



VICINITY MAP (NOT TO SCALE)

THERE ARE NO SURVEYOR OBSERVED ENCROACHMENTS

FLOOD INFORMATION

This property is in Zone X of the Flood insurance rate map, Community Panel No. 3720108700J, effective date JUNE 2 2006., and is not in a special flood hazard area.

LEGEND

- GV GAS VALVE
- BOLLARD
- WM WATER METER
- WV WATER VALVE
- FHY FIRE HYDRANT
- YL YARD LIGHT
- UP UTILITY POLE
- TELEPHONE PEDESTAL
- PT POWER TRANSFORMER
- SPRINKLER CONTROL VALVE
- CLEAN OUT
- SM SANITARY SEWER MANHOLE
- SD STORM DRAIN MANHOLE
- SB STORM DRAIN CATCH BASIN/INLET.
- SS SANITARY SEWER LINE
- UW UNDERGROUND WATER LINE
- SL STORM DRAIN LINE
- FENCE LINE
- OH OVER HEAD UTILITY
- UW UNDERGROUND UTILITY
- (S 00°00'00" E 00.00') RECORD BEARING
- FOUND PROPERTY CORNER
- SET PROPERTY CORNER
- CALCULATED POINT
- SIGN
- MONITORING WELL
- DROP INLET

ZONING INFORMATION (NOT PROVIDED)

RECORDED SETBACKS / RESTRICTIONS (NOT PROVIDED)

EXCEPTIONS SCHEDULE B - SECTION II

- Any defect, lien, encumbrance, adverse claim, or other matter that appears for the first time in the Public Records or is created, attaches, or is disclosed between the Commitment Date and the date on which all of the Schedule B, Part I - Requirements are met. Affect this tract. Not a survey matter.
- STANDARD EXCEPTIONS:
 - Rights or claims of parties in possession not shown by the public records. Surveyor is unaware of any claims.
 - Encroachments, overlaps, boundary line disputes or other matters which would be disclosed by an accurate survey and inspection of the premises. Do not affect this tract.
 - Easements, or claims of easements, not shown by the public records. Do not affect this tract.
 - Any lien, or right to a lien, for services, labor, or material hereto or hereafter furnished, imposed by law and not shown by the public records. Affect this tract. Not a survey matter.
 - Any titles or rights asserted by anyone including but not limited to, persons, corporations, governments or other entities, to tide lands, or lands comprising the shores or bottoms of navigable rivers, lakes, bays, oceans or gulf, or lands beyond the line of the harbor or bulkhead lines as established or changed by the United States Government or water rights, if any. Do not affect this tract.
 - Taxes or special assessments which are not shown as existing liens by the public records. Affect this tract. Not a survey matter.
- SPECIAL EXCEPTIONS:
 - Taxes for the year 2017 and subsequent years, which are not yet due and payable. Affect this tract. Not a survey matter.
- Rights of tenants in possession under unrecorded leases. Surveyor is unaware of any unrecorded leases.
- Any inaccuracy in the area, square footage or acreage of the Land or attached plat, if any. The Company does not insure the area, square footage or acreage of the Land. Does not affect this tract.
- Rights of the public, county, state or municipality in and to that portion of the land taken or used for road purposes. Does not affect this tract.
- Any trust, right, interest or claim that may exist, arise or be asserted against the Title under or pursuant to the Perishable Agricultural Commodities Act of 1930, as amended, 7 U.S.C. §499a, et seq., or any similar state or federal law. Surveyor is unaware of any right, interest or claim.
- Any trust, right, interest or claim that may exist, arise, or be asserted against the Title under or pursuant to the Packers and Stockyard Act of 1921, as amended, 7 U.S.C. §181, et seq., or any similar state or federal law. Surveyor is unaware of any right, interest or claim.
- Minerals of whatsoever kind, subsurface and surface substances, including but not limited to coal, lignite, oil, gas, sand and gravel, in, on, under and that may be produced from the Land, together with all rights, privileges, and immunities relating thereto, whether or not appearing in the Public Records or listed in Schedule B. The Company makes no representation as to the present ownership of any such interests. There may be leases, grants, exceptions or reservations of interests that are not listed. Surveyor is unaware of any mineral rights.
- As to Tract I and Tract II: Easements, setback lines and any other matters shown or noted on plat entitled, "Briarwood Golf Club Inc." recorded in April 7, 2006 in Map Cabinet 34, Page 488, Brunswick County Registry, Affect this tract.
- Intentionally deleted.
- As to Tract I (Parcel III, only): Reservation(s), non-exclusive right-of-way and easement(s) for ingress, egress, regress and the extension of utility services over, within, along and upon Parcel III as further described in Deed Book 2367, Page 961. Affect this tract.

Contractor shall check and verify all dimensions before beginning construction and coordinate any corrections or revisions with the owner, designer, Architect, Surveyor, and or Engineer (if required).

Pittman Professional Land Surveying assumes NO Liability for any errors once construction begins.



TITLE INFORMATION:

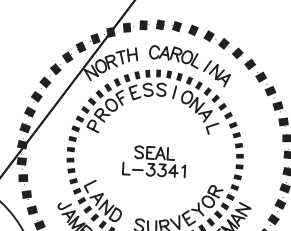
The title description and schedule B II items hereon are from Stewart Title Guaranty Company, Commitment number: 1700070772. Having an effective date of May 24, 2017.

TITLE DESCRIPTION

All that certain piece of parcel of land situate lying and being in the County of Brunswick and State of North Carolina and being more particularly described as follows:

Beginning at a point at the intersection of the the southern right of way of Brierwood Road and the eastern right of way of NC 179, also known as Village Road; thence with the right of way of Brierwood Road S71°38'48"E a distance of 93.78' to a point in a traffic island on Heron Court also a corner with Briarwood Village HOA Inc.; thence with said line S41°12'49"W a distance of 160.08'; thence S12°43'08"W a distance of 85.98'; thence S80°46'19"E a distance of 482.58' to a point in the line of BLUM Investment Group Golf LLC; thence with said line S44°15'42"E a distance of 132.31'; thence S43°29'55"E a distance of 12.47' to a point in the line of Briarwood Golf Club LLC; thence with said line S48°00'25"W a distance of 360.50'; thence S80°37'13"W a distance of 181.55'; thence S85°16'31"W a distance of 24.78'; thence S24°28'55"W a distance of 48.49'; thence S53°37'00"W a distance of 35.56'; thence N82°13'52"W a distance of 37.34'; thence N82°14'58"W a distance of 37.98'; thence S64°28'22"W a distance of 38.95'; thence S60°43'31"W a distance of 48.14'; thence S26°19'44"W a distance of 44.42'; thence S06°36'27"E a distance of 48.83'; thence S22°20'43"E a distance of 25.41'; thence S36°52'38"E a distance of 35.31'; thence S63°49'26"E a distance of 34.44'; thence S24°36'21"E a distance of 48.14'; thence S11°39'08"E a distance of 32.22'; thence S24°28'22"W a distance of 38.26'; thence S14°00'56"E a distance of 34.02'; thence S14°00'56"E a distance of 1.71' to a point in the line of Independent Builders Development; thence with said line S89°01'12"W a distance of 146.11' to a point in the eastern right of way line of SR 1145, Village Point Road; thence with said right of way N22°05'40"W a distance of 100.38'; thence N20°46'04"W a distance of 109.14'; thence N08°48'15"W a distance of 74.47'; thence N00°05'05"W a distance of 77.06'; thence N07°30'12"E a distance of 75.45'; thence N16°45'24"E a distance of 74.59'; thence S43°29'55"E a distance of 12.47'; thence S85°16'31"W a distance of 24.78'; thence S24°28'22"W a distance of 38.26'; thence S53°37'10"W a distance of 35.56'; thence N82°13'52"W a distance of 37.34'; thence N82°14'58"W a distance of 37.98'; thence S64°28'22"W a distance of 38.95'; thence S60°43'31"W a distance of 48.14'; thence S26°19'44"W a distance of 44.42'; thence S06°36'27"E a distance of 48.83'; thence S22°20'43"E a distance of 25.41'; thence S36°52'38"E a distance of 35.31'; thence S63°49'26"E a distance of 34.44'; thence S24°36'21"E a distance of 48.14'; thence S11°39'08"E a distance of 32.22'; thence S24°28'22"W a distance of 38.26'; thence S14°00'56"E a distance of 34.02'; thence S14°00'56"E a distance of 1.71'; thence S22°05'40"E a distance of 3.62'; thence S20°14'05"E a distance of 50.48'; thence S72°05'20"E a distance of 12.46';

LINE	BEARING	DISTANCE
L1	N 08°48'15" W	74.47'
L2	N 00°05'05" W	77.06'
L3	N 07°30'12" E	75.45'
L4	N 16°45'24" E	74.59'
L5	S 43°29'55" E	12.47'
L6	S 85°16'31" W	24.78'
L7	S 24°28'22" W	38.26'
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L20	S 24°28'22" W	38.26'
L21	S 14°00'56" E	34.02'
L22	S 14°00'56" E	1.71'
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L24	S 20°14'05" E	50.48'
L25	S 72°05'20" E	12.46'



General Notes:

- Measurements on this map are in feet and decimals thereof.
- All set corners are #5 (5/8") Rebar unless otherwise noted.
- This is an above ground survey. Utilities are shown on this survey were marked above by a utility marking service, only aboveground visible evidence of utilities are shown.

References:

- As Shown.

No new lots or property lines established.

SURVEYORS CERTIFICATION

To (name of insured, if known), (name of lender, if known), Stewart Title Guaranty Company, (names of others as negotiated with the client).

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1-5, 8, 10, 11, 13, and 14 of Table A thereof. The fieldwork was completed on 6/12/17.

Date of Plat or Map:

"I, JAMES JETTER PITTMAN, certify that this plat was drawn under my supervision from an actual survey made under my supervision (Deed description recorded in Book ___ Page 488, etc.) (other). That the boundaries are clearly indicated as shown from information found in Book ___ Page 488. That the ratio of precision calculated is 1:10,000, that this plat was prepared in accordance with G.S. 47-30 as amended. Witness my original signature, registration number and seal this 12 day of June, A.D. 2017.

"I, JAMES JETTER PITTMAN, certify that this project was completed under my direct and responsible charge from an actual survey made under my supervision; that this ground survey was performed at the 95% percent confidence level to meet Federal Geographic Data Committee Standards; that this survey was performed to meet the requirements for a topographic / planimetric survey to the accuracy of Class C, and vertical accuracy when applicable to the Class C standard, and that the original data was obtained on 6/13/2017, that the survey was completed on 6/12/2017; that contours shown as (broken lines) may not meet the stated standard; and all coordinates are based on "NAD 83" and NAVD 88.

I further certify to the following:

X (A). That this survey is of an existing parcel or parcels of land and does not create a new street or change in an existing street.

James Jetter Pittman, PLS #L-3341

REVISION

No. DATE

PROJECT No: TOFS

DATE 6/12/17

SCALE 1"=80'

DES: JJP

DR: JJP

CKD:

PITTMAN professional land surveying

WWW.PITTMANLSSURVEY.COM

P.O. BOX 1512, FORT MILL, SC 29716 (803) 547-7969

ALTA/NSPS LAND TITLE SURVEY
19 TEN COTTAGE LLC
STEWART TITLE GUARANTY COMPANY

246 HERON COURT SW
SHALOTTE TOWNSHIP - BRUNSWICK COUNTY - NORTH CAROLINA

SHEET No.

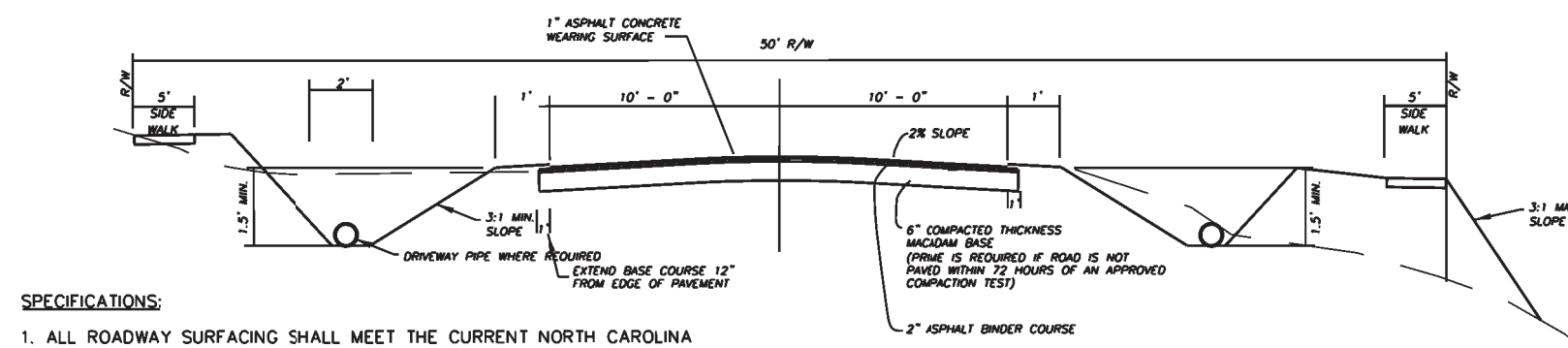
S1

DEVELOPMENT NOTES:

1. DEVELOPER: HERONS NEST HOA, INC.
148 BONNIE B LANE
SHALLOTTE, NC 28470
 2. UTILITY EASEMENTS:
FRONT ALONG ROAD R/W:N/A'
SIDE AND REAR: N/A'
 3. SETBACKS:
FRONT: 15'
SIDE: 8'
REAR: 20'
BETWEEN BUILDINGS: 16'
 4. SCHOOL DISTRICT: BRUNSWICK COUNTY
 5. UTILITY SERVICE:
WATER: TOWN OF SHALLOTTE
SEWER: TOWN OF SHALLOTTE
TELEPHONE: ATMC
NATURAL GAS: PIEDMONT NATURAL GAS
ELECTRIC: BRUNSWICK ELECTRIC
MEMBERSHIP COOPERATIVE
FIRE DISTRICT: SHALLOTTE
CABLE: TV: ATMC
 6. TAX MAP NO.: 2132C04603
 7. DEEDS RECORDED: DB 03217 PG 0460
 8. TOTAL ACREAGE: 9.49 AC.
 9. NUMBER OF LOTS: 35
 10. MAX. NUMBER LOTS ALLOWED BY ZONING: 132
 11. LOT SIZE RANGE: 0.12 AC - 0.75 AC.
 12. LOT DENSITY: 3.6 LOT PER AC.
 13. OPEN SPACE: 2.37 AC.
 14. ZONING: MF-14
 15. EXISTING USE: VACCANT
 16. PROPOSED USE: SINGLE FAMILY RES.
- PSDE=PERMANENT STORM DRAIN EASEMENT FOUND

GENERAL NOTES:

1. ALL AREAS COMPUTED BY COORDINATES.
2. DISTANCES SHOWN ARE HORIZONTAL SURFACE.
3. DISTANCES ARE NOT REDUCED TO GRID.
4. 8 FOOT UTILITY & STORM WATER EASEMENTS ALONG BOTH SIDES OF ALL SIDE LOT LINES IS RESERVED UNLESS OTHERWISE NOTED.
5. WETLANDS DETERMINATION SHOWS NO WETLANDS ON SITE.
6. ALL FLOOD HAZARD DETERMINATIONS MUST BE MADE FROM FEMA FLOOD MAPS.
7. ALL LOTS & PARCELS ON THIS PLAT ARE SUBJECT TO ZONING BY LOCAL, COUNTY OR MUNICIPALITY.
8. 1/2" IRON PIPE TO BE SET AT CORNERS.
9. ALL STREETS, COMMON ELEMENTS, EASEMENTS, INCLUDING STORMWATER FACILITIES ARE PRIVATE AND MUST BE DEDICATED TO & MAINTAINED BY THE HOME OWNERS ASSOCIATION.
10. A HOME OWNERS ASSOCIATION SHALL BE FORMED PRIOR TO THE SALE OF LOTS AND MEMBERSHIP SHALL BE AUTOMATIC UPON PURCHASE OF ANY PROPERTY WITHIN THE DEVELOPMENT.
11. ANY AREA NOT PLATTED AS LOTS WILL BE DEDICATED TO AND MAINTAINED BY THE HOME OWNERS ASSOCIATION.
12. STREET RIGHT OF WAY WIDTHS AND NAMES ARE LABELED ON PLAT. 50 FOOT ROAD RIGHTS-OF-WAY.
13. ZONING FOR THIS SITE IS MF-14.
14. WATER AND SEWER TO BE PROVIDED BY TOWN OF SHALLOTTE.



- SPECIFICATIONS:
1. ALL ROADWAY SURFACING SHALL MEET THE CURRENT NORTH CAROLINA STATE HIGHWAY DEPARTMENT SPECIFICATIONS.
 2. ALL FILL TO HAVE 90% COMPACTION PER ASTM D698 STANDARD PROCTOR METHOD.
 3. THE INSTALLATION OF THE FINAL 1" ASPHALT SURFACE COURSE WITH TACT IS TO BE DELAYED UNTIL 18 MONTHS. DESIGN ENGINEER IS TO SUBMIT A CALIFORNIA BEARING USE OF THE COUNTY'S MINIMUM TYPICAL CROSS-SECTION OR THE DEVELOPMENT OF A GREATER ADEQUATE AGGREGATE BASE COURSE/PAVEMENT DESIGN.

LOCAL ROADWAY W/ DITCH
NO SCALE

Parcel 2132C04608
Briarwood Golf Club Inc
Deed Book 227 Page 45

Parcel 2132C04610
Brierwood Village HOA Inc
Deed Book 315 Page 542
Map Cab 15 Page 27

LINE	BEARING	DISTANCE
L1	N 08°48'15" W	74.47'
L2	N 00°05'05" W	77.06'
L3	N 07°30'12" E	75.45'
L4	N 16°45'24" E	74.59'
L5	S 43°29'55" E	12.47'
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L17	S 63°49'26" E	34.44'
L18	S 24°36'21" E	32.68'
L19	S 11°39'08" E	32.22'
L20	S 24°25'27" E	38.26'
L21	S 14°00'56" E	34.02'
L22	S 14°00'56" E	1.71'
L23	S 22°05'40" E	3.62'
L24	S 20°14'06" E	50.48'
L25	S 72°05'20" E	12.46'

VICINITY MAP



APPROVALS

PROJECT ENGR: CEW
DRAWN BY: ADB
CHECKED BY: CEW

REVIEW: _____
BID: _____

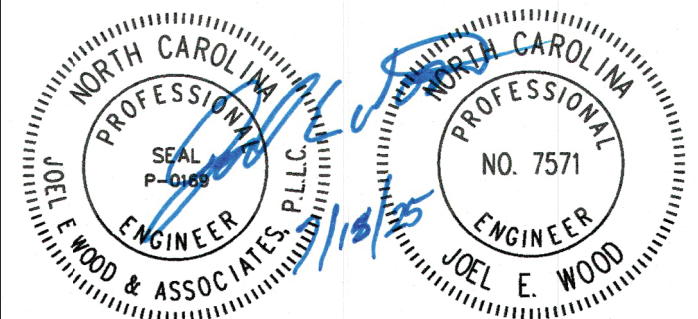
CONSTRUCTION: _____

PREPARED BY



Joel E. Wood & Associates
Planning / Engineering / Management
P.O. Box 296 Clover, S.C. 29710
Phone: 803-684-3390

SEALS



PROJECT

HERON'S NEST SUBDIVISION

SHALLOTTE, NORTH CAROLINA
PREPARED FOR
HERONS NEST HOA, INC.

SHEET TITLE

PRELIMINARY PLAT

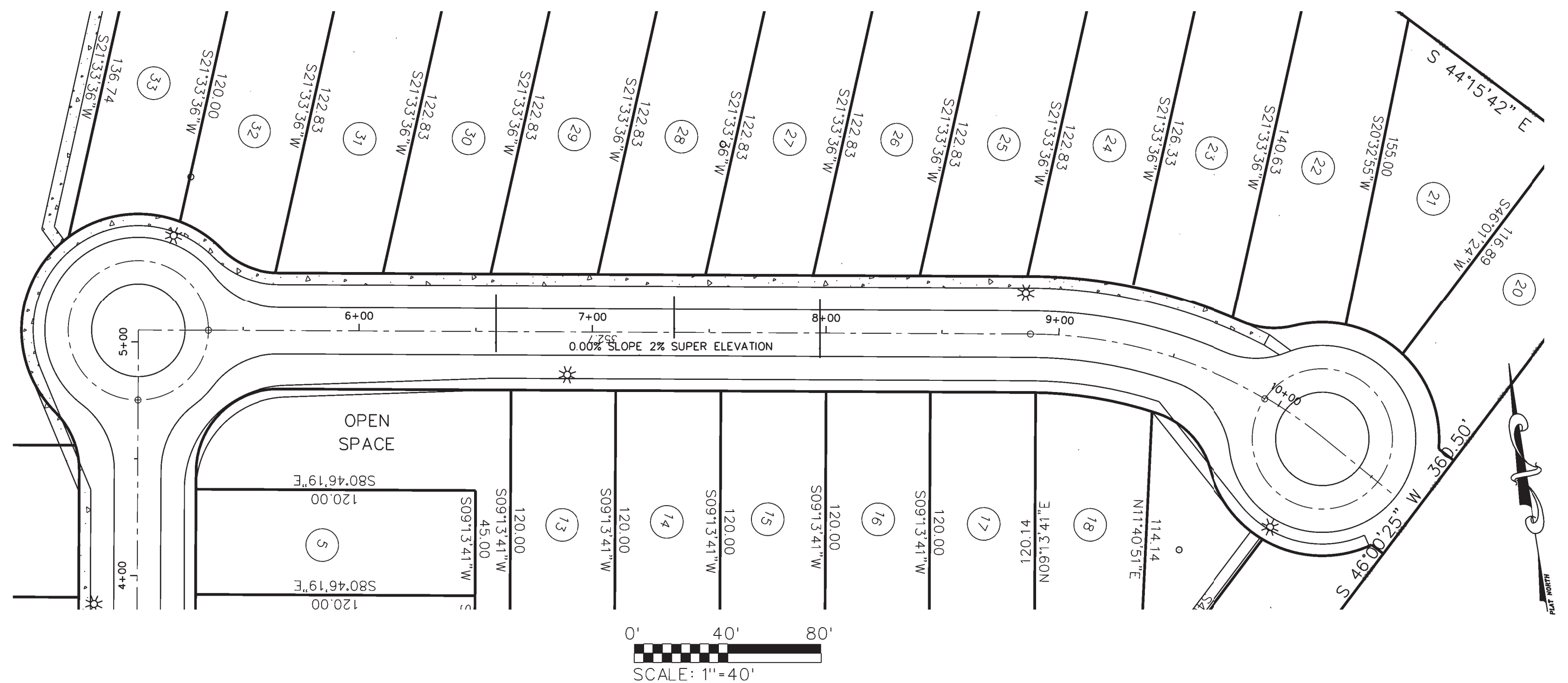
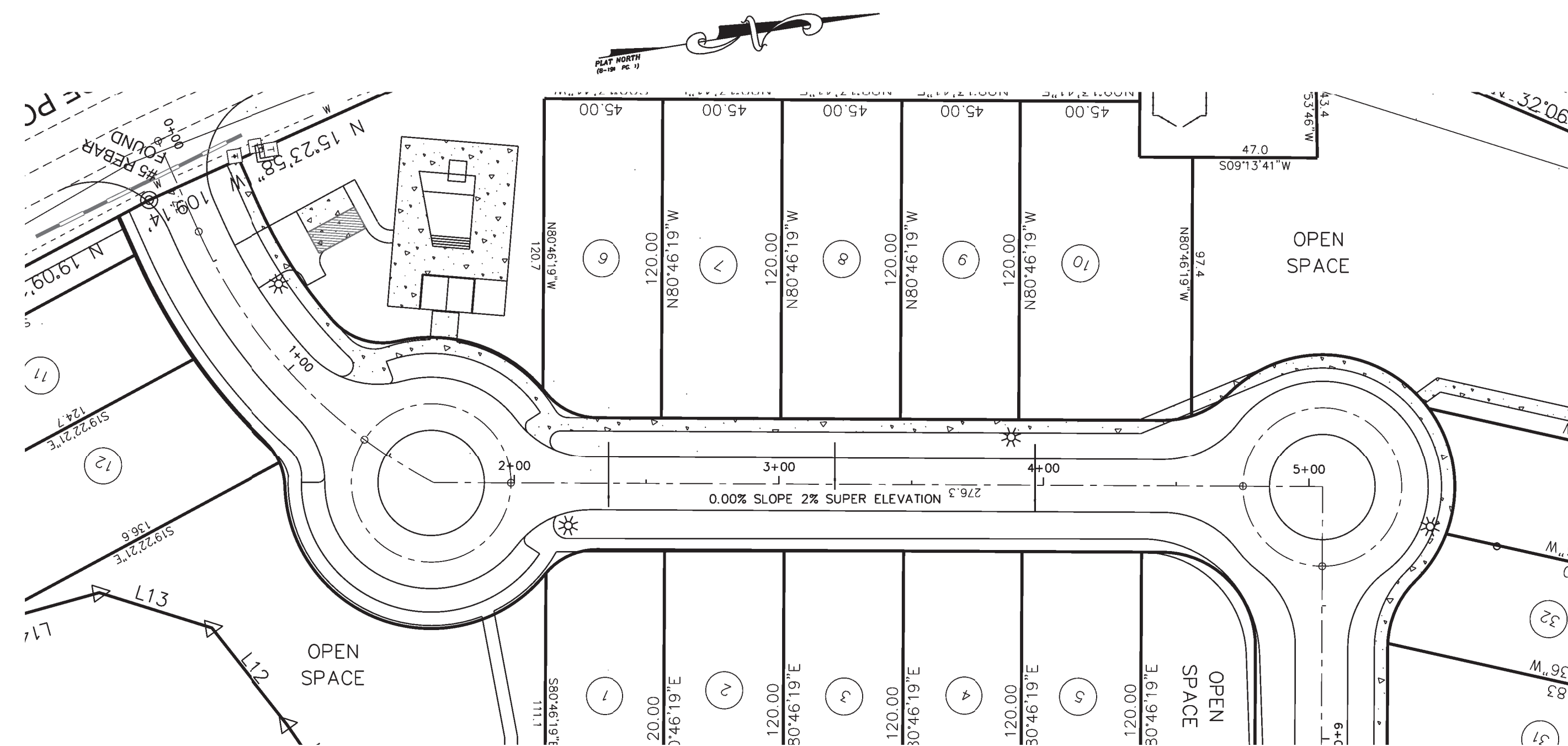
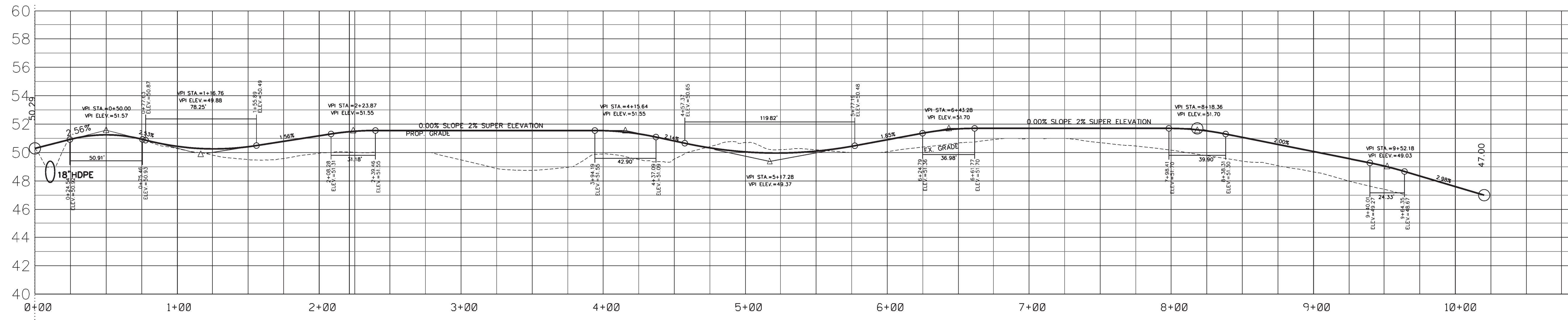
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2	9/14/17	NCDENR COMMENTS	ABW
3	10/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW
4	11/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW
5	7/18/25	OWNER/DEVELOPER NAME CHANGE	ABW



