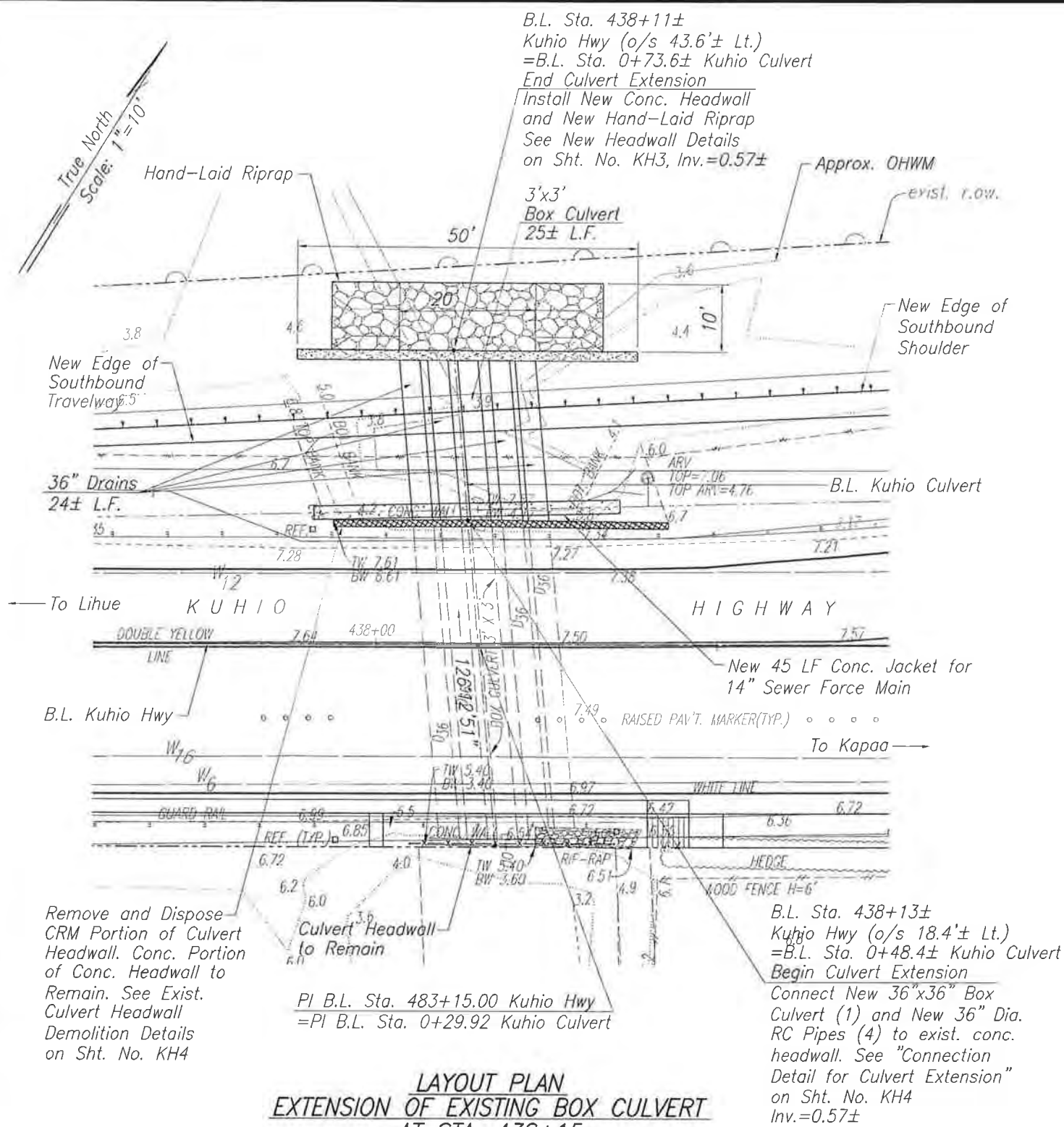
