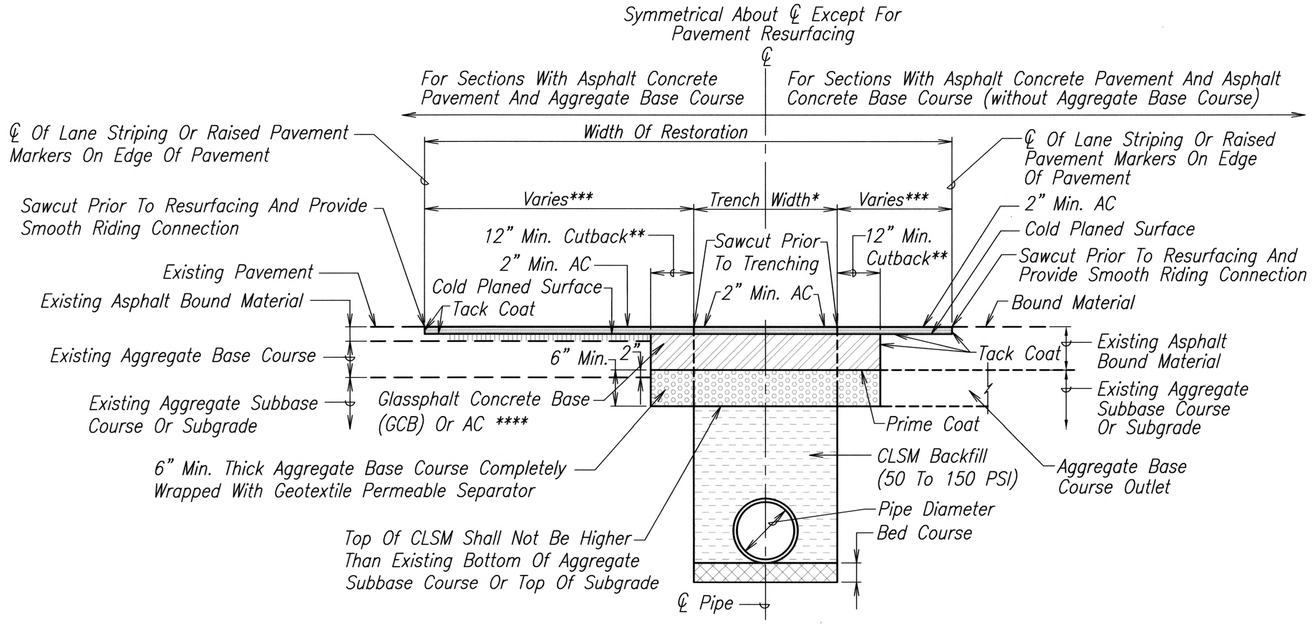
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	82	166



* Per Spec. Section 603

** Remove and reconstruct AC pavement to edge of gutter if less than 2' from edge of trench to edge of gutter

*** 1. If trench aligned transverse to direction of travel: 1 foot on each side of trench

2. If trench aligned along direction of travel: to edge of lane in which edge of trench is located

3. Smoothness of paved surfaces: the distance from the paved surface to the testing edge of a ten-foot straight edge between the two points of contact shall not exceed 3/16"

4. If transverse aligned trench is less than 30 feet apart, the entire area between the trenches shall be repaved.

**** 1. When thickness less than 6", use AC.

2. When thickness 6" or greater, use GCB or AC.

Notes:

1. This trench restoration is to be used wherever the pavement is an asphalt surface, including medians and paved areas between guardrails. For trenches located in unpaved areas, the backfill need not be CLSM and can be backfilled as specified in the standard specifications.

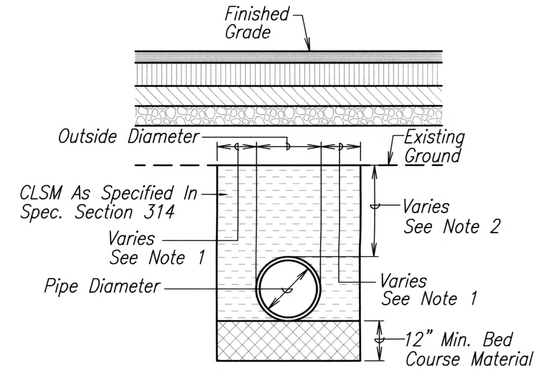
2. Tack coat existing asphalt bound material faces prior to filling excavation with asphalt bound material.

