



Project: *Orleans; Downtown Area Collection System and Pumping Stations*

Date: *10.6.2021*

Document: order of operations for open cut pipe casing sleeve installation across Rt. 6

1.0 Pre-work

- 1.1 Cut in access gate, East side where casing pipe sleeve is stored
- 1.2 Survey sleeve location
- 1.3 1 week ahead of cut date set up variable message boards on State Rt 6 per detour plan

2.0 48-hour work scheduled closure starting at 7:00 pm

- 2.1 Move into position two excavators, front end loader, vib roller, diesel plate, and two trench boxes
- 2.2 Light towers, 5 each (1 ea at start of detour on Rt 6 totaling 2 and 3 ea at crossing site)
- 2.3 Saw cut pavement across Rt 6 (RBO/Axxiom)
- 2.4 Excavate and remove HMA pavement
- 2.5 Trench 9 feet deep at 90 lf across intersection
- 2.6 Place $\frac{3}{4}$ " of crushed stone pipe bedding at 6 inches deep
- 2.7 Set 36" pipe casing into trench excavation
- 2.8 Fill 36" pipe casing with water for ballast
- 2.9 Backfill with flowable fill to 12" above pipe casing (56 cy's controlled density flowable fill-excavatable, Cape Cod Ready Mix)
- 2.10 Backfill and compact with onsite material
- 2.11 Place and compact 12 inch layer of 1.5 dense graded crushed stone
- 2.12 Place 7" layer of 19.0 HMA superpave intermediate course at 3 lifts
- 2.13 Place 1-3/4" layer of 12.5 level 2 superpave surface course
- 2.14 Thermo plastic pavement markings

3.0 To be scheduled – carrier pipe(s) installation

- 3.1 Trench and open casing ends, both sides with two crews
- 3.2 Fuse and install 8" SDR 11 fusion pipe @ 3 each with spacers (Henniker/RBO)
- 3.3 Fuse and install 4" SDR 11 fusion pipe @ 2 each with spacers (Henniker/RBO)
- 3.4 Casing Pipe Grounding Zinc Anode Grounding Cell (David Silva)
- 3.5 Complete the trenching and installation of carrier pipes beyond state Rt 6 layout

