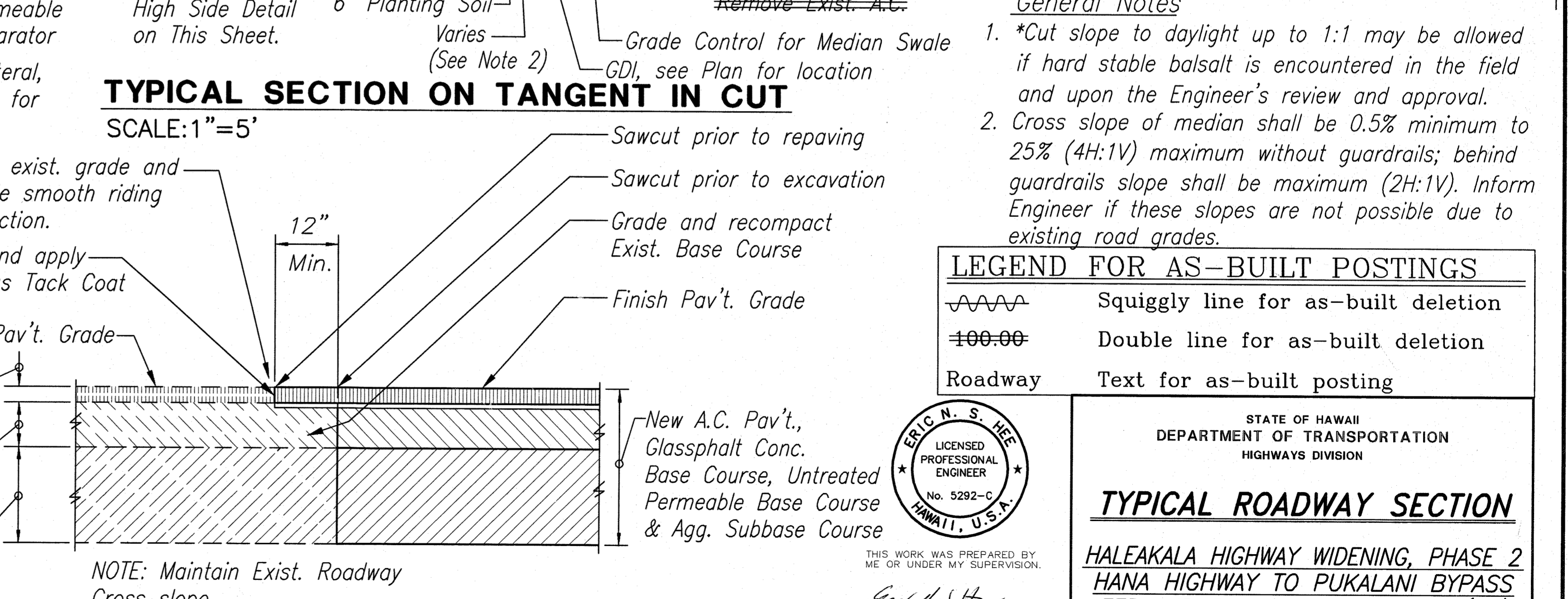
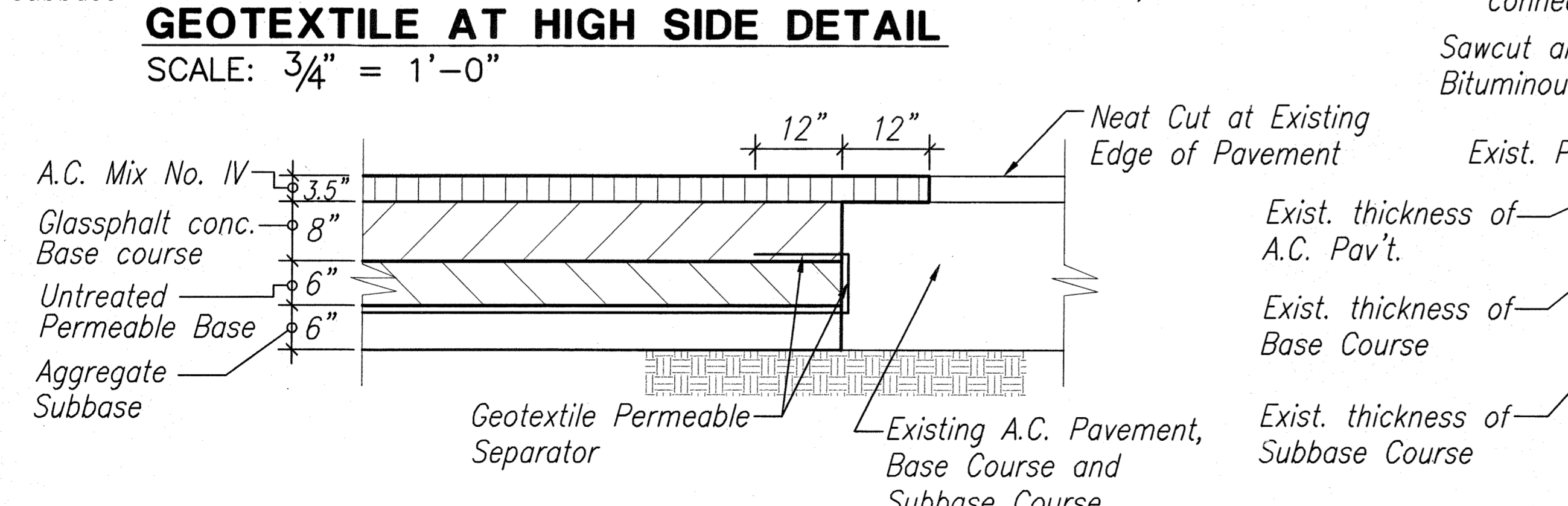
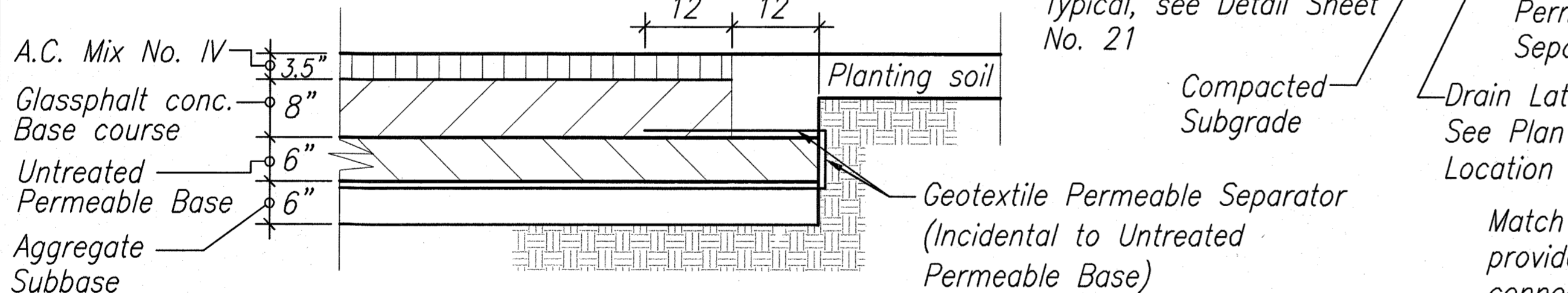
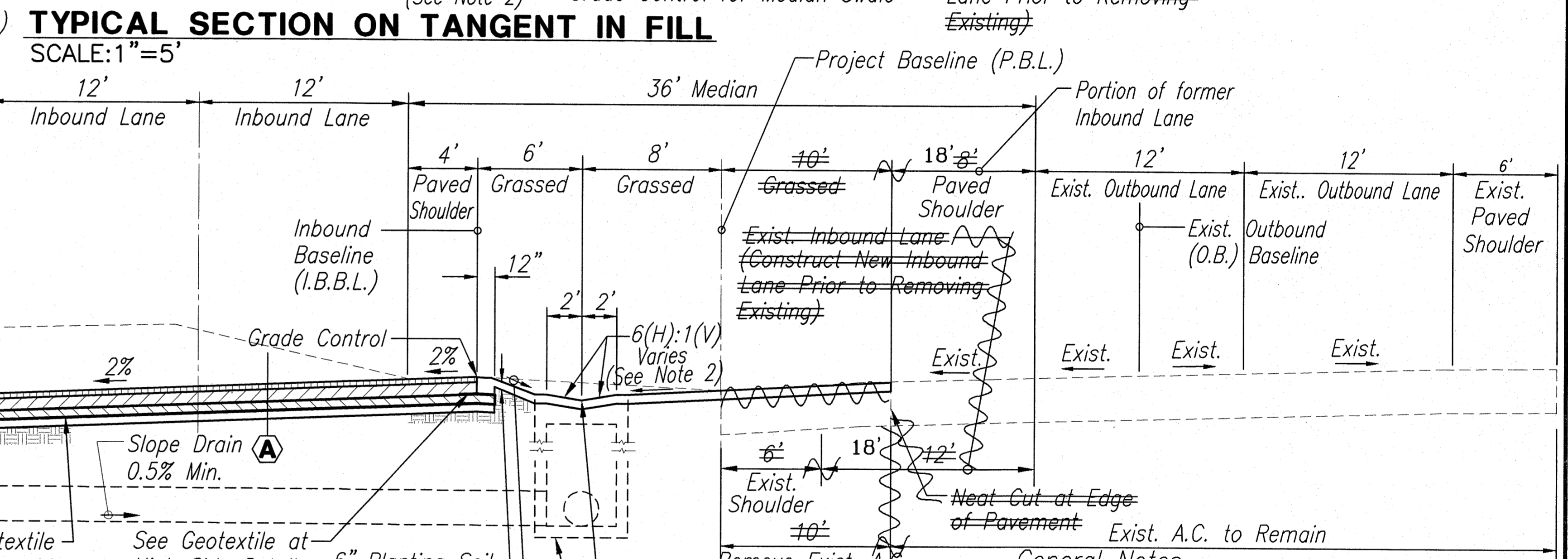
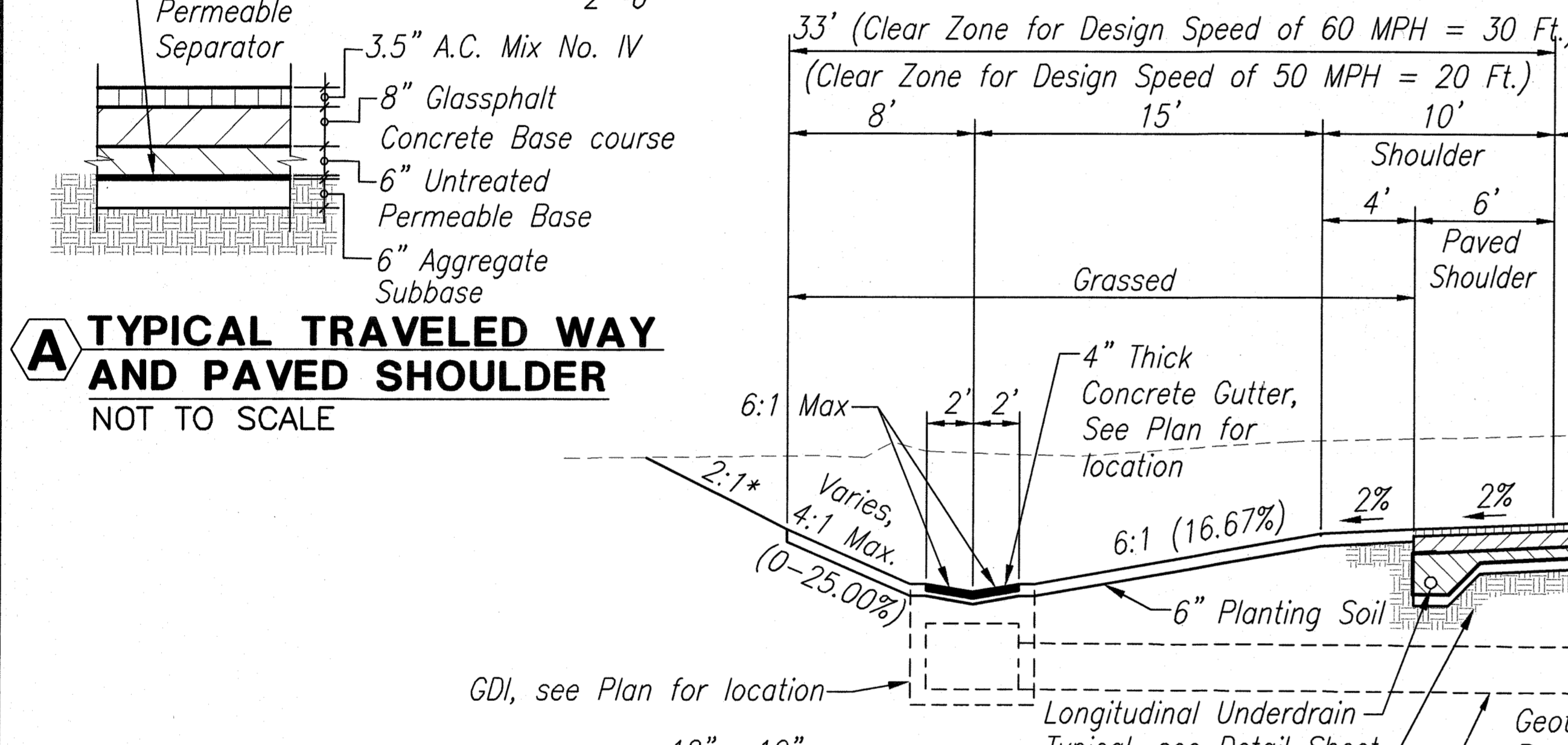
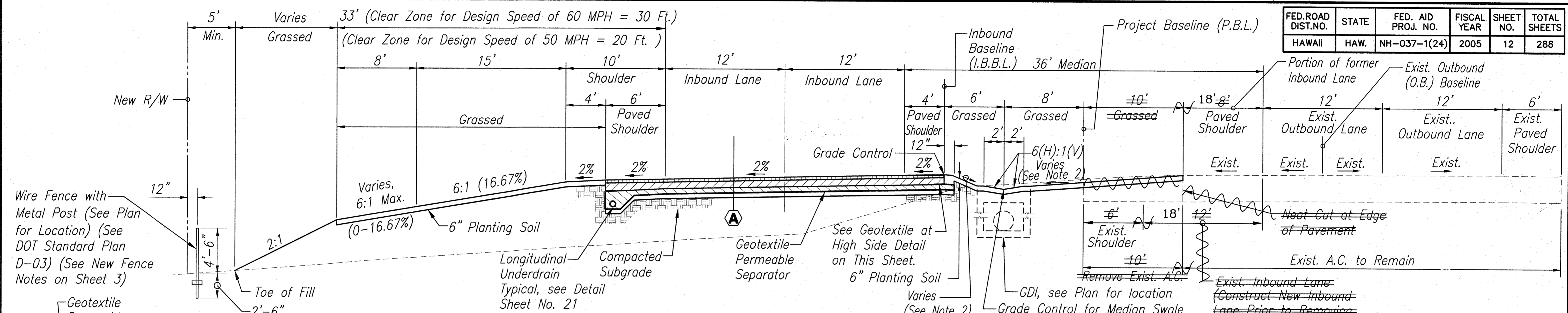