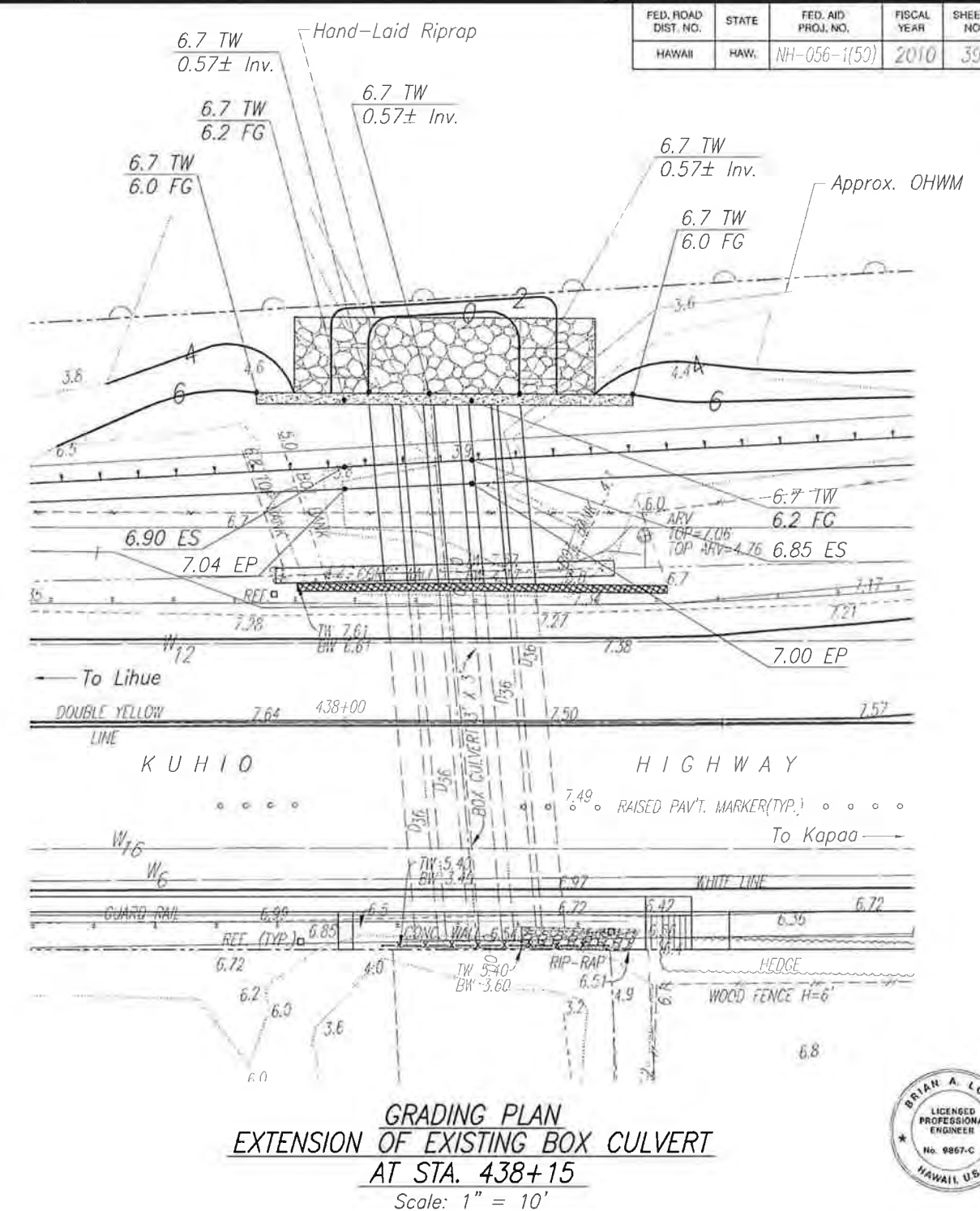


