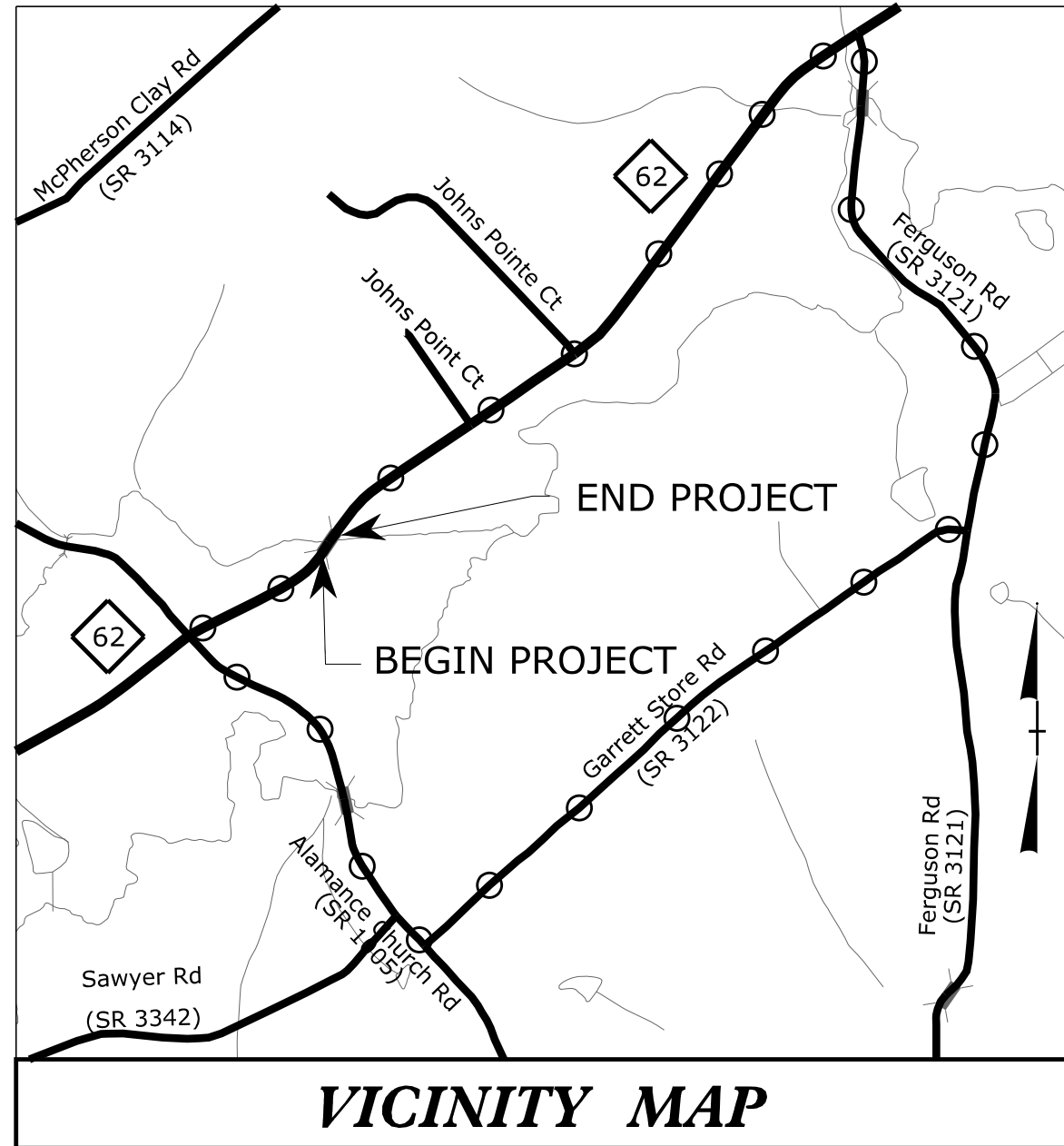


K:\RAL_Roadway\01036187 - 400151\Roadway\Proj\400151_Lrdy_1stdgn 9/17/2012

PROJECT: 17BP.7.R.42

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

OFF-SITE DETOUR ROUTE

65% PLANS

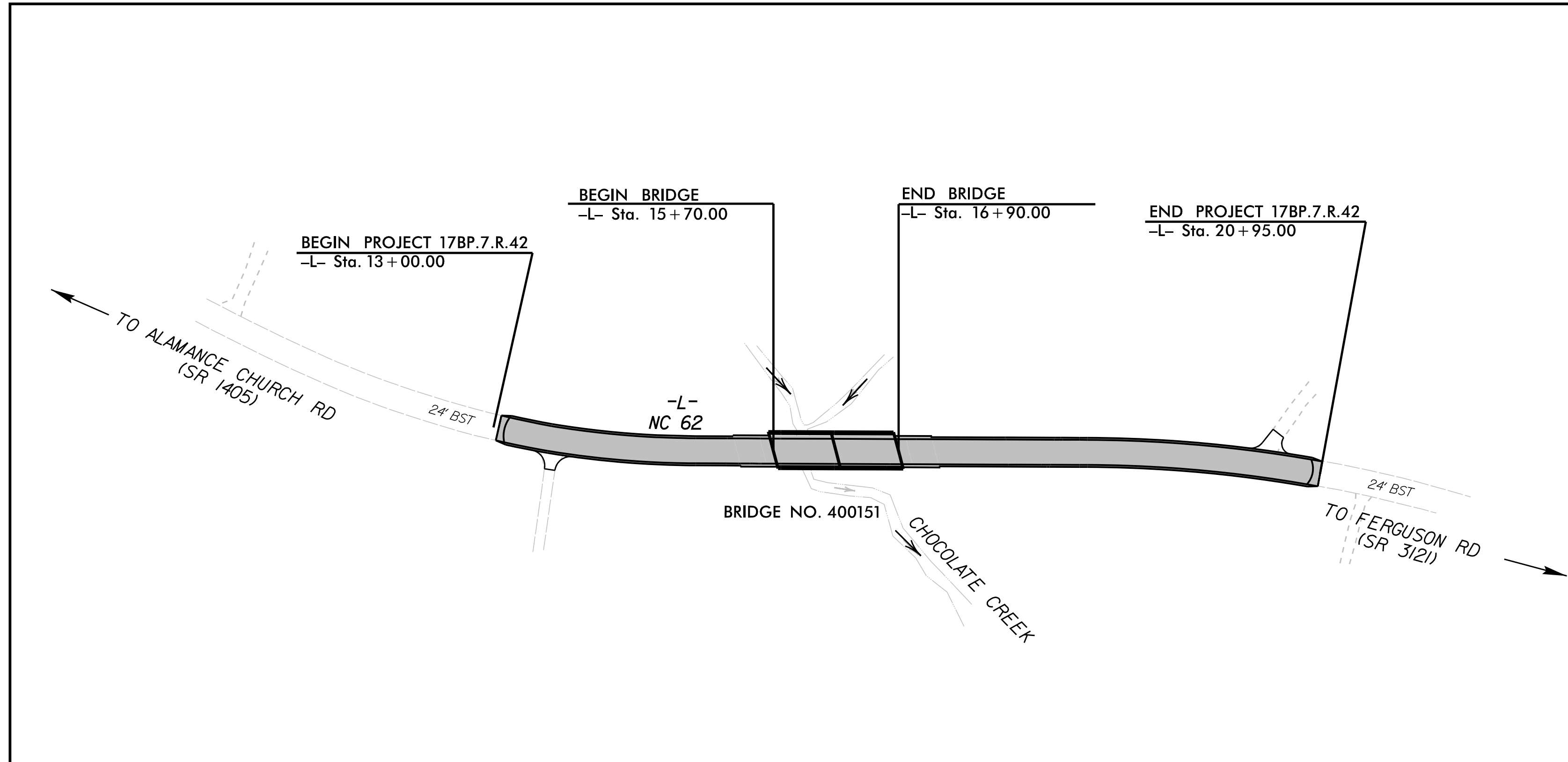
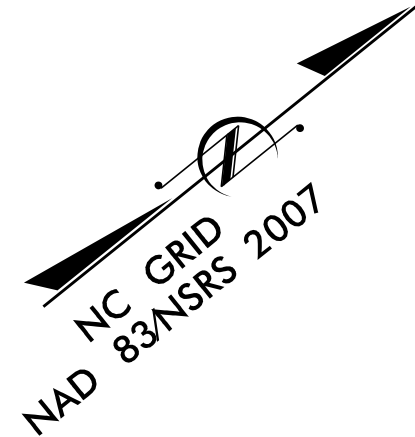
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

LOCATION: BRIDGE NO. 400151 OVER CHOCOLATE CREEK ON NC 62

TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.7.R.42	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.7.R.42		P.E.	



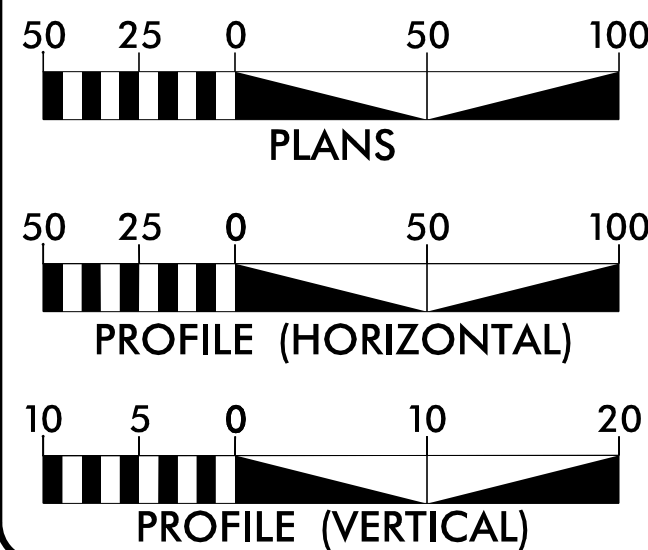
* DESIGN EXCEPTION
VERTICAL CURVE K
VERTICAL SSD

NCDOT CONTACT:
TIM POWERS, P.E.
DIVISION BRIDGE PROGRAM MANAGER
DIVISION 7

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 3080 VPD
ADT 2033 = 5280 VPD
T = 8%
V = 60 MPH

FUNCTIONAL = RURAL
CLASSIFICATION COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY PROJECT = 0.128 MILES
LENGTH STRUCTURE PROJECT = 0.023 MILES
TOTAL LENGTH OF PROJECT = 0.151 MILES

PLANS PREPARED FOR
THE NCDOT BY:



2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:
MARCH 19, 2013

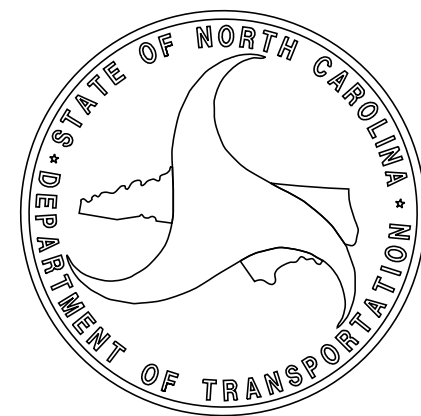
JEFFREY W. MOORE, P.E.
PROJECT ENGINEER

ELIZABETH W. LYNCH, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.
ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



Note: Not to Scale

**S.U.E. = Subsurface Utility Engineering*

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
17BP7.R.42	1-B

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	----->
Property Monument	□ ECM
Parcel/Sequence Number	⑫3
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	- - - - - WLB
Proposed Wetland Boundary	- - - - - WLB
Existing Endangered Animal Boundary	- - - - - EAB
Existing Endangered Plant Boundary	- - - - - EPB
Known Soil Contamination: Area or Site	☠
Potential Soil Contamination: Area or Site	?

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
Small Mine	✕
Foundation	▭
Area Outline	▭
Cemetery	▭ †
Building	▭
School	▭
Church	▭
Dam	▭

HYDROLOGY:

Stream or Body of Water	~~~~~
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	- - - - - JS
Buffer Zone 1	----- BZ 1
Buffer Zone 2	----- BZ 2
Flow Arrow	<-----
Disappearing Stream	>-----
Spring	○
Wetland	⚡
Proposed Lateral, Tail, Head Ditch	▭
False Sump	▭

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite R/W Marker	-----
Proposed Control of Access Line with Concrete C/A Marker	-----
Existing Control of Access	-----
Proposed Control of Access	-----
Existing Easement Line	----- E
Proposed Temporary Construction Easement	----- E
Proposed Temporary Drainage Easement	----- TDE
Proposed Permanent Drainage Easement	----- PDE
Proposed Permanent Drainage / Utility Easement	----- DUE
Proposed Permanent Utility Easement	----- PUE
Proposed Temporary Utility Easement	----- TUE
Proposed Aerial Utility Easement	----- AUE

Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	----- C
Proposed Slope Stakes Fill	----- F
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----

Equality Symbol

Pavement Removal

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	~~~~~
Woods Line	~~~~~

Orchard	☼ ☼ ☼ ☼
Vineyard	▭ Vineyard

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	▭ CONC
Bridge Wing Wall, Head Wall and End Wall	▭ CONC WW
MINOR:	
Head and End Wall	▭ CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	▭ CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊙
Storm Sewer	----- S

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊙
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	▭
H-Frame Pole	●
Recorded U/G Power Line	----- P
Designated U/G Power Line (S.U.E.*)	----- P

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊙
Telephone Booth	⊙
Telephone Pedestal	⊙
Telephone Cell Tower	⊙
U/G Telephone Cable Hand Hole	▭
Recorded U/G Telephone Cable	----- T
Designated U/G Telephone Cable (S.U.E.*)	----- T
Recorded U/G Telephone Conduit	----- TC
Designated U/G Telephone Conduit (S.U.E.*)	----- TC
Recorded U/G Fiber Optics Cable	----- T FO
Designated U/G Fiber Optics Cable (S.U.E.*)	----- T FO

WATER:

Water Manhole	⊙
Water Meter	⊙
Water Valve	⊙
Water Hydrant	⊙
Recorded U/G Water Line	----- W
Designated U/G Water Line (S.U.E.*)	----- W
Above Ground Water Line	----- A/G Water

TV:

