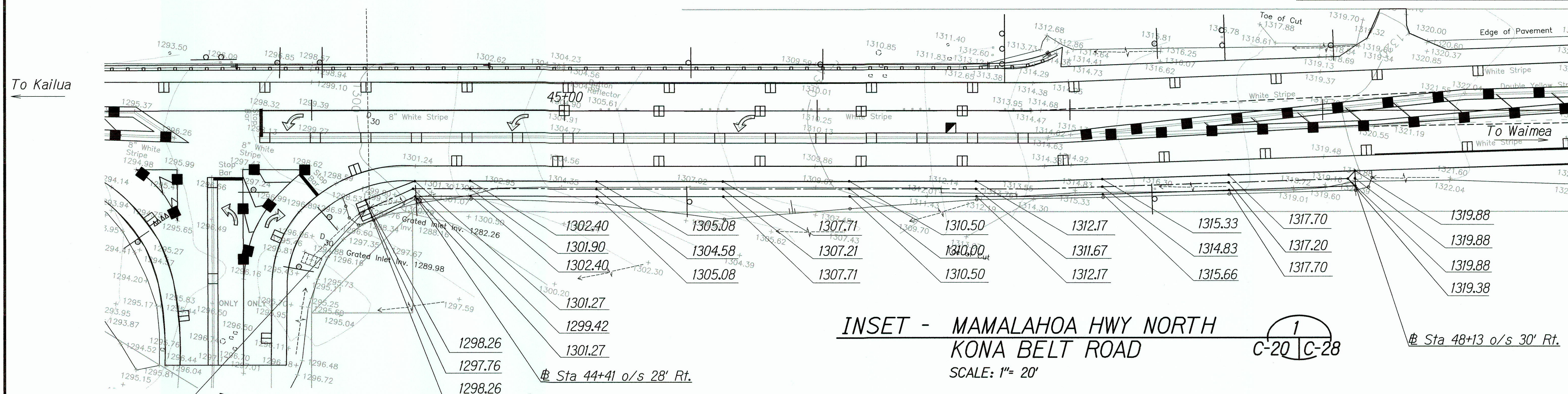


| FED. ROAD DIST. NO. | STATE  | FEDERAL PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|--------|-------------------|-------------|-----------|--------------|
| HAWAII              | HAWAII | STP-0190(015)     | 2011        | 30        | 59           |



At Sta 44+21 o/s 35' Rt.  
Reset Existing Drain Inlet  
Grate to Finish Grade.

North Kona Belt Road

Existing  
Drywell Cover  
New 6161P  
Frame & Grate

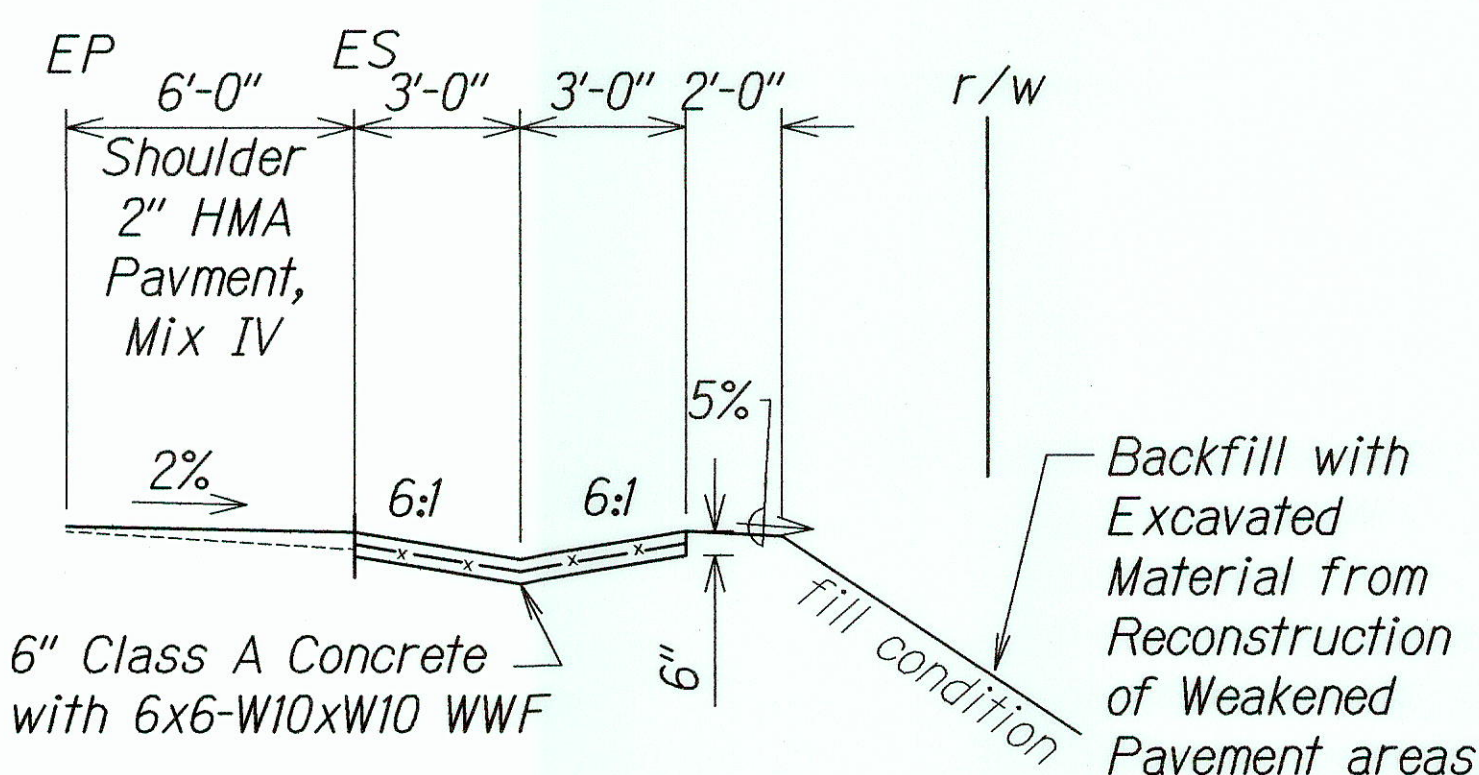
At Sta 44+41 o/s 28' Rt.

INSET - MAMALAHOA HWY NORTH  
KONA BELT ROAD

1  
C-20 C-28

At Sta 48+13 o/s 30' Rt.