3. Pavement structure shall be equal or better than existing in thickness and quality.

4. CLSM = controlled low strength material as specified in Spec. Section 314.

TYPICAL ASPHALT PAVEMENT RESTORATION OVER DRAIN LINE TRENCH EXCAVATIONS WITHIN STATE ROW

NOT TO SCALE



Notes:

1. For trenches located in unpaved areas, the backfill need not be CLSM and shall be excavated and backfilled as specified in the spec. section 206.

2. When using CLSM for trench backfill, the contractor may reduce the width of the excavation so that the clear distance between the outside of the pipe and the side of the excavation on each side of the pipe is a minimum of 6 inches for pipes less than or equal to 42 inches in diameter or span.

3. Place CLSM only for that portion of the trench backfill below the original ground, the grading plane, or top of embankment placed before excavating for the culvert pipe. Where necessary, compact the earth Plugs at each end of the pipe before placing backfill so that the CLSM is completely contained in the pipe trench.

TYPICAL DRAIN LINE TRENCH RESTORATION DETAIL

NOT TO SCALE

JON T. MURAOKA
LICENSED PROFESSIONAL ENGINEER
No. 8843-C
HAWAII, USA

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

APRIL 30, 2014
FURUNAGA & ASSOCIATES, INC. LIC. EXP. DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)

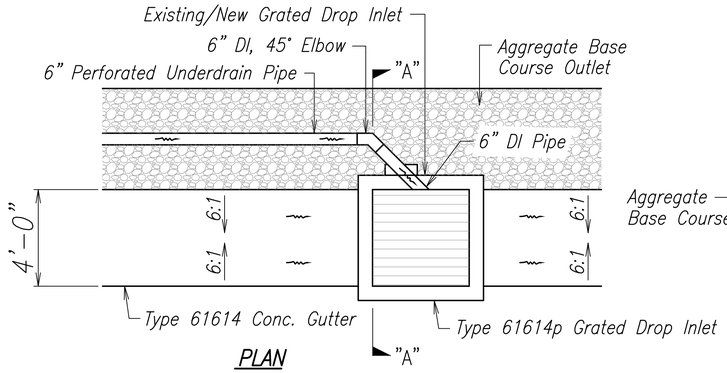
Scale: As Shown Date: February 2013

SHEET No. C-69 OF 93 SHEETS

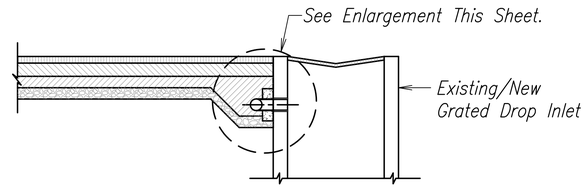
ORIGINAL PLAN
NOTE BOOK No.
SURVEY PLOTTED BY DATE
DRAWN BY "
TRACED BY "
DESIGNED BY "
QUANTITIES BY "
CHECKED BY "

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\PLANS\19-DETAILS\C-69 REV.DWG PLOT TIME: 02-22-13, 2:53 PM

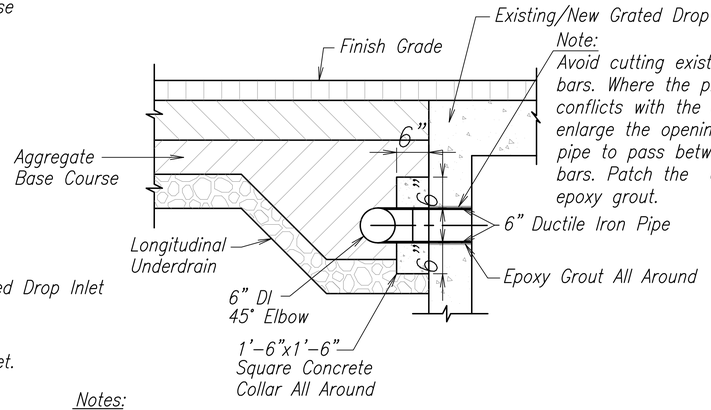
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	83	166