TV Satellite Dish	☼
TV Pedestal	⊙
TV Tower	⊙
U/G TV Cable Hand Hole	▭
Recorded U/G TV Cable	----- TV
Designated U/G TV Cable (S.U.E.*)	----- TV
Recorded U/G Fiber Optic Cable	----- TV FO
Designated U/G Fiber Optic Cable (S.U.E.*)	----- TV FO

GAS:

Gas Valve	◇
Gas Meter	⊙
Recorded U/G Gas Line	----- G
Designated U/G Gas Line (S.U.E.*)	----- G
Above Ground Gas Line	----- A/G Gas

SANITARY SEWER:

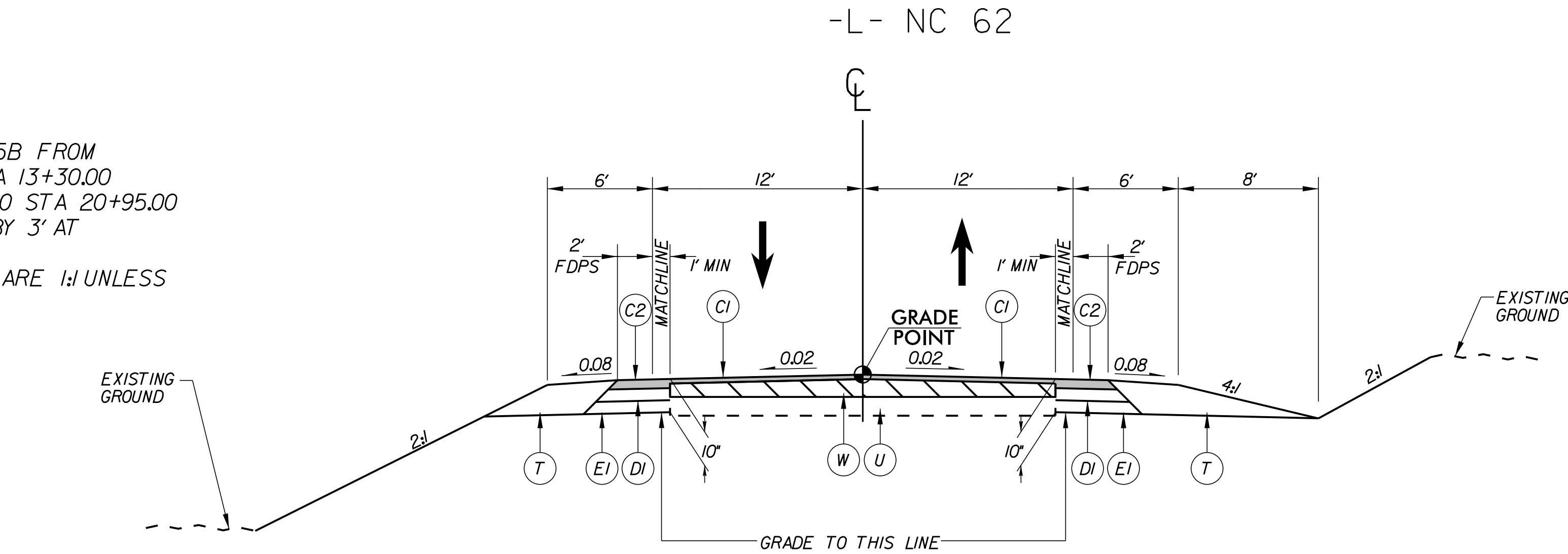
Sanitary Sewer Manhole	⊙
Sanitary Sewer Cleanout	⊙
U/G Sanitary Sewer Line	----- SS
Above Ground Sanitary Sewer	----- A/G Sanitary Sewer
Recorded SS Forced Main Line	----- FSS
Designated SS Forced Main Line (S.U.E.*)	----- FSS

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	▭
Utility Located Object	○
Utility Traffic Signal Box	⊙
Utility Unknown U/G Line	----- ?U/L
U/G Tank; Water, Gas, Oil	▭
Underground Storage Tank, Approx. Loc.	⊙
A/G Tank; Water, Gas, Oil	▭
Geoenvironmental Boring	⊙
U/G Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

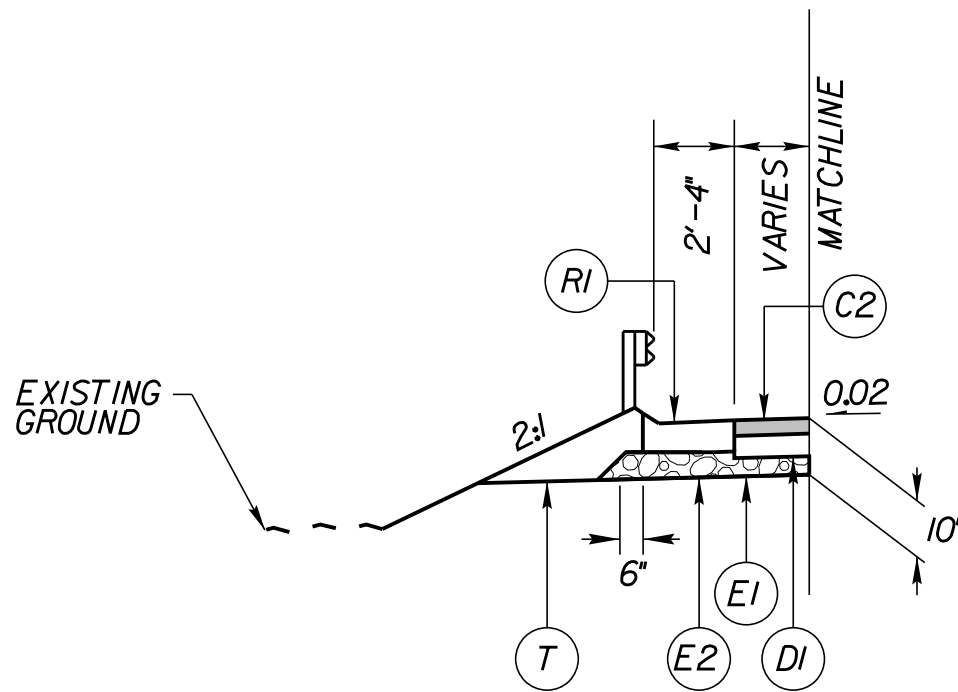
REVISIONS

- NOTES
- MILL NOTCH TO KEY-IN S9.5B FROM
-L- STA 13+05.00 TO STA 13+30.00
AND -L- STA 20+70.00 TO STA 20+95.00
 - WIDEN SHOULDER WIDTH BY 3' AT
GUARDRAIL LOCATIONS
 - PAVEMENT EDGE SLOPES ARE 1:1 UNLESS
OTHERWISE INDICATED



TYPICAL SECTION NO. 1

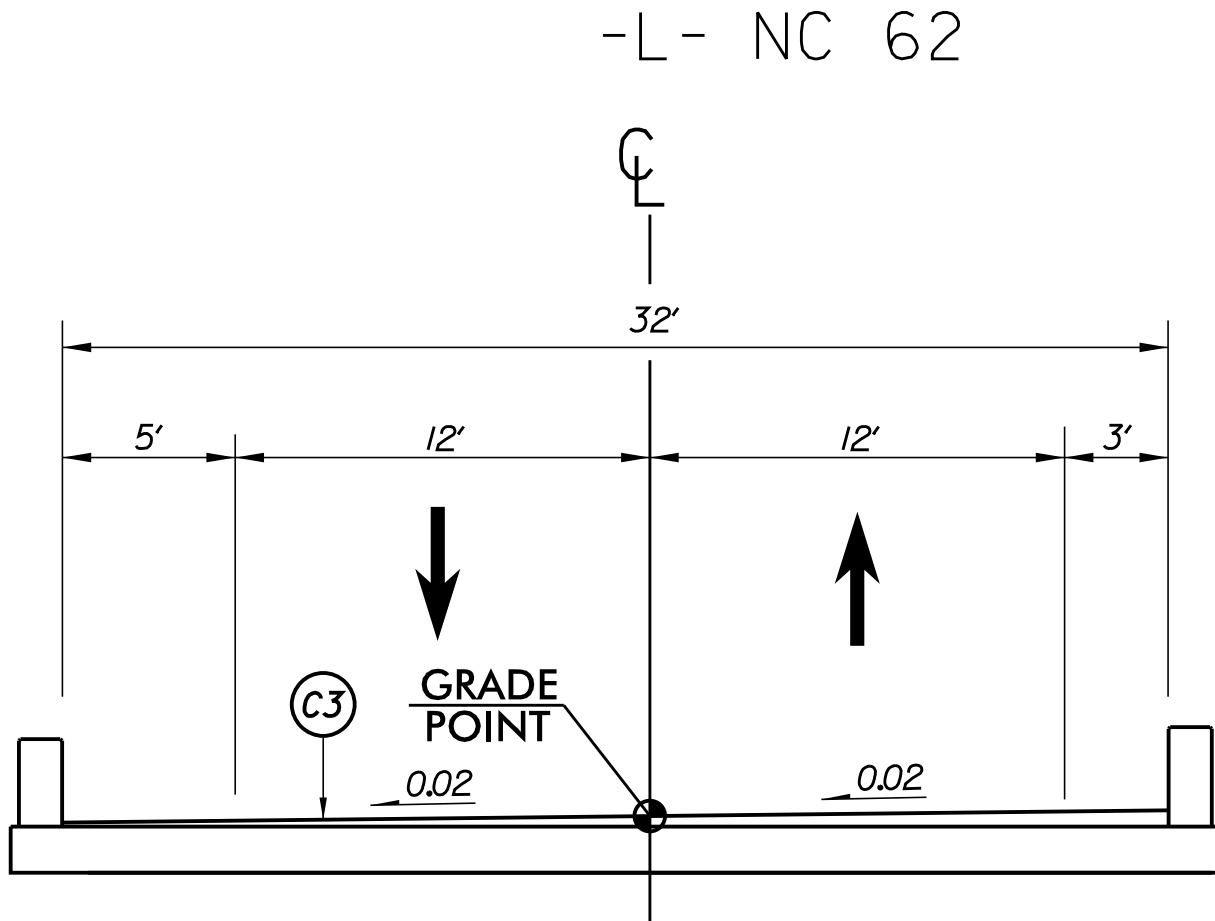
-L- STA 13+05.00 TO 15+70.00 (BEGIN BRIDGE)
-L- STA 16+90.00 (END BRIDGE) TO 20+95.00



TYPICAL SECTION NO. 1A

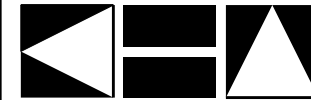
USE IN CONJUNCTION WITH TYPICAL SECTION 1

-L- STA 14+68.00 TO 15+41.00 (LT)
-L- STA 17+12.00 TO 17+50.00 (LT)
-L- STA 17+29.00 TO 18+22.00 (RT)



BRIDGE TYPICAL SECTION NO. 1

-L- STA 15+70.00 TO 16+90.00



Kimley-Horn
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P.O. BOX 33068
RALEIGH, N.C. 27636-3068

PROJECT REFERENCE NO.

17BP7.R.42

SHEET NO.

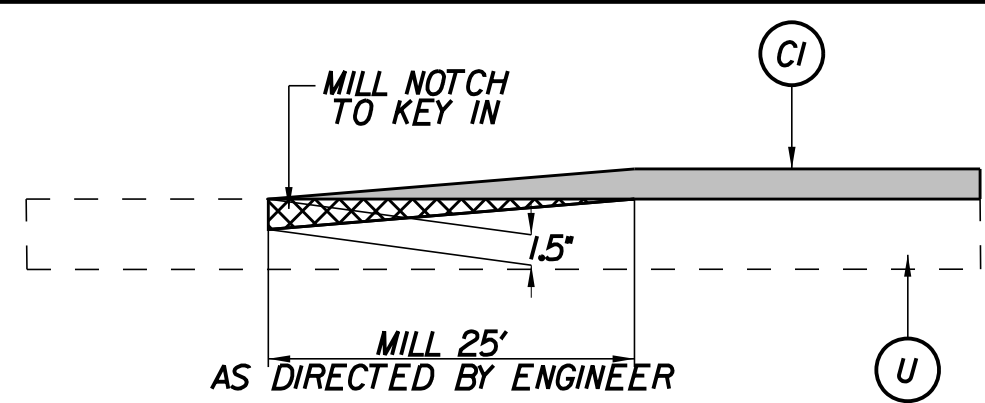
2

ROADWAY DESIGN
ENGINEER

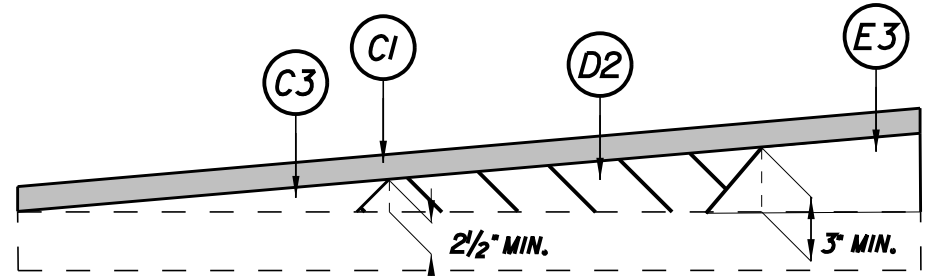
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE

