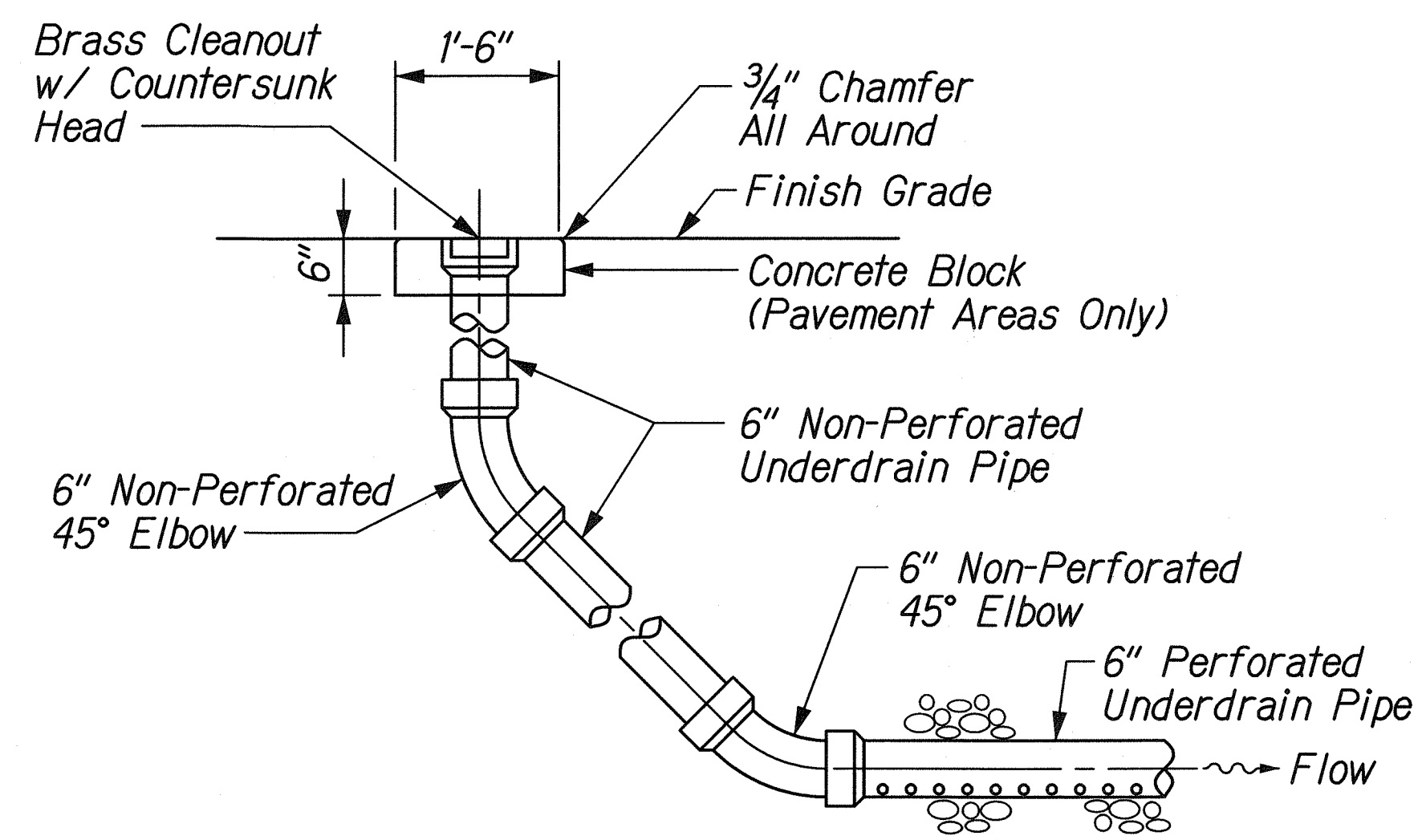
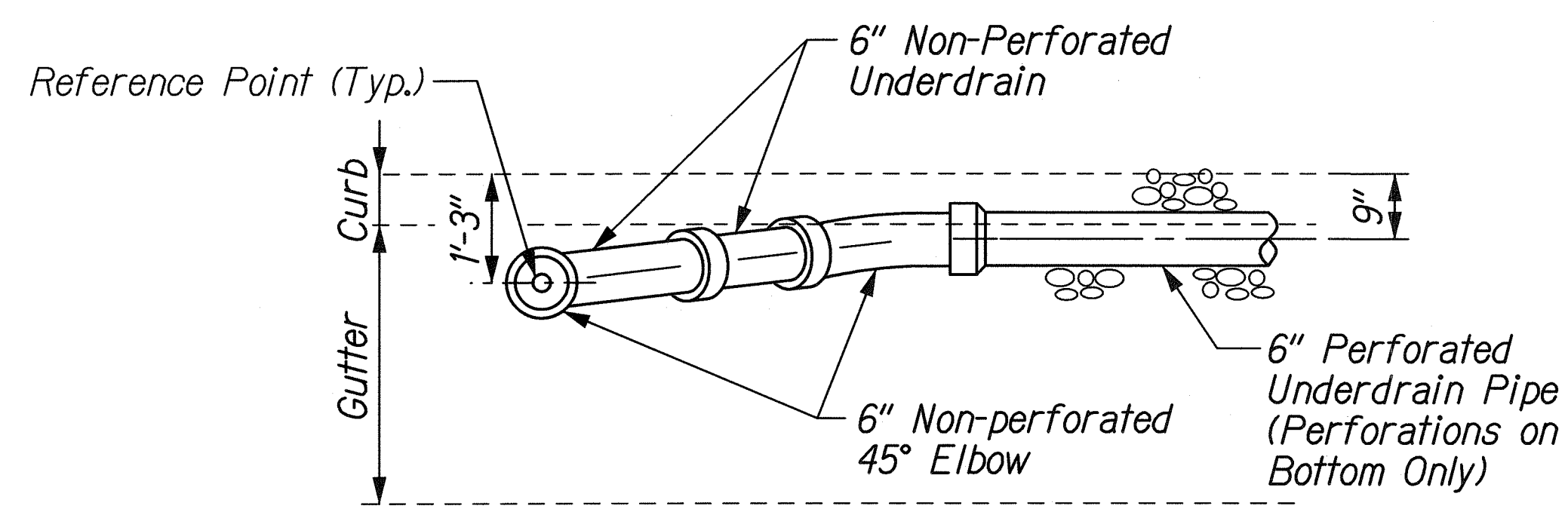


