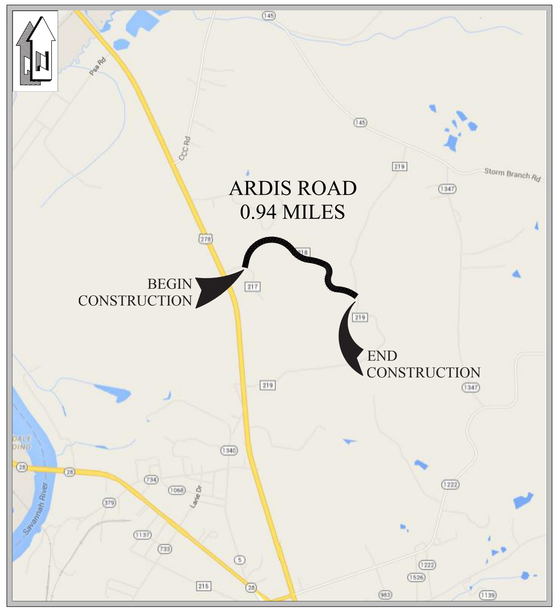



VICINITY MAP
N.T.S.

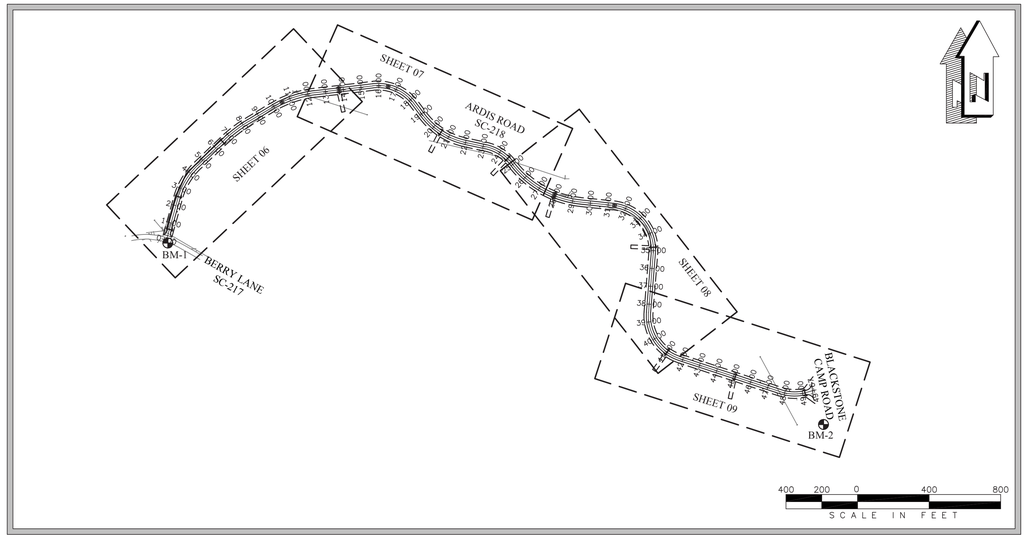
CONSTRUCTION PLANS FOR

# Ardis Road

PREPARED FOR

## AIKEN COUNTY, SOUTH CAROLINA

1930 UNIVERSITY PKWY
AIKEN, SC 29801




| INDEX OF SHEETS | |
|---|---|
| TITLE | NUMBER |
| COVER | 01 |
| NOTES & LEGEND | 02 |
| TYPICAL SECTIONS & MISCELLANEOUS DETAILS | 03 |
| EROSION CONTROL NOTES & LEGEND | 04 |
| EROSION CONTROL DETAILS | 05 |
| PLAN & PROFILE SHEET | 06 |
| PLAN & PROFILE SHEET | 07 |
| PLAN & PROFILE SHEET | 08 |
| PLAN & PROFILE SHEET | 09 |
| CROSS SECTIONS | 10 |
| CROSS SECTIONS | 11 |
| CROSS SECTIONS | 12 |
| CROSS SECTIONS | 13 |
| CROSS SECTIONS | 14 |
| CROSS SECTIONS | 15 |

| BENCHMARK DATA | | | | | |
|---|---|---|---|---|---|
| NAME | DESCRIPTION | PT # | NORTHING | EASTING | ELEVATION |
| BM-1 | TRAV NAIL | 1 | 592121.62 | 1727969.94 | 351.46 (NAVD88) |
| BM-2 | TRAV NAIL | 4 | 591107.43 | 1731635.56 | - |

PREPARED BY


Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS
452 ELLIS STREET, AUGUSTA, GEORGIA 30901
POST OFFICE BOX 2546, AUGUSTA, GEORGIA 30903
TELEPHONE 706-722-1588
FACSIMILE 706-722-8379
mail@cranstonengineering.com


JUNE 3, 2016

SOUTH CAROLINA Cranston Engineering Group, P.C. NO. C00575 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER NO.32019 ROBERT KYLE TITUS 7/8/16

South Carolina 811 Call 811 Before You Dig




G:\AA-ACTIVE JOB FILES\2015\2015-0457 - ARDIS ROAD ROADWAY IMPROVEMENTS\AC-DRAWINGS\CIVIL\2015-0457_COVR.DWG 7/8/2016 2:23 PM

## LEGEND

| | |
|---|---|
| 210 | MAJOR CONTOUR (EXISTING) |
| 210 | MINOR CONTOUR (EXISTING) |
| 210 | MAJOR CONTOUR (PROPOSED) |
| 210 | MINOR CONTOUR (PROPOSED) |
| | EXISTING BOUNDARY |
| | PERMANENT EASEMENT |
| | TEMPORARY EASEMENT |
| | TREE LINE |
| OE | EXISTING OVERHEAD POWER |
| x | FENCE: EXISTING |
| | EXISTING UTILITY POLE |
| | EXISTING STRAIN POLE |
| | EXISTING GUY WIRE |
| CMP | CORRUGATED METAL PIPE |
| CPP | CORRUGATED PLASTIC PIPE |
| DIP | DUCTILE IRON PIPE |
| DWT | DOUBLE WING DRAP |
| GP | GUY POLE |
| GUY | GUY WIRE |
| IE= | INVERT ELEVATION |
| OTF | OPEN TOP FOUND |
| PP | POWER POLE |
| PVC | POLYVINYLCHLORIDE PIPE |
| RCP | REINFORCED CONCRETE PIPE |
| SWT | SINGLE WING TRAP |
| T= | TOP ELEVATION |
| TP | TELEPHONE PEDESTAL |

### EASEMENT POINT STAKING TABLE

| POINT # | NORTHING | EASTING |
|---|---|---|
| 01 | 592951.80 | 1728919.80 |
| 02 | 592954.17 | 1728939.76 |
| 03 | 592857.03 | 1728961.29 |
| 04 | 592852.70 | 1728941.77 |
| 05 | 592725.73 | 1729474.63 |
| 06 | 592714.71 | 1729491.45 |
| 07 | 592626.46 | 1729445.49 |
| 08 | 592635.70 | 1729427.75 |
| 09 | 592583.49 | 1729844.48 |
| 10 | 592569.55 | 1729858.82 |
| 11 | 592497.85 | 1729789.12 |
| 12 | 592511.79 | 1729774.78 |
| 13 | 592367.75 | 1730110.92 |
| 14 | 592360.31 | 1730129.59 |
| 15 | 592264.66 | 1730102.18 |
| 16 | 592270.17 | 1730082.96 |
| 17 | 592107.05 | 1730658.08 |
| 18 | 592086.99 | 1730659.29 |
| 19 | 592090.99 | 1730557.88 |
| 20 | 592110.97 | 1730558.66 |
| 21 | 591496.82 | 1730738.17 |
| 22 | 591485.18 | 1730754.43 |
| 23 | 591403.87 | 1730696.23 |
| 24 | 591415.51 | 1730679.97 |
| 25 | 591353.32 | 1731124.37 |
| 26 | 591347.05 | 1731143.47 |
| 27 | 591249.90 | 1731121.97 |
| 28 | 591254.22 | 1731102.44 |
| 29 | 591309.42 | 1731525.68 |
| 30 | 591374.40 | 1731576.19 |
| 31 | 591260.81 | 1731537.37 |
| 32 | 591224.86 | 1731586.80 |

## PROJECT MANAGER

JOE BERRY, P.E.
AIKEN COUNTY ENGINEERING DEPARTMENT
(803) 642-1535

## ENGINEER OF RECORD

R. KYLE TITUS, P.E.
CRANSTON ENGINEERING GROUP
(706) 722-1588

## UTILITIES:

POWER
AIKEN ELECTRIC COOPERATIVE, INC.
WARREN SMITH
SERVICE CONTACT: 806-649-3245
REPORT OUTAGE: 877-264-5368

COMMUNICATION
AT&T
SERVICE CONTACT: 888-611-2344
REPORT OUTAGE: 877-737-2478

## GENERAL NOTES:

1. PLANS CONTAINED HEREIN ARE FOR IMPROVEMENTS APPROVED BY AIKEN COUNTY, SOUTH CAROLINA ENGINEERING DEPARTMENT (OWNER). ANY VARIATION FROM THE APPROVED PLANS MUST BE APPROVED IN WRITING BY THE OWNER AND/OR ENGINEER.
2. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH THE OWNER AND ENGINEER PRIOR TO BEGINNING CONSTRUCTION. THIS MEETING SHALL BE SCHEDULED WITH THE OWNER AND ENGINEER AT THE TIME NOTICE TO PROCEED IS GIVEN.
3. THE OWNER AND ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE, DURING REGULAR HOURS (8:00 AM TO 5:00 PM, MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS), BEFORE THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION FOR THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION (SCDOT), AIKEN COUNTY SPECIFICATIONS, AND THE PROJECT SPECIFICATIONS.
5. THE CONTRACTOR WILL BE REQUIRED TO HAVE ON SITE A COPY OF SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND STANDARD DRAWINGS, LATEST EDITION.
6. NO WORK SHALL COMMENCE WITHIN SCDOT'S RIGHT-OF-WAY UNTIL AN APPROVED SCDOT ENCROACHMENT PERMIT HAS BEEN RECEIVED.
7. ANY DISCREPANCIES, ERRORS, OR OMISSIONS DISCOVERED ON THE PLANS OR IN THE SPECIFICATIONS SHOULD BE IMMEDIATELY BROUGHT TO THE ENGINEERS ATTENTION, NOTED ON THE CONTRACTOR'S PROPOSAL, AND DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO CORRECT THE SAME AND CONSTRUCT THE PROJECT AS DESIGNED.

## GENERAL EXISTING CONDITIONS & SURVEY NOTES:

1. DATE OF SURVEY - APRIL 27, 2016 BY CRANSTON ENGINEERING GROUP, P.C.
2. THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS, OR INDICATED IN ANY WAY THEREBY, WHETHER BY DRAWINGS OR NOTES OR ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY AND ARE NOT GUARANTEED.
3. ACCORDING TO THE FEMA FIRM PANEL NO. 0484E, MAP NO. 45003C0484E, NO PORTIONS OF THIS PROJECT LIE WITHIN THE 100 YEAR FLOOD PLAIN.
4. THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE OWNER IN THE EVENT THAT PREVIOUSLY UNKNOWN HISTORICAL OR ARCHEOLOGICAL SITES ARE DISCOVERED DURING CONSTRUCTION. NO ADDITIONAL WORK IN SUCH AREAS WILL BE ALLOWED UNTIL AUTHORIZED IN WRITING.
5. PROPERTY LINES SHOWN HEREIN HAVE BEEN DERIVED BY PLAT INFORMATION AND GIS DATA OBTAINED FROM AIKEN COUNTY ENGINEERING AND GIS DEPARTMENTS.
6. DISTURBANCES TO ANY SURVEY MARKERS OR MONUMENTS REQUIRES RE-ESTABLISHMENT BY A LICENSED SURVEYOR AT THE CONTRACTOR'S EXPENSE.

## GENERAL EROSION CONTROL NOTES:

1. ALL SILT BARRIERS MUST BE PLACED PRIOR TO LAND DISTURBING ACTIVITIES.
2. ALL DRAINAGE EASEMENTS & DISTURBED AREAS MUST BE GRASSED AND/OR RIP-RAPPED AS REQUIRED TO CONTROL EROSION.

## GENERAL UTILITIES NOTES:

1. THE EXISTENCE, ABSENCE, LOCATION AND ELEVATION OF UNDERGROUND UTILITIES ON THE PLANS ARE NOT BASED ON FIELD MARKS, ARE NOT GUARANTEED, AND SHALL BE INVESTIGATED, UNEARTHED IF NECESSARY, AND VERIFIED BY CONTRACTOR BEFORE BEGINNING CONSTRUCTION.
2. THE CONTRACTOR SHALL CONTACT SOUTH CAROLINA 811, "CALL BEFORE YOU DIG" SERVICE IN ORDER TO LOCATE UTILITIES PRIOR TO STARTING ANY EXCAVATION OR CONSTRUCTION.
3. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, ABOVE GROUND OR BELOW GROUND.
4. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH APPROPRIATE UTILITIES PRIOR TO AND/OR DURING CONSTRUCTION.
5. CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY BEFORE DIGGING NEAR WATER AND SANITARY SEWER LINES.
6. NO EXTRA PAYMENT WILL BE MADE FOR REPAIRS TO DAMAGE OF EXISTING UTILITIES.
7. THE CONTRACTOR WILL NOT BE PAID FOR DELAYS OR EXTRA EXPENSE CAUSED BY UTILITY FACILITIES, OBSTRUCTIONS, OR ANY OTHER ITEMS NOT REMOVED OR RELOCATED TO CLEAR CONSTRUCTION IN ADVANCE OF HIS WORK.

## GENERAL TRAFFIC CONTROL NOTES:

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR SUBMITTING A TRAFFIC CONTROL PLAN FOR APPROVAL AND THE INSTALLATION OF ALL TRAFFIC CONTROL SIGNAGE, SIGNALS, AND/OR DEVICES IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR INITIAL INSTALLATION OF ALL TRAFFIC CONTROL SIGNAGE REQUIRED FOR CONSTRUCTION.
3. ROAD CLOSURES AND DETOURS, SHOULD THEY BE NEEDED, SHALL BE COORDINATED AND APPROVED WITH THE OWNER A MINIMUM OF TWO (2) CALENDAR WEEKS PRIOR TO PLANNED CLOSURE AND/OR DETOUR.
4. CERTIFIED FLAGGERS AND/OR ARROW BOARDS WILL BE REQUIRED TO MAINTAIN TRAFFIC CONTROL WHILE WORKING WITHIN THE LIMITS OF PUBLIC OR PRIVATE ROADWAYS.
5. CONTRACTOR SHALL MAINTAIN ONE (1) LANE OF TRAVEL OPEN AT ALL TIMES IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST ADDITION.

## GENERAL CONSTRUCTION NOTES:

1. ALL STRUCTURES, TREES AND SHRUBS WHICH ARE WITHIN THE DESIGNATED CONSTRUCTION EASEMENT, BUT OUTSIDE THE LIMITS OF CONSTRUCTION SHALL NOT BE DISTURBED UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.
2. UNSUITABLE AND SURPLUS EXCAVATION MATERIAL NOT REQUIRED FOR FILL SHALL BE DISPOSED OF OFFSITE.
3. CONTRACTOR IS TO CLEAN ALL STORM WATER INLETS AND PIPE AT THE COMPLETION OF CONSTRUCTION TO REMOVE ANY SILT AND DEBRIS. THE CLEANING OF DROP INLETS, CULVERTS, AND PIPES (EXISTING AND PROPOSED) SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT, NO ADDITIONAL PAYMENT WILL BE MADE THEREFOR.
4. ANY DAMAGE TO THE SIDE STREETS DUE TO CONSTRUCTION ACTIVITY SHALL BE REPAIRED IN AN EXPEDIENT MANNER AT THE CONTRACTOR'S EXPENSE.

South Carolina 811 Call 811 Before You Dig


PREPARED BY
Cranston Engineering Group, P.C.
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mail@cranstonengineering.com


SOUTH CAROLINA Cranston Engineering Group, P.C. NO. C00575 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER NO.32019 ROBERT KYLE TITUS
7/8/16

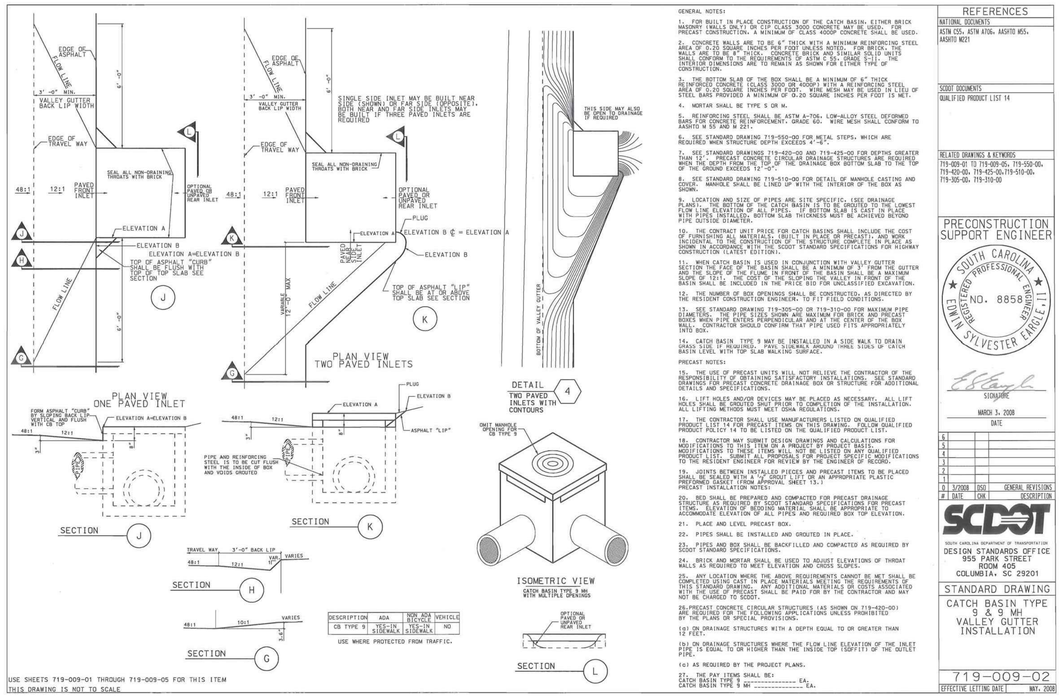
| REV # | DATE | DESCRIPTION |
|---|---|---|
| | | |

Ardis Road

Notes & Legend

| | |
|---|---|
| DRAWN BY: | MAB |
| CHECKED BY: | --- |
| APPROVED BY: | --- |
| DATE: | JUNE 3, 2016 |
| SCALE: | NO SCALE |
| JOB No. | 2015-0457 |
| DRAWING No. | 02 |

G:\AA-ACTIVE JOB FILES\2015\2015-0457 - ARDIS ROAD ROADWAY IMPROVEMENTS\AC-DRAWINGS\CIVIL\2015-0457_NOTE.DWG 7/8/2016 2:23 PM




| DESCRIPTION | ADA | NON ADA PEDESTRIAN | VEHICLE |
|---|---|---|---|
| CB TYPE 9 | 15'-0" SIDEWALK | 15'-0" SIDEWALK | NO |

USE WHERE PROTECTED FROM TRAFFIC.

