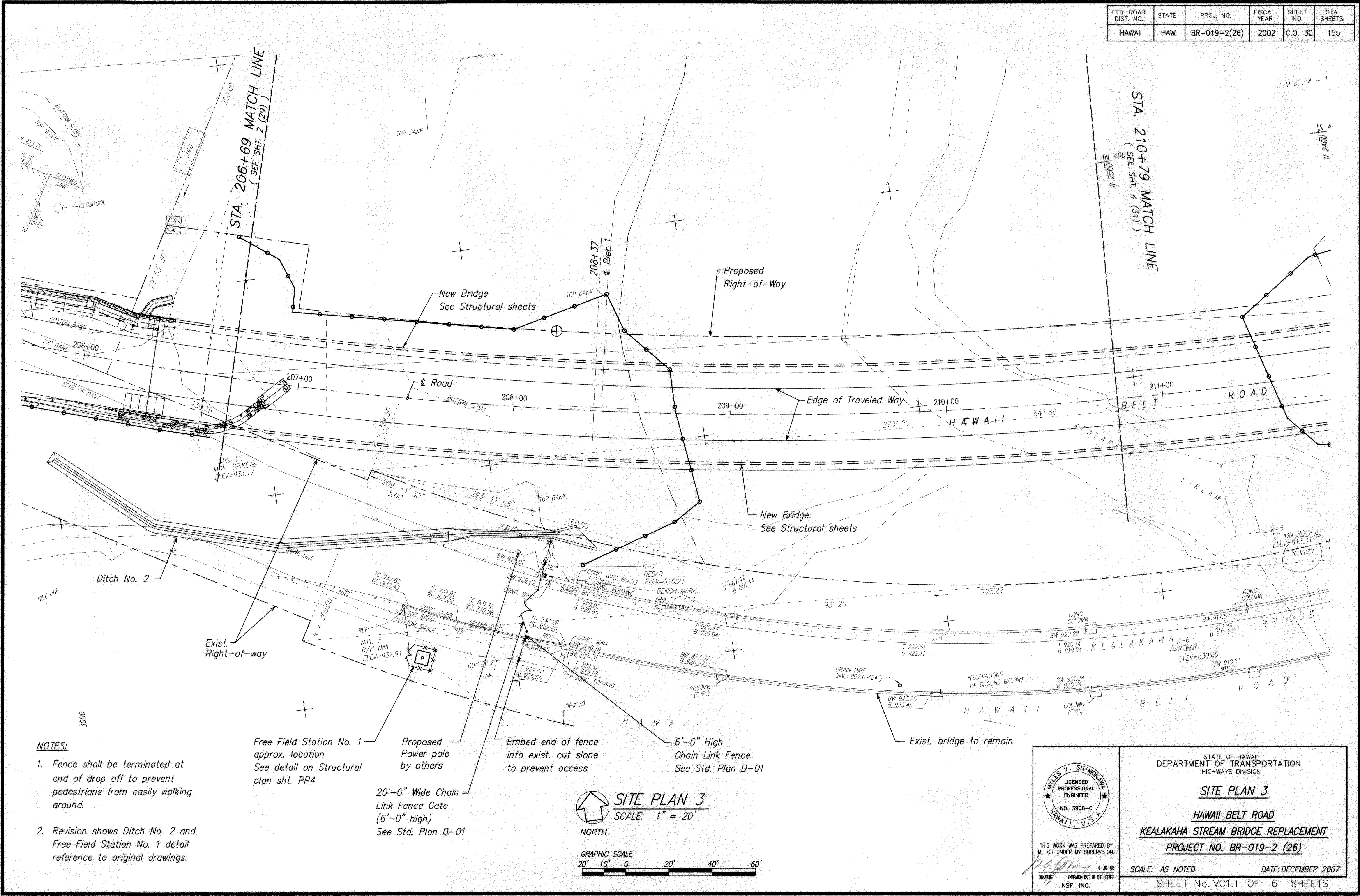
|                   |       |
|-------------------|-------|
| DATE              | _____ |
| SURVEY PLOTTED BY | _____ |
| DRAWN BY          | _____ |
| DESIGNED BY       | _____ |
| NOTED BY          | _____ |
| CHECKED BY        | _____ |
| ORIGINAL PLAN     | _____ |
| NOTE BOOK         | _____ |
| QUANTITIES BY     | _____ |
| NO.               | _____ |

CAD File Name: R:\kealaha\MicroSta\29.dwg

08/07/07 Removed Portion of Retaining/Sound Wall at Driveway

"AS-BUILT"

| FED. ROAD DIST. NO. | STATE | PROJ. NO.    | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(26) | 2002        | C.O. 30   | 155          |



- NOTES:**
- Fence shall be terminated at end of drop off to prevent pedestrians from easily walking around.
  - Revision shows Ditch No. 2 and Free Field Station No. 1 detail reference to original drawings.

Free Field Station No. 1  
approx. location  
See detail on Structural  
plan sht. PP4

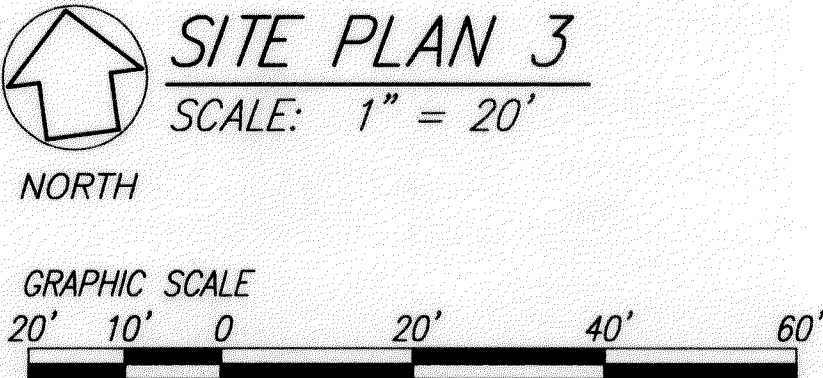
Proposed  
Power pole  
by others

20'-0" Wide Chain  
Link Fence Gate  
(6'-0" high)  
See Std. Plan D-01

Embed end of fence  
into exist. cut slope  
to prevent access

6'-0" High  
Chain Link Fence  
See Std. Plan D-01

Exist. bridge to remain



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ME OR UNDER MY SUPERVISION.  
SIGNATURE  
EXPIRATION DATE OF THE LICENSE  
KSF, INC.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SITE PLAN 3**