1 3/4" Superpave
Surface Course - Item
450.22

2 1/2" Superpave
Intermediate Course -
Item 450.32

12" Dense Graded
Crushed Stone

4 1/2" Superpave
Base Course -
Item 450.42

LEEVE END SEALS. CASING

CILITIES. ALL WORK ON AND
ES AND SHALL GIVE WRITTEN
AND FLAG PROTECTION AT ANY

SSIBLE, ALL OPERATIONS
RAILROAD EMPLOYEE

BY OTHERS (BO) WHEN THE

EASIBLE UNLESS THE WATER
T OF COVER. THIS WATER PIPE

GROUND ELEVATION

PROJECT FILE

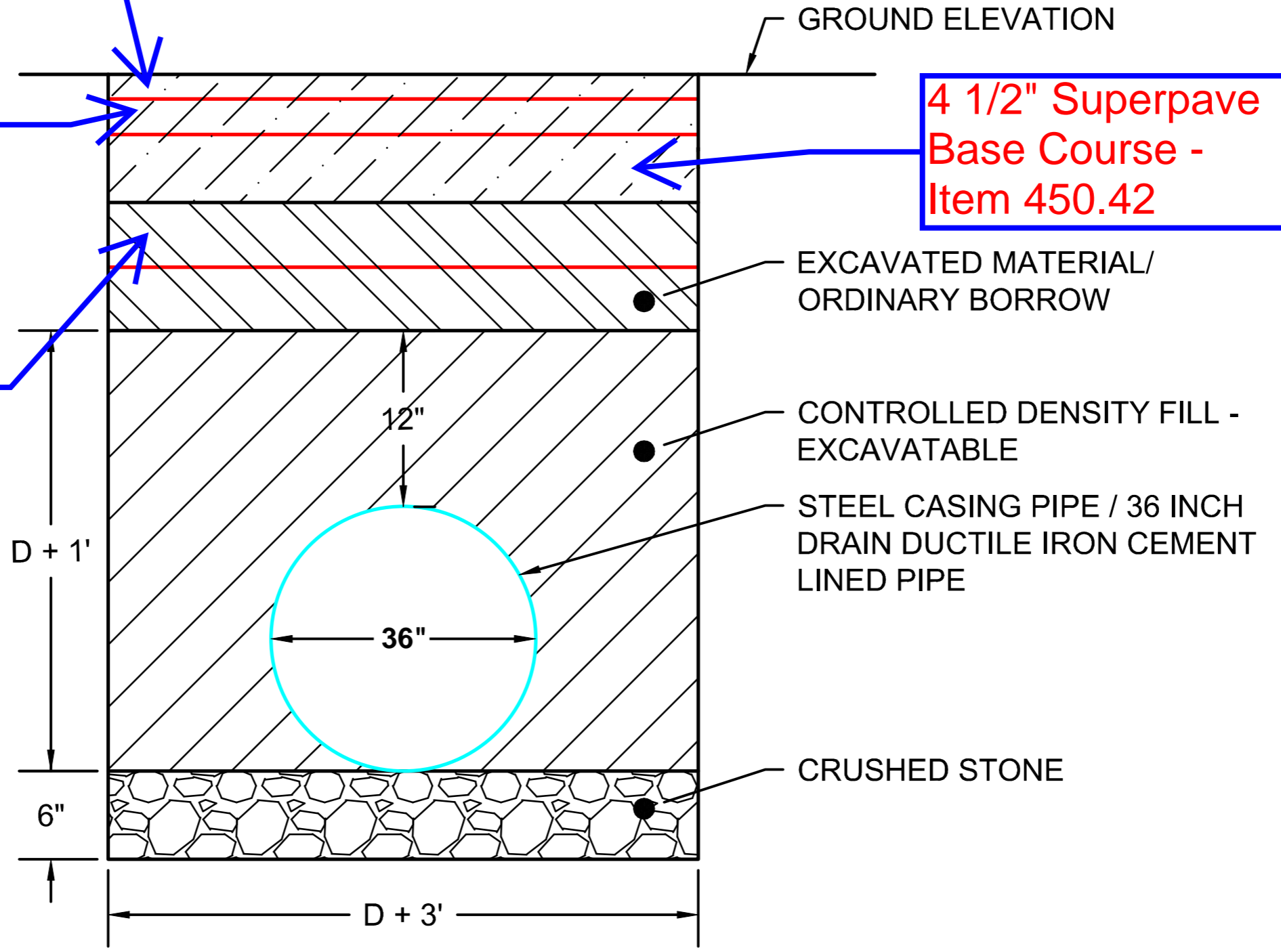
DRAINAGE &
SHEE

EXCAVATED MATERIAL/
ORDINARY BORROW

CONTROLLED DENSITY FILL -
EXCAVATABLE

STEEL CASING PIPE / 36 INCH
DRAIN DUCTILE IRON CEMENT
LINED PIPE

CRUSHED STONE



CASING PIPE TRENCH



24 Great Western Road
P.O. Box 1539
Harwich, MA 02645
508-432-0530

Project: *Orleans Downtown Area Collection System and Pumping Stations Project*

Date: *5.4.2021, Revised 6.9.2021*

Document: *Detour Plan for Rt6 (Open Cut Steel Pipe Casing)*

Spec Section 01030 Part 1.09

Narrative :

East and Westbound traffic, between the RT6 Rotary in Orleans and Exit 89, will be closed to traffic in both directions for sewer installation for 24 hours beginning at 0700 10.13.2021 (after Columbus Day) and ending at 0700 10.14.2021 (after Columbus Day). The temporary road closure will be necessary for open cut sewer installation crossing this portion of the roadway.

Detour Plan – See Attached

- Traffic Flow on RT6 will be detoured around RT6A (Cranberry Highway).
- Variable Message Sign 1 (VMS1) will be placed 1 mile before the Orleans Rotary on RT6 for Westbound Traffic.

