

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH THE CURRITUCK COUNTY UNIFIED DEVELOPMENT ORDINANCE, NCDENR RULES GOVERNING PUBLIC WATER SYSTEMS.
2. NO WETLANDS ARE LOCATED ONSITE.
3. WORK WITHIN THE LOCAL RIGHT OF WAYS SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHT OF WAYS SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
4. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
5. AREAS DISTURBED OUTSIDE THE LIMITS OF PROPOSED WORK SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE.
6. A NDPES STORMWATER DISCHARGE PERMIT FOR CONSTRUCTION ACTIVITIES WILL BE REQUIRED FROM NCDENR.
7. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.
8. DRAINAGE AND UTILITY EASEMENTS SHALL REMAIN FREE OF SUBSTANTIAL STRUCTURES AND THE REPAIR TO ANY STRUCTURE LOCATED IN THE EASEMENTS FOLLOWING ACCESS TO THE FACILITIES BY THE COUNTY OR UTILITY COMPANY SHALL BE AT THE EXPENSE OF THE PROPERTY OWNER.
9. OPEN SPACE AREAS SHALL BE UNDER THE RESPONSIBILITY OF THE HOMEOWNERS ASSOCIATION AFTER 75% OF THE LOTS ARE SOLD.
10. HOA IS RESPONSIBLE FOR THE MAINTENANCE OF THE DRAINAGE FACILITIES AND PONDS AFTER 75% OF THE LOTS ARE SOLD.

TAX MAP NO. 0022000078B0000 DEED BK/PG 1038/58

PARCEL AREA: 112.80 AC
CURRENT ZONING: SFM (PUD OVERLAY)
PROPOSED USE: 101 SINGLE FAMILY LOTS
MINIMUM LOT SIZE: 20,000 SF
TOTAL LOT AREA: 51.90 AC
MAX LOT COVERAGE: 60%
DENSITY: 0.9/AC
REQUIRED FIRE FLOW: 500 GPM

SETBACKS:
FRONT: 20'
REAR: 25'
SIDE: 10' (30' BLDG SEPARATION
REQUIRED FOR FIRE FLOW)
CORNER: 20'

UTILITY EASEMENTS:
FRONT: 15'
REAR: 10'
SIDE: 10'

ADJACENT ZONING:
NORTH: AG
SOUTH: AG & SFM
WEST: AG & SFM (PUD OVERLAY)
EAST: SFM (PUD OVERLAY)

STREET CONNECTIVITY INDEX: 2.0

OPENSOURCE SUMMARY

PRIMARY REFORESTATION: 517,640 SF OR 11.88 AC
SECONDARY REFORESTATION: 1,188,288 SF OR 27.28 AC

1. HORIZONTAL DATUM IS BASED ON NORTH CAROLINA COORDINATE SYSTEM OF 1983, SOUTH ZONE (NAD83).
2. VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND IS EXPRESSED IN FEET.
3. BENCHMARK LOCATION: CATCH BASIN LOCATED 39' FROM THE NORTHWEST CORNER OF THE LIBRARY, ELEV=6.11'.

THIS PROPERTY APPEARS TO FALL IN FLOOD ZONE X, SHADED-X AND AE(5.4") AS SHOWN ON THE FLOOD INSURANCE RATE MAPS FOR CURRITUCK COUNTY, MAP NUMBERS: 3721804000J & 3721803100J DATED DECEMBER 16, 2005. FLOOD ZONE INFORMATION SHOWN HEREON IS NOT GUARANTEED AND WAS APPROXIMATELY SCALED FROM THE FLOOD INSURANCE RATE MAP.

AVERAGE DAILY DESIGN FLOW: 480 GPD/UNIT
TOTAL AVERAGE DAILY DESIGN FLOW: 48,480 GPD

WATER SERVICE SIZE: 3/4"
DOMESTIC METER SIZE: 5/8"
REQUIRED FIRE FLOW: 500 GPM

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TULLS CREEK ROAD
MOYOCK, NC
SEPTEMBER 20, 2018

CURRITUCK COUNTY NC
CONSTRUCTION DRAWINGS

249 CENTRAL PARK AVE, SUITE 300
VIRGINIA BEACH, VA 23462
P. 757.366.6633

- ☒ APPROVED AS IS
- ☐ APPROVED AS NOTED ON PLAT
- ☐ DENIED/RE-SUBMIT

Date Approved

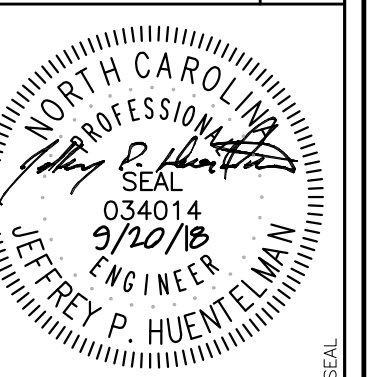
Tammy D. Gleave Sr Planner
Name & Title



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PROJECT No.:
ARM006

COURTITUCK RESERVE
SUBDIVISION PLAN
TULLS CREEK ROAD
MOYOCK, NORTH CAROLINA
COVER SHEET



SHEET NO.

C000



0 1500 3000 4500

SCALE: 1"=1500'



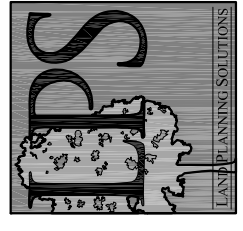
C000	COVER SHEET
C001	OVERALL LAYOUT PLAN
C100-C101	EXISTING, E&S AND DEMO PLAN
C102	E&S CONTROL NARRATIVE & NOTES
C103	E&S CONTROL DETAILS
C200-C208	LAYOUT PLAN
C300-C308	GRADING & UTILITY PLAN
C309	OFFSITE PONDS
C400-C402	PROFILES
C500-C501	LANDSCAPE PLANS
C600	DETAILS

No.	DATE	REVISION

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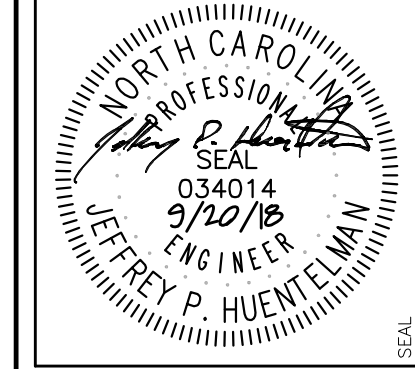
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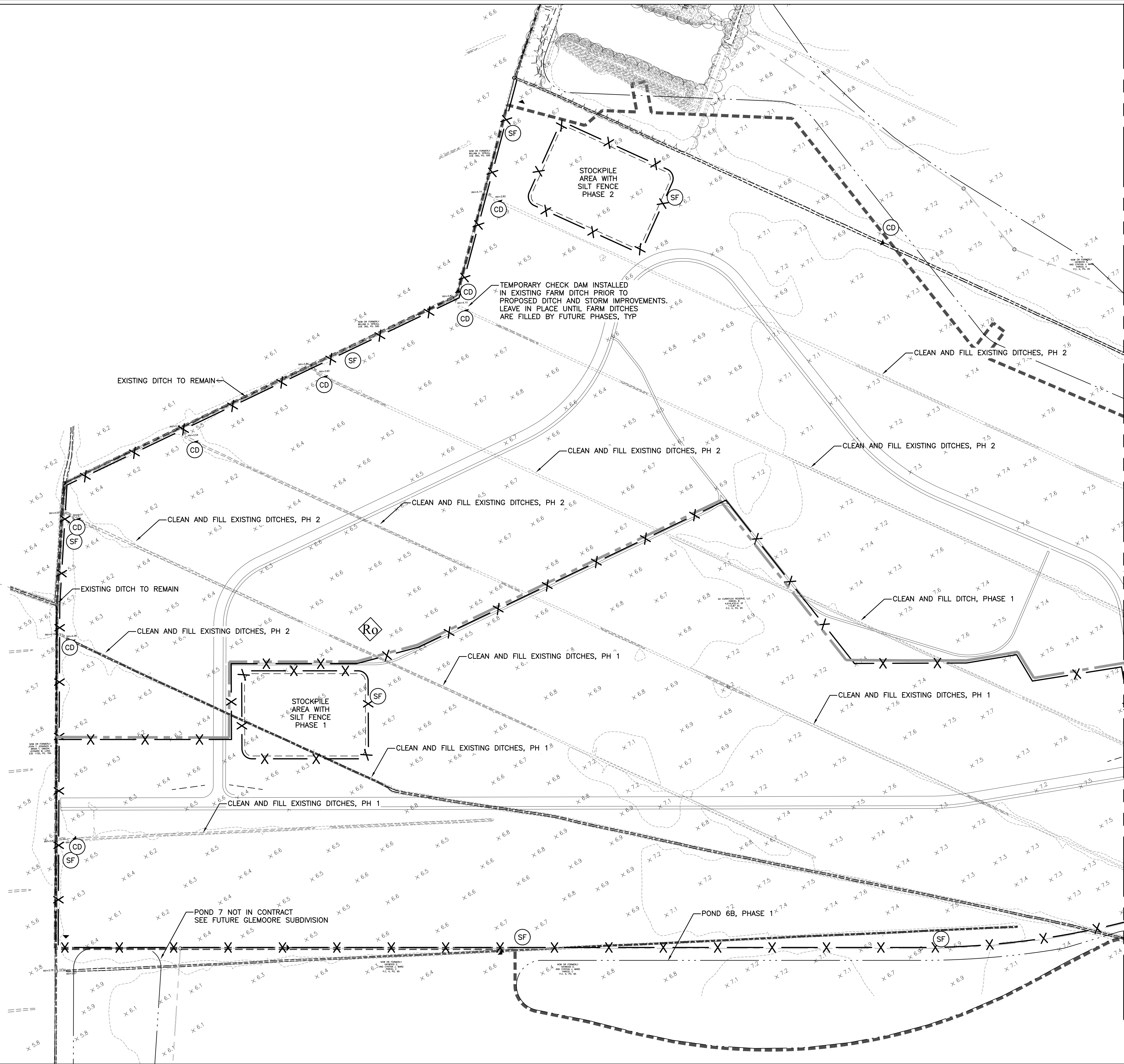
PROJECT No:	ARM006
DATE	20SEP18
DES.	SDS
DR.	RLR
CKD.	JPH

CURRITUCK RESERVE
CONSERVATION SUBDIVISION
CURRITUCK COUNTY, NORTH CAROLINA
MOYOCK TOWNSHIP
OVERALL LAYOUT PLAN



SHEET NO.
C001

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CE

CONSTRUCTION ENTRANCE (6.06)

SF

SILT FENCE (6.62)

IP

INLET PROTECTION (6.50-6.54)

CIP

CULVERT INLET PROTECTION (6.55)

SB

TEMPORARY SEDIMENT BASIN (6.61)

OP

OUTLET PROTECTION (6.41)

CD

ROCK CHECK DAM (6.83)

TP

TREE PROTECTION

16

SOIL TYPE - MAP UNIT SYMBOL

SOIL TYPE DELINEATION

LIMITS OF DISTURBANCE

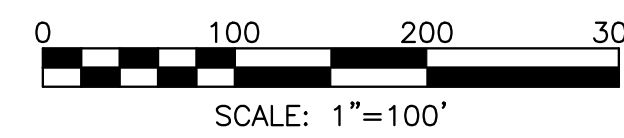
SILT FENCE

PHASE LINE

INLET PROTECTION

NAD83

- ### SURVEY NOTES
1. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT AND THEREFORE MAY NOT SHOW ANY/ALL EASEMENTS OR RESTRICTIONS THAT MAY AFFECT THE PROPERTY AS SHOWN.
 2. THIS PROPERTY APPEARS TO FALL IN FLOOD ZONE X & SHADED-X AS SHOWN ON PANELS 8031 & 8040 OF THE FLOOD INSURANCE RATE MAPS FOR CURRITUCK COUNTY, COMMUNITY NO.: 370078 DATED DECEMBER 16, 2005. FLOOD ZONE INFORMATION SHOWN HEREON IS NOT GUARANTEED AND WAS APPROXIMATELY SCALED FROM THE FLOOD INSURANCE RATE MAPS FOR THE CITY/COUNTY INDICATED. MSA, P.C. IS NOT A PARTY IN DETERMINING THE REQUIREMENTS FOR FLOOD INSURANCE ON THE PROPERTY SHOWN. FOR FURTHER INFORMATION AND TO CONFIRM THE FLOOD ZONE FOR THIS PROPERTY, CONTACT THE LOCAL COMMUNITY FLOOD OFFICIAL. FLOOD ZONE DETERMINATION IS BASED ON THE FLOOD INSURANCE RATE MAPS AND DOES NOT IMPLY THAT THIS PROPERTY WILL OR WILL NOT BE FREE FROM FLOODING OR DAMAGE.
 3. THIS SURVEY IS BASED ON A FIELD SURVEY PERFORMED DURING THE MONTHS OF MAY AND JUNE 2007.
 4. THE CURRENT PROPERTY OWNERS PER THE COUNTY OF CURRITUCK, NORTH CAROLINA TAX ASSESSOR ARE HAYWOOD E. WARD, SR. & CYNTHIA J. WARD, SOURCE OF TITLE:(D.B. 209, PG. 494) AND (D.B. 326, PG. 204).
 5. THIS SURVEY DOES NOT ADDRESS THE EXISTENCE OR NON-EXISTENCE OF WETLANDS, ENVIRONMENTAL HAZARDS, CEMETERIES OR ANY UNDERGROUND STRUCTURE NOT OBSERVED DURING THE COURSE OF THE SURVEY.
 6. NORTH MERIDIAN SHOWN HEREON IS BASED ON NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NAD 83 (2001) AND WAS ESTABLISHED FROM STATION "SURVEY" (PID DE6465) AND STATION "B 210" (PID FX2340).
 7. A 10' WIDE UTILITY AND DRAINAGE EASEMENT EXISTS ALONG AND ADJACENT TO ALL SIDE & REAR LOT LINES OF FINAL PLAT OF VERNON ESTATES (P.C. G, SLIDE 338).
 8. A 15' WIDE UTILITY AND DRAINAGE EASEMENT EXISTS ALONG AND ADJACENT TO ALL FRONT LOT LINES OF FINAL PLAT OF VERNON ESTATES (P.C. G, SLIDE 338).
 9. THE AVERAGE COMBINED SCALE AND FACTOR FOR THIS SITE IS 1.00011625.



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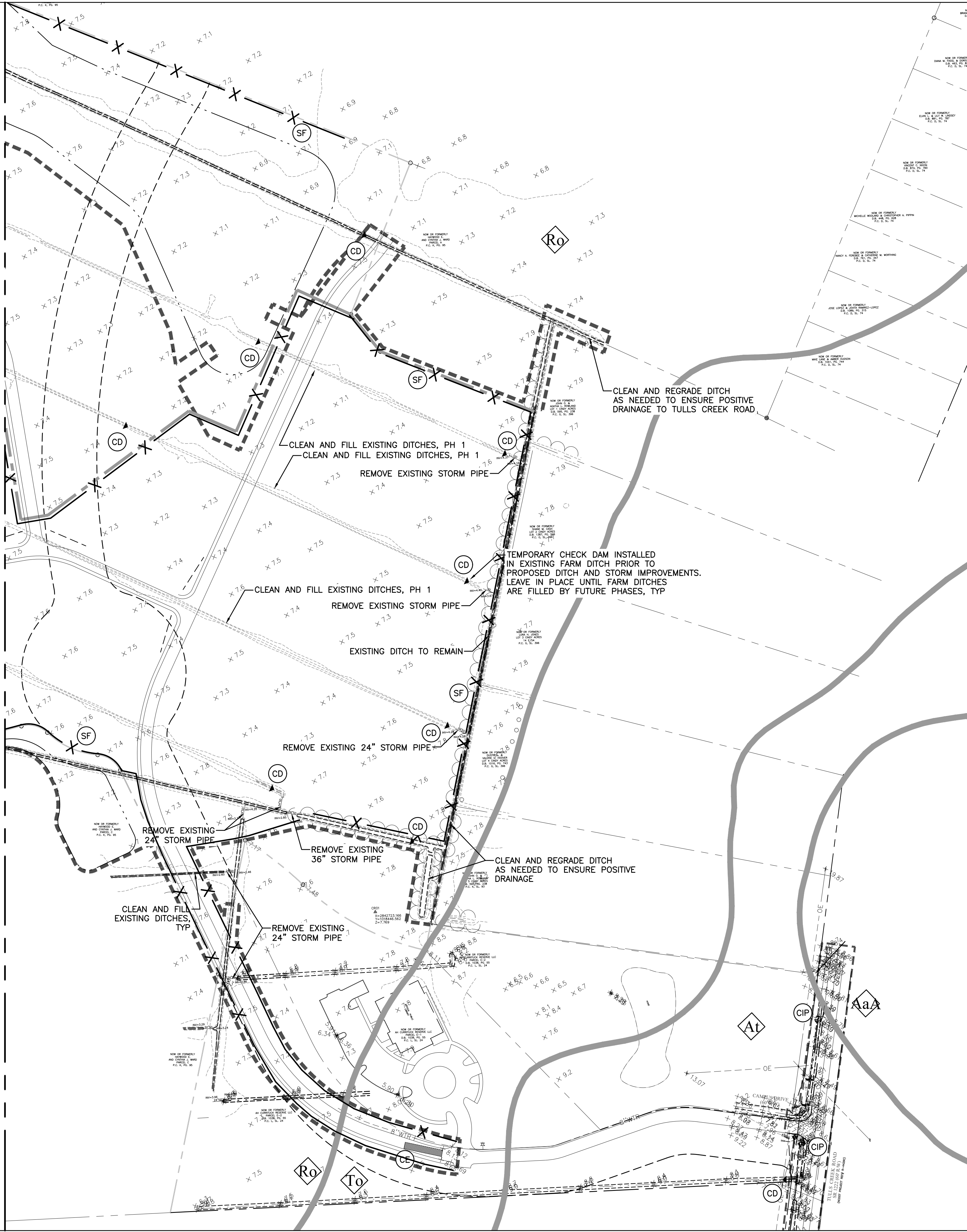
PROJECT No: ARM006
DATE: 20SEP18
DES: SDS
DR: RLR
CKD: JPH

CURRITUCK RESERVE
CONSERVATION SUBDIVISION
CURRITUCK COUNTY, NORTH CAROLINA
MOYOCK TOWNSHIP

EXISTING, E&SC AND DEMO PLAN

SHEET NO.
C100

MATCHLINE - SEE SHEET C100



Drainage Class— Summary by Map Unit — Currituck County, North Carolina (NC053)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AaA	Altavista fine sandy loam, 0 to 2 percent slopes	Moderately well drained	0.0	0.0%
At	Augusta fine sandy loam	Somewhat poorly drained	5.6	4.5%
Ro	Roanoke fine sandy loam	Poorly drained	114.6	91.7%
To	Tomolley fine sandy loam	Poorly drained	4.8	3.9%
Totals for Area of Interest			125.0	100.0%

Linear Extensibility— Summary by Map Unit — Currituck County, North Carolina (NC053)				
Map unit symbol	Map unit name	Rating (percent)	Acres in AOI	Percent of AOI
AaA	Altavista fine sandy loam, 0 to 2 percent slopes	1.5	0.0	0.0%
At	Augusta fine sandy loam	1.5	5.6	4.5%
Ro	Roanoke fine sandy loam	1.5	114.6	91.7%
To	Tomolley fine sandy loam	1.5	4.8	3.9%
Totals for Area of Interest			125.0	100.0%

SHRINK-SWELL SOILS

LINEAR EXTENSIBILITY	RATING
<3%	LOW
3–6%	MODERATE
6–9%	HIGH
>9%	VERY HIGH

E&SC LEGEND

- CE

SF

IP

CIP

SB

OP

CD

TP

16

CONSTRUCTION ENTRANCE (6.06)

SILT FENCE (6.62)

INLET PROTECTION (6.50–6.54)

CULVERT INLET PROTECTION (6.55)

TEMPORARY SEDIMENT BASIN (6.61)

OUTLET PROTECTION (6.41)

ROCK CHECK DAM (6.83)

TREE PROTECTION

SOIL TYPE – MAP UNIT SYMBOL
- SOIL TYPE DELINEATION

LIMITS OF DISTURBANCE

SILT FENCE

PHASE LINE

INLET PROTECTION

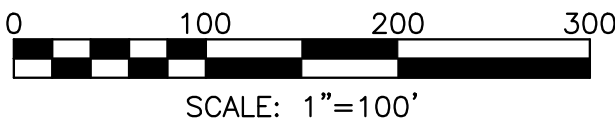


SEQUENCE OF CONSTRUCTION:

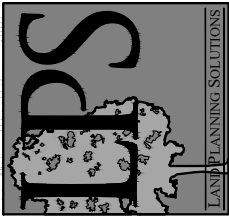
- PHASE 1 (E&S PLAN SHEET)
- PRIOR TO CONSTRUCTION, OBTAIN ALL NECESSARY PERMITS AND APPROVALS. GIVE CITY INSPECTOR 48 HOURS NOTICE TO SCHEDULE AN ON-SITE PRE-CONSTRUCTION MEETING FOR ISSUANCE OF A LAND DISTURBANCE PERMIT. THE CONTRACTOR, CITY INSPECTOR AND CERTIFIED RESPONSIBLE LAND DISTURBER (CRLD) MUST ATTEND.
 - INSTALL CONSTRUCTION ENTRANCE AND INLET PROTECTION TO EXISTING STORM INLETS/CULVERTS.
 - CLEAR PHASE 1 LIMITS FOR INSTALLATION OF PERIMETER EROSION CONTROL MEASURES.
 - INSTALL SILT FENCE AND SILT FENCE OUTLETS, SEDIMENT BASIN & STOCKPILE SPOILS AT LOCATIONS AS SHOWN ON THE PLANS. COORDINATE SEDIMENT BASIN/POND 4 WITH WATERLEIGH SUBDIVISION.
 - CLEAR AND GRUB AS NEEDED FOR CONSTRUCTION ACTIVITIES.
 - STRIP AND STOCKPILE TOPSOIL TO AREA SHOWN ON THE PLAN. PROVIDE IMMEDIATE STABILIZATION TO STOCKPILE AREA WITH SILT FENCE AND TEMPORARY SEEDING AS NECESSARY TO MINIMIZE EROSION.
 - INSTALL TEMPORARY SHALLOW V-DITCHES AND CHECK DAMS, AS NEEDED.
 - ROUGH GRADE THE SITE AS DIRECTED ON PLANS. PROVIDE TEMPORARY SEEDING AS NEEDED.
 - COMPLETE STORM DRAINAGE SYSTEM AND UNDERGROUND UTILITIES. INSTALL INLET PROTECTION AS NEEDED FOR NEW INLETS AND INSTALL CHECK DAMS IN NEW DITCHES.
 - INSTALL PAVEMENT BASE STONE AND BASE/INTERMEDIATE ASPHALT.
 - FILL TEMPORARY SHALLOW V-DITCHES.
 - FINE GRADE THE SITE, PLACE TOPSOIL, SEED AND MULCH ALL DISTURBED AREAS THAT WILL NOT BE PAVED.
 - CLEAN OUT SEDIMENT BASIN AND CONVERT TO PERMANENT STORMWATER MANAGEMENT BASIN.
 - REMOVE ALL TEMPORARY EQUIPMENT, CONSTRUCTION MATERIALS AND DEBRIS FROM THE SITE.
 - INSTALL LANDSCAPING, FINAL SITE STABILIZATION AND SURFACE ASPHALT.
 - REMOVE ALL TEMPORARY E&SC MEASURES AFTER FINAL STABILIZATION OR AS DIRECTED BY THE CIVIL INSPECTOR.
 - REPEAT FOR PHASE 2.

EROSION & SEDIMENT CONTROL NOTES

- ALL DISTURBED AREAS SHALL BE TEMPORARILY OR PERMANENTLY SEEDED IN ACCORDANCE WITH THE E&SC NARRATIVE & NOTES SHEET.
- WHENEVER SEDIMENT-LADEN WATER IS REMOVED FROM A CONSTRUCTION SITE BY MEANS OF PUMPING, A TEMPORARY SETTLING & FILTERING DEVICE SHALL BE USED TO FILTER THE SEDIMENT-LADEN WATER PRIOR TO THE WATER BEING DISCHARGED OFF-SITE.
- FINE GRADE THE SITE, PLACE TOPSOIL, SEED AND MULCH ALL DISTURBED AREAS THAT WILL NOT BE PAVED.
- SEE GRADING SHEET(S) FOR STORM CALLOUTS.
- THE NEED FOR A STONE CONSTRUCTION ENTRANCE SHALL BE DETERMINED BY THE CIVIL INSPECTOR DURING THE PRE-CONSTRUCTION MEETING OR DURING THE CONSTRUCTION PROCESS.
- THE LOCATION OF THE STONE CONSTRUCTION ENTRANCE(S) AND STOCKPILE(S) MAY BE ADJUSTED DURING THE CONSTRUCTION PROCESS AS DEEMED FIT BY THE CIVIL INSPECTOR.



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REVISION

No. DATE

PROJECT No: ARM006

DATE 20SEP18

DES. SDS

DR. RLR

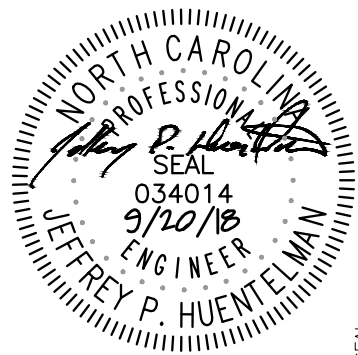
CKD. JPH

CURRITUCK RESERVE
CONSERVATION SUBDIVISION

CURRITUCK COUNTY, NORTH CAROLINA

MOYOCK TOWNSHIP

EXISTING, E&SC AND DEMO PLAN



SHEET NO.

C101

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EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION – THE PURPOSE OF THIS PROJECT IS TO DEVELOP THIS PROPERTY INTO 101 RESIDENTIAL LOTS. THIS SITE IS LOCATED EAST OF THE INTERSECTION OF TULLS CREEK ROAD AND CAMPUS DRIVE IN MOYOCK, NORTH CAROLINA. A TOTAL OF 116 ACRES WILL BE DISTURBED DURING CONSTRUCTION.