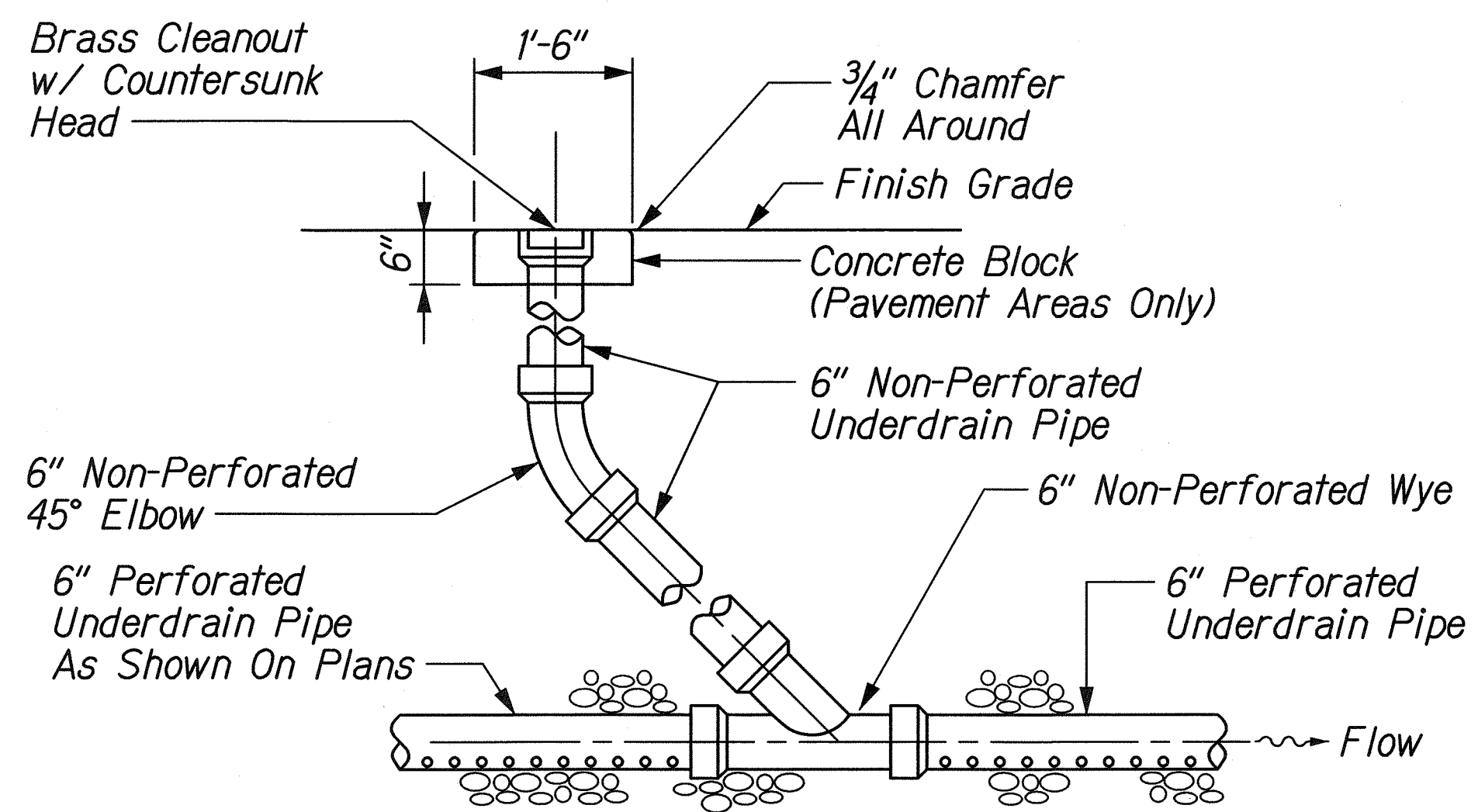
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HAWAII	HAW.	CMAQ-076-1(9)	2006	74	371



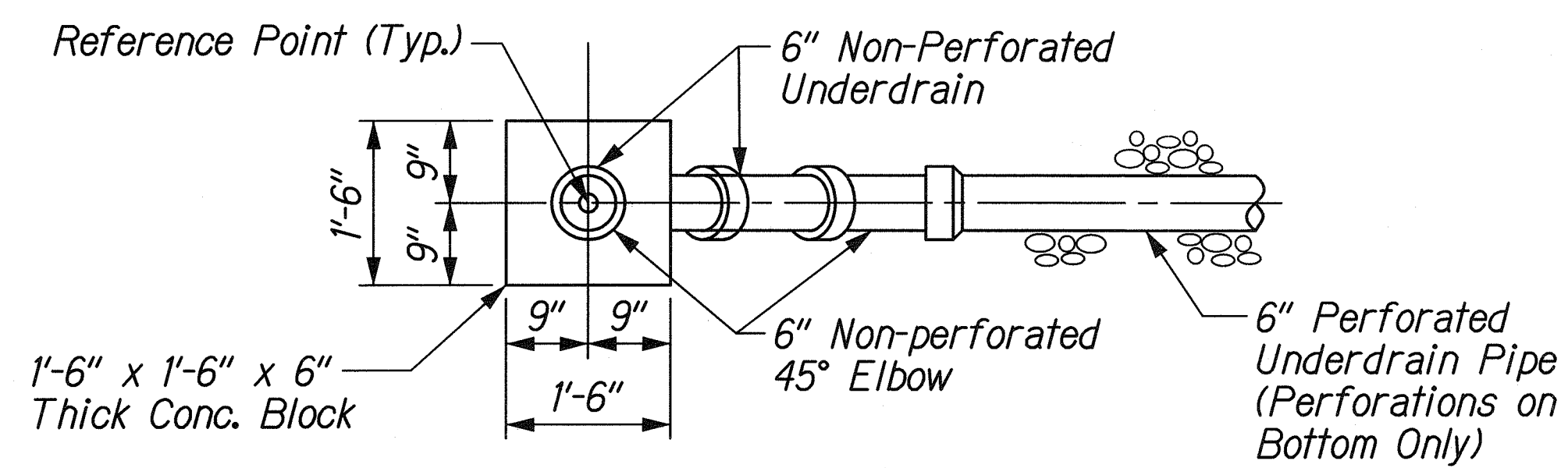
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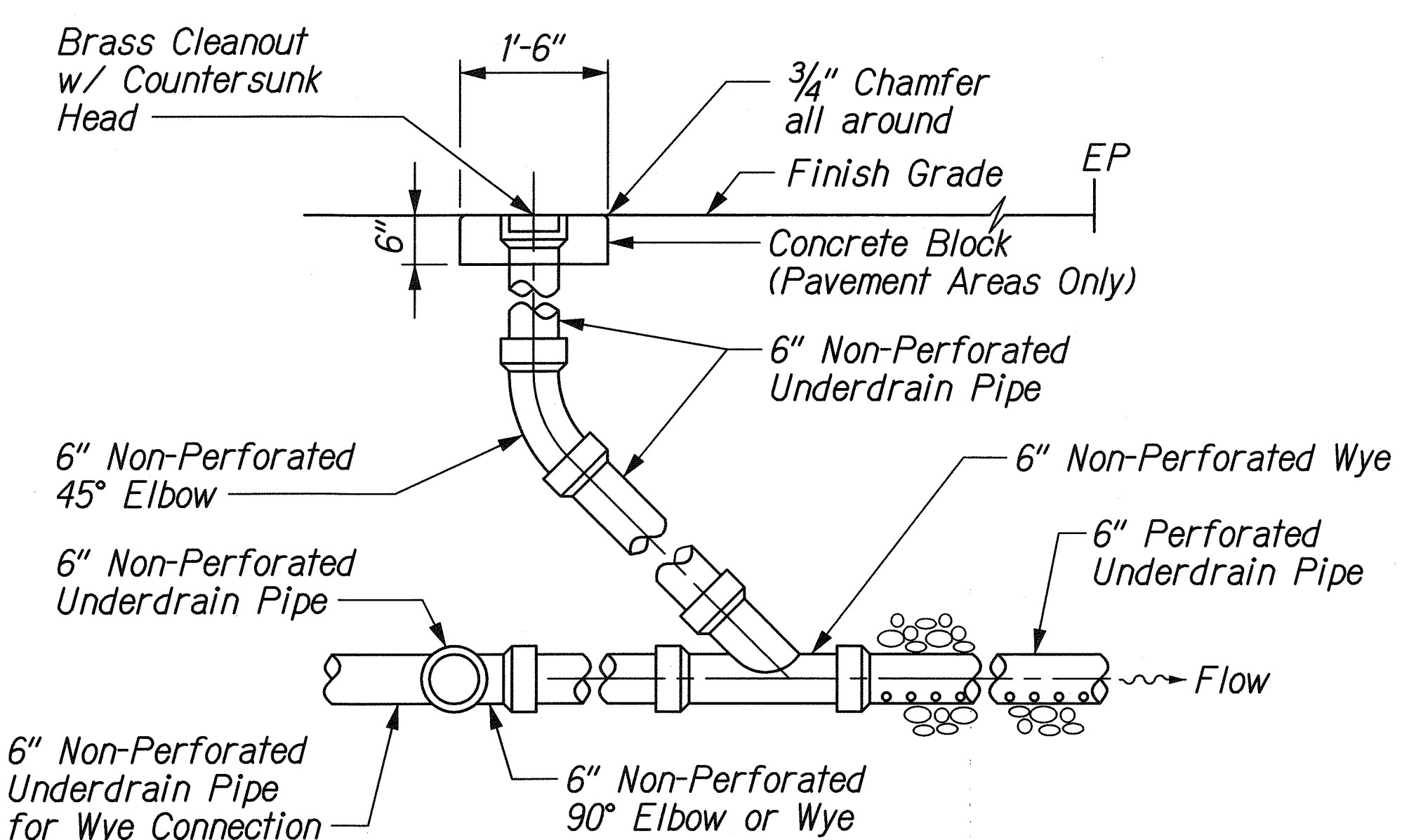
TYPICAL CLEANOUT PLAN UNDER CURB AND GUTTER
Not to Scale



