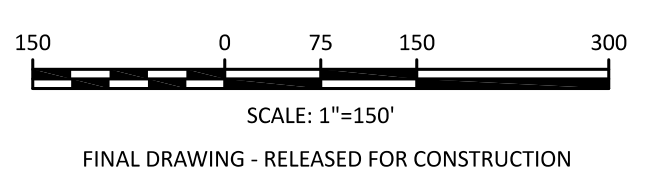


LINE	BEARING	DISTANCE
L-1	S 55°23'54" E	84.86'
L-2	S 00°15'37" W	6.06'
L-3	S 00°45'54" W	6.31'
L-4	N 51°37'38" W	63.93'
L-5	N 50°58'26" W	90.64'
L-6	S 50°59'26" E	95.30'
L-7	S 51°33'48" E	95.61'
L-8	S 50°32'11" E	95.90'
L-9	S 50°23'54" E	89.90'
L-10	S 50°16'31" E	181.49'
L-11	S 49°44'13" E	179.72'
L-12	N 49°47'49" W	177.55'
L-13	N 49°44'07" E	184.30'
L-14	N 49°40'49" E	188.68'
L-15	N 49°29'09" E	190.96'
L-16	N 49°45'15" W	202.52'
L-17	N 22°43'41" E	196.92'
L-18	N 70°44'26" E	159.85'
L-19	S 00°32'37" E	359.67'
L-20	N 89°06'47" E	122.76'
L-21	S 05°46'47" W	55.01'
L-22	S 05°30'26" W	55.08'
L-23	S 05°49'32" W	55.81'
L-24	S 06°00'09" W	39.49'
L-25	S 05°23'33" W	71.14'
L-26	S 05°17'59" W	51.08'
L-27	S 05°16'33" W	42.12'
L-28	S 05°18'41" W	63.88'
L-29	S 05°23'39" W	53.66'
L-30	S 05°32'05" W	102.22'
L-31	S 05°28'30" W	52.95'
L-32	S 06°05'11" W	52.15'
L-33	S 05°39'10" W	53.60'
L-34	S 05°49'55" W	49.76'
L-35	S 05°37'51" W	51.70'
L-36	S 05°33'09" W	56.30'
L-37	S 06°21'45" W	52.69'
L-38	S 05°56'38" W	51.07'
L-39	S 06°09'29" W	52.09'
L-40	N 85°30'10" W	5.00'
L-41	S 06°09'29" W	10.20'
L-42	S 05°19'30" W	56.12'
L-43	S 06°16'57" W	44.91'
L-44	S 05°26'35" W	55.84'
L-45	S 05°17'05" W	54.50'
L-46	S 05°12'55" W	8.21'
L-47	N 85°28'29" W	250.31'
L-48	S 05°55'31" W	351.00'
L-49	S 85°28'59" E	249.93'
L-50	S 06°28'39" W	35.50'
L-51	S 06°29'10" W	57.41'
L-52	S 05°46'52" W	53.80'
L-53	S 06°08'38" W	60.03'
L-54	S 06°08'30" W	54.20'
L-55	S 05°55'25" W	54.06'
L-56	S 05°26'50" W	54.53'
L-57	S 05°47'04" W	54.38'
L-58	S 05°40'44" W	36.86'
L-59	N 49°36'45" W	291.45'
L-60	S 05°17'44" W	30.19'

TREE SAVE NOTE
 TREE SAVE AREAS TO BE PROTECTED BY TREE PROTECTION FENCE. REFER TO LANDSCAPE PLANS FOR TREE FENCE INSTALLATION LOCATIONS. TREE PROTECTION DETAIL SHOWN ON SHEET D1.1

