EXHIBIT 4 B – LOCATION SPECIFIC CRITERIA

BRIDGE A – S-12-77 over Fishing Creek – Chester County

BRIDGE B – S-12-141 over Rocky Creek – Chester County

BRIDGE C – SC 200 over Wateree Creek – Fairfield County

BRIDGE D – SC 9 (EBL) over Catawba River – Chester/Lancaster Counties

BRIDGE E – SC 200 over Cane Creek – Lancaster County

BRIDGE F – S-46-22 over Steele Creek – York County

BRIDGE G – S-46-64 over Allison Creek – York County

BRIDGE H – S-46-347 over Stony Fork Creek – York County

BRIDGE I – S-46-732 over Calabash Branch – York County

BRIDGE J – I-85 (SBL & NBL) over Norfolk Southern Railroad – Cherokee County

BRIDGE K – S-46-103 over Fishing Creek – York County

BRIDGE L – S-11-41 over Peoples Creek – Cherokee County

BRIDGE A

ROUTE: S-12-77
CROSSING: FISHING CREEK
COUNTY: CHESTER
STRUCTURE NUMBER: 1270007700100

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	698 feet
End of Existing Bridge:	356 feet
Design Speed:	40 mph
Functional Classification:	Rural Local Secondary
Design ADT:	384
Terrain:	Rolling

***Minimum Approach Length includes transition from project design criteria to existing condition.*

Typical Section
Roadway Approaches will consist of 2 – 11'-0" Lanes with 6'-0" Shoulders (2'-0" Paved Shoulders and 4'-0" Grassed Shoulders)

Maintenance of Traffic
The proposed bridge will be constructed on existing horizontal alignment. Traffic will be detoured during construction.

The CONTRACTOR shall close structure and detour traffic using the detour route specified in this criteria while the new bridge is constructed.

Pavement Design

New Construction

a. Surface – 150 psy HMA Surface Type C
   Intermediate – 200 psy HMA Intermediate Type C
   Base - 400 psy HMA Base Type B

Existing Pavement
8" of Full Depth Patching as directed by SCDOT in accordance with Special Provision – Section 401; Full Depth Asphalt Pavement Patching.
Overlay – 150 psy HMA Surface Type C
Variable milling for pavement tie-ins as directed by SCDOT

b) HYDROLOGY

The project site is located in a FEMA Special Flood Hazard Area Zone AE based on latest maps reviewed by Department.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed: Prestressed Concrete Girders
Structural Steel Rolled W Beams
Structural Steel Welded Plate Girders

Minimum Outside Deck Width:
The minimum outside deck width shall be 37'-3" (Includes 34'-0" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1 ½" Slab Extensions for Slip Forming Barriers)

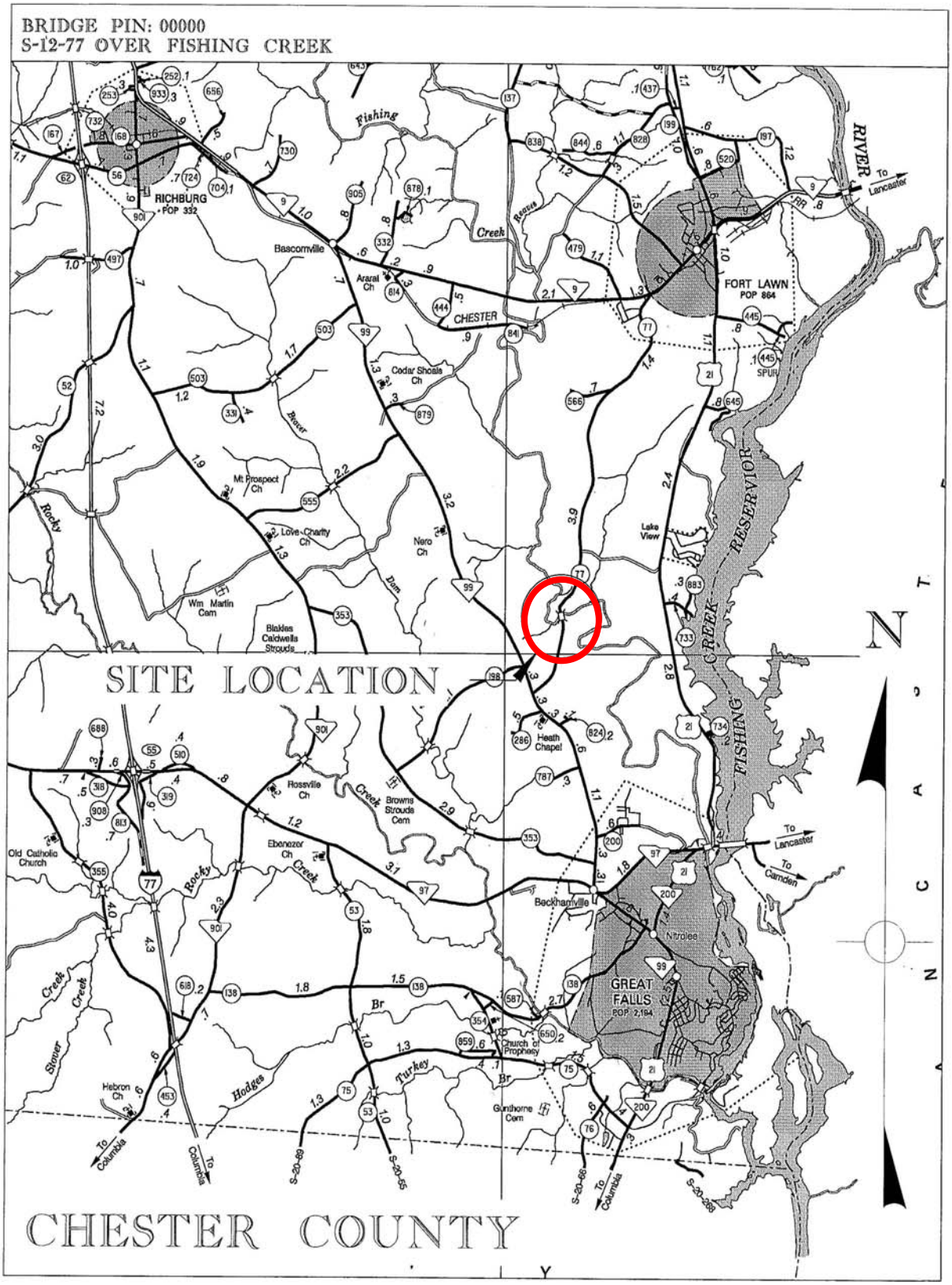
Bridge Skew: To be determined by hydraulic design.

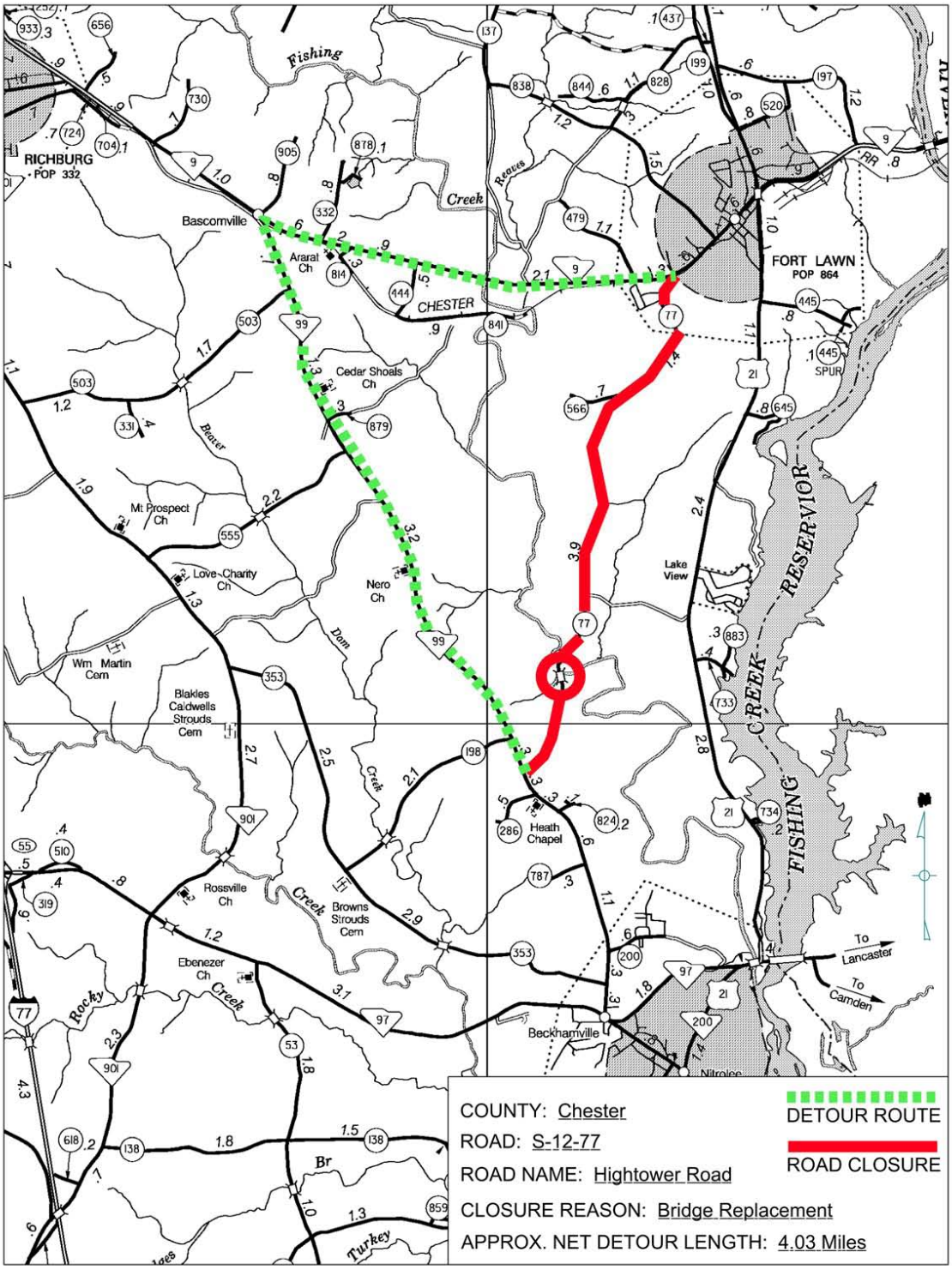
Miscellaneous Requirements
No MSE walls will be permitted

Seismic Design Criteria
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

General Bridge Layout Requirements
The Contractor shall follow the minimum bridge length and span layout requirements as shown in Preliminary Bridge Layout sketch.

Note: Minimum bridge length shall be 405'-0" and minimum length of span over channel shall be 135'-0" as shown in the Preliminary Bridge Layout sketch.


BRIDGE PIN: 00000
S-12-77 OVER FISHING CREEK
SITE LOCATION
CHESTER COUNTY
RICHBURG
POP 332
FORT LAWN
POP 864
GREAT FALLS
POP 2,164
Bascomville
CHESTER
Lake View
RESERVOIR
FISHING CREEK
Rocky Creek
Beckhamville
Nitrolee
To Lancaster
To Camden
To Columbia
N


RICHBURG
POP 332
Bascomville
Ararat Ch
CHESTER
Cedar Shoals Ch
Mt Prospect Ch
Love Charity Ch
Nero Ch
Wm Martin Cem
Blakles Caldwells Strouds Cem
Rossville Ch
Browns Strouds Cem
Ebenezer Ch
Heath Chapel
FORT LAWN
POP 864
Lake View
CREEK RESERVIOR
FISHING
Beckhamville
To Lancaster
To Camden
Fishing Creek
Reaves Creek
Beaver Dam Creek
Rocky Creek
Turkey
COUNTY: Chester
ROAD: S-12-77
ROAD NAME: Hightower Road
CLOSURE REASON: Bridge Replacement
APPROX. NET DETOUR LENGTH: 4.03 Miles
DETOUR ROUTE
ROAD CLOSURE

SC Seismic Hazard Map
Three-Point ADRS Curves

PIN No.: 39094 BR01	File No: 112.039094.1	Latitude: 34.637	
Route: I-77	County: Chester	Longitude: 80.9274	
Project: I-77 over Fishing Creek			

Designer:	M. Jackson - Midlands RPG
Date:	5/3/2011

Design EQ	PGA	S_{DS}	S_{D1}	M_W	R (km)	Geologic Condition	Site Class	Damping
FEE	0.05	0.09	0.04			Hard Rock Basement Outcrop	C	5%
SEE	0.14	0.22	0.12			Hard Rock Basement Outcrop	C	

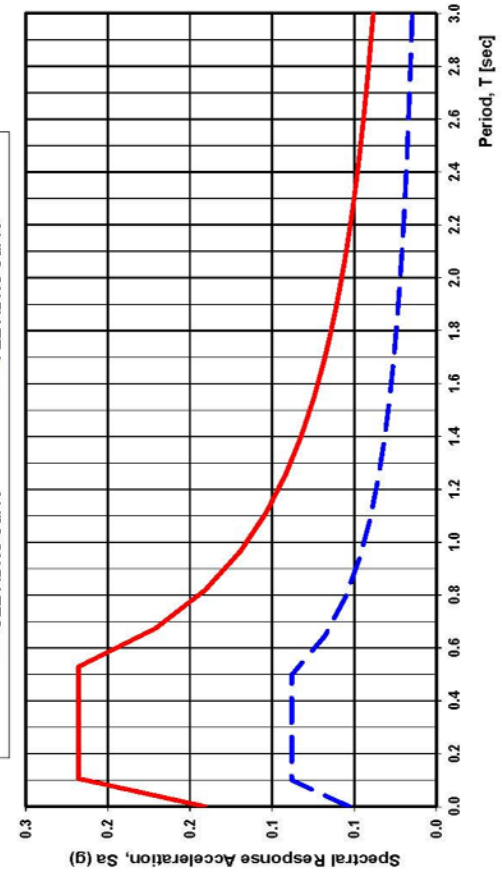
FEE ADRS Curve
Three-Point Method

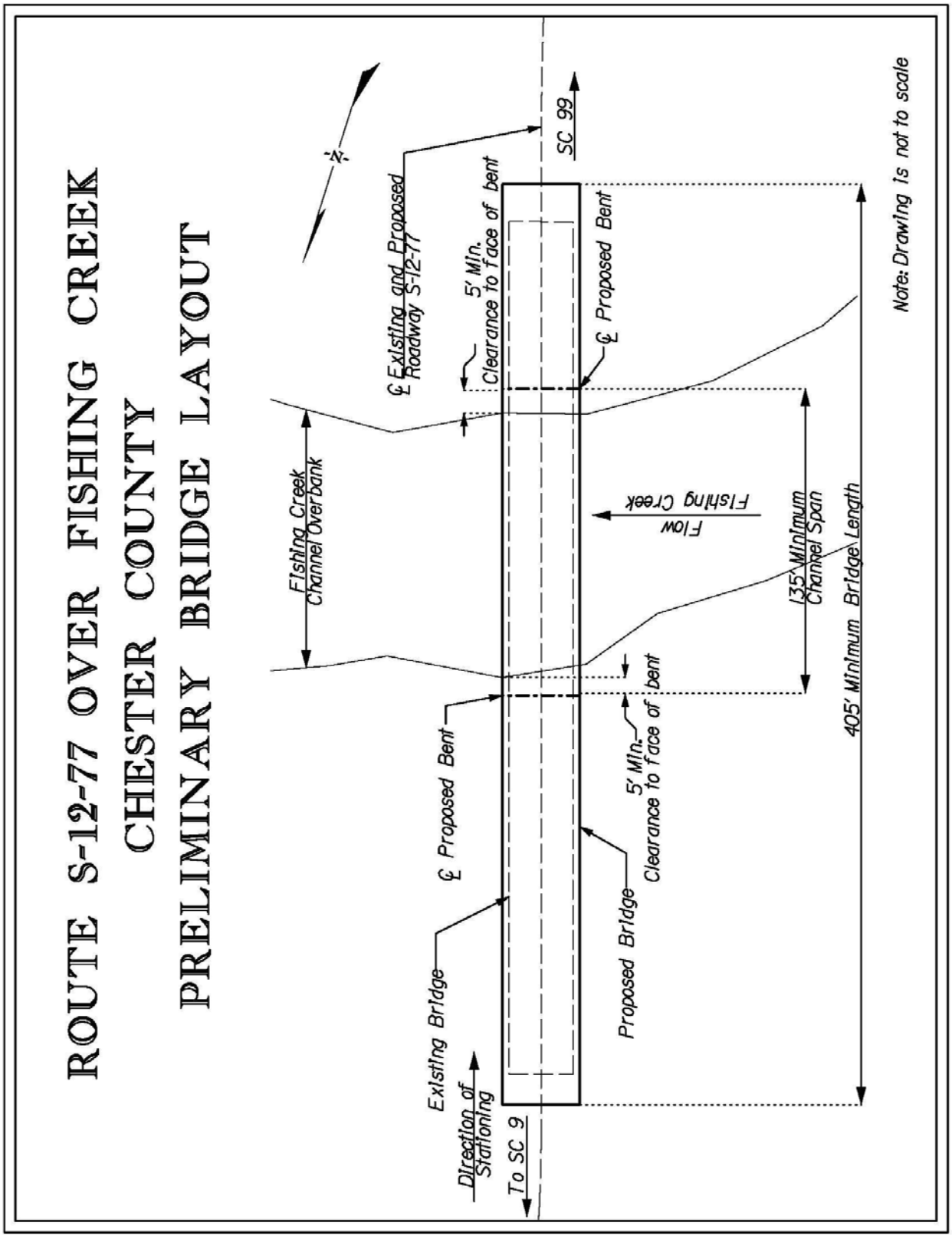
T	S_a
0.00	0.05
0.02	0.06
0.03	0.06
0.05	0.07
0.07	0.08
0.08	0.08
T_0 0.10	0.09
0.13	0.09
0.17	0.09
0.20	0.09
0.23	0.09
0.27	0.09
0.30	0.09
0.33	0.09
0.37	0.09
0.40	0.09
0.43	0.09
0.46	0.09
T_s 0.50	0.09
0.65	0.07
0.79	0.06
0.94	0.05
1.09	0.04
1.23	0.04
1.38	0.03
1.53	0.03
1.68	0.03
1.82	0.02
1.97	0.02
2.12	0.02
2.26	0.02
2.41	0.02
2.56	0.02
2.71	0.02
2.85	0.02
3.00	0.01

SEE ADRS Curve
Three-Point Method

T	S_a
0.00	0.14
0.02	0.15
0.04	0.17
0.05	0.18
0.07	0.19
0.09	0.20
T_0 0.11	0.22
0.14	0.22
0.18	0.22
0.21	0.22
0.25	0.22
0.28	0.22
0.32	0.22
0.35	0.22
0.39	0.22
0.42	0.22
0.46	0.22
0.49	0.22
T_s 0.53	0.22
0.67	0.17
0.82	0.14
0.97	0.12
1.11	0.10
1.26	0.09
1.40	0.08
1.55	0.07
1.69	0.07
1.84	0.06
1.98	0.06
2.13	0.05
2.27	0.05
2.42	0.05
2.56	0.04
2.71	0.04
2.85	0.04
3.00	0.04

SC Seismic Hazard Map Three-Point ADRS Curve From Ground Surface




ROUTE S-12-77 OVER FISHING CREEK
CHESTER COUNTY
PRELIMINARY BRIDGE LAYOUT
N
℄ Existing and Proposed Roadway S-12-77
SC 99
5' Min. Clearance to face of bent
℄ Proposed Bent
Fishing Creek Channel Overbank
Flow Fishing Creek
135' Minimum Channel Span
405' Minimum Bridge Length
Note: Drawing is not to scale
℄ Proposed Bent
Existing Bridge
Proposed Bridge
5' Min. Clearance to face of bent
Direction of Stationing
To SC 9

BRIDGE B

ROUTE: S-12-141
CROSSING: ROCKY CREEK
COUNTY: CHESTER
STRUCTURE NUMBER: 1270014100100

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	155 feet
End of Existing Bridge:	194 feet
Design Speed:	40 mph
Functional Classification:	Rural Local - Secondary
Design ADT:	1,216
Terrain:	Rolling

***Minimum Approach Length includes transition from project design criteria to existing condition.*

Typical Section
Roadway Approaches will consist of 2 – 11'-0" Lanes with 6'-0" Shoulders (2'-0" Paved Shoulders and 4'-0" Grassed Shoulders)

Maintenance of Traffic
The proposed bridge will be constructed on existing horizontal alignment. Traffic will be detoured during construction.

The CONTRACTOR shall close structure and detour traffic using the detour route specified in this criteria while the new bridge is constructed.

Pavement Design

New Construction

a. Surface – 150 psy HMA Surface Type C
   Intermediate – 200 psy HMA Intermediate Type C
   Base - 400 psy HMA Base Type B

Existing Pavement
8" of Full Depth Patching as directed by SCDOT in accordance with Special Provision – Section 401; Full Depth Asphalt Pavement Patching.
Overlay – 150 psy HMA Surface Type C
Variable milling for pavement tie-ins as directed by SCDOT

b) HYDROLOGY

The project site is located in a FEMA Special Flood Hazard Area Zone AE based on latest maps reviewed by Department. In addition, flood stages along the Catawba River are controlled by Duke Energy and therefore will require completion of the Duke Energy Conveyance Permit Application and FERC notification.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed: Prestressed Concrete Girders
Structural Steel Rolled W Beams
Structural Steel Welded Plate Girders

Minimum Outside Deck Width:
The minimum outside deck width shall be 37'-3" (Includes 34'-0" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1 ½" Slab Extensions for Slip Forming Barriers)

Bridge Skew: To be determined by hydraulic design.

Miscellaneous Requirements
The use of MSE Walls as bridge abutments will not be allowed for this bridge.

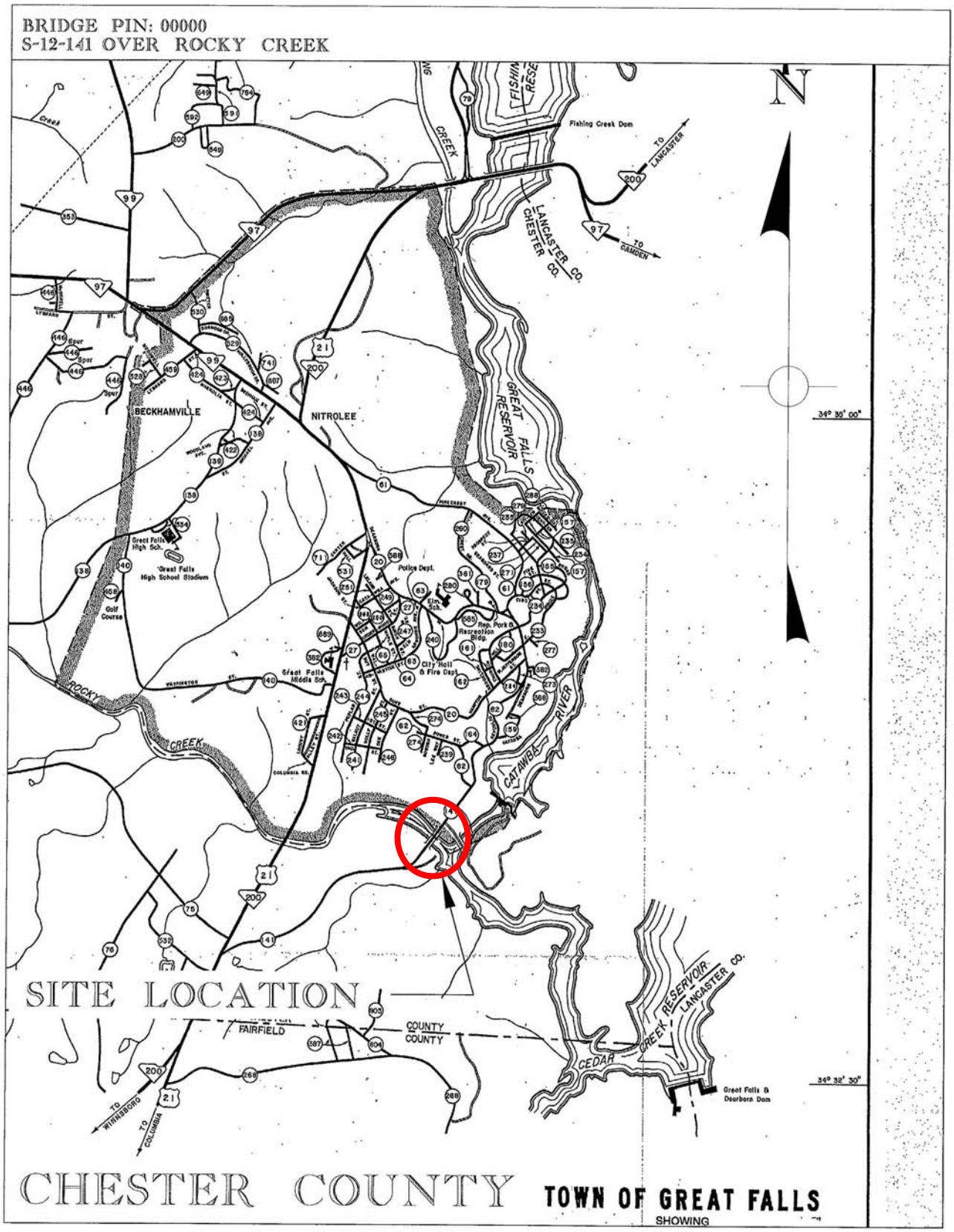
Seismic Design Criteria
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

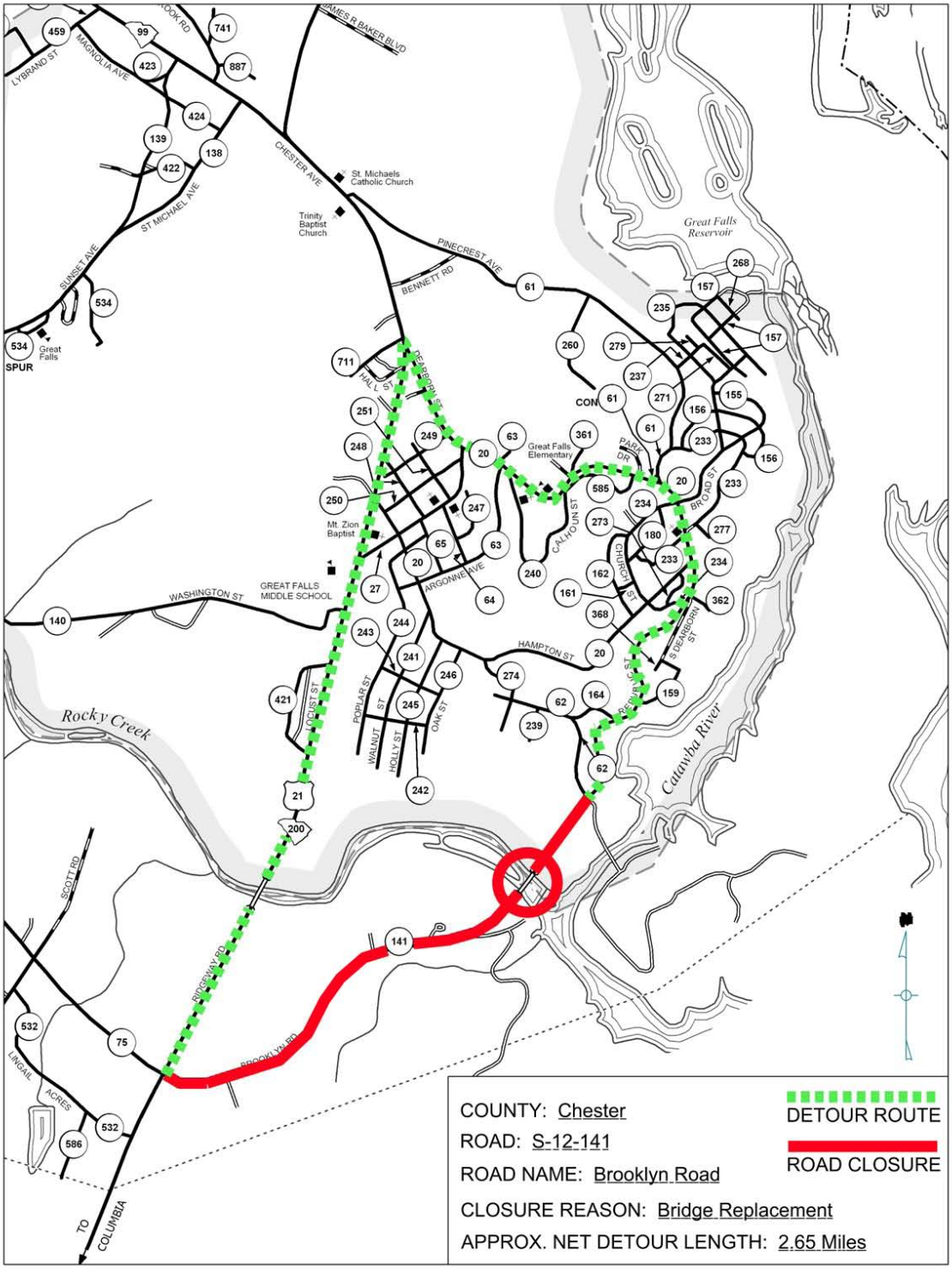
General Bridge Layout Requirements
The Contractor shall follow the minimum bridge length and span layout requirements as shown in Preliminary Bridge Layout Requirements sketch.