SCALE: 1" = 40'

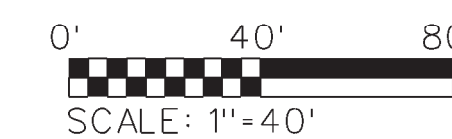
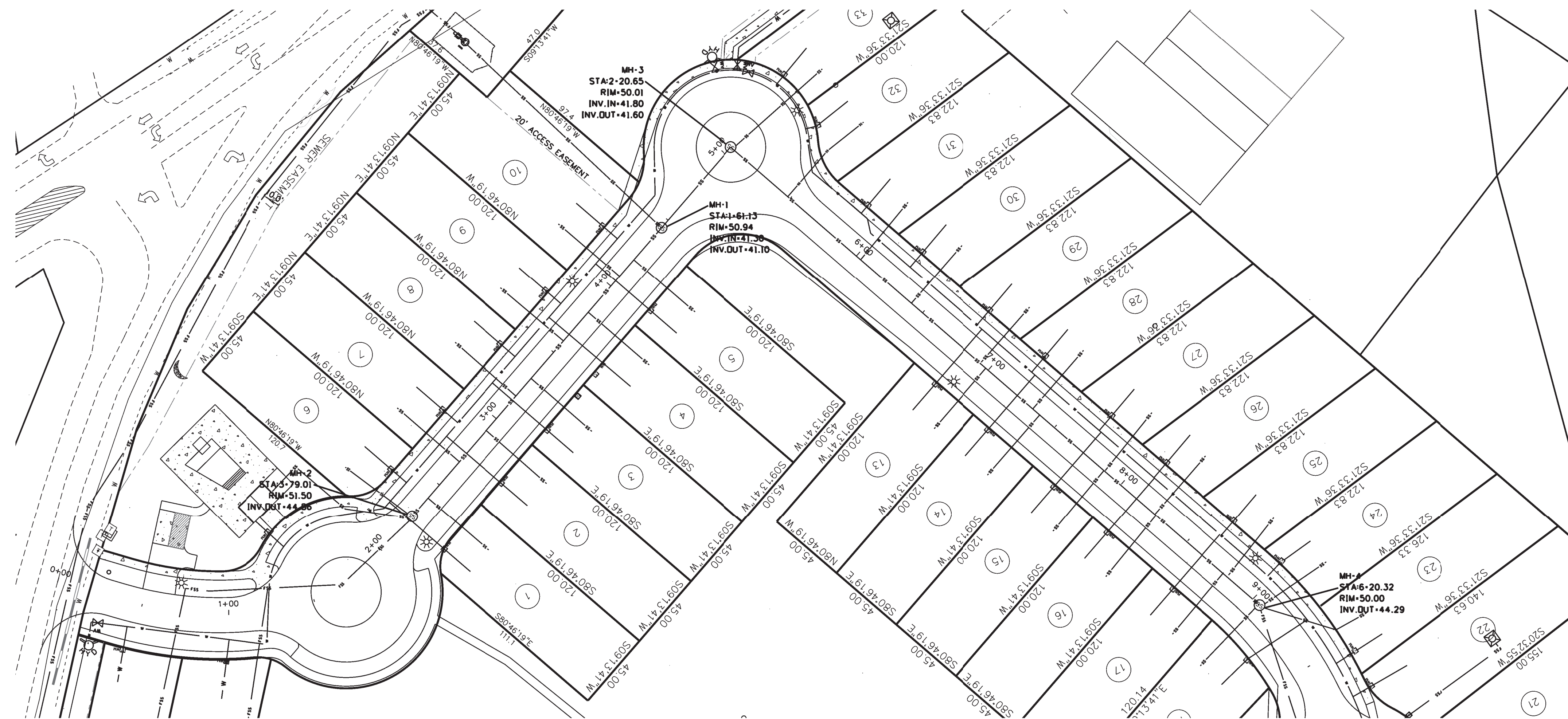
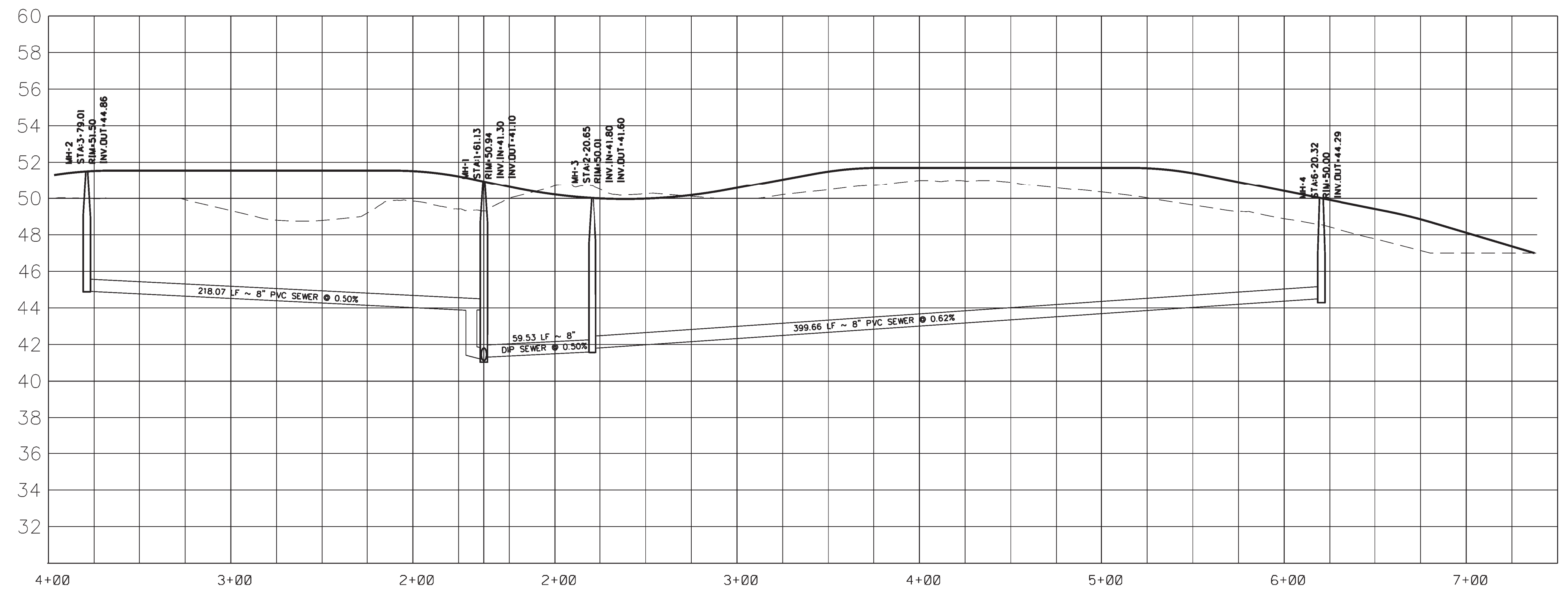
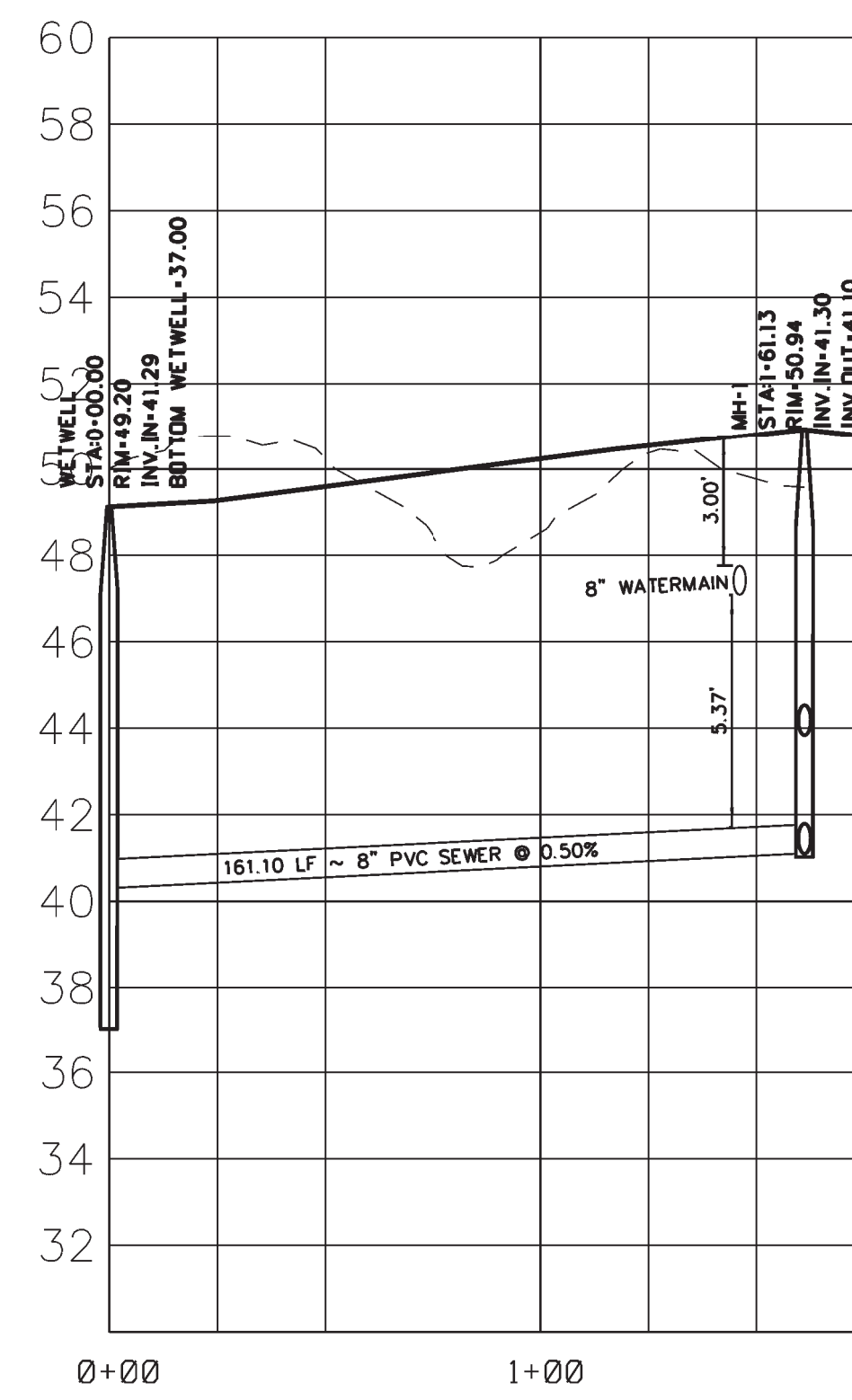
DATE: 06/12/2017


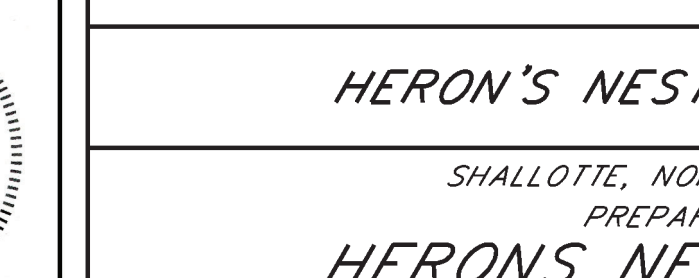
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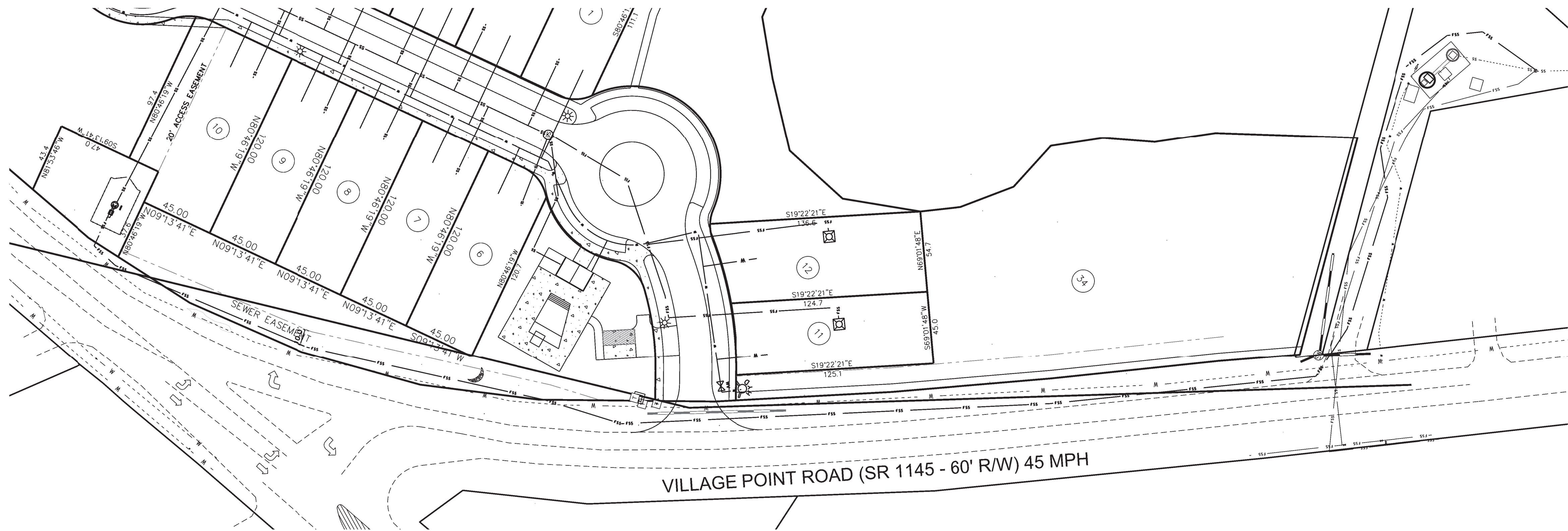
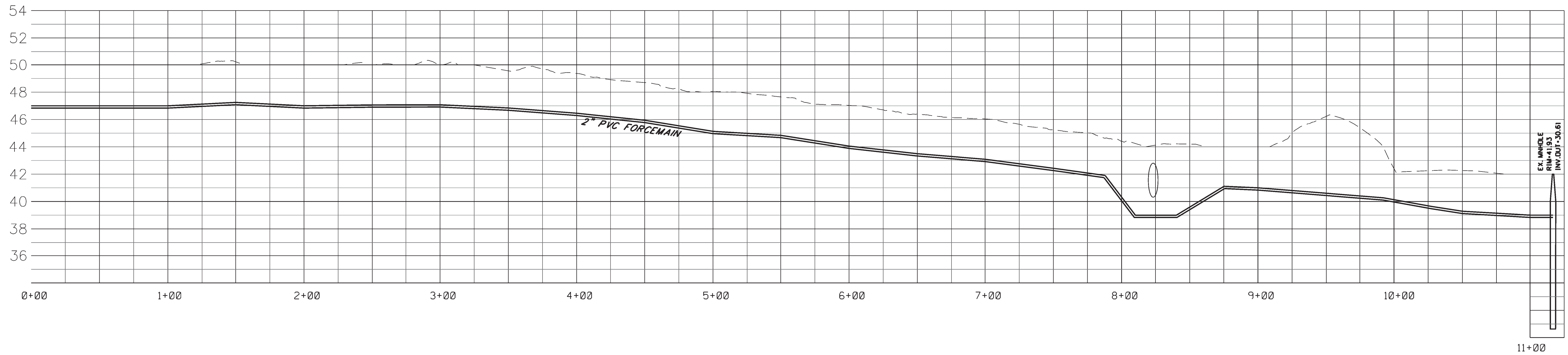
SHEET 4 OF 16




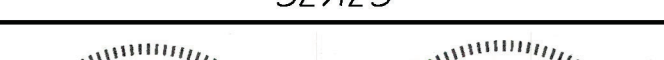
APPROVALS		PREPARED BY		SEALS		PROJECT		SHEET TITLE		NO. DATE REVISIONS		BY		SCALE: 1"=40'	
PROJECT ENGR: CEW		 Joel E. Wood & Associates Planning / Engineering / Management P.O. Box 296 Clover, S.C. 29710 Phone: 803-684-3390				HERON'S NEST SUBDIVISION SHALLOTTE, NORTH CAROLINA PREPARED FOR HERONS NEST HOA, INC.		ROADWAY PLAN & PROFILES		1	8/22/17	NCDENR COMMENTS	ABW	DATE: 06/12/2017	
DRAWN BY : ADB										2	9/14/17	NCDENR COMMENTS	ABW	JOB NO.: 170503	
CHECKED BY : CEW										3	10/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW	SHEET 5 of 16	
REVIEW: _____										4	11/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW		
BID: _____										5	7/18/25	OWNER/DEVELOPER NAME CHANGE	ABW		
CONSTRUCTION: _____															

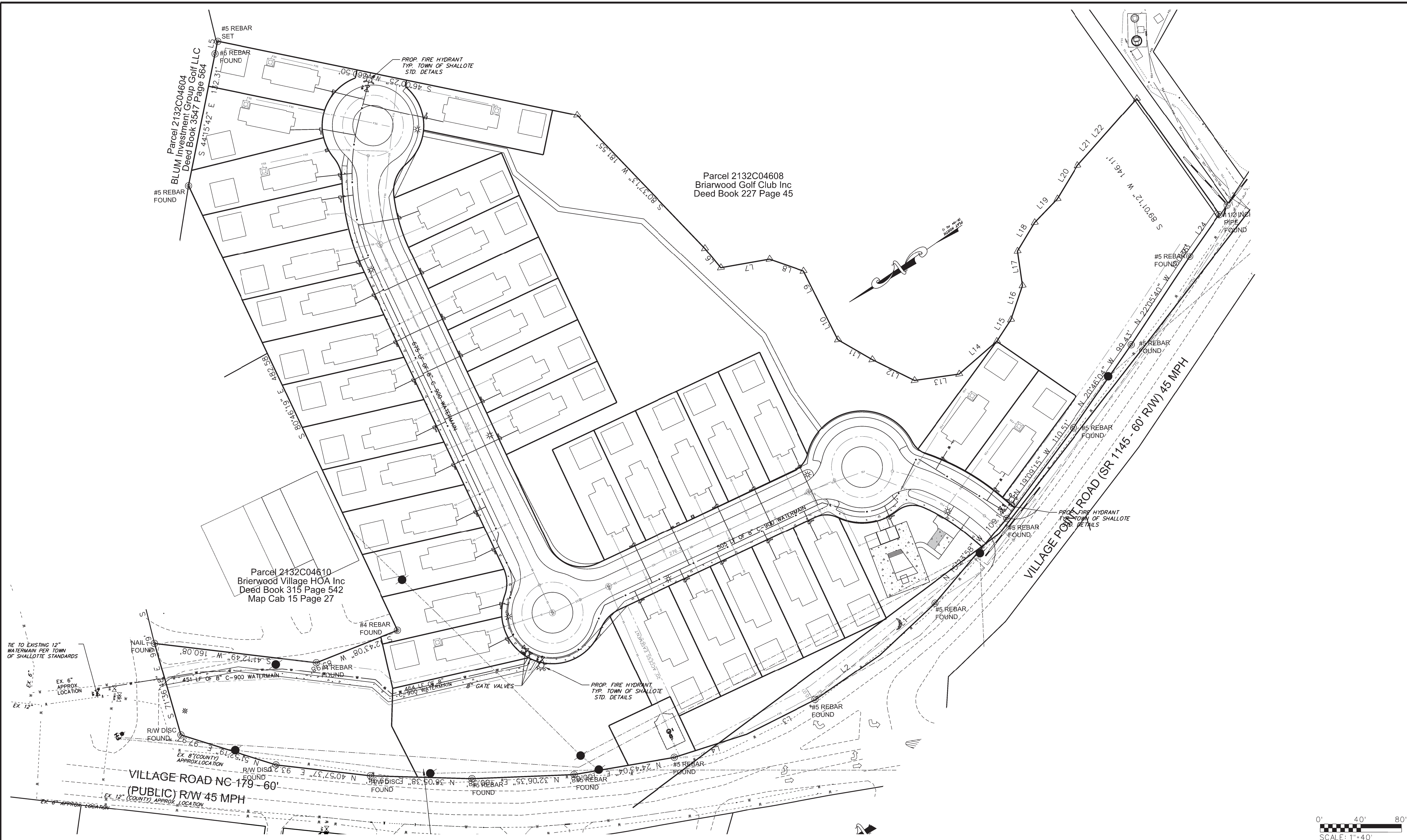


APPROVALS		PREPARED BY		SEALS		PROJECT		SHEET TITLE		NO. DATE REVISIONS BY		SCALE: 1"=40'		
PROJECT ENGR: CEW		<div></div> <div>Joel E. Wood & Associates Planning / Engineering / Management P.O. Box 296 Clover, S.C. 29710 Phone: 803-684-3390</div>		<div></div>		HERON'S NEST SUBDIVISION SHALLOTTE, NORTH CAROLINA PREPARED FOR HERONS NEST HOA, INC.		GRAVITY SEWER SYSTEM PLAN & PROFILES		1	8/22/17	NCDENR COMMENTS	ABW	DATE: 06/12/2017
DRAWN BY : ADB										2	9/14/17	NCDENR COMMENTS	ABW	
CHECKED BY : CEW										3	10/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW	JOB NO.: 170503
REVIEW: _____										4	11/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW	
CONSTRUCTION: _____										5	7/18/25	OWNER/DEVELOPER NAME CHANGE	ABW	SHEET 6 of 16

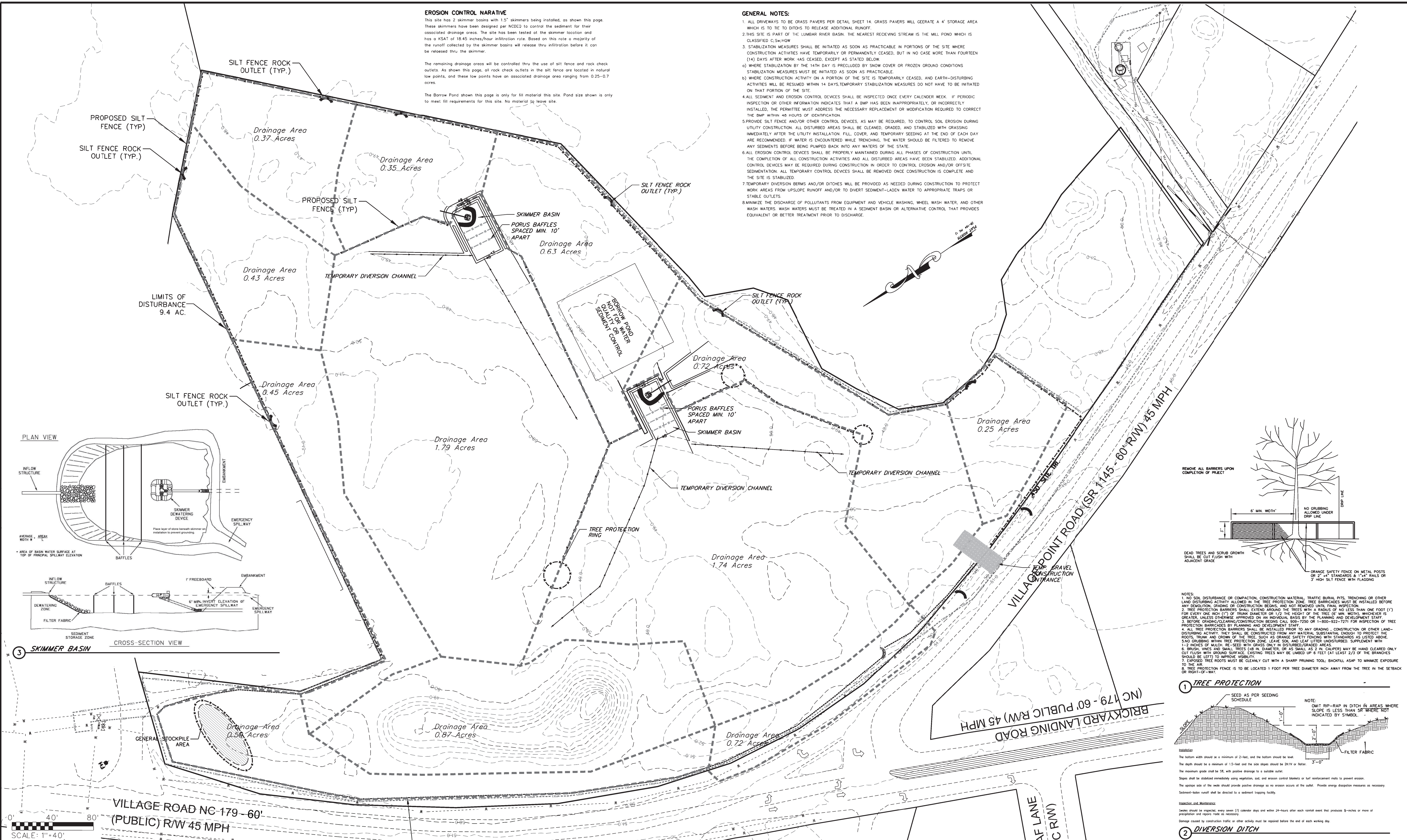


- LEGEND
- E/ZONE PUMP STATION OR EQUAL
 - PRESSURE SEWER SERVICE CONNECTION
 - WM WATER METER SERVICE CONNECTION
 - 1.25" SEWER SERVICE FORCEMAIN
 - 2" FORCEMAIN (TOWN)

APPROVALS		PREPARED BY		SEALS		PROJECT		SHEET TITLE		NO. DATE REVISIONS BY				SCALE: 1"=40'
PROJECT ENGR: CEW		 Joel E. Wood & Associates Planning / Engineering / Management P.O. Box 296 Clover, S.C. 29710 Phone: 803-684-3390				HERON'S NEST SUBDIVISION		PRESSURE SEWER SYSTEM PLAN & PROFILES		1	8/22/17	NCDENR COMMENTS	ABW	DATE: 06/12/2017
DRAWN BY: ADB						SHALLOTTE, NORTH CAROLINA PREPARED FOR HERONS NEST HOA, INC.				2	9/14/17	NCDENR COMMENTS	ABW	
CHECKED BY: CEW												3	10/30/17	NCDENR COMMENTS WATER QUALITY SHW
REVIEW: _____										4	11/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW	
BID: _____										5	7/18/25	OWNER/DEVELOPER NAME CHANGE	ABW	SHEET 7 OF 16
CONSTRUCTION: _____														



APPROVALS		PREPARED BY		SEALS		PROJECT		SHEET TITLE		NO. DATE REVISIONS BY		SCALE: 1" = 40'			
PROJECT ENGR: CEW		<div><div>W</div><div>Joel E. Wood & Associates Planning / Engineering / Management P.O. Box 296 Clover, S.C. 29710 Phone: 803-684-3390</div></div>		<div><div>PROFESSIONAL SEAL JOEL E. WOOD & ASSOCIATES, PLLC ENGINEER NO. 7571 11/13/17</div><div>PROFESSIONAL SEAL JOEL E. WOOD ENGINEER NO. 7571 11/13/17</div></div>		HERON'S NEST SUBDIVISION		WATER SYSTEM LAYOUT		1	8/22/17	NCDENR COMMENTS	ABW	DATE: 06/12/2017	
DRAWN BY : ADB										2	9/14/17	NCDENR COMMENTS	ABW		
CHECKED BY : CEW										3	10/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW		
REVIEW: _____				4	11/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW								
BID: _____				5	7/18/25	OWNER/DEVELOPER NAME CHANGE	ABW			JOB NO.: 170503					
CONSTRUCTION: _____														SHEET 8 OF 16	



EROSION CONTROL NARATIVE

This site has 2 skimmer basins with 1.5" skimmers being installed, as shown this page. These skimmers have been designed per NCDEQ to control the sediment for their associated drainage areas. The site has been tested at the skimmer location and has a KSAI of 18.45 inches/hour infiltration rate. Based on this rate a majority of the runoff collected by the skimmer basins will release thru infiltration before it can be released thru the skimmer.