EXISTING SITE CONDITIONS – THE EXISTING SITE IS RELATIVELY FLAT, CLEARED AND A PORTION OF IT IS ACTIVELY FARMED. DRAINAGE FLOWS TOWARDS THE NORTHWEST BOUNDARY THROUGH A NUMBER OF INTERNAL IRRIGATION DITCHES INTO THE PERIMETER DITCHES ALONG THE NORTHERN BOUNDARY. THE DITCH CROSSES UNDER TULLS CREEK ROAD AND CONTINUE NORTHWEST EVENTUALLY DISCHARGING INTO THE NORTHEAST RIVER BEFORE REACHING THE CURRITUCK SOUND (STREAM CLASS C, SW; INDEX NO. 30–1–2–2). THE SITE IS IN THE PASQUOTANK RIVER BASIN.

ADJACENT PROPERTY – THE SITE IS BOUNDED TO THE EAST, WEST AND SOUTH BY FARM FIELD, AND TO THE NORTH BY MOYOCK PUBLIC LIBRARY. DUE TO THE TOPOGRAPHY & CONTROL MEASURES, NO NEGATIVE EROSION & SEDIMENT CONTROL IMPACTS ARE ANTICIPATED TO AFFECT ADJACENT PROPERTIES.

OFF–SITE AREAS – TOPSOIL MUST BE STRIPPED FROM GRADED AREAS & STOCKPILED FOR USE IN FINAL GRADING & PERMANENT STABILIZATION. THE STOCKPILE WILL BE KEPT ONSITE AS SHOWN ON PLANS. THE STOCKPILE WILL BE STABILIZED WITH TEMPORARY VEGETATION AND/OR SILT FENCE TO PREVENT SOIL LOSS AND SEDIMENT TRANSPORT FROM THE STOCKPILE ITSELF UNTIL NEEDED. NO OFF–SITE AREAS WILL BE REQUIRED.

SOILS – BASED UPON THE SOIL SURVEY OF CURRITUCK COUNTY, NORTH CAROLINA, THE SOILS FOR THIS SITE CONSIST OF FOUR TYPES. SEE SHEET C101 FOR SOIL TABLES.

CRITICAL EROSION AREAS – THERE ARE NO CRITICAL EROSION AREAS ONSITE.

EROSION AND SEDIMENT CONTROL MEASURES – UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE NCDENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. THE MINIMUM STANDARDS OF THE NCDENR SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

STRUCTURAL PRACTICES

1. CONSTRUCTION ENTRANCE (CE) (6.06) – A STABILIZED STONE PAD WITH FILTER FABRIC UNDERLINER WILL BE INSTALLED AT EACH POINT OF VEHICULAR INGRESS AND EGRESS TO THE CONSTRUCTION SITE, AS SHOWN ON THE PLAN, TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PAVED PUBLIC RIGHTS–OF–WAY.

2. SILT FENCE (SF) (6.62) – TEMPORARY SEDIMENT BARRIERS WILL BE INSTALLED AROUND THE CONSTRUCTION SITE, AS SHOWN ON THE PLAN, TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS DURING CONSTRUCTION OPERATIONS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE.

3. STORM DRAIN INLET PROTECTION (IP) (6.50–6.54) – A SEDIMENT FILTER WILL BE INSTALLED AROUND THE EXISTING AND PROPOSED STORM DRAIN DROP INLET(S) OR CURB INLET(S) AS SHOWN ON THE PLAN, TO PREVENT SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA.

4. CULVERT INLET PROTECTION (CIP) (6.55) – A SEDIMENT FILTER WILL BE INSTALLED AROUND THE EXISTING AND PROPOSED SEWER CULVERTS, TO PREVENT SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA.

5. TEMPORARY SEDIMENT BASIN (SB) (6.61) – A TEMPORARY BARRIER OR DAM WITH A CONTROLLED STORMWATER RELEASE STRUCTURE FORMED CONSTRUCTING AN EMBANKMENT OF COMPACTED SOIL ACROSS A DRAINAGE WAY WILL BE INSTALLED, AS SHOWN ON THE PLAN, TO DETAIN SEDIMENT–LADEN RUNOFF FROM DISTURBED AREAS IN WET AND DRY STORAGE LONG ENOUGH FOR THE MAJORITY OF THE SEDIMENT TO SETTLE OUT.

6. OUTLET PROTECTION (OP) (6.41) – A STRUCTURALLY LINED APRON WILL BE PLACED AT THE OUTLET OF PIPES TO PREVENT SCOUR AT STORMWATER OUTLETS, TO PROTECT THE OUTLET STRUCTURE AND TO MINIMIZE THE POTENTIAL FOR DOWNSTREAM EROSION BY REDUCING THE VELOCITY AND ENERGY OF CONCENTRATED STORMWATER FLOWS.

7. ROCK CHECK DAM (CD) (6.83) – SMALL TEMPORARY STONE DAMS SHALL BE CONSTRUCTED ACROSS THE PROPOSED DRAINAGE DITCH AS SHOWN ON THE PLAN, TO REDUCE THE VELOCITY OF CONCENTRATED STORMWATER FLOWS.

VEGETATIVE PRACTICES

8. TEMPORARY SEEDING (6.10) – ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR EXTENDED PERIODS OF TIME SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED.

9. PERMANENT SEEDING (6.11) – ALL DENUDED AREAS THAT ARE AT FINAL GRADE SHALL BE SEEDED WITH PERMANENT VEGETATIVE COVER. SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR, SOIL CLASSIFICATION & MAINTENANCE SCHEDULE.

10. TOPSOILING (STOCKPILE) (6.04) – TOPSOIL WILL BE STRIPPED FROM AREAS TO BE GRADED & STOCKPILED FOR LATER USE. STOCKPILE LOCATIONS SHALL BE LOCATED ONSITE AND ARE TO BE STABILIZED WITH TEMPORARY VEGETATION. THE LOCATION OF THE STOCKPILE IS SHOWN ON SHEET C101.

11. EROSION CONTROL BLANKETS (6.17) OR MULCH (6.14) – EROSION CONTROL BLANKETS WILL BE INSTALLED OVER FILL SLOPES WHICH HAVE BEEN BROUGHT TO FINAL GRADE & HAVE BEEN SEED TO PROTECT THE SLOPES FROM RILL & GULLY EROSION AND ALLOW SEED TO GERMINATE PROPERLY. MULCH (STRAW OR FIBER) WILL BE USED ON RELATIVELY FLAT AREAS AND WILL BE APPLIED AS A SECOND STEP IN THE SEEDING OPERATION.

PERMANENT STABILIZATION – ALL AREAS DISTURBED BY CONSTRUCTION THAT ARE TO REMAIN PERVIOUS SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING SHALL BE DONE ACCORDING TO STD. & SPEC. 3.32 (PERMANENT SEEDING) OF THE HANDBOOK. EROSION CONTROL BLANKETS WILL BE INSTALLED OVER FILL SLOPES WHICH HAVE BEEN BROUGHT TO FINAL GRADE AND HAVE BEEN SEED TO PROTECT THE SLOPES FROM RILL AND GULLY EROSION AND TO ALLOW SEED TO GERMINATE PROPERLY. MULCH (STRAW OR FIBER) WILL BE USED ON RELATIVELY FLAT AREAS. IN ALL SEEDING OPERATIONS, SEED, FERTILIZER AND LIME WILL BE APPLIED PRIOR TO MULCHING.

STORMWATER MANAGEMENT – CALCULATION OF RUNOFF BEFORE AND AFTER DEVELOPMENT INDICATES THAT THERE WILL BE A NET INCREASE IN PEAK RUNOFF AS A RESULT OF PROJECT DEVELOPMENT DUE TO INCREASED IMPERVIOUS AREA. STORMWATER MANAGEMENT BASINS HAVE BEEN DESIGNED TO DETAIN AND RELEASE THE POST–DEVELOPMENT RUNOFF AT THE PRE–DEVELOPMENT RATE. SEE RUNOFF CALCULATIONS IN THE DRAINAGE AND STORMWATER MANAGEMENT CALCULATIONS REPORT.

MAINTENANCE – IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR (AS APPLICABLE):

1. THE SILT FENCE BARRIER WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.

2. THE SEEDDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDDED AS NEEDED.

3. THE SEDIMENT BASIN WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT BUILDUP REACHES THE CLEANOUT ELEVATION.

4. THE CONSTRUCTION ENTRANCE, INLET PROTECTION, CHECK DAMS AND OUTLET PROTECTION WILL BE CHECKED REGULARLY TO ENSURE THEY ARE OPERATING PROPERLY. ITEMS WILL BE CLEANED, REPAIRED OR REPLACED AS NEEDED.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

- ES–1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE NCDENR EROSION AND SEDIMENT CONTROL PLANNING & DESIGN MANUAL.
- ES–2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE–CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
- ES–3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- ES–4: A COPY OF THE APPROVED EROSION CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- ES–5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF–SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.
- ES–6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
- ES–7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- ES–8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
- ES–9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF–PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

1) Ground Stabilization			
Site Area Description	Stabilization Time Frame	Stabilization Time Frame Exceptions	
• Perimeter dikes, swales, ditches and slopes	7 days	None	
• High Quality Water (HQW) Zones	7 days	None	
• Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.	
• Slopes 3:1 or flatter	14 days	7-days for slopes greater than 50 feet in length	
• All other areas with slopes flatter than 4:1	14 days	None (except for perimeters and HQW Zones)	

The major change in the Permit from the previous one is the shorter times to apply ground stabilization such as mulch, wheat straw, or grasses. The NC laws and rules relating to the Sediment Act require, in most places, ground stabilization within 21 days. Based on the new EPA requirements and 9-months' work with a permit advisory group, CTAG, the Division and EPA-developed permit, now contains requirements for ground cover within 14, and in some places, 7 days.

2) Building Wastes Handling	
• No paint or liquid wastes in stream or storm drains	
• Dedicated areas for demolition, construction and other wastes must be located 50' from storm drains and streams unless no reasonable alternatives available.	
• Earthen-material stockpiles must be located 50' from storm drains and streams unless no reasonable alternatives available.	
• Concrete materials must be controlled to avoid contact with surface waters, wetlands, or buffers.	

3) Discharges to Federally-listed Waters	
• Requirements are the same as in previous permit.	
• The permit allows reduction from the 20 acre minimum if the Director of DWQ determines that other BMPs provide equivalent protection.	

4) Inspections	
• Same weekly inspection requirements	
• Same rain gauge & inspections after 0.5" rain event	
• Inspections are only required during "normal business hours"	
• Inspection reports must be available on-site during business hours unless a site-specific exemption is approved.	
• Records must be kept for 3 years and available upon request.	
• Electronically-available records may be substituted under certain conditions.	
5) Implementation of New Permit Conditions	
• Projects permitted under the previous permit can continue to follow the previously-permitted conditions.	
• Complete applications received prior to August 3, 2011 can follow conditions of approved application.	
• Applications received after August 2, 2011 must comply with new permit conditions.	

6) Conditions in Erosion & Sedimentation Control Plans*	
Designation on the plans where the 7 and 14-day ground stabilization requirements of the NPDES permit apply	
All basins with greater than 1 acre drainage area must be designed such that the surface-withdrawal requirements of the NPDES permit is included.	
7) Building Wastes Handling	
• No paint or liquid wastes in stream or storm drains	
• Dedicated areas for demolition, construction and other wastes located 50' from storm drains and streams unless no reasonable alternatives are available.	
• Earthen-material stockpiles located 50' from storm drains unless no reasonable alternatives available.	
• Concrete materials must be controlled to avoid contact with surface waters, wetlands, or buffers.	
8) Sediment Basins	
• Outlet structures must withdraw from basin surface unless drainage area is less than 1 acre.	
• Use only DWQ-approved flocculants.	

Permanent Seeding Recommendations

Well to Poorly Drained Soils with Good Moisture Retention
Low Maintenance

Species1	Rate (lb/acre)
Tall fescue	80
Pennisetum Bahiagrass	50
Sericea lespedeza	30
Kobe lespedeza	10

Seeding notes
1. From Sept. 1 – Mar. 1, use unscarified sericea seed.
2. On poorly drained sites, omit sericea and increase Kobe to 30 lb/acre.
3. Where a neat appearance is desired, omit sericea and increase Kobe to 40 lb/acre.

Nurse plants
Between Apr. 15 and Aug. 15, add 10 lb/acre German millet or 15 lb/acre Sudangrass. Prior to May 1 or after Aug. 15, add 25 lb/acre rye (grain).

Best	Possible
Early spring: Feb. 15 – Mar. 20 Fall: Sept. 1 – Sept. 30	Feb. 15 – Apr. 30 Sept. 1 – Oct. 31

Soil amendments
Apply lime and fertilizer according to soil tests, or apply 3,000–5,000 lb/acre ground agricultural limestone (use the lower rate on sandy soils) and 1,000 lb/acre 10–10–10 fertilizer.

Mulch
Apply 4,000 lb/acre grain straw or equivalent cover of another suitable mulch. Anchor straw by tacking with asphalt, netting, raving, or by crimping with a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.
Maintenance
If growth is less than fully adequate, refertilize in the second year, according to soil tests or topdress with 500 lb/acre 10–10–10 fertilizer. Mow as needed when sericea is omitted from the mixture. Reseed, fertilize, and mulch damaged areas immediately.

1Refer to Appendix 8.02 for botanical names.
Source: NCDENR E&SC Manual – Table 6.11p

Permanent Seeding Recommendations

Well to Poorly Drained Soils with Good Moisture Retention
High Maintenance

Species1	Rate (lb/acre)
Tall fescue (blend of two or three improved varieties)	200
Rye (grain)	25

Seeding dates
Best: Sept. 15 – Oct. 15
Possible: Sept. 1 – Oct. 31 or Feb. 15 – Apr. 30

Soil amendments
Apply lime and fertilizer according to soil tests or apply 3,000–5,000 lb/acre ground agricultural limestone (use the lower rate on sandy soils) and 1,000 lb/acre 10–10–10 fertilizer.

Mulch
Apply 4,000 lb/acre small straw or equivalent cover of another suitable mulch. Anchor straw by tacking with asphalt, netting, raving, or by crimping with a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.
Maintenance
Fertilize according to soil tests or apply 40 lb/acre nitrogen in Jan. or Feb., 40 lb in Sept., and 40 lb in Nov., from a 12–4–8, 16–4–8, or similar turf fertilizer. Avoid fertilizer applications during warm weather, as this increases stand losses to disease. Reseed, fertilize, and mulch damaged areas immediately. Mow to a height of 2.5–3.5 inches as needed.

1Refer to Appendix 8.02 for botanical names.
Source: NCDENR E&SC Manual – Table 6.11q

Temporary Seeding Recommendations
Late Winter and Early Spring

Species	Rate (lb/acre)
Rye (grain)	120
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

Seeding dates
Mountains– Above 2500 feet: Feb. 15 – May 15
Below 2500 feet: Feb. 1– May 1
Piedmont– Jan. 1 – May 1
Coastal Plain– Dec. 1 – Apr. 15

Soil amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10–10–10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

Source: NCDENR E&SC Manual – Table 6.10a

Temporary Seeding Recommendations
Summer

Species	Rate (lb/acre)
German millet	40

In the Piedmont and Mountains, a small-stemmed Sudangrass may be substituted at a rate of 50 lb/acre.

Seeding dates
Mountains– May 15 – Aug. 15
Piedmont– May 1 – Aug. 15
Coastal Plain– Apr. 15 – Aug. 15

Soil amendments
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10–10–10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

Source: NCDENR E&SC Manual – Table 6.10b

Temporary Seeding Recommendations
Fall

Species	Rate (lb/acre)
Rye (grain)	120

Seeding dates
Mountains– Aug. 15 – Dec. 15
Coastal Plain and Piedmont– Aug. 15 – Dec. 30

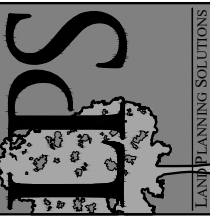
Soil amendments
Follow soil tests or apply 2,000 lb/acre ground agricultural limestone and 1,000 lb/acre 10–10–10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance
Repair and refertilize damaged areas immediately. Topdress with 50lb/acre of nitrogen in March. If it is necessary to extent temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Plain) or Korean (Mountains) lespedeza in late February or early March.

Source: NCDENR E&SC Manual – Table 6.10c

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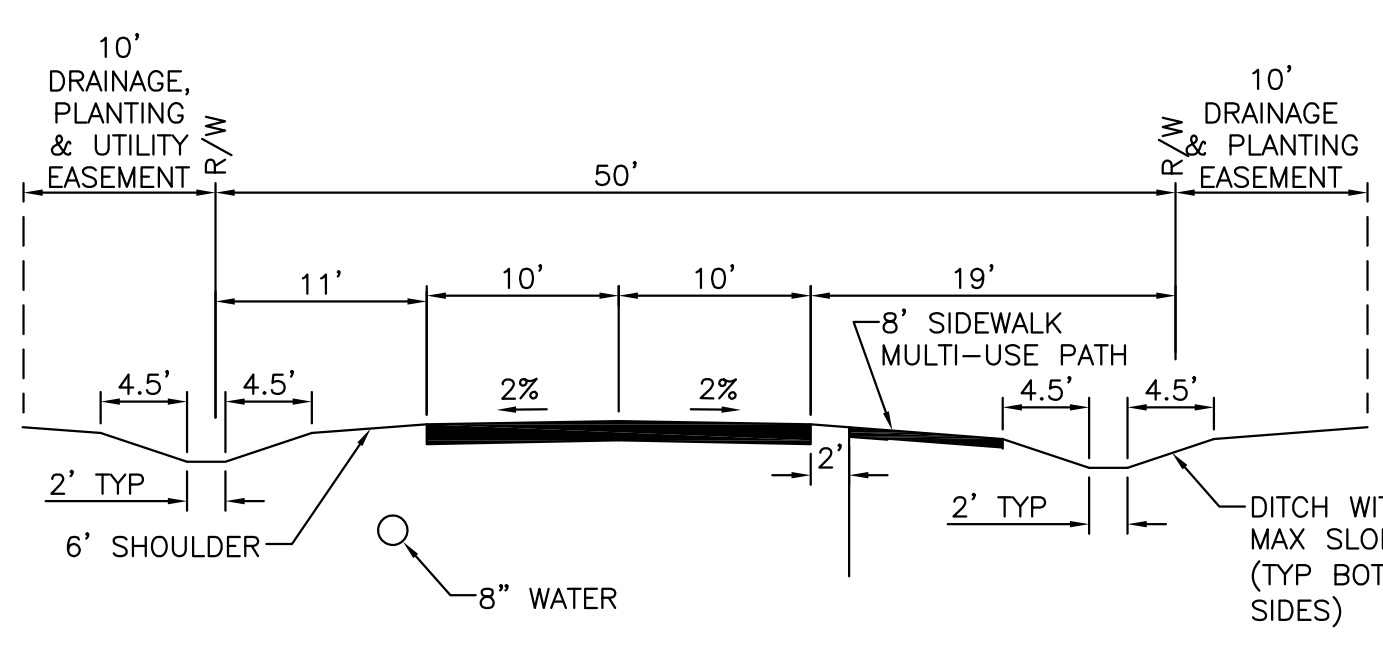
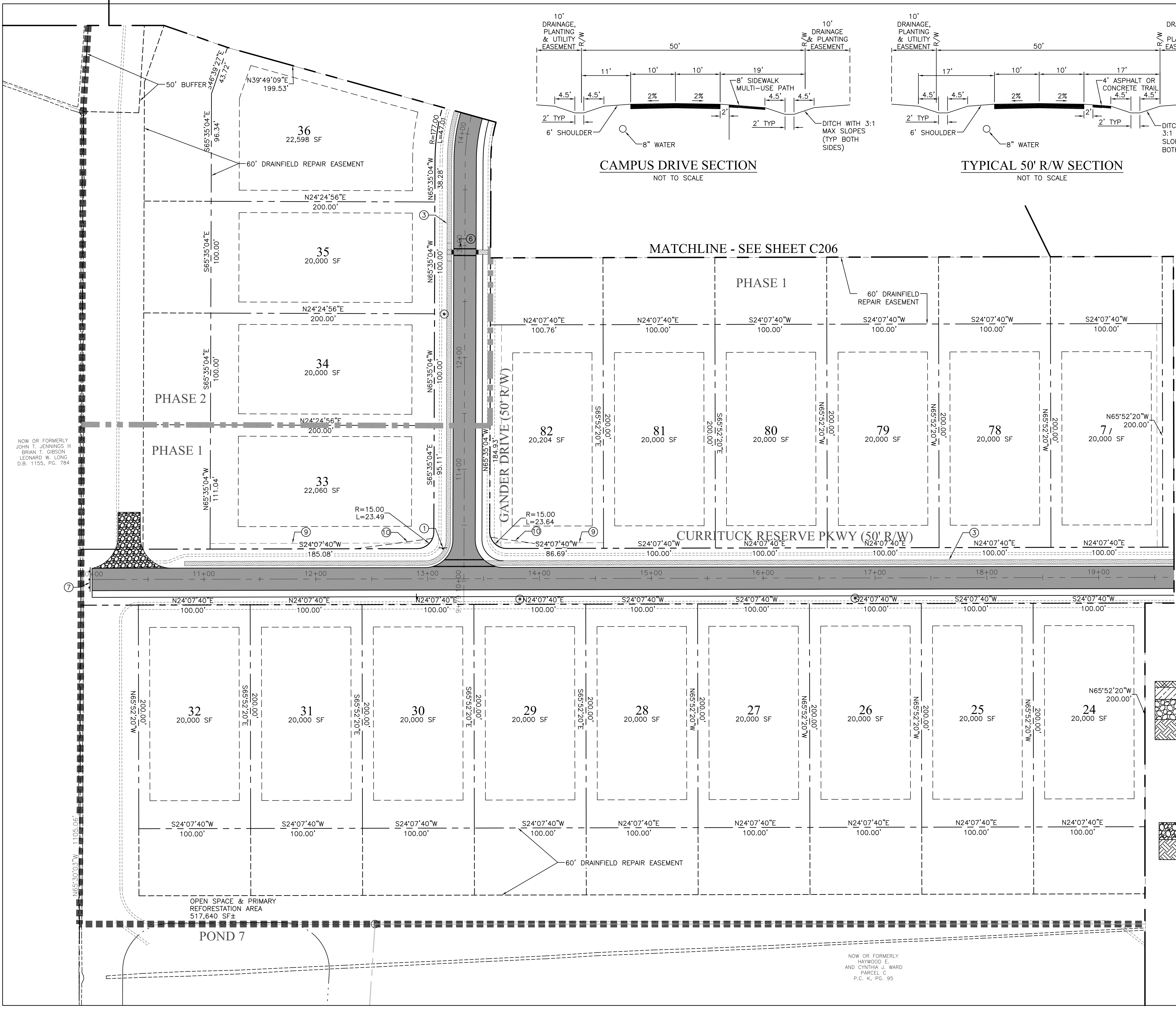
PROJECT No: ARM006
DATE: 20SEP18
DES: SDS
DR: RLR
CKD: JPH

CURRITUCK RESERVE
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CURRITUCK COUNTY, NORTH CAROLINA
MOYOCK TOWNSHIP

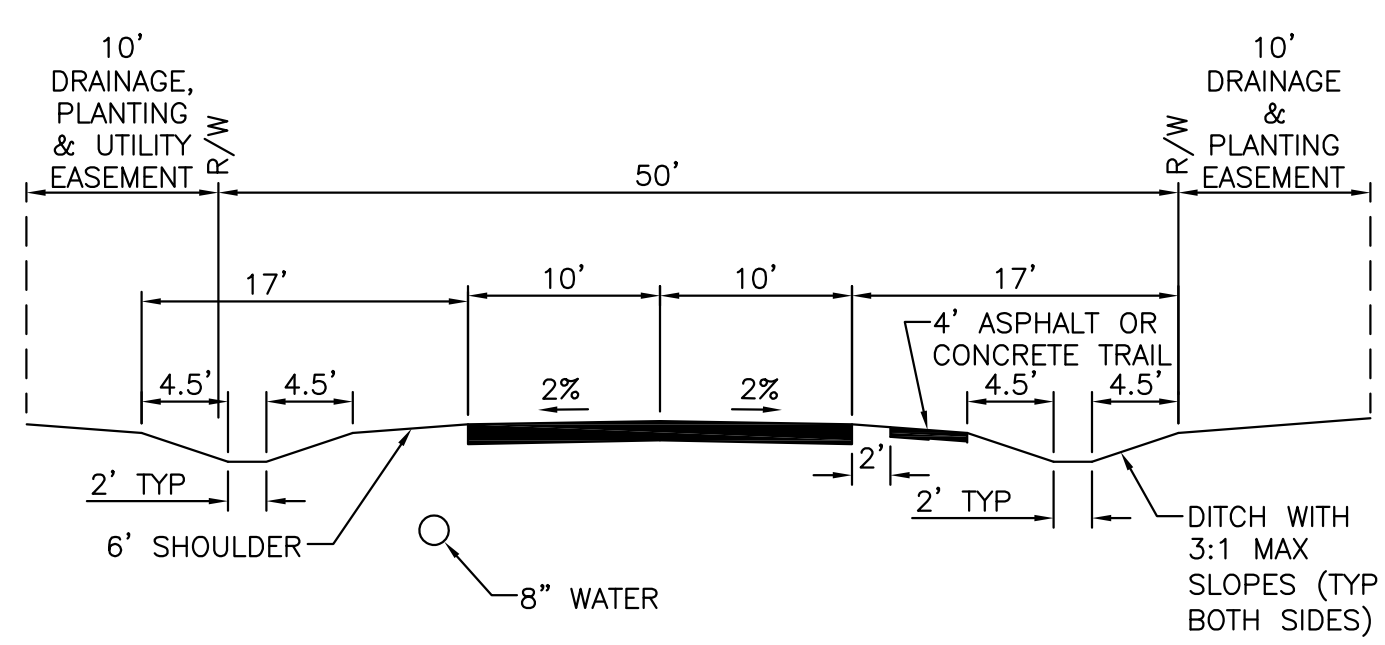


E&S CONTROL NARRATIVE & NOTES

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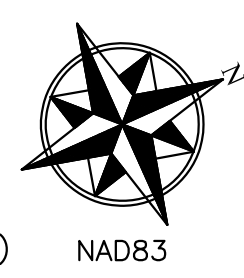
CAMPUS DRIVE SECTION
NOT TO SCALE