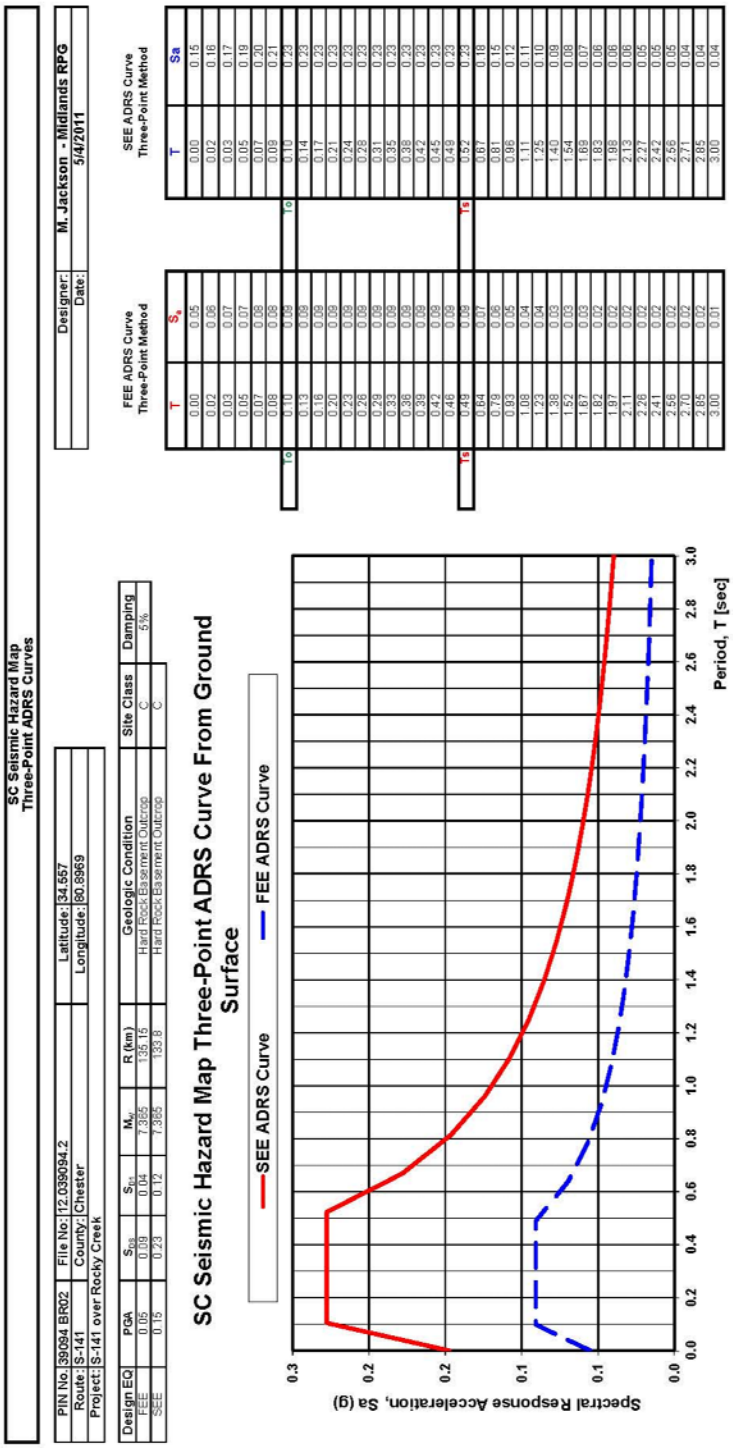
Note: Minimum bridge length shall be 320'-0" and minimum lengths of spans in channel shall be 80'-0" as shown in the Preliminary Bridge Layout sketch.

d) UTILITIES

SCDOT has begun utility coordination efforts with the Town of Great Falls concerning the 8" sewer main currently attached to the existing S-141 Bridge over Rocky Creek. The individual NTP for Construction at Rocky Creek Bridge will not be available until 250 calendar days from Full Notice to Proceed.


BRIDGE PIN: 00000
S-12-141 OVER ROCKY CREEK
N
BECKHAMVILLE
NITROLEE
GREAT FALLS RESERVOIR
LANCASTER CO.
CHESTER CO.
Fishing Creek Dam
TO LANCASTER
TO CAMDEN
Great Falls High Sch.
Great Falls High School Stadium
Golf Course
Police Dept.
City Hall & Fire Dept.
Great Falls Middle Sch.
Rec. Park & Recreation Bldg.
ROCKY CREEK
CATAWBA RIVER
34° 35' 00"
34° 32' 30"
SITE LOCATION
FAIRFIELD COUNTY
COUNTY
CEDAR CREEK RESERVOIR
LANCASTER CO.
Great Falls & Dearborn Dam
TO WINNSBORO
TO COLUMBIA
CHESTER COUNTY
TOWN OF GREAT FALLS
SHOWING


COUNTY: Chester
ROAD: S-12-141
ROAD NAME: Brooklyn Road
CLOSURE REASON: Bridge Replacement
APPROX. NET DETOUR LENGTH: 2.65 Miles
DETOUR ROUTE
ROAD CLOSURE
Great Falls Reservoir
Rocky Creek
Catawba River
GREAT FALLS MIDDLE SCHOOL
Great Falls Elementary
St. Michaels Catholic Church
Trinity Baptist Church
Mt. Zion Baptist
Great Falls
SPUR
WASHINGTON ST
CHESTER AVE
PINECREST AVE
BENNETT RD
ST MICHAEL AVE
SUNSET AVE
MAGNOLIA AVE
LYBRAND ST
JAMES B BAKER BLVD
ARGONNE AVE
HAMPTON ST
CALHOUN ST
CHURCH ST
BROAD ST
DEARBORN ST
RIVER ST
POPLAR ST
WALNUT ST
HOLLY ST
OAK ST
LOCUST ST
HALL ST
PARK DR
SCOTT RD
RIDGEWAY RD
BROOKLYN RD
LINGAIL
ACRES
TO COLUMBIA



SC Seismic Hazard Map
Three-Point ADRS Curves

PIN No.: 39094 BR02	File No.: 12.039094.2	Latitude: 34.557	
Route: S-141	County: Chester	Longitude: 80.8969	
Project: S-141 over Rocky Creek			

Designer:	M. Jackson - Midlands RPG
Date:	5/4/2011

Design EQ	PGA	S_{DS}	S_{D1}	M_w	R (km)	Geologic Condition	Site Class	Damping
FEE	0.05	0.09	0.04	7.3/5	135.15	Hard Rock Basement Outcrop	C	5%
SEE	0.15	0.23	0.12	7.3/5	133.8	Hard Rock Basement Outcrop	C	

FEE ADRS Curve
Three-Point Method

T	S_a
0.00	0.05
0.02	0.06
0.03	0.07
0.05	0.07
0.07	0.08
0.08	0.08
To 0.10	0.09
0.13	0.09
0.16	0.09
0.20	0.09
0.23	0.09
0.26	0.09
0.29	0.09
0.33	0.09
0.36	0.09
0.39	0.09
0.42	0.09
0.46	0.09
Ts 0.49	0.09
0.64	0.07
0.79	0.06
0.83	0.05
1.08	0.04
1.23	0.04
1.38	0.03
1.52	0.03
1.67	0.03
1.82	0.02
1.97	0.02
2.11	0.02
2.26	0.02
2.41	0.02
2.56	0.02
2.70	0.02
2.85	0.02
3.00	0.01

SEE ADRS Curve
Three-Point Method

T	S_a
0.00	0.15
0.02	0.16
0.03	0.17
0.05	0.19
0.07	0.20
0.08	0.21
To 0.10	0.23
0.14	0.23
0.17	0.23
0.21	0.23
0.24	0.23
0.28	0.23
0.31	0.23
0.35	0.23
0.38	0.23
0.42	0.23
0.45	0.23
0.49	0.23
Ts 0.52	0.23
0.67	0.19
0.81	0.15
0.96	0.12
1.11	0.11
1.25	0.10
1.40	0.09
1.54	0.08
1.69	0.07
1.83	0.06
1.98	0.06
2.13	0.06
2.27	0.05
2.42	0.05
2.56	0.05
2.71	0.04
2.85	0.04
3.00	0.04

SC Seismic Hazard Map Three-Point ADRS Curve From Ground Surface

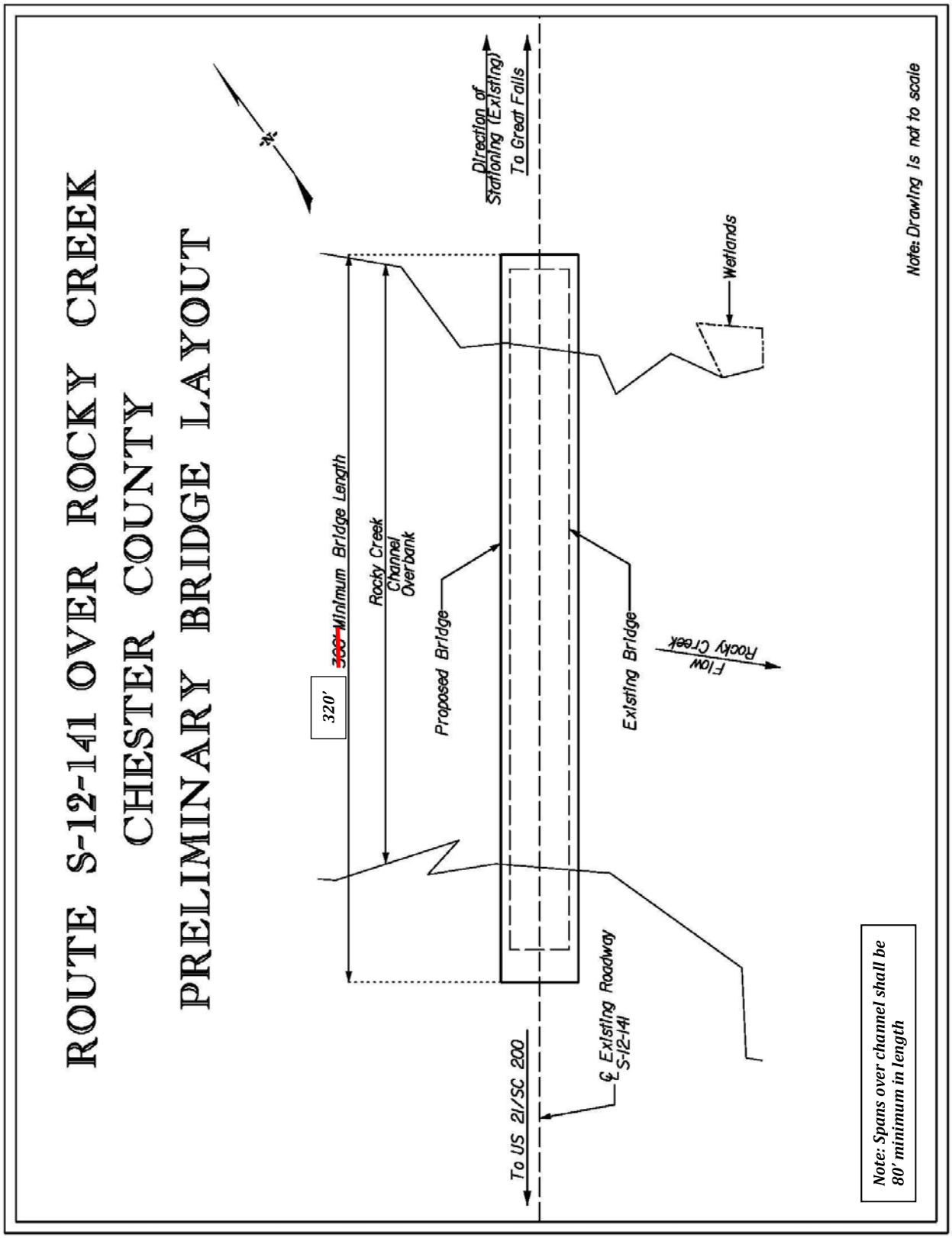
SEE ADRS Curve
FEE ADRS Curve

Spectral Response Acceleration, Sa (g)

0.0 0.1 0.2 0.3 0.1 0.2

Period, T [sec]

0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0


ROUTE S-12-141 OVER ROCKY CREEK
CHESTER COUNTY
PRELIMINARY BRIDGE LAYOUT
Direction of Stationing (Existing) To Great Falls
Wetlands
Note: Drawing is not to scale
320'
~~300'~~ Minimum Bridge Length
Rocky Creek Channel Overbank
Proposed Bridge
Existing Bridge
Flow Rocky Creek
℄ Existing Roadway S-12-141
To US 21/SC 200
Note: Spans over channel shall be 80' minimum in length

BRIDGE C

ROUTE: SC 200
CROSSING: WATEREE CREEK
COUNTY: FAIRFIELD
STRUCTURE NUMBER: 2040020000500

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	688 feet
End of Existing Bridge:	1127 feet
Design Speed:	60 mph
Functional Classification:	Rural Minor Arterial
Design ADT:	2,465
Terrain:	Rolling

***Minimum Approach Length includes transition from project design criteria to existing condition.*

Typical Section
Roadway Approaches will consist of 2 – 12'-0" Lanes with 10'-0" Shoulders (2'-0" Paved Shoulders and 8'-0" Grassed Shoulders)

Maintenance of Traffic
The proposed bridge will be constructed on existing horizontal alignment. Traffic will be detoured during construction.

The CONTRACTOR shall close structure and detour traffic using the detour route specified in this criteria while the new bridge is constructed.

Pavement Design

New Construction

a. Surface – 200 psy HMA Surface Type B
   Intermediate – 200 psy HMA Intermediate Type B
   Base - 450 psy HMA Base Type A

Existing Pavement
8" of Full Depth Patching as directed by SCDOT in accordance with Special Provision – Section 401; Full Depth Asphalt Pavement Patching.
Overlay – 200 psy HMA Surface Type B
Variable milling for pavement tie-ins as directed by SCDOT

b) HYDROLOGY

The project site is located in a FEMA Special Flood Hazard Area Zone A based on latest maps reviewed by Department.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed: Prestressed Concrete Girders
Structural Steel Rolled W Beams
Structural Steel Welded Plate Girders

Minimum Outside Deck Width:
The minimum outside deck width shall be 47'-3" (Includes 44'-0" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1 ½" Slab Extensions for Slip Forming Barriers)

Bridge Skew: To be determined by hydraulic design.

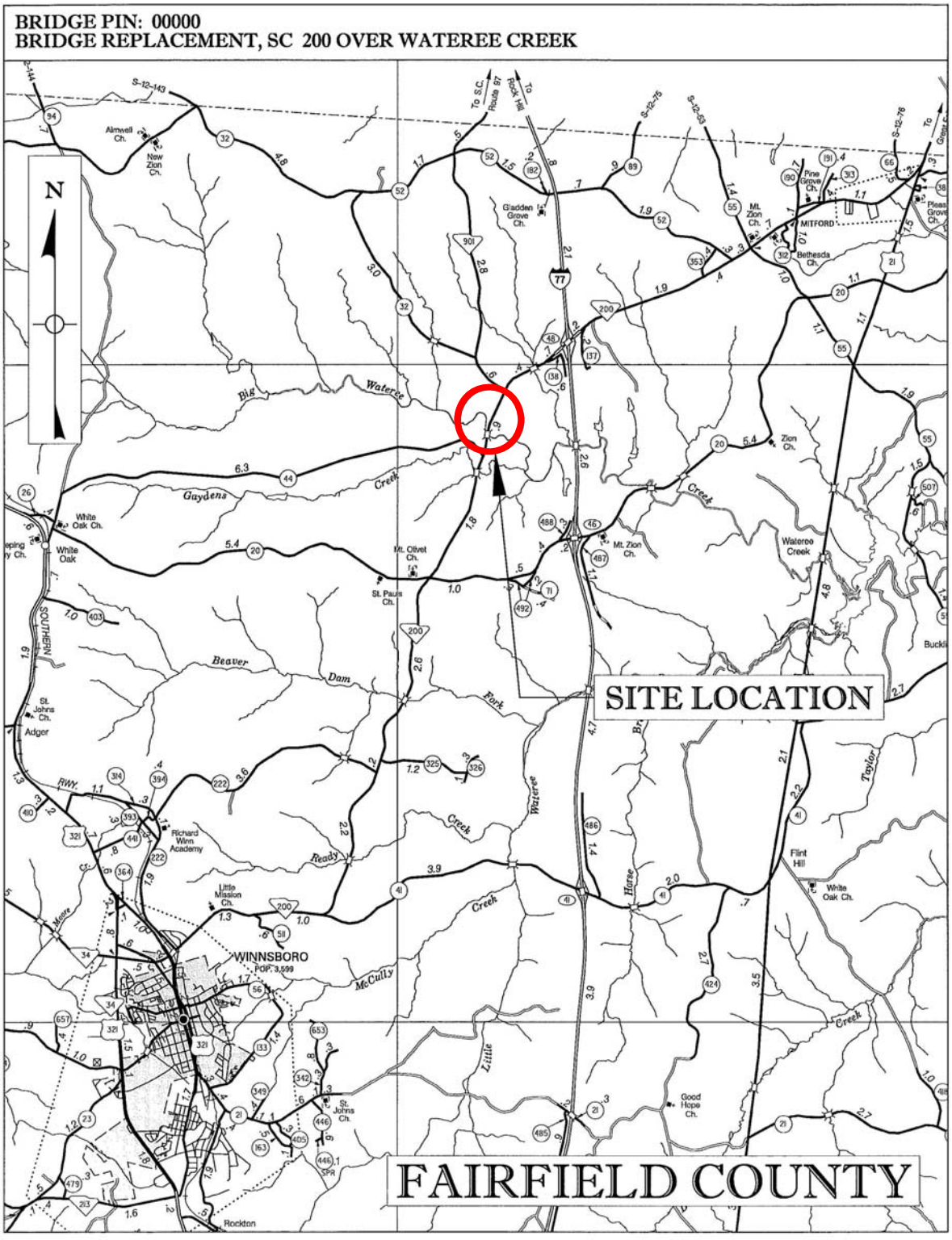
Miscellaneous Requirements
The use of MSE Walls as bridge abutments will not be allowed for this bridge.

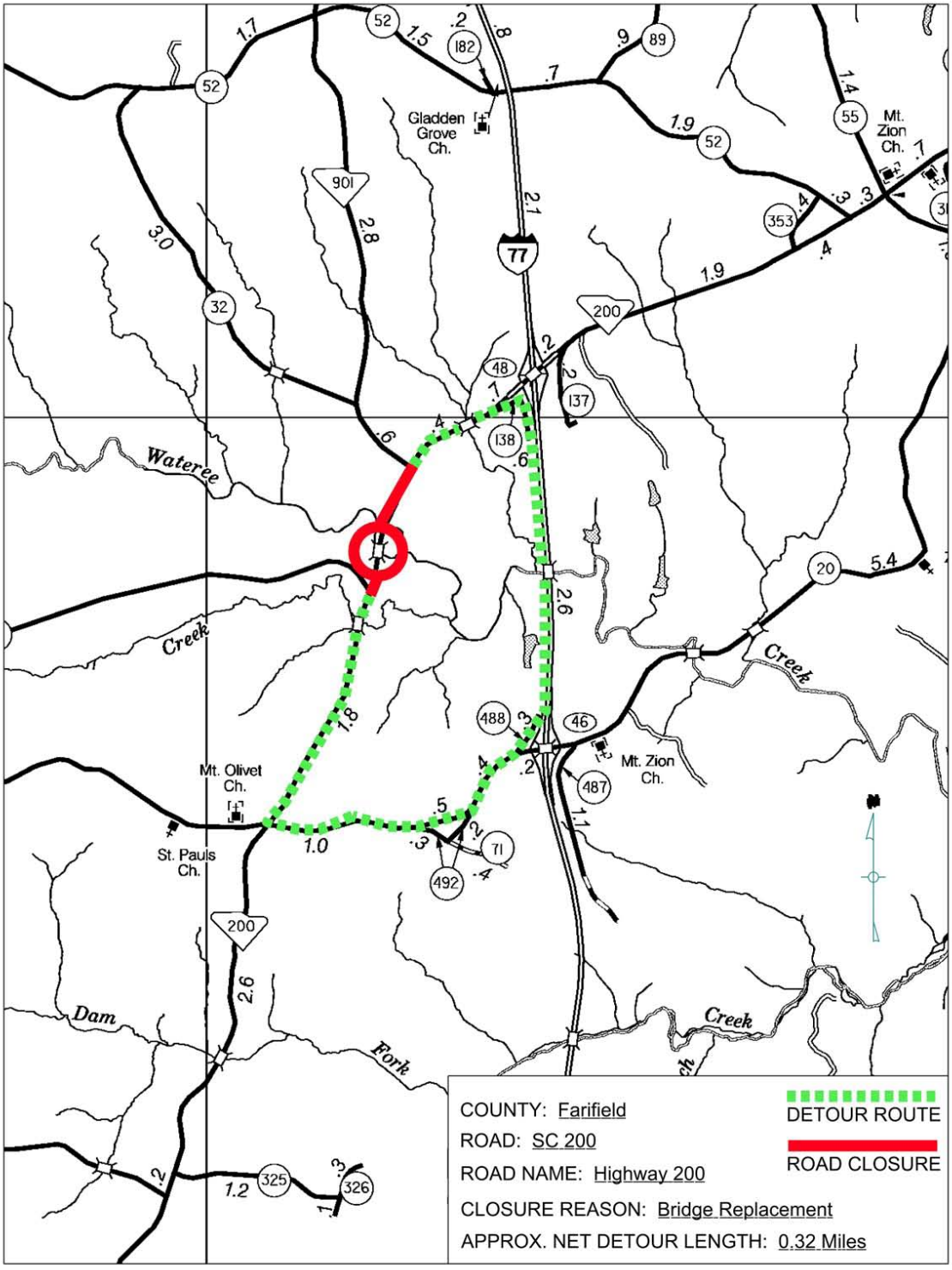
Seismic Design Criteria
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

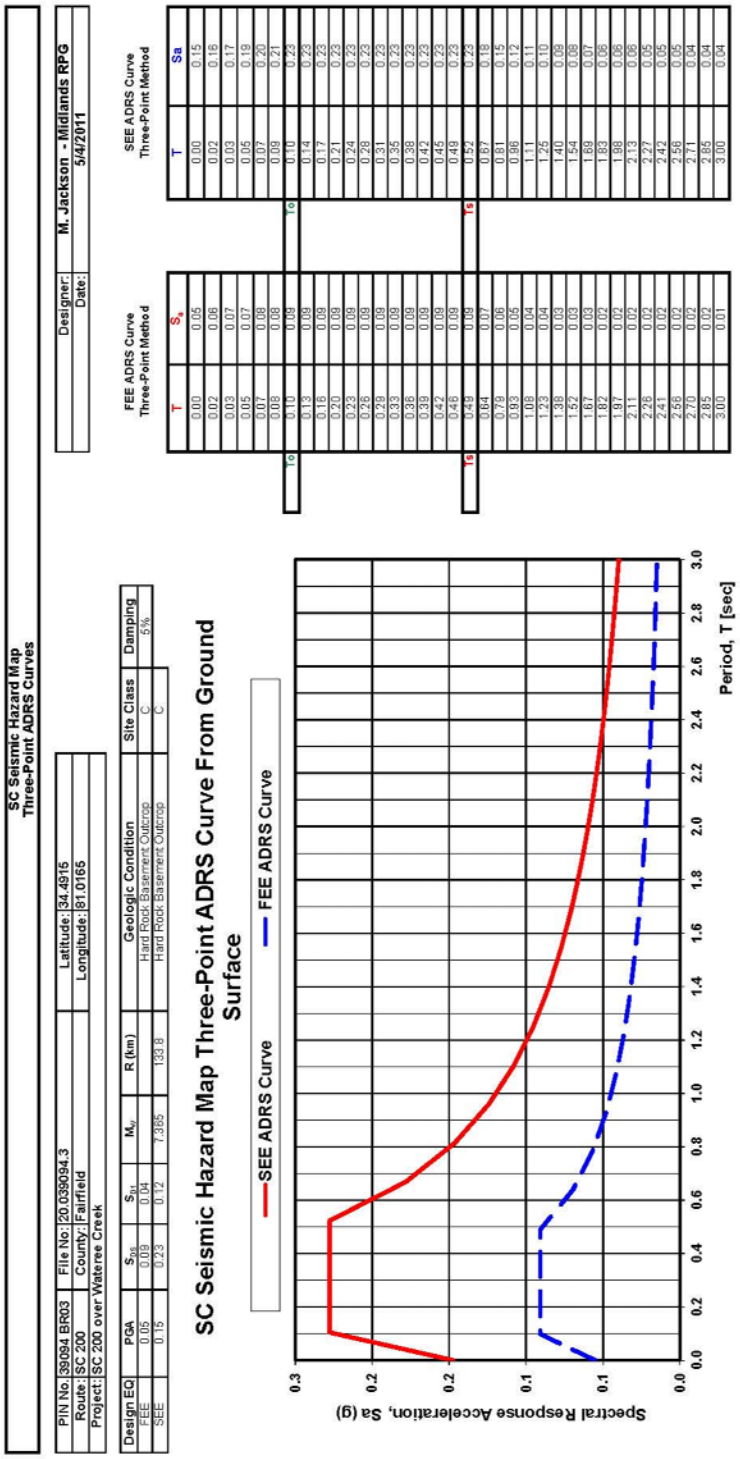
General Bridge Layout Requirements
The Contractor shall follow the minimum bridge length requirements as shown in Preliminary Bridge Layout sketch

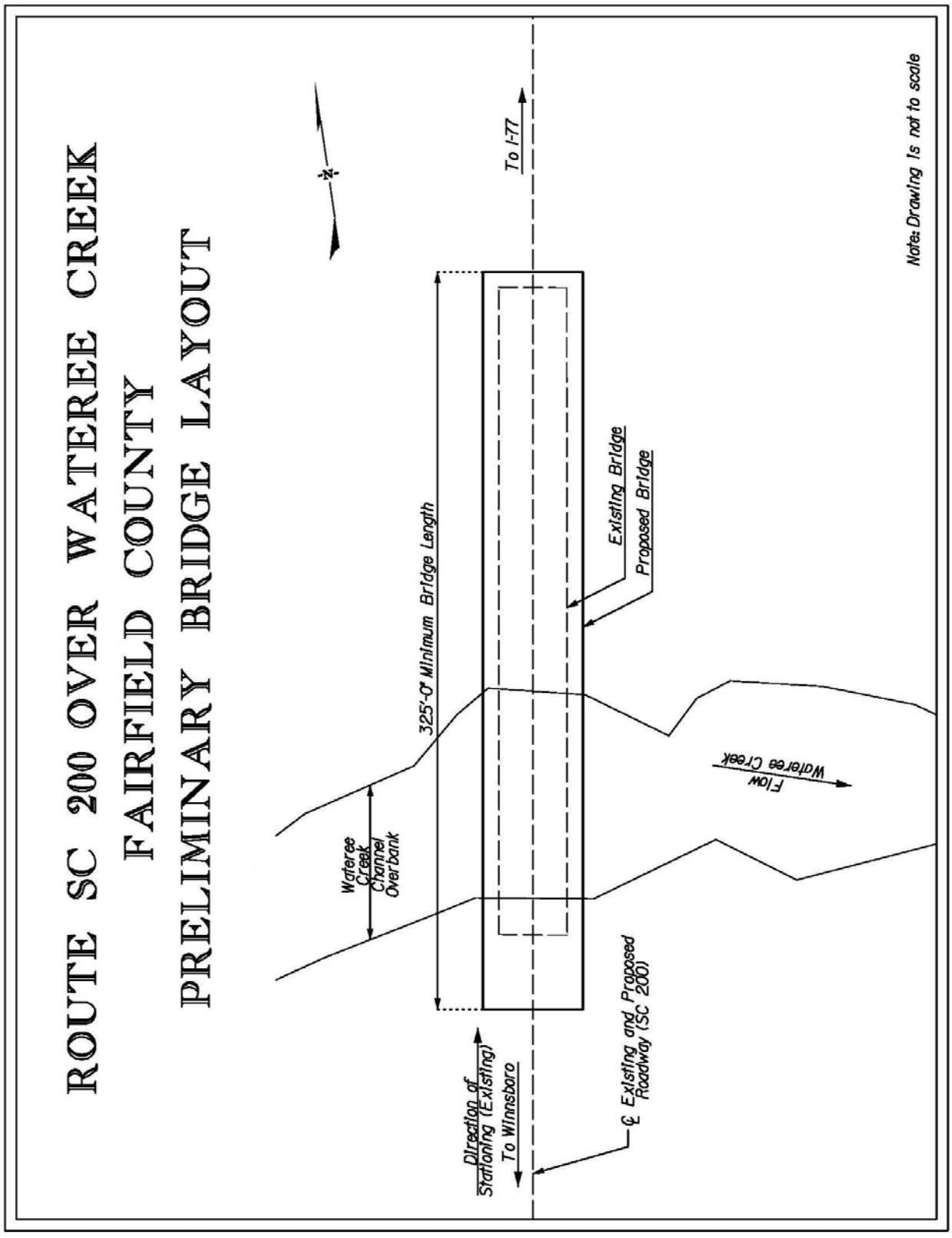
Note: Minimum bridge length shall be 325'-0" as shown in the Preliminary Bridge Layout sketch.

