

**This electronic collection of documents is provided  
for the convenience of the user  
and is Not a Certified Document –**

**The documents contained herein were originally issued  
and sealed by the individuals whose names and license  
numbers appear on each page, on the dates appearing  
with their signature on that page.**

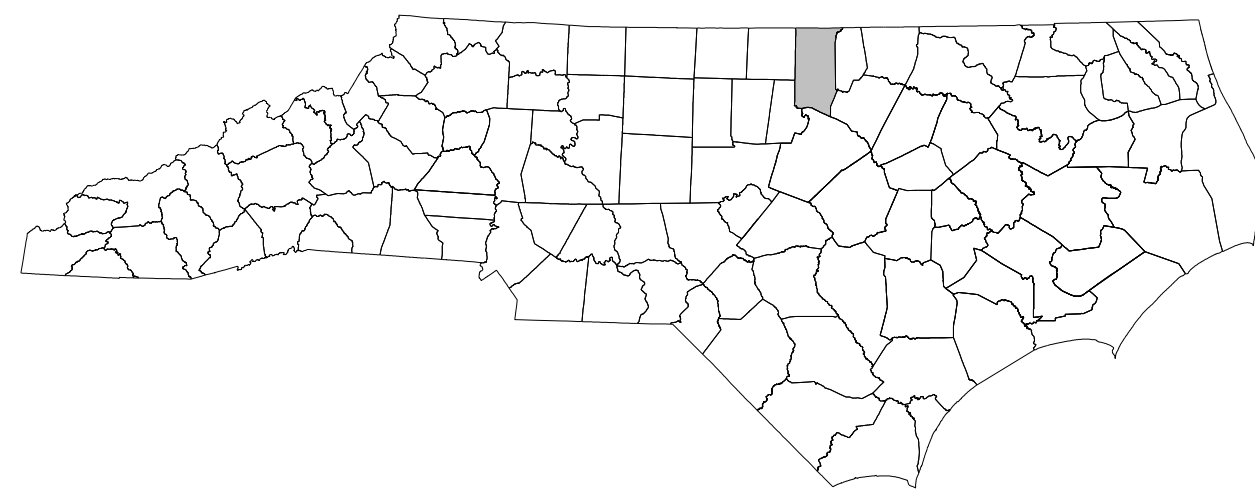
**This file or an individual page  
shall not be considered a certified document.**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