EXISTING CONDITIONS SOURCES	
EXISTING CONDITION	SOURCE
PROPERTY BOUNDARY	CAD FILE FROM CAWTHORNE MOSS AND PANCIERA
EXISTING TOPOGRAPHY	CAD FILE FROM CAWTHORNE MOSS AND PANCIERA
WETLANDS AND STREAM CHANNELS	FLAGGED BY ENVIROTRAC, LTD AND SURVEYED BY CAWTHORNE MOSS & PANCIERA
FLOOD PLAIN	SITE NOT WITHIN A FLOOD PLAIN PER FEMA MAPS 3720185000J AND 3720186000J
EXISTING SANITARY SEWER AT OUTFALL	CAD FILE FROM CAWTHORNE MOSS AND PANCIERA

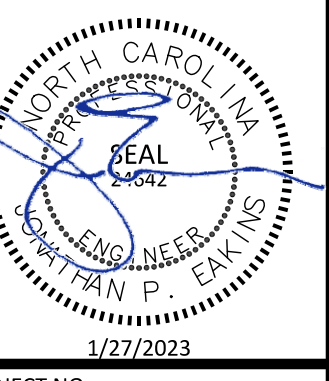
EXISTING SITE DATA	
PARCEL PIN(S)	1759992822, 1850906787, 1769094682
ZONING	R & PUD
PARCEL AREA	88.50 ACRES (3,859,005 SF)
EXISTING USE	VACANT
