

# **SWPPP Attachment A-1**

## **BMP Maps**





FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X

LEGEND

Protect Inlet

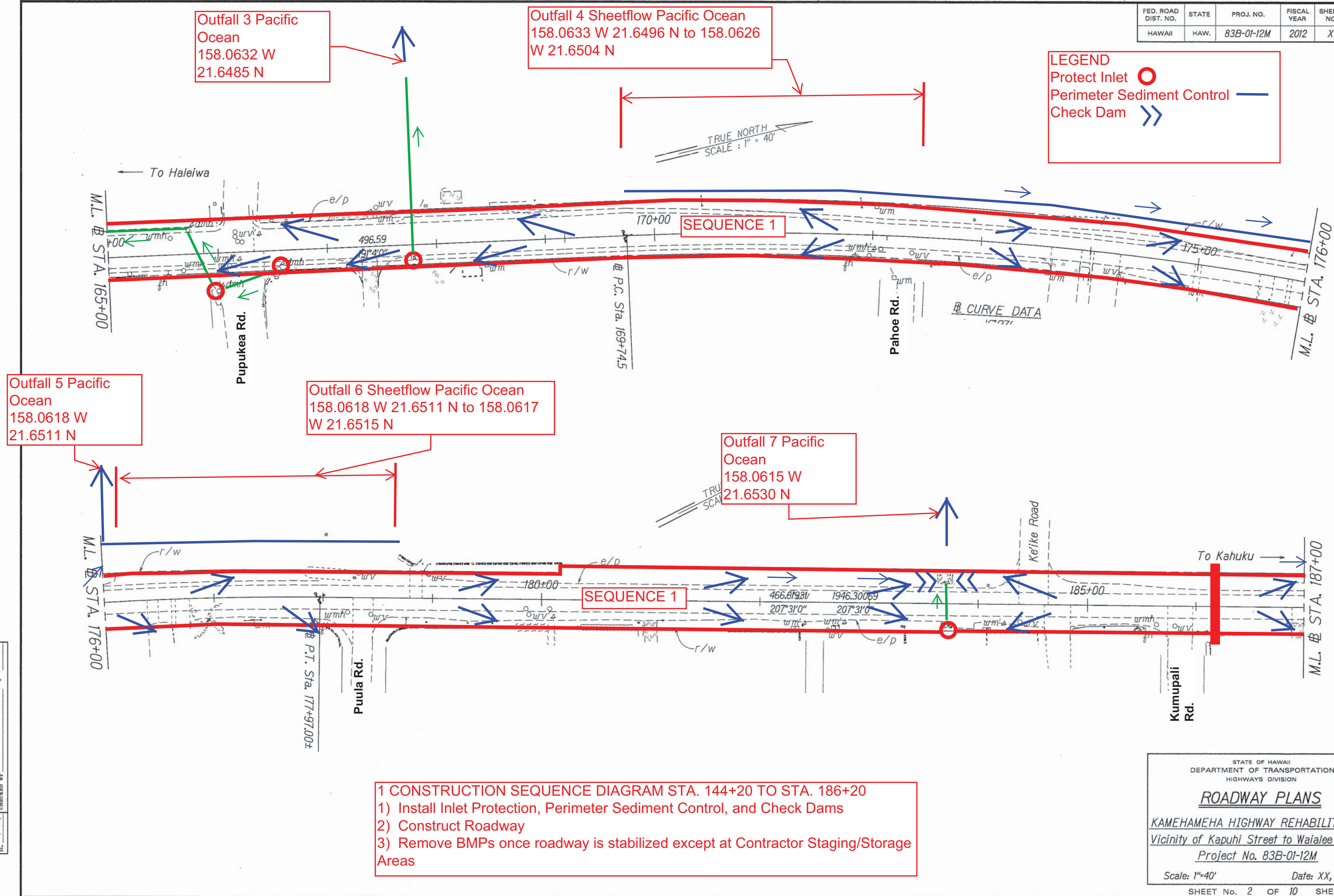
Perimeter Sediment Control

Check Dam

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SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X

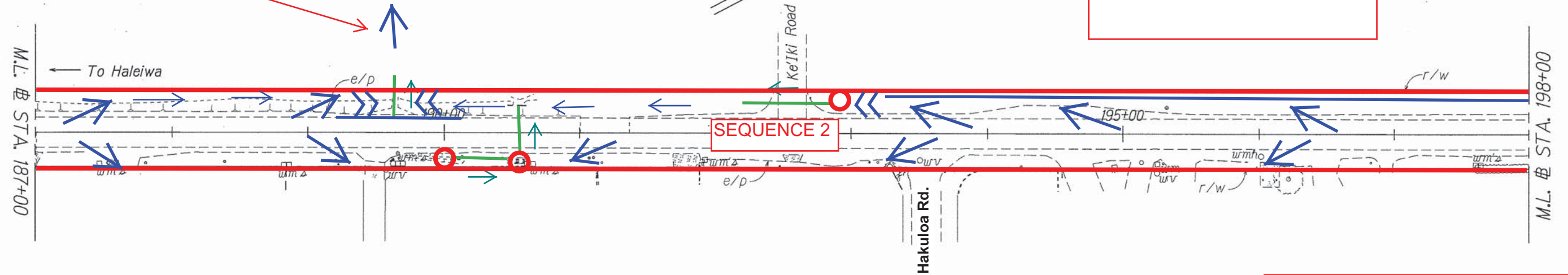
Outfall 8 Pacific Ocean  
158.0611 W 21.6546 N

LEGEND

Protect Inlet

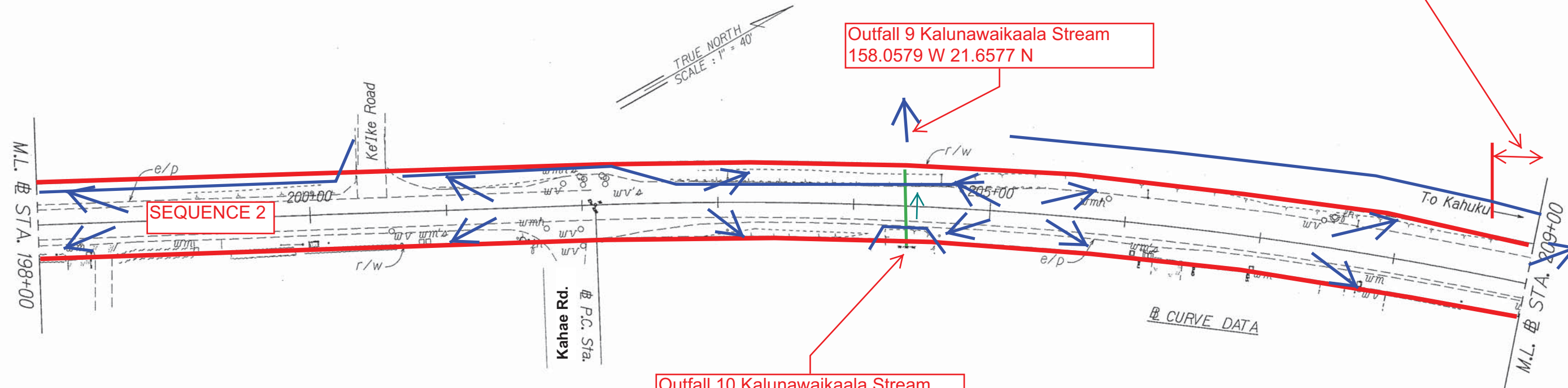
Perimeter Sediment Control

Check Dam



Outfall 11 Sheetflow Pacific Ocean  
158.0582 W 21.6591 N to 158.0571 W 21.6603 N

Outfall 9 Kalunawaikaala Stream  
158.0579 W 21.6577 N



Outfall 10 Kalunawaikaala Stream  
158.0578 W 21.6576 N

- 2 CONSTRUCTION SEQUENCE DIAGRAM STA. 186+20 TO STA. 237+00
  - 1) Install Inlet Protection, Perimeter Sediment Control, and Check Dams
  - 2) Construct Roadway
  - 3) Remove BMPs once roadway is stabilized except at Contractor Staging/Storage Areas

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

ROADWAY PLANS

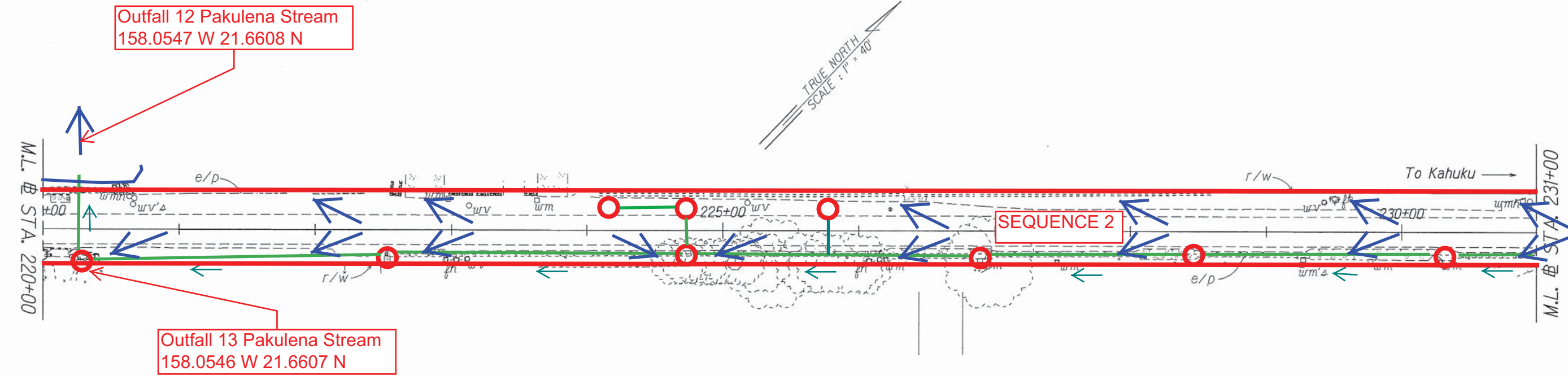
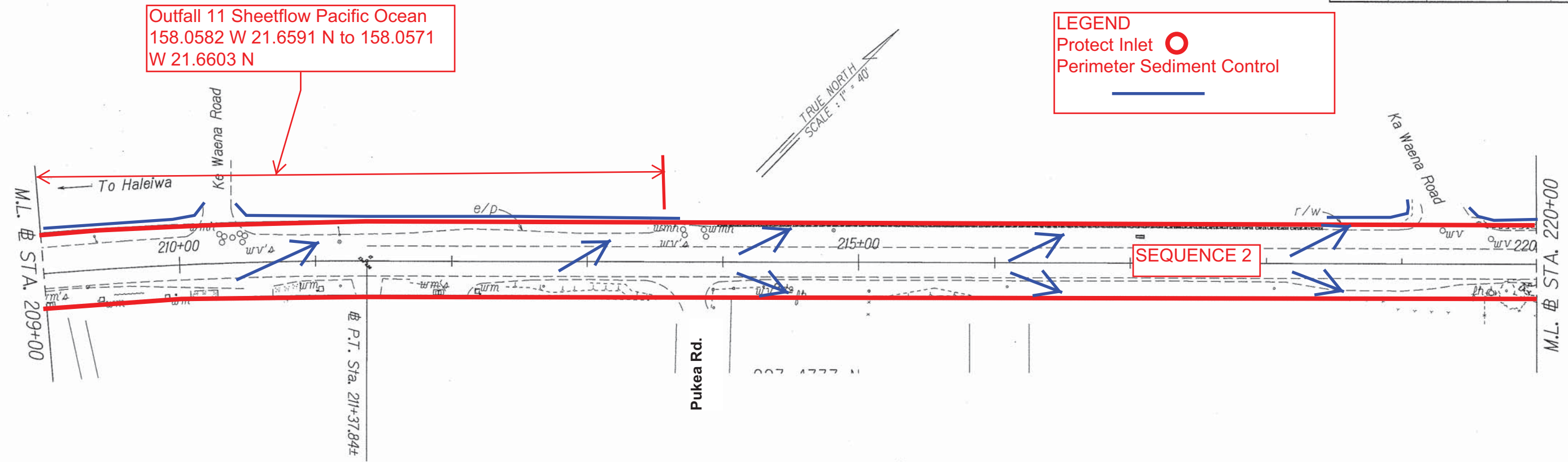
KAMEHAMEHA HIGHWAY REHABILITATION  
Vicinity of Kapuhi Street to Waialea Bridge  
Project No. 83B-01-12M