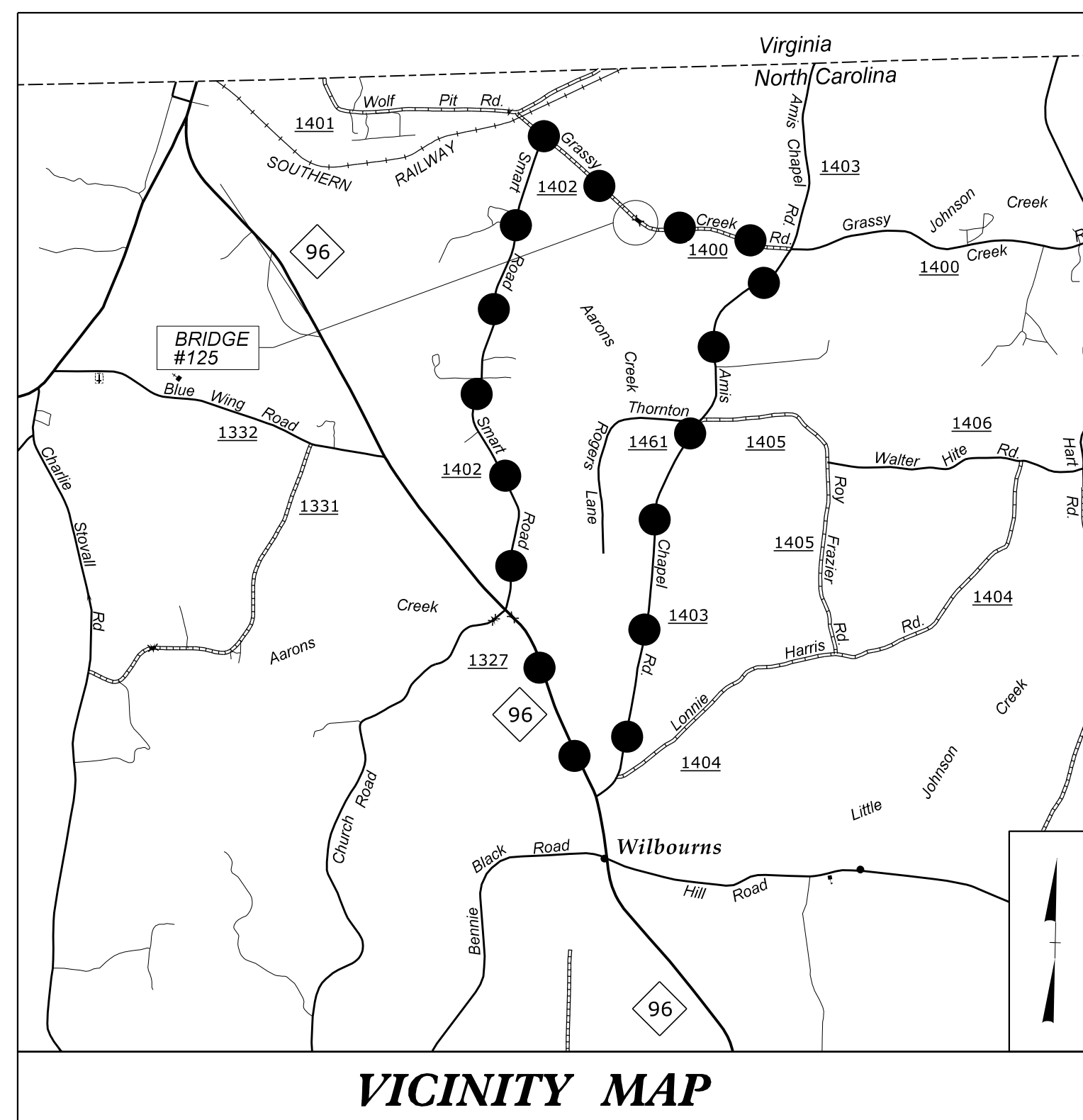
TRANSPORTATION MANAGEMENT PLAN

GRANVILLE COUNTY

DIVISION 5

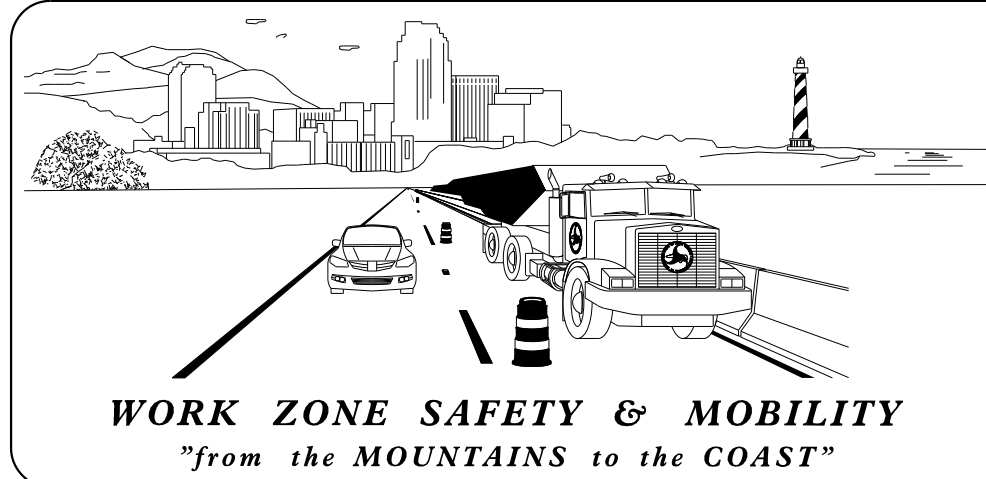


BRIDGE #125 - SR 1400 (GRASSY CREEK VIRGINIA ROAD) OVER  
AARON'S CREEK



●●●●●● DENOTES OFF-SITE DETOUR

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL  
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561  
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)  
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, PE STATE TRAFFIC MANAGEMENT ENGINEER  
D. W. BISSETTE, PE CENTRAL WORK ZONE TRAFFIC CONTROL ENGINEER  
HELEN SHYU, PE TRAFFIC CONTROL PROJECT DESIGN ENGINEER



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: TRAFFIC MANAGEMENT STRATEGY AND GENERAL NOTES
TMP-2	SPECIAL SIGN DESIGN - GRASSY CREEK VIRGINIA ROAD
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4	SR 1400 (GRASSY CREEK VIRGINIA ROAD) ROAD CLOSURE AND DETOUR ROUTE