GENERAL NOTES:

1. FOR BUILT IN PLACE CONSTRUCTION OF THE CATCH BASIN, EITHER BRICK MASONRY (WALLS 3ON.7) OR CIP CLASS 3000 CONCRETE MAY BE USED. FOR PRECAST CONSTRUCTION, A MINIMUM OF CLASS 4000P CONCRETE SHALL BE USED.

2. CONCRETE WALLS ARE TO BE 6" THICK WITH A MINIMUM REINFORCING STEEL AREA OF 0.20 SQUARE INCHES PER FOOT UNLESS NOTED. FOR BRICK, THE MORTAR SHALL BE TYPE S OR M. BRICK UNITS SHALL BE SOLID UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C62. STANDARD SIZE THE INTERIOR DIMENSIONS ARE TO REMAIN AS SHOWN FOR EITHER TYPE OF CONSTRUCTION.

3. THE BOTTOM SLAB OF THE BOX SHALL BE A MINIMUM OF 6" THICK REINFORCED CONCRETE (CLASS 3000 OR 4000P) WITH A REINFORCING STEEL AREA OF 0.20 SQUARE INCHES PER FOOT. WIRE MESH MAY BE USED IN LIEU OF STEEL BARS PROVIDED A MINIMUM OF 0.20 SQUARE INCHES PER FOOT IS MET.

4. MORTAR SHALL BE TYPE S OR M.

5. REINFORCING STEEL SHALL BE ASTM A-706. LOW-ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT. GRADE 60. WIRE MESH SHALL CONFORM TO AASHTO M 55 AND M 221.

6. SEE STANDARD DRAWING 719-550-00 FOR METAL STEPS, WHICH ARE REQUIRED WHEN STRUCTURE DEPTH EXCEEDS 4'-6".

7. SEE STANDARD DRAWINGS 719-420-00 AND 719-425-00 FOR DEPTHS GREATER THAN 13'-. PRECAST CONCRETE CIRCULAR DRAINAGE STRUCTURES ARE REQUIRED WHEN THE DEPTH FROM THE TOP OF THE DRAINAGE BOX BOTTOM SLAB TO THE TOP OF THE GROUND EXCEEDS 13'-0".

8. SEE STANDARD DRAWING 719-510-00 FOR DETAILS OF MANHOLE CASTING AND COVER. MANHOLE SHALL BE LINED UP WITH THE INTERIOR OF THE BOX AS SHOWN.

9. LOCATION AND SIZE OF PIPES ARE SITE SPECIFIC. (SEE DRAINAGE PLANS). THE BOTTOM OF THE CATCH BASIN IS TO BE GROUTED TO THE LOWEST FLOW LINE ELEVATION OF ALL PIPES. IF BOTTOM SLAB IS CAST IN PLACE WITH PIPES INSTALLED, BOTTOM SLAB THICKNESS MUST BE ACHIEVED BEYOND PIPE OUTSIDE DIAMETER.

10. THE CONTRACT UNIT PRICE FOR CATCH BASINS SHALL INCLUDE THE COST OF FURNISHING ALL MATERIALS, BUILT IN PLACE OR PRECAST, AND WORK INCIDENTAL TO THE INSTALLATION OF THE CATCH BASIN AS SPECIFIED AND AS SHOWN IN ACCORDANCE WITH THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION).

11. WHEN CATCH BASIN IS USED IN CONJUNCTION WITH VALLEY GUTTER SECTION THE FACE OF THE BASIN SHALL BE A MINIMUM OF 3' FROM THE GUTTER AND THE SLOPE OF THE FLUME IN FRONT OF THE BASIN SHALL BE A MAXIMUM OF 10:1 (H:V). THE FLUME IN FRONT OF THE BASIN IN VALLEY GUTTER CATCH BASIN SHALL BE INCLUDED IN THE PRICE BID FOR UNCLASSIFIED EXCAVATION.

12. THE NUMBER OF BOX OPENINGS SHALL BE CONSTRUCTED, AS DIRECTED BY THE RESIDENT CONSTRUCTION ENGINEER, TO FIT FIELD CONDITIONS.

13. SEE STANDARD DRAWING 719-305-00 OR 719-310-00 FOR MAXIMUM PIPE DIAMETERS. THE PIPE SIZES SHOWN ARE MAXIMUM FOR BRICK AND PRECAST WALLS WHEN PIPE ENTERS PERPENDICULAR AND AT THE CENTER OF THE BOX. BUILD CONTRACTOR SHOULD CONFIRM THAT PIPE USED FITS APPROPRIATELY INTO BOX.

14. CATCH BASIN TYPE 9 MAY BE INSTALLED IN A SIDE WALK TO DRAIN SIDEWALK. THE TOP SLAB OF THE CATCH BASIN AROUND THROAT SINKS 3" CATCH BASIN LEVEL WITH TOP SLAB WALKING SURFACE.

PRECAST NOTES:

15. THE USE OF PRECAST UNITS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF OBTAINING SATISFACTORY INSTALLATIONS. SEE STANDARD DRAWINGS FOR PRECAST CONCRETE DRAINAGE BOX OR STRUCTURE FOR ADDITIONAL DETAILS AND SPECIFICATIONS.

16. LIFT HOLES AND/OR DEVICES MAY BE PLACED AS NECESSARY. ALL LIFT HOLES SHALL BE GROUTED TO PROVIDE A COMPLETE SEAL OF THE INSTALLATION. ALL LIFTING METHODS MUST MEET OSHA SPECIFICATIONS.

17. THE CONTRACTOR SHALL USE MANUFACTURERS LISTED ON QUALIFIED PRODUCT LIST 14 FOR PRECAST ITEMS ON THIS DRAWING. (FOLLOW QUALIFIED PRODUCT POLICY 14 TO BE LISTED ON THE QUALIFIED PRODUCT LIST.

18. CONTRACTOR MAY SUBMIT DESIGN DRAWINGS AND CALCULATIONS FOR PRECAST ITEMS TO BE USED ON THIS DRAWING. (FOLLOW QUALIFIED PRODUCT POLICY 14 TO BE LISTED ON THE QUALIFIED PRODUCT LIST. SUBMIT ALL PROPOSALS FOR PROJECT SPECIFIC MODIFICATIONS TO THE RESIDENT ENGINEER FOR REVIEW BY THE ENGINEER OF RECORD.

19. JOINTS BETWEEN INSTALLED PIECES AND PRECAST ITEMS TO BE PLACED SHALL BE SEALED WITH A "O" GROUT LIT OR AN APPROPRIATE PLASTIC PREFORMED GASKET (FROM APPROVAL SHEET 13.) PRECAST INSTALLATION NOTES:

20. BED SHALL BE PREPARED AND COMPACTED FOR PRECAST DRAINAGE STRUCTURE AS REQUIRED BY SCDOT STANDARD SPECIFICATIONS FOR PRECAST ITEMS. ELEVATION OF BEDDING MATERIAL SHALL BE APPROPRIATE TO ACCOMODATE ELEVATION OF ALL PIPES AND REQUIRED BOX TOP ELEVATION.

21. PLACE AND LEVEL PRECAST BOX.

22. PIPES SHALL BE INSTALLED AND GROUTED IN PLACE.

23. PIPES AND BOX SHALL BE BACKFILLED AND COMPACTED AS REQUIRED BY SCDOT STANDARD SPECIFICATIONS.

24. BRICK AND MORTAR SHALL BE USED TO ADJUST ELEVATIONS OF THROAT WALLS AS REQUIRED TO MEET ELEVATION AND CROSS SLOPES.

25. ANY LOCATION WHERE THE ABOVE REQUIREMENTS CANNOT BE MET SHALL BE COMPLETED USING CAST IN PLACE MATERIALS MEETING THE REQUIREMENTS OF THIS STANDARD DRAWING. ANY ADDITIONAL MATERIALS OR COSTS ASSOCIATED WITH THE USE OF PRECAST SHALL BE PAID FOR BY THE CONTRACTOR AND MAY NOT BE CHARGED TO SCDOT.

26.PRECAST CONCRETE CIRCULAR STRUCTURES (AS SHOWN ON 719-420-00) MAY BE USED IN LIEU OF CAST IN PLACE SPECIFICATIONS UNLESS PROHIBITED BY THE PLANS OR SPECIAL PROVISIONS.

(a) ON DRAINAGE STRUCTURES WITH A DEPTH EQUAL TO OR GREATER THAN 12 FEET.

(b) ON DRAINAGE STRUCTURES WHERE THE FLOW LINE ELEVATION OF THE INLET PIPE IS EQUAL TO OR HIGHER THAN THE INSIDE TOP 1SOFFIT) OF THE OUTLET PIPE.

(c) AS REQUIRED BY THE PROJECT PLANS.

27. THE PAY ITEMS SHALL BE:
CATCH BASIN TYPE 9 _____ EA.
CATCH BASIN TYPE 9 WM _____ EA.

REFERENCES
NATIONAL DOCUMENTS
ASTM C55, ASTM A706, AASHTO M55, AASHTO M221

SCDOT DOCUMENTS
QUALIFIED PRODUCT LIST 14

RELATED DRAWINGS & KEYWORDS
719-005-01 TO 719-005-05, 719-550-00, 719-420-00, 719-425-00,719-510-00, 719-305-00, 719-310-00

PRECONSTRUCTION SUPPORT ENGINEER
SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER NO. 8858 EDWIN SYLVESTER EARGLE, II
SIGNATURE
MARCH 3, 2008
DATE

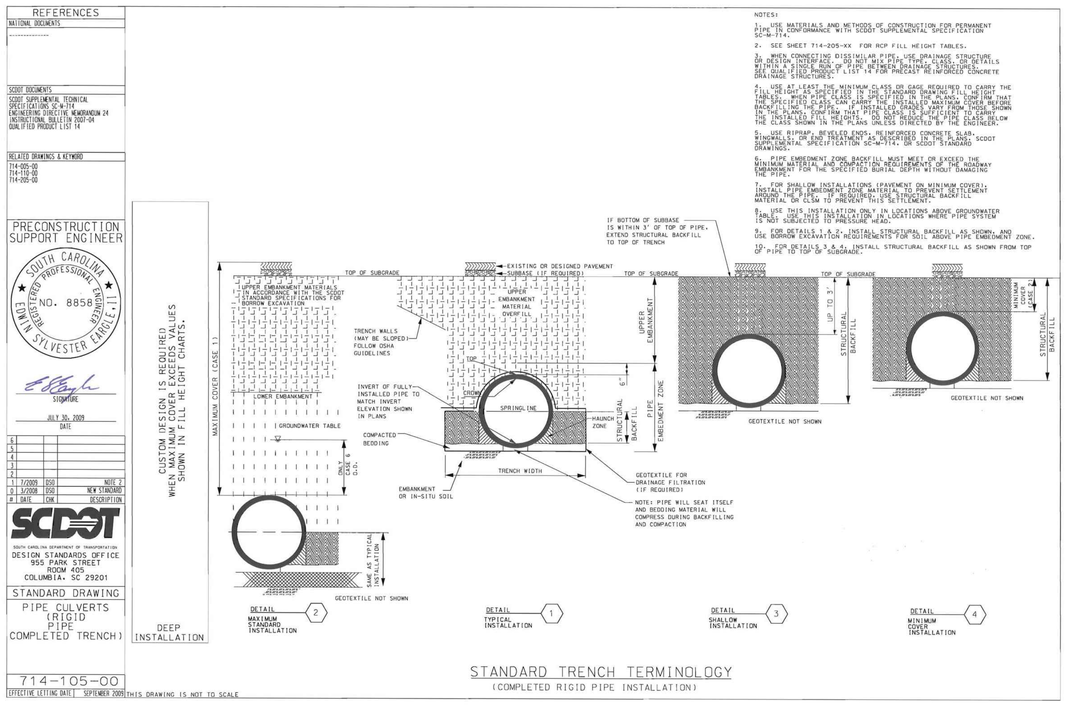
| # | DATE | CHK | DESCRIPTION |
|---|---|---|---|
| 5 | | | |
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 0 | 3/2008 | DSO | GENERAL REVISIONS |

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

STANDARD DRAWING
CATCH BASIN TYPE 9 & 9 MH VALLEY GUTTER INSTALLATION

719-009-02
EFFECTIVE LETTING DATE | MAY, 2008

NOTE: ALL STORM STRUCTURES SHALL BE PRECAST CONCRETE.




STANDARD TRENCH TERMINOLOGY
(COMPLETED RIGID PIPE INSTALLATION)

REFERENCES
NATIONAL DOCUMENTS
SCDOT DOCUMENTS
SCDOT SUPPLEMENTAL TECHNICAL SPECIFICATIONS SC-M-714
ENGINEERING DIRECTIVE MEMORANDUM 24
INSTRUCTIONAL BULLETIN 2007-04
QUALIFIED PRODUCT LIST 14

RELATED DRAWINGS & KEYWORD
714-005-00
714-110-00
714-205-00

PRECONSTRUCTION SUPPORT ENGINEER
SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER NO. 8858 EDWIN SYLVESTER EARGLE, II
SIGNATURE
JULY 30, 2009
DATE

| # | DATE | CHK | DESCRIPTION |
|---|---|---|---|
| 5 | | | |
| 4 | | | |
| 3 | | | |
| 2 | | | |
| 1 | 7/2009 | DSO | NOTE 3 |
| 0 | 5/2008 | DSO | NEW STANDARD |

SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

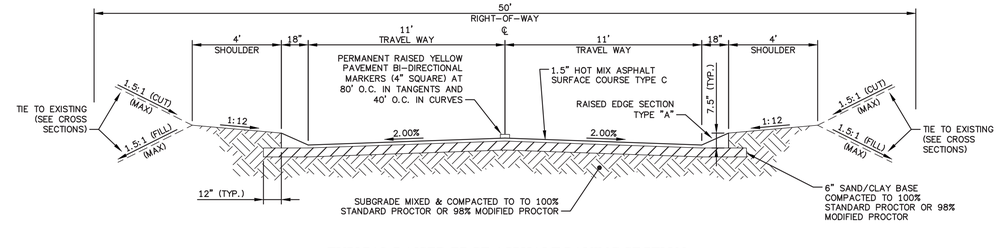
STANDARD DRAWING
PIPE CULVERTS (RIGID PIPE COMPLETED TRENCH)

714-105-00
EFFECTIVE LETTING DATE | SEPTEMBER 2009 | THIS DRAWING IS NOT TO SCALE

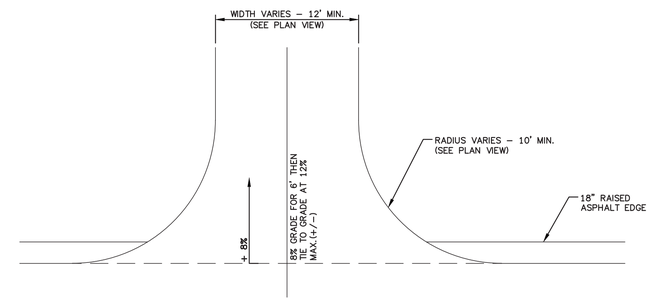
NOTES:
1. USE MATERIALS AND METHODS OF CONSTRUCTION FOR PERMANENT PIPE IN CONFORMANCE WITH SCDOT SUPPLEMENTAL SPECIFICATION SC-M-714.
2. SEE SHEET 714-205-XX FOR RCP FILL HEIGHT TABLES.
3. WHEN CONNECTING DISSIMILAR PIPE, USE DRAINAGE STRUCTURE OR DESIGN INTERFACE. DO NOT MIX PIPE TYPE, CLASS, OR DETAILS WITHIN A SINGLE RUN OF PIPE BETWEEN DRAINAGE STRUCTURES. SEE QUALIFIED PRODUCT LIST 14 FOR PRECAST REINFORCED CONCRETE DRAINAGE STRUCTURES.
4. USE AT LEAST THE MINIMUM CLASS OR GAGE REQUIRED TO CARRY THE FILL HEIGHT AS SPECIFIED IN SPECIFICATIONS AND PLANS. FILL HEIGHT MUST BE CALCULATED FROM THE TOP OF PIPE TO THE FINISHED GRADE. ENSURE THAT THE SPECIFIED CLASS CAN CARRY THE INSTALLED MAXIMUM COVER BEFORE BACKFILLING THE PIPE. IF INSTALLED GRADES VARY FROM THOSE SHOWN IN THE PLANS, CONFIRM THAT PIPE CLASS IS SUFFICIENT TO CARRY THE INSTALLED COVER. USE PIPE CLASS 3 WHEN COVER FALLS BELOW THE CLASS SHOWN IN THE PLANS UNLESS DIRECTED BY THE ENGINEER.
5. USE RIPRAP, BEVELED ENDS, REINFORCED CONCRETE SLAB, GEOTEXTILE, OR OTHER EROSION CONTROL MEASURES AS PER SCDOT SUPPLEMENTAL SPECIFICATION SC-M-714, OR SCDOT STANDARD DRAWINGS.
6. PIPE EMBEDMENT ZONE BACKFILL MUST MEET OR EXCEED THE MINIMUM MATERIAL AND COMPACTION REQUIREMENTS OF THE ROADWAY EMBANKMENT FOR THE SPECIFIED BURIAL DEPTH WITHOUT DAMAGING THE PIPE.
7. FOR SHALLOW INSTALLATIONS (PAVEMENT ON MINIMUM COVER): INSTALL PIPE EMBEDMENT ZONE MATERIAL TO PREVENT SETTLEMENT BELOW THE PIPE. USE A MINIMUM OF CLASS II STRUCTURAL BACKFILL MATERIAL OR CLSM TO PREVENT THIS SETTLEMENT.
8. USE THIS INSTALLATION ONLY IN LOCATIONS ABOVE GROUNDWATER TABLE. USE THIS INSTALLATION IN LOCATIONS WHERE PIPE SYSTEM IS NOT SUBJECTED TO PRESSURE HEAD.
9. FOR DETAILS 1 & 2: INSTALL STRUCTURAL BACKFILL AS SHOWN, AND USE BORROW EXCAVATION REQUIREMENTS FOR SOIL ABOVE PIPE EMBEDMENT ZONE.
10. FOR DETAILS 3 & 4: INSTALL STRUCTURAL BACKFILL AS SHOWN FROM TOP OF PIPE TO TOP OF SUBGRADE.