PLAN



SECTION "A-A"



Note:
Avoid cutting existing reinforcing bars. Where the pipe opening conflicts with the reinforcing bars, enlarge the opening to allow the pipe to pass between the reinforcing bars. Patch the enlarged hole with epoxy grout.

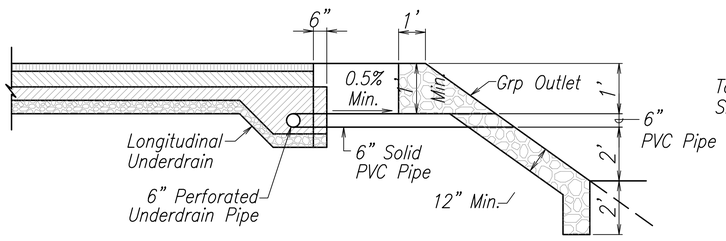
Notes:

1. Align the outlet to suit existing field conditions.
2. At the existing structure, locate the outlet connection away from the manhole rungs.

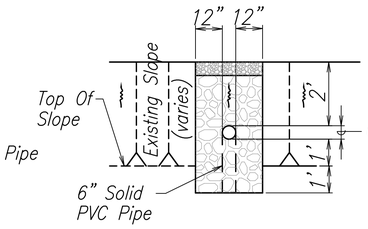
ENLARGEMENT

AGGREGATE BASE COURSE OUTLET CONNECTION TO GRATED DROP INLET

NOT TO SCALE



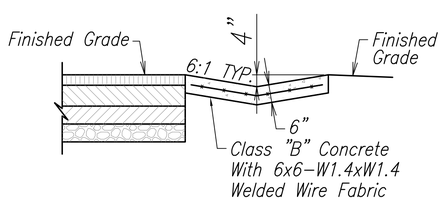
ELEVATION SECTION



TOP VIEW

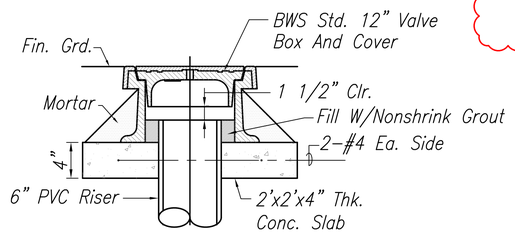
TYPICAL SECTION FOR AGGREGATE BASE COURSE OUTLET TO DAYLIGHT

SCALE: 3/8"=1'-0"



SECTION - TYPE 61614 CONCRETE GUTTER

SCALE: 1/2"=1'-0"