RIVER BASIN	NEUSE



The Nau Company
 Consulting Civil Engineers
 PO Box 810, Rolesville, NC 27571
 919-435-6395
 NCBELS License P-0751

CLIENT:
 PRESERVE AT JONES DAIRY, LLC
 10534 ARNOLD PALMER DRIVE
 RALEIGH, NC 27617 919-491-0761

PRESERVE AT JONES DAIRY - CENTRAL CONSTRUCTION DRAWINGS
 ROLESVILLE, NC
EXISTING CONDITIONS PLAN



PROJECT NO: ...
 DESIGN BY: JPE
 DRAWN BY: RSF
 SCALE: 1"=150"
 DATE: 2023-01-27
 SHEET NO: **C1.0**

PRESERVE AT JONES DAIRY - CENTRAL

CONSTRUCTION DRAWINGS SINGLE FAMILY & TOWNHOMES INFRASTRUCTURE

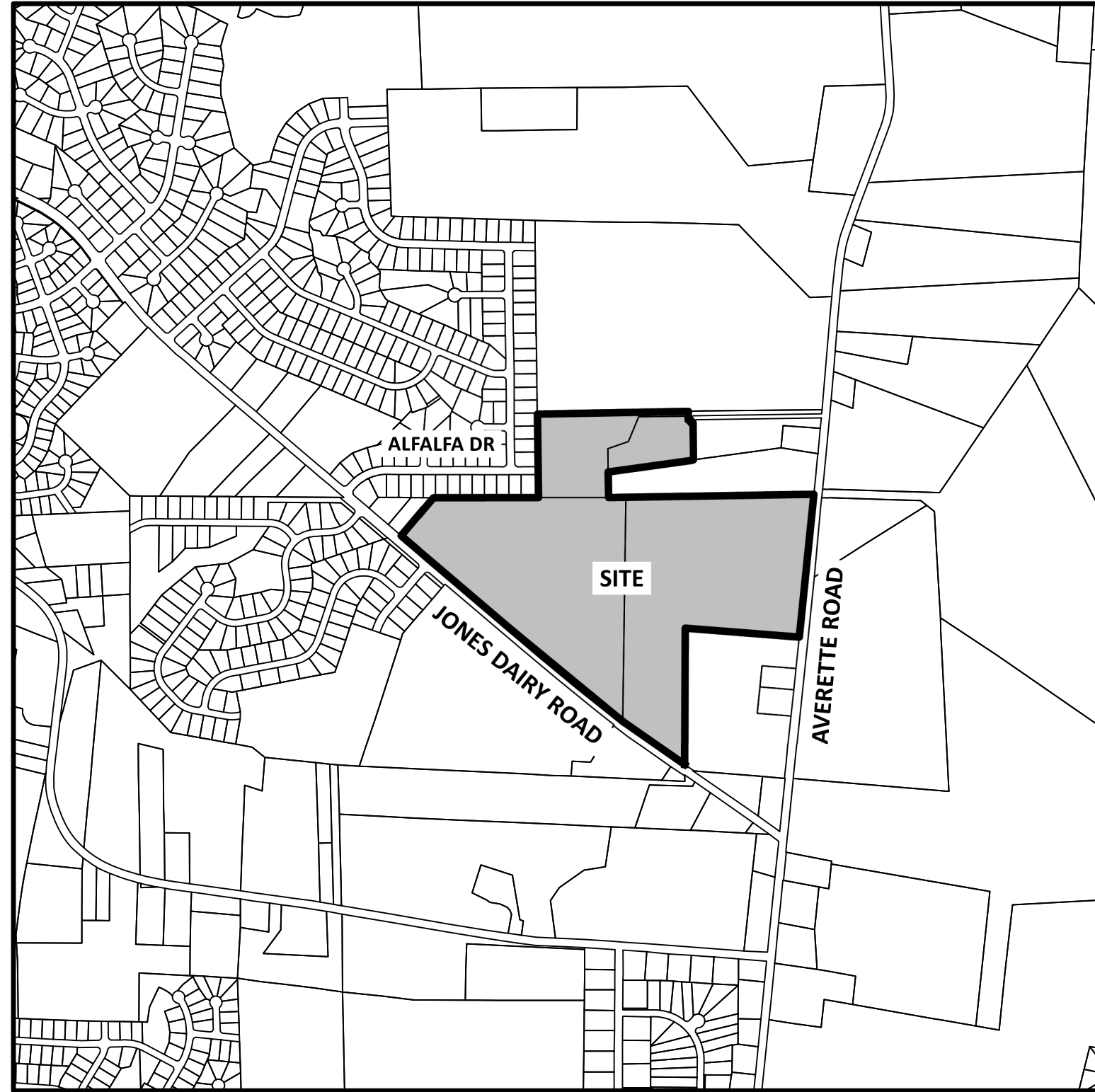
PARCEL PINS: 1759992822, 1850906787, 1769094682