Scale: 1"=40'
Date: XX, 2012

SHEET No. 3 OF 10 SHEETS



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X



2 CONSTRUCTION SEQUENCE DIAGRAM STA. 186+20 TO STA. 237+00

- 1) Install Inlet Protection, Perimeter Sediment Control, and Check Dams
- 2) Construct Roadway
- 3) Remove BMPs once roadway is stabilized except at Contractor Staging/Storage Areas

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### ROADWAY PLANS

KAMEHAMEHA HIGHWAY REHABILITATION  
Vicinity of Kapuhi Street to Waialea Bridge  
Project No. 83B-01-12M

Scale: 1"=40'      Date: XX, 2012

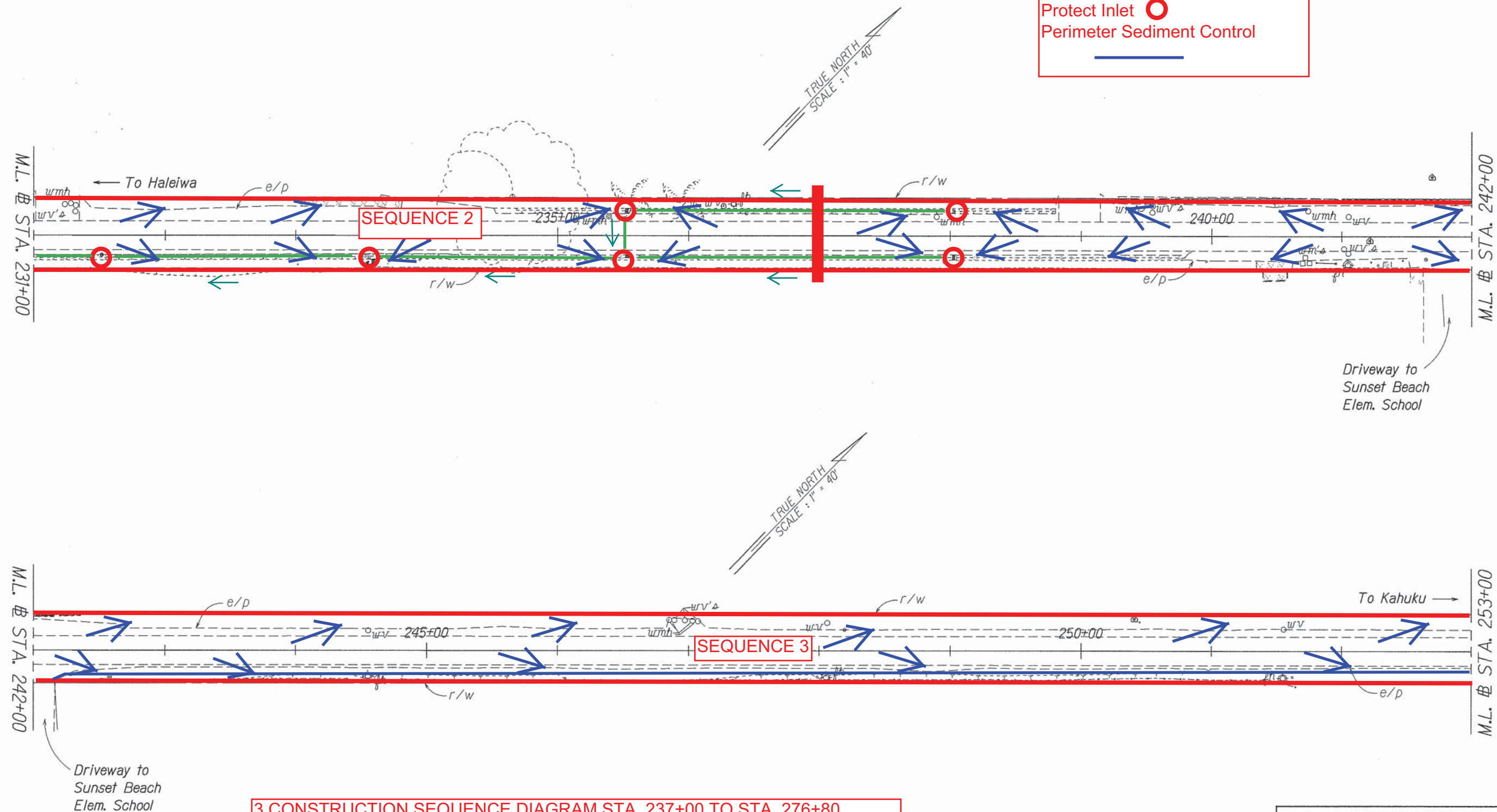
SHEET No. 4 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X

LEGEND

Protect Inlet

Perimeter Sediment Control



- 3 CONSTRUCTION SEQUENCE DIAGRAM STA. 237+00 TO STA. 276+80
1) Install Inlet Protection, Perimeter Sediment Control, and Check Dams
2) Construct Roadway
3) Remove BMPs once roadway is stabilized except at Contractor Staging/Storage Areas

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

ROADWAY PLANS

KAMEHAMEHA HIGHWAY REHABILITATION

Vicinity of Kapuhi Street to Waialeale Bridge

Project No. 83B-01-12M

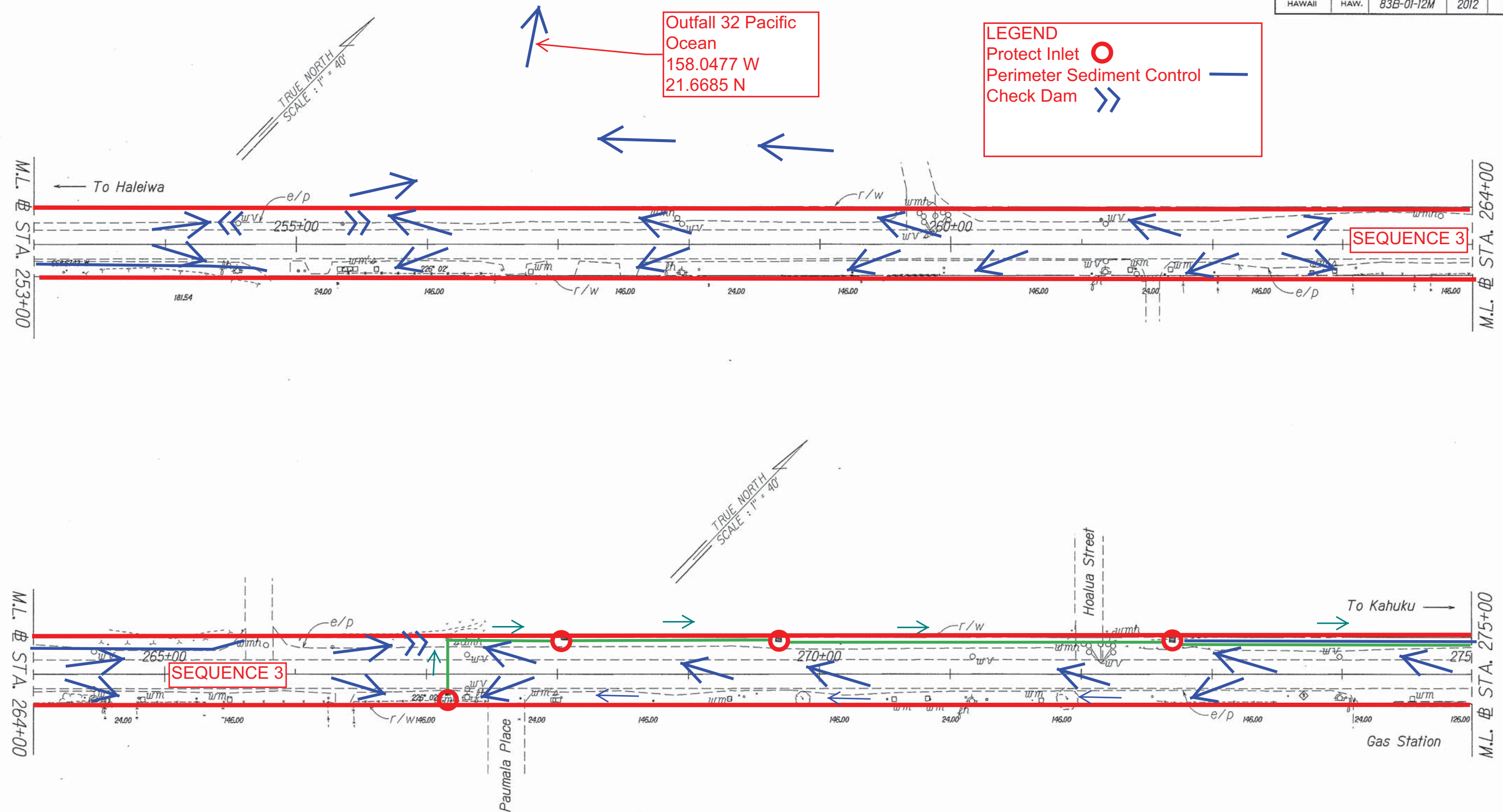
Scale: 1"=40'