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-056-1(50)	2010	39	297



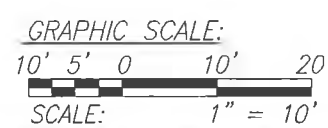
**Notes:**

- Concrete or debris from demolition work shall be removed and not allowed to fall into water way.
- Contractor shall utilize water proof form work for cast-in-place concrete headwall foundation and collar. Contractor shall not use chemical treated wood for waterproof form work. Contractor shall keep foundation dry by draining, bailing, pumping, driving sheathings; or by constructing cofferdams and cribs.
- Contractor Shall Clean Existing Culverts.
- Contractor shall protect 14" sewer force main during culvert installation.



**APPROVED**

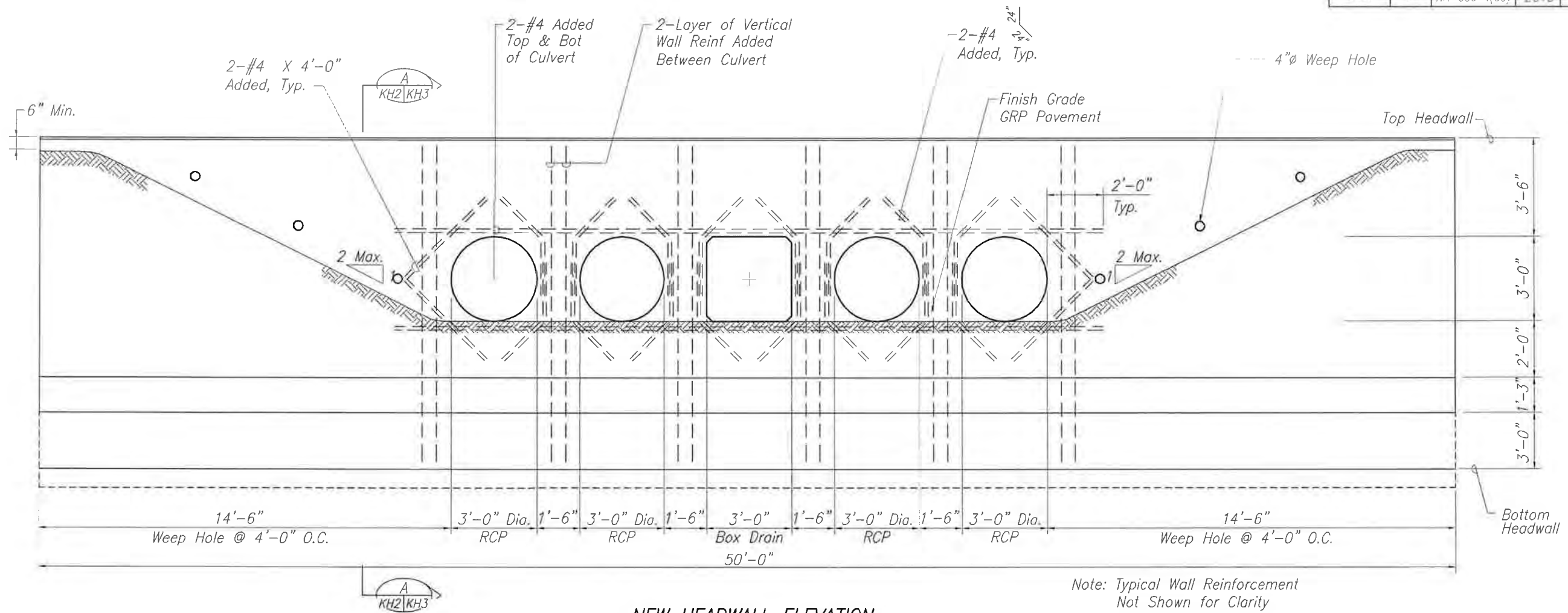
Chief, Division of Wastewater Management Date  
(For Work Involving Sewer Lines and Appurtenances)



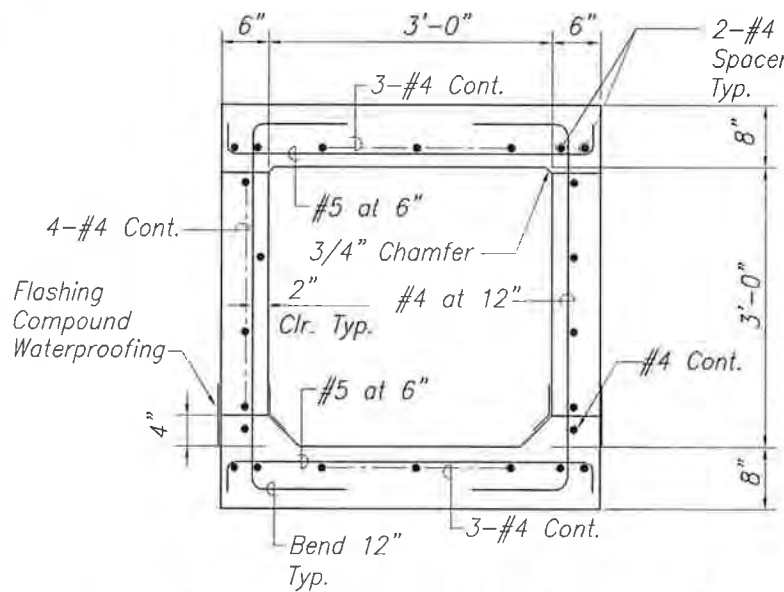
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.  
APR 30, 2010  
WILSON OKAMOTO CORPORATION LIC. EXP. DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**KUHIO HIGHWAY  
CULVERT EXTENSION**  
Kuhio Highway Short-Term Improvements  
South Leho Drive to Aleka Loop  
Fed. Aid Proj. No. NH-056-1(50)  
Scale: As Noted Date: November 2009  
SHEET No. KH1 OF 4 SHEETS