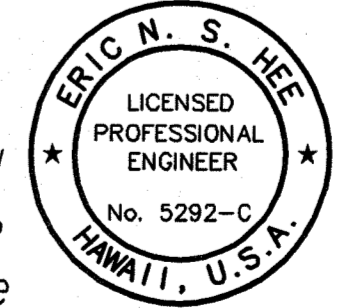
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-037-1(24)	2005	12	288



- General Notes**
- *Cut slope to daylight up to 1:1 may be allowed if hard stable balsalt is encountered in the field and upon the Engineer's review and approval.
 - Cross slope of median shall be 0.5% minimum to 25% (4H:1V) maximum without guardrails; behind guardrails slope shall be maximum (2H:1V). Inform Engineer if these slopes are not possible due to existing road grades.

LEGEND FOR AS-BUILT POSTINGS

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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

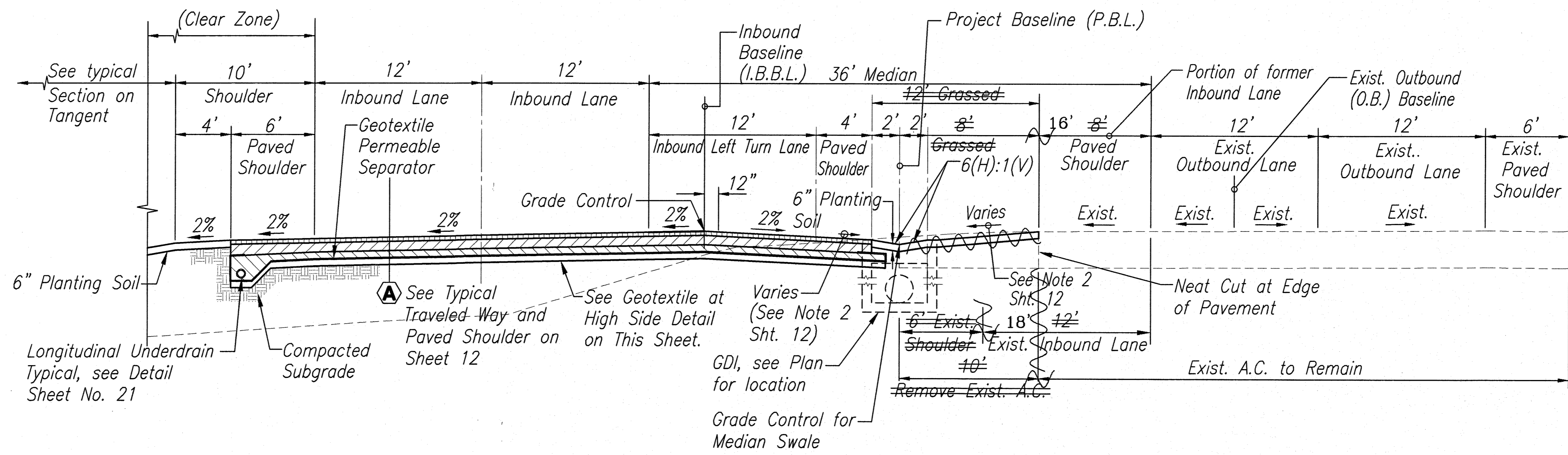
TYPICAL ROADWAY SECTION
HALEAKALA HIGHWAY WIDENING, PHASE 2
HANA HIGHWAY TO PUKALANI BYPASS
FED. AID PROJ. NO. NH-037-1(24)

SCALE: AS NOTED DATE: MAY, 2005
SHEET No. 1 OF 12 SHEETS

DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
NO.	_____

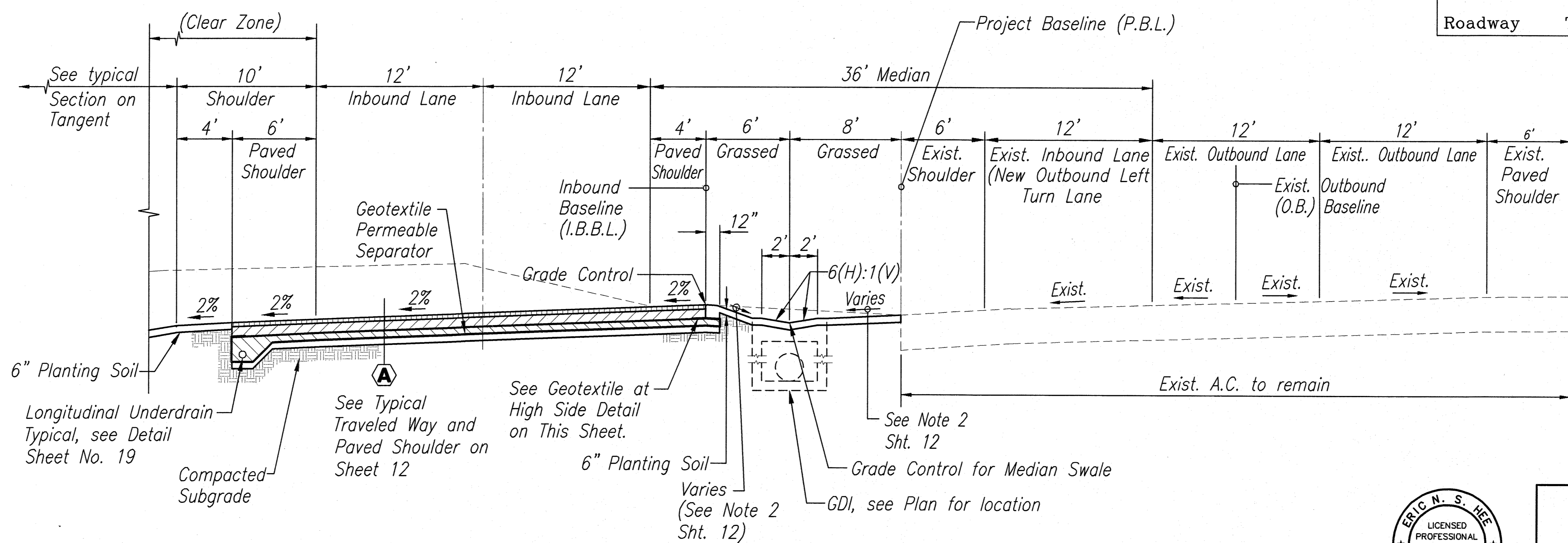
SURVEY PLOTTED BY _____
 DRAWN BY _____
 DESIGNED BY _____
 CHECKED BY _____
 No. _____
 1/2" = 1' (Engineering) Project: Haleakala Highway Widening, Phase 2 - 2005/05/01 (Rev. 12-2004) Date: May 24, 2005 - 4:30pm
 AIR

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-037-1(24)	2005	13	288



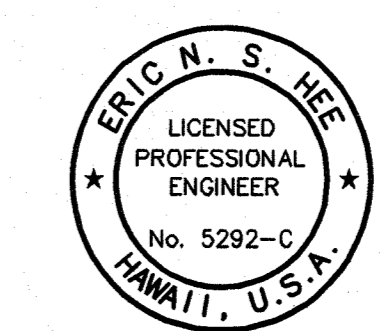
TYPICAL SECTION WITH INBOUND LEFT TURN LANE
SCALE: 1"=5'

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting



TYPICAL SECTION WITH OUTBOUND LEFT TURN LANE
SCALE: 1"=5'

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



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Eric N. S. He
ENGINEER'S SURVEYORS HAWAII, INC.
LICENSE EXPIRATION DATE: 4/30/08