Date: XX, 2012

SHEET No. 5 OF 10 SHEETS



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X



3 CONSTRUCTION SEQUENCE DIAGRAM STA. 237+00 TO STA. 276+80

- 1) Install Inlet Protection, Perimeter Sediment Control, and Check Dams
- 2) Construct Roadway
- 3) Remove BMPs once roadway is stabilized except at Contractor Staging/Storage Areas

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

ROADWAY PLANS  
KAMEHAMEHA HIGHWAY REHABILITATION  
Vicinity of Kapuhi Street to Waialea Bridge  
Project No. 83B-01-12M  
Scale: 1"=40'      Date: XX, 2012  
SHEET No. 6 OF 10 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	X
DESIGNED BY	CHECKED BY	
QUANTITIES BY		
CHECKED BY		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X

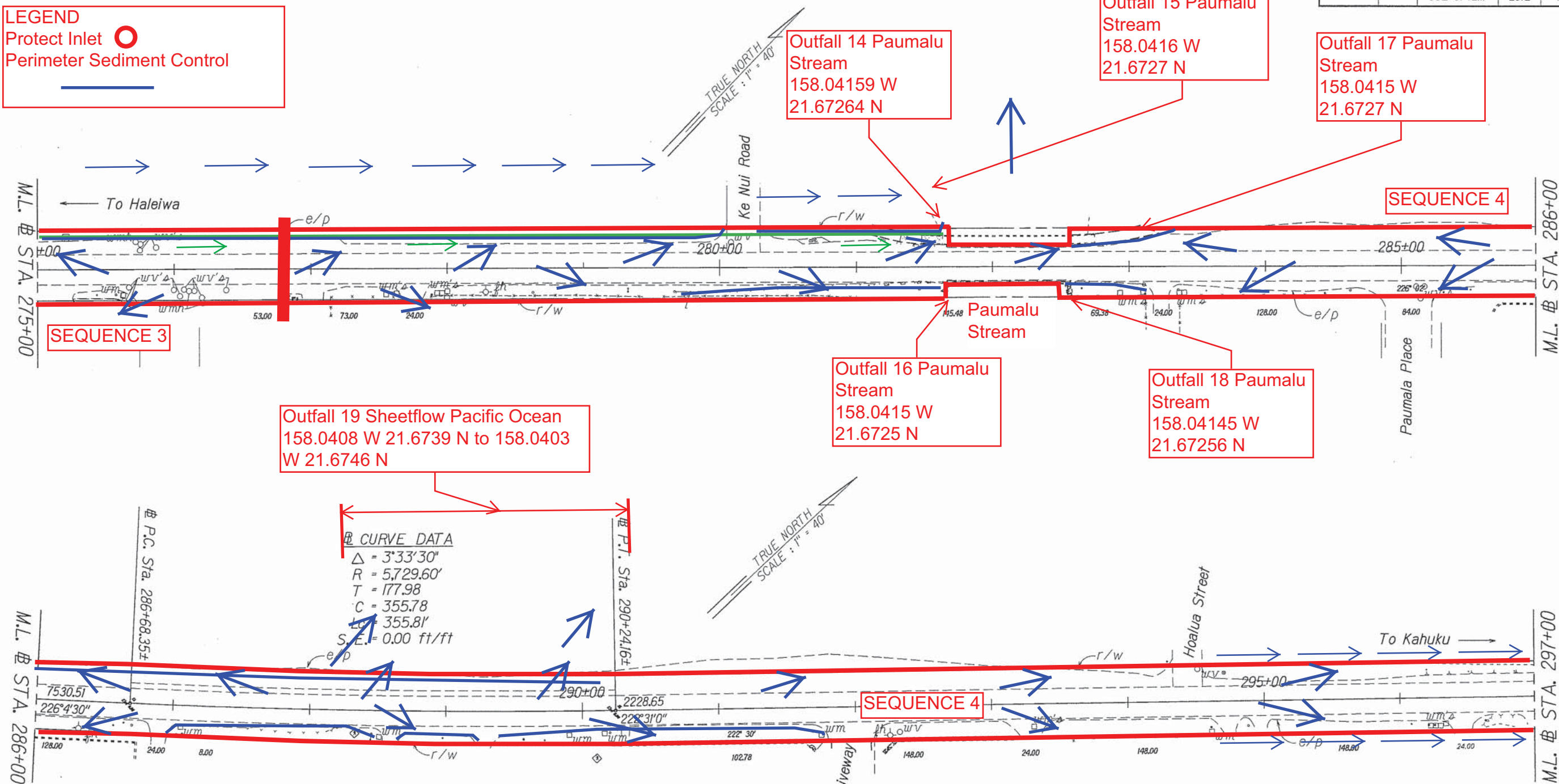
LEGEND

Protect Inlet

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Perimeter Sediment Control

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SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

4 CONSTRUCTION SEQUENCE DIAGRAM STA. 276+80 TO STA. 314+50

1) Install Inlet Protection, Perimeter Sediment Control, and Check Dams

2) Construct Roadway

3) Remove BMPs once roadway is stabilized except at Contractor Staging/Storage Areas

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

ROADWAY PLANS

KAMEHAMEHA HIGHWAY REHABILITATION

Vicinity of Kapuhi Street to Waialea Bridge

Project No. 83B-01-12M

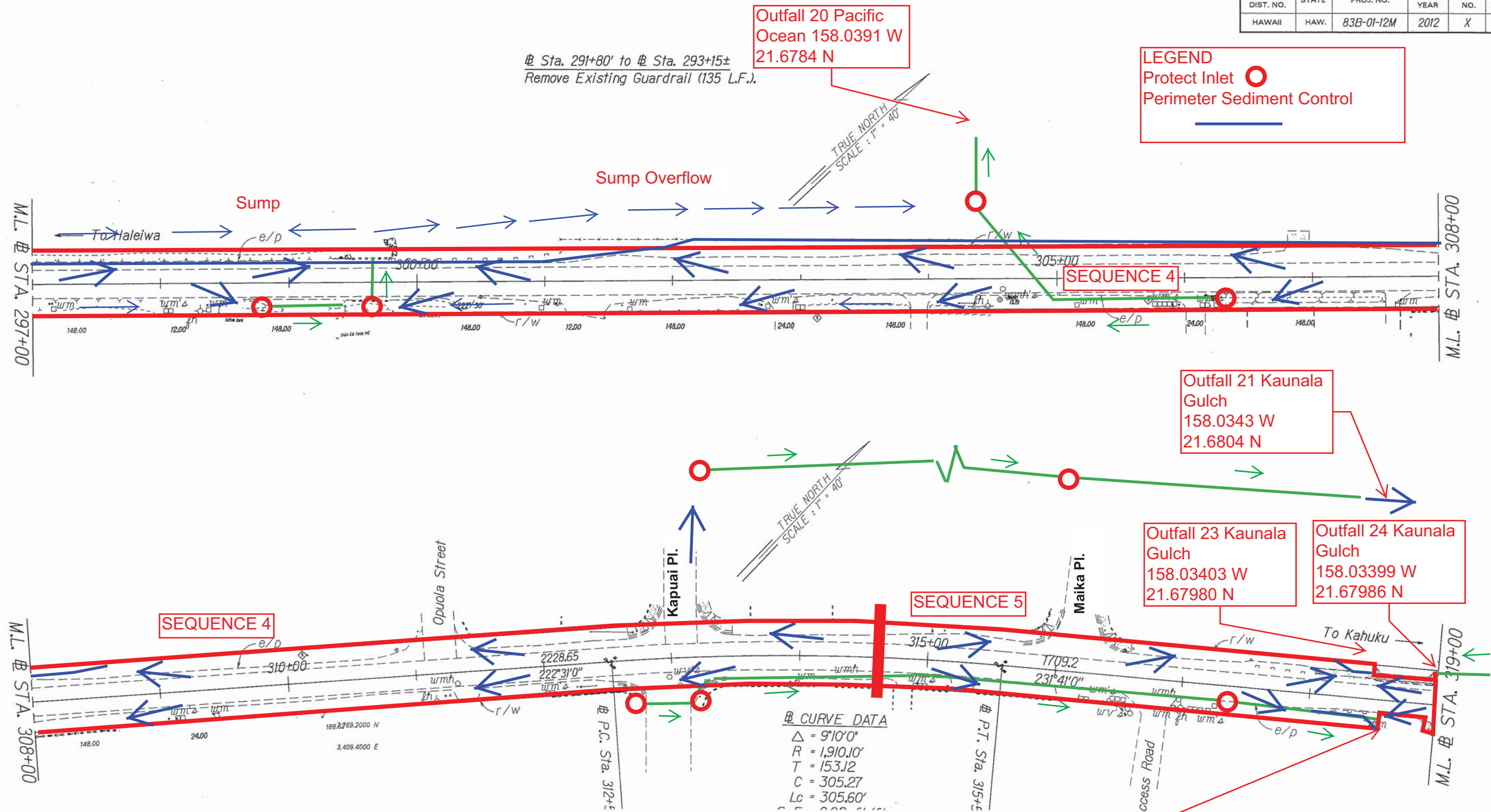
Scale: 1"=40'

Date: XX, 2012

SHEET No. 7 OF 10 SHEETS



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X



4 CONSTRUCTION SEQUENCE DIAGRAM STA. 276+80 TO STA. 314+50

- 1) Install Inlet Protection, Perimeter Sediment Control, and Check Dams
- 2) Construct Roadway
- 3) Remove BMPs once roadway is stabilized except at Contractor Staging/Storage Areas

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### ROADWAY PLANS

KAMEHAMEHA HIGHWAY REHABILITATION  
Vicinity of Kapuhi Street to Waialea Bridge  
Project No. 83B-01-12M