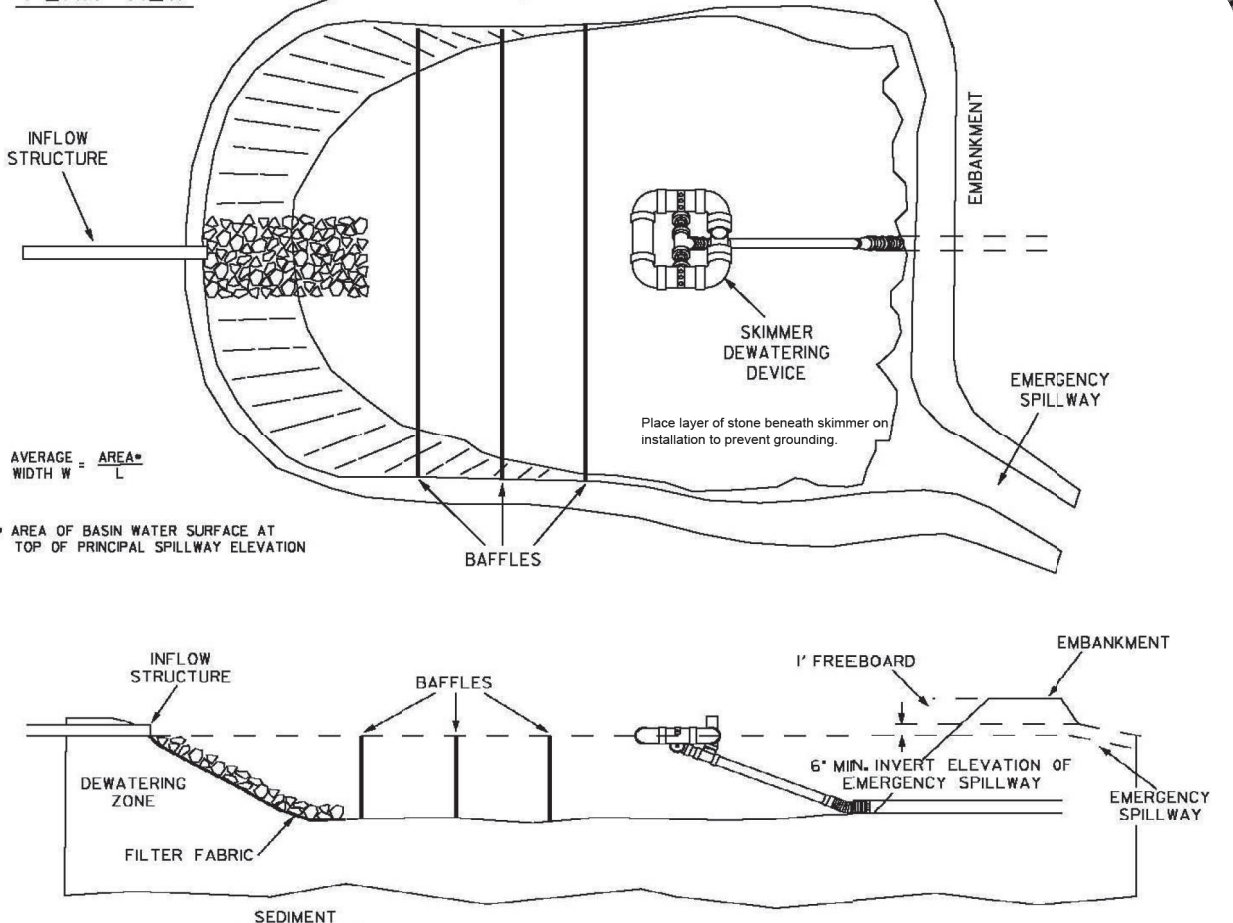
The remaining drainage areas will be controlled thru the use of silt fence and rock check outlets. As shown this page, all rock check outlets in the silt fence are located in natural low points, and these low points have an associated drainage area ranging from 0.25-0.7 acres.

The Borrow Pond shown this page is only for fill material this site. Pond size shown is only to meet fill requirements for this site. No material to leave site.

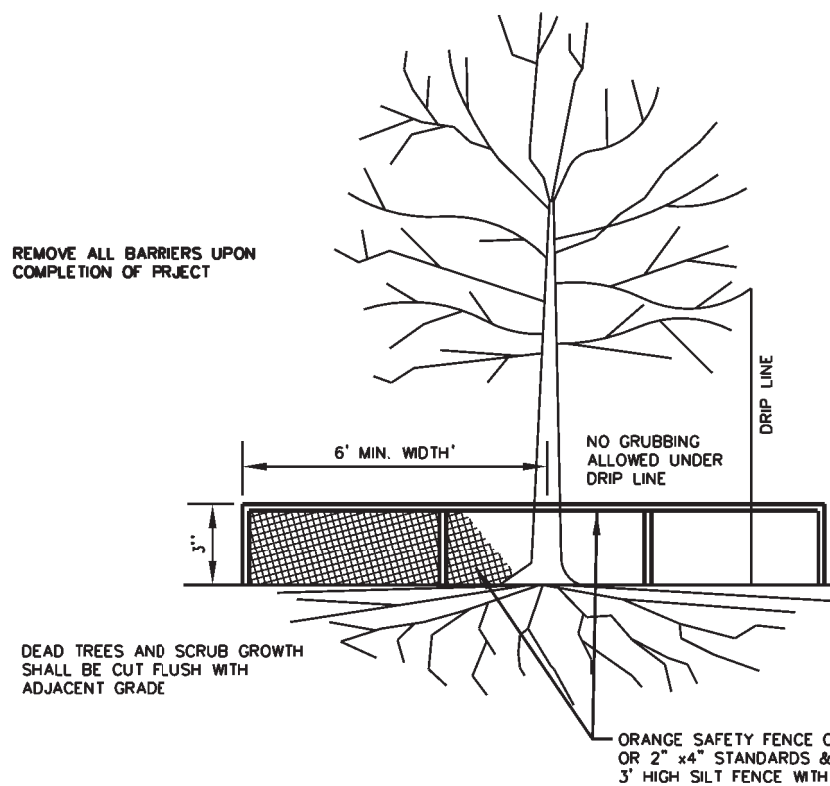
GENERAL NOTES:

1. ALL DRIVEWAYS TO BE GRASS PAVERS PER DETAIL SHEET 14. GRASS PAVERS WILL GEERATE A 4" STORAGE AREA WHICH IS TO BE TIE TO DITCHES TO RELEASE ADDITIONAL RUNOFF.
2. THIS SITE IS PART OF THE LUMBAR RIVER BASIN. THE NEAREST RECEIVING STREAM IS THE MILL POND WHICH IS CLASSIFIED C:SW:HOW
3. 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.
4. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDER 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.
5. 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 ANY SEDIMENTS BEFORE BEING PUMPED BACK INTO ANY WATERS OF THE STATE.
6. 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.
7. 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.
8. 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.

PLAN VIEW

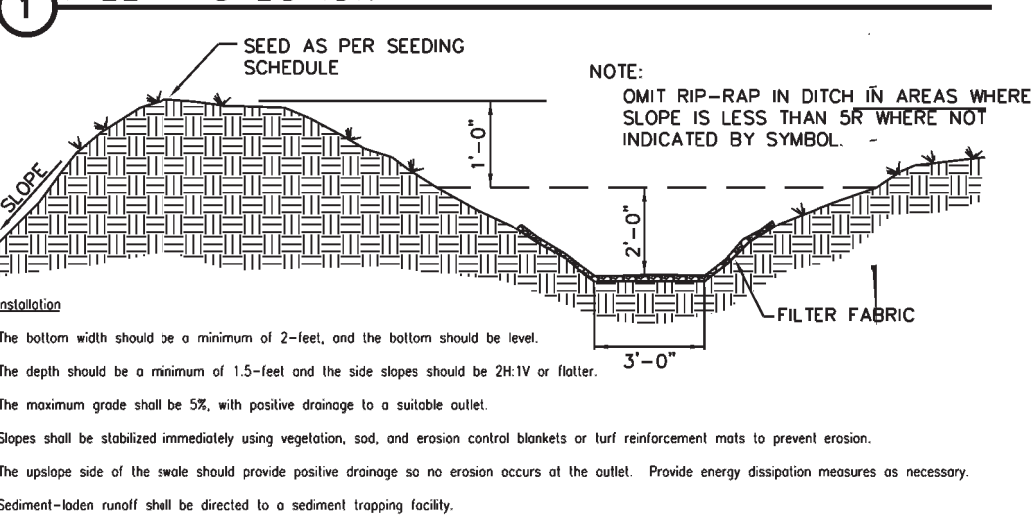


3 SKIMMER BASIN



- NOTES:**
1. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIAL, TRAFFIC BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE. TREE BARRIAGES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION.
 2. TREE PROTECTION BARRIAGES SHALL EXTEND AROUND THE TRUNK OF THE TREE WITH A RADIUS OF NO LESS THAN ONE FOOT (1') FOR EVERY ONE INCH (1") OF TRUNK DIAMETER OR 1/2 THE HEIGHT OF THE TREE (6" MIN. WIDTH) WHICHEVER IS GREATER, UNLESS OTHERWISE APPROVED ON AN INDIVIDUAL BASIS BY THE PLANNING AND DEVELOPMENT STAFF.
 3. BEFORE GRADING/CLEARING/CONSTRUCTION BEGINS CALL 800-7250 OR 1-800-922-7271 FOR INSPECTION OF TREE PROTECTION BARRIAGES BY PLANNING AND DEVELOPMENT STAFF.
 4. ALL TREE PROTECTION BARRIAGES SHALL BE INSTALLED PRIOR TO ANY GRADING, CONSTRUCTION OR OTHER LAND-DISTURBING ACTIVITY. THEY SHALL BE CONSTRUCTED FROM ANY MATERIAL SUBSTANTIAL ENOUGH TO PROTECT THE ROOTS, TRUNK AND CROWN OF THE TREE. SUCH AS ORANGE SAFETY FENCING WITH STANDARDS AS LISTED ABOVE.
 5. NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SOIL AND LEAF LITTER UNDISTURBED. SUPPLEMENT WITH 2-3 INCHES OF MULCH. RE-SEED WITH GRASS ONLY IN DISTURBED/GRADED AREAS.
 6. BRUSH, VINES AND SMALL TREES (48 IN. DIAMETER, OR AS SMALL AS 2 IN. CALIPER) MAY BE HAND CLEARED ONLY CUT FLUSH WITH GROUND SURFACE. EXISTING TREES MAY BE LIMITED UP 6 FEET (AT LEAST 2/3 OF THE BRANCHES SHOULD BE LEFT TO IMPROVE VISIBILITY).
 7. EXPOSED TREE ROOTS MUST BE CLEANLY CUT WITH A SHARP PRUNING TOOL; BACKFILL ASAP TO MINIMIZE EXPOSURE TO THE AIR.
 8. TREE PROTECTION FENCE IS TO BE LOCATED 1 FOOT PER TREE DIAMETER INCH AWAY FROM THE TREE IN THE SETBACK OR RIGHT-OF-WAY.

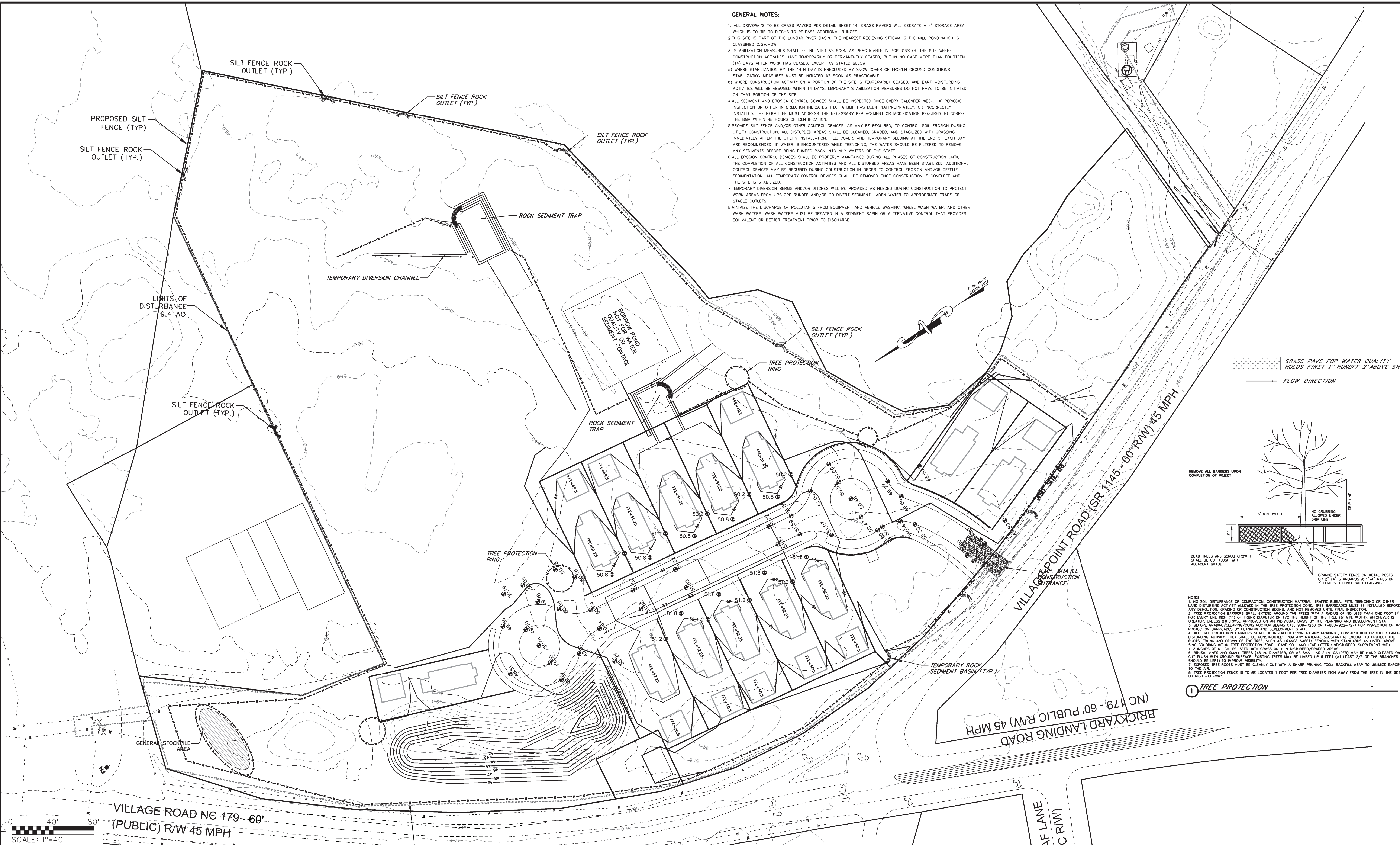
1 TREE PROTECTION



- Inspection and Maintenance:**
- Skimmers should be inspected every seven (7) calendar days and within 24-hours after each rainfall event that produces 0.5-inches or more of precipitation and report note as necessary.
- Damage caused by construction traffic or other activity must be repaired before the end of each working day.

2 DIVERSION DITCH

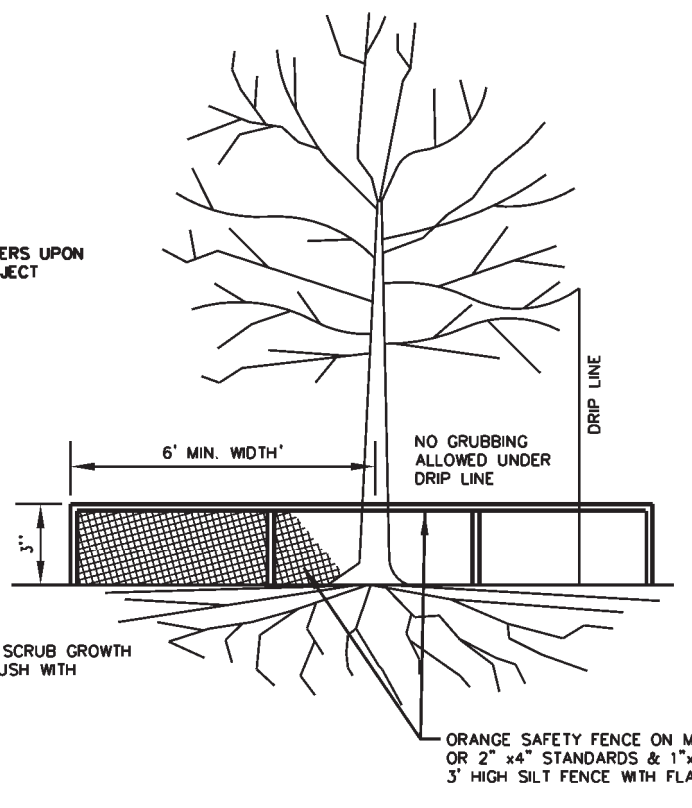
APPROVALS		PREPARED BY		SEALS		PROJECT		SHEET TITLE		NO. DATE REVISIONS		BY		SCALE: 1" = 40'	
PROJECT ENGR: CEW		<div><div>W</div><div>Joel E. Wood & Associates Planning / Engineering / Management P.O. Box 296 Clover, S.C. 29710 Phone: 803-684-3390</div></div>		<div><div><div>NORTH CAROLINA PROFESSIONAL ENGINEER SEAL NO. 7571 JOEL E. WOOD & ASSOCIATES, PLLC</div><div><div>JOEL E. WOOD</div><div>10/30/17</div></div></div><div><div>NORTH CAROLINA PROFESSIONAL ENGINEER SEAL NO. 7571 JOEL E. WOOD</div><div><div>JOEL E. WOOD</div><div>10/30/17</div></div></div></div>		HERON'S NEST SUBDIVISION		PHASE I SEDIMENT & EROSION CONTROL PLANS		1 8/22/17 NCDENR COMMENTS		ABW		DATE: 06/12/2017	
DRAWN BY : ADB						SHALLOTTE, NORTH CAROLINA PREPARED FOR		2 9/14/17 NCDENR COMMENTS		ABW		DATE: 06/12/2017			
CHECKED BY : CEW						HERONS NEST HOA, INC.		3 10/30/17 NCDENR COMMENTS WATER QUALITY SHW		ABW		JOB NO.: 170503			
REVIEW: _____										4 11/30/17 NCDENR COMMENTS WATER QUALITY SHW		ABW		SHEET 9 OF 16	
BID: _____										5 12/28/17 DRAINAGE DESIGNER COMMENTS IMPROVE DRAINAGE		ABW			
CONSTRUCTION: _____															



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GRASS PAVE FOR WATER QUALITY HOLDS FIRST 1" RUNOFF 2' ABOVE SHW.

FLOW DIRECTION



- NOTES:**
1. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIAL, TRAFFIC BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE. TREE BARRIAGES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION.
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1 TREE PROTECTION

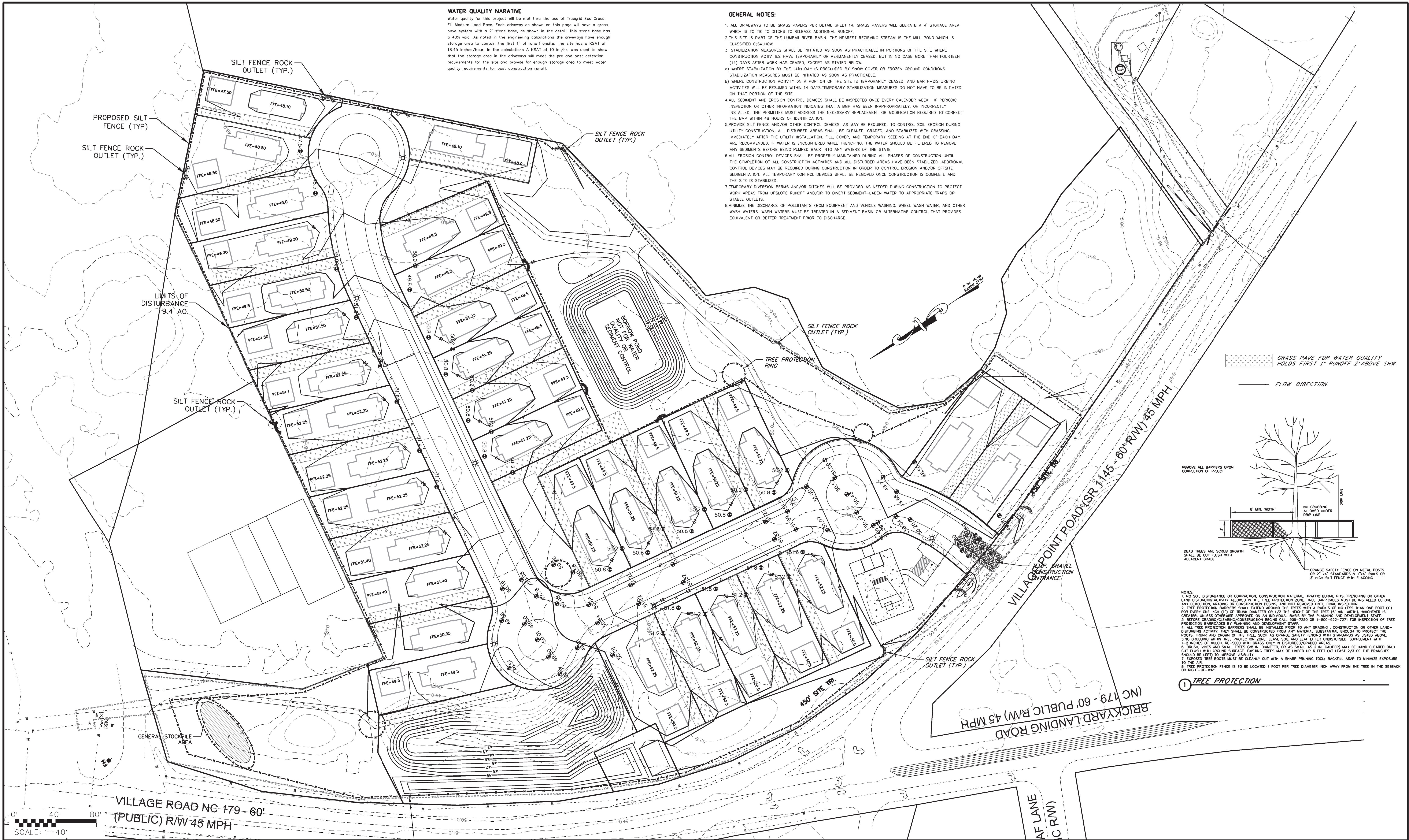
APPROVALS		PREPARED BY		SEALS		PROJECT		SHEET TITLE		NO. DATE REVISIONS BY		SCALE: 1" = 40'			
PROJECT ENGR: CEW		<div><div>W</div><div>Joel E. Wood & Associates Planning / Engineering / Management P.O. Box 296 Clover, S.C. 29710 Phone: 803-684-3390</div></div>		<div><div><div>NORTH CAROLINA PROFESSIONAL SEAL P. 01000000 JOEL E. WOOD & ASSOCIATES, PLLC ENGINEER</div><div><div>NORTH CAROLINA PROFESSIONAL SEAL NO. 7571 JOEL E. WOOD ENGINEER</div><div>10/30/17</div></div></div></div>		HERON'S NEST SUBDIVISION		PHASE II SEDIMENT & EROSION CONTROL PLANS		1	8/22/17	NCDENR COMMENTS	ABW	DATE: 06/12/2017	
2	9/14/17									NCDENR COMMENTS	ABW				
3	10/30/17									NCDENR COMMENTS WATER QUALITY SHW	ABW	JOB NO.: 170503			
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CHECKED BY: CEW								5	7/18/25	OWNER/DEVELOPER NAME CHANGE	ABW	SHEET 10 of 16			
REVIEW: _____															
BID: _____															
CONSTRUCTION: _____															

WATER QUALITY NARATIVE

Water quality for this project will be met thru the use of Truegrid Eco Grass Fill Medium Load Pave. Each driveway as shown on this page will have a grass pave system with a 2' stone base, as shown in the detail. This stone base has a 40% void. As noted in the engineering calculations the driveways have enough storage area to contain the first 1" of runoff onsite. The site has a KSAT of 18.45 inches/hour. In the calculations a KSAT of 10 in./hr. was used to show that the storage area in the driveways will meet the pre and post detention requirements for the site and provide for enough storage area to meet water quality requirements for post construction runoff.

GENERAL NOTES:

1. ALL DRIVEWAYS TO BE GRASS PAVERS PER DETAIL SHEET 14. GRASS PAVERS WILL GEERATE A 4" STORAGE AREA WHICH IS TO BE TO DITCHES TO RELEASE ADDITIONAL RUNOFF.
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- GRASS PAVE FOR WATER QUALITY HOLDS FIRST 1" RUNOFF 2' ABOVE SHW.
- FLOW DIRECTION
- REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT
- NO GRUBBING ALLOWED UNDER DRIP LINE
- DEAD TREES AND SCRUB GROWTH SHALL BE CUT FLUSH WITH ADJACENT GRADE
- ORANGE SAFETY FENCE ON METAL POSTS OR 2" X 4" STANDARDS & 1" X 4" RAILS OR 3' HIGH SILT FENCE WITH FLAGGING
- NOTES:
1. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIAL, TRAFFIC BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE. TREE BARRIAGES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION.
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1 TREE PROTECTION

APPROVALS	PREPARED BY	SEALS	PROJECT	SHEET TITLE	NO.	DATE	REVISIONS	BY	SCALE: 1" = 40'
PROJECT ENGR: CEW	Joel E. Wood & Associates	NORTH CAROLINA PROFESSIONAL SEAL	HERON'S NEST SUBDIVISION	PHASE III	1	8/22/17	NCDENR COMMENTS	ABW	DATE: 06/12/2017
DRAWN BY: ADB	Planning / Engineering / Management	NORTH CAROLINA PROFESSIONAL SEAL	SHALLOTTE, NORTH CAROLINA	SEDIMENT & EROSION	2	9/14/17	NCDENR COMMENTS	ABW	JOB NO.: 170503
CHECKED BY: CEW	P.O. Box 296 Clover, S.C. 29710	NORTH CAROLINA PROFESSIONAL SEAL	PREPARED FOR	CONTROL PLANS	3	10/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW	SHEET 11 OF 16
REVIEW: _____	Phone: 803-684-3390	NORTH CAROLINA PROFESSIONAL SEAL	HERONS NEST HOA, INC.		4	11/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW	
BID: _____		NORTH CAROLINA PROFESSIONAL SEAL			5	7/18/25	OWNER/DEVELOPER NAME CHANGE	ABW	
CONSTRUCTION: _____		NORTH CAROLINA PROFESSIONAL SEAL							

DIVISION 2 SITE WORK

SECTION 0201 STAKING

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE:

A. ENTIRE SPECIFICATION IS RELATED TO THIS SECTION.

1.02 QUALITY ASSURANCE:

A. SURVEYOR EMPLOYED TO PROVIDE LOCATION AND GRADE STAKING MUST CHECK INTO KNOWN REFERENCE LINES AND BENCH MARKS AS SHOWN BY THE CONSTRUCTION DRAWINGS.

B. THE CONTRACTOR WILL BE DIRECTLY RESPONSIBLE FOR ALL LOCATION AND GRADE STAKING PROVIDED BY HIM OR HIS SUBCONTRACTORS.

1.03 SUBMITTALS:

A. THE CONTRACTOR WILL UPON COMPLETION OF THE WORK, FURNISH THE ENGINEER WITH TWO (2) SETS OF AS-BUILT DRAWINGS, SHOWING THE FINAL GRADE ELEVATIONS, AND LOCATIONS OF ALL SERVICE LINES, VALVES, FIRE HYDRANTS, MANHOLES, CLEANOUTS, METER BOXES, ETC., REFERENCED TO EASILY DELINEATED MONUMENTS, SUCH AS LOT CORNERS.

PART 2 PRODUCTS:

NOT APPLICABLE THIS SECTION

PART 3 EXECUTION:

3.01 THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING ALL LOCATION AND GRADE STAKING REQUIRED FOR THE COMPLETION OF THE WORK.