Interior Bents are allowed within the channel for this location.


BRIDGE PIN: 00000
BRIDGE REPLACEMENT, SC 200 OVER WATEREE CREEK
N
SITE LOCATION
FAIRFIELD COUNTY
WINNSBORO
POP. 3,599
Big Wateree Creek
Gaydens Creek
Beaver Dam Fork
Ready Creek
McCully Creek
Little Horse Creek
Wateree Creek
Taylor Creek
Mt. Olivet Ch.
St. Pauls Ch.
Mt. Zion Ch.
Zion Ch.
Bethesda Ch.
Gladden Grove Ch.
Pine Grove Ch.
White Oak Ch.
St. Johns Ch.
Richard Winn Academy
Little Mission Ch.
Good Hope Ch.
Flint Hill
MITFORD
Adger
Rockton


Gladden Grove Ch.
Mt. Zion Ch.
Mt. Olivet Ch.
St. Pauls Ch.
Mt. Zion Ch.
Wateree
Creek
Creek
Creek
Dam
Fork
Creek
COUNTY: Farifield
ROAD: SC 200
ROAD NAME: Highway 200
CLOSURE REASON: Bridge Replacement
APPROX. NET DETOUR LENGTH: 0.32 Miles
DETOUR ROUTE
ROAD CLOSURE


SC Seismic Hazard Map
Three-Point ADRS Curves
PIN No.:39094 BR03
File No.:20.039094.3
Latitude:34.4916
Route:SC 200
County:Fairfield
Longitude:-81.0165
Project:SC 200 over Wateree Creek
Designer:
M. Jackson - Midlands RPG
Date:
5/4/2011
Design EQ
PGA
S_{DS}
S_{D1}
M_W
R (km)
Geologic Condition
Site Class
Damping
FEE
0.05
0.08
0.04
7.365
133.8
Hard Rock Basement Outcrop
C
5%
SEE
0.15
0.23
0.12
7.365
133.8
Hard Rock Basement Outcrop
C
FEE ADRS Curve
Three-Point Method
SEE ADRS Curve
Three-Point Method
T
S_a
T_0
T_S
SC Seismic Hazard Map Three-Point ADRS Curve From Ground Surface
SEE ADRS Curve
FEE ADRS Curve
Spectral Response Acceleration, Sa (g)
Period, T [sec]


ROUTE SC 200 OVER WATEREE CREEK
FAIRFIELD COUNTY
PRELIMINARY BRIDGE LAYOUT
N
To I-77
Note: Drawing Is not to scale
Existing Bridge
Proposed Bridge
325'-0" Minimum Bridge Length
Wateree Creek Channel Overbank
Flow Wateree Creek
℄ Existing and Proposed Roadway (SC 200)
Direction of Stationing (Existing) To Winnsboro

BRIDGE D

ROUTE: SC 9 EAST BOUND LANE
CROSSING: CATAWBA RIVER
COUNTY: CHESTER/LANCASTER
STRUCTURE NUMBER: 2940000920100

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	330 feet
End of Existing Bridge:	1505 feet
Design Speed:	60 mph
Functional Classification:	Rural Minor Arterial
Design ADT:	8,825
Terrain	Rolling

***Minimum Approach Length includes transition from project design criteria to existing condition but does not include maintenance of traffic lane shift lengths.*

Typical Section
Roadway Approaches will consist of 2 – 12'-0" Lanes with 10'-0" Shoulders (2'-0" Paved Shoulders and 8'-0" Grassed Shoulders)

Maintenance of Traffic
The proposed bridge will be constructed on existing horizontal alignment. Traffic for both eastbound and westbound will be maintained on the existing westbound bridge during construction (one lane in each direction divided by a temporary concrete barrier). See traffic control special provisions.

Temporary concrete barrier wall placed in the center of the bridge for separating two-way traffic shall ~~does not~~ require anchorage to the bridge deck.

Pavement Design

New Construction
Surface – 200 psy HMA Surface Type B
Intermediate – 200 psy HMA Surface Type B
Base - 1200 psy HMA Base Type A

Existing Pavement
14" of Full Depth Patching as directed by SCDOT in accordance with Special Provision – Section 401; Full Depth Asphalt Pavement Patching.
Overlay –200 psy HMA Surface Type B
Variable milling for pavement tie-ins as directed by SCDOT

Temporary Pavement (median crossovers)
Surface – 200 psy HMA Surface Type B
Intermediate – 200 psy HMA Surface Type B
Base – 800 psy HMA Base Type A

b) HYDROLOGY

The project site is located in a FEMA Special Flood Hazard Area Zone A based on latest maps reviewed by Department. In addition, flood stages along the Catawba River are controlled by Duke Energy and therefore will require completion of the Duke Energy Conveyance Permit Application and FERC notification.

Low Chord elevation of the new bridge shall be equal to or greater than the low chord elevation, at mid span, of the beams on the westbound bridge.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed: Prestressed Concrete Girders
Structural Steel Rolled W Beams
Structural Steel Welded Plate Girders

Minimum Outside Deck Width:
The minimum outside deck width shall be 47'-3" (Includes 44'-0" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1 ½" Slab Extensions for Slip Forming Barriers)

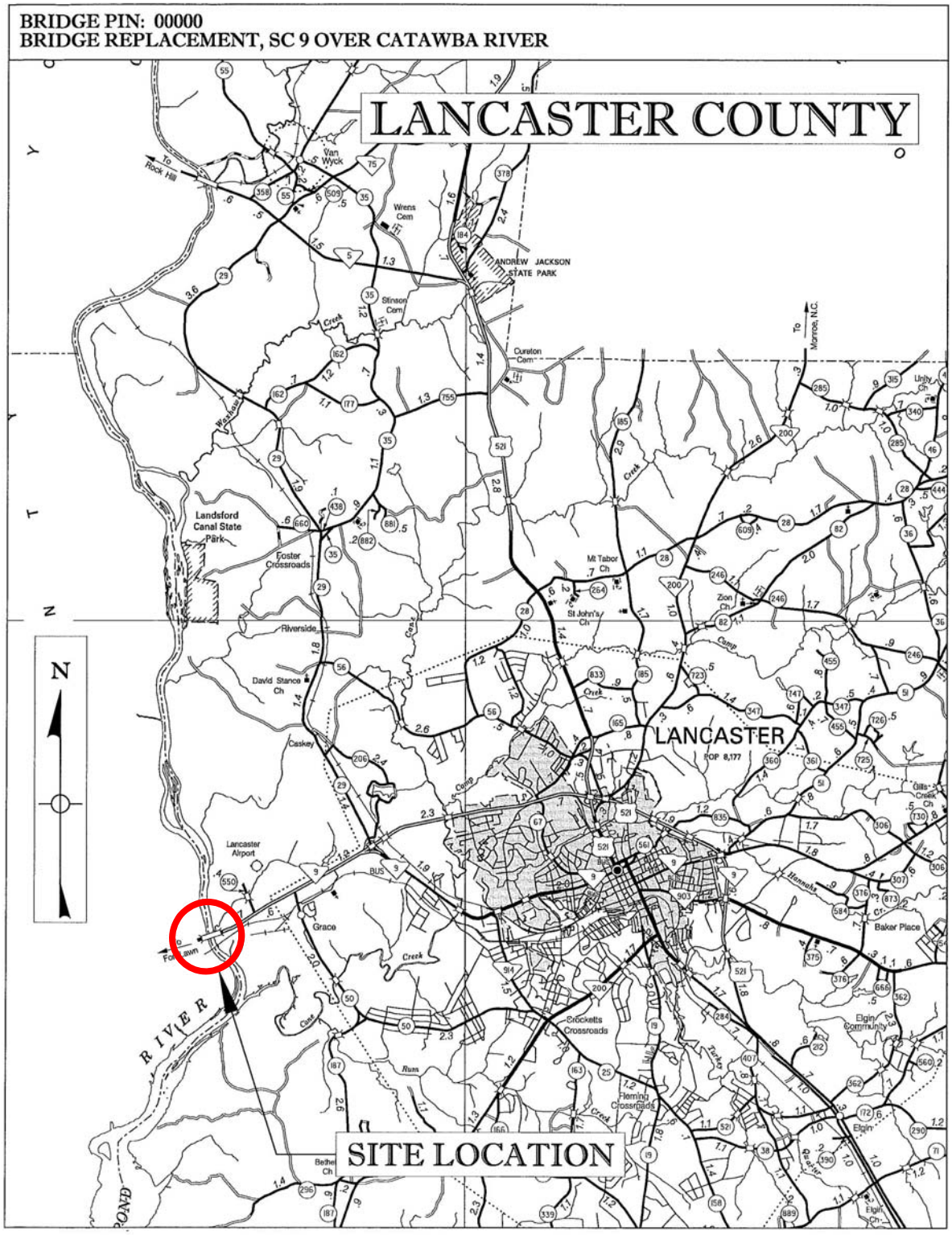
Bridge Skew: To be determined by hydraulic design.

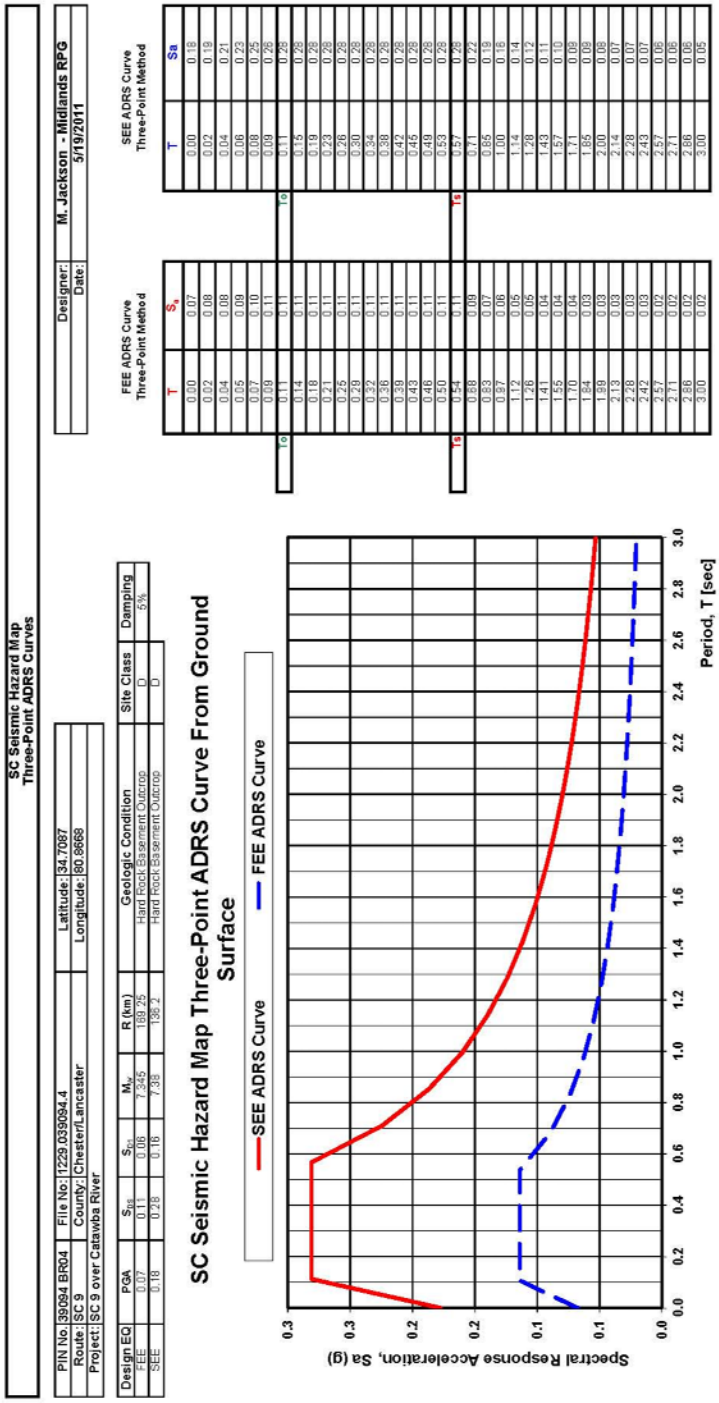
Miscellaneous Requirements
The use of MSE walls as bridge abutments will not be allowed for this bridge.

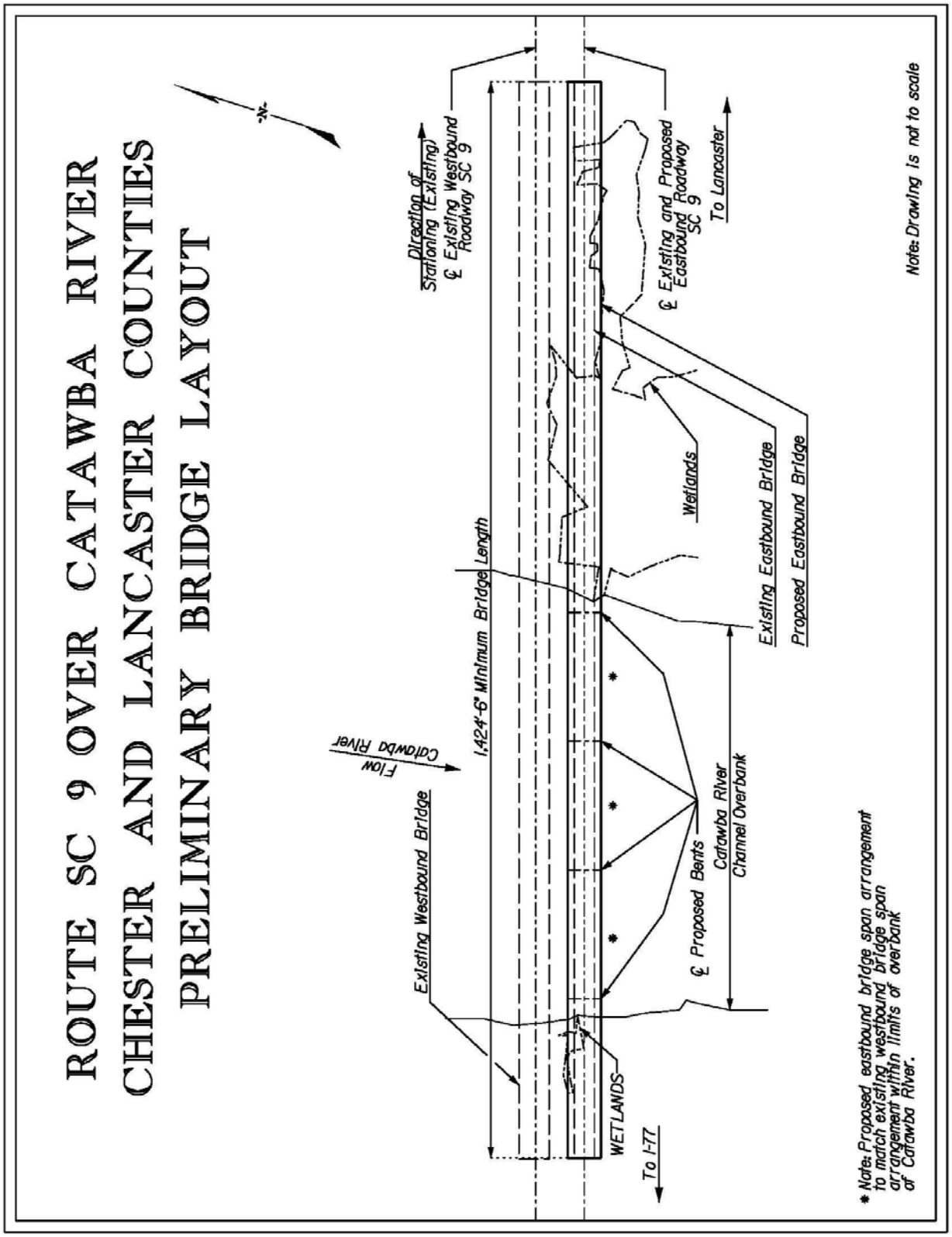
Seismic Design Criteria
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

General Bridge Layout Requirements
The Contractor shall follow the minimum bridge length and span layout requirements as shown in Preliminary Bridge Layout sketch. The proposed eastbound bridge span arrangement shall match the existing westbound bridge span arrangement within the limits of the Catawba River overbanks. No offset will be allowed.

Note: Minimum bridge length shall be 1424'-6" and should closely match the length of West bound lane bridge as shown in the Preliminary Bridge Layout sketch.


BRIDGE PIN: 00000
BRIDGE REPLACEMENT, SC 9 OVER CATAWBA RIVER
LANCASTER COUNTY
LANCASTER
POP 8,177
SITE LOCATION
N
ANDREW JACKSON STATE PARK
Landsford Canal State Park
Lancaster Airport
Crockett's Crossroads
Fleming Crossroads
Foster Crossroads
Riverside
David Stance Ch
Caskey
Graco
Mt Tabor Ch
St John's Ch
Zion Ch
Baker Place
Elgin
Elgin Community
Wrens Cem
Stinson Cem
Cureton Cem
Van Wyck
Unity Ch
Beth Ch
To Rock Hill
To Monroe, N.C.
RIVER


SC Seismic Hazard Map
Three-Point ADRS Curves
PIN No. 39094 BR04
File No: 1229.039094.4
Latitude: 34.7087
Route: SC 9
County: Chester/Lancaster
Longitude: 80.8668
Project: SC 9 over Catawba River
Designer: M. Jackson - Midlands RPG
Date: 5/19/2011
Design EQ
PGA
S_{ss}
S_{s1}
M_w
R (km)
Geologic Condition
Site Class
Damping
FEE
0.07
0.11
0.06
7.345
189.25
Hard Rock Basement Outcrop
D
5%
SEE
0.18
0.28
0.16
7.38
136.2
Hard Rock Basement Outcrop
D
FEE ADRS Curve
Three-Point Method
SEE ADRS Curve
Three-Point Method
T
S_a
SC Seismic Hazard Map Three-Point ADRS Curve From Ground Surface
SEE ADRS Curve
FEE ADRS Curve
Spectral Response Acceleration, Sa (g)
Period, T [sec]


ROUTE SC 9 OVER CATAWBA RIVER
CHESTER AND LANCASTER COUNTIES
PRELIMINARY BRIDGE LAYOUT
-N-
Direction of Stationing (Existing)
℄ Existing Westbound Roadway SC 9
℄ Existing and Proposed Eastbound Roadway SC 9
To Lancaster
Wetlands
Existing Eastbound Bridge
Proposed Eastbound Bridge
1,424'-6" Minimum Bridge Length
Flow Catawba River
Existing Westbound Bridge
℄ Proposed Bents
Catawba River Channel Overbank
WETLANDS
To I-77
Note: Drawing is not to scale
* Note: Proposed eastbound bridge span arrangement to match existing westbound bridge span arrangement within limits of overbank of Catawba River.

BRIDGE E

ROUTE: SC 200
CROSSING: CANE CREEK
COUNTY: LANCASTER
STRUCTURE NUMBER: 2940020000500

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	653 feet
End of Existing Bridge:	791 feet
Design Speed:	60 mph
Functional Classification:	Rural Major Collector
Design ADT:	4,088
Terrain:	Rolling

***Minimum Approach Length includes transition from project design criteria to existing condition.*

Typical Section
Roadway Approaches will consist of 2 – 12'-0" Lanes with 10'-0" Shoulders (2'-0" Paved Shoulders and 8'-0" Grassed Shoulders)

Maintenance of Traffic
The proposed bridge will be constructed on new alignment downstream of the existing structure. Two lanes of traffic (one lane in each direction) will be maintained on the existing bridge during construction.

Pavement Design

New Construction
Surface – 175 psy HMA Surface Type C
Intermediate – 200 psy HMA Surface Type C
Base - 700 psy HMA Base Type A
Alternate Base – 10 inch Graded Aggregate Base

Existing Pavement
12" of Full Depth Patching as directed by SCDOT in accordance with Special Provision – Section 401; Full Depth Asphalt Pavement Patching.
Overlay – 175 psy HMA Surface Type C
Variable milling for pavement tie-ins as directed by SCDOT

b) HYDROLOGY

The project site is located in a FEMA Special Flood Hazard Area Zone A based on latest maps reviewed by Department, and is designated as having a "high" risk for flooding.

Cane Creek at SC 200 is listed on the SCDHEC 303(d) list for impaired waters and therefore stormwater control measures for sensitive waters must be in accordance with SCDOT's MS4 Permit.

It is anticipated that there will be more than 300 feet of stream impacts on this project and an Individual Permit from the US Army Corp of Engineers will be required.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed: Prestressed Concrete Girders
Structural Steel Rolled W Beams
Structural Steel Welded Plate Girders

Minimum Outside Deck Width:
The minimum outside deck width shall be 47'-3" (Includes 44'-0" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1 ½" Slab Extensions for Slip Forming Barriers)

Bridge Skew: To be determined by hydraulic design.

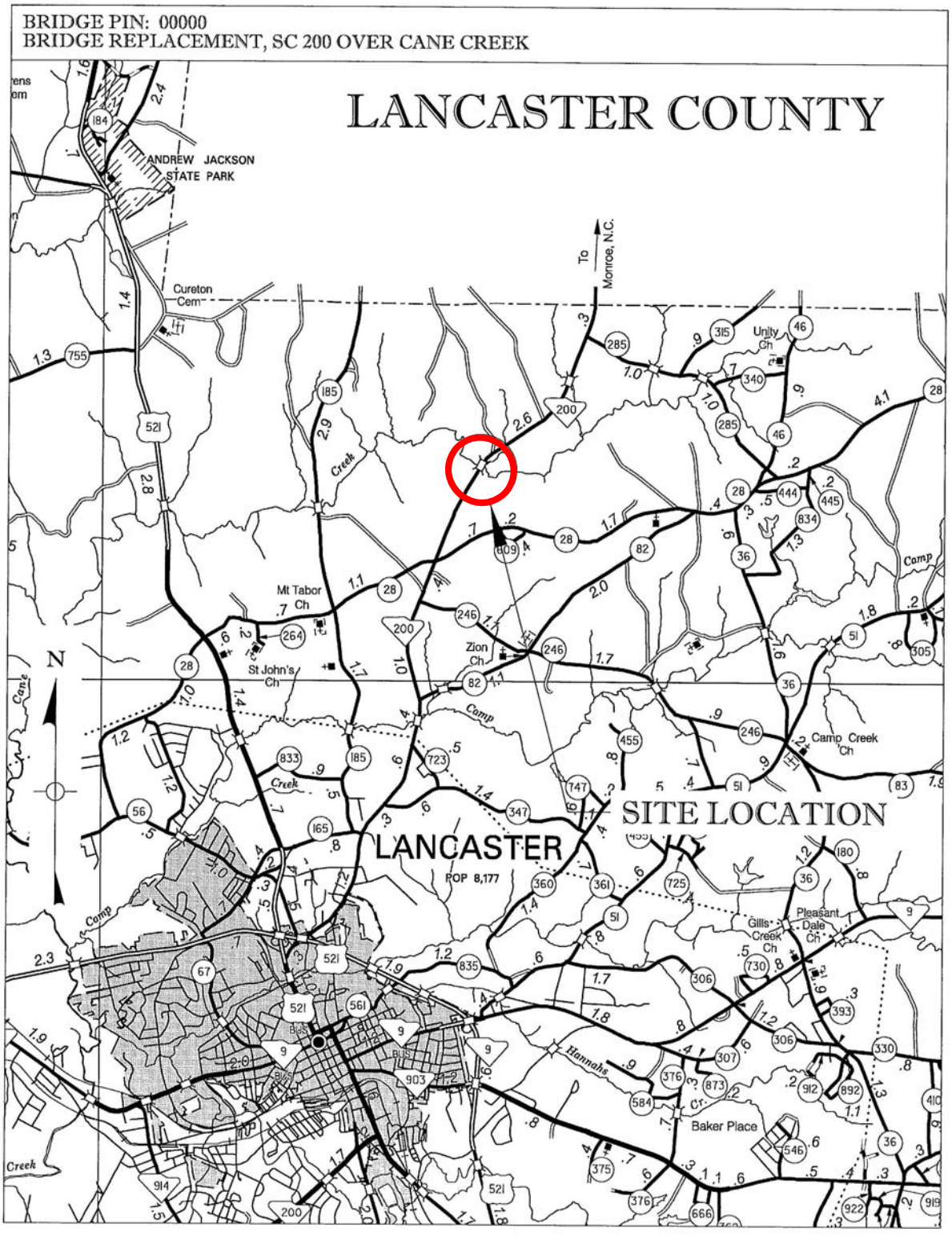
Miscellaneous Requirements

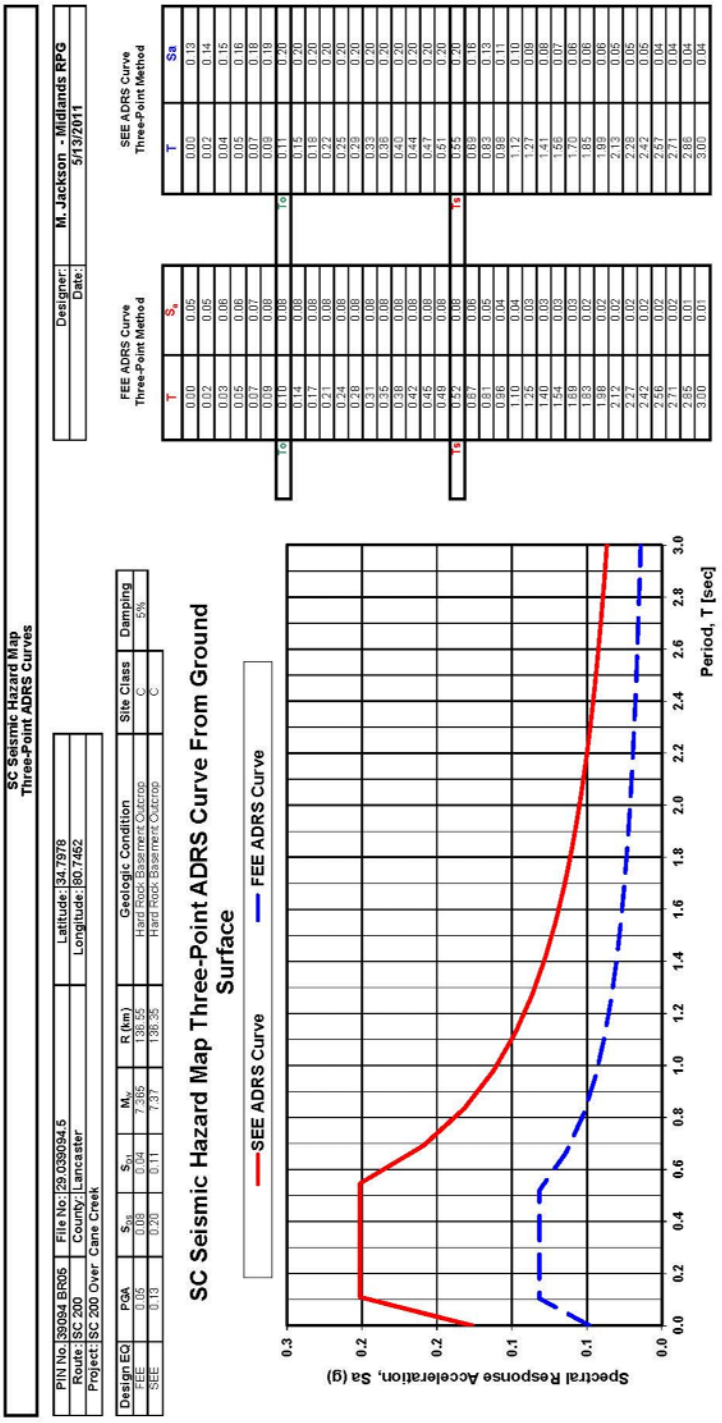
The use of MSE Walls as bridge abutments will not be allowed for this bridge.