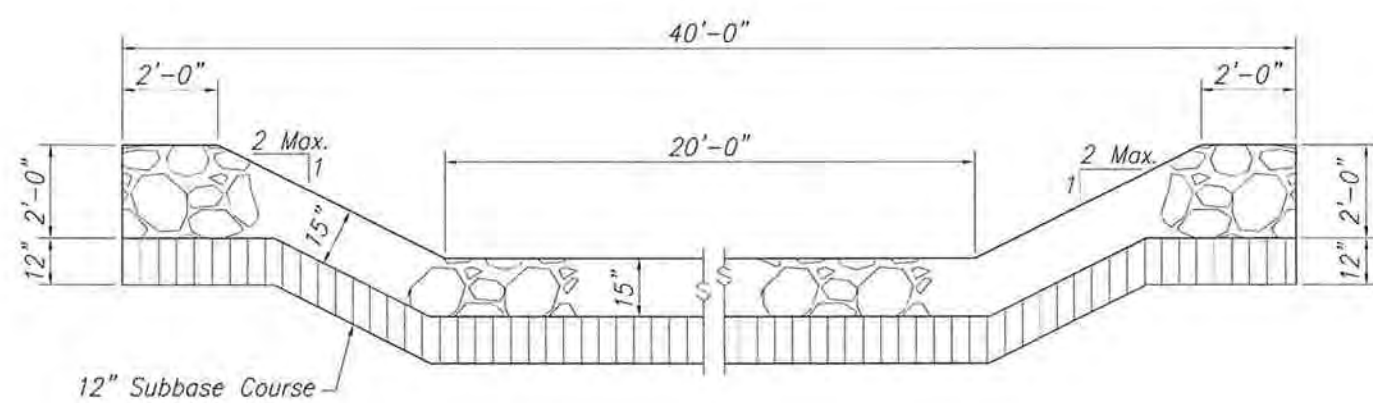
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-056-1(50)	2010	40	297



**NEW HEADWALL ELEVATION**  
Scale: 1/2"=1'-0"



**TYPICAL SECTION - 3'x3' BOX CULVERT**  
Scale: 1/2"=1'-0"



**HAND-LAID RIPRAP DETAIL**  
Not to Scale



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APRIL 30, 2010 WILSON OKAMOTO CORPORATION LIC. EXP. DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**KUHIO HIGHWAY**  
**CULVERT EXTENSION DETAILS**  
Kuhio Highway Short-Term Improvements  
South Leho Drive to Aleka Loop  
Fed. Aid Proj. No. NH-056-1(50)  
Scale: As Noted Date: November 2009  
SHEET No. KH2 OF 4 SHEETS

Backfill with Select Granular Material or CLSM as Required to Bottom of Pav't. Structure