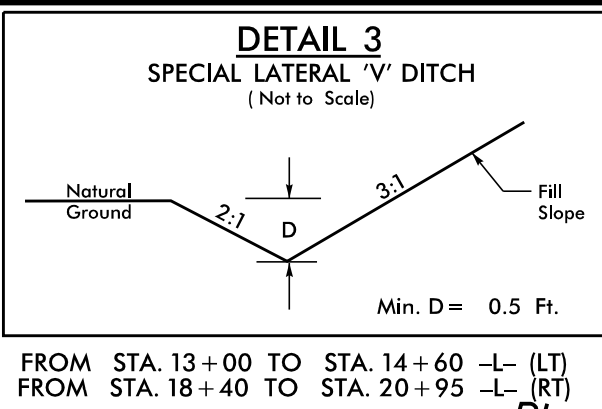
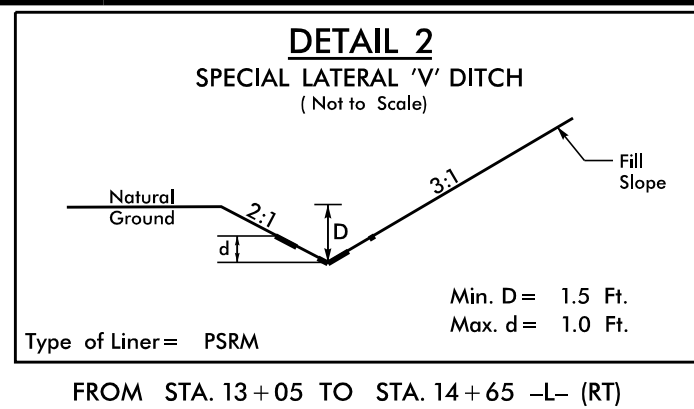
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2" IN DEPTH.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 119.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 119.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" DEPTH
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E3	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5.5" DEPTH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL W)



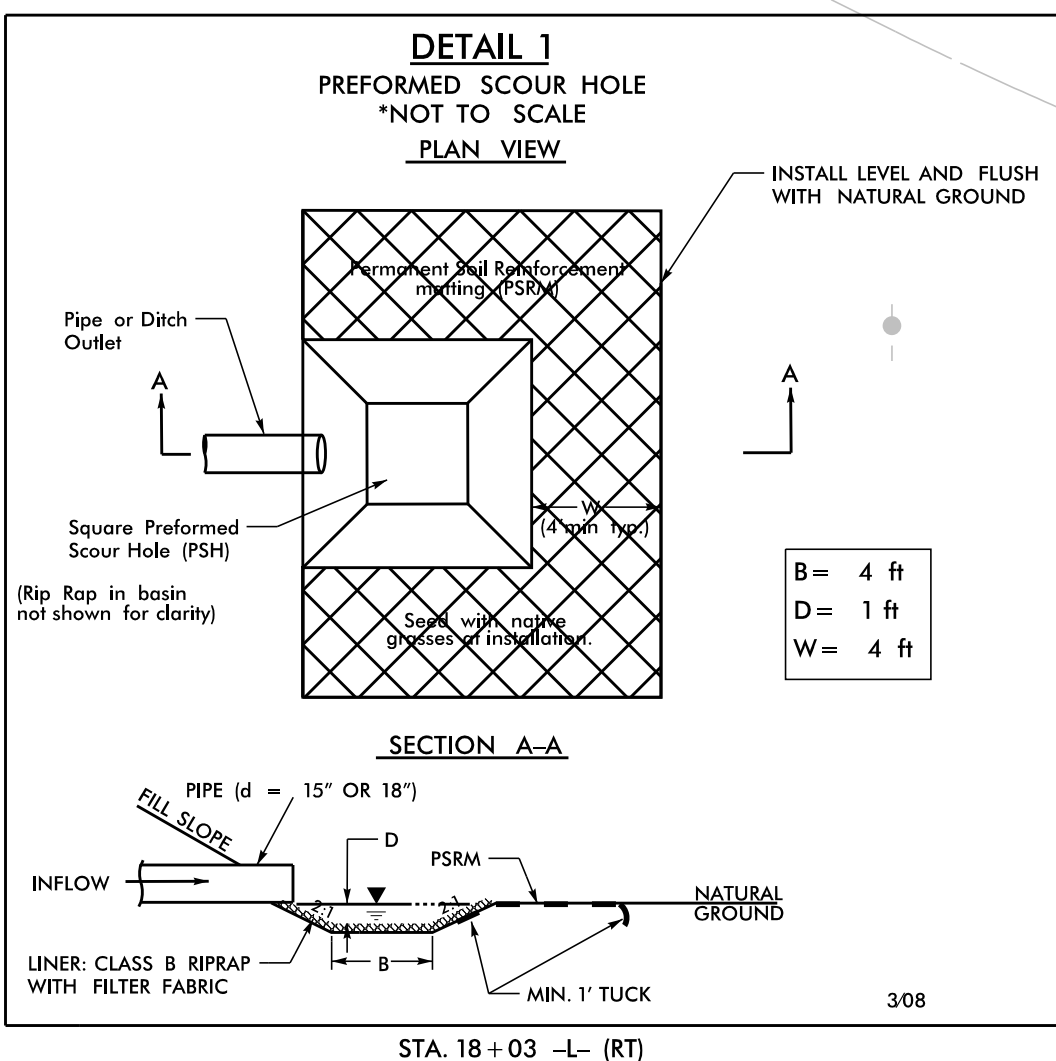
MILLING DETAIL



DETAIL W SHOWING METHOD OF WEDGING

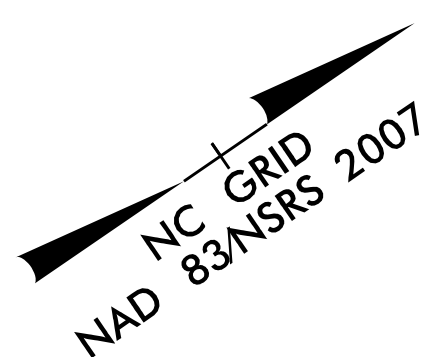


* DESIGN EXCEPTION
VERTICAL CURVE K
VERTICAL SSD



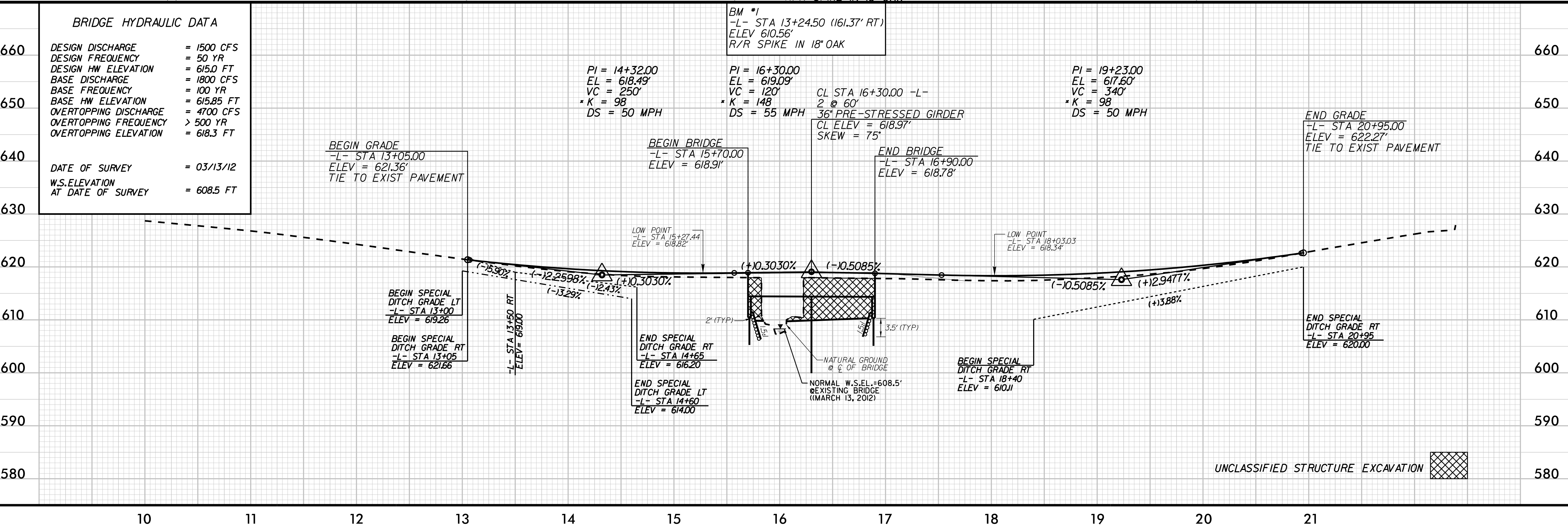
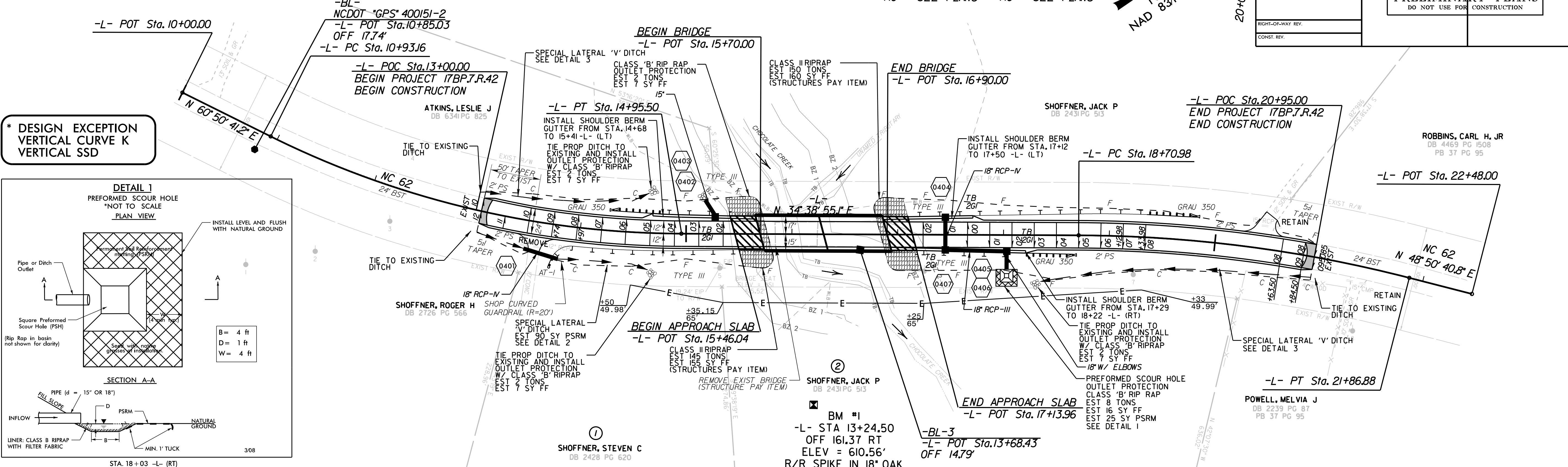
-L-
PI Sta 12+97.91
 $\Delta = 26'11" 46.1" (LT)$
D = 6'30' 39.2"
L = 402.34'
T = 204.75'
R = 880.00'
SE = 0.12
RO = SEE PLANS

PI Sta 20+29.74
 $\Delta = 14'11" 45.8" (RT)$
D = 4'29' 37.6"
L = 315.90'
T = 158.76'
R = 1275.00'
SE = 0.08
RO = SEE PLANS



Kimley-Horn
and Associates, Inc.
P.O. BOX 33068
RALEIGH, N.C. 27634-3068
RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.		SHEET NO.	
17BP7.R.42		4	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



UNCLASSIFIED STRUCTURE EXCAVATION

K:\RAL_Roadway\01036187 - 400\5\NTraffic\TrafficControl\CP\TMP01.dgn 9/17/2012

PROJ. REFERENCE NO.	SHEET NO.
17BP.7.R.42	TMP-1

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES

MANAGEMENT STRATEGIES

CONSTRUCTION SUMMARY:
PROPOSED BRIDGE REPLACEMENT WILL BE CONSTRUCTED AWAY FROM TRAFFIC USING A ROAD CLOSURE AND DETOUR ROUTE.

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.

TRAFFIC PATTERN ALTERATIONS

- A) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- B) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- C) PROVIDE PERMANENT SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.
- D) PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTES AS SHOWN IN THE TRAFFIC CONTROL PLANS.
- E) COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.
- F) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

- H) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

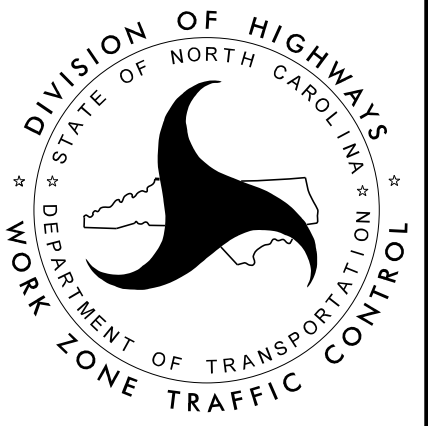
PHASING

- STEP 1: USING ROADWAY STANDARD DRAWING NUMBER 1101.03, SHEET 1 OF 9, AND SHEET TMP-2, PERFORM THE FOLLOWING:
- INSTALL ALL ROAD CLOSURE AND DETOUR SIGNING, INCLUDING BARRICADES
- IMPLEMENT A TEMPORARY CLOSURE OF NC 62 USING A DETOUR ALONG SR 1005 (ALAMANCE CHURCH RD), SR 3122 (GARRETT STORE RD), AND SR 3121 (FERGUSON RD). ALLOW LOCAL TRAFFIC ACCESS ALONG NC 62 TO APPROXIMATELY 0.03 MILES WEST AND 0.1 MILES EAST OF BRIDGE #151 (JUST AFTER THE FINAL DRIVEWAYS PRIOR TO THE BRIDGE.)
- STEP 2: REMOVE EXISTING BRIDGE #151 AND CONSTRUCT THE PROPOSED BRIDGE AND APPROACHES AS SHOWN IN THE CONSTRUCTION PLANS.
- STEP 3: INSTALL ALL FINAL PAVEMENT MARKINGS.
- STEP 4: REMOVE ALL TRAFFIC CONTROL SIGNING AND DEVICES AND RE-OPEN NC 62 TO THE FINAL TRAFFIC PATTERN.