**HAWAII BELT ROAD**

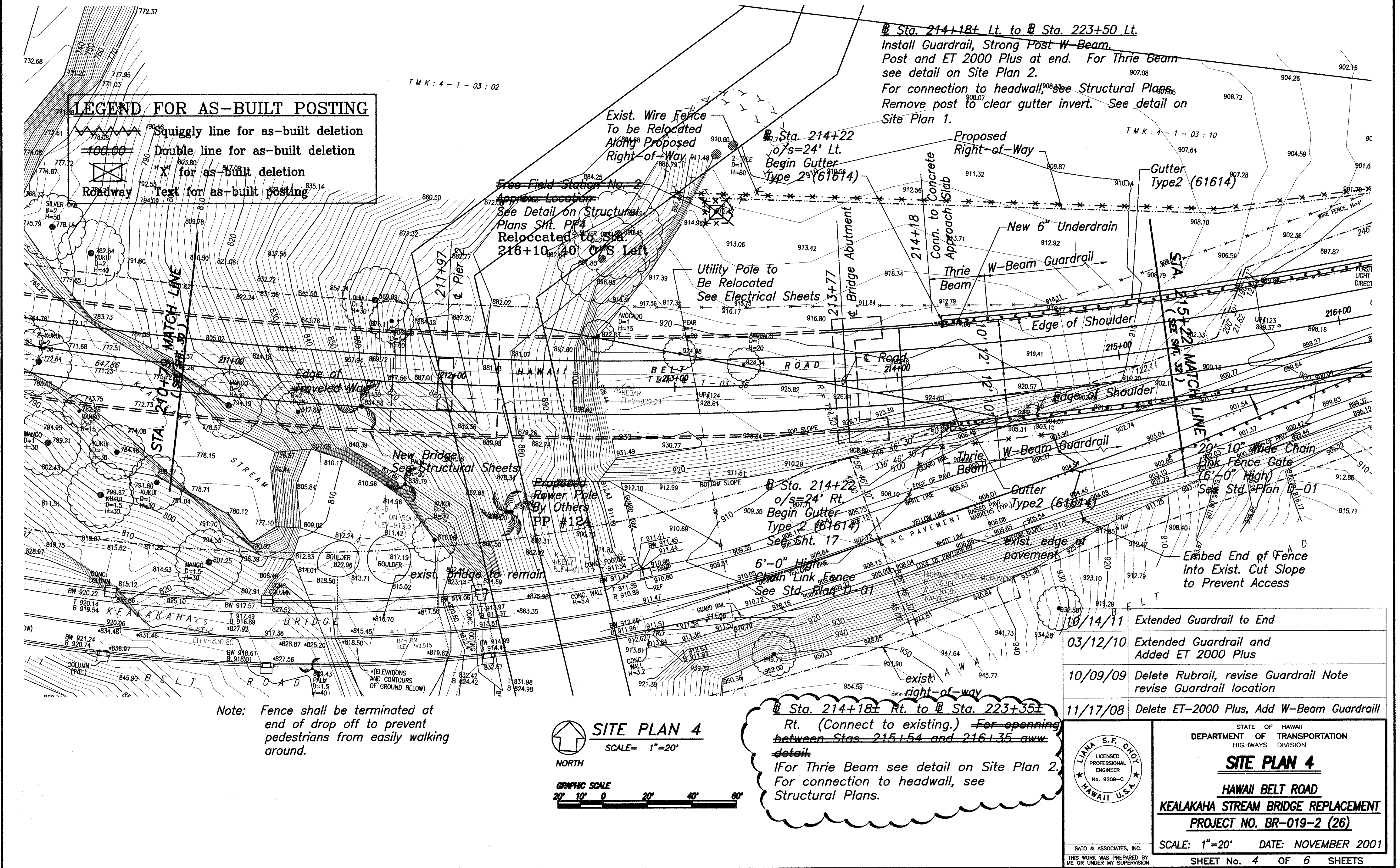
**KEALAKAHA STREAM BRIDGE REPLACEMENT**

**PROJECT NO. BR-019-2 (26)**

SCALE: AS NOTED      DATE: DECEMBER 2007

SHEET No. VC1.1 OF 6 SHEETS

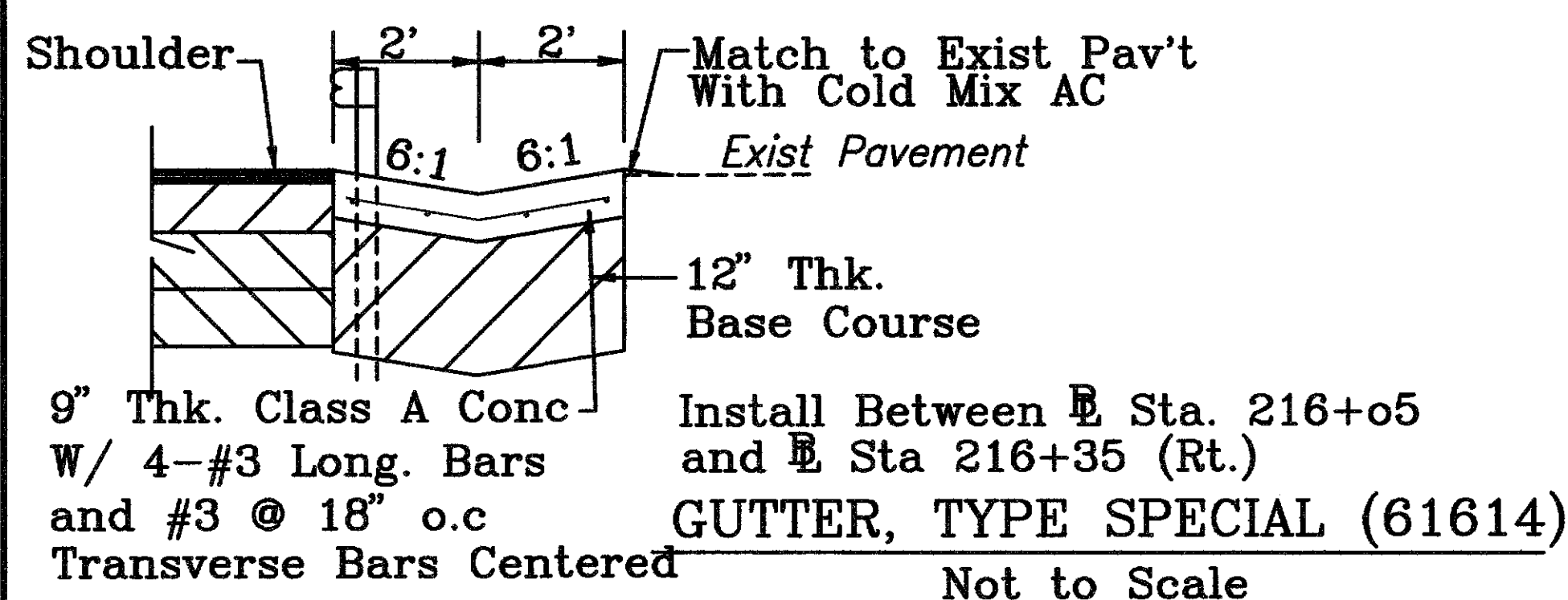
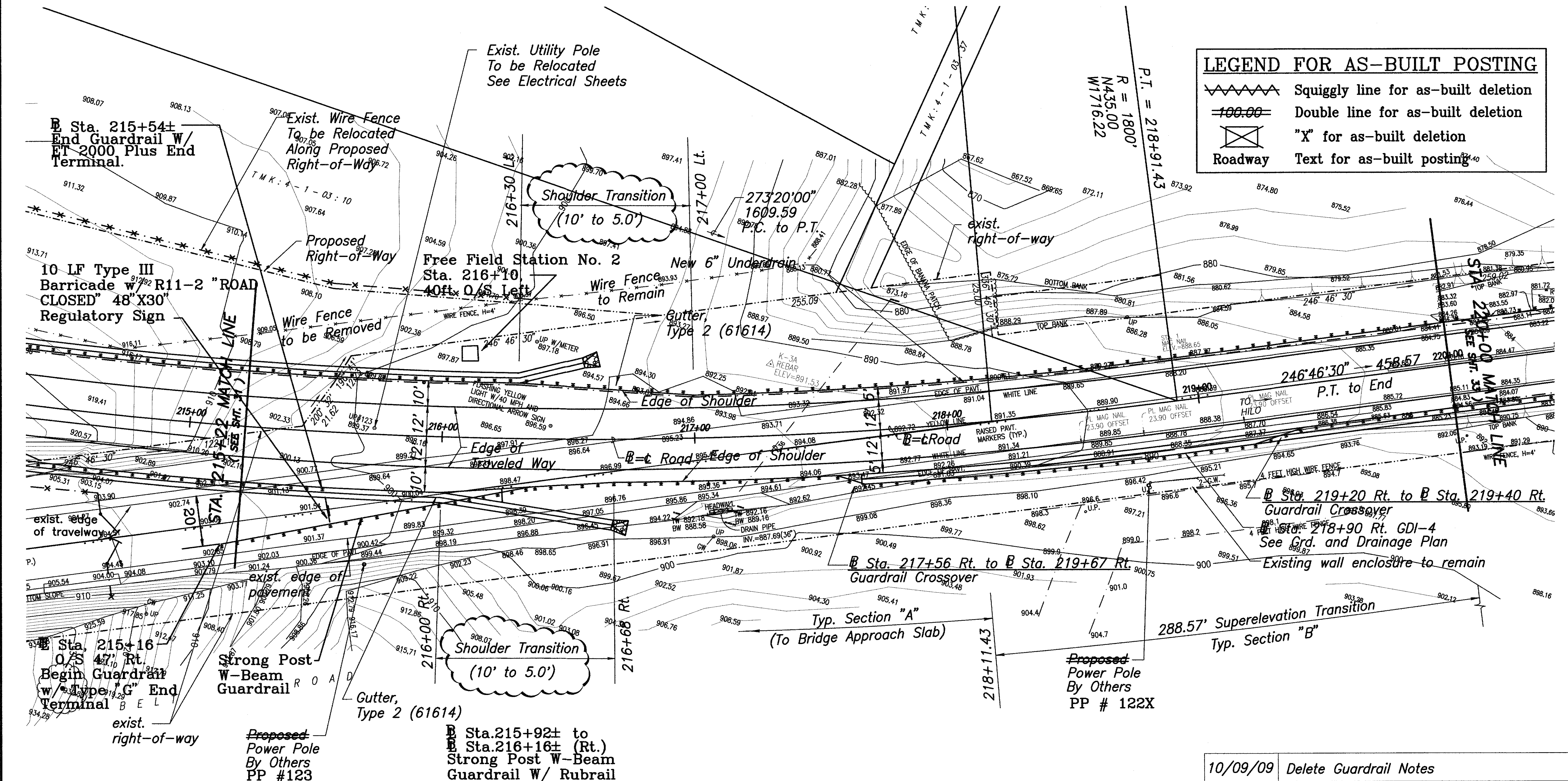
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| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(26)       | 2002        | 032       | 155          |

# LEGEND FOR AS-BUILT POSTING

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|  | Squiggly line for as-built deletion |
|  | Double line for as-built deletion   |
|  | "X" for as-built deletion           |
|  | Text for as-built posting           |



**SITE PLAN 5**  
SCALE= 1"=20'



|          |                                                                 |
|----------|-----------------------------------------------------------------|
| 10/09/09 | Delete Guardrail Notes                                          |
| 11/17/08 | Delete A-1 Flare, Relocate shoulder trans, Add W-Beam Guardrail |

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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SITE PLAN 5**