ROLESVILLE, NC

RELEASED FOR CONSTRUCTION JANUARY 27, 2023
REVISED MARCH 17, 2023
REVISED MARCH 23, 2023
REVISED MARCH 24, 2023
REVISED MARCH 28, 2023
REVISED MAY 3, 2023

OWNER/DEVELOPER
PRESERVE AT JONES DAIRY, LLC
10534 ARNOLD PALMER DRIVE
RALEIGH, NC 27617
919-491-0761

VICINITY MAP



SHEET INDEX

SHEET NO.	SHEET NAME	MOST CURRENT REVISION DATE
C1.0	EXISTING CONDITIONS PLAN	1/27/2023
C2.0	OVERALL SITE PLAN	1/27/2023
C2.1	OPEN SPACE PLAN	1/27/2023
C2.2	PHASING PLAN	3/24/2023
C2.3	SITE PLAN - SOUTH	1/27/2023
C2.4	SITE PLAN - CENTRAL	1/27/2023
C2.5	SITE PLAN - NORTH	1/27/2023
C2.6	SITE PLAN - EAST	1/27/2023
C2.7	SITE PLAN - WEST	1/27/2023
C3.0	OVERALL UTILITY PLAN	1/27/2023
C3.1	UTILITY PLAN - SOUTH	3/17/2023
C3.2	UTILITY PLAN - CENTRAL	1/27/2023
C3.3	UTILITY PLAN - NORTH	1/27/2023
C3.4	UTILITY PLAN - EAST	1/27/2023
C3.5	UTILITY PLAN - WEST	3/17/2023
C4.0	OVERALL GRADING PLAN	1/27/2023
C4.1	GRADING PLAN - SOUTH	1/27/2023
C4.2	GRADING PLAN - CENTRAL	1/27/2023
C4.3	GRADING PLAN - NORTH	1/27/2023
C4.4	GRADING PLAN - EAST	1/27/2023
C4.5	GRADING PLAN - WEST	1/27/2023
C5.1	DRAINAGE PLAN - SOUTH	1/27/2023
C5.2	DRAINAGE PLAN - CENTRAL	3/23/2023
C5.3	DRAINAGE PLAN - NORTH	3/28/2023
C5.4	DRAINAGE PLAN - EAST	3/23/2023
C5.5	DRAINAGE PLAN - WEST	1/27/2023
C6.1	POND #1 - DETAIL SHEET	5/3/2023
C6.2	POND #2 - DETAIL SHEET	1/27/2023
C7.0	OVERALL LANDSCAPE PLAN	1/27/2023
C7.1	LANDSCAPE PLAN - SOUTH	1/27/2023
C7.2	LANDSCAPE PLAN - CENTRAL	1/27/2023
C7.3	LANDSCAPE PLAN - NORTH	1/27/2023
C7.4	LANDSCAPE PLAN - EAST	1/27/2023
C7.5	LANDSCAPE PLAN - WEST	1/27/2023
P1.1	CATTLE DRIVE PLAN AND PROFILE	5/3/2023
P1.2	CATTLE DRIVE PLAN AND PROFILE	1/27/2023
P2.1	HOLSTEIN DAIRY WAY PLAN AND PROFILE	1/27/2023
P3.1	BULLHORN DRIVE PLAN AND PROFILE	1/27/2023
P4.1	FIGHTING BULL DRIVE PLAN AND PROFILE	5/3/2023
P4.2	FIGHTING BULL DRIVE PLAN AND PROFILE	3/23/2023
P5.1	ALFALFA LANE PLAN AND PROFILE	1/27/2023
P6.1	RAMO GRANDE LANE PLAN AND PROFILE	1/27/2023
P7.1	LINCOLN RED DRIVE PLAN AND PROFILE	1/27/2023
P8.1	SHORTHORN DRIVE PLAN AND PROFILE	1/27/2023
P8.2	SHORTHORN DRIVE PLAN AND PROFILE	1/27/2023
P9.1	COW BARN WAY & PANTANEIRO WAY PLAN AND PROFILE	1/27/2023
P10.1	BELGIAN RED WAY PLAN AND PROFILE	1/27/2023
P10.2	BELGIAN RED WAY PLAN AND PROFILE	3/17/2023
P11.1	FREESTALL DRIVE PLAN AND PROFILE	1/27/2023
P12.1	HERD WAY AND SANITARY SEWER OUTFALL B	1/27/2023
P13.1	SANITARY SEWER OUTFALL A AND C	1/27/2023
P14.1	SANITARY SEWER OUTFALL D	1/27/2023
D1.1	SITE DETAILS	1/27/2023
D2.1	ROAD SECTIONS AND DOT DETAILS	1/27/2023
D2.2	DOT DETAILS	1/27/2023
D2.3	DOT DETAILS	1/27/2023
D3.1	RALEIGH WATER DETAILS	1/27/2023
D3.2	RALEIGH WATER DETAILS	1/27/2023
D4.1	RALEIGH SEWER DETAILS	1/27/2023
D4.2	RALEIGH SEWER DETAILS	1/27/2023

