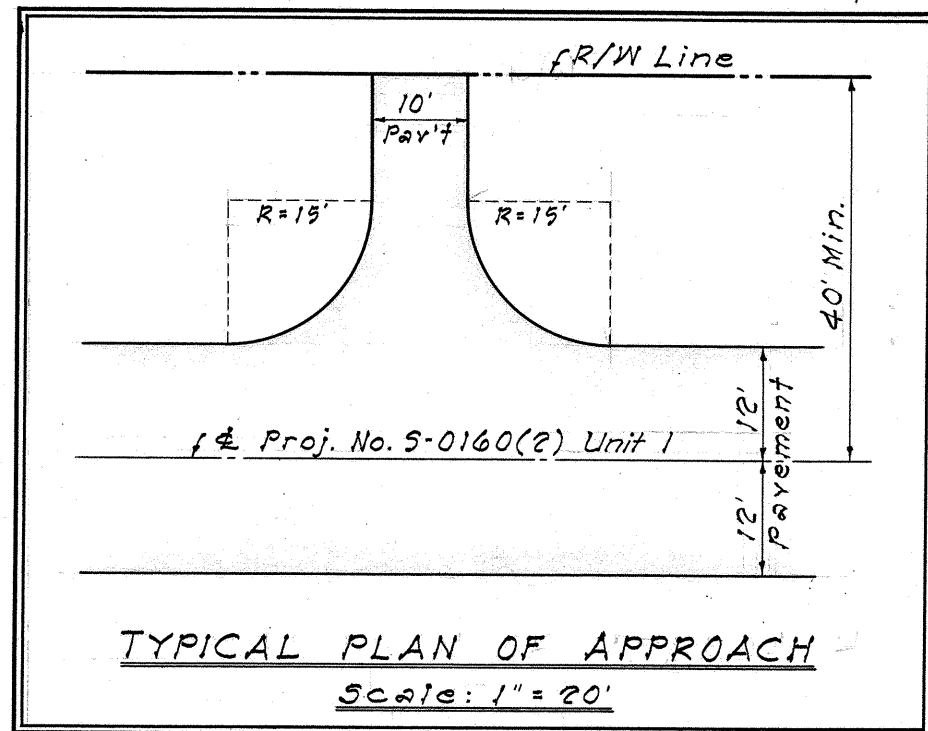


# GENERAL NOTES

1. Roadway alignments and coordinates are referred to Loe O Kanoni & U.S.C. & G.S. 1948 data.
2. B.M. elevations are referred to Mean Sea Level Datum.
3. Install Centerline Monuments along & of Right-of-Way and as staked out by the Engineer.
4. Existing pavement within Right-of-Way to be abandoned shall be scarified and dressed as ordered by the Engineer. (Incidental to Roadway Excavation.)
5. All Utility Poles to be relocated by others.
6. The Contractor has the option to use either Galvanized Steel or Aluminum Guard Rail. See Special Provision, Section 80.
7. The type of Pipe Culverts to be used shall be determined prior to awarding of the contract. For Estimated Quantities, see summary on Sht. No. 7.
8. All fences shall be constructed as soon as practicable as determined by the Engineer, during and not after construction of the roadway.
9. The 3" Galvanized Steel Pipe Sleeve shall conform to the applicable requirements of Section 100, Water Systems and Appurtenances of the Standard Specifications.



## SUMMARY OF REGULATORY & WARNING SIGNS

| TYPES<br>(See Sheet No. 7<br>for message) | R-1 | R-2-1(25) | R-2-1(35) | R-2-5 | R-4-1 | R-4-2 | W-1-2L | W-1-2R | W-2-2 | W-3-1 | W-5-1 |
|-------------------------------------------|-----|-----------|-----------|-------|-------|-------|--------|--------|-------|-------|-------|
| STATION                                   |     |           |           |       |       |       |        |        |       |       |       |
| 53+50 Rt.                                 |     |           |           |       |       |       |        |        |       |       |       |
| 54+00 Rt. Lt.                             | 1   |           |           |       |       |       |        |        |       |       |       |
| 57+00 Rt.                                 |     |           |           |       |       |       |        |        |       |       |       |
| 60+50 Lt.                                 | 1   |           |           |       |       |       |        |        |       |       |       |
| 63+22 Lt.                                 |     |           |           |       |       |       |        |        |       |       |       |
| 63+00 Rt.                                 |     |           |           |       |       |       |        |        |       |       |       |
| 70+30 Rt.                                 |     |           |           |       | 1     |       |        |        |       |       |       |
| 76+30 Lt.                                 |     |           |           |       |       | 1     |        |        |       |       |       |
| 81+00 Rt.                                 |     |           |           |       |       |       |        |        |       |       |       |
| 87+50 Lt.                                 |     |           |           |       |       |       |        |        |       |       |       |
| 91+00 Lt.                                 |     |           |           |       |       |       |        |        |       |       |       |
| 106+08 Rt. Lt.                            | 2   |           |           |       |       |       |        | 1      |       |       |       |
| 123+75 Rt.                                |     |           |           |       |       |       |        |        |       |       |       |
| 123+75 Rt.                                |     |           |           |       | 1     |       |        | 1      |       |       |       |
| 131+50 Lt.                                |     |           |           |       |       | 1     |        |        |       |       |       |
| 132+00 Rt.                                |     |           |           |       |       |       |        |        |       |       |       |
| 132+00 Rt. Lt.                            | 1   |           |           |       |       |       |        |        |       |       |       |
| 132+00 Lt.                                |     |           |           |       |       |       |        |        |       |       |       |
| 132+00 Lt.                                |     |           |           |       |       |       |        |        |       |       |       |
| 161+05 Rt.                                |     |           |           |       |       |       |        |        |       |       | 1     |
| 164+90 Rt.                                |     |           |           |       |       |       |        |        |       |       |       |
| 165+00 Lt.                                | 1   |           |           |       |       |       |        |        |       |       |       |
| 166+20 Rt.                                |     |           |           |       |       |       |        |        |       |       |       |
| 166+00 Lt.                                |     |           |           |       |       |       |        |        |       |       |       |
| 58+00 Rt.                                 |     |           |           |       |       |       |        |        |       |       |       |
| TOTALS                                    | 57  | 1         | 2         | 1     | 4     | 4     | 3      | 3      | 2     | 1     | 1     |