CUSTOM DESIGN IS REQUIRED WHEN MAXIMUM COVER EXCEEDS VALUES SHOWN IN FILL HEIGHT CHARTS.

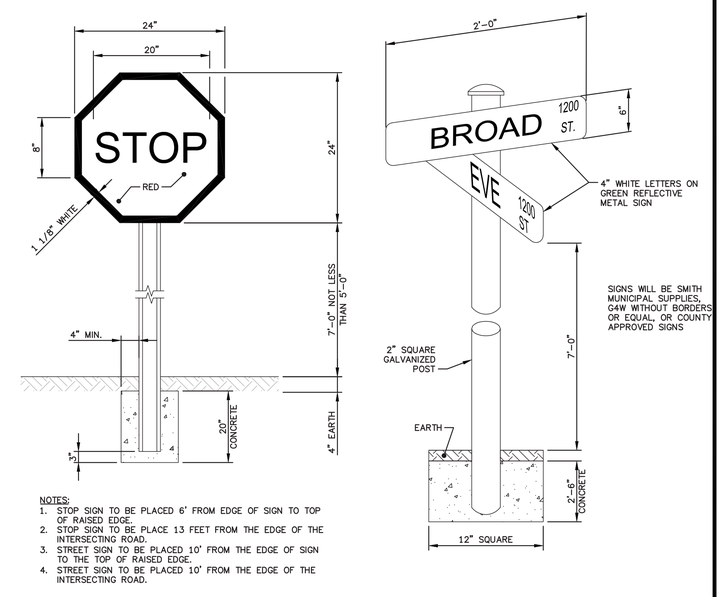
DEEP INSTALLATION




TYPICAL RAISED EDGE ASPHALT PAVING SECTION
N.T.S.




TYPICAL DRIVEWAY CONFIGURATION
N.T.S.




NOTES:
1. STOP SIGN TO BE PLACED 6' FROM EDGE OF SIGN TO TOP OF RAISED EDGE.
2. STOP SIGN TO BE PLACE 13 FEET FROM THE EDGE OF THE INTERSECTING ROAD.
3. STREET SIGN TO BE PLACED 10' FROM THE EDGE OF SIGN TO THE TOP OF RAISED EDGE.
4. STREET SIGN TO BE PLACED 10' FROM THE EDGE OF THE INTERSECTING ROAD.

PERMANENT SIGN INSTALLATION DETAILS
N.T.S.


PREPARED BY
Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS
822 ELLIS STREET, AUGUSTA, GEORGIA 30901
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SOUTH CAROLINA Cranston Engineering Group, P.C. NO. C00575 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER NO.32019 7/8/16 ROBERT KYLE TITUS

| REV # | DATE | DESCRIPTION |
|---|---|---|
| | | |

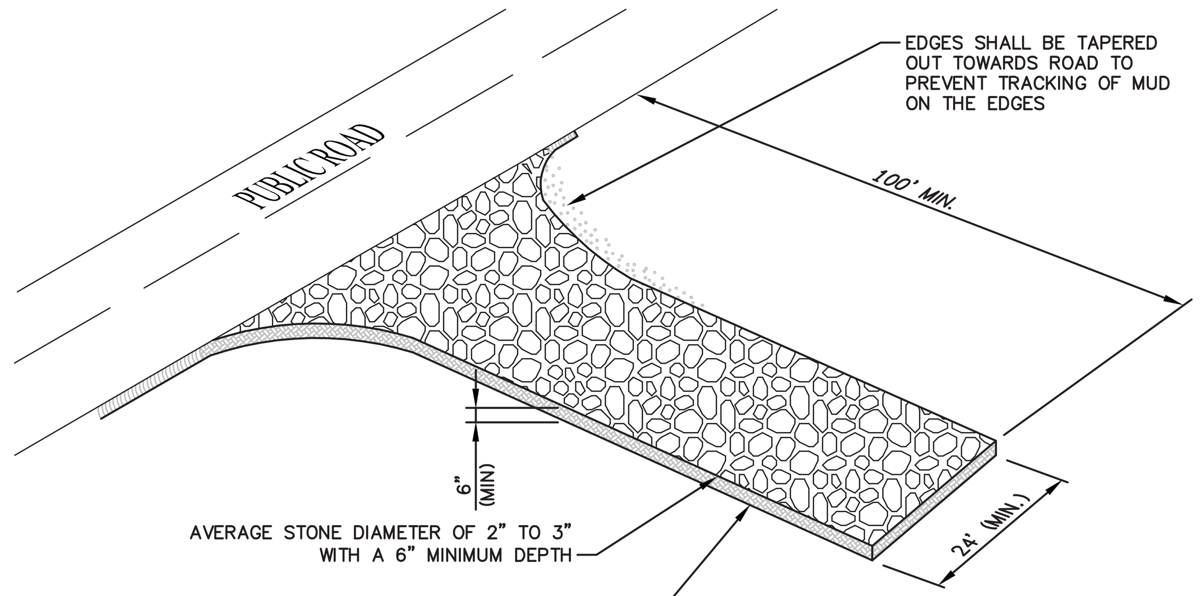
Ardis Road

Typical Sections & Miscellaneous Details

| | |
|---|---|
| DRAWN BY: | MAB |
| CHECKED BY: | --- |
| APPROVED BY: | --- |
| DATE: | JUNE 3, 2016 |
| SCALE: | NO SCALE |
| JOB No. | 2015-0457 |
| DRAWING No. | 03 |

South Carolina 811 Call 811 Before You Dig

G:\AA-ACTIVE JOB FILES\2015\2015-0457 - ARDIS ROAD ROADWAY IMPROVEMENTS\AC-DRAWINGS\CIVIL\2015-0457_DTXS.DWG 7/8/2016 2:23 PM




| SPECIFICAION | SIZE |
|---|---|
| ROCK PAD THICKNESS | 6 INCHES |
| ROCK PAD WIDTH | 24 FEET |
| ROCK PAD LENGTH | 100 FEET |
| ROCK PAD STONE SIZE | D = 2-3 INCHS |

PLAN SYMBOL

CONSTRUCTION ENTRANCE
SOUTH CAROLINA DEPARTMENT OF PUBLIC HEALTH
STANDARD DRAWING NO. SC-06 [PAGE 1]
N.T.S.

## CONSTR. ENTRANCE - GENERAL NOTES

1. STABILIZED CONSTRUCTION ENTRANCES SHOULD BE USED AT ALL POINTS WHERE TRAFFIC WILL EGRESS/INGRESS A CONSTRUCTION SITE ONTO A PUBLIC ROAD OR ANY IMPERVIOUS SURFACES, SUCH AS PARKING LOTS.
2. INSTALL A NON-WOVEN GEOTEXTILE FABRIC PRIOR TO PLACING ANY STONE.
3. INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE.
4. THE ENTRANCE SHALL CONSIST OF 2-INCH TO 3-INCH D50 STONE PLACED AT A MINIMUM DEPTH OF 6-INCHES.
5. MINIMUM DIMENSIONS OF THE ENTRANCE SHALL BE 24-FEET WIDE BY 100-FEET LONG, AND MAY BE MODIFIED AS NECESSARY TO ACCOMMODATE SITE CONSTRAINTS.
6. THE EDGES OF THE ENTRANCE SHALL BE TAPERED OUT TOWARDS THE ROAD TO PREVENT TRACKING AT THE EDGE OF THE ENTRANCE.
7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN OR OTHER SEDIMENT TRAPPING STRUCTURE.
8. LIMESTONE MAY NOT BE USED FOR THE STONE PAD.

## CONSTR. ENTRANCE - INSPECTION & MAINTENANCE

1. THE KEY TO FUNCTIONAL CONSTRUCTION ENTRANCES IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INSPECTIONS OF CONSTRUCTION ENTRANCES SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVEN THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
3. DURING REGULAR INSPECTIONS, CHECK FOR MUD AND SEDIMENT BUILDUP AND PAD INTEGRITY. INSPECTION FREQUENCIES MAY NEED TO BE MORE FREQUENT DURING LONG PERIODS OF WET WEATHER.
4. RESHAPE THE STONE PAD AS NECESSARY FOR DRAINAGE AND RUNOFF CONTROL.
5. WASH OR REPLACE STONES AS NEEDED AND AS DIRECTED BY SITE INSPECTOR. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE THE AMOUNT OF MUD BEING CARRIED OFF-SITE BY VEHICLES. FREQUENT WASHING WILL EXTEND THE USEFUL LIFE OF STONE PAD.
6. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO ADJACENT IMPERVIOUS SURFACES BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED WHEN THE WATER CAN BE DISCHARGED TO A SEDIMENT TRAP OR BASIN.
7. DURING MAINTENANCE ACTIVITIES, ANY BROKEN PAVEMENT SHOULD BE REPAIRED IMMEDIATELY.
8. CONSTRUCTION ENTRANCES SHOULD BE REMOVED AFTER THE SITE HAS REACHED FINAL STABILIZATION. PERMANENT VEGETATION SHOULD REPLACE AREAS FROM WHICH CONSTRUCTION ENTRANCES HAVE BEEN REMOVED, UNLESS AREA WILL BE CONVERTED TO AN IMPERVIOUS SURFACE TO SERVE POST-CONSTRUCTION.

CONSTRUCTION ENTRANCE
SOUTH CAROLINA DEPARTMENT OF PUBLIC HEALTH
STANDARD DRAWING NO. SC-06 [PAGE 2]
GENERAL NOTES

REFERENCES
NATIONAL DOCUMENTS
SCDOT DOCUMENTS
RELATED DRAWINGS & KEYWORDS

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER NO. 21242 JAMES W. KENDALL, JR.
SIGNATURE
2-9-2015
DATE

| # | DATE | CHK | DESCRIPTION |
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| 6 | | | |
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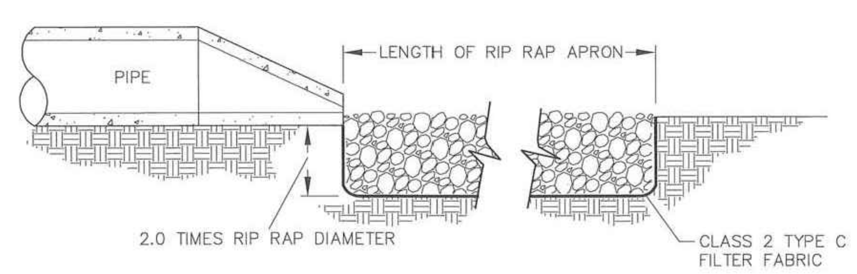
SCDOT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
DESIGN STANDARDS OFFICE
955 PARK STREET
ROOM 405
COLUMBIA, SC 29201

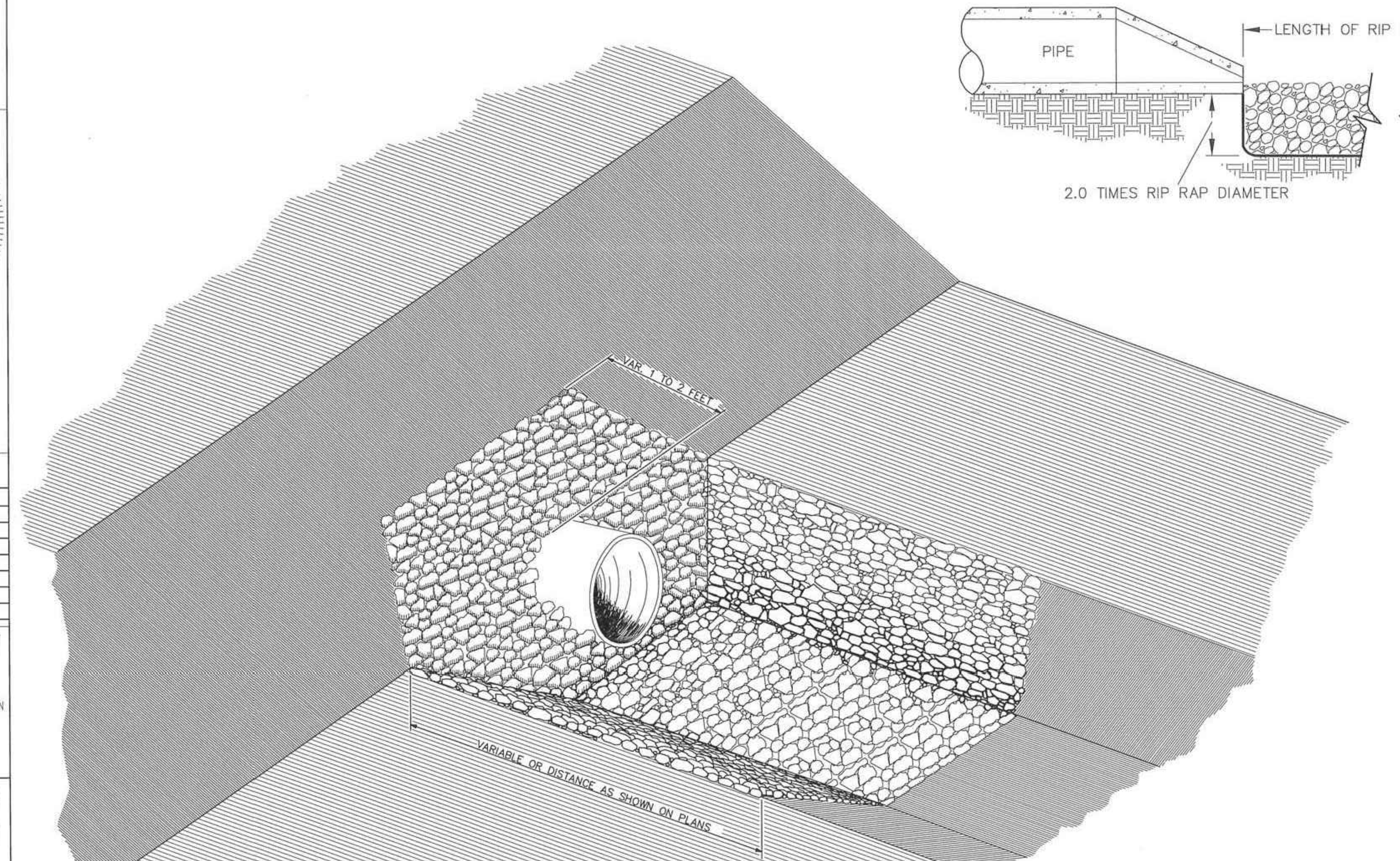
STANDARD DRAWING
OUTLET PROTECTION WITH DEFINED CHANNEL
804-310-00
EFFECTIVE LETTING DATE MAY 2015

NOTES:
1. GEOTEXTILE FABRIC TO BE USED UNDER RIPRAP.
2. SEE STANDARD DRAWINGS SECTION 719-600-00 FOR ADDITIONAL PIPE END TREATMENT OPTIONS.
3. THE PAY ITEMS SHALL BE:
RIPRAP CLASS ___ - ___ TON
GEOTEXTILE FOR EROSION CONTROL UNDER RIPRAP CLASS 2 TYPE C S.Y.