SPECIAL USE PERMIT CONDITIONS

- ALL THE PROVISIONS OF THE TOWN OF ROLESVILLE UNIFIED DEVELOPMENT ORDINANCE 6.2.1 RL AND 6.2.3 R3 WILL BE FOLLOWED EXCEPT:
 - FRONT WALKWAYS SHALL CONNECT TO THE PAVED DRIVEWAY NOT TO THE SIDEWALKS IN FRONT OF THE DWELLING.
 - TWO CAR GARAGES VISIBLE FROM THE STREET WILL HAVE THE OPTION OF ONE OR TWO DOORS.
- THE OPEN SPACE LAND REQUIREMENT SHALL BE DEDICATED TO THE HOMEOWNER'S ASSOCIATION.
- THE GREENWAY/WALKING TRAIL WILL BE CONSTRUCTED IN THE PHASE IN WHICH IT LIES AND WILL BE COMPLETED BEFORE THE FIRST BUILDING PERMIT OF THAT PHASE IS ISSUED. IF IT IS A PUBLIC GREENWAY TRAIL AS SHOWN ON THE 2002 OPEN SPACE AND GREENWAY PLAN, IT WILL BE MAINTAINED BY THE TOWN. IF NOT, THEN IT WOULD BE PUBLICLY ACCESSIBLE, BUT NOT MAINTAINED SINCE IT IS NOT PART OF THE PLAN. ALL OF THIS IS DETERMINED WITH THE PUD MASTER PLAN AND LATER PRELIMINARY SUBDIVISION PLAT OR SITE PLANS AS WELL AS SUBDIVISION CONSTRUCTION PLANS.
- AMENITIES SCHEDULE:
 - PHASE 1 AND 2 TOWNHOMES: THE DEVELOPER WILL CONSTRUCT A PLAYGROUND AND OPEN SPACE, AND IT IS TO BE COMPLETED BY THE 50 PERCENT ISSUANCE OF THE BUILDING PERMIT OF PHASE 2.
 - PHASE 3 PLAYGROUND TO BE COMPLETED BEFORE THE 50 PERCENT ISSUANCE OF THE BUILDING PERMIT OF THE PHASE.
 - PHASE 4 PLAYGROUND, OPEN SPACE AND WALKING TRAIL TO BE COMPLETED BY THE 50 PERCENT ISSUANCE OF THE BUILDING PERMIT OF PHASE 4.
 - PHASE 5 PLAYGROUND, OPEN SPACE AND WALKING TRAIL TO BE COMPLETED BY THE 50 PERCENT ISSUANCE OF THE BUILDING PERMIT OF PHASE 4.
- EACH SINGLE FAMILY HOME LOT WILL HAVE ONE STREET TREE EXCEPT CORNER LOTS WHICH WILL HAVE AT LEAST TWO STREET TREES.
- CHAIN LINK FENCES WILL NOT BE PERMITTED, AND THE CONSTRUCTION OF FENCES AND MATERIALS USED WILL BE CONTROLLED BY THE ARCHITECTURE COMMITTEE, DEVELOPER, AND BY THE RESTRICTIVE COVENANTS.
- THE MINIMUM DETACHED SINGLE-FAMILY HOME SQUARE FOOTAGE WILL BE 1600 SQUARE FEET.
- ALL OF THE DETACHED SINGLE-FAMILY HOMES WILL HAVE CRAWL SPACE OR STEM WALL FOUNDATIONS.
- THE MINIMUM SQUARE FOOTAGE FOR TOWN HOMES SHALL BE 1100 SQUARE FEET.
- THE TOWN RESERVES THE RIGHT AND MAY REQUEST VALUATION OF JONES DAIRY AND AVERETTE ROAD INTERSECTION AFTER 24 MONTHS OF THE FIRST ISSUED CERTIFICATE OF OCCUPANCY FOR ANY USES COMPLETED FOR THE PRESERVE AT JONES DAIRY ROAD EITHER SOUTH OR CENTRAL PORTIONS WHEN THERE IS EVIDENCE OF DEVELOPING TRAFFIC CONGESTION OR SAFETY ISSUES AT THIS INTERSECTION THAT WOULD MERIT WARRANT OF TRAFFIC LIGHT AS RECOMMENDED BY THE PRESERVE AT JONES DAIRY ROAD TRAFFIC IMPACT ANALYSIS REPORT (TIA). ALL COST INCLUDING INSTALLING THE TRAFFIC LIGHT IMPROVEMENT WITH METAL POLES AND METAL MAST ARMS IS THE RESPONSIBILITY OF THE DEVELOPER. AFTER THE FIRST REQUEST FOR REVALUATION, THE TOWN CAN CALL FOR ADDITIONAL REQUESTS FOR REVALUATION BASED UPON THE EVIDENCE OF DEVELOPING TRAFFIC CONGESTION OR SAFETY ISSUES AFTER THE PREVIOUS REVALUATION UNTIL ALL THE RECOMMENDED IMPROVEMENTS OF THE TIA REPORT ARE COMPLETED.
- THE SPECIAL USE PERMIT IS GRANTED UPON THE FURTHER CONDITION THAT EACH ELEMENT OF THE MASTER PLAN MUST COME BACK THROUGH THE SITE PLAN APPROVAL PROCESS.