## NOTE TO CONTRACTOR

The Soil Profile Data shown on these sheets are for design purposes only and are intended for the convenience of the Engineer in the control of earthwork. The borings were carefully made and are believed to be reliable, but the Engineer does not guarantee the accuracy of same. The Contractor is hereby advised and will be presumed to have made his own investigation on the site prior to submission of his bid. The State will not be responsible for the data shown on these sheets.

Sta. 52+25 Lt. Constr. smooth and easy riding Approach.  
Estimated Quantities  
Pav't Area = 42 sq. yd.  
B.C. Area = 42 sq. yd.  
Exc. = 3 cy.

Sta. 53+50 Lt. Install additional Number Plate 5-0160(2).

Sta. 55+08 Lt. Constr. smooth and easy riding Approach.  
Estimated Quantities  
Pav't Area = 42 sq. yd.  
B.C. Area = 42 sq. yd.  
Exc. = 3 cy.

**É CURVE DATA**  
A = 1' 38"  
D = 0' 15"  
R = 22.912.31  
L = 228.67  
T = 233.33  
S.E. = 2.33  
N.C.

Sta. 53+50 to 61+30 Lt. Reconstruct Stone Wall Fence. Approx. 278 cy. For detail see Sht. No. 2

Sta. 57+15 Lt. Constr. smooth and easy riding Approach.  
Estimated Quantities  
Pav't Area = 42 sq. yd.  
B.C. Area = 42 sq. yd.  
Exc. = 3 cy.

Sta. 58+15 Lt. Constr. smooth and easy riding Approach.  
Estimated Quantities  
Pav't Area = 42 sq. yd.  
B.C. Area = 42 sq. yd.  
Exc. = 3 cy.

Sta. 61+25 to 63+50 Lt. Reset existing Reflector Markers. From Sta. 53+50-55+50 Rt. 3 ea.

Sta. 61+30 to 65+00 Lt. Constr. New sld Wire Fence with Wood Posts. 401

Sta. 65+22 Lt. Construct Sideroad Connection as shown. Estimated Quantities  
Pav't Area = 81 sq. yd.  
B.C. Area = 84 sq. yd.  
Exc. = 125 cy.

Sta. 70+25 Lt. Constr. smooth and easy riding Approach. Existing Reflector Markers. Estimated Quantities  
Pav't Area = 42 sq. yd.  
B.C. Area = 42 sq. yd.  
Exc. = 3 cy.

Sta. 72+15 Lt. Constr. smooth and easy riding Approach. Estimated Quantities  
Pav't Area = 42 sq. yd.  
B.C. Area = 42 sq. yd.  
Exc. = 3 cy.

Sta. 69+50 Lt. Construct 8' Hurdle. (2730.00 RI#5 to RI#2) (2730.00 RI#5 to RI#2)

Sta. 65+22 40' Rt. Barricade existing road with 12 L.F. of Metal Guard Rail with Concrete Posts.

Sta. 72+55 Lt. Constr. smooth and easy riding Approach. Estimated Quantities  
Pav't Area = 44 sq. yd.  
B.C. Area = 44 sq. yd.  
Exc. = 3 cy.

Sta. 74+10 Lt. Constr. smooth and easy riding Approach. Estimated Quantities  
Pav't Area = 42 sq. yd.  
B.C. Area = 42 sq. yd.  
Exc. = 3 cy.

