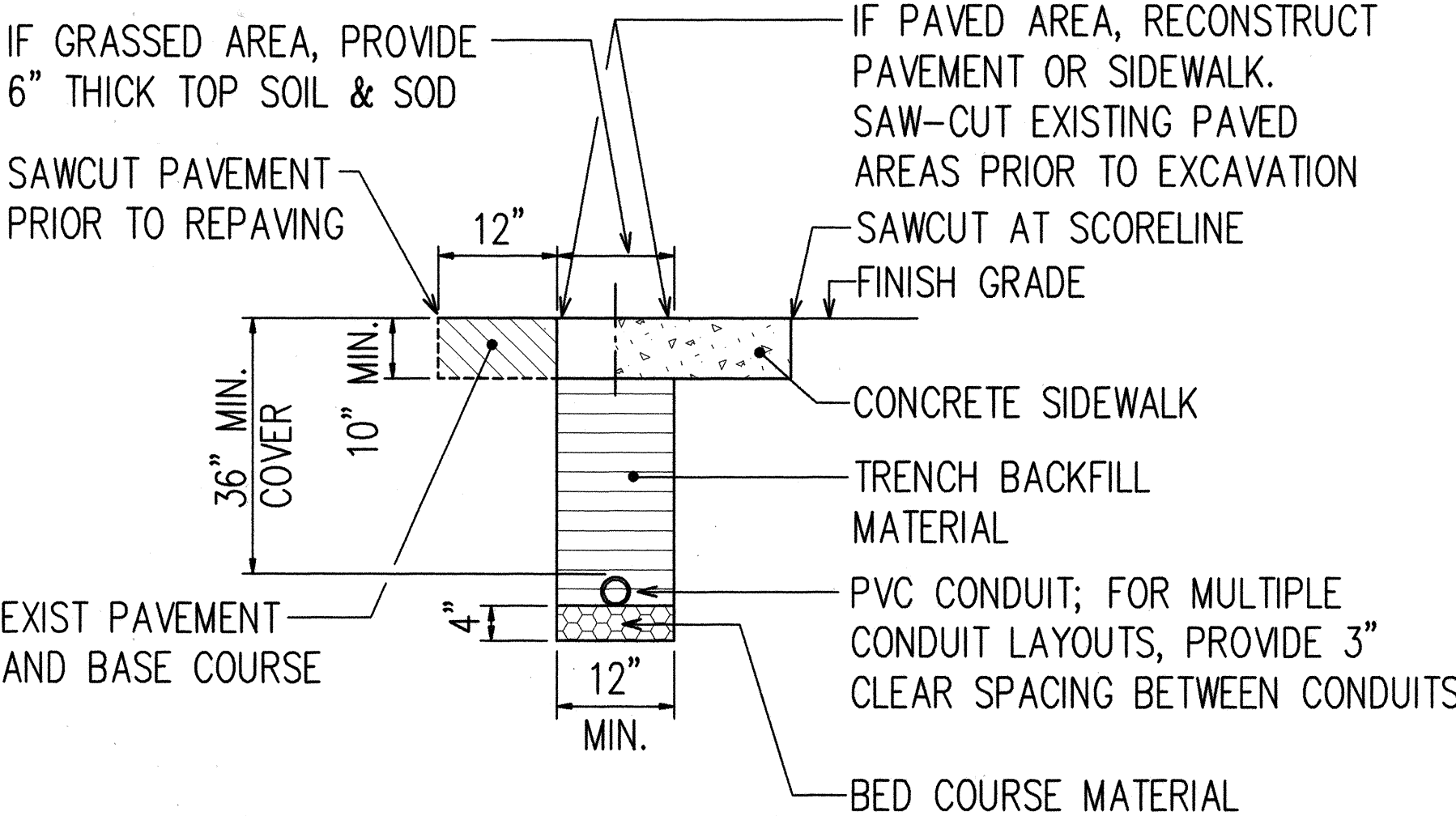