CHART 804-310A
RIPRAP PLACEMENT WITH MINIMUM TAILWATER

| MINIMUM CLASS | $D_{50}$ (FT) | MINIMUM THICKNESS (FT) | PIPE DIAMETER |
|---|---|---|---|
| A | 0.50 | 1.00 | UP TO 24" |
| B | 0.75 | 1.50 | UP TO 84" |
| C | 1.30 | 2.60 | LARGER THAN 84" |



THIS DRAWING IS NOT TO SCALE

## SCDHEC STANDARD SEDIMENT & EROSION CONTROL NOTES:

1. IF NECESSARY, SLOPES, WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW.
   A. WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
   B. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR WEEK. IF PERIODIC INSPECTION OR OTHER INFORMATION INDICATES THAT A BMP HAS BEEN INAPPROPRIATELY OR INCORRECTLY INSTALLED, THE PERMITTEE MUST ADDRESS THE NECESSARY REPLACEMENT OR MODIFICATION REQUIRED TO CORRECT THE BMP WITHIN 48 HOURS OF IDENTIFICATION.
4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING, THE WATER SHOULD BE FILTERED TO REMOVE SEDIMENT BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO PAVED ROADWAY(S) FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, AS MAY BE REQUIRED.
7. RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C REG. 72-300 ET SEQ. AND SCR100000.
8. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
9. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN'T BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WOS.
10. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.
11. A COPY OF THE SWPPP, INSPECTIONS RECORDS, AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.
12. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.
13. MINIMIZE SOIL COMPACTION AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL.
14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT OR BETTER TREATMENT PRIOR TO DISCHARGE.
15. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC.).
16. THE FOLLOWING DISCHARGES FROM SITES ARE PROHIBITED:
   A. WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL
   B. WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS
   C. FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE
   D. SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING
17. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.
18. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
19. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

## SEEDING SCHEDULE NOTES:

1. CONTRACTOR SHALL ADHERE TO SCDOT SUPPLEMENTAL TECHNICAL SPECIFICATIONS SC-M-810-2 (04/11) WHICH REPLACES SECTION 810, SEEDING, IN THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2007 EDITION, REGARDING TEMPORARY & PERMANENT COVER, GRASSING, LIMING, FERTILIZING, AND MULCHING.
2. CONTRACTOR SHALL PERFORM TEMPORARY COVER WITH MULCH SEEDING AS OUTLINED IN SC-M-810-2 (04/11) WITHIN (7) DAYS WHEN A SITE WILL NOT BE WORKED ON FOR 14 DAYS OR MORE.
3. CONTRACTOR SHALL PERFORM PERMANENT COVER WITH SEEDING WITHIN 14 DAYS OF WHEN THE SITE WAS LAST WORKED.

## SCDHEC STANDARD CONSTRUCTION SEQUENCE:

1. RECEIVE NPDES COVERAGE FROM DHEC.
2. PRE-CONSTRUCTION MEETING (ON-SITE IF MORE THAN 10 DISTURBED AND NON-LINEAR)
3. NOTIFY DHEC EQC REGIONAL OFFICE OR OCRM OFFICE 48 HOURS PRIOR TO BEGINNING LAND- DISTURBING ACTIVITIES.
4. INSTALLATION OF CONSTRUCTION ENTRANCE(S).
5. CLEARING & GRUBBING ONLY AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS.
6. INSTALLATION OF PERIMETER CONTROLS (E.G., SILT FENCE).
7. CLEARING & GRUBBING ONLY IN AREAS OF BASINS/ TRAPS/ PONDS.
8. INSTALLATION OF BASINS/ TRAPS/ PONDS AND INSTALLATION OF DIVERSIONS TO THOSE STRUCTURES (OUTLET STRUCTURES MUST BE COMPLETELY INSTALLED AS SHOWN ON THE DETAILS BEFORE PROCEEDING TO NEXT STEP; AREAS DRAINING TO THESE STRUCTURES CANNOT BE DISTURBED UNTIL THE STRUCTURES AND DIVERSIONS TO THE STRUCTURES ARE COMPLETELY INSTALLED).
9. CLEARING & GRUBBING OF SITE OR DEMOLITION (SEDIMENT & EROSION CONTROL MEASURES FOR THESE AREAS MUST ALREADY BE INSTALLED).
10. ROUGH GRADING.
11. INSTALLATION OF STORM DRAIN SYSTEM AND PLACEMENT OF INLET PROTECTION AS EACH INLET IS INSTALLED.
12. FINE GRADING, PAVING, ETC.
13. PERMANENT/ FINAL STABILIZATION
14. CLEAN-OUT OF DETENTION BASINS THAT WERE USED AS SEDIMENT CONTROL STRUCTURES AND REX GRADING OF DETENTION POND BOTTOMS; IF NECESSARY, MODIFICATION OF SEDIMENT BASIN RISER TO CONVERT TO DETENTION BASIN OUTLET STRUCTURE
15. REMOVAL OF TEMPORARY SEDIMENT & EROSION CONTROL MEASURES AFTER ENTIRE AREA DRAINING TO THE STRUCTURE IS FINALLY STABILIZED (THE DEPARTMENT RECOMMENDS THAT THE PROJECT OWNER/ OPERATOR HAVE THE SWPPP PREPARER OR REGISTRATION EQUIVALENT APPROVE THE REMOVAL OF TEMPORARY STRUCTURES.).
16. PERFORM AS-BUILT SURVEYS OF ALL DETENTION STRUCTURES AND SUBMIT TO DHEC OR MS4 FOR ACCEPTANCE.
17. SUBMIT NOTICE OF TERMINATION (NOT) TO DHEC AS APPROPRIATE.

NOTE:
IF FLOWS FROM OFFSITE AREAS WILL BE DIVERTED AROUND THE SITE AND THE ON-SITE STRUCTURES ARE NOT DESIGNED TO HANDLE FLOWS FROM THE OFFSITE AREAS, THEN THE DIVERSIONS/ PIPING FOR THE OFFSITE FLOWS MUST BE INSTALLED BEFORE LAND-DISTURBING ACTIVITIES BEGIN ON THE SITE; INCLUDE THIS IN THE SEQUENCE. SEDIMENT AND EROSION CONTROL MEASURES FOR THE DISTURBED AREAS FOR THE DIVERSION/ PIPING MUST BE INSTALLED BEFORE THOSE AREAS ARE DISTURBED AND SHOULD BE SHOWN ON THE PLANS.

NOTE:
IF AN EXISTING DETENTION/ SEDIMENT BASIN IS BEING MODIFIED TO HANDLE THE FLOWS FROM THE PROPOSED DEVELOPMENT, THEN IT MUST BE MODIFIED BEFORE LAND-DISTURBING ACTIVITIES BEGIN ON THE SITE. THIS SHOULD BE INCLUDED IN THE SEQUENCE.

NOTE:
INCLUDE INDIVIDUAL LOT DEVELOPMENT/ CONSTRUCTION IN THE SEQUENCE IF THE SITE WILL NOT BE MASS-GRADED.

NOTE:
INSTALLATION OF SOME PERMANENT WATER QUALITY DEVICES SHOULD OCCUR AFTER THE SITE IS STABILIZED; INCLUDE THIS IN THE SEQUENCE. CLEANOUT OF OTHER WATER QUALITY DEVICES THAT WERE USED DURING CONSTRUCTION SHOULD OCCUR AFTER SITE STABILIZATION.

NOTE:
MAINTENANCE OF SEDIMENT AND EROSION CONTROL MEASURES MUST CONTINUE UNTIL THE SITE IS PERMANENTLY STABILIZED AND THE CONTROLS ARE REMOVED.

South Carolina 811
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SOUTH CAROLINA Cranston Engineering Group, P.C. NO. C00575 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER NO.32019 ROBERT KYLE TITUS
Kyle Titus 7/8/16

| REV # | DATE | DESCRIPTION |
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Ardis Road

Erosion Control Notes & Details

| | |
|---|---|
| DRAWN BY: | MAB |
| CHECKED BY: | --- |
| APPROVED BY: | --- |
| DATE: | JUNE 3, 2016 |
| SCALE: | NO SCALE |
| JOB No. | 2015-0457 |
| DRAWING No. | 04 |

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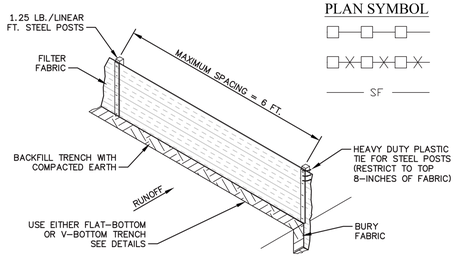
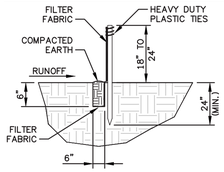
## SILT FENCE INSTALLATION



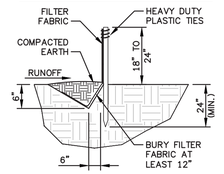

PLAN SYMBOL




## FLAT-BOTTOM TRENCH DETAIL




## V-SHAPED TRENCH DETAIL




## SILT FENCE - GENERAL NOTES

1. DO NOT PLACE SILT FENCE ACROSS CHANNELS OR IN OTHER AREAS SUBJECT TO CONCENTRATED FLOWS. SILT FENCE SHOULD NOT BE USED AS A VELOCITY CONTROL BMP. CONCENTRATED FLOWS ARE ANY FLOWS GREATER THAN 0.5 CFS.
2. MAXIMUM SHEET OR OVERLAND FLOW PATH LENGTH TO THE SILT FENCE SHALL BE 100-FEET.
3. MAXIMUM SLOPE STEEPNESS (NORMAL [PERPENDICULAR] TO THE FENCE LINE) SHALL BE 2:1.
4. SILT FENCE JOINTS, WHEN NECESSARY, SHALL BE COMPLETED BY ONE OF THE FOLLOWING OPTIONS:
   - WRAP EACH FABRIC TOGETHER AT A SUPPORT POST WITH BOTH ENDS FASTENED TO THE POST, WITH A 1-FOOT MINIMUM OVERLAP;
   - OVERLAP SILT FENCE BY INSTALLING 3-FEET PASSED THE SUPPORT POST TO WHICH THE NEW SILT FENCE ROLL IS ATTACHED. ATTACH OLD ROLL TO NEW ROLL WITH HEAVY-DUTY PLASTIC TIES; OR,
   - OVERLAP ENTIRE WIDTH OF EACH SILT FENCE ROLL FROM ONE SUPPORT POST TO THE NEXT SUPPORT POST.
5. ATTACH FILTER FABRIC TO THE STEEL POSTS USING HEAVY-DUTY PLASTIC TIES THAT ARE EVENLY SPACED WITHIN THE TOP 8-INCHES OF THE FABRIC.
6. INSTALL THE SILT FENCE PERPENDICULAR TO THE DIRECTION OF THE STORMWATER FLOW AND PLACE THE SILT FENCE THE PROPER DISTANCE FROM THE TOE OF STEEP SLOPES TO PROVIDE SEDIMENT STORAGE AND ACCESS FOR MAINTENANCE AND CLEANOUT.
7. INSTALL SILT FENCE CHECKS (TIE-BACKS) EVERY 50-100 FEET, DEPENDENT ON SLOPE, ALONG SILT FENCE THAT IS INSTALLED WITH SLOPE AND WHERE CONCENTRATED FLOWS ARE EXPECTED OR ARE DOCUMENTED ALONG THE PROPOSED/INSTALLED SILT FENCE.

### SILT FENCE

SOUTH CAROLINA DEPARTMENT OF PUBLIC HEALTH
STANDARD DRAWING NO. SC-03 [PAGE 1]
N.T.S.

## SILT FENCE - POST REQUIREMENTS

1. SILT FENCE POSTS MUST BE 48-INCH LONG STEEL POSTS THAT MEET, AT A MINIMUM, THE FOLLOWING PHYSICAL CHARACTERISTICS.
   - COMPOSED OF A HIGH STRENGTH STEEL WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI.
   - INCLUDE A STANDARD "T" SECTION WITH A NOMINAL FACE WIDTH OF 1.38-INCHES AND A NOMINAL "T" LENGTH OF 1.48-INCHES.
   - WEIGH 1.25 POUNDS PER FOOT (± 8%)
2. POSTS SHALL BE EQUIPPED WITH PROJECTIONS TO AID IN FASTENING OF FILTER FABRIC.
3. STEEL POSTS MAY NEED TO HAVE A METAL SOIL STABILIZATION PLATE WELDED NEAR THE BOTTOM WHEN INSTALLED ALONG STEEP SLOPES OR INSTALLED IN LOOSE SOILS. THE PLATE SHOULD HAVE A MINIMUM CROSS SECTION OF 17-SQUARE INCHES AND BE COMPOSED OF 15 GAUGE STEEL, AT A MINIMUM. THE METAL SOIL STABILIZATION PLATE SHOULD BE COMPLETELY BURIED.
4. INSTALL POSTS TO A MINIMUM OF 24-INCHES. A MINIMUM HEIGHT OF 1- TO 2- INCHES ABOVE THE FABRIC SHALL BE MAINTAINED, AND A MAXIMUM HEIGHT OF 3 FEET SHALL BE MAINTAINED ABOVE THE GROUND.
5. POST SPACING SHALL BE AT A MAXIMUM OF 6-FEET ON CENTER.

## SILT FENCE - FABRIC REQUIREMENTS

1. SILT FENCE MUST BE COMPOSED OF WOVEN GEOTEXTILE FILTER FABRIC THAT CONSISTS OF THE FOLLOWING REQUIREMENTS:
   - COMPOSED OF FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS OF AT LEAST 85% BY WEIGHT OF POLYOLEFINS, POLYESTERS, OR POLYAMIDES THAT ARE FORMED INTO A NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN DIMENSIONAL STABILITY RELATIVE TO EACH OTHER;
   - FREE OF ANY TREATMENT OR COATING WHICH MIGHT ADVERSELY ALTER ITS PHYSICAL PROPERTIES AFTER INSTALLATION;
   - FREE OF ANY DEFECTS OR FLAWS THAT SIGNIFICANTLY AFFECT ITS PHYSICAL AND/OR FILTERING PROPERTIES; AND,
   - HAVE A MINIMUM WIDTH OF 36-INCHES.
2. USE ONLY FABRIC APPEARING ON SC DOT'S QUALIFIED PRODUCTS LISTING (QPL), APPROVAL SHEET #34, MEETING THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE SC DOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
3. 12-INCHES OF THE FABRIC SHOULD BE PLACED WITHIN EXCAVATED TRENCH AND TOED IN WHEN THE TRENCH IS BACKFILLED.
4. FILTER FABRIC SHALL BE PURCHASED IN CONTINUOUS ROLLS AND CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS.
5. FILTER FABRIC SHALL BE INSTALLED AT A MINIMUM OF 24-INCHES ABOVE THE GROUND.

## SILT FENCE - INSPECTION AND MAINTENANCE

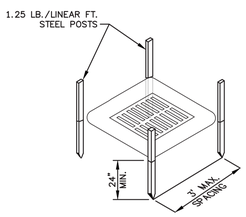
1. THE KEY TO FUNCTIONAL SILT FENCE IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INSPECTIONS OF SILT FENCE SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVEN THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
3. ATTENTION TO SEDIMENT ACCUMULATIONS ALONG THE SILT FENCE IS EXTREMELY IMPORTANT. ACCUMULATED SEDIMENT SHOULD BE CONTINUALLY MONITORED AND REMOVED WHEN NECESSARY.
4. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE SILT FENCE.
5. REMOVED SEDIMENT SHALL BE PLACED IN STOCKPILE STORAGE AREAS OR SPREAD THINLY ACROSS DISTURBED AREA. STABILIZE THE REMOVED SEDIMENT AFTER IT IS RELOCATED.
6. CHECK FOR AREAS WHERE STORMWATER RUNOFF HAS ERODED A CHANNEL BENEATH THE SILT FENCE, OR WHERE THE FENCE HAS SAGGED OR COLLAPSED DUE TO RUNOFF OVERTOPPING THE SILT FENCE. INSTALL CHECKS/TIE-BACKS AND/OR REINSTALL SILT FENCE, AS NECESSARY.
7. CHECK FOR TEARS WITHIN THE SILT FENCE, AREAS WHERE SILT FENCE HAS BEGUN TO DECOMPOSE, AND FOR ANY OTHER CIRCUMSTANCE THAT MAY RENDER THE SILT FENCE INEFFECTIVE. REMOVED DAMAGED SILT FENCE AND REINSTALL NEW SILT FENCE IMMEDIATELY.
8. SILT FENCE SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED AND ONCE IT IS REMOVED, THE RESULTING DISTURBED AREA SHALL BE PERMANENTLY STABILIZED.

### SILT FENCE INSTALLATION SCHEDULE

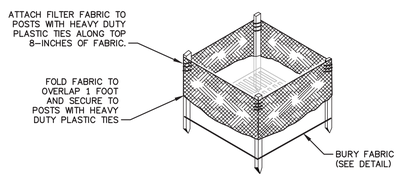
| CENTERLINE OFFSET | START STATION | END STATION |
|---|---|---|
| 24.50' R | 12+00.00 | 48+00.00 |

### SILT FENCE

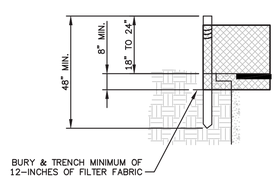
SOUTH CAROLINA DEPARTMENT OF PUBLIC HEALTH
STANDARD DRAWING NO. SC-03 [PAGE 2]
GENERAL NOTES




POST INSTALLATION DETAIL




FILTER FABRIC INSTALLATION DETAIL




FILTER FABRIC BURIAL DETAIL

PLAN SYMBOL

### TYPE A
### FILTER FABRIC INLET PROTECTION

SOUTH CAROLINA DEPARTMENT OF PUBLIC HEALTH
STANDARD DRAWING NO. SC-07 [PAGE 1]
N.T.S.