SHEET NO.  
TMP-1

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**Stantec**  
Stantec Consulting Services Inc. Tel. 919.851.6866  
801 Jones Franklin Rd-Suite 300 Fax. 919.851.7024  
Raleigh, NC 27606 www.stantec.com  
License No. F-0672

BETSY L. WATSON, PE PRINCIPAL  
GEORGE M. KARAGEORGE, PE SENIOR TRANSPORTATION ENGINEER  
CAROLINE OWINGS, E1 TRANSPORTATION ENGINEER IN TRAINING

Seal: GEORGE M. KARAGEORGE, PE, License No. 042065, dated 1/25/2016

I:\25\2016  
Us\Traffic\Transportation Management Plan\TMP\Plan Sheets\B5171\_TMP\_01\_TITLE.dgn  
cowings

TIP PROJECT: B-5171

# ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	PORTABLE CONCRETE BARRIER
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

## LEGEND

### GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- PROPOSED PVMT.
- NORTH ARROW
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA

### SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY

### PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

### TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN
- TEMPORARY CRASH CUSHION
- PORTABLE CONCRETE BARRIER

### TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

### PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

### PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS
- EXISTING PAVEMENT MARKING SYMBOLS (HOLLOW)
- ONLY PAVEMENT MARKING ALPHANUMERIC CHARACTERS

I/25/2016 U:\Traffic\Transportation Management\Plan\TMP\Plan Sheets\B5171\_TMP\_01A\_RDWYSTDSLEGEND.dgn cowings

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

<p>Stantec Consulting Services Inc. 801 Jones Franklin Road-Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672</p>			<p>ROADWAY STANDARD DRAWINGS LEGEND</p>
--	--	--	---



## GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

### LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

### TRAFFIC PATTERN ALTERATIONS

- F) NOTIFY GRANVILLE COUNTY SCHOOLS, EMERGENCY SERVICES, AND ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

### SIGNING

- G) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRANSPORTATION MANAGEMENT PLANS.  
  
AND  
  
PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRANSPORTATION MANAGEMENT PLANS.
- H) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.  
  
AND  
  
COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- I) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

### TRAFFIC CONTROL DEVICES

- J) PLACE TYPE III BARRICADES WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

### MISCELLANEOUS


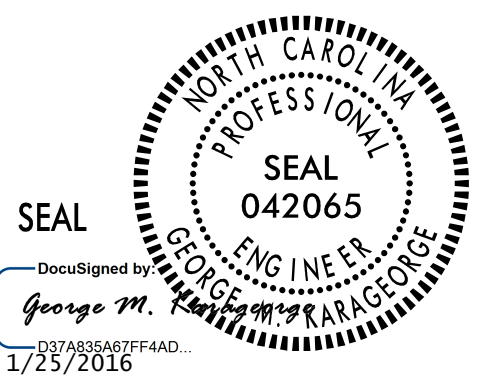

- K) MAINTAIN VEHICULAR ACCESS TO ALL DRIVEWAYS DURING THE LIFE OF THE CONTRACT, UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER. USE INCIDENTAL STONE WHEN NECESSARY.
- L) ALL DIMENSIONS AND STATIONS IN THE TRANSPORTATION MANAGEMENT PLAN AND PHASING ARE APPROXIMATE (+/-); FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
- M) ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919) 733-4740 HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.

## TRAFFIC MANAGEMENT STRATEGY

PROPOSED BRIDGE AND ROADWAY CONSTRUCTION WILL BE PERFORMED UNDER A ROAD CLOSURE, WITH TRAFFIC OPERATING ON AN OFF-SITE DETOUR (6.1 MILES)

ROADS USED FOR OFF-SITE DETOUR INCLUDE SMART RD., NC-96, AND AMIS CHAPEL RD.

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

 Stantec Consulting Services Inc. 801 Jones Franklin Road-Suite 300 Raleigh, NC 27606 Tel. (919) 851-8866 Fax. (919) 851-7024 www.stantec.com License No. F-0672			TRANSPORTATION OPERATIONS PLAN
			TRAFFIC MANAGEMENT STRATEGY GENERAL NOTES

SIGN NUMBER: SD-1  
 TYPE: STATIONARY  
 QUANTITY: SEE PLANS

SIGN WIDTH: 48"  
 HEIGHT: 24"  
 TOTAL AREA: 8.0 Sq.Ft.

