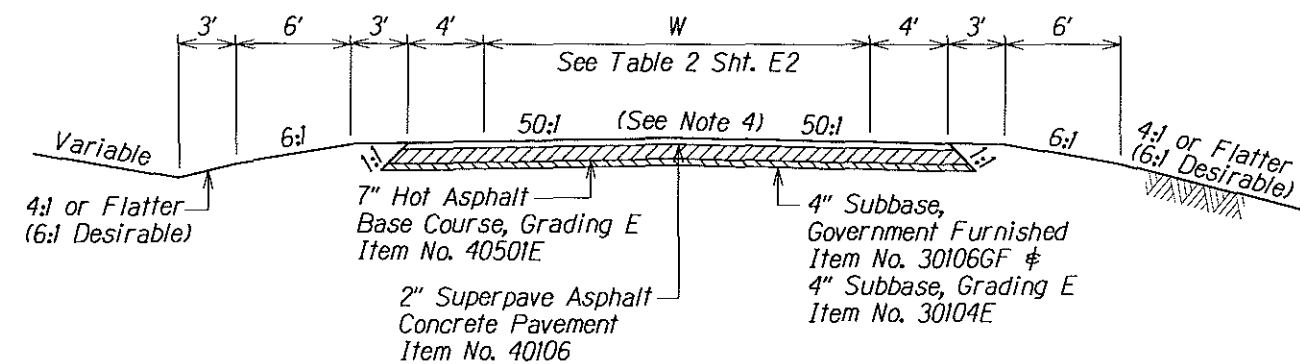
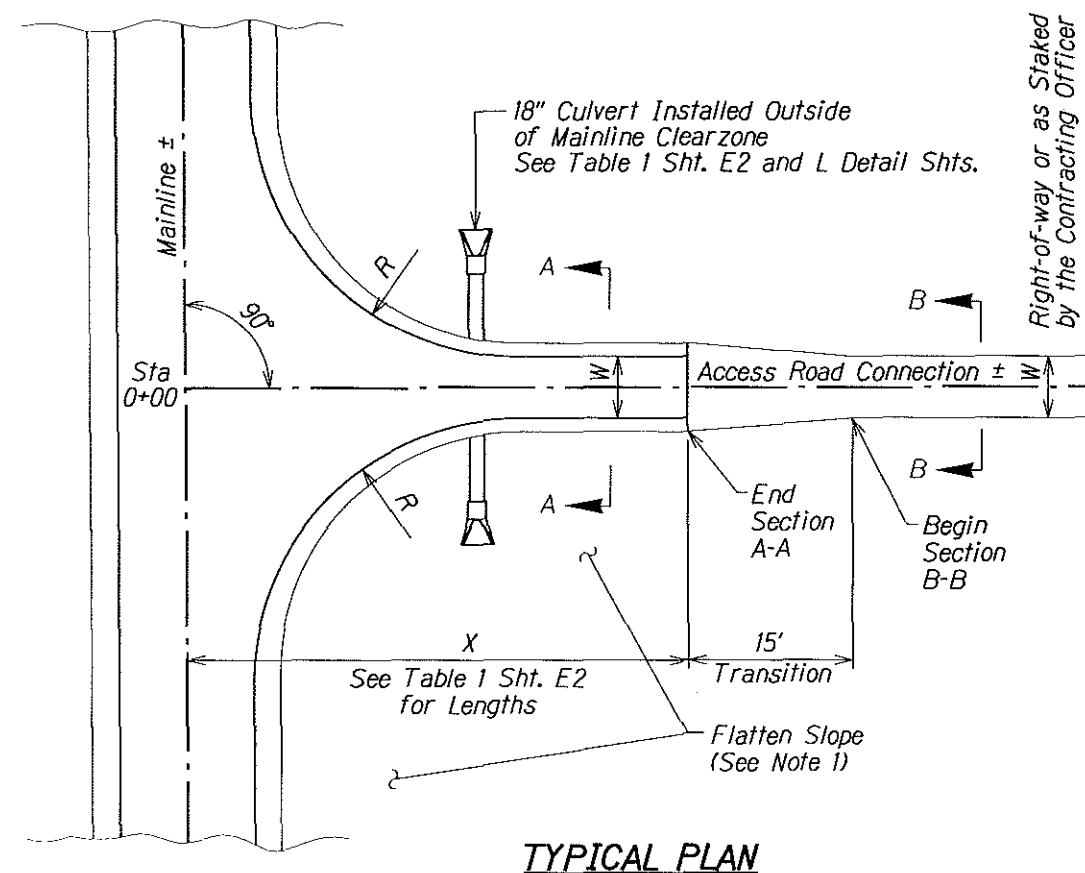
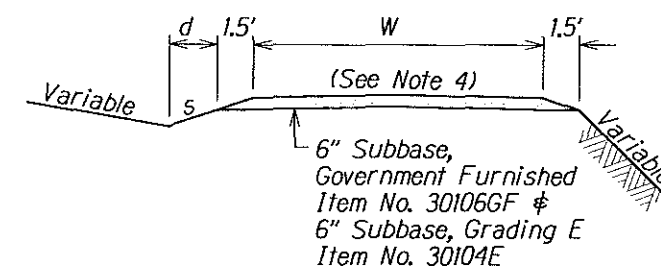