Roadway Surface

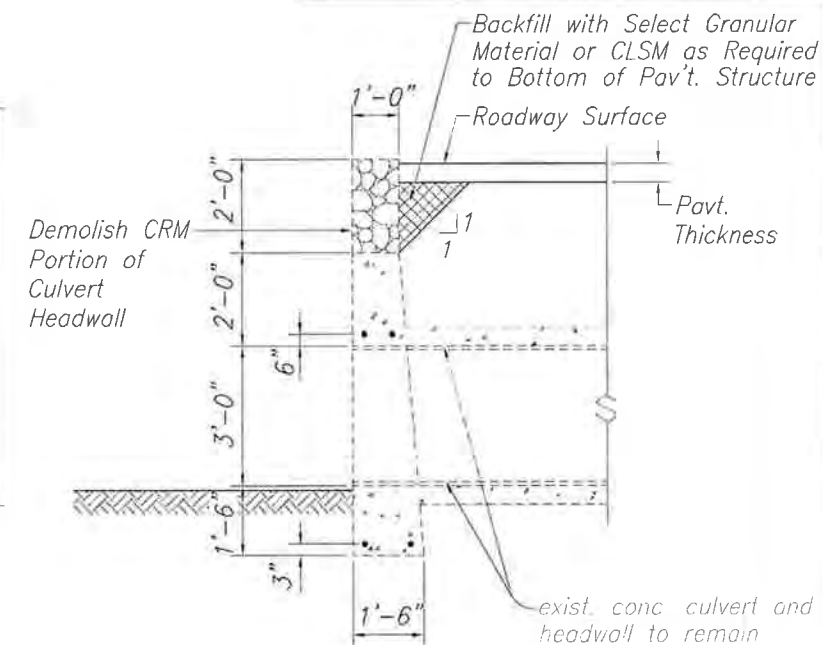
Pav't. Thickness

1'-0"

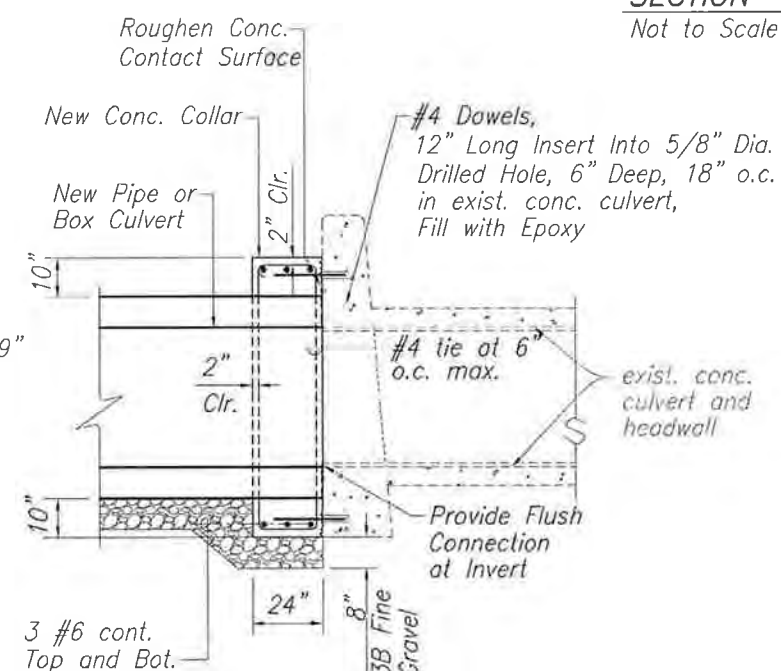
1/1

1'-6"

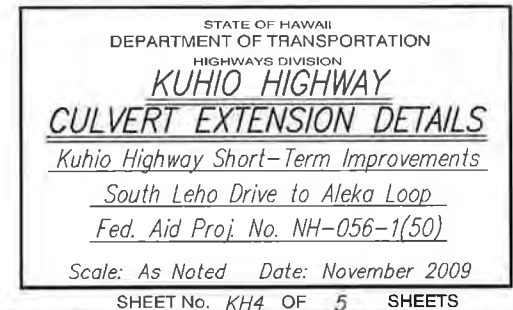
exist. conc culvert and headwall to remain