TYPICAL 50' R/W SECTION
NOT TO SCALE

LAYOUT LEGEND

- ASPHALT PAVEMENT
- CONCRETE
- MILL & OVERLAY (1-1/2")
- LIGHTPOLE
- RIGHT-OF-WAY LINE
- LIMITS OF DISTURBANCE
- PHASE LINE

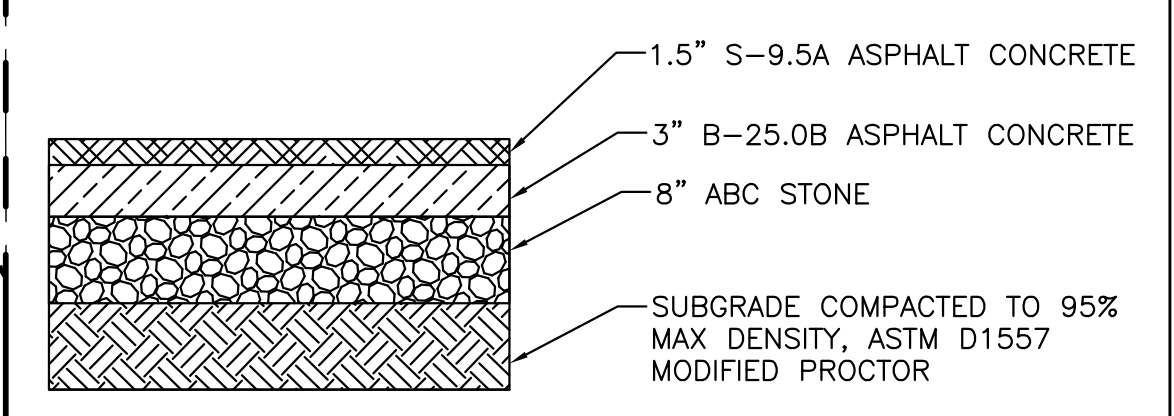


LAYOUT KEYNOTES

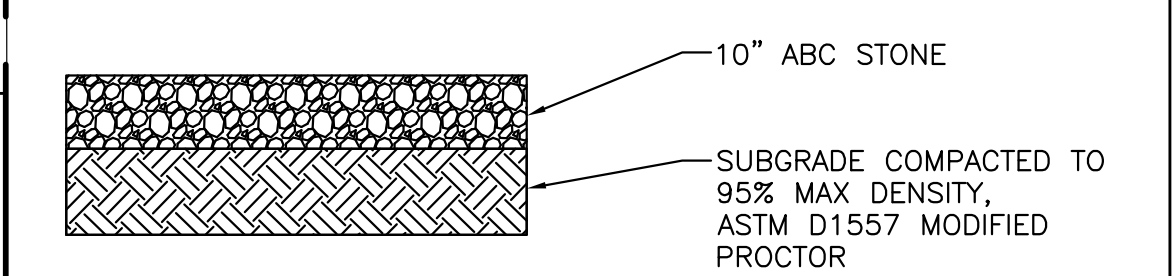
- STOP SIGN (R1-1) WITH STREET MARKERS
- 24" WIDE WHITE STOP BAR
- 4' CONCRETE SIDEWALK, SW-1
- NOT USED
- SOLID WHITE TURN ARROWS
- CROSSWALK
- TYPE III BARRICADE
- 8' ASPHALT SIDEWALK
- 5' NON ACCESS EASEMENT
- 10'x70' SIGHT TRIANGLE
- 25 MPH (R2-1) SPEED LIMIT SIGN

LAYOUT NOTES

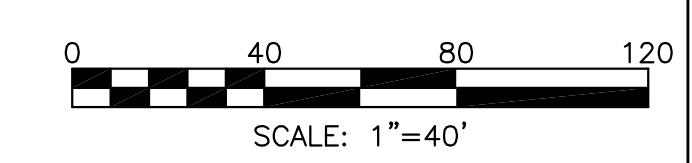
- DIMENSIONS ARE TO FACE OF CURB OR EDGE OF PAVEMENT WHERE NO CURB EXISTS.
- TRAFFIC ON EXISTING ROADWAYS MUST BE MAINTAINED DURING CONSTRUCTION WHEN ANY WORK IS BEING PERFORMED WITHIN THE EXISTING RIGHT OF WAY. THE MAINTENANCE OF TRAFFIC PLAN FOR THIS WORK MUST BE IN CONFORMANCE WITH THE WORK ZONE SAFETY PROGRAM AND ANY OTHER SPECIAL PROVISIONS REQUIRED BY NCDOT DEVELOPER IS RESPONSIBLE FOR ALL SIGNAGE AND ROADWAY LIGHTING.
- DEVELOPER IS RESPONSIBLE FOR ALL SIGNAGE AND ROADWAY LIGHTING.
- ALL STREET NAME SIGNS SHALL BE IN ACCORDANCE WITH COUNTY STANDARDS AND SPECIFICATIONS.
- ALL TRAFFIC CONTROL DEVICES INCLUDING, BUT NOT LIMITED TO, PAVEMENT MARKINGS AND SIGNS, SHALL BE IN ACCORDANCE WITH THE 2009 MUTCD REVISION 2.
- LIGHTPOLES SHALL BE TRADITIONAL COLONIAL STYLE FIXTURE, 100 WATT HPS, 14' MOUNTING HEIGHT ON SMOOTH ROUND TAPERED BLACK COMPOSITE POLE.



PAVEMENT SECTION
NOT TO SCALE



FIRE APPARATUS
TURN AROUND SECTION
NOT TO SCALE



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DR: RLR
CKD: JPH

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LAYOUT PLAN

SHEET NO.
C200

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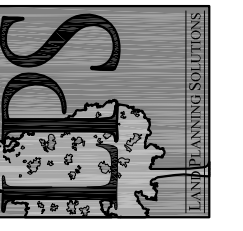
LAYOUT LEGEND

- ASPHALT PAVEMENT
- CONCRETE
- MILL & OVERLAY (1-1/2")
- LIGHTPOLE
- RIGHT-OF-WAY LINE
- LIMITS OF DISTURBANCE
- PHASE LINE



SEE SHEET C200 FOR LAYOUT NOTES

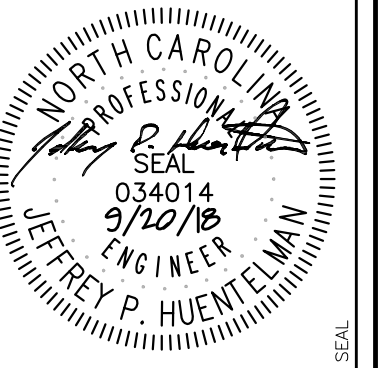
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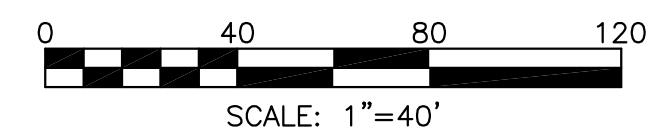
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DR.	RLR
CKD.	JPH

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LAYOUT PLAN



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C201

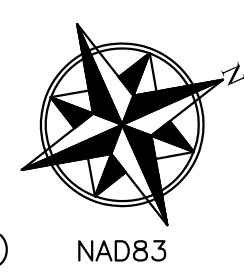


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LAYOUT LEGEND

- ASPHALT PAVEMENT
- CONCRETE
- MILL & OVERLAY (1-1/2")
- LIGHTPOLE
- RIGHT-OF-WAY LINE
- LIMITS OF DISTURBANCE
- PHASE LINE



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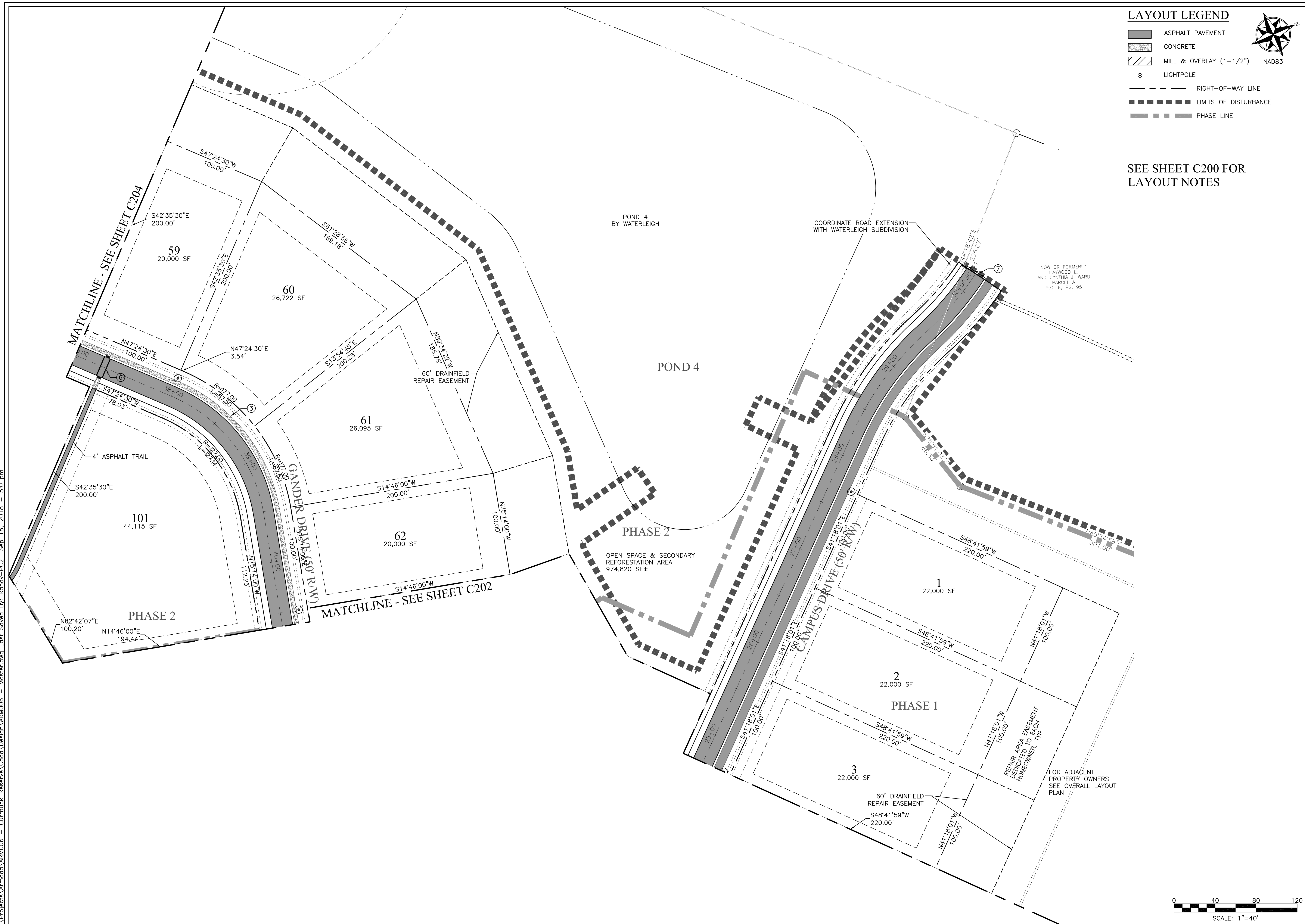
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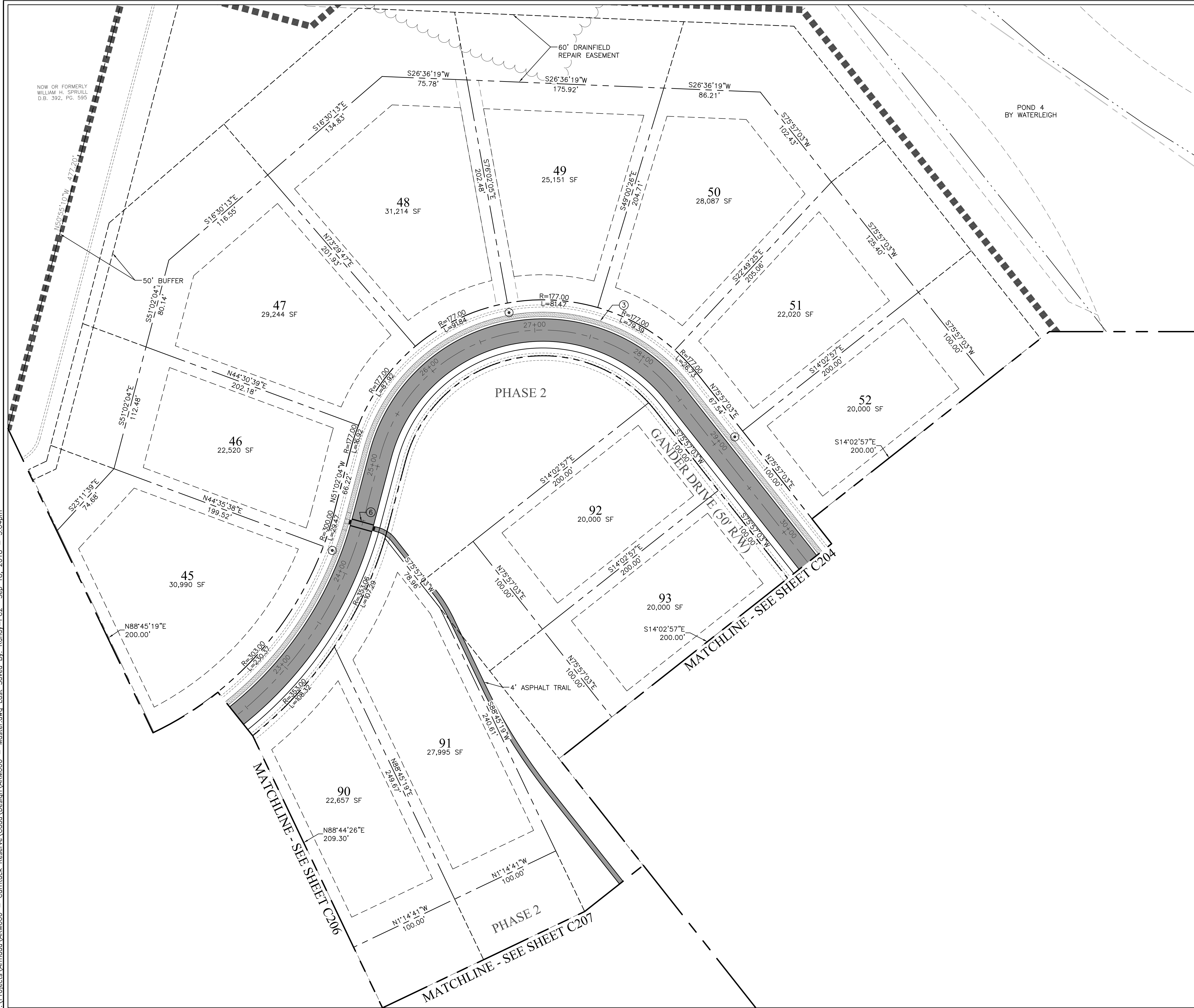
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C204

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NOW OR FORMERLY
WILLIAM H. SPRUILL
D.B. 392, PG. 595



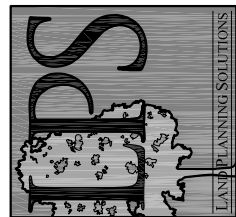
LAYOUT LEGEND

- ASPHALT PAVEMENT
- CONCRETE
- MILL & OVERLAY (1-1/2")
- LIGHTPOLE
- RIGHT-OF-WAY LINE
- LIMITS OF DISTURBANCE
- PHASE LINE



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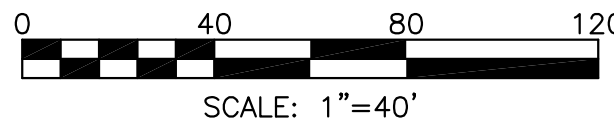
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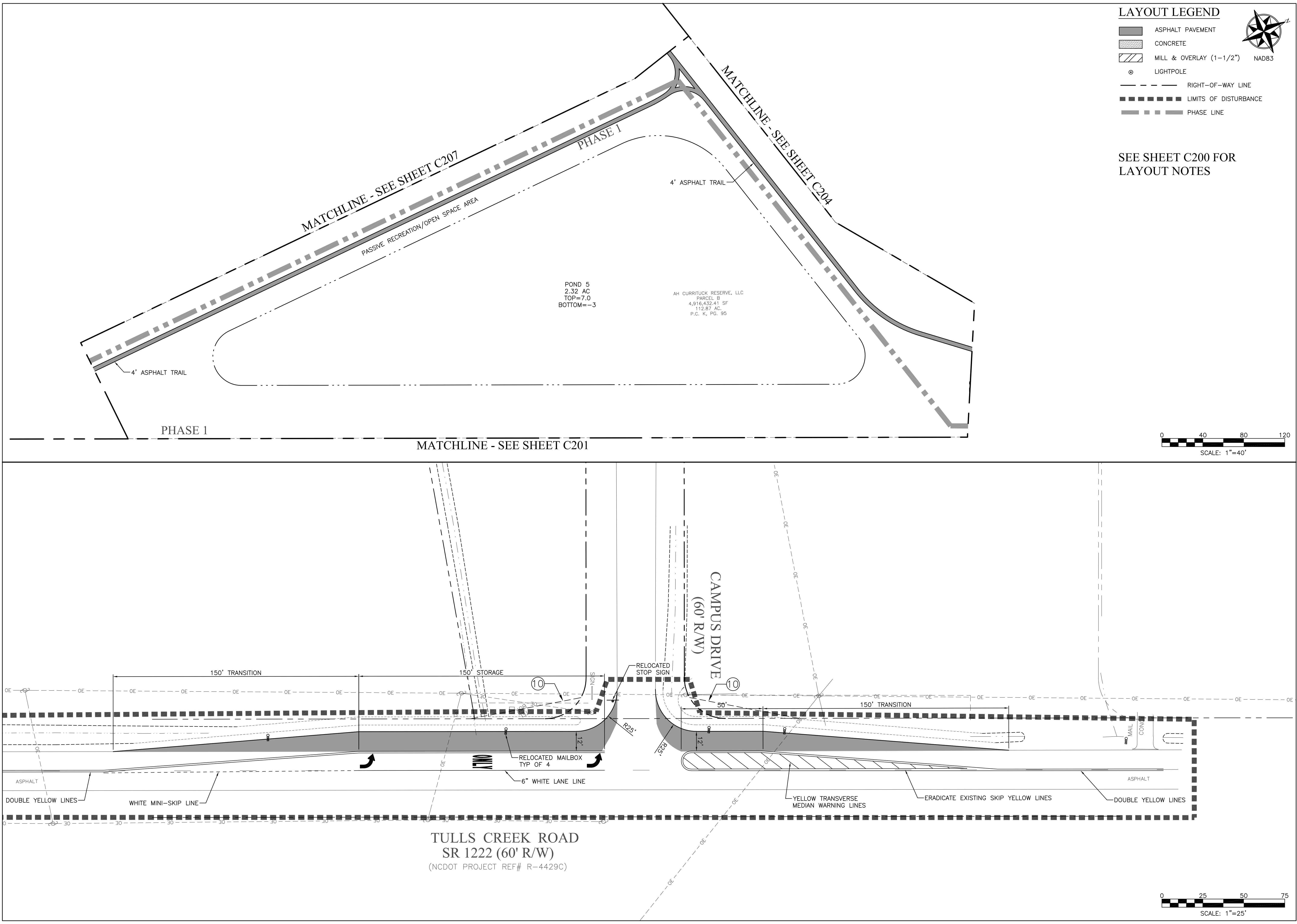
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LAYOUT LEGEND

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- CONCRETE
- MILL & OVERLAY (1-1/2")
- LIGHTPOLE
- RIGHT-OF-WAY LINE
- LIMITS OF DISTURBANCE
- PHASE LINE



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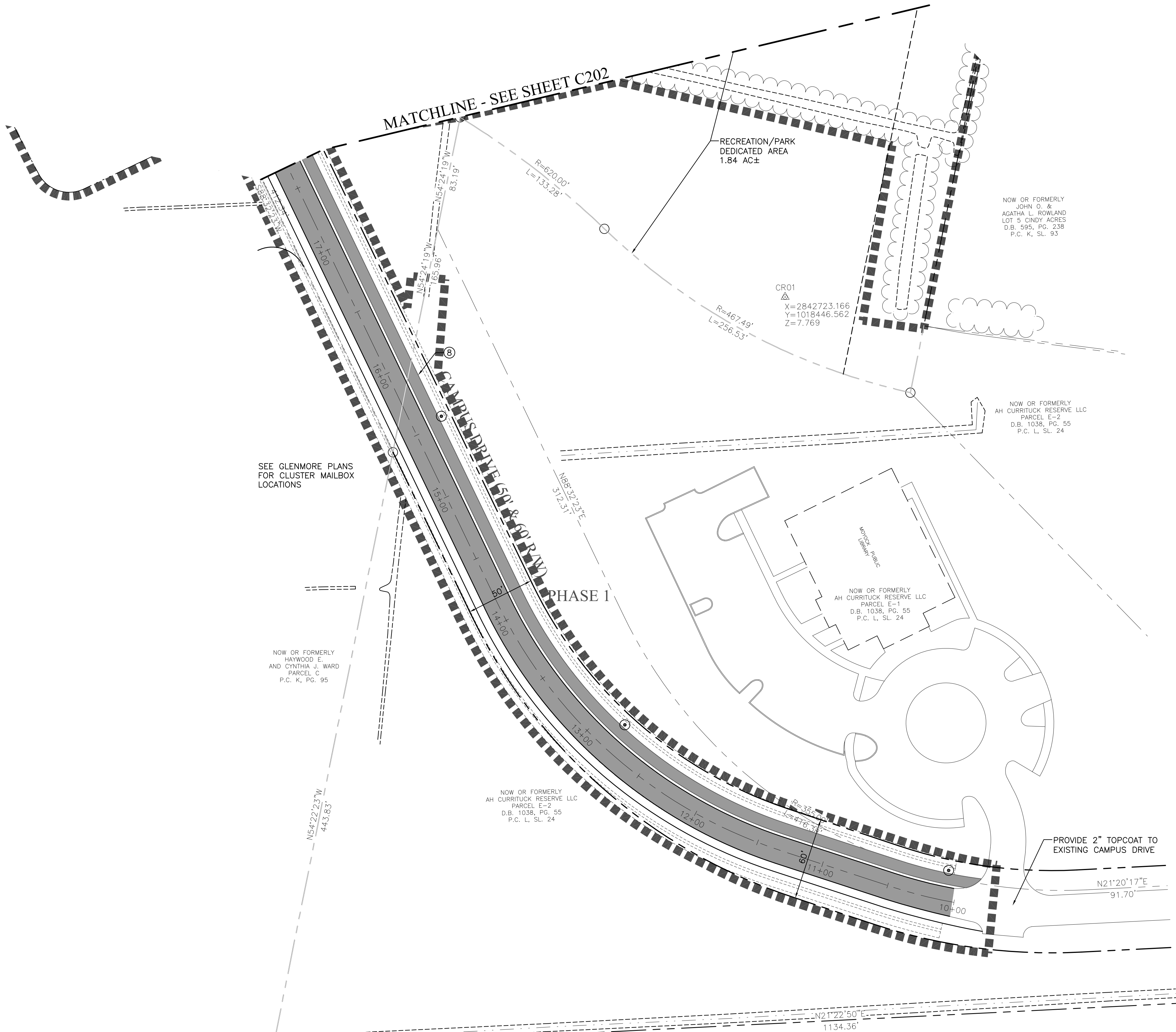
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C207

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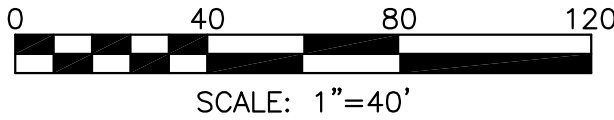


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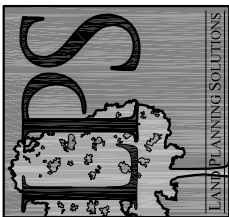
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- CONCRETE
- MILL & OVERLAY (1-1/2")
- LIGHTPOLE
- RIGHT-OF-WAY LINE
- LIMITS OF DISTURBANCE
- PHASE LINE



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CKD.	JPH

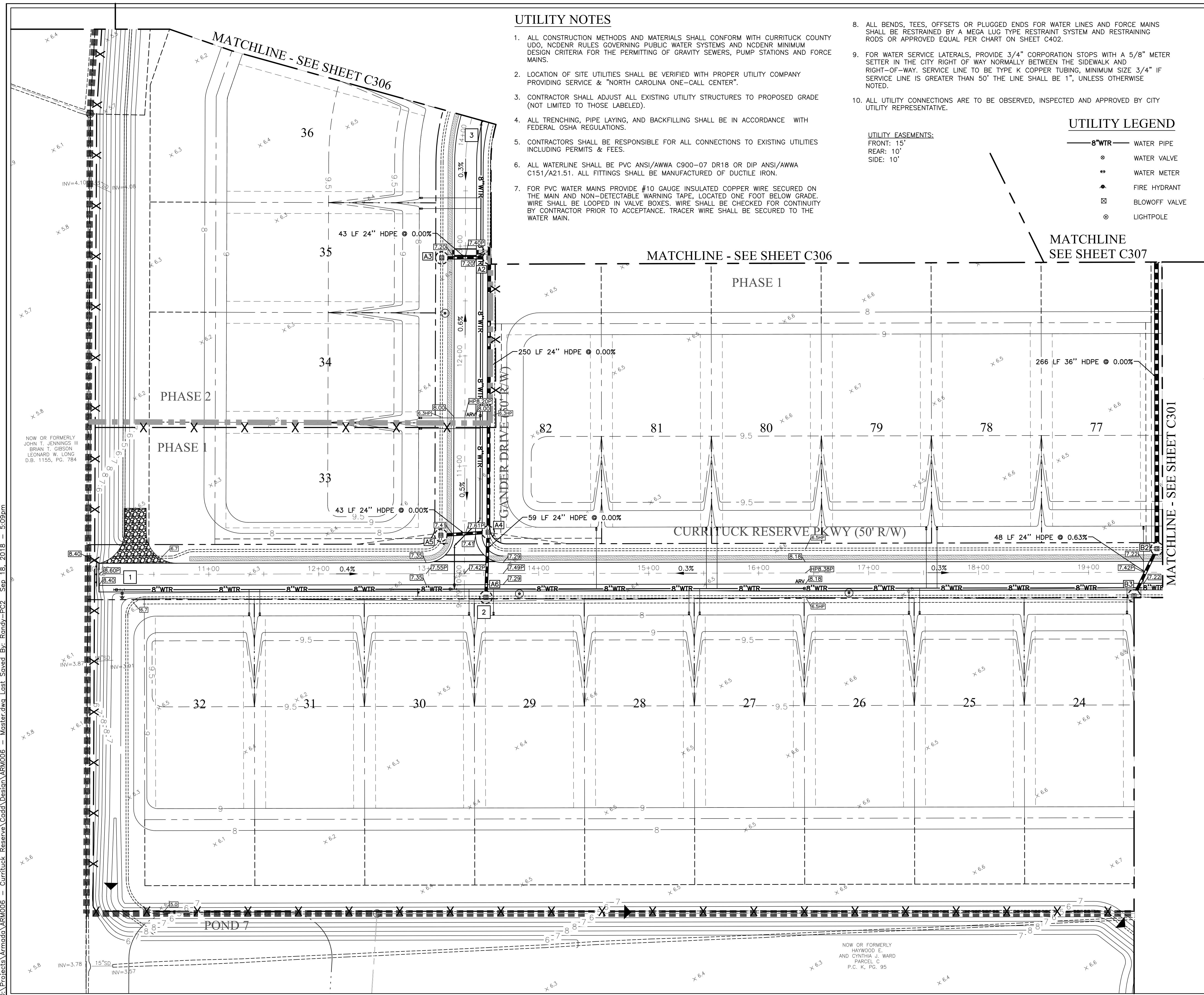
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LAYOUT PLAN



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C208

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UTILITY NOTES

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH CURRITUCK COUNTY UDO, NCDENR RULES GOVERNING PUBLIC WATER SYSTEMS AND NCDENR MINIMUM DESIGN CRITERIA FOR THE PERMITTING OF GRAVITY SEWERS, PUMP STATIONS AND FORCE MAINS.
- LOCATION OF SITE UTILITIES SHALL BE VERIFIED WITH PROPER UTILITY COMPANY PROVIDING SERVICE & "NORTH CAROLINA ONE-CALL CENTER".
- CONTRACTOR SHALL ADJUST ALL EXISTING UTILITY STRUCTURES TO PROPOSED GRADE (NOT LIMITED TO THOSE LABELED).
- ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
- CONTRACTORS SHALL BE RESPONSIBLE FOR ALL CONNECTIONS TO EXISTING UTILITIES INCLUDING PERMITS & FEES.
- ALL WATERLINE SHALL BE PVC ANSI/AWWA C900-07 DR18 OR DIP ANSI/AWWA C151/A21.51. ALL FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON.
- FOR PVC WATER MAINS PROVIDE #10 GAUGE INSULATED COPPER WIRE SECURED ON THE MAIN AND NON-DETECTABLE WARNING TAPE, LOCATED ONE FOOT BELOW GRADE. WIRE SHALL BE LOOPED IN VALVE BOXES. WIRE SHALL BE CHECKED FOR CONTINUITY BY CONTRACTOR PRIOR TO ACCEPTANCE. TRACER WIRE SHALL BE SECURED TO THE WATER MAIN.