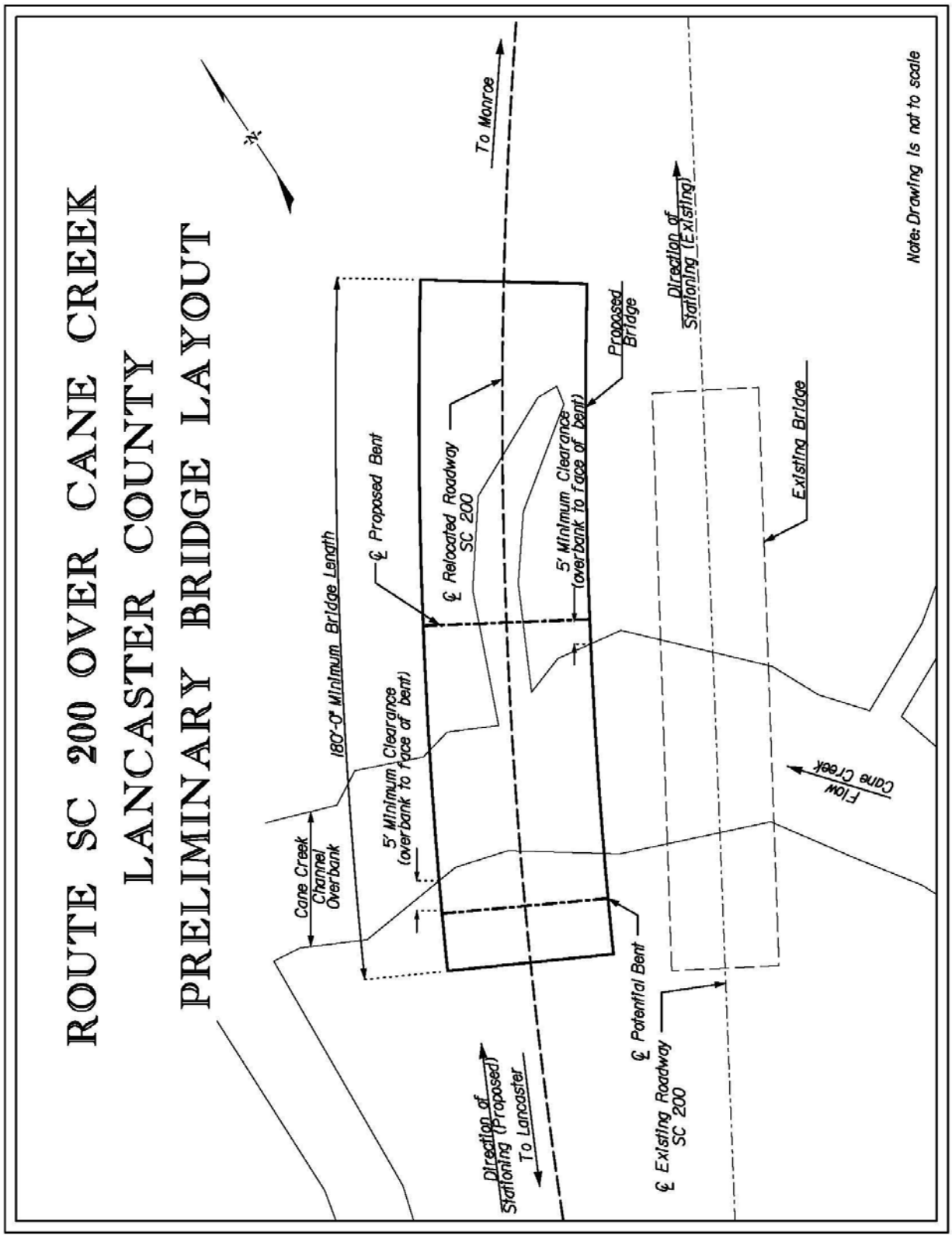
Seismic Design Criteria
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

General Bridge Layout Requirements
The Contractor shall follow the minimum bridge length and span layout requirements as shown in Preliminary Bridge Layout sketch.

Note: Minimum bridge length shall be 180'-0 as shown in the Preliminary Bridge Layout sketch.


BRIDGE PIN: 00000
BRIDGE REPLACEMENT, SC 200 OVER CANE CREEK
LANCASTER COUNTY
ANDREW JACKSON STATE PARK
Cureton Cem
To Monroe, N.C.
Unity Ch
Mt Tabor Ch
St John's Ch
Zion Ch
Camp Creek Ch
Gills Creek Ch
Pleasant Dale Ch
Baker Place
Hannahs Cr.
Creek
Camp
N
SITE LOCATION
LANCASTER
POP 8,177


SC Seismic Hazard Map
Three-Point ADRS Curves
PIN No. 39094 BR05
File No: 29.039094.5
Latitude: 34.7978
Route: SC 200
County: Lancaster
Longitude: 80.7462
Project: SC 200 Over Cane Creek
Designer: M. Jackson - Midlands RPG
Date: 5/13/2011
Design EQ | PGA | S_{DS} | S_{D1} | M_W | R (km) | Geologic Condition | Site Class | Damping
FEE | 0.05 | 0.08 | 0.04 | 7.365 | 136.55 | Hard Rock Basement Outcrop | C | 5%
SEE | 0.13 | 0.20 | 0.11 | 7.37 | 136.35 | Hard Rock Basement Outcrop | C
FEE ADRS Curve Three-Point Method
SEE ADRS Curve Three-Point Method
SC Seismic Hazard Map Three-Point ADRS Curve From Ground Surface
SEE ADRS Curve
FEE ADRS Curve
Spectral Response Acceleration, Sa (g)
Period, T [sec]


ROUTE SC 200 OVER CANE CREEK
LANCASTER COUNTY
PRELIMINARY BRIDGE LAYOUT
N
To Monroe
Direction of Stationing (Existing)
Note: Drawing is not to scale
Proposed Bridge
℄ Relocated Roadway SC 200
℄ Proposed Bent
180'-0" Minimum Bridge Length
5' Minimum Clearance (overbank to face of bent)
5' Minimum Clearance (overbank to face of bent)
Existing Bridge
Cane Creek Channel Overbank
Flow Cane Creek
Direction of Stationing (Proposed) To Lancaster
℄ Potential Bent
℄ Existing Roadway SC 200

BRIDGE F

ROUTE: S-46-22
CROSSING: STEELE CREEK
COUNTY: YORK
STRUCTURE NUMBER: 4670002200300

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	1390 feet
End of Existing Bridge:	731 feet
Design Speed:	40 mph
Functional Classification:	Urban Collector
Design ADT:	13,800
Terrain:	Rolling

***Minimum Approach Length includes transition from project design criteria to existing condition.*

Typical Section
Roadway Approaches will consist of 2 – 12'-0" Lanes with 8'-0" Shoulders (2'-0" Paved Shoulders and 6'-0" Grassed Shoulders)

Maintenance of Traffic
The proposed bridge will be constructed on new alignment downstream of the existing structure. Two lanes of traffic (one lane in each direction) will be maintained on the existing bridge during construction.

Pavement Design

New Construction
Surface – 200 psy HMA Surface Type B
Intermediate – 200 psy HMA Surface Type B
Base - 700 psy HMA Base Type A
Alternate Base – 10 inch Graded Aggregate Base plus extra 200 psy HMA Surface B

Existing Pavement
12" of Full Depth Patching as directed by SCDOT in accordance with Special Provision – Section 401; Full Depth Asphalt Pavement Patching.
Overlay – 200 psy HMA Surface Type B
Variable milling for pavement tie-ins as directed by SCDOT

b) HYDROLOGY

The project site is not located in a FEMA Special Flood Hazard Zone AE with a Designated Floodway based on latest maps reviewed by Department.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed: Prestressed Concrete Girders
Structural Steel Rolled W Beams
Structural Steel Welded Plate Girders

Minimum Outside Deck Width:
The minimum outside deck width shall be 43'-3" (Includes 40'-0" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1 ½" Slab Extensions for Slip Forming Barriers)

Bridge Skew: To be determined by hydraulic design.

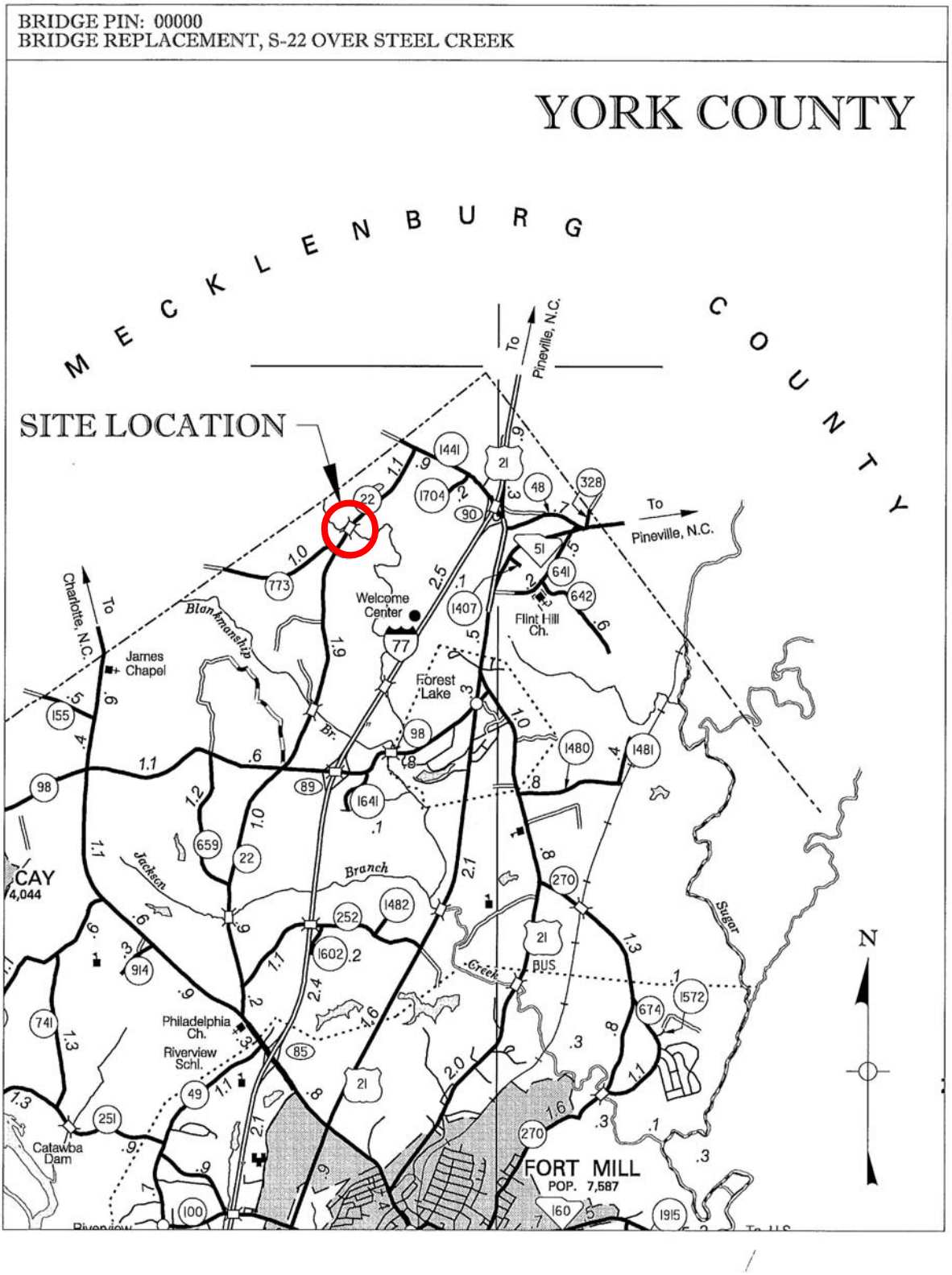
Miscellaneous Requirements
Steele Creek is listed on the SCDHEC 303(d) list for impaired waters and therefore stormwater control measures for sensitive waters must be in accordance with SCDOT's MS4 Permit.

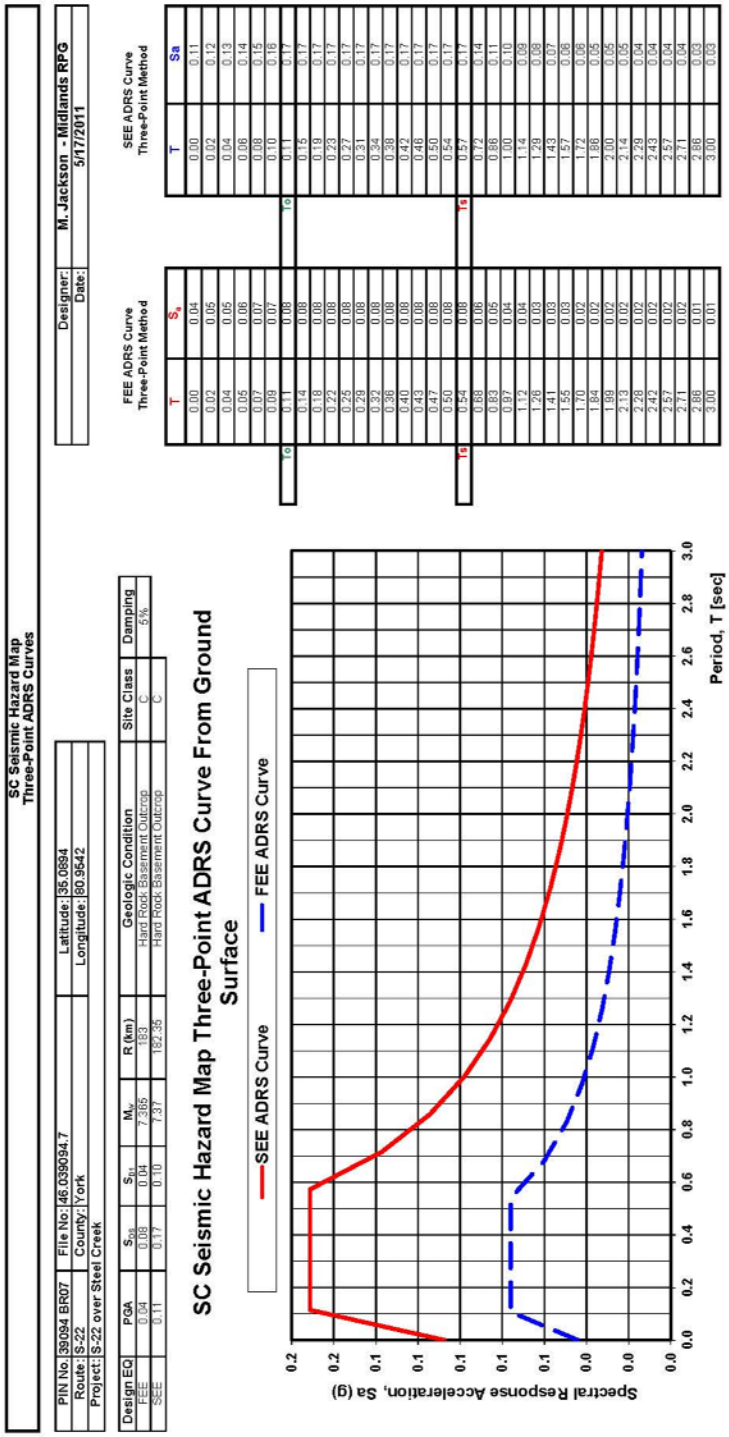
The use of MSE Walls as bridge abutments will not be allowed for this bridge.

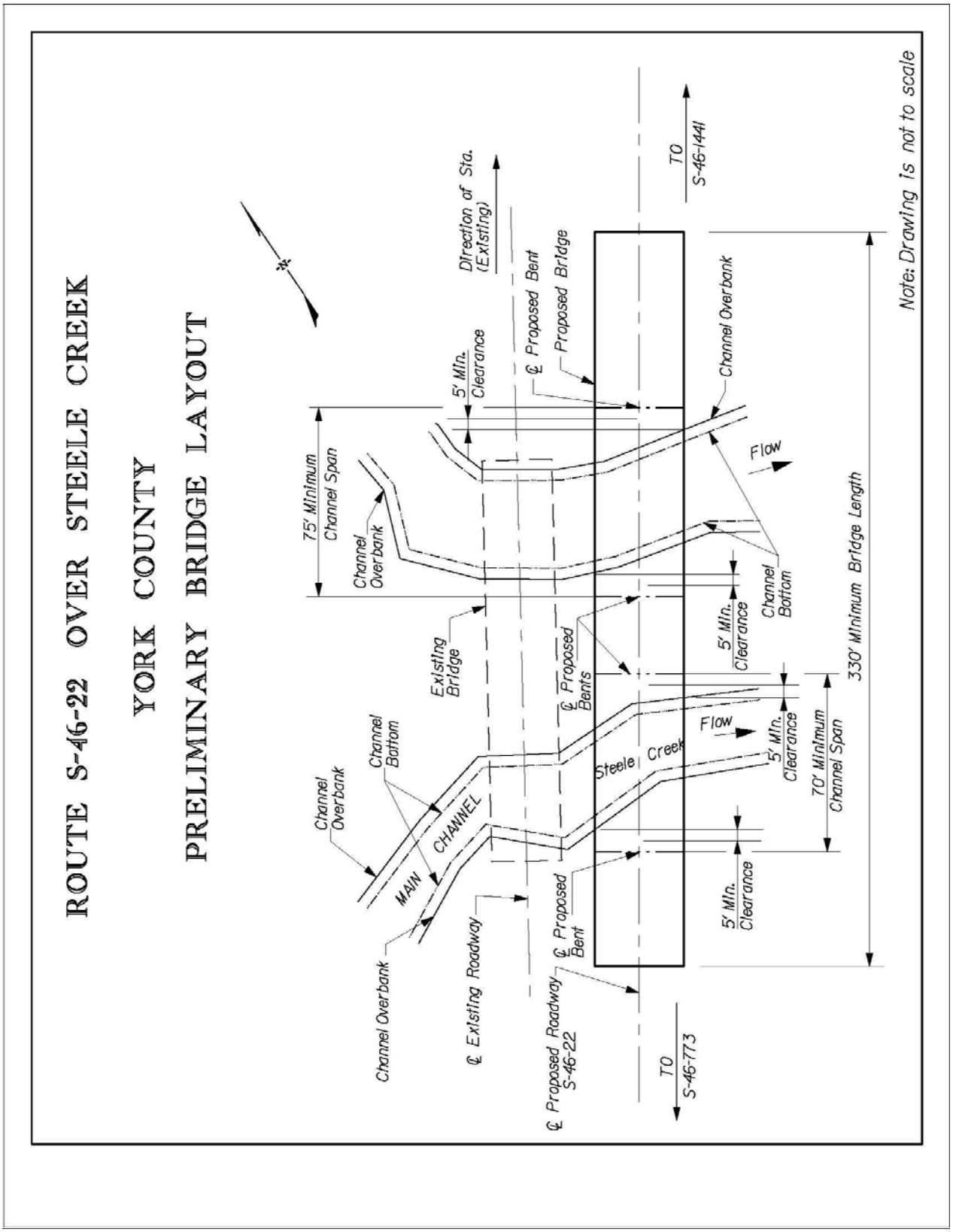
Seismic Design Criteria
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

General Bridge Layout Requirements
The Contractor shall follow the minimum bridge length and span layout requirements as shown in Preliminary Bridge Layout sketch.

Note: Minimum bridge length shall be 330'-0" and minimum length of span over channel shall be 70'-0" over the main channel and 75'-0" over the unnamed tributary as shown in the Preliminary Bridge Layout sketch.


BRIDGE PIN: 00000
BRIDGE REPLACEMENT, S-22 OVER STEEL CREEK
YORK COUNTY
MECKLENBURG COUNTY
SITE LOCATION
To Pineville, N.C.
To Pineville, N.C.
To Charlotte, N.C.
James Chapel
Blanamanship
Welcome Center
Flint Hill Ch.
Forest Lake
Br.
Jackson
Branch
Sugar
Creek
Philadelphia Ch.
Riverview Schl.
Catawba Dam
CAY
4,044
FORT MILL
POP. 7,587
BUS
N


SC Seismic Hazard Map
Three-Point ADRS Curves
PIN No. 39094 BR07
File No. 46.039094.7
Latitude: 35.0694
Route: S-22
County: York
Longitude: -80.9542
Project: S-22 over Steel Creek
Designer: M. Jackson - Midlands RPG
Date: 5/17/2011
Design EQ
PGA
S_{DS}
S_{D1}
M_W
R (km)
Geologic Condition
Site Class
Damping
FEE
0.04
0.08
0.04
7.366
183
Hard Rock Basement Outcrop
C
5%
SEE
0.11
0.17
0.10
7.37
182.35
Hard Rock Basement Outcrop
C
FEE ADRS Curve
Three-Point Method
T
S_a
T_o
T_s
SEE ADRS Curve
Three-Point Method
T
Sa
T_o
T_s
SC Seismic Hazard Map Three-Point ADRS Curve From Ground Surface
SEE ADRS Curve
FEE ADRS Curve
Spectral Response Acceleration, Sa (g)
Period, T [sec]


ROUTE S-46-22 OVER STEELE CREEK
YORK COUNTY
PRELIMINARY BRIDGE LAYOUT
Note: Drawing is not to scale
TO S-46-1441
Direction of Sta. (Existing)
℄ Proposed Bent
Proposed Bridge
5' Min. Clearance
Channel Overbank
75' Minimum Channel Span
Channel Overbank
Flow
Channel Bottom
5' Min. Clearance
330' Minimum Bridge Length
Existing Bridge
℄ Proposed Bents
Channel Bottom
Channel Overbank
MAIN CHANNEL
Steele Creek
Flow
5' Min. Clearance
70' Minimum Channel Span
5' Min. Clearance
℄ Proposed Bent
℄ Existing Roadway
Channel Overbank
℄ Proposed Roadway S-46-22
TO S-46-773

BRIDGE G

ROUTE: S-46-64
CROSSING: ALLISON CREEK
COUNTY: YORK
STRUCTURE NUMBER: 4670006400200

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	444 feet
End of Existing Bridge:	441 feet
Design Speed:	50 mph
Functional Classification:	Rural Major Collector
Design ADT:	2,700
Terrain:	Rolling

***Minimum Approach Length includes transition from project design criteria to existing condition.*

Typical Section
Roadway Approaches will consist of 2 – 12'-0" Lanes with 8'-0" Shoulders (2'-0" Paved Shoulders and 6'-0" Grassed Shoulders)

Miscellaneous Requirements
Approach lengths extend the bridge replacement project limits beyond the intersection of S-46-64 and S-46-732. Any improvements necessary for the intersection are dictated by the Highway Design Manual.

Maintenance of Traffic
The proposed bridge will be constructed on existing horizontal alignment. Traffic will be detoured during construction.

The CONTRACTOR shall close structure and detour traffic using the detour route specified in this criteria while the new bridge is constructed. Note that S-46-732 will be used as part of the detour route during the construction of the bridge on S-46-64 over Allison Creek. Alternately, S-46-64 will be used as part of the detour route during the construction of the bridge on S-46-732 over Calabash Branch. Therefore, both bridges cannot be closed for construction simultaneously. One must remain open to traffic at all times.

Pavement Design

New Construction
Surface – 175 psy HMA Surface Type C
Intermediate – 250 psy HMA Intermediate Type C
Base - 450 psy HMA Base Type A

Existing Pavement
8" of Full Depth Patching as directed by SCDOT in accordance with Special Provision – Section 401; Full Depth Asphalt Pavement Patching.

Overlay – 175 psy HMA Surface Type C
Variable milling for pavement tie-ins as directed by SCDOT

b) HYDROLOGY

The project site is located in a FEMA Special Flood Hazard Area Zone AE based on latest maps reviewed by Department.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed: Prestressed Concrete Girders
Structural Steel Rolled W Beams
Structural Steel Welded Plate Girders
Cast-In- Place Concrete Flat Slabs
Precast Concrete Cored Slabs
Precast Concrete Solid Slabs

Minimum Outside Deck Width:
If Prestressed Concrete Cored Slabs and/or Prestressed Concrete Solid Slabs are used, then the minimum outside deck width shall be 42'-0" (Includes 38'-10" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1" Slab Extensions for Slip Forming Barriers)

If Prestressed Concrete Girders, Structural Steel Rolled W Beams, Structural Steel Welded Plate Girders, or Flat Slabs are used, then the minimum outside deck width shall be 43'-3" (Includes 40'-0" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1 ½" Slab Extensions for Slip Forming Barriers)

Bridge Skew: To be determined by hydraulic design.

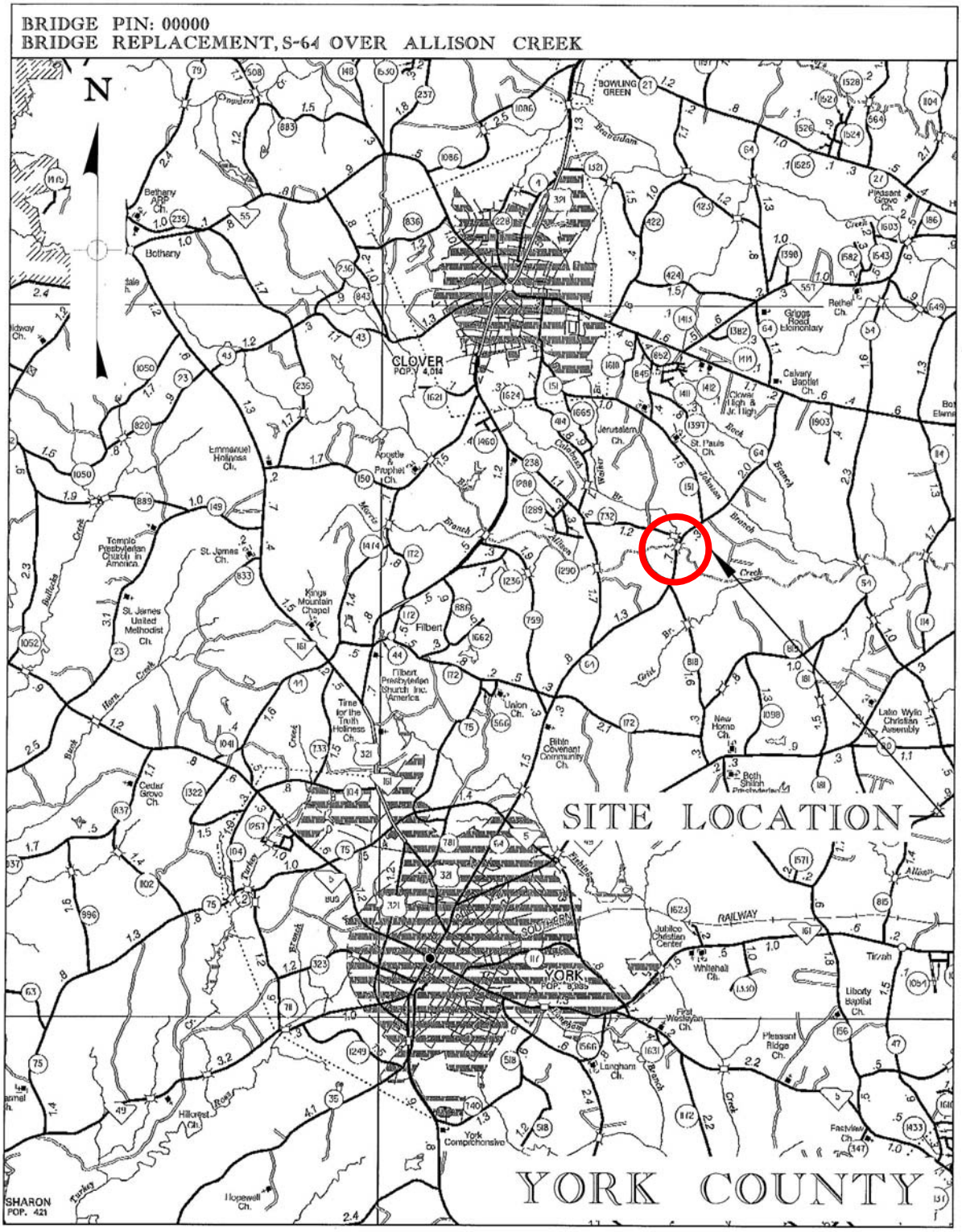
Miscellaneous Requirements
The use of MSE Walls as bridge abutments will not be allowed for this bridge.