**HAWAII BELT ROAD**

**KEALAKAHA STREAM BRIDGE REPLACEMENT**

**PROJECT NO. BR-019-2 (26)**

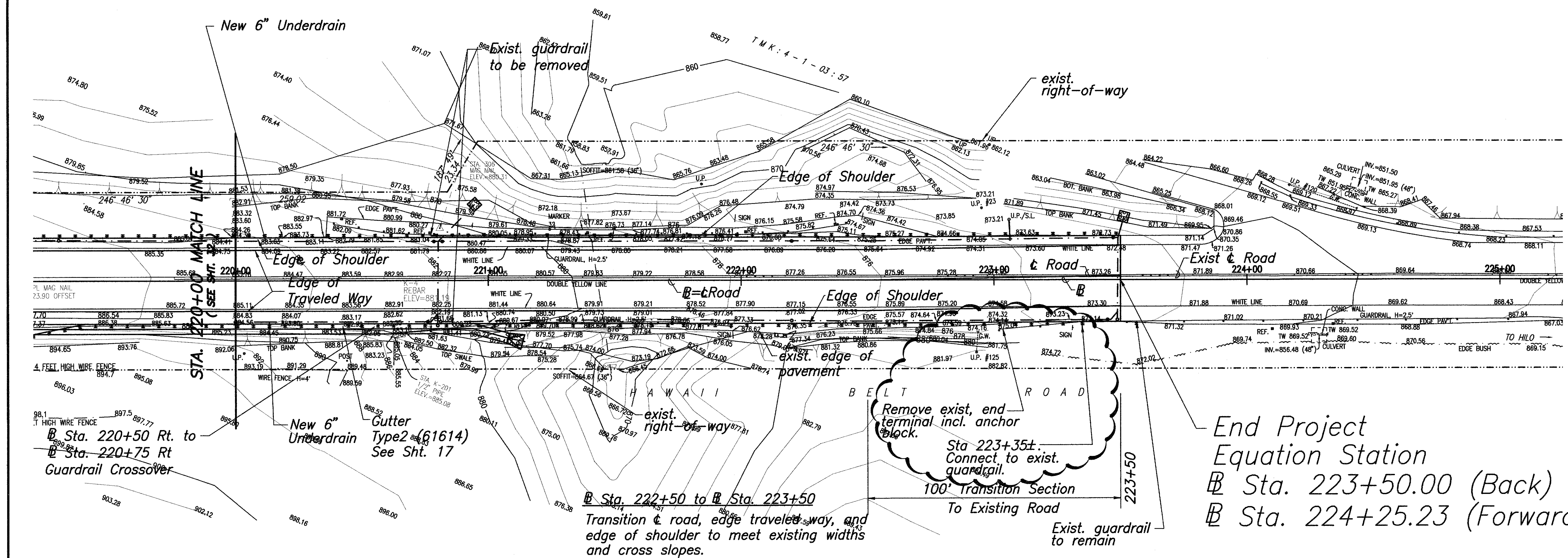
SCALE: AS NOTED DATE: NOVEMBER 2001

SHEET No. 5 OF 6 SHEETS

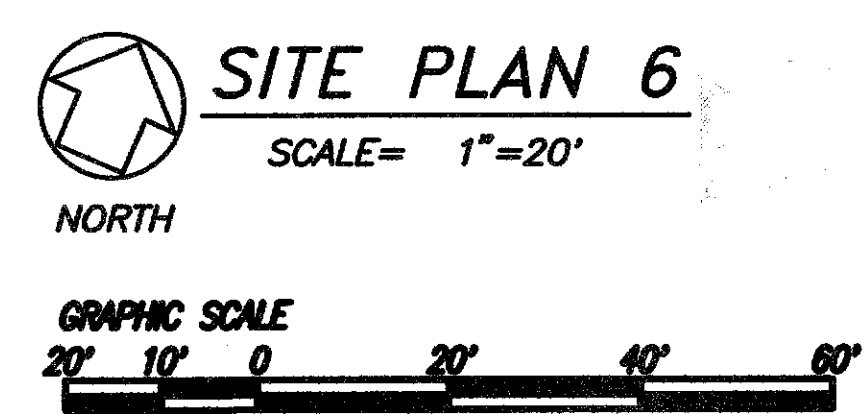
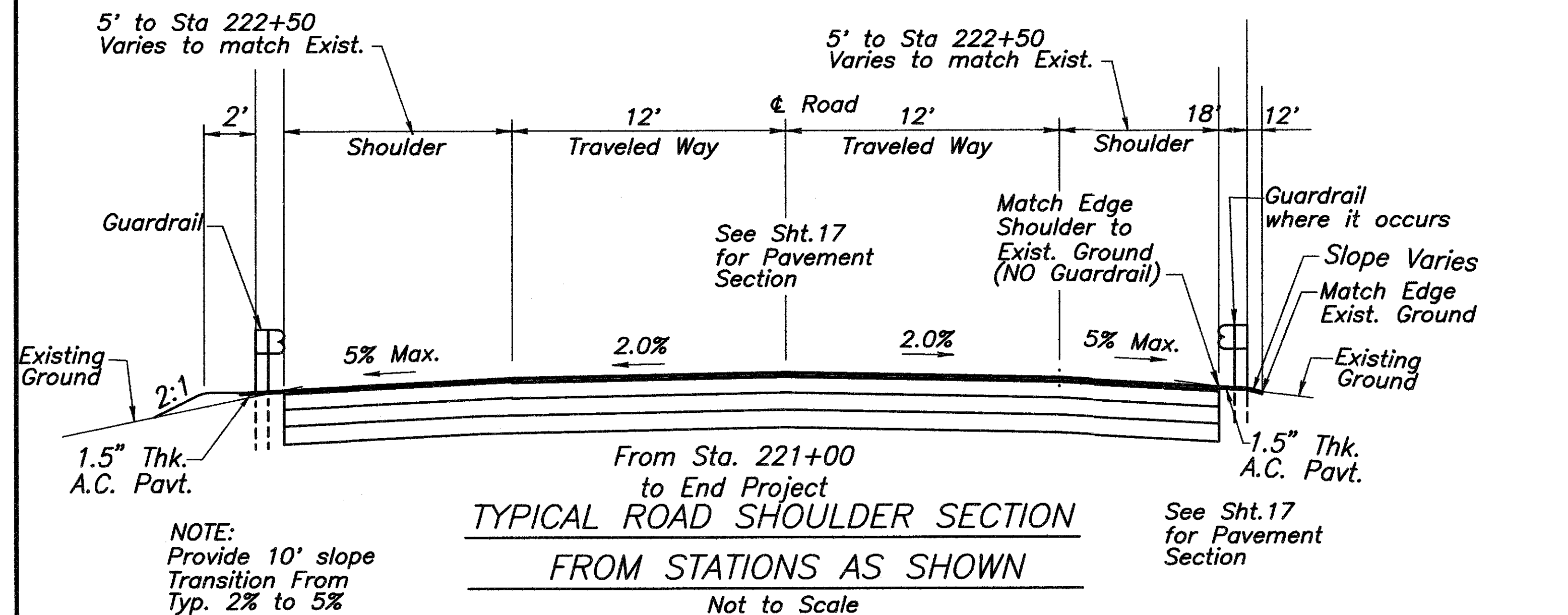
"AS-BUILT"

C.O. 32

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(26)       | 2002        | 33        | 155          |



End Project  
Equation Station  
Sta. 223+50.00 (Back)  
Sta. 224+25.23 (Forward)



|          |                                        |
|----------|----------------------------------------|
| 10/14/11 | Extended Guardrail to End              |
| 3/12/10  | Extended guardrail                     |
| 10/09/09 | Extend Project to 223+50<br>Add detail |
| 11/17/08 | Delete A-1 Flare, Add W-Beam Guardrail |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SITE PLAN 6**

HAWAII BELT ROAD  
KEALAKAHA STREAM BRIDGE REPLACEMENT  
PROJECT NO. BR-019-2 (26)

SCALE: AS NOTED DATE: NOVEMBER 2001

SHEET No. 6 OF 6 SHEETS

LIAMA S.F. CHOY  
LICENSED PROFESSIONAL ENGINEER  
No. 9209-C  
HAWAII U.S.A.