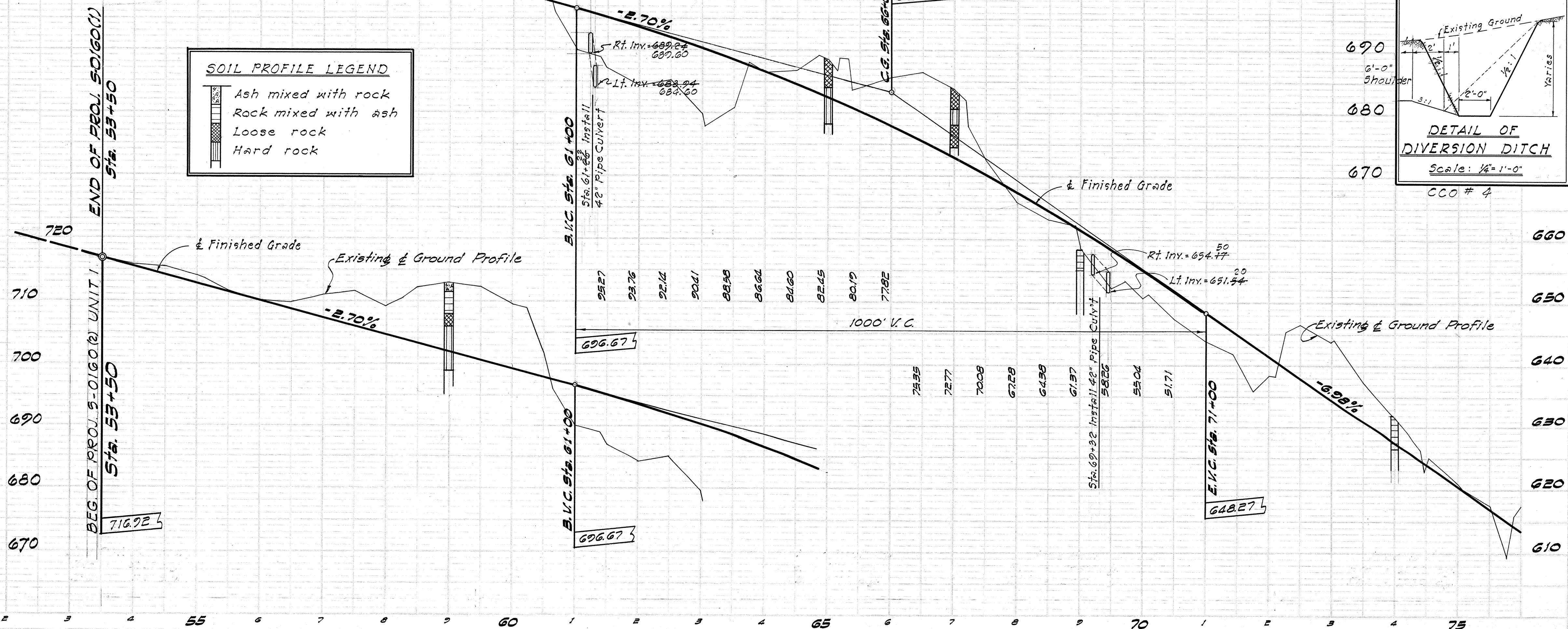
Sta. 73+30 & 74+50 Lt. Install Reflector Markers. 2 ea.

Sta. 73+30 & 74+50 Lt. Install Bi-directional Reflector Markers. 2 ea.

Sta. 74+15 to 75+75 Rt. Construct Diversion Ditch as shown and as per detail below. 127 cy.

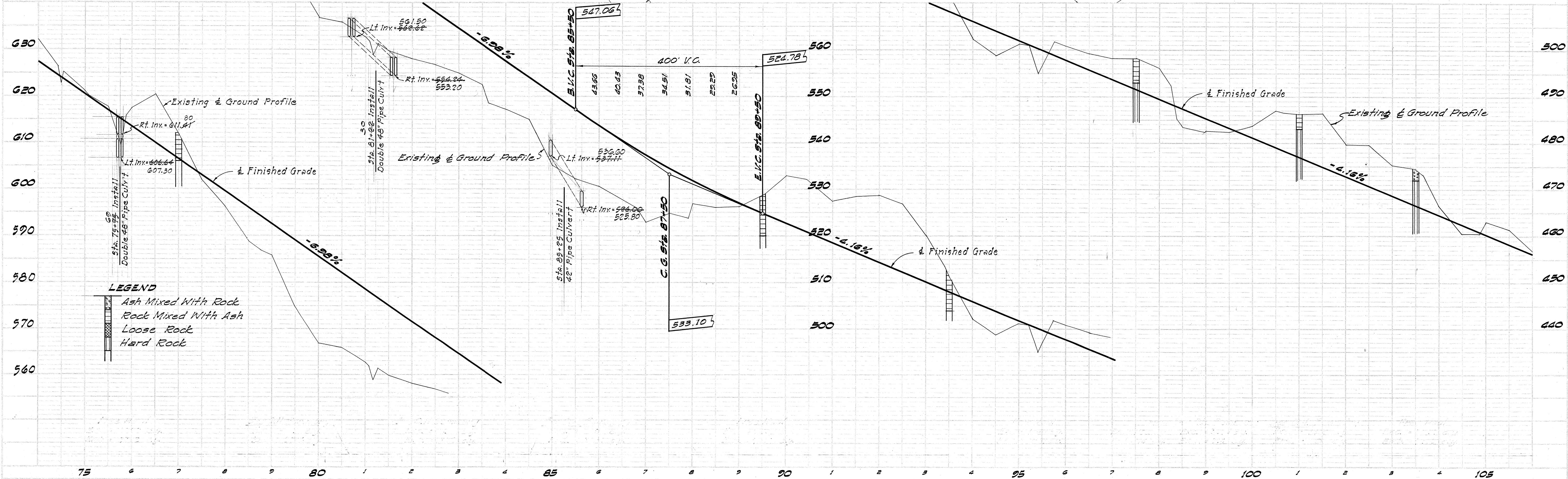
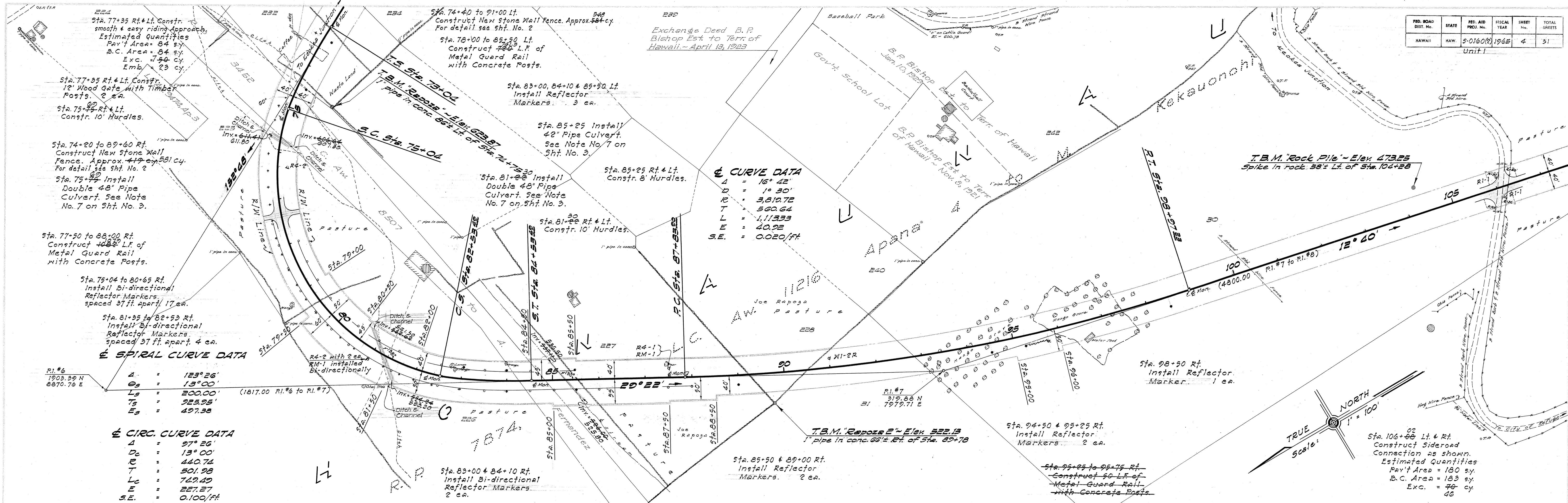
## SOIL PROFILE LEGEND