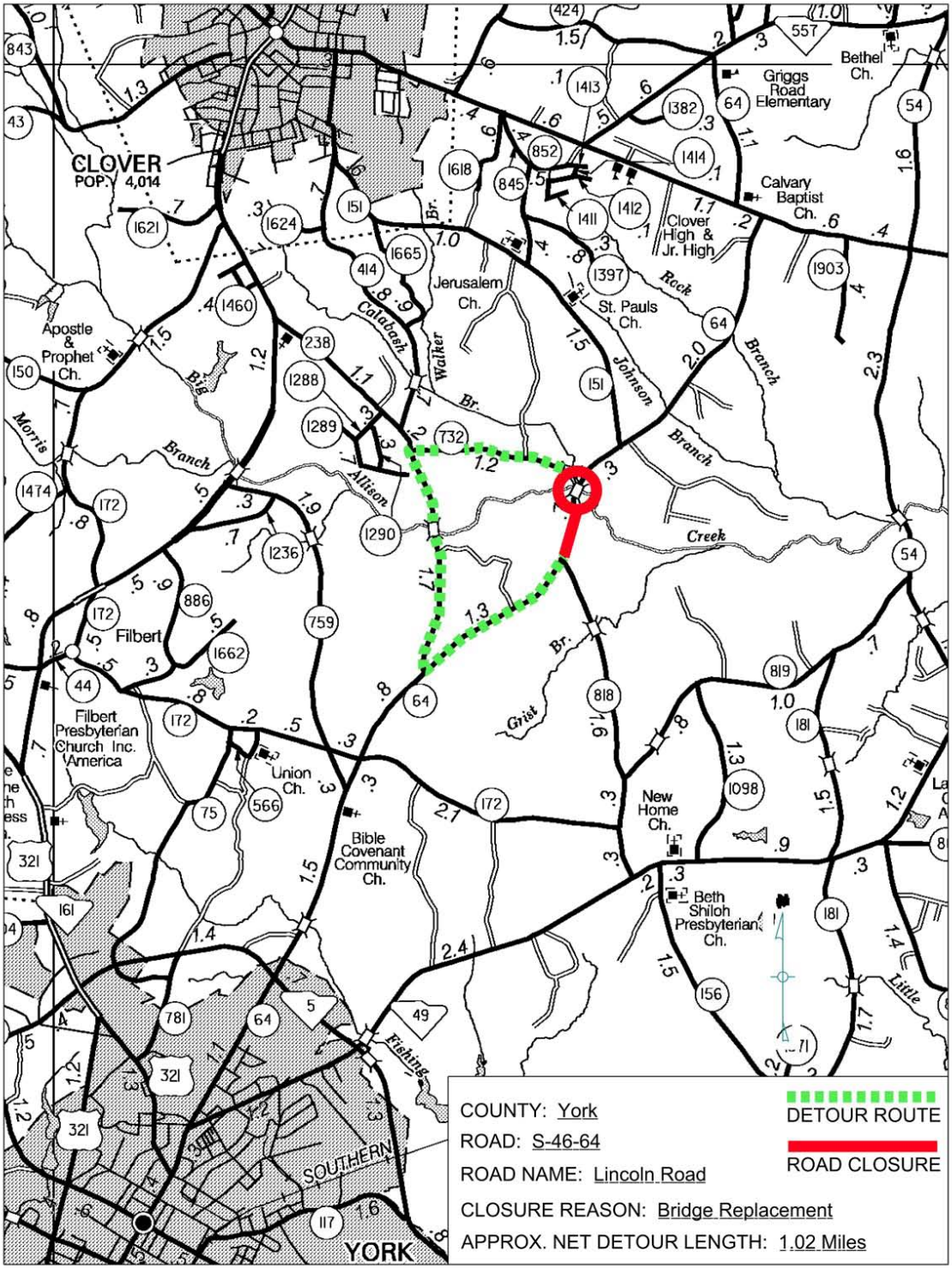
Seismic Design Criteria
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

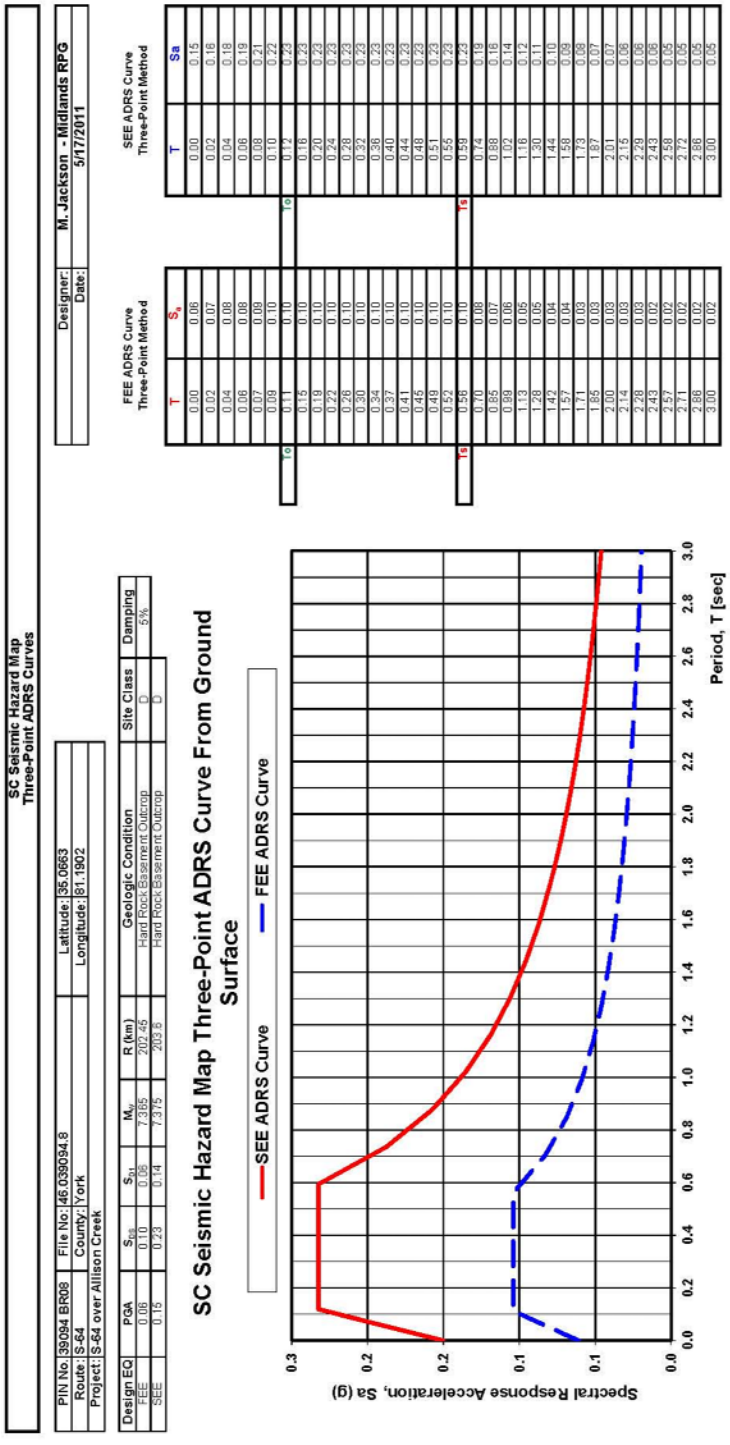
General Bridge Layout Requirements

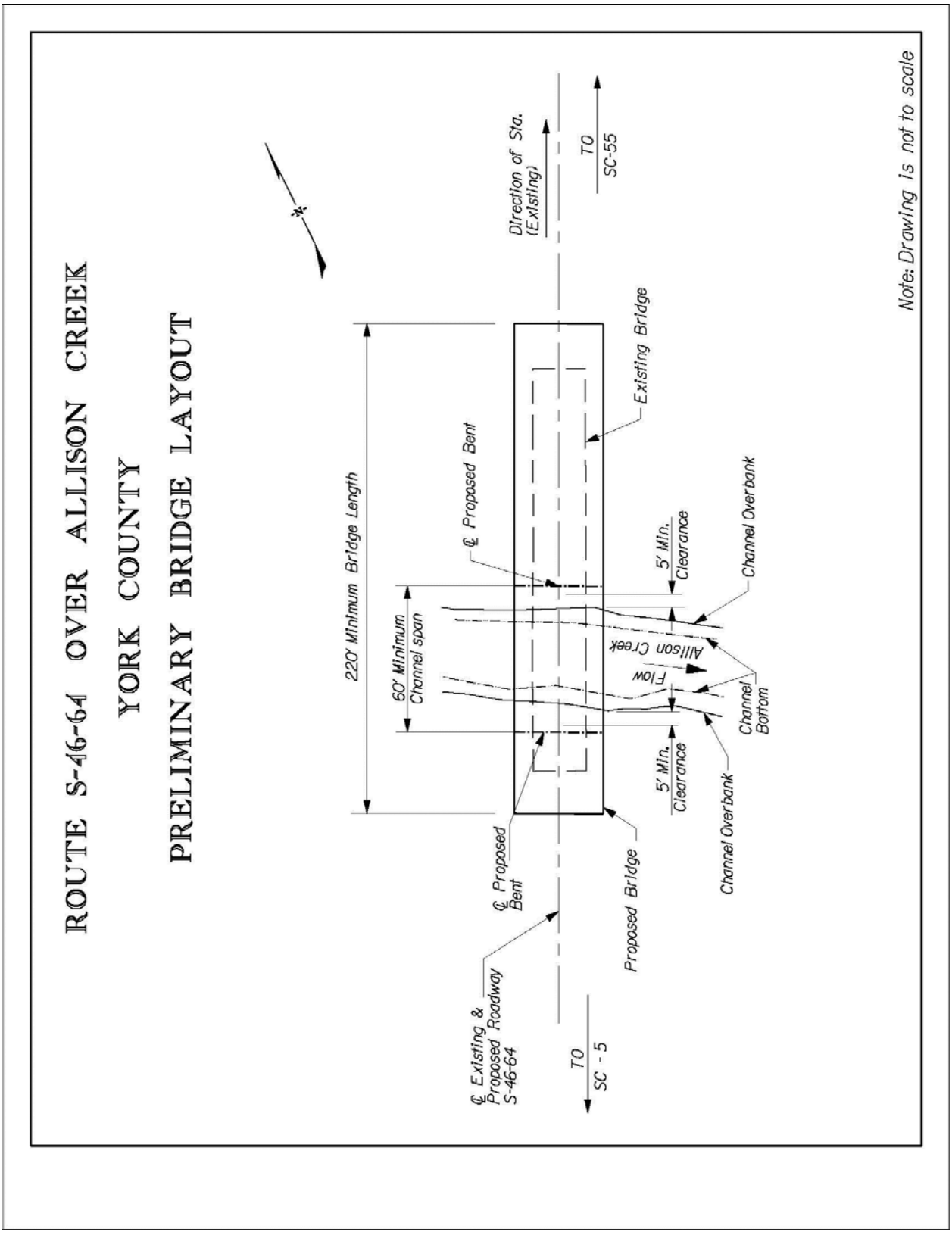
The Contractor shall follow the minimum bridge length and span layout requirements as shown in Preliminary Bridge Layout sketch.

Note: Minimum bridge length shall be 220’-0” and minimum length of span over channel shall be 60’-0” as shown in the Preliminary Bridge Layout sketch.


BRIDGE PIN: 00000
BRIDGE REPLACEMENT, S-64 OVER ALLISON CREEK
N
SITE LOCATION
YORK COUNTY
CLOVER
POP. 4,014
YORK
POP. 9,985
SHARON
POP. 421
BOWLING GREEN
Bethany
Bethany ARP Ch.
Emmanuel Holiness Ch.
Apostle & Prophet Ch.
Temple Presbyterian Church in America
St. James Ch.
St. James United Methodist Ch.
Kings Mountain Chapel
Filbert
Filbert Presbyterian Church Inc. America
Tims for the Truth Holiness Ch.
Cedar Grove Ch.
Hillcrest Ch.
Hopewell Ch.
York Comprehensive
Union Ch.
Ebbin Covenant Community Ch.
Jerusalem Ch.
St. Pauls Ch.
Calvary Baptist Ch.
Clover High & Jr. High
Griggs Road Elementary
Rethel Ch.
Pleasant Grove Ch.
New Home Ch.
Both Shiloh Presbyterian
Lake Wylie Christian Assembly
Jubilee Christian Center
Whitehall Ch.
First Wesleyan Ch.
Langham Ch.
Pleasant Ridge Ch.
Liberty Baptist Ch.
Fairview Ch.
Tirzah
RAILWAY


CLOVER
POP. 4,014
Griggs Road Elementary
Bethel Ch.
Calvary Baptist Ch.
Clover High & Jr. High
Jerusalem Ch.
St. Pauls Ch.
Apostle & Prophet Ch.
Filbert
Filbert Presbyterian Church Inc. America
Union Ch.
Bible Covenant Community Ch.
New Home Ch.
Beth Shiloh Presbyterian Ch.
YORK
SOUTHERN
Rock Branch
Johnson Branch
Walker Br.
Calabash
Allison
Morris Branch
Big
Grist
Little
Fishing Creek
COUNTY: York
ROAD: S-46-64
ROAD NAME: Lincoln Road
CLOSURE REASON: Bridge Replacement
APPROX. NET DETOUR LENGTH: 1.02 Miles
DETOUR ROUTE
ROAD CLOSURE


SC Seismic Hazard Map
Three-Point ADRS Curves
PIN No: 39094 BR06
File No: 46.039094.8
Latitude: 35.0663
Route: S-64
County: York
Longitude: 81.1902
Project: S-64 over Allison Creek
Designer: M. Jackson - Midlands RPG
Date: 5/17/2011
Design EQ | PGA | S_{ps} | S_{s1} | M_w | R (km) | Geologic Condition | Site Class | Damping
FEE | 0.06 | 0.10 | 0.06 | 7.385 | 202.45 | Hard Rock Easement Outcrop | D | 5%
SEE | 0.15 | 0.23 | 0.14 | 7.375 | 203.6 | Hard Rock Easement Outcrop | D
FEE ADRS Curve Three-Point Method
T | S_a
0.00 | 0.06
0.02 | 0.07
0.04 | 0.08
0.06 | 0.08
0.07 | 0.09
0.09 | 0.10
0.11 | 0.10
To 0.12 | 0.10
0.15 | 0.10
0.19 | 0.10
0.22 | 0.10
0.26 | 0.10
0.30 | 0.10
0.34 | 0.10
0.37 | 0.10
0.41 | 0.10
0.45 | 0.10
0.49 | 0.10
0.52 | 0.10
Ts 0.56 | 0.10
0.70 | 0.08
0.85 | 0.07
0.99 | 0.06
1.13 | 0.05
1.28 | 0.04
1.42 | 0.04
1.57 | 0.03
1.71 | 0.03
1.85 | 0.03
2.00 | 0.03
2.14 | 0.03
2.28 | 0.03
2.43 | 0.02
2.57 | 0.02
2.71 | 0.02
2.86 | 0.02
3.00 | 0.02
SEE ADRS Curve Three-Point Method
T | Sa
0.00 | 0.15
0.02 | 0.16
0.04 | 0.18
0.06 | 0.19
0.08 | 0.21
0.10 | 0.22
To 0.12 | 0.23
0.16 | 0.23
0.20 | 0.23
0.24 | 0.23
0.28 | 0.23
0.32 | 0.23
0.36 | 0.23
0.40 | 0.23
0.44 | 0.23
0.48 | 0.23
0.51 | 0.23
0.55 | 0.23
Ts 0.59 | 0.23
0.74 | 0.19
0.88 | 0.16
1.02 | 0.14
1.16 | 0.12
1.30 | 0.11
1.44 | 0.10
1.58 | 0.09
1.73 | 0.08
1.87 | 0.07
2.01 | 0.07
2.15 | 0.06
2.29 | 0.06
2.43 | 0.06
2.58 | 0.05
2.72 | 0.05
2.86 | 0.05
3.00 | 0.05
SC Seismic Hazard Map Three-Point ADRS Curve From Ground Surface
SEE ADRS Curve
FEE ADRS Curve
Spectral Response Acceleration, Sa (g)
Period, T [sec]
0.0
0.1
0.2
0.3
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0


ROUTE S-46-64 OVER ALLISON CREEK
YORK COUNTY
PRELIMINARY BRIDGE LAYOUT
Direction of Sta. (Existing)
TO SC-55
℄ Proposed Bent
Existing Bridge
220' Minimum Bridge Length
60' Minimum Channel span
5' Min. Clearance
Channel Overbank
Allison Creek
Flow
Channel Bottom
5' Min. Clearance
Channel Overbank
℄ Proposed Bent
Proposed Bridge
℄ Existing & Proposed Roadway S-46-64
TO SC - 5
Note: Drawing is not to scale

BRIDGE H

ROUTE: S-46-347
CROSSING: STONY FORK CREEK
COUNTY: YORK
STRUCTURE NUMBER: 4670034700100

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	504 feet
End of Existing Bridge:	955 feet
Design Speed:	50 mph
Functional Classification:	Rural Major Collector
Design ADT:	1,800
Terrain:	Rolling

***Minimum Approach Length includes transition from project design criteria to existing condition.*

Typical Section
Roadway Approaches will consist of 2 – 11'-0" Lanes with 6'-0" Shoulders (2'-0" Paved Shoulders and 4'-0" Grassed Shoulders)

Maintenance of Traffic
The proposed bridge will be constructed on existing horizontal alignment. Traffic will be detoured during construction.

The CONTRACTOR shall close structure and detour traffic using the detour route specified in this criteria while the new bridge is constructed.

Pavement Design

New Construction
Surface – 175 psy HMA Surface Type C
Intermediate – 200 psy HMA Intermediate Type C
Base - 450 psy HMA Base Type B

Existing Pavement
8" of Full Depth Patching as directed by SCDOT in accordance with Special Provision – Section 401; Full Depth Asphalt Pavement Patching.
Overlay – 175 psy HMA Surface Type C
Variable milling for pavement tie-ins as directed by SCDOT

b) HYDROLOGY

The project site is located in a FEMA Special Flood Hazard Area Zone AE based on latest maps reviewed by Department.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed: Prestressed Concrete Girders
Structural Steel Rolled W Beams
Structural Steel Welded Plate Girders
Cast-In-Place Concrete Flat Slabs
Prestressed Concrete Cored Slabs
Prestressed Concrete Solid Slabs

Minimum Outside Deck Width:
If Prestressed Concrete Cored Slabs and/or Prestressed Concrete Solid Slabs are used, then the minimum outside deck width shall be 36'-0" (Includes 32'-10" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1" Slab Extensions for Slip Forming Barriers)

If Prestressed Concrete Girders, Structural Steel Rolled W Beams, Structural Steel Welded Plate Girders, or Flat Slabs are used, then the minimum outside deck width shall be 37'-3" (Includes 34'-0" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1 ½" Slab Extensions for Slip Forming Barriers)

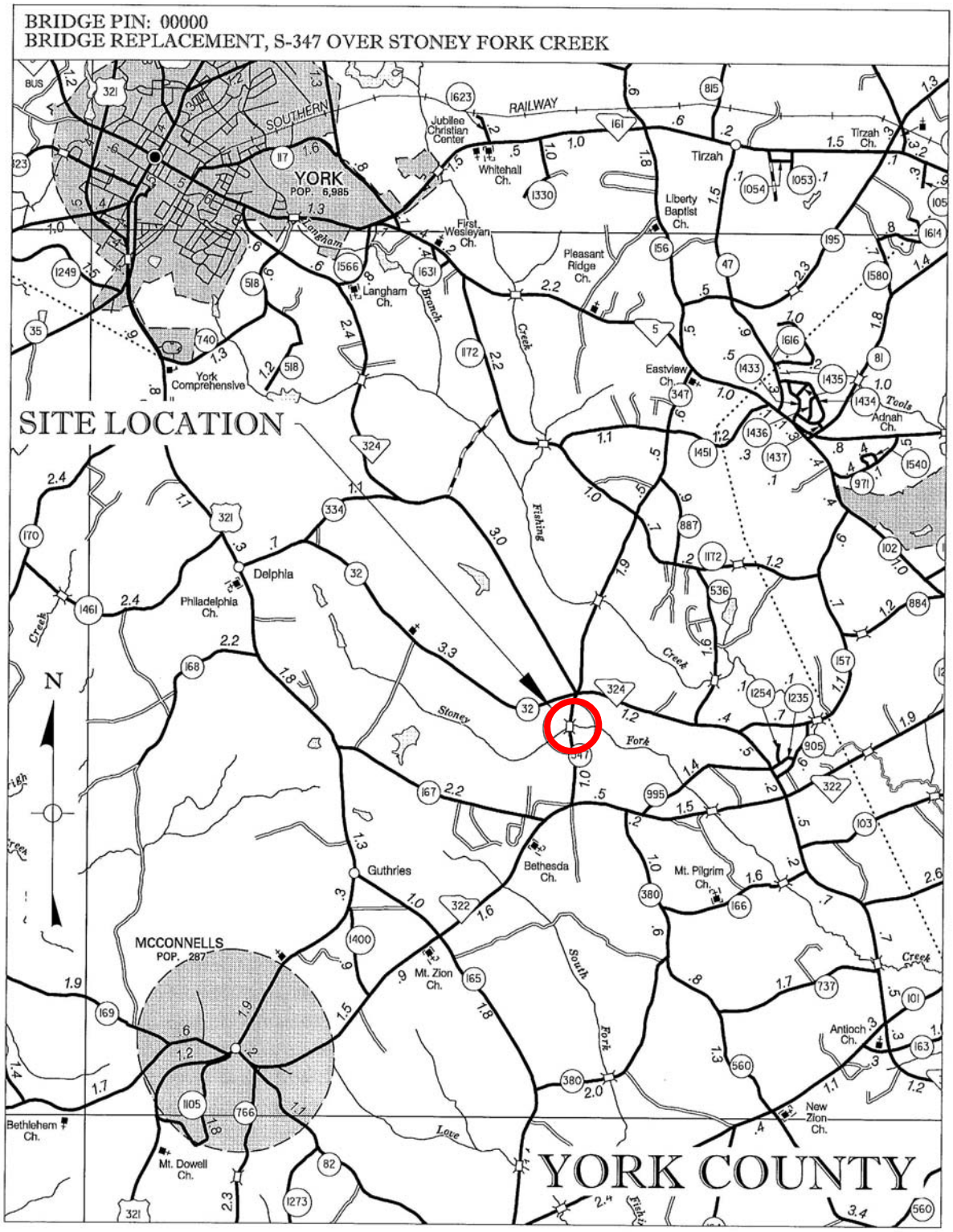
Bridge Skew: To be determined by hydraulic design.

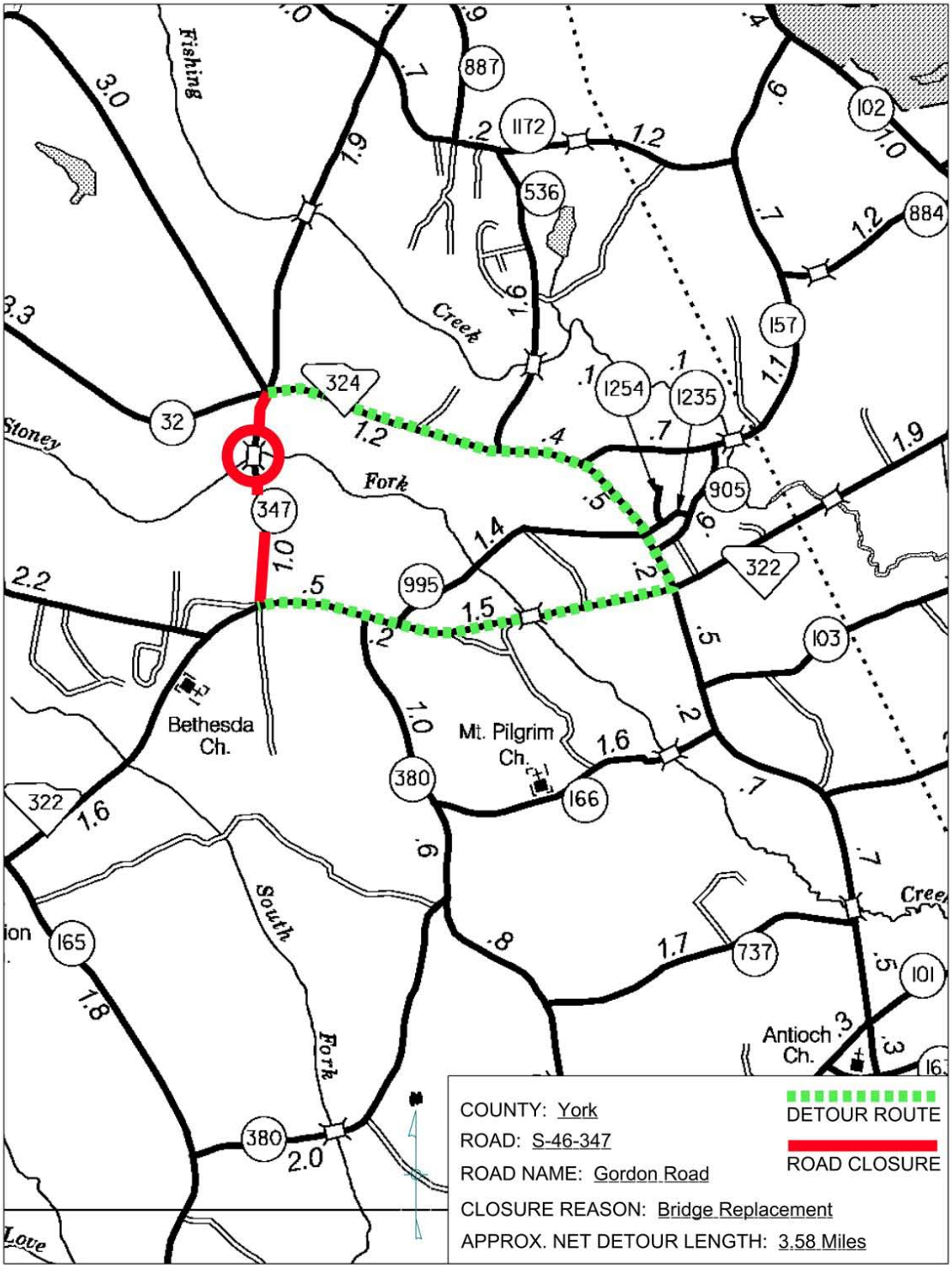
Miscellaneous Requirements
The use of MSE Walls as bridge abutments will not be allowed for this bridge.

Seismic Design Criteria
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

General Bridge Layout Requirements
The Contractor shall follow the minimum bridge length and span layout requirements as shown in Preliminary Bridge Layout sketch.

Note: Minimum bridge length shall be 90'-0"~~100'-0"~~ and minimum length of span over channel shall be 70'-0" as shown in the Preliminary Bridge Layout sketch.