SATO & ASSOCIATES, INC.  
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

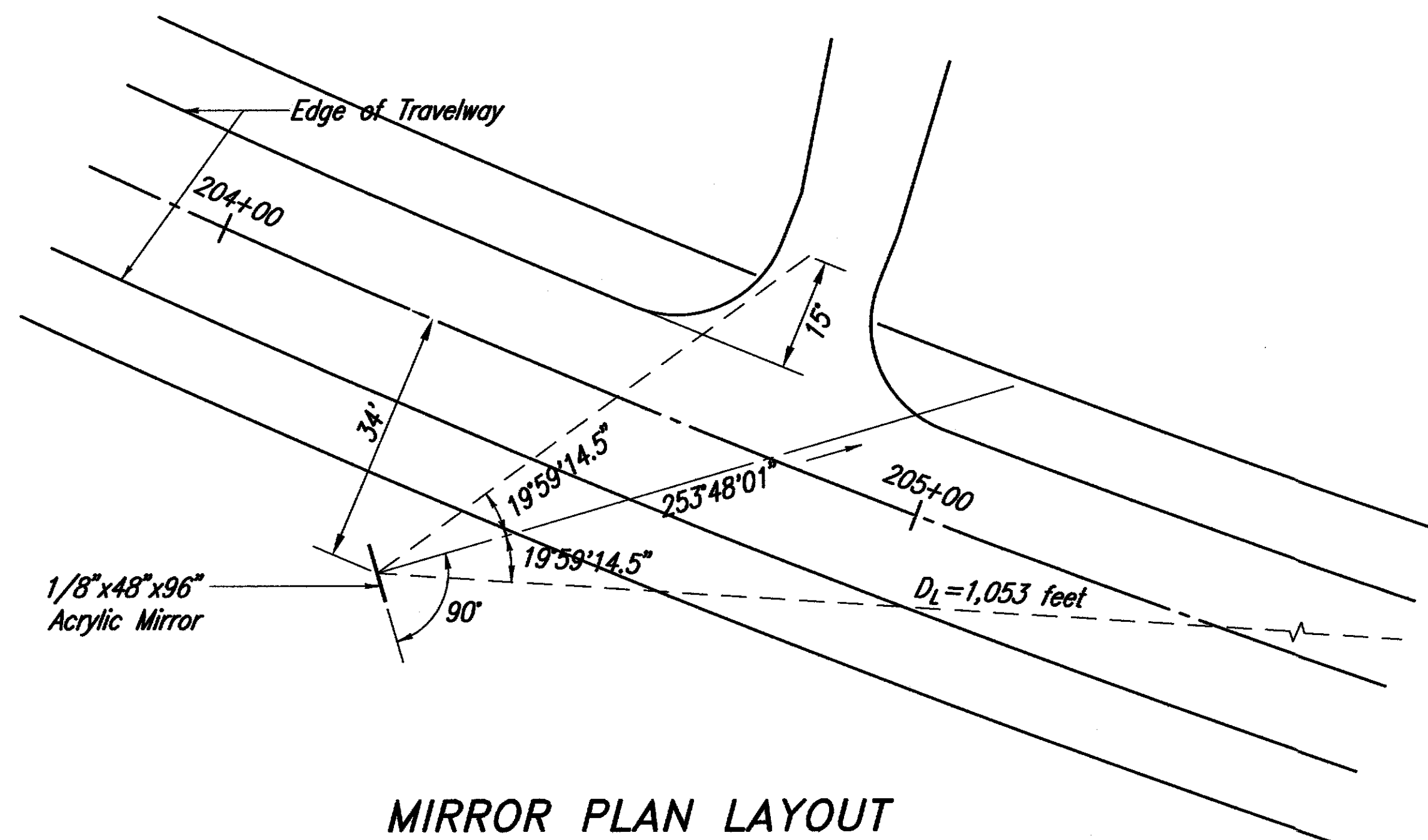
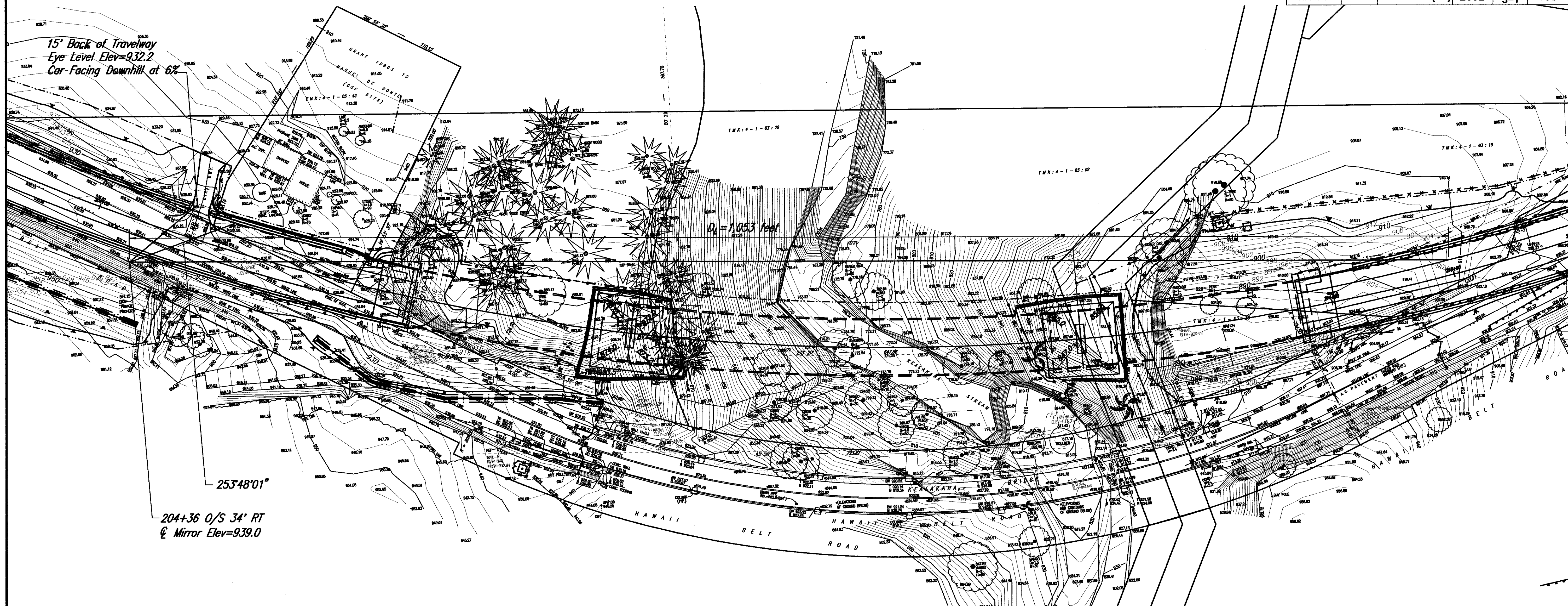
CAD File Name: R:\keialeng\MicroSta\33.dwg