- ALL BENDS, TEES, OFFSETS OR PLUGGED ENDS FOR WATER LINES AND FORCE MAINS SHALL BE RESTRAINED BY A MEGA LUG TYPE RESTRAINT SYSTEM AND RESTRAINING RODS OR APPROVED EQUAL PER CHART ON SHEET C402.
- FOR WATER SERVICE LATERALS, PROVIDE 3/4" CORPORATION STOPS WITH A 5/8" METER SETTER IN THE CITY RIGHT OF WAY NORMALLY BETWEEN THE SIDEWALK AND RIGHT-OF-WAY. SERVICE LINE TO BE TYPE K COPPER TUBING, MINIMUM SIZE 3/4" IF SERVICE LINE IS GREATER THAN 50' THE LINE SHALL BE 1", UNLESS OTHERWISE NOTED.
- ALL UTILITY CONNECTIONS ARE TO BE OBSERVED, INSPECTED AND APPROVED BY CITY UTILITY REPRESENTATIVE.

UTILITY EASEMENTS:
FRONT: 15'
REAR: 10'
SIDE: 10'

UTILITY LEGEND

- 8"WTR WATER PIPE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- BLOWOFF VALVE
- LIGHTPOLE

GRADING LEGEND

- SILT FENCE
- INLET PROTECTION
- DRAINAGE EASEMENT NAD83
- CENTERLINE OF SWALE
- CURB INLET
- DROP INLET
- MANHOLE
- NYLOPLAST DRAIN BASIN
- STORM PIPE
- TOP OF BANK
- LIMITS OF DISTURBANCE
- TREE PROTECTION
- PHASE LINE
- TOP OF CURB
- FLOW LINE
- TOP OF CURB
- GROUND ELEVATION
- PAVEMENT ELEVATION
- CONCRETE ELEVATION
- HIGH POINT
- MATCH EXISTING
- FLUSH CURB

GRADING NOTES

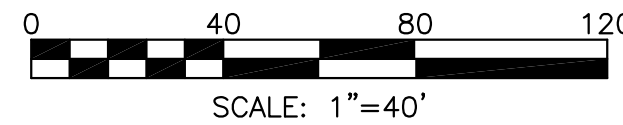
- THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ALL VALVE BOXES, INLET TOPS, MANHOLE RIMS AND OTHER APPURTENANCES LOCATED WITHIN THE PROPOSED LIMIT OF CONSTRUCTION. ALL STRUCTURES SHALL MATCH FINISHED GRADES.
- ALL UNSUITABLE MATERIAL ENCOUNTERED DURING THE CONSTRUCTION ON THE RIGHT-OF-WAY SHALL BE UNDERCUT AND BACKFILLED WITH NCDOT SELECT MATERIAL TYPE II MINIMUM CBR-20.
- ALL DROP INLETS SHALL BE NCDOT CDI 840.14.
- SITE EARTHWORK PREPARATION AND SELECT STRUCTURAL FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING STUDY.
- MINIMUM BFE=7.6 AND MINIMUM FFE=8.1, TYP.

STORM CALLOUTS

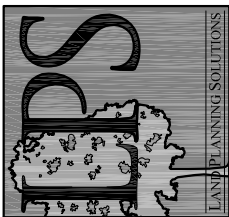
- | | |
|---|--|
| A2
CDI
RIM=5.50
INV=2.10 A2-A4
INV=2.10 A2-A3
INV=1.60 A2-A1 | A6
CDI
RIM=5.50
INV=2.40 A6-A4 |
| A3
CDI
RIM=5.50
INV=2.10 A3-A2 | B1
CDI
RIM=7.21
INV=1.60 B1-B2
INV=1.60 B1-Outfall |
| A4
CDI
RIM=5.50
INV=2.40 A4-A6
INV=2.40 A4-A5
INV=2.10 A4-A2 | B2
CDI
RIM=5.50
INV=2.10 B2-B3
INV=1.60 B2-B1 |
| A5
CDI
RIM=5.50
INV=2.40 A5-A4 | B3
CDI
RIM=5.50
INV=2.40 B3-B2 |

WATER CALLOUTS

- 8"x6" TEE
6" GV & FH
8" GV
8" PLUG
- 8"x8" TEE
2-8" GV'S
2-8" 45° BENDS
- 8" 22.5° BEND



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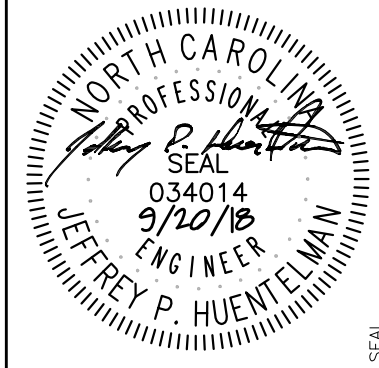
REVISION

No. DATE

PROJECT No: ARM006
DATE 20SEP18
DES. SDS
DR. RLR
CKD. JPH

CURRITUCK RESERVE
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CURRITUCK COUNTY, NORTH CAROLINA

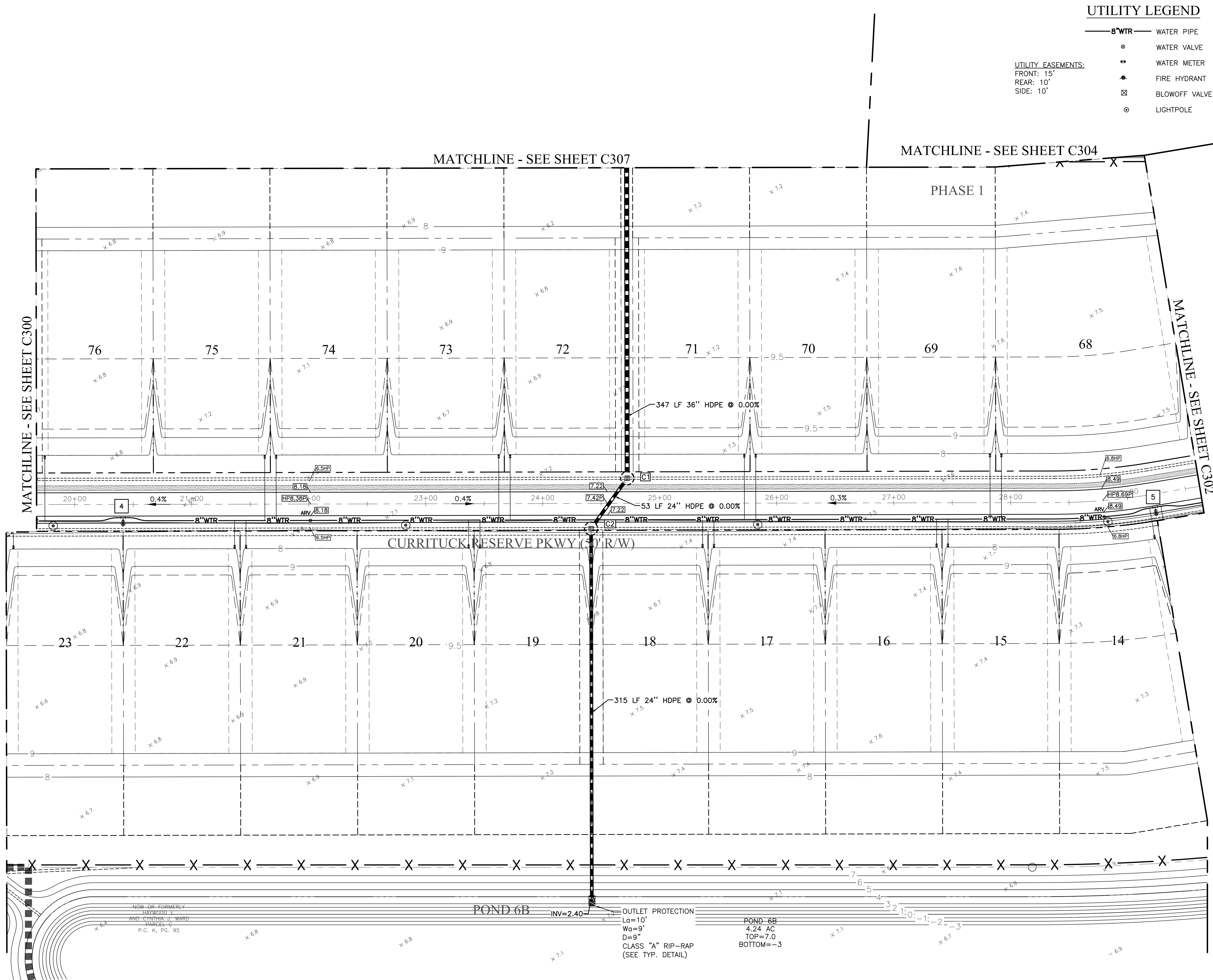
MOYOCK TOWNSHIP
GRADING & UTILITY PLAN



SHEET NO.

C300

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UTILITY LEGEND

UTILITY EASEMENTS:
FRONT: 15'
REAR: 10'
SIDE: 10'

- 8" WTR WATER PIPE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- BLOWOFF VALVE
- LIGHTPOLE

GRADING LEGEND

- SILT FENCE
- INLET PROTECTION
- DRAINAGE EASEMENT NAD83
- CENTERLINE OF SWALE
- CURB INLET
- DROP INLET
- MANHOLE
- NYLOPLAST DRAIN BASIN
- STORM PIPE
- TOP OF BANK
- LIMITS OF DISTURBANCE
- TREE PROTECTION
- PHASE LINE

- 10.00 TOP OF CURB
- 9.50 FLOW LINE
- 10.00 TOP OF CURB
- 10.0 GROUND ELEVATION
- 10.00P PAVEMENT ELEVATION
- 10.00C CONCRETE ELEVATION
- 10.00HP HIGH POINT
- 10.00ME MATCH EXISTING
- 10.00FC FLUSH CURB

STORM CALLOUTS

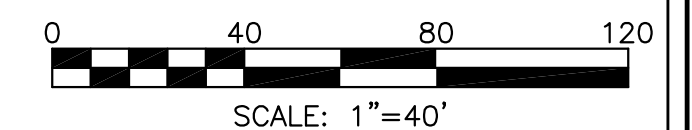
- C1
CDI
RIM=5.61
INV=2.40 C1-C2
INV=1.60 C1-OUTFALL
- C2
CDI
RIM=5.50
INV=2.40 C2-STUB IN
INV=2.40 C2-C1

WATER CALLOUTS

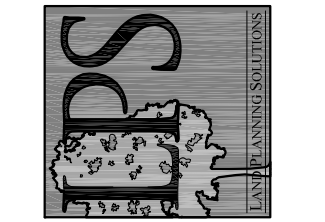
- 4 8"x6" TEE
6" GV & FH
- 5 8"x6" TEE
6" GV & FH

E&S NOTE:

DURING CONSTRUCTION, PONDS 5 & 6B WILL BE UTILIZED AS AN EROSION & SEDIMENT CONTROL SEDIMENT BASIN. OUTLET STRUCTURE AT POND 6B WILL ALSO REQUIRE SURFACE SKIMMER DEVICE AS DETAILED. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS PROPERLY STABILIZED THE POND SHALL BE CLEANED AND RESTORED TO ITS DESIGN SPECIFICATIONS AND THE BANKS PERMANENTLY STABILIZED WITHIN 7 DAYS.



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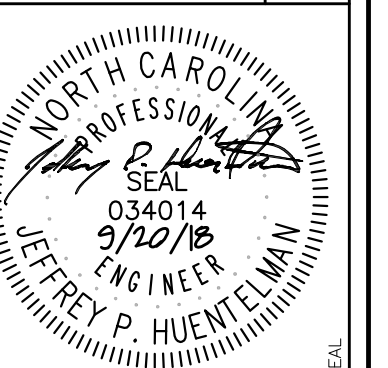
No. DATE

PROJECT No: ARM006

DATE 20SEP18
DES. SDS
DR. RLR
CKD. JPH

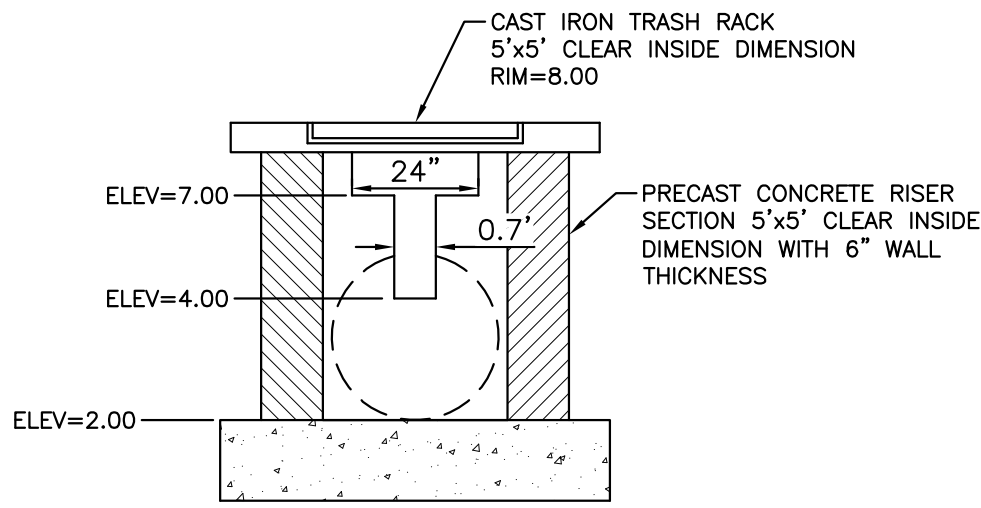
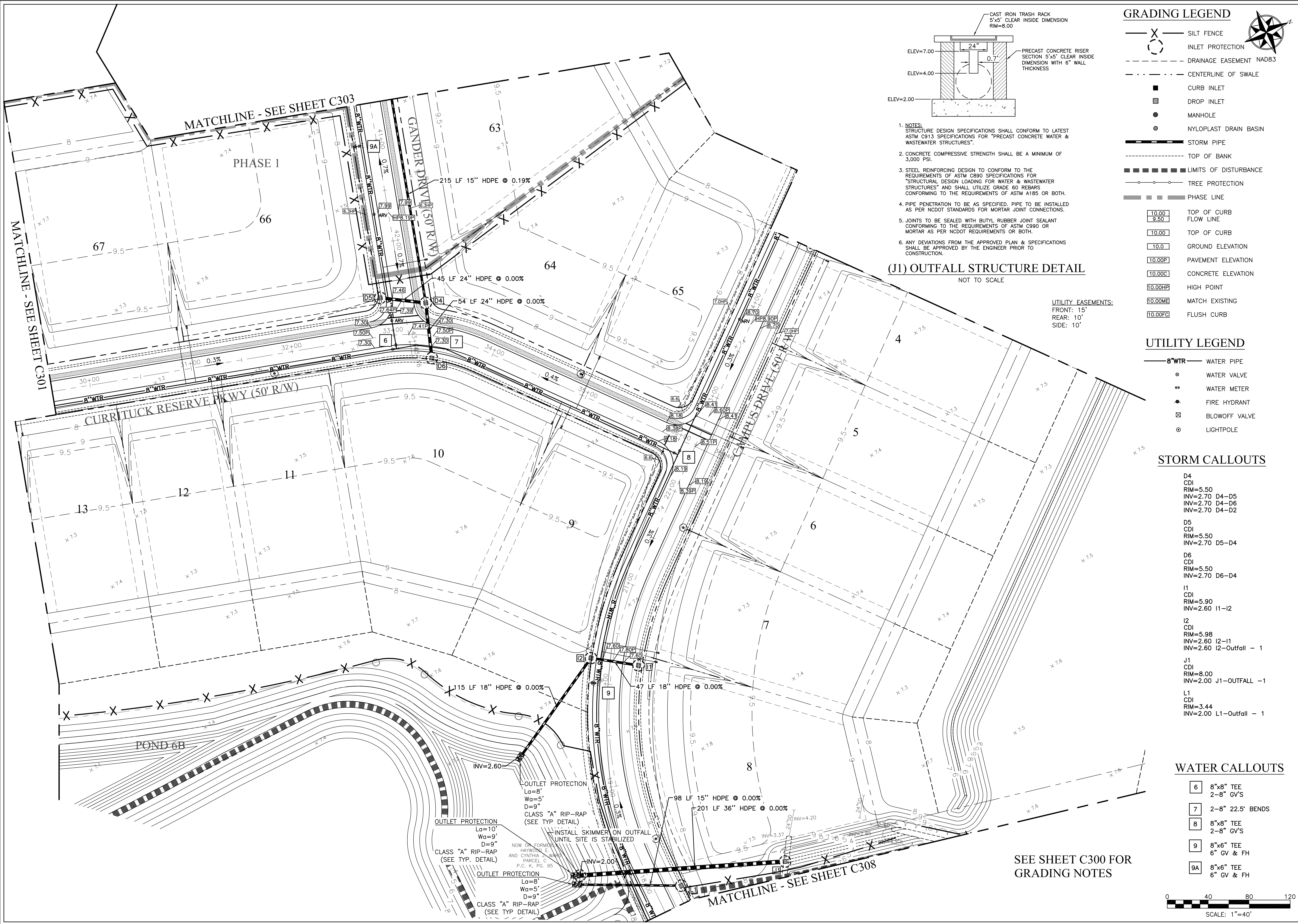
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CURRITUCK COUNTY, NORTH CAROLINA

MOYOCK TOWNSHIP
GRADING & UTILITY PLAN



SHEET NO.

C301



1. NOTES:
STRUCTURE DESIGN SPECIFICATIONS SHALL CONFORM TO LATEST ASTM C913 SPECIFICATIONS FOR "PRECAST CONCRETE WATER & WASTEWATER STRUCTURES".
2. CONCRETE COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 3,000 PSI.
3. STEEL REINFORCING DESIGN TO CONFORM TO THE REQUIREMENTS OF ASTM C890 SPECIFICATIONS FOR "STRUCTURAL DESIGN LOADING FOR WATER & WASTEWATER STRUCTURES" AND SHALL UTILIZE GRADE 60 REBARS CONFORMING TO THE REQUIREMENTS OF ASTM A185 OR BOTH.
4. PIPE PENETRATION TO BE AS SPECIFIED. PIPE TO BE INSTALLED AS PER NCDOT STANDARDS FOR MORTAR JOINT CONNECTIONS.
5. JOINTS TO BE SEALED WITH BUTYL RUBBER JOINT SEALANT CONFORMING TO THE REQUIREMENTS OF ASTM C990 OR MORTAR AS PER NCDOT REQUIREMENTS OR BOTH.
6. ANY DEVIATIONS FROM THE APPROVED PLAN & SPECIFICATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.