BORDER TYPE: RECESSED  
 RADII: 1.5"  
 WIDTH: 0.63"  
 RECESS: 0.38"

NO. Z BARS:  
 LENGTH:

BACKG COLOR: Fluorescent Orange  
 COPY COLOR: Black

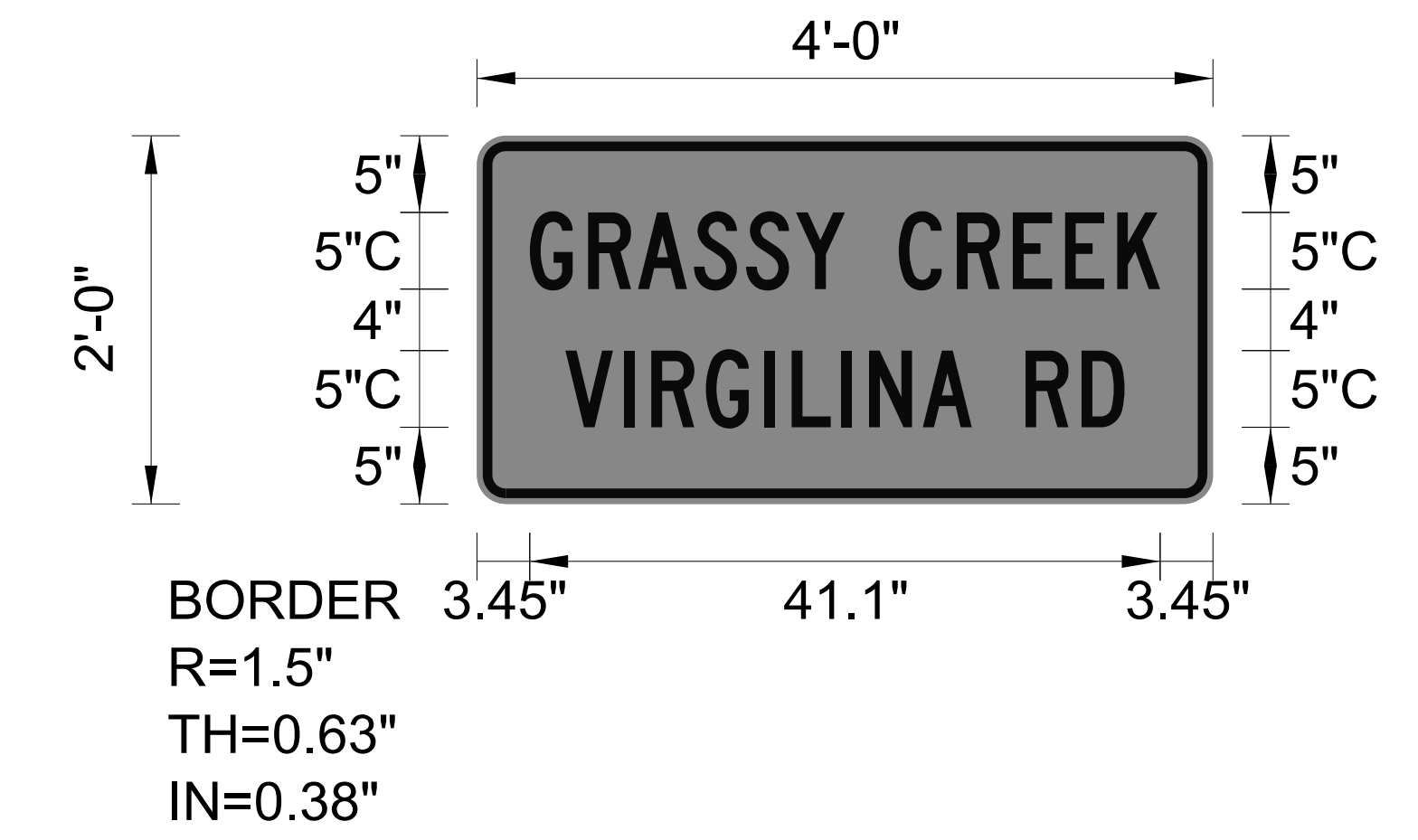
SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2MM) ALUMINUM

DESIGN BY: RRH  
 PROJECT ID: B-5171

CHECKED BY: BLW  
 DIV: 5

DATE: Mar 19, 2015



- USE NOTES
- Legend and border shall be direct applied black non-reflective sheeting.
  - Background shall be NC GRADE B Fluorescent Orange retroreflective sheeting.