VMS1 – 1 week prior to start of road closure will read:

Page 1: (Message Duration – 4 Seconds)

Line 1: **“24 HR”**

Line 2: **“WORK ON”**

Line 3: **“RT6”**

Page 2: (Message Duration – 4 Seconds)

Line 1: **“OCT 13-14”**

Line 2: **“USE RT6A”**

Line 3: **“DETOUR”**

VMS1 during road closure will read:

Page 1: (Message Duration – 4 Seconds)

Line 1: **“RT6”**

Line 2: **“CLOSED”**

Line 3: **"24HRS"**

Page 2: (Message Duration – 4 Seconds)

Line 1: **"USE RT6A"**

Line 2: **"DETOUR"**

Line 3: **"AT ROTARY"**

- Variable Message Sign 2 (VMS2) will be placed before Exit 89 on RT6 for Eastbound Traffic.

VMS2 – 1 week prior to start of road closure will read:

Page 1: (Message Duration – 4 Seconds)

Line 1: **"24 HR"**

Line 2: **"WORK ON"**

Line 3: **"RT6"**

Page 2: (Message Duration – 4 Seconds)

Line 1: **"OCT 13-14"**

Line 2: **"USE RT6A"**

Line 3: **"DETOUR"**

VMS2 during road closure will read:

Page 1: (Message Duration – 4 Seconds)

Line 1: **"RT6"**

Line 2: **"CLOSED"**

Line 3: **"24HRS"**

Page 2: (Message Duration – 4 Seconds)