Scale: 1"=40'  
Date: XX, 2012

SHEET No. 8 OF 10 SHEETS



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X

**LEGEND**  
Protect Inlet ○  
Perimeter Sediment Control —

To Outfall 26  
Kaunala Gulch  
158.0343 W  
21.6806 N

Protect Trench Drain

Trench Drain

To Outfall 25  
Kaunala Gulch  
158.0339 W  
21.6798 N

Outfall 27  
Unnamed Stream  
158.0300 W  
21.6834 N

Outfall 29  
Unnamed Stream  
158.0295 W  
21.6832 N

Outfall 28  
Unnamed Stream  
158.0295 W  
21.6830 N

SEQUENCE 5

**Curve Data**  
 $\Delta = 00^{\circ}00'00''$   
 $R = 5,729.65'$   
 $T = 0.000$   
 $C = 0.000$   
 $L_c = 785.01'$   
 $S.E. = 0.00'$

**5 CONSTRUCTION SEQUENCE DIAGRAM STA. 314+50 TO STA. 345+00**  
1) Install Inlet Protection, Perimeter Sediment Control, and Check Dams  
2) Construct Roadway  
3) Remove BMPs once roadway is stabilized except at Contractor Staging/Storage Areas

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**ROADWAY PLANS**

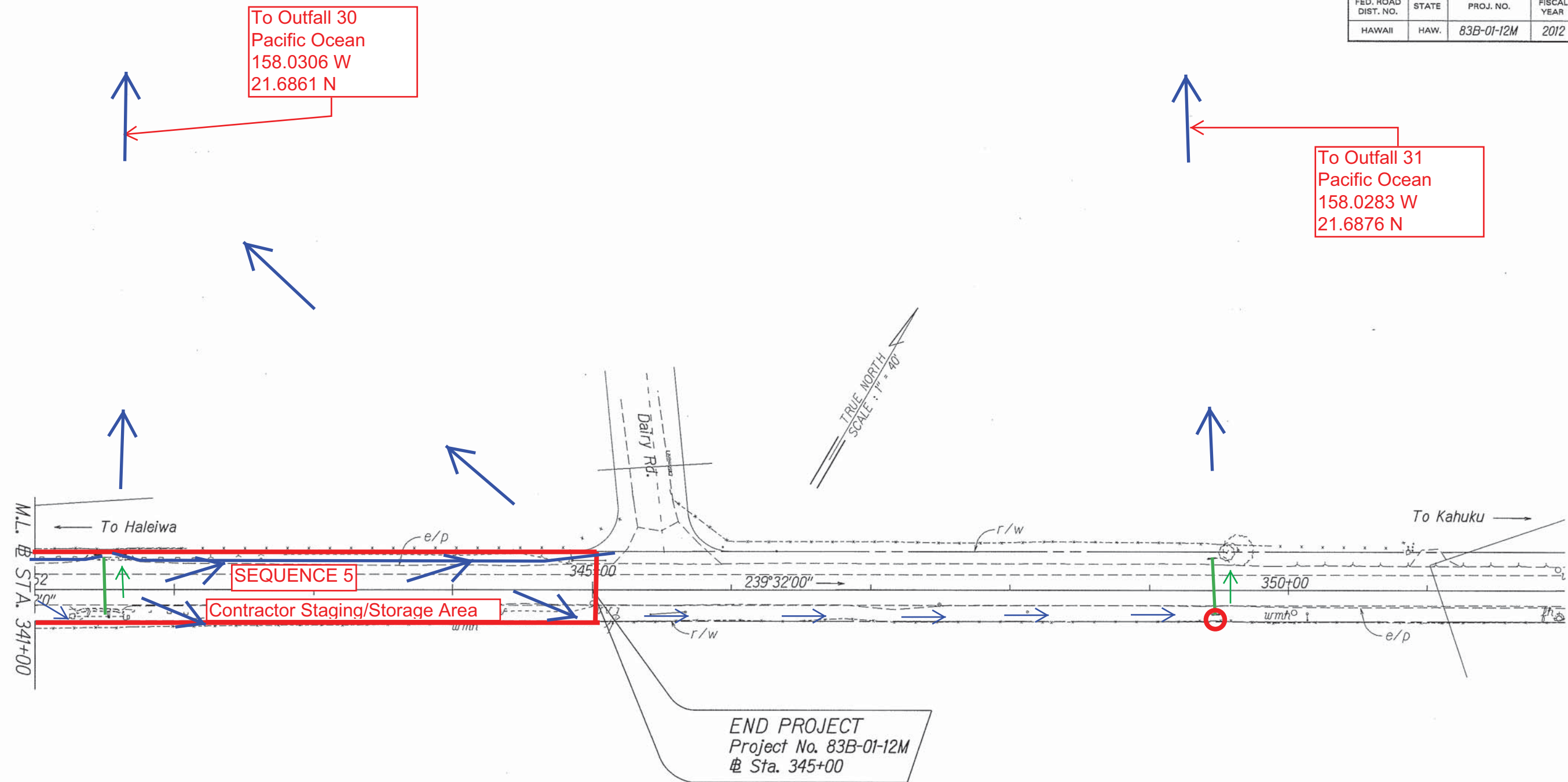
KAMEHAMEHA HIGHWAY REHABILITATION  
Vicinity of Kapuhi Street to Waialea Bridge  
Project No. 83B-01-12M

Scale: 1"=40' Date: XX, 2012

SHEET No. 9 OF 10 SHEETS



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
PLAN	DESIGNED BY	XX
NOTE BOOK	DESIGNED BY	XX
002	QUANTITIES BY	XX
8/2/2012	CHECKED BY	XX

**LEGEND**

Protect Inlet 

Perimeter Sediment Control 

**5 CONSTRUCTION SEQUENCE DIAGRAM STA. 314+50 TO STA. 345+00**

- 1) Install Inlet Protection, Perimeter Sediment Control, and Check Dams
- 2) Construct Roadway
- 3) Remove BMPs once roadway is stabilized except at Contractor Staging/Storage Areas

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**ROADWAY PLANS**

KAMEHAMEHA HIGHWAY REHABILITATION  
Vicinity of Kapuhi Street to Waialea Bridge  
Project No. 83B-01-12M

Scale: 1"=40'      Date: XX, 2012

SHEET No. 10 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X

LEGEND

Protect Inlet

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Perimeter Sediment Control

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Check Dam

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Outfall 1  
Kalahopele Gulch  
158.0634 W  
21.6431 N

Outfall 2 Pacific  
Ocean  
158.0635 W  
21.6462 N

@ CURVE DATA  
 $\Delta = 13^{\circ}08'$   
 $R = 2864.90'$   
 $T = 329.79'$  See Hydraulics Plans  
 $C = 0.000$  for GRP Plans and Details  
 $L_c = 656.69'$   
 $S.E. = 0.00 \text{ ft/ft}$

BMP PLAN ROAD CONSTRUCTION  
 Road Construction (Cold planing, resurfacing paved shoulders and gutters, removing call boxes, upgrading drainge inlets; upgrading concrete bridge endposts, upgrading existing guardrails and end treatments; installation of new guardrails, and pavement markings)

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

ROADWAY PLANS

KAMEHAMEHA HIGHWAY REHABILITATION

Vicinity of Kapuhi Street to Waialea Bridge

Project No. 83B-01-12M

Scale: 1" = 40'

Date: XX, 2012

SHEET No. 1 OF 10 SHEETS

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X

LEGEND

Protect Inlet

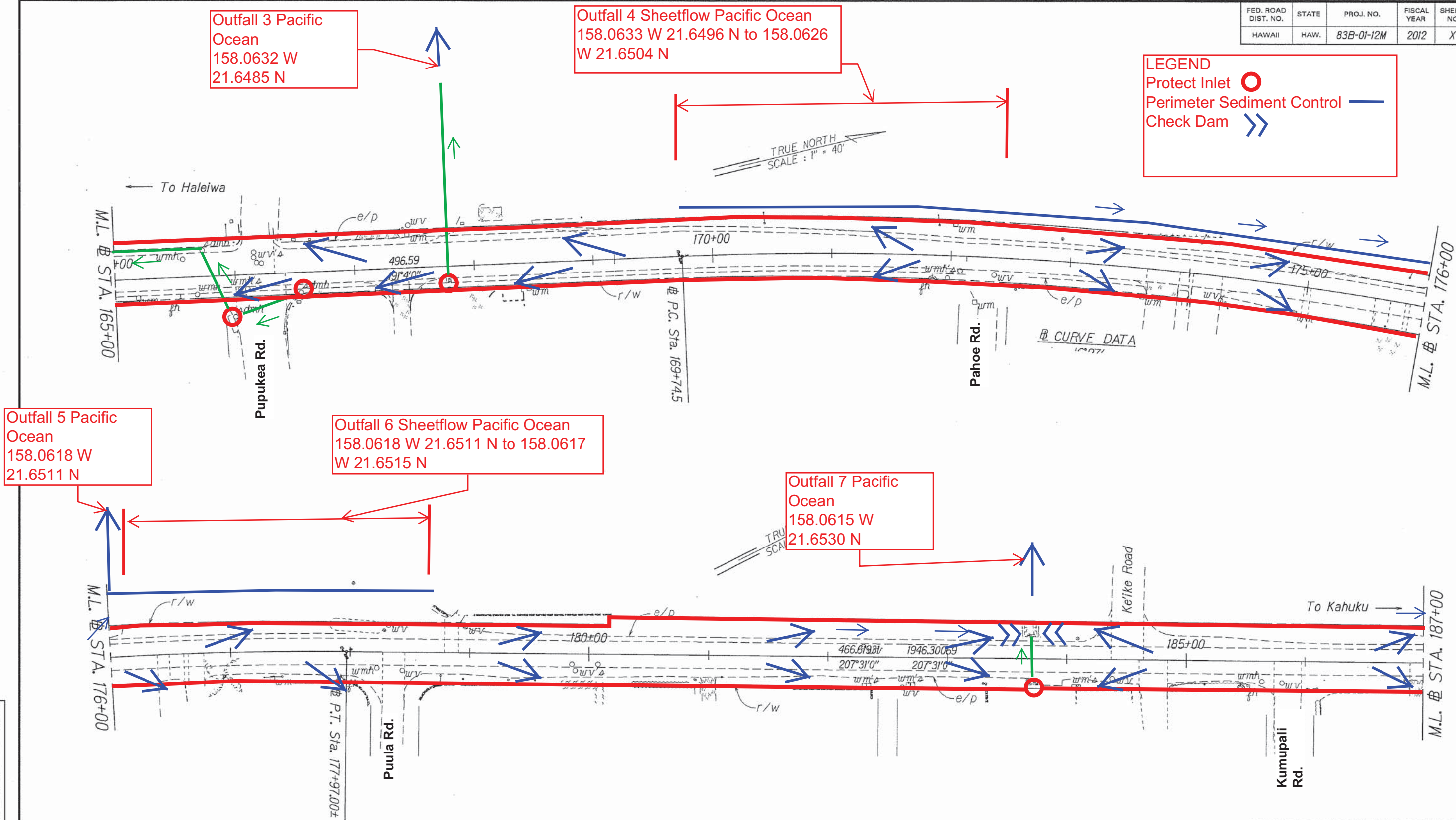
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Perimeter Sediment Control