CLEANOUT TYPE B
Not to Scale



TYPICAL CLEANOUT PLAN IN ROADWAY
Not to Scale



CLEANOUT TYPE C
Not to Scale

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	

U/FORT WEAVER ROAD/PACKAGE 2/ROAD/UDRAIN/010101.dgn

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE: *R. Urasky* EXPIRATION DATE: 04/30/10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

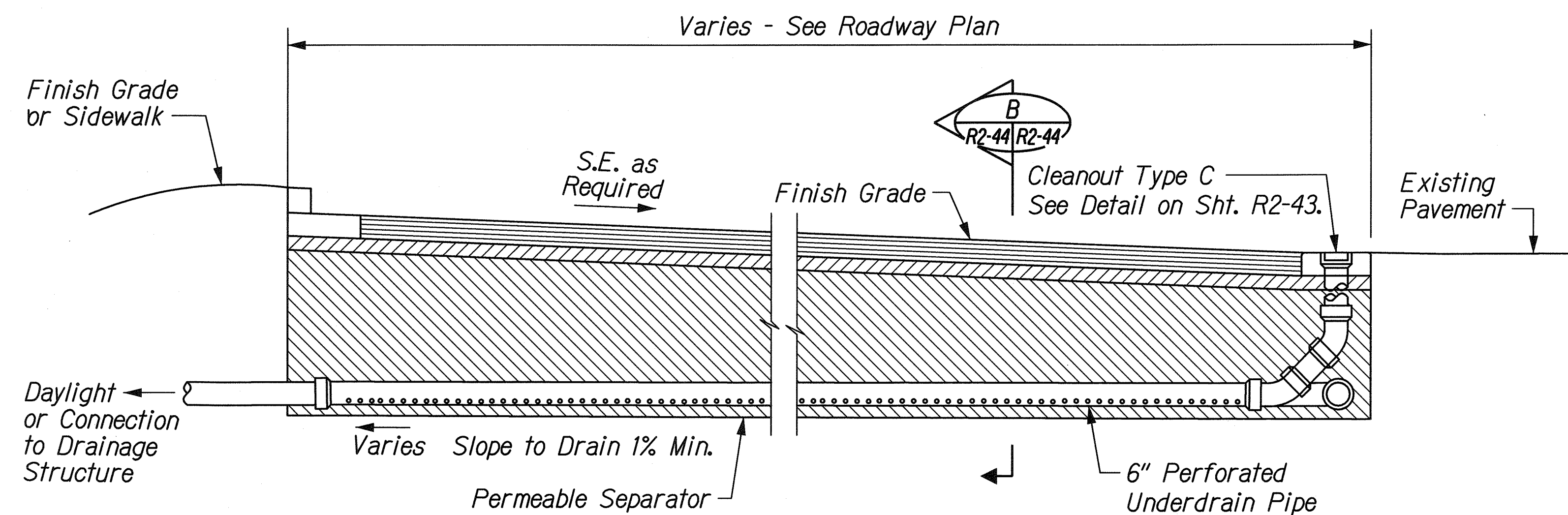
**ROADWAY CONSTRUCTION
UNDERDRAIN DETAILS**

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

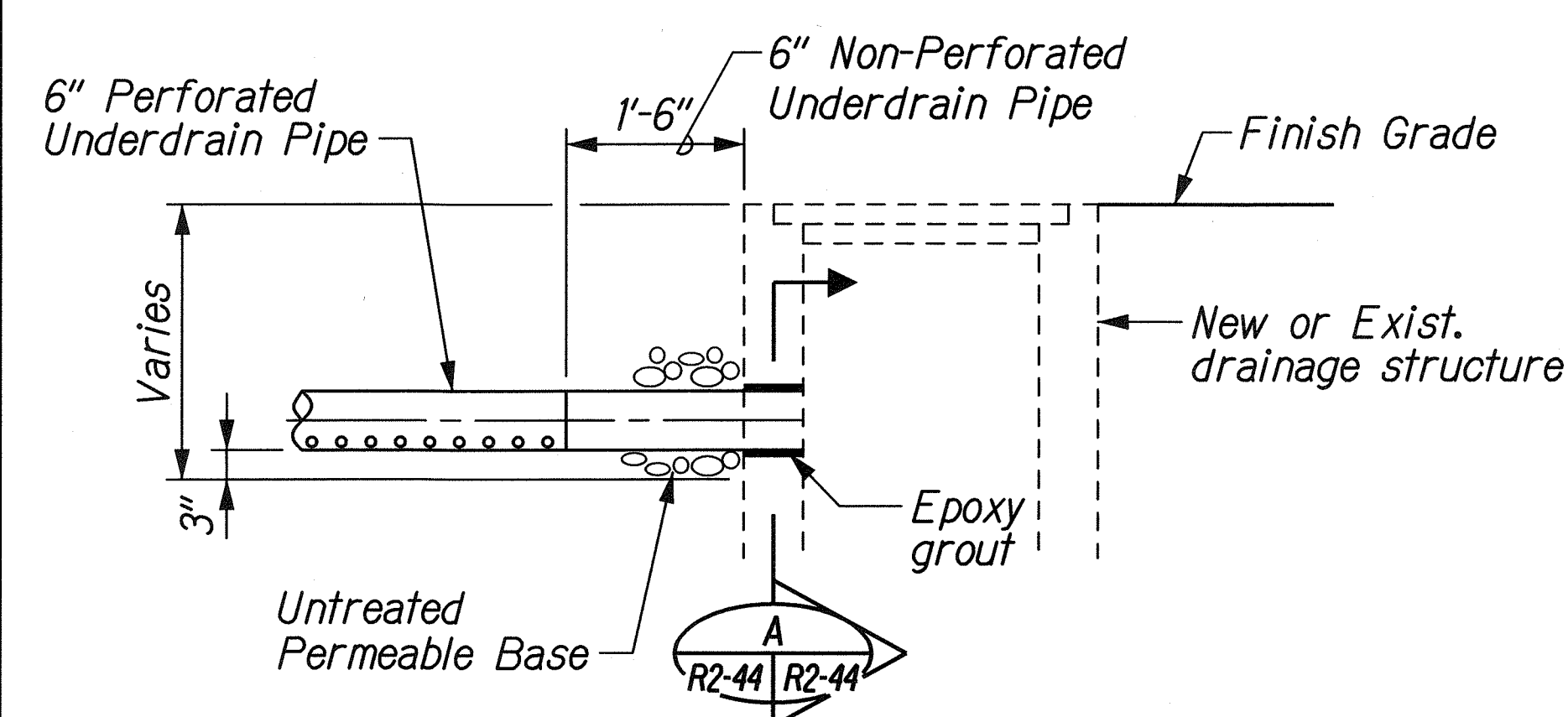
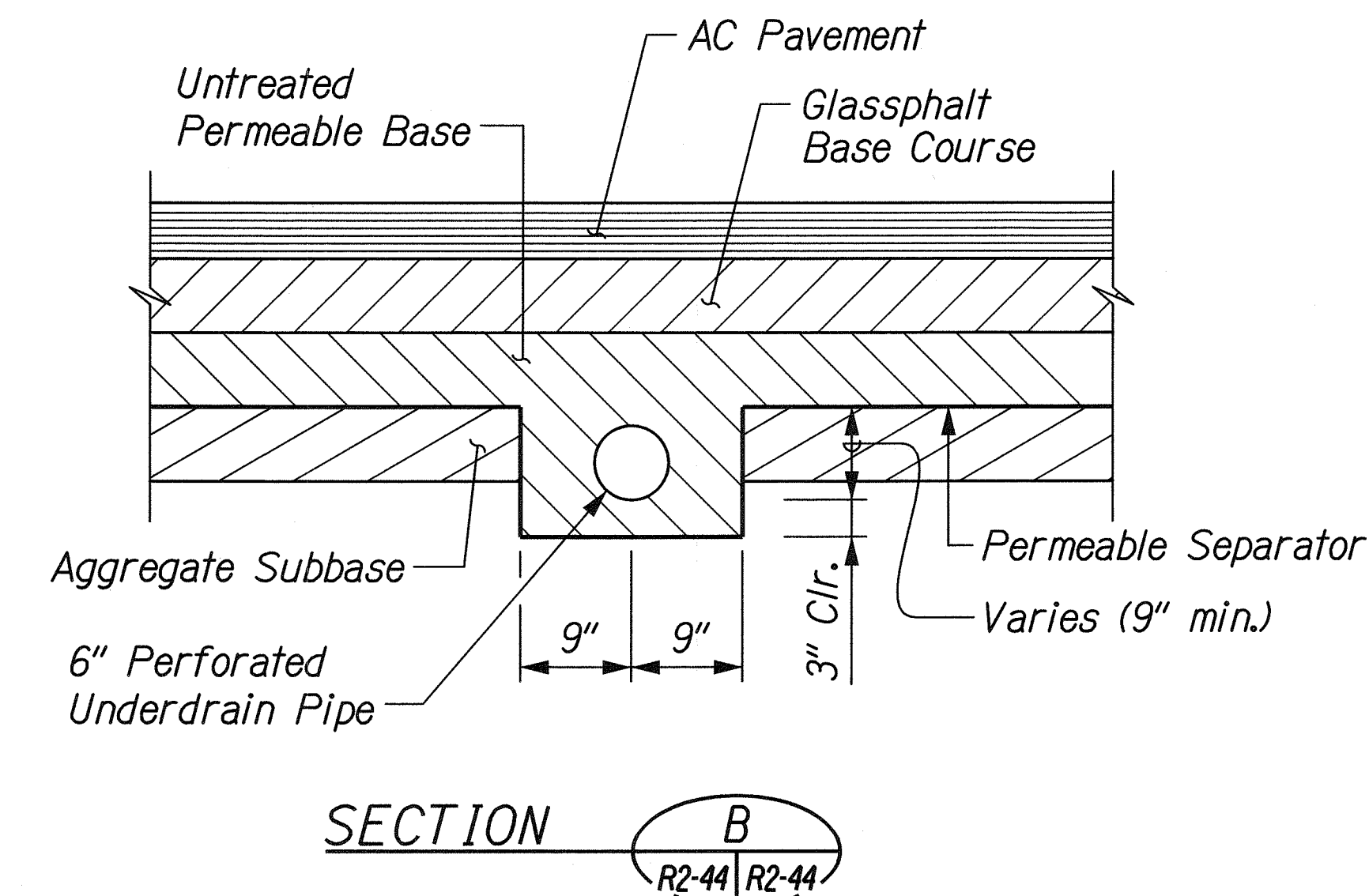
