TRAFFIC CONTROL PLAN

FOR

BENNINGTON-MT TABOR BF BPNT(16)

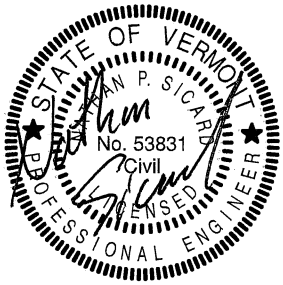
(State of Vermont, Agency of Transportation

US Route 7)

FOR

Monoko, LLC

1037 Peninsula Avenue, Tarpon Springs, FL 34689-2125
monokollc@aol.com



February, 2016

Prepared by:

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STATE OF VERMONT
STEPHAN P. SICARD
No. 53831
Civil
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PROFESSIONAL ENGINEER

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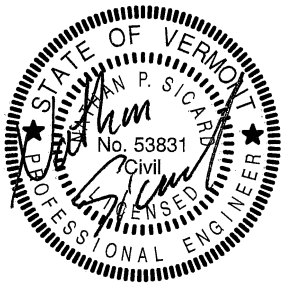


SECTION 1 – GENERAL INFORMATION

1.1 Purpose:

The purpose of this Traffic Control Plan is to present site specific construction methods for work zone traffic control. This work shall consist of furnishing, installing, maintaining and removing traffic control devices necessary to provide reasonable protection & advanced warning for motorists and construction workers. The road surface will be maintained and will be free of defect or imperfections that would inhibit safe travel. This plan must be used with daily supervision and decision making. The plan preparer is not onsite and cannot dictate the implementation.

Traffic control devices include but are not necessarily limited to signs, signals, lighting devices, markings, barricades, channeling and hand signaling devices and flaggers.

This plan is intended to comply with the Traffic Control Plan Requirements and the VTrans Work Zone Safety & Mobility Guidance Document, Appendix "A" Temporary Traffic Control Devices. All traffic control devices shall conform to the requirements of Part VI of the 2009 edition of the MUTCD, Rev. 2 (Manual on Uniform Traffic Control Devices) and comply with the NCHRP 350 guidelines and the requirements of this Traffic Control Plan. This plan will be used in conjunction with the Contract Plans, Special Provisions and Notice To Bidders.

A copy of this section of the manual and this Traffic Control Plan will be available at the construction site through the Key Personnel listed in section 1.5. All subcontractors working on this project along with our project superintendent, paving foreman and sign foreman will be provided with a copy of this Traffic Control Plan in addition to the field office copy.

1.2 Description of Project:

The project includes cleaning, lead paint removal and repainting the existing steel superstructure members and associated incidental work on five bridges on or over US Route 7 in Bennington and Mt. Tabor Vermont. The project will require a site specific traffic control plan for advanced warning, temporary and long term lane closures for work space and equipment storage. The sites include Bennington Bridge 11 (US Route 7 over Roaring Branch, MM4.03), Bennington Bridge D15 (Town Highway No. 14 over US Route 7, MM 5.77), Bennington Bridge 16N (US Route 7 over Bennington North State Highway, MM 6.41), Bennington Bridge 16S (US Route 7 over Bennington North State Highway, MM 6.41), MT Tabor Bridge 56C (US Route 7 over Mill Brook, MM 3.00).

SECTION 2 – SITE SPECIFIC REQUIREMENTS

2.1 Work Zone Limitations

a. Work Restrictions

The work on this project will be performed during daylight hours, Monday thru Saturday. The Resident will be notified in advanced regarding Saturday work.

b. Permanent Signs

Permanent signs will be in place before the project starts. Permanent signs will be installed as shown on the figures in section 3.

c. Lane Width

One- 12 foot wide lane will be open for passage by vehicle traffic at all times. Normal travel lane width is 12 feet. Only exit #2 ramp work may be reduced to 10 feet as allowed.

d. Traffic Impact

Construction phasing and sequencing will be used to minimize traffic impacts.

i. Delay Time

Delay is only planned as reduced speed zones.

ii. Portable Changeable Message Signs (PCMS)

PCMS Boards will be used as required in the Contract to provide advanced warning. All sign locations shall be laid out prior to installation as shown on this Plan with final approval from the Onsite Engineer. Signs have been relocated from the Contract Plan recommendations based on site specific conditions.

e. Speed Reduction

The project traffic control plans dictate that the speed will be reduced by 10 mph.
Site 1 (Bridge No. 11): Speed Limit 40. Proposed reduction to 35MPH.

Site 2 (Bridge No. 15): Speed Limit 35 on bridge (Houghton Road). Speed limit on US7 changes from 45 mph at bridge for interchange speeds to 55 on US 7 north of the bridge. Only southbound 7 will need speed reduction entering into the project area.

Site 3 (Bridges No 16N/16S): Speed limit 55 on US 7. Speed will not be reduced because all work will occur from under the bridge on the ramps. Precautionary speed sign of 30MPH will be used on the ramps during closures.

Site #4 (Bridge 56C): Speed Limit 45. Advisory speed of 40 due to intersections. Only daily closures with flaggers. Speed reduction signs to 35MPH will e used.

SPEED REDUCTIONS ON US7 (BRIDGES 16, SITE 3)
A reduction in the posted speed limit from 55 MPH to 45 MPH will be part of the

Mobile/Portable Work Zone Signs which will be used when workers are present and lanes are closed. Signs for work zone speeds will include (Standards T-11 and T-12);

- ROAD WORK AHEAD (W20-1)
- WORK ZONE SPEED LIMIT 45 MPH AHEAD with ARROW. (W20-5)
- RIGHT (LEFT) LANE CLOSED ½ MILE. (W3-5)
- FINES DOUBLED FOR SPEEDING IN WORK ZONE. (VR-355)
- RIGHT/LEFT LANE CLOSED 1500 FEET. (W20-5)
- LANE CLOSED/ENDS LEFT/RIGHT SYMBOL. (W4-2)
- SPEED LIMIT 45 MPH WITH ORANGE "WORK ZONE" mounted on top. (G20-5AP, R2-1)
- PORTABLE ARROW BOARD (on left or right as shown on detail)
- After work Zone, "END ROAD WORK" (G20-2)
- After work zone, "SPEED LIMIT 55".

f. Lane Closure

Lane closures will include temporary daily closures and long term closures (overnight and greater than 3 days). Signs not applicable to current work area conditions will be laid down as required by VTrans or removed as needed.

Work zone lane closures will utilize Standard T-11 and T-12 (as modified for each site). The closure will also incorporate a modified standard T-23 when ramps are within the work area. Long term lane closures will use the modified T-13. UTO's will be used ahead of the work zone buffer area during the daily closures with temporary signs.

g. Ramp Closures (Reduced width)

Ramps will not be closed for the project. Ramp lane widths will be reduced to 10 feet. A 12 foot lane width will be maintained for all other work. Ramp work will utilize mobile/portable work zone signs, barricades, drums and cones. Ramp work will also require interstate travel lane closure as shown on the ramp work plans.

h. Roadway Surface Conditions

The road surface maintained and open to traffic shall be free of defect or imperfections that would inhibit safe travel.

i. Equipment and Waste Storage

Equipment during the long term closures will be located behind barrier walls.

Waste storage will be located behind the barrier wall or guardrails.

j. Detours

There are no detours planned on this project.

k. Signage

- Permanent signs will be located in along approach areas as shown on the site specific plans in Section 2. Signs will not be placed such that they are obscured by existing signs or objects. The height of permanent signs will be as shown on Permanent Sign detail in Appendix A, the bottom of the sign will be no less than 7 feet above the adjacent grade. Sign locations will not be placed such that they would interfere with existing signs. Vegetation that interferes with the visibility of the signs will be removed. When signs are placed behind Guardrails, the sign face will be above the top of the rail.

- Portable signs will be placed on the edge of the roadway and a minimum of 1 foot above the travel way.

- Permanent signs will be mounted on two steel posts, complying with NCHRP 350 and manufacturers installation procedures. The steel post installation procedure requires a lap splice breakaway system. The installation details have been included in Appendix A. In addition to the post installation methods, the top of the steel posts will not protrude above the signs when installed.

- Portable signs will be mounted on aluminum easels labeled NCHRP 350 and 2009 MUTCD compliant. These easels maybe tethered using a sand bag resting on the ground.

2.2 Flaggers and UTO's utilized in the Work Zones

Flaggers:

a. Flaggers will only be used at site 4.

b. Whenever flaggers are used the FLAGGER AHEAD sign or symbol will be incorporated in the work zone sign package for proper advance notice of the presents of the flagger. Sufficient certified flaggers will be available onsite to provide for continuous flagging operations during break periods as needed. These flaggers will be informed in advance of the traffic plan and their responsibilities during the daily construction on the project. Any changes throughout the day during construction will be relayed to the flaggers to provide a safe working environment for the construction personnel and the traveling public.

c. Additional flaggers may be utilized as per the Resident Engineer.

d. All flaggers will have a supervisor and they will have two way radio communications. See **Appendix A** for hand signals in case of radio failure & for emergencies only.

Uniform Traffic Officers (UTO)

a. UTO's will be utilized in the work zones including;
   - Ahead (upstream) of the travel lane or passing lane operations for daily closures.
   - Ahead of the Interchange ramp work for daily closures.
   - as required by the Resident Inspector.

b. UTO's will remain behind the land closure barrels, cones and barricades when stationary on the limited access highway.

2.3 Key Personnel and Contact Info*:

Monoko, LLC

Onsite Superintendent (responsible person)

Stanley Monokandilos	……	(727) 247-6933
Michael Monokandilos	……	(727) 510-8722
Emmanuel Patatoukos	……	(727) 412-6000

Manager

Keri Monokandilos (Office)	……	(727) 940-3244
Keri Monokandilos (Cell)	……	(727) 808-1118

Plan Preparer:

Ruggles Engineering Services, Inc. St. Johnsbury, VT 05819
Nathan P. Sicard, P.E. (802) 748-5898, nate.res@myfairpoint.net

*FOR NON-WORKING HOUR ISSUES OR EMERGENCIES SEE EMERGENCY CONTACT INFO.

The Project Superintendent listed above have the authority to correct issues and to shut down the project if the traffic control items are not in place or not up to the standards as set forth in the MUTCD manual or as dictated in the plan. He will be responsible for reviewing work zone signs during periods of time that work is progressing on the project.

Any significant changes needed for the traffic control plan will be provided to Plan Preparer, prior to forwarding to VTrans for approval. <u>This plan does not account for unknown miscellaneous projects within or adjacent to the work area which might affect the implementation of this traffic control plan.</u>

2.4 Emergency Contact Information – BF BPNT – BENNINGTON – MT TABOR

The following is a list of contact numbers for notifying the Resident & local emergency officials, and local government officials whenever significant traffic impacts are anticipated or an emergency occurs.

EMERGENCY PHONE NUMBERS:

FIRE – POLICE – AMBULANCE …… ….911

Tim Pockette, Project Resident (VTrans Resident Engineer)

Stanley Monokandilos, Project Superintendent (Monoko) …….…….…. (727) 247-6933
Michael Monokandilos …….…… (727) 510-8722
Emmanuel Patatoukos ……..…… (727) 412-6000

Town of Bennington (Town Manager) …….…… (802) 442-1037
shurd@benningtonvt.org

Town of Bennington (Highways) …….…… (802) 442-1037
rjoly@benningtonvt.org

Town of Bennington (Police Chief) …….…… (802) 442-1048
paul.doucette@vermont.gov

Town of Mount Tabor (Town Clerk) …….…….. (802) 293-5282
mttabor@vermontel.net

Town of Danby (Town Clerk) ……..…….. (802) 293-5136
danbytownclerk@vermontel.net

VTrans District 1 (Bennington) …….....…...….. (802) 447-2790
robert.faley@vermont.gov

Vermont State Police
Shaftsbury Barracks) …….…...……. (802) 442-5421
richmond.hopkins@vermont.gov

SECTION 3 – CONSTRUCTION PHASING AND SEQUENCING

3.1 GENERAL:

Construction phasing or sequencing that reasonably minimizes traffic impacts and provides a safe work area will be used. The phasing of the traffic control plan will be coordinated with the Project Schedule. Although no issues or conflicts are expected, weekly meetings will be held as required to discuss any issues that may arise, to resolve any conflicts on this portion of the project and to ensure the least possible disruption to the traveling public as possible.

Construction workers will follow this plan and all supplemental safety plans for working in traffic.

3.2 PHASE 1 – Bridge No. 11 (US7 over Roaring Branch)

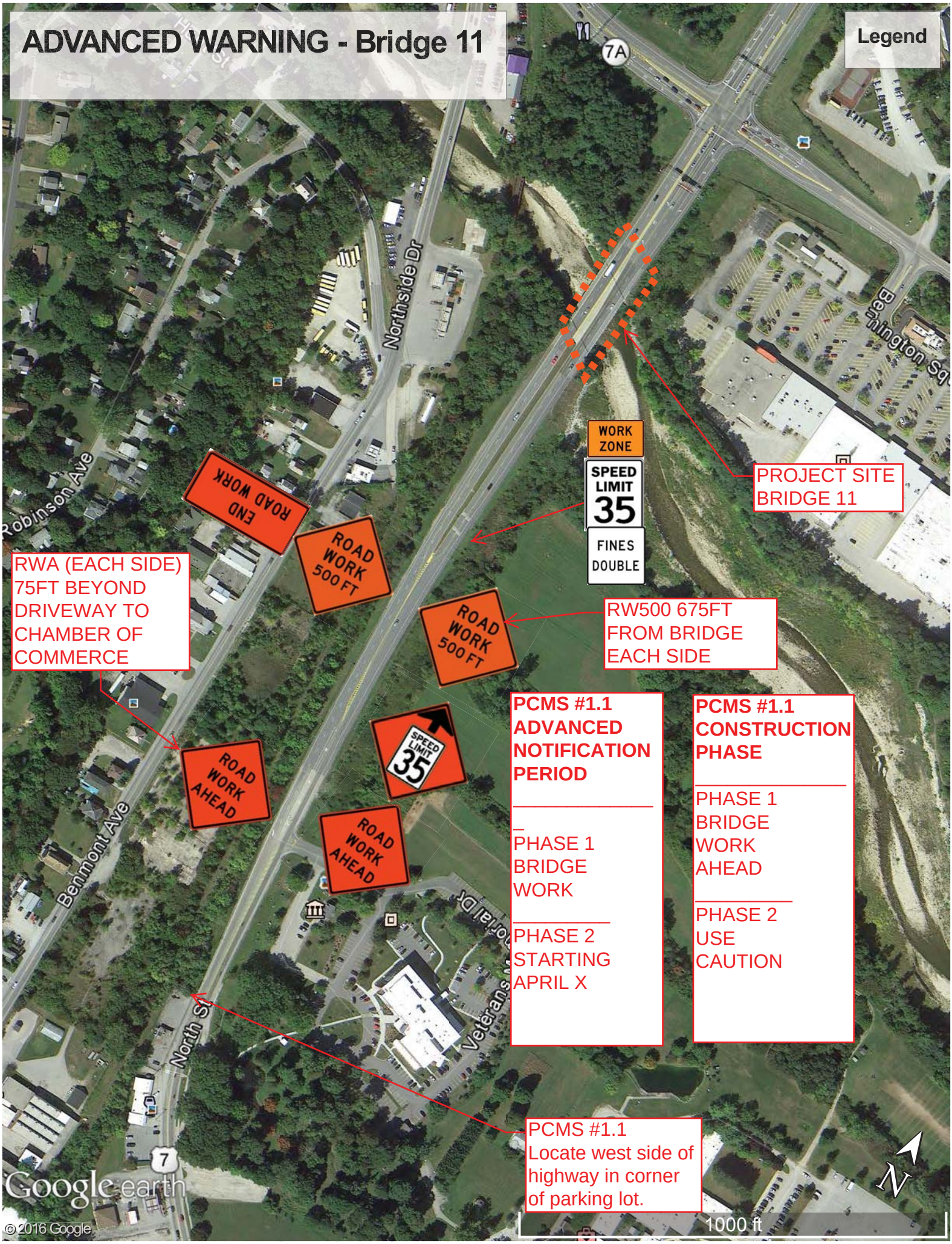
Phase 1 will include mobilization, maintenance of traffic (temporary lane closures for equipment), installation of containment system, repair/replacement of scuppers and drain weepers, cleaning, sand blasting, painting and demobilization.