## TYPE A - FILTER FABRIC REQUIREMENTS

1. SILT FENCE MUST BE COMPOSED OF WOVEN GEOTEXTILE FILTER FABRIC THAT CONSISTS OF THE FOLLOWING REQUIREMENTS:
   - COMPOSED OF FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS OF AT LEAST 85% BY WEIGHT OF POLYOLEFINS, POLYESTERS, OR POLYAMIDES THAT ARE FORMED INTO A NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN DIMENSIONAL STABILITY RELATIVE TO EACH OTHER;
   - FREE OF ANY TREATMENT OR COATING WHICH MIGHT ADVERSELY ALTER ITS PHYSICAL PROPERTIES AFTER INSTALLATION;
   - FREE OF ANY DEFECTS OR FLAWS THAT SIGNIFICANTLY AFFECT ITS PHYSICAL AND/OR FILTERING PROPERTIES; AND,
   - HAVE A MINIMUM WIDTH OF 36-INCHES.
2. USE ONLY FABRIC APPEARING ON SC DOT'S QUALIFIED PRODUCTS LISTING (QPL), APPROVAL SHEET #34, MEETING THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE SC DOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
3. 12-INCHES OF THE FABRIC SHOULD BE PLACED WITHIN EXCAVATED TRENCH AND TOED IN WHEN THE TRENCH IS BACKFILLED.
4. FILTER FABRIC SHALL BE PURCHASED IN CONTINUOUS ROLLS AND CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS.
5. FILTER FABRIC SHALL BE INSTALLED AT A MINIMUM OF 24-INCHES ABOVE THE GROUND.

## TYPE A - POST REQUIREMENTS

1. SILT FENCE POSTS MUST BE 48-INCH LONG STEEL POSTS THAT MEET, AT A MINIMUM, THE FOLLOWING PHYSICAL CHARACTERISTICS.
   - COMPOSED OF A HIGH STRENGTH STEEL WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI.
   - INCLUDE A STANDARD "T" SECTION WITH A NOMINAL FACE WIDTH OF 1.38-INCHES AND A NOMINAL "T" LENGTH OF 1.48-INCHES.
   - WEIGH 1.25 POUNDS PER FOOT (± 8%)
2. POSTS SHALL BE EQUIPPED WITH PROJECTIONS TO AID IN FASTENING OF FILTER FABRIC.
3. INSTALL POSTS TO A MINIMUM OF 24-INCHES. A MINIMUM HEIGHT OF 1- TO 2- INCHES ABOVE THE FABRIC SHALL BE MAINTAINED, AND A MAXIMUM HEIGHT OF 3 FEET SHALL BE MAINTAINED ABOVE THE GROUND.
4. POST SPACING SHALL BE AT A MAXIMUM OF 3-FEET ON CENTER.

## TYPE A - INSPECTION & MAINTENANCE

1. THE KEY TO FUNCTIONAL INLET PROTECTION IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INSPECTIONS OF INLET PROTECTION SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVEN THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
3. ATTENTION TO SEDIMENT ACCUMULATIONS ALONG THE FILTER FABRIC IS EXTREMELY IMPORTANT. ACCUMULATED SEDIMENT SHOULD BE CONTINUALLY MONITORED AND REMOVED WHEN NECESSARY.
4. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE FILTER FABRIC. WHEN A SUMP IS INSTALLED IN FRONT OF THE FABRIC, SEDIMENT SHOULD BE REMOVED WHEN IT FILLS APPROXIMATELY 1/3 THE DEPTH OF THE SUMP.
5. REMOVED SEDIMENT SHALL BE PLACED IN STOCKPILE STORAGE AREAS OR SPREAD THINLY ACROSS DISTURBED AREA. STABILIZE THE REMOVED SEDIMENT AFTER IT IS RELOCATED.
6. CHECK FOR AREAS WHERE STORMWATER RUNOFF HAS ERODED A CHANNEL BENEATH THE FILTER FABRIC, OR WHERE THE FABRIC HAS SAGGED OR COLLAPSED DUE TO RUNOFF OVERTOPPING THE INLET PROTECTION.
7. CHECK FOR TEARS WITHIN THE FILTER FABRIC, AREAS WHERE FABRIC HAS BEGUN TO DECOMPOSE, AND FOR ANY OTHER CIRCUMSTANCE THAT MAY RENDER THE INLET PROTECTION INEFFECTIVE. REMOVED DAMAGED FABRIC AND REINSTALL NEW FILTER FABRIC IMMEDIATELY.
8. INLET PROTECTION STRUCTURES SHOULD BE REMOVED AFTER ALL THE DISTURBED AREAS ARE PERMANENTLY STABILIZED. REMOVE ALL CONSTRUCTION MATERIAL AND SEDIMENT, AND DISPOSE OF THEM PROPERLY. GRADE THE DISTURBED AREA TO THE ELEVATION OF THE DROP INLET STRUCTURE CREST. STABILIZE ALL BARE AREAS IMMEDIATELY.

### TYPE A
### FILTER FABRIC INLET PROTECTION

SOUTH CAROLINA DEPARTMENT OF PUBLIC HEALTH
STANDARD DRAWING NO. SC-07 [PAGE 2]
GENERAL NOTES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SOUTH CAROLINA Cranston Engineering Group, P.C. NO. C00575 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER NO.32019 ROBERT KYLE TITUS 7/8/16

| REV # | DATE | DESCRIPTION |
|---|---|---|

Ardis Road

Erosion Control Details

| | |
|---|---|
| DRAWN BY: | MAB |
| CHECKED BY: | --- |
| APPROVED BY: | --- |
| DATE: | JUNE 3, 2016 |
| SCALE: | NO SCALE |
| JOB No. | 2015-0457 |
| DRAWING No. | 05 |

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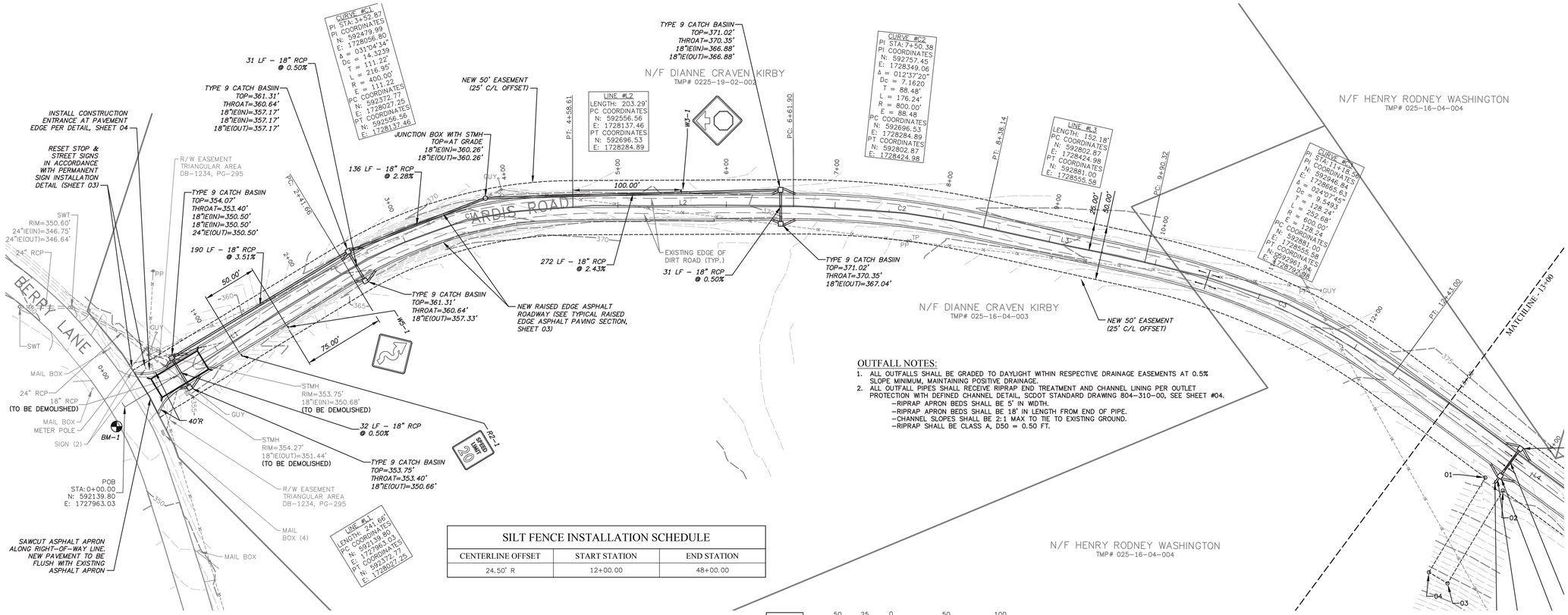



## OUTFALL NOTES:

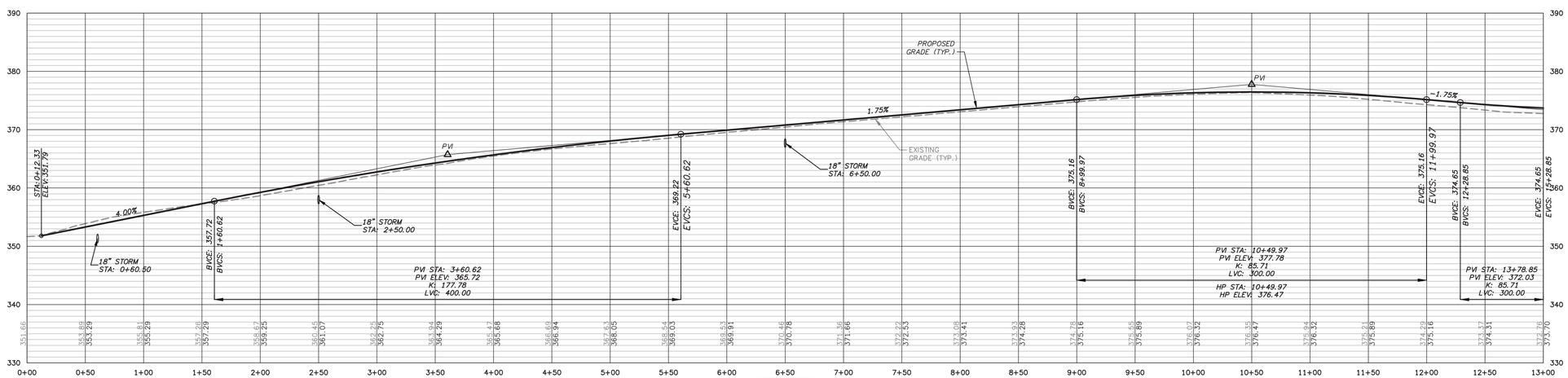
1. ALL OUTFALLS SHALL BE GRADED TO DAYLIGHT WITHIN RESPECTIVE DRAINAGE EASEMENTS AT 0.5% SLOPE MINIMUM, MAINTAINING POSITIVE DRAINAGE.
2. ALL OUTFALL PIPES SHALL RECEIVE RIPRAP END TREATMENT AND CHANNEL LINING PER OUTLET PROTECTION WITH DEFINED CHANNEL DETAIL, SCDOT STANDARD DRAWING 804-310-00, SEE SHEET #04.
   - –RIPRAP APRON BEDS SHALL BE 5' IN WIDTH.
   - –RIPRAP APRON BEDS SHALL BE 18' IN LENGTH FROM END OF PIPE.
   - –CHANNEL SLOPES SHALL BE 2:1 MAX TO TIE TO EXISTING GROUND.
   - –RIPRAP SHALL BE CLASS A, D50 = 0.50 FT.

## SILT FENCE INSTALLATION SCHEDULE

| CENTERLINE OFFSET | START STATION | END STATION |
|---|---|---|
| 24.50' R | 12+00.00 | 48+00.00 |

PLAN
HORIZONTAL SCALE 1"=50'

50 25 0 50 100
SCALE IN FEET




PROFILE
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'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SOUTH CAROLINA PROFESSIONAL ENGINEER NO.32019 ROBERT KYLE TITUS
7/8/16

| REV # | DATE | DESCRIPTION |
|---|---|---|
| | | |

Ardis Road

Plan & Profile Sheet

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|---|---|
| DRAWN BY: | MAB |
| CHECKED BY: | --- |
| APPROVED BY: | --- |
| DATE: | JUNE 3, 2016 |
| SCALE: | AS SHOWN |
| JOB No. | 2015-0457 |
| DRAWING No. | 06 |

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## OUTFALL NOTES:

1. ALL OUTFALLS SHALL BE GRADED TO DAYLIGHT WITHIN RESPECTIVE DRAINAGE EASEMENTS AT 0.5% SLOPE MINIMUM, MAINTAINING POSITIVE DRAINAGE.
2. ALL OUTFALL PIPES SHALL RECEIVE RIPRAP END TREATMENT AND CHANNEL LINING PER OUTLET PROTECTION WITH DEFINED CHANNEL DETAIL, SCDOT STANDARD DRAWING 804-310-00, SEE SHEET #04.
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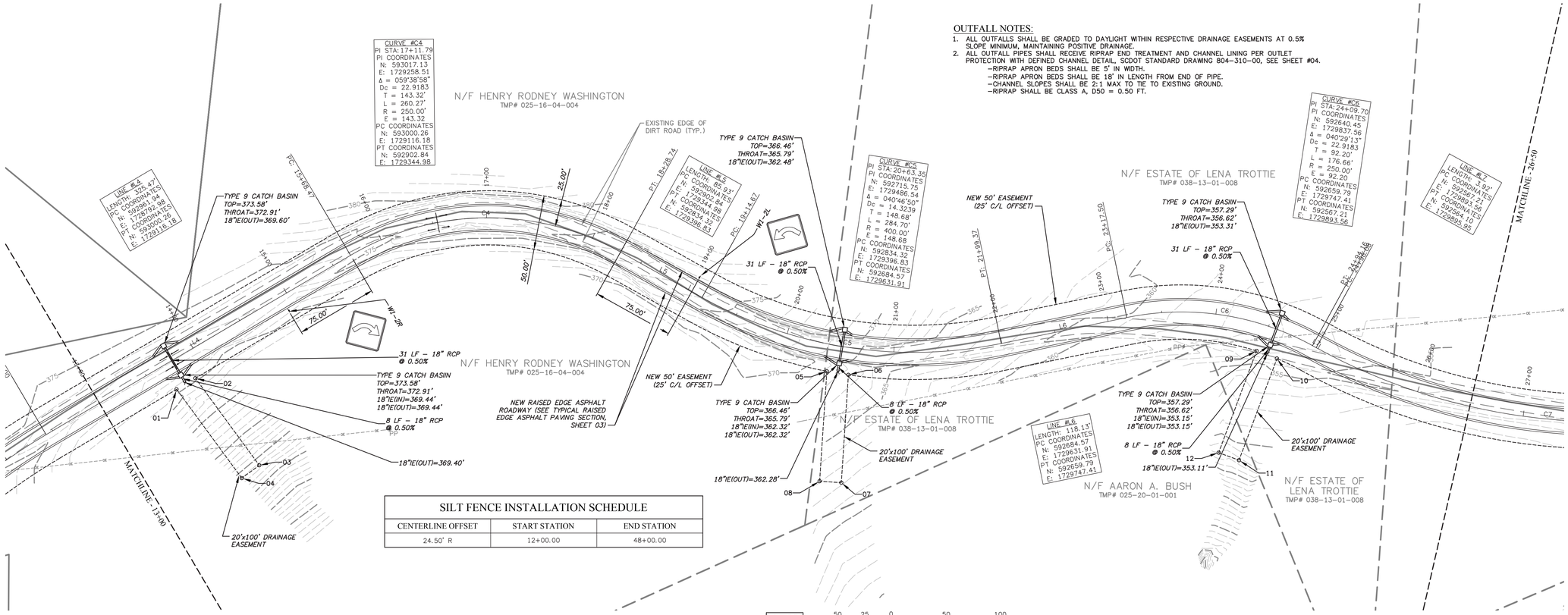
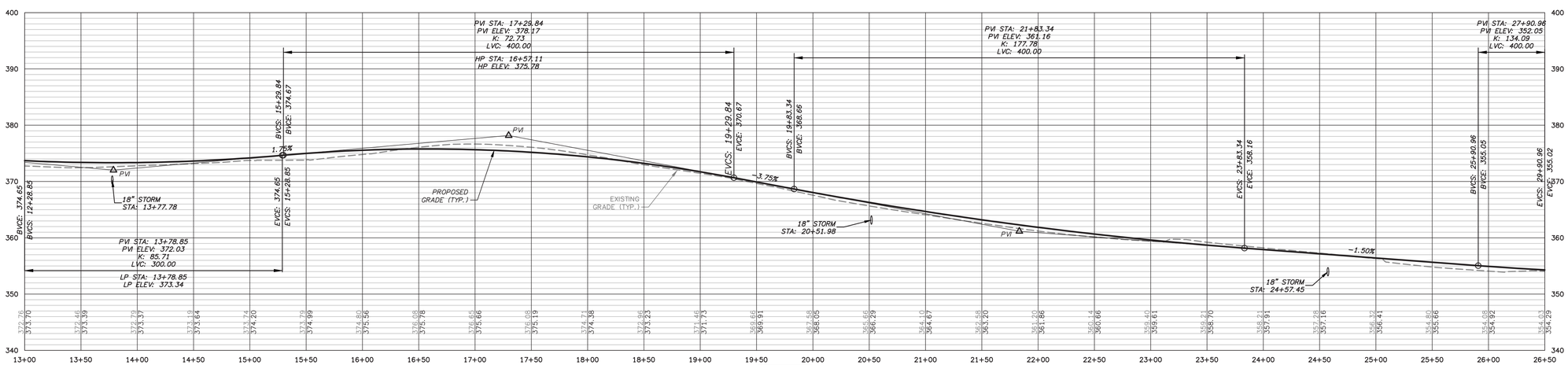
   - -RIPRAP APRON BEDS SHALL BE 18' IN LENGTH FROM END OF PIPE.
   - -CHANNEL SLOPES SHALL BE 2:1 MAX TO TIE TO EXISTING GROUND.
   - -RIPRAP SHALL BE CLASS A, D50 = 0.50 FT.




| SILT FENCE INSTALLATION SCHEDULE | | |
|---|---|---|
| CENTERLINE OFFSET | START STATION | END STATION |
| 24.50' R | 12+00.00 | 48+00.00 |

PLAN
HORIZONTAL SCALE 1"=50'