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SHEET No. R2-43 OF 79 SHEETS

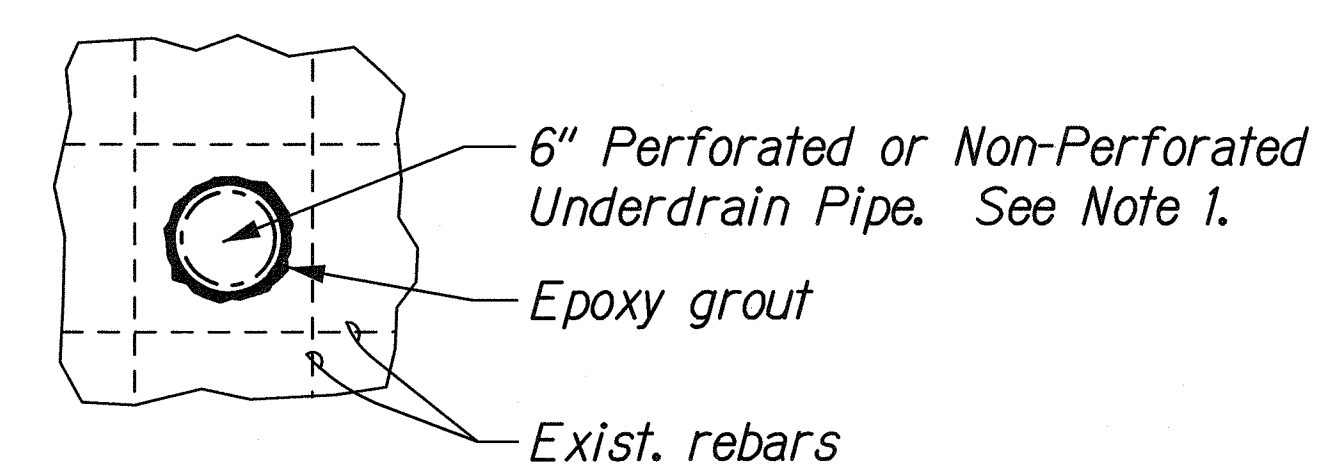
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HAWAII	HAW.	CMAQ-076-1(9)	2006	75	371



TRANSVERSE UNDERDRAIN
Not to Scale



CONNECTION DETAIL FOR DRAINAGE STRUCTURES
Not to Scale



NOTE:
1. The Contractor shall avoid cutting the existing rebar. In case the pipe opening interferes with the existing rebar, the opening shall be enlarged and the location of the pipe shall be adjusted to pass between the existing rebar as shown. The enlarged hole shall be patched with epoxy grout.