SCALE: 1" = 20'



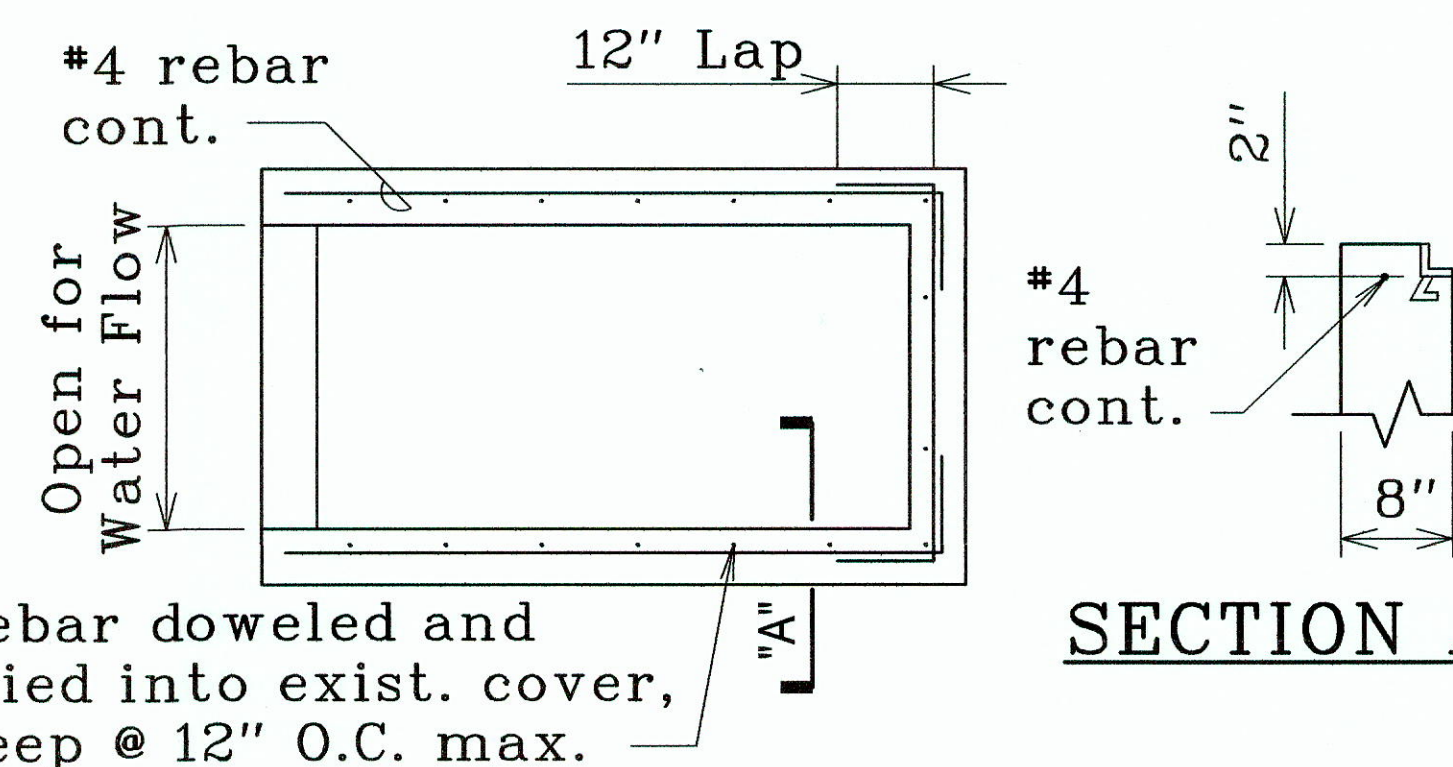
TYPICAL SECTION

NOT TO SCALE

2  
C-28 C-28

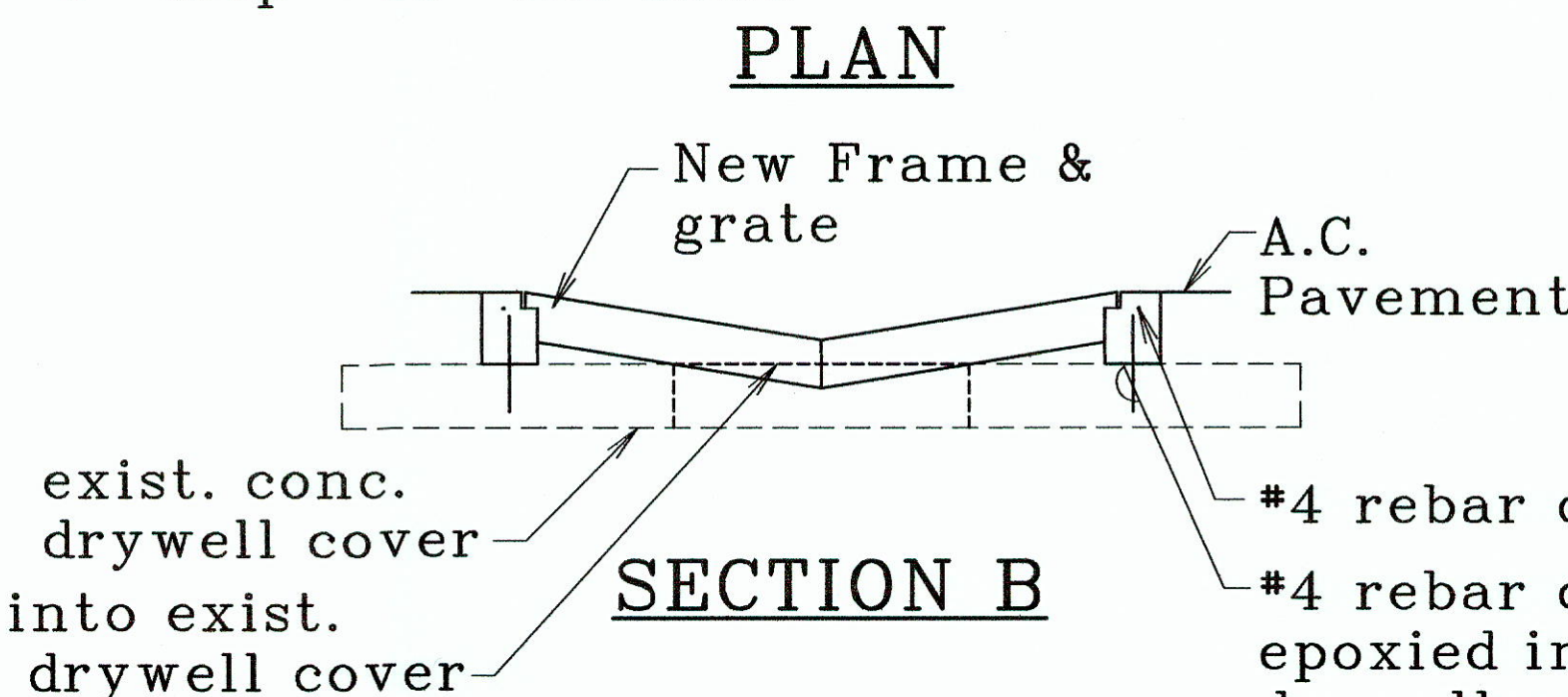
CAST IN PLACE DRYWELL COVER STP-0190(15)  
WITH TYPE 6161P FRAME & GRATE

Not to Scale



SECTION A

to Kona  
Highway 190



SECTION B

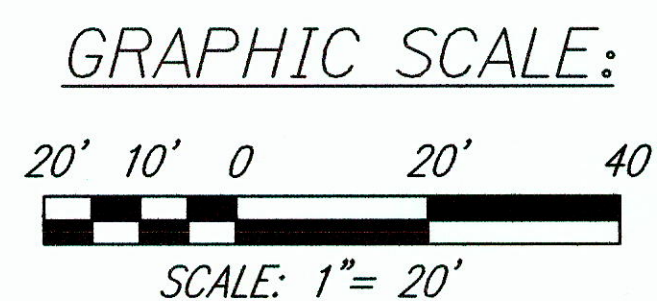
#4 rebar cont.  
#4 rebar doweled and  
epoxied into exist.  
drywell cover, 6" deep  
@ 12" o.c. max

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

CHAD M. McDONALD  
LICENSED  