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL ROADWAY SECTION

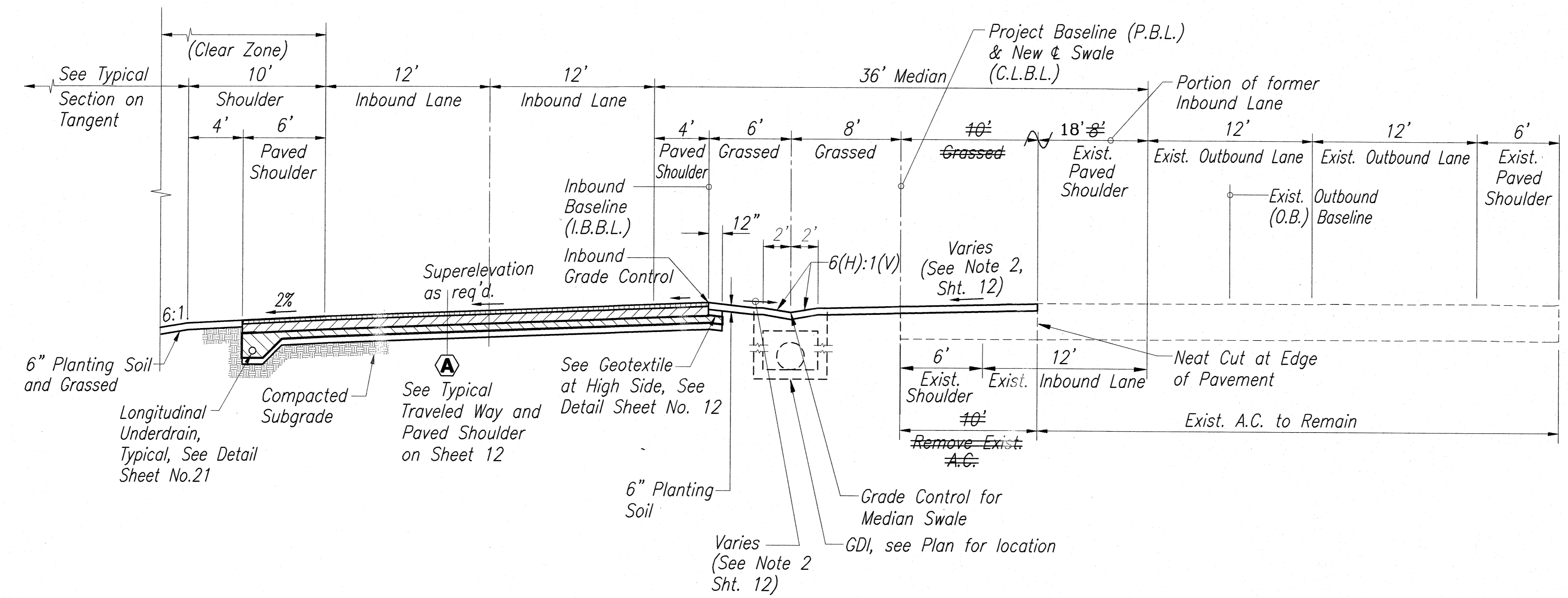
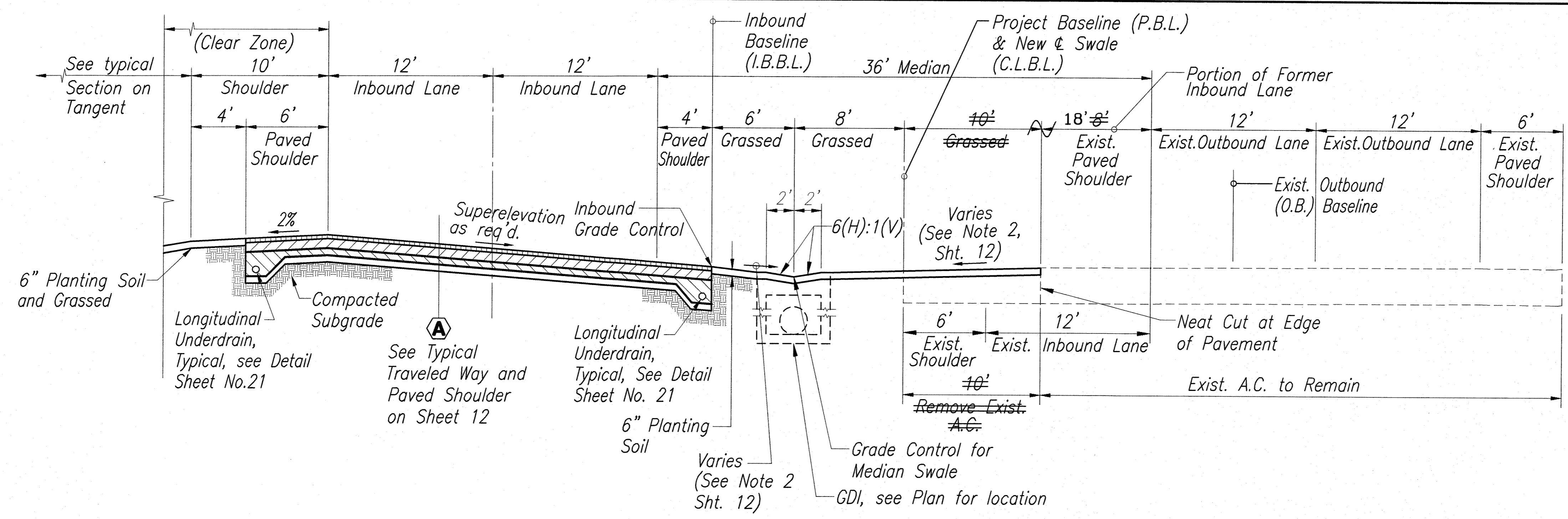
HALEAKALA HIGHWAY WIDENING, PHASE 2
HANA HIGHWAY TO PUKALANI BYPASS
FED. AID PROJ. NO. NH-037-1(24)

SCALE: AS NOTED DATE: SEP., 2005

SHEET No. 2 OF 12 SHEETS

AS-BUILT

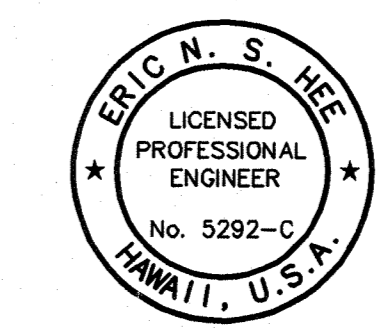
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-037-1(24)	2005	14	288



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	

\\\Esh-1\\esh\Engineering\Projects\1994\94-056 Haleakala Hwy\Phase 2 - AS-BUILT\Plan\14-AS-BUILT.dwg, Tue, Nov 24, 2009 - 5:46pm HJB

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting



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 Eric N. S. Hee
 ENGINEERS SURVEYORS HAWAII, INC.
 LICENSE EXPIRATION DATE: 4/30/08

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

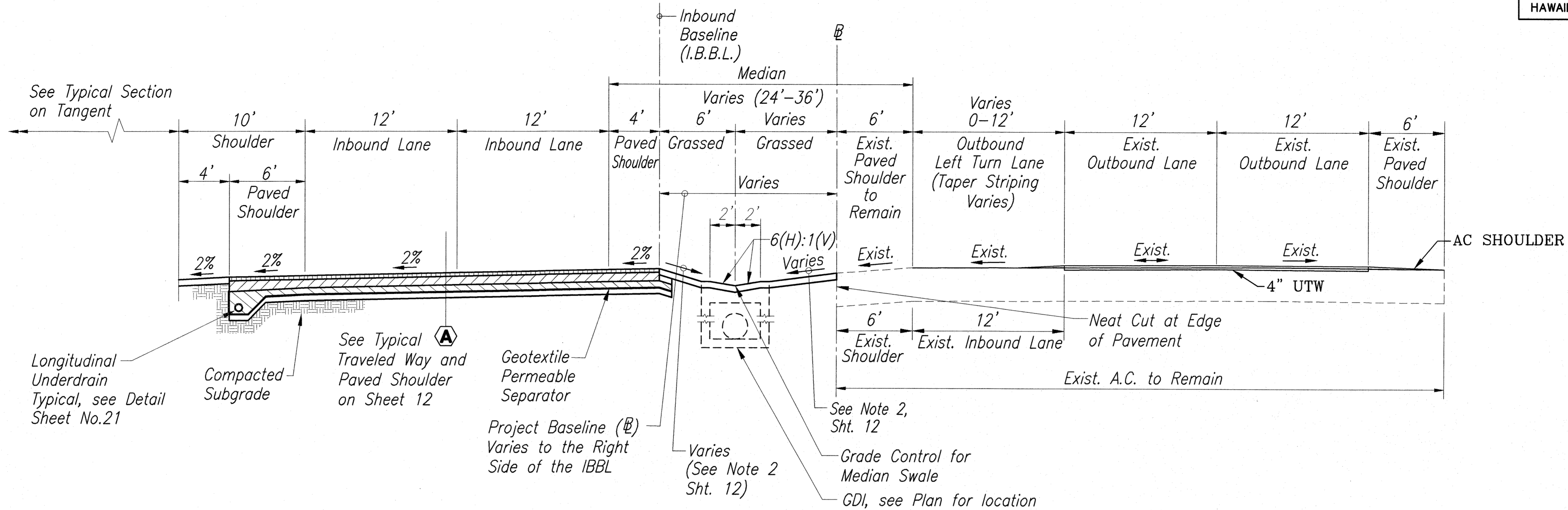
TYPICAL ROADWAY SECTION

HALEAKALA HIGHWAY WIDENING, PHASE 2
 HANA HIGHWAY TO PUKALANI BYPASS
 FED. AID PROJ. NO. NH-037-1(24)

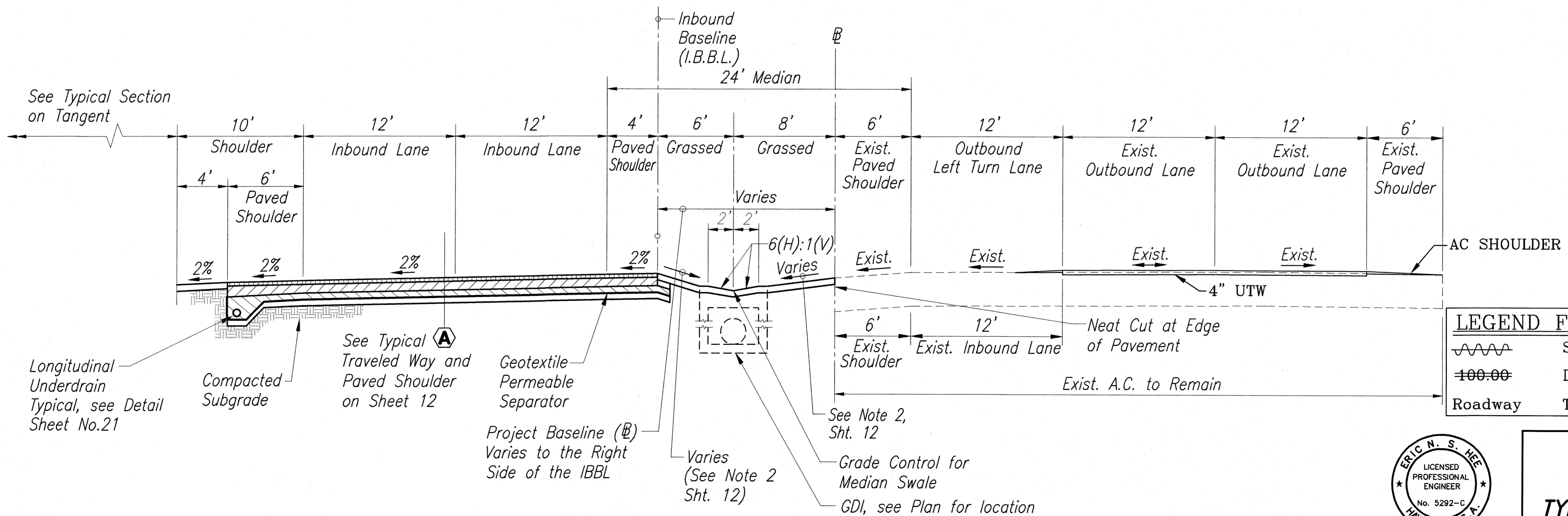
SCALE: AS NOTED DATE: SEP., 2005
 SHEET No. 3 OF 12 SHEETS

AS-BUILT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-037-1(24)	2005	15	288



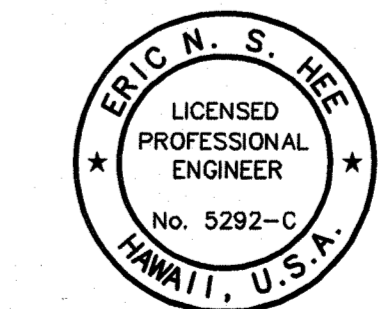
TYPICAL SECTION STA. 236+60 TO 238+40
SCALE: 1"=5'



TYPICAL SECTION STA. 238+40 TO 246+76
SCALE: 1"=5'

LEGEND FOR AS-BUILT POSTINGS

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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL ROADWAY SECTION

HALEAKALA HIGHWAY WIDENING, PHASE 2
HANA HIGHWAY TO PUKALANI BYPASS
FED. AID PROJ. NO. NH-037-1(24)