SECTION A
R2-44/R2-44

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
	CHECKED BY	

J:\FORT WEAVER ROAD\PACKAGE 2\ROAD\UDRAIN02.dgn

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**ROADWAY CONSTRUCTION
UNDERDRAIN DETAILS**

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: AS SHOWN Date: Feb. 22, 2008

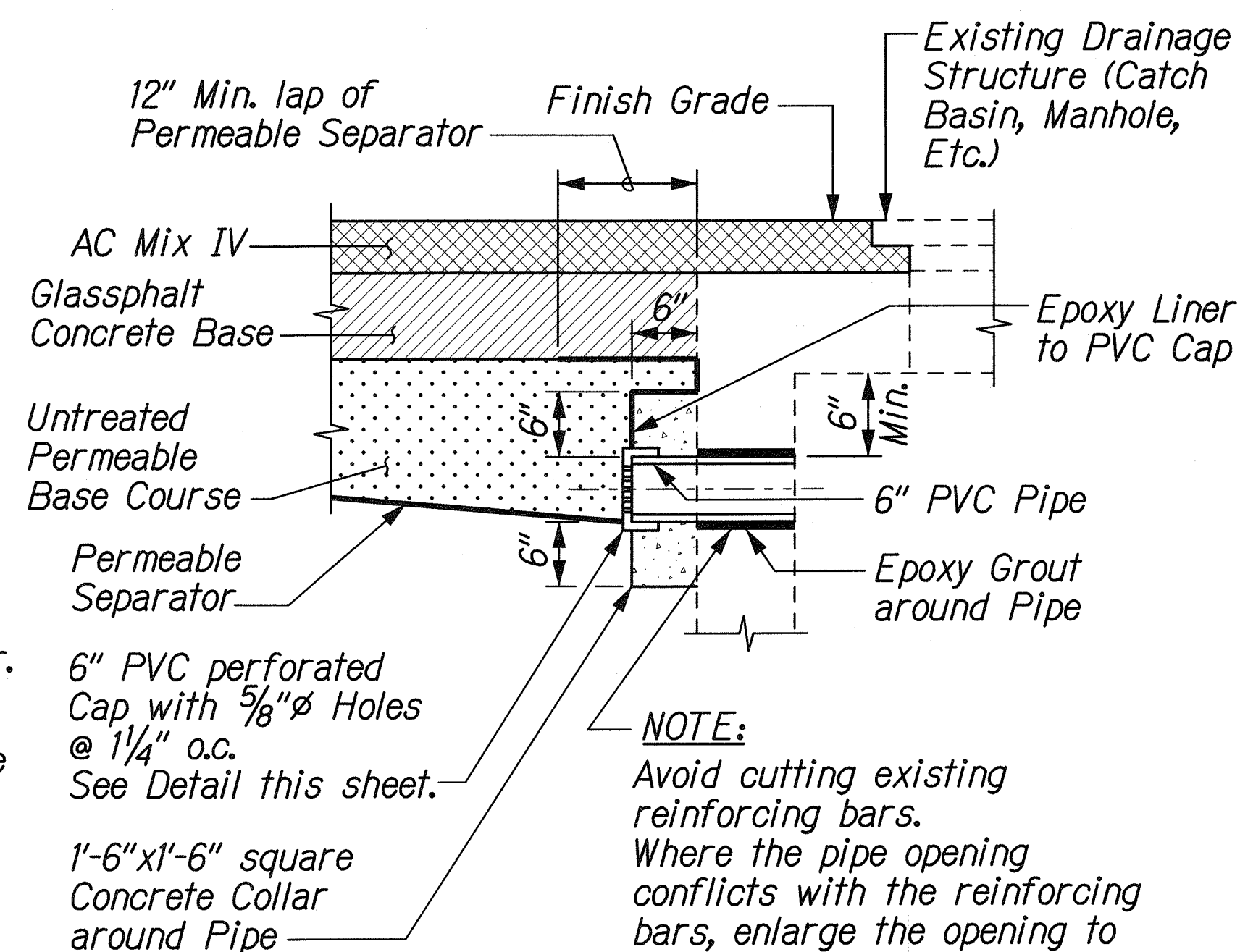
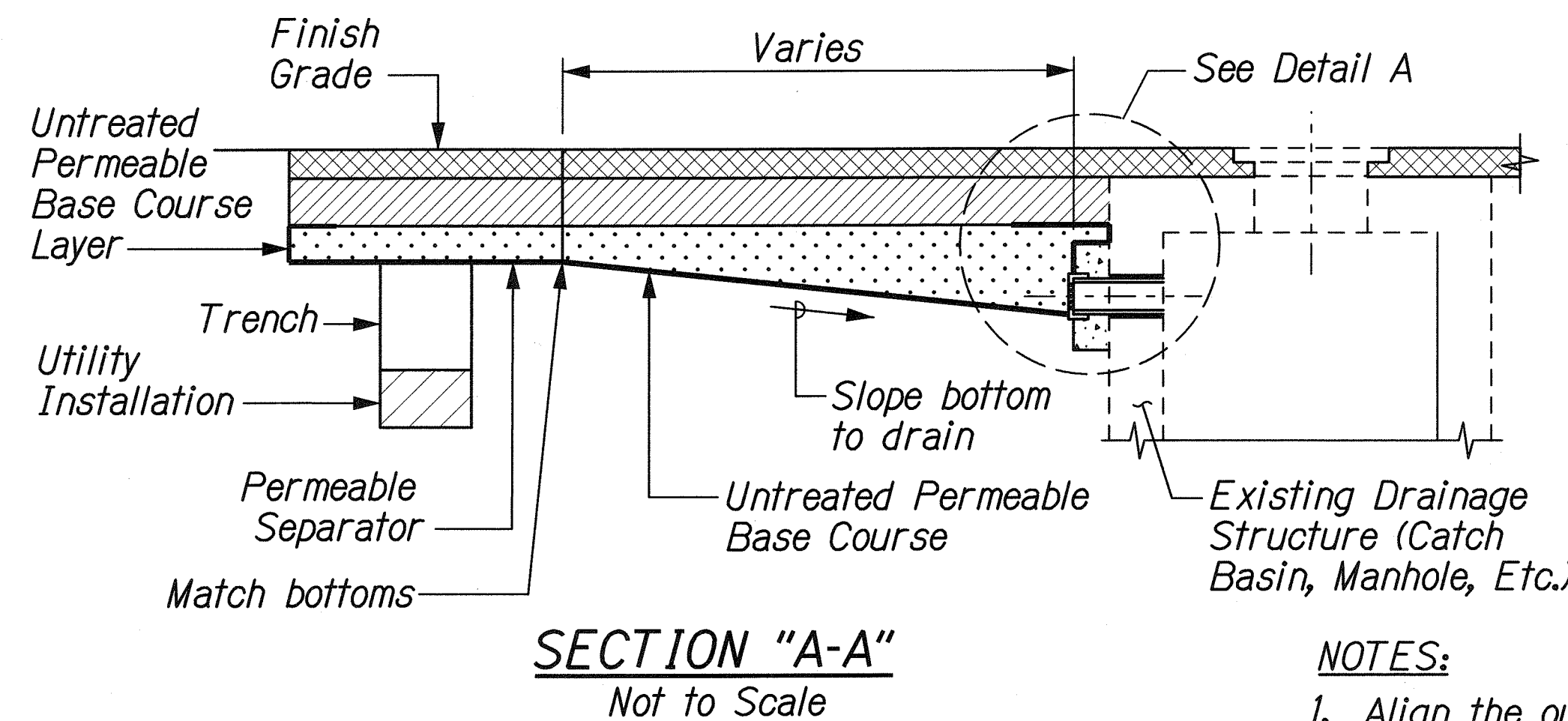
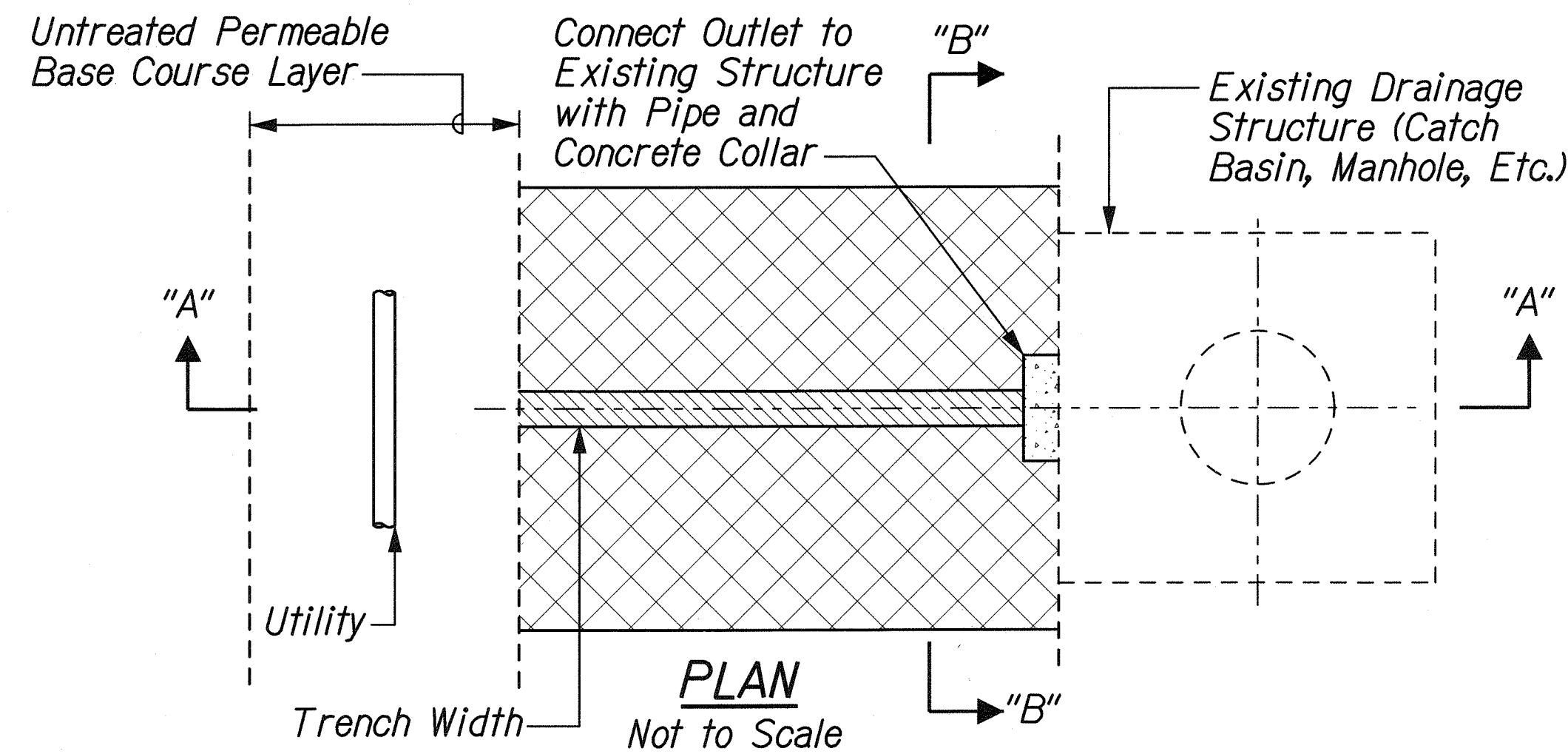
SHEET No. R2-44 OF 79 SHEETS