PROFESSIONAL  
ENGINEER  
No. 9793-C  
HAWAII, U.S.A.

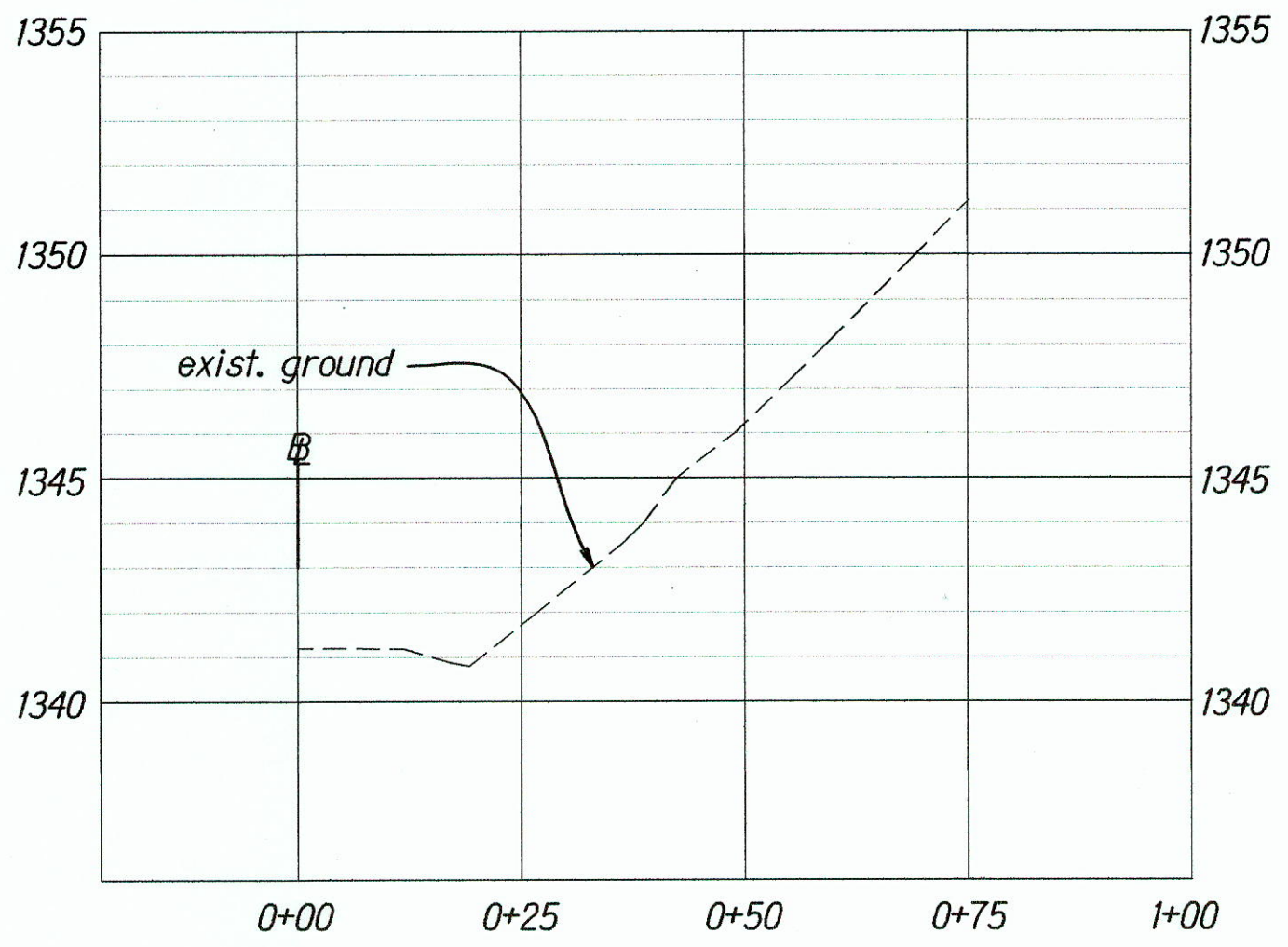
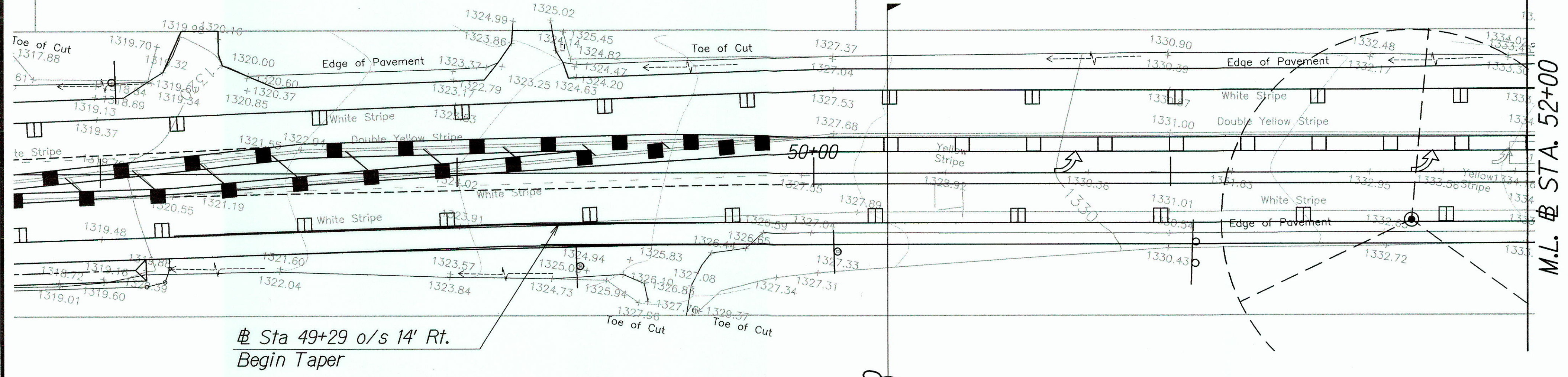
This work was prepared by  
me or under my supervision  
NOTE: Contractor to check and verify  
dimensions at job before proceeding with work.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**ROADWAY PLAN INSET**  
MAMALAHOA HIGHWAY RESURFACING  
MAKALEI TO PALANI ROAD JUNCTION  
F.A. Project No. STP-0190(015)  
Scale: As Noted Date: November 2011  
SHEET No. C-28 OF 59 SHEETS