50 25 0 50 100
SCALE IN FEET




PROFILE
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'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SOUTH CAROLINA
PROFESSIONAL ENGINEER
NO.32019
7/8/16
ROBERT KYLE TITUS

| REV # | DATE | DESCRIPTION |
|---|---|---|

Ardis Road

Plan & Profile Sheet

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|---|---|
| DRAWN BY: | MAB |
| CHECKED BY: | --- |
| APPROVED BY: | --- |
| DATE: | JUNE 3, 2016 |
| SCALE: | AS SHOWN |
| JOB No. | 2015-0457 |
| DRAWING No. | 07 |

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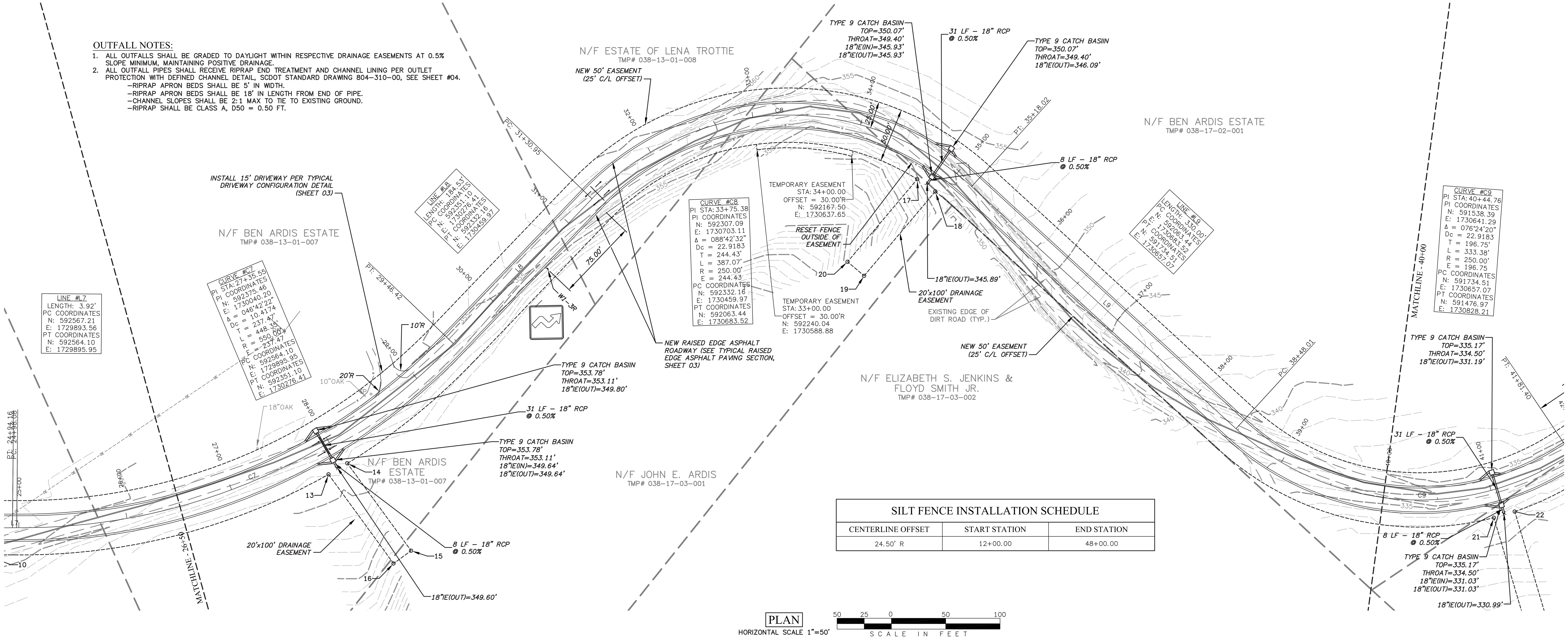
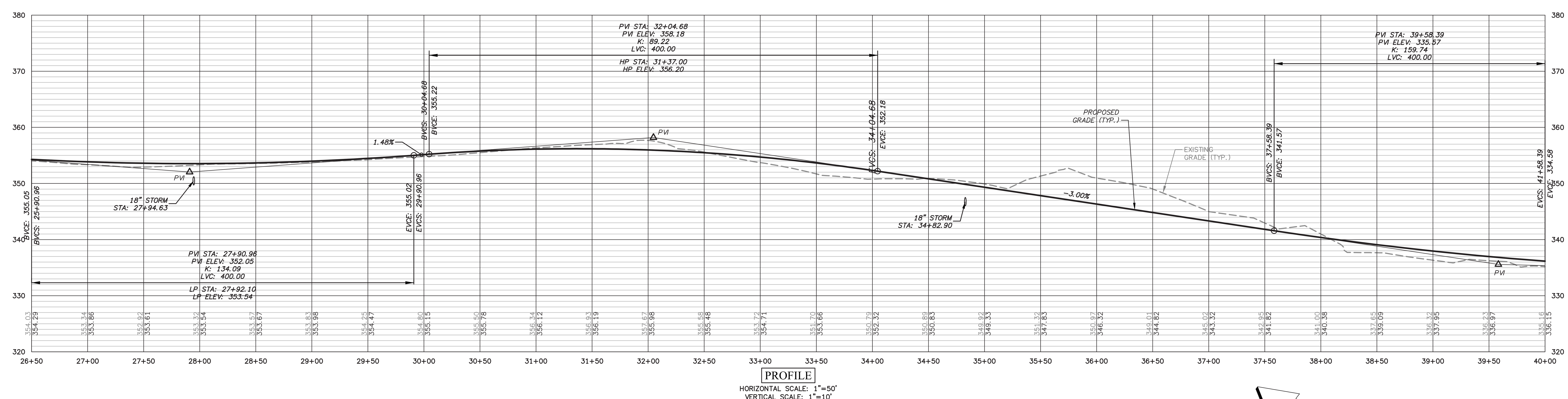
OUTFALL NOTES:

1. ALL OUTFALLS SHALL BE GRADED TO DAYLIGHT WITHIN RESPECTIVE DRAINAGE EASEMENTS AT 0.5% SLOPE MINIMUM, MAINTAINING POSITIVE DRAINAGE.
2. ALL OUTFALL PIPES SHALL RECEIVE RIPRAP END TREATMENT AND CHANNEL LINING PER OUTLET PROTECTION WITH DEFINED CHANNEL DETAIL, SCDOT STANDARD DRAWING 804–310–00, SEE SHEET #04.
   - –RIPRAP APRON BEDS SHALL BE 5' IN WIDTH.
   - –RIPRAP APRON BEDS SHALL BE 18' IN LENGTH FROM END OF PIPE.
   - –CHANNEL SLOPES SHALL BE 2:1 MAX TO TIE TO EXISTING GROUND.
   - –RIPRAP SHALL BE CLASS A, D50 = 0.50 FT.




| SILT FENCE INSTALLATION SCHEDULE | | |
|---|---|---|
| CENTERLINE OFFSET | START STATION | END STATION |
| 24.50' R | 12+00.00 | 48+00.00 |





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| REV # | DATE | DESCRIPTION |
|---|---|---|

# Ardis Road
## Plan & Profile Sheet

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| DRAWN BY: | MAB |
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| DATE: | JUNE 3, 2016 |
| SCALE: | AS SHOWN |
| JOB No. | 2015-0457 |
| DRAWING No. | 08 |

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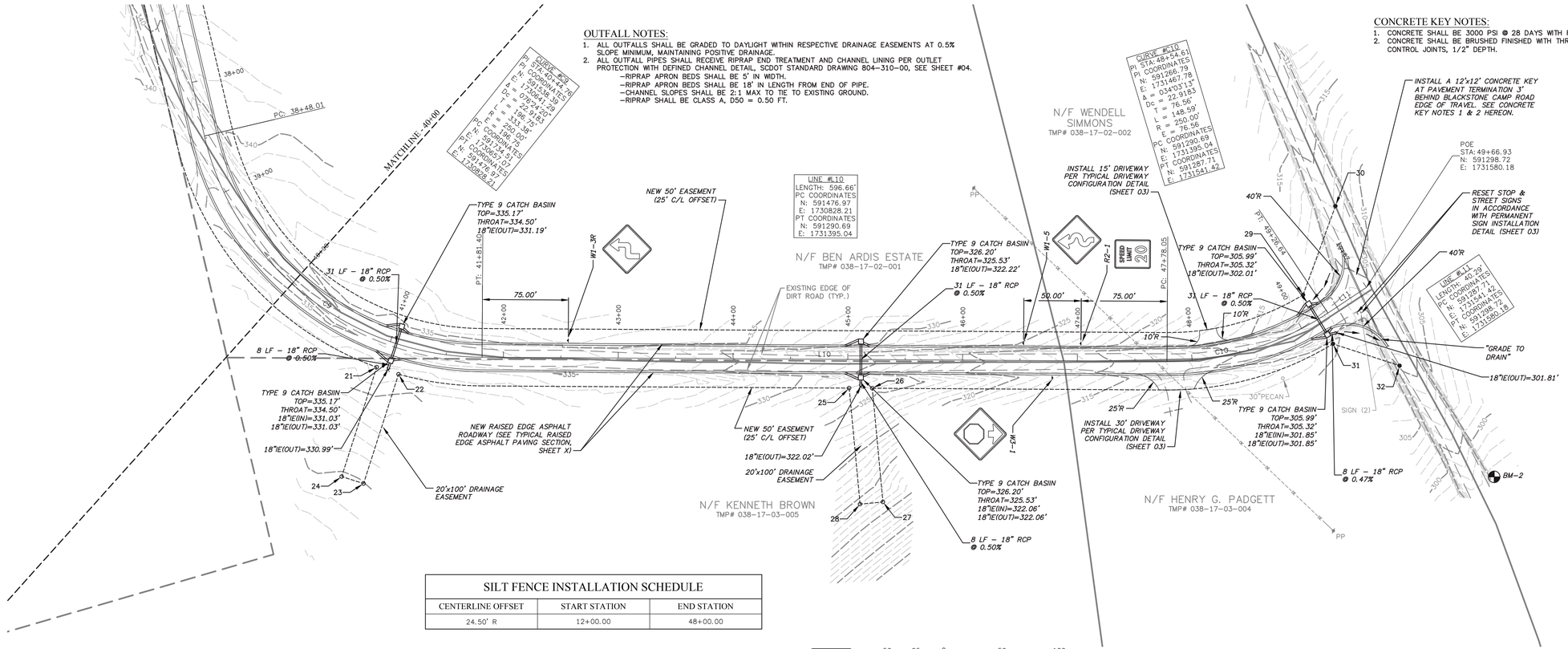
## OUTFALL NOTES:

1. ALL OUTFALLS SHALL BE GRADED TO DAYLIGHT WITHIN RESPECTIVE DRAINAGE EASEMENTS AT 0.5% SLOPE MINIMUM, MAINTAINING POSITIVE DRAINAGE.
2. ALL OUTFALL PIPES SHALL RECEIVE RIPRAP END TREATMENT AND CHANNEL LINING PER OUTLET PROTECTION WITH DEFINED CHANNEL DETAIL, SCDOT STANDARD DRAWING 804-310-00, SEE SHEET #04.
   - -RIPRAP APRON BEDS SHALL BE 5' IN WIDTH.
   - -RIPRAP APRON BEDS SHALL BE 18' IN LENGTH FROM END OF PIPE.
   - -CHANNEL SLOPES SHALL BE 2:1 MAX TO TIE TO EXISTING GROUND.
   - -RIPRAP SHALL BE CLASS A, D50 = 0.50 FT.

## CONCRETE KEY NOTES:

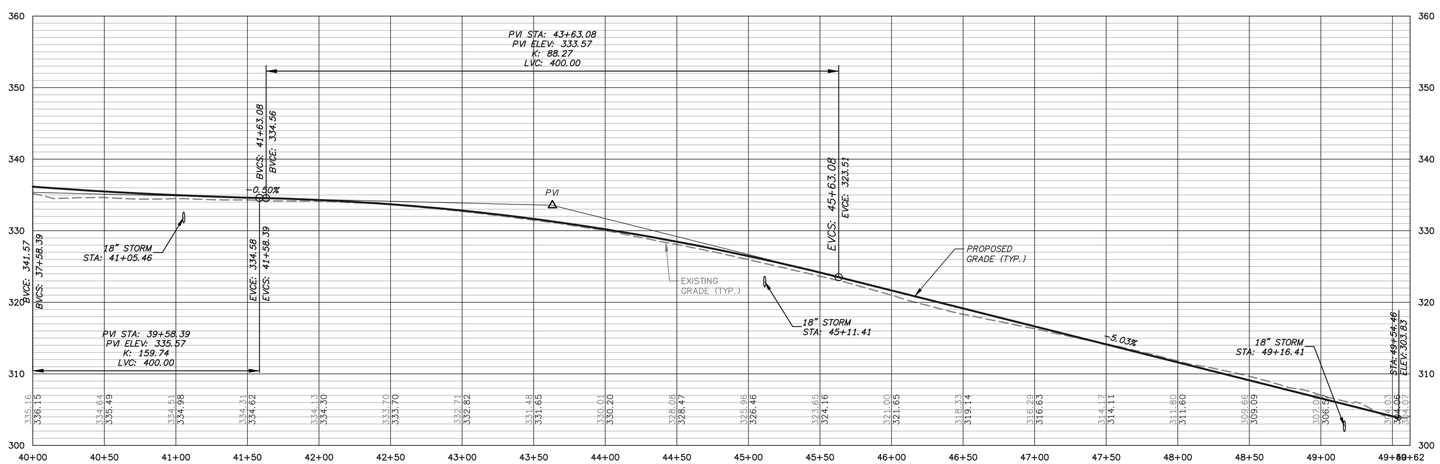
1. CONCRETE SHALL BE 3000 PSI @ 28 DAYS WITH FIBER REINFORCEMENT.
2. CONCRETE SHALL BE BRUSHED FINISHED WITH THREE (3) EVENLY SPACED CONTROL JOINTS, 1/2" DEPTH.




| SILT FENCE INSTALLATION SCHEDULE | | |
|---|---|---|
| CENTERLINE OFFSET | START STATION | END STATION |
| 24.50' R | 12+00.00 | 48+00.00 |

PLAN
HORIZONTAL SCALE 1"=50'

50 25 0 50 100
SCALE IN FEET




PROFILE
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'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SOUTH CAROLINA PROFESSIONAL ENGINEER NO.32019 ROBERT KYLE TITUS 7/8/16

| REV # | DATE | DESCRIPTION |
|---|---|---|

Ardis Road

Plan & Profile Sheet

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|---|---|
| DRAWN BY: | MAB |
| CHECKED BY: | --- |
| APPROVED BY: | --- |
| DATE: | JUNE 3, 2016 |
| SCALE: | AS SHOWN |
| JOB No. | 2015-0457 |
| DRAWING No. | 09 |

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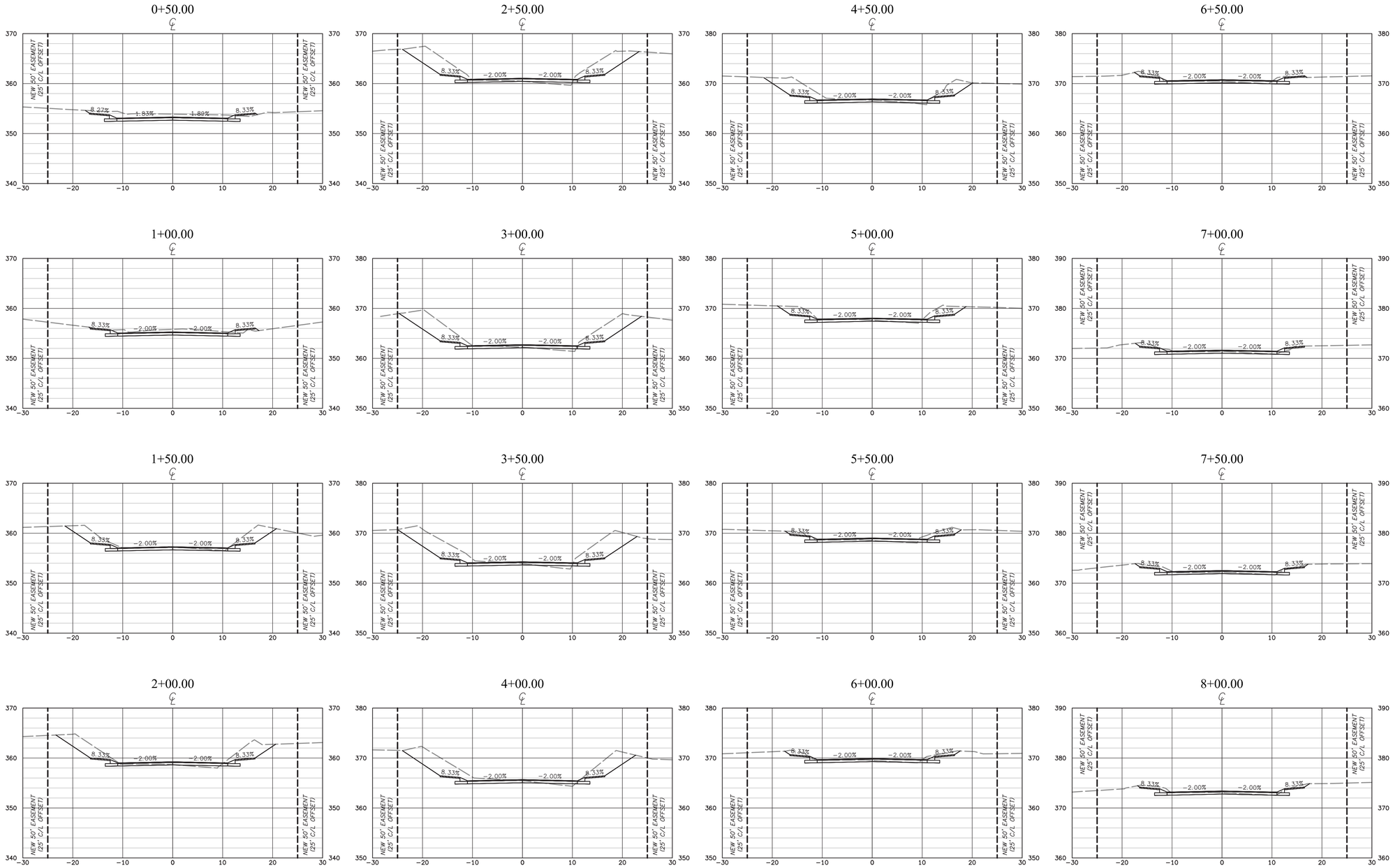


CROSS SECTION NOTES:

1. TIE-BACK SLOPES SHOWN HEREON SHOW THE MAXIMUM ALLOWABLE SLOPE OF 1.5:1.0 UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL TIE-BACK SLOPES AS GRADUAL AND UNIFORM AS THE RIGHT-OF-WAY ALLOWS.
2. ALL SLOPES STEEPER THAN 3.0:1.0 SHALL BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING.