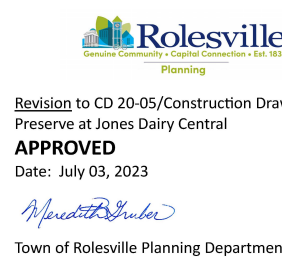
REQUIRED LOT SPECIFICATIONS

- ALL ACCESSORY BUILDINGS, INCLUDING DETACHED GARAGES, ARE TO BE TO THE REAR OF, AND A MINIMUM OF TEN FEET FROM THE PRINCIPLE RESIDENCE, AND TEN FEET FROM ANY PUBLIC RIGHT-OF-WAY.
- ENCROACHMENTS INTO THE REAR SETBACK BY THE PRINCIPLE RESIDENCE AND ATTACHED STRUCTURES, INCLUDING DECKS AND PORCHES, MAY NOT EXCEED 12 FEET OR ONE-HALF THE DISTANCE OF THE REAR SETBACK, WHICHEVER IS GREATER, AND BE NO NEARER THAN THREE FEET FROM THE REAR LOT LINE.
- POOLS AND SATELLITE DISHES AND OTHER SIMILAR STRUCTURES SHALL BE CONSTRUCTED IN THE REAR YARD ONLY AND SHALL BE SET BACK A MINIMUM OF THREE FEET FROM THE SIDE AND REAR PROPERTY LINES.
- ACCESSORY BUILDINGS OF MORE THAN 144 SQUARE FEET SHALL BE CLAD IN MATERIALS SIMILAR TO APPEARANCE TO THE PRINCIPLE STRUCTURE.

PUBLIC IMPROVEMENT QUANTITIES	
ROADS	TOTAL ROADS = 11,437 LF
ALFALFA LANE	1,129 LF
BULLHORN DRIVE	1,263 LF
CATTLE DRIVE	2,816 LF
COW BARN WAY	388 LF
FIGHTING BULL DRIVE	1,787 LF
HOLSTEIN DAIRY WAY	559 LF
LINCOLN RED DRIVE	625 LF
PANTANEIRO WAY	82 LF
RAMO GRANDE LANE	539 LF
SHORTHORN DRIVE	2,249 LF

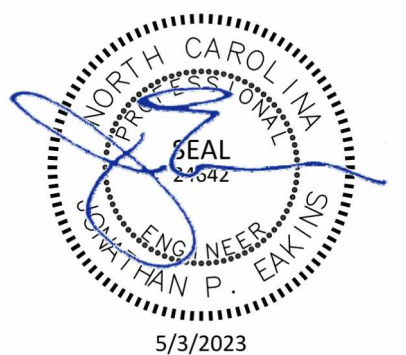
SANITARY SEWER		TOTAL SANITARY SEWER = 14,495 LF
8" DIP	467 LF	
8" PVC	9,563 LF	
8" SDR 26 PVC	4,465 LF	
WATER		TOTAL WATER = 14,620 LF
8" DIP	14,620 LF	
STORM DRAINAGE		TOTAL STORM DRAINAGE = 17,437 LF
15" RCP	6,741 LF	
18" RCP	2,572 LF	
24" RCP	2,311 LF	
30" RCP	2,053 LF	
36" RCP	2,331 LF	
42" RCP	175 LF	
48" RCP	1,219 LF	
66" RCP	35 LF	

PRIVATE ROAD QUANTITIES	
ROADS	TOTAL ROADS = 3,139 LF
BELGIAN RED WAY	1,647 LF
FREESTALL DRIVE	1,142 LF
HERD WAY	350 LF



SITE PERMITTING APPROVAL
Water and Sewer Permits (if Applicable)
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # **SEC-0188**.
The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # **SEC-0188**.
CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer Below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.
City of Raleigh Development Approval
Raleigh Water Review Officer