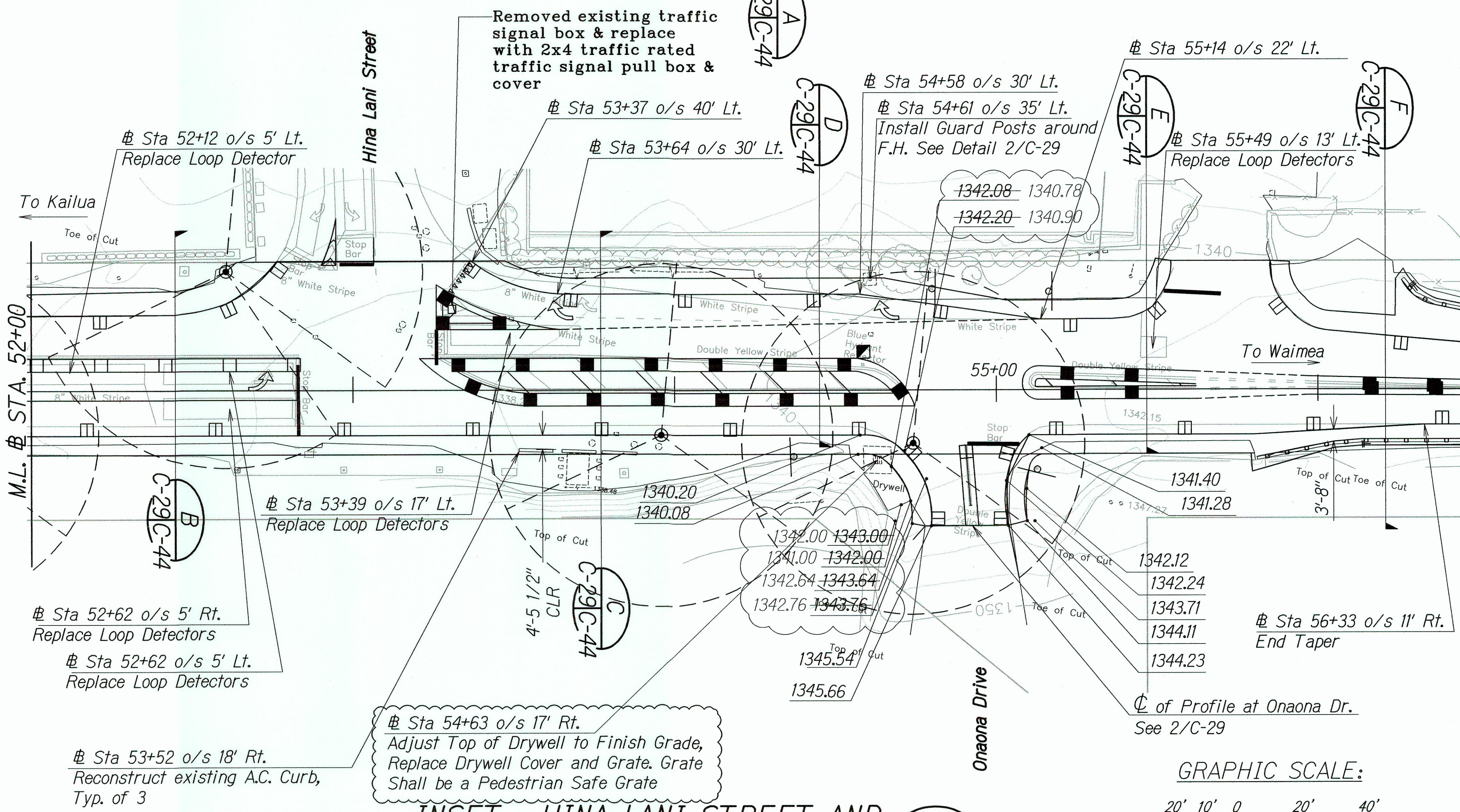


"AS-BUILT"

| FED. ROAD DIST. NO. | STATE  | FEDERAL PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|--------|-------------------|-------------|-----------|--------------|
| HAWAII              | HAWAII | STP-0190(015)     | 2011        | 31        | 59           |