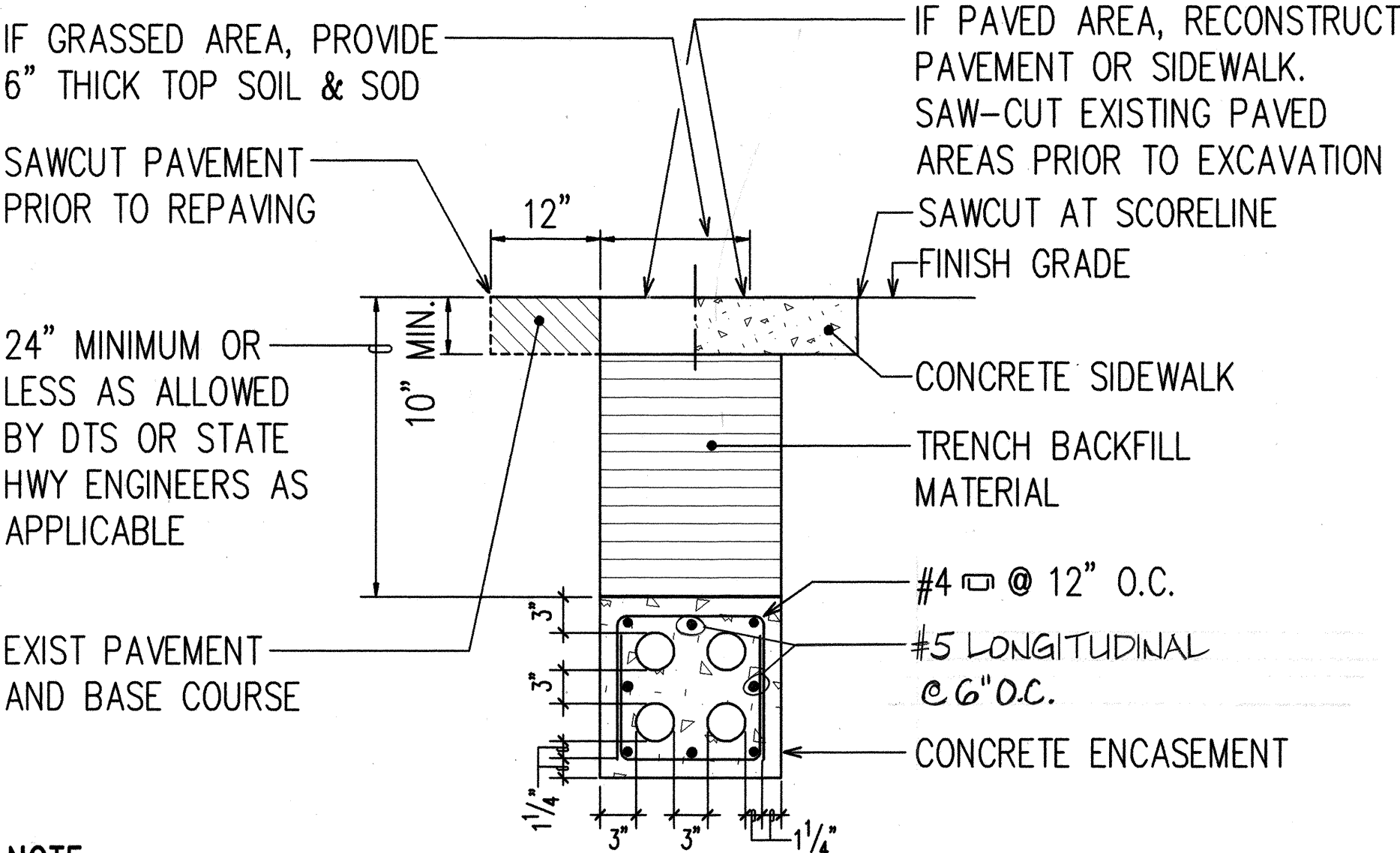
GTE HAWAIIAN TELEPHONE GENERAL NOTES:

1. THE LOCATION OF GTE HAWAIIAN TELEPHONE COMPANY'S EXISTING FACILITIES ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION AND SHALL MAINTAIN PROPER CLEARANCES WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF GTE HAWAIIAN TELEPHONE COMPANY'S FACILITIES. THE CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND SHALL BE LIABLE FOR ANY DAMAGES TO GTE HAWAIIAN TELEPHONE COMPANY'S FACILITIES. ANY DAMAGES SHALL BE REPORTED IMMEDIATELY TO GTE HAWAIIAN TELEPHONE COMPANY'S REPAIR SECTION AT #611 (24 HOURS) OR TO THE EXCAVATION PERMIT SECTION AT #483-8085 (NORMAL WORKING HOURS, MONDAY THROUGH FRIDAY, EXCEPT HOLIDAYS).
2. FOR UNDERGROUND CABLE LOCATING AND MARKING, FIVE WORKING DAYS ADVANCE NOTICE IS REQUIRED. THREE WORKING DAYS ADVANCE NOTICE IS REQUIRED FOR ANY INSPECTION BY A DESIGNATED REPRESENTATIVE.
3. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTION NOT TO DAMAGE ANY EXISTING CABLES OR CONDUITS. ANY WORK INVOLVING EXISTING GTE HAWAIIAN TELEPHONE COMPANY CABLES OR CONDUITS, SHALL BE DONE IN THE PRESENCE OF A GTE HAWAIIAN TEL INSPECTOR OR DESIGNATED REPRESENTATIVE.
4. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT AND TONING REQUEST FROM GTE HAWAIIAN TELEPHONE COMPANY'S EXCAVATION PERMIT SECTION, LOCATED AT 3239 VALENA STREET, THIRD FLOOR, TWO WEEKS PRIOR TO THE START OF CONSTRUCTION. HOURS OF BUSINESS IS 7:00 AM TO 10:30 AM AND 11:30 AM TO 3:00 PM MONDAY THROUGH FRIDAY, EXCEPT HOLIDAYS.
5. THE CONTRACTOR SHALL NOTIFY GTE HAWAIIAN TELEPHONE COMPANY'S INSPECTOR OR DESIGNATED REPRESENTATIVE A MINIMUM OF 72 HOURS PRIOR TO EXCAVATION, BRACING OR BACKFILLING OF GTE HAWAIIAN TELEPHONE COMPANY'S STRUCTURES OR FACILITIES.
6. WHEN EXCAVATION IS ADJACENT TO OR BENEATH GTE HAWAIIAN TELEPHONE COMPANY'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR SHALL:
 - A) SHEET AND/OR BRACE THE EXCAVATION TO PREVENT SLIDES, CAVE-INS OR SETTLEMENTS TO ENSURE NO MOVEMENT TO GTE HAWAIIAN TELEPHONE COMPANY'S STRUCTURES OR FACILITIES.
 - B) PROTECT EXISTING STRUCTURES AND/OR FACILITIES WITH BEAMS, STRUTS OR UNDERPINNING WHILE EXCAVATING BENEATH THEM TO ENSURE NO MOVEMENT TO GTE HAWAIIAN TELEPHONE COMPANY'S STRUCTURES OR FACILITIES.



NOTE:
ALL CONDUITS UNDER ROADWAYS SHALL BE PVC SCHEDULE 80. ALL OTHERS SHALL BE PVC SCHEDULE 40.

TYPICAL TRENCH SECTION DETAIL



NOTE:
ALL CONDUITS SHALL BE CONCRETE ENCASED AND STEEL REINFORCED AT ALL UTILITY CROSSINGS. SEE DETAILS AT RIGHT.