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Check Dam

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BMP PLAN ROAD CONSTRUCTION

Road Construction (Cold planing, resurfacing paved shoulders and gutters, removing call boxes, upgrading drainage inlets; upgrading concrete bridge endposts, upgrading existing guardrails and end treatments; installation of new guardrails, and pavement markings)

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

ROADWAY PLANS

KAMEHAMEHA HIGHWAY REHABILITATION

Vicinity of Kapuhi Street to Waialea Bridge

Project No. 83B-01-12M

Scale: 1"=40'

Date: XX, 2012

SHEET No. 2 OF 10 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
REVISIONS	
BY	
DATE	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X

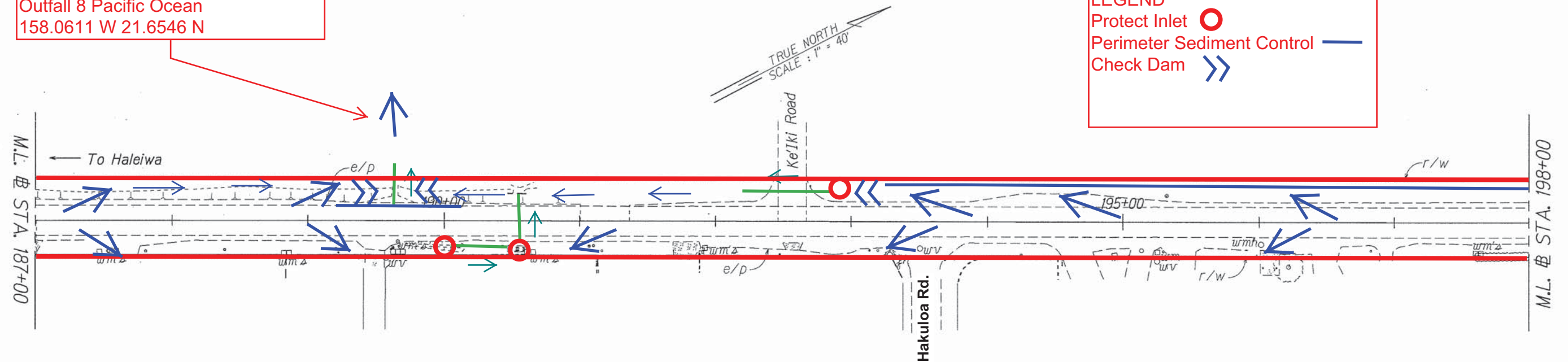
Outfall 8 Pacific Ocean  
158.0611 W 21.6546 N

LEGEND

Protect Inlet

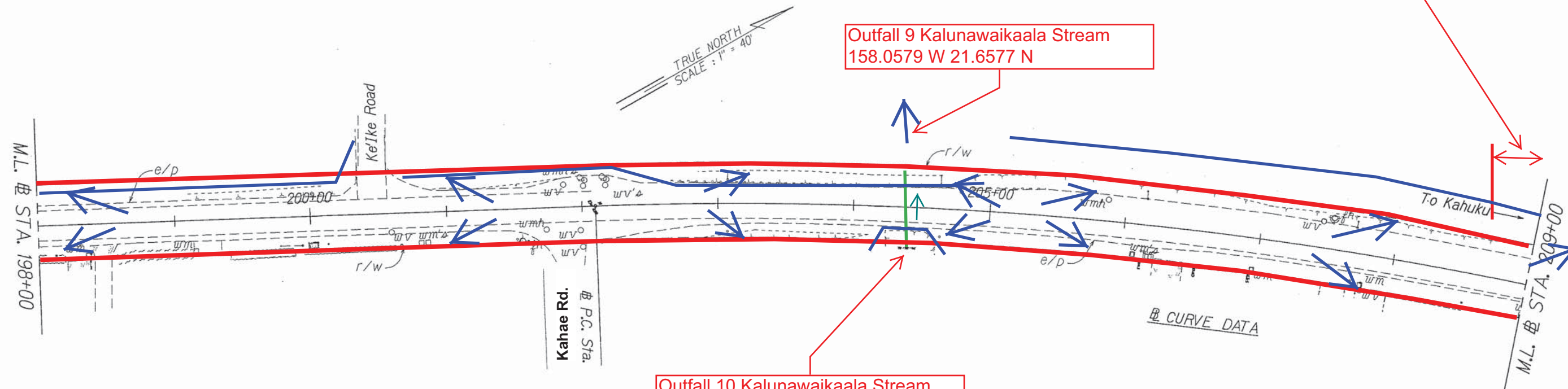
Perimeter Sediment Control

Check Dam



Outfall 11 Sheetflow Pacific Ocean  
158.0582 W 21.6591 N to 158.0571 W 21.6603 N

Outfall 9 Kalunawaikaala Stream  
158.0579 W 21.6577 N



Outfall 10 Kalunawaikaala Stream  
158.0578 W 21.6576 N

**BMP PLAN ROAD CONSTRUCTION**  
Road Construction (Cold planing, resurfacing paved shoulders and gutters, removing call boxes, upgrading drainage inlets; upgrading concrete bridge endposts, upgrading existing guardrails and end treatments; installation of new guardrails, and pavement markings)

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**ROADWAY PLANS**  
KAMEHAMEHA HIGHWAY REHABILITATION  
Vicinity of Kapuhi Street to Waialea Bridge  
Project No. 83B-01-12M  
Scale: 1"=40'      Date: XX, 2012  
SHEET No. 3 OF 10 SHEETS

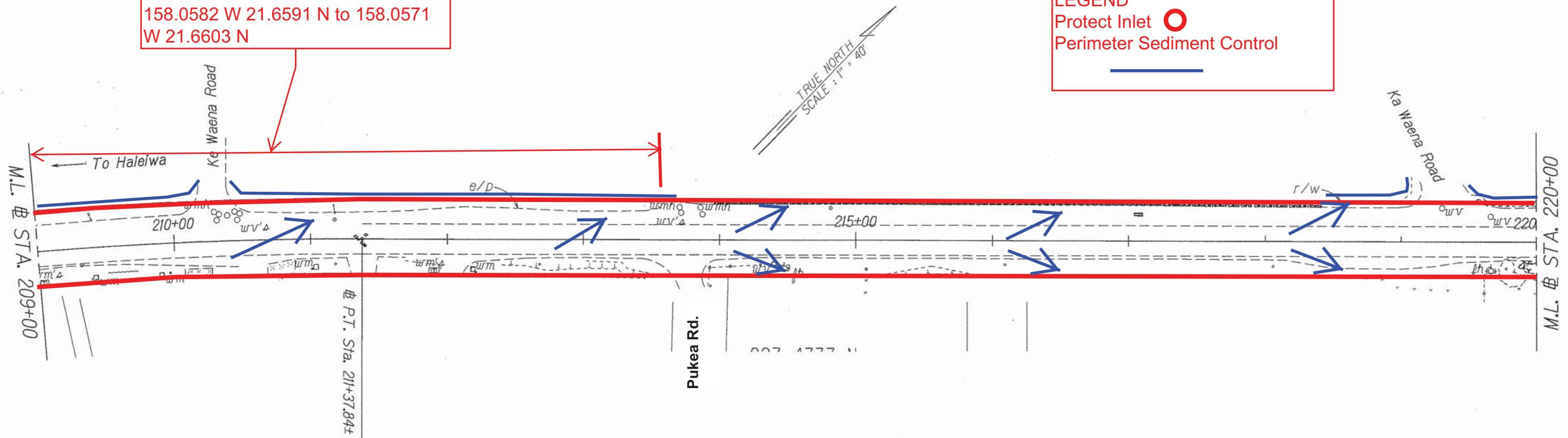


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X

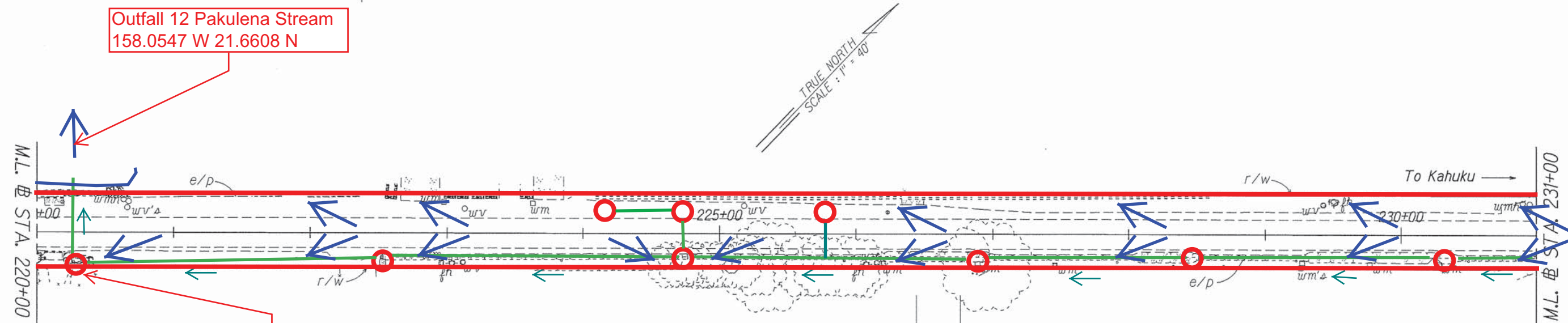
Outfall 11 Sheetflow Pacific Ocean  
158.0582 W 21.6591 N to 158.0571 W 21.6603 N

LEGEND

Protect Inlet
Perimeter Sediment Control



Outfall 12 Pakulena Stream  
158.0547 W 21.6608 N



Outfall 13 Pakulena Stream  
158.0546 W 21.6607 N

BMP PLAN ROAD CONSTRUCTION  
Road Construction (Cold planing, resurfacing paved shoulders and gutters, removing call boxes, upgrading drainage inlets; upgrading concrete bridge endposts, upgrading existing guardrails and end treatments; installation of new guardrails, and pavement markings)

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

ROADWAY PLANS
KAMEHAMEHA HIGHWAY REHABILITATION  
Vicinity of Kapuhi Street to Waialea Bridge  
Project No. 83B-01-12M