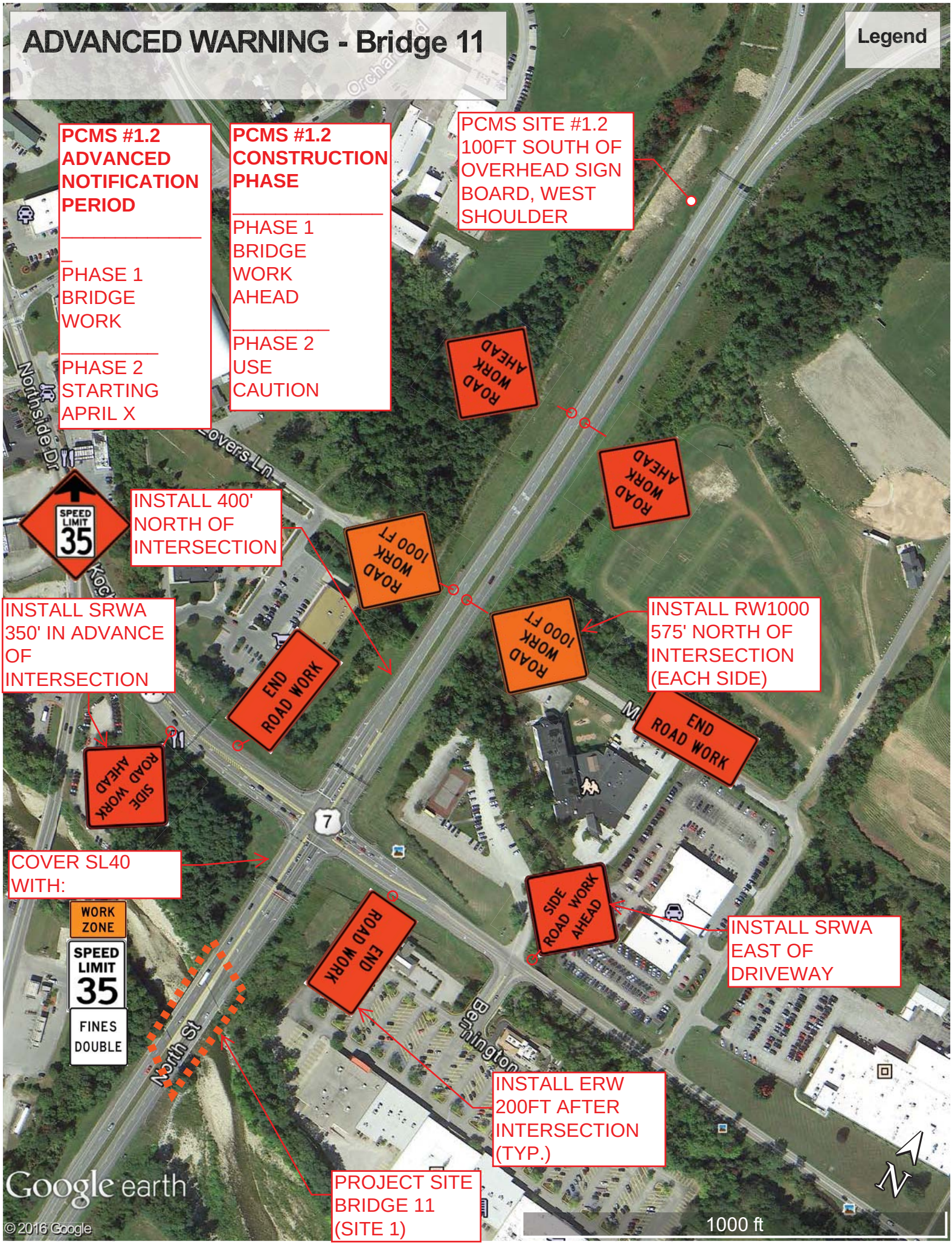
a. Permanent Signs

Phase 1 will include the installation of Permanent Project Approach Signing. Signs will be installed as described in the following Figures. Prior to installing the signs, PCMS will be installed to warn motorists of the upcoming work.

See the following figures for permanent signage locations:

ADVANCED WARNING - Bridge 11

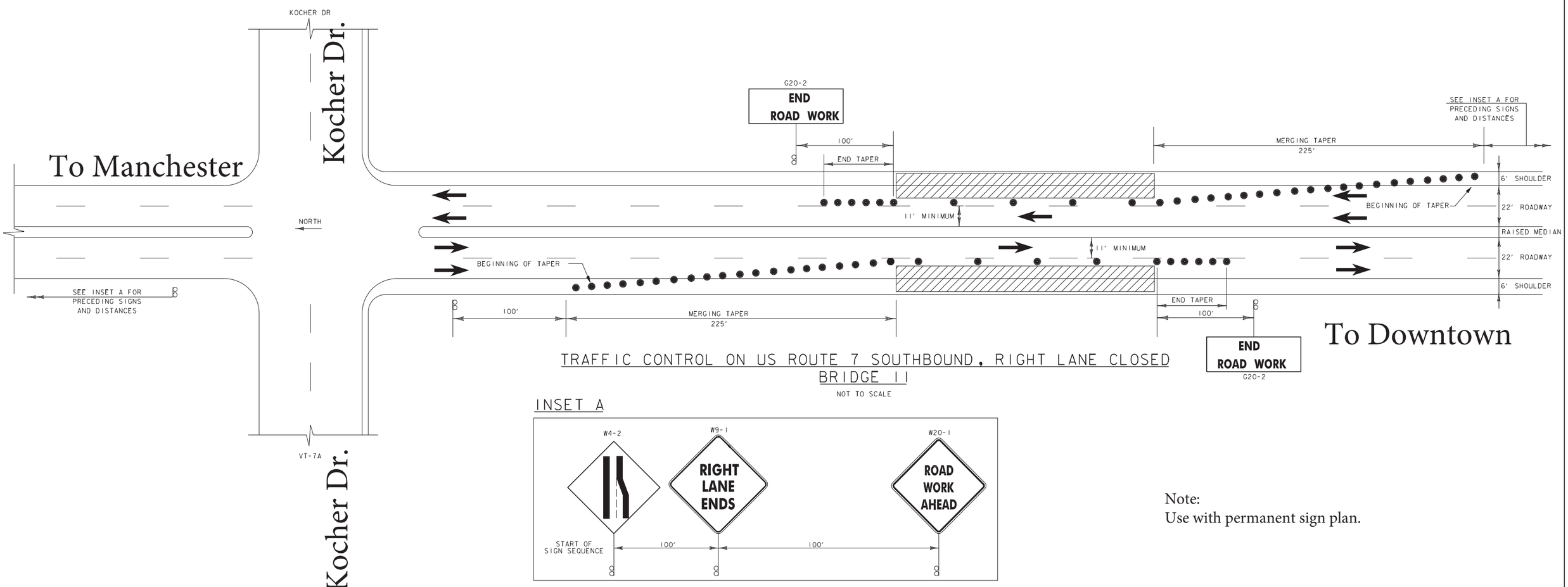



ADVANCED WARNING - Bridge 11
Legend
PCMS #1.2 ADVANCED NOTIFICATION PERIOD
PHASE 1 BRIDGE WORK
PHASE 2 STARTING APRIL X
PCMS #1.2 CONSTRUCTION PHASE
PHASE 1 BRIDGE WORK AHEAD
PHASE 2 USE CAUTION
PCMS SITE #1.2 100FT SOUTH OF OVERHEAD SIGN BOARD, WEST SHOULDER
ROAD WORK AHEAD
ROAD WORK AHEAD
SPEED LIMIT 35
INSTALL 400' NORTH OF INTERSECTION
ROAD WORK 1000 FT
ROAD WORK 1000 FT
INSTALL RW1000 575' NORTH OF INTERSECTION (EACH SIDE)
INSTALL SRWA 350' IN ADVANCE OF INTERSECTION
END ROAD WORK
END ROAD WORK
SIDE ROAD WORK AHEAD
7
COVER SL40 WITH:
WORK ZONE
SPEED LIMIT 35
FINES DOUBLE
SIDE ROAD WORK AHEAD
INSTALL SRWA EAST OF DRIVEWAY
END ROAD WORK
INSTALL ERW 200FT AFTER INTERSECTION (TYP.)
PROJECT SITE BRIDGE 11 (SITE 1)
Northside Dr
Covers Ln
North St
Bennington
Google earth
© 2016 Google
1000 ft
N

b. Temporary Closures

Temporary closures will be required for the right lane only. The closure will be used for northbound and southbound traffic. The closure will require the following plan to be used with the permanent sign plan. Signs will be mounted on stands.

SITE 1 - BRIDGE 11 -DAILY CLOSURE PLAN (TEMPORARY SIGNS)

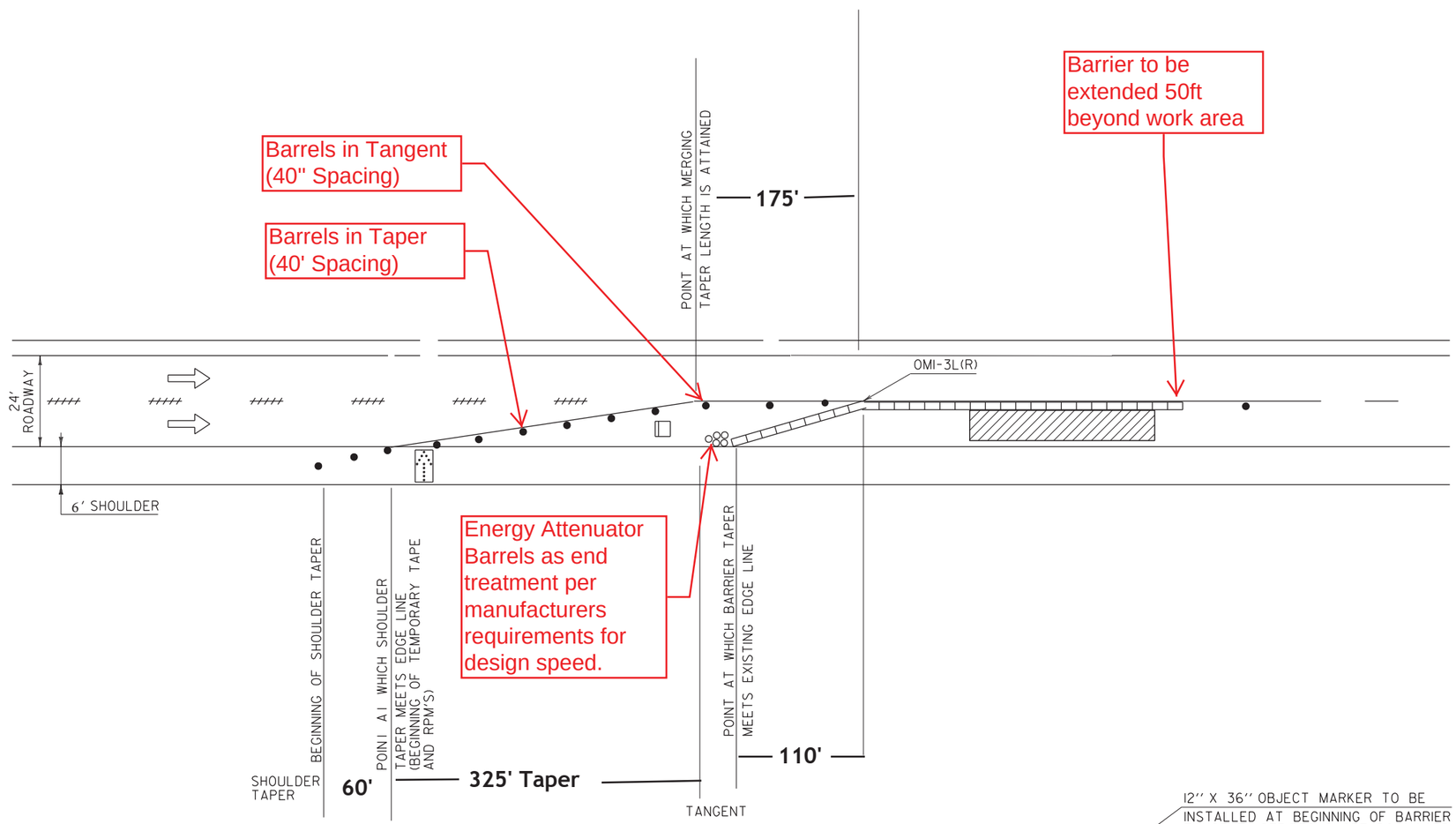


Note:
Use with permanent sign plan.

c. Permanent Closures

A long term closure will be required for the northbound right lane. The following plan will be required for the closure. Signs will be post mounted.

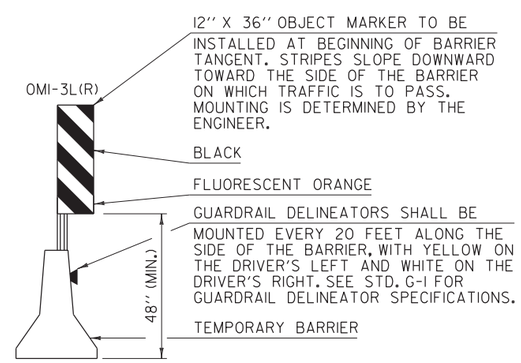
NOTE:
COORINDATE WITH PERMANENT SIGN PLAN



LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- PAVEMENT MARKING REMOVAL
- TEMPORARY BARRIER
- WORK AREA

ONE LANE CLOSED WITH TEMPORARY BARRIER PROTECTION



GENERAL NOTES:

1. THE EXISTING TRAVEL LANE WIDTH SHOULD BE MAINTAINED IF POSSIBLE.
2. TEMPORARY TAPE EDGE LINES SHALL BE APPLIED AND SHALL MAINTAIN A ONE FOOT MINIMUM DISTANCE FROM THE BARRIER WITH TWO FEET BEING DESIRABLE.
3. RAISED PAVEMENT MARKINGS (RPM'S) SHALL BE PLACED TO THE OUTSIDE OF THE TRAVEL LANE AT 20 FOOT SPACING.
4. IF THE BARRIER IS PLACED SUCH THAT THE EXISTING LANE NEEDS TO BE MOVED ONTO THE SHOULDER THEN THE EDGE LINE SHALL BE REMOVED AND TEMPORARY TAPE SHALL BE USED TO PROVIDE A 12 FOOT LANE. RUMBLE STRIP SHALL BE FILLED AND RESTORED AS DIRECTED BY THE ENGINEER.
5. THE END OF THE BARRIER FACING APPROACHING TRAFFIC SHALL MEET THE FOLLOWING REQUIREMENTS:
   - A. WHEN NO GUARDRAIL IS PRESENT A 30 FOOT OFFSET FROM THE EDGE OF TRAVELED WAY SHOULD BE USED.
   - B. WHEN NO GUARDRAIL IS PRESENT AND A 30 FOOT OFFSET CANNOT BE ATTAINED AN ENERGY ABSORPTION ATTENUATOR SHALL BE USED.
   - C. WHEN GUARDRAIL IS PRESENT THE GUARDRAIL SHALL BE BROKEN AND THE BARRIER TAPERED TO A POINT OUTSIDE THE DEFLECTION DISTANCE OF THE GUARDRAIL.
6. DASHED LANE LINE REMOVAL SHALL BEGIN 750 FEET IN ADVANCE OF THE BEGINNING OF THE SHOULDER TAPER.
7. CHANNELIZING DEVICES OTHER THAN RETROREFLECTIVE PLASTIC DRUMS SHALL BE ALLOWED ALONG TANGENT SECTIONS. THE TYPE OF DEVICE SHALL BE CONSISTENT THROUGHOUT THE TANGENT SECTION AND SHALL REMAIN STABLE WHILE UNATTENDED.
8. THE NUMBER OF CHANNELIZING DEVICES, TYPE III BARRICADE AND OTHER TRAFFIC CONTROL DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR, CURVE, ETC.). WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
9. PLACE LAST CHANNELIZING DEVICE 50 FEET BEYOND THE END OF BARRIER.
10. THE ARROW PANEL SHALL BE PLACED ON THE SHOULDER OF THE ROADWAY, AS CLOSE AS PRACTICAL TO THE BEGINNING OF THE MERGING TAPER.
11. THE "ROAD WORK NEXT XX MILES" SIGN (G20-1) SHALL BE INSTALLED IN ADVANCE OF TEMPORARY TRAFFIC CONTROL ZONES THAT ARE MORE THAN TWO MILES IN LENGTH, OR AS DIRECTED BY THE ENGINEER. DISTANCES SHALL BE STATED TO THE NEAREST WHOLE MILE.
12. "SPEED LIMIT XX" (R2-1) SIGN TO BE USED IF A TEMPORARY SPEED ZONE IS IN PLACE.