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

	G	R	A	S	S	Y		C	R	E	E	K							Series/Size Text Length
	3.5	3.8	3.3	3.6	3.4	3.3	3.2	3.5	3.8	3.7	3.4	3.4	2.8	3.5					C 2000
																			41.1
		V	I	R	G	I	L	I	N	A		R	D						C 2000
	5.8	3.8	1.8	3.5	3.8	1.8	3.2	1.8	3.5	3.2	3.5	3.7	2.8	5.8					36.5

1/25/2016 U:\Traffic\Transportation Management\Plan\TMP\Plan Sheets\B5171\_TMP\_02\_SPECIALSIGN.dgn cowlings

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

<p>Stantec Consulting Services Inc.              801 Jones Franklin Road-Suite 300              Raleigh, NC 27606              Tel. (919) 851-8866              Fax. (919) 851-7024              www.stantec.com              License No. F-0672</p>			<p>SPECIAL SIGN DESIGN              GRASSY CREEK              VIRGILINA ROAD</p>
--	--	--	--

PROJ. REFERENCE NO.	SHEET NO.
B-5171	TMP-3

## PHASE I (TMP - 4)

**STEP 1:**

USING ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9, AND TMP-4, PLACE TRAFFIC ON OFFSITE DETOUR ROUTE, AND CLOSE SR 1400 (GRASSY CREEK VIRGILINA ROAD).

**STEP 2:**

WITH SR 1400 CLOSED TO TRAFFIC, PERFORM THE FOLLOWING:

- REMOVE EXISTING BRIDGE.
- CONSTRUCT PROPOSED BRIDGE.
- CONSTRUCT PROPOSED ROADWAY THROUGH THE FINAL SURFACE COURSE.

## PHASE II

**STEP 1:**


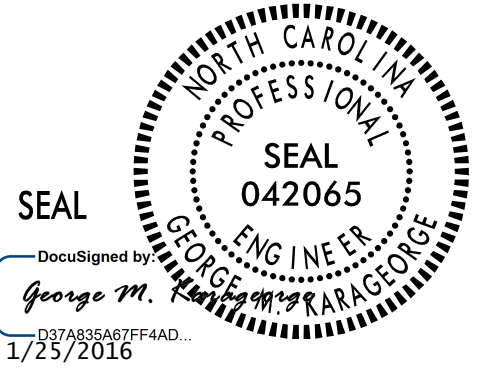
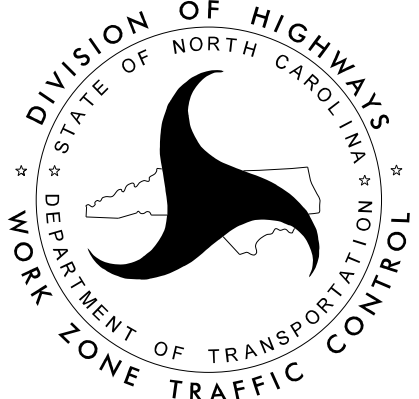
REMOVE ROAD CLOSURE DEVICES AND DETOUR SIGNS AND OPEN SR 1400 (GRASSY CREEK VIRGILINA ROAD) TO TRAFFIC.