(J1) OUTFALL STRUCTURE DETAIL
NOT TO SCALE

UTILITY EASEMENTS:
FRONT: 15'
REAR: 10'
SIDE: 10'

GRADING LEGEND

- SILT FENCE
- INLET PROTECTION
- DRAINAGE EASEMENT NAD83
- CENTERLINE OF SWALE
- CURB INLET
- DROP INLET
- MANHOLE
- NYLOPLAST DRAIN BASIN
- STORM PIPE
- TOP OF BANK
- LIMITS OF DISTURBANCE
- TREE PROTECTION
- PHASE LINE
- TOP OF CURB
- FLOW LINE
- TOP OF CURB
- GROUND ELEVATION
- PAVEMENT ELEVATION
- CONCRETE ELEVATION
- HIGH POINT
- MATCH EXISTING
- FLUSH CURB

UTILITY LEGEND

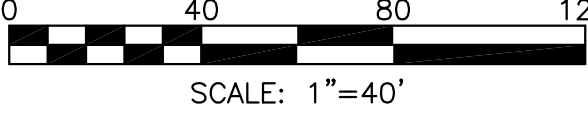
- 8"WTR WATER PIPE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- BLOWOFF VALVE
- LIGHTPOLE

STORM CALLOUTS

- D4
CDI
RIM=5.50
INV=2.70 D4-D5
INV=2.70 D4-D6
INV=2.70 D4-D2
- D5
CDI
RIM=5.50
INV=2.70 D5-D4
- D6
CDI
RIM=5.50
INV=2.70 D6-D4
- I1
CDI
RIM=5.90
INV=2.60 I1-I2
- I2
CDI
RIM=5.98
INV=2.60 I2-I1
INV=2.60 I2-Outfall - 1
- J1
CDI
RIM=8.00
INV=2.00 J1-OUTFALL -1
- L1
CDI
RIM=3.44
INV=2.00 L1-Outfall - 1

WATER CALLOUTS

- 6 8"x8" TEE
2-8" GV'S
- 7 2-8" 22.5' BENDS
- 8 8"x8" TEE
2-8" GV'S
- 9 8"x6" TEE
6" GV & FH
- 9A 8"x6" TEE
6" GV & FH



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PROJECT No: ARM006
DATE: 20SEP18
DES: SDS
DR: RLR
CKD: JPH

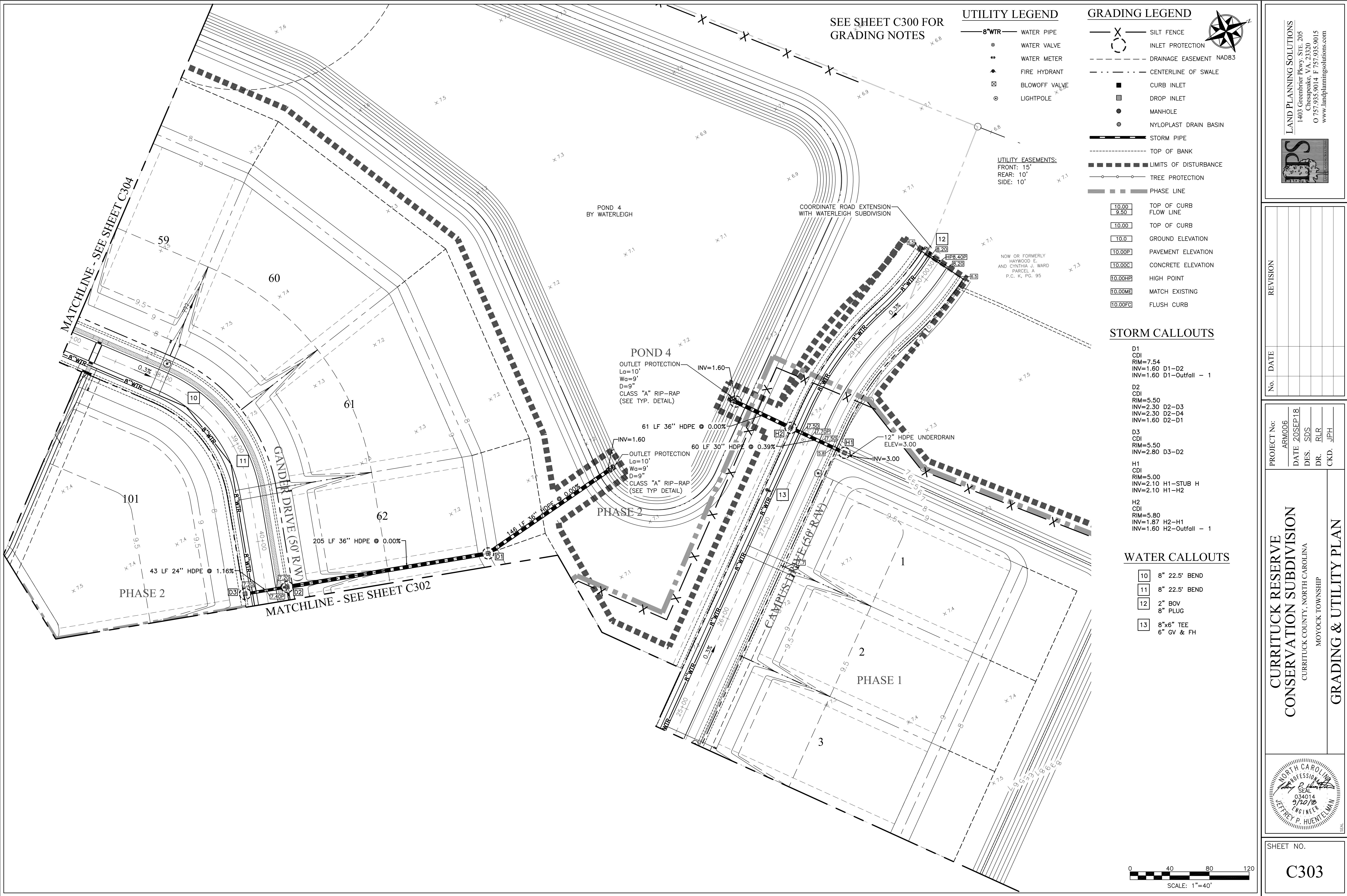
CURRITUCK RESERVE
CONSERVATION SUBDIVISION
CURRITUCK COUNTY, NORTH CAROLINA
MOYOCK TOWNSHIP

GRADING & UTILITY PLAN

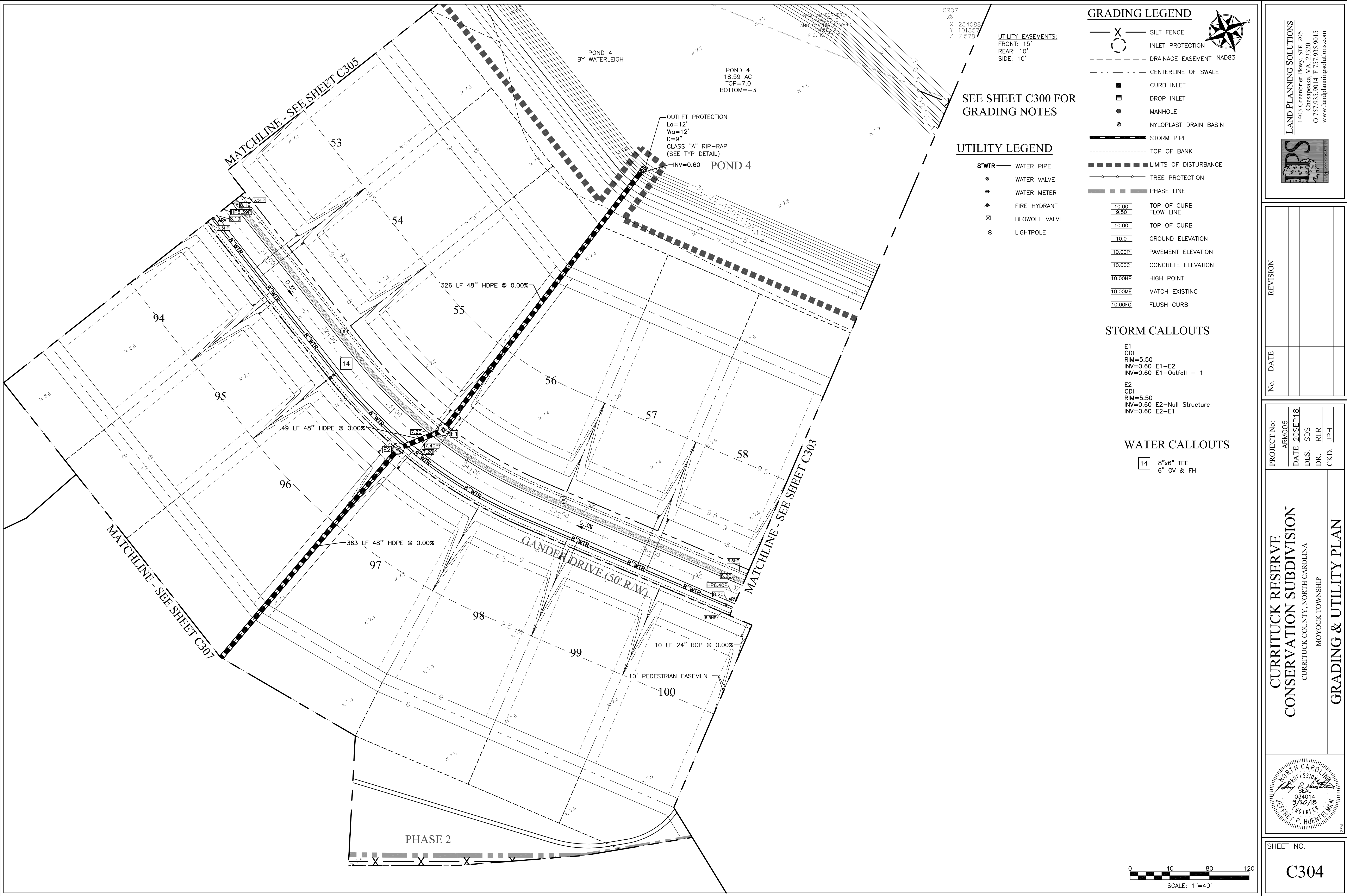
NORTH CAROLINA
Professional Seal
034014
9/20/18
JEFFREY P. HUENTELMAN
ENGINEER

SHEET NO.
C302

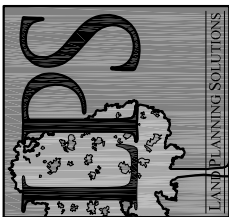
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PROJECT No:	ARM006
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DES.	SDS
DR.	RLR
CKD.	JPH

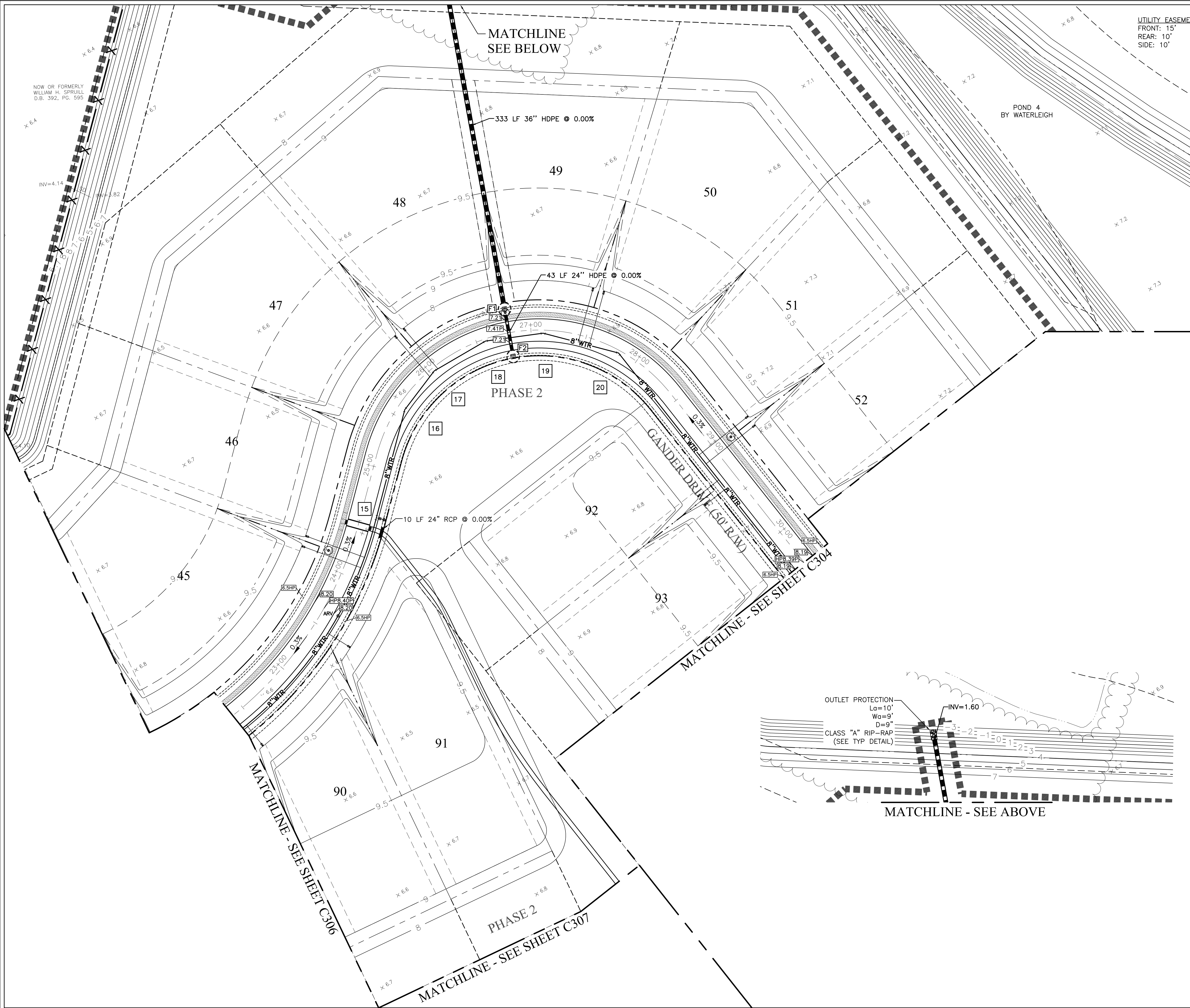
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GRADING & UTILITY PLAN



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C304

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UTILITY EASEMENTS:
FRONT: 15'
REAR: 10'
SIDE: 10'

GRADING LEGEND

- SILT FENCE
- INLET PROTECTION
- DRAINAGE EASEMENT NAD83
- CENTERLINE OF SWALE
- CURB INLET
- DROP INLET
- MANHOLE
- NYLOPLAST DRAIN BASIN
- STORM PIPE
- TOP OF BANK
- LIMITS OF DISTURBANCE
- TREE PROTECTION
- PHASE LINE
- 10.00 TOP OF CURB
- 9.50 FLOW LINE
- 10.00 TOP OF CURB
- 10.0 GROUND ELEVATION
- 10.00P PAVEMENT ELEVATION
- 10.00C CONCRETE ELEVATION
- 10.00HP HIGH POINT
- 10.00ME MATCH EXISTING
- 10.00FC FLUSH CURB

SEE SHEET C300 FOR
GRADING NOTES

STORM CALLOUTS

F1
CDI
RIM=5.50
INV=2.40 F1-F2
INV=1.60 F1-Outfall - 1

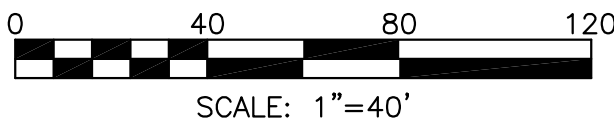
F2
CDI
RIM=5.50
INV=2.40 F2-F1

UTILITY LEGEND

- 8\"WTR WATER PIPE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- BLOWOFF VALVE
- LIGHTPOLE

WATER CALLOUTS

- 15 8\"x6\" TEE
- 6\" GV & FH
- 16 8\" 22.5' BEND
- 17 8\" 22.5' BEND
- 18 8\" 22.5' BEND
- 19 8\" 22.5' BEND
- 20 8\" 45' BEND



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CKD.	JPH

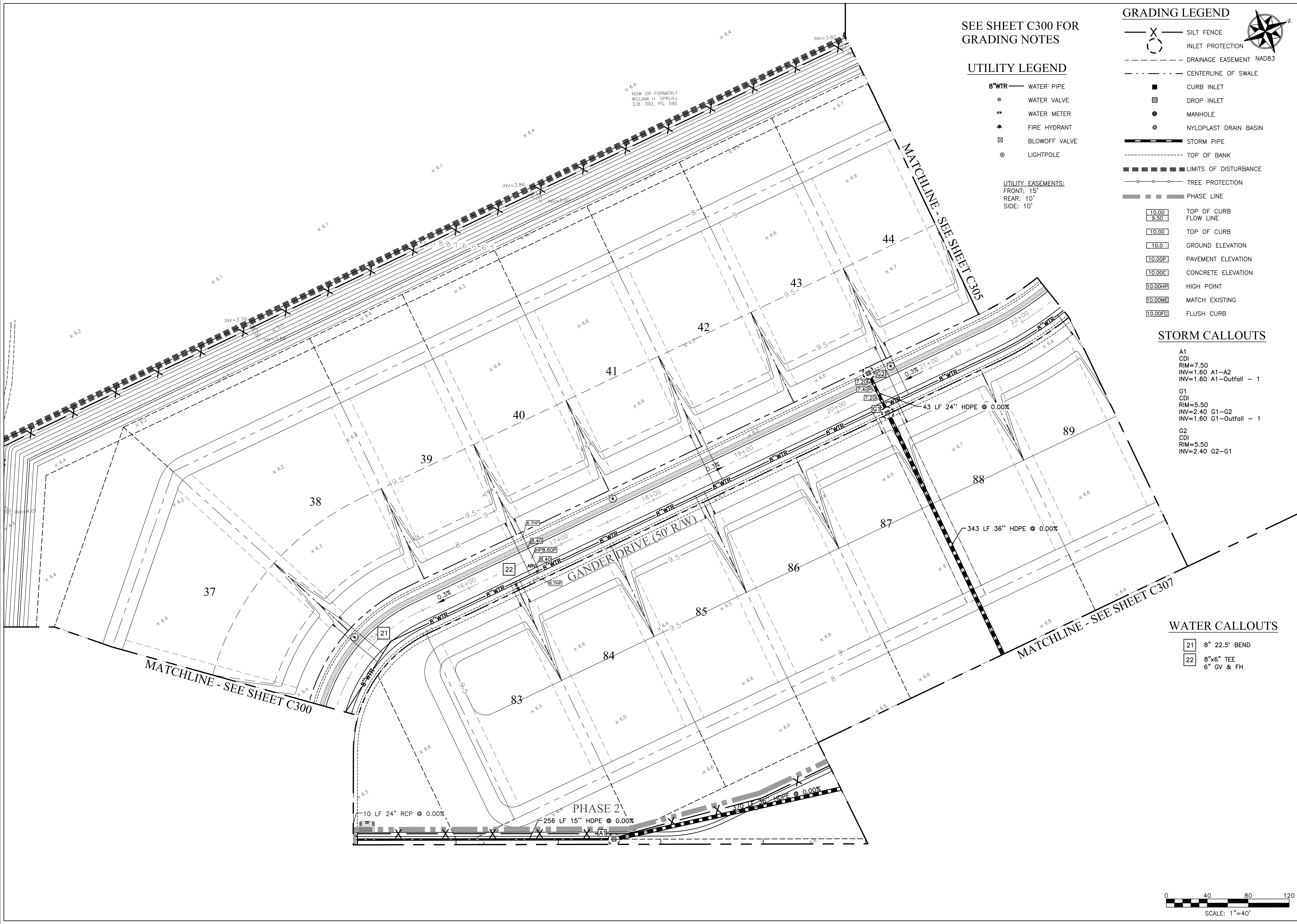
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C305

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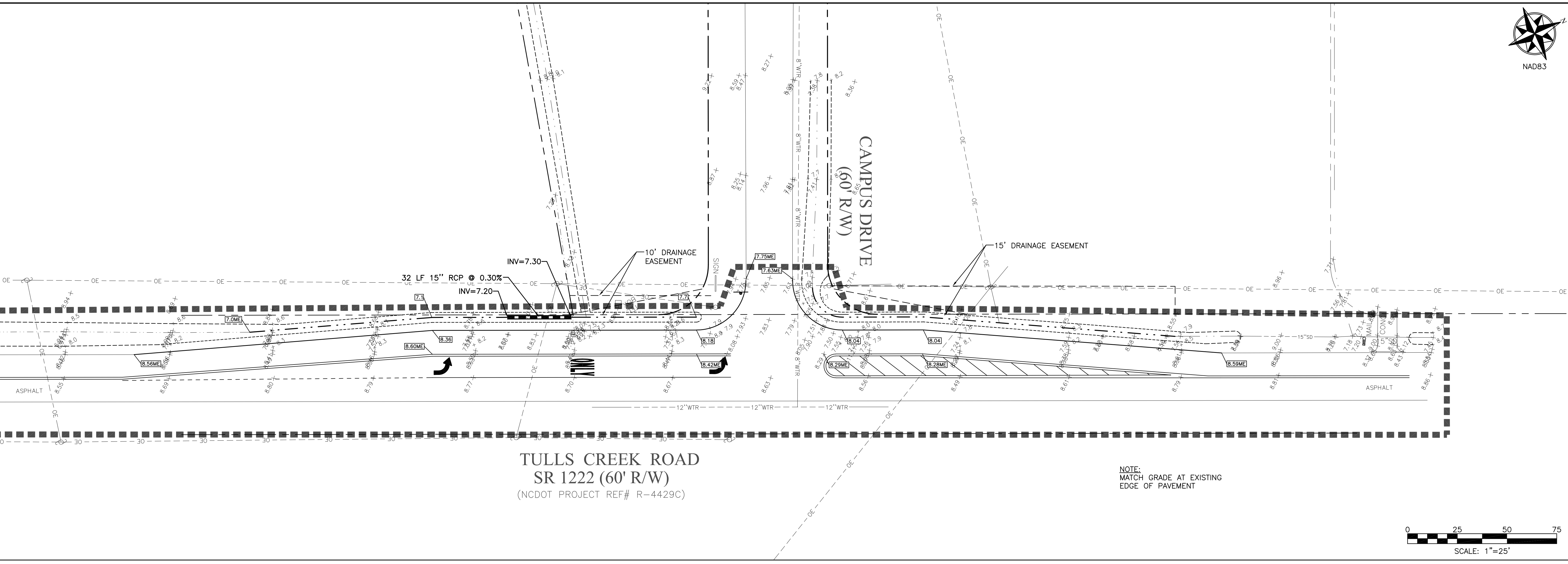
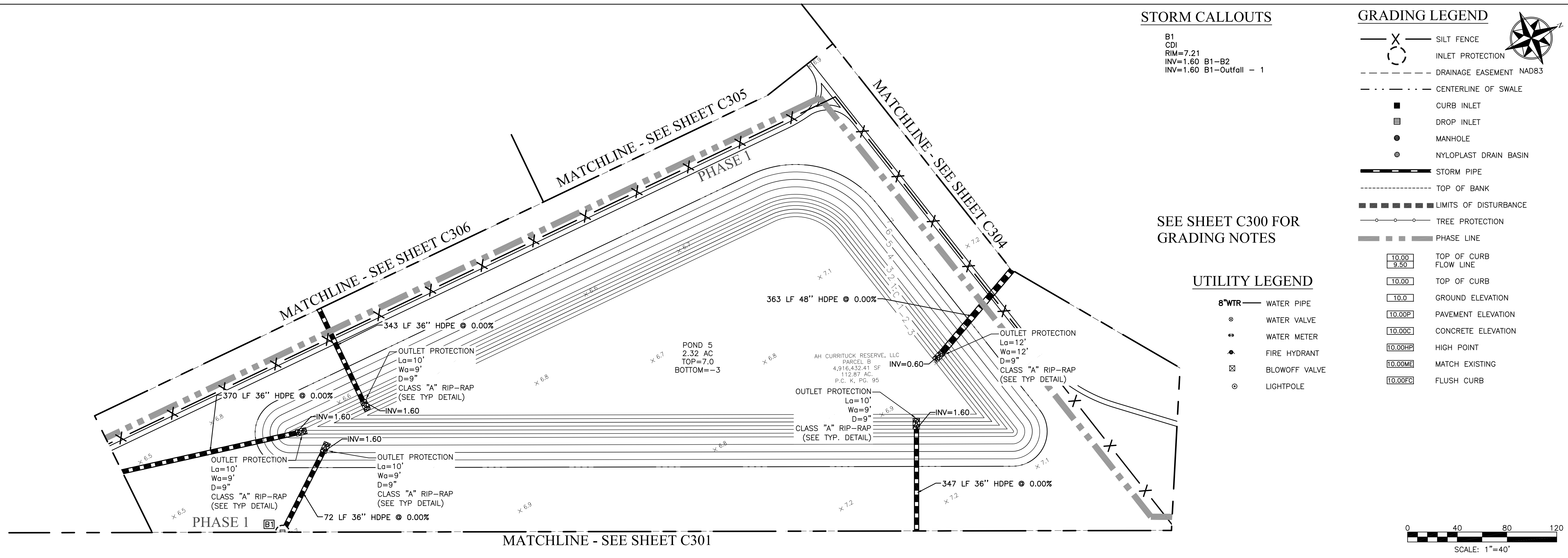
PROJECT No:
ARM006
DATE 20SEP18
DES. SDS
DR. RLR
CKD. JPH

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C306

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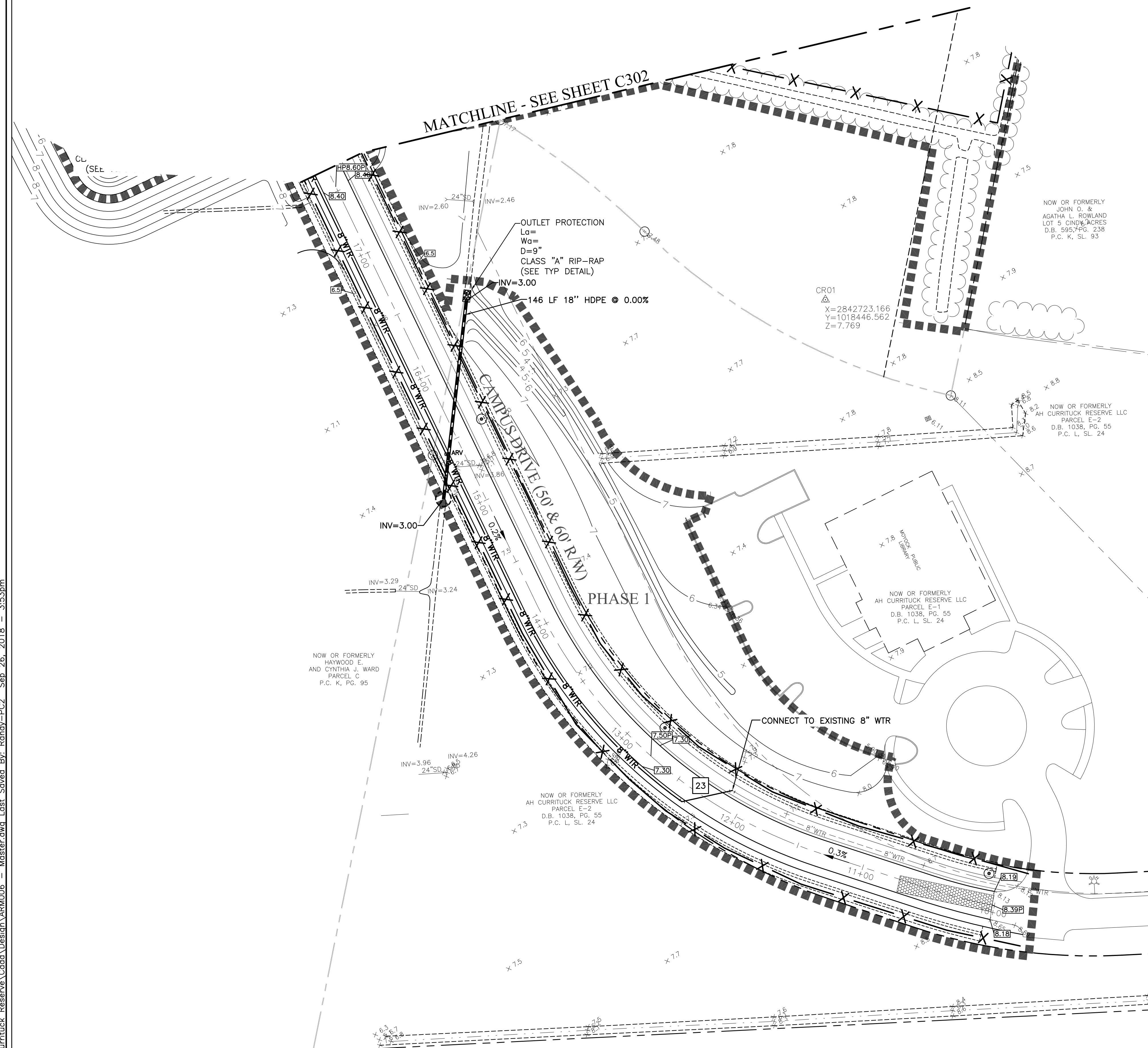
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DATE: 20SEP18
DES: SDS
DR: RLR
CKD: JPH

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CURRITUCK COUNTY, NORTH CAROLINA
MOYOCK TOWNSHIP

GRADING & UTILITY PLAN

PROFESSIONAL ENGINEER
034014
9/20/18
JEFFREY P. HUENTELMAN

SHEET NO.
C307



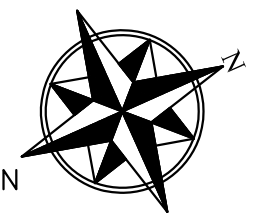
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GRADING NOTES