CONSTRUCTION REQUIREMENTS:

- All work performed shall be subject to inspection by the State and shall be to the State's satisfaction.
- Construct the trench restoration in accordance with the Hawaii Standard Specifications for Road, Bridge and Public Works Construction and its Special Provisions, and the Specification of Installation of Miscellaneous Improvements within State Highways.
- Pavement Smoothness
 - Obtain a profile of the existing roadway surface that is to have a new surface as a result of the restoration of the trench excavation and submit the profile to the Engineer before any work for trench excavation begins.
 - Obtain a profile of the roadway surface after the roadway surface has been repaved and submit the profile to the Engineer. The profile of the roadway surface after repaving shall be equal to or smoother than the profile obtained before trench excavation began.
 - The distance from the paved surface to the testing edge of a ten-foot long straight edge between two points of contact shall not exceed $\frac{3}{16}$ inch.
- Place all unbound materials in the trench as follows:
 - Compaction by water jetting or ponding is not permitted.
 - All unbound materials, except the permeable base and ASTM C-33 Size 67:
 - Place material in accordance with Subsection 206.03 (E) Structure and Trench Backfill of the Hawaii Standard Specifications for Road, Bridge, and Public Works Construction.
 - Take one compaction test for 300 lineal feet of trench. Submit compaction test results to the Engineer.
 - Permeable base:
 - Place permeable material in uniform horizontal layer not exceeding 9 inches in compacted thickness.
 - Compact each layer with 8 passes of a vibrating plate compactor. Use hand tamper if trench too narrow to accommodate the vibrating plate compactor.
 - ASTM C-33, Size 67:
 - Material placed underwater need not be compacted.
 - Material placed above water:
 - Place material in uniform horizontal layer not exceeding 9 inches in loose thickness.
 - Compact each layer with 8 passes of a vibrating plate compactor. Use hand tamper if trench too narrow to accommodate the vibrating plate compactor.
 - When ground water is encountered in trenches, backfill with ASTM CC-33, Size 67 material until one foot above the water level. Encapsulate the Size 67 material with a permeable separator that lines the bottom and sides of the trench and overlaps the top of the material for the width of the trench.
- All vertical drop-offs in pavement shall conform to section 9.5.2 Pavement Edge Drop-Offs of the 2002 AASHTO Roadside Design Guide.