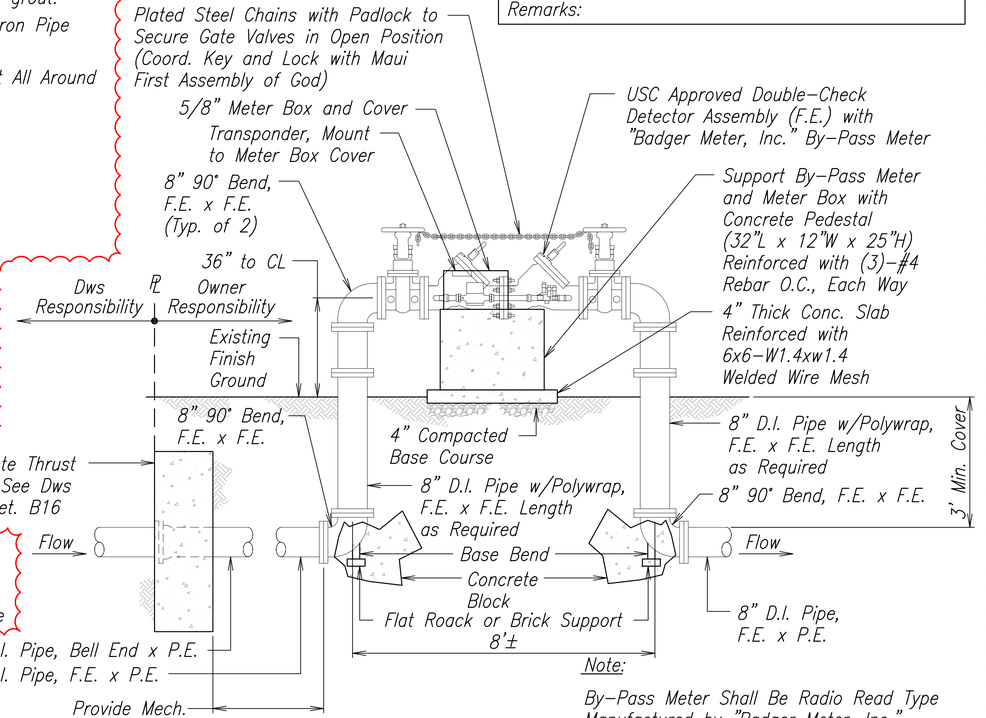


DETAIL CLEANOUT-TO-GRADE

SCALE: 1 1/2"=1'-0"

Backflow Prevention Data Box

Tax Map Key: (2) 3-8-006:071
Project Name: Kahului Airport Access Road, Phase I
Service Address: 777 Mokulele Highway
Type of Device: Red. Press. B.F. Prev.
Size/Make/Model: 2 1/2"/Watts/909
Remarks:



Note:
By-Pass Meter Shall Be Radio Read Type Manufactured by "Badger Meter, Inc.", or Other as Required by DWS

8" DOUBLE CHECK DETECTOR ASSEMBLY ABOVE GRADE INSTALLATION DETAIL

NOT TO SCALE

Note:
Sewer lateral crossing below detector check assembly shall be located midway between vertical pipe sections.

Double Check Detector Meter Data Box

Tax Map Key: (2) 3-8-006:071
Project Name: Kahului Airport Access Road, Phase I
Service Address: 777 Mokulele Highway
Type of Device: Double Check Detector Assembly
Size/Make/Model: 8"/Febco/806YD
Remarks:

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)

Scale: As Shown Date: February 2013

SHEET No. C-70 OF 93 SHEETS

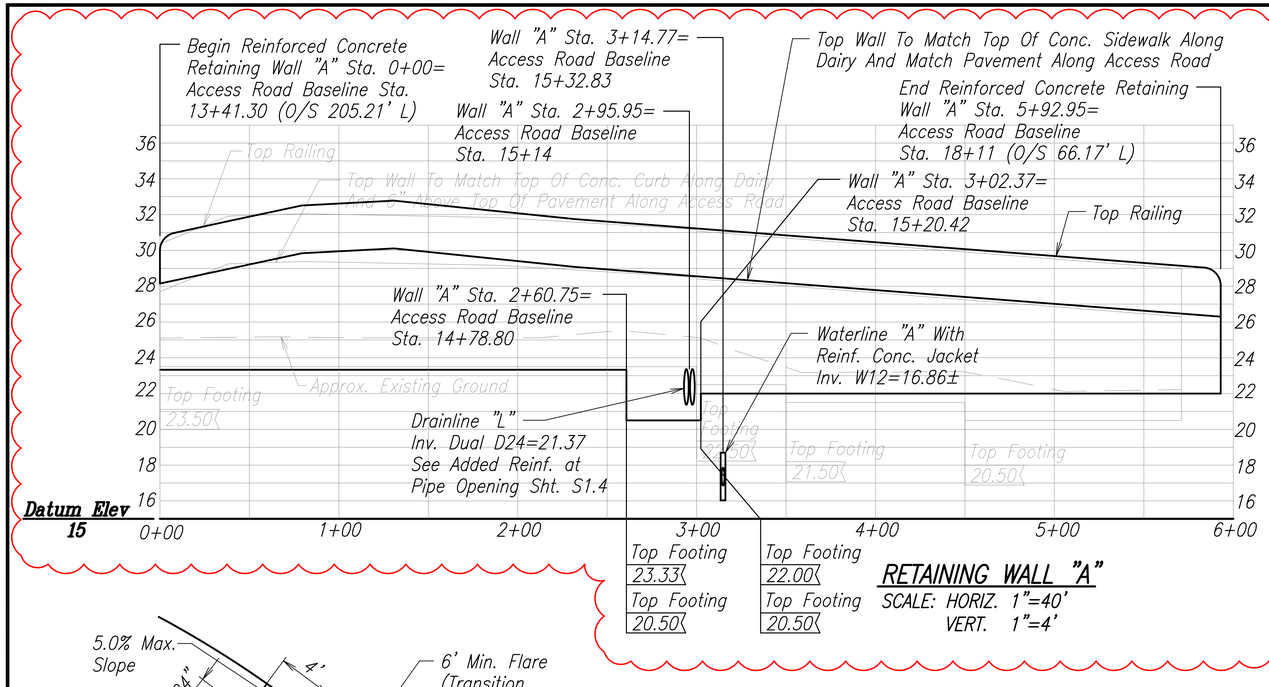
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	
NOTE BOOK	TRACED BY	
No.	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\AS-BUILT OCTOBER 2017\CIVIL\C-70.DWG PLOT TIME: 10-25-18, 4:54 PM