OTHER STDS. REQUIRED: **G–1, T–1, T–11, T–12**

LANE CLOSURE PLAN
FOR
LONG TERM ON BRIDGE 11
NORTHBOUND SITE 1

STANDARD
T-13
MODIFIED

3.3 PHASE 2 – Bridge No. 16N and 16S on US7.

This phase will include mobilization, maintenance of traffic (temporary lane closures for equipment), installation of containment system, drain weeper extension, cleaning, sand blasting, painting and demobilization.

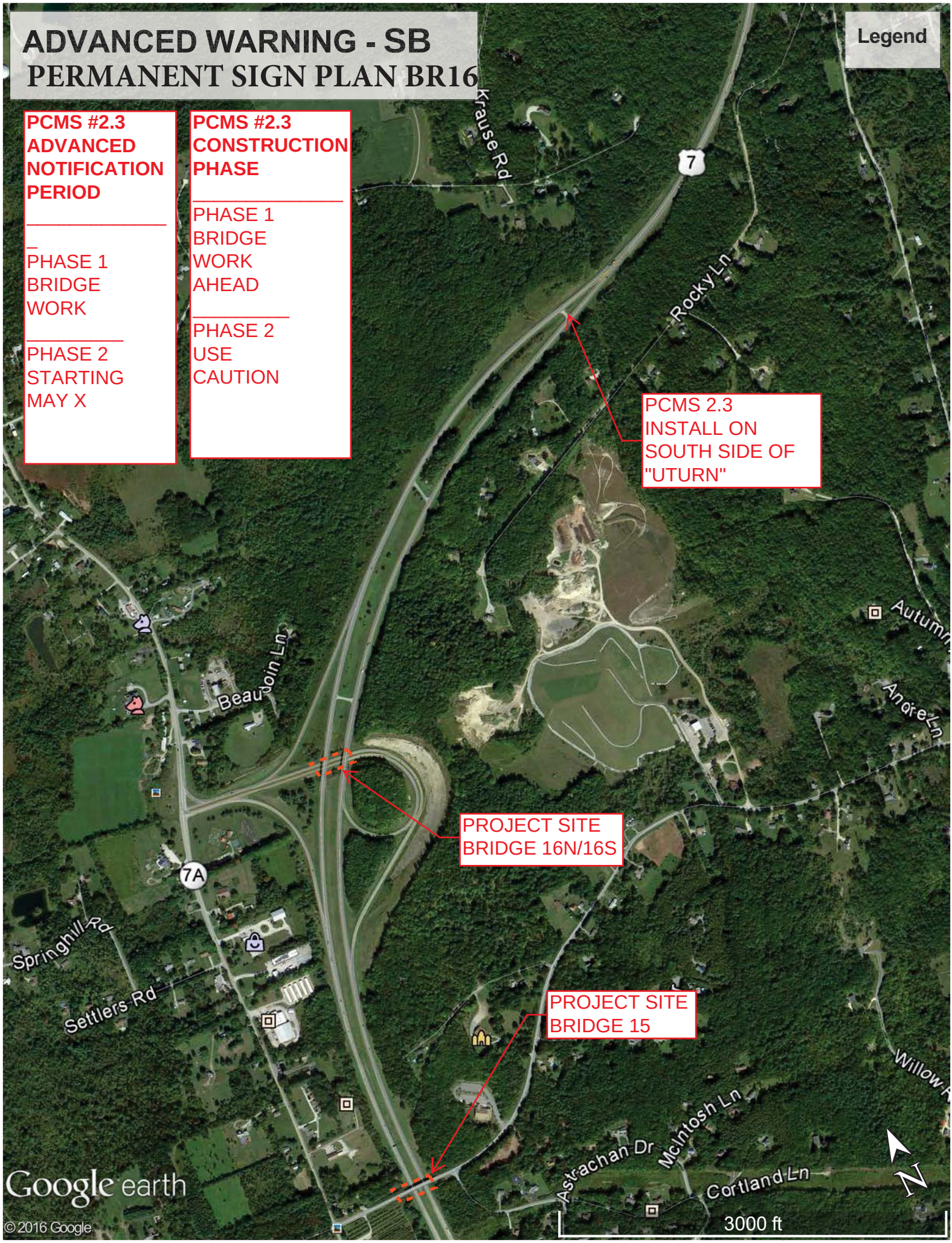
a. Permanent Signs

This phase will include the installation of Permanent Project Approach Signing. Signs will be installed as described in the following Figures. Prior to installing the signs, PCMS will be installed to warn motorists of the upcoming work.

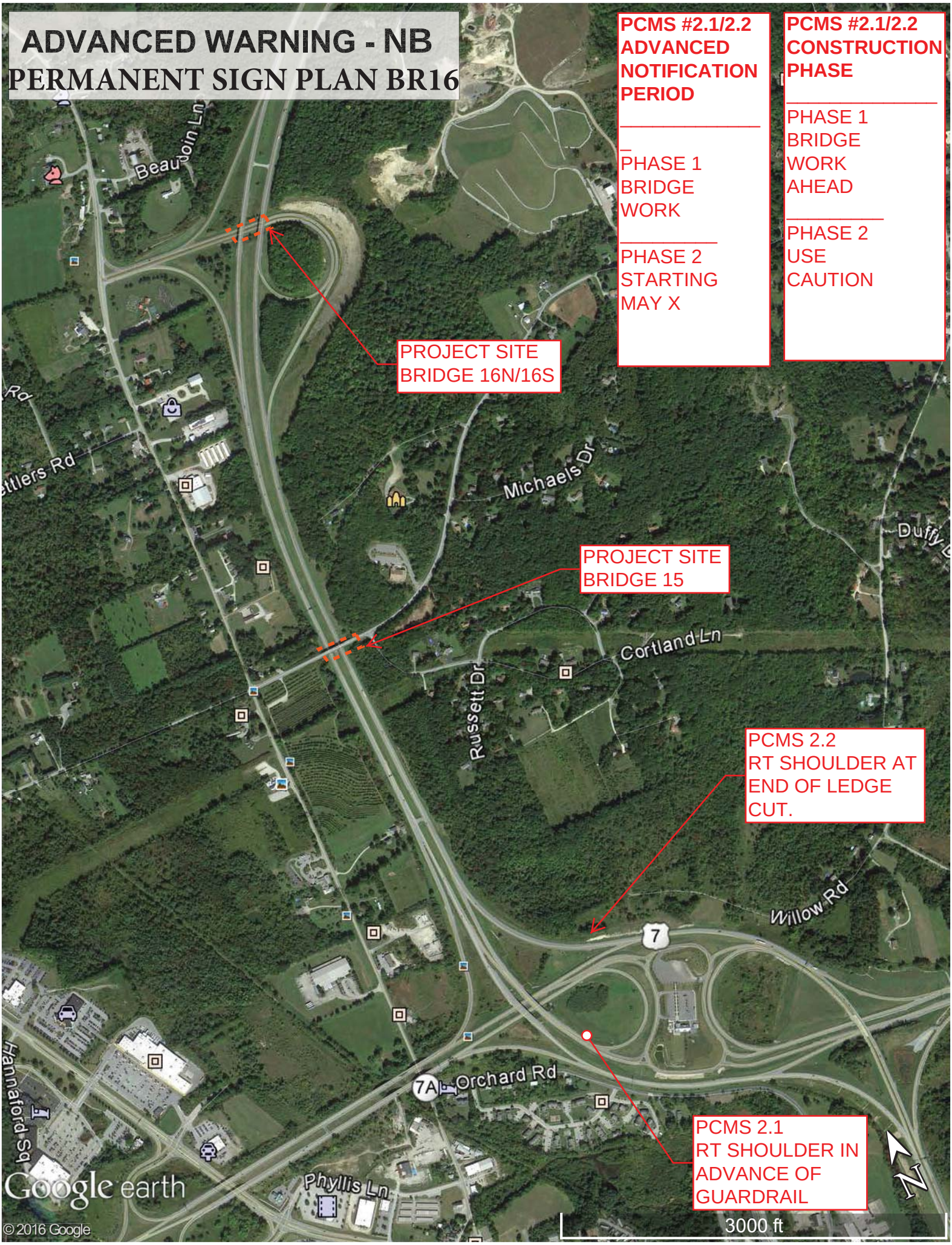
Workers will use a UTO in advance of sign installation equipment along with strobe lights on the installation trucks. The onsite "responsible person" may add portable "Shoulder Work, W21-5a" signs 1500 feet in advance of the work on each side of the highway depending on the actual installation time before moving to the next signs.

See the following figures for permanent signage locations:

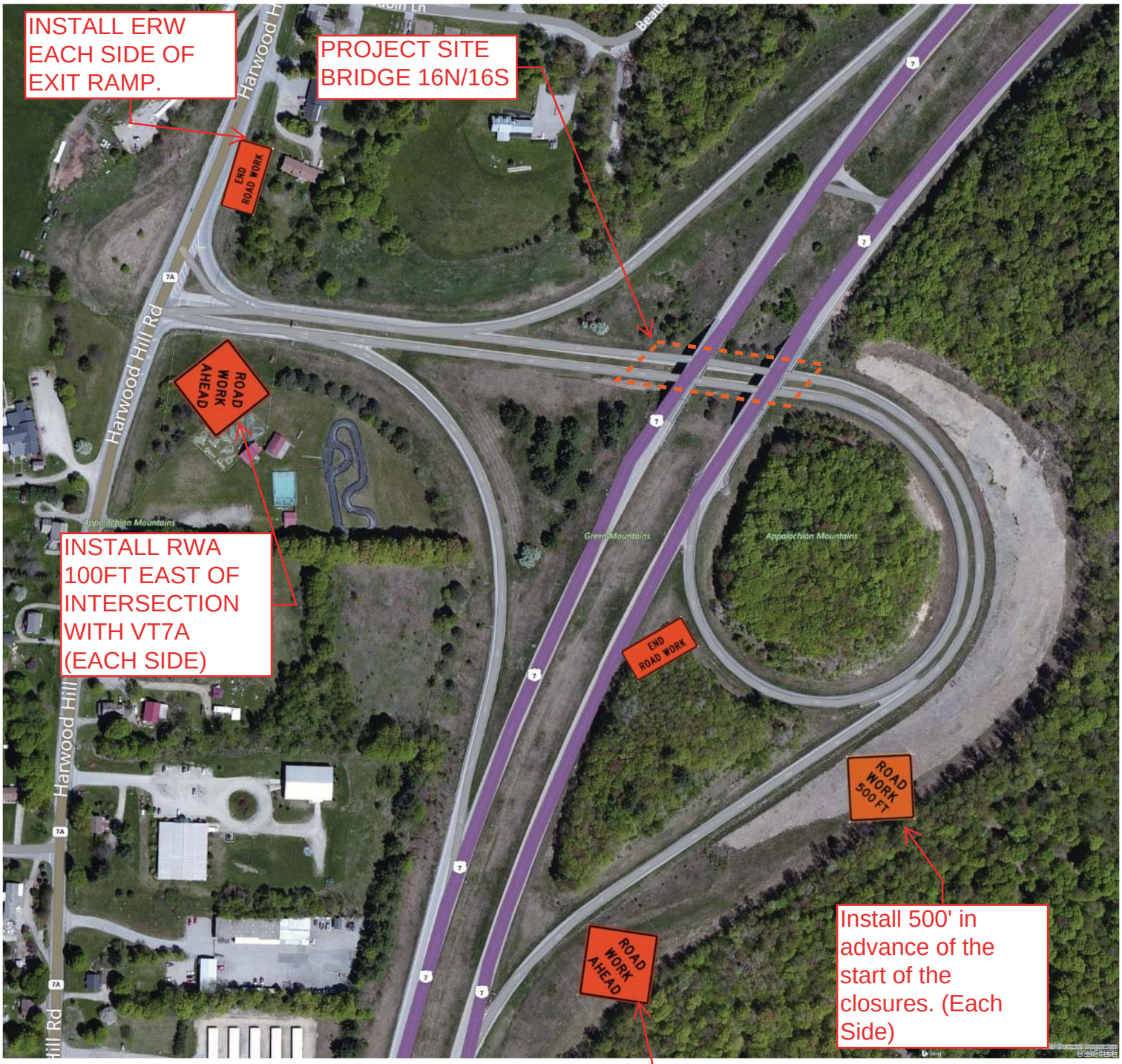
ADVANCED WARNING - SB
PERMANENT SIGN PLAN BR16



ADVANCED WARNING - NB
PERMANENT SIGN PLAN BR16



PERMANENT SIGN PLAN - BRIDGE 16N/16S



583.0 0 292.00 583.0 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
© Vermont Agency of Natural Resources