**2 PROFILE AT ONAONA DRIVE**  
 SCALE: Horiz: 1"= 20'  
 Vert: 1"= 4'



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



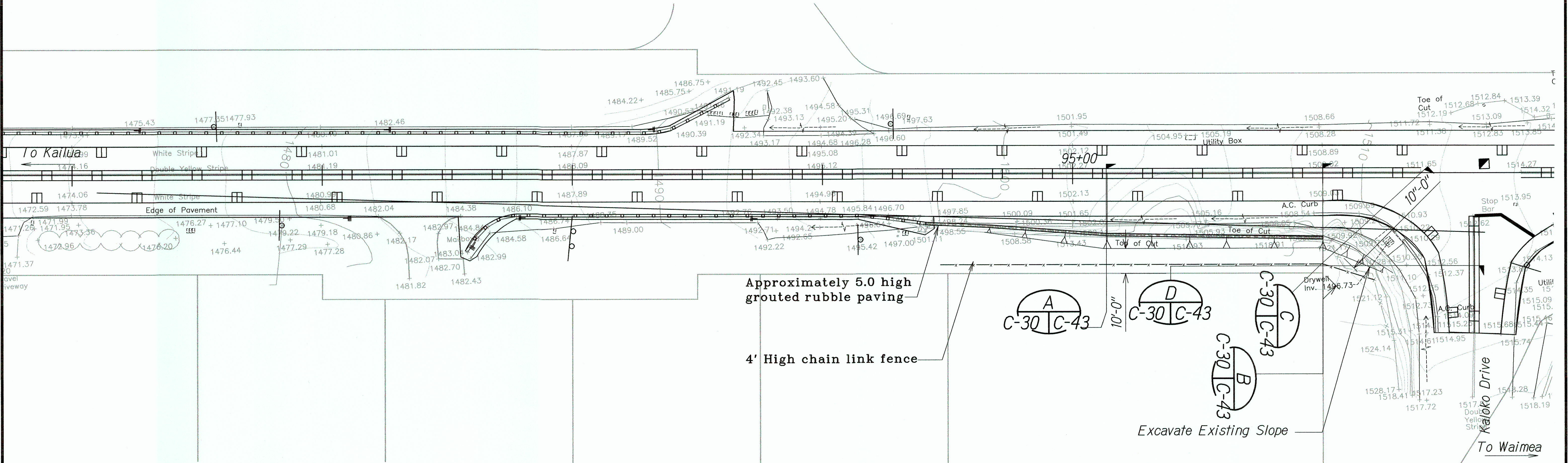
This work was prepared by me or under my supervision  
 CHAD M. McDONALD  
 LICENSED PROFESSIONAL ENGINEER  
 No. 9793-C  
 HAWAII, U.S.A.  
 NOTE: Contractor to check and verify dimensions at job before proceeding with work.

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**ROADWAY PLAN INSET**  
**MAMALAHOA HIGHWAY RESURFACING**  
**MAKALEI TO PALANI ROAD JUNCTION**  
**F.A. Project No. STP-0190(015)**  
 Scale: As Noted Date: November 2011  
 SHEET No. **C-29** OF **59** SHEETS

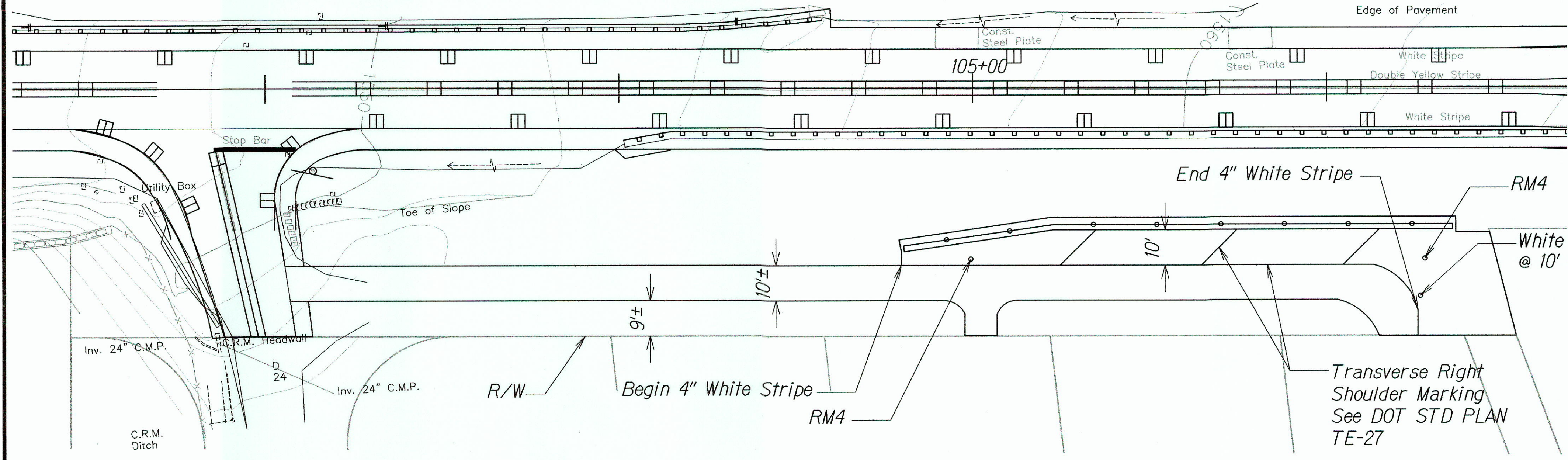
|               |           |                        |
|---------------|-----------|------------------------|
| ORIGINAL PLAN | DATE      | BY                     |
| NOTE BOOK     | AUG. 2011 | MITSUNAGA & ASSOCIATES |
| DESIGNED BY   | AUG. 2011 | MITSUNAGA & ASSOCIATES |
| QUANTITIES BY | AUG. 2011 | MITSUNAGA & ASSOCIATES |
| CHECKED BY    | AUG. 2011 | MITSUNAGA & ASSOCIATES |

**AS-BUILT**

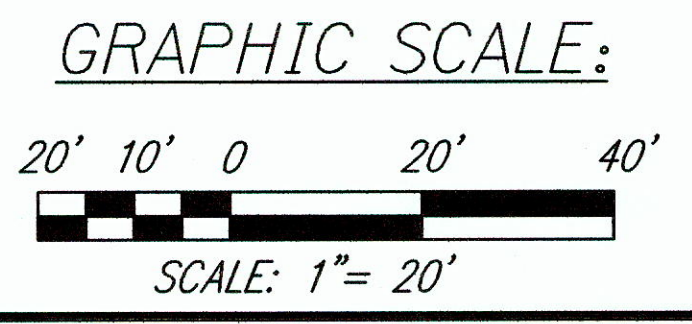
| FED. ROAD DIST. NO. | STATE  | FEDERAL PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|--------|-------------------|-------------|-----------|--------------|
| HAWAII              | HAWAII | STP-0190(015)     | 2011        | 32        | 59           |



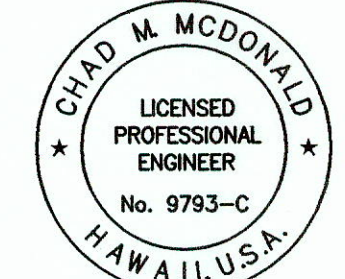
INSET - MAMALAHOA HWY STA. 96+60  
SCALE: 1"= 20'