3.02 THE CONTRACTOR WILL PROVIDE THE ENGINEER WITH ALL NECESSARY AS-BUILT DRAWINGS.
END OF SECTION 0201

DIVISION 2 SITE WORK

SECTION 0210 CLEARING AND GRUBBING

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE:

A. GRADING, SECTION 0220

1.02 PROTECTION:

A. STREETS, ROADS, ADJACENT PROPERTY AND OTHER WORKS TO REMAIN SHALL BE PROTECTED THROUGHOUT THE WORK, AS REQUIRED BY THE LOCAL AUTHORITY, STATE HIGHWAY DEPARTMENT AND ADJACENT PROPERTY OWNERS.

1.03 MEASUREMENT AND PAYMENT:

A. THE ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE OR PER UNIT OF MEASUREMENT.

B. CLEARING AND/OR GRUBBING DONE FOR CONTRACTOR'S CONVENIENCE WILL NOT BE CONSIDERED IN PAYMENT FOR THE WORK UNDER THIS SECTION.

1.04 REQUIREMENTS OF REGULATORY AGENCIES:

A. STATE AND LOCAL CODE REQUIREMENTS SHALL CONTROL THE DISPOSAL OF TREES AND SHRUBS.

B. EROSION CONTROL ORDINANCE. (POLLUTION PREVENTION PLAN)

C. STORM DRAINAGE ORDINANCE.

PART 2 PRODUCTS

NOT APPLICABLE THIS SECTION

PART 3 EXECUTION

3.01 CLEARING AND GRUBBING:

A. LIMITS OF CLEARING AND GRUBBING: REMOVE ALL TREES, SAPLING, SHRUBS, BUSHES, AND UNDERGROWTH FROM AREAS TO BE REGRADED AND AS SHOWN O THE PLANS.

B. CLEARING SHALL CONSIST OF THE FELLING AND CUTTING UP OF TREES WITHIN THE CONSTRUCTION LIMITS. CLEARING SHALL ALSO INCLUDE THE SATISFACTORY DISPOSAL OF THE TREES AND OTHER VEGETATION FROM THE SITE TOGETHER WITH THE DOWN TIMBER, SNAGS, BRUSH AND RUBBISH OCCURRING WITHIN THE AREAS TO BE CLEARED. TREES AND OTHER VEGETATION, AND ALL STUMPS, ROOTS AND BRUSH IN THE AREAS TO BE CLEARED SHALL BE CUT OFF BELOW THE ORIGINAL GROUND SURFACE. CLEARING OPERATIONS SHALL BE CONDUCTED SO AS TO PREVENT DAMAGE BY FALLING TREES TO LEFT STANDING, TO EXISTING STRUCTURES AND INSTALLATIONS, AND SO AS TO PROVIDE FOR THE SAFETY OF EMPLOYEES AND OTHERS.

C. GRUBBING SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF ALL STUMPS, ROOTS AND MATTED ROOTS FROM THE SITE. IN ROADWAY AREAS, STUMPS, ROOTS, LOGS OR OTHER TIMBER, MATTED ROOTS AND OTHER DEBRIS SHALL BE EXCAVATED AND REMOVED TO A DEPTH NOT LESS THAN 18 INCHES BELOW ANY SUBGRADE, SHOULDER, OR SLOPE. ALL DEPRESSIONS EXCAVATED BELOW THE ORIGINAL GROUND SURFACE FOR OR BY THE REMOVAL OF STUMPS AND ROOTS, SHALL BE REFILLED WITH SUITABLE MATERIAL AND COMPACTED TO MAKE THE SURFACE CONFORM TO THE SURROUNDING GROUND SURFACE.

3.02 DISPOSAL:

A. ALL TIMBER, LOGS, STUMPS, ROOTS, BRUSH, ROTTEN WOOD, AND OTHER REFUSE FROM THE CLEARING AND GRUBBING OPERATIONS SHALL BE REMOVED FROM THE SITE AND PLACED IN AN APPROVED OFF-SITE DISPOSAL AREA PROVIDED BY THE CONTRACTOR, OR OTHERWISE DISPOSED OF AS APPROVED BY THE ENGINEER. WHEN APPROVED BY THE ENGINEER AND LOCAL AUTHORITY, BURNING SHALL BE DONE AT SUCH LOCATION AND IN SUCH MANNER THAT WILL AVOID ALL PUBLIC NUISANCE AND ALL HAZARDS, SUCH AS PROGRESS, TREES, AND VEGETATION.

B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WI TH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS RELATIVE TO THE BUILDING OF FIRES. DISPOSAL BY BURNING SHALL BE KEPT UNDER CONSTANT ATTENDANCE UNTIL THE FIRES HAVE BURNED OUT OR HAVE BEEN EXTINGUISHED.
END OF SECTION 0210

DIVISION 2 SITE WORK

SECTION 0220 GRADING

PART 1 GENERAL:

1.01 SCOPE:

A. THIS SECTION COVERS GRADING FOR THE ENTIRE SITE, INCLUDING DITCHES, SWALES, FORMATION OF EMBANKMENTS AND FINISHING AND DRESSING OF ALL GRADED EARTH AREAS.

1.02 RELATED WORK SPECIFIED ELSEWHERE:

A. SITE CLEARING AND GRUBBING, SECTION 0210.

B. SEE GRASSING, SECTION 0280.

1.03 PROTECTION:

A. STREETS, ROADS, ADJACENT PROPERTY AND OTHER WORKS TO REMAIN SHALL BE PROTECTED THROUGHOUT CONSTRUCTION OPERATIONS BY THE CONTRACTOR. THE CONTRACTOR SHALL, AT NO TIME, LEAVE THE SITE IN A CONDITION SUCH THAT THE SITE WOULD CONTRIBUTE DAMAGE TO ADJACENT PROPERTY OWNERS.

1.04 MEASUREMENT AND PAYMENT:

A. QUANTITIES SHALL BE MEASURED AND PAYMENT MADE AT THE CONTRACT LUMP SUM PRICE FOR GRADING.

1.05 SUBMITTALS:

A. THE CONTRACTOR SHALL CERTIFY THAT SUITABLE MATERIALS HAVE BEEN USED AND THAT COMPACTION REQUIREMENTS HAVE BEEN ACCOMPLISHED.

1.06 REQUIREMENTS OF REGULATORY AGENCIES:

A. THE CONTRACTOR SHALL COMPLY WITH STATE AND LOCAL SEDIMENT AND EROSION CONTROL ORDINANCES AND DRAINAGE ORDINANCES.

PART 2 PRODUCTS

2.01 SELECTION OF BORROW MATERIAL:

A. BORROW MATERIAL SHALL BE SELECTED TO MEET REQUIREMENTS AND CONDITIONS OF THE PARTICULAR FILL FOR WHICH IT IS TO BE USED AS DESCRIBED HEREIN. MATERIAL SHALL CONSIST OF SOILS CAPABLE OF BEING READILY SHAPED AND COMPACTED TO REQUIRED DENSITIES AND SHALL BE FREE OF ROOTS, TRASH, AND ANY OTHER DELETERIOUS MATERIAL ANY NECESSARY CLEARING, GRUBBING, DISPOSAL OF DEBRIS AND SATISFACTORY TRIMMING AND DRAINAGE OF BORROW AREAS SHALL BE CONSIDERED INCIDENTAL TO OPERATIONS OF THE BORROW EXCAVATION AND SHALL BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

B. BORROW AREA (S): CONTRACTOR SHALL FURNISH BORROW MATERIAL FROM THE SITE OR PRIVATE SOURCES SELECTED BY HIM AND APPROVED BY THE ENGINEER, CONSISTING OF A SUITABLE MATERIAL OF THE TYPE MENTIONED ABOVE.

PART 3 EXECUTION

3.01 CONSERVATION OF TOPSOIL:

A. EXCEPT WHERE OTHERWISE NOTED ON THE PLANS, REMOVE TOPSOIL FROM AREAS TO BE GRADED WITHOUT CONTAMINATION WITH SUBSOIL AND SPREAD ON AREAS ALREADY GRADED AND PREPARED FOR TOPSOIL, OR TRANSPORT AND DEPOSIT IN APPLICATION OF TOPSOIL LATER, OR AT LOCATION INDICATED. STRIP TOPSOIL TO A DEPTH OF SIX INCHES AND, WHEN STORED, KEEP SEPARATE FROM OTHER EXCAVATED MATERIALS AND STOCKPILE FREE OF ROOTS, STONES, AND OTHER FOREIGN MATERIALS.

3.02 EXCAVATION:

A. AFTER ALL STRIPPING HAS BEEN DONE, EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED WITHIN THE GRADING LIMITS OF THE PROJECT SHALL BE PERFORMED TO THE LINES AND GRADES INDICATED ON THE DRAWINGS. ALL SUITABLE EXCAVATED MATERIAL SHALL BE TRANSPORTED TO AND PLACED IN THE FILL AREAS WITHIN THE LIMITS OF THE WORK SPECIFIED, AS SHOWN ON THE DRAWINGS, OR AS OTHERWISE DIRECTED BY THE ENGINEER. WHERE MATERIAL ENCOUNTERED WITHIN THE LIMITS IS OF THE WORK IS CONSIDERED UNSUITABLE AND ANY SURPLUS OF EXCAVATED MATERIAL WHICH IS NOT REQUIRED FOR FILL SHALL BE KNOWN AS "WASTE" AND SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN EXPENSE AND RESPONSIBILITY. UNLESS OTHERWISE DIRECTED, ALL WASTE SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE WORK. DURING CONSTRUCTION, EXCAVATION AND FILLING SHALL BE PERFORMED IN A MANNER AND SEQUENCE THAT WILL PROVIDE DRAINAGE AT ALL TIMES. WATER ACCUMULATED IN THE EXCAVATION SHALL BE REMOVED BY PUMPS OR OTHER MEANS APPROVED BY THE ENGINEER. UNSUITABLE MATERIALS SHALL BE CONSIDERED HIGHLY PLASTIC CLAY SOILS OF CH AND MH DESCRIPTION AND ORGANIC SOILS OF PT, OL, AND OH DESCRIPTION BASED ON THE UNIFIED SOILS CLASSIFICATIONS SYSTEM. ALL MATERIAL DESIGNATED AS UNSUITABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. IF SUBSURFACE WATER CONDITIONS ARE DISCOVERED, THEY SHALL BY HANDLED AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND IN WRITING, IF ANY SUBSURFACE WATER CONDITIONS ARE ENCOUNTERED.

3.03 SWALES AND DITCHES:

A. SWALES AND DITCHES SHALL BE CONSTRUCTED AT THE LOCATIONS AND OF THE GENERAL SIZE AND SHAPE AS SHOWN ON THE PLANS WITH A MAXIMUM SLIDE SLOPE OF 3:1, UNLESS OTHERWISE DETAILED ON THE PLANS. DEGREE OF SLIDE SLOPE AND DEPTH MAY BE REVISED AT THE DIRECTION OF THE ENGINEER TO OBTAIN A PLEASING AND NATURAL APPEARANCE. SWALES SHOWN TO BE CONSTRUCTED IN WOODED AREAS SHALL BE LOCATED TO MINIMIZE CLEARING OF LARGE TREES AND OTHER DESIRABLE PLANTS. HOWEVER, ALL SWALES SHALL BE CONSTRUCTED IN SUCH A WAY AS TO PROVIDE POSITIVE DRAINAGE CHARACTERISTICS. THE ENGINEER MAY DIRECT CONTRACTOR TO CREATE FILLS OR SWALES IN ADDITION TO THOSE SHOWN ON PLANS.

3.04 PREPARATION OF GROUND SURFACE FOR FILL:

A. ALL VEGETATION, SUCH AS ROOTS, BRUSH, HEAVY SODS, HEAVY GROWTH OF GRASS, AND ALL DECAYED VEGETABLE MATTER, RUBBISH AND OTHER UNSUITABLE MATERIAL WITHIN THE AREA UPON WHICH FILL IS TO BE PLACED SHALL BE STRIPPED OR OTHERWISE REMOVED BEFORE FILL IS STARTED. IN NO CASE WILL UNSUITABLE MATERIAL REMAIN IN OR UNDER FILL AREA. SLOPED GROUND SURFACE, STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL ON WHICH FILL IS TO BE PLACED, SHALL BE PLOWED, STEPPED OR BENCHED, OR BROKEN UP TO ASSURE THAT THE FILL MATERIAL WILL BOND WITH EXISTING SURFACE. PREPARED SURFACES ON WHICH COMPACTED FILL IS TO BE PLACED SHALL BE WETTED OR DRIED TO OBTAIN COMPACTION SPECIFIED.

3.05 FILL:

A. CONSTRUCT FILLS AND EMBANKMENT AT LOCATIONS AND TO LINES AND GRADES INDICATED. COMPLETES FILL SHALL CORRESPOND TO SHAPE OF CONTOURS INDICATED OR SHALL MEET REQUIREMENTS OF THE PARTICULAR CASE. SUITABLE MATERIAL REMOVED FROM EXCAVATION SHALL BE USED IN FORMING FILL. FILL MATERIAL SHALL EXCLUDE ALL MATERIALS CLASSIFIED AS UNSUITABLE IN THE FOREGOING PARAGRAPH ENTITLED "EXCAVATION" AND SHALL BE REASONABLY FREE FROM ROOTS, OTHER ORGANIC MATERIAL AND TRASH; AND FROM STONES HAVING MAXIMUM DIMENSION GREATER THAN 6 INCHES. NO FROZEN MATERIAL WILL BE PERMITTED IN FILL. STONES HAVING A MAXIMUM DIMENSION LARGER THAN 4 INCHES SHALL NOT BE PERMITTED IN THE UPPER 6 INCHES OF FILL OR EMBANKMENT. MATERIAL SHALL BE PLACED IN SUCCESSIVE HORIZONTAL LAYERS OF 8 INCHES TO 12 INCHES IN LOOSE DEPTH FOR FULL WIDTH OF CROSS SECTION AND SHALL BE COMPACTED AS REQUIRED HEREIN.

3.06 COMPACTION: WHEN BUILDINGS ARE INVOLVED, SEE ARCHITECTURAL SPECIFICATIONS FOR COMPACTION REQUIREMENTS UNDER BUILDINGS.

A. COMPACT EACH LAYER OF FILL OR EMBANKMENT BY ROLLING WITH TAMPING ROLLER, THREE-WHEELED POWER ROLLER, OR OTHER APPROVED COMPACTION EQUIPMENT TO ASSURE A MINIMUM COMPACTION OF 98% STANDARD PROCTOR OR 95% MODIFIED ACCORDING TO ASTM SPECIFICATIONS.

3.07 FINISHED EXCAVATION, FILLS, AND EMBANKMENTS

A. UNIFORMLY SMOOTH GRADE ALL AREAS COVERED BY PROJECT, INCLUDING EXCAVATED AND FILLED SECTIONS AND ADJACENT TRANSITION AREAS. FINISHED SURFACE SHALL BE SMOOTH, COMPACTED, AND FREE FROM IRREGULAR SURFACE CHANGES. THE DEGREE OF FINISH SHALL BE THAT ORDINARILY OBTAINABLE FROM EITHER BLADEGRADER OR SCRAPER OPERATIONS, SUPPLEMENTED WITH HAND RAKING AND FINISHING, EXCEPT AS OTHERWISE SPECIFIED. FINISHED DITCHES TO PERMIT ADEQUATE DRAINAGE. SURFACE OF EMBANKMENT, OR EXCAVATED AREAS FOR ROAD CONSTRUCTION OR OTHER AREAS ON WHICH A BASE COURSE OR SURFACE TREATMENT IS TO BE PLACED SHALL NOT VARY MORE THAN 0.05 FOOT FROM ESTABLISHED GRADE AND CROSS SECTION. IN AREAS WHERE BULKING OF SOIL AS A RESULT OF GRASSING OPERATIONS WILL TEND TO RETARD SURFACE DRAINAGE ALONG EDGE OF PAVEMENT, FINISHED GRADES SHALL BE LEFT 0.1 FOOT BELOW GRADE PRIOR TO GRASSING. IN ALL CASES, POSITIVE DRAINAGE SHALL BE ACCOMPLISHED.

3.08 PLACEMENT OF TOPSOIL BLANKET:

EXCEPT AS SPECIFICALLY SET FORTH HEREIN, PLACE TOPSOIL ON ALL SHOULDER SLOPES, AND OTHER EARTH AREAS GRADED UNDER THIS CONTRACT, EXCLUDING BORROW AREAS. THE COMPACTED SUBGRADE SHALL BE SCARIFIED TO A DEPTH OF 2 INCHERS FOR THE BONDING OF TOPSOIL WITH THE SUBSOIL. TOPSOIL SHALL THEN BE EVENLY SPREAD, COMPACTED, AND GRADED TO A THICKNESS OF 4 INCHES AND TO THE ELEVATIONS AND SLOPES SHOWN ON THE DRAWING. THE SURFACES SHALL THEN BE THOROUGHLY LOOSENEO TO A DEPTH OF 4 INCHES BY PLOWING, DISKING, HARROWING, OR OTHER APPROVED METHODS, UNTIL TILLAGE IS ACCEPTABLE FOR GRASSING.

END OF SECTION 0220

DIVISION 2 SITE WORK

SECTION 0250 SITE DRAINAGE

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE:

A. GRADING, SECTION 0220

B. EXCAVATION, TRENCHING AND BACKFILLING FOR PIPE LINES, SECTION 0255

C. CAST IN PLACE CONCRETE, SECTION 0330

1.02 PROTECTION:

A. THE CONTRACTOR SHALL EXECUTE WORK FOR SITE DRAINAGE IN SUCH A MANNER AS TO PROTECT ADJACENT PROPERTY AGAINST DAMAGES FROM ANY CAUSES.

1.03 REQUIREMENTS OF REGULATORY AGENCIES:

A. THE CONTRACTOR SHALL COMPLY WITH STATE AND LOCAL SEDIMENT AND EROSION CONTROL ORDINANCES.

PART 2 PRODUCTS

2.01 MATERIALS:

A. ALL STORM DRAINAGE PIPE SHALL BE CLASS III REINFORCED CONCRETE UNLESS INDICATED OTHERWISE. THE PIPE SHALL CONFORM TO ASTM C76, LATEST REVISION.

B. FRAMES, GRATES, AND COVERS SHALL BE AS INDICATED ON THE PLANS. THEY SHALL BE TRUE TO PATTERN IN FORM AND DIMENSION; FREE FROM POURING DEFECTS, SPONGINESS, CRACKS, BLOW HOLES, AND OTHER DEFECTS AFFECTING THEIR STRENGTH AND VALUE FOR THE SERVICE INTENDED.

C. BRICK OR CONCRETE BLOCK SHALL BE NEW, WHOLE, AND SHALL CONFORM TO THE LATEST REQUIREMENTS OF ASTM SPECIFICATIONS. THE BRICK OR CONCRETE BLOCKS SHALL HAVE A STRAIGHT AND PARALLEL EDGE AND SQUARE CORNER AND SHALL BE OF COMPACT TEXTURE, FREE FROM INJURIOUS CRACKS

D. MORTAR SHALL BE COMPOSED OF ONE PART PORTLAND CEMENT, ONE PART HYDRATED LIME, AND SIX PARTS SAND BY VOLUME. BRIMXENT, MAGNAOLIA, MASTER-MIX OR FLAMINGO PREPARED MORTAR MAY BE USED AT THE OPTION OF THE CONTRACTOR.

PART 3 EXECUTION:

3.01 PREPARATION:

A. EACH PIPE SHALL BE CAREFULLY EXAMINED BEFORE BEING LAID, AND DEFECTIVE OR DAMAGED PIPE SHALL NOT BE USED. UNDER NO CIRCUMSTANCES SHALL PIPE BE LAID IN WATER, AND NO PIPE SHALL BE LAID WHEN TRENCH CONDITIONS OR WEATHER ARE UNSUITABLE FOR SUCH WORK.

B. TRENCHING, BEDDING AND BACKFILLING SHALL BE IN ACCORDANCE WITH SECTION 0255 OF THESE SPECIFICATIONS.

3.02 CONSTRUCTION:

A. CATCH BASINS AND DROP INLETS SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS, OF CONCRETE AND WHEN ALLOWED BY THE GOVERNING AUTHORITY, BRICK MAY BE USED.

B. EXCAVATION FOR INSTALLATION SHALL BE OF AMPLE WIDTH FOR THE WORKMEN TO ENGAGE IN LAYING BRICK TO CARRY ON WORK, AND ALSO AMPLE ROOM FOR PLASTERING THE EXTERIOR SIDE OF THE WALLS. WHERE ROCK IS ENCOUNTERED IN EXCAVATING FOR STRUCTURES, ONE (1) FOOT SHALL BE ALLOWED OUTSIDE FOR THE ROCK LINES OF THE STRUCTURE.

C. ALL BRICKWORK SHALL BE LAID UP TRUE AND PLUMB AND HORIZONTAL JOINTS SHALL NOT BE MORE THAN 1/2 INCH. THE BRICKS SHALL BE LAID IN A FULL BED OF MORTAR, AND ALL JOINTS IN EACH COURSE SHALL BE SLUSHED AND FILLED SOLID WITH MORTAR BEFORE ANOTHER COURSE IS LAID ON TOP.

D. ALL BRICKS SHALL BE WET BEFORE BEING LAID IN WARM WEATHER. BRICKS SHALL NOT BE LAID IN FREEZING WEATHER.

E. THE CONTRACTOR SHALL PROTECT ALL BRICKWORK FROM THE WEATHER WHEN STORMING OR FREEZING AND AT ALL OTHER TIMES WHEN NECESSARY DURING THE PROGRESS OF THE WORK.

F. THE CATCH BASIN FRAMES SHALL BE SET IN A FULL BED OF MORTAR AND AT THE ELEVATION ESTABLISHED ON THE DRAWINGS.

G. THE CATCH BASIN WALLS SHALL BE PLASTERED ON THE OUTSIDE WITH PORTLAND CEMENT MORTAR. THE MORTAR SHALL BE COMPOSED OF ONE (1) PART PORTLAND CEMENT, 10 PERCENT OF HYDRATED LIME AND (2) TWO PARTS OF SAND, MIXED WITH A SUFFICIENT QUANTITY OF WATER TO FORM A PLASTIC MORTAR.

H. THE INVERT SHALL BE PLASTERED WITH THE SAME MORTAR AND FINISHED WITH A STEEL TROWEL TO SECURE A SMOOTH AND DENSE SURFACE.

I. THE BACKFILL AROUND THE STRUCTURES SHALL BE MADE WITH EMBANKMENT MATERIALS, FREE FROM LUMPS OR ROCKS, AND BACKFILLING SHALL BE PLACED IN ONE (1) FOOT LAYERS AND THOROUGHLY TAMPED.

3.03 GRADES AND ELEVATIONS:

A. PIPE GRADES AND STRUCTURE ELEVATIONS SHALL BE AS SHOW ON THE DRAINAGE PLAN.

END OF SECTION 0250

DIVISION 2 SITE WORK

SECTION 0255 EXCAVATING, TRENCHING, AND BACKFILLING FOR PIPE LINES

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE:

A. GRADING, SECTION 0220

B. SITE DRAINAGE, SECTION 0250

1.02 QUALITY ASSURANCE:

A. A CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED IN THE TRENCH FOR ALL BURIED PIPE. BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND THE PIPE AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE. STONES, OTHER THAN CRUSHED BEDDING, SHALL NOT COME IN CONTACT WITH THE PIPE AND SHALL NOT BE WITHIN SIX INCHES (6") OF THE PIPE.

1.03 PROTECTION OF EXISTING IMPROVEMENTS:

A. CONTACT UNDERGROUND LOCATOR SERVICE TO CONFIRM LOCATION OF EXISTING UTILITIES.

B. MAINTAIN IN OPERATING CONDITIONS AND PROTECT FROM DAMAGE ALL EXISTING IMPROVEMENTS AND REPAIR ANY AERIAL, SURFACE, OR SUBSURFACE IMPROVEMENTS DAMAGED DURING THE COURSE OF THE WORK.

C. PROTECT ALL ADJACENT PROPERTY OWNERS FROM DAMAGE DUE TO WORK PROVIDED IN THIS SECTION.

D. TREE PROTECTION: EXERCISE CARE TO PROTECT THE ROOTS OF TREES TO REMAIN. WITHIN THE BRANCH SPREAD OF SUCH TREES, PERFORM ALL TRENCHING WITH EXTRA CARE. OPEN THE TRENCH ONLY WHEN THE WORK CAN BE INSTALLED IMMEDIATELY. PRUNE INJURED ROOTS CLEANLY AND BACKFILL AS SOON AS POSSIBLE.

PART 2 PRODUCTS

NOT APPLICABLE THIS SECTION

PART 3 EXECUTION

3.01 EXCAVATION:

A. EXCAVATION SHALL COMPRISE THE SATISFACTORY REMOVAL AND DISPOSITION OF ALL EXCAVATED MATERIALS REGARDLESS OF CLASSIFICATION. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED TO PROVIDE 36 INCHES COVER OVER THE BARREL OF THE PIPE OR, WHERE SHOWN ON THE DRAWINGS, TO GRADE INDICATED. THE BANKS OF TRENCHES SHALL BE KEPT AS NEARLY VERTICAL AS PRACTICABLE, AND WHERE REQUIRED, SHALL BE PROPERLY SHEETED AND BRACED. THE WIDTH OF TRENCHES AT AND BELOW THE LEVEL OF THE PIPE SHALL BE NO GREATER THAN NECESSARY TO PERMIT SATISFACTORY JOINTING AND THOROUGH TAMPING OF THE BEDDING MATERIAL UNDER AND AROUND THE PIPE. THE WIDTH OF THE TRENCH ABOVE THIS LEVEL MAY BE MADE WIDER AS NECESSARY FOR SHEETING AND BRACING, AND PROPER INSTALLATION IF THE WORK. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING SUPPORT FOR EACH SECTION OF PIPE ON UNDISTURBED EARTH AT EVERY POINT ALONG ITS ENTIRE LENGTH EXCEPT FOR PORTIONS OF THE PIPE SECTIONS WHERE IT IS NECESSARY TO EXCAVATE FOR BELL HOLES AND FOR PROPER SEALING OF PIPE JOINTS. BELL HOLES OR JOINTING DEPRESSIONS SHALL BE BUG BY HAND AFTER THE TRENCH BOTTOM HAS BEEN GRADED, STRICTLY IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. TRENCHERS SHALL BE DRY WHEN THE TRENCH BOTTOM IS PREPARED. EXCEPT AT LOCATIONS WHERE EXCAVATION OF ROCK OR UNSUITABLE MATERIAL FROM THE BOTTOM OF TRENCHES IS REQUIRED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATION IS REQUIRED, THE ROCK SHALL BE EXCAVATED TO MINIMUM OVER DEPTH OF 4 INCHES BELOW THE NORMAL REQUIRED TRENCH DEPTH. THE OVER DEPTH ROCK EXCAVATION AND ALL EXCESS TRENCH EXCAVATION SHALL BE BACKFILLED WITH LOOSE, MOIST EARTH, THOROUGHLY TAMPED. WHENEVER WET OR OTHERWISE UNSUITABLE SOIL IS ENCOUNTERED, THAT IS, IN THE OPINION OF THE ENGINEER, INCAPABLE OF PROPERLY SUPPORTING THE PIPE, SUCH SOIL SHALL BE REMOVED IT THE DEPTHS REQUIRED AND FOR THE DISTANCE DESIGNATED BY THE ENGINEER.

3.02 GRADING AND STAKING:

A. GRADING IN THE VICINITY OF TRENCH EXCAVATIONS TO PREVENT SURFACE GROUND WATER FROM FLOWING INTO THE TRENCHES. ANY WATER ACCUMULATED IN THE TRENCHES SHALL BE REMOVED BY PUMPING OR OTHER APPROVED METHODS.

B. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STACKED IN AN ORDERLY MANNER SUFFICIENT DISTANCE BACK FROM THE EDGES OF TRENCHES TO AVOID OVERLOADING AND PREVENT SLIDES OR CAVE-INS. MATERIALS INSUITABLE FOR BACKFILLING SHALL BE WASTED OR REMOVED AS DIRECTED BY THE ENGINEER.