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SOUTH CAROLINA PROFESSIONAL ENGINEER NO.32019 ROBERT KYLE TITUS

7/8/16

| REV # | DATE | DESCRIPTION |
|---|---|---|

# Ardis Road

## Cross Sections

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|---|---|
| DRAWN BY: | MAB |
| CHECKED BY: | --- |
| APPROVED BY: | --- |
| DATE: | JUNE 3, 2016 |
| SCALE: | 1" = 10' |
| JOB No. | 2015-0457 |
| DRAWING No. | 10 |

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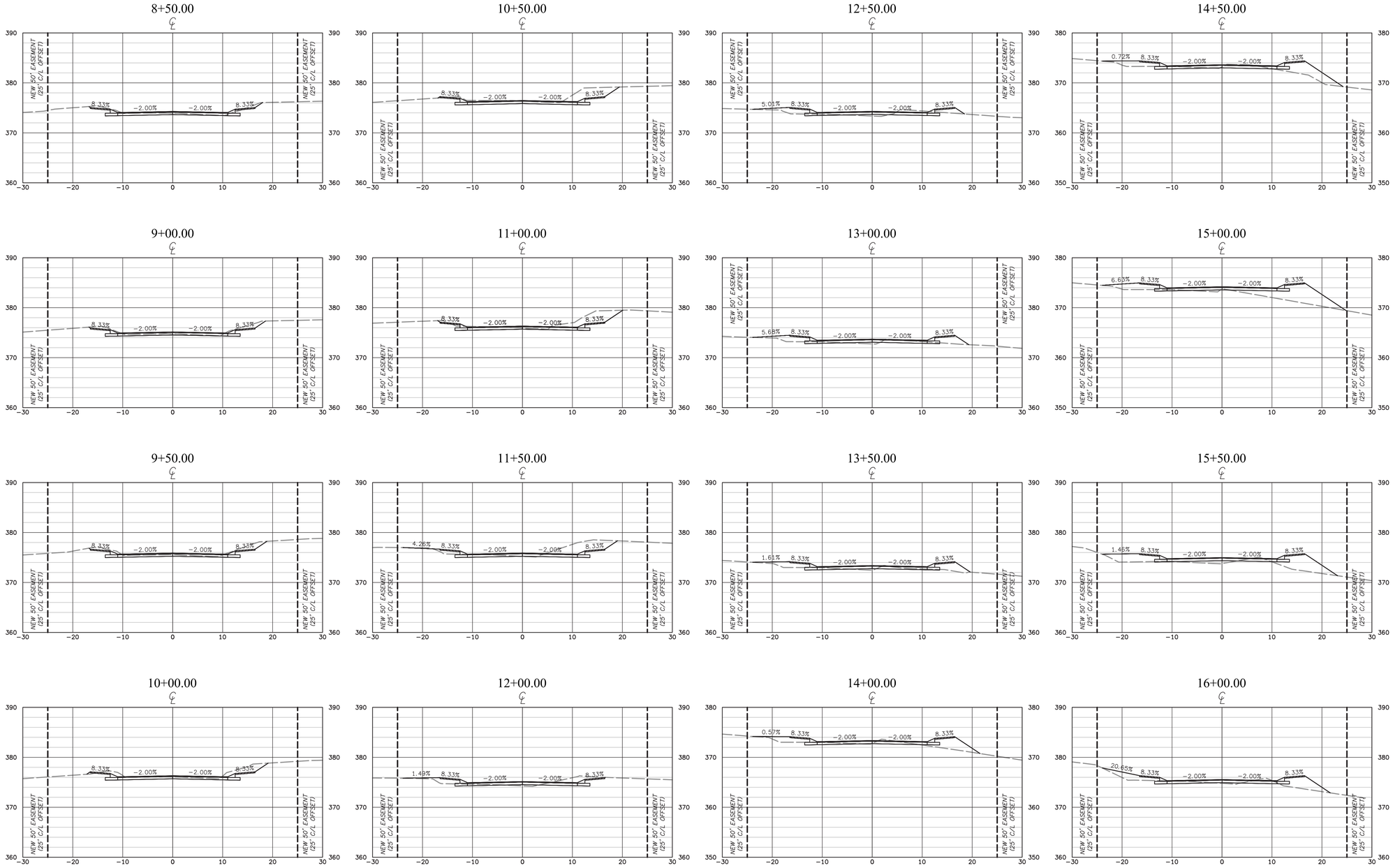


CROSS SECTION NOTES:

1. TIE-BACK SLOPES SHOWN HEREON SHOW THE MAXIMUM ALLOWABLE SLOPE OF 1.5:1.0 UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL TIE-BACK SLOPES AS GRADUAL AND UNIFORM AS THE RIGHT-OF-WAY ALLOWS.
2. ALL SLOPES STEEPER THAN 3.0:1.0 SHALL BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO HYDROSEEDING.

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POST OFFICE BOX 1046, AUGUSTA, GEORGIA 30903
TELEPHONE 706-722-1588
FACSIMILE 706-722-8379
mail@cranstonengineering.com


SOUTH CAROLINA Cranston Engineering Group, P.C. NO. C00575 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER NO.32019 ROBERT KYLE TITUS
7/8/16

| REV # | DATE | DESCRIPTION |
|---|---|---|

Ardis Road

Cross Sections

| | |
|---|---|
| DRAWN BY: | MAB |
| CHECKED BY: | --- |
| APPROVED BY: | --- |
| DATE: | JUNE 3, 2016 |
| SCALE: | 1" = 10' |
| JOB No. | 2015-0457 |
| DRAWING No. | 11 |

G:\AA-ACTIVE JOB FILES\2015\2015-0457 - ARDIS ROAD ROADWAY IMPROVEMENTS\AC-DRAWINGS\CIVIL\2015-0457_XSEC.DWG 7/8/2016 2:24 PM

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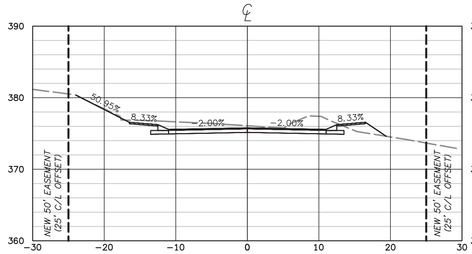


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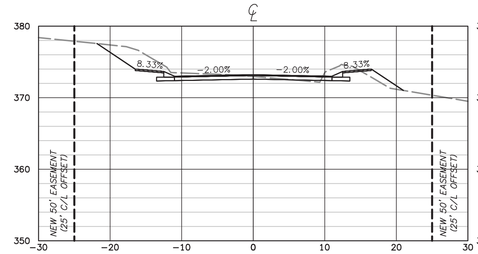


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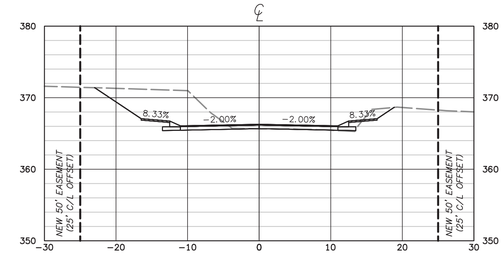


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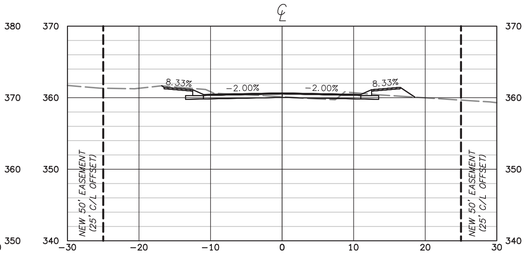


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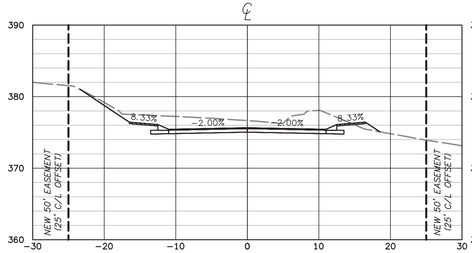


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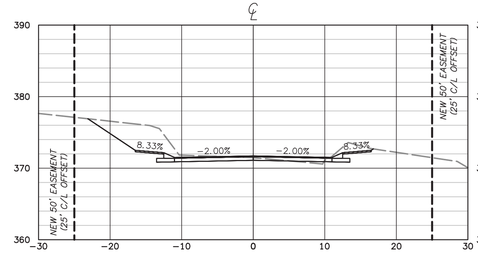


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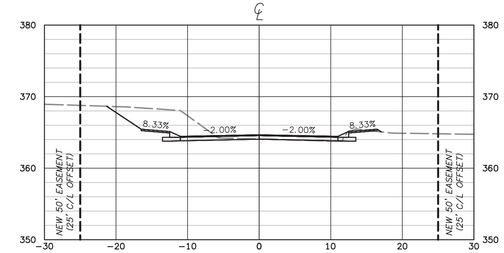


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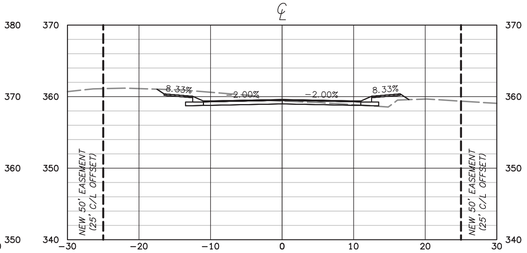


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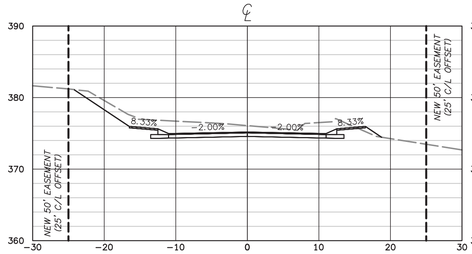


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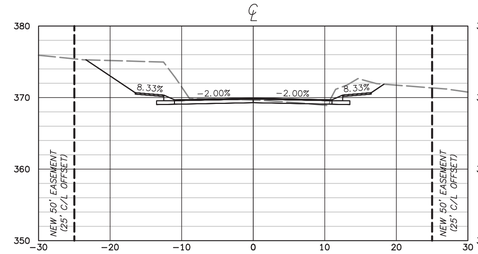


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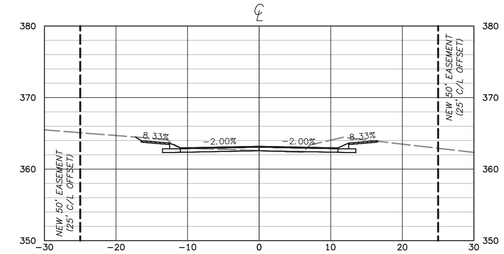


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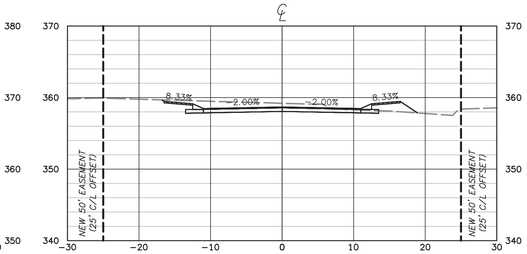


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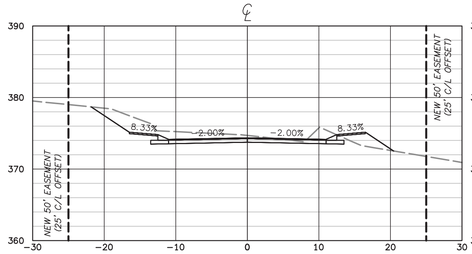


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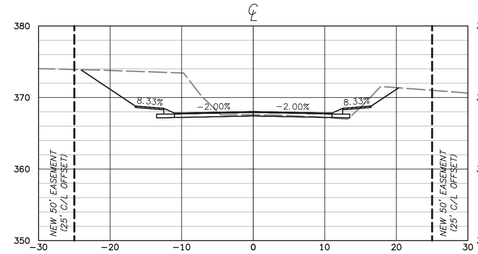


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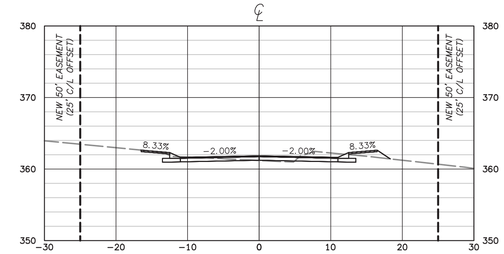


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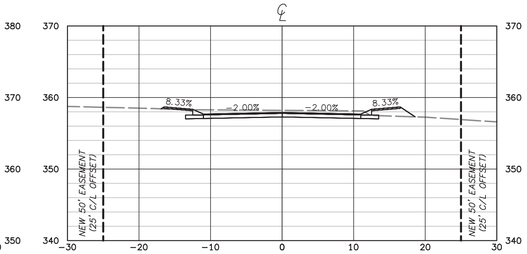


CROSS SECTION NOTES:

1. TIE-BACK SLOPES SHOWN HEREON SHOW THE MAXIMUM ALLOWABLE SLOPE OF 1.5:1.0 UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL TIE-BACK SLOPES AS GRADUAL AND UNIFORM AS THE RIGHT-OF-WAY ALLOWS.
2. ALL SLOPES STEEPER THAN 3.0:1.0 SHALL BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN addition TO HYDROSEEDING.

South Carolina 811 Call 811 Before You Dig


PREPARED BY
Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS
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SOUTH CAROLINA PROFESSIONAL ENGINEER NO.32019 ROBERT KYLE TITUS

7/8/16

| REV # | DATE | DESCRIPTION |
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Ardis Road

Cross Sections

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| DRAWN BY: | MAB |
| CHECKED BY: | --- |
| APPROVED BY: | --- |
| DATE: | JUNE 3, 2016 |
| SCALE: | 1" = 10' |
| JOB No. | 2015-0457 |
| DRAWING No. | 12 |

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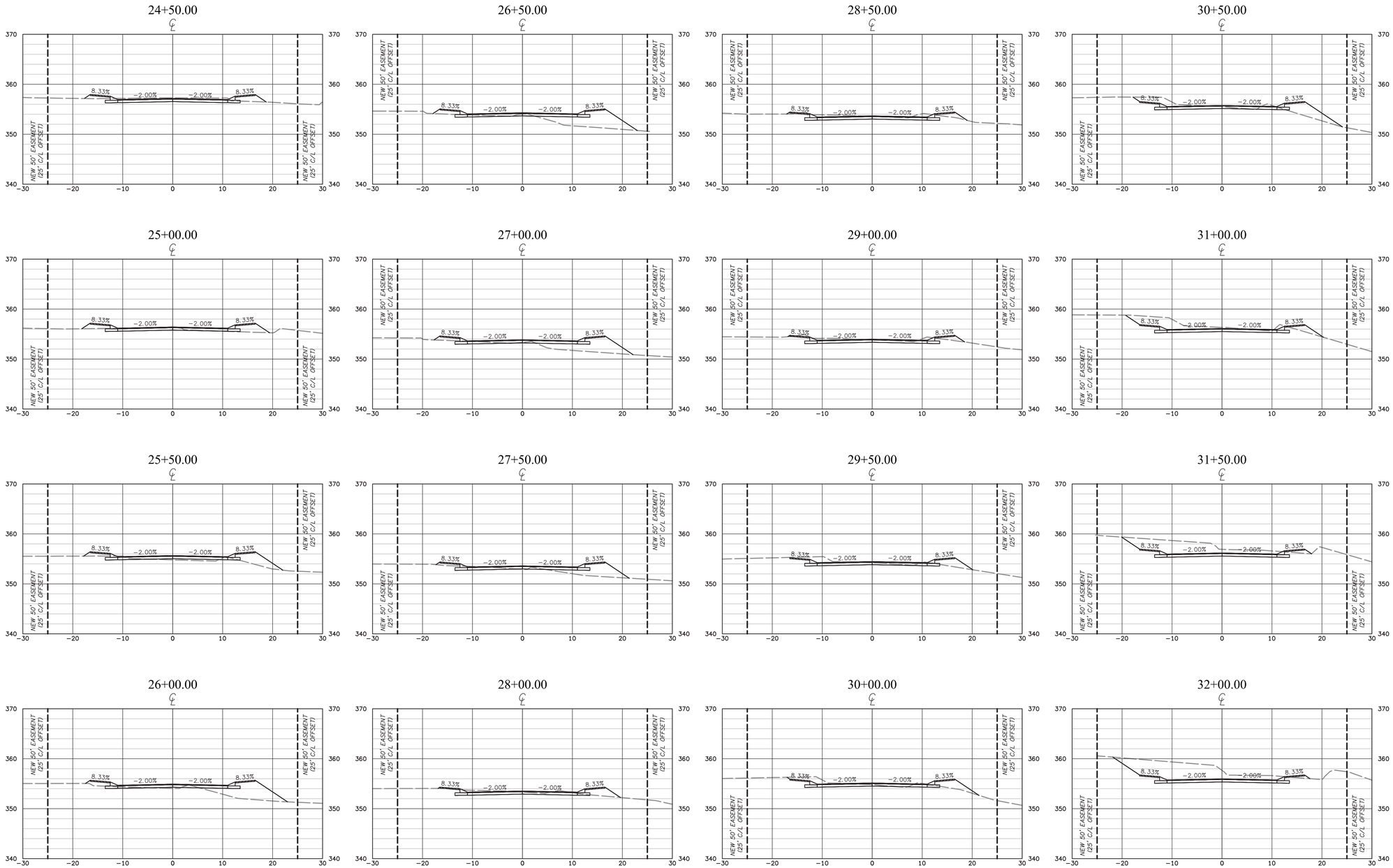