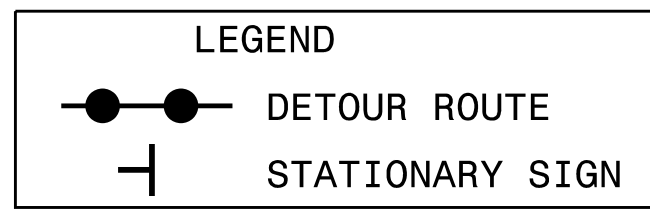
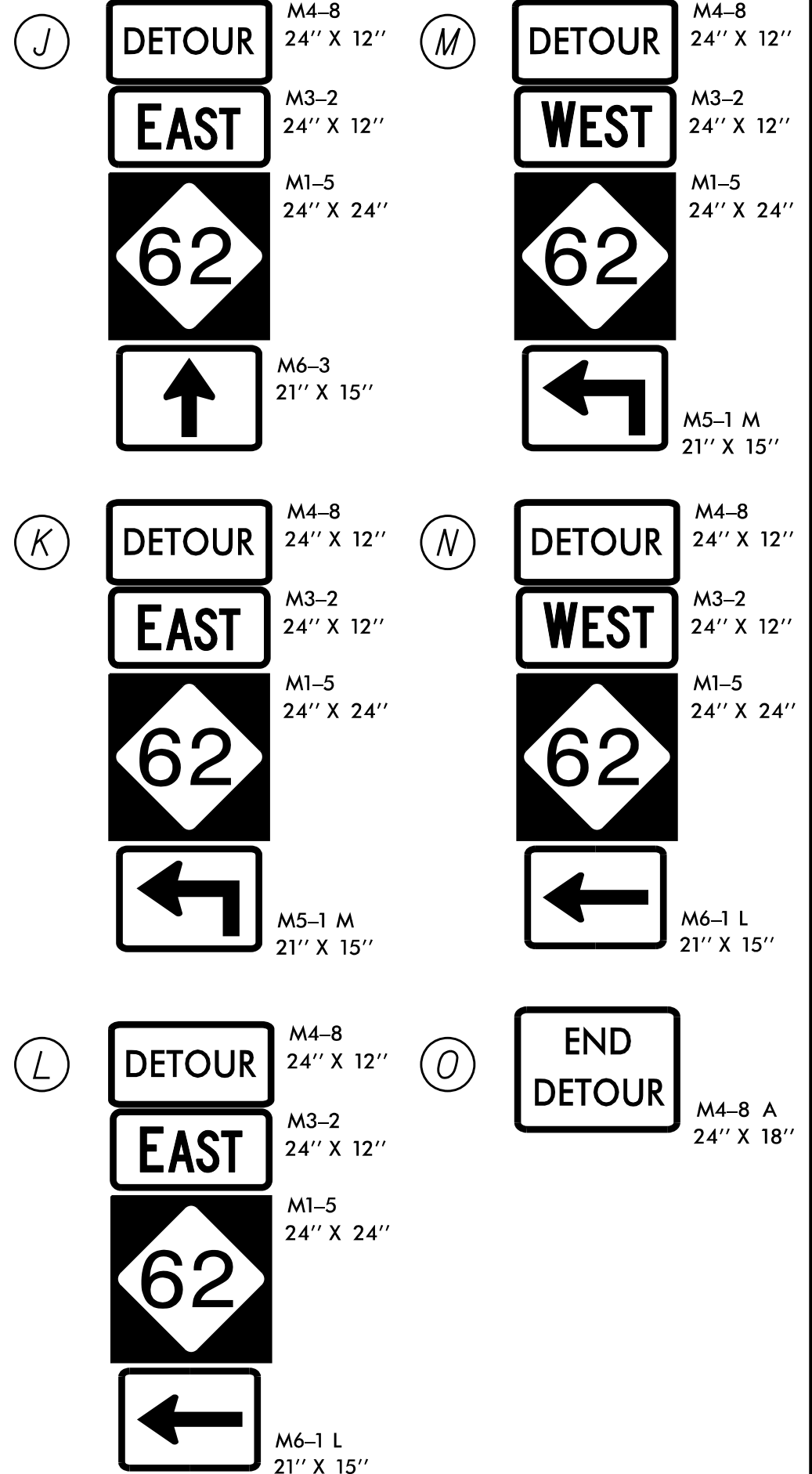
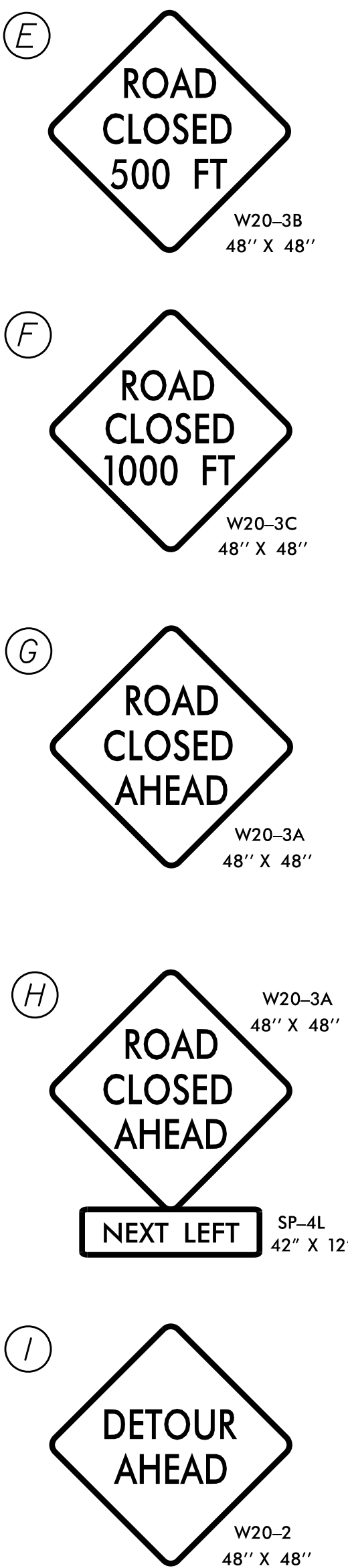
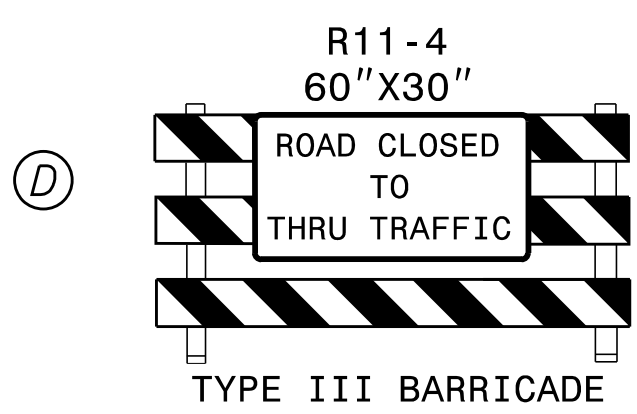
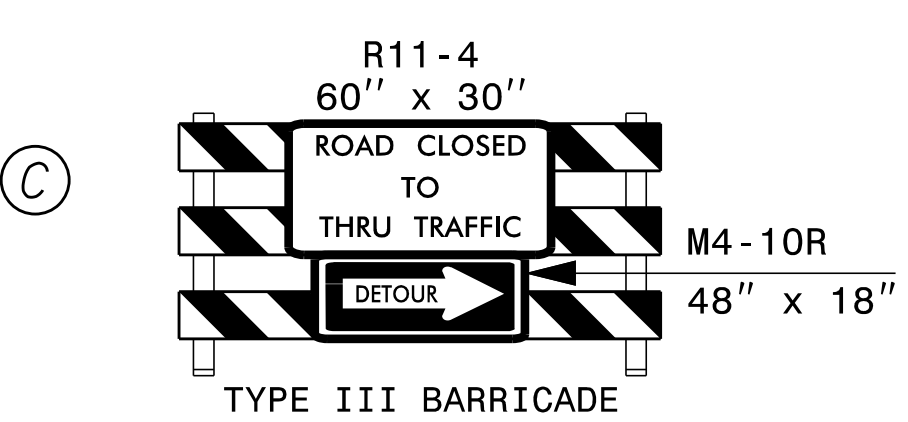
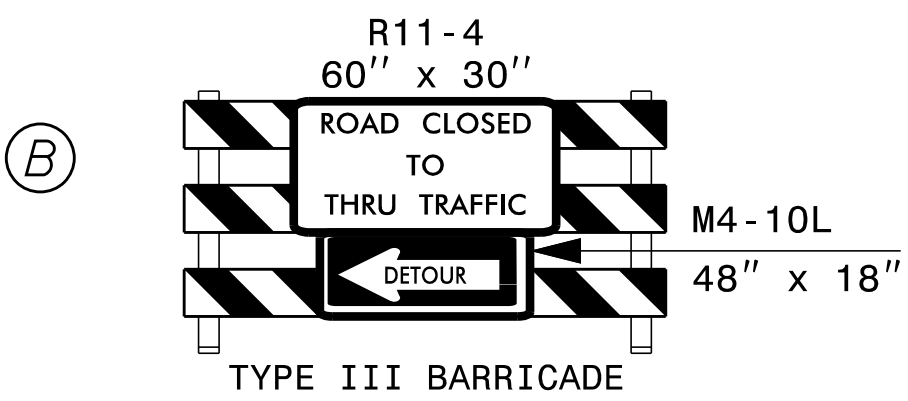
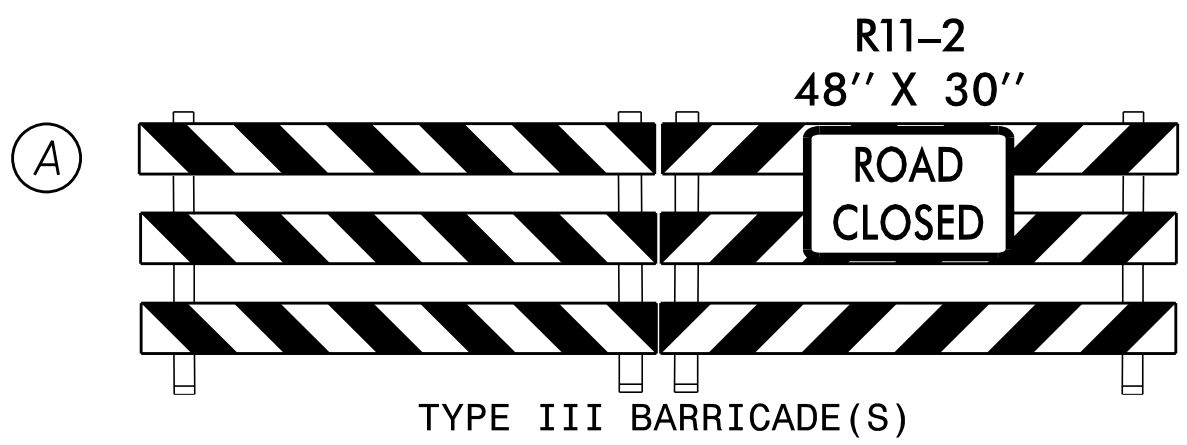
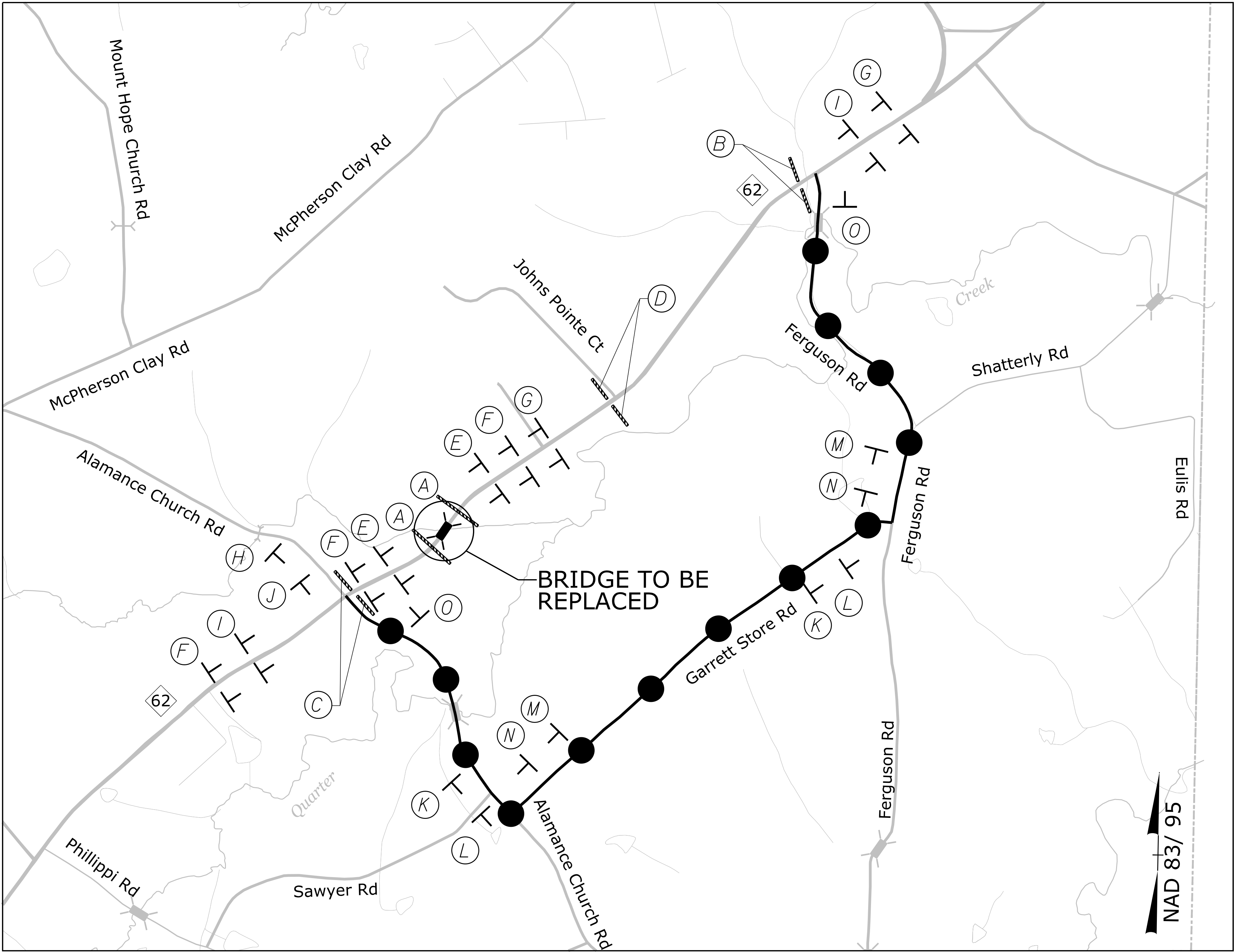


Kimley-Horn
and Associates, Inc.