SCALE: AS NOTED DATE: SEP., 2005

SHEET No. 4 OF 12 SHEETS

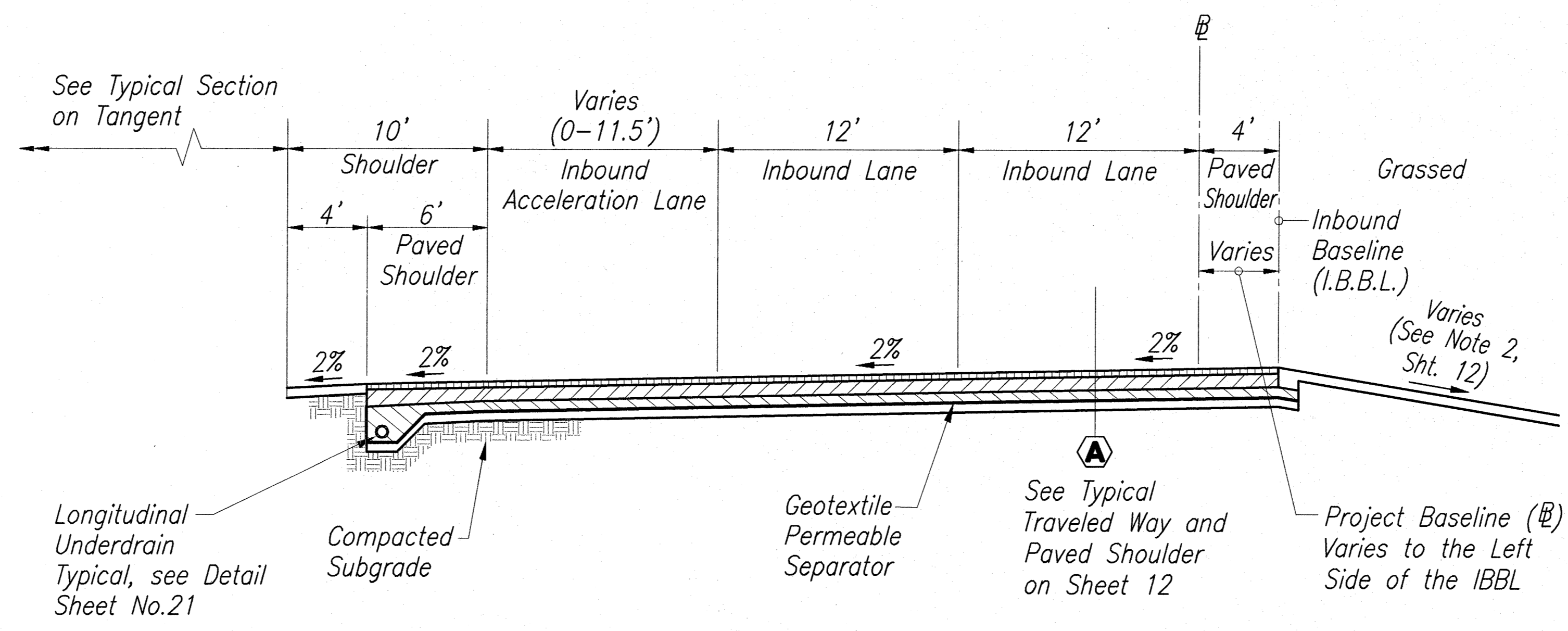
SURVEY PLOTTED BY	DATE
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

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Eric N. S. Hee

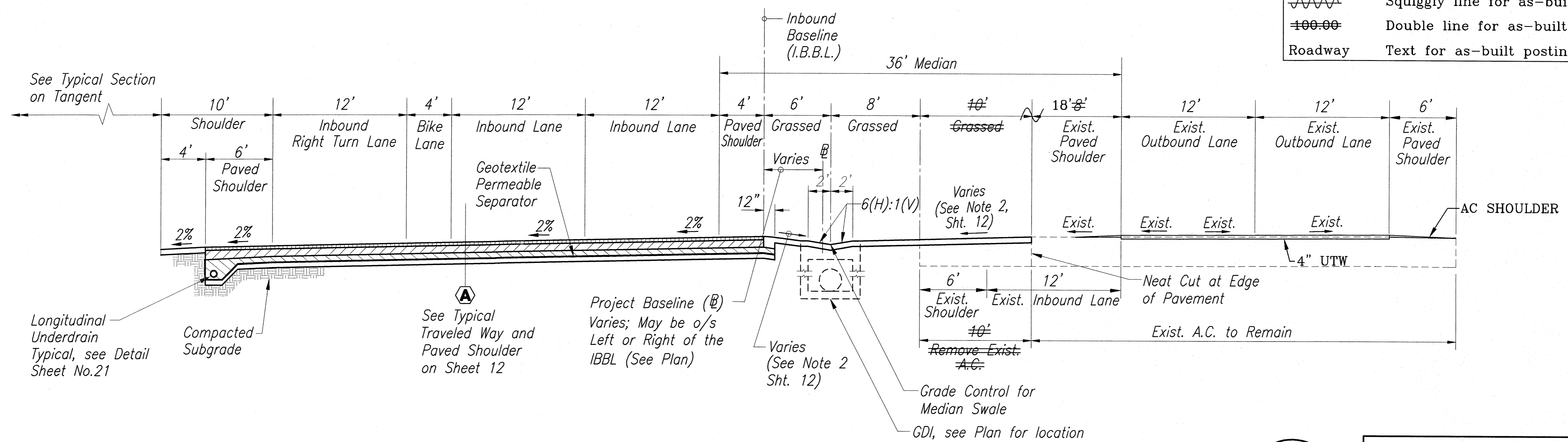
ENGINEERS SURVEYORS HAWAII, INC.
LICENSE EXPIRATION DATE: 4/30/06

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-037-1(24)	2005	16	288



TYPICAL SECTION STA. 246+76 TO 248+48.62
SCALE: 1"=5'

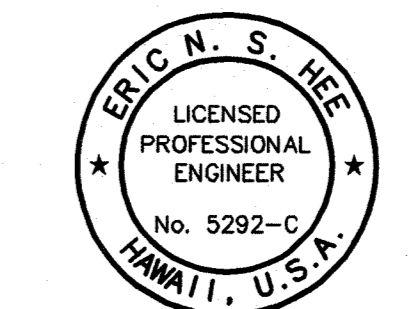
LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting



TYPICAL SECTION STA. 249+85 TO 255+65.51
SCALE: 1"=5'

SURVEY PLOTTED BY	DATE
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

11-15-11 (rev) Engineering Projects 119941 (14-105) Hasekabo Hwy Phase 2 - ASBUILT PLAN (11-ASBUILT Long) Rev. 24 2009 - 6:05pm



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 Eric N. S. Hee
 ENGINEERS SURVEYORS HAWAII, INC.
 LICENSE EXPIRATION DATE: 4/30/08

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

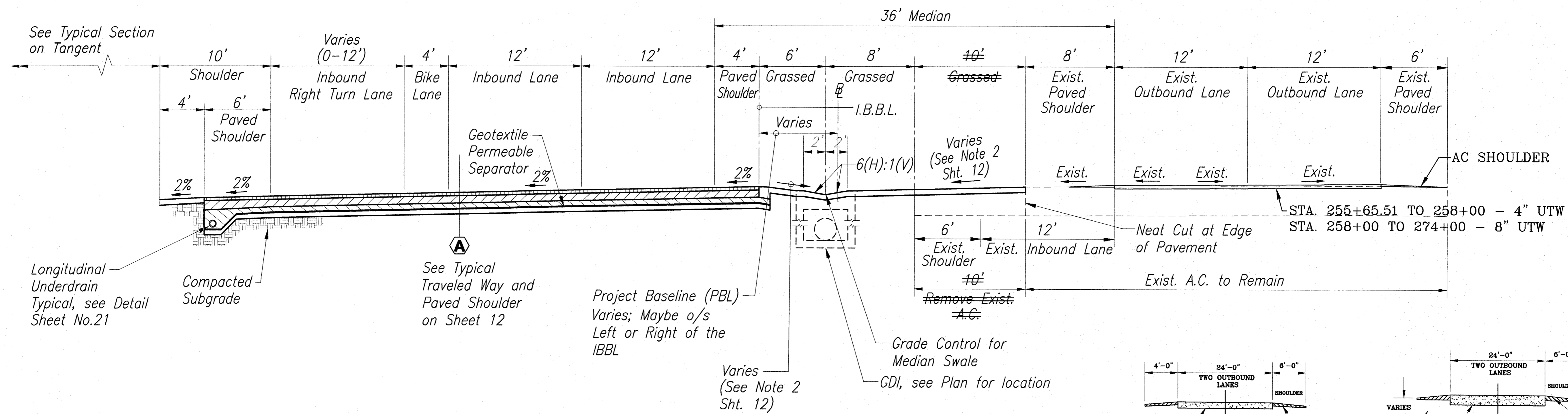
TYPICAL ROADWAY SECTION

HALEAKALA HIGHWAY WIDENING, PHASE 2
 HANA HIGHWAY TO PUKALANI BYPASS
 FED. AID PROJ. NO. NH-037-1(24)

SCALE: AS NOTED DATE: SEP., 2005

SHEET No. 5 OF 12 SHEETS

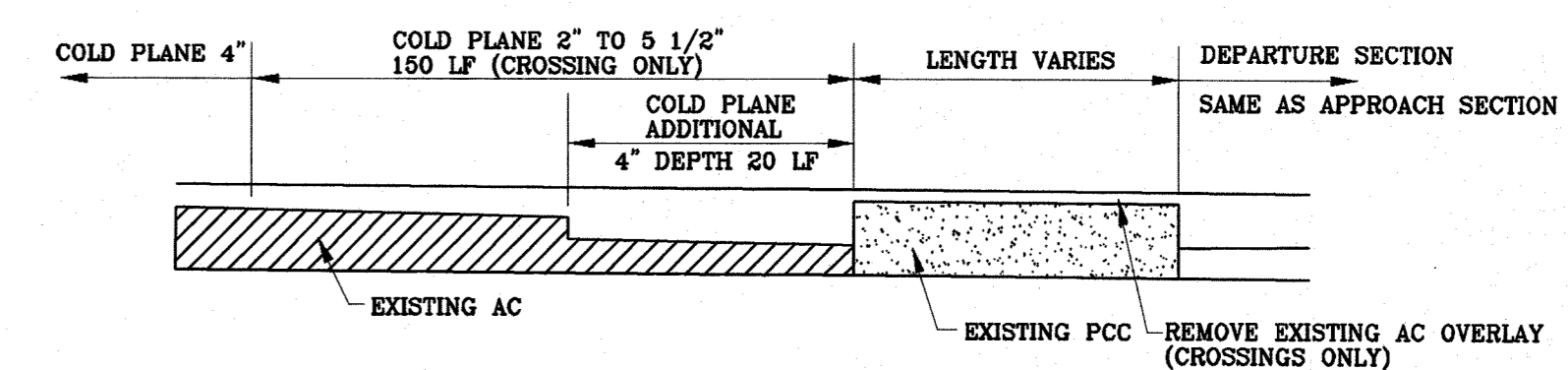
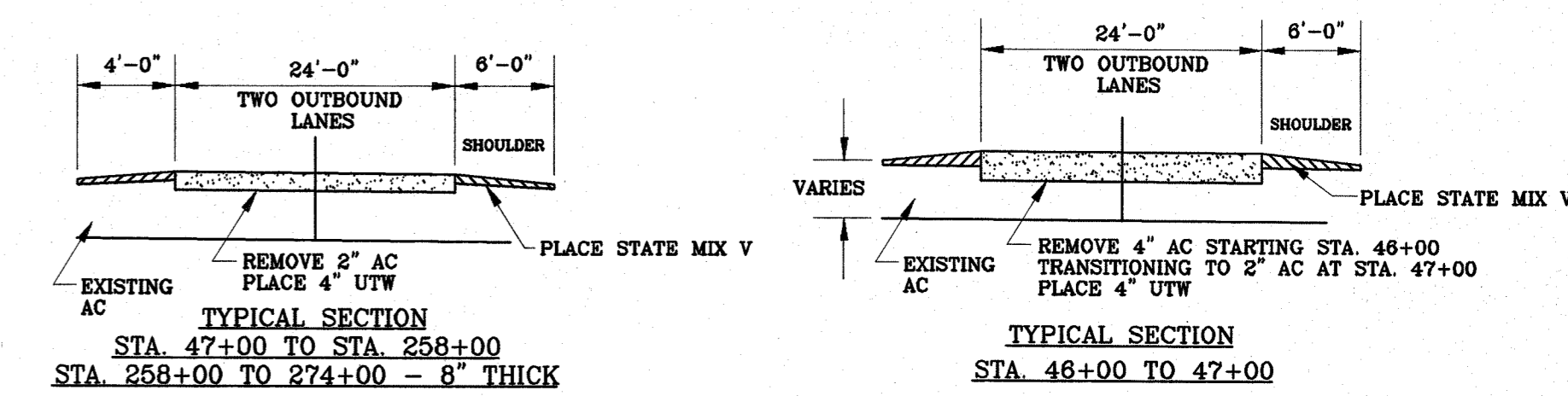
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-037-1(24)	2005	17	288