| STATE | SADDLE ROAD PROJECT       | SHEET NO. | TOTAL SHEETS |
|-------|---------------------------|-----------|--------------|
| HI    | HI A-AD/STP 6(3) # 200(1) | E1        | E25          |



**TYPICAL SECTION (SECTION A-A)**

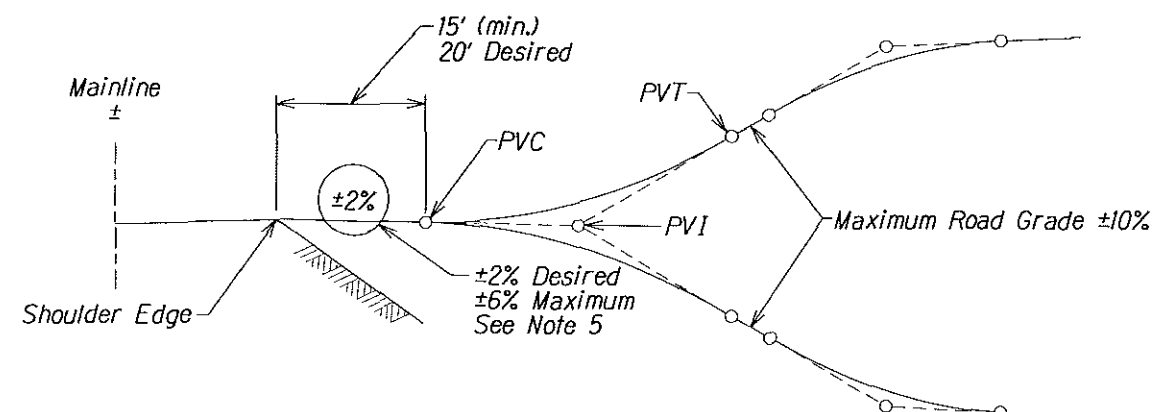


d = 2' for Type 1 Approach s = 3:1 for Type 1 Approach  
d = 3' for Type 2 Approach s = 4:1 for Type 2 Approach

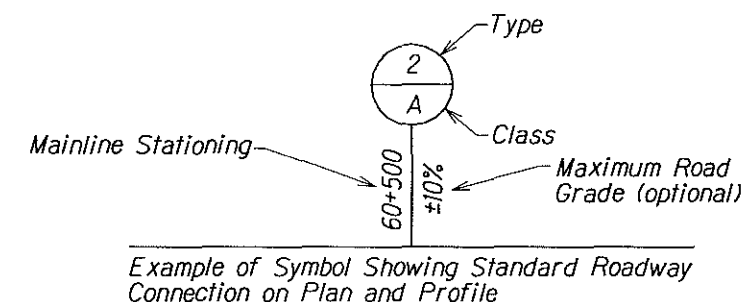
**TYPICAL SECTION (SECTION B-B)**  
See Table 2 Sht. E2 for Variable Definition