Approved: *(Signature)* *(Signature)*

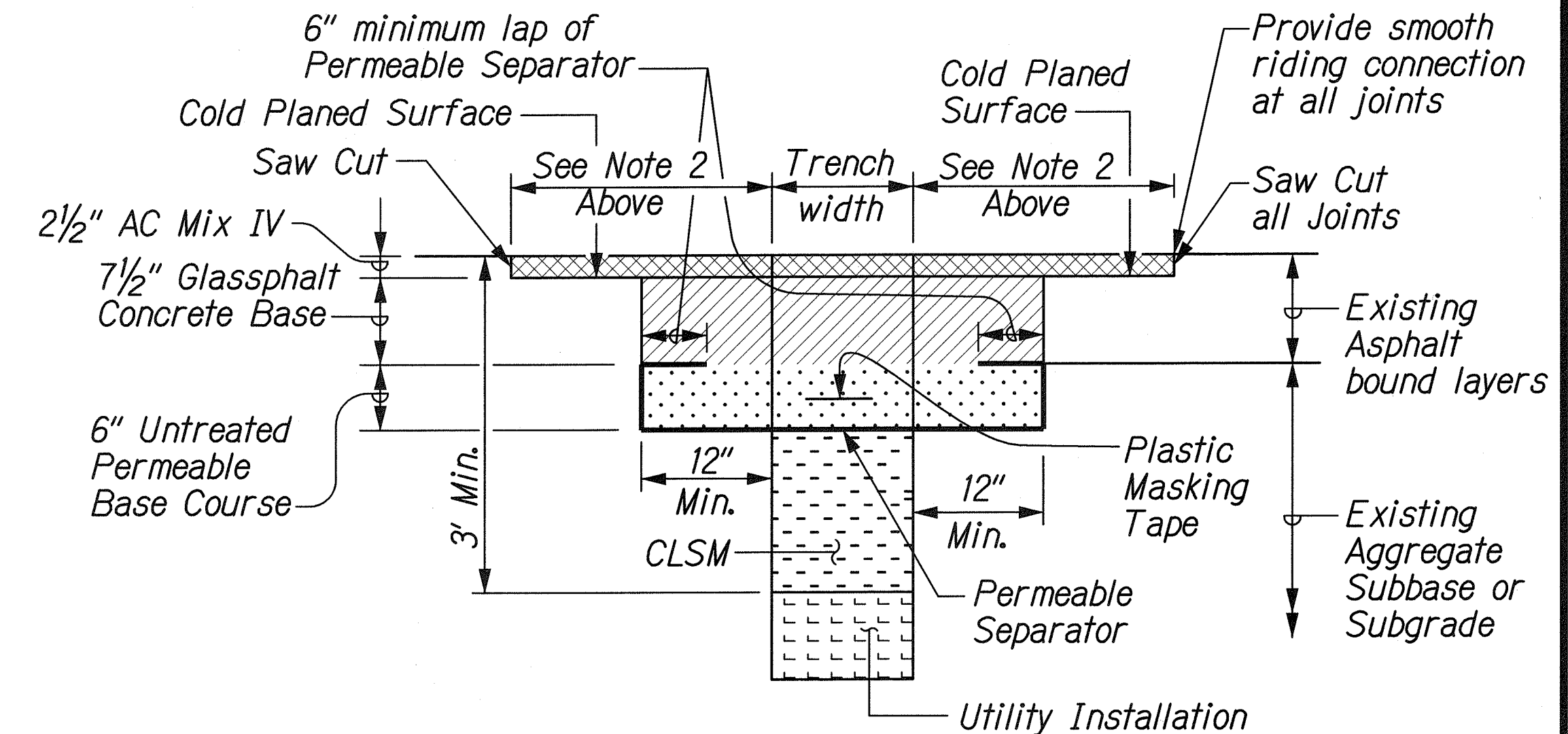
Chief, Civil Engineering Branch, DPP Date



TYPICAL SECTION FOR PERMEABLE BASE COURSE
Not to Scale

NOTES:

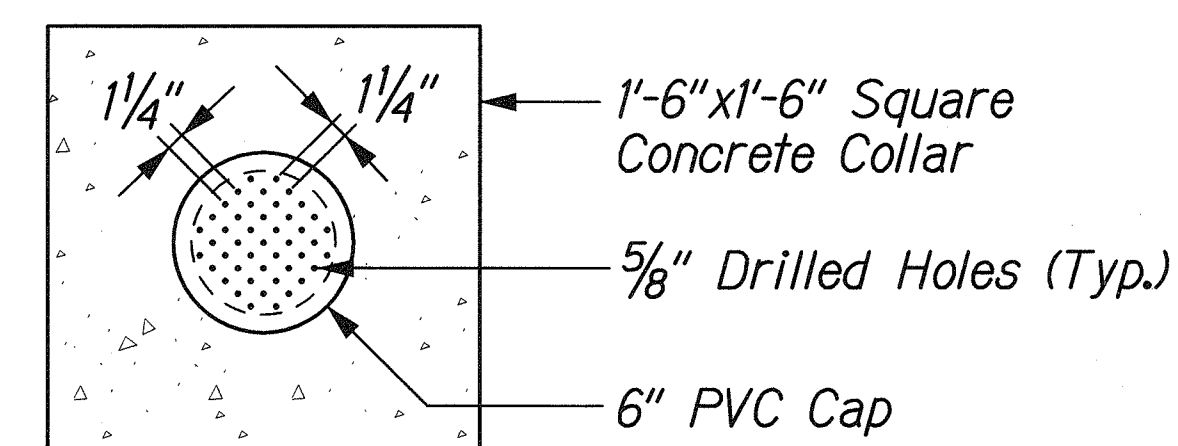
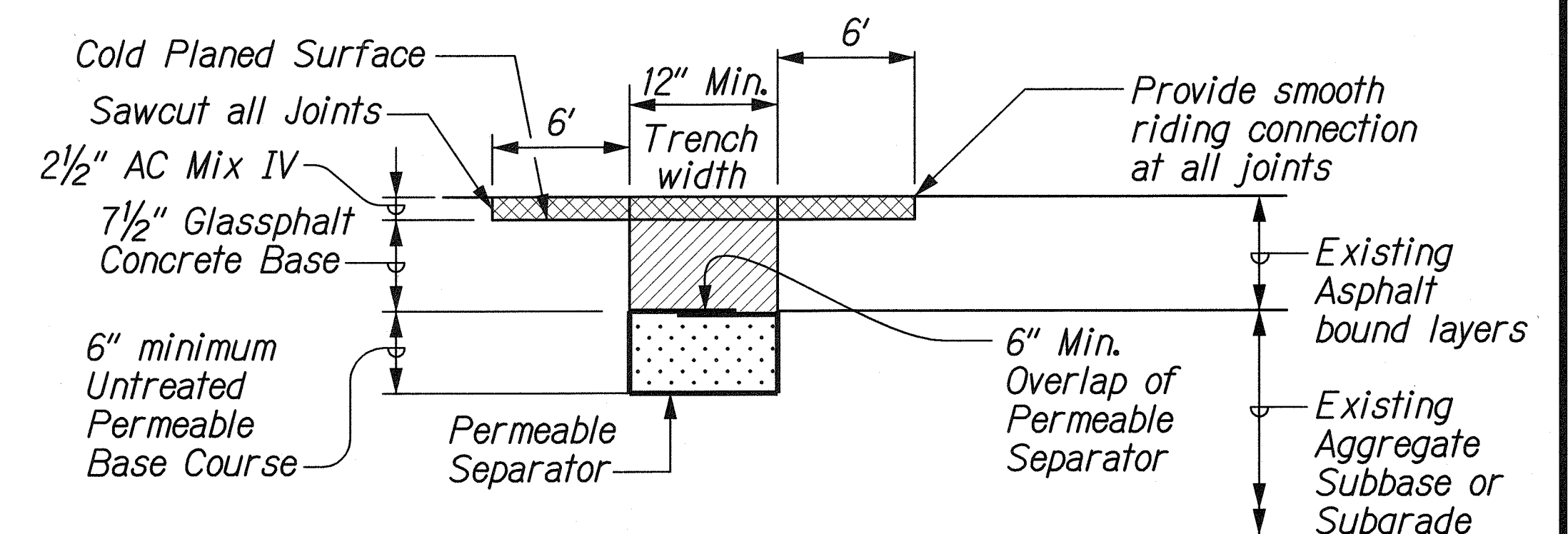
- Tack Coat faces of Existing Asphalt Bound Materials prior to filling excavation with New Asphalt bound materials.
- 6'-0" for trenches aligned transverse to the roadway, otherwise to the nearest proposed lane marking.