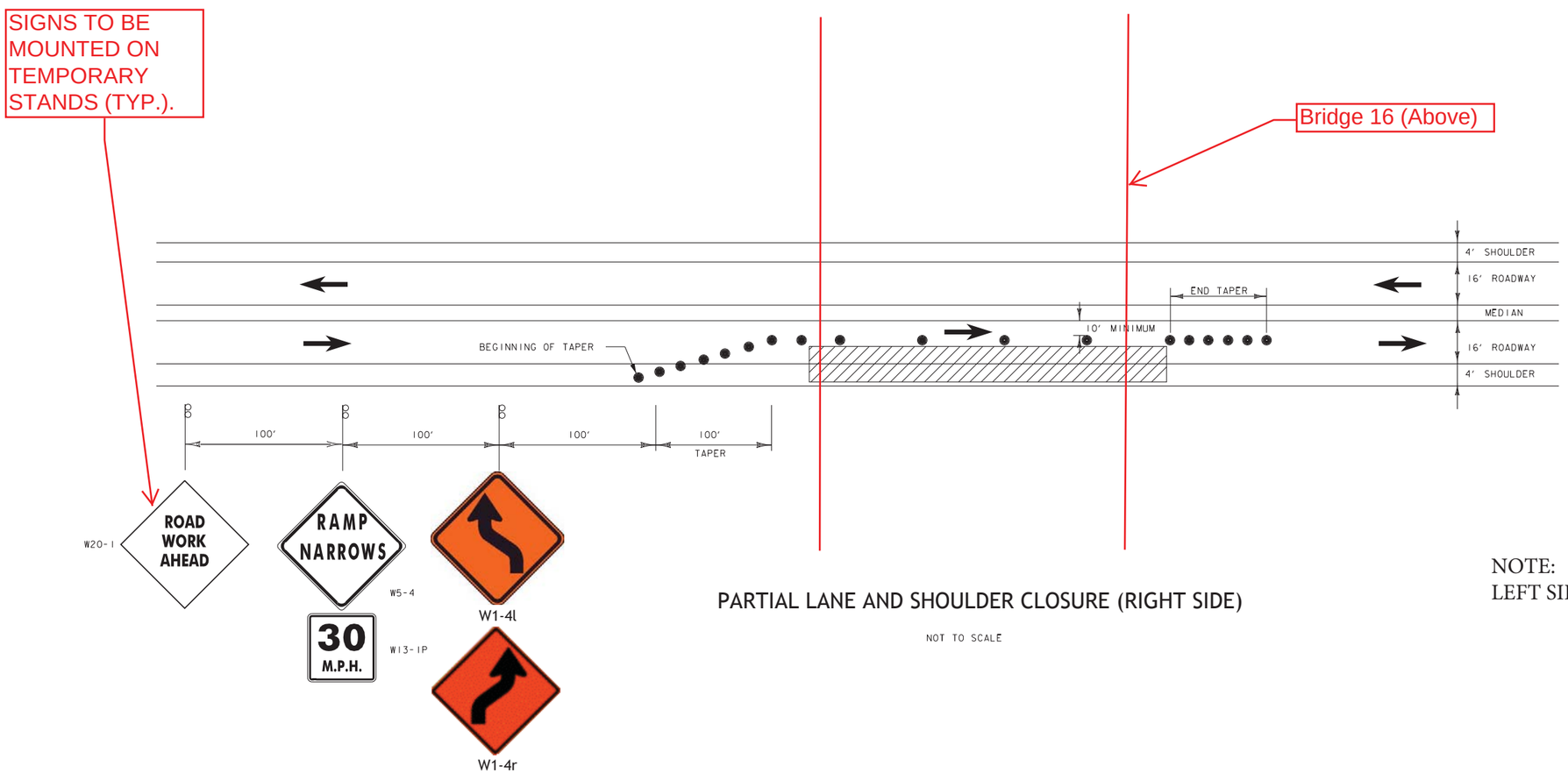
1" = 292 Ft. 1cm = 35 Meters
THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

b. Temporary Closures

Temporary closures will be required on the interchange ramps under the bridge. Temporary Lane Closures will use the following plans with the permanent sign plan. Signs will be mounted on stands.

SITE 3 - BRIDGE 16 -DAILY CLOSURE PLAN ON EXIT 2 RAMPS (TEMPORARY SIGNS)



PARTIAL LANE AND SHOULDER CLOSURE (RIGHT SIDE)

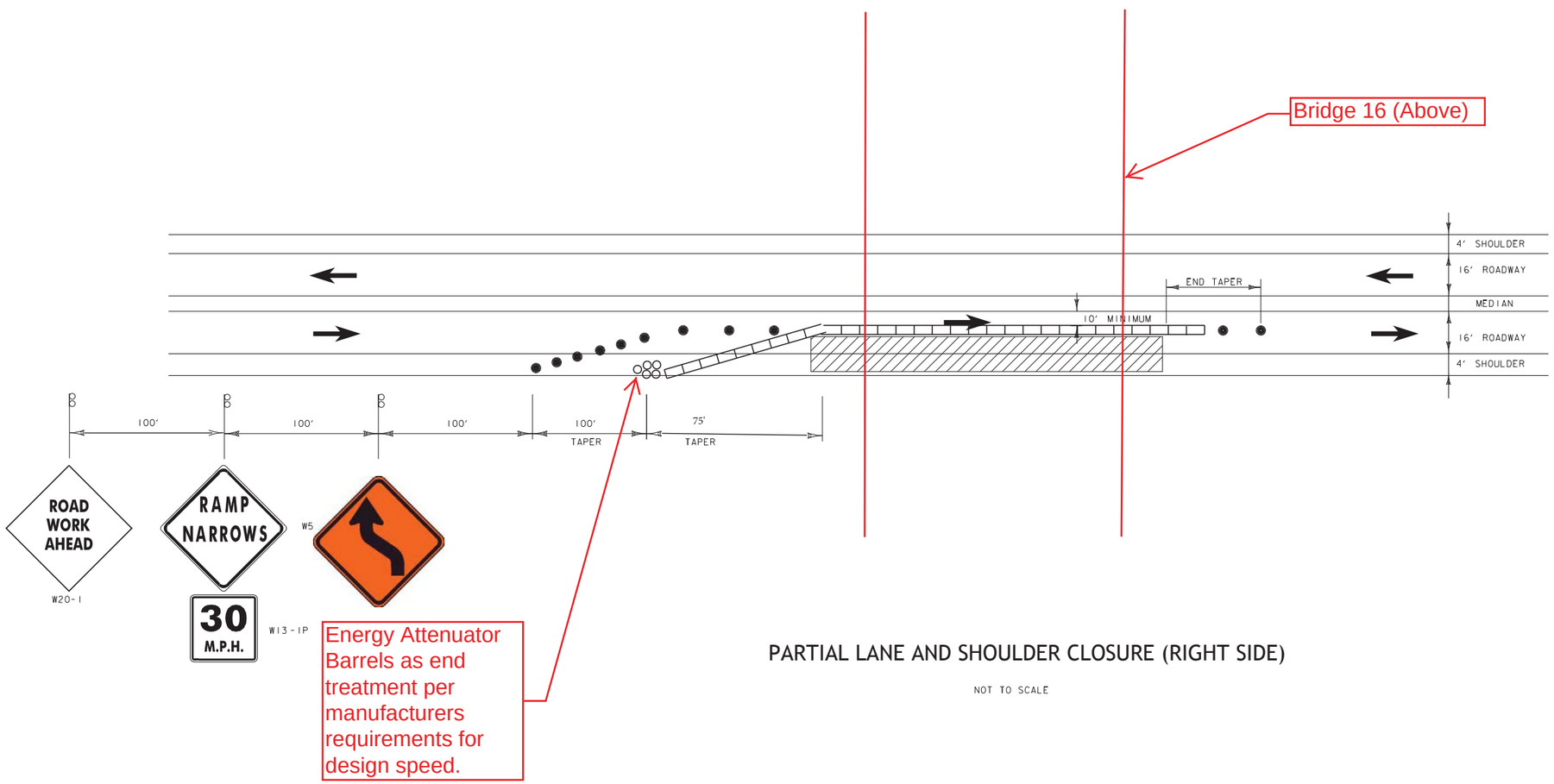
NOT TO SCALE

NOTE:
LEFT SIDE CLOSURE TO MIRROR THIS PLAN

c. Permanent Closures

A long term closure will be required for the right sides of the Exit 2 ramps. Signs will be post mounted.

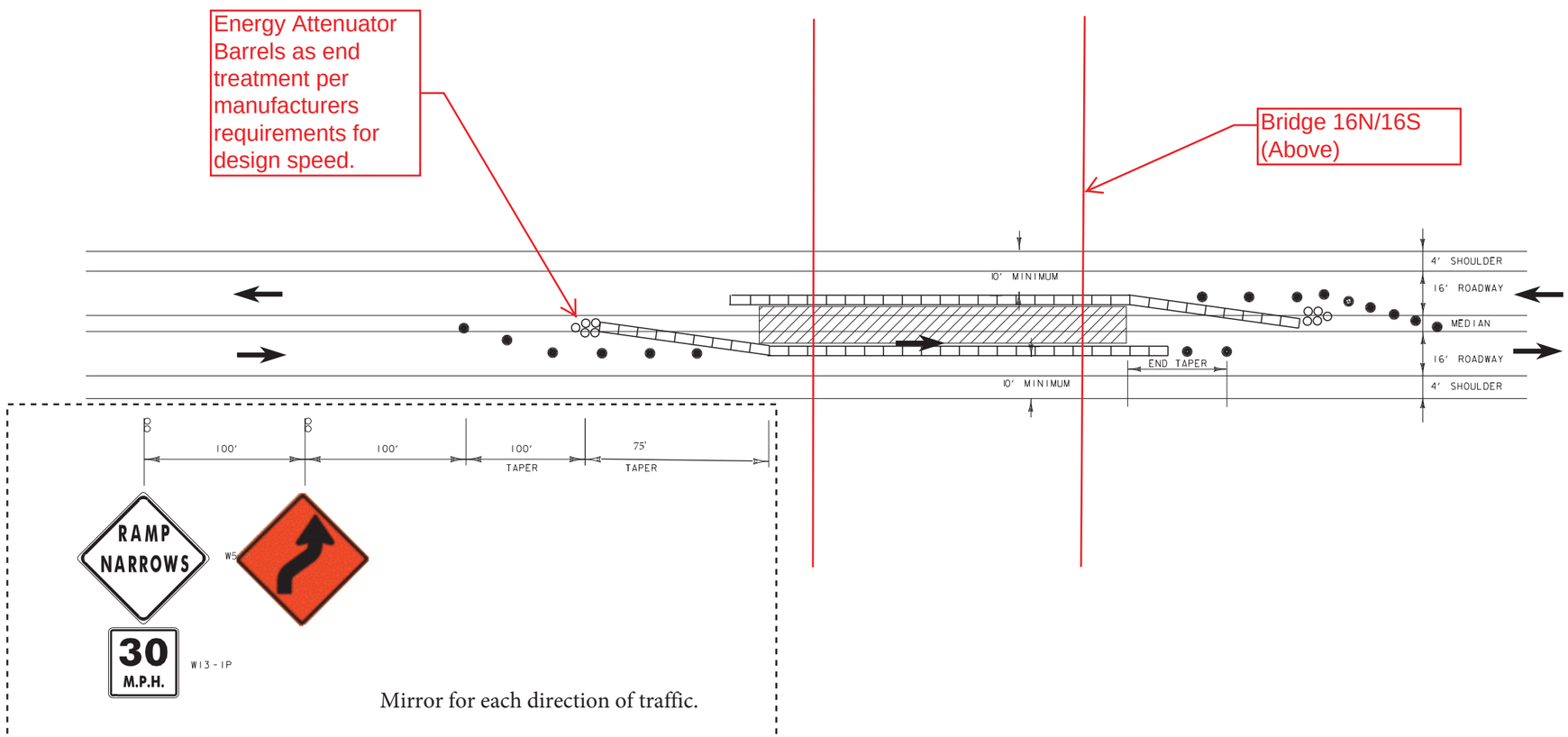
SITE 3 - BRIDGE 16 - LONG TERM CLOSURE PLAN ON EXIT 2 RAMPS (RIGHT SIDE ONLY)



PARTIAL LANE AND SHOULDER CLOSURE (RIGHT SIDE)

NOT TO SCALE

SITE 3 - BRIDGE 16 - LONG TERM CLOSURE PLAN ON EXIT 2 RAMPS (MEDIAN, LEFT SIDE)



PARTIAL LANE AND SHOULDER CLOSURE (MEDIAN)

NOT TO SCALE

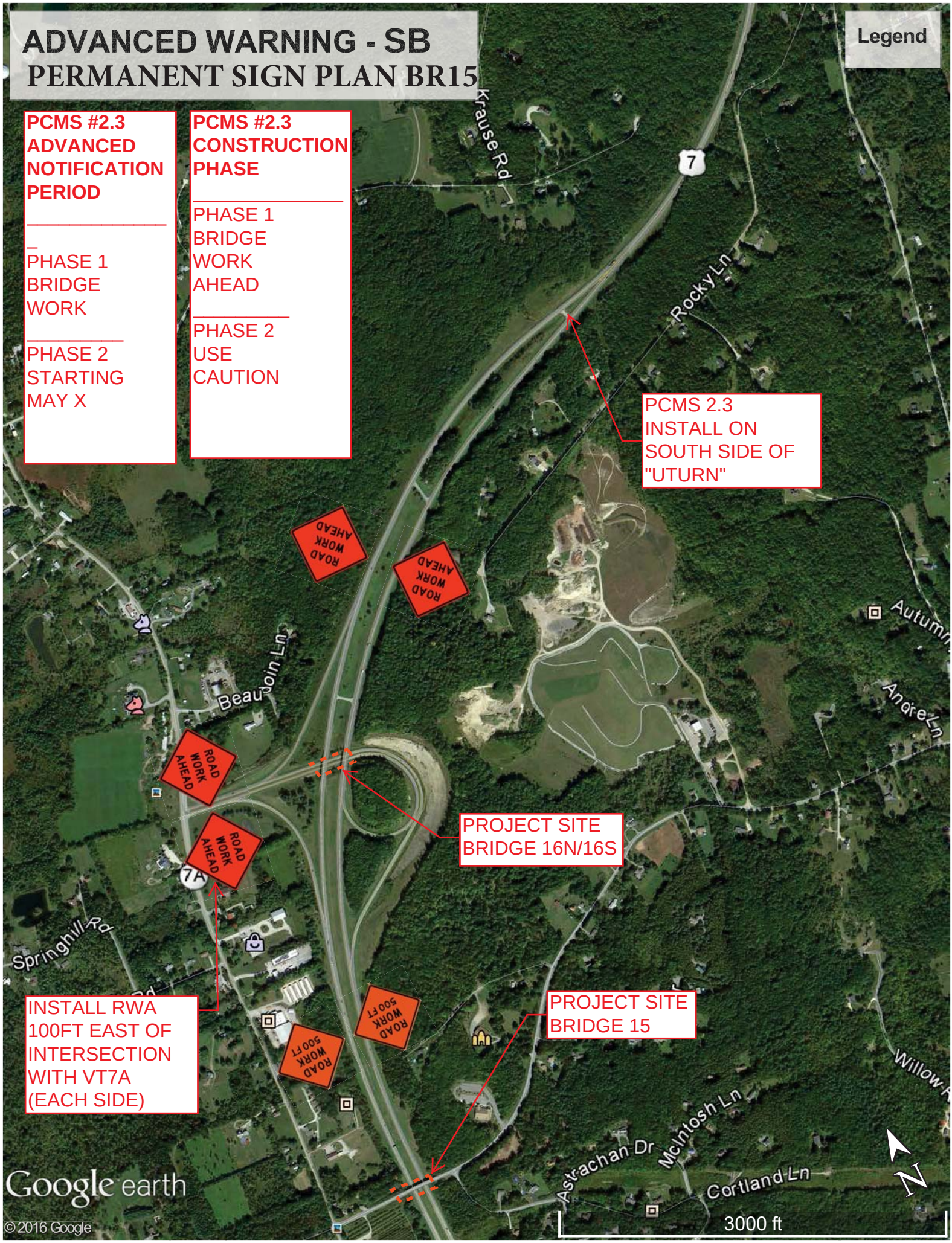
3.4 PHASE 3 – Bridge No. 15 (Over US7)

This phase will include mobilization, maintenance of traffic (temporary lane closures for equipment), installation of containment system, extension of drain weepers, cleaning, sand blasting, painting and demobilization.

a. Permanent Signs

Permanent signs are to be installed as follows.