## GENERAL NOTES

1. Cut and fill slope ratios and degree of slope finish for road connections shall be compatible with mainline roadway construction. Flatten cut and fill slope ratios at road connections to the maximum extent practical.
2. Under special conditions, the road connection angle shown may be varied  $\pm 20^\circ$ .
3. If necessary, place 18" culverts at the end of the road connection radius to provide a flatter foreslope and increased mainline recovery area.
4. Apply the normal mainline crown section to road connections with widths greater than 16'. Slope road 2% in direction of the natural terrain for road widths less than 16'.
5. Construct road connections with landing areas having grades within  $\pm 2\%$ . For highly superelevated roadways, the maximum rollover shall be 6%.
6. Vary radii to fit unusual field conditions. Do not reduce existing radii or widths.



**TYPICAL PROFILE**  
Sta. 694+00 to 888+00



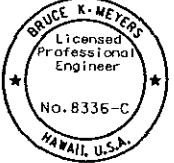
**TYPICAL SYMBOL**

|                  |                                                                                                               |                        |
|------------------|---------------------------------------------------------------------------------------------------------------|------------------------|
|                  | U.S. DEPARTMENT OF TRANSPORTATION<br>FEDERAL HIGHWAY ADMINISTRATION<br>CENTRAL FEDERAL LANDS HIGHWAY DIVISION |                        |
|                  | <b>SPECIAL 20403<br/>         APPROACH<br/>         ROAD CONNECTIONS</b>                                      |                        |
| Scale: N.T.S.    |                                                                                                               | Date: December 5, 2005 |
| SHEET No. 1 OF 2 |                                                                                                               |                        |