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

CAD File Name: R:\kealaeng\MicroSta\33 S-1.dwg

|                  |                   |      |
|------------------|-------------------|------|
| ORIGINAL<br>PLAN | SURVEY PLOTTED BY | DATE |
| NOTE BOOK        | DRAWN BY          |      |
| No.              | DESIGNED BY       |      |
|                  | CHECKED BY        |      |

| 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(26)          | 2002           | 60.33<br>S-1 | 155             |



### DRIVEWAY MIRROR PLAN

SCALE= 1"=40'



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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### DRIVEWAY MIRROR PLAN

**HAWAII BELT ROAD  
KEALAKAHA STREAM BRIDGE REPLACEMENT  
PROJECT NO. BR-019-2 (26)**

SCALE: 1"=40'    DATE: NOVEMBER 2001  
SHEET No. 6.1 OF 6 SHEETS

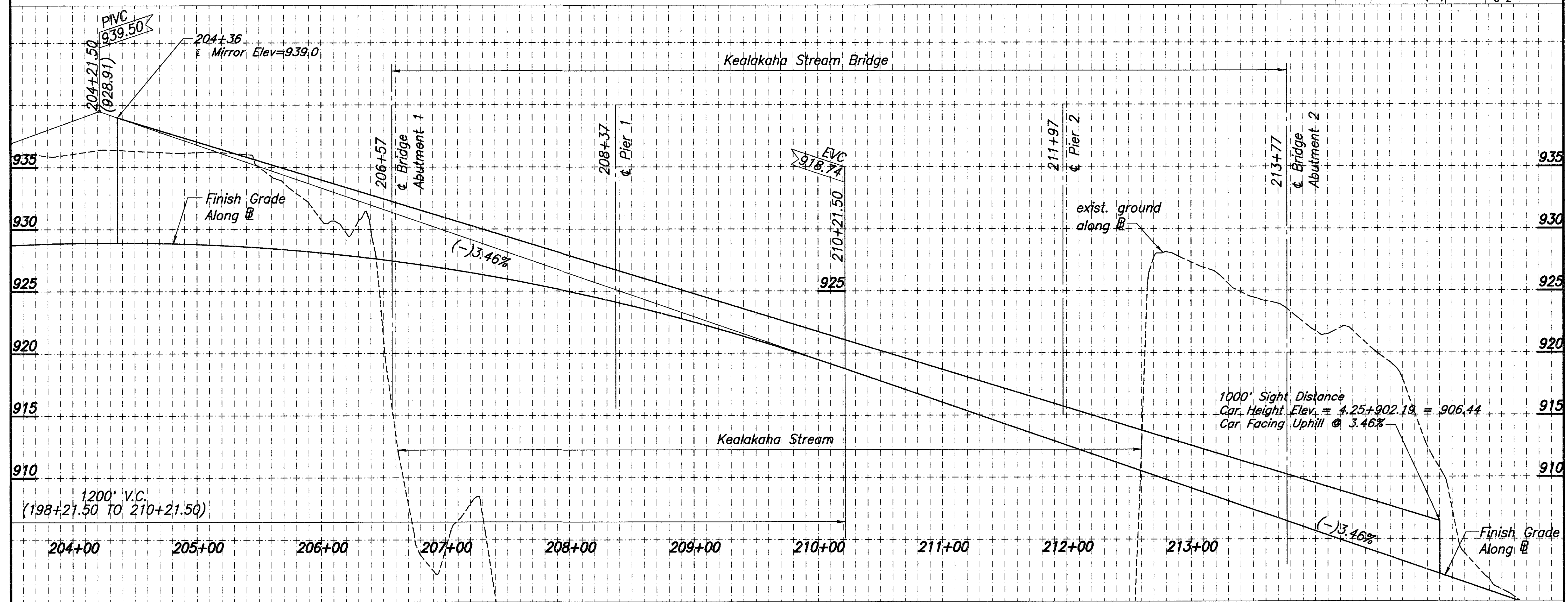
"AS-BUILT"

C.O. 33 S-1

CAD File Name: R:\kealaeng\MicroSta\33 S-2.dwg

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

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(26)       | 2002        | C033 S-2  | 155          |



**SIGHT DISTANCE PROFILE**  
SCALES: HORIZ. 1"=40'  
VERT. 1"=4'

SATO & ASSOCIATES, INC.  
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**DRIVEWAY MIRROR  
SIGHT DISTANCE PROFILE**