Line 1: **"USE RT6A"**

Line 2: **"DETOUR"**

Line 3: **"EXIT 89"**

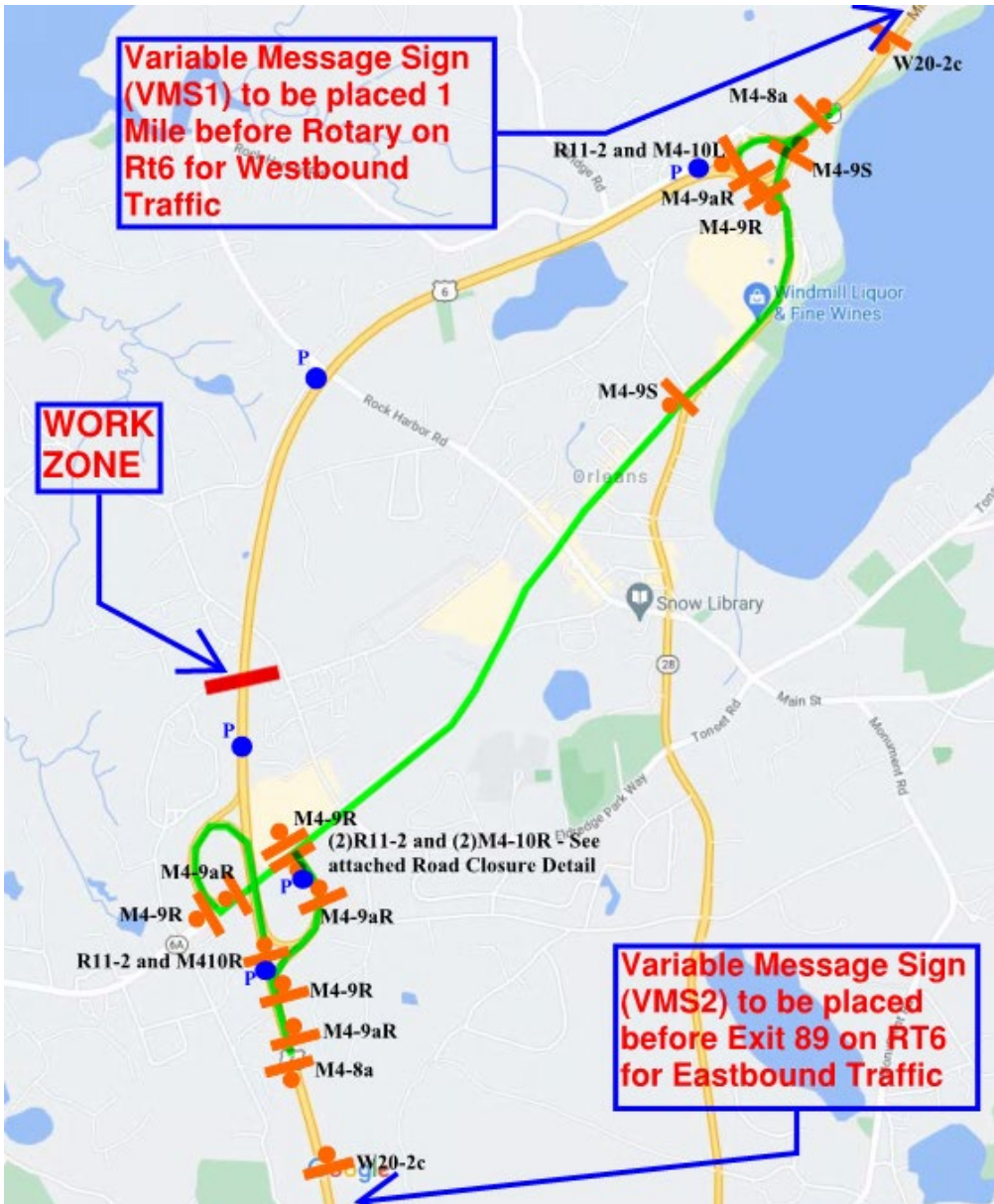


Project: Orleans Downtown Area Collection System and Pumping Stations Project

Duration of Detour: Estimated dates 10.13.2021 to 10.14.2021 (after Columbus Day)

Document: Detour Plan for Rt6 (Road Closed for Open Cut Steel Pipe Casing Installation)

Spec Section 01030 Part 1.09



LEGEND:

Sign Position and Location –

Detail Officer Location –

Detour Route –

Work Zone –

M4-9L & M4-9R

M4-10L & M4-10R

M4-9aL & M4-9aR

R11-2

M4-9S

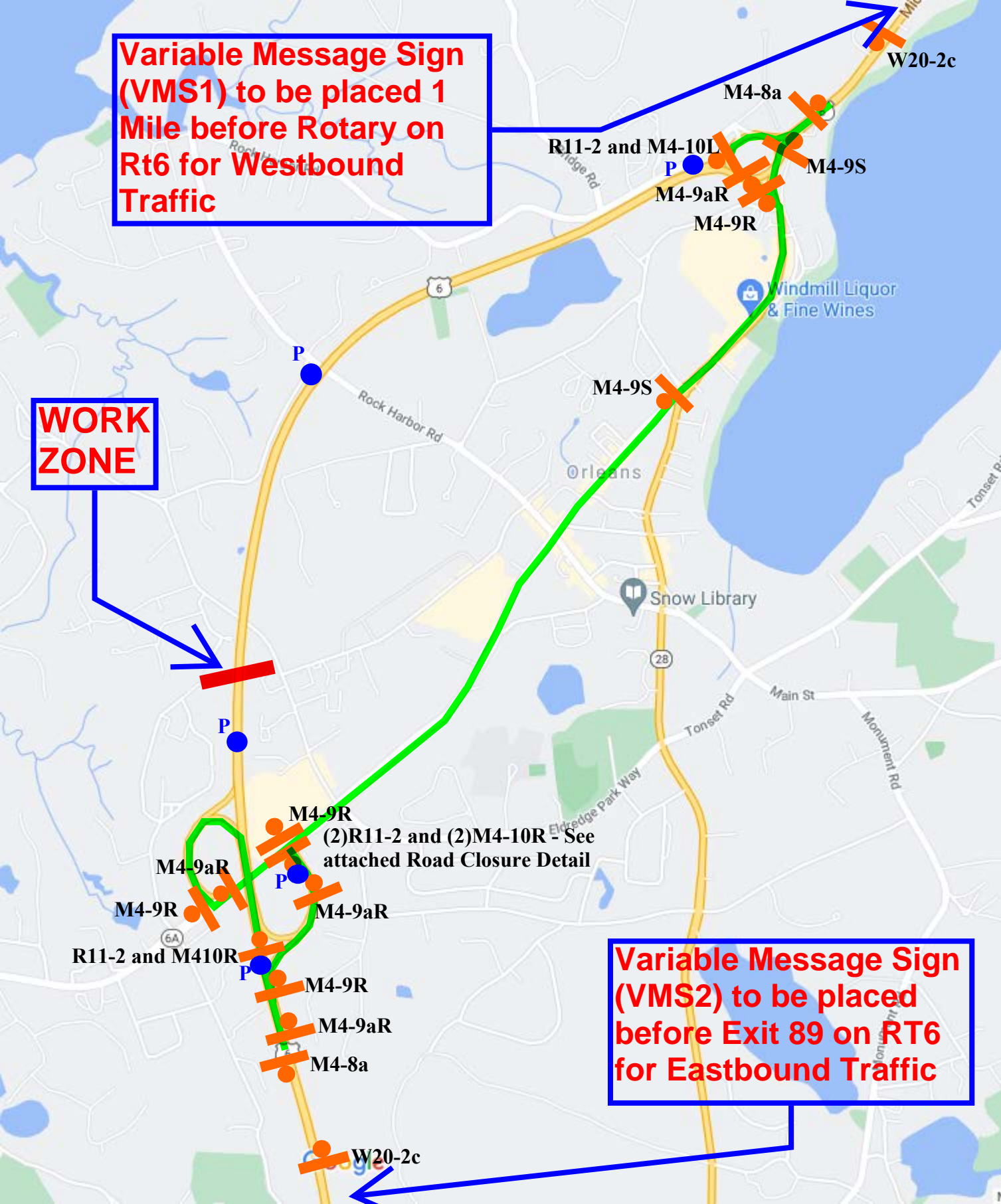
M4-8a

W20-2c

Variable Message Sign (VMS1) to be placed 1 Mile before Rotary on Rt6 for Westbound Traffic

WORK ZONE

Variable Message Sign (VMS2) to be placed before Exit 89 on RT6 for Eastbound Traffic