INSET - MAMALAHOA HWY STA. 104+79  
SCALE: 1"= 20' TO STA. 106+36



**LEGEND FOR AS-BUILT POSTING**  
 ~~~~~ Squiggly line for as-built deletion  
 == Double line for as-built deletion  
 Roadway Text for as-built posting



This work was prepared by me or under my supervision  
 4/30/2016  
 MITSUNAGA & ASSOCIATES, INC. EXP. DATE  
 NOTE: Contractor to check and verify dimensions at job before proceeding with work.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**ROADWAY PLAN INSET**  
**MAMALAHOA HIGHWAY RESURFACING**  
**MAKALEI TO PALANI ROAD JUNCTION**  
**F.A. Project No. STP-0190(015)**  
Scale: As Noted      Date: November 2011  
SHEET No. **C-30** OF **59** SHEETS

|               |           |
|---------------|-----------|
| DESIGNED BY   | DATE      |
| TRACED BY     | AUG. 2011 |
| QUANTITIES BY | AUG. 2011 |
| CHECKED BY    | AUG. 2011 |
| ORIGINAL PLAN |           |
| NOTE BOOK     |           |
| No.           |           |

**"AS-BUILT"**

To Kailua

C of Profile of Kalaola St.  
See Det. 3/C-31

Utility Box

Top of Slope

RM=2

133+00

To Waimea

Kalaola Street

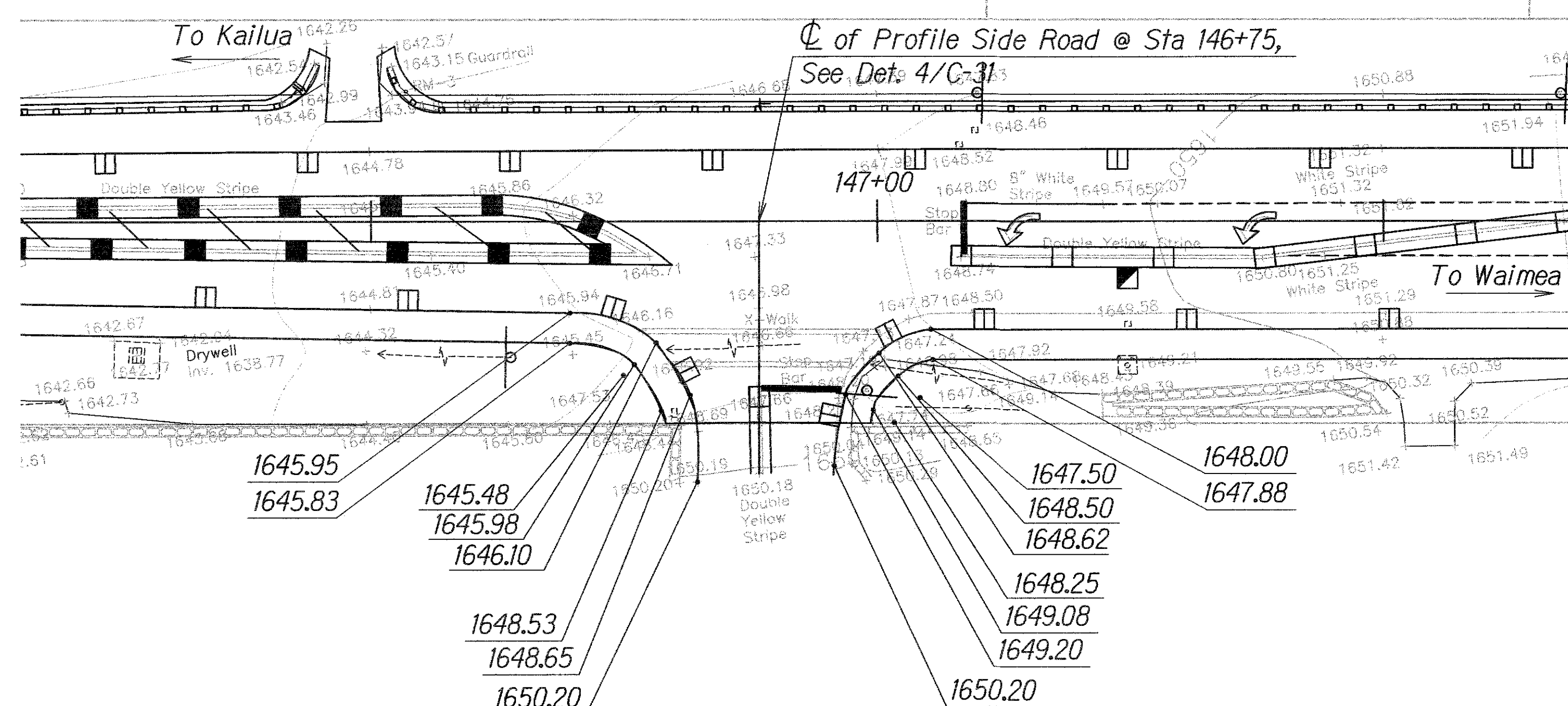
INSET - KALAOLA STREET

Scale: 1"=20'

1

C-24 C-31

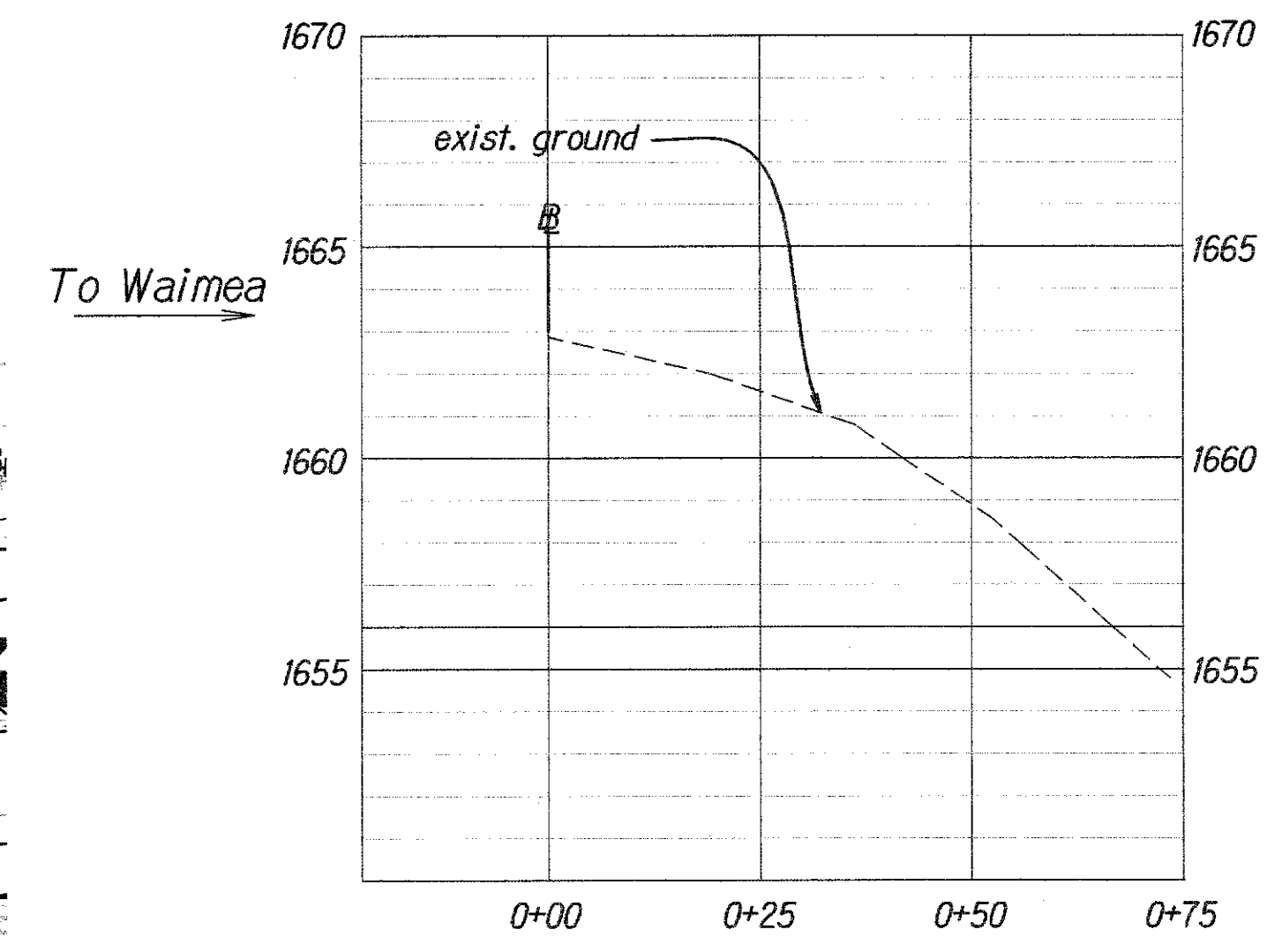
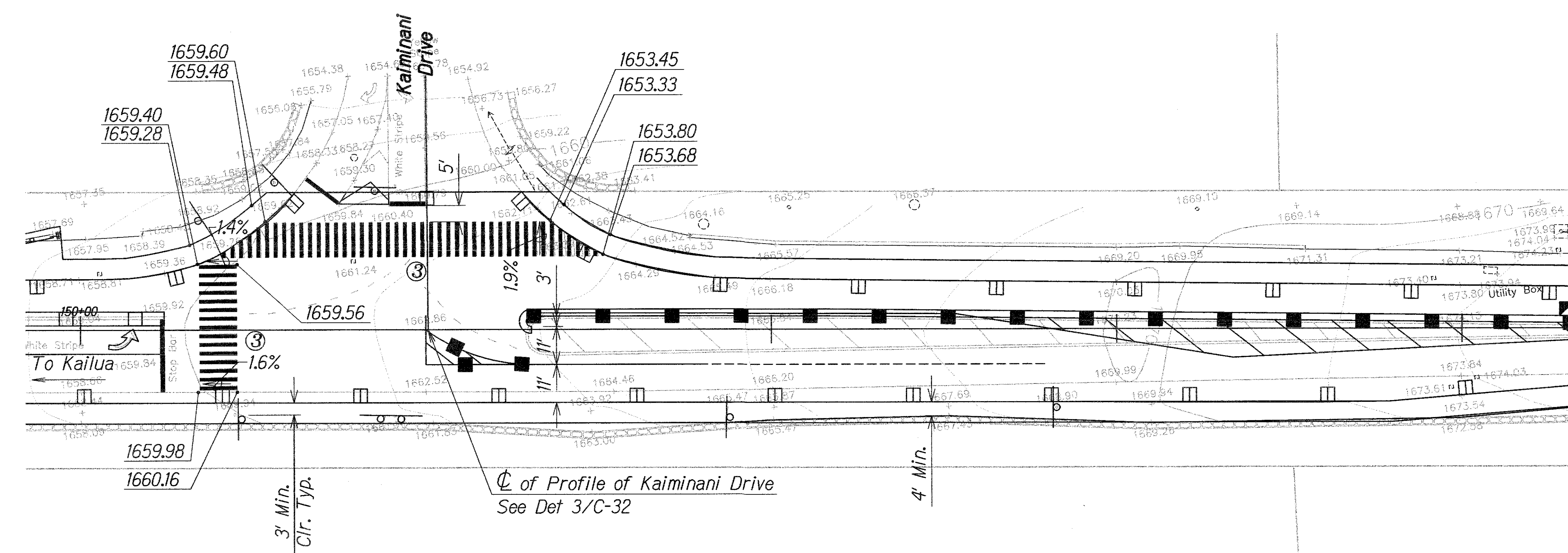
INSET - MAMALAHOA HWY STA. 146+75  
Scale: 1"=20'



*Chris M. McGinnis* 4/30/2011  
MITSUNAGA & ASSOCIATES, INC. EXP. DATE  
NOTE: Contractor to check and verify  
dimensions at job before proceeding with work.

SHEET No. **C-31** OF **59** SHEETS

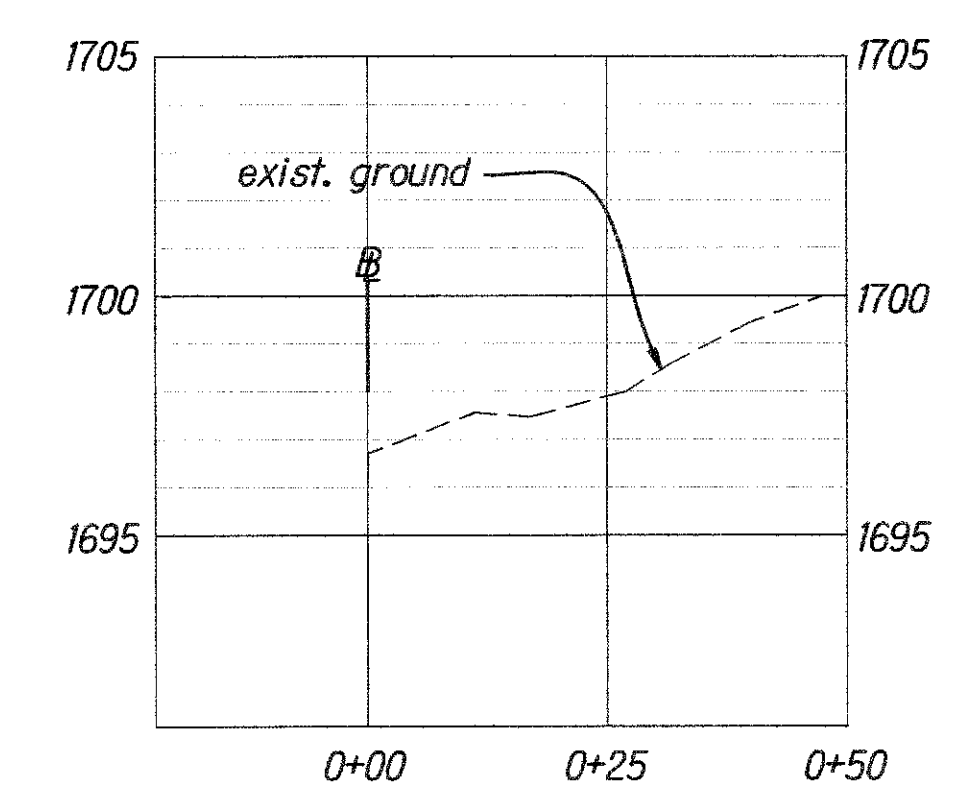
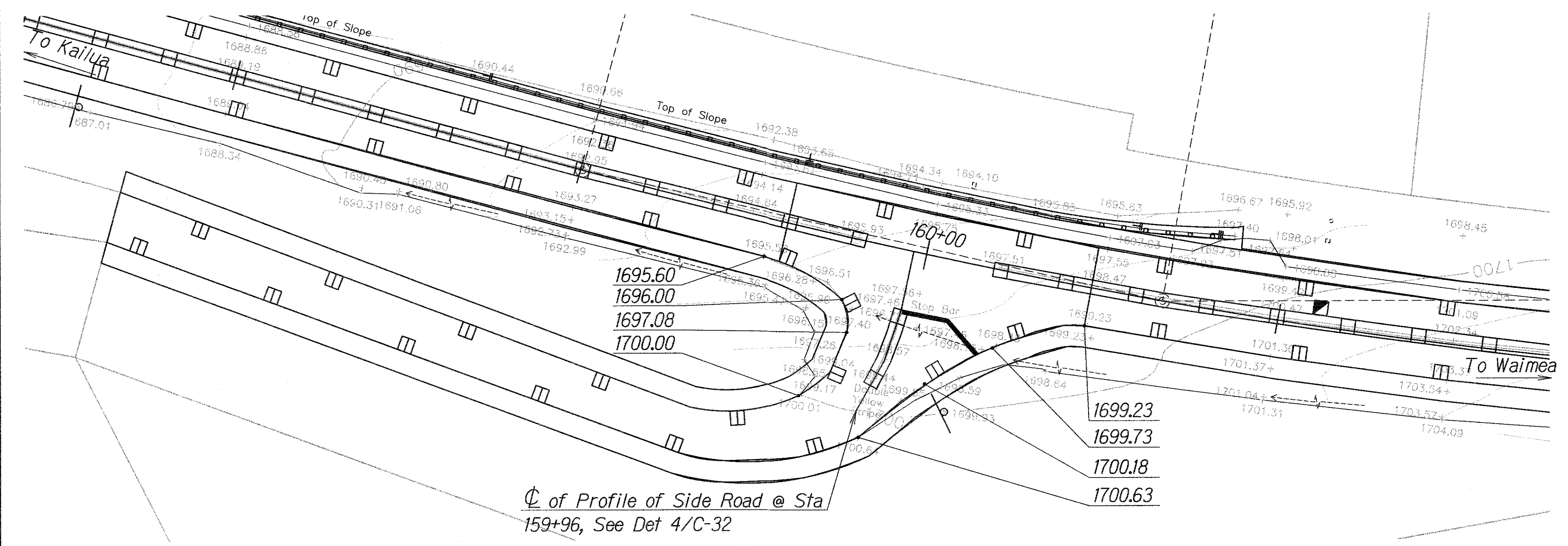
| FED. ROAD DIST. NO. | STATE  | FEDERAL PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|--------|-------------------|-------------|-----------|--------------|
| HAWAII              | HAWAII | STP-0190(015)     | 2011        | 34        | 59           |



**3 PROFILE AT KAIMINANI DRIVE**  
 C-32C-32 SCALE: Horiz: 1"= 20'  
 Vert: 1"= 4'

**INSET - KAIMINANI DRIVE**  
 Scale: 1"=20'

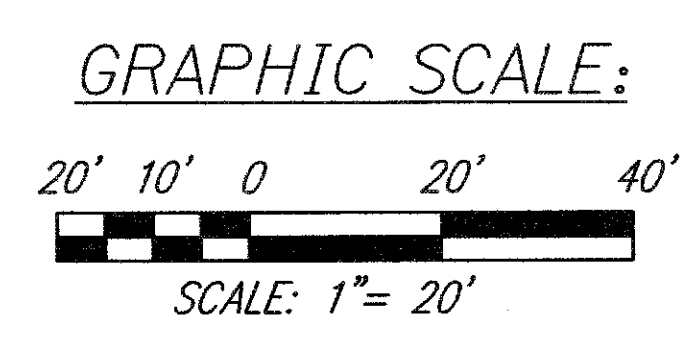
**1**  
 C-24 C-32