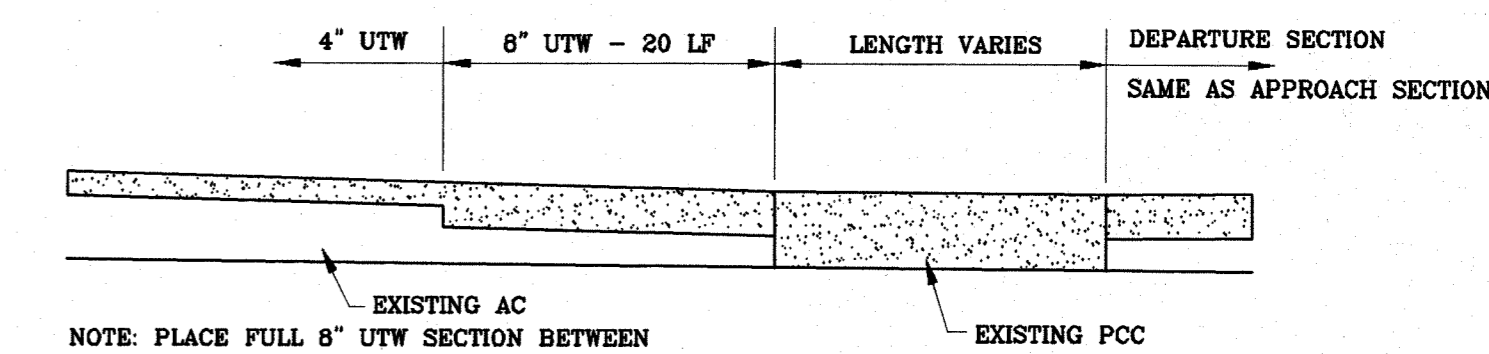
TYPICAL SECTION STA. 255+65.51 TO 257+45.84
SCALE: 1"=5'

LEGEND FOR AS-BUILT POSTINGS

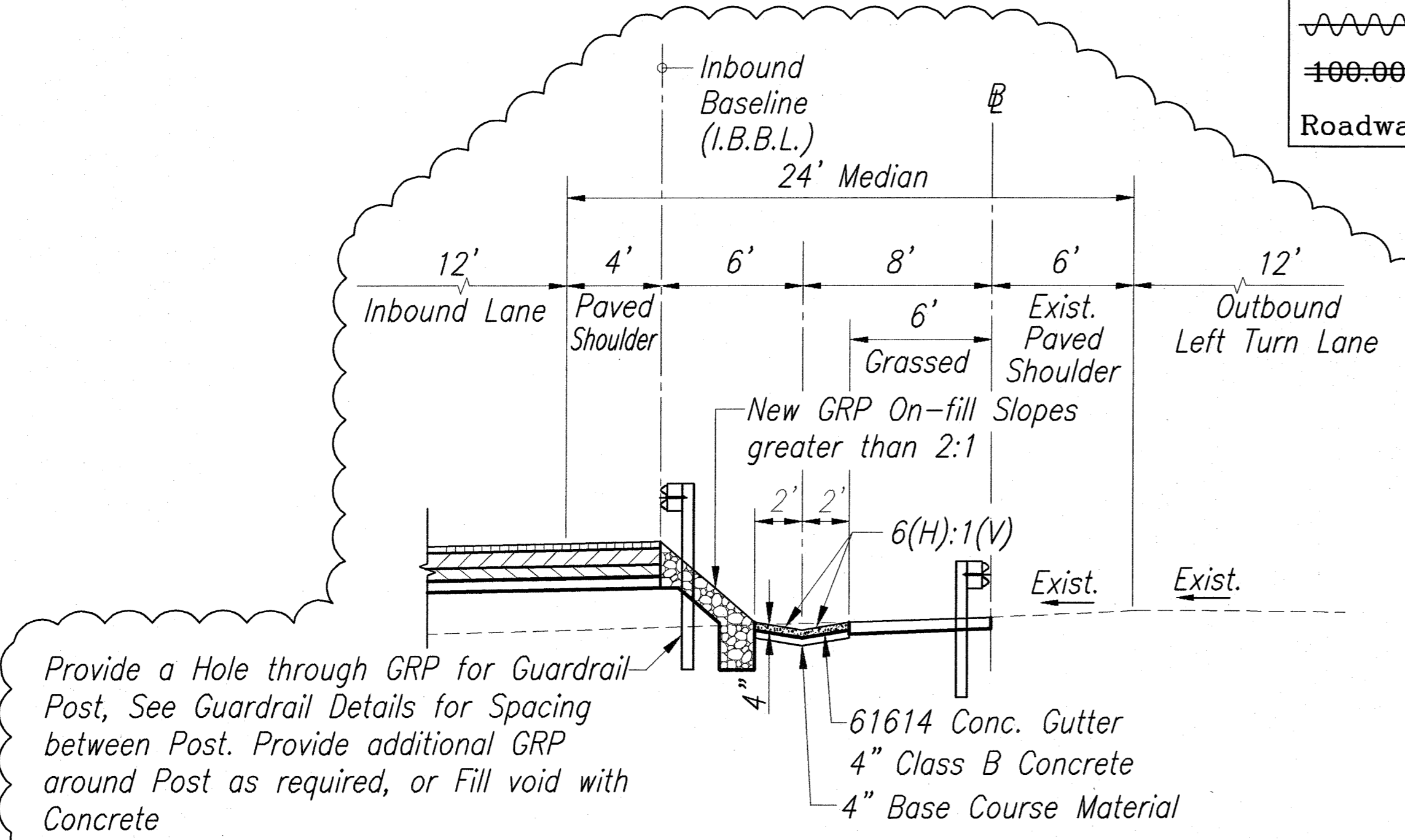
- Squiggly line for as-built deletion
- Double line for as-built deletion
- Roadway Text for as-built posting



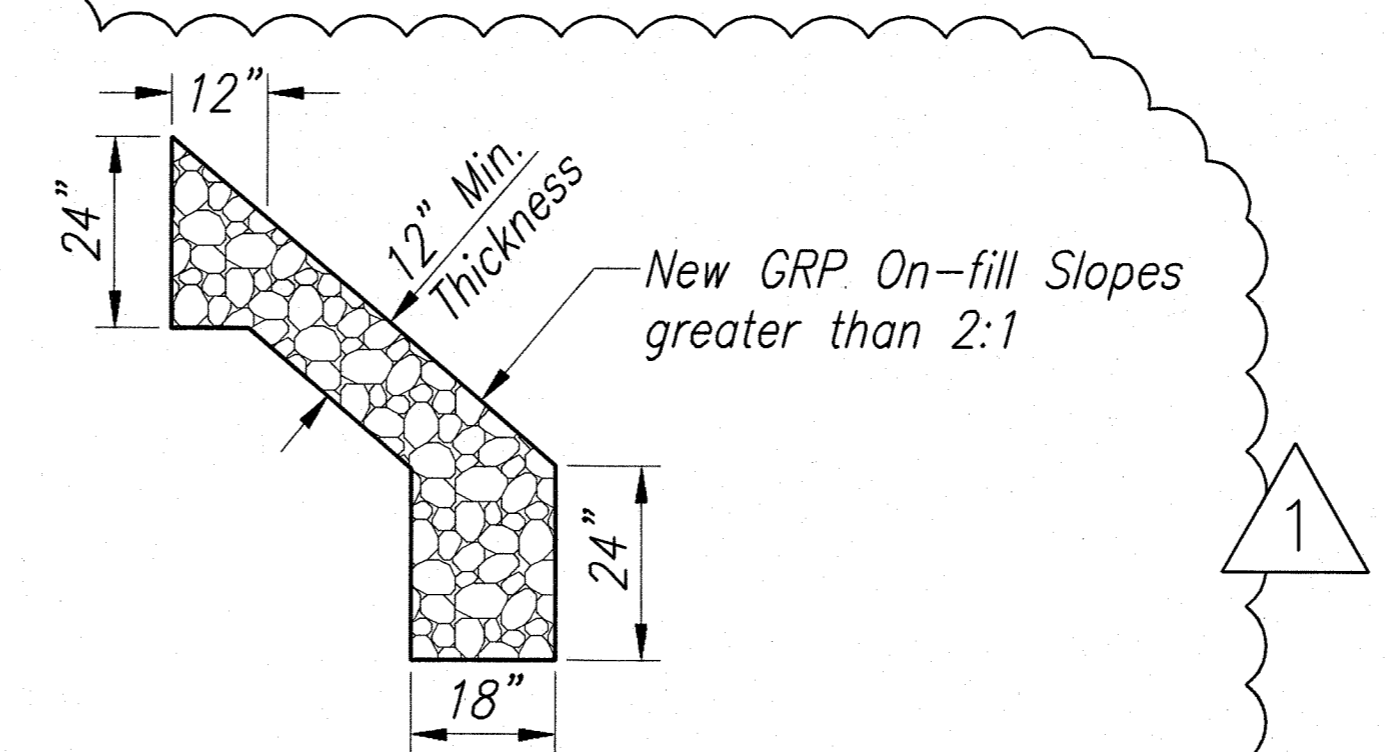
TYPICAL COLD PLANING PROFILE AT STRUCTURE #3 AND TRUCK CROSSINGS
(CROSSINGS @ ~ STA. 63+50, 101+50, 191+75, 217+75, 236+00 & 242+50)



TYPICAL UTW PROFILE AT STRUCTURE #3 AND TRUCK CROSSINGS
(CROSSING @ ~ STA. 63+50, 101+50, 191+75, 217+75, 236+00 & 242+50)



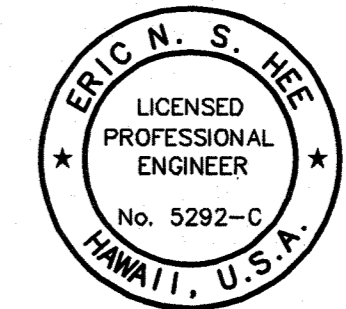
GRP SLOPE PROTECTION DETAIL
STA. 237+50 TO 242+50
SCALE: 1"=5'



GRP SLOPE PROTECTION DETAIL
SCALE: 1/2"=1'-0"

GENERAL PLAN	DATE
NOTE BOOK	DESIGNED BY
No.	CHECKED BY

SURVEY PLOTTED BY _____ DATE _____
 DESIGNED BY _____
 CHECKED BY _____
 ENGINEERS SURVEYORS HAWAII, INC. 1701 KALANANAKU HWY, SUITE 200, HONOLULU, HI 96813
 LICENSE NO. 5292-C
 LICENSE EXPIRATION DATE: 4/30/08



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 Eric N. S. Hee
 ENGINEERS SURVEYORS HAWAII, INC.
 LICENSE EXPIRATION DATE: 4/30/08