SECTION   
Not to Scale

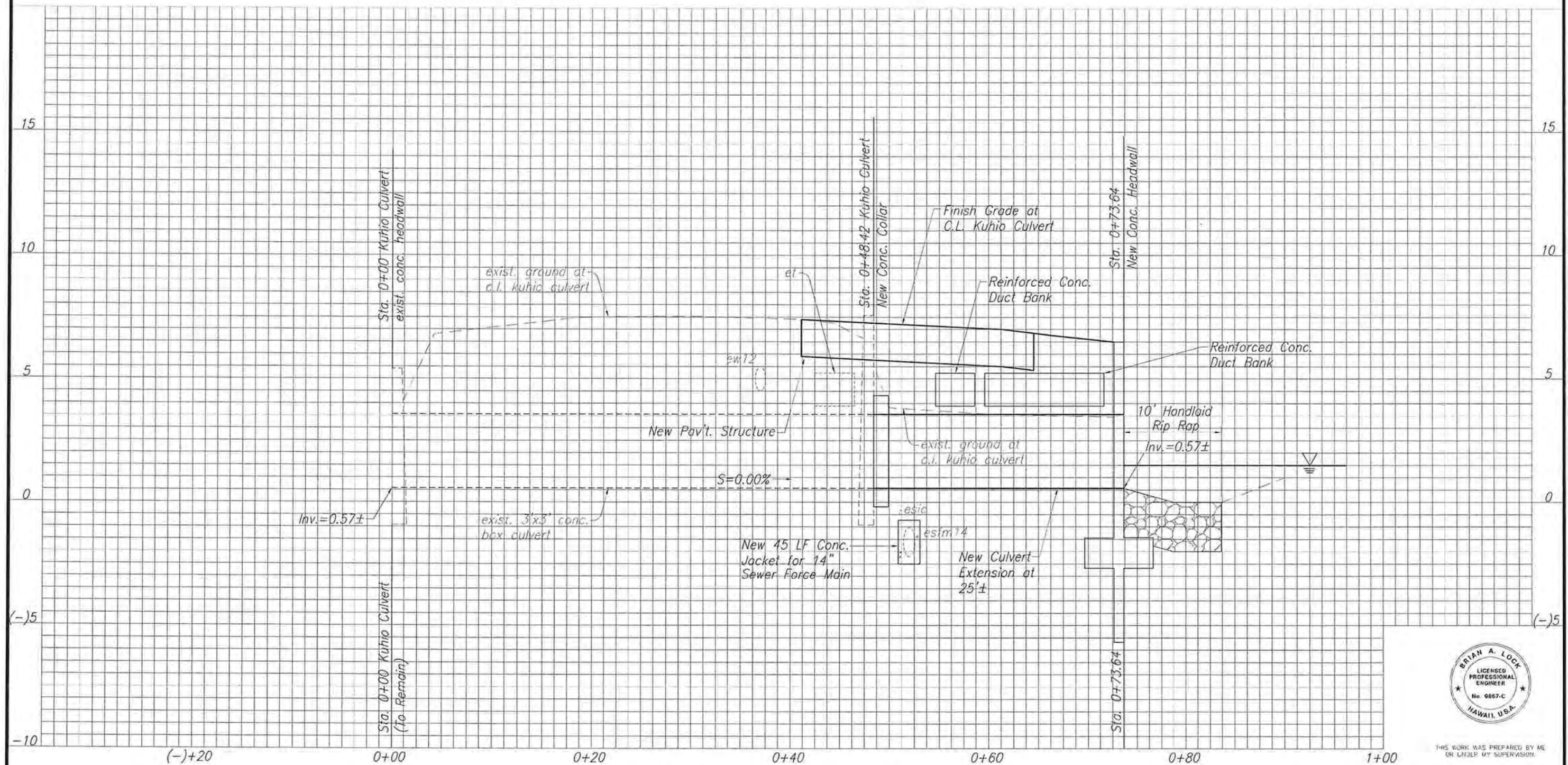


SECTION D  
Not to Scale KH4 KH





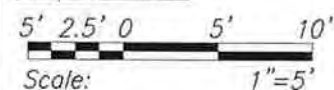
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-056-1(50)	2010	43	297



# PROFILE - 3'x3' BOX CULVERT

Scale : Horiz. 1" = 5'  
Vert. 1" = 2'

## Graphic Scales



APPROVED

Chief, Division of Wastewater Management  
(For Work Involving Sewer Lines  
and Appurtenances)

Date



THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION.

APRIL 30, 2010  
WISDOM ENGINEERING CORPORATION, LIC. EXP. DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**PROFILE - KUHIO HIGHWAY  
CULVERT EXTENSION**  
Kuhio Highway Short-Term Improvements  
South Leho Drive to Aleka Loop  
Fed. Aid Proj. No. NH-056-1(50)  
Scale: As Noted Date: November 2009  
SHEET No. KH5 OF 5 SHEETS