APPROVED: _____ DATE: _____
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION
SEAL



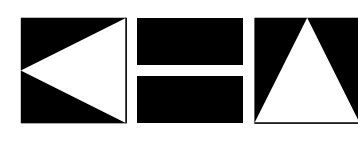
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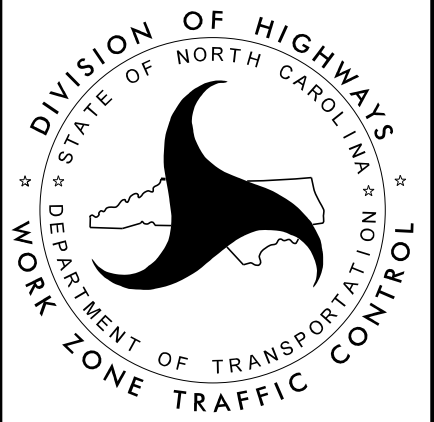


APPROVED: _____ DATE: _____

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

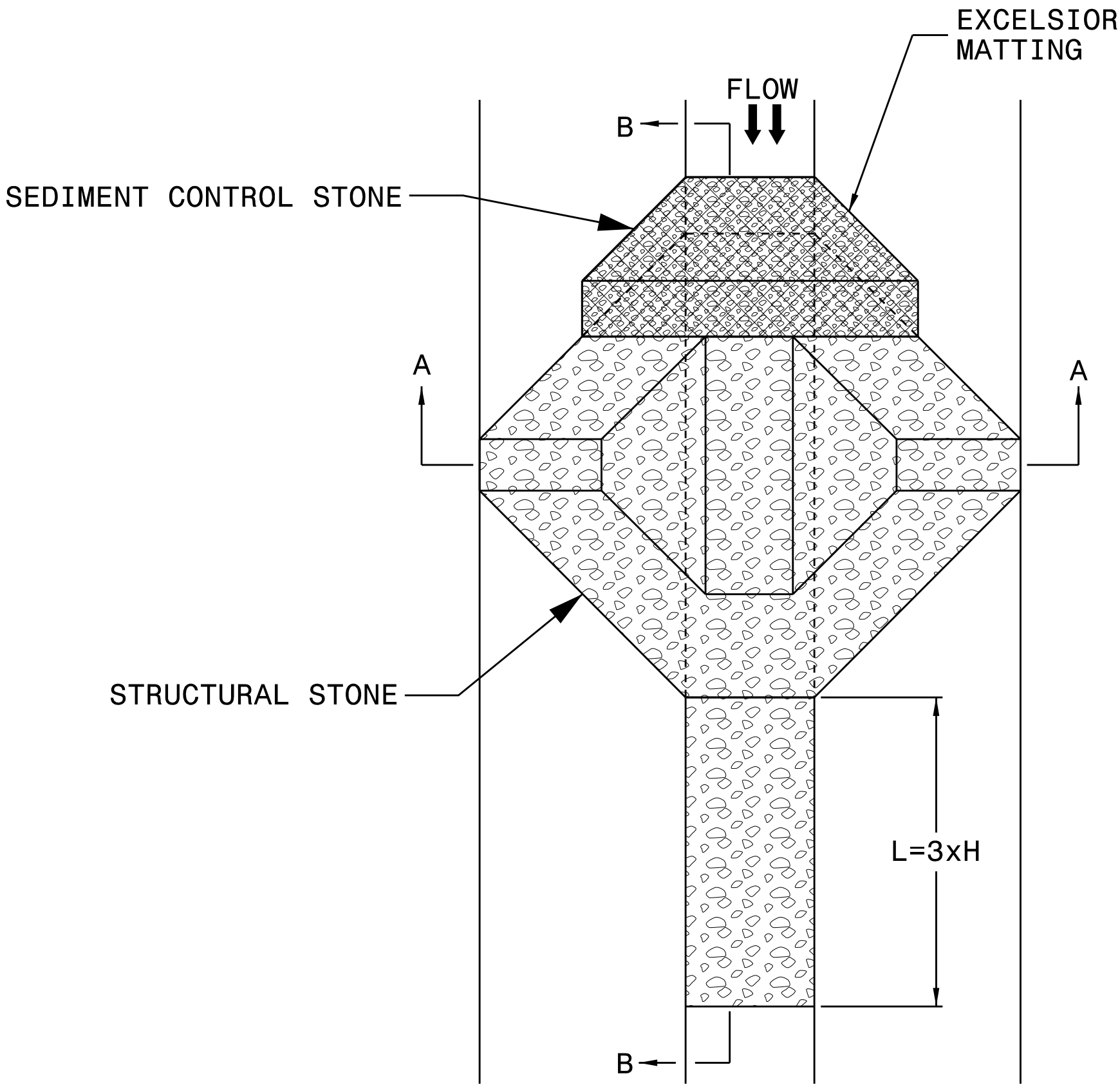
SEAL

 Kimley-Horn and Associates, Inc.

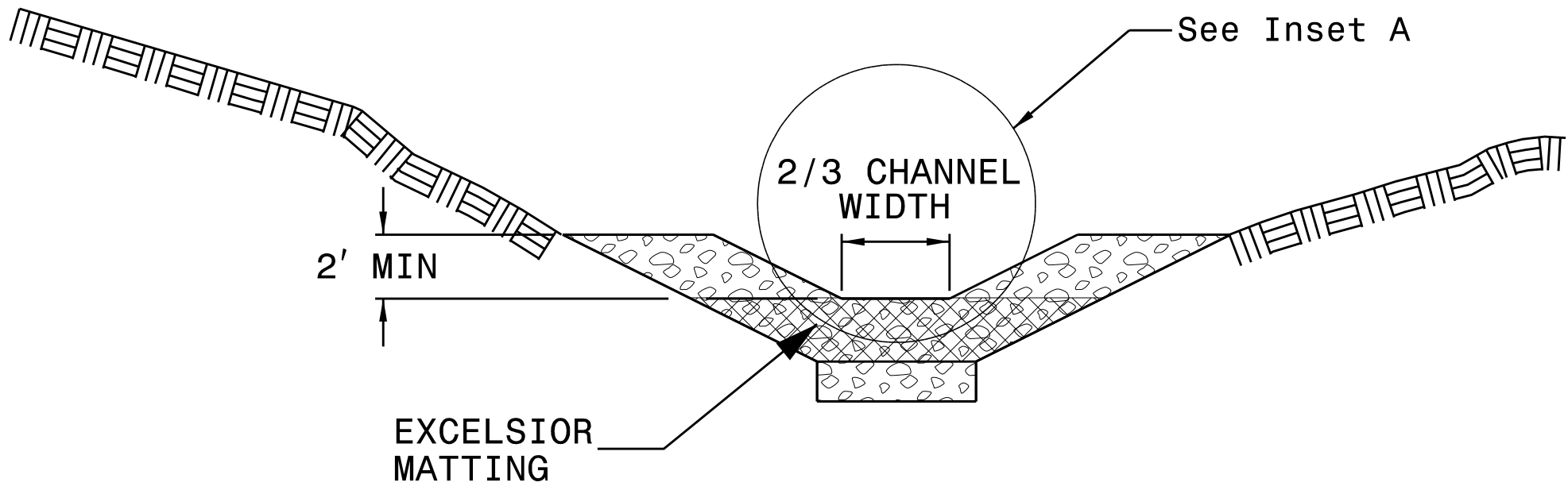


INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN



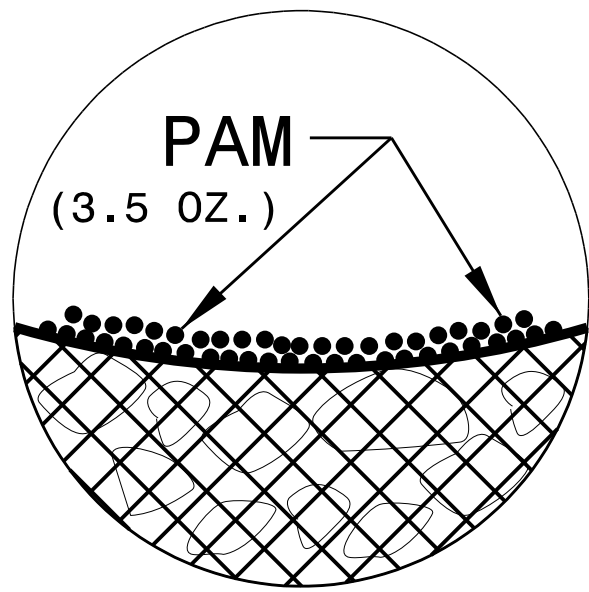
SECTION A-A

NOTES

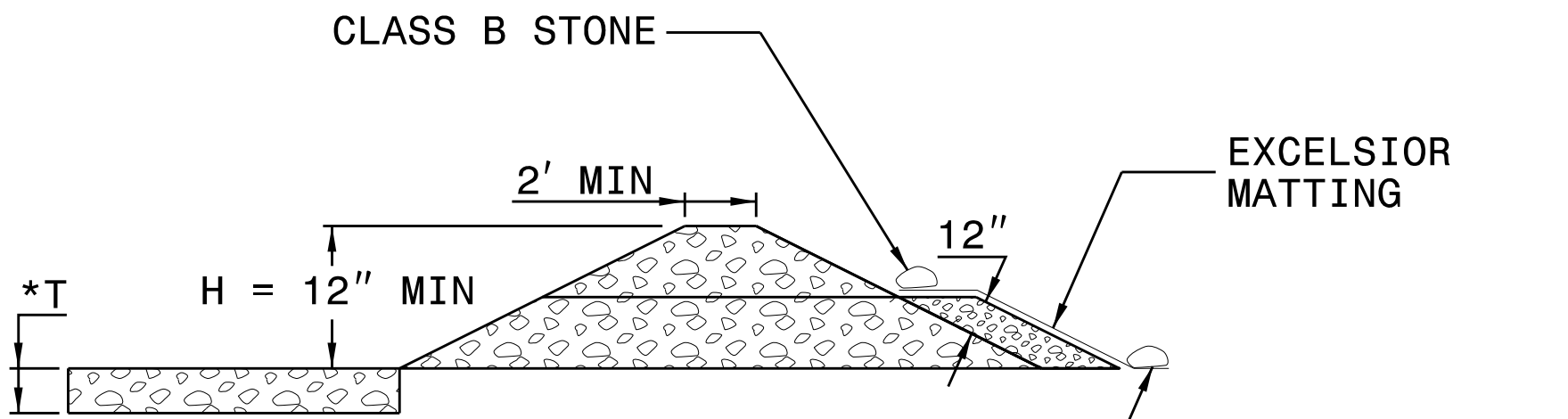
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 3.5 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION B-B

*T = 12" MIN., 18" MAX.

NOT TO SCALE

INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

EROSION CONTROL PLAN



Kimley-Horn
and Associates, Inc.

P.O. BOX 33068
RALEIGH, N.C. 27634-3068

RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.

17BP7.R.42

SHEET NO.

EC-3

R/W SHEET NO.

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

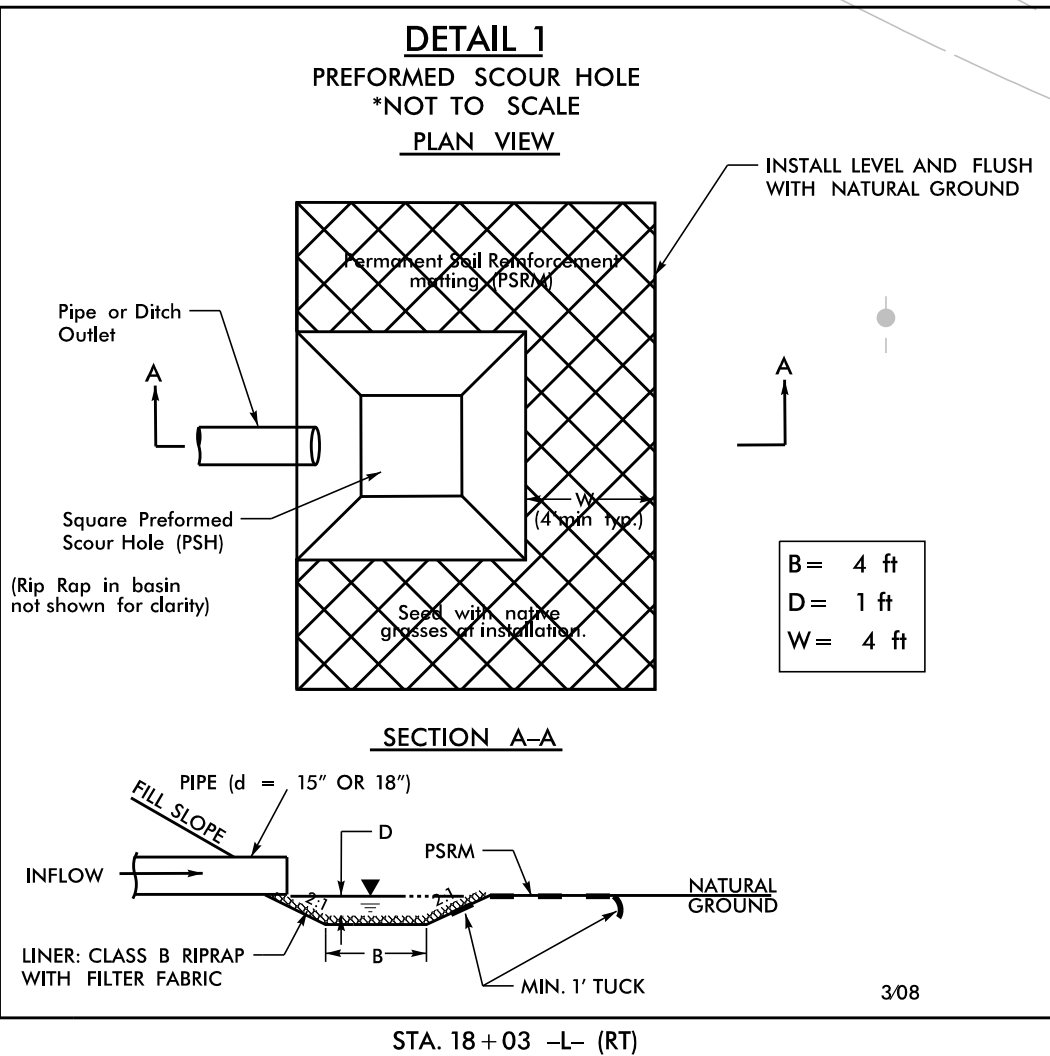
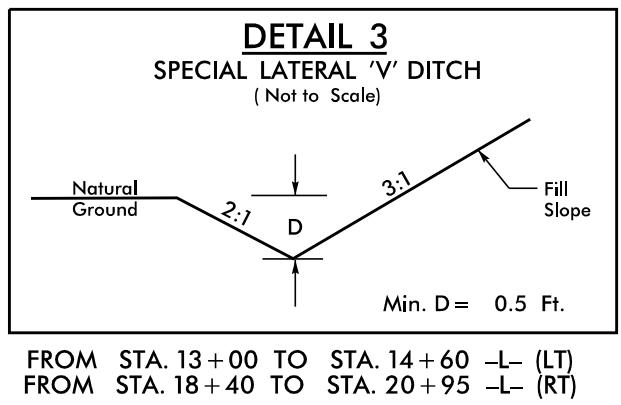
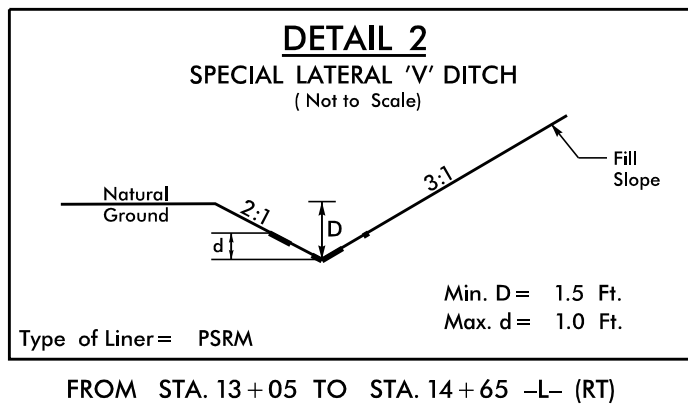
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Elizabeth W. Lynch