AS-BUILT DRAWINGS

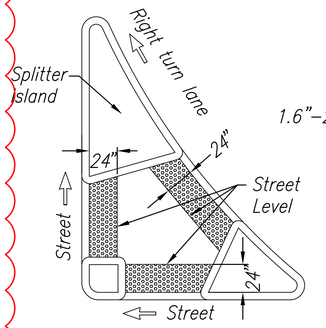
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-0380(10)	2013	84	166

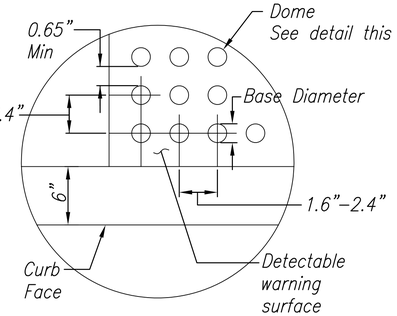


RETAINING WALL "A"

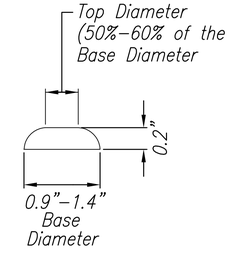
SCALE: HORIZ. 1"=40'
VERT. 1"=4'



REFUGE ISLAND WITH DETECTABLE WARNING



ENLARGEMENT



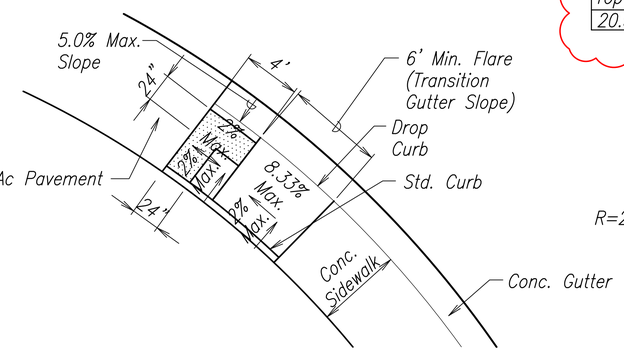
DOME SECTION

TYPICAL INSTALLATION OF DETECTABLE WARNINGS

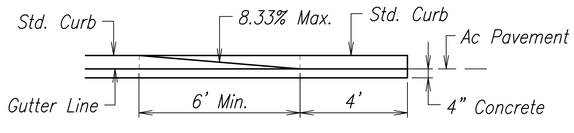
NOT TO SCALE

Detectable Warning Notes:

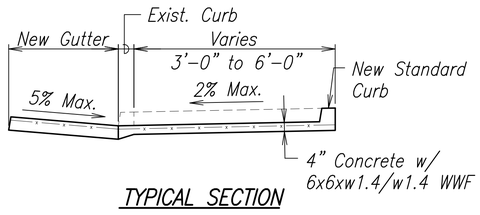
1. Detectable warnings shall be 24 inches in the direction of travel and extend the full width of the curb ramp or flush surface (does not include flares).
2. Truncated domes shall have a diameter of 0.9 to 1.4 inch at the bottom, a diameter of 50%–65% of the base diameter at the top, a height of 0.2 inch and a center–to–center spacing of 1.6 to 2.4 inches measured along one side of a square arrangement.
3. Domes shall be aligned on a square grid in the predominant direction of travel to permit wheels to roll between the domes.
4. The shall be a minimum of 70 percent contrast in light reflectance between the detectable warning and an adjoining surface, or the detectable warning shall be "safety yellow".
5. The material used to provide visual contrast shall be an integral part of the detectable warning surface.
6. The detectable warning shall be located so that the edge nearest the curb line or other potential hazard is 6 to 8 inches from the curb line.



PLAN



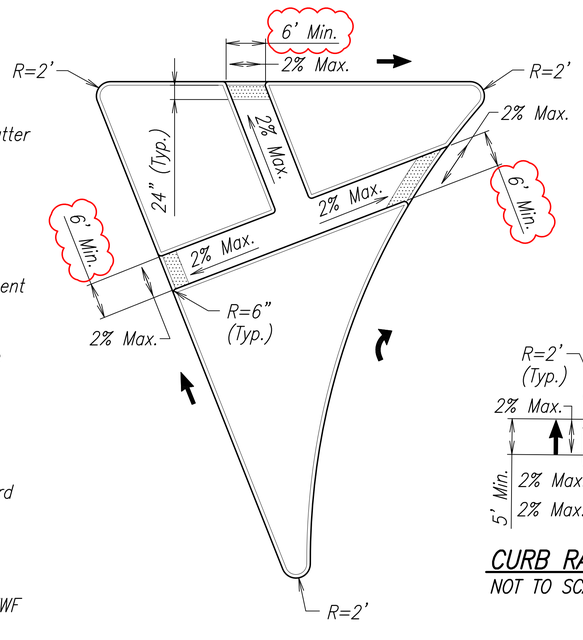
ELEVATION



TYPICAL SECTION

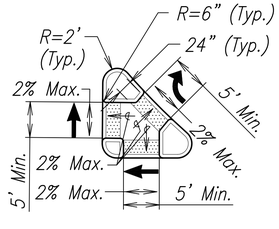
CURB RAMP – TYPE 1

NOT TO SCALE



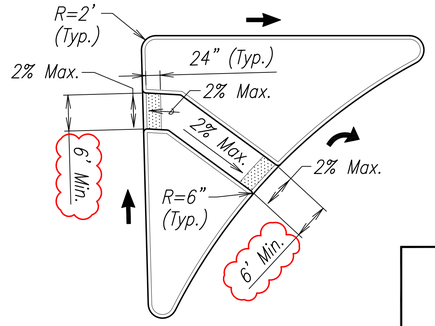
CURB RAMP – TYPE 2C

NOT TO SCALE



CURB RAMP – TYPE 2A

NOT TO SCALE



CURB RAMP – TYPE 2B

NOT TO SCALE

STATE OF HAWAI'I
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

KAHULUI AIRPORT
ACCESS ROAD, PHASE I
Federal Aid Project No. NH-0380(10)
Scale: As Shown Date: February 2013

SHEET No. C-71 OF 93 SHEETS

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

DRAWING NAME: C:\PROJECTS\KAHULUI-2011\AS-BUILT OCTOBER 2017\CIVIL\C-71.DWG PLOT TIME: 10-25-18, 5:00 PM)

AS-BUILT DRAWINGS

"AS-BUILT"