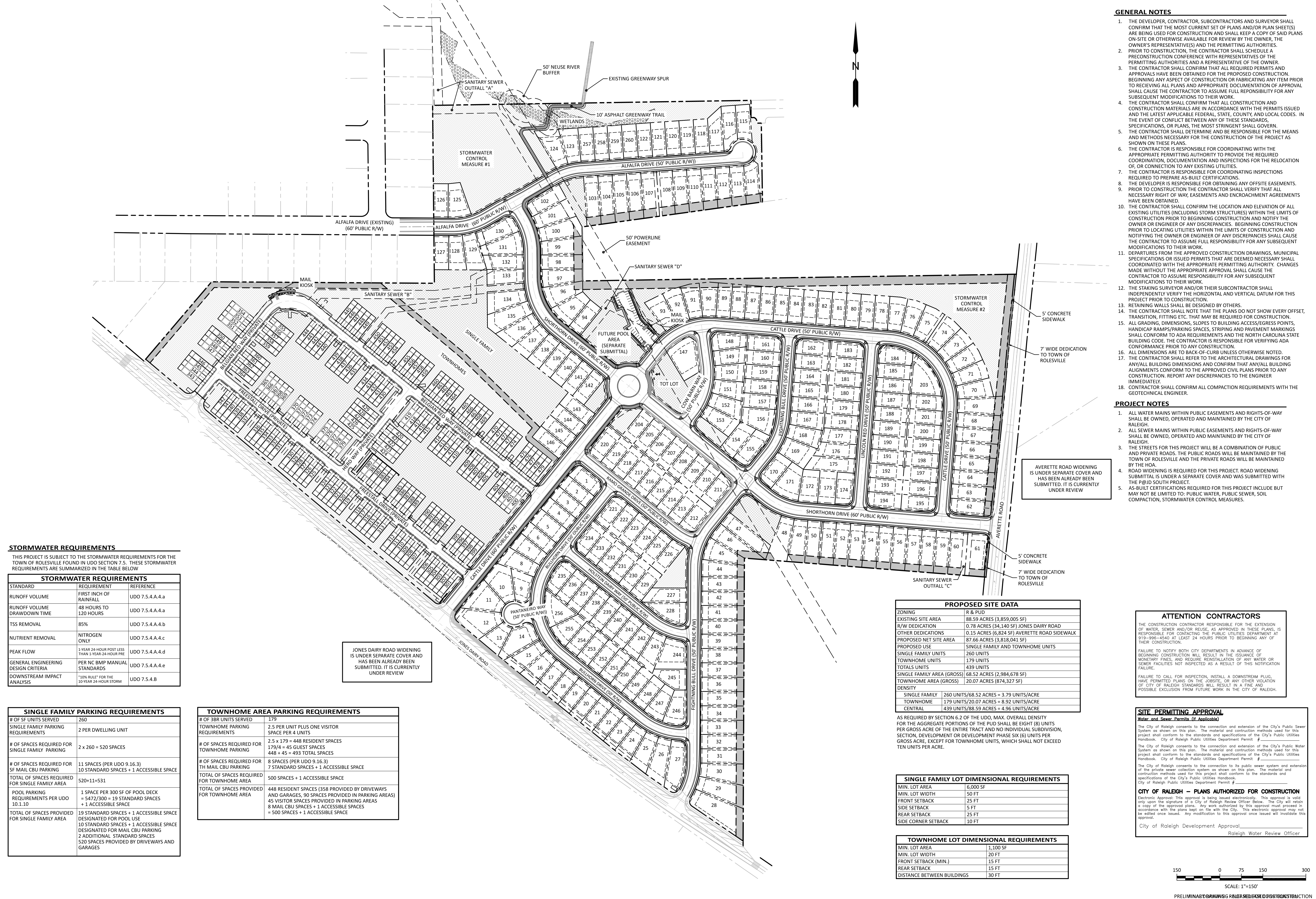
PREVIOUS