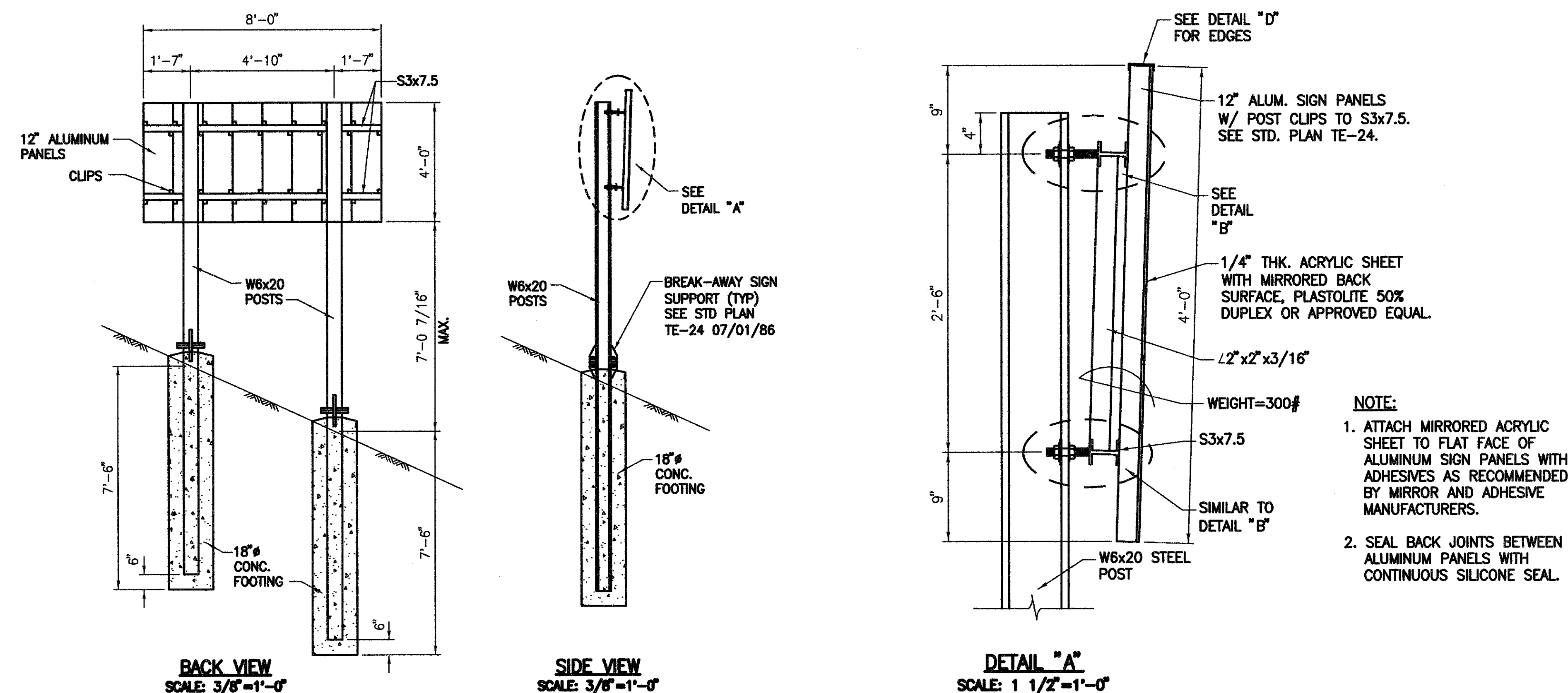
HAWAII BELT ROAD  
KEALAKAHA STREAM BRIDGE REPLACEMENT  
PROJECT NO. BR-019-2 (26)

SCALE: AS NOTED DATE: NOVEMBER 2001  
SHEET No. 6.2 OF 6 SHEETS

"AS-BUILT"