ADVANCED WARNING - SB
PERMANENT SIGN PLAN BR15



ADVANCED WARNING - NB
PERMANENT SIGN PLAN BR15

PCMS #2.1/2.2 ADVANCED NOTIFICATION PERIOD

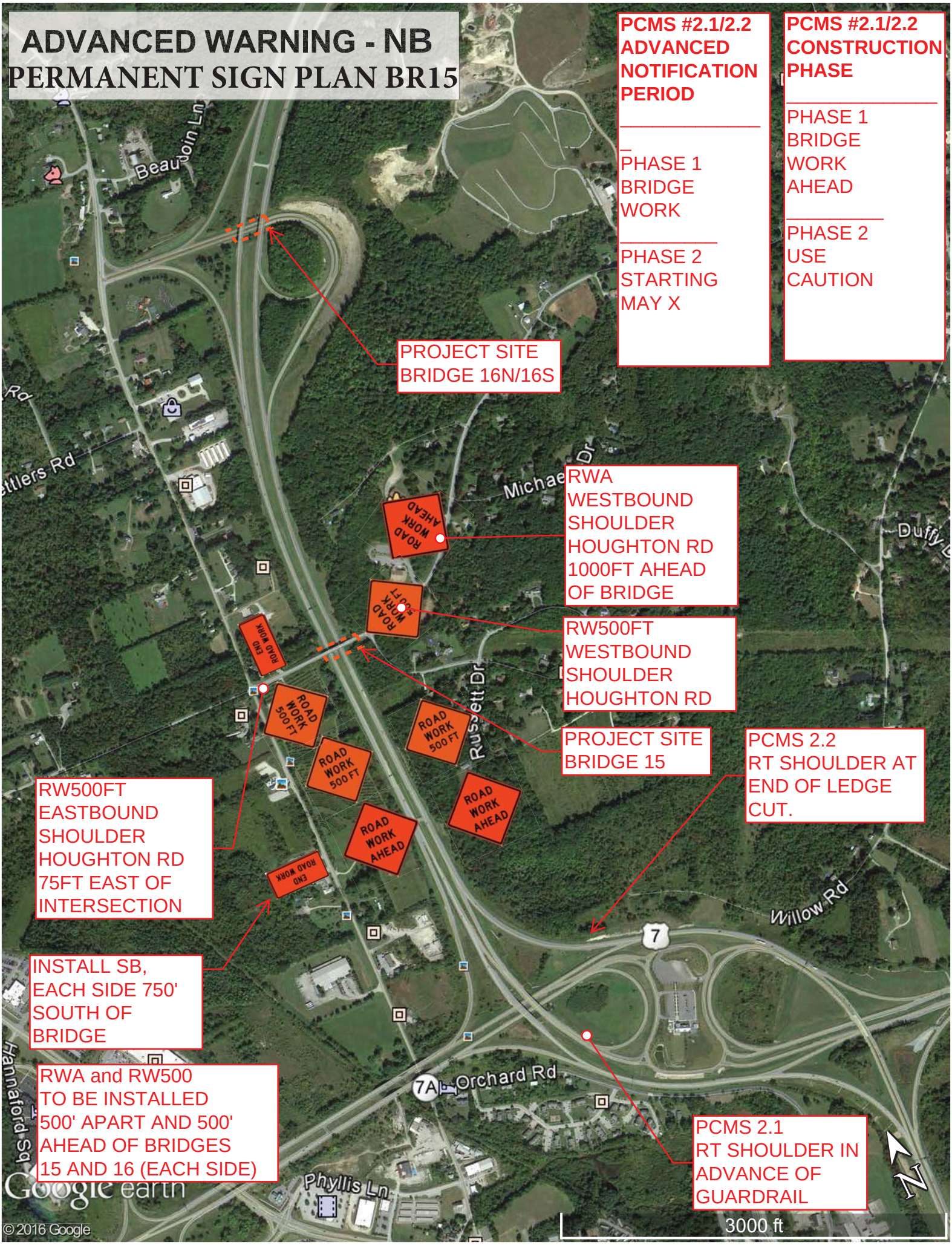
PHASE 1 BRIDGE WORK

PHASE 2 STARTING MAY X

PCMS #2.1/2.2 CONSTRUCTION PHASE

PHASE 1 BRIDGE WORK AHEAD

PHASE 2 USE CAUTION

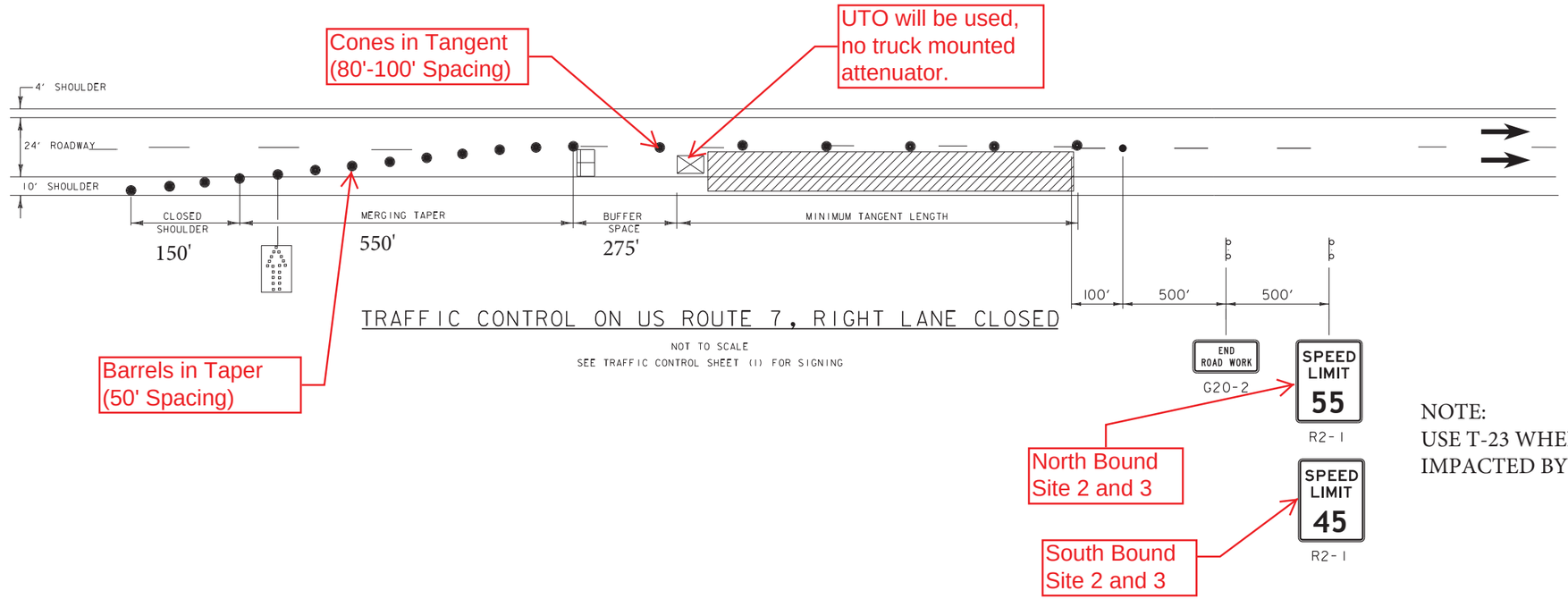


b. Temporary Closures

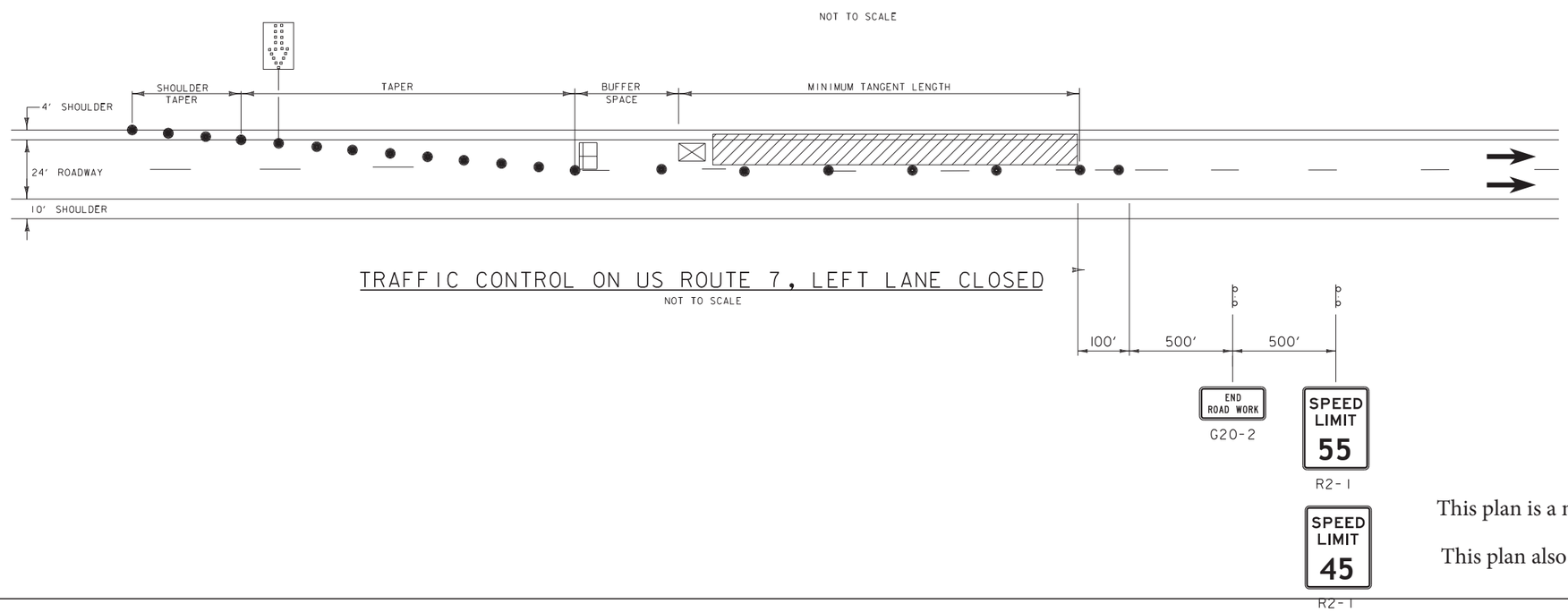
Temporary closures will be required for both NB and SB left and right lanes. The closure will require the following plan to be used with the permanent sign plan. Signs will be mounted on stands.

DAILY CLOSURE PLAN

ON US7 DIVIDED HIGHWAY SITES 3 BRIDGE 15



NOTE:
USE T-23 WHEN RAMP LANES ARE IMPACTED BY CLOSURE



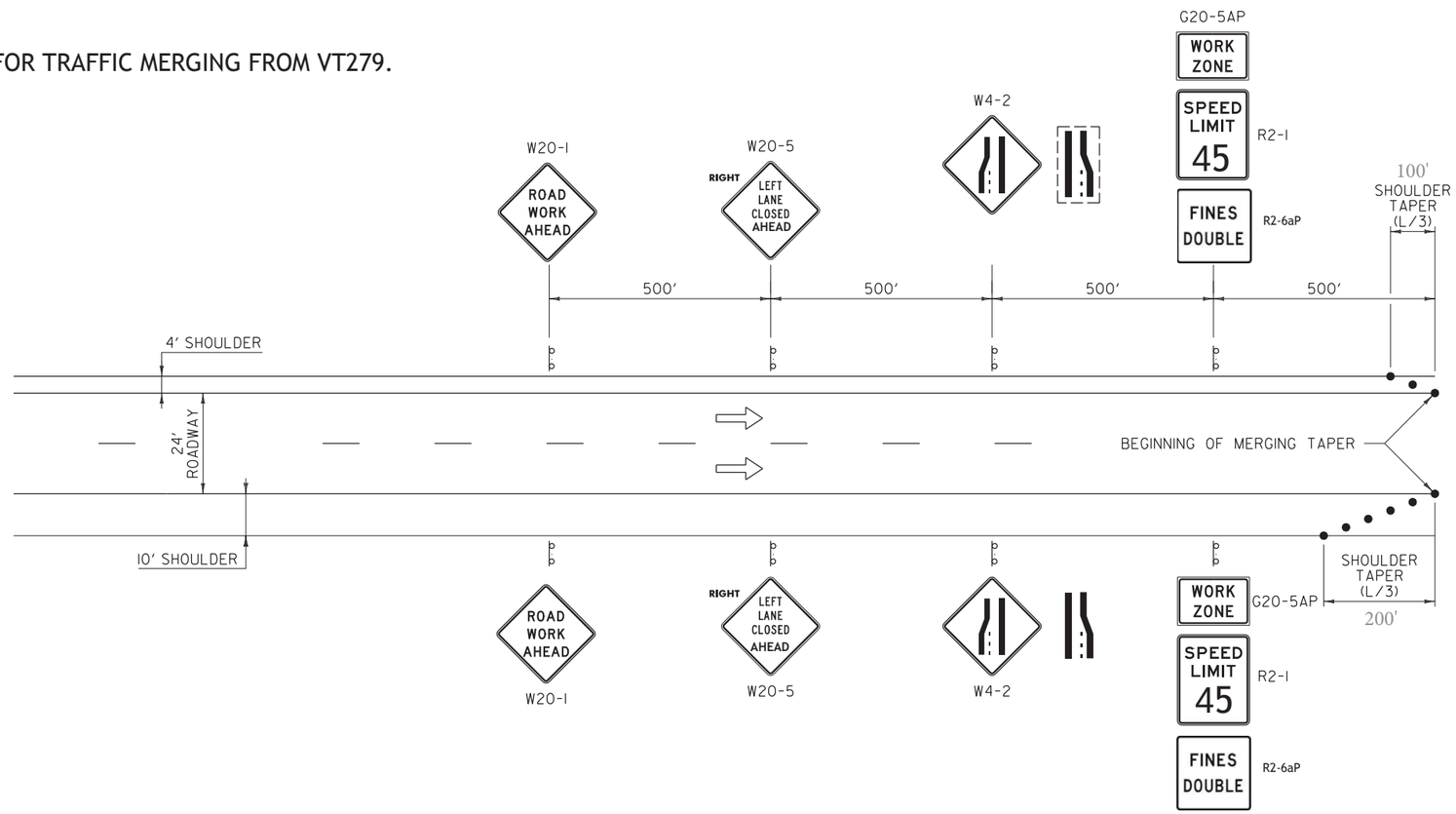
This plan is a mofied T-12

This plan also requires T-11

EXISTING SPEED LIMIT IS 45MPH
COVER 55MPH SIGN NORTH OF
BRIDGE 15.

Site 3 - Bridge 15NB
Daily Closure Advanced Signing

USE T-23 FOR TRAFFIC MERGING FROM VT279.



GENERAL NOTES:

1. IF APPLICABLE, THE CONTRACTOR SHALL HAVE SIGNS FOR CLOSURE OF RIGHT AND LEFT LANES ON PROJECT BEFORE WORK COMMENCES.
2. THE "SPEED LIMIT XX" (R2-1) AND "SPEED REDUCTION WARNING" (W3-5) SIGNS SHALL ONLY BE USED IF A TEMPORARY SPEED LIMIT CERTIFICATE HAS BEEN APPROVED. THE "SPEED LIMIT XX" (R2-1) AND OTHER RELATED SIGNS SHALL BE REMOVED OR COVERED WHEN WORK IS NOT IN PROGRESS AND ROADWAY IS NOT RESTRICTED.
3. "FINE DOUBLED FOR SPEEDING IN WORK ZONE" (VR-355) SHALL ONLY BE USED IF TEMPORARY SPEED LIMIT CERTIFICATE HAS BEEN APPROVED.
4. EXISTING SPEED LIMIT SIGNS SHALL BE COVERED WHEN TEMPORARY SPEED LIMIT SIGNS ARE POSTED.
5. FOR SHORT TERM PROJECTS (THREE CONSECUTIVE DAYS OR LESS) WITH NO OFFICIAL TEMPORARY SPEED LIMIT, THE "SPEED LIMIT XX" (R2-1) AND "SPEED REDUCTION WARNING" (W3-5) SIGNS MAY BE SUBSTITUTED WITH ADVISORY SPEED PLAQUES (W13-1P) MOUNTED AS SUPPLEMENTAL SIGNS BELOW THE "LANE ENDS" (W4-2) SIGNS.
8. FOR A SHORT TERM PROJECT (THREE CONSECUTIVE DAYS OR LESS), SIGNS MAY BE POST MOUNTED OR PORTABLE.
9. THE "SPEED LIMIT XX" (R2-1) SOLID SUBSTRATE SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING AASHTO M 268 [ASTM D 4956] TYPE III.