LEVEL IIIA NAME

704

LEVEL IIIA CERTIFICATION NO.



Std. #	Description	Symbol
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	△ △ △ △ △
1622.01	Temporary Berms and Slope Drains	— TSD —
1630.02	Silt Basin Type B	▨
1630.03	Temporary Silt Ditch	— TSD —
1630.05	Temporary Diversion	— TD —
1630.06	Special Stilling Basin	
1632.03	Rock Inlet Sediment Trap Type C	□
1633.01	Temporary Rock Silt Check Type-A	▨
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	▨
1633.02	Temporary Rock Silt Check Type-B	→
	Wattle	—
	Wattle with Polyacrylamide (PAM)	—
1634.02	Temporary Rock Sediment Dam Type-B	□
1635.01	Rock Pipe Inlet Sediment Trap Type-A	→

2012 STANDARD DRAWINGS			
1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
2012 STANDARD SPECIFICATIONS

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY
WITH THE REGULATIONS SET FORTH BY THE
NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES DIVISION OF WATER QUALITY.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE: UTILIZE SPECIAL STILLING BASIN(S)
WHERE APPLICABLE

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL
REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY
NEED TO BE INSTALLED AS DIRECTED BY THE
ENGINEER.

REVISIONS

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9/17/2012

EROSION CONTROL PLAN



Kimley-Horn
and Associates, Inc.

P.O. BOX 33068
RALEIGH, N.C. 27634-3068

RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.

17BP7.R.42

SHEET NO.

EC-4

R/W SHEET NO.

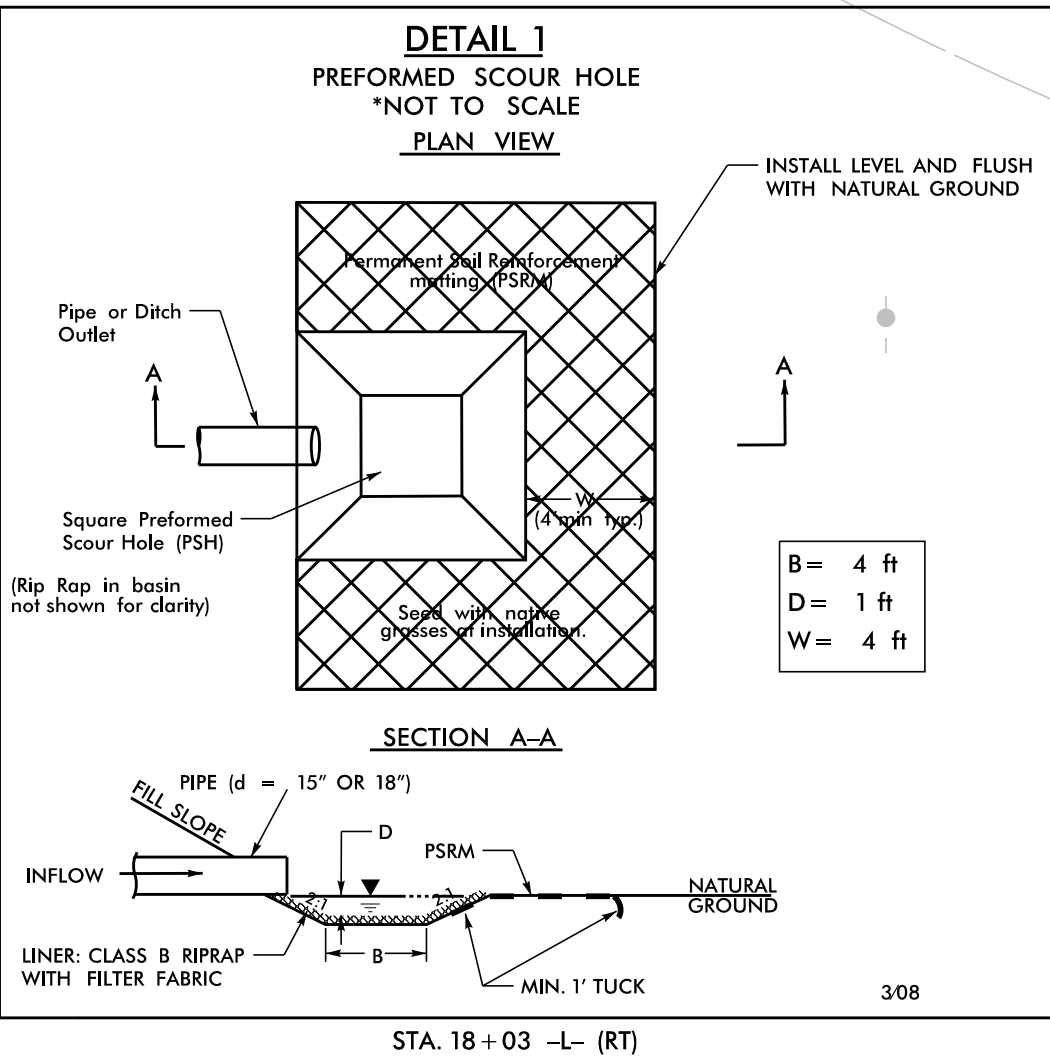
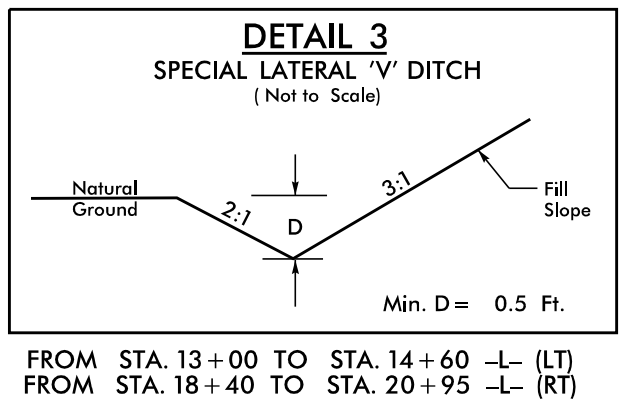
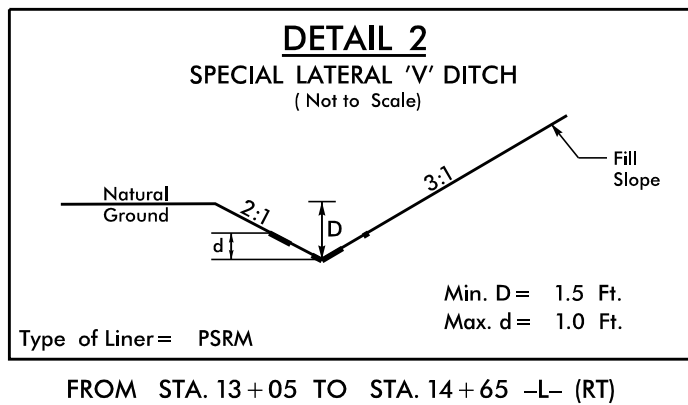
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

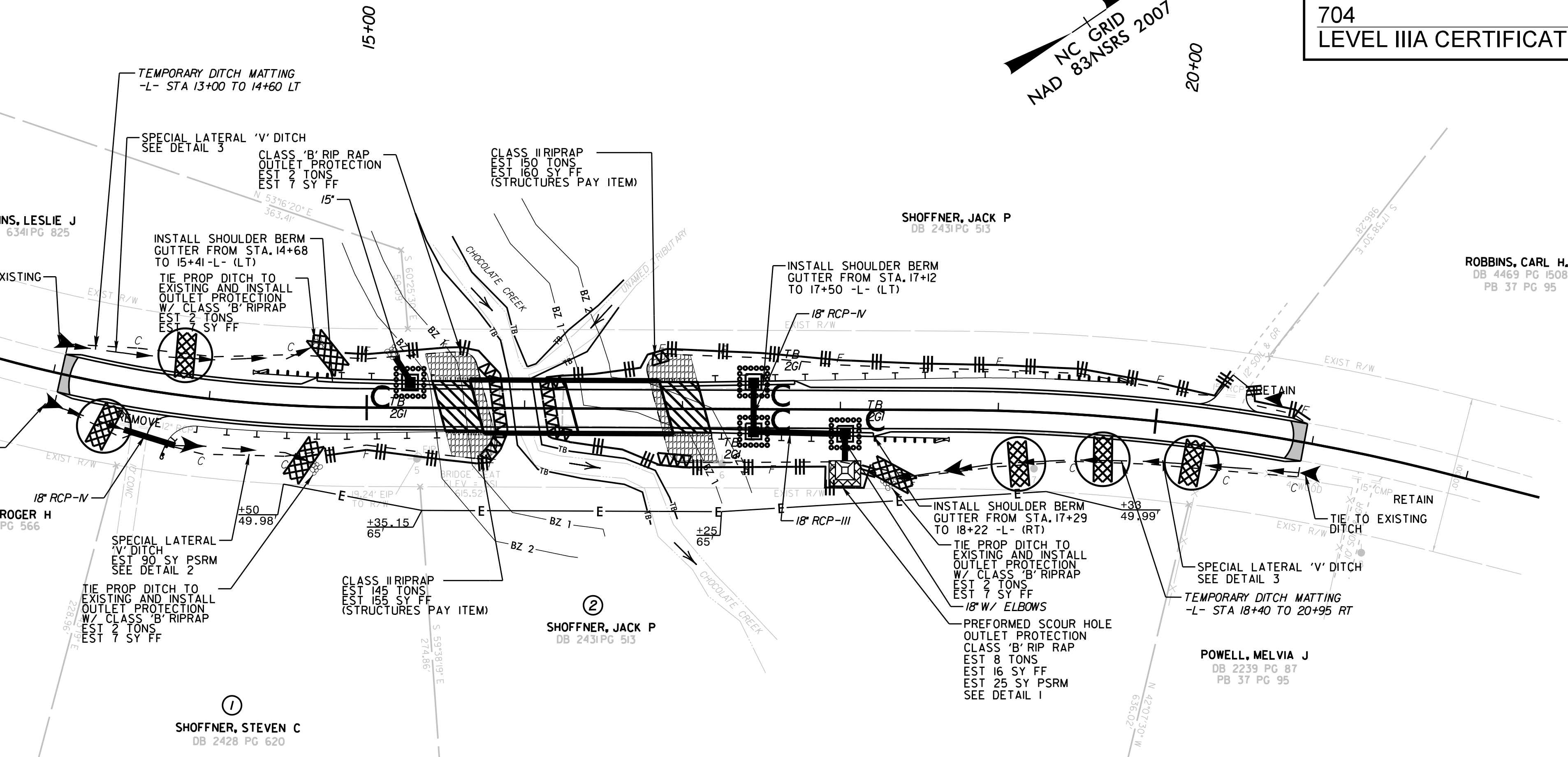
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1635.01	Rock Pipe Inlet Sediment Trap Type-A	⤵



2012 STANDARD DRAWINGS

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
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ROADSIDE ENVIRONMENTAL UNIT
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.
2012 STANDARD SPECIFICATIONS