- Ash mixed with rock
- Rock mixed with ash
- Loose rock
- Hard rock



## DETAIL OF DIVERSION DITCH

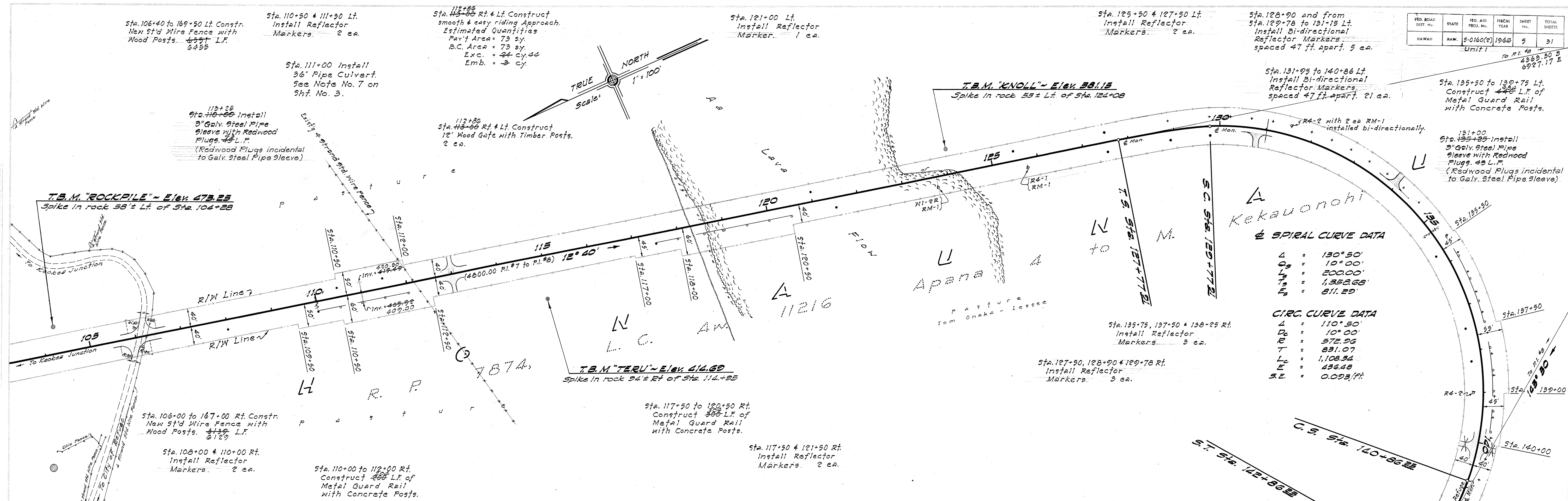
Scale: 1/4" = 1'-0"  
CCO # 4



PLAN  
 1. LOCATION OF PROJECT  
 2. LOCATION OF RIGHT-OF-WAY  
 3. LOCATION OF EXISTING ROAD  
 4. LOCATION OF EXISTING RAILROAD  
 5. LOCATION OF EXISTING UTILITY  
 6. LOCATION OF EXISTING STRUCTURE  
 7. LOCATION OF EXISTING FENCE  
 8. LOCATION OF EXISTING DRAINAGE  
 9. LOCATION OF EXISTING EROSION CONTROL  
 10. LOCATION OF EXISTING LANDSCAPE

PROFILE  
 1. LOCATION OF PROJECT  
 2. LOCATION OF RIGHT-OF-WAY  
 3. LOCATION OF EXISTING ROAD  
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 5. LOCATION OF EXISTING UTILITY  
 6. LOCATION OF EXISTING STRUCTURE  
 7. LOCATION OF EXISTING FENCE  
 8. LOCATION OF EXISTING DRAINAGE  
 9. LOCATION OF EXISTING EROSION CONTROL  
 10. LOCATION OF EXISTING LANDSCAPE