BRIDGE PIN: 00000
BRIDGE REPLACEMENT, S-347 OVER STONEY FORK CREEK
SITE LOCATION
YORK
POP. 6,985
SOUTHERN RAILWAY
Jubilee Christian Center
Whitehall Ch.
Tirzah
Tirzah Ch.
Liberty Baptist Ch.
First Wesleyan Ch.
Pleasant Ridge Ch.
Langham Ch.
Eastview Ch.
Adnah Ch.
York Comprehensive
Delphia
Philadelphia Ch.
Guthries
Bethesda Ch.
Mt. Pilgrim Ch.
MCCONNELLS
POP. 287
Mt. Zion Ch.
Antioch Ch.
New Zion Ch.
Bethlehem Ch.
Mt. Dowell Ch.
Stoney Fork
South Fork
Fishing Creek
Love Creek
Longham Branch
N
YORK COUNTY


Fishing
Creek
Stoney
Fork
South
Fork
Love
Bethesda
Ch.
Mt. Pilgrim
Ch.
Antioch
Ch.
887
1172
536
884
102
157
1254
1235
905
324
32
347
995
322
103
380
166
165
737
101
COUNTY: York
ROAD: S-46-347
ROAD NAME: Gordon Road
CLOSURE REASON: Bridge Replacement
APPROX. NET DETOUR LENGTH: 3.58 Miles
DETOUR ROUTE
ROAD CLOSURE

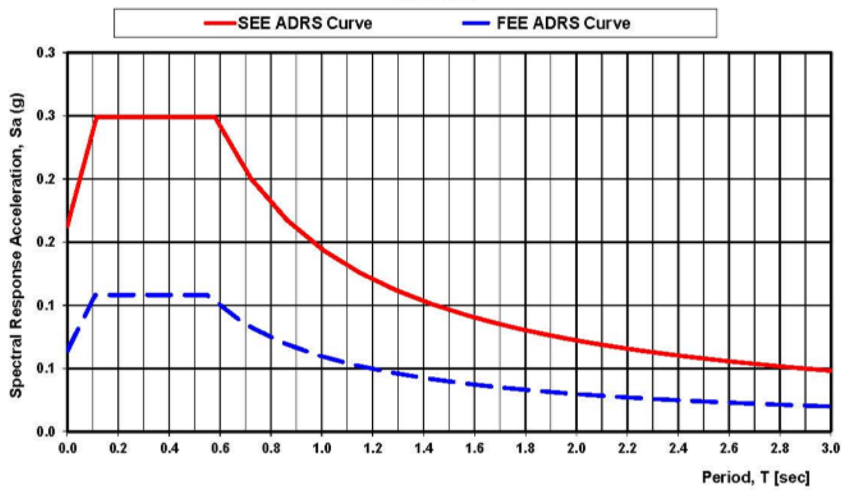
SC Seismic Hazard Map
Three-Point ADRS Curves

PIN No.	39094 BR09	File No:	46.039094.9	Latitude:	34.915
Route:	S-347	County:	York	Longitude:	81.1700
Project:	S-347 over Stony Fork Creek				

Designer:	M. Jackson - Midlands RPG
Date:	5/17/2011

Design EQ	PGA	S_{DS}	S_{D1}	M_W	R (km)	Geologic Condition	Site Class	Damping
FEE	0.06	0.11	0.06	7.355	182.65	Hard Rock Basement Outcrop	D	5%
SEE	0.16	0.25	0.14	7.375	181.75	Hard Rock Basement Outcrop	D	

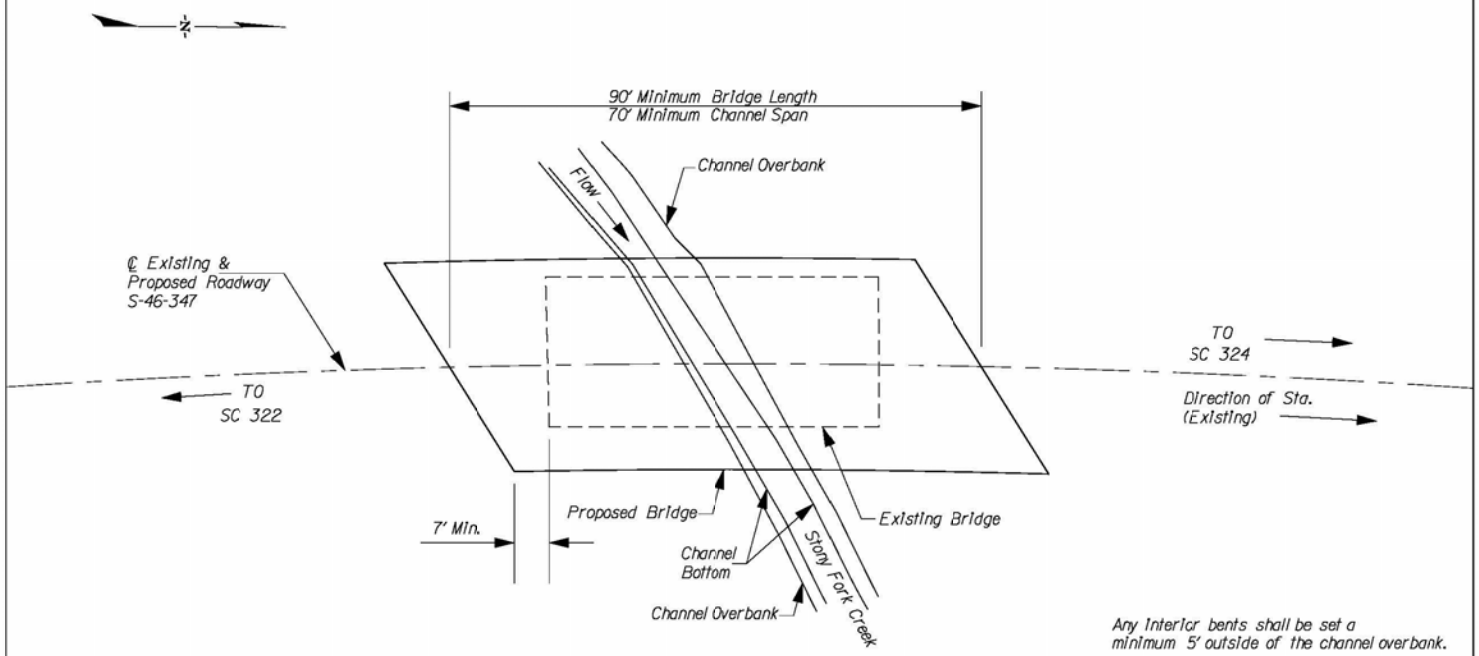
SC Seismic Hazard Map Three-Point ADRS Curve From Ground Surface



	FEE ADRS Curve Three-Point Method T	FEE S_a		SEE ADRS Curve Three-Point Method T	SEE Sa
	0.00	0.06		0.00	0.16
	0.02	0.07		0.02	0.18
	0.04	0.08		0.04	0.19
	0.05	0.09		0.06	0.21
	0.07	0.09		0.08	0.22
	0.09	0.10		0.10	0.23
To	0.11	0.11	To	0.12	0.25
	0.15	0.11		0.15	0.25
	0.18	0.11		0.19	0.25
	0.22	0.11		0.23	0.25
	0.26	0.11		0.27	0.25
	0.29	0.11		0.31	0.25
	0.33	0.11		0.35	0.25
	0.37	0.11		0.39	0.25
	0.40	0.11		0.43	0.25
	0.44	0.11		0.46	0.25
	0.48	0.11		0.50	0.25
	0.51	0.11		0.54	0.25
Ts	0.55	0.11	Ts	0.58	0.25
	0.69	0.09		0.72	0.20
	0.84	0.07		0.86	0.17
	0.98	0.06		1.01	0.14
	1.13	0.05		1.15	0.13
	1.27	0.05		1.29	0.11
	1.41	0.04		1.43	0.10
	1.56	0.04		1.58	0.09
	1.70	0.03		1.72	0.08
	1.85	0.03		1.86	0.08
	1.99	0.03		2.00	0.07
	2.14	0.03		2.15	0.07
	2.28	0.03		2.29	0.06
	2.42	0.02		2.43	0.06
	2.57	0.02		2.57	0.06
	2.71	0.02		2.72	0.05
	2.86	0.02		2.86	0.05
	3.00	0.02		3.00	0.05

ROUTE S-46-347 OVER STONY FORK CREEK
YORK COUNTY
PRELIMINARY BRIDGE LAYOUT

SUBJECT TO CHANGE BASED ON DESIGN



Note: Drawing is not to scale

EXHIBIT 4B – LOCATION SPECIFIC CRITERIA

BRIDGE I

ROUTE: S-46-732
CROSSING: CALABASH BRANCH
COUNTY: YORK
STRUCTURE NUMBER: 4670073200100

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	233 feet
End of Existing Bridge:	To intersection with S-46-64
Design Speed:	45 mph
Functional Classification:	Rural Local
Design ADT:	1,000
Terrain:	Rolling

***Minimum Approach Length includes transition from project design criteria to existing condition.*

Typical Section
Roadway Approaches will consist of 2 – 11'-0" Lanes with 6'-0" Shoulders (2'-0" Paved Shoulders and 4'-0" Grassed Shoulders)

Maintenance of Traffic
The proposed bridge will be constructed on existing horizontal alignment. Traffic will be detoured during construction.

The CONTRACTOR shall close structure and detour traffic using the detour route specified in this criteria while the new bridge is constructed. Note that S-46-732 will be used as part of the detour route during the construction of the bridge on S-46-64 over Allison Creek. Alternately, S-46-64 will be used as part of the detour route during the construction of the bridge on S-46-732 over Calabash Branch. Therefore, both bridges cannot be closed for construction simultaneously. One must remain open to traffic at all times.

Reclaim approximately 1. 1 miles of S-46-732 from Jim McCarter Road to the start of the bridge approach (233 feet from beginning of existing bridge).

Pavement Design

New Construction
Surface – 150 psy HMA Surface Type C
Intermediate – 200 psy HMA Intermediate Type C
Base - 400 psy HMA Base Type B

Existing Pavement
8" of Full Depth Patching as directed by SCDOT in accordance with Special Provision – Section 401; Full Depth Asphalt Pavement Patching.
Overlay – 150 psy HMA Surface Type C

S-732 Reclamation
8" Reclamation as directed by SCDOT with 150 psy HMA Surface Type C. Reclaim 1.1 miles of S-732 from Jim McCarter Road to the start of the bridge approach at a width of 24'

b) HYDROLOGY

The project site is located in a FEMA Special Flood Hazard Area Zone AE based on latest maps reviewed by Department.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed: Prestressed Concrete Girders
Structural Steel Rolled W Beams
Structural Steel Welded Plate Girders
Cast-In-Place Concrete Flat Slabs
Prestressed Concrete Cored Slabs
Prestressed Concrete Solid Slabs

Minimum Outside Deck Width:
If Prestressed Concrete Cored Slabs and/or Prestressed Concrete Solid Slabs are used, then the minimum outside deck width shall be 36'-0" (Includes 32'-10" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1" Slab Extensions for Slip Forming Barriers)

If Prestressed Concrete Girders, Structural Steel Rolled W Beams, Structural Steel Welded Plate Girders, or Flat Slabs are used, then the minimum outside deck width shall be 37'-3" (Includes 34'-0" Clear Roadway Width, Two -- 1'-6" Barrier Parapets, and Two -- 1 ½" Slab Extensions for Slip Forming Barriers)

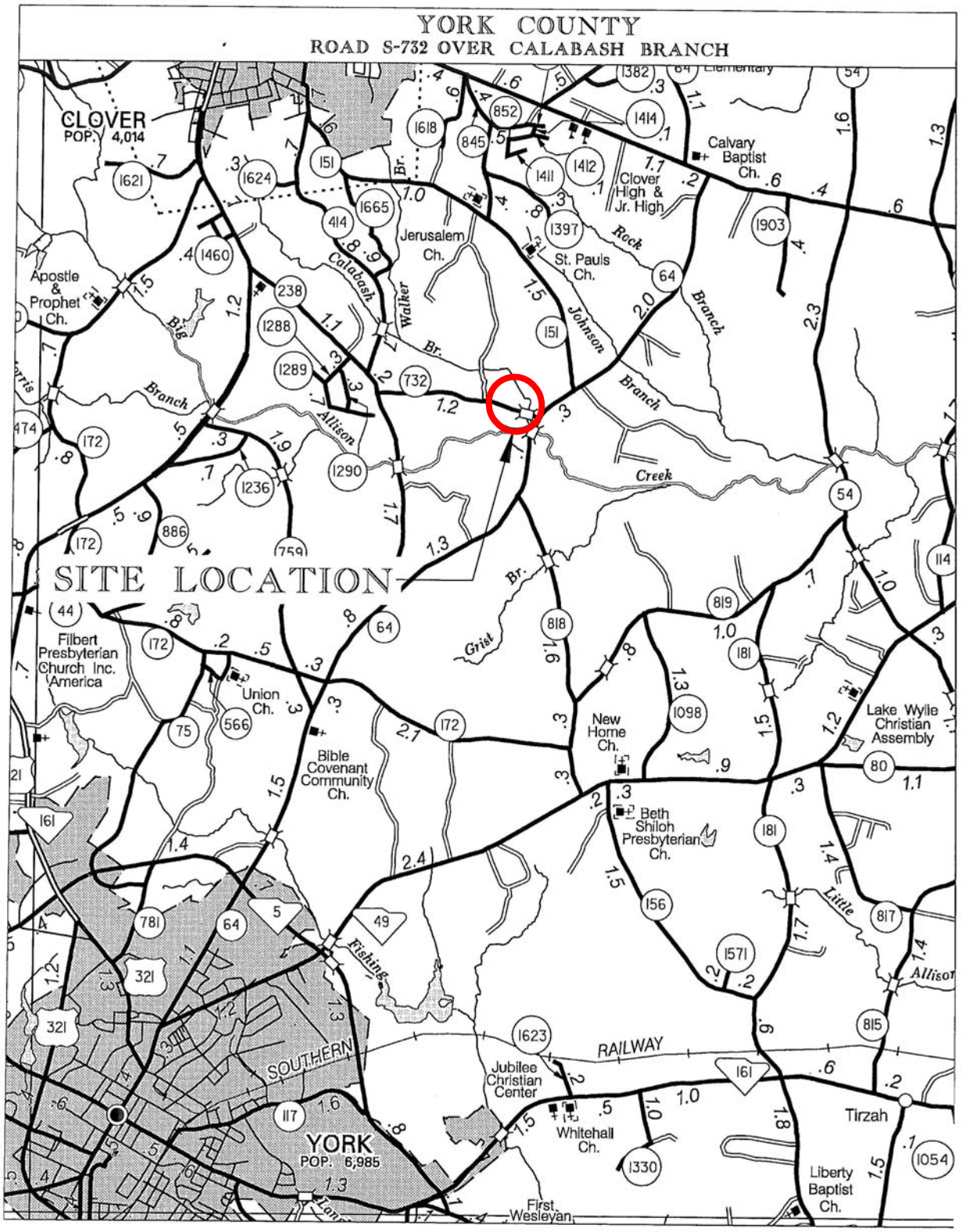
Bridge Skew: To be determined by hydraulic design.

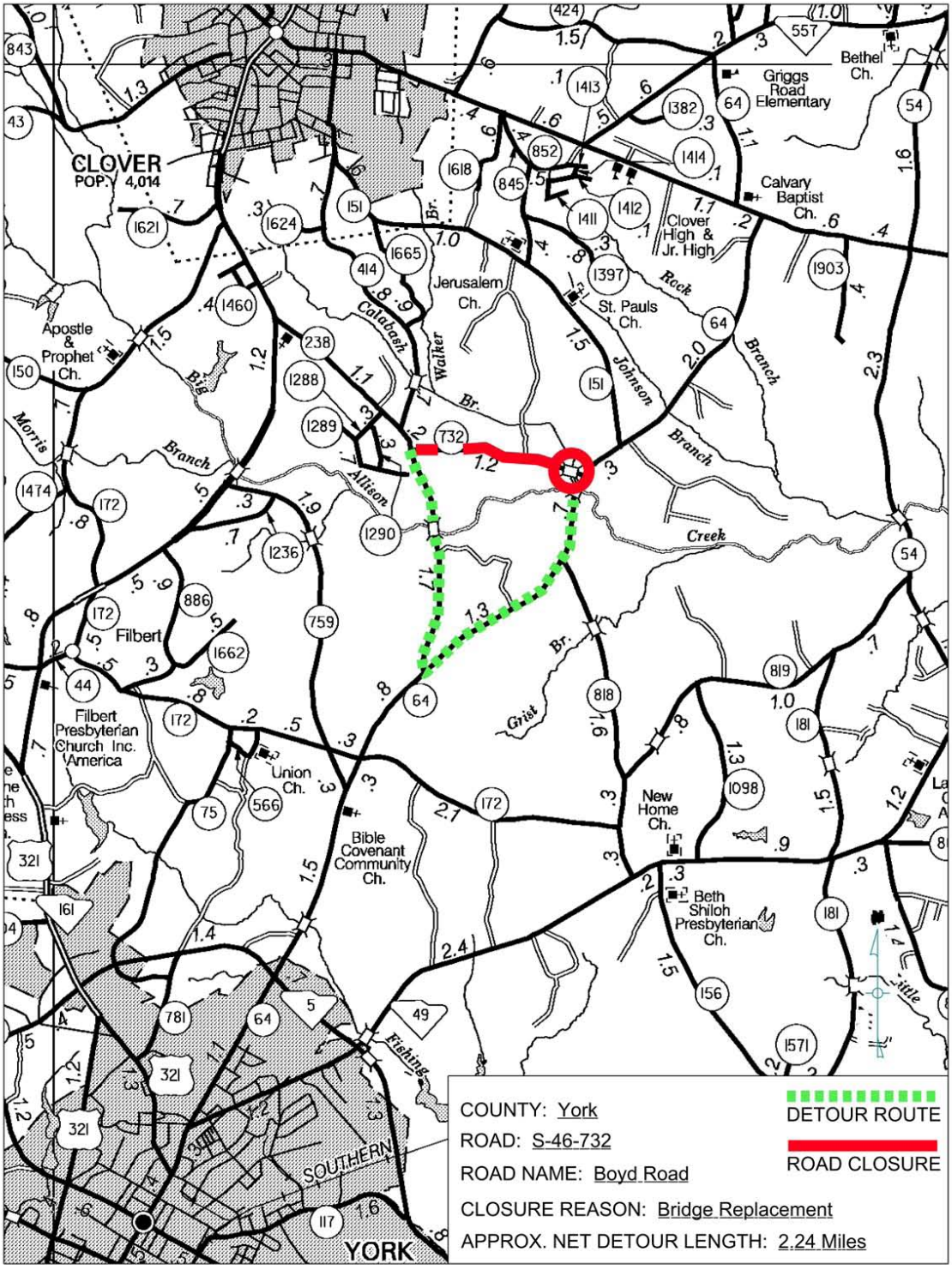
Miscellaneous Requirements
The use of MSE Walls as bridge abutments will not be allowed for this bridge.

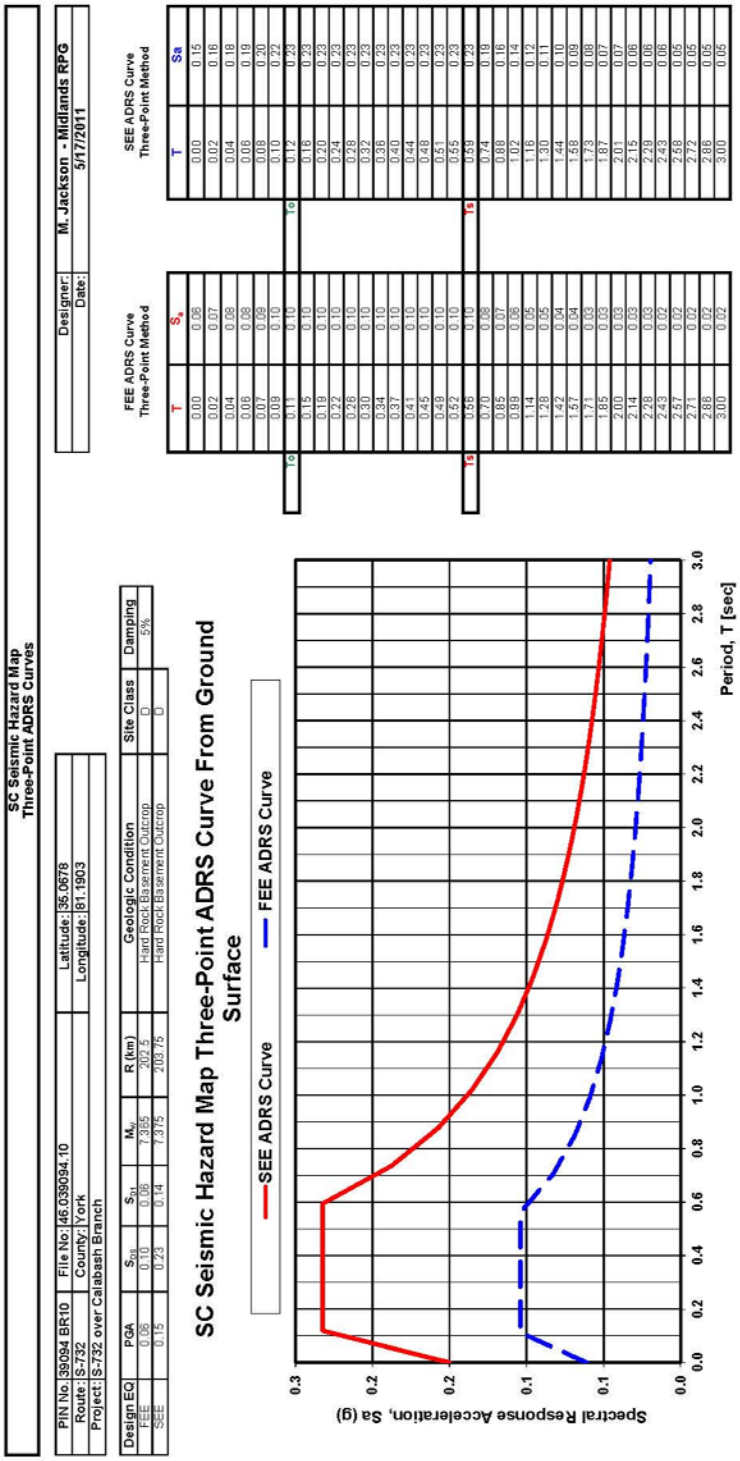
Seismic Design Criteria
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

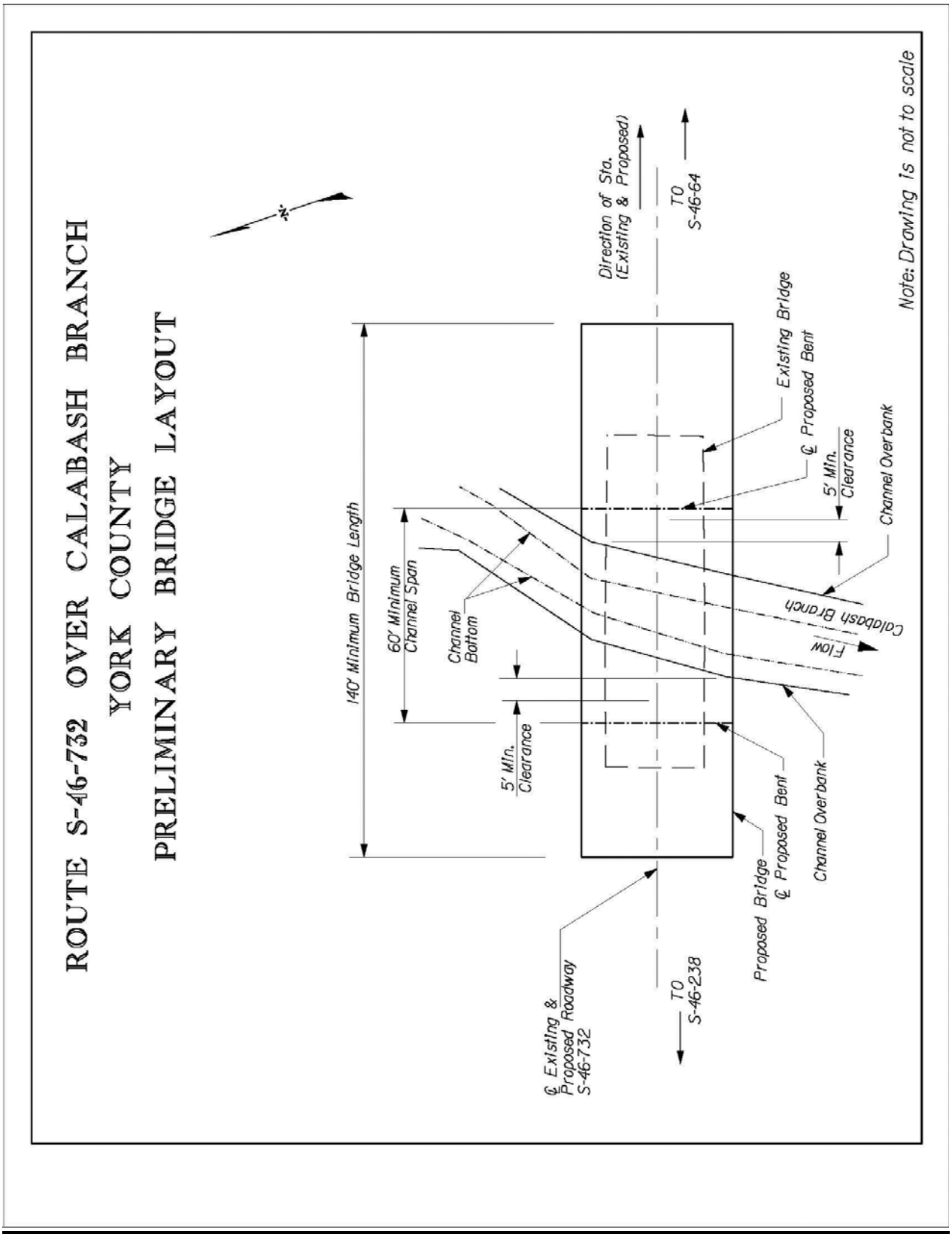
General Bridge Layout Requirements
The Contractor shall follow the minimum bridge length and span layout requirements as shown in Preliminary Bridge Layout sketch.

Note: Minimum bridge length shall be 140’-0” and minimum length of span over channel shall be 60’-0” as shown in the Preliminary Bridge Layout sketch.


YORK COUNTY
ROAD S-732 OVER CALABASH BRANCH
SITE LOCATION
CLOVER
POP. 4,014
YORK
POP. 6,985
Calvary Baptist Ch.
Clover High & Jr. High
Jerusalem Ch.
St. Pauls Ch.
Apostle & Prophet Ch.
Filbert Presbyterian Church Inc. America
Union Ch.
Bible Covenant Community Ch.
New Home Ch.
Beth Shiloh Presbyterian Ch.
Lake Wylie Christian Assembly
Jubilee Christian Center
Whitehall Ch.
Tirzah
Liberty Baptist Ch.
First Wesleyan
SOUTHERN RAILWAY
Rock Branch
Johnson Branch
Walker Br.
Allison Creek
Grist Br.
Fishing Little


CLOVER
POP. 4,014
YORK
Filbert
Griggs Road Elementary
Bethel Ch.
Calvary Baptist Ch.
Clover High & Jr. High
Jerusalem Ch.
St. Pauls Ch.
Apostle & Prophet Ch.
Filbert Presbyterian Church Inc. America
Union Ch.
Bible Covenant Community Ch.
New Home Ch.
Beth Shiloh Presbyterian Ch.
Walker Br.
Johnson Branch
Rock Branch
Morris Branch
Big Branch
Allison Creek
Grist Br.
Calabash
Fishing
SOUTHERN
COUNTY: York
ROAD: S-46-732
ROAD NAME: Boyd Road
CLOSURE REASON: Bridge Replacement
APPROX. NET DETOUR LENGTH: 2.24 Miles
DETOUR ROUTE
ROAD CLOSURE


SC Seismic Hazard Map
Three-Point ADRS Curves
PIN No.: 39094 BR10
File No.: 46.039094.10
Latitude: 35.0678
Route: S-732
County: York
Longitude: -81.1903
Project: S-732 over Calabash Branch
Designer: M. Jackson - Midlands RPG
Date: 5/17/2011
Design EQ | PGA | S_{os} | S_{o1} | M_w | R (km) | Geologic Condition | Site Class | Damping
FEE | 0.06 | 0.10 | 0.06 | 7.365 | 202.5 | Hard Rock Basement Outcrop | D | 5%
SEE | 0.15 | 0.23 | 0.14 | 7.375 | 203.75 | Hard Rock Basement Outcrop | D
FEE ADRS Curve Three-Point Method
T | S_a
0.00 | 0.06
0.02 | 0.07
0.04 | 0.08
0.06 | 0.08
0.07 | 0.09
0.09 | 0.10
1σ
0.11 | 0.10
0.15 | 0.10
0.19 | 0.10
0.22 | 0.10
0.26 | 0.10
0.30 | 0.10
0.34 | 0.10
0.37 | 0.10
0.41 | 0.10
0.45 | 0.10
0.49 | 0.10
0.52 | 0.10
0.56 | 0.10
1σ
0.70 | 0.08
0.85 | 0.07
0.99 | 0.06
1.14 | 0.05
1.28 | 0.05
1.42 | 0.04
1.57 | 0.04
1.71 | 0.03
1.85 | 0.03
2.00 | 0.03
2.14 | 0.03
2.28 | 0.03
2.43 | 0.02
2.57 | 0.02
2.71 | 0.02
2.86 | 0.02
3.00 | 0.02
SEE ADRS Curve Three-Point Method
T | S_a
0.00 | 0.15
0.02 | 0.16
0.04 | 0.18
0.06 | 0.19
0.08 | 0.20
0.10 | 0.22
0.12 | 0.23
0.16 | 0.23
0.20 | 0.23
0.24 | 0.23
0.28 | 0.23
0.32 | 0.23
0.36 | 0.23
0.40 | 0.23
0.44 | 0.23
0.48 | 0.23
0.51 | 0.23
0.55 | 0.23
0.59 | 0.19
0.74 | 0.16
0.88 | 0.14
1.02 | 0.12
1.16 | 0.11
1.30 | 0.10
1.44 | 0.09
1.58 | 0.08
1.73 | 0.07
1.87 | 0.07
2.01 | 0.06
2.15 | 0.06
2.29 | 0.06
2.43 | 0.05
2.58 | 0.05
2.72 | 0.05
2.86 | 0.05
3.00 | 0.05
SC Seismic Hazard Map Three-Point ADRS Curve From Ground Surface
SEE ADRS Curve
FEE ADRS Curve
Spectral Response Acceleration, Sa (g)
Period, T [sec]
0.0
0.1
0.2
0.3
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0


ROUTE S-46-732 OVER CALABASH BRANCH
YORK COUNTY
PRELIMINARY BRIDGE LAYOUT
N
Direction of Sta. (Existing & Proposed)
TO S-46-64
Existing Bridge
℄ Proposed Bent
5' Min. Clearance
Channel Overbank
Calabash Branch
Flow
140' Minimum Bridge Length
60' Minimum Channel Span
Channel Bottom
5' Min. Clearance
Proposed Bridge
℄ Proposed Bent
Channel Overbank
℄ Existing & Proposed Roadway S-46-732
TO S-46-238
Note: Drawing is not to scale

BRIDGE J

ROUTE: I-85 North Bound and South Bound Lanes
CROSSING: NORFOLK SOUTHERN RAILROAD
COUNTY: CHEROKEE
STRUCTURE NUMBER: 1110008510500 & 1110008530500

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	Length is based on design
End of Existing Bridge:	Length is based on design
Design Speed:	65 mph
Functional Classification:	Rural Freeway
Design ADT:	36,575
Terrain:	Rolling

***Minimum Approach Length does not include transition from project design criteria to existing condition. The transition length required outside of the minimum approach length (based on design) does not have to meet geometric design criteria but shall not degrade the existing facility.*

Typical Section
Roadway Approaches will consist of 4 – 12'-0" Lanes (2 Lanes for North Bound Traffic and 2 Lanes for South Bound Traffic) with 12'-0" Outside Shoulders (10'-0" Paved Shoulders and 2'-0" Grassed Shoulders) and 10'-0" Inside Shoulders (4'-0" Paved Shoulders and 6'-0" Grassed Shoulders). North Bound and South Bound Traffic will be separated by barrier as specified in the Highway Design Manual.