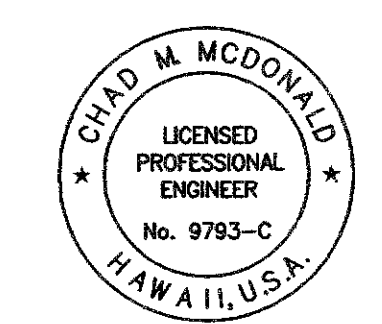
**4 PROFILE @ STA 159+96**  
 C-32C-32 SCALE: Horiz: 1"= 20'  
 Vert: 1"= 4'

**INSET - MAMALAHOA HWY STA. 159+96**  
 Scale: 1"=20'

**2**  
 C-25 C-32



|                       |           |
|-----------------------|-----------|
| SURVEY PLOTTED BY     | DATE      |
| M/SUNAGA & ASSOCIATES | AUG. 2011 |
| DRAWN BY              |           |
| TRACED BY             |           |
| CHECKED BY            |           |
| ORIGINAL PLAN         |           |
| NOTE BOOK             |           |
| CHECKED BY            |           |



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 MITSUNAGA & ASSOCIATES, INC. 4/30/2016  
 EXP. DATE  
 NOTE: Contractor to check and verify dimensions at job before proceeding with work.

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**ROADWAY PLAN INSET**

**MAMALAHOA HIGHWAY RESURFACING**  
**MAKALEI TO PALANI ROAD JUNCTION**  
**F.A. Project No. STP-0190(015)**  
 Scale: As Noted Date: November 2011

SHEET No. **C-32** OF **59** SHEETS