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 5-0160(2)          | 1963        | 9         | 31           |

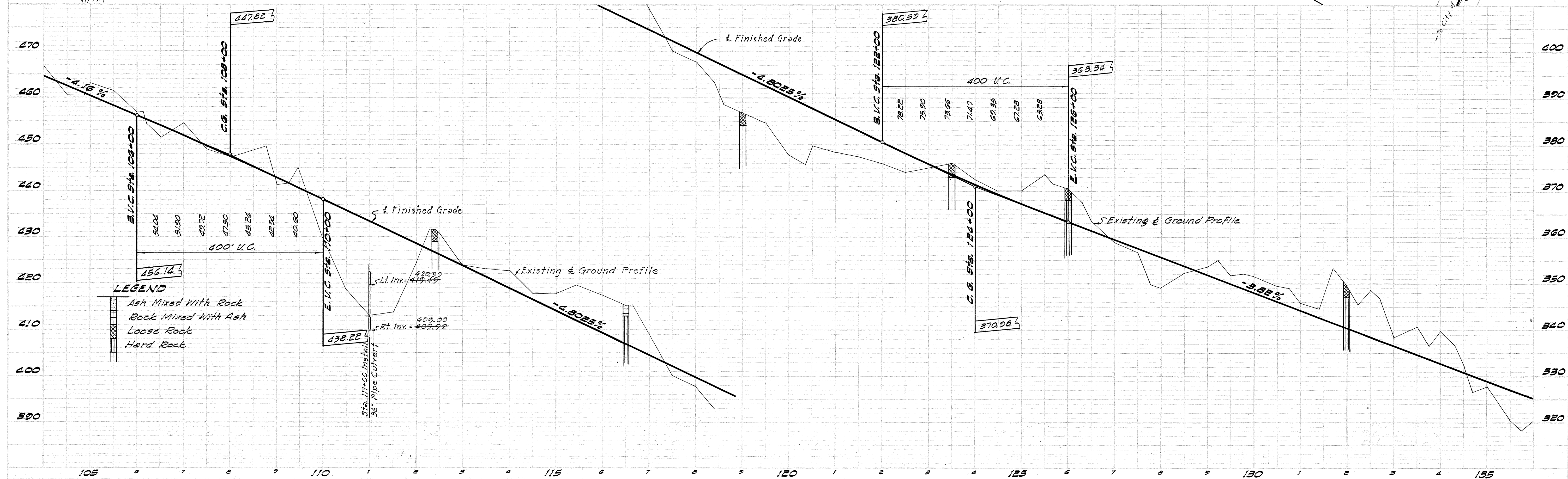


**SPiral Curve Data**

|            |                  |
|------------|------------------|
| $\Delta$   | $130^{\circ}50'$ |
| $\Delta_s$ | $10^{\circ}00'$  |
| $L_s$      | $200.00'$        |
| $L_c$      | $1,352.68'$      |
| $E_s$      | $811.29'$        |

**CIRC. CURVE DATA**

|            |                  |
|------------|------------------|
| $\Delta$   | $110^{\circ}50'$ |
| $\Delta_s$ | $10^{\circ}00'$  |
| $R$        | $372.26'$        |
| $T$        | $831.07'$        |
| $L_c$      | $1,108.34'$      |
| $E_c$      | $436.48'$        |
| $S.E.$     | $0.0093/ft$      |