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# Ardis Road

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| DATE: | JUNE 3, 2016 |
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| JOB No. | 2015-0457 |
| DRAWING No. | 13 |

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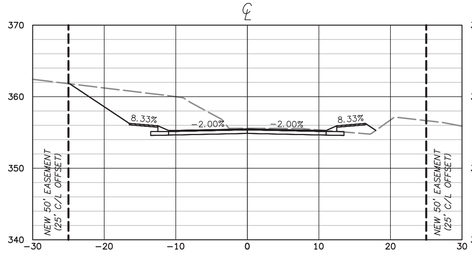


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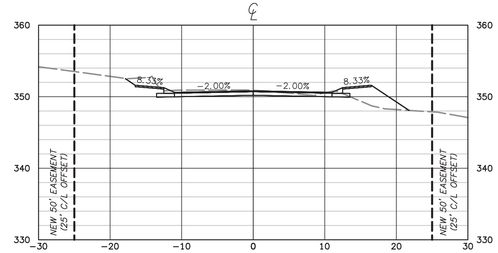


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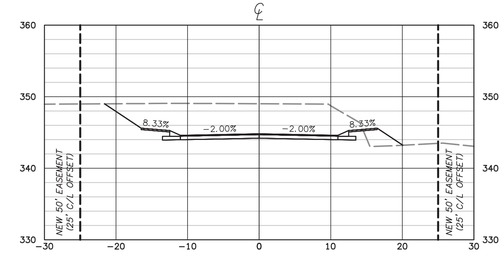


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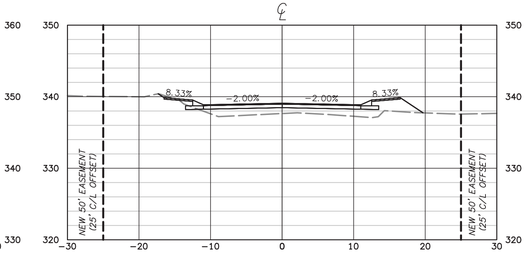


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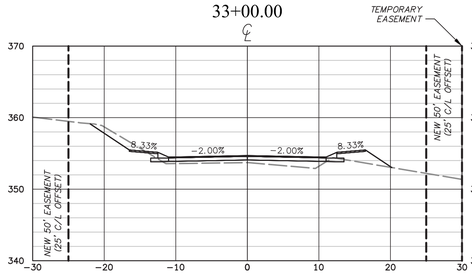


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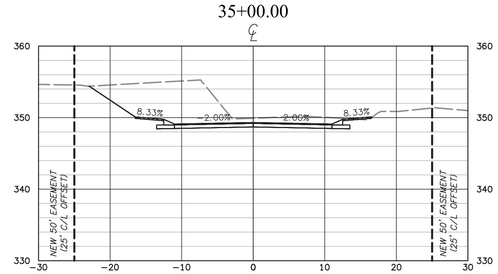


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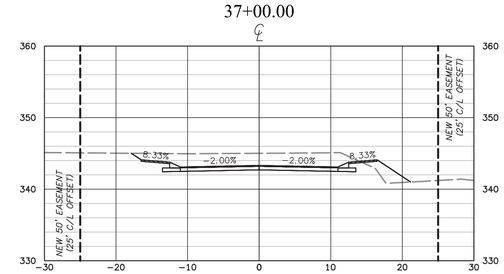


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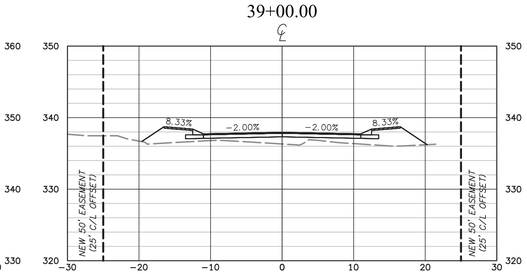


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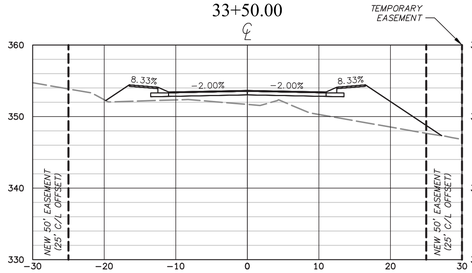


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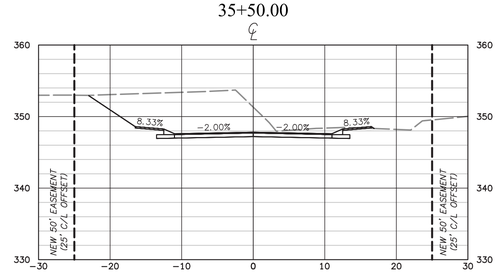


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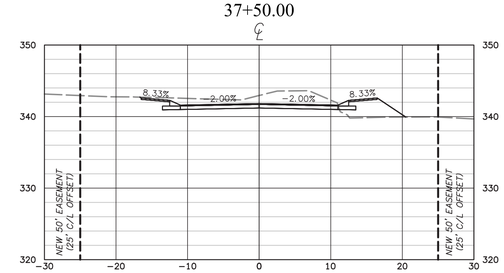


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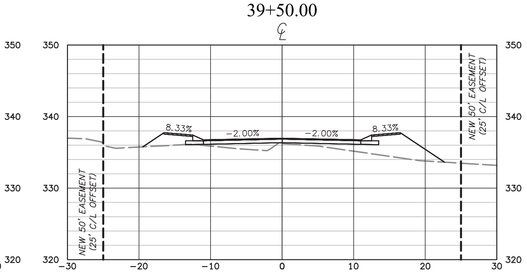


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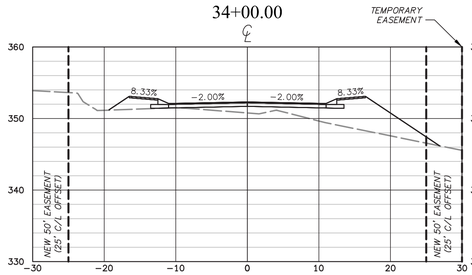


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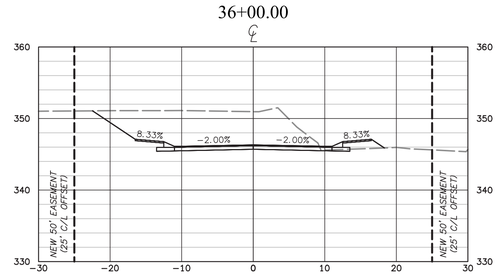


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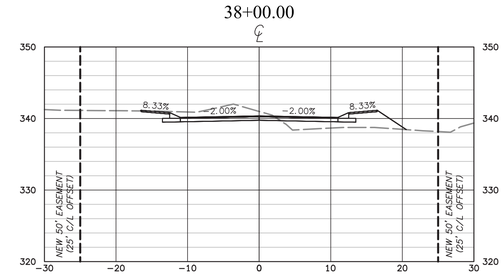


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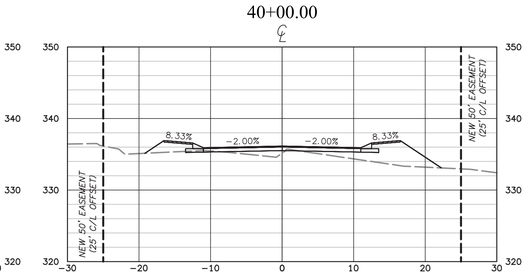


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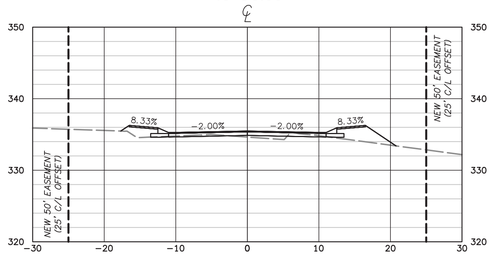


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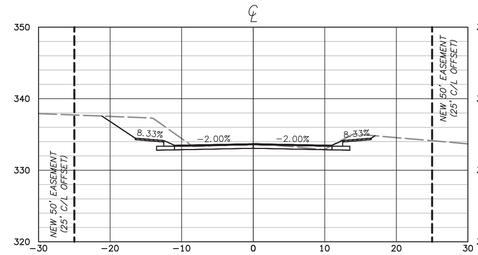


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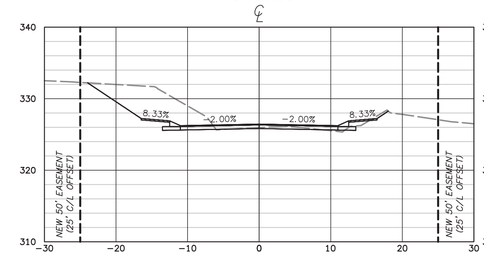


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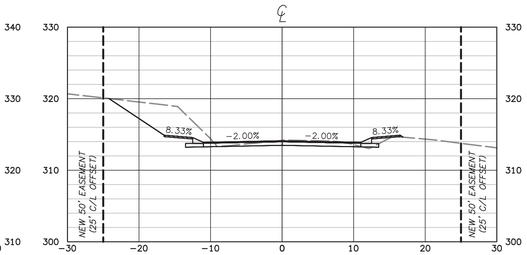


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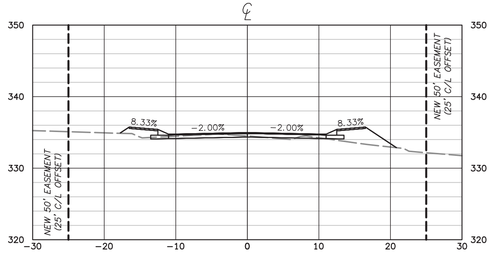


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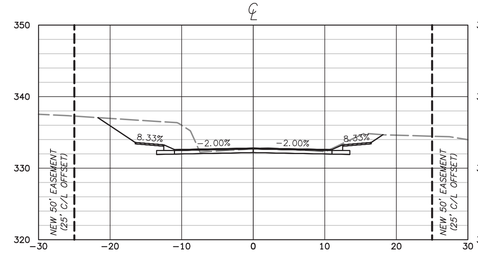


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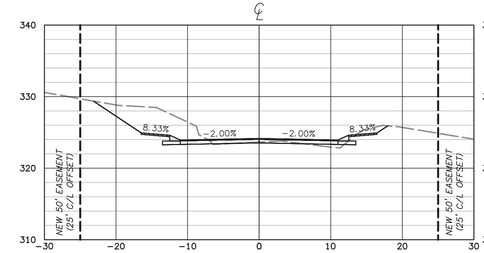


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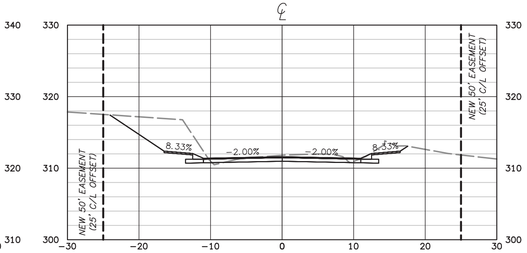


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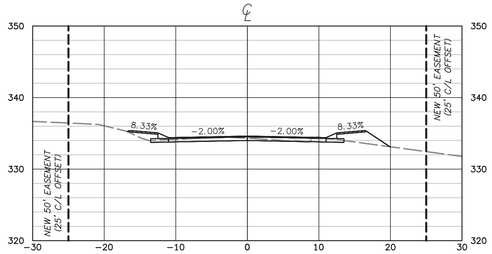


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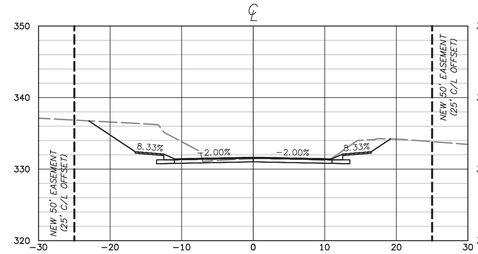


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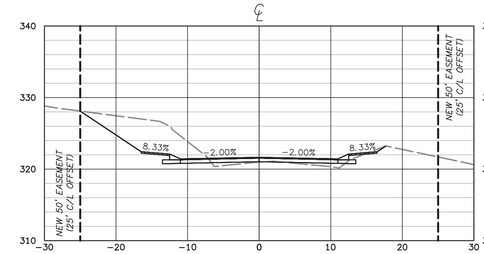


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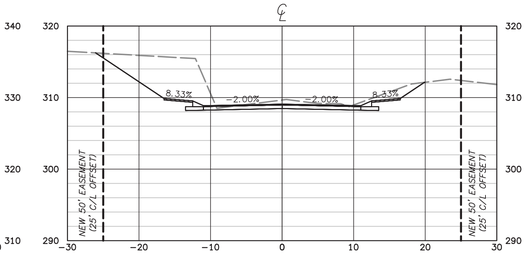


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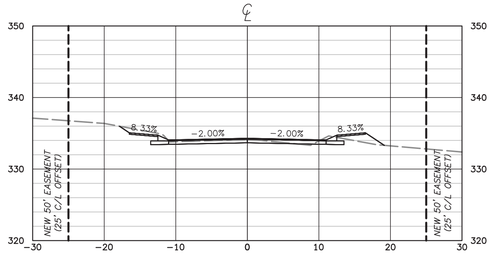


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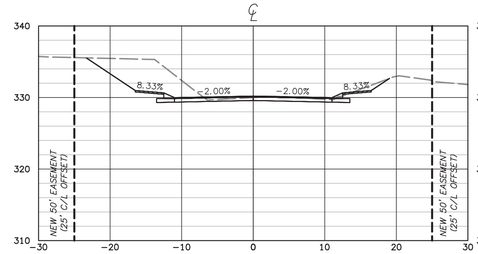


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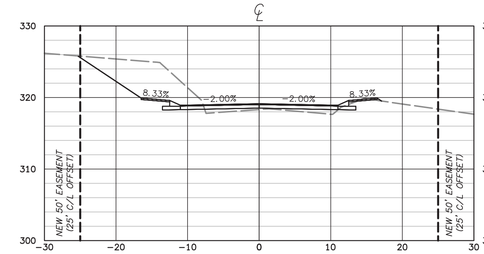


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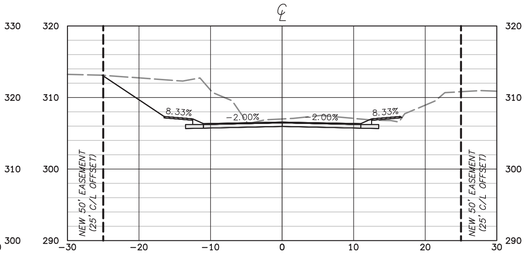


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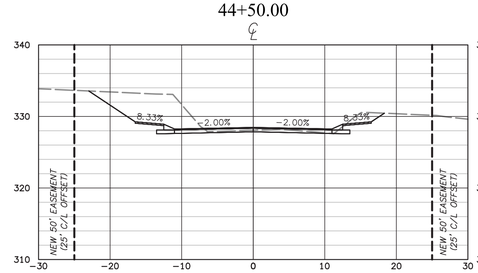


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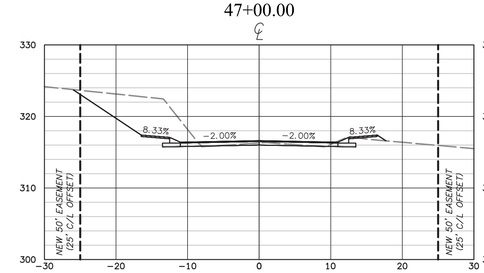


CROSS SECTION NOTES:

1. TIE-BACK SLOPES SHOWN HEREON SHOW THE MAXIMUM ALLOWABLE SLOPE OF 1.5:1.0 UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL TIE-BACK SLOPES AS GRADUAL AND UNIFORM AS THE RIGHT-OF-WAY ALLOWS.
2. ALL SLOPES STEEPER THAN 3.0:1.0 SHALL BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN addition TO HYDROSEEDING.

South Carolina 811 Call 811 Before You Dig


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SOUTH CAROLINA Cranston Engineering Group, P.C. NO. C00575 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER NO.32019 ROBERT KYLE TITUS

7/8/16

| REV # | DATE | DESCRIPTION |
|---|---|---|
| | | |

Ardis Road

Cross Sections

| | |
|---|---|
| DRAWN BY: | MAB |
| CHECKED BY: | --- |
| APPROVED BY: | --- |
| DATE: | JUNE 3, 2016 |
| SCALE: | 1" = 10' |
| JOB No. | 2015-0457 |
| DRAWING No. | 15 |

G:\AA-ACTIVE JOB FILES\2015\2015-0457 - ARDIS ROAD ROADWAY IMPROVEMENTS\AC-DRAWINGS\CIVIL\2015-0457_XSEC.DWG 7/8/2016 2:24 PM