**STEP 2:**

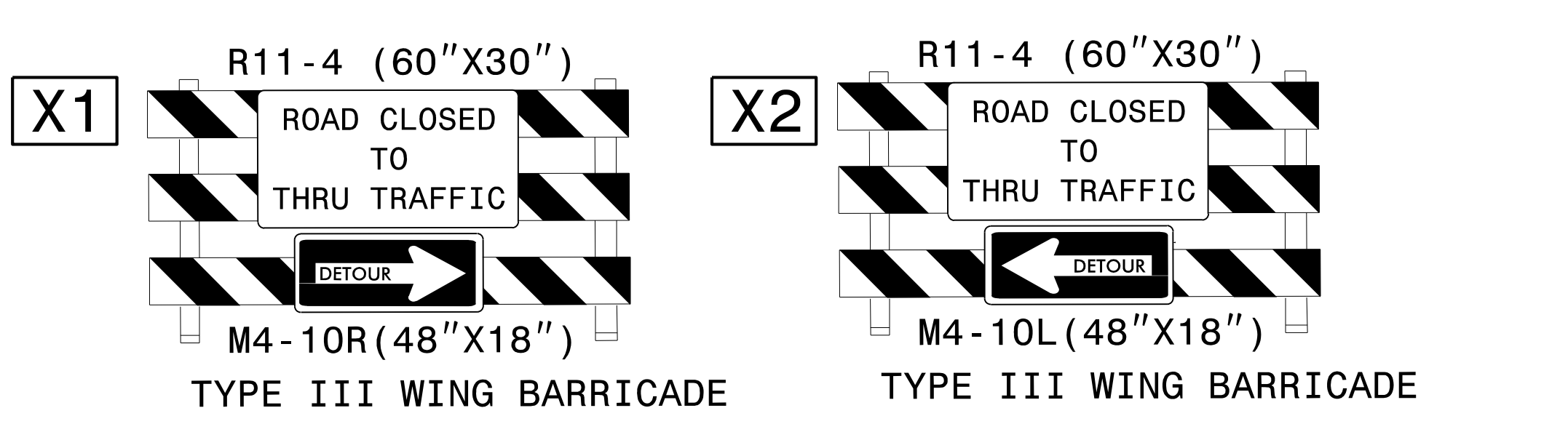
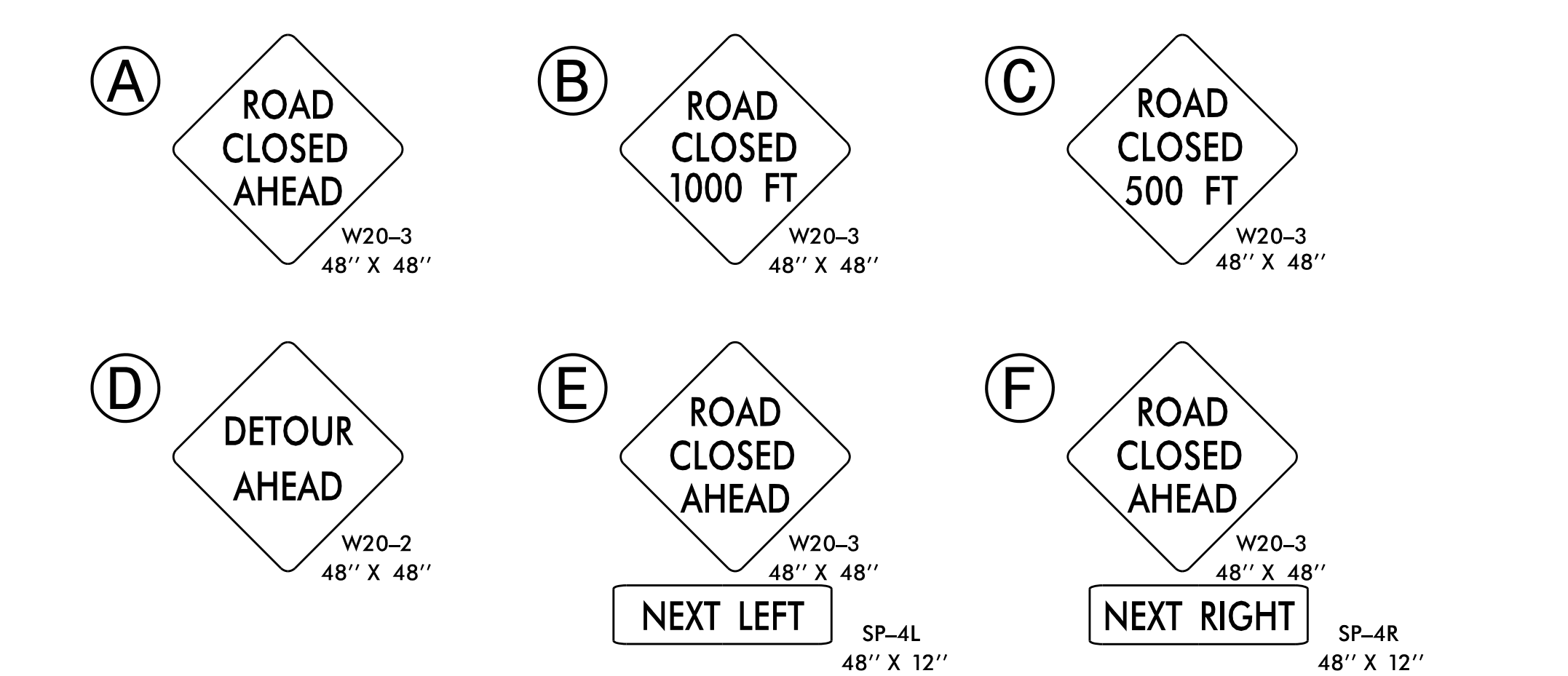
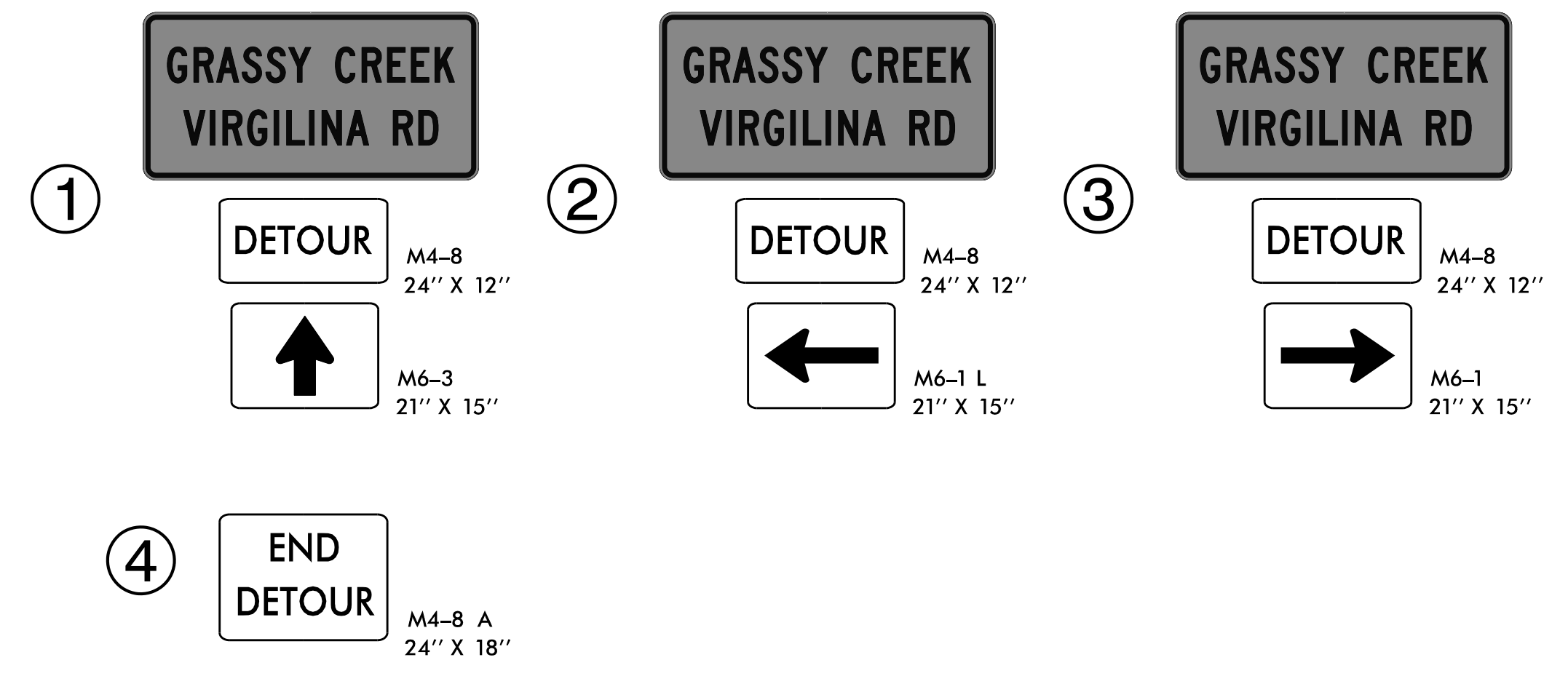
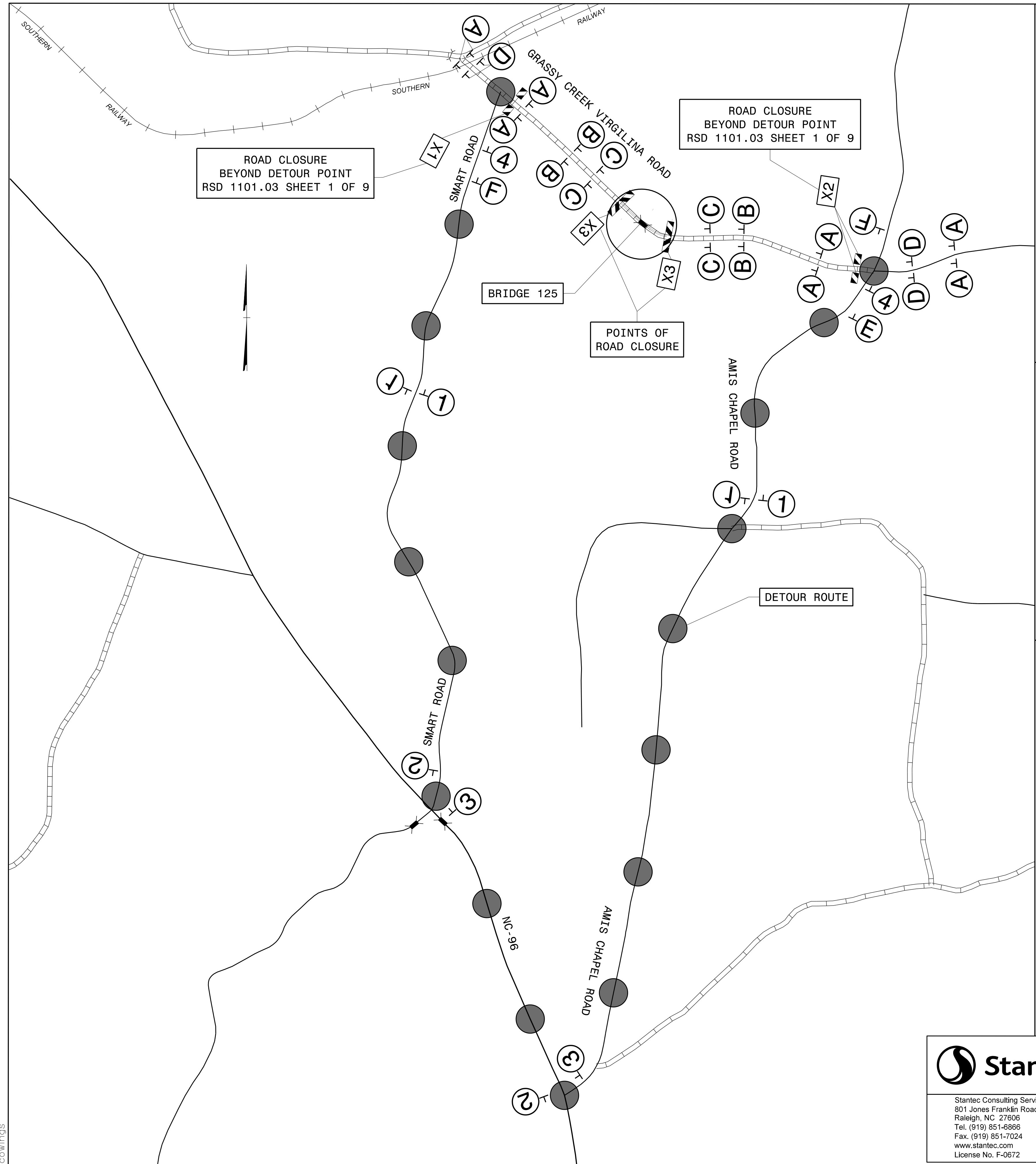
USING TEMPORARY LANE CLOSURES PER ROADWAY STANDARD DRAWING 1101.02 SHEET 1 OF 15, PERFORM ANY PUNCHLIST ITEMS AS REQUIRED BY THE ENGINEER.

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

1/25/2016  
I:\Traffic\Transportation Management\Plan\TMP\Plan Sheets\B5171\_TMP\_03\_PHASING.dgn  
cowlings

 <p style="font-size: small;">Stantec Consulting Services Inc. 801 Jones Franklin Road-Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672</p>	 <p style="font-size: x-small;">DocuSigned by: <i>George M. Karagouze</i> 1/25/2016</p>	 <p style="font-size: x-small;">DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL</p>	<p><b>TEMPORARY TRAFFIC CONTROL PHASING</b></p>
--	--	--	---





DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

**Stantec**  
Stantec Consulting Services Inc.  
801 Jones Franklin Road-Suite 300  
Raleigh, NC 27606  
Tel. (919) 851-3866  
Fax. (919) 851-7024  
www.stantec.com  
License No. F-0672

SEAL  
NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL 042065  
George M. [Signature]  
1/25/2016

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
WORK ZONE TRAFFIC CONTROL

SR 1400 (GRASSY CREEK VIRGINIA ROAD)  
ROAD CLOSURE AND  
DETOUR ROUTE

1/25/2016  
U:\Traffic\Transportation Management Plan\TMP\Plan Sheets\B5171\_TMP\_04\_DETOURROUTE.dgn  
cowings