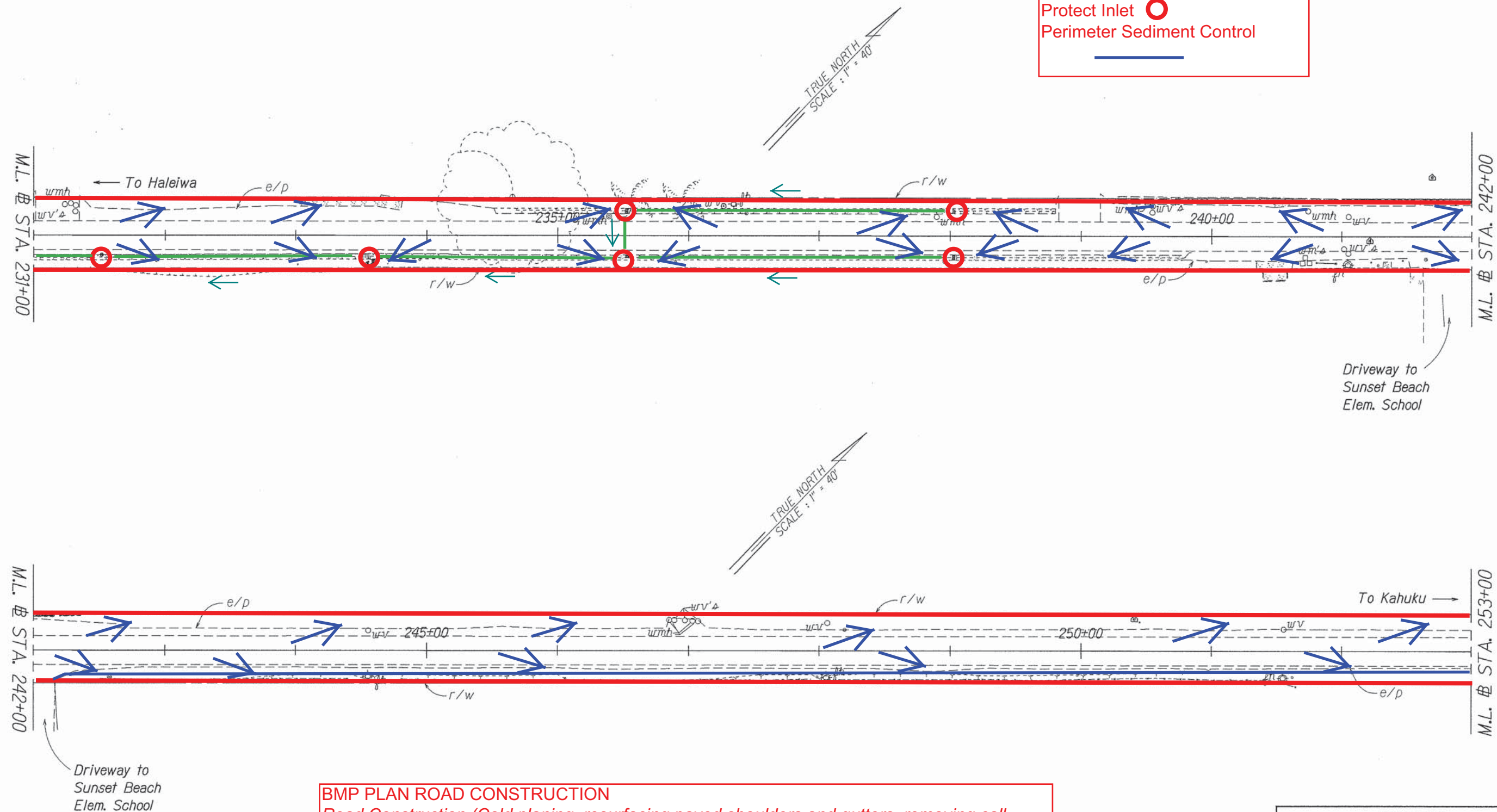
Scale: 1"=40'  
Date: XX, 2012

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X

LEGEND

Protect Inlet

Perimeter Sediment Control



**BMP PLAN ROAD CONSTRUCTION**  
 Road Construction (Cold planing, resurfacing paved shoulders and gutters, removing call boxes, upgrading drainge inlets; upgrading concrete bridge endposts, upgrading existing guardrails and end treatments; installation of new guardrails, and pavement markings)

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
200	TRACED BY	
	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

ROADWAY PLANS

KAMEHAMEHA HIGHWAY REHABILITATION

Vicinity of Kapuhi Street to Waialea Bridge

Project No. 83B-01-12M

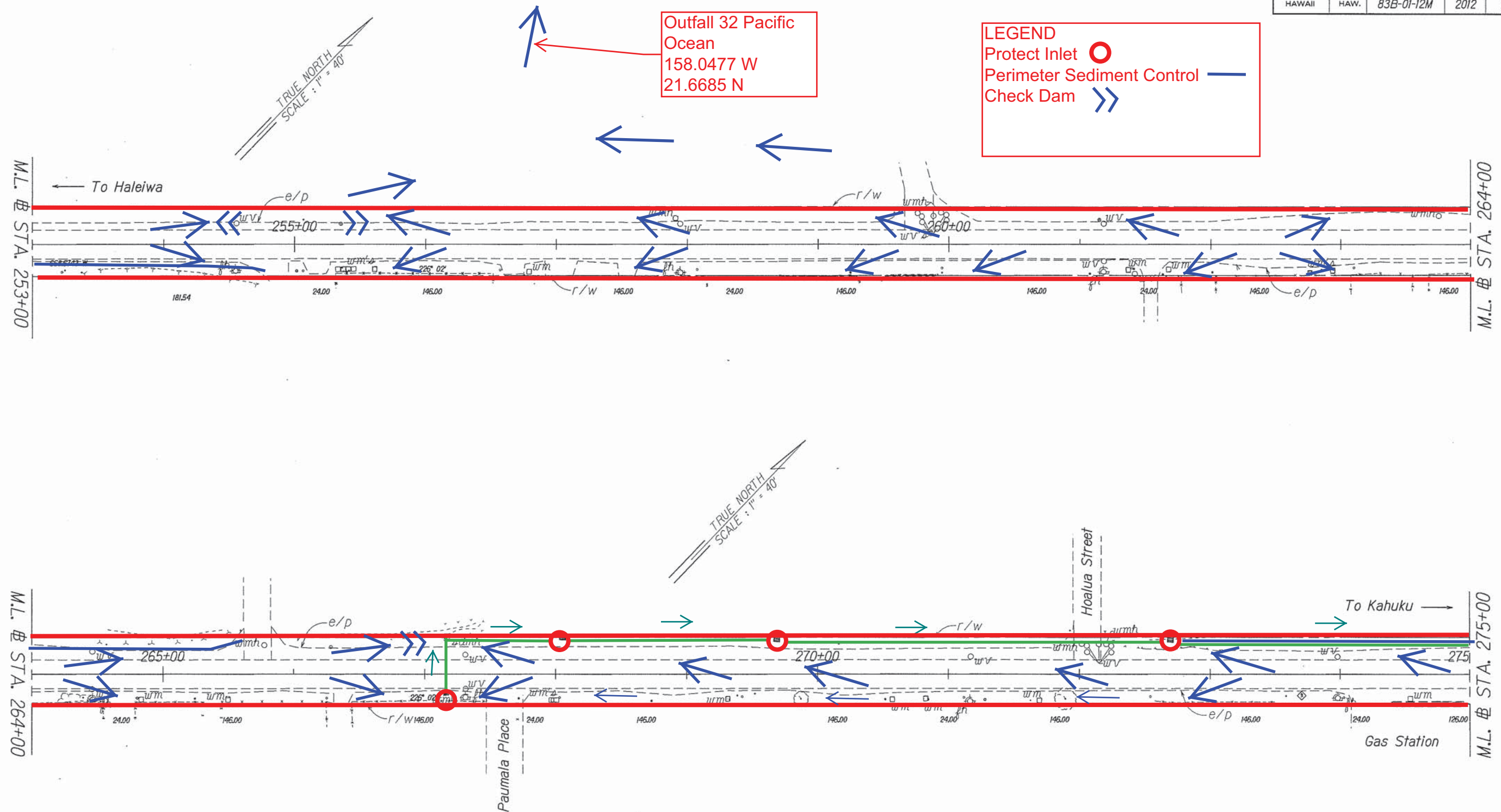
Scale: 1"=40'

Date: XX, 2012

SHEET No. 5 OF 10 SHEETS



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X



**BMP PLAN ROAD CONSTRUCTION**  
*Road Construction (Cold planing, resurfacing paved shoulders and gutters, removing call boxes, upgrading drainage inlets; upgrading concrete bridge endposts, upgrading existing guardrails and end treatments; installation of new guardrails, and pavement markings)*

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	X
DESIGNED BY	CHECKED BY	
QUANTITIES BY		

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### ROADWAY PLANS

KAMEHAMEHA HIGHWAY REHABILITATION  
Vicinity of Kapuhi Street to Waialea Bridge  
Project No. 83B-01-12M

Scale: 1"=40'      Date: XX, 2012

SHEET No. 6 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X

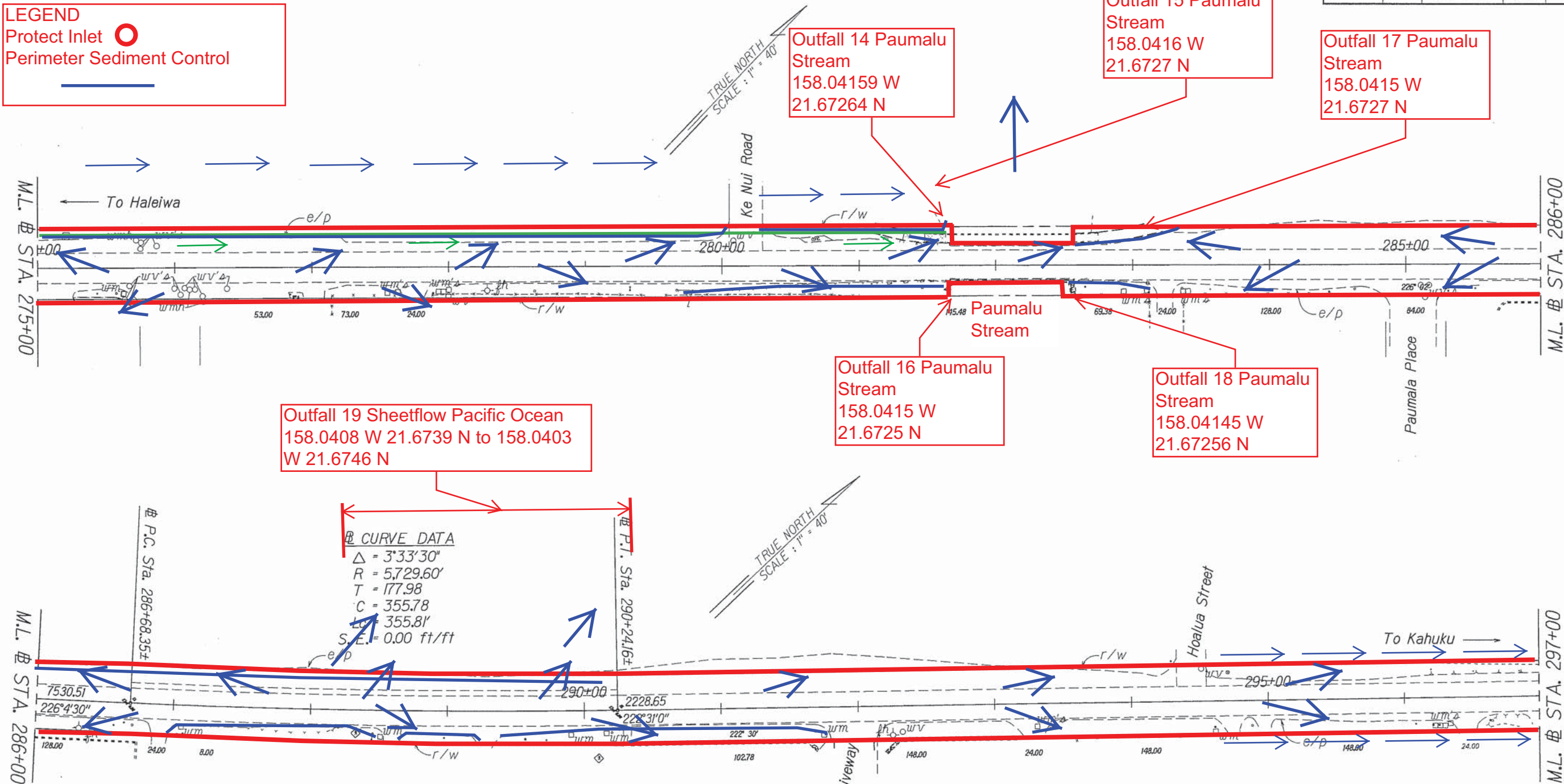
LEGEND

Protect Inlet

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Perimeter Sediment Control

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Outfall 19 Sheetflow Pacific Ocean  
158.0408 W 21.6739 N to 158.0403  
W 21.6746 N

Outfall 14 Paumalu  
Stream  
158.04159 W  
21.67264 N

Outfall 15 Paumalu  
Stream  
158.0416 W  
21.6727 N

Outfall 17 Paumalu  
Stream  
158.0415 W  
21.6727 N

Outfall 16 Paumalu  
Stream  
158.0415 W  
21.6725 N

Outfall 18 Paumalu  
Stream  
158.04145 W  
21.67256 N

CURVE DATA  
Δ = 3°33'30"  
R = 5,729.60'  
T = 177.98  
C = 355.78  
LC = 355.81'  
S.E. = 0.00 ft/ft

BMP PLAN ROAD CONSTRUCTION  
Road Construction (Cold planing, resurfacing paved shoulders and gutters, removing call boxes, upgrading drainage inlets; upgrading concrete bridge endposts, upgrading existing guardrails and end treatments; installation of new guardrails, and pavement markings)

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

ROADWAY PLANS

KAMEHAMEHA HIGHWAY REHABILITATION

Vicinity of Kapuhi Street to Waialea Bridge

Project No. 83B-01-12M

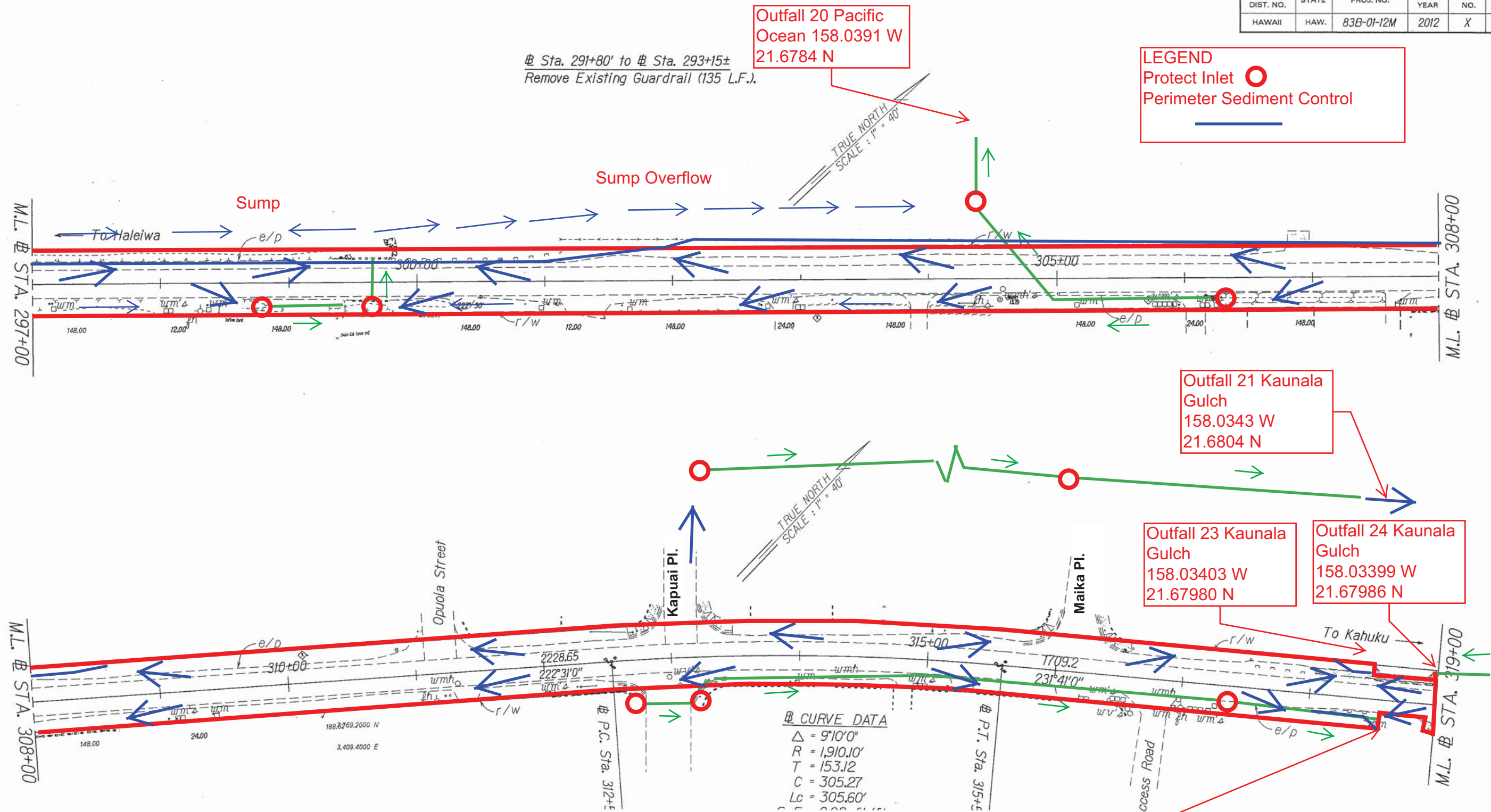
Scale: 1"=40'

Date: XX, 2012

SHEET No. 7 OF 10 SHEETS



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X



SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
DATE	
CHECKED BY	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

ROADWAY PLANS

KAMEHAMEHA HIGHWAY REHABILITATION  
Vicinity of Kapuhi Street to Waialea Bridge  
Project No. 83B-01-12M

Scale: 1"=40'      Date: XX, 2012

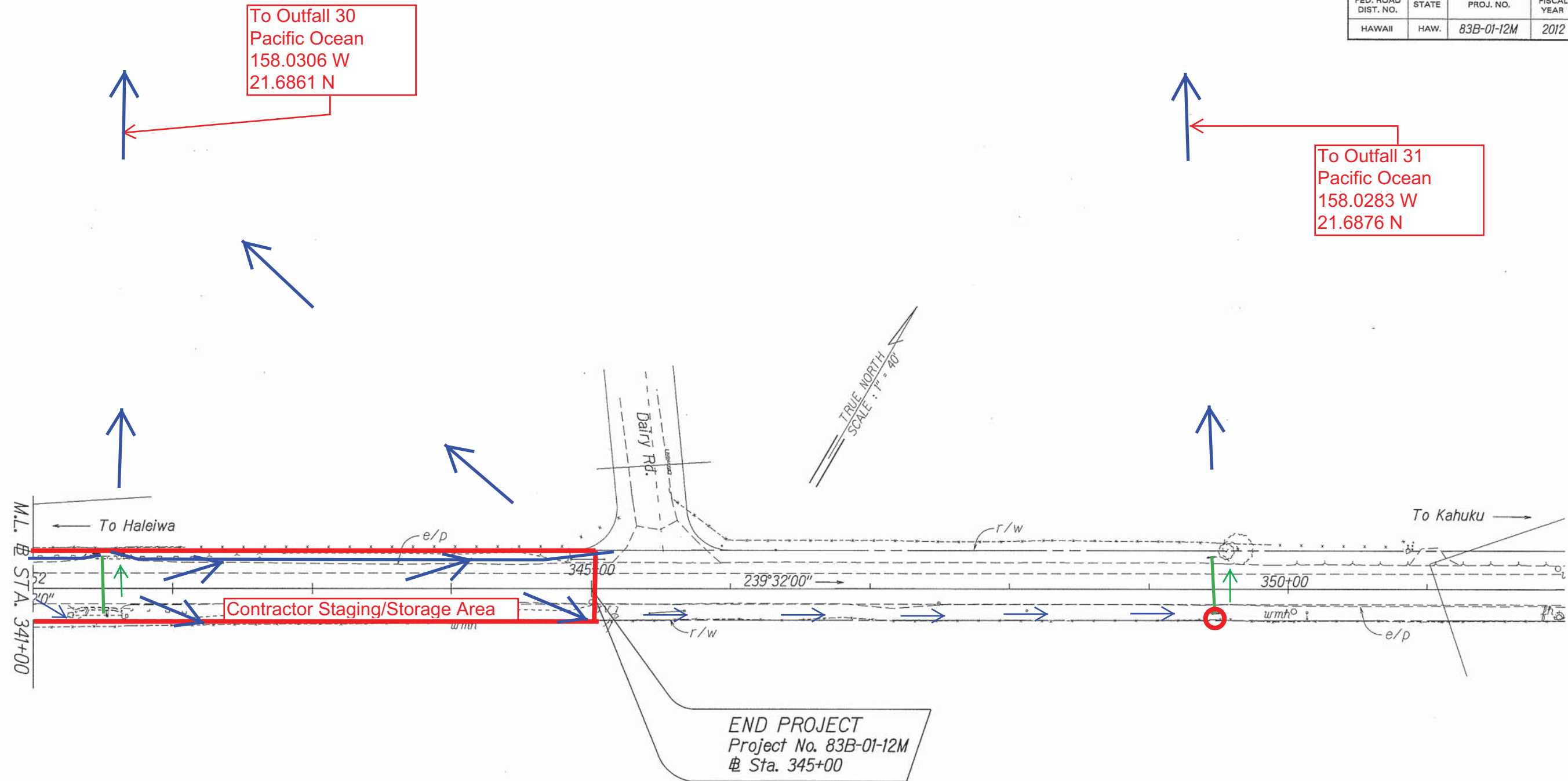
SHEET No. 8 OF 10 SHEETS







FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83B-01-12M	2012	X	X



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

**LEGEND**

Protect Inlet 

Perimeter Sediment Control 

**BMP PLAN ROAD CONSTRUCTION**  
*Road Construction (Cold planing, resurfacing paved shoulders and gutters, removing call boxes, upgrading drainage inlets; upgrading concrete bridge endposts, upgrading existing guardrails and end treatments; installation of new guardrails, and pavement markings)*

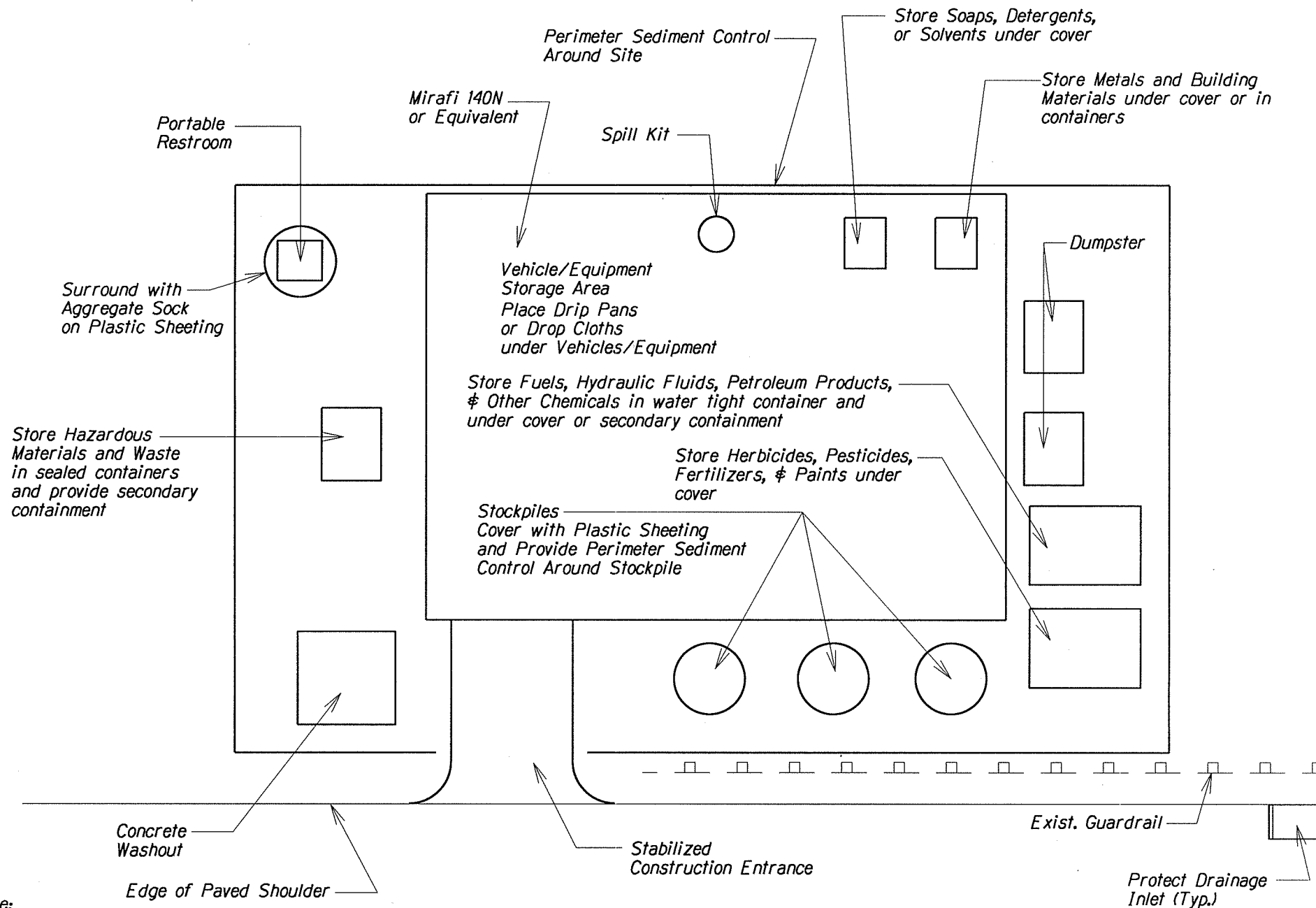
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**ROADWAY PLANS**

KAMEHAMEHA HIGHWAY REHABILITATION  
 Vicinity of Kapuhi Street to Waialea Bridge  
 Project No. 83B-01-12M

Scale: 1"=40'      Date: XX, 2012

SHEET No. 10 OF 10 SHEETS



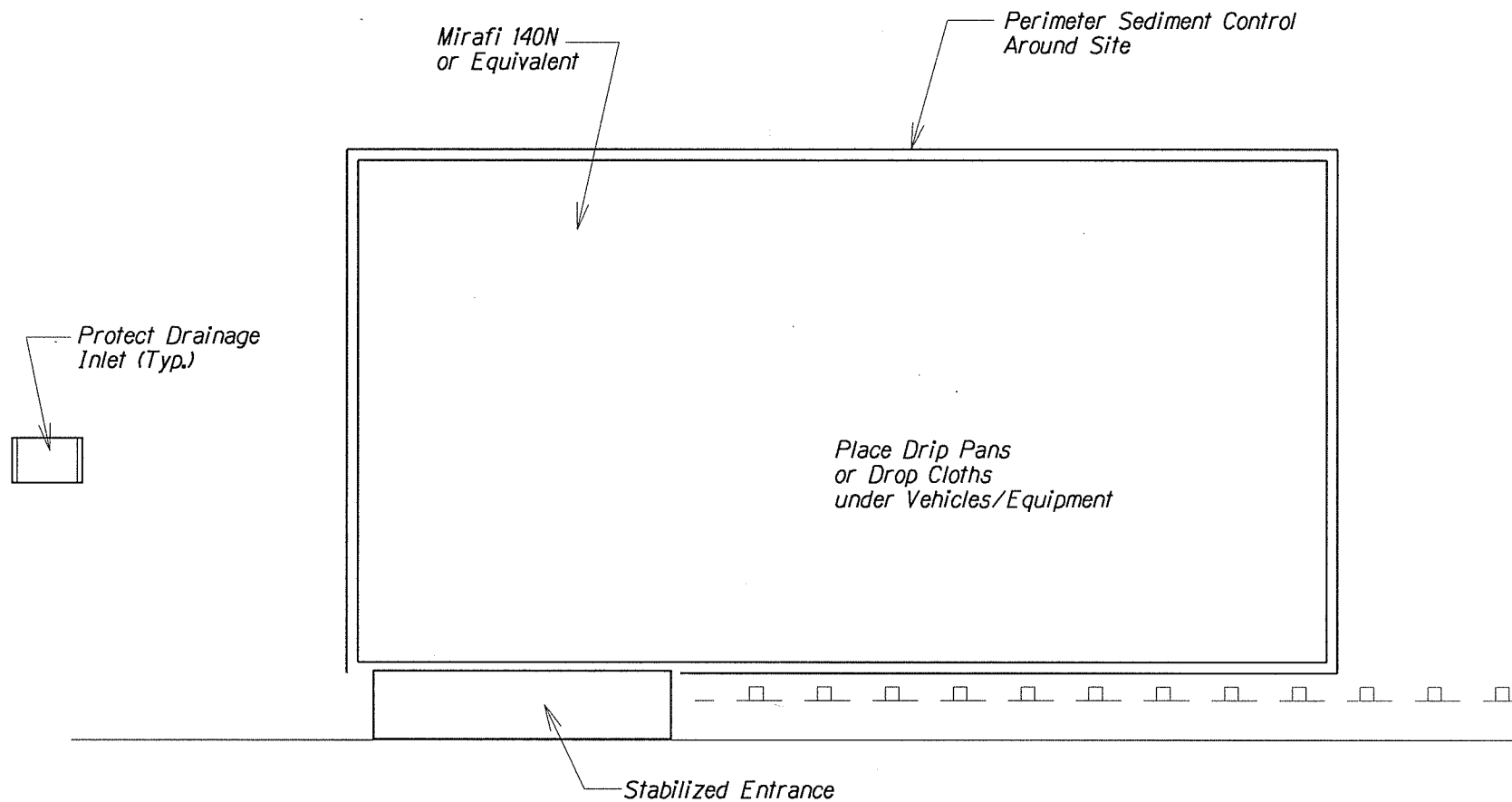
**Note:**

- 1) Restore area to equivalent of original condition once construction is completed.
- 2) Contractor shall ensure proper protection for Staging/Storage Area.
- 3) Do not maintain or wash vehicles on-site. Provide appropriate BMPs if Contractor elects to do so.

## STAGING/STORAGE AREA

Not to Scale





**Note:**

- 1) Restore area to equivalent of original condition once construction is completed.
- 2) Contractor shall ensure proper protection for Equipment Storage Area.

**EQUIPMENT STORAGE AREA**  
**Not to Scale**

**SWPPP Attachment K**  
**Post-Authorization Additions to the SWPPP**