ASPHALT PAVEMENT RESTORATION OVER TRENCH EXCAVATIONS FOR EXISTING PAVEMENTS WITHOUT PERMEABLE BASE

NOTES:

- Align the outlet to suit existing field conditions.
- At the existing structure, locate the outlet connection away from the manhole rungs.
- Restore AC pavement over outlet trench to match existing grade and provide a smooth riding connection.



SECTION "B-B"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRENCH RESTORATION
NOTES AND DETAILS

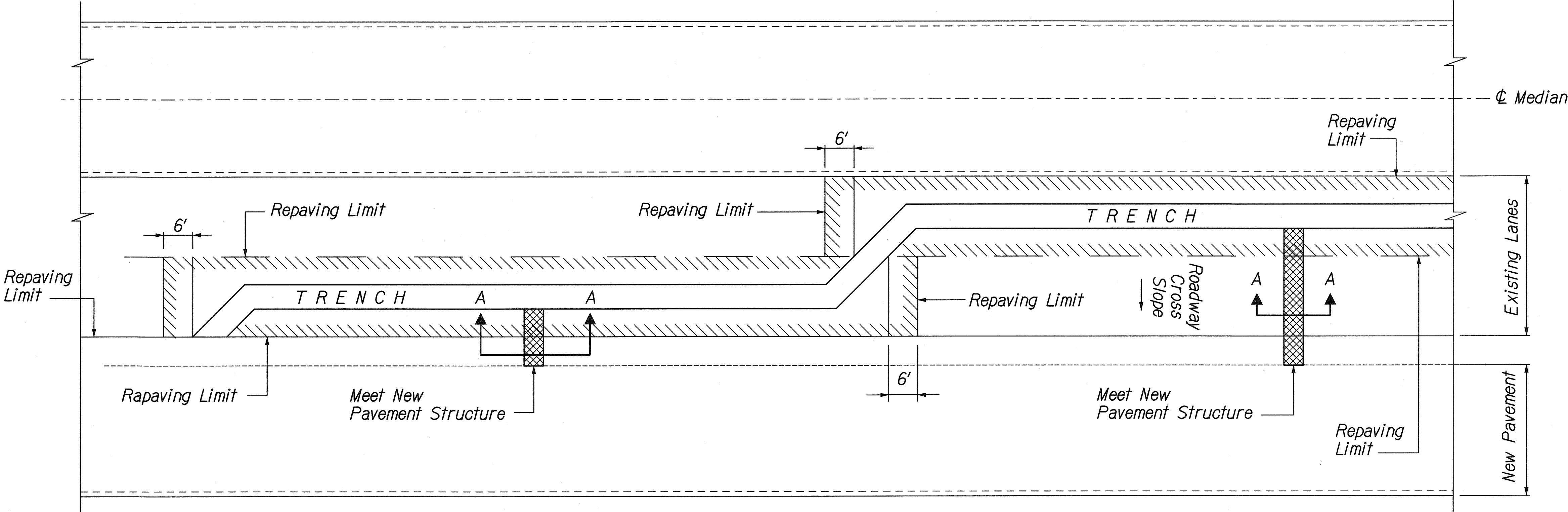
FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: None Date: Feb. 22, 2008

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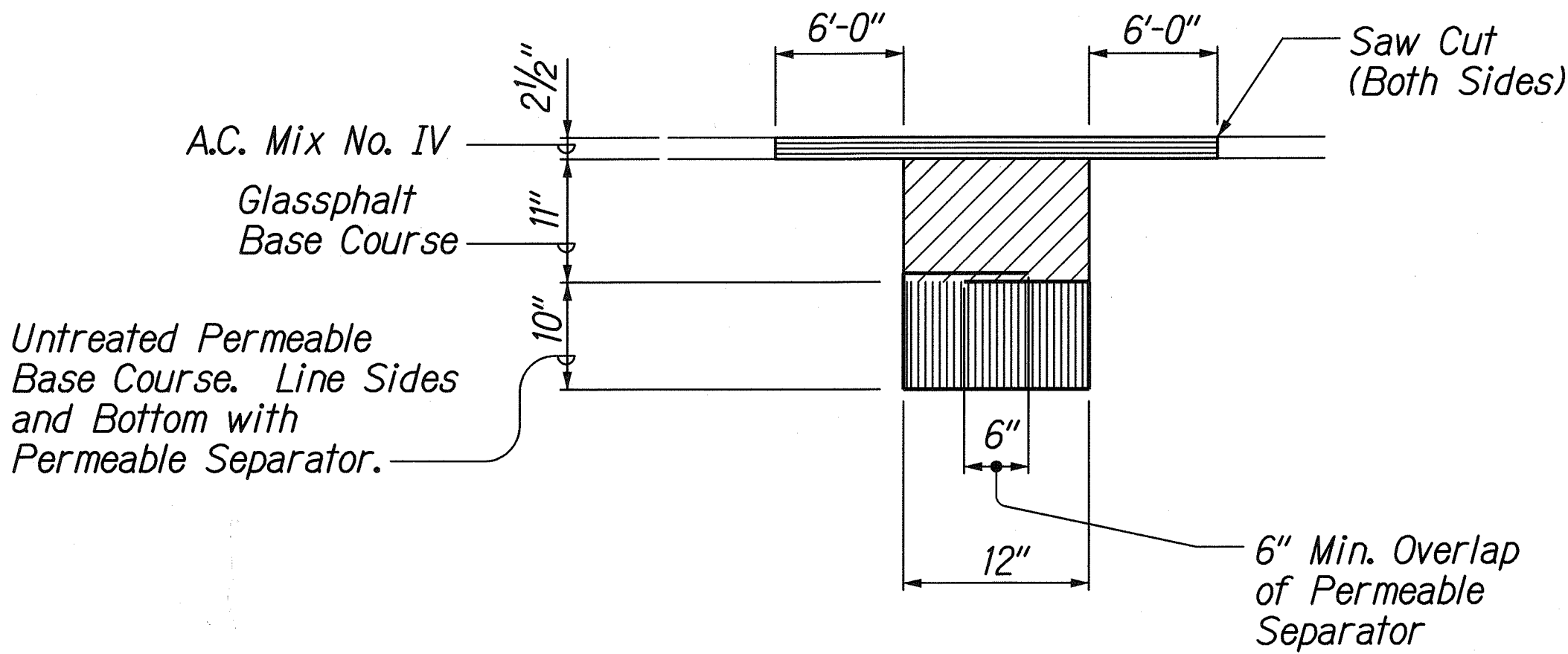
EXPIRATION DATE OF THE LICENSE

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	77	371



- NOTES:**
1. Repaving limit at centerline of lane marking.
 2. Install Section A-A at roadway low points for trenches.

PLAN
Scale: Not To Scale



SECTION A-A
Scale: Not To Scale

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
CHECKED BY	

L:\FORT WEAVER ROAD\PACKAGE 2\ROAD\TRENCH\H02.dgn

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SIGNATURE: *R. Uraski* EXPIRATION DATE OF THE LICENSE: 04/30/10

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**TRENCH RESTORATION
REPAVING DETAIL**

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: NTS Date: Feb. 22, 2008