3.03 SHORING AND SHEETING:

A. PROVIDE SHORING, SHEETING AND BRACING AS NECESSARY TO PERFORM THE WORK, PROTECT THE EXCAVATION AN ADJACENT STRUCTURES, AND TO FULLY SAFEGUARD EMPLOYEES AND THE PUBLIC. COMPLY WITH THE PROVISIONS OF THE "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTIONS", OF THE ASSOCIATED GENERAL CONTRACTOR OF AMERICA, INC. THE FAILURE OF THE ENGINEER TO DIRECT THE PLACING OF SUCH PROTECTION SHALL NOT RELIEVE THE CONTRACTOR OF FULL LIABILITY FOR DAMAGE RESULTING FROM ITS OMISSION.

3.04 WATER REMOVAL:

A. WHERE WATER IS ENCOUNTERED, IT SHALL BE PREVENTED FROM ACCUMULATING IN EXCAVATED AREAS BY WELL-POINTING AND PUMPING, OR BY OTHER MEANS APPROVED BY THE ENGINEER AS TO CAPACITY AND EFFECTIVENESS. WATER REMOVED FROM EXCAVATIONS SHALL BE DISCHARGED AT POINTS WHERE IT WILL NOT CAUSE INJURY TO PUBLIC OR PRIVATE PROPERTY, OR THE WORK COMPLETED OR IN PROGRESS. UNDER NO CIRCUMSTANCES SHAPE TRENCH BOTTOM, LAY PIPE, OR INSTALL APPURTENANCES IN WATER, OR ALLOW WATER TO RISE IN UNBACKFILLED EXCAVATIONS AFTER PIPE OR STRUCTURES HAVE BEEN PLACED.

3.05 BACKFILLING

A. TRENCHES AND OTHER EXCAVATIONS SHALL NOT BE BACKFILLED UNTIL ALL REQUIRED TESTS ARE PERFORMED AND THE WORK INSTALLED CONFORMS TO THE REQUIREMENTS OF THE SECTIONS OF THESE SPECIFICATIONS COVERING THE INSTALLATION OF THE PIPE AND APPURTENANT STRUCTURES.

B. THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH THE EXCAVATED LOAM, SANDY CLAY, AND GRAVEL, SOFT SHALE, OR OTHER APPROVED MATERIALS. NO MATERIAL SHALL BE USED FOR BACKFILLING THAT CONTAINS STONES, BLASTED ROCK, BROKEN CONCRETE, PAVEMENT, OR OTHER HARD MATERIALS HAVING ANY DIMENSION GREATER THAN 6 INCHES; OR LARGE CLODS OF EARTH, DEBRIS FROZEN EARTH, OR EARTH WITH AN EXCEPTIONALLY HIGH VOID CONTENT. NO WOOD IS TO BE LEFT IN THE TRENCH.



C. SUITABLE MATERIAL SHALL BE DEPOSITED IN 6 INCH LAYERS THOROUGHLY COMPACTED UNTIL THE PIPE HAS A COVER OF 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL MAY THEN BE DEPOSITED IN LAYERS UP TO 12 INCHES THICK, CAREFULLY COMPACTED, TO GRADE.

D. THE SURFACE SHALL BE RESTORED TO THE REQUIRED GRADE AND COMPACTION, MOUNDED OVER, AND SMOOTHED OFF TO THE SATISFACTION OF THE ENGINEER. ANY TRENCHES IMPROPERLY REOPENED TO THE DEPTH REQUIRED FOR PROPER COMPACTION, THEN REFILLED AND COMPACTED.

E. TRENCHES CROSSING PROPOSED ROADWAYS SHALL BE BACKFILLED TO ASSURE A MINIMUM COMPACTION OF 93% STANDARD ACCORDING TO ASTM SPECIFICATIONS. FLOWABLE FILL MAY BE REQUIRED BY LOCAL AUTHORITY, OR BY DESIGN ENGINEER, WHOSE NAME APPEARS ON THESE PLANS.

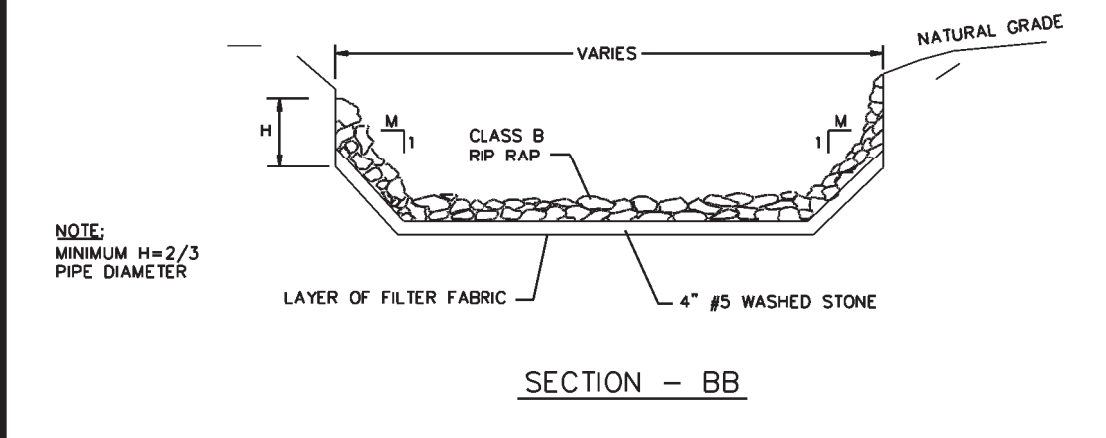
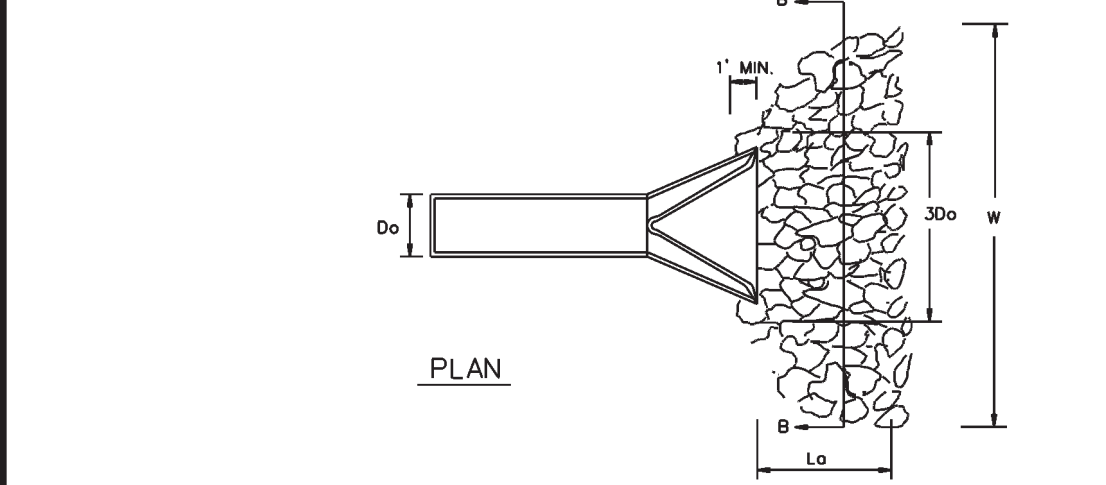
G. DUCTILE IRON PIPE SHALL BE USED WHEN ADEQUATE COVER CANNOT BE ACHIEVED FOR WATER AND SEWER MAINS OR FOR SEWER SERVICES. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF THIS CONDITION EXISTS.

END OF SECTION 02555

APPROVALS		PREPARED BY		SEALS		PROJECT		SHEET TITLE		NO. DATE REVISIONS BY		SCALE: NTS		
PROJECT ENGR: CEW						HERON'S NEST SUBDIVISION		DETAILS		1	8/22/17	NCDENR COMMENTS	ABW	DATE: 06/12/2017
DRAWN BY: ADB										2	9/14/17	NCDENR COMMENTS	ABW	
CHECKED BY: CEW										3	10/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW	JOB NO.: 170503
REVIEW: _____										4	11/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW	
BID: _____										5	7/18/25	DWNER/DEVELOPER NAME CHANGE	ABW	SHEET 12 OF 16
CONSTRUCTION: _____														
						SHALLOTTE, NORTH CAROLINA PREPARED FOR HERONS NEST HOA, INC.								

RIPRAP APRON	Do	3Do	Lg	W	STONE SIZE	STONE DEPTH
FES 1	4"	12"	8"	20"	5"	48"

***FES THAT WAS TO INSTALLED PHASE 3 BMP POND
**APRON INFORMATION TAKEN FROM PHASE 3 PLANS



GENERAL NOTES :

- CLASS OR MEDIAN SIZE OF RIPRAP AND LENGTH, WIDTH AND DEPTH OF APRON TO BE DESIGNED BY THE ENGINEER. SEE PLAN SHEET.
- RIPRAP SHOULD EXTEND UP BOTH SIDES OF THE APRON AND AROUND THE END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.
- THERE SHALL BE NO OVERFLOW FROM THE END OF THE APRON TO THE SURFACE OF THE RECEIVING CHANNEL. THE AREA TO BE PAVED TO RIPRAPPED SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL. THE APRON SHALL HAVE A CUTOFF OR TOE AT THE DOWNSTREAM END.
- THE WIDTH OF THE END OF THE APRON SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL. MAXIMUM TAPER TO RECEIVING CHANNEL 5:1.
- ALL SUBGRADE FOR STRUCTURE TO BE COMPACTED TO 95% GREATER.
- THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.
- NO BENDS OR CURVES IN THE HORIZONTAL ALIGNMENT OF THE APRON WILL BE PERMITTED.
- SUBGRADE TO FOLLOW THE REQUIRED LINES AND GRADES SHOWN IN THE PLAN. COMPACT ANY FILL REQUIRED IN SUBGRADE TO DENSITY OF SURROUNDING UNDISTURBED MATERIAL AND LOW AREAS IN SUBGRADE ON DISTURBED SOIL MAY ALSO BE FILLED BY INCREASING RIPRAP THICKNESS.
- RIPRAP TO CONFORM TO SPECIFIED GRADING LIMITS SHOWN ON PLAN.
- MINIMUM THICKNESS OF RIPRAP TO BE 1.5 TIMES THE MAXIMUM STONE DIAMETER, UNLESS OTHERWISE SPECIFIED BY ENGINEER.
- RIPRAP MAY BE FIELD STONE OR ROUGH QUARRY STONE. IT SHOULD BE HARD, ANGULAR, HIGHLY WEATHER-RESISTANT AND WELL GRADED.
- FILTER FABRIC TO BE PLACED DIRECTLY ON PREPARED SLOPE WITHIN 48 HOURS AFTER SLOPE PREPARATION. THE EDGES OF THE SHEETS TO OVERLAP AT LEAST 12". ANCHOR PINS, 15" LONG TO BE SPACED EVERY 3 FEET ALONG THE OVERLAP. THE UPPER AND LOWER ENDS OF THE FABRIC TO BE BURIED A MINIMUM OF 12" DEEP. CARE TO BE TAKEN NOT TO DAMAGE THE FABRIC WHEN PLACING THE RIPRAP. IF DAMAGE OCCURS, THAT SHEET TO BE REMOVED & REPLACED. FOR LARGE STONE (12" OR GREATER), A 4" LAYER OF GRAVEL MAY BE NECESSARY TO PREVENT DAMAGE TO THE FABRIC.

IN SELECTING A FILTER FABRIC, THE FABRIC SHOULD HAVE A PERMEABILITY AT LEAST EQUAL TO THE SOIL AND A PORE STRUCTURE THAT WILL HOLD BACK THE BASE SOIL. THE FOLLOWING PROPERTIES ARE ESSENTIAL TO ASSURE PERFORMANCE UNDER RIPRAP:

A. FOR FILTER FABRIC COVERING A BASE WITH GRANULAR PARTICLES CONTAINING 50% LESS (BY WEIGHT) OF FINE PARTICLES (LESS THAN U.S. STANDARD SIEVE NO. 200):

a.) 485 BASE(MM)/EOS FILTER CLOTH(MM) >1.

b.) TOTAL OPEN AREA OF FILTER IS LESS THAN 36%.

B. FILTER FABRIC COVERING OTHER SOILS:

a.) EOS LESS THAN U.S. STANDARD SIEVE NO. 70.

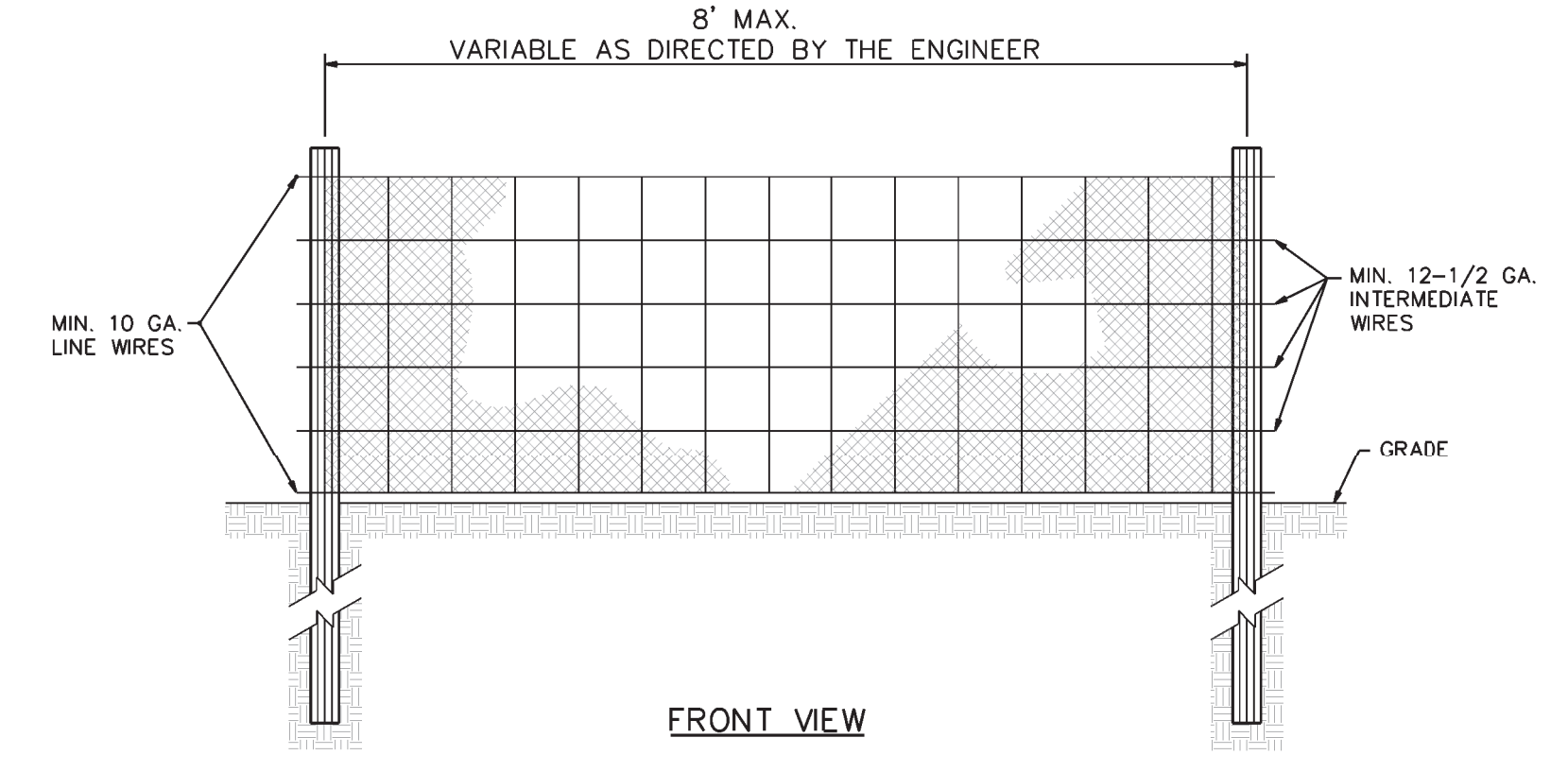
b.) TOTAL OPEN AREA OF FILTER IS LESS THAN 10%.

*EOS-EQUALMENT OPENING SIZE TO A U.S. STANDARD SIEVE SIZE

- PLACEMENT OF RIPRAP TO FOLLOW WITHIN 48 HOURS AFTER PLACEMENT OF FILTER BLANKET. RIPRAP TO BE PLACED SO THAT IT PRODUCES A DENSE, WELL-GRADED MASS OF STONE WITH A MINIMUM OF VOIDS. THE DESIRED DISTRIBUTION OF STONES THROUGHOUT THE MASS MAY BE OBTAINED BY SELECTIVE LOADING AT THE QUARRY. CONTROLLED DUMPING OF SUCCESSIVE LOADS DURING FINAL PLACING OR BY A COMBINATION OF THESE METHODS. RIPRAP TO BE PLACED TO ITS FULL THICKNESS IN ONE OPERATION; IT IS NOT TO BE PLACED IN LAYERS. THE FINISHED STONE SLOPES TO BE FREE OF POCKETS OF SMALL STONE OR CLUSTERS OF LARGE STONES. HAND DISTRIBUTION MAY BE NECESSARY TO ACHIEVE THE REQUIRED GRADES AND A GOOD DISTRIBUTION OF STONE SIZES. FINAL THICKNESS OF THE RIPRAP BLANKET TO BE WITHIN PLUS OR MINUS 1/4 OF THE SPECIFIED THICKNESS.
- DISTURBED AREA ARE TO BE SEEDED AND MULCHED WITHIN 48 HOURS AFTER CONSTRUCTION. (SEE SEEDING NOTES)
- RIPRAP STRUCTURE TO BE INSPECTED AFTER HEAVY RAINS FOR EROSION AROUND OR BELOW RIPRAP AND FOR DISLODGED STONES. NEEDED REPAIRS TO BE MADE WITHIN 48 HOURS TO PREVENT FURTHER DAMAGE.

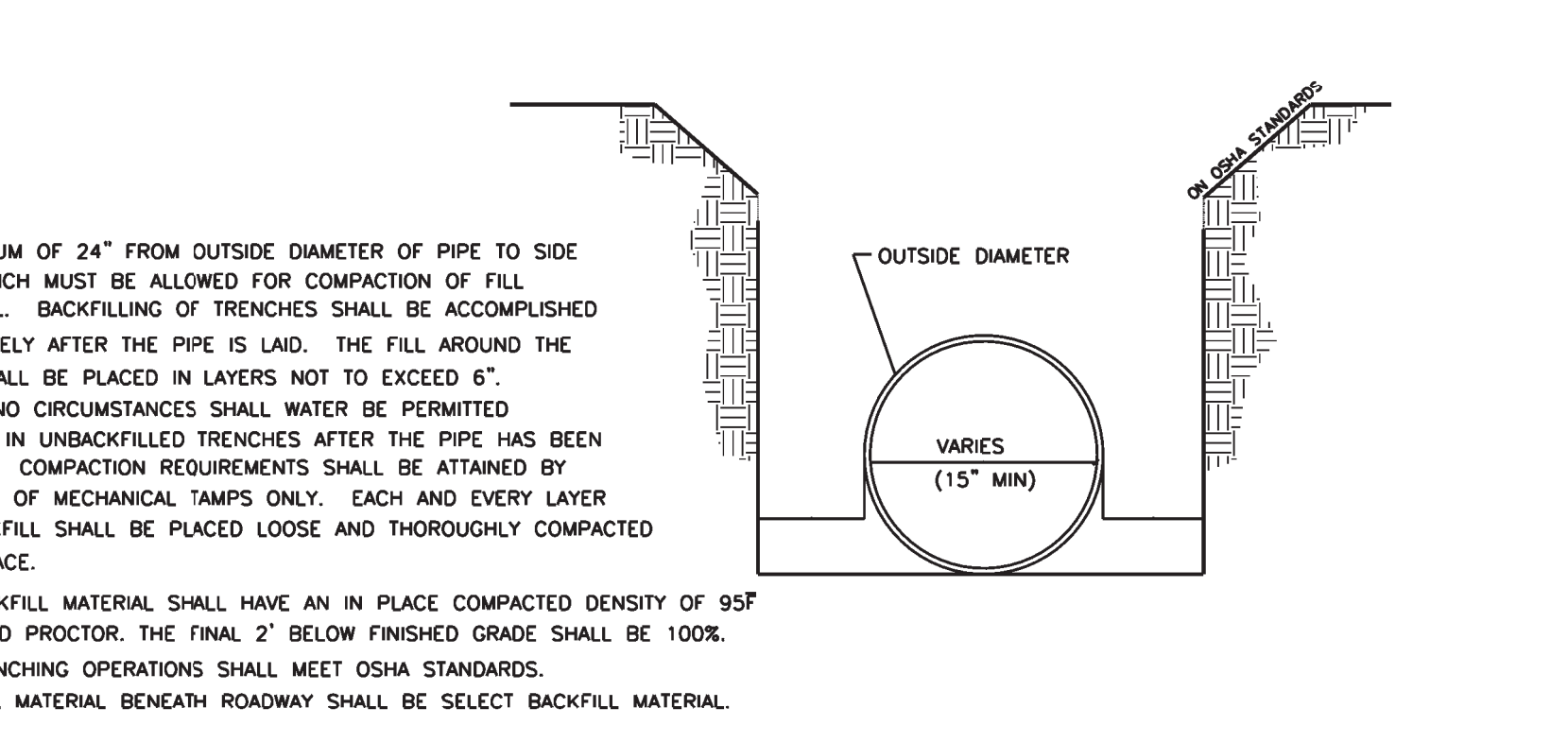
A RIPRAP APRON AT PIPE OUTLETS

SCALE=NTS



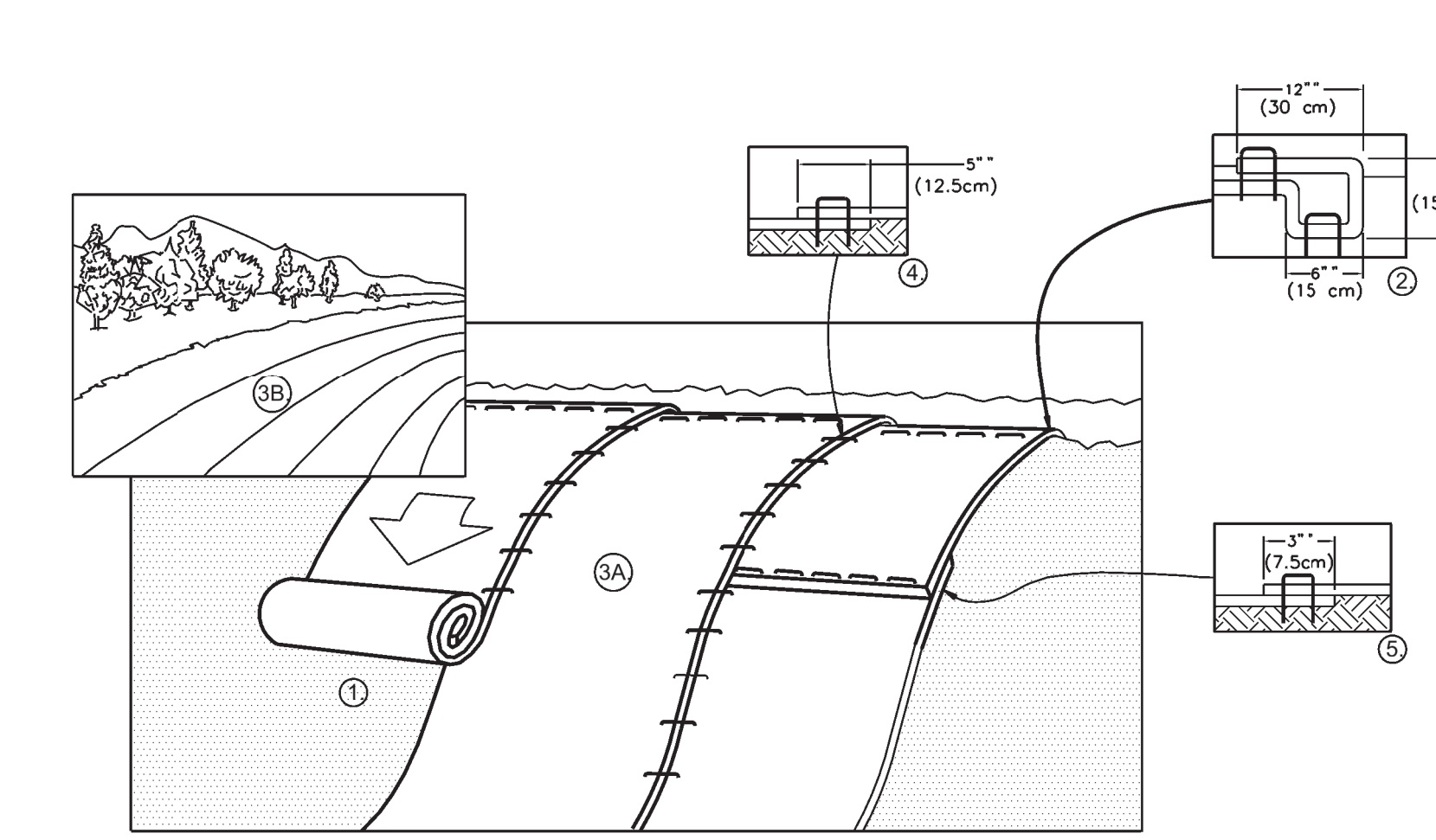
B TEMPORARY SILT FENCE

SCALE=NTS



C TRENCH DETAIL FOR STORM DRAIN PIPES

SCALE=NTS

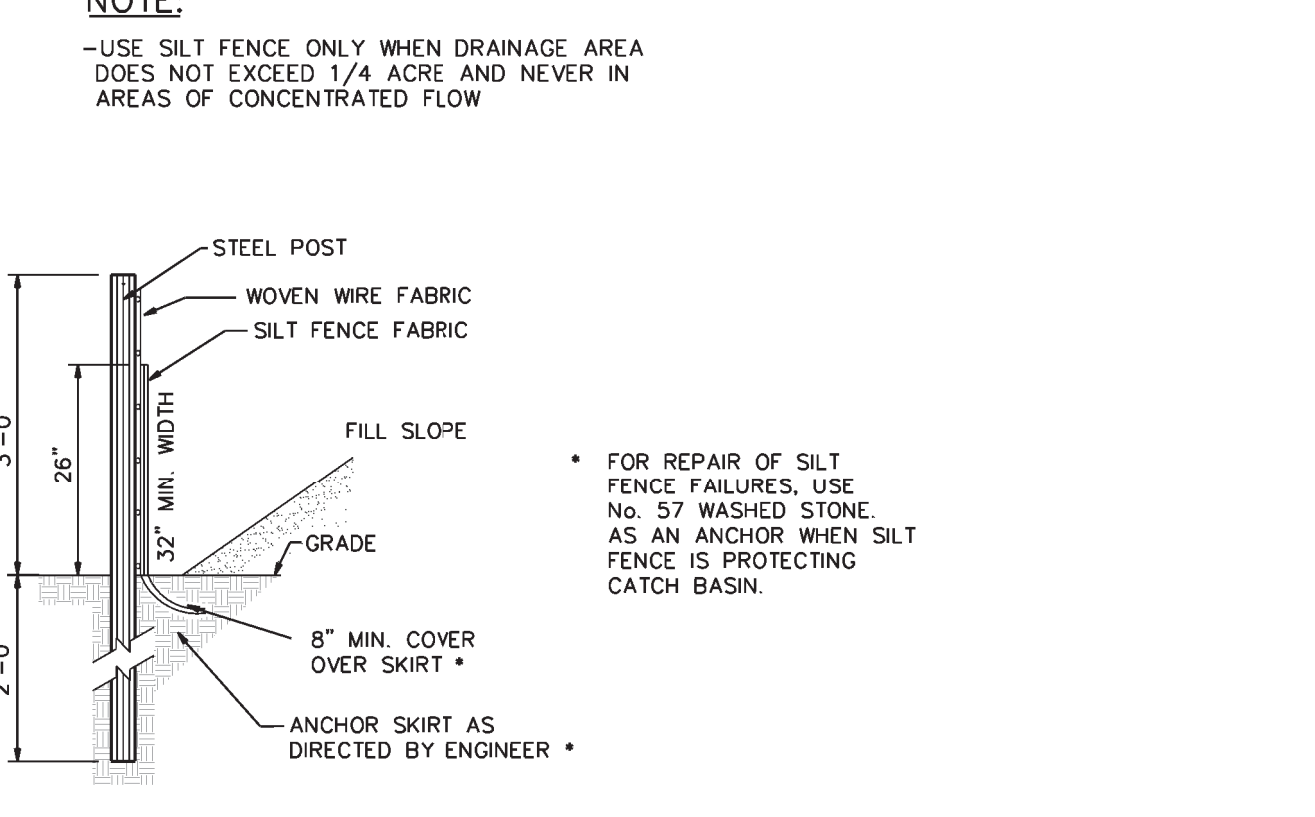


- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
- ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 5" (12.5cm) OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
- CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 5" (12.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.
- MATTING TO BE NORTH AMERICAN GREEN, CONTECH EXCELSIOR OR AN APPROVED EQUAL.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