**LEGEND**

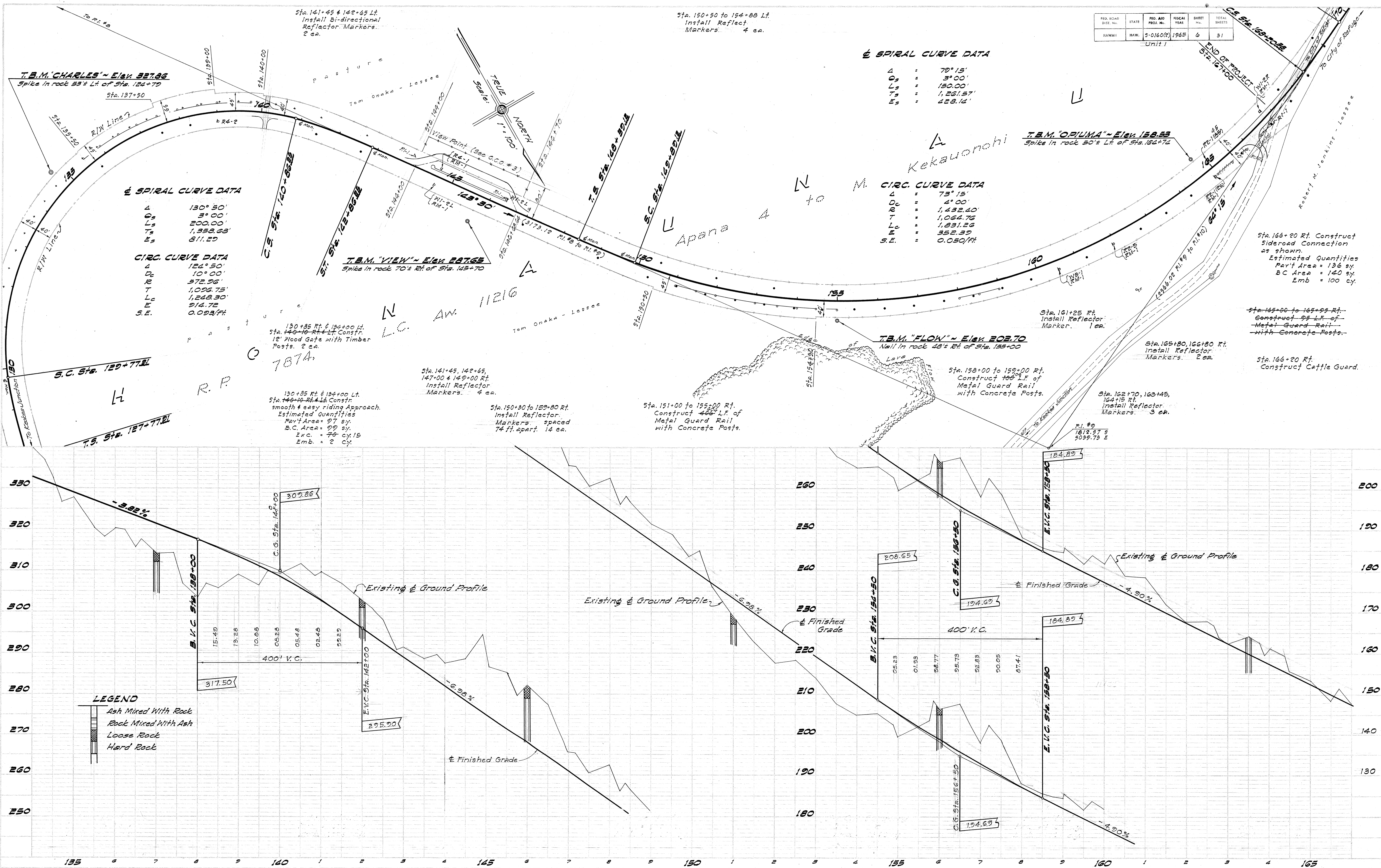
|  |                     |
|--|---------------------|
|  | Ash Mixed With Rock |
|  | Rock Mixed With Ash |
|  | Loose Rock          |
|  | Hard Rock           |

PLAN  
NOTES:  
1. ALL GRADES CHECKED.  
2. SEE SHEET 31 FOR CONTINUATION OF GRADES.  
3. SEE SHEET 31 FOR CONTINUATION OF GRADES.

PROFILE  
NOTES:  
1. ALL GRADES CHECKED.  
2. SEE SHEET 31 FOR CONTINUATION OF GRADES.  
3. SEE SHEET 31 FOR CONTINUATION OF GRADES.

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 5-0160(2)          | 1965        | 6         | 31           |

Unit 1



PLAN  
SURVEYED  
NOTED  
DATE  
BY  
REVISIONS

PROFILE  
SURVEYED  
NOTED  
DATE  
BY  
REVISIONS

### SPIRAL CURVE DATA

$\Delta = 79^{\circ}15'$   
 $S_s = 3^{\circ}00'$   
 $L_s = 150.00'$   
 $T_s = 1261.87$   
 $E_s = 228.14$

### CIRC. CURVE DATA

$\Delta = 73^{\circ}15'$   
 $D_c = 4^{\circ}00'$   
 $R = 1,432.40'$   
 $T = 1,064.76$   
 $L = 1,831.26$   
 $E = 352.39$   
 $S.E. = 0.500/ft$