9/27/06	ADDED GRP SLOPE PROTECTION DETAIL
DATE	REVISION

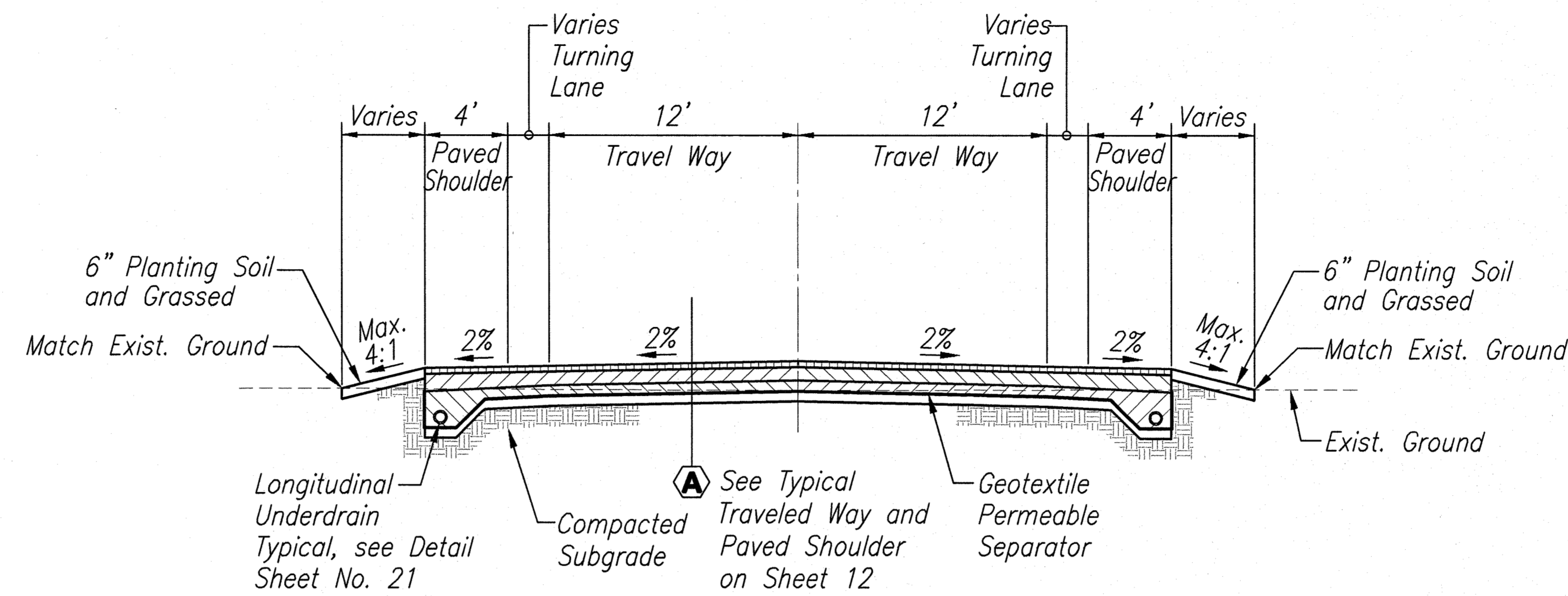
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

TYPICAL ROADWAY SECTION

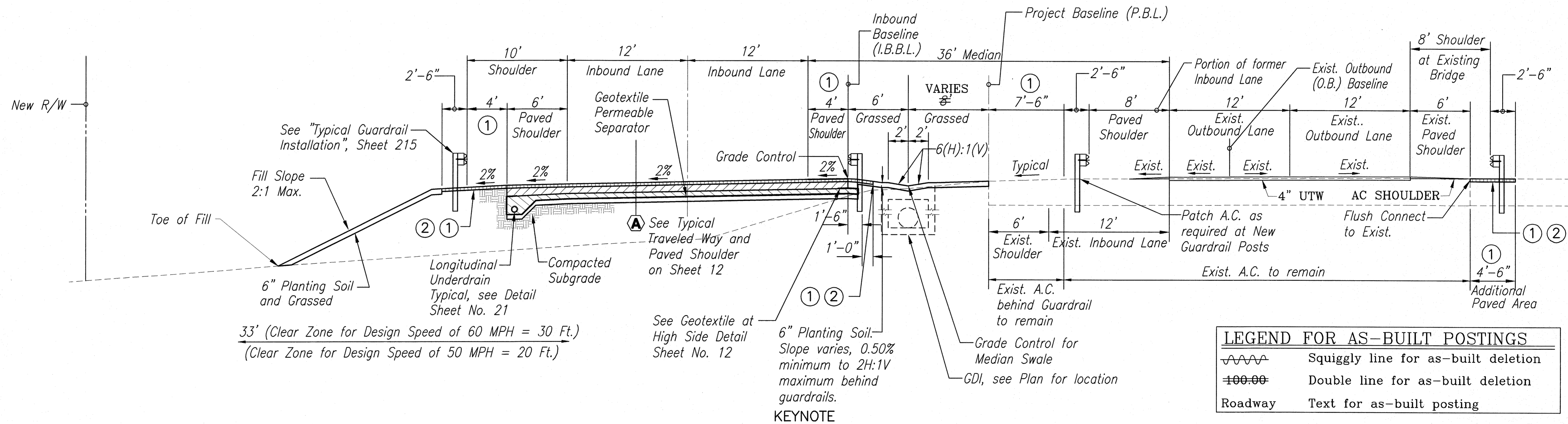
HALEAKALA HIGHWAY WIDENING, PHASE 2
 HANA HIGHWAY TO PUKALANI BYPASS
 FED. AID PROJ. NO. NH-037-1(24)

SCALE: AS NOTED DATE: SEP., 2005

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-037-1(24)	2005	19	288



TYPICAL SECTION HALIIMAILE ROAD
SCALE: 1"=5'

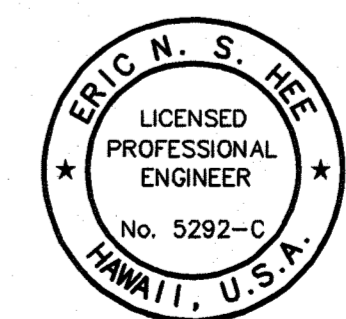


- KEYNOTE**
- ① WIDTH VARIES AT GUARDRAIL FLARES.
 - ② 1-1/2" MIN. A.C. PAVEMENT MIX NO. IV

TYPICAL SECTION WITH GUARDRAILS
SCALE: 1"=5'

LEGEND FOR AS-BUILT POSTINGS

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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL ROADWAY SECTION

HALEAKALA HIGHWAY WIDENING, PHASE 2
HANA HIGHWAY TO PUKALANI BYPASS
FED. AID PROJ. NO. NH-037-1(24)

SCALE: AS NOTED DATE: SEP., 2005

SHEET No. 8 OF 12 SHEETS

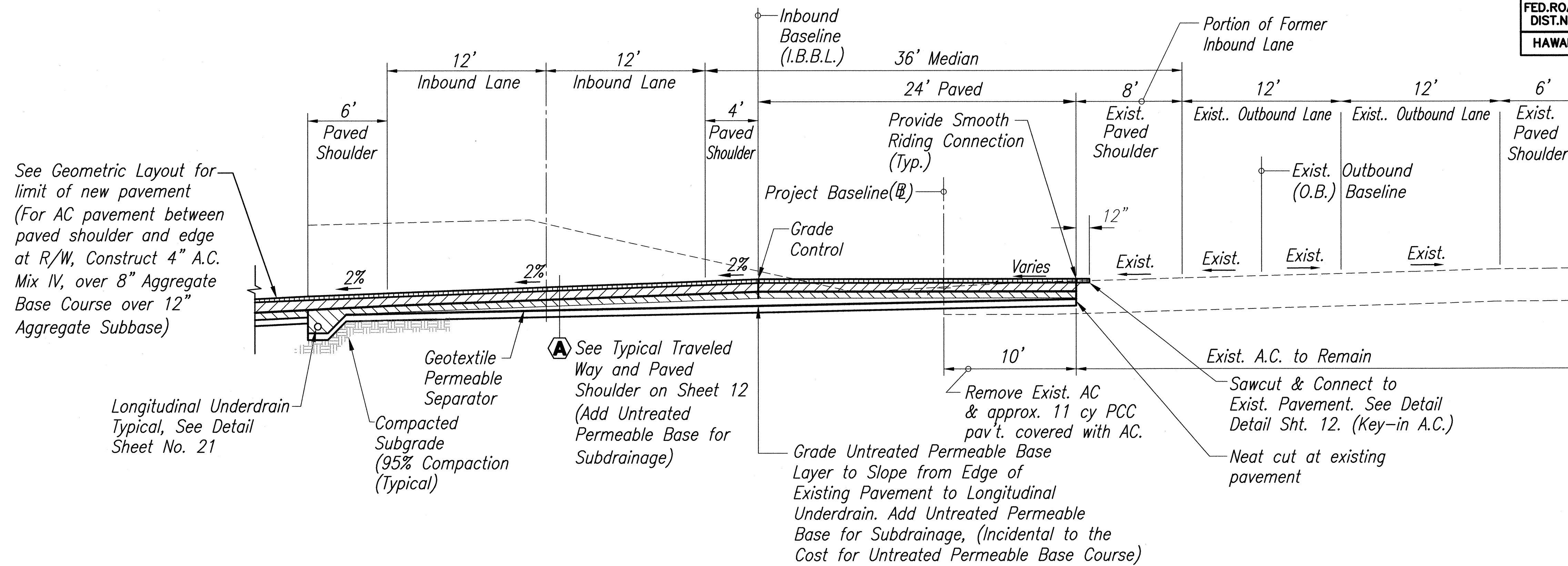
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Eric N. S. Hee
ENGINEERS SURVEYORS HAWAII, INC.
LICENSE EXPIRATION DATE: 4/30/08

AS-BUILT

SURVEY PLOTTED BY	DATE
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

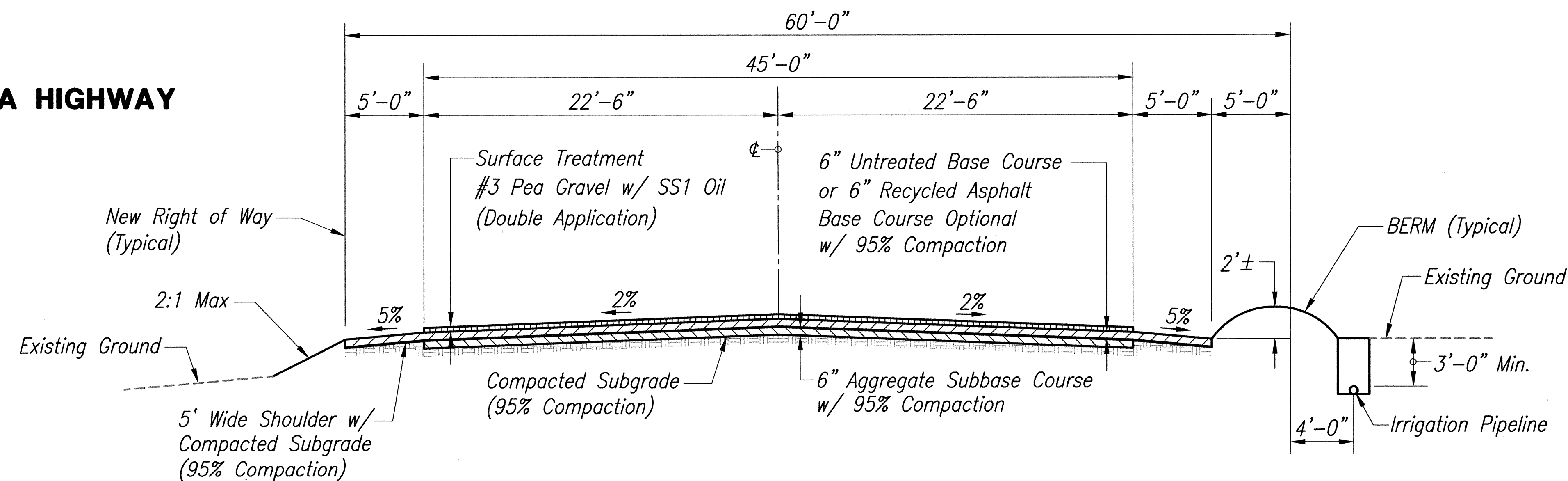
11/24/06/Engineering/Projects/19-037-Haleakala Hwy/Phase 2 - AS-BUILT TYPICAL/19-AS-BUILT/19-037-1(24) - 6:07pm

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-037-1(24)	2005	20	288



TYPICAL SECTION AT TRUCK CROSSING
SCALE: 1"=5'

HALEAKALA HIGHWAY



HC & S CANE HAULER ROAD - OIL & GRAVEL
TYPICAL SECTION

SCALE: 1"=5'
173+30± to 203+73 (o/s Left)
216+24 to 228+50 (o/s Left)
241+00 to 249+16 (o/s Left)

NOTE:

- Center of hauler road approx. 12" higher than existing elevation.
- Crown road in center.
- Grass all exposed disturbed areas for erosion control, cost shall be incidental to HC&S Cane Hauler Oil and Gravel road.