Maintenance of Traffic
The two existing bridges will be replaced with one structure. The proposed bridge will be constructed on new alignment north of the existing structure. Staged construction will be used to allow use of the existing bridges during construction. Four Lanes of traffic (2-12' Lanes in each direction) shall be maintained at all times during construction of the proposed bridge.

Minimize shoulder width reductions. On roadways with paved shoulders, maintain a minimum total width of paved shoulder area no less than 5 feet wide with a minimum 3-foot / 2-foot split between each paved shoulder; provide a minimum width of 2 feet of paved shoulder on one side of the travel way with a minimum width of 3 feet of paved shoulder on the other side of the travel way. On bridge structures, maintain a minimum total width of shoulder area no less than 4 feet wide with a 2-foot / 2-foot split between each shoulder; provide no less than 2 feet of shoulder width on each side of the travel way.

Pavement Design

New Construction (Mainline and Shoulders)
Surface – 110 psy OGFC & 200 psy HMA Surface Type A
Intermediate – 200 psy HMA Surface Type A
Base - 1600 psy HMA Base Type A
Alternate Base – 10 inch GAB plus 1050 psy HMA Base Type A

Existing Pavement
Overlay – 110 psy OGFC & 200 psy HMA Surface Type A
Surface Planing to remove existing OGFC prior to overlay

Temporary Pavement (median crossovers and existing shoulders used for temporary traffic)
Surface – 200 psy HMA Surface Type B
Intermediate – 200 psy HMA Surface Type B
Base – 1100 psy HMA Base Type A

b) HYDROLOGY

The proposed bridge will span over the Norfolk southern railroad and does not span any waterways.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed: Prestressed Concrete Girders
Structural Steel Rolled W Beams
Structural Steel Welded Plate Girders

Minimum Outside Deck Width:
The minimum outside deck width shall be 111’-3” (Includes 105’-6” Total Minimum Clear Roadway Width (52’-9” Minimum Clear Roadway Width North Bound Lane and 52’-9” Minimum Clear Roadway Width South Bound Lane), One – 2’-6” Median Barrier, Two -- 1’-6” Barrier Parapets, and Two -- 1 ½” Slab Extensions for Slip Forming Barriers). Width provides for 6 lanes (3- 12’ lanes in each direction), 4’- 9” inside shoulders, and 12’ outside shoulders.

Bridge Skew: To be determined.

Seismic Design Criteria
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

General Bridge Layout Requirements
The Contractor shall follow the bridge layout requirements as shown in Preliminary Bridge Layout sketch.

Miscellaneous Requirements
OGFC Requirements.

Railroad Requirements:

See Railroad Requirements in Special Provisions (Exhibit 5).
Specifications included in letter from Norfolk Southern dated 4-17-12 (Exhibit 8).

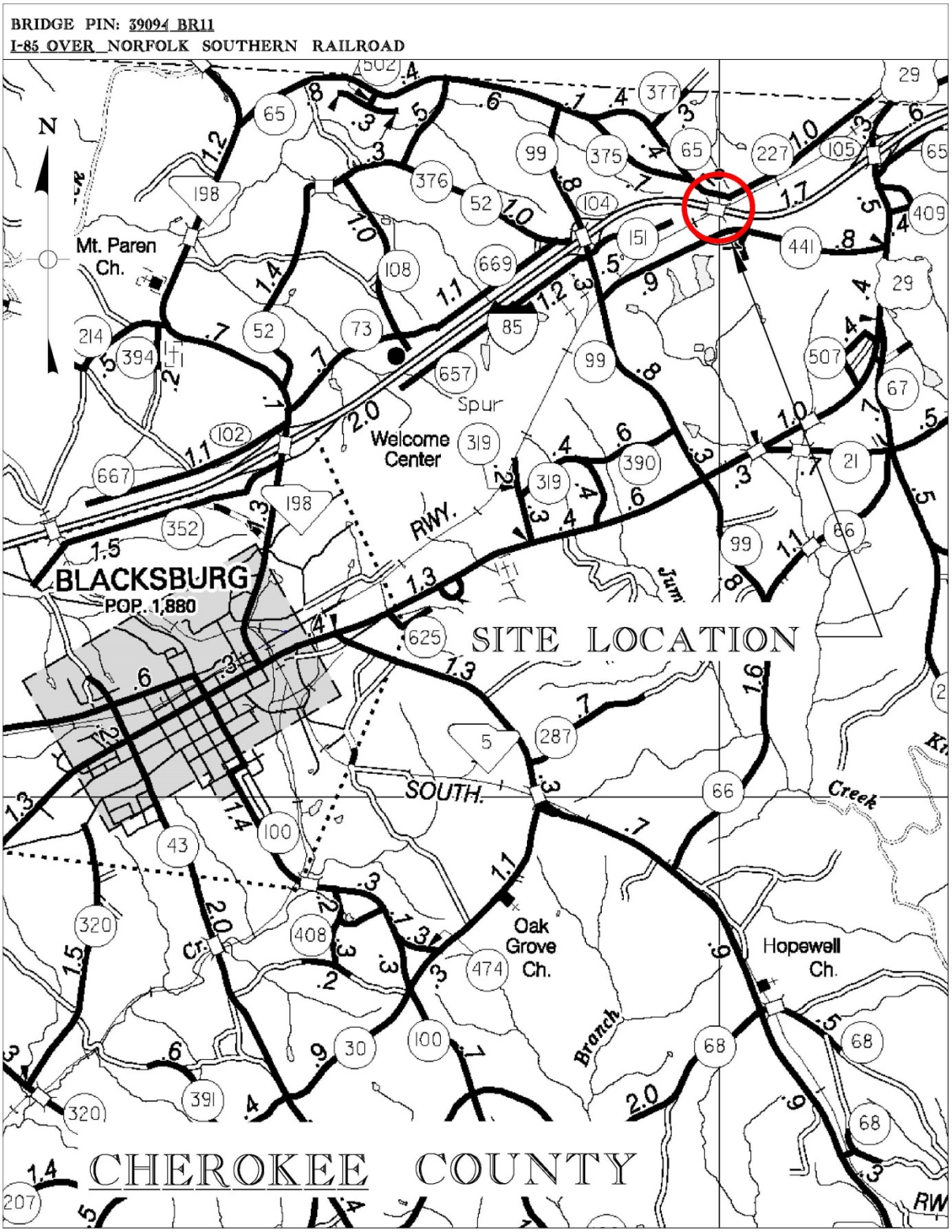
Final Roadway striping: 2-12' travel lanes will be striped in each direction with a minimum 12' (10' paved, 2' earth) outside shoulder width. The outside shoulder width may be wider to meet guardrail requirements. The remaining inside width will be striped as an inside shoulder.

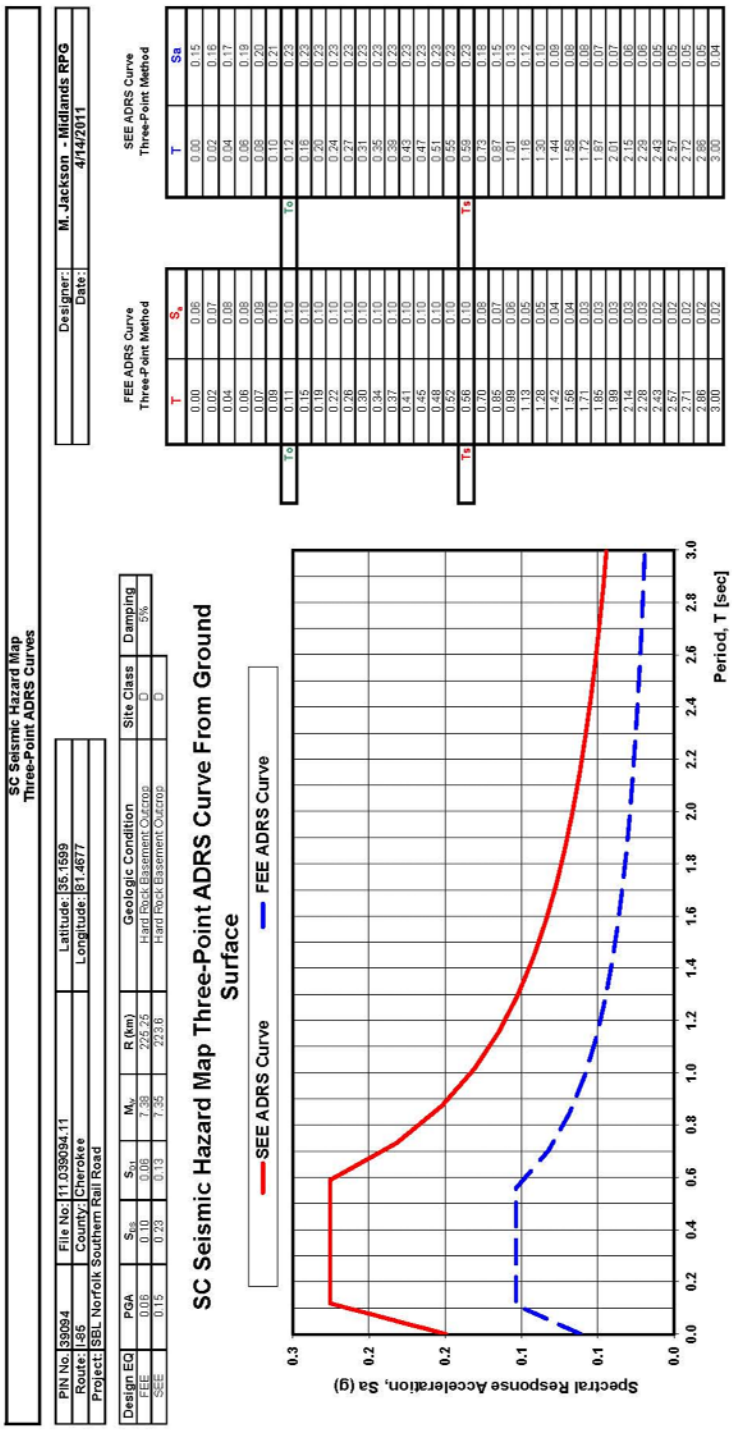
Install impact attenuator on both approaches to median barrier. Contractor shall pave total median width for length of impact attenuator protecting the concrete median barrier. Impact attenuator shall be TL-3 and shall be in accordance with section 670 of the Standard Specifications for Highway Construction. Construct concrete foundation for impact attenuator in accordance to manufacturer's requirements. Install impact attenuator on both approaches to median barrier on bridge in accordance to manufacturer's recommendation. Grade approach area to attenuator in accordance with manufacturer's and SCDOT requirements.

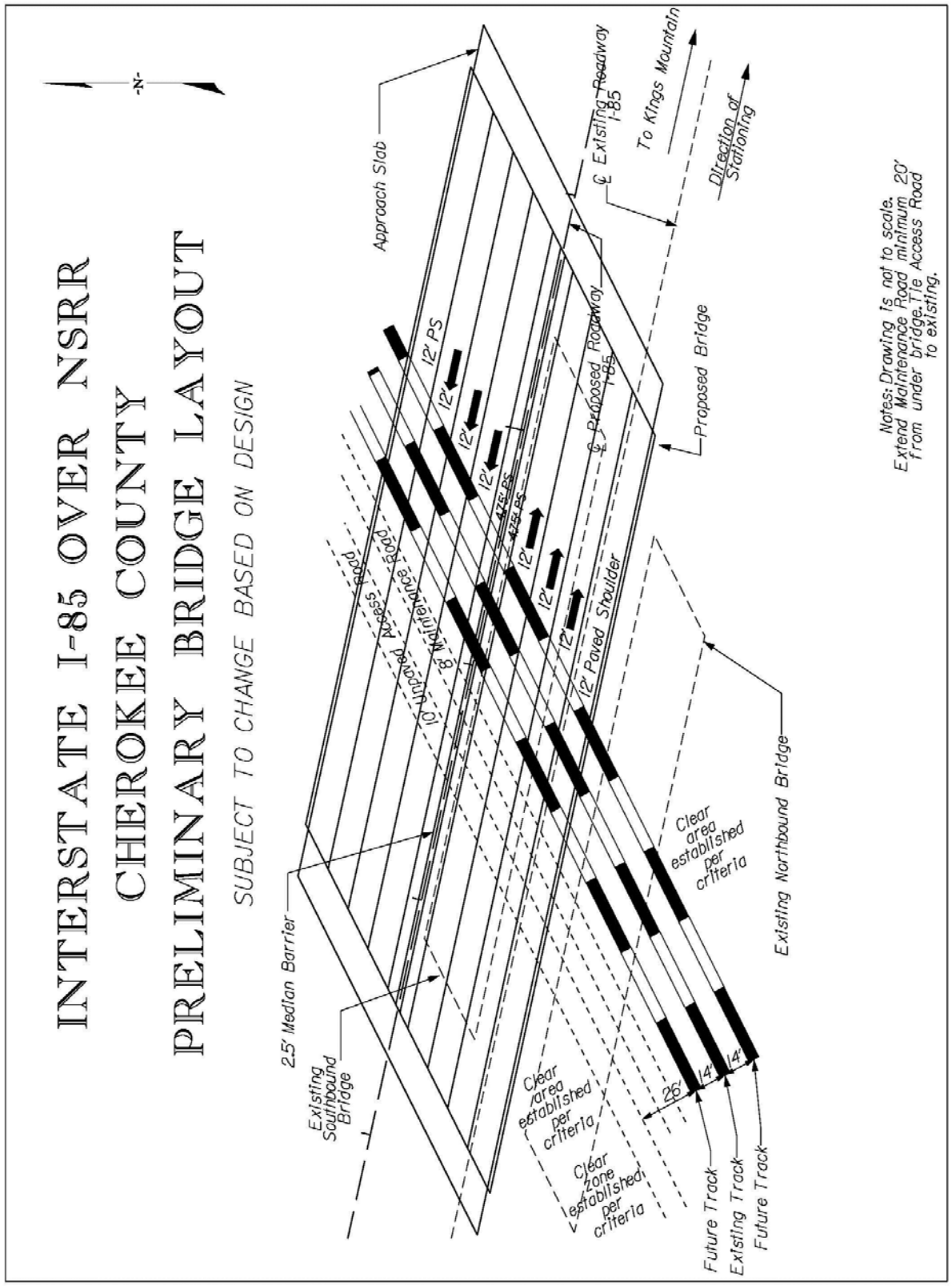
SCDOT is responsible for temporary relocation of the existing Intelligent Transportation Systems (ITS) cable. SCDOT is also responsible for reattaching the ITS cable to the proposed bridge. The Contractor shall coordinate with SCDOT and include SCDOT's temporary relocation and reattachment in his coordination with the Railroad, including the railroad agreement.

d) RIGHT OF WAY

All right of way acquisitions for the I-85 bridge replacement shall be acquired and specified as controlled access.


BRIDGE PIN: 39094 BR11
I-85 OVER NORFOLK SOUTHERN RAILROAD
N
Mt. Paren Ch.
Welcome Center
Spur
RWY.
BLACKSBURG
POP. 1,880
SITE LOCATION
SOUTH.
Oak Grove Ch.
Hopewell Ch.
Creek
Branch
CHEROKEE COUNTY


SC Seismic Hazard Map
Three-Point ADRS Curves
PIN No. 39094
File No. 11.039094.11
Latitude: 35.1699
Route: I-85
County: Cherokee
Longitude: 81.4677
Project: SBL Norfolk Southern Rail Road
Designer: M. Jackson - Midlands RPG
Date: 4/14/2011
Design EQ | PGA | S_{DS} | S_{D1} | M_W | R (km) | Geologic Condition | Site Class | Damping
FEE | 0.06 | 0.10 | 0.06 | 7.38 | 275.25 | Hard Rock Basement Outcrop | D | 5%
SEE | 0.15 | 0.23 | 0.13 | 7.35 | 223.6 | Hard Rock Basement Outcrop | D
FEE ADRS Curve Three-Point Method
T | S_a
0.00 0.06
0.02 0.07
0.04 0.08
0.06 0.08
0.07 0.09
0.09 0.10
To 0.11 0.10
0.15 0.10
0.19 0.10
0.22 0.10
0.26 0.10
0.30 0.10
0.34 0.10
0.37 0.10
0.41 0.10
0.45 0.10
0.48 0.10
0.52 0.10
Ts 0.56 0.10
0.70 0.08
0.85 0.07
0.99 0.06
1.13 0.05
1.28 0.05
1.42 0.04
1.56 0.04
1.71 0.03
1.85 0.03
1.99 0.03
2.14 0.03
2.28 0.03
2.43 0.02
2.57 0.02
2.71 0.02
2.86 0.02
3.00 0.02
SEE ADRS Curve Three-Point Method
T | S_a
0.00 0.15
0.02 0.16
0.04 0.17
0.06 0.19
0.08 0.20
0.10 0.21
To 0.12 0.23
0.16 0.23
0.20 0.23
0.24 0.23
0.27 0.23
0.31 0.23
0.35 0.23
0.38 0.23
0.43 0.23
0.47 0.23
0.51 0.23
0.55 0.23
Ts 0.59 0.23
0.73 0.18
0.87 0.15
1.01 0.13
1.16 0.12
1.30 0.10
1.44 0.08
1.58 0.08
1.72 0.06
1.87 0.07
2.01 0.07
2.15 0.06
2.29 0.06
2.43 0.05
2.57 0.05
2.72 0.05
2.86 0.05
3.00 0.04
SC Seismic Hazard Map Three-Point ADRS Curve From Ground Surface
SEE ADRS Curve
FEE ADRS Curve
Spectral Response Acceleration, Sa (g)
Period, T [sec]
0.0 0.1 0.2 0.3
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0


INTERSTATE I-85 OVER NSRR
CHEROKEE COUNTY
PRELIMINARY BRIDGE LAYOUT
SUBJECT TO CHANGE BASED ON DESIGN
-N-
Approach Slab
℄ Existing Roadway I-85
To Kings Mountain
Direction of Stationing
℄ Proposed Roadway I-85
Proposed Bridge
12' PS
12'
12'
12'
4.5' PS
4.5' PS
12'
12'
12' Paved Shoulder
Access Road
8' Maintenance Roadway
10'
2.5' Median Barrier
Existing Southbound Bridge
Existing Northbound Bridge
Clear area established per criteria
Clear area established per criteria
Clear zone established per criteria
26'
14'
14'
Future Track
Existing Track
Future Track
Notes: Drawing is not to scale.
Extend Maintenance Road minimum 20' from under bridge. Tie Access Road to existing.

BRIDGE K

ROUTE: S-46-103
CROSSING: FISHING CREEK
COUNTY: YORK
STRUCTURE NUMBER: 4670010300100

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	2145 feet
End of Existing Bridge:	2460 feet
Design Speed:	50 mph
Functional Classification:	Rural Local Group 4
Design ADT:	1,400
Terrain:	Rolling

***Minimum Approach Length includes transition from project design criteria to existing condition.*

Miscellaneous
Contractor shall secure fee simple right of way consistent with Department practices. Obtain uniform widths of right way along roadway to cover permanent improvements including ditches and slopes. Obtain area for bridge maintenance in accordance with HDM.

Typical Section
Roadway Approaches will consist of 2 – 11'-0" Lanes with 6'-0" Shoulders (2'-0" Paved Shoulders and 4'-0" Grassed Shoulders)

Maintenance of Traffic
The proposed bridge will be constructed on new alignment upstream of the existing structure. Traffic may be detoured during construction.

If traffic is detoured during construction, the CONTRACTOR shall detour traffic using the detour route specified in this criteria while the new bridge is constructed.

Pavement Design

New Construction

b. Surface – 150 psy HMA Surface Type D
   Intermediate – 200 psy HMA Intermediate Type C
   Base - 350 psy HMA Base Type B or 6 inches GAB

Existing Pavement
8" of Full Depth Patching as directed by SCDOT in accordance with Special Provision – Section 401; Full Depth Asphalt Pavement Patching.
Overlay – 175 psy HMA Surface Type C
Variable milling for pavement tie-ins as directed by SCDOT

b) HYDROLOGY

The project site is located in a FEMA Special Flood Hazard Area Zone AE based on latest maps reviewed by Department.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed: Prestressed Concrete Girders
Structural Steel Rolled W Beams
Structural Steel Welded Plate Girders

Minimum Outside Deck Width:
If Prestressed Concrete Girders, Structural Steel Rolled W Beams, Structural Steel Welded Plate Girders, or Flat Slabs are used, then the minimum outside deck width shall be 37'-3" (Includes 34'-0" Clear Roadway Width, Two – 1'-6" Barrier Parapets, and Two –1 ½" Slab Extensions for Slip Forming Barriers)

Bridge Skew: To be determined by hydraulic design.

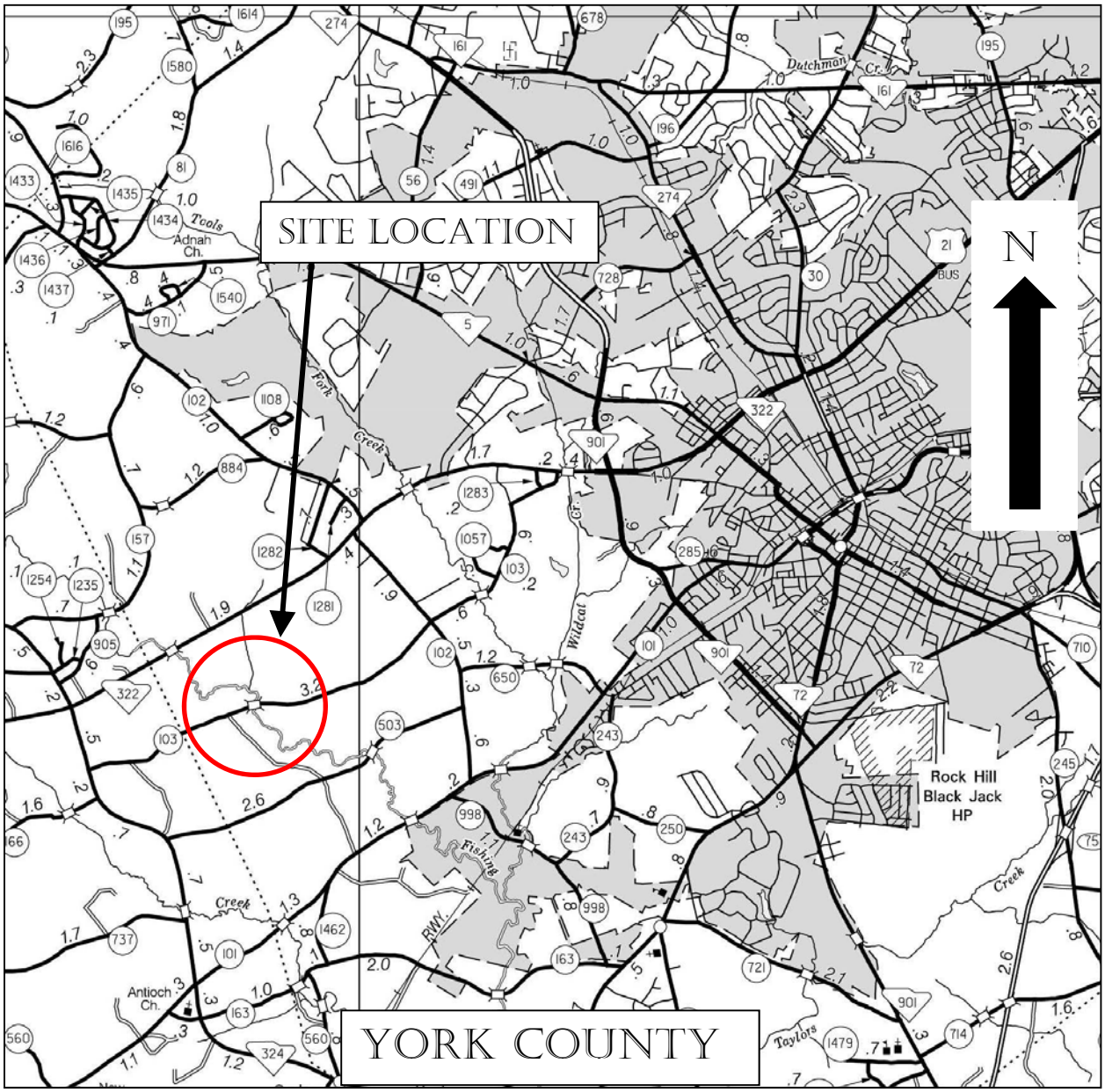
Miscellaneous Requirements
The use of MSE Walls as bridge abutments will not be allowed for this bridge.