T.B.M. "OPIUMA" ~ Elev. 138.55  
Spike in rock 50' left of Sta. 164+74

Sta. 167+00 Lt. Install  
FA Marker

Sta. 167+00 Lt. Install  
Secondary System  
Project Sign

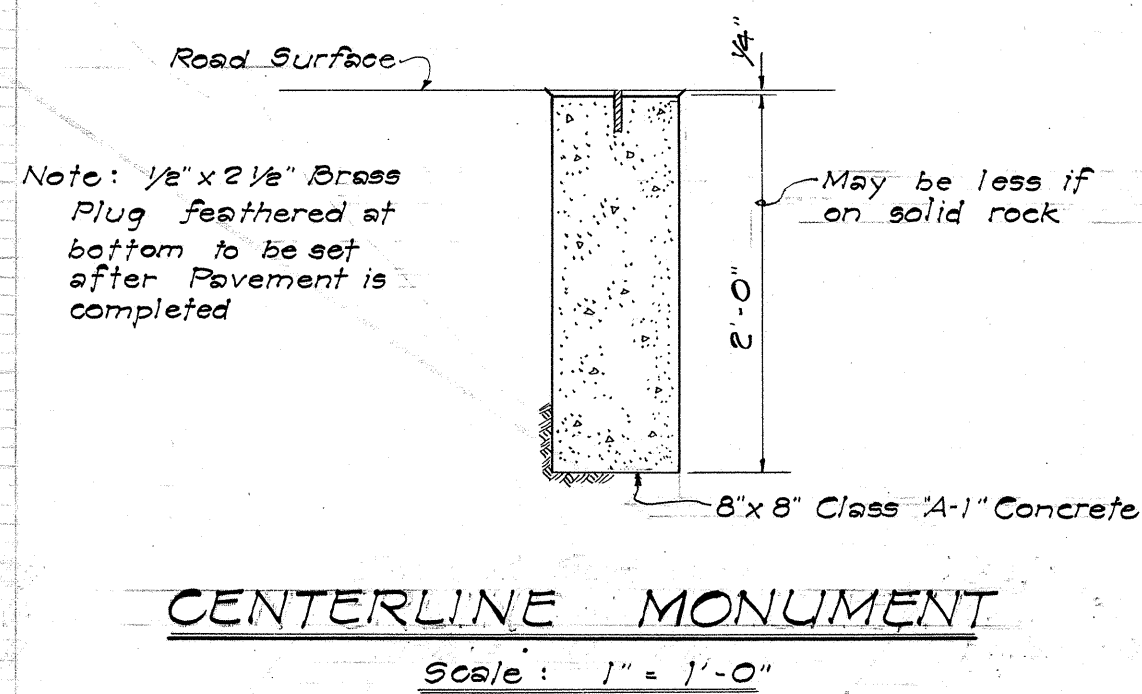
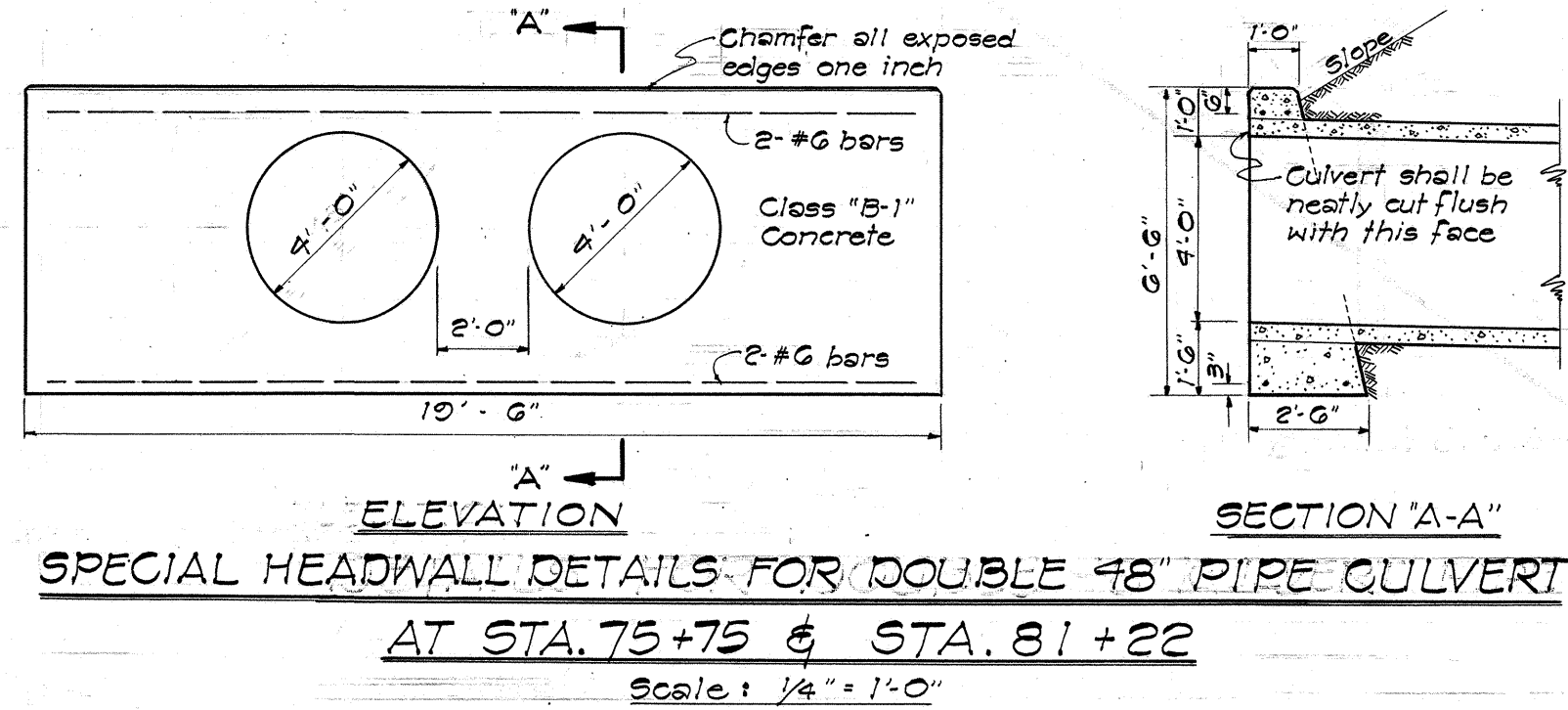
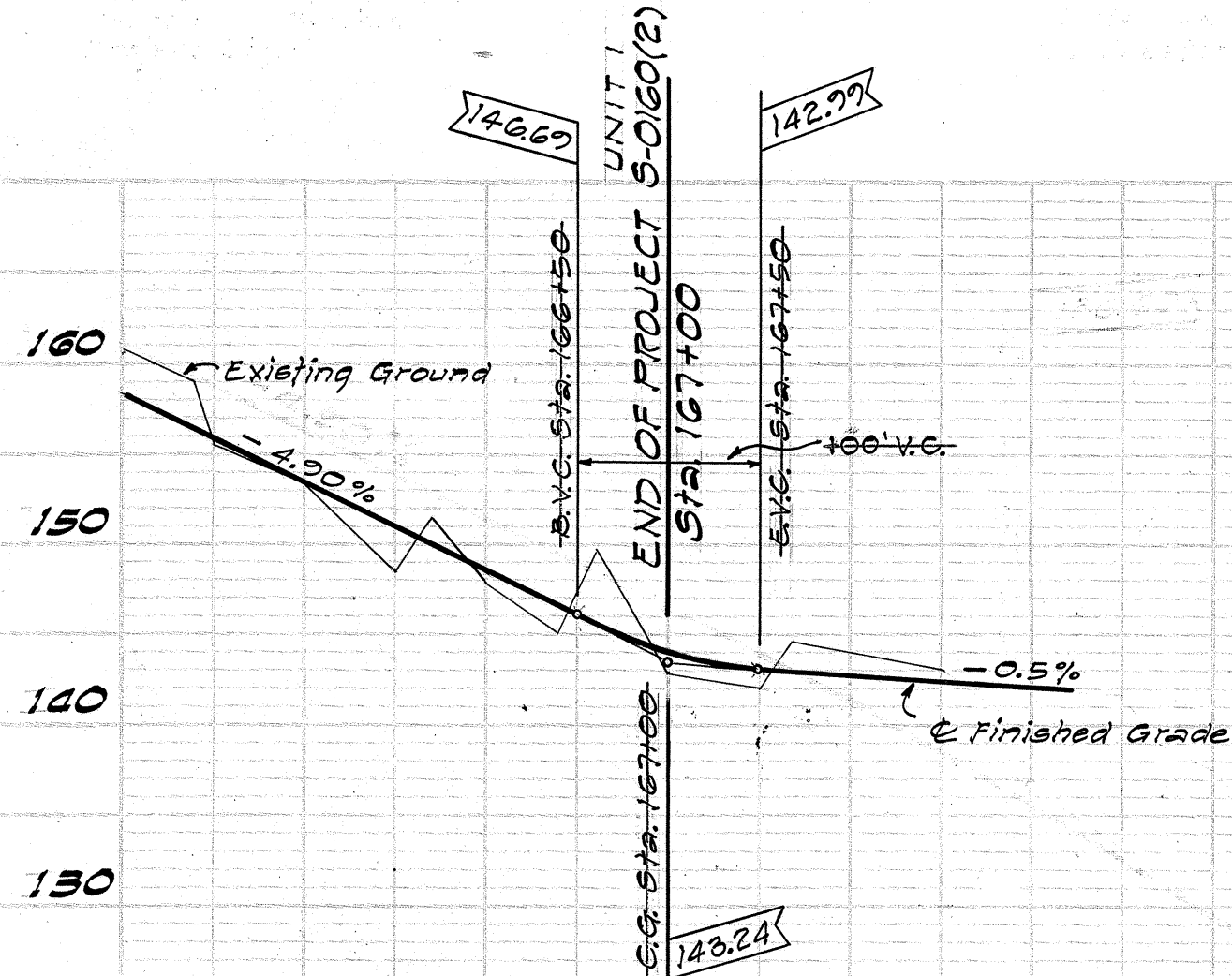
Tom Onaka - Lessee