UTILITY LEGEND

- | | |
|---|---------------|
| 8" WTR | WATER PIPE |
|  | WATER VALVE |
|  | WATER METER |
|  | FIRE HYDRANT |
|  | BLOWOFF VALVE |
|  | LIGHTPOLE |

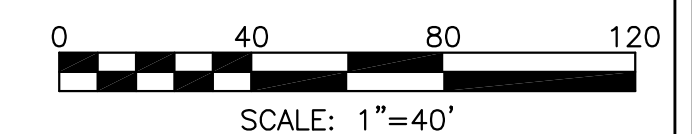
GRADING LEGEND

- | | | |
|---|-----------------------|---|
|  | SILT FENCE |  |
|  | INLET PROTECTION | |
|  | DRAINAGE EASEMENT | |
|  | CENTERLINE OF SWALE | |
|  | CURB INLET | |
|  | DROP INLET | |
|  | MANHOLE | |
|  | NYLOPLAST DRAIN BASIN | |
|  | STORM PIPE | |
|  | TOP OF BANK | |
|  | LIMITS OF DISTURBANCE | |
|  | TREE PROTECTION | |
|  | PHASE LINE | |



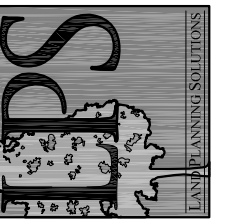
WATER CALLOUTS

- 23 CONNECT TO EXISTING 8" WTR
2-45° BENDS



SCALE: 1"=40'

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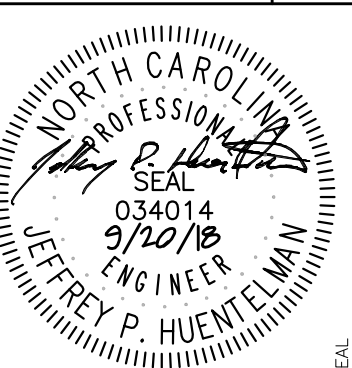
DR.	<u>RLR</u>
CKD	IRH

 $\overline{\text{CND. JFH}}$

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MOYOCK TOWNSHIP

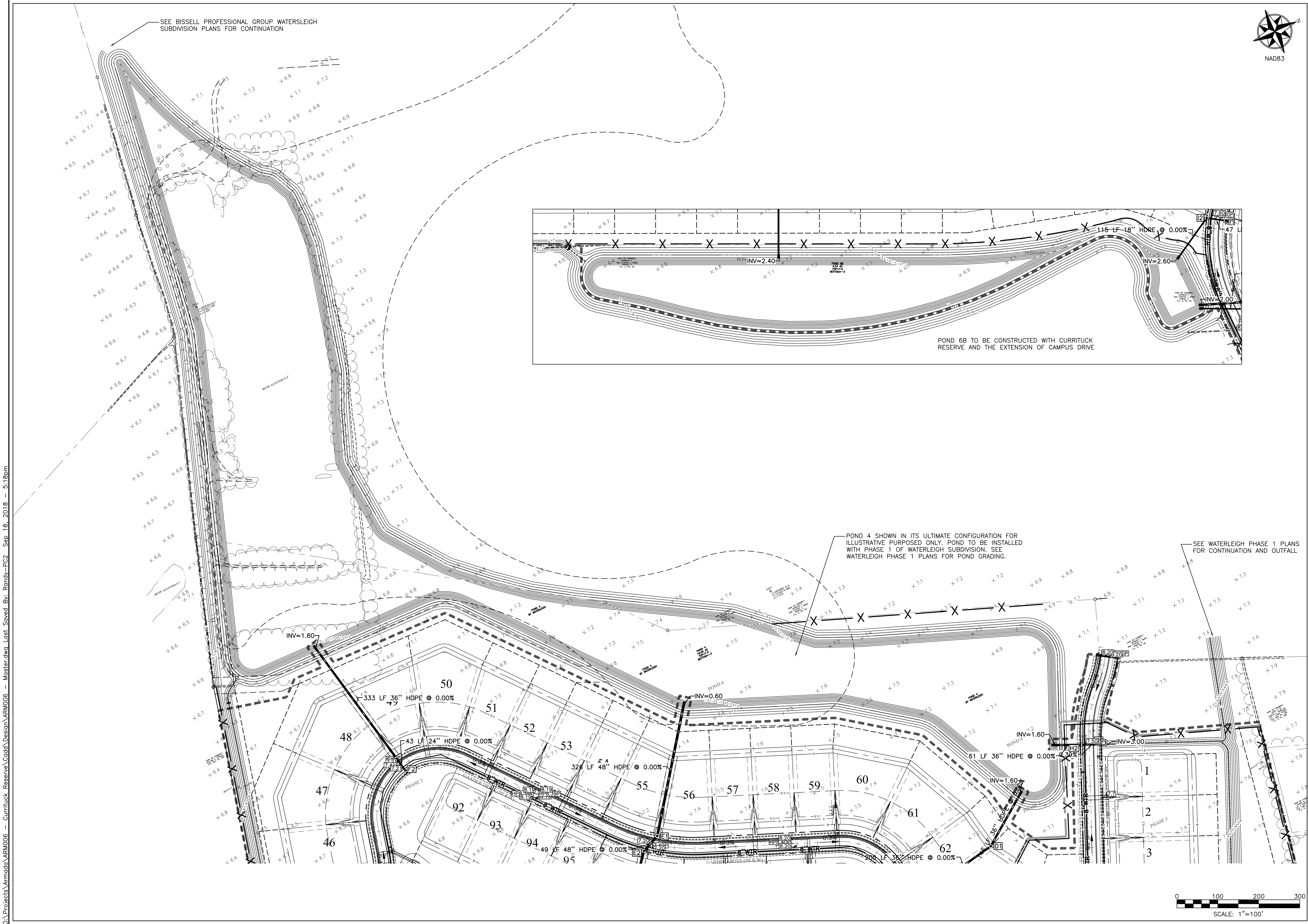
GRADING & UTILITY PLAN



SHEET NO.

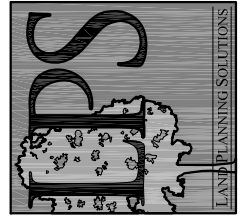
C308

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NAD83

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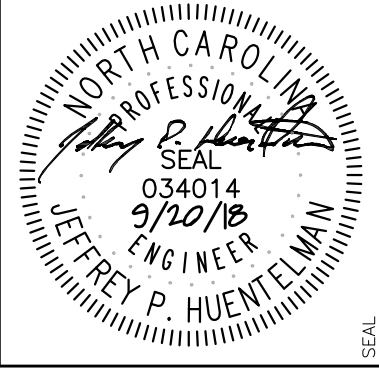


REVISION	
No.	DATE

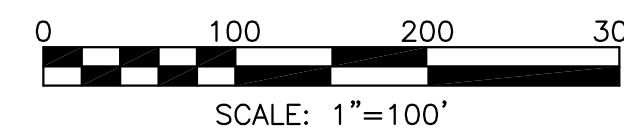
PROJECT No:	ARM006
DATE	20SEP18
DES.	SDS
DR.	RLR
CKD.	JPH

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CONSERVATION SUBDIVISION
CURRITUCK COUNTY, NORTH CAROLINA
MOYOCK TOWNSHIP

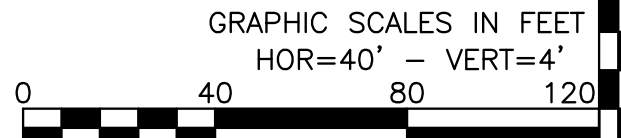
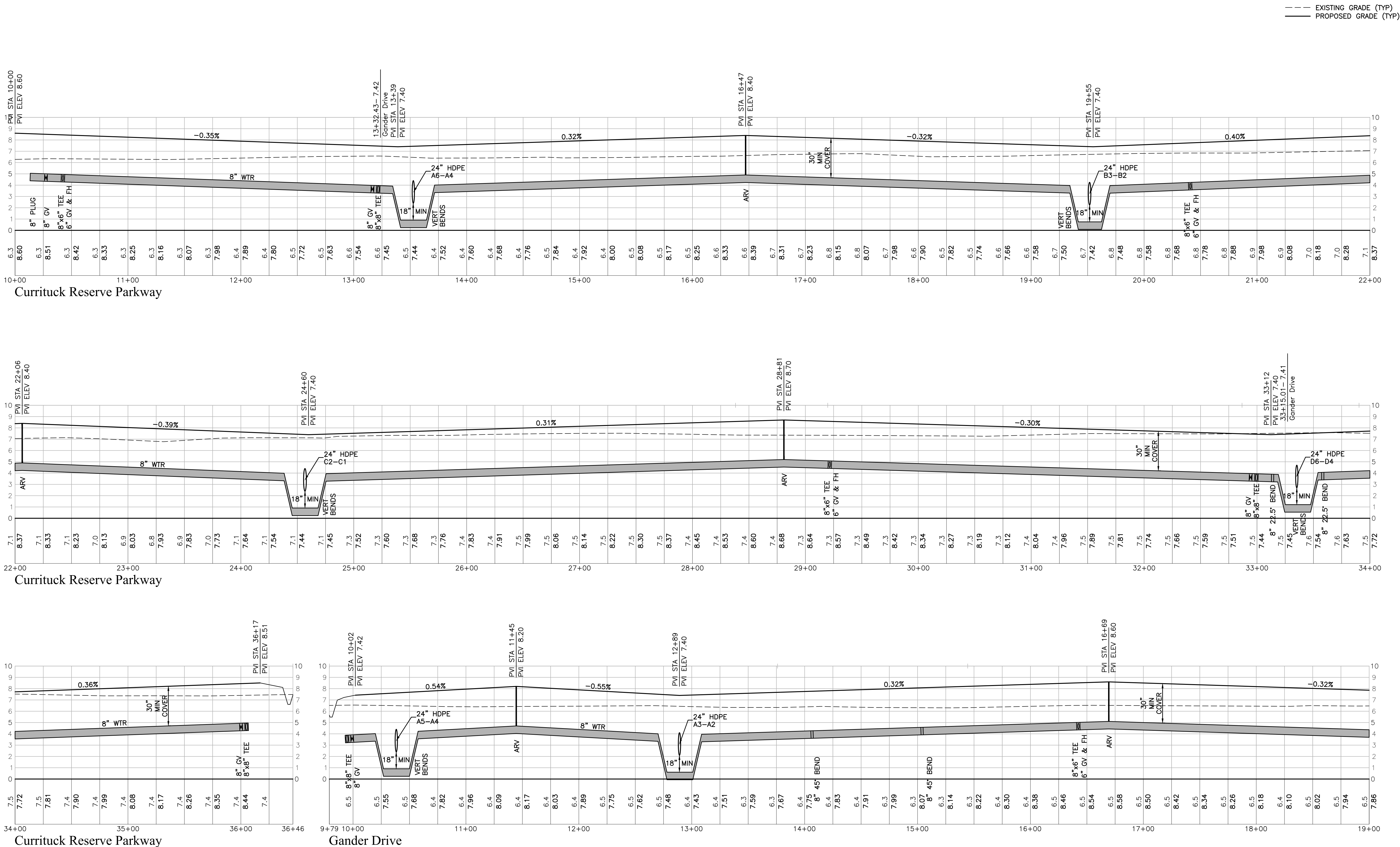
OFFSITE PONDS



SHEET NO.
C309



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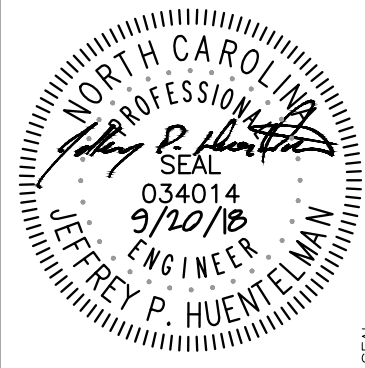


No.	DATE	REVISION

PROJECT No:	ARM006
DATE	20SEP18
DES.	SDS
DR.	RLR
CKD.	JPH

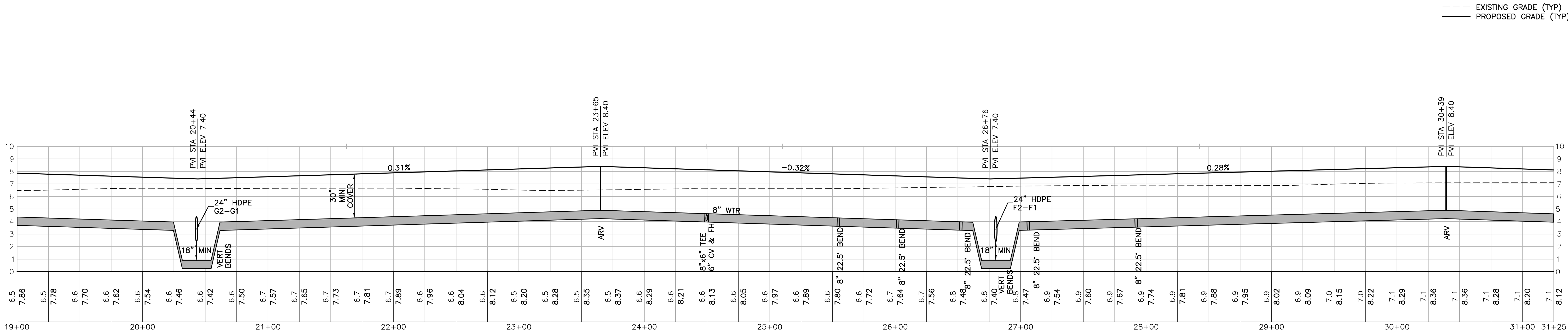
CURRITUCK RESERVE
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CURRITUCK COUNTY, NORTH CAROLINA
MOYOCK TOWNSHIP

PROFILES

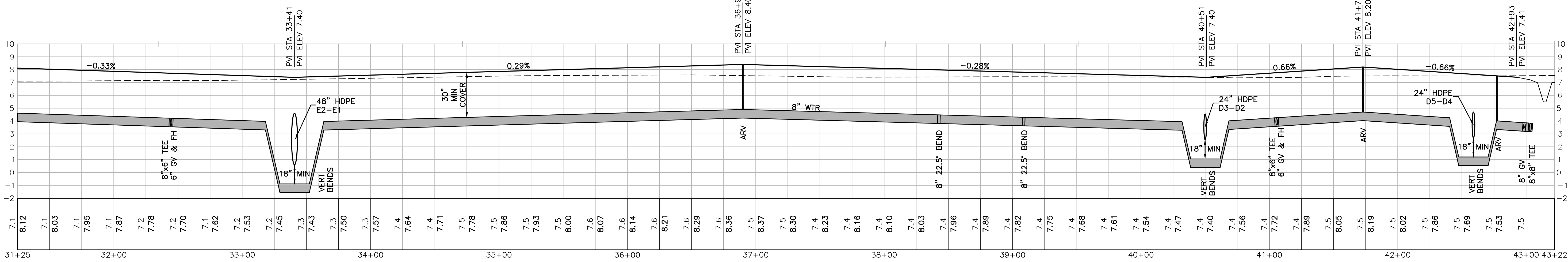


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C400

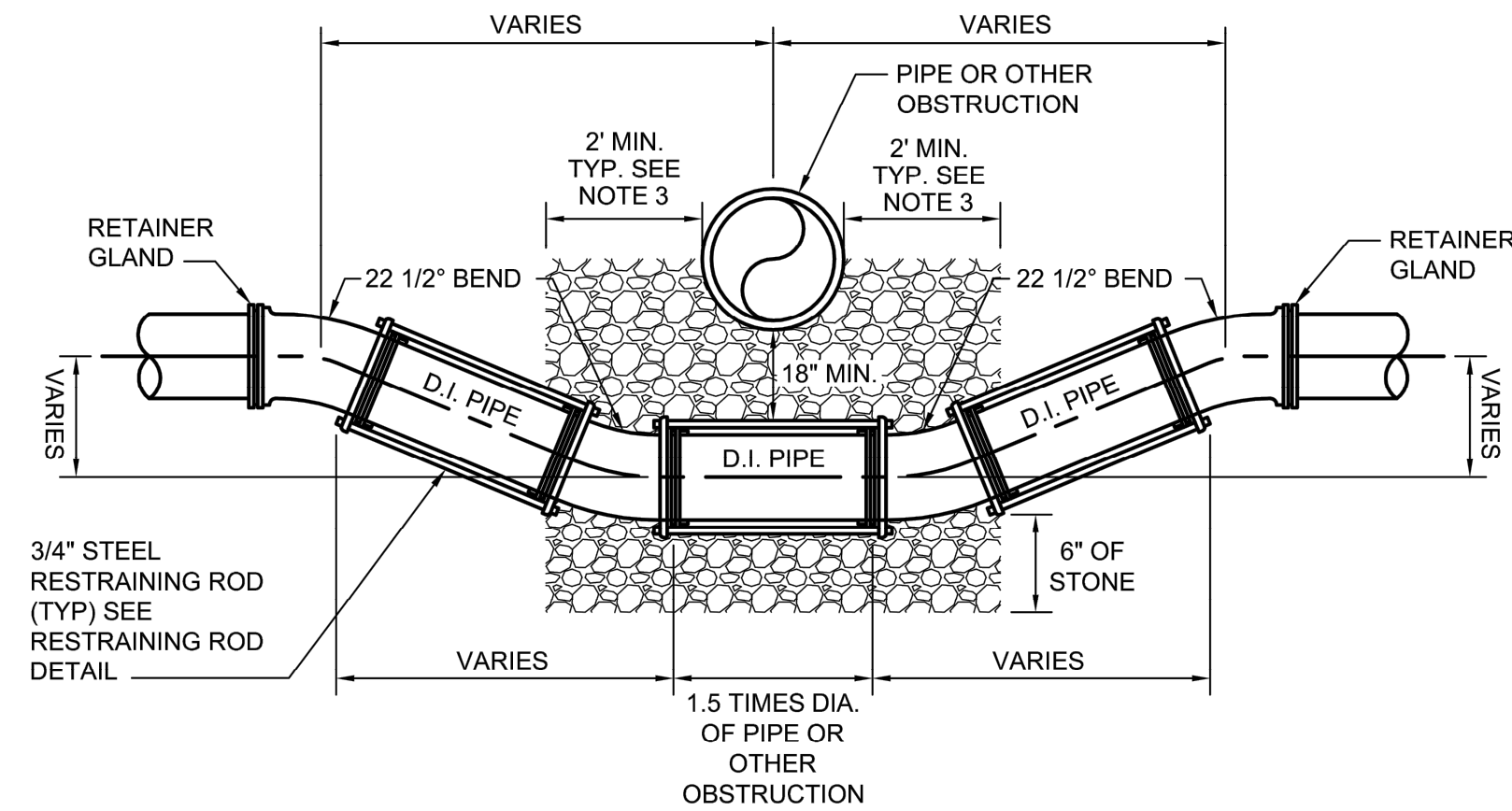
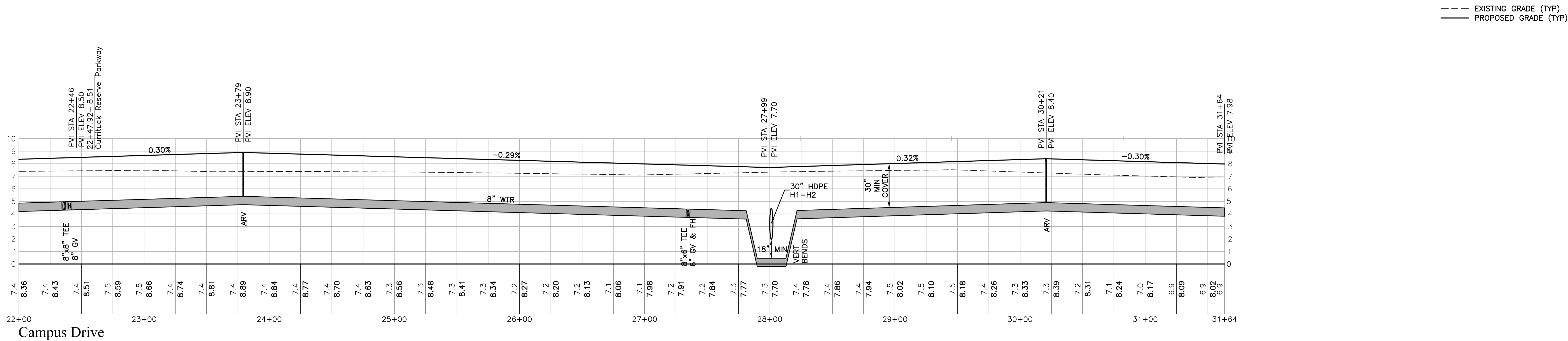
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Gander Drive



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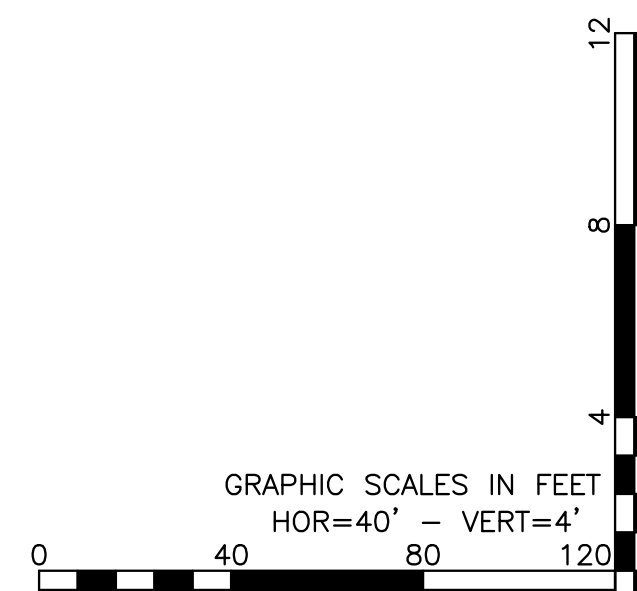
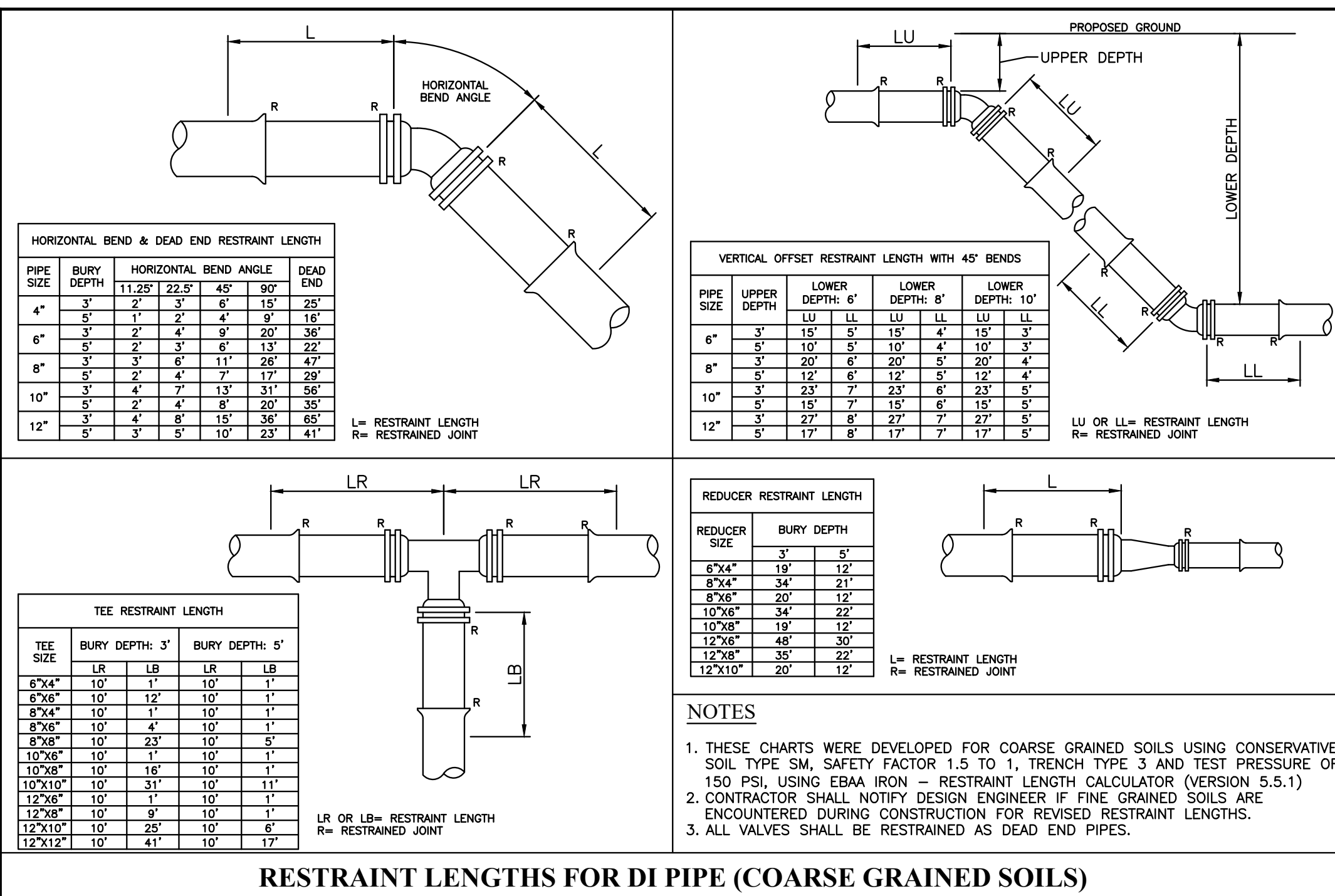
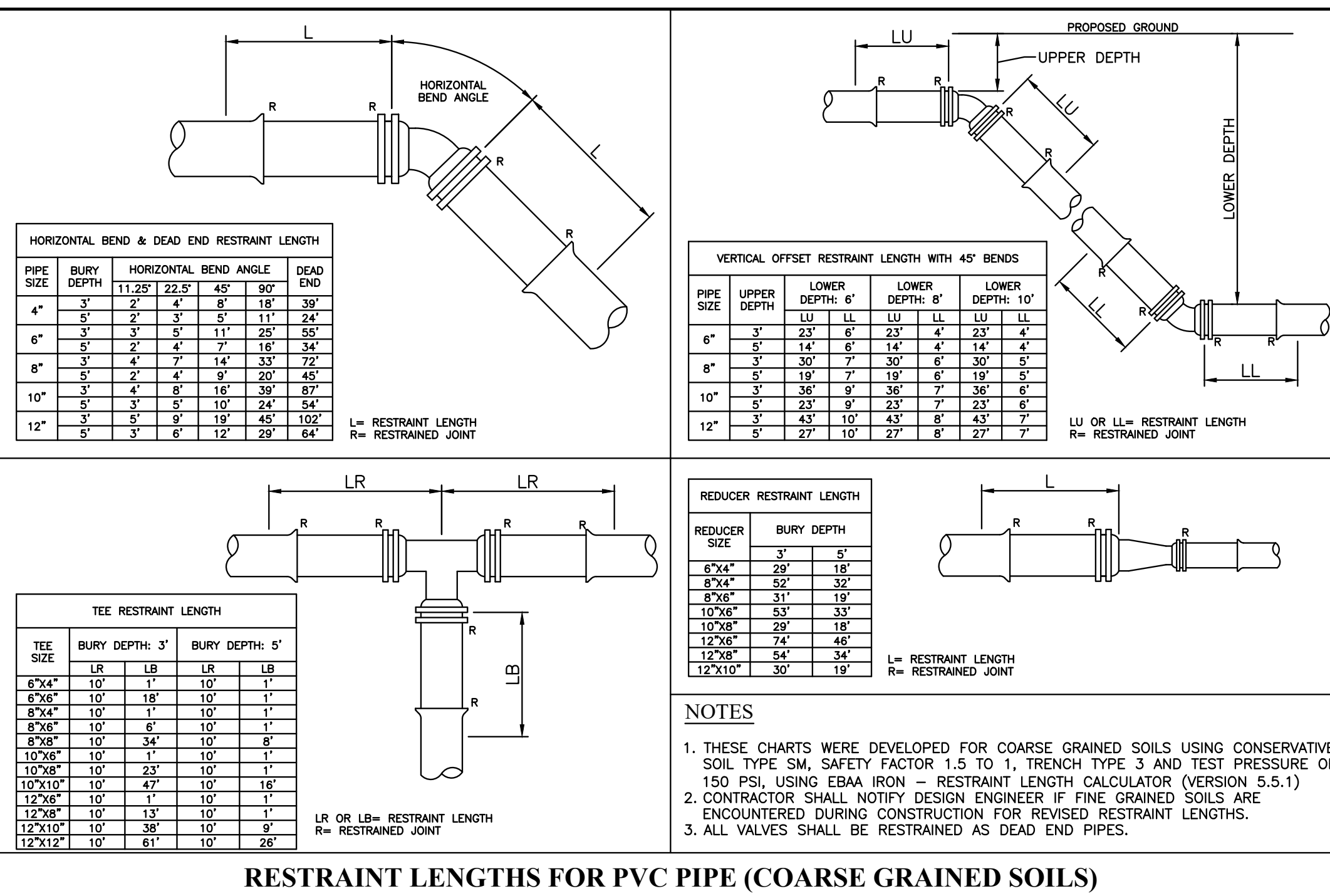
- SEE PLANS FOR OFFSET DIMENSIONS. NON-UNIFORM OFFSET REQUIRES SPECIAL DESIGN.
- SEE SPECIFICATION SECTION 200 FOR OTHER ALLOWABLE METHODS OF RESTRAINT.
- BEDDING MATERIAL SHALL BE PLACED A MINIMUM OF 2 FEET BEYOND EACH PIPE AND PROJECT OUTWARD FROM THE CROSSING ALONG BOTH PIPES.