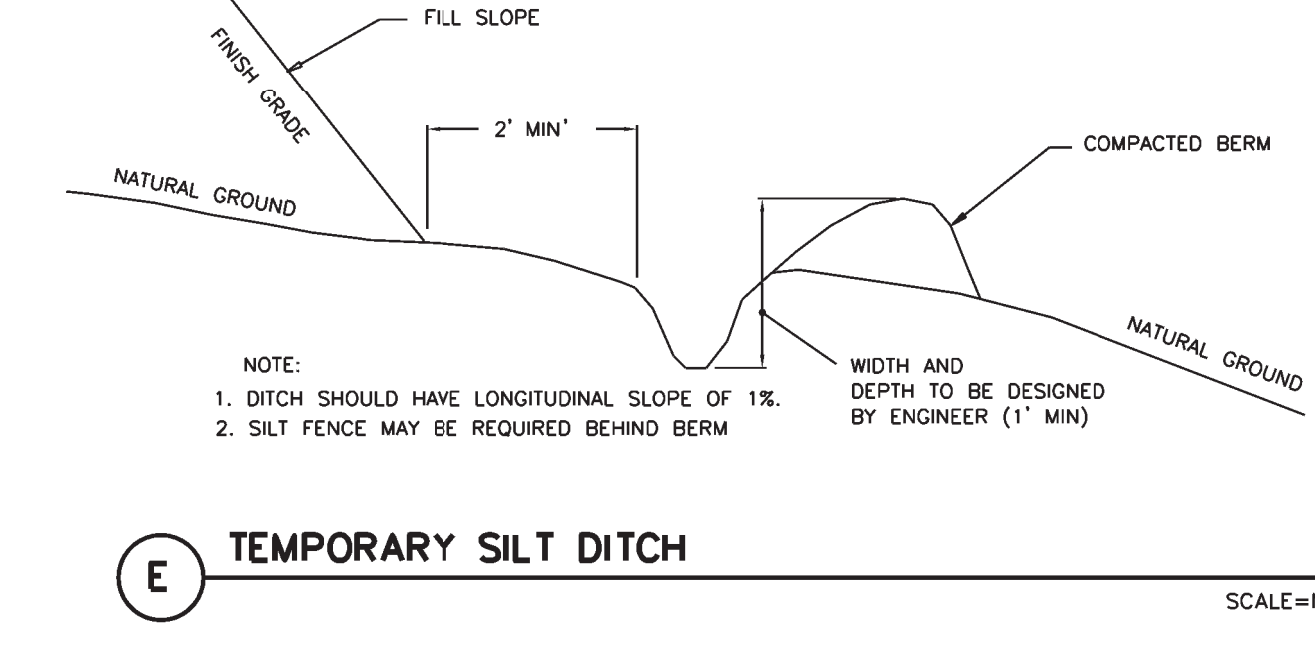
D EROSION CONTROL BLANKET ALONG A SLOPE

SCALE=NTS



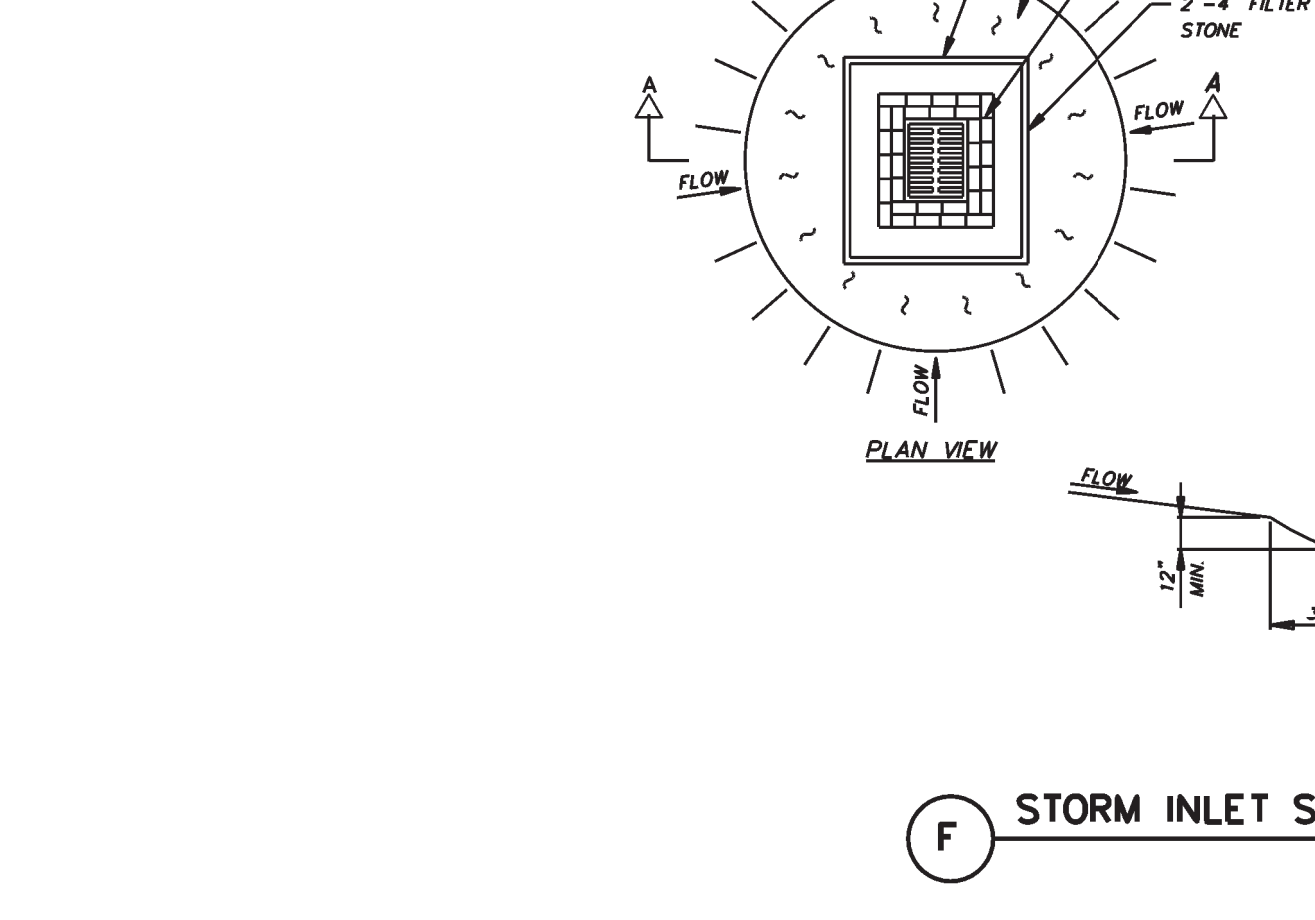
E TEMPORARY SILT DITCH

SCALE=NTS



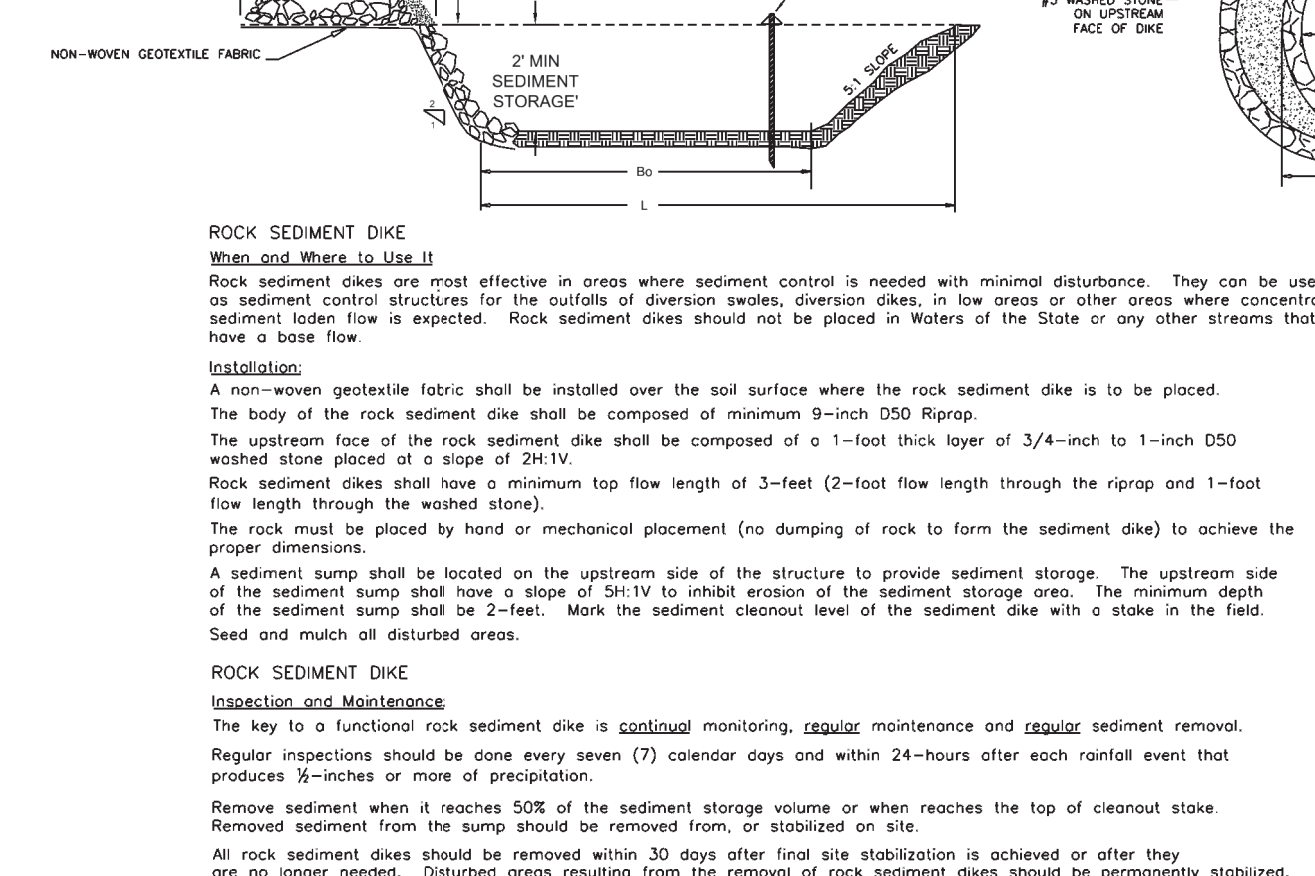
F STORM INLET SEDIMENT TRAP

SCALE=NTS



G ROCK SEDIMENT DIKE

SCALE=NTS



H TEMPORARY CONSTRUCTION ENTRANCE / EXIT

SCALE=NTS

SEDIMENT AND EROSION CONTROL NOTES

- Control structures indicated on the plans are to be installed prior to any digging or disruption of vegetation. Contractor shall maintain all roadside ditches and storm drainage structures free of sediment.
- Construction easements shall not be cleared unless absolutely necessary.
- All reasonable efforts should be made to maintain a natural buffer (undisturbed vegetation) between construction areas, streams and other sensitive areas construct and maintain diversion ditches on stream side of construction. When cleaning sediment from the diversion ditches, deposit the excavated material on the uphill side of the ditch or in an area which empties to a sediment trap or basin.
- All rip-rap is to be installed prior to construction except in locations where the line actually crosses proposed rip-rap area.
- Use rip-rap where required on any disturbed stream banks. Contractor shall plan work so that stockpiles of excavated material are not subject to washing into any stream or drainage structure.
- Contractor shall maintain all erosion control measures in a satisfactory manner through periodic maintenance or by reconstructing the control structures when necessary.
- Upon grading areas to final elevation, the contractor shall be responsible for the removal and legal disposal of all waste materials from the project. The contractor shall be responsible that the disposal methods utilized shall not contribute to acceleration erosion or sediment damage to off-site waste areas.
- All areas not to be covered with a "hard surface" are to be graded in accordance with the approved erosion and sediment control plan.
- Once ground cover is firmly established, all temporary erosion control structures are to be removed.
- All sediment control measures shall be inspected at least once every seven calendar days and after any storm event of greater than 0.5 inches of precipitation during any 24-hour period. All sediment control features shall be maintained until final stabilization has been obtained.
- If water is encountered while trenching, the water should be filtered before being pumped out of the construction area to remove any sediments.
- Additional control devices may be required during construction in order to control erosion and/or offsite sedimentation.

SEEDING AND MULCHING NOTES

Ground Cover – Whenever land-disturbing activity is undertaken on a tract comprising more than one acre, if more than one contiguous acre is uncovered a ground cover sufficient to restrain erosion must be planted or otherwise provided within 30 working days on that portion of the tract upon which further active construction is not being undertaken, provided that this subsection shall not apply to cleared land forming the basin of a reservoir later to be inundated.

Graded Slopes and Fills – The angle for graded slopes and fills shall be no greater than the angle which can be retained by vegetative cover or other adequate erosion control devices or structures. In any event, slopes left exposed shall, within 30 working days of completion of any phase of grading, be planted or otherwise provided with ground cover, devices or structures sufficient to restrain erosion.

Seed Bed Preparation – The seed bed shall be prepared by pulverizing the soil in an approved manner to a depth of three inches for field conditions or slopes that are 3:1 or flatter and/or to a depth of one inch to three inches, as determined on sites for slopes steeper than 3:1. Tillage shall continue until a well pulverized, firm, uniform seed bed is prepared conforming substantially to ground elevations as shown on the plans and/or as was existing prior to construction, blending with the adjacent topography. Good surface drainage must be provided, allowances for settlement made and ground elevations adjusted accordingly. All stones, roots, sticks, rubbish, and other objectionable material shall be removed.

Seeding and Fertilization – Fertilizer shall be applied at a rate of 20 pounds per 1000 square feet – if using 5–10–10 fertilizer, and 30 pounds per 1000 square feet – if using 10–10–10 fertilizer for established lawn areas. Lime shall be applied to a rate of 100 pounds per 1000 square feet.

All seeding material shall be labeled to show that it meets the latest requirements of South Carolina Seed Law. Seed shall have been tested within the last six months. Kentucky Fescue #31 shall be a minimum 89% pure live seed; maximum 1% weed seed; minimum 90% germination. Rye Grass shall be a minimum 98% pure live seed; maximum 0.10% weed seed; 85% germination.

When the work is performed within the South Carolina Departments of Transportation's rights-of-way, the Contractor shall furnish the State Landscape Supervisor the name of the supplier of seed, the seed type and the total amount of seed to be used in restoring the disturbed ground cover. Seeding shall be done within thirty (30) days after the initial ground disturbance. The seed bed shall be in a good friable condition. Seed shall be applied at the rate recommended by the supplier and raked or tilled into the topsoil with the resulting furrows running across the natural ground slope. The following materials shall be used for reseeding disturbed areas. Note all rates are per 1000 square feet.

September 15 thru March 1
6# Kentucky Fescue No. 31
2# Rye Grain
30# Fertilizer (10–10–10)
100# Lime

February 1 thru October 15
6# Kentucky Fescue No. 31
30# Fertilizer (10–10–10)
100# Lime

May 1 thru September 30
Add 0.4# Sudan or Millet to above

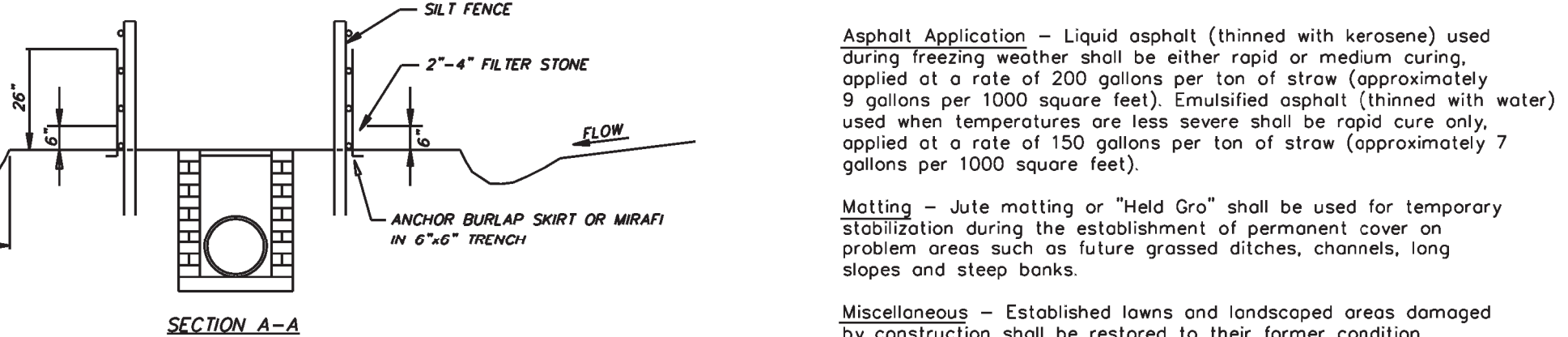
Mulching – After fertilizing, seeding, raking and tilling dried straw shall be uniformly spread over the area at a rate of 90 pounds per 100 square feet. Approximately 1/4 of the ground should remain visible to avoid smothering the seedlings. The straw shall be sprayed with liquid asphalt to bond the straw together and another it in place, preventing it from being scattered by the wind and rain.

Asphalt Application – Liquid asphalt (thinned with kerosene) used during freezing weather shall be either rapid or medium curing, applied at a rate of 200 gallons per ton of straw (approximately 9 gallons per 1000 square feet). Emulsified asphalt (thinned with water) used when temperatures are less severe shall be rapid cure only, applied at a rate of 150 gallons per ton of straw (approximately 7 gallons per 1000 square feet).

Matting – Jute matting or "Held Gro" shall be used for temporary stabilization during the establishment of permanent cover on problem areas such as future grassed ditches, channels, long slopes and steep banks.

Miscellaneous – Established lawns and landscaped areas damaged by construction shall be restored to their former condition.

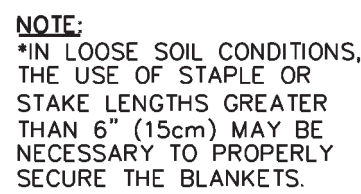
Seeding and mulching shall be paid for at the unit price, per square yard, applied, as approved by the construction observer. Fill, cover and temporary seeding at the end of each day is recommended.



I CROSS SECTION

SCALE=NTS

APPROVALS PROJECT ENGR: CEW DRAWN BY: ADB CHECKED BY: CEW REVIEW: _____ BID: _____ CONSTRUCTION: _____	PREPARED BY Joel E. Wood & Associates Planning / Engineering / Management P.O. Box 296 Clover, S.C. 29710 Phone: 803-684-3390	SEALS NORTH CAROLINA PROFESSIONAL ENGINEER JOEL E. WOOD & ASSOCIATES, PLLC NORTH CAROLINA PROFESSIONAL ENGINEER JOEL E. WOOD	PROJECT HERON'S NEST SUBDIVISION SHALLOTTE, NORTH CAROLINA PREPARED FOR HERONS NEST HOA, INC.	SHEET TITLE DETAILS	<table><thead><tr><th>NO.</th><th>DATE</th><th>REVISIONS</th><th>BY</th></tr></thead><tbody><tr><td>1</td><td>8/22/17</td><td>NCDENR COMMENTS</td><td>ABW</td></tr><tr><td>2</td><td>9/14/17</td><td>NCDENR COMMENTS</td><td>ABW</td></tr><tr><td>3</td><td>10/30/17</td><td>NCDENR COMMENTS WATER QUALITY SHW</td><td>ABW</td></tr><tr><td>4</td><td>11/30/17</td><td>NCDENR COMMENTS WATER QUALITY SHW</td><td>ABW</td></tr><tr><td>5</td><td>7/18/25</td><td>OWNER/DEVELOPER NAME CHANGE</td><td>ABW</td></tr></tbody></table> SCALE: NTS DATE: 06/12/2017 JOB NO.: 170503 SHEET 13 of 16	NO.	DATE	REVISIONS	BY	1	8/22/17	NCDENR COMMENTS	ABW	2	9/14/17	NCDENR COMMENTS	ABW	3	10/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW	4	11/30/17	NCDENR COMMENTS WATER QUALITY SHW	ABW	5	7/18/25	OWNER/DEVELOPER NAME CHANGE	ABW
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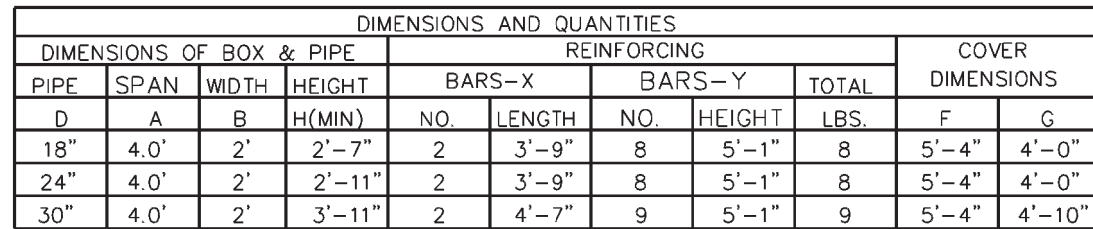
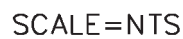


1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF FINE, FERTILIZER, AND SEED.
2. BEGIN WHEN USING CELL-0 SOED DO NOT SOED PREPARED AREA. CELL-0-SOED MUST BE INSTALLED WITH PAPER SIDE DOWN.
3. BEGIN AT TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 15" (6 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH.
4. AS YOU COMPACT THE TRENCH AFTER STAPLING, APPLY SEED TO COMPACTED SOIL AND FOLD REWARD 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
5. ROLL THE RECP'S (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE ANCHORS. STAPLES/STAKES MUST BE PLACED FASTENED TO THE RECP'S AT THE TOP OF THE SLOPE. STAPLES/STAKES MUST BE PLACED IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES MUST BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
6. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.
7. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH.

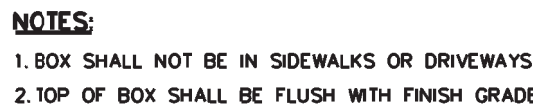
NOTE:

- IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

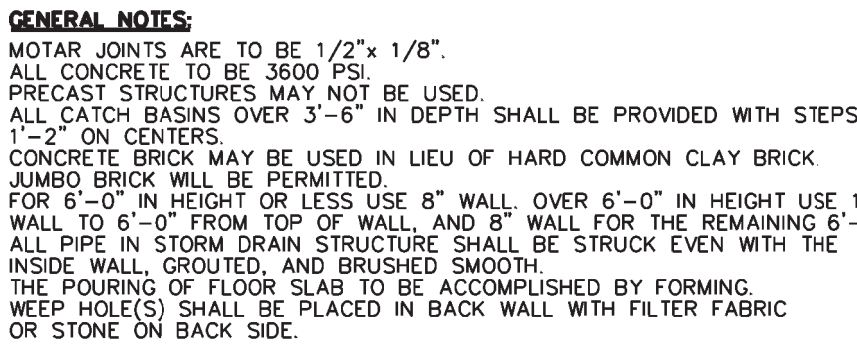
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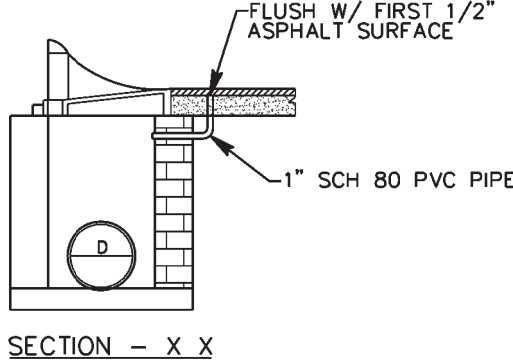
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NOTE: STORM WATER DIVISION DURING THE INITIAL INSPECTION, WILL DETERMINE WHICH DRAINAGE STRUCTURES WILL HAVE WEEP HOLES INSTALLED.