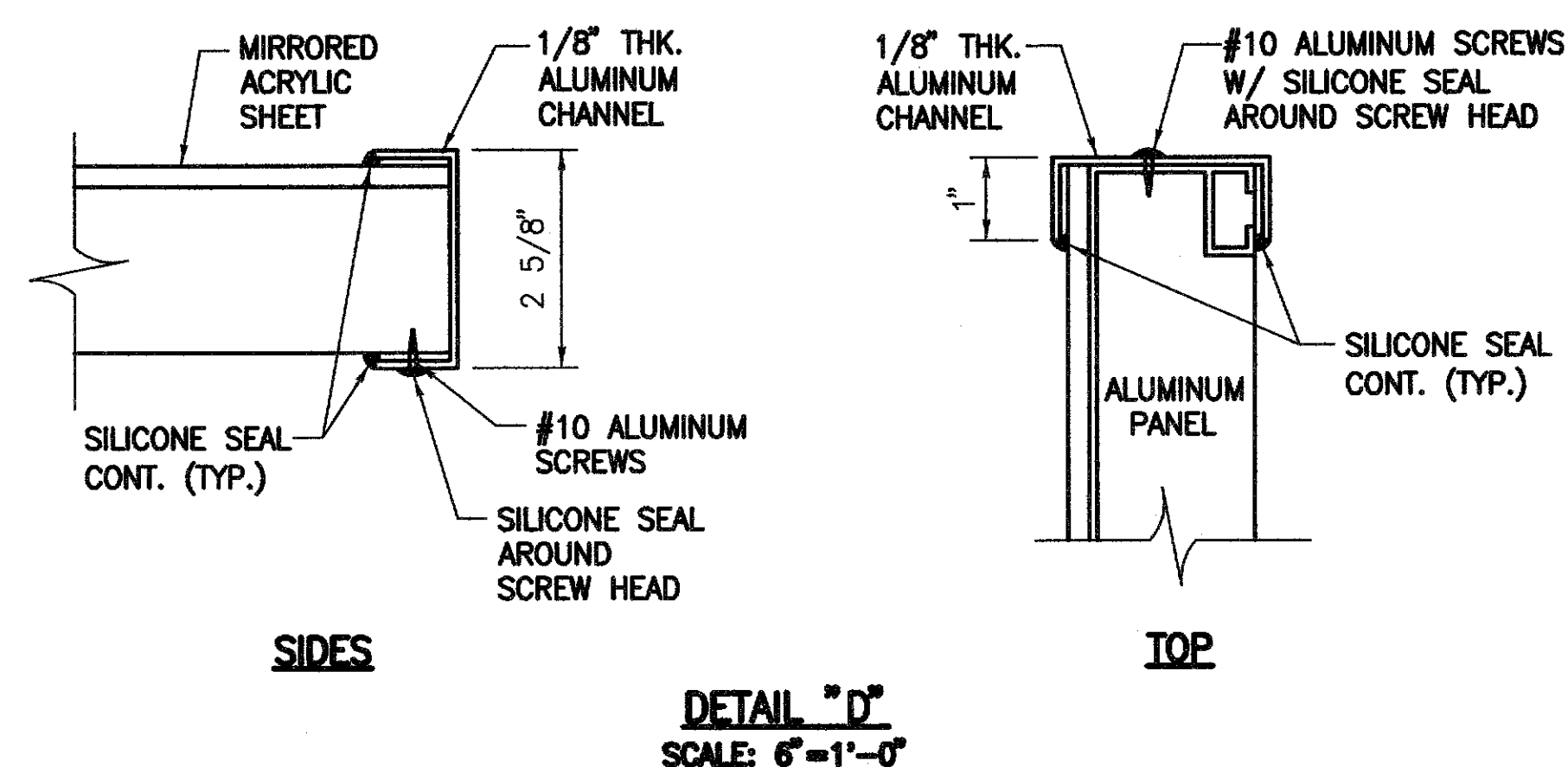
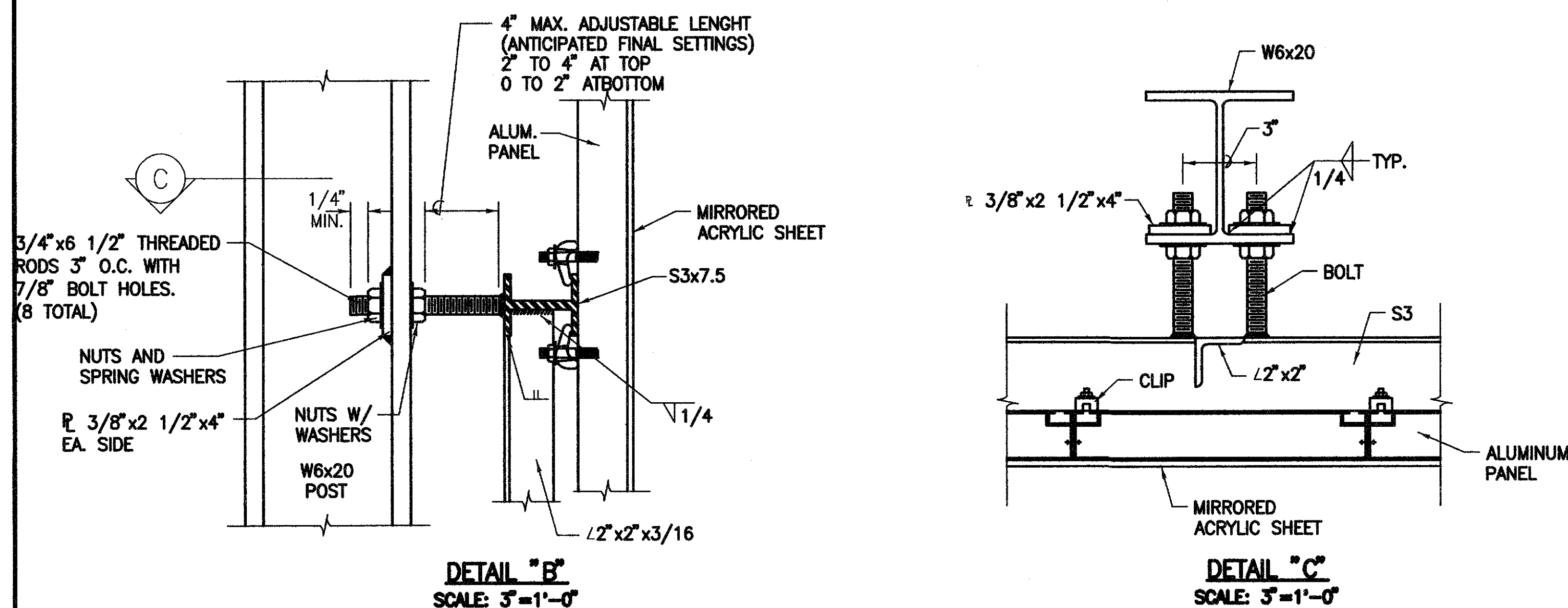
C.O. 33 S-2

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | BR-019-2(26)       | 2002        | C033 S-3  | 155          |



## NOTES

- Construction shall be in accordance with the current Standard Specifications for Road, Bridge and Public Works Construction and the Specifications for Installation of Miscellaneous Improvements within State Highways of the State Highways Division.
- The Contractor shall provide, install and maintain all necessary signs, lights flares, barricades, markers, cones and other protective facilities and shall take all necessary precautions for the protection, convenience and safety of public traffic. All such protective facilities and precautions to be taken shall conform with the "Administrative Rules of Hawaii Governing the Use of Traffic Control Devices at Work Sites on or Adjacent to Public Streets and Highways", adopted by the Director of Transportation and the current US Federal Highway Administration MUTCD - Manual on Uniform Traffic Control Devices, Part VI - Temporary Traffic Control.
- Concrete
  - 28 day streng
  - th = 3,000 psi
- Steel
  - Plates, sections: ASTM A-36
  - Bolts, threaded rods, nuts: ASTM A-307, galvanized
  - Welds: shielded arc welds with E700XX electrodes
  - All steel shall be hot dip galvanized
  - Coat damaged galvanized coating with 2 coats zinc rich coating.
- Aluminum
  - Aluminum panels, clips, bolts, etc: as shown on State of Hawaii Standard Details and shall be anodized
  - Prevent contact with steel with approved gaskets or coatings
- Acrylic Sheet
  - Acrylic mirror sheet manufactured by Plaskolite, Inc. or equal
  - Size: 1/8" x 48" x 96"
- Siting and Aiming
  - Mark and verify location of post holes. Drill post holes. Insert and brace posts. Mount mirror assembly on post.
  - Make preliminary adjustments of mirror.
  - Notify inspector to verify adjustments.
  - When approved pour concrete footings.
  - After concrete footings are cured, final adjustments of mirror aiming shall be made with the threaded rods and nuts.
- After aiming is inspected and approved, heavily coat threaded rods and nuts with silicone sealant to prevent corrosion and unintentional rotation of nuts.



## DRIVEWAY MIRROR DETAILS

"AS-BUILT"

C.O. 33 S-3

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**DRIVEWAY MIRROR**  
**DETAILS**  
**HAWAII BELT ROAD**  
**KEALAKAHA STREAM BRIDGE REPLACEMENT**  
**PROJECT NO. BR-019-2 (26)**  
SCALE: AS NOTED DATE: NOVEMBER 2001  
SHEET No. 6.3 OF 6 SHEETS