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

REVISIONS

K:\RAL_Roadway\01036187 - 400151\Roadway\Proj\400151_Lrdy_ero_psh_4.dgn

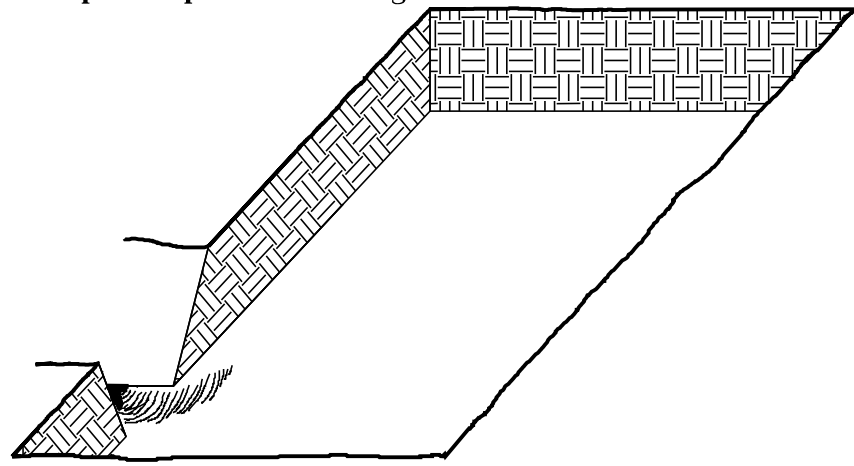
9/17/2012

PLANTING DETAILS

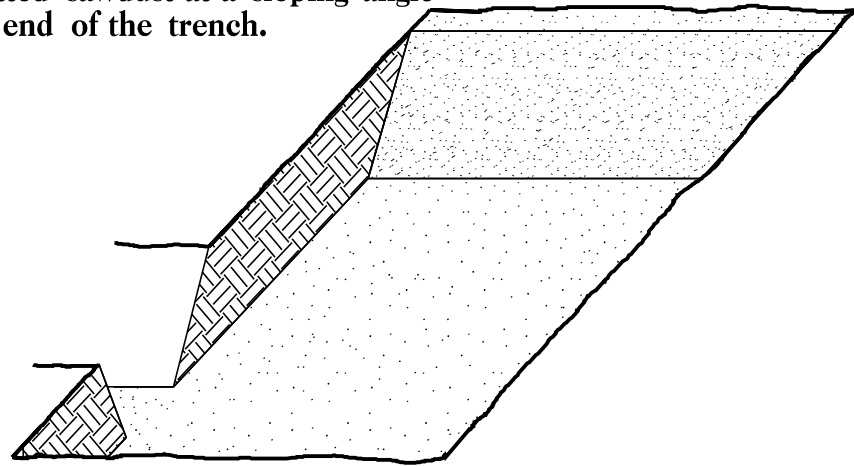
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

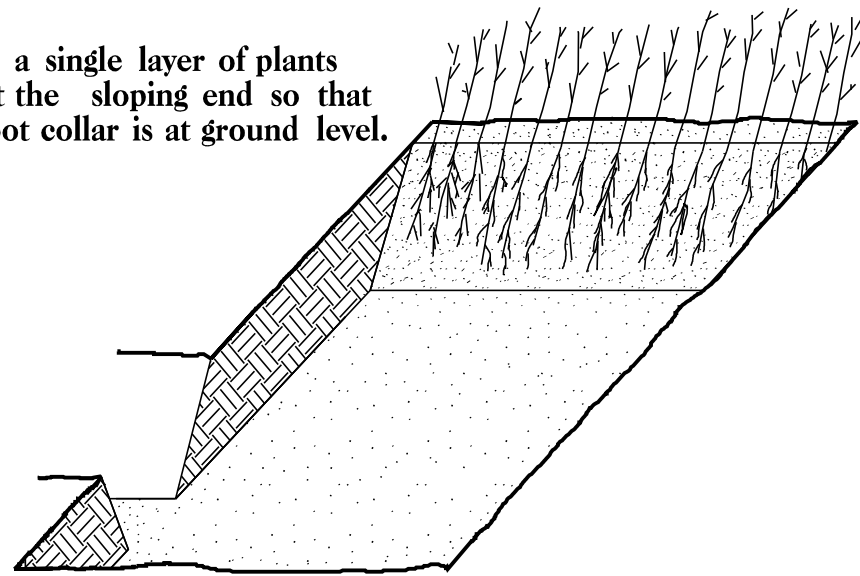
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



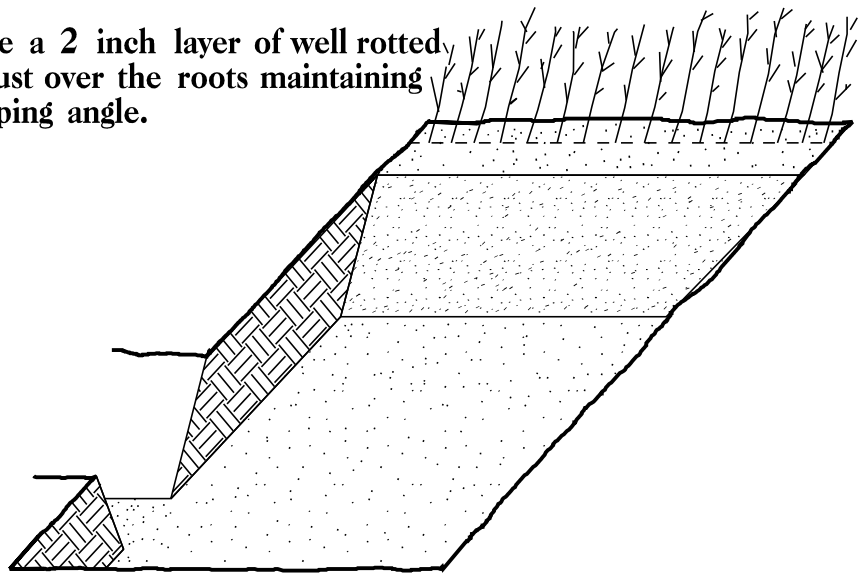
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

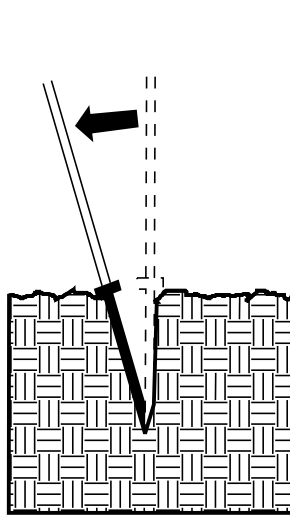


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

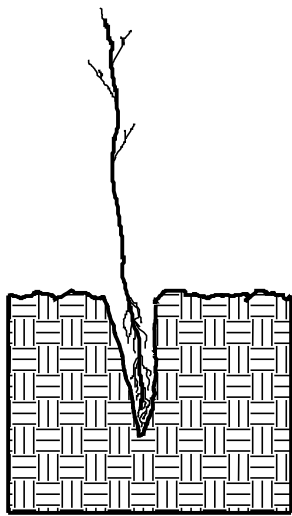


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

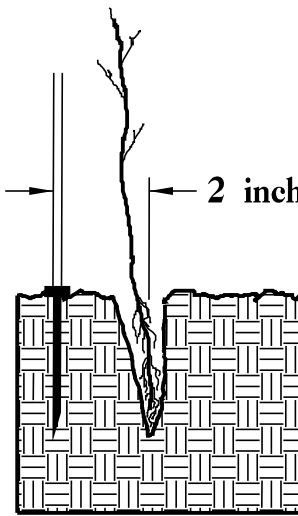
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



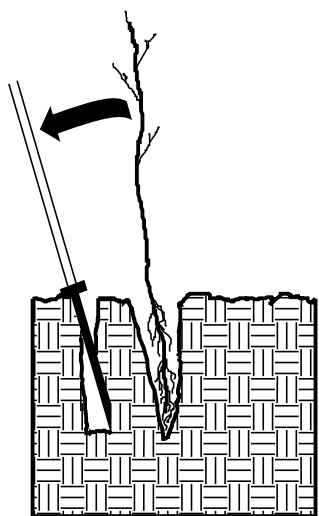
1. Insert planting bar as shown and pull handle toward planter.



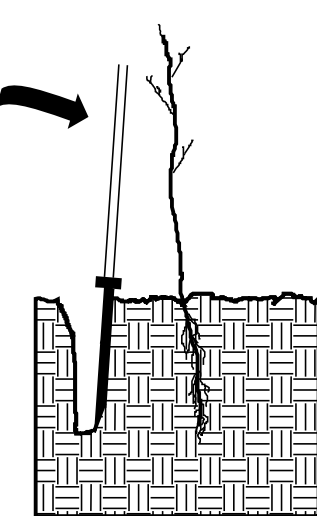
2. Remove planting bar and place seedling at correct depth.



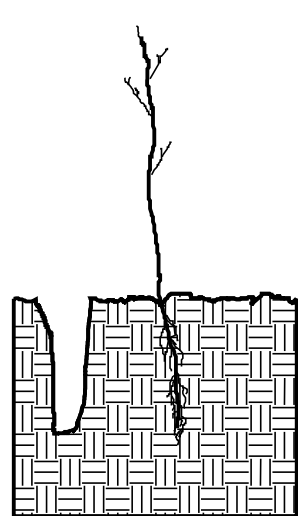
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



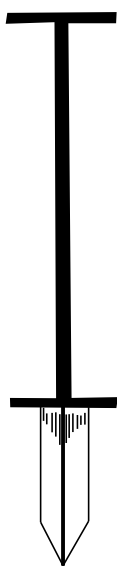
6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

- TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

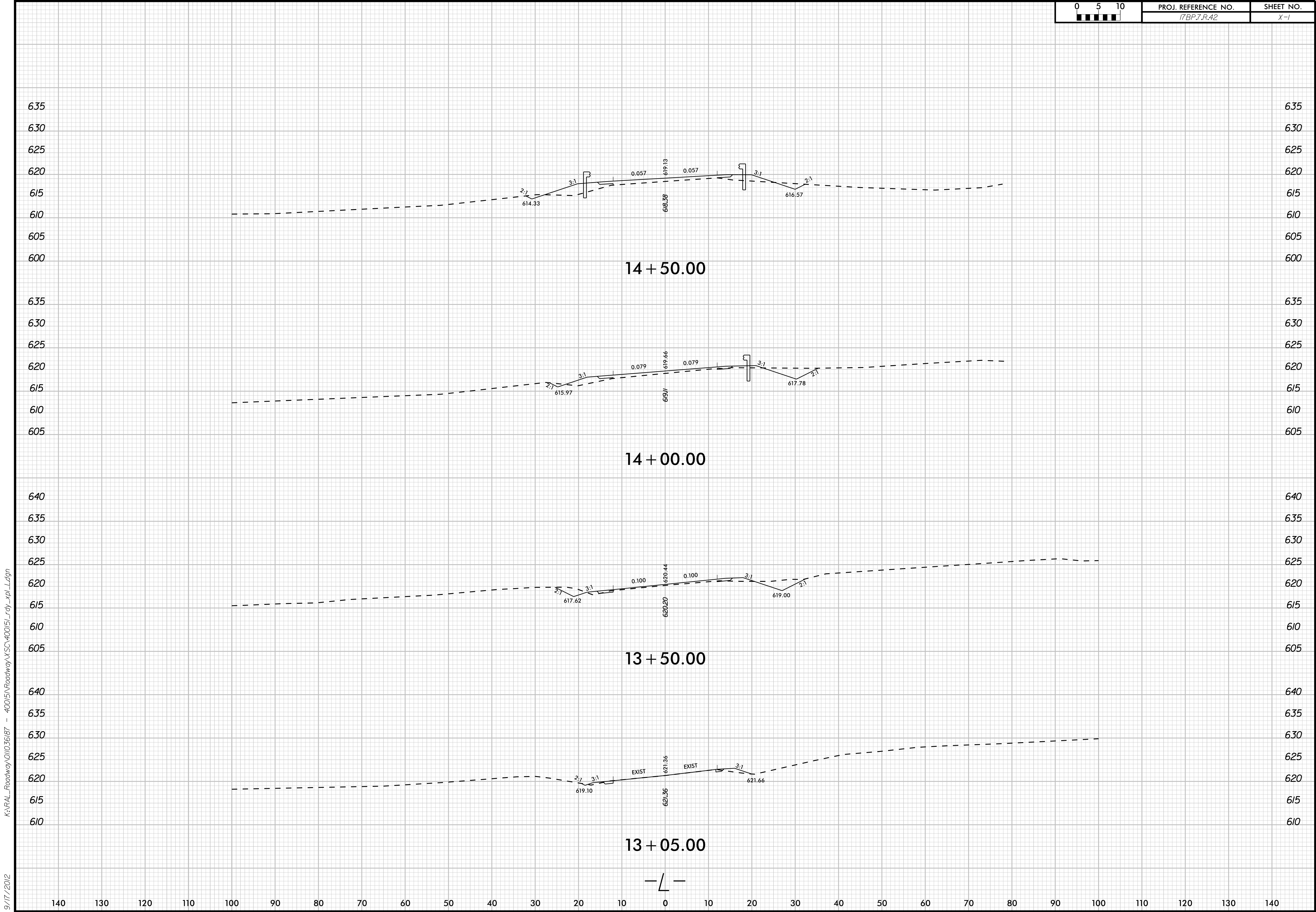
REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12in - 18in	BR
25% PLATANUS OCCIDENTALIS	SYCAMORE	12in - 18in	BR
25% FRAXINUS PENNSYLVANICA	GREEN ASH	12in - 18in	BR
25% BETULA NIGRA	RIVER BIRCH	12in - 18in	BR