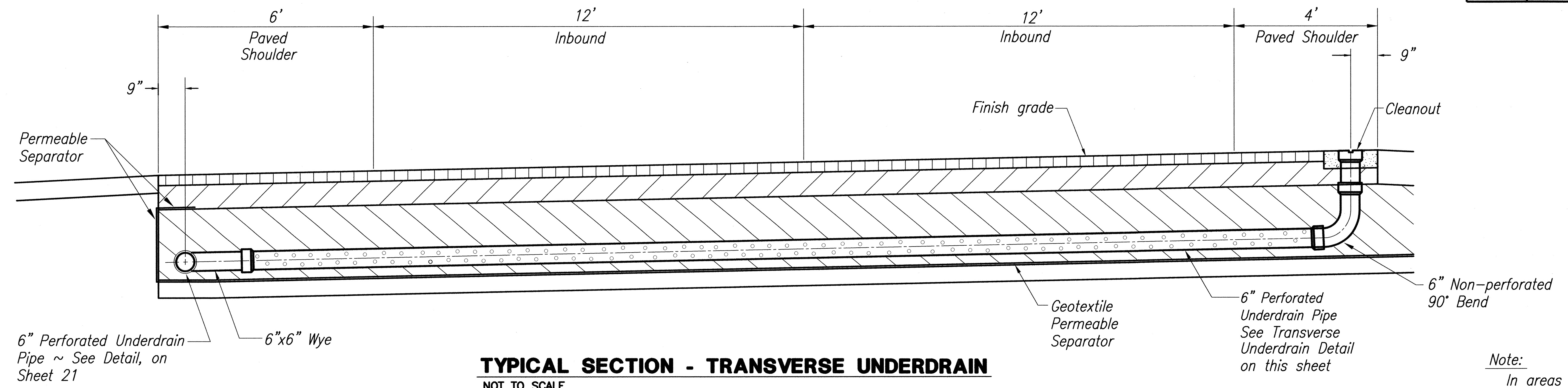
DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
NO.	_____



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ENGINEERS SURVEYORS HAWAII, INC.
LICENSE EXPIRATION DATE: 4/30/06

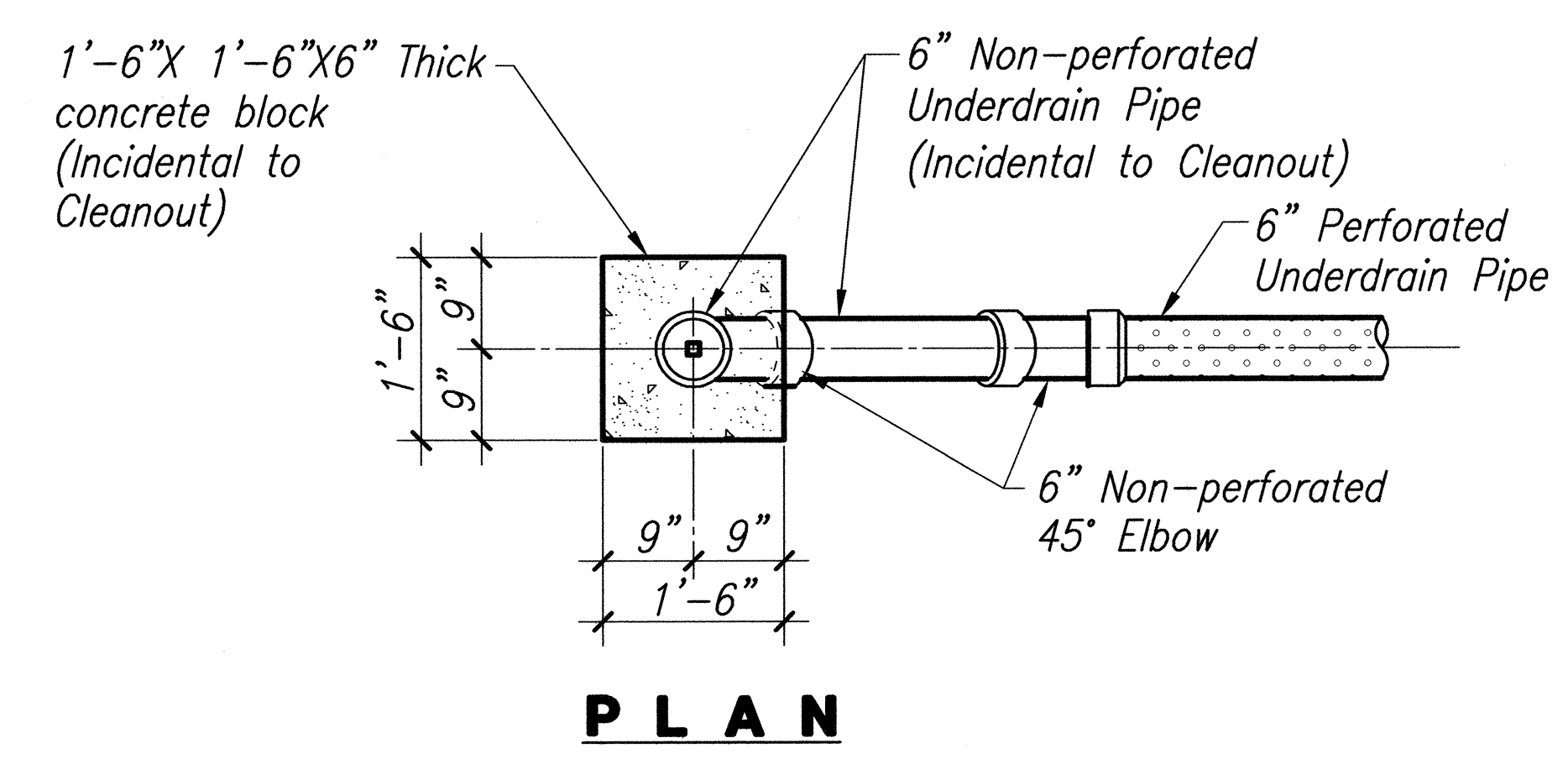
11/28/05	REVISED TYPICAL SECTION AT TRUCK CROSSING AND REVISED CANE HAULER ROAD SURFACE TREATMENT TO #3 PEA GRAVEL WITH SS1 OIL (DOUBLE APPLICATION)
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
TYPICAL ROADWAY SECTION	
HALEAKALA HIGHWAY WIDENING, PHASE 2 HANA HIGHWAY TO PUKALANI BYPASS FED. AID PROJ. NO. NH-037-1(24)	
SCALE: AS NOTED	DATE: SEP., 2005
SHEET No. 9 OF 12 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-037-1(24)	2005	22	288