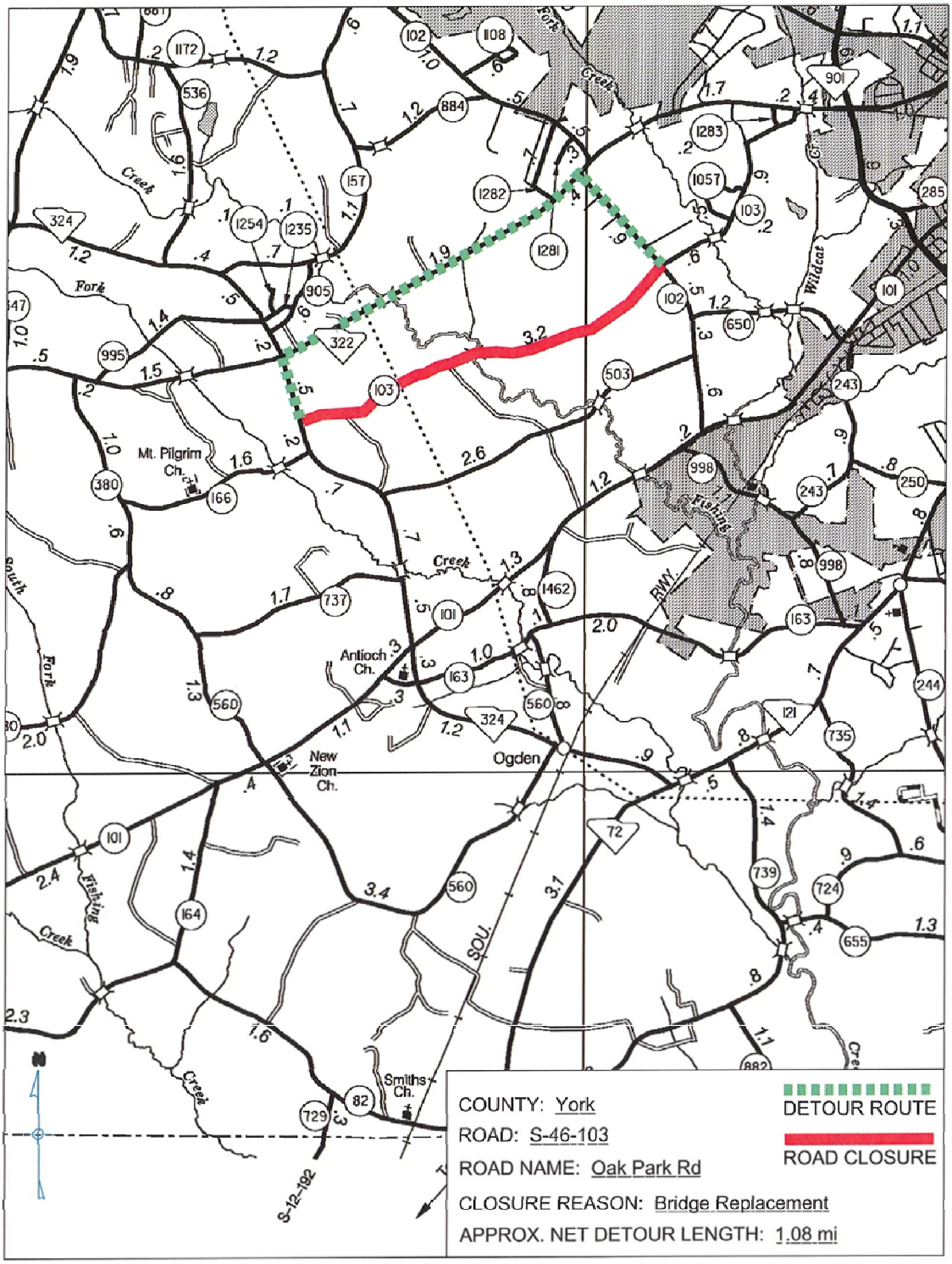
Seismic Design Criteria
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

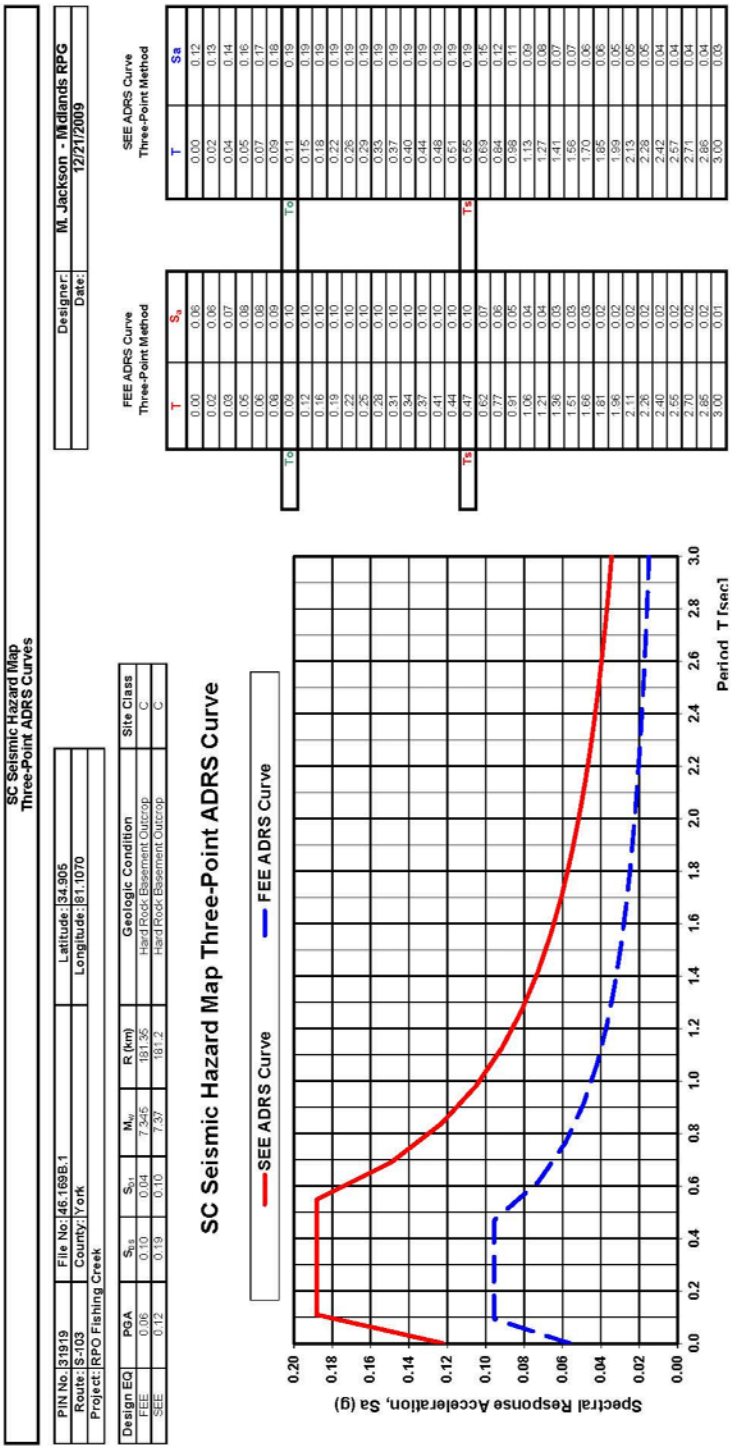
General Bridge Layout Requirements
The Contractor shall follow the minimum bridge length and span layout requirements as shown in Preliminary Bridge Layout sketch.

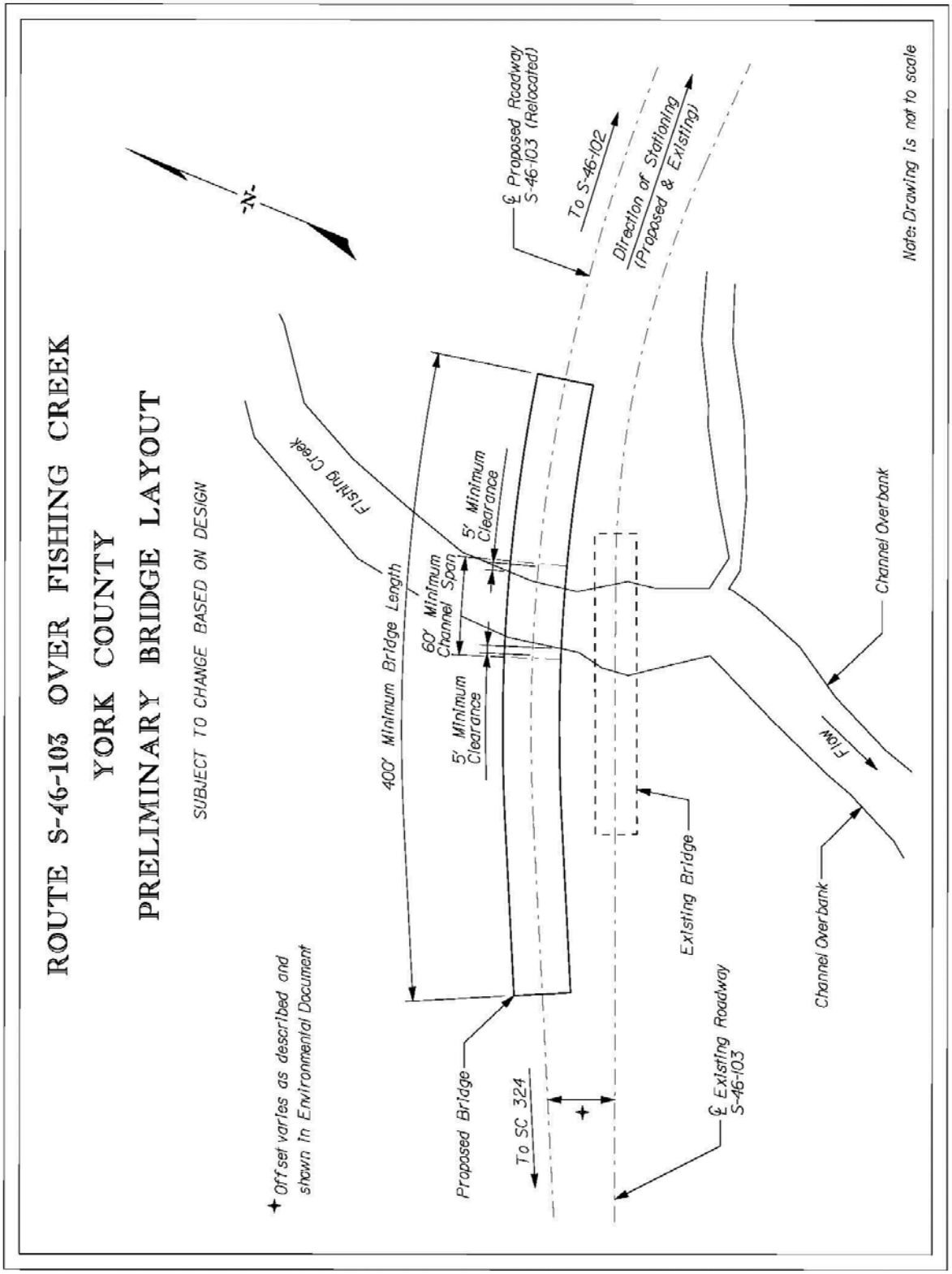
Note: Minimum bridge length shall be 400'-0" and minimum length of span over channel shall be 60'-0" as shown in the Preliminary Bridge Layout sketch.

BRIDGE PIN: FISHING CREEK
REPLACE BRIDGE OVER FISHING CREEK




COUNTY: York
ROAD: S-46-103
ROAD NAME: Oak Park Rd
CLOSURE REASON: Bridge Replacement
APPROX. NET DETOUR LENGTH: 1.08 mi
DETOUR ROUTE
ROAD CLOSURE
Mt. Pilgrim Ch.
Antioch Ch.
New Zion Ch.
Ogden
Smiths Ch.
Fishing Creek
South Fork
Wildcat
RWY
S-12-182


SC Seismic Hazard Map
Three-Point ADRS Curves
PIN No.: 31919
File No.: 46.169B.1
Latitude: 34.905
Route: S-103
County: York
Longitude: -81.1070
Project: RPO Fishing Creek
Designer: M. Jackson - Midlands RPG
Date: 12/21/2009
Design EQ
PGA
S_{DS}
S_{D1}
M_W
R (km)
Geologic Condition
Site Class
FEE
0.06
0.10
0.04
7.345
181.36
Hard Rock Basement Outcrop
C
SEE
0.12
0.19
0.10
7.37
181.2
Hard Rock Basement Outcrop
C
FEE ADRS Curve
Three-Point Method
SEE ADRS Curve
Three-Point Method
T
S_a
SC Seismic Hazard Map Three-Point ADRS Curve
SEE ADRS Curve
FEE ADRS Curve
Spectral Response Acceleration, Sa (g)
Period, T [sec]


ROUTE S-46-103 OVER FISHING CREEK
YORK COUNTY
PRELIMINARY BRIDGE LAYOUT
SUBJECT TO CHANGE BASED ON DESIGN
N
℄ Proposed Roadway S-46-103 (Relocated)
To S-46-102
Direction of Stationing (Proposed & Existing)
Note: Drawing is not to scale
Fishing Creek
400' Minimum Bridge Length
60' Minimum Channel Span
5' Minimum Clearance
5' Minimum Clearance
Channel Overbank
Flow
Existing Bridge
Channel Overbank
Proposed Bridge
To SC 324
℄ Existing Roadway S-46-103
✦ Offset varies as described and shown in Environmental Document

BRIDGE L

ROUTE: S-11-41
CROSSING: PEOPLES CREEK
COUNTY: CHEROKEE
STRUCTURE NUMBER: 1170004100100

a) ROADWAY

Minimum Approach Length*	
Beginning of Existing Bridge:	200 feet
End of Existing Bridge:	200 feet
Design Speed:	35 mph
Functional Classification:	Urban Collector
Design ADT:	4200
Terrain:	Rolling

***Minimum Approach Length includes transition from project design criteria to existing condition.*

Typical Section
Roadway Approaches will consist of 2 – 12'-0" Lanes with 8'-0" Shoulders (2'-0" Paved Shoulders and 6'-0" Grassed Shoulders)

Maintenance of Traffic
The proposed bridge will be constructed on or near the existing horizontal alignment. Traffic will be detoured during construction.

The CONTRACTOR shall close structure and detour traffic using the detour route specified in this criteria while the new bridge is constructed.

Pavement Design

New Construction

a. Surface –175 psy HMA Surface Type C
b. Intermediate –200 psy HMA Intermediate Type C
c. Base - 600 psy HMA Base Type B

Existing Pavement
8" of Full Depth Patching as directed by SCDOT in accordance with Special Provision – Section 401; Full Depth Asphalt Pavement Patching. Variable milling for pavement tie-ins as directed by SCDOT

b) HYDROLOGY

The project site is located in a FEMA Special Flood Hazard Area Zone AE based on latest maps reviewed by Department.

A no rise certification was obtained by SCDOT based on the bridge size/type included in the preliminary plan and profile drawings provided. If the contractor changes the design, the contractor will be responsible for all coordination and FEMA approvals.

c) STRUCTURE

Bridge Design Criteria

Superstructure Types Allowed:	Prestressed Concrete Girders Cast-in-place concrete flat slab

Minimum Outside Deck Width:
The minimum outside deck width shall be 42'-7" (Includes 40'-0" Clear Roadway Width, Two -- 1'-2" concrete railing walls, and Two -- 1 ½" Slab Extensions for Slip Forming Barriers)

Bridge Length:
Minimum bridge length shall be 37'-0".

Bridge Skew: 20 degrees maximum, to be determined by hydraulic design.

Seismic Design Criteria:
Use SC Seismic Hazard Map Three-Point ADRS Curves provided in this criteria.

Miscellaneous Requirements
The use of MSE Walls as bridge abutments will not be allowed for this bridge.

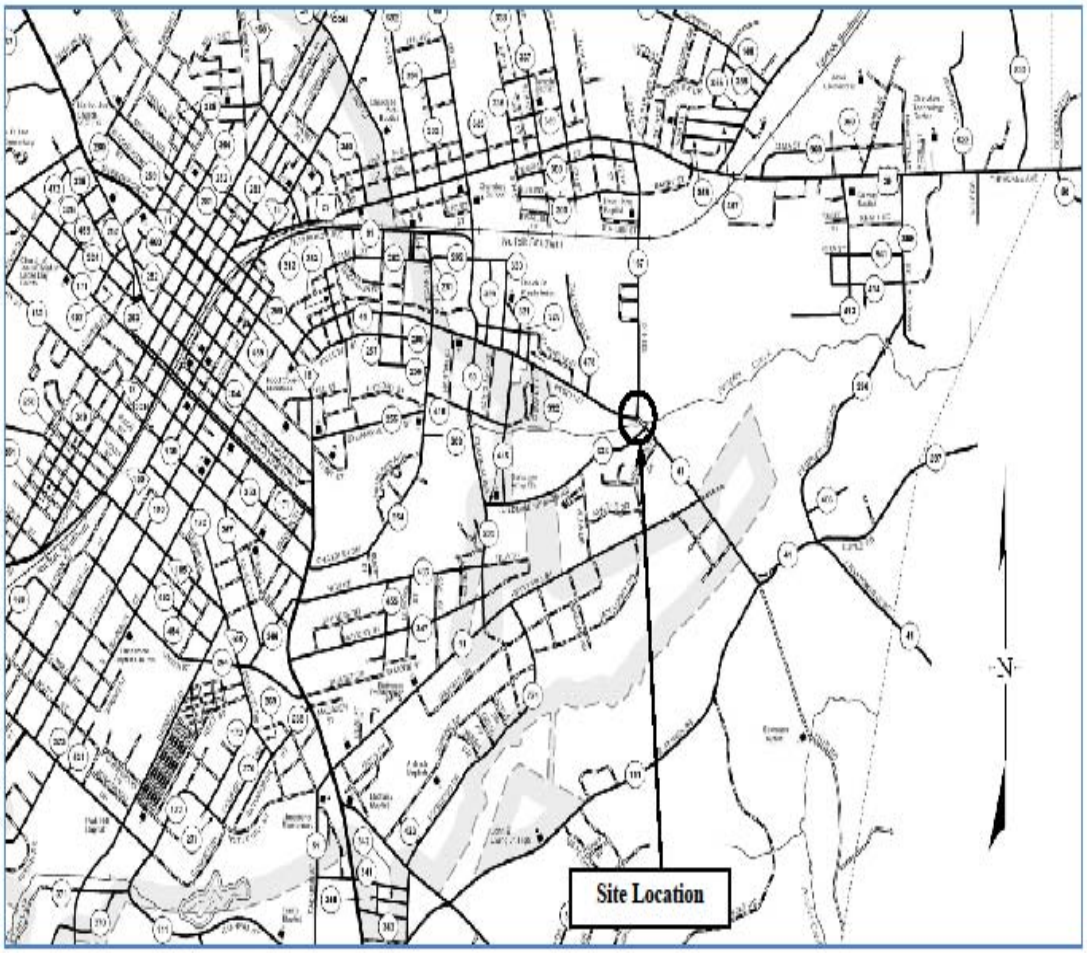
d) RIGHT OF WAY

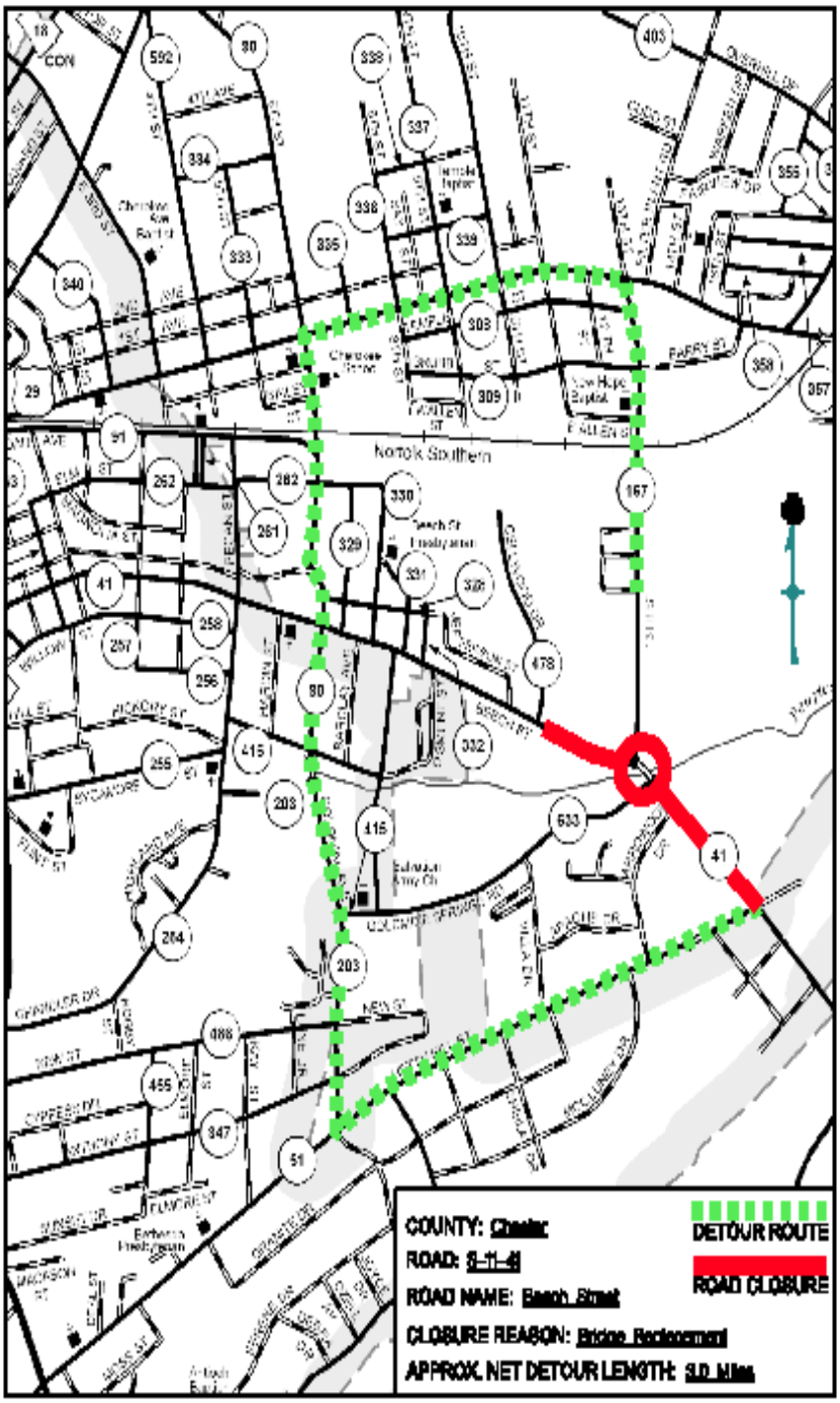
Right of way:
Right of way has been secured for the design as shown in the pdf plans signed by Anthony Fallaw and dated November 7, 2011

e) DESIGN EXCEPTION

A design exception is on file for the design of the right of way plans and may be used by the design team. The design exception is approved for a design speed of 25 mph for the horizontal curve on the northeast end of the new bridge structure.

S-11-41 (Beech Street) over Peoples Creek
Cherokee County




Norfolk Southern
COUNTY: Chester
ROAD: S-11-41
ROAD NAME: Beech Street
CLOSURE REASON: Bridge Replacement
APPROX. NET DETOUR LENGTH: 3.0 Miles
DETOUR ROUTE
ROAD CLOSURE

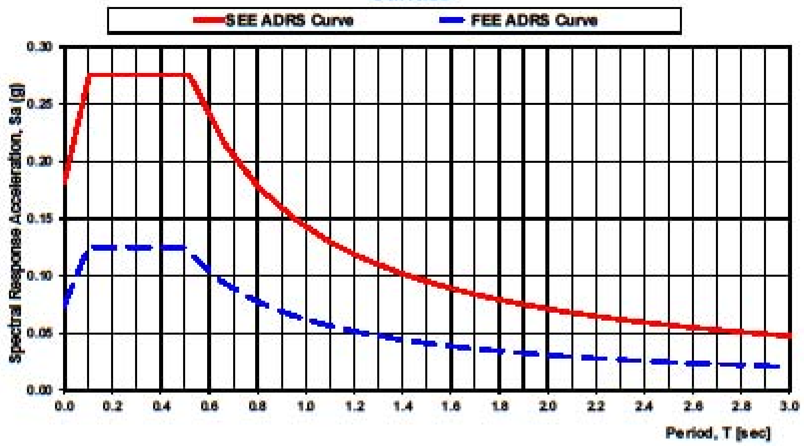
SC Seismic Hazard Map
Three-Point ADRS Curves

PIN No.	40205	File No:	11.040205.1	Latitude:	35.0712
Route:	S-41	County:	Cherokee	Longitude:	81.6223
Project:	Replace Bridge Over Peoples Creek				

Designer:	M. Humphries - Upstate RPG
Date:	8/8/2013

Design EQ	PGA	S_{DS}	S_{D1}	M_w	R (km)	Geologic Condition	Site Class	Damping
FEE	0.07	0.12	0.06	7.4	227	Geologically Realistic (Q = 100)	D	5%
SEE	0.18	0.28	0.14	7.4	227	Geologically Realistic (Q = 100)	D	

SC Seismic Hazard Map Three-Point ADRS Curve From Ground Surface

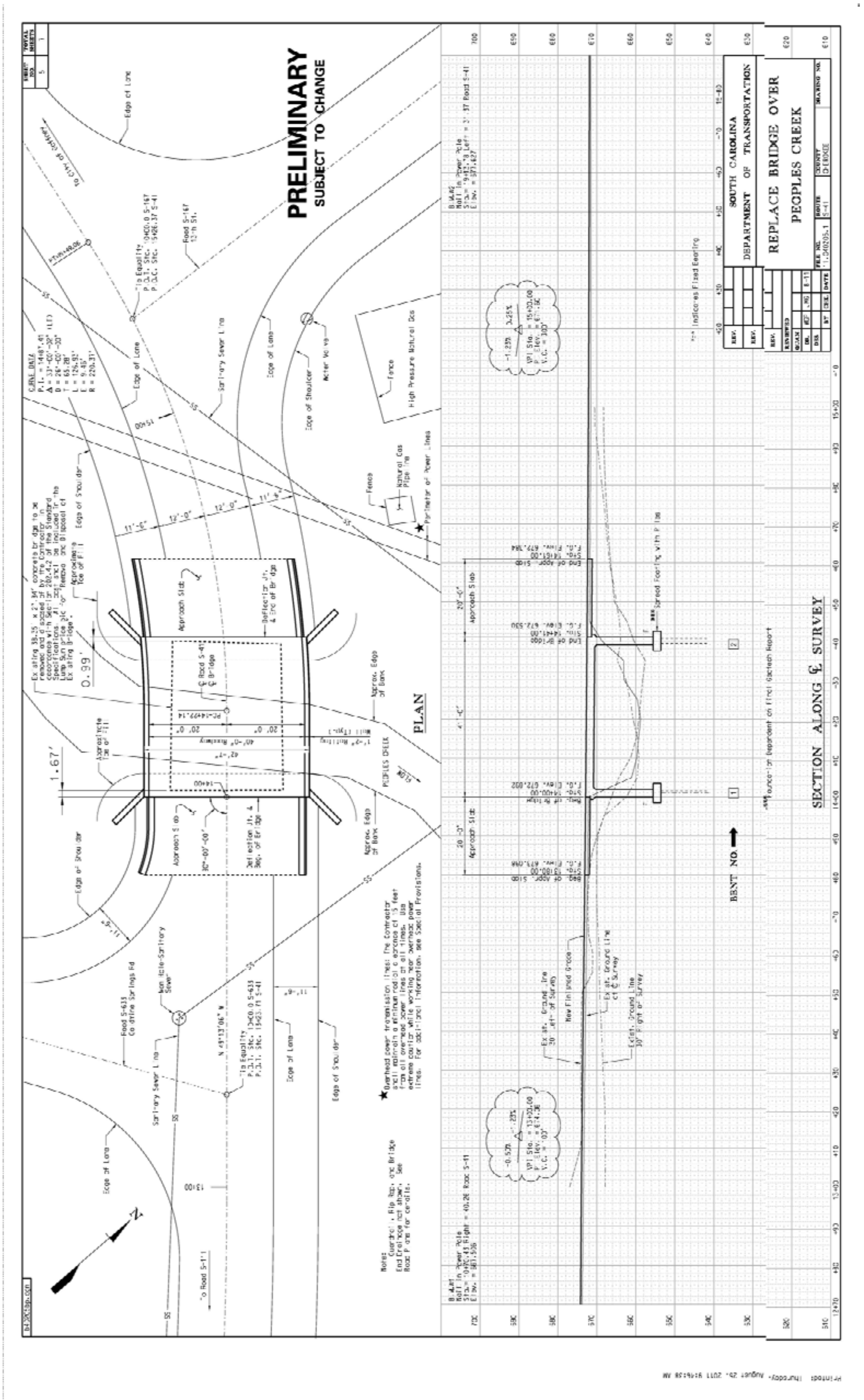


FEE ADRS Curve
Three-Point Method

	T	S_a
	0.00	0.07
	0.02	0.08
	0.03	0.09
	0.05	0.10
	0.07	0.11
	0.08	0.12
To	0.10	0.12
	0.13	0.12
	0.17	0.12
	0.20	0.12
	0.23	0.12
	0.26	0.12
	0.30	0.12
	0.33	0.12
	0.36	0.12
	0.40	0.12
	0.43	0.12
	0.46	0.12
Ts	0.50	0.12
	0.64	0.10
	0.79	0.08
	0.94	0.07
	1.08	0.06
	1.23	0.05
	1.38	0.04
	1.53	0.04
	1.67	0.04
	1.82	0.03
	1.97	0.03
	2.12	0.03
	2.26	0.03
	2.41	0.03
	2.56	0.02
	2.71	0.02
	2.85	0.02
	3.00	0.02

SEE ADRS Curve
Three-Point Method

	T	Sa
	0.00	0.18
	0.02	0.20
	0.03	0.21
	0.05	0.23
	0.07	0.24
	0.09	0.26
To	0.10	0.28
	0.14	0.28
	0.17	0.28
	0.21	0.28
	0.24	0.28
	0.28	0.28
	0.31	0.28
	0.35	0.28
	0.38	0.28
	0.41	0.28
	0.45	0.28
	0.48	0.28
Ts	0.52	0.28
	0.66	0.21
	0.81	0.18
	0.96	0.15
	1.10	0.13
	1.25	0.11
	1.39	0.10
	1.54	0.09
	1.69	0.08
	1.83	0.08
	1.98	0.07
	2.12	0.07
	2.27	0.06
	2.42	0.06
	2.56	0.06
	2.71	0.05
	2.85	0.05
	3.00	0.05


PRELIMINARY
SUBJECT TO CHANGE
PLAN
SECTION ALONG ℄ SURVEY
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
REPLACE BRIDGE OVER
PEOPLES CREEK