PIPE OFFSET DETAIL

NOT TO SCALE

NOTES:

- ALL JOINTS MUST BE MECHANICALLY RESTRAINED PER THE RESTRAINED JOINT CHART ON THIS SHEET.
- PIPE DEFLECTIONS SHALL NOT EXCEED 80% OF THE MANUFACTURERS MAXIMUM DEFLECTION.
- PROVIDE COMPACTED SELECT FILL BETWEEN PIPE AND MAIN WHERE STORM PIPE CROSSES OVER UTILITY MAIN WITH REDUCED CLEARANCE, AS NOTED.



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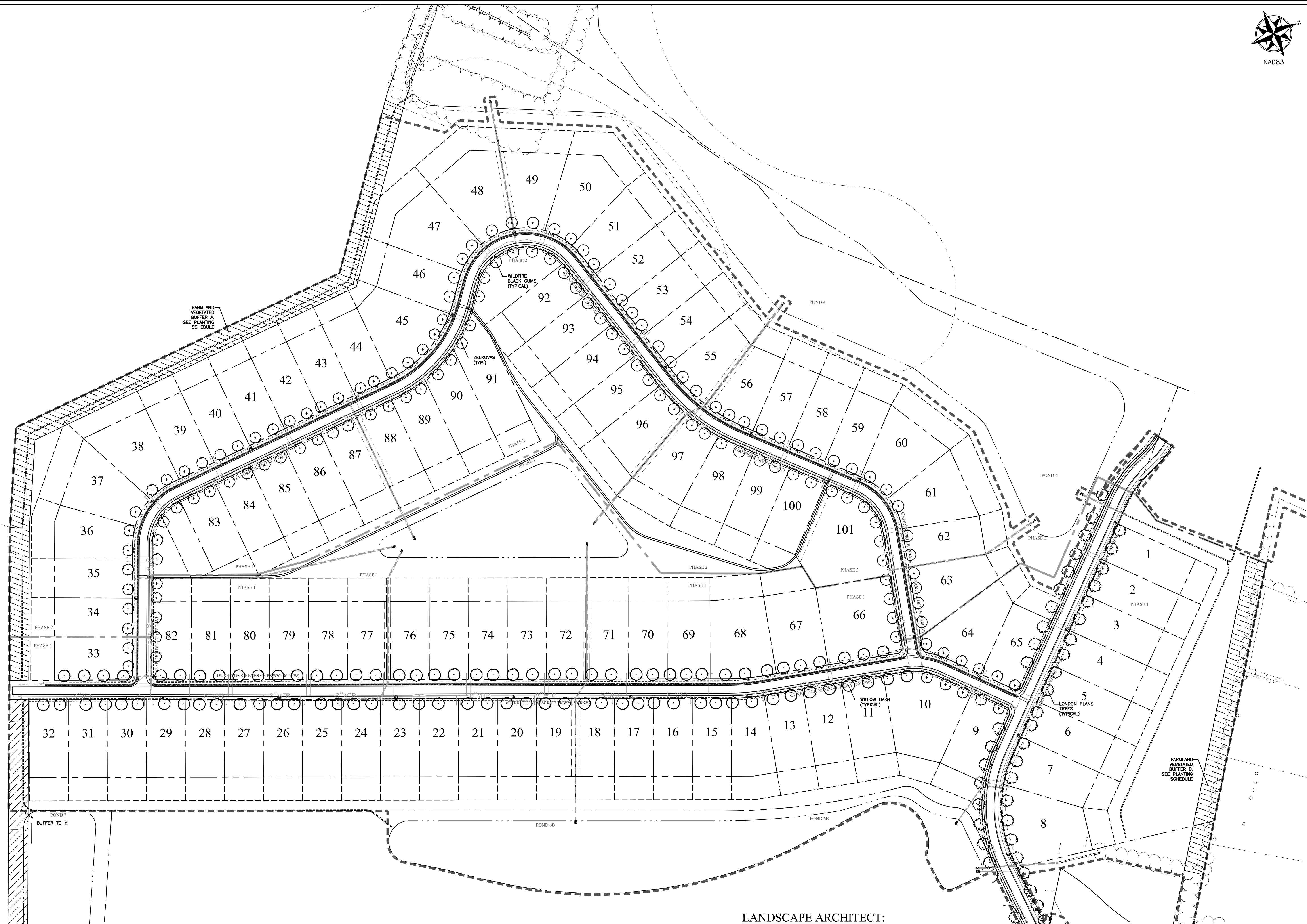
PROJECT No: ARM006
DATE 20SEP18
DES. SDS
DR. RLR
CKD. JPH

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CONSERVATION SUBDIVISION
CURRITUCK COUNTY, NORTH CAROLINA
MOYOCK TOWNSHIP

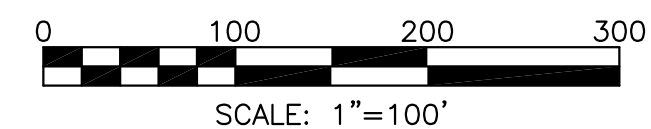
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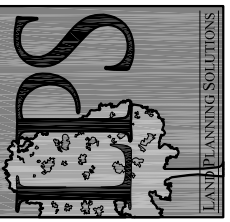
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LANDSCAPE ARCHITECT:
ERIC J. GALVIN, L.A., A.S.L.A.
LAND-PLANNING SOLUTIONS
Eric J. Galvin



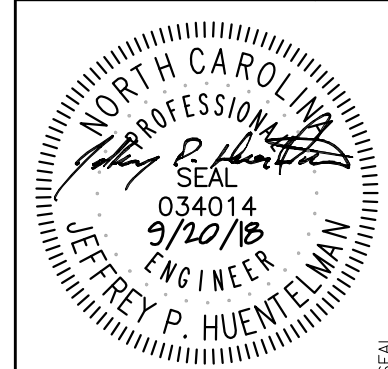
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PROJECT No:	ARM006
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DR.	RLR
CKD.	JPH

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MOYOCK TOWNSHIP
LANDSCAPE & LIGHTING PLAN



SHEET NO.
C500



NOT TO SCALE

TREE PLANTING NOTES:

1. LOCATE GUYS WITHIN PLANT BEDS
2. ALL CABLE CLAMPS & BOLTS SHALL BE RUST RESISTANT
3. REMOVE ALL ANCHORS, STRAPS AND GUYS AFTER ONE (1) YEAR.
4. PAINT ALL CUTS OVER 1" DIA.
5. WATER THOROUGHLY AFTER INSTALLATION.
6. PROVIDE DRAINAGE FOR PLANTING PIT IN IMPERMEABLE SOIL.

FARMLAND BUFFER CALCULATIONS

VEGETATED BUFFER A:

TOTAL LENGTH: 1,613'
TREES REQUIRED/PROVIDED: 14 PER 100' OR 226

VEGETATED BUFFER B:

TOTAL LENGTH: 822'
TREES REQUIRED/PROVIDED: 14 PER 100' OR 115

GENERAL PLANTING PLAN NOTES

1. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN, ANSI Z60.1, CURRENT ADDITION.
2. PLANT BEDS SHALL RECEIVE HARD WOOD MULCH PER TO A DEPTH OF 2-4".
3. THE CONTRACTOR SHALL LOCATE ALL PROPOSED & EXISTING UTILITIES PRIOR TO THE BEGINNING OF WORK. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO UTILITIES THAT ARE DISTURBED AS A RESULT OF THE WORK.
4. THE CONTRACTOR SHALL MAINTAIN ALL GRASSED AREAS, INCLUDING THE REPAIR OF EROSION AREAS, UNTIL GRASS HAS REACHED THE LEVEL OF FINAL ACCEPTANCE & THROUGHOUT MAINTENANCE CONTRACT PERIOD IF APPLICABLE.
5. ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION INSIDE OR OUTSIDE THE LIMIT OF WORK SHALL BE REPAIRED, GRADED, & GRASSED.
6. ALL TREE, SHRUB & GROUNDCOVER MATERIALS SHALL BE PLANTED WITHIN 24 HOURS AFTER DELIVERY.
7. ANY PLANTS LOCATED IN DIRECT SUN SHALL BE NURSERY SUN GROWN.
8. ALL TOPSOIL IS TO BE STOCKPILED FOR RE-USE IN LANDSCAPE WORK.
9. CONTRACTOR IS RESPONSIBLE FOR PLANT QUANTITIES ON LANDSCAPE PLAN NOT IN PLANT SCHEDULE.
10. BACKFILL HOLES WITH EXISTING UNAMENDED SOIL. DO NOT INCORPORATE ORGANIC MATTER SUCH AS PEAT MOSS INTO BACKFILL FOR INDIVIDUAL PLANTING HOLES. DIFFERENCES IN SOIL PORE SIZES WILL BE CREATED CAUSING PROBLEMS WITH WATER MOVEMENT AND ROOT GROWTH BETWEEN THE ROOT BALL, PLANTING HOLE, AND SURROUNDING SOIL.
11. BACKFILL HALF THE SOIL THEN WATER THOROUGHLY TO SETTLE OUT AIR POCKETS. FINISH BACKFILLING, THEN WATER AGAIN. COVER ANY EXPOSED ROOT BALL TOPS WITH MULCH.
12. CLOSELY INSPECT THE WRAPPING AROUND ROOT BALLS OF B&B (BALLED AND BURLAPPED) TREES AND SHRUBS. GROWERS USE MANY SYNTHETIC MATERIALS, AS WELL AS BURLAP TREATED TO RETARD DEGRADATION, TO WRAP ROOT BALLS. MANY OF THESE MATERIALS WILL NOT DEGRADE. TO INSURE ROOT GROWTH INTO SURROUNDING SOIL, REMOVE PINNING NAILS OR ROPE LACING, THEN CUT AWAY OR DROP THE WRAPPING MATERIAL TO THE BOTTOM OF THE PLANTING HOLE, BACKFILLING OVER IT.
13. WIRE BASKETS USED TO PROTECT ROOT BALLS DEGRADE VERY SLOWLY UNDERGROUND. REMOVE THE TOP 8-12 INCHES OF WIRE TO KEEP EQUIPMENT FROM GETTING CAUGHT IN WIRE LOOPS, AND SURFACE ROOTS FROM GIRDLING.
14. REMOVE ALL ROPE WHETHER JUTE OR NYLON, FROM TRUNKS. AGAIN, DEGRADATION IS SLOW OF NONEXISTENT, AND ROPES CAN GIRDLER TRUNKS AND ROOTS.
15. REMOVE PLASTIC CONTAINERS FROM CONTAINER-GROWN TREES AND SHRUBS. FOR PLANTS IN FIBER POTS, BREAK AWAY THE TOP OR REMOVE THE POT ENTIRELY. MANY FIBER POTS ARE COATED TO EXTEND THEIR SHELF LIFE, BUT THIS SLOWS DEGRADATION BELOW GROUND AND RETARDS ROOT EXTENSION.
16. IF ROOTS ARE CIRCLING AROUND THE ROOT BALL EXTERIOR, CUT THROUGH THE ROOTS IN A FEW PLACES. CUTTING HOLES PREVENT CIRCLING ROOTS FROM EVENTUALLY GIRDLING THE TRUNK. SELECT TREES GROWN IN CONTAINERS WITH VERTICAL RIBS OR A COPPER-TREATMENT ON THE INTERIOR CONTAINER WALL. THESE CONTAINER MODIFICATIONS AND TREATMENTS MINIMIZE CIRCLING ROOT FORMATION.

TREE CARE AFTER PLANTING:

17. REMOVE TAGS AND LABELS FROM TREES AND SHRUBS TO PREVENT GIRDLING BRANCHES AND TRUNKS.
18. GOOD FOLLOW-UP WATERING HELPS PROMOTE ROOT GROWTH. DRIP IRRIGATION SYSTEMS AND WATER RESERVOIR DEVICES CAN FACILITATE WATERING. KEEP MULCH FROM TOUCHING TREE TRUNKS AND SHRUB STEMS. THIS PREVENTS DISEASE AND RODENT PROBLEMS IF USING ORGANIC MULCHES, AND BARK ABRASION IF USING INORGANIC MULCHES.
19. DON'T USE BLACK PLASTIC BENEATH MULCH AROUND TREES AND SHRUBS BECAUSE IT BLOCKS AIR AND WATER EXCHANGE. FOR ADDED WEED CONTROL, USE LANDSCAPE FABRICS THAT RESIST WEED ROOT PENETRATION. APPLY ONLY ONE TO TWO INCHES OF MULCH ATOP FABRICS TO PREVENT WEEDS FROM GROWING IN THE MULCH.
20. ONLY STAKE TREES WITH LARGE CROWNS, OR THOSE SITUATED ON WINDY SITES OR WHERE PEOPLE MAY PUSH THEM OVER. STAKE FOR A MAXIMUM OF ONE YEAR. ALLOW TREES A SLIGHT AMOUNT OF FLEX RATHER THAN HOLDING THEM RIGIDLY IN PLACE. USE SLINGS OR ATTACHING MATERIAL THAT WON'T DAMAGE THE BARK. TO PREVENT TRUNK GIRDLING, REMOVE ALL GUYING MATERIAL AFTER ONE YEAR.
21. MOST TREES SHOULD NOT HAVE THEIR TRUNKS WRAPPED. WRAPPING OFTEN INCREASE INSECT, DISEASE, AND WATER DAMAGE TO TRUNKS. THIN-BARKED TREES PLANTED IN SPRING OR SUMMER ARE HOT OR PAVED AREAS MAY BENEFIT FROM WRAPPING IF A WHITE WRAP IS USED. TO AVOID TRUNK GIRDLING, DO NOT ATTACH WRAPS WITH WIRE, NYLON ROPE, PLASTIC TIES, OR ELECTRICAL TAPE. IF WRAPS MUST BE USED, REMOVE WITHIN ONE YEAR.

LANDSCAPE ARCHITECT:

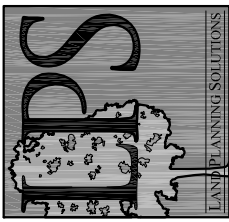
~~ERIC J. GALVIN, LA, ASLA
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SCALE: 1"=100'



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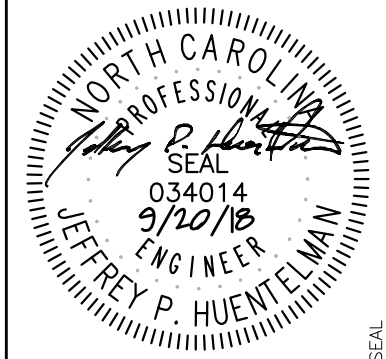
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DR.	RLR
CKD.	JPH

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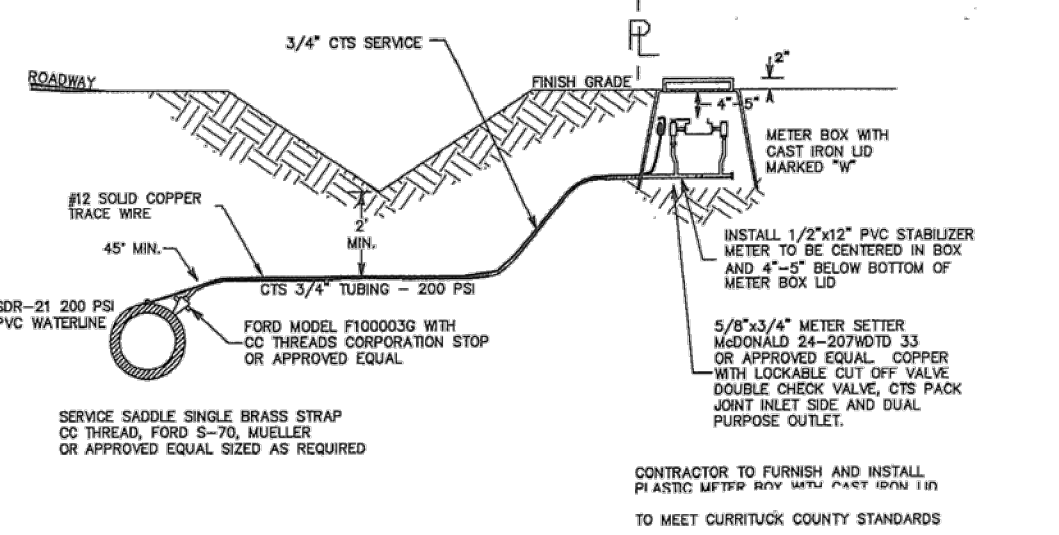
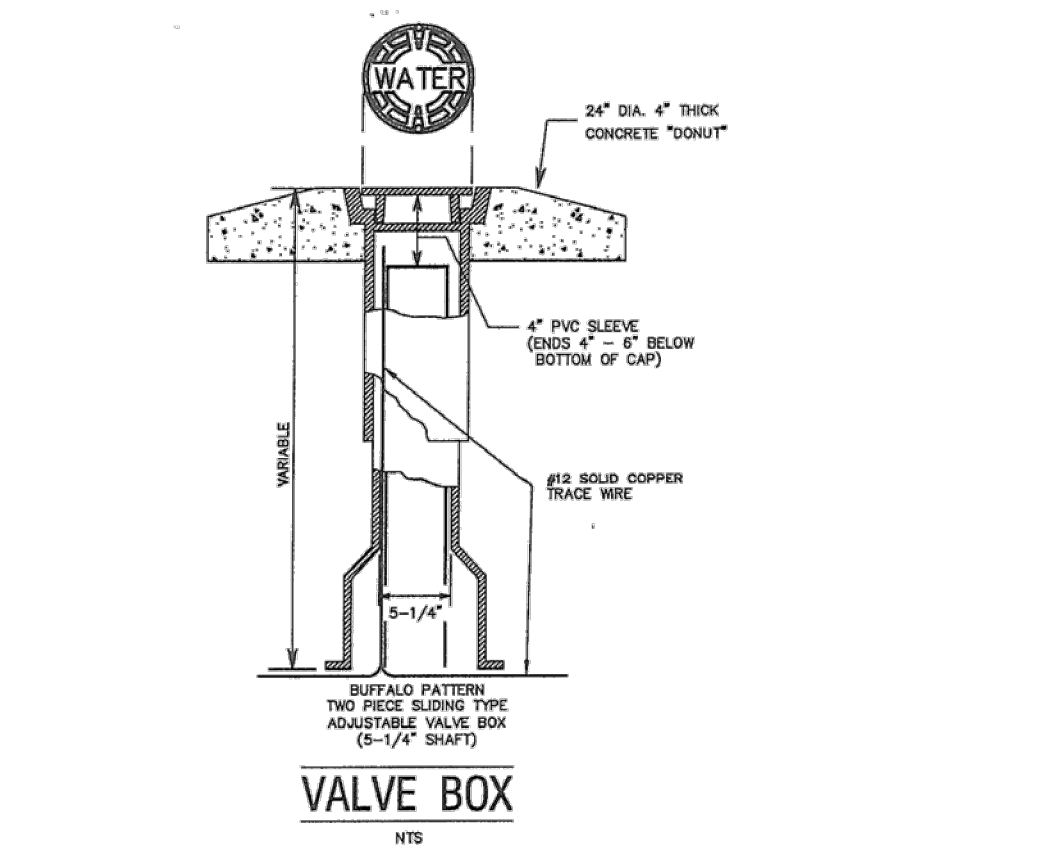
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LANDSCAPE & LIGHTING PLAN

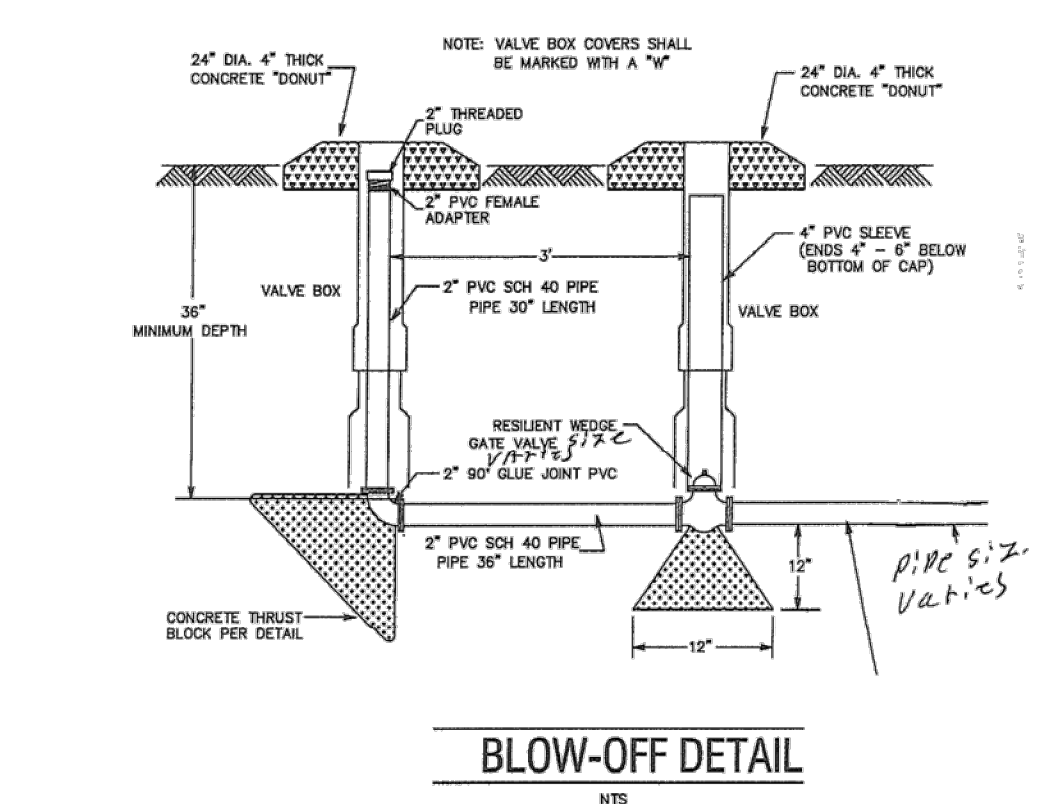
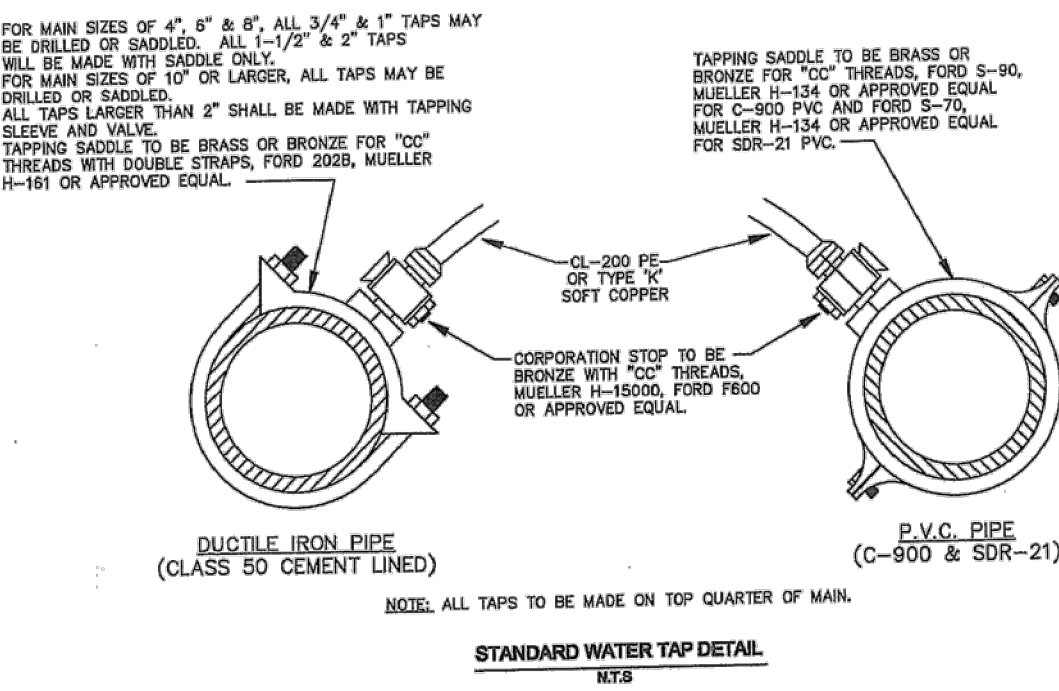