| TABLE 1                        |      |       |     |            |                                              |
|--------------------------------|------|-------|-----|------------|----------------------------------------------|
| ACCESS ROAD CONNECTION SUMMARY |      |       |     |            |                                              |
| STATION                        | TYPE | CLASS | X   | CULV. SIZE | REMARKS                                      |
| 363+74.03 Lt                   | 2    | D     | *   | 18"        | Mauna Kea State Park Access, Shts E3-E4      |
| 375+00 Rt                      | 1    | A     | 30' | -          | Hunting Access "A", Surfacing Only           |
| 405+20 Rt                      | 1    | A     | 30' | -          | Hunting Access "B", Surfacing Only           |
| 406+10 Lt                      | 1    | A     | 30' | -          | Fire Access No. 8, Surfacing Only            |
| 428+25 Lt                      | 1    | A     | 30' | -          | Fire Access No. 9, Surfacing Only            |
| 428+25 Rt                      | 1    | A     | 30' | -          | Hunting Access "C", Surfacing Only           |
| 455+50 Lt                      | 1    | A     | 30' | -          | Fire Access No. 10, Surfacing Only           |
| 455+50 Rt                      | 1    | A     | 30' | -          | Hunting Access "D", Surfacing Only           |
| 480+90 Lt                      | 1    | A     | 30' | -          | Fire Access No. 11, Surfacing Only           |
| 550+95 Lt                      | 1    | A     | 30' | -          | Hunting Access "E1", Surfacing Only          |
| 553+00 Rt                      | 1    | A     | 30' | -          | Hunting Access "E2", Surfacing Only          |
| 561+25 Lt                      | 1    | A     | 30' | -          | Fire Access No. 12, Surfacing Only           |
| 662+25 Rt                      | 2    | D     | *   | -          | Connector Road 3, Sht E5                     |
| 686+64.33 Lt                   | 2    | D     | *   | -          | Mauna Kea Access, Shts E6-E7                 |
| 686+64.33 Rt                   | 2    | D     | *   | -          | Pu'u Huluhulu Access, Shts E6-E7             |
| 700+00 Rt                      | 2    | B     | *   | -          | Mauna Loa Access, Sht E8                     |
| 735+80 Lt                      | 2    | B     | 50' | -          | DHHL Access No. 1, Sht E9                    |
| 752+60 Lt                      | 2    | B     | 65' | -          | DHHL Access No. 2, Sht E10                   |
| 752+60 Rt                      | 1    | A     | 65' | -          | Kipuka Ainahou Access No. 1, Sht E11         |
| 783+00 Rt                      | 1    | A     | 40' | -          | DOFAW Field Access No. 1, Sht E12            |
| 790+50 Lt                      | 1    | A     | 40' | 18"        | DOFAW Field Access No. 2, Sht E13            |
| 795+00 Rt                      | 1    | A     | 50' | -          | Hunting Access, Sht E14                      |
| 877+10 Rt                      | 1    | A     | 30' | -          | Kipuka Ainahou Access No. 2, Sht E15         |
| 914+35 Rt                      | 1    | A     | 35' | -          | HELCO Access No. 1 & Hunting Access, Sht E16 |
| 946+76 Lt                      | 1    | A     | 50' | 18"        | Pu'u O'o Ranch Access, Sht E17               |
| 976+83 Rt                      | 1    | A     | 30' | -          | Pu'u O'o Trail Access, Sht E18               |
| 1004+09 Lt                     | 1    | A     | 45' | -          | Saddle House Access, Sht E19                 |
| 1020+40 Rt                     | 1    | A     | 35' | -          | Kulani Powerline Access, Shts E20-E21        |
| 1049+00 Lt                     | 2    | C     | *   | -          | Kipuka 21 Access, Shts E22-E23               |
| 1085+00 Lt                     | 1    | A     | 45' | -          | HELCO Access No. 2, Sht E24                  |
| 1135+00 Lt                     | 1    | A     | 50' | -          | HELCO Access No. 3/DOFAW, Sht E25            |

\* Typical Section A-A to be used for entire road connection.

| TABLE 2 |       |              |               |                    |
|---------|-------|--------------|---------------|--------------------|
| TYPE    | CLASS | WIDTH W (ft) | RADIUS R (ft) | SAMPLE APPLICATION |
| 1       | A     | 12           | 16.50         | Field Access       |
| 1       | B     | 14           | 26            | Minimum 1-Way Use  |
| 1       | C     | 16           | 26            | Farm Equipment     |
| 1       | D     | 16           | 40            | Logging Truck Use  |
| 2       | A     | 18           | 26            | Minimum 2-Way Use  |
| 2       | B     | 20           | 26            | ADT > 10           |
| 2       | C     | 22           | 40            | ADT > 25           |
| 2       | D     | 24           | 40            | ADT > 100          |
| 2       | E     | 28           | 50            | ADT > 200          |

|                                                                                                                                                                                                                                                                                      |                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|  <p>The work was prepared by me or under my supervision and construction of this project will be under my observation.</p> <p><i>Bruce K. Meyers</i></p> <p>Expiration Date of License 3/06</p> | U.S. DEPARTMENT OF TRANSPORTATION<br>FEDERAL HIGHWAY ADMINISTRATION<br>CENTRAL FEDERAL LANDS HIGHWAY DIVISION |
|                                                                                                                                                                                                                                                                                      | <b>SPECIAL 20403<br/>APPROACH<br/>ROAD CONNECTIONS</b>                                                        |
|                                                                                                                                                                                                                                                                                      | Scale: N.T.S.      Date: December 5, 2005                                                                     |
| SHEET No. 2 OF 2                                                                                                                                                                                                                                                                     |                                                                                                               |