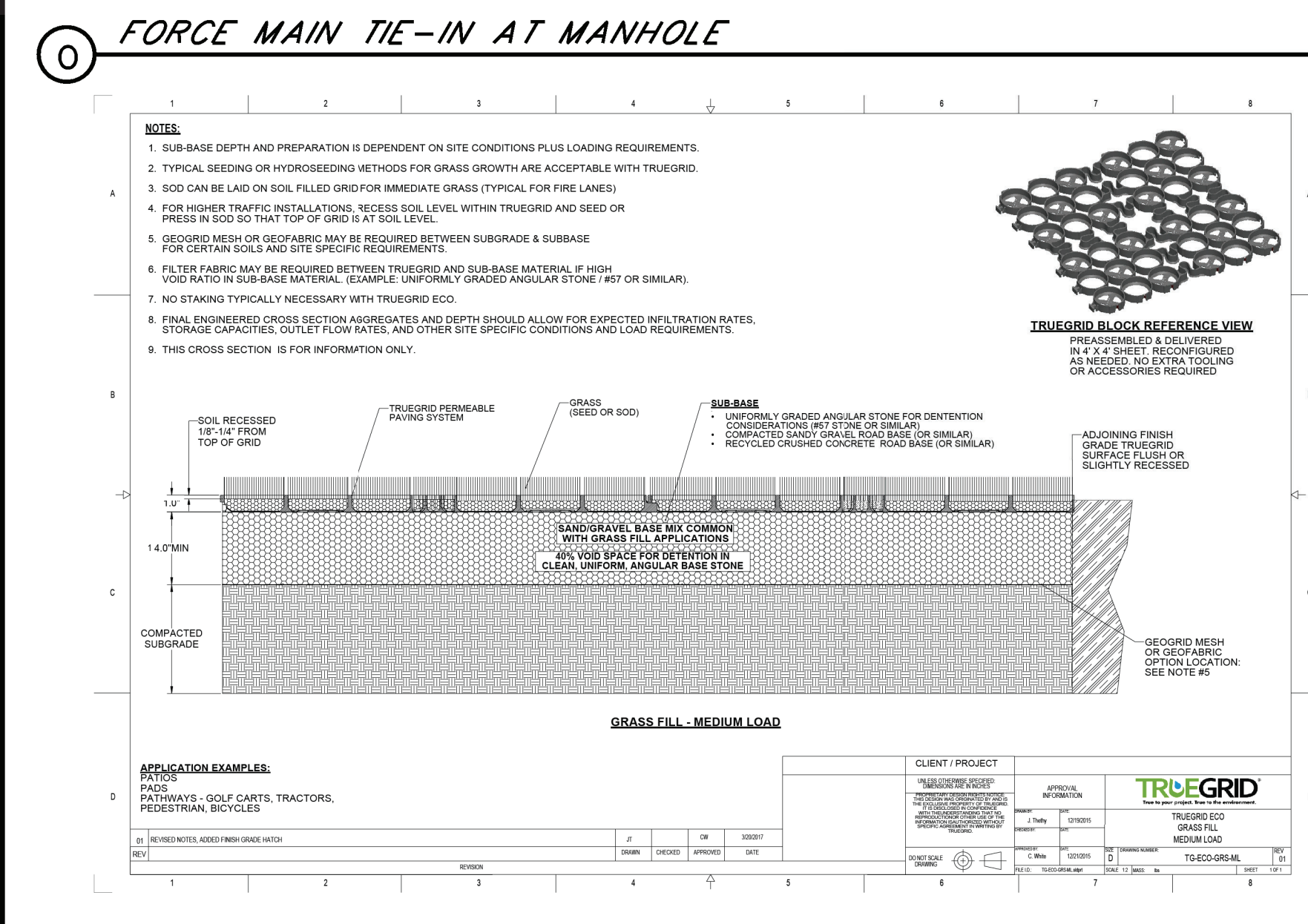
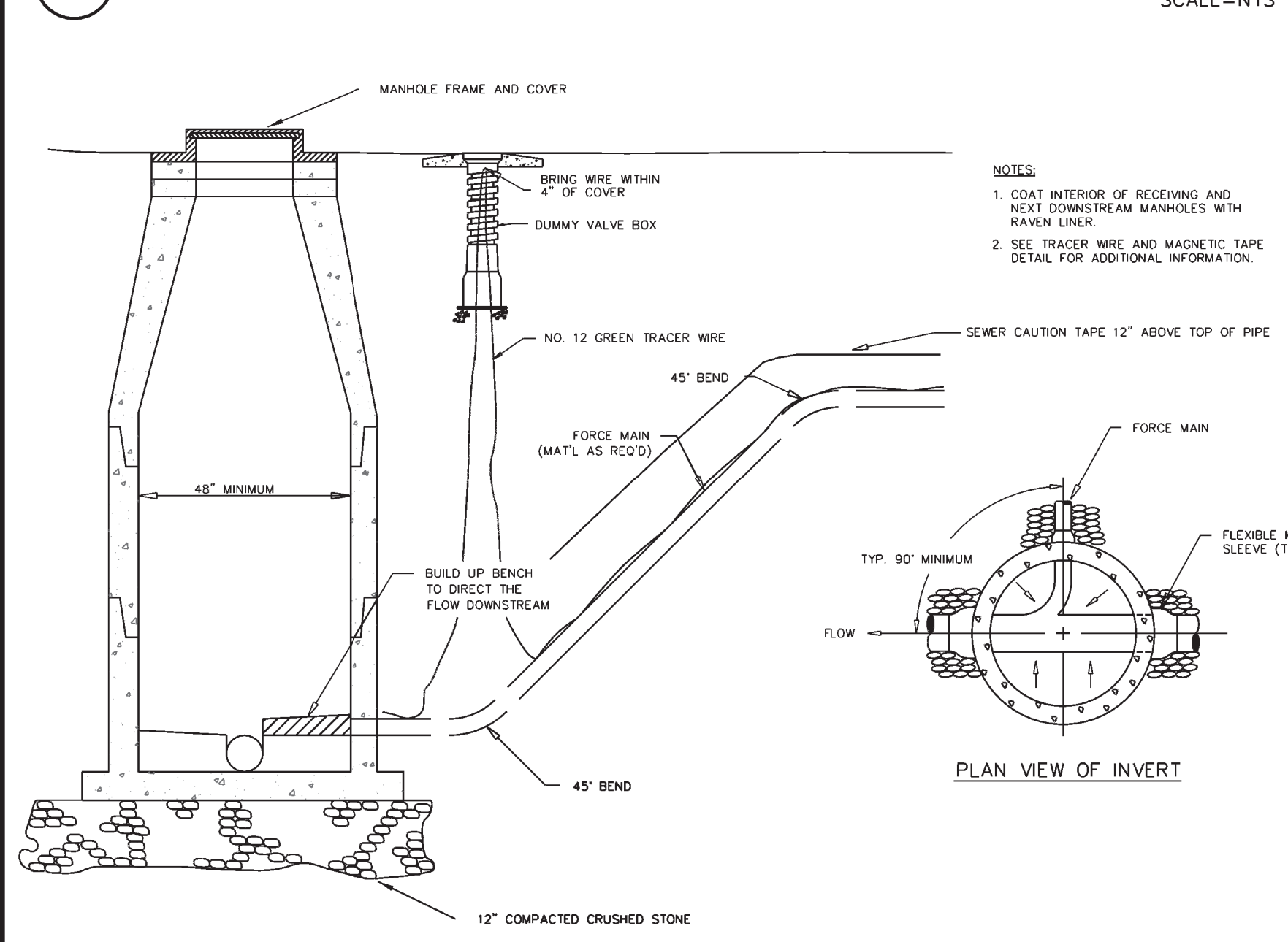
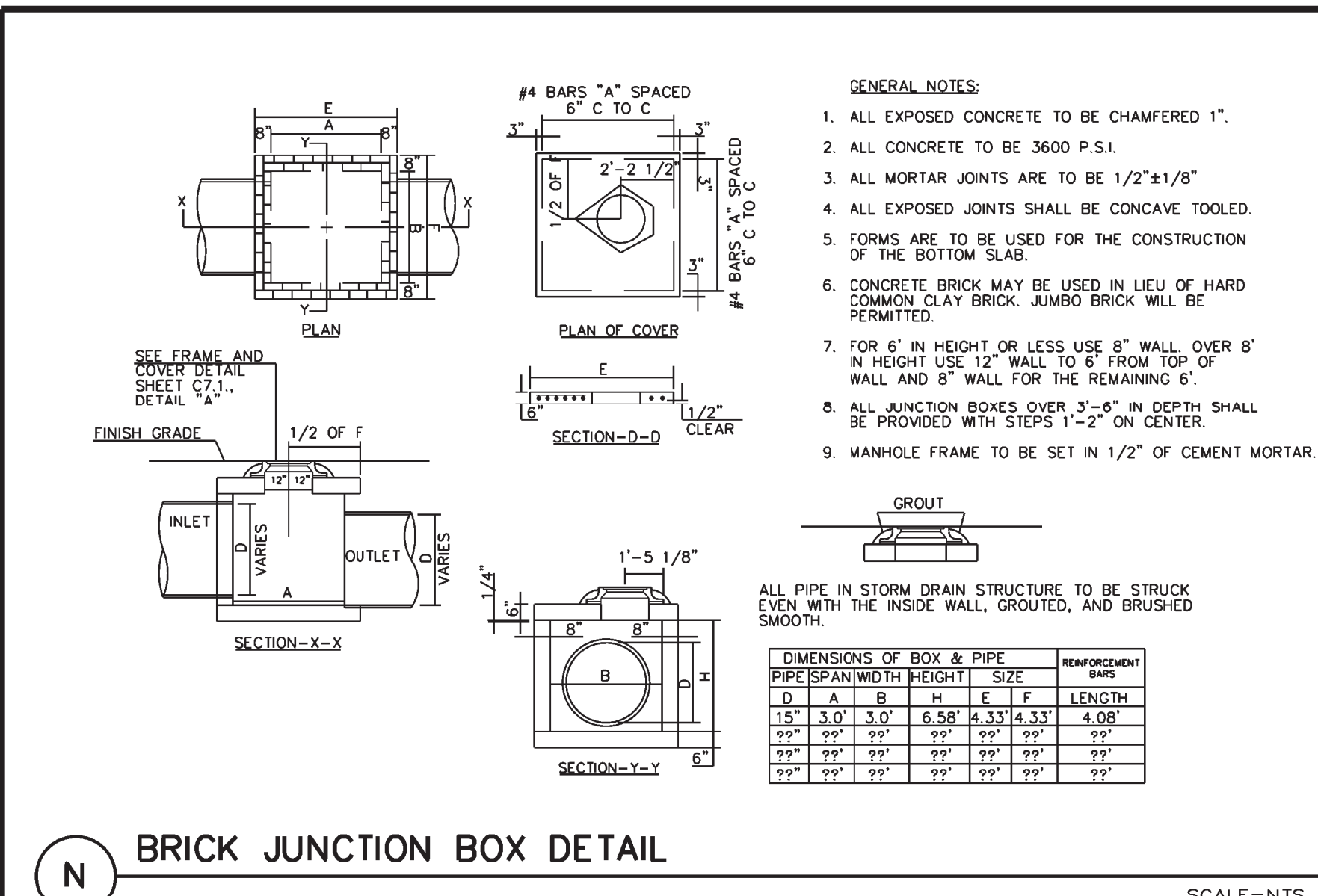


NOTE: INSTALL 1" PVC SCH 40 PIPE



SCALE=NTS

APPROVALS		PREPARED BY		SEALS		PROJECT		SHEET TITLE		NO. DATE REVISIONS BY		SCALE: NTS	
PROJECT ENGR: CEW		 Joel E. Wood & Associates Planning / Engineering / Management P.O. Box 296 Clover, S.C. 29710 Phone: 803-684-3390		 		HERON'S NEST SUBDIVISION SHALLOTTE, NORTH CAROLINA PREPARED FOR HERONS NEST HOA, INC.		DETAILS		1 8/22/17 NCDENR COMMENTS ABW		DATE: 06/12/2017	
DRAWN BY : ADB										2 9/14/17 NCDENR COMMENTS ABW			
CHECKED BY : CEW										3 10/30/17 NCDENR COMMENTS WATER QUALITY SHW ABW			
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REVIEW: _____										5 7/18/25 OWNER/DEVELOPER NAME CHANGE ABW		JOB NO.: 170503	
BID: _____												SHEET 14 OF 16	
CONSTRUCTION: _____													



APPROVALS

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CHECKED BY: CEW

REVIEW: BID:
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PREPARED BY

Joel E. Wood & Associates
Planning / Engineering / Management
P.O. Box 296 Clover, S.C. 29710
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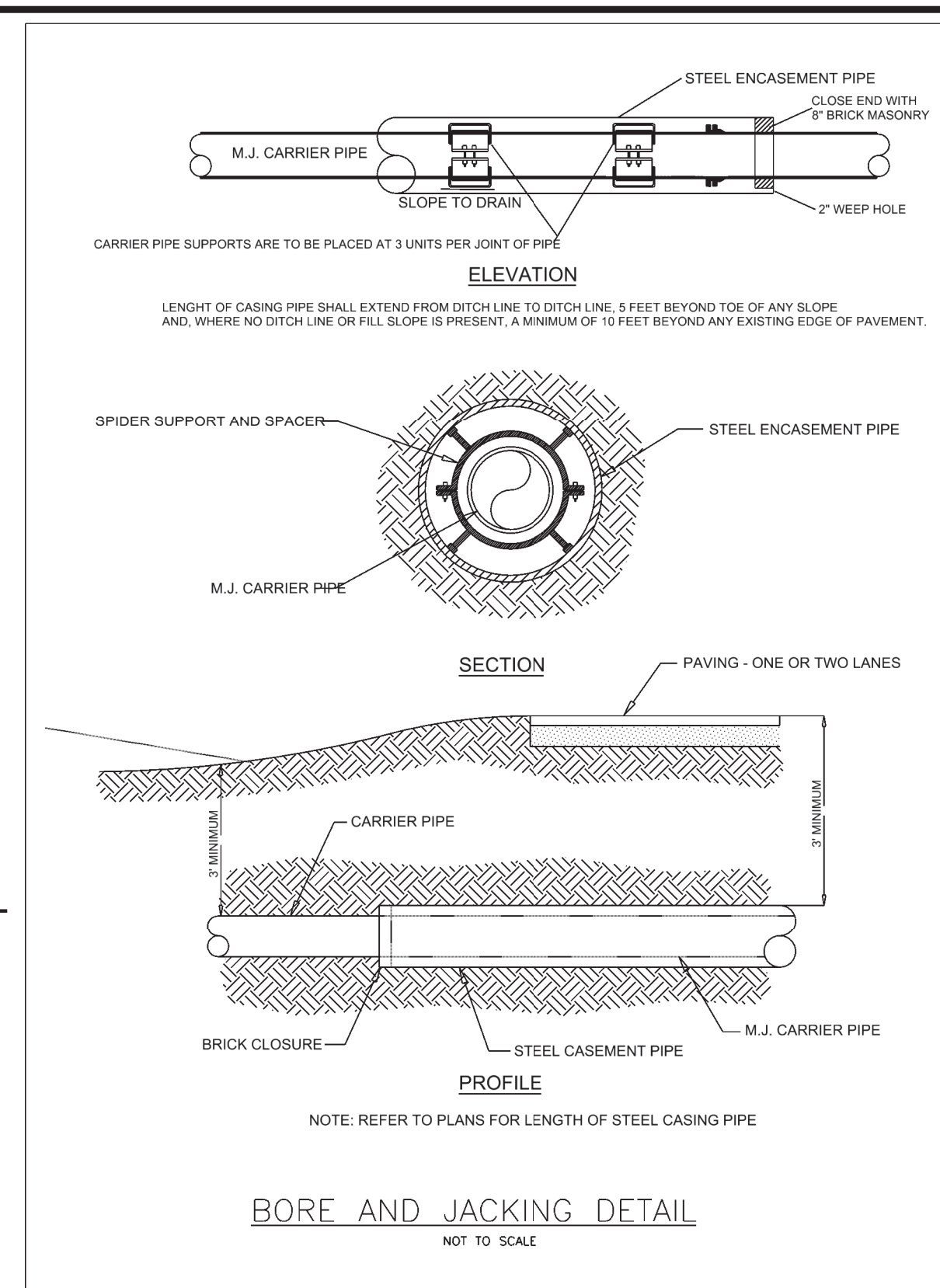
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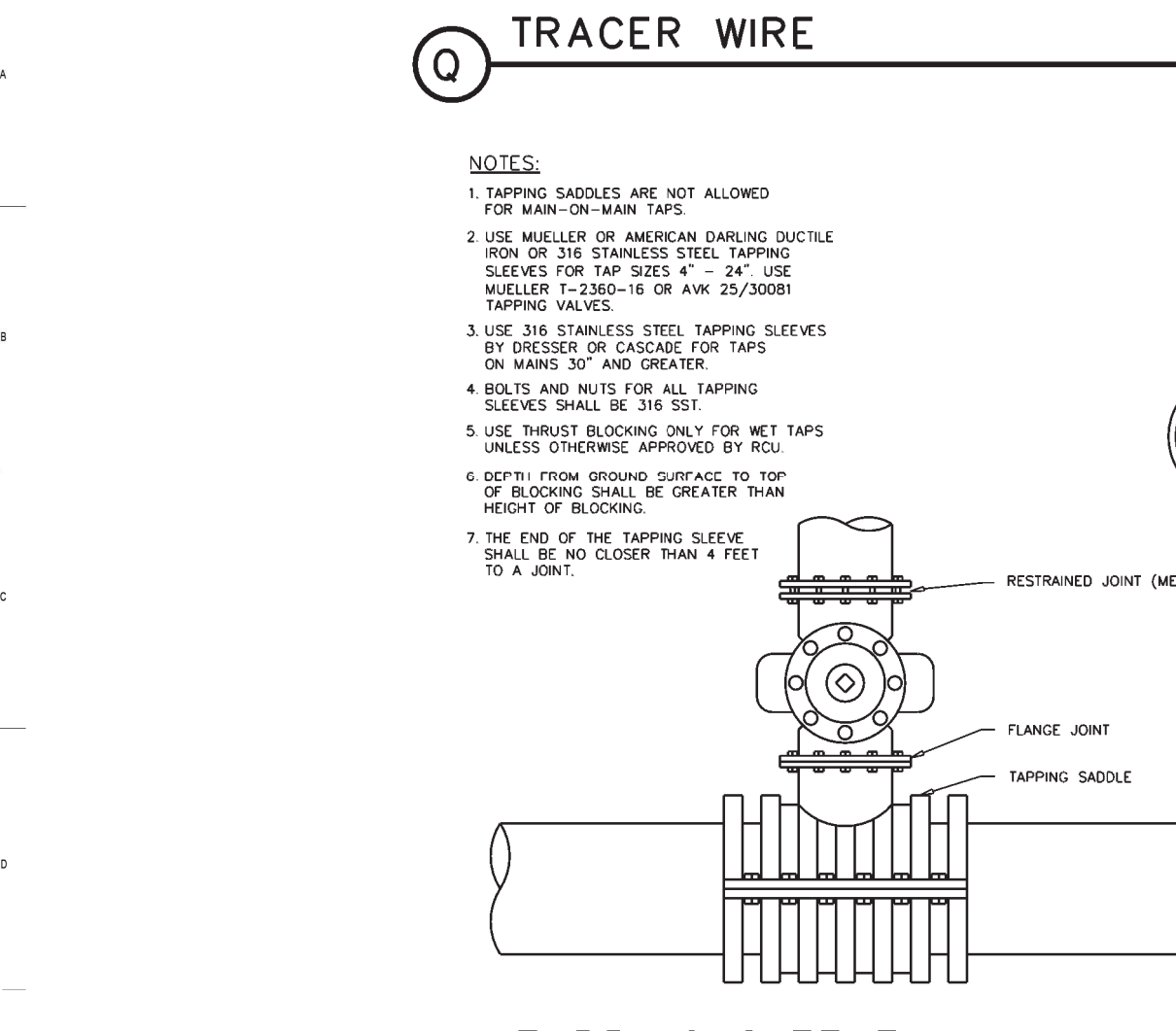
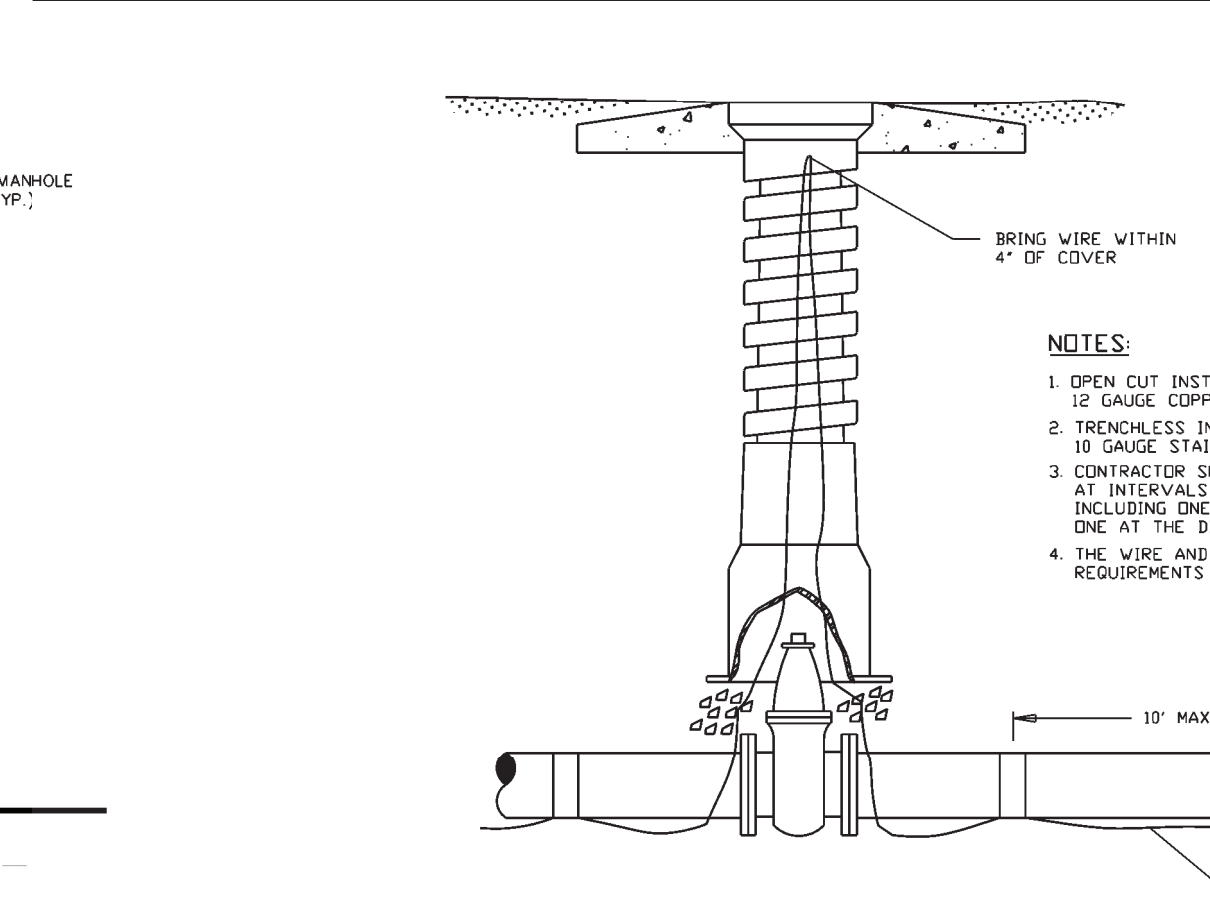
HERON'S NEST SUBDIVISION
SHALLOTTE, NORTH CAROLINA
PREPARED FOR
HERONS NEST HOA, INC.

SHEET TITLE

DETAILS



No.	Revision	Date	Town of Shalotte
			PO Box 2287 Shalotte, NC 28459



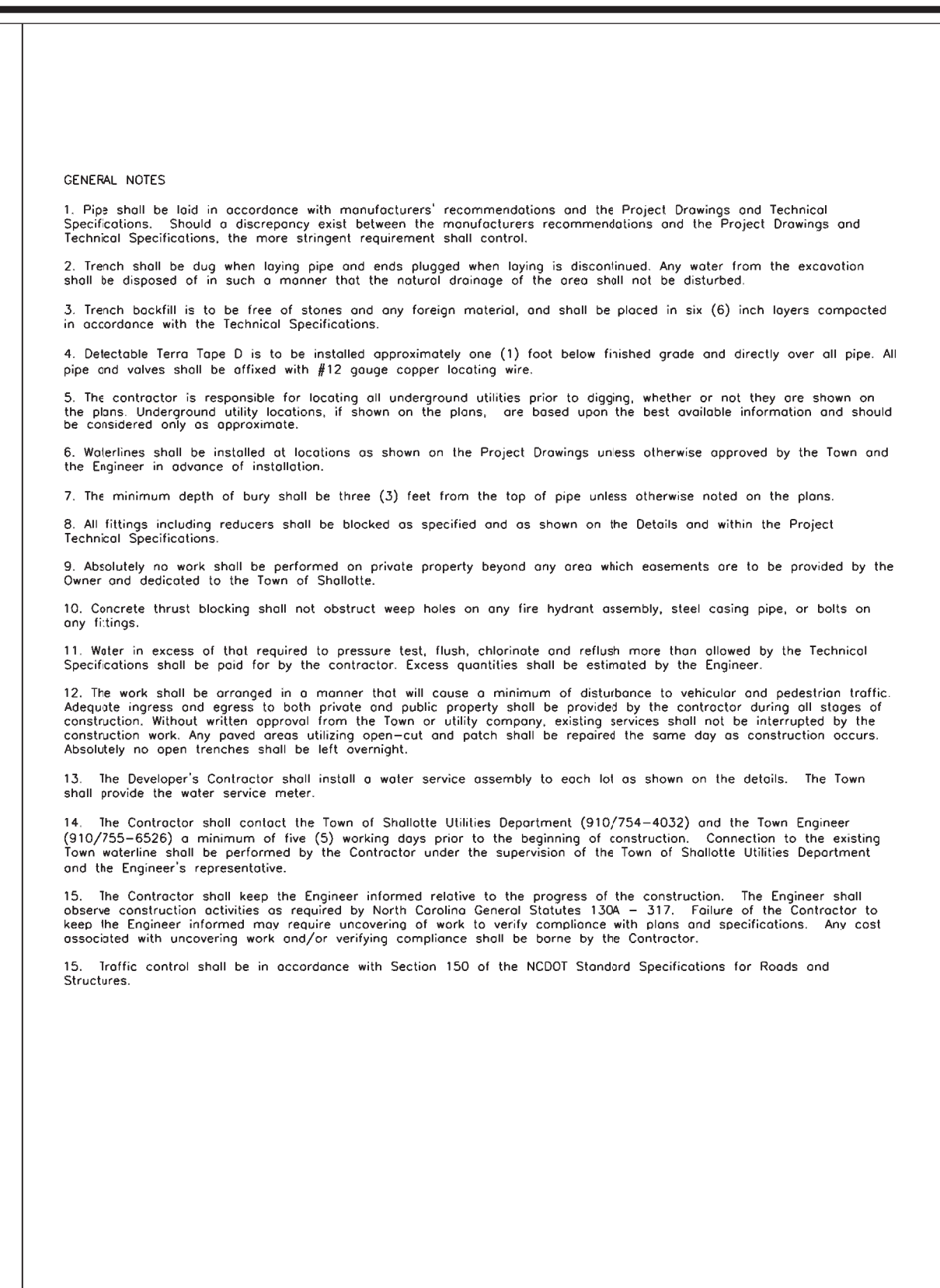
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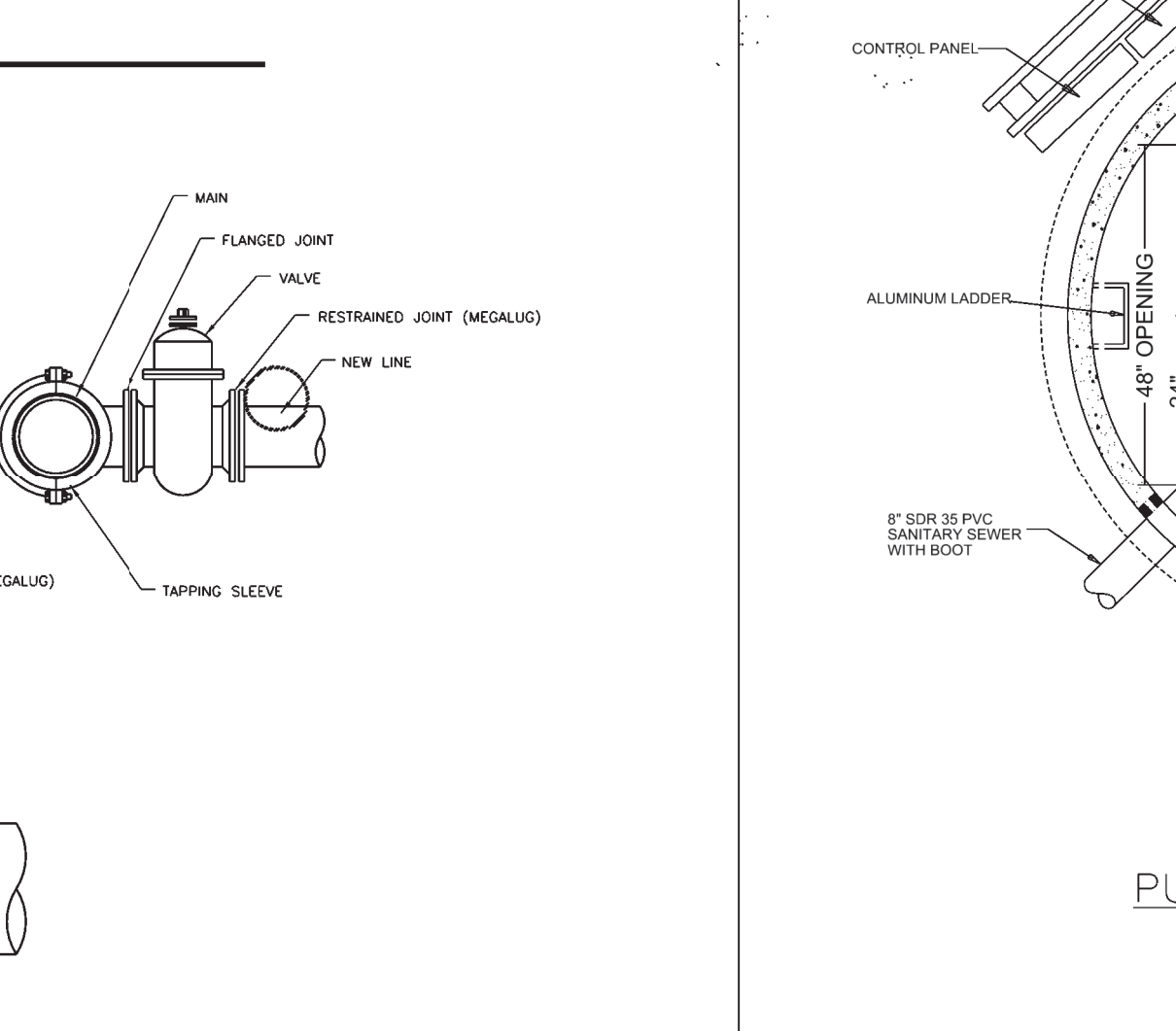
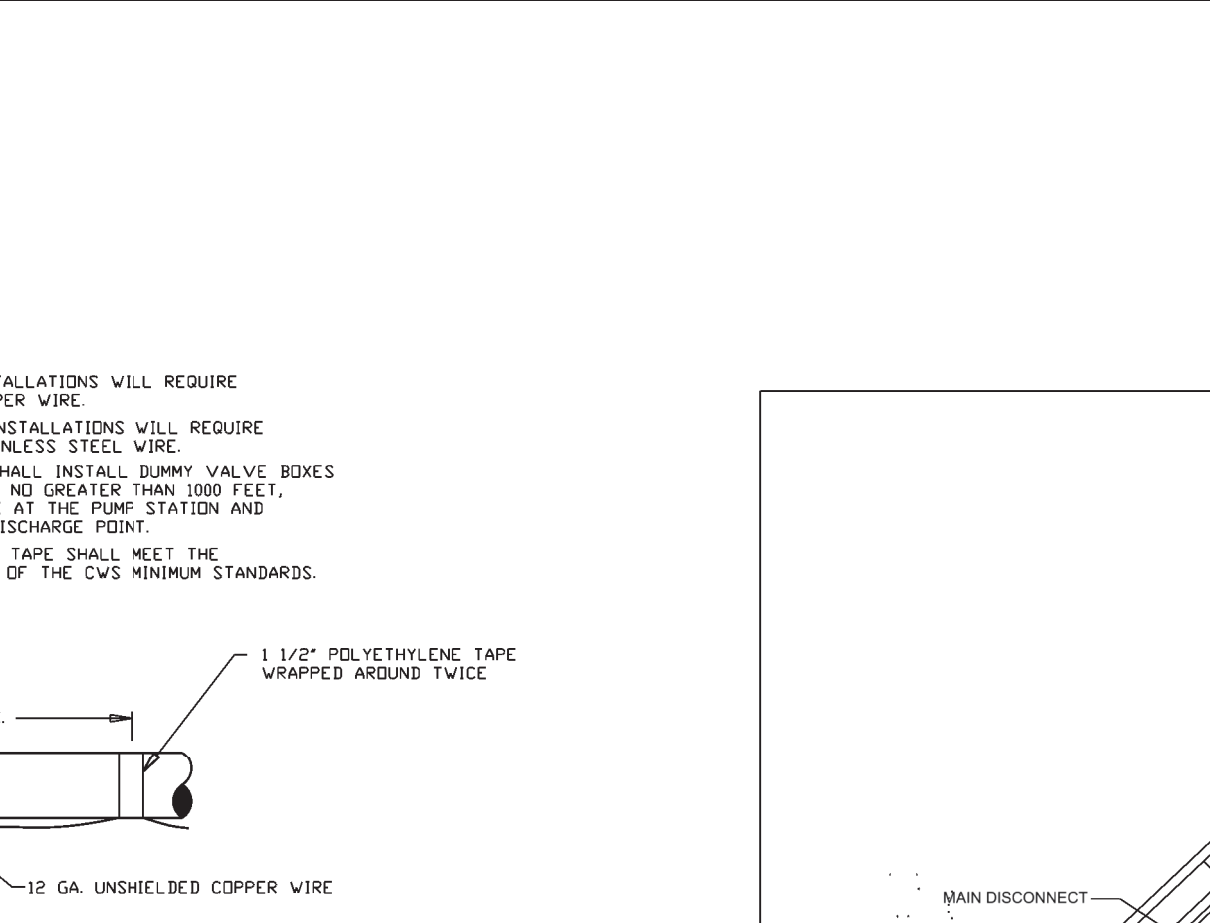
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SHALLOTTE, NORTH CAROLINA
PREPARED FOR
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SHEET TITLE