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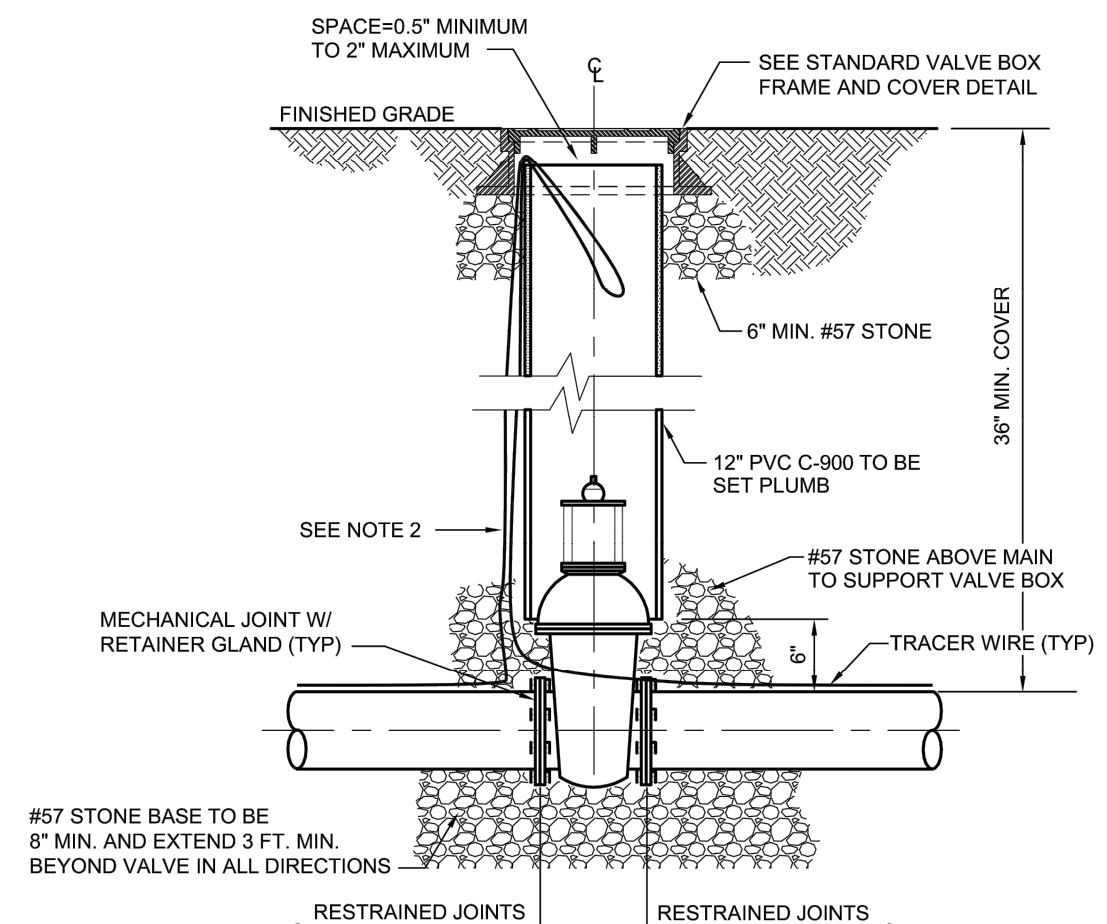
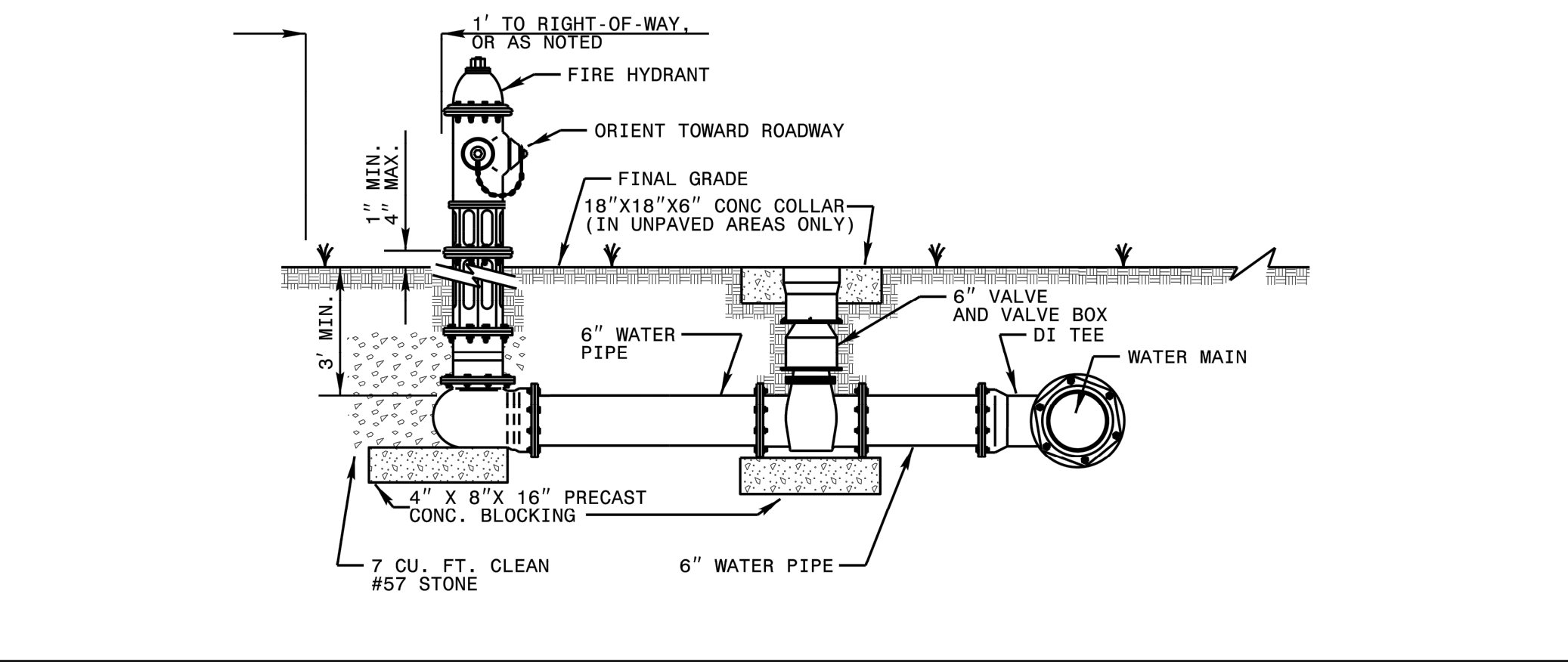
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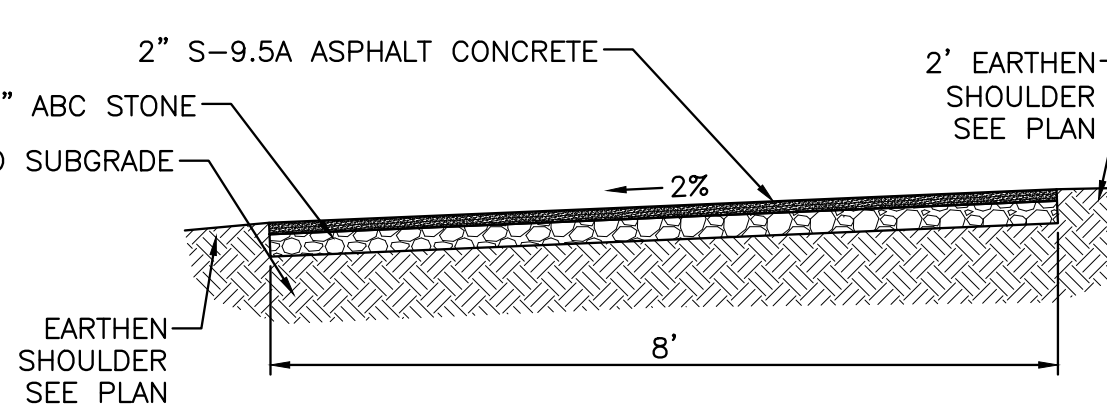
WATER SERVICE CONNECTION DETAIL



- NOTES:
- THIS DETAIL SHOWS THE TYPICAL FINAL FIRE HYDRANT CONFIGURATION AFTER INSTALLATION OF A PROPOSED FIRE HYDRANT, RECONNECTION OF AN EXISTING FIRE HYDRANT, OR RELOCATION OF A FIRE HYDRANT.
 - KEEP DRAIN PORTS FREE FROM OBSTRUCTION.
 - RESTRAIN ALL PIPE JOINTS AND FITTINGS. ACCEPTABLE TYPES OF RESTRAINT INCLUDE RESTRAINING GLANDS; RESTRAINED, PUSH-ON JOINTS; AND 3/4" BITUMINOUS COATED, ALL-THREAD RESTRAINING RODS. THRUST BLOCKS ARE NOT AN ACCEPTABLE TYPE OF RESTRAINT.
 - FOR RELOCATED OR RECONNECTED FIRE HYDRANTS, VERIFY THE VALVE IS RESTRAINED TO THE MAIN. PROVIDE APPROPRIATE RESTRAINT.
 - HYDRANT LOCATION APPLIES TO PROPOSED AND RELOCATED FIRE HYDRANTS.
 - LOCATE FIRE HYDRANT WITH 3' HORIZONTAL CLEARANCE FROM ABOVE GROUND OBJECTS.
 - PROVIDE A MINIMUM OF 3' COVER OVER ALL SECTIONS OF HORIZONTAL PIPE. USE FITTINGS AS NECESSARY.
 - TAPPING SLEEVES MAY BE USED ON EXISTING MAINS IN LIEU OF DI TEES.
 - LOCATE FIRE HYDRANT OUTSIDE OF THE VEHICLE RECOVERY AREA, ADJACENT TO THE R/W LINE, OR IN A PROTECTED AREA.



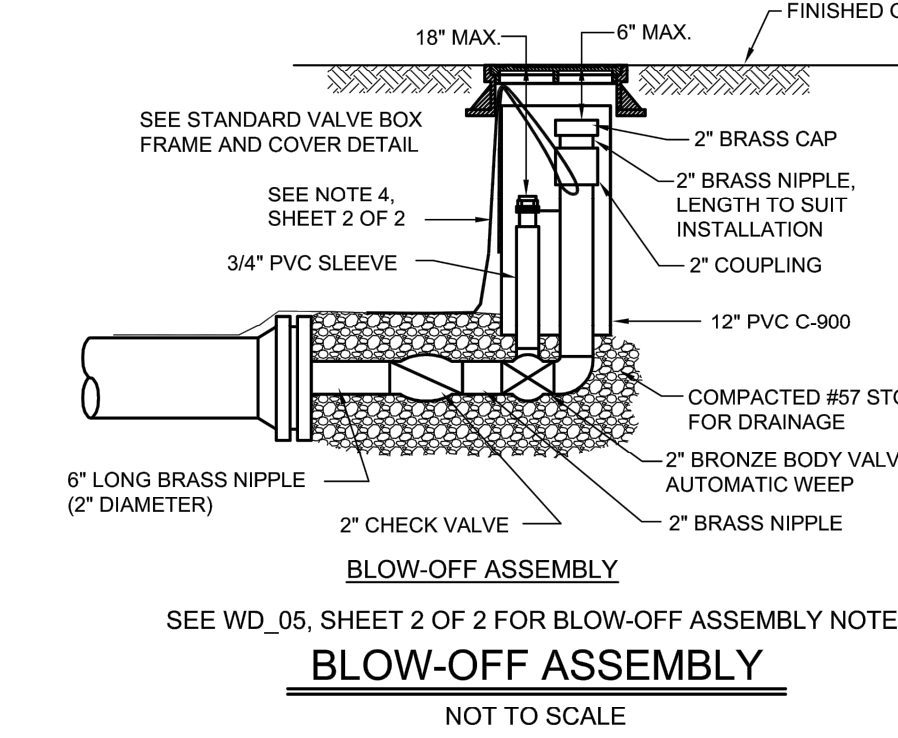
- NOTES:
- OPERATING NUT SHALL BE 12 TO 24 INCHES BELOW THE TOP RIM OF THE VALVE BOX IF OPERATING NUT IS GREATER THAN 36" BELOW TOP OF VALVE BOX FRAME. A VALVE STEM EXTENSION MAY BE INSTALLED. THE EXTENSION SHALL REPLACE OR BE SECURELY ATTACHED TO THE NORMAL 2 INCH SQUARE OPERATING NUT. SHALL BE AT LEAST AS STRONG AS THE VALVE STEM, AND SHALL BE COATED IN ACCORDANCE WITH AWWA C550. VALVE STEM EXTENSIONS MUST BE APPROVED BY THE LOCALITY.
 - PLASTIC COATED 10 GAUGE SOLID COPPER TRACER WIRE TO BE ATTACHED WITH PLASTIC STRAPPING EVERY 10 FEET OF LENGTH. WIRE TO BE LOOSED THROUGH VALVE BOX AND EXTEND 12 INCHES ABOVE FINISHED GRADE AND COILED BACK INTO VALVE BOX.



ASPHALT MULTI-USE PATH TYPICAL SECTION

- RESTRAINT LENGTHS BASED ON DUCTILE IRON PIPE ONLY. WHEN PVC PIPE OR POLYETHYLENE ENCASEMENT IS USED, RESTRAINT LENGTHS MUST BE RECALCULATED.

PIPE DIAMETER	LENGTH OF PIPE
4 INCHES	36 FEET
8 INCHES	123 FEET
10-12 INCHES	54 FEET
16 INCHES	72 FEET



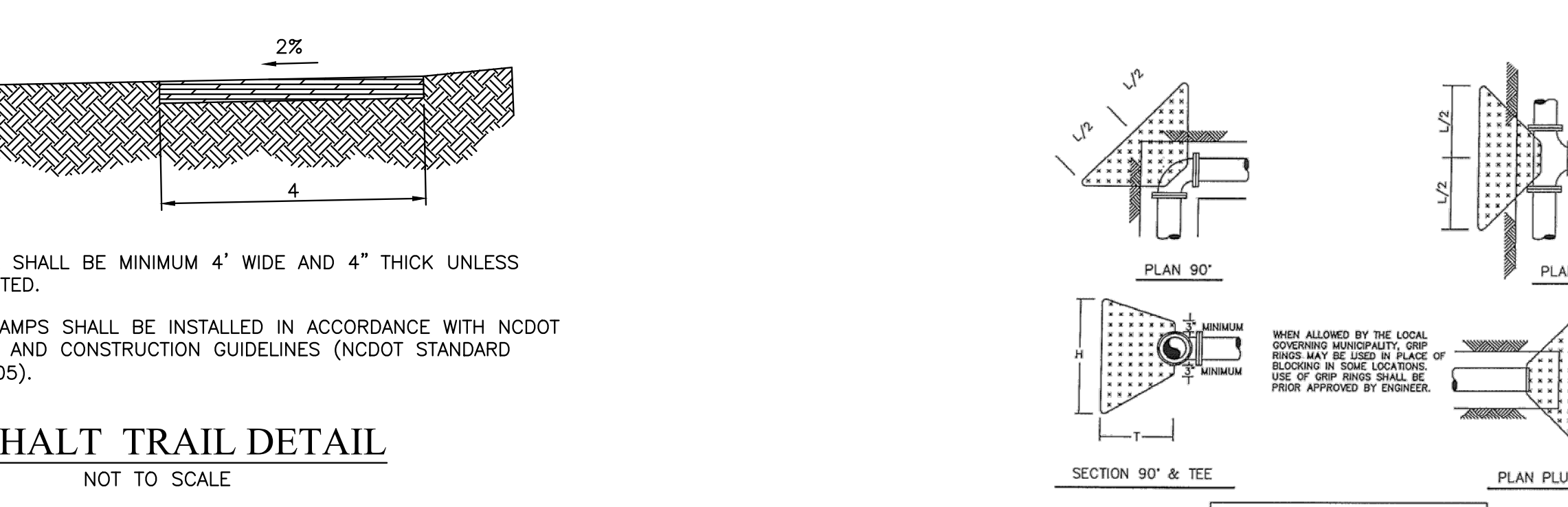
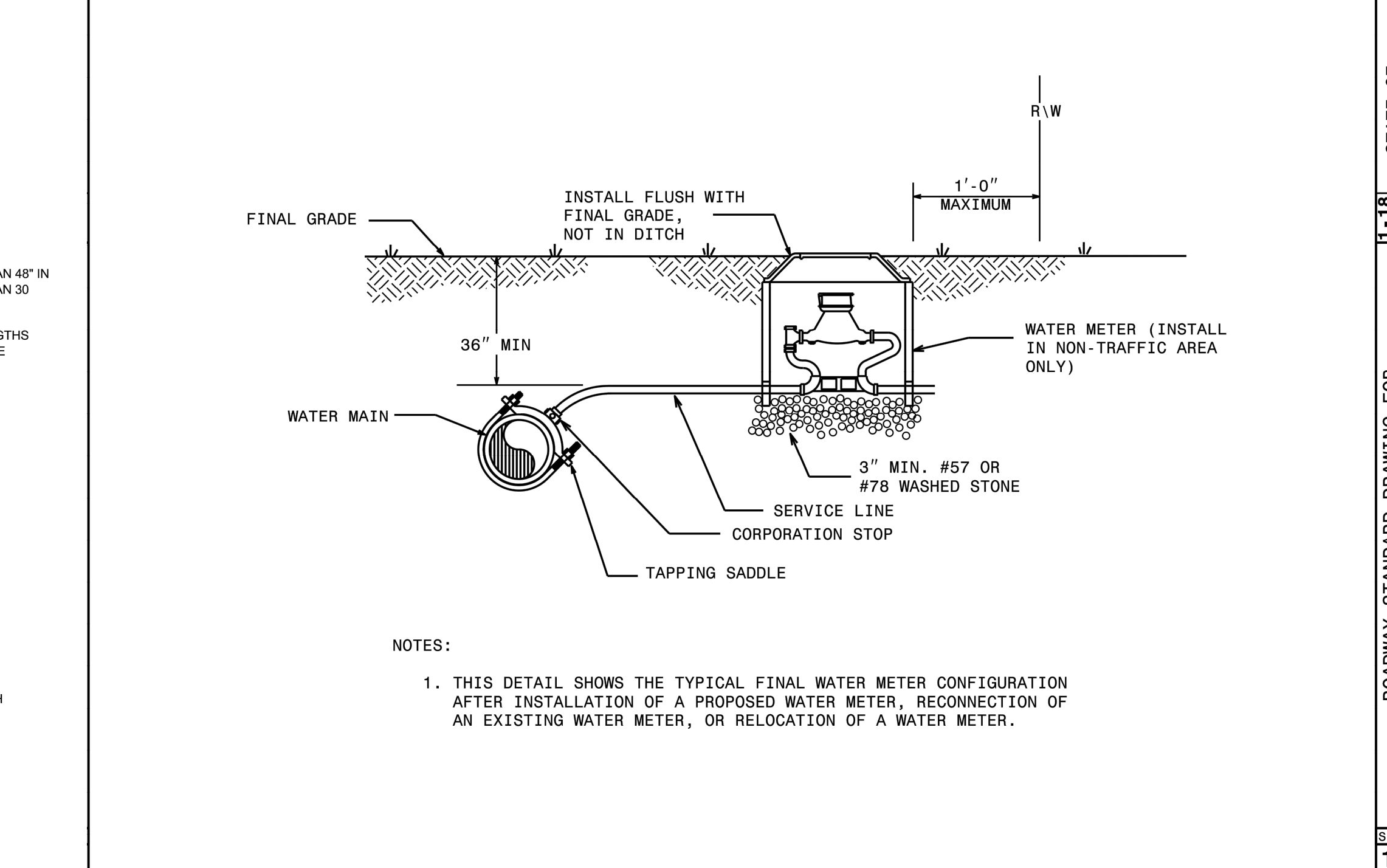
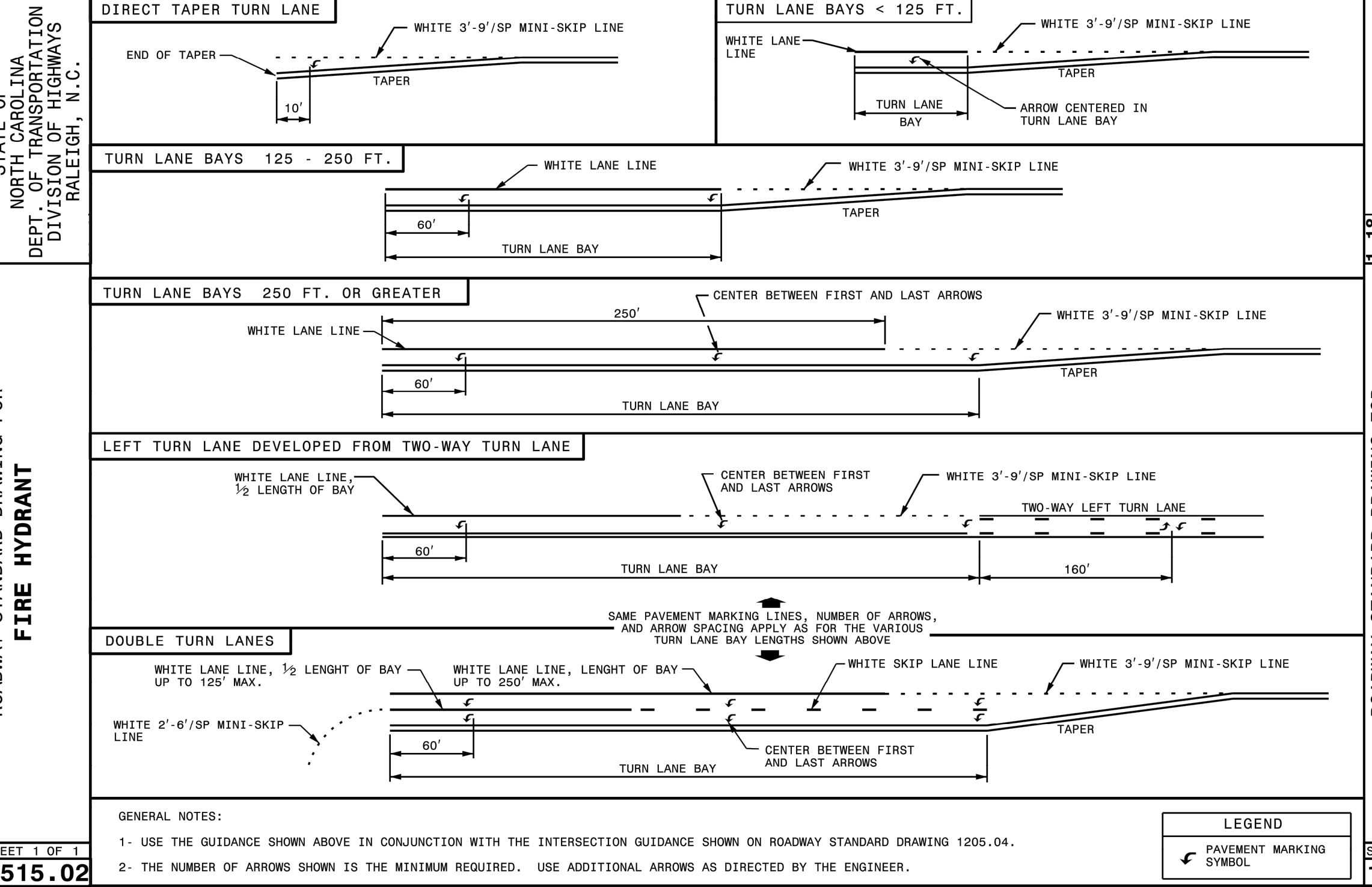
- NOTES:
- ASPHALT TRAIL SHALL BE MINIMUM 4' WIDE AND 4" THICK UNLESS OTHERWISE NOTED.
 - WHEELCHAIR RAMP SHALL BE INSTALLED IN ACCORDANCE WITH NCDOT REQUIREMENTS AND CONSTRUCTION GUIDELINES (NCDOT STANDARD DRAWING 848.05).



ASPHALT TRAIL DETAIL



ASPHALT TRAIL SECTION



ASPHALT TRAIL SECTION

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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DATE: 20SEP18
DES: SDS
DR: RLR
CKD: JPH

CURRITUCK RESERVE
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CURRITUCK COUNTY, NORTH CAROLINA
MOYOCK TOWNSHIP

DETAILS

034014
9/20/18
JEFFREY D. HUENTELM
ENGINEER

SHEET NO.
C600