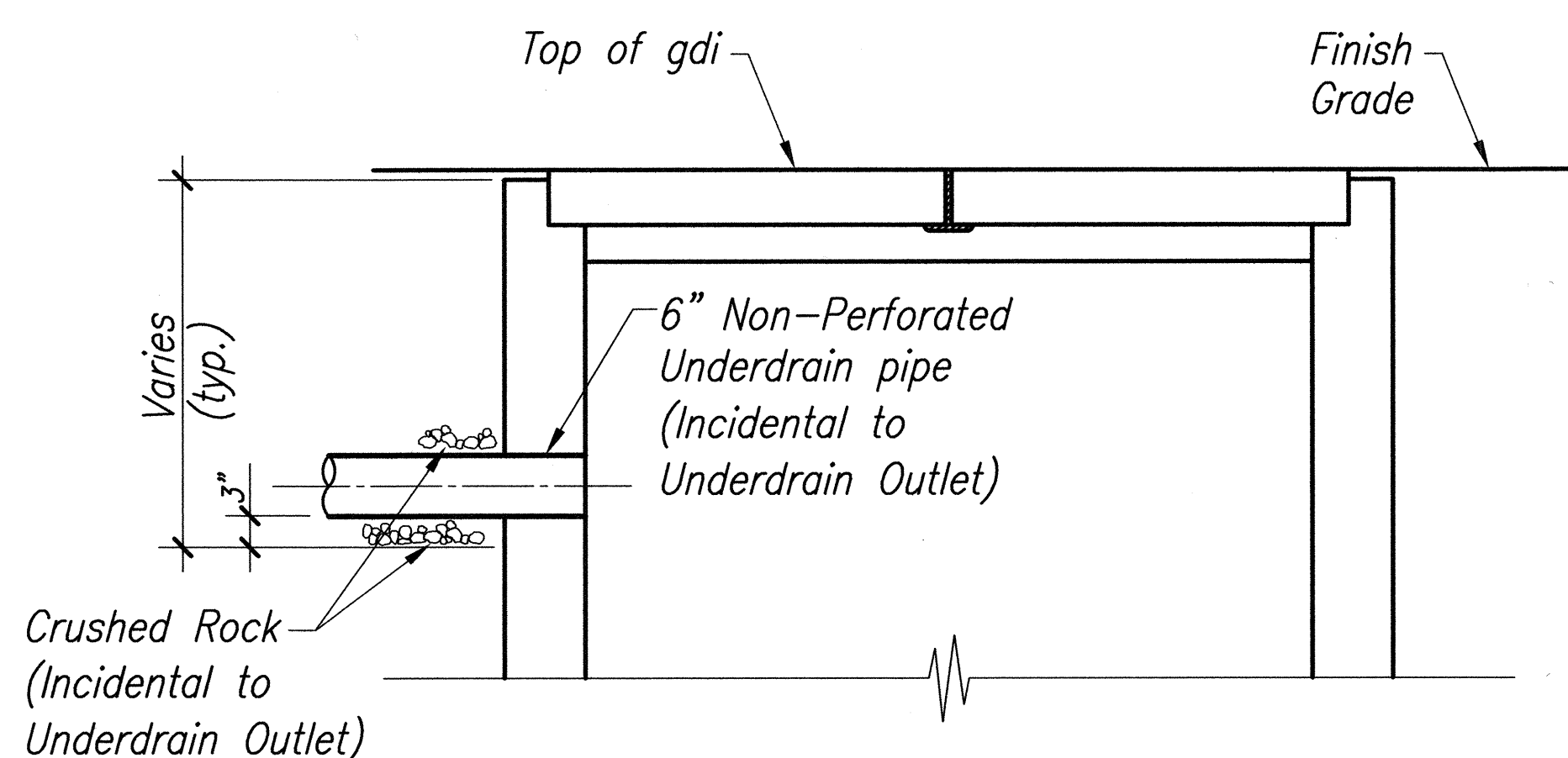


TYPICAL SECTION - TRANSVERSE UNDERDRAIN
NOT TO SCALE

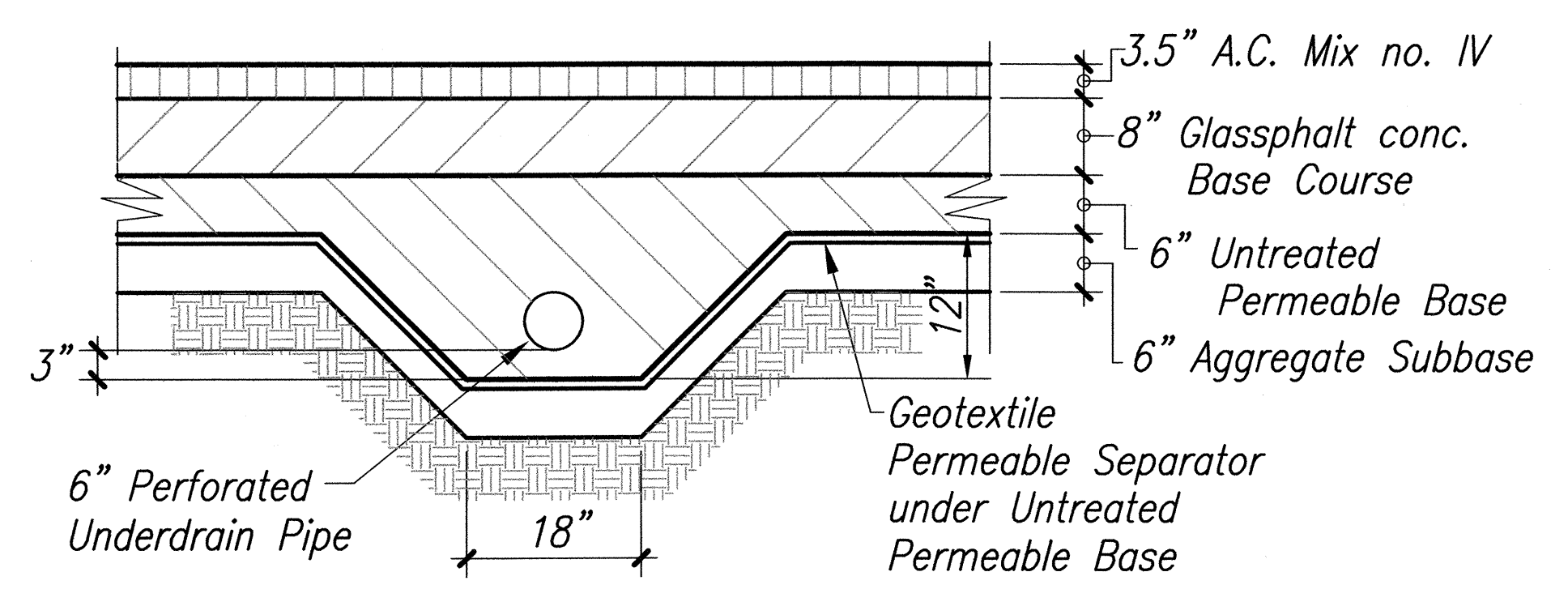
Note:
In areas where finish longitudinal road grades are equal to or greater than 4%, intermediate cross-drain interceptors should be provided at an approximate spacing of 500 feet.



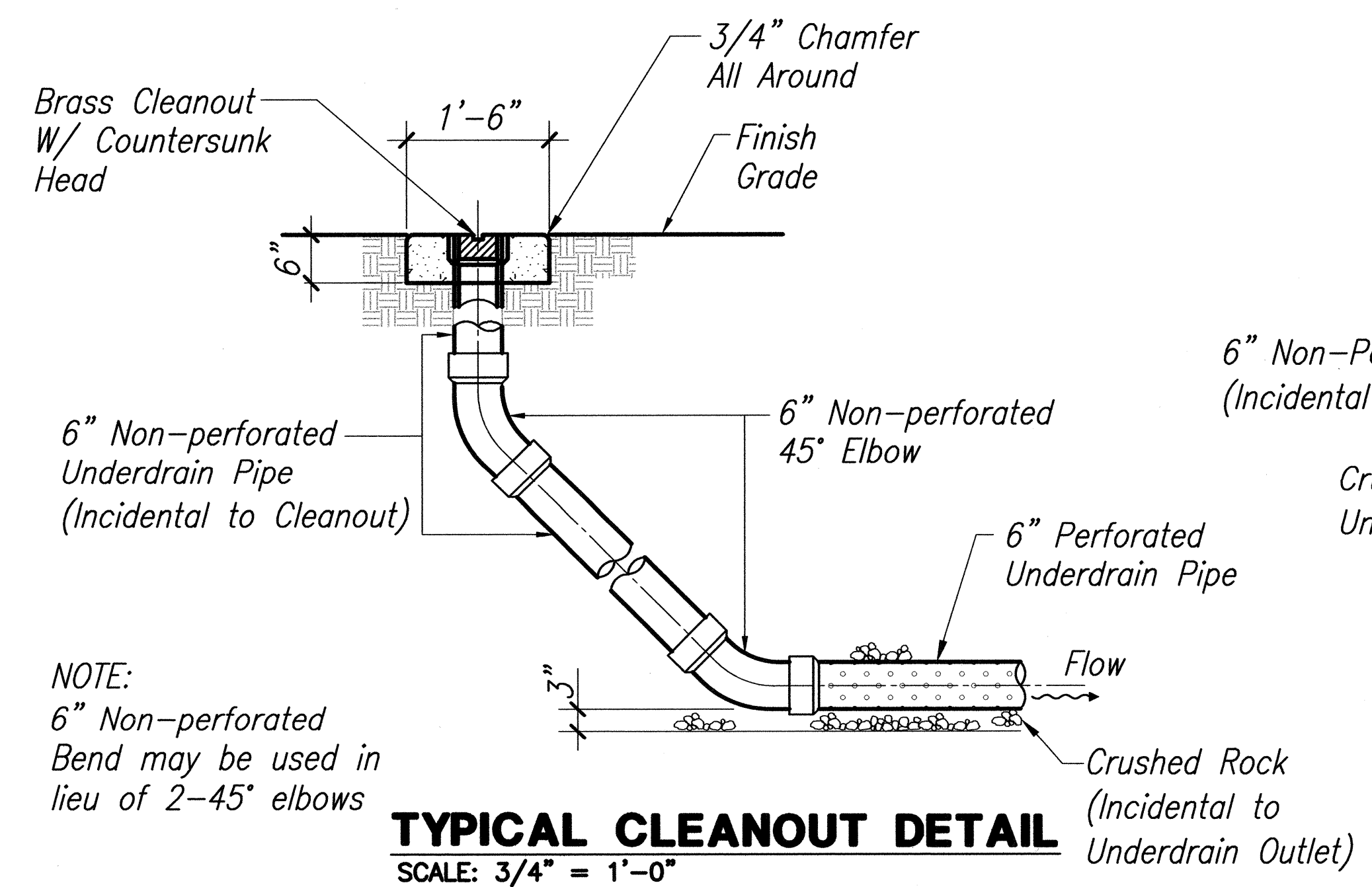
PLAN



CONNECTION OF UNDERDRAIN TO GRATED DROP INLET (GDI)
SCALE: 3/4" = 1'-0"

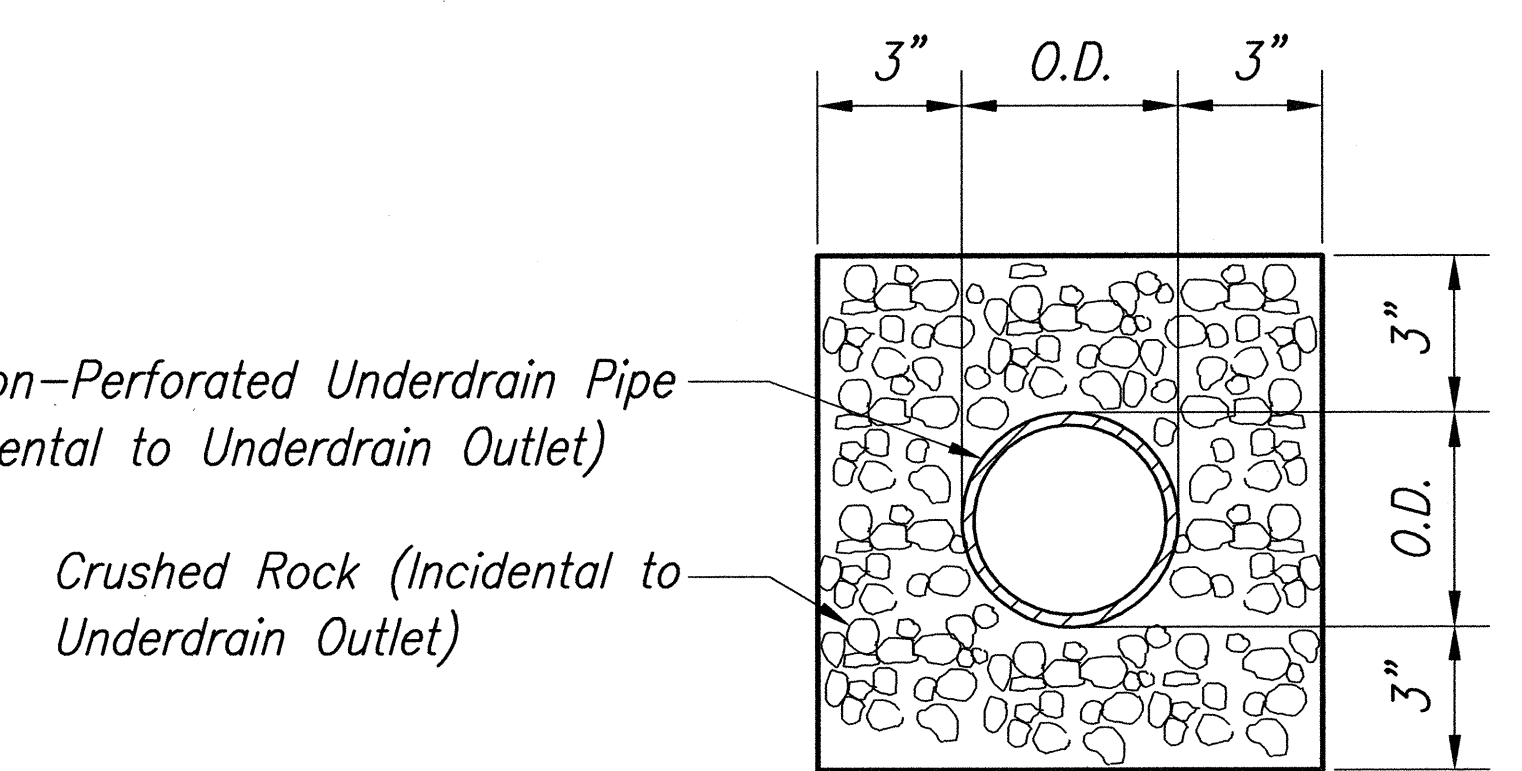


TRANSVERSE UNDERDRAIN DETAIL
SCALE: 3/4" = 1'-0"



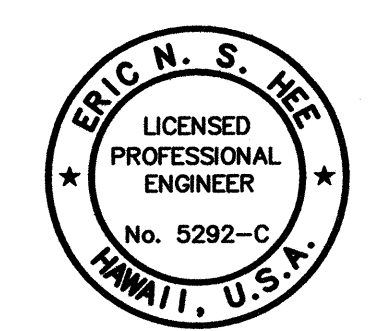
TYPICAL CLEANOUT DETAIL
SCALE: 3/4" = 1'-0"

NOTE:
6" Non-perforated Bend may be used in lieu of 2-45° elbows



TYPICAL SECTION - HORIZONTAL NON - PERFORATED UNDERDRAIN
SCALE: 3" = 1'-0"

SURVEY PLOTTED BY: _____ DATE: _____
 DESIGNED BY: _____
 CHECKED BY: _____
 ORIGINAL PLAN NO. _____
 NOTE BOOK NO. _____
 11/24/06 11:41 AM



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 Eric N. S. Hee
 ENGINEERS SURVEYORS HAWAII, INC.
 LICENSE EXPIRATION DATE: 4/30/06

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
TYPICAL ROADWAY SECTION
 HALEAKALA HIGHWAY WIDENING, PHASE 2
 HANA HIGHWAY TO PUKALANI BYPASS
 FED. AID PROJ. NO. NH-037-1(24)
 SCALE: AS NOTED DATE: MAY, 2005
 SHEET No. 11 OF 12 SHEETS