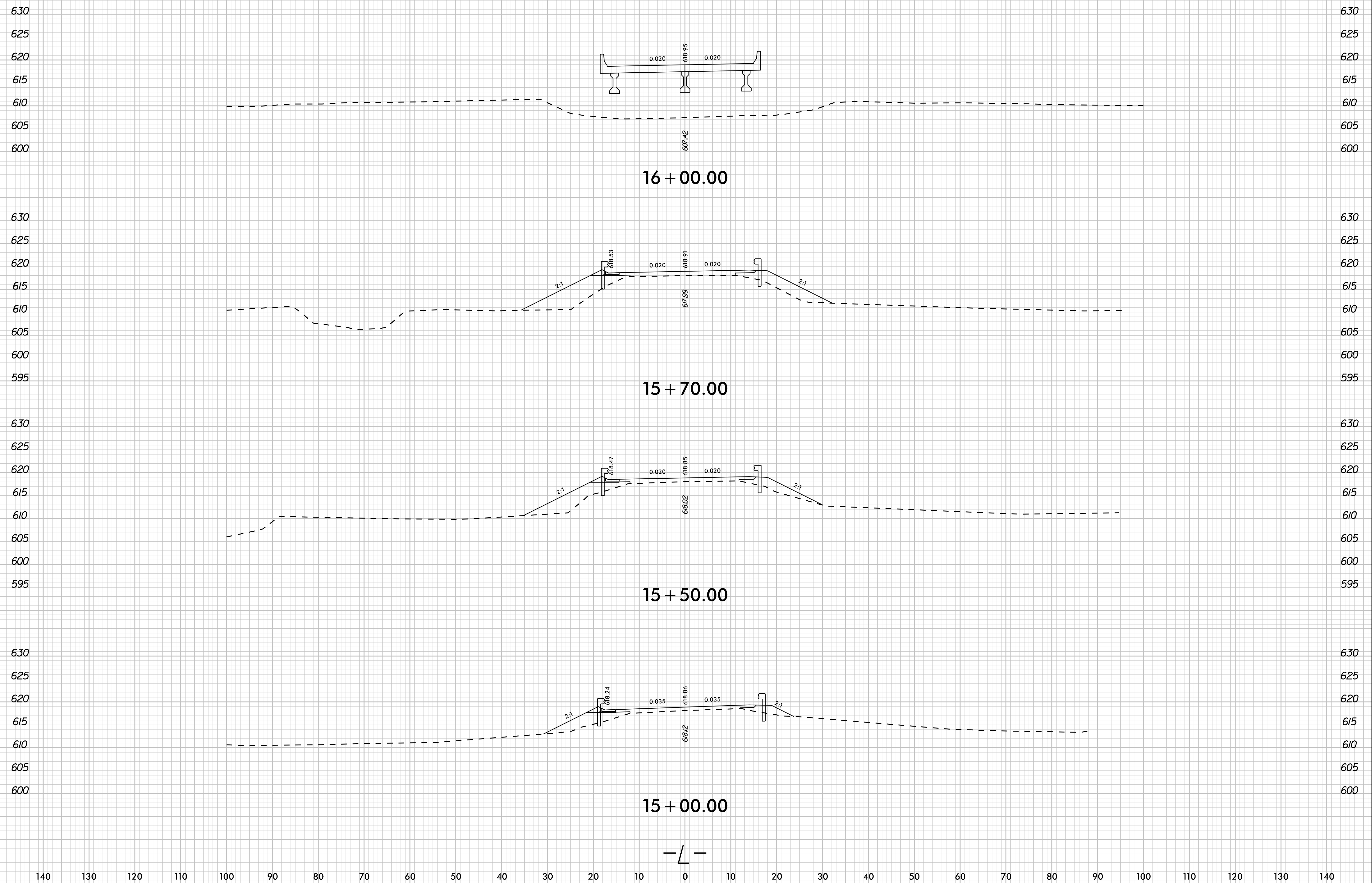
REFORESTATION DETAIL SHEET

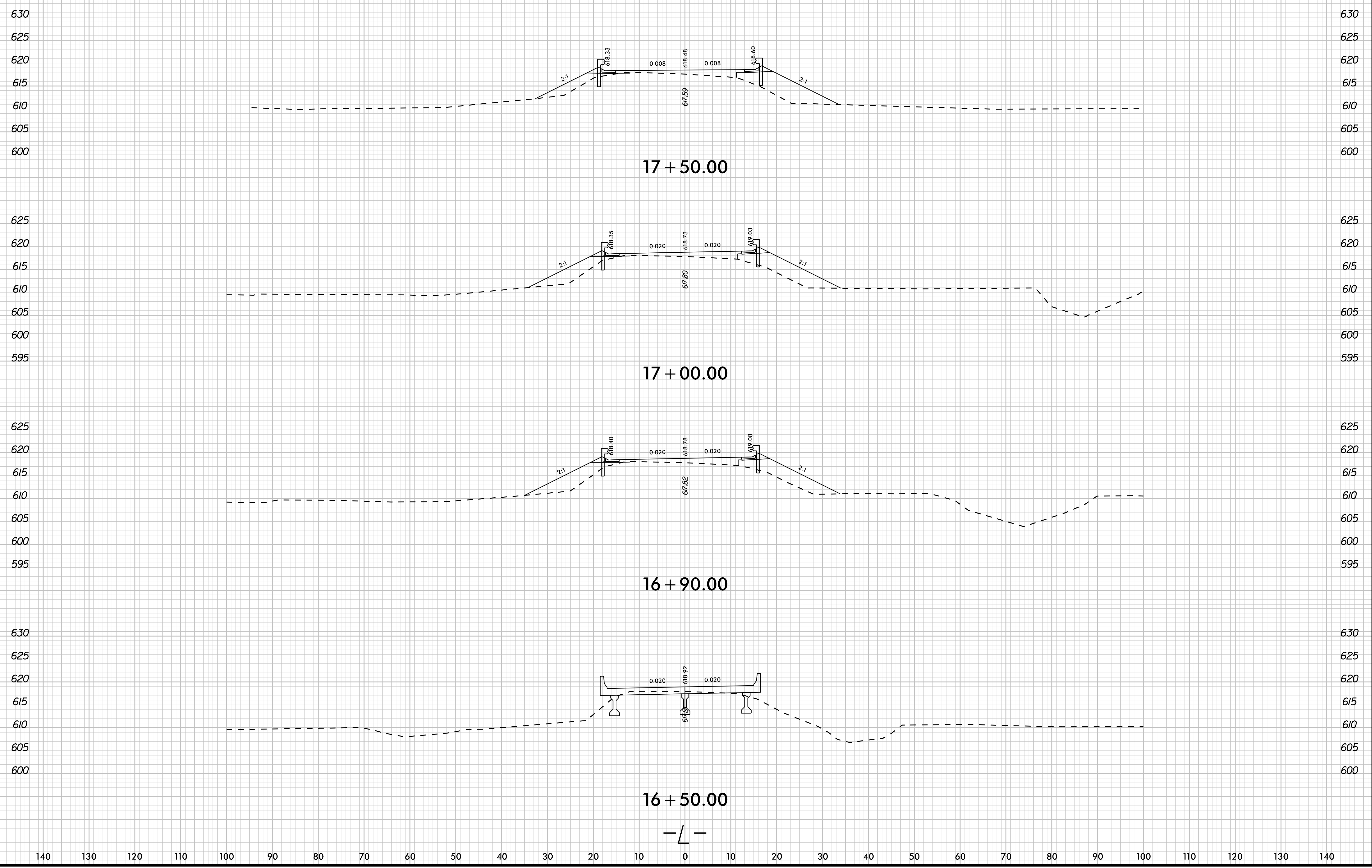
N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

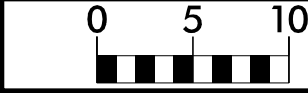


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9/17/2012

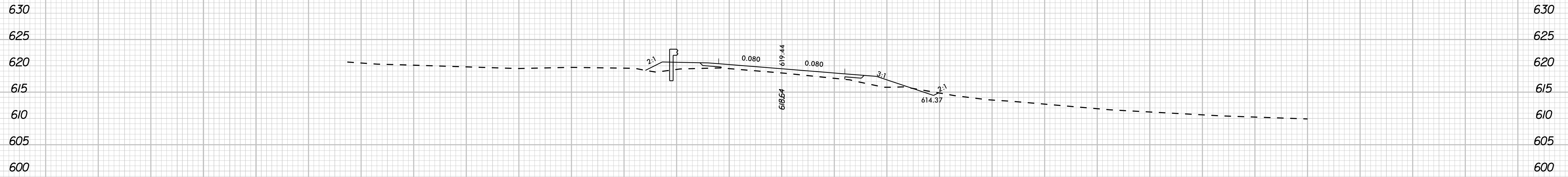
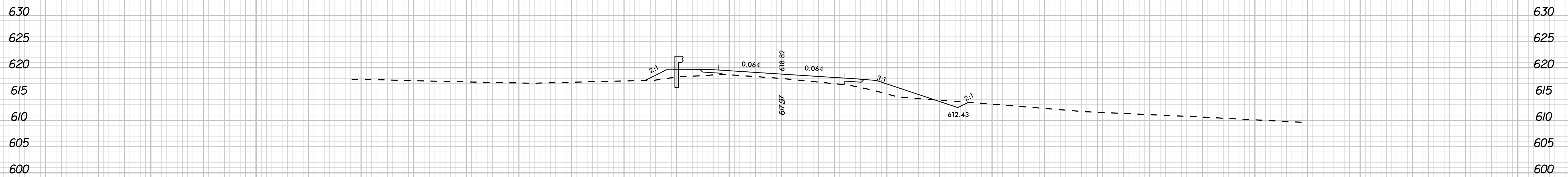




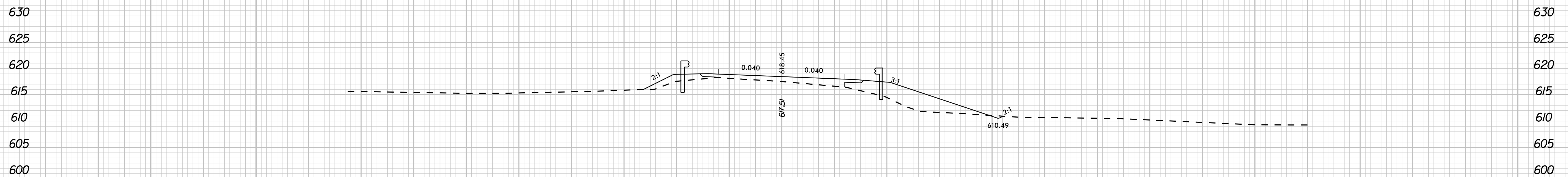
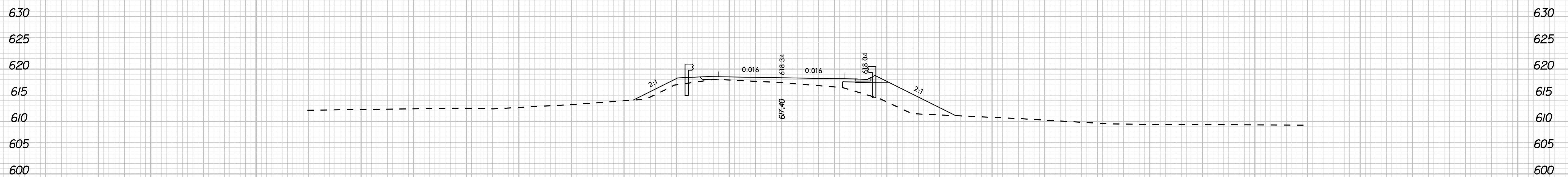


17BP.7.R.42

-4


$$19 + 50.00$$


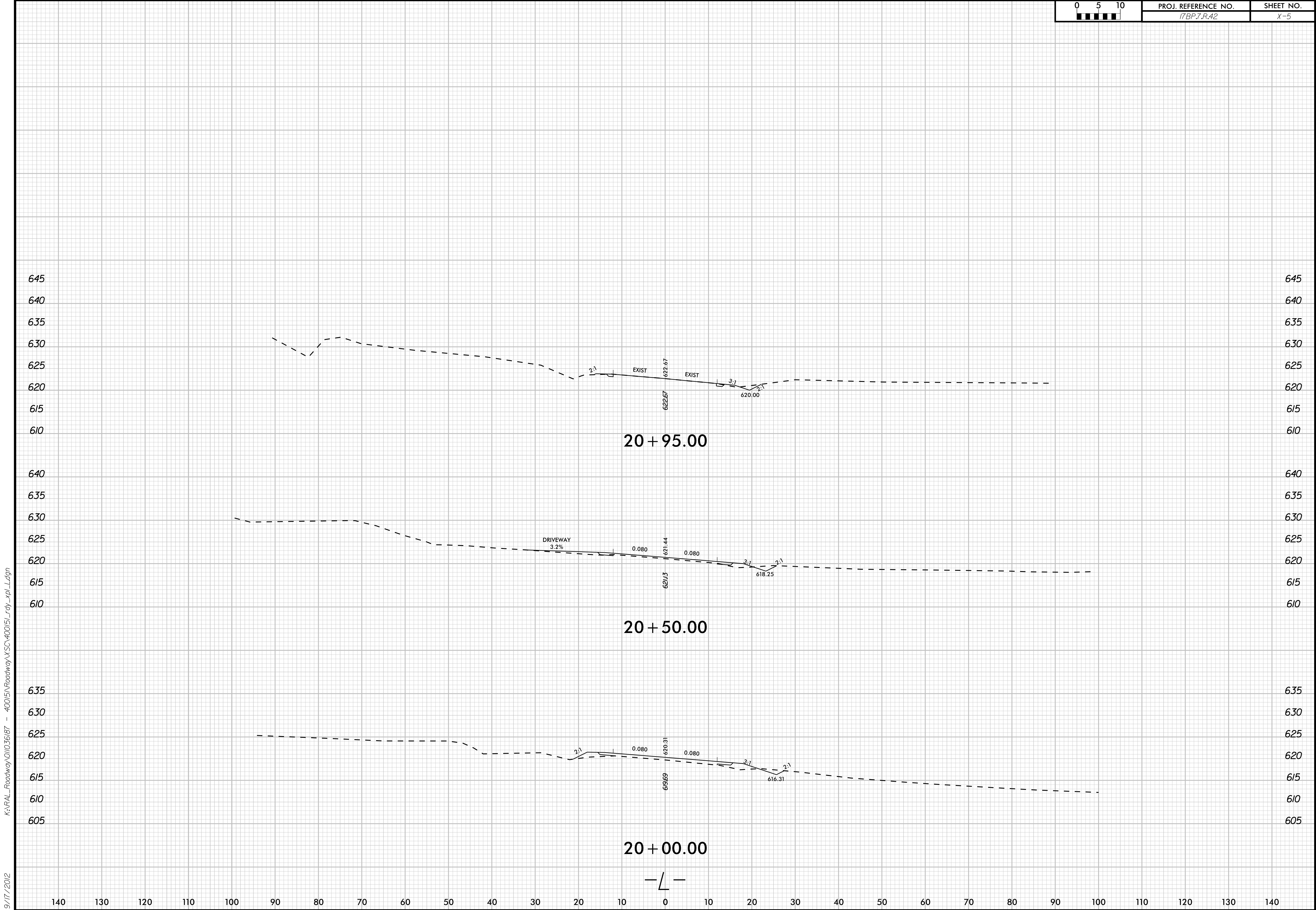
19 + 00.00


$$18 + 50.00$$


18 + 00.00

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9/17/2012



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9/17/2012