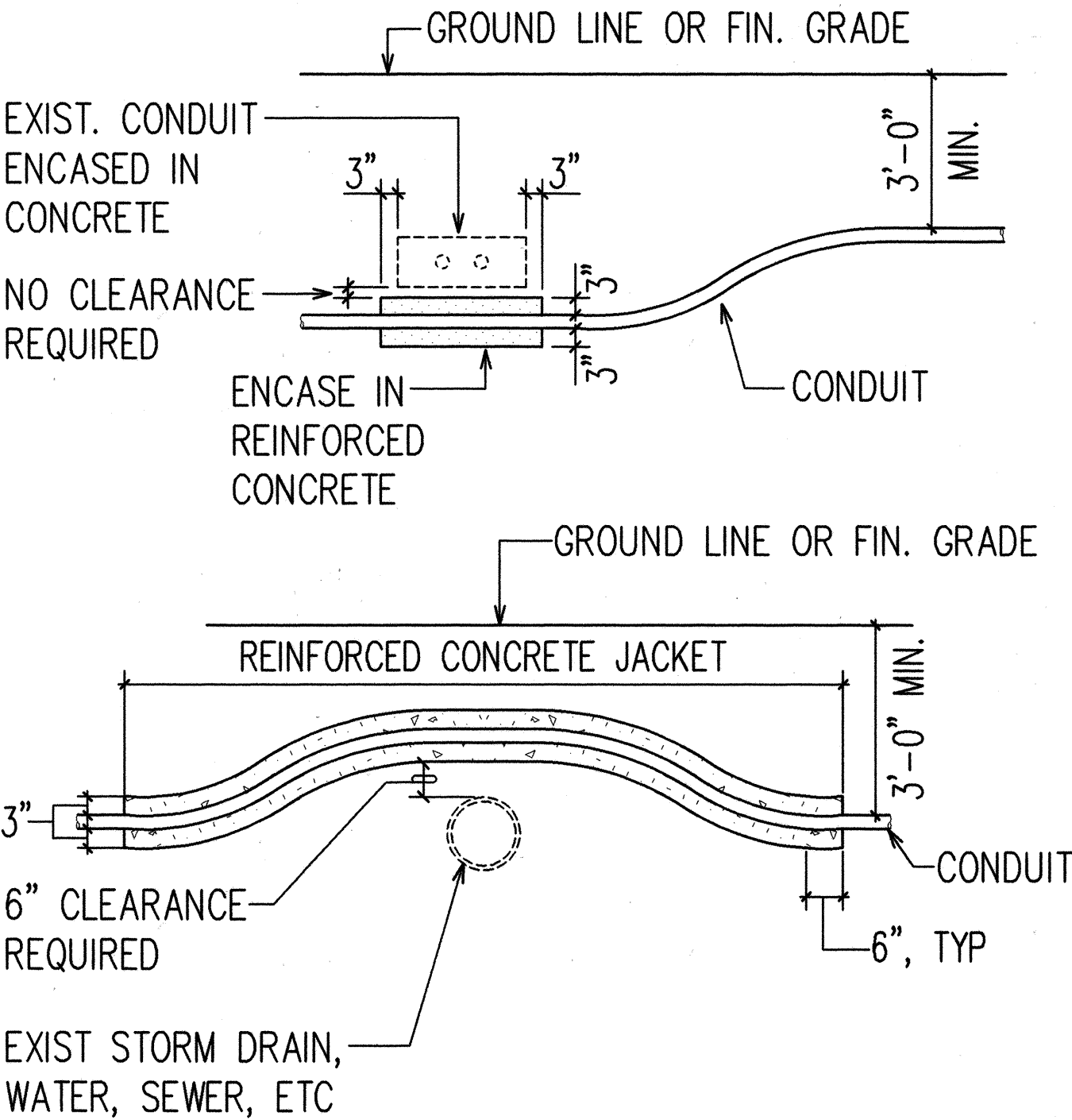
TYPICAL REINFORCED DUCT SECTION DETAIL

BACKFILL NOTES:

TYPE "A" BACKFILL - EARTH AND GRAVEL, ROCK SIZE TO BE 1" AND THE MIXTURE TO CONTAIN NOT MORE THAN 50% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.

TYPE "B" BACKFILL - EARTH AND GRAVEL, MIXTURE MUST PASS A 1/2" MESH SCREEN AND CONTAIN NOT MORE THAN 20% BY VOLUME OF ROCK PARTICLES. 95% COMPACTION.

IF NORMAL MATERIAL AT BOTTOM OF TRENCH IS NOT TYPE "B", AN ADDITIONAL 3" SHALL BE EXCAVATED AND TYPE "B" BACKFILL PROVIDED.



TYPICAL CONDUIT BY-PASS DETAILS
NOT TO SCALE

APPROVED BY:

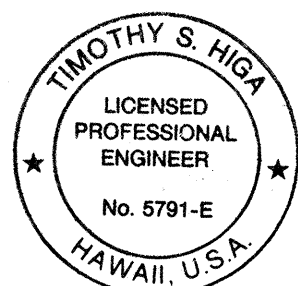
[Signature] 1/22/97
CHIEF, PLANNING AND ENGINEERING DIVISION
BOARD OF WATER SUPPLY, CITY & COUNTY OF HONOLULU DATE

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	
	NO.	

LAST SAVE: 01/22/97 15:42:53 BY: 027401 SS 1/22/97
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PRINCIPAL-IN-CHARGE
Andrew I. Miyasato
RONALD N.S. HO & ASSOCIATES, INC.
1/24/97



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Timothy S. Higa
RONALD N.S. HO & ASSOCIATES, INC.
1/23/97

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**TYPICAL TRENCH SECTION DETAILS,
HAWAIIAN TELEPHONE NOTES**

LIKELIKE HIGHWAY
Inters. Improvements at Alu St.
PROJECT NO. 63A-02-96

SCALE: AS NOTED DATE: FEB 1997
SHEET No. E-2 OF E-13 SHEETS