OTHER STDS. REQUIRED: **T-1, T-12, T-31**

LEGEND

⇨ FLOW OF TRAFFIC

● RETROREFLECTIVE PLASTIC DRUM

REVISIONS AND CORRECTIONS

AUG. 6, 2012 - ORIGINAL APPROVAL DATE

APPROVED

HIGHWAY SAFETY & DESIGN ENGINEER

DIRECTOR OF PROGRAM DEVELOPMENT

Mark D. Richter

FEDERAL HIGHWAY ADMINISTRATION

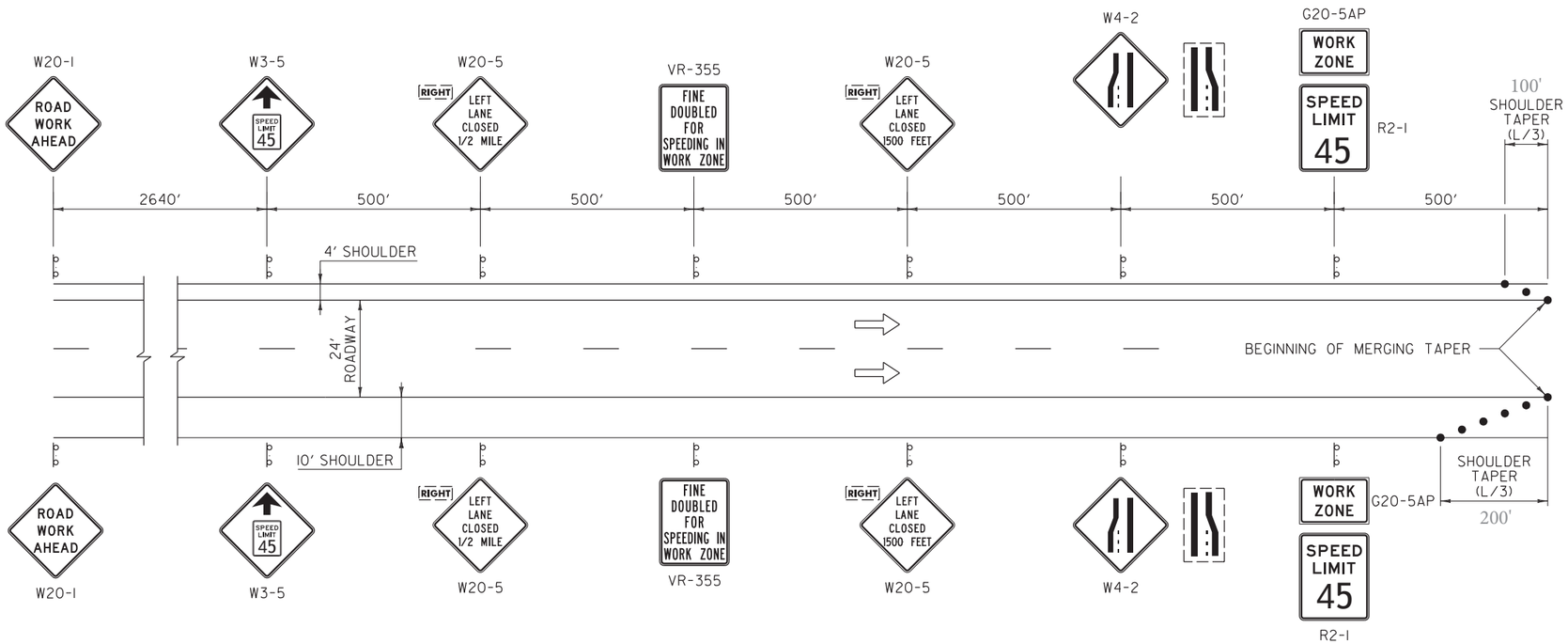
CONSTRUCTION APPROACH SIGNING DIVIDED HIGHWAY ONE LANE CLOSED

VERMONT AGENCY OF TRANSPORTATION

STANDARD

T-11

Site 3 - Bridge 15SB
Daily Closure Advanced Signing



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LEGEND

⇨ FLOW OF TRAFFIC

● RETROREFLECTIVE PLASTIC DRUM

OTHER STDS. REQUIRED: **T-1, T-12, T-31**

REVISIONS AND CORRECTIONS

AUG. 6, 2012 - ORIGINAL APPROVAL DATE

APPROVED

HIGHWAY SAFETY & DESIGN ENGINEER

DIRECTOR OF PROGRAM DEVELOPMENT

Mark D. Richter

FEDERAL HIGHWAY ADMINISTRATION

CONSTRUCTION APPROACH SIGNING DIVIDED HIGHWAY ONE LANE CLOSED

VERMONT AGENCY OF TRANSPORTATION

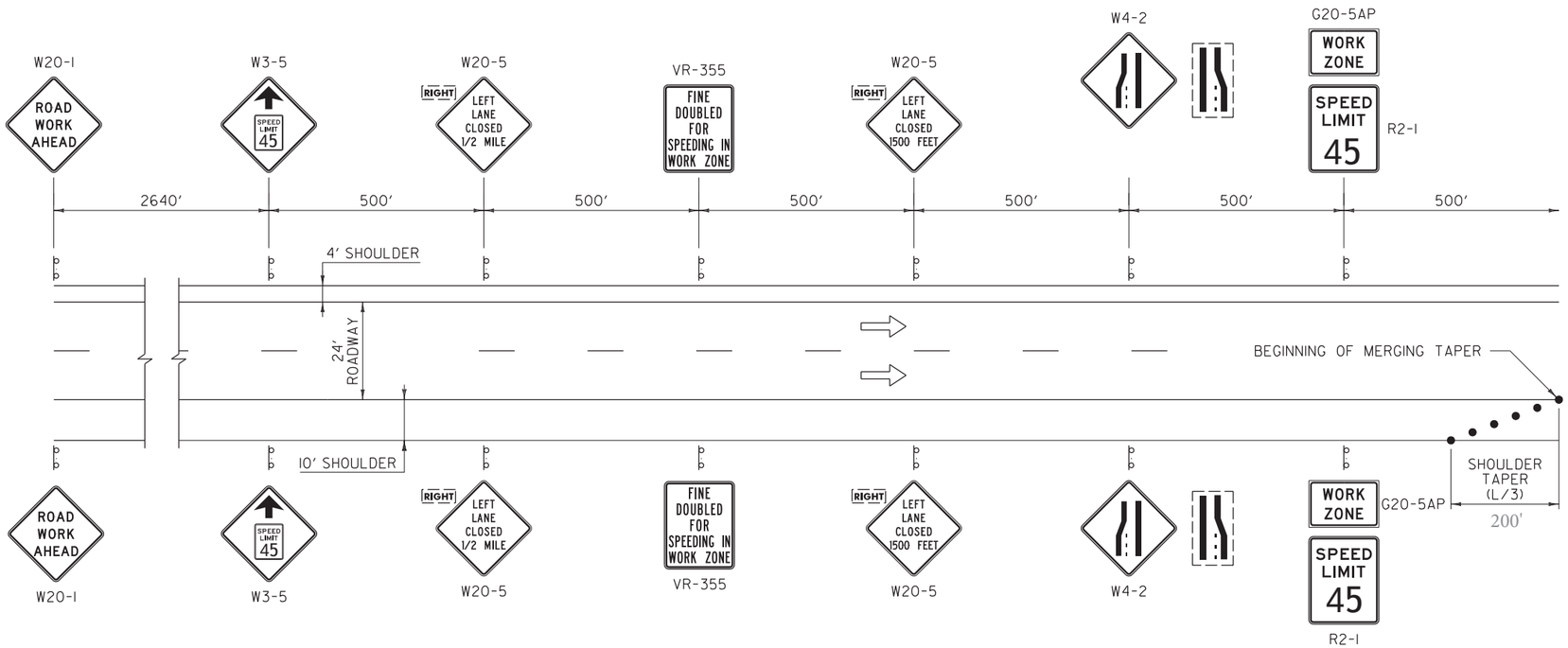
STANDARD

T-11

c. Permanent Closures

A long term closure will be required for the southbound right lane. The following plans will be required for the closure. Signs will be post mounted.

Site 2 - Bridges 15SB
Permanent Closure Advanced Signing



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2. THE "SPEED LIMIT XX" (R2-1) AND "SPEED REDUCTION WARNING" (W3-5) SIGNS SHALL ONLY BE USED IF A TEMPORARY SPEED LIMIT CERTIFICATE HAS BEEN APPROVED. THE "SPEED LIMIT XX" (R2-1) AND OTHER RELATED SIGNS SHALL BE REMOVED OR COVERED WHEN WORK IS NOT IN PROGRESS AND ROADWAY IS NOT RESTRICTED.
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LEGEND

⇨ FLOW OF TRAFFIC

● RETROREFLECTIVE PLASTIC DRUM

OTHER STDS. REQUIRED: **T-1, T-12, T-31**

REVISIONS AND CORRECTIONS

AUG. 6, 2012 - ORIGINAL APPROVAL DATE

APPROVED

HIGHWAY SAFETY & DESIGN ENGINEER

DIRECTOR OF PROGRAM DEVELOPMENT

Mark D. Richter

FEDERAL HIGHWAY ADMINISTRATION

CONSTRUCTION APPROACH SIGNING DIVIDED HIGHWAY ONE LANE CLOSED

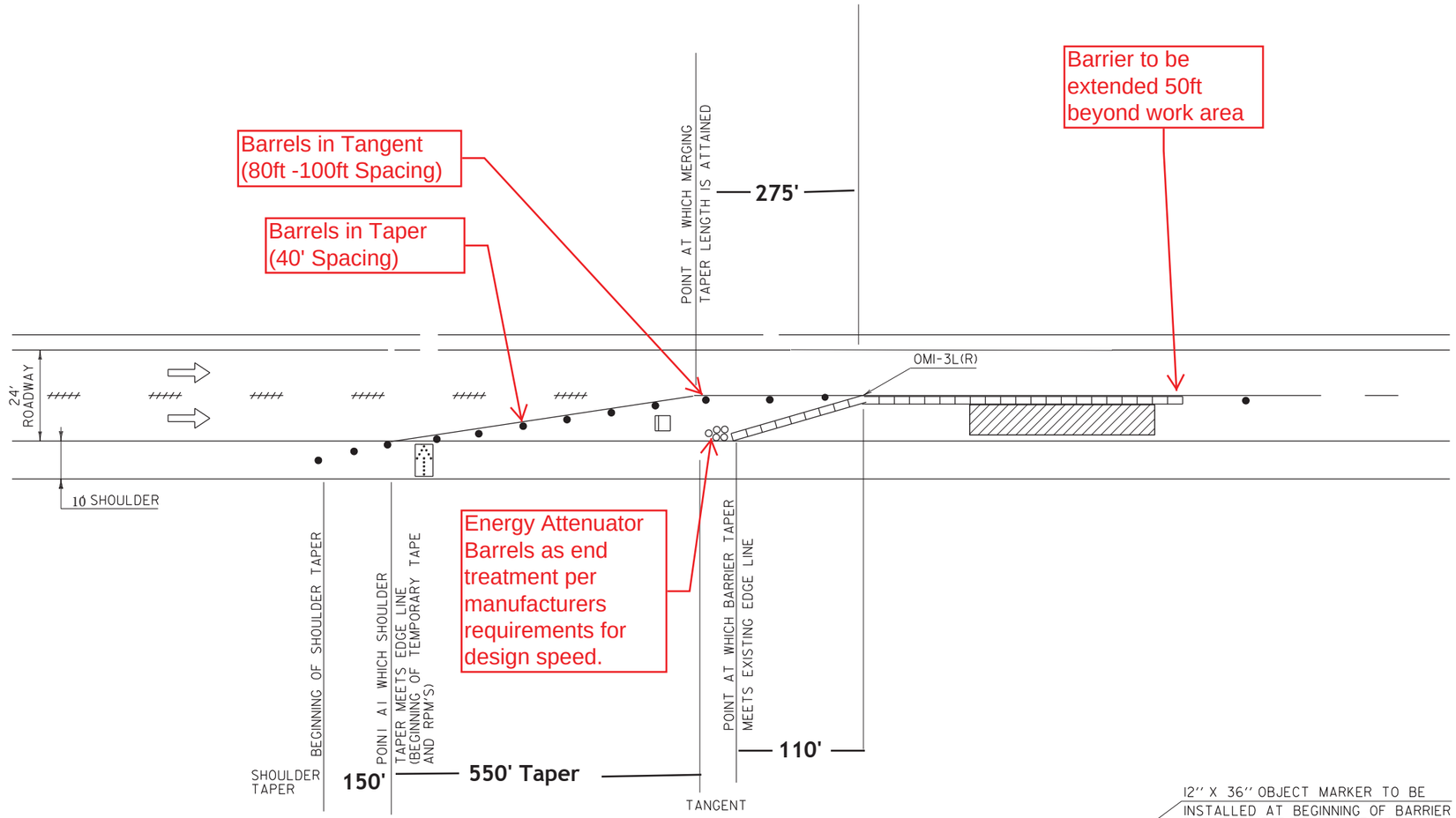
VERMONT AGENCY OF TRANSPORTATION

STANDARD

T-11

MODIFIED

NOTE:
COORINDATE WITH PERMANENT SIGN PLAN



GENERAL NOTES:

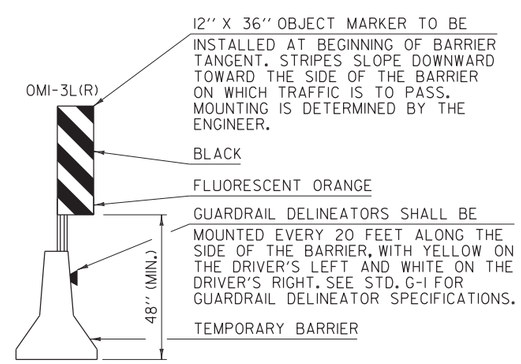
1. THE EXISTING TRAVEL LANE WIDTH SHOULD BE MAINTAINED IF POSSIBLE.
2. TEMPORARY TAPE EDGE LINES SHALL BE APPLIED AND SHALL MAINTAIN A ONE FOOT MINIMUM DISTANCE FROM THE BARRIER WITH TWO FEET BEING DESIRABLE.
3. RAISED PAVEMENT MARKINGS (RPM'S) SHALL BE PLACED TO THE OUTSIDE OF THE TRAVEL LANE AT 20 FOOT SPACING.
4. IF THE BARRIER IS PLACED SUCH THAT THE EXISTING LANE NEEDS TO BE MOVED ONTO THE SHOULDER THEN THE EDGE LINE SHALL BE REMOVED AND TEMPORARY TAPE SHALL BE USED TO PROVIDE A 12 FOOT LANE. RUMBLE STRIP SHALL BE FILLED AND RESTORED AS DIRECTED BY THE ENGINEER.
5. THE END OF THE BARRIER FACING APPROACHING TRAFFIC SHALL MEET THE FOLLOWING REQUIREMENTS:
   - A. WHEN NO GUARDRAIL IS PRESENT A 30 FOOT OFFSET FROM THE EDGE OF TRAVELED WAY SHOULD BE USED.
   - B. WHEN NO GUARDRAIL IS PRESENT AND A 30 FOOT OFFSET CANNOT BE ATTAINED AN ENERGY ABSORPTION ATTENUATOR SHALL BE USED.
   - C. WHEN GUARDRAIL IS PRESENT THE GUARDRAIL SHALL BE BROKEN AND THE BARRIER TAPERED TO A POINT OUTSIDE THE DEFLECTION DISTANCE OF THE GUARDRAIL.
6. DASHED LANE LINE REMOVAL SHALL BEGIN 750 FEET IN ADVANCE OF THE BEGINNING OF THE SHOULDER TAPER.
7. CHANNELIZING DEVICES OTHER THAN RETROREFLECTIVE PLASTIC DRUMS SHALL BE ALLOWED ALONG TANGENT SECTIONS. THE TYPE OF DEVICE SHALL BE CONSISTENT THROUGHOUT THE TANGENT SECTION AND SHALL REMAIN STABLE WHILE UNATTENDED.
8. THE NUMBER OF CHANNELIZING DEVICES, TYPE III BARRICADE AND OTHER TRAFFIC CONTROL DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR, CURVE, ETC.). WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
9. PLACE LAST CHANNELIZING DEVICE 50 FEET BEYOND THE END OF BARRIER.
10. THE ARROW PANEL SHALL BE PLACED ON THE SHOULDER OF THE ROADWAY, AS CLOSE AS PRACTICAL TO THE BEGINNING OF THE MERGING TAPER.
11. THE "ROAD WORK NEXT XX MILES" SIGN (G20-1) SHALL BE INSTALLED IN ADVANCE OF TEMPORARY TRAFFIC CONTROL ZONES THAT ARE MORE THAN TWO MILES IN LENGTH, OR AS DIRECTED BY THE ENGINEER. DISTANCES SHALL BE STATED TO THE NEAREST WHOLE MILE.
12. "SPEED LIMIT XX" (R2-1) SIGN TO BE USED IF A TEMPORARY SPEED ZONE IS IN PLACE.