(2)R11-2 and (2)M4-10R - See attached Road Closure Detail

R11-2 and M410R

M4-9R

M4-9aR

M4-9aR

M4-9R

M4-9aR

M4-8a

W20-2c

M4-8a

R11-2 and M4-10L

M4-9aR

M4-9R

M4-9S

M4-9S

W20-2c

Rock Harbor Rd

Orleans

Snow Library

Main St

Tonsset Rd

Monument Rd

Eldredge Park Way

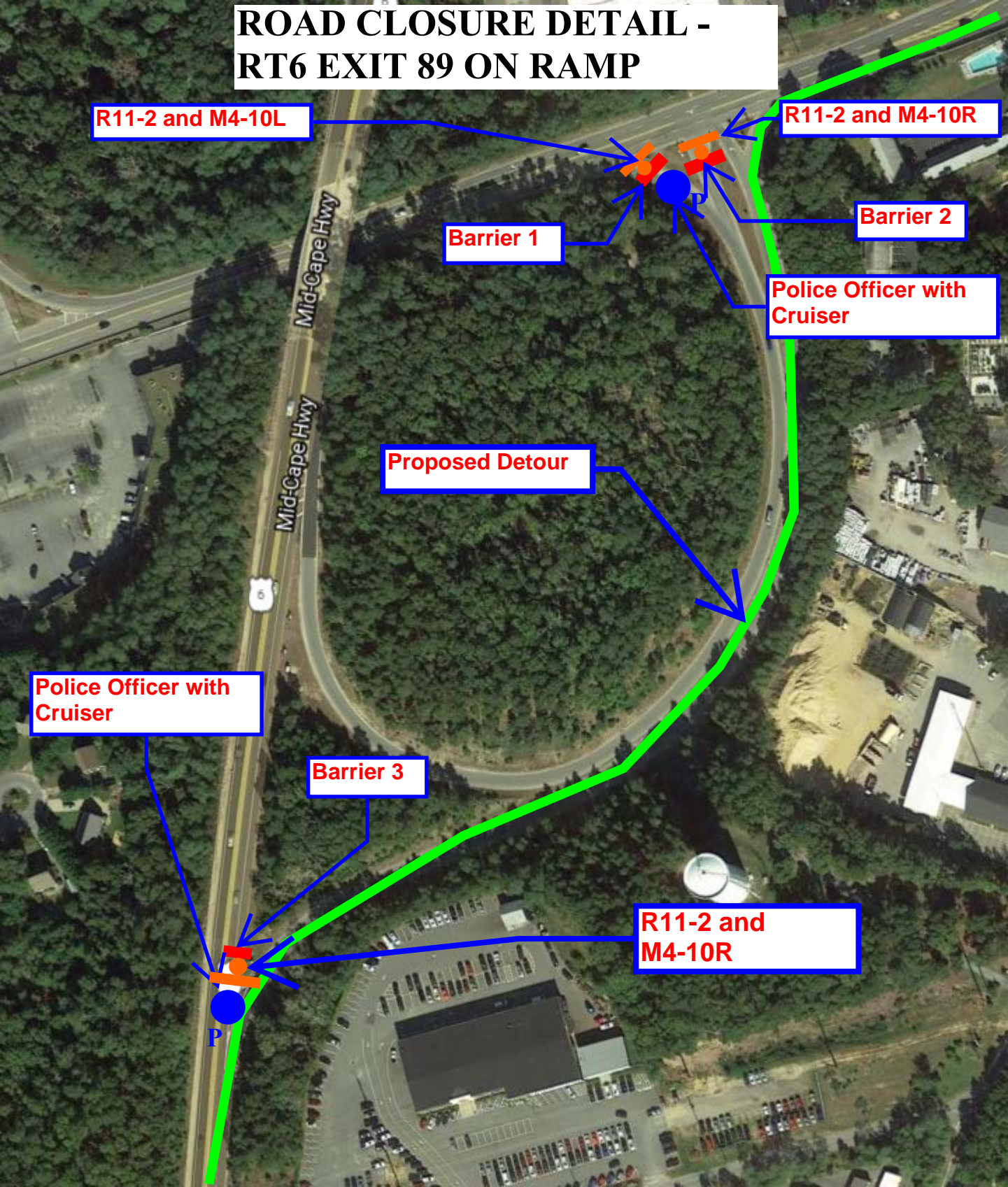
Windmill Liquor & Fine Wines

6

28

6A

ROAD CLOSURE DETAIL - RT6 EXIT 89 ON RAMP



R11-2 and M4-10L

R11-2 and M4-10R

Barrier 1

Barrier 2

Police Officer with
Cruiser

Proposed Detour

Police Officer with
Cruiser

Barrier 3

R11-2 and
M4-10R

Mid-Cape Hwy

Mid-Cape Hwy

6

P

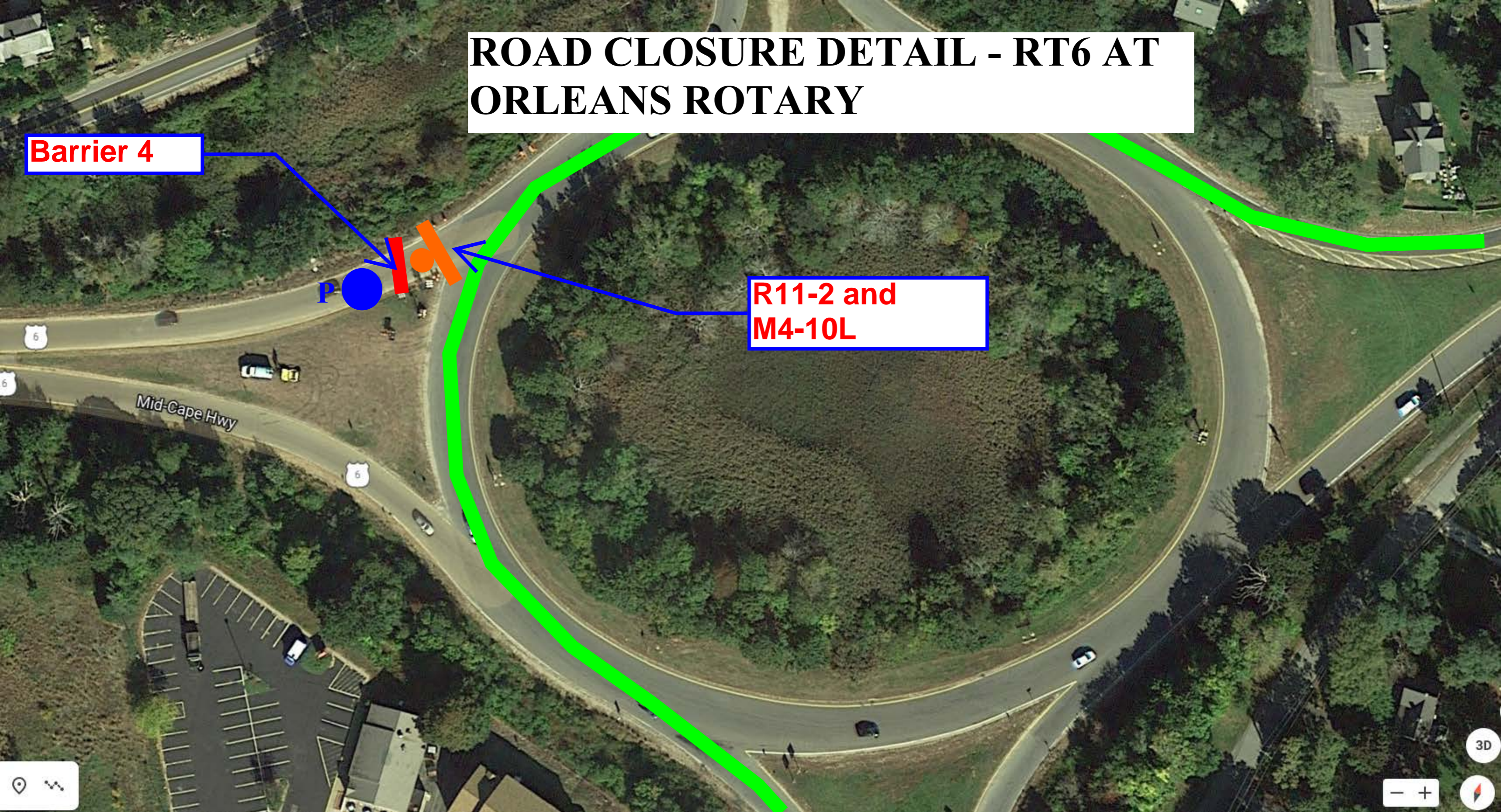
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ROAD CLOSURE DETAIL - RT6 AT ORLEANS ROTARY