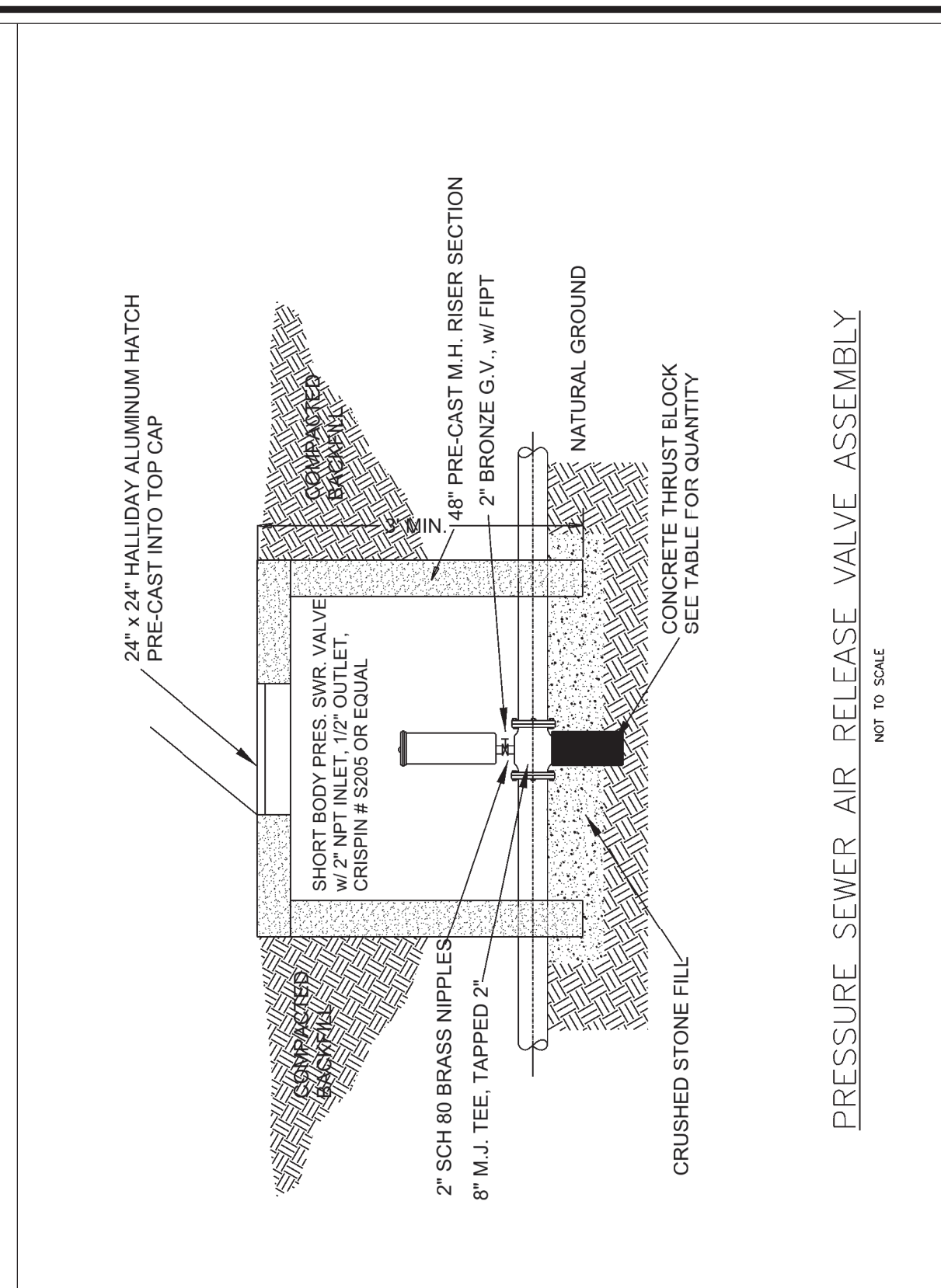
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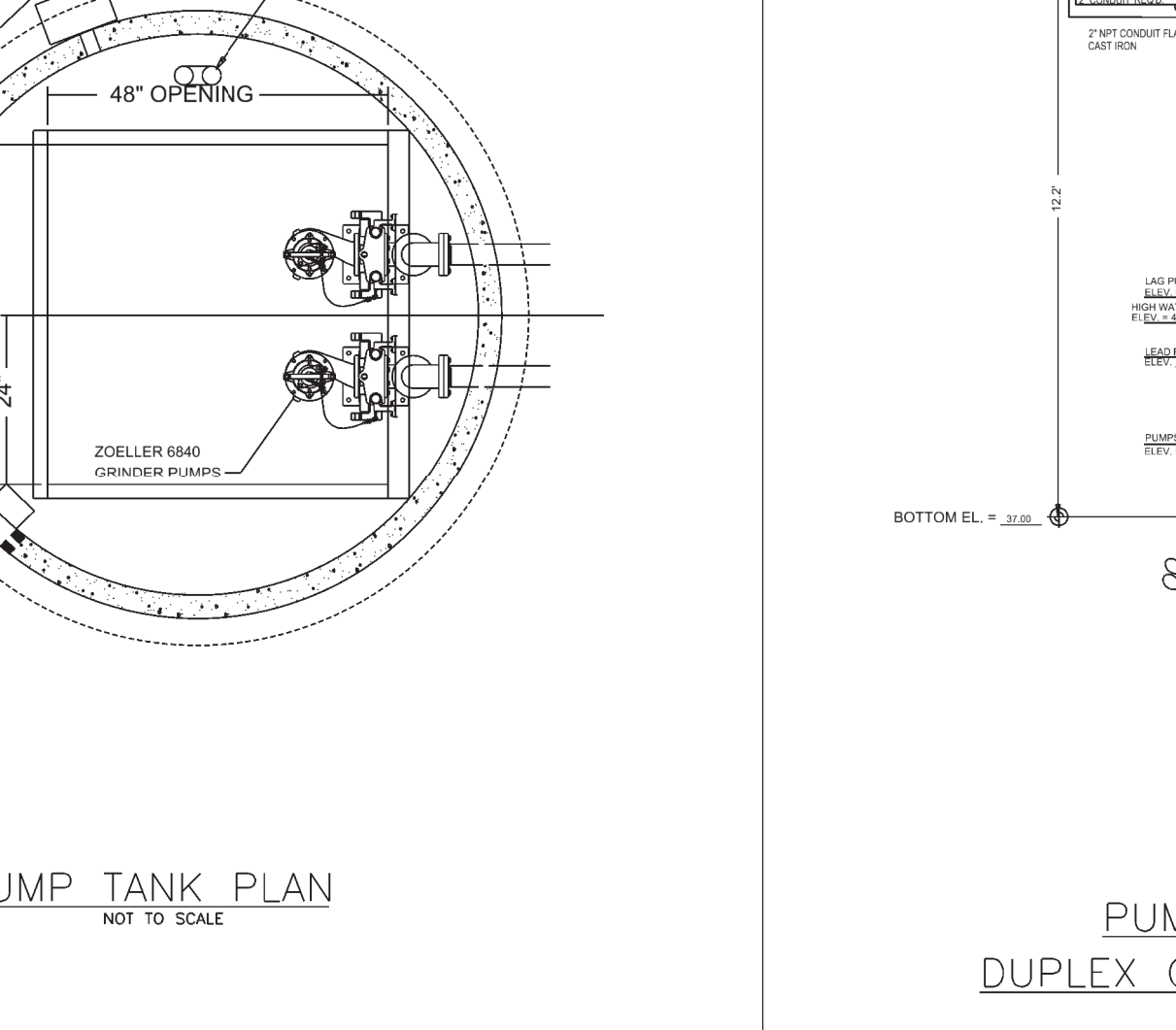
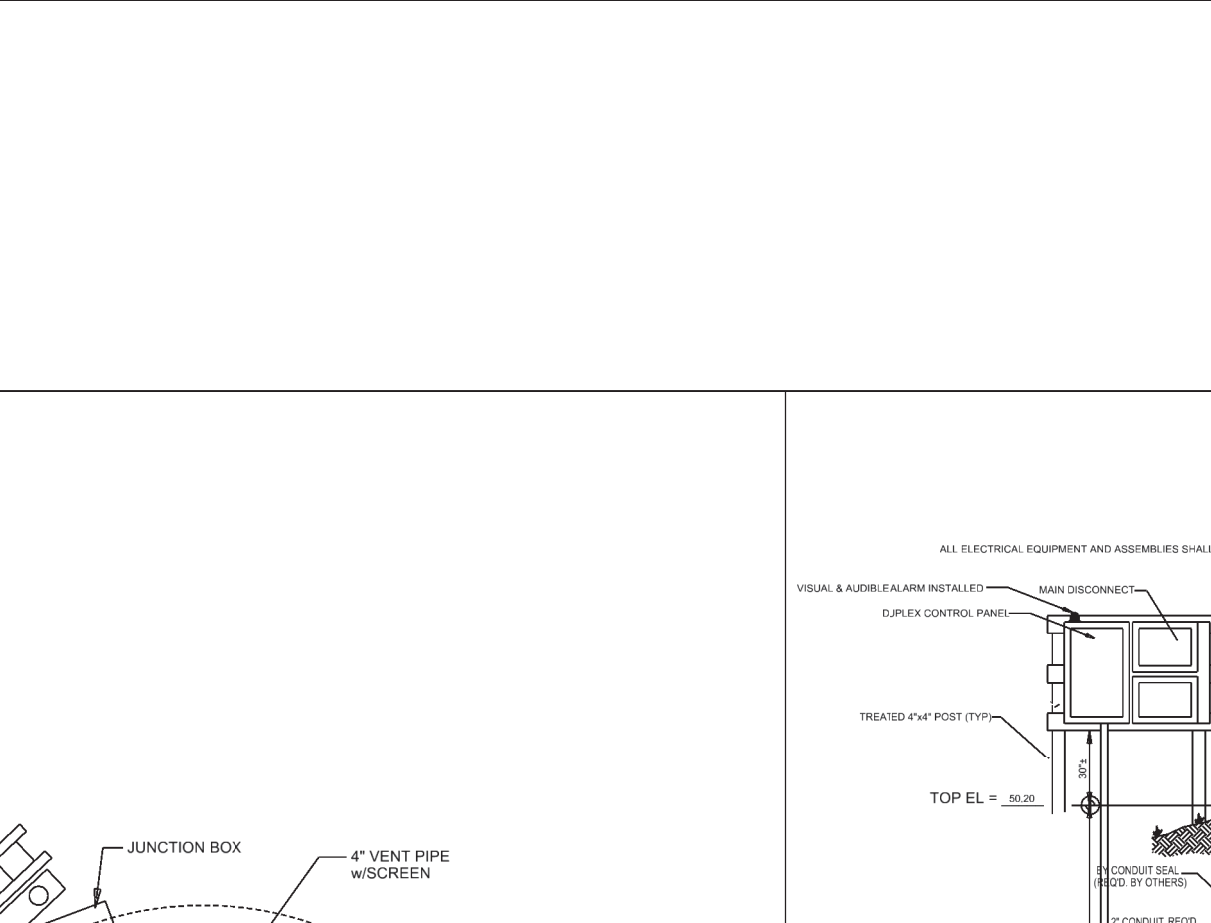
No.	Revision	Date	Town of Shalotte
			PO Box 2287 Shalotte, NC 28459



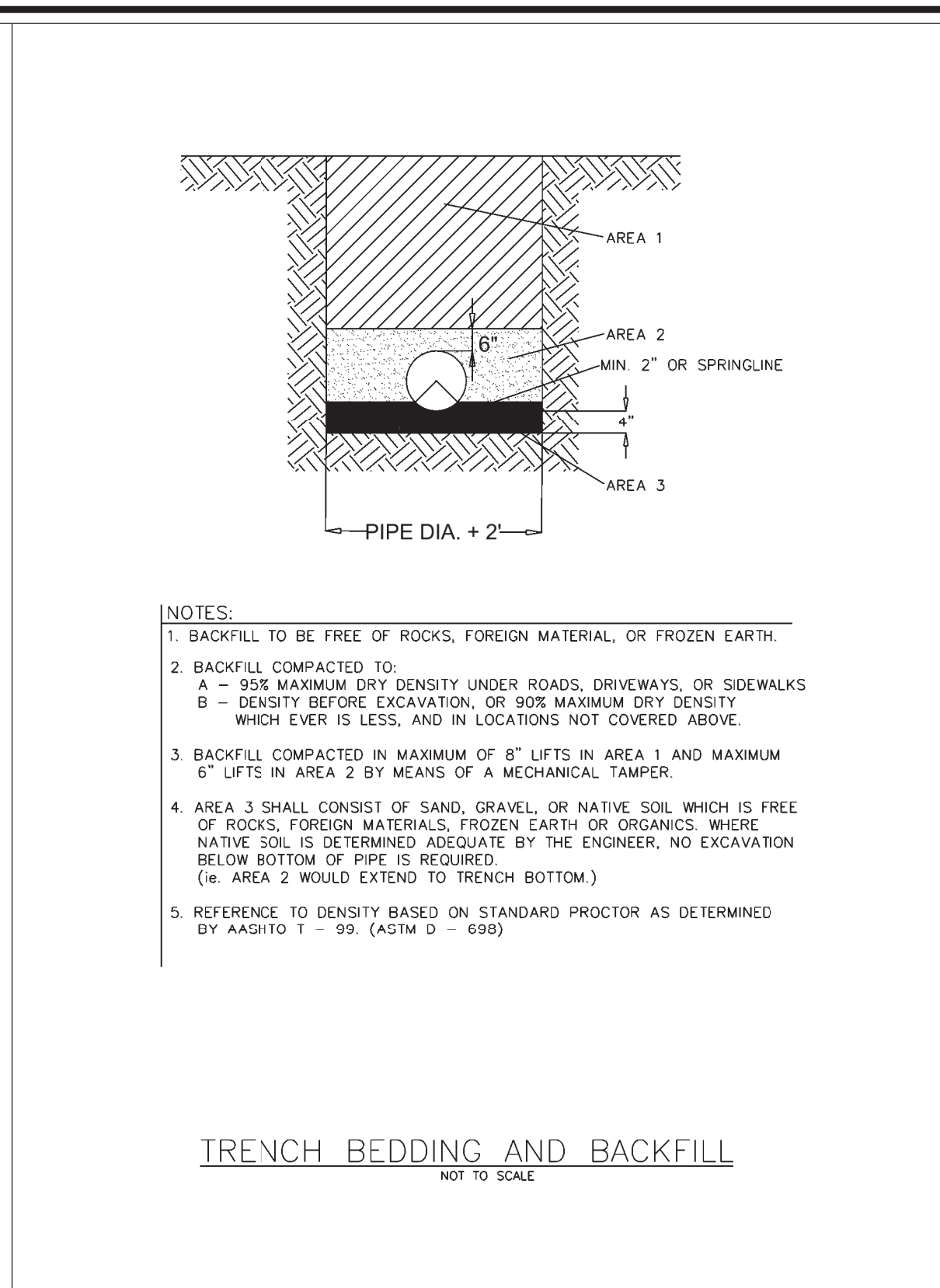
No.	Revision	Date	Town of Shalotte
1	4" Vent Pipe	2/17/03	PO Box 2287 Shalotte, NC 28459



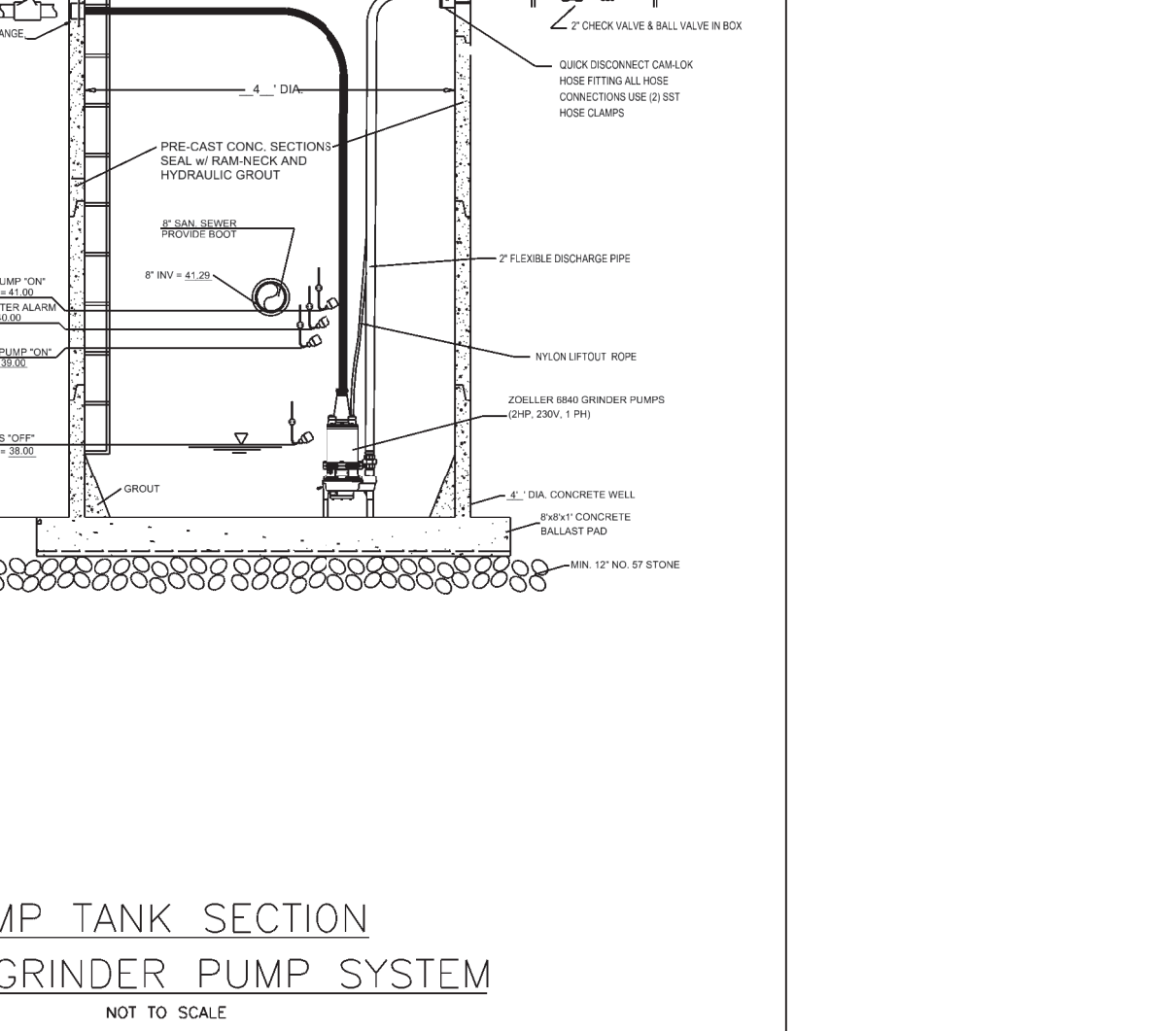
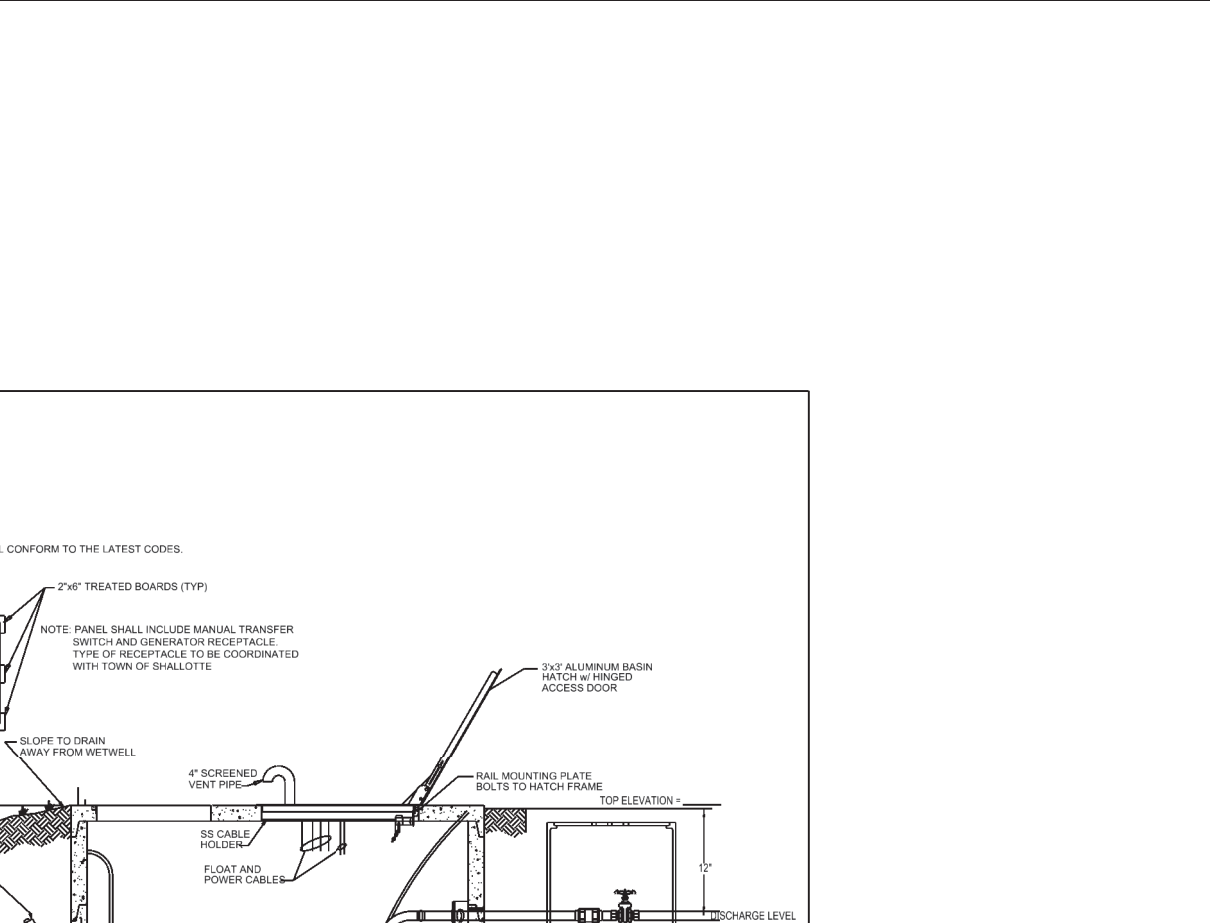
No.	Revision	Date	Town of Shalotte
			PO Box 2287 Shalotte, NC 28459



No.	Revision	Date	Town of Shalotte
1	4" Vent Pipe	2/17/03	PO Box 2287 Shalotte, NC 28459



No.	Revision	Date	Town of Shalotte
			PO Box 2287 Shalotte, NC 28459



No.	Revision	Date	Town of Shalotte
1	3 Conduits, SS Chain	2/17/03	PO Box 2287 Shalotte, NC 28459

APPROVALS

PROJECT ENGR: CEW
DRAWN BY: ADB
CHECKED BY: CEW

REVIEW: BID:
CONSTRUCTION:

PREPARED BY

Joel E. Wood & Associates
Planning / Engineering / Management
P.O. Box 296 Clover, S.C. 29710
Phone: 803-684-3390

SEALS

PROJECT

HERON'S NEST SUBDIVISION
SHALLOTTE, NORTH CAROLINA
PREPARED FOR
HERONS NEST HOA, INC.

SHEET TITLE




DETAILS



- CONCRETE BLOCKING NOTES

No.	Revision	Date	Town of Shallotte
			PO Box 2287
			Shallotte, NC 28459



APPROVALS		PREPARED BY		SEALS		PROJECT		SHEET TITLE		NO.		DATE		REVISIONS		BY		SCALE: NTS	
PROJECT ENGR: CEW		<div></div> <div>Joel E. Wood & Associates Planning / Engineering / Management P.O. Box 296 Clover, S.C. 29710 Phone: 803-684-3390</div>		<div></div> <div></div>		HERON'S NEST SUBDIVISION		DETAILS		1		8/22/17		NCDENR COMMENTS		ABW		DATE: 06/12/2017 JOB NO.: 170503 SHEET 16 of 16	
DRAWN BY : ADB										2		9/14/17		NCDENR COMMENTS		ABW			
CHECKED BY : CEW										3		10/30/17		NCDENR COMMENTS WATER QUALITY SHW		ABW			
REVIEW: _____		4		11/30/17		NCDENR COMMENTS WATER QUALITY SHW		ABW											
CONSTRUCTION: _____		5		7/18/18		DRAIN/SEWER/STORM NAME CHANGE		ABW											