OTHER STDS. REQUIRED: G–1, T–1, T–11, T–12

LEGEND

- FLOW OF TRAFFIC
- RETROREFLECTIVE PLASTIC DRUM
- FLASHING ARROW PANEL
- TYPE III BARRICADE
- PAVEMENT MARKING REMOVAL
- TEMPORARY BARRIER
- WORK AREA

ONE LANE CLOSED WITH TEMPORARY BARRIER PROTECTION



RIGHT LANE CLOSURE PLAN
FOR
LONG TERM UNDER BRIDGE 15SB

STANDARD
T-13
MODIFIED

3.2 PHASE 4 – Bridge No. 56C (US7 over Mill Brook, Mt. Tabor)

Phase 4 will include mobilization, maintenance of traffic (temporary lane closures for equipment), installation of containment system, repair/replacement of scuppers and drain weepers, cleaning, sand blasting, painting and demobilization.

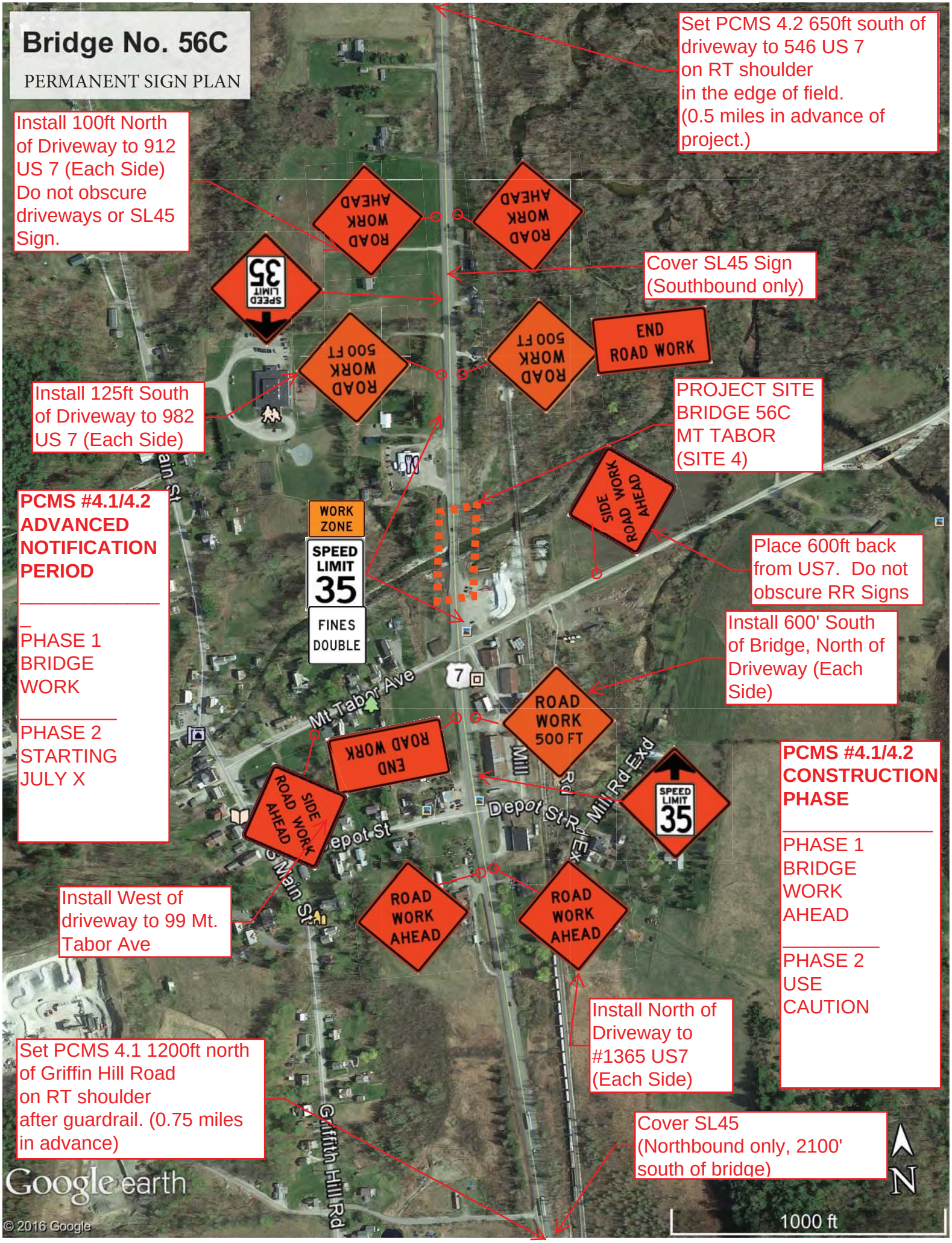
a. Permanent Signs

This phase will include the installation of Permanent Project Approach Signing. Signs will be installed as described in the following Figures. Prior to installing the signs, PCMS will be installed to warn motorists of the upcoming work.

See the following figure for permanent signage locations:

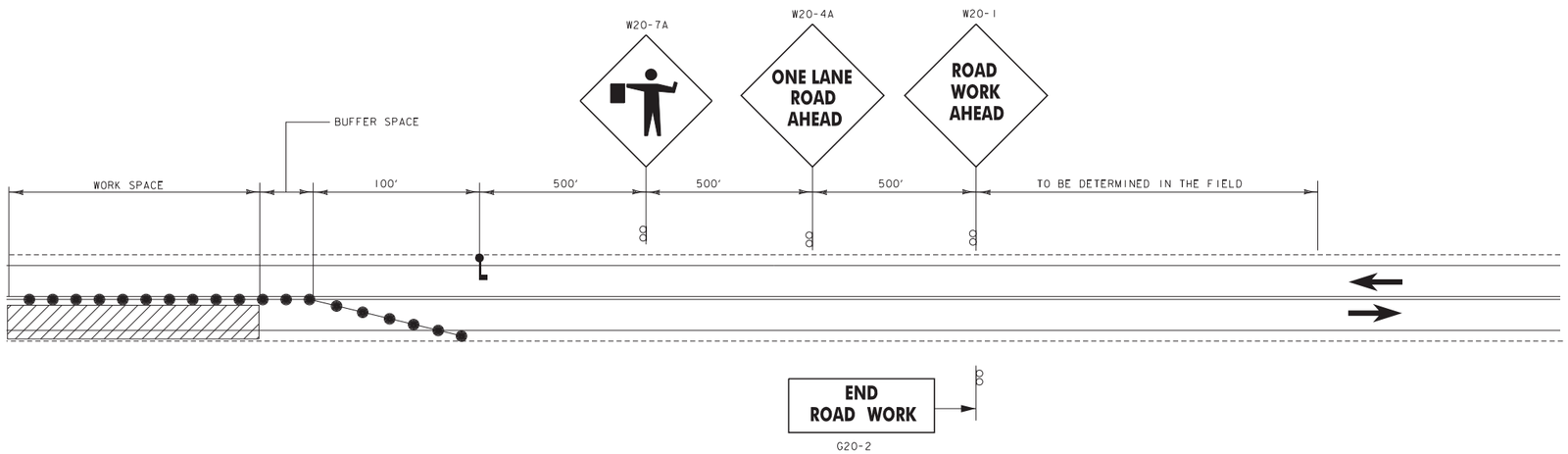
Bridge No. 56C

PERMANENT SIGN PLAN



b. Temporary Closures

Temporary closures will be required. The closure will be used for northbound and southbound traffic. The closure will require the following plan to be used with the permanent sign plan. Signs will be mounted on stands.



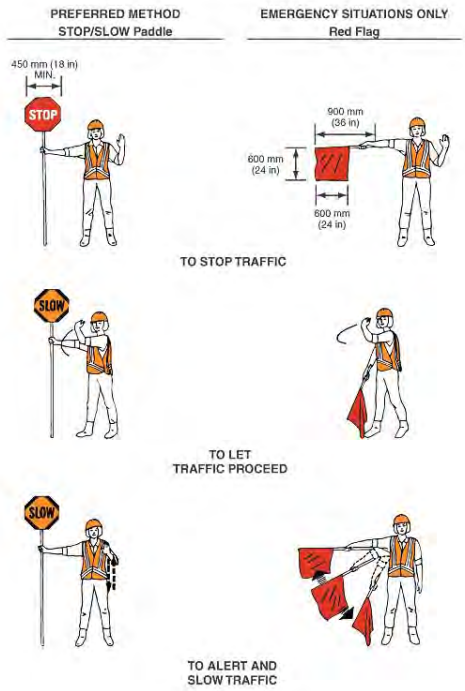
TRAFFIC CONTROL ON US ROUTE 7, ONE LANE CLOSED
BRIDGE 56C

NOT TO SCALE

SEE TRAFFIC CONTROL SHEET (1) FOR SIGNING AND BUFFER SPACE TABLE

Appendix A – Supporting Information

Figure 6E-1. Use of Hand-Signaling Devices by Flaggers



Standard: The following methods of signaling with paddles shall be used:

A. To stop road users, the flagger shall face road users and aim the STOP paddle face toward road users in a stationary position with the arm extended horizontally away from the body. The free arm shall be held with the palm of the hand above shoulder level toward approaching traffic.

B. To direct stopped road users to proceed, the flagger shall face road users with the SLOW paddle face aimed toward road users in a stationary position with the arm extended horizontally away from the body. The flagger shall motion with the free hand for road users to proceed.

C. To alert or slow traffic, the flagger shall face road users with the SLOW paddle face aimed toward road users in a stationary position with the arm extended horizontally away from the body.

Option: To further alert or slow traffic, the flagger holding the SLOW paddle face toward road users may motion up and down with the free hand, palm down.

Standard: The following methods of signaling with a flag shall be used:

A. To stop road users, the flagger shall face road users and extend the flag staff horizontally across the road users' lane in a stationary position so that the full area of the flag is visibly hanging below the staff. The free arm shall be held with the palm of the hand above the shoulder level toward approaching traffic.

B. To direct stopped road users to proceed, the flagger shall stand parallel to the road user movement and with flag and arm lowered from the view of the road users, and shall motion with the free hand for road users to proceed. Flags shall not be used to signal road users to proceed.

C. To alert or slow traffic, the flagger shall face road users and slowly wave the flag in a sweeping motion of the extended arm from shoulder level to straight down without raising the arm above a horizontal position. The flagger shall keep the free hand down.

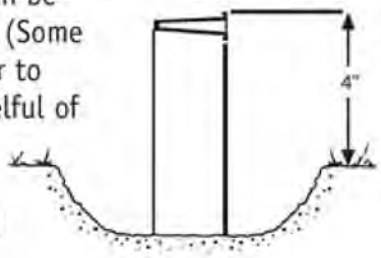
THE LAP SPLICE™ U-CHANNEL BREAKAWAY SYSTEM

Patent No. 5125194

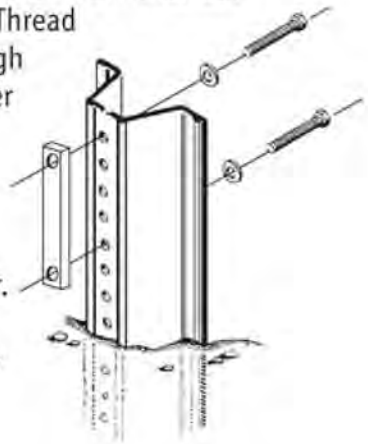
Installation

The LAP SPLICE system consists of two each of these components: cut washers, specially designed Grade 9 bolts, self-locking flange nuts; and a single bar spacer. This system is FHWA approved <u>only</u> when used to lap splice Nucor Steel Marion RIB-BAK® U-channel sign and base posts.

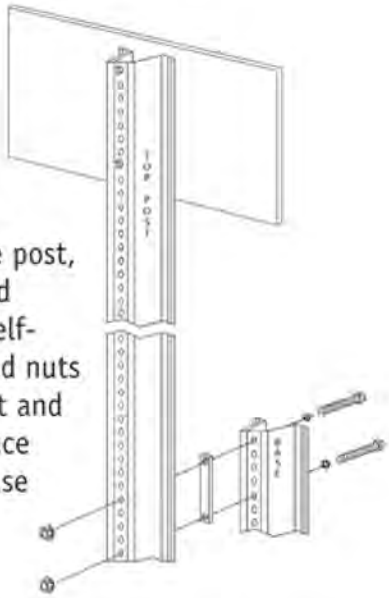
1 Drive base post so that no more than 4" is above the ground. Remove enough soil around base so that the fifth hole is exposed and can be easily reached. (Some installers prefer to remove a shovelful of soil prior to installation of the base post.)

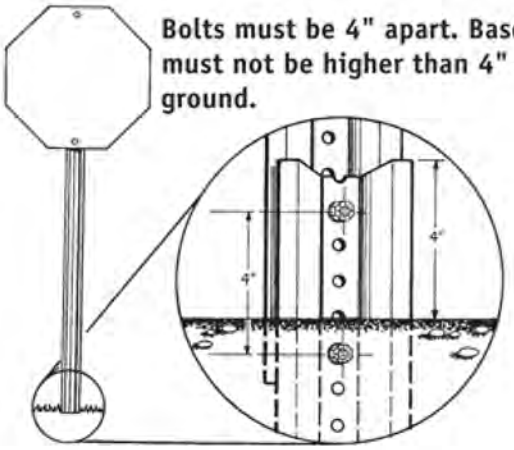


2 Put flat washer on bolt and insert into top hole of base post. (If first hole on top post is less than 1" from end, use second hole.) Thread top bolt through threaded spacer bar. Put flat washer on second bolt and thread into spacer bar. Tighten both bolts in spacer securely.



3 Nest the bottom hole of the top post onto the bottom hole of protruding bolts of the base post. (If the bottom hole of the top post is less than 1" from the end of the post, use the second hole.) Place self-locking flanged nuts onto each bolt and tighten. Replace soil around base post.





Bolts must be 4" apart. Base post must not be higher than 4" above ground.