T.B.M. "APPLE" ~ Elev. 24.52  
Spike in rock 44' left of Sta. 175+22

Sta. 167+00 to Existing Road  
Construct smooth and easy  
riding connection as shown.  
Estimated Quantities  
Pavt. Area = 444 sq. y.  
D.C. Area = 470 sq. y.  
Exc. = 283 cu. y.  
Emb. = 12 cu. y.

Sta. 167+50 to 169+00  
Install Reflector  
Markers 6 ea.

Robert M. Jenkins - Lessee



### NOTE:

- The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR Manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
- All signs shall be reflectorized unless otherwise specified.
- All signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
- For R2 signs, number in ( ) indicates speed and shall be shown on the plans.
- (R) or (L) indicates right or left and shall be as shown on the plans.

### SUMMARY OF REFLECTOR MARKERS

| TYPE | QUANTITY     |                                |       |
|------|--------------|--------------------------------|-------|
|      | SIGN W/POSTS | SIGN PLATE ONLY BI-DIRECTIONAL | RESET |
| RM-1 | 61           | 13                             | 53    |

- NOTE:
- All reflector markers shall be RM-1 unless otherwise noted.
  - Bi-directional reflector markers shall be two (2) each RM-1 mounted back-to-back on the same post.

### SUMMARY OF PIPE CULVERTS

| Station | Alternate "A"         |                       | Alternate "B"         |                       | Struc. Exc. | Ditch & Chan. Excavation | Class "B-1" Concrete | Reinf. Steel | Untreated Base for Pipe Foundation | Remarks |
|---------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|--------------------------|----------------------|--------------|------------------------------------|---------|
|         | 36" Class IV RCC Pipe | 48" Class IV RCC Pipe | 36" Class IV RCC Pipe | 48" Class IV RCC Pipe |             |                          |                      |              |                                    |         |
| 61+22   | 26                    | 57                    | 26                    | 57                    | 26          | 14                       | 3.13                 | 138          | 0                                  | 2-CHW   |
| 69+32   | 56                    | 57                    | 56                    | 57                    | 56          | 14                       | 3.13                 | 138          | 0                                  | 2-CHW   |
| 75+77   | 88                    | 20                    | 88                    | 20                    | 88          | 14                       | 3.13                 | 240          | 12                                 | 2-SHW   |
| 81+22   | 232                   | 232                   | 232                   | 232                   | 232         | 14                       | 3.13                 | 240          | 12                                 | 2-SHW   |
| 85+25   | 104                   | 107                   | 104                   | 107                   | 104         | 14                       | 3.13                 | 138          | 0                                  | 2-CHW   |
| 111+00  | 88                    | 86                    | 88                    | 86                    | 88          | 14                       | 3.13                 | 120          | 0                                  | 2-CHW   |

CHW --- Concrete Headwall  
SHW --- Special Headwall