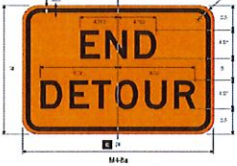





Barrier 4



R11-2 and M4-10L



TEMPORARY TRAFFIC CONTROL SIGN SUMMARY (RT6 CROSSING - OPEN CUT STEEL PIPE CASING)

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	NUMBER OF SIGNS REQUIRED	COLOR		
	WIDTH	HEIGHT			BACKGROUND	FOREGROUND	BORDER
R11-2	48"	30"		4	WHITE	BLACK	BLACK
M4-10L	48"	18"	 M4-10L DETOUR (LEFT) (18x48)	4	BLACK	ORANGE	BLACK
M4-10R	48"	18"	 M4-10R DETOUR (RIGHT) (18x48)	4	BLACK	ORANGE	BLACK
M4-8a	24"	18"	 M4-8a	2	ORANGE	BLACK	BLACK
M4-9L	30"	24"	 M4-9L DETOUR	0	ORANGE	BLACK	BLACK
M4-9R	30"	24"		4	ORANGE	BLACK	BLACK
M4-9aL	30"	24"	 M4-9aL Detour (Pedestrian and Bicycle) (Left)	0	ORANGE	BLACK	BLACK
M4-9aR	30"	24"	 M4-9aR Detour (Pedestrian and Bicycle) (Right)	4	ORANGE	BLACK	BLACK
W20-2c	48"	48"		2	ORANGE	BLACK	BLACK