BAR SPACER SIZE CHART		
Post Size (lbs./ft.)	Bar Color	Bar Size
2 & 2.5	Silver	$^3/_8$" x $^3/_4$" x 5"
3 & 4	Gold	$^1/_2$" x $^3/_4$" x 5"

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GSA Contract Holder GS-07F-5924R GS-07F-0234U

General Permanent Sign Installations

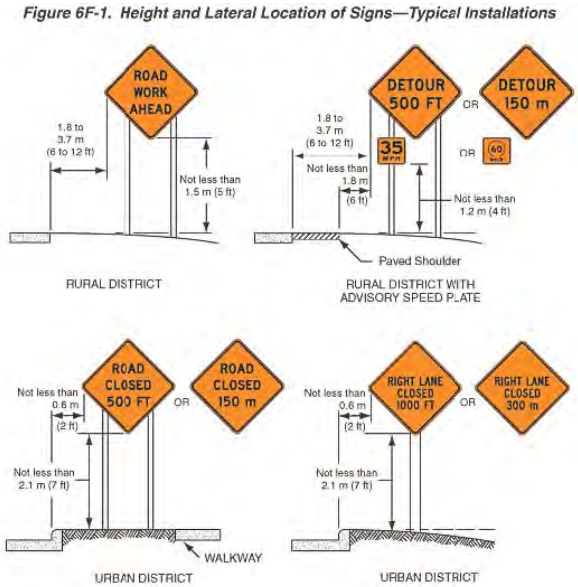

Figure 6F-1. Height and Lateral Location of Signs—Typical Installations

This figure shows four examples of the height and lateral location of signs for typical installations.

The first illustration is labeled "Rural District." The roadway is shown with no shoulder. The sign in this example is a diamond-shaped Road Work Ahead sign. The distance between the edge of the pavement and the near edge of the sign is shown as a dimension of 1.8 to 3.7 m (6 to 12 ft). The distance from the bottom edge of the sign to the level of the edge of the pavement is shown as a dimension not less than 1.5 m (5 ft).

The second illustration is labeled "Rural District with Advisory Speed Plate." The roadway is shown with a paved shoulder. The sign in this example is a diamond-shaped Detour sign with an advisory speed plaque mounted below it, with the metric alternate signs shown to the right. The distance between the outside edge of the roadway and the near edge of the sign is shown as a dimension of 1.8 to 3.7 m (6 to 12 ft). The distance between the outside edge of the paved shoulder and the near edge of the sign is shown as a dimension not less than 1.8 m (6 ft). The distance from the bottom edge of the advisory speed plaque to the level of the edge of the roadway at the inside edge of the shoulder is shown as a dimension not less than 1.2 m (4 ft).

The third illustration is labeled "Urban District." The roadway is shown with a curb along the outside edge of the pavement and a walkway to the right of the sign. The sign in this example is a diamond-shaped Road Closed sign with a metric alternate shown to the right. The distance from the edge of the roadway to the near edge of the sign is shown as a dimension no less than 0.6 m (2 ft). The distance from the bottom edge of the sign to the surface of the curbing is shown as a dimension no less than 2.1 m (7 ft).

The fourth illustration is labeled "Urban District." The roadway is shown with a curb along the outside edge of the pavement. The sign in this example is a diamond-shaped Right Lane Closed sign with a metric alternate shown to the right. The distance from the edge of the roadway to the near edge of the warning sign is shown as a dimension not less than 0.6 m (2 ft). The distance from the bottom edge of the sign to the level of the edge of the travel lane at the top of the curbing is shown as a dimension not less than 2.1 m (7 ft).

TYPICAL SIGN STAND -1

Series 24000

LITTLE BUSTER SIGN STAND

PRODUCT INFORMATION

- Step-n-Drop leg feature enables you to quickly set-up the stand without having to bend over or stoop down. Simply place your foot on the release levers, step down and two legs will drop into position
- Dual spring sign stand is designed to hold 30”, 36” and 48” aluminum, wood or roll up signs in high wind conditions
- All steel construction with powder coated paint to resist rusting
- Rigid signs can achieve bottom heights of 12 to 18 inches. Roll up signs can achieve bottom heights of 12 inches to 5 feet and a 7 foot height can be achieved with optional 77 inch inner mast (RU7)
- A two position leg adjustment allows all four legs to be individually adjusted for uneven terrain
- Ideal for both roll up and rigid signs for city, utility and highway applications
- NCHRP-350 approved when used with Safe Sleeve-350 for .080 aluminum signs
- NCHRP-350 approved with roll up signs and plastic Safe Sign 350

TrafFix Devices, Inc. 160 Ave. La Pata, San Clemente, CA 92673 (949) 361-5663 Fax (949) 361-9205
www.traffixdevices.com

TYPICAL SIGN STAND - 2

93000 Series

TRI-BUSTER SIGN STAND

PRODUCT INFORMATION

- Constructed of corrosion resistant heavy duty galvanized tubing and can be folded for compact storage
- Accommodates 48” x 48” or smaller; plywood, aluminum, aluminum poly laminate, plastic and roll up sign materials
- Three leg design is very stable in windy conditions. Ballasting hook allows sand bags or weights to be hung from sign stand for added stability
- Safety engineered with guards to protect fingers from dangerous “pinch points”
- Optional roll-up sign bracket and leg extending leveling kit may be ordered to enhance Tri-Busters performance
- NCHRP 350 approved with rigid and roll up signs

TrafFix Devices, Inc. 160 Ave. La Pata, San Clemente, CA 92673 (949) 361-5663 Fax (949) 361-9205
www.traffixdevices.com

Appendix B – VTrans Standard Sheets with Modifications

1. TRAFFIC CONTROL DEVICES NOT DETAILED IN THE VERMONT AGENCY OF TRANSPORTATION (VAOT) ''STANDARD DRAWINGS'' OR THE PROJECT PLANS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON TRAFFIC CONTROL DEVICES" (MUTCD) AND THE ''STANDARD HIGHWAY SIGNS AND MARKINGS'' BOOK (SHSM) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).

2. CONSTRUCTION SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER.

3. CONSTRUCTION SIGN COVERS SHALL CONSIST OF A PANEL, PAINTED FLAT BLACK, THE SAME SIZE AS THE SIGN IT COVERS. THE PANEL SHALL BE OF WOOD, PLYWOOD, HARDBOARD OR ANY MATERIAL SATISFACTORY TO THE ENGINEER. NO MATERIAL WILL BE APPROVED THAT WILL DETERIORATE BY EXPOSURE TO THE WEATHER DURING THE PROJECT. MOUNTING OF THE PANEL SHALL BE DONE IN SUCH A WAY AS NOT TO DAMAGE THE SIGN FACE MATERIAL.

4. SIGNS SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE KEPT PLUMB AND LEVEL, AND ALWAYS PRESENT A NEAT APPEARANCE. DAMAGED, DEFACED OR DIRTY SIGNS SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER.

5. NO CROSS-BRACING OR BACK-BRACING TO KEEP POSTS PLUMB WILL BE ALLOWED. CONCRETE FOUNDATIONS, COLLARS OR SOIL BEARING PLATES ARE NOT PERMITTED. CONSTRUCTION SIGNS SHALL BE PLACED ON TWO POSTS.

6. CONSTRUCTION SIGNS INSTALLED ON POSTS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST FIVE FEET ABOVE THE EDGE OF PAVEMENT AND THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT, FOUR FEET OUTSIDE GUARDRAIL, OR TWO FEET OUTSIDE CURBING OR SIDEWALK. THE INSTALLATION OF SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. IN URBAN AREAS, THE BOTTOM OF THE SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE SIDEWALK OR EDGE OF PAVEMENT, WHICHEVER IS HIGHER.

7. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND A MINIMUM OF ONE FOOT ABOVE THE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.

8. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.

9. ROLL UP CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE VI AND TYPE VII UNLESS OTHERWISE NOTED.

10. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 ["AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956] TYPE VIII OR IX REQUIREMENTS UNLESS OTHERWISE NOTED.

11. WHERE CONSTRUCTION SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL MEET "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 OR THE AASHTO "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH). THE APPROPRIATE RESOURCE SHALL BE DETERMINED AS DESCRIBED IN THE MASH PUBLICATION. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POSTS. WHEN ANCHORS ARE INSTALLED, STUBS SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.

12. ROADWAY AND SHOULDER WIDTHS DEPICTED ON THE STANDARD DRAWINGS MAY VARY.

13. THESE STANDARD DRAWINGS ARE INTENDED TO SERVE AS VTRANS STANDARD OPERATING PROCEDURE. IT IS NOTED THAT COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL WORK ZONE MAY BE MODIFIED DUE TO FIELD CONDITIONS, AT THE DISCRETION OF THE ENGINEER.

OTHER STDS. REQUIRED: **NONE**

REVISIONS AND CORRECTIONS

AUG. 6, 2012 - ORIGINAL APPROVAL DATE

APPROVED

HIGHWAY SAFETY & DESIGN ENGINEER

DIRECTOR OF PROGRAM DEVELOPMENT

Mark D. Richter

FEDERAL HIGHWAY ADMINISTRATION

TRAFFIC CONTROL GENERAL NOTES

VERMONT AGENCY OF TRANSPORTATION

STANDARD

T-1

TRAFFIC CONTROL NOTES - US ROUTE 7:

1. THE TRAFFIC CONTROL PLAN SHOWN IS A SCHEMATIC ONLY AND SHOULD BE USED AS A REFERENCE. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR BRIDGES 11, D15, 16N, 16S, AND 56C TO VTRANS FOR APPROVAL. PAYMENT FOR PREPARING AND SUBMITTING THE TRAFFIC CONTROL PLAN, AND MAKING NECESSARY REVISIONS TO THE PLAN, WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 641.10 - TRAFFIC CONTROL. THE CONTRACTOR SHALL ALLOW TWO WEEKS FOR APPROVAL OF THE TRAFFIC CONTROL PLAN. NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS AN APPROVED TRAFFIC CONTROL PLAN.

2. THE SPEED LIMIT WILL BE REDUCED TO TEN MPH BELOW THE POSTED SPEED LIMIT IN THE WORK ZONE FOR THIS PROJECT. ANY EXISTING SPEED LIMIT SIGNS WITHIN THE SPEED REDUCTION AREA SHALL BE COMPLETELY COVERED.

3. CONSTRUCTION SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS.

4. TRAFFIC CONTROL DEVICES NOT DETAILED IN THE VERMONT AGENCY OF TRANSPORTATION (VAOT) "STANDARD DRAWINGS" OR THE PROJECT PLANS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS AND MARKINGS" BOOK (SHSM) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION, OR AS DIRECTED BY THE ENGINEER.

5. SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956J TYPE VIII OR IX UNLESS OTHERWISE NOTED.

6. ROLL UP SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING THE "AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" (AASHTO) M 268 "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM) D 4956J TYPE VI UNLESS OTHERWISE NOTED.

7. CONSTRUCTION SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER.

8. CONSTRUCTION SIGN COVERS SHALL CONSIST OF A PANEL, PAINTED FLAT BLACK, THE SAME SIZE AS THE SIGN IT COVERS. THE PANEL SHALL BE MADE OF WOOD, PLYWOOD, HARDBOARD OR ANY MATERIAL SATISFACTORY TO THE ENGINEER. NO MATERIAL WILL BE APPROVED THAT WILL DETERIORATE BY EXPOSURE TO THE WEATHER DURING THE PROJECT. MOUNTING OF THE PANEL SHALL BE DONE IN SUCH A WAY AS NOT TO DAMAGE THE SIGN FACE MATERIAL.

9. SIGNS SHALL BE MAINTAINED IN A CLEAN AND LEGIBLE CONDITION SATISFACTORY TO THE ENGINEER. THEY SHALL BE KEPT PLUMB AND LEVEL, AND ALWAYS PRESENT A NEAT APPEARANCE. DAMAGED, DEFACED OR DIRTY SIGNS SHALL BE REPAIRED, CLEANED OR REPLACED AS ORDERED BY THE ENGINEER.

10. NO CROSS-BRACING OR BACK-BRACING TO KEEP POSTS PLUMB WILL BE ALLOWED. CONCRETE FOUNDATIONS, COLLARS OR SOIL BEARING PLATES ARE NOT PERMITTED. CONSTRUCTION SIGNS SHALL BE PLACED ON TWO POSTS.

11. CONSTRUCTION SIGNS INSTALLED ON POSTS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST FIVE FEET ABOVE THE EDGE OF PAVEMENT AND THE NEAREST EDGE OF A SIGN SHALL BE A LEAST SIX FEET OUTSIDE THE SHOULDER POINT, FOUR FEET OUTSIDE THE GUARDRAIL, OR TWO FEET OUTSIDE THE CURBING OR SIDEWALK. THE INSTALLATION OF SIGNS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. IN URBAN AREAS, THE BOTTOM OF THE SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE SIDEWALK OR EDGE OF PAVEMENT, WHICHEVER IS HIGHER.

12. PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND A MINIMUM OF ONE FOOT ABOVE THE TRAVELED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED. WHEN PLACED BEHIND THE GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.

13. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.

14. WHERE CONSTRUCTION SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL MEET "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 OR THE AASHTO "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH). THE APPROPRIATE RESOURCE SHALL BE DETERMINED AS DESCRIBED IN THE MASH PUBLICATION. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POSTS. WHEN ANCHORS ARE INSTALLED, STUBS SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.

NOTES CONTINUED ON TRAFFIC CONTROL SHEET (2).

TRAFFIC CONTROL NOTES - US ROUTE 7:

NOTES CONTINUED FROM TRAFFIC CONTROL SHEET (1):

15. THE CONTRACTOR SHALL HAVE SIGNS FOR CLOSURE OF LEFT OR RIGHT LANES INSTALLED BEFORE WORK COMMENCES.

16. THE NUMBER OF CHANNELIZING DEVICES, TYPE III BARRICADES AND OTHER TRAFFIC CONTROL DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED IS TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR, CURVE ETC.). WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.

17. PLACE LAST CHANNELIZING DEVICE 100 FEET BEYOND THE ANTICIPATED WORK ZONE TERMINAL POINT EACH DAY AND START THE END TAPER. THE END TAPER SHALL BE CONSTRUCTED OF 5 ADDITIONAL RETROREFLECTIVE DRUMS SPACED AT 10 FEET ON CENTER.

18. THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE USED FOR US ROUTE 7 LANE CLOSURES AND AT THE DISCRETION OF THE ENGINEER FOR LANE CLOSURES ON OTHER ROADWAYS.

19. TRAVEL LANES SHALL BE A MINIMUM OF 12 FEET WIDE ON US ROUTE 7, UNLESS OTHERWISE NOTED.

20. AT NO TIME WILL THE CONTRACTOR BE ALLOWED TO HAVE WORKERS' VEHICLES, CONSTRUCTION EQUIPMENT OR STOCKPILED MATERIALS WITHIN THE CLEAR ZONE OF US ROUTE 7 WITHOUT POSITIVE PROTECTION. POSITIVE PROTECTION SHALL BE AS DIRECTED BY THE ENGINEER.
THE CLEAR ZONE IS DEFINED AS FOLLOWS:
US ROUTE 7: BR 11 - 18 FEET FROM THE EDGE OF TRAVELED WAY
US ROUTE 7: BR D15 - 30 FEET FROM THE EDGE OF TRAVELED WAY
US ROUTE 7: BR 16N - 30 FEET FROM THE EDGE OF TRAVELED WAY
US ROUTE 7: BR 16S - 30 FEET FROM THE EDGE OF TRAVELED WAY
US ROUTE 7: BR 56C - 30 FEET FROM THE EDGE OF TRAVELED WAY

21. ARROW BOARDS SHALL BE PLACED ON THE SHOULDER OF THE ROADWAY, OR IF PRACTICAL, FURTHER FROM THE TRAVELED LANE AT THE END OF THE SHOULDER TAPER.

22. SEE TRAFFIC CONTROL SHEET (1) FOR LEGEND , TAPER RATES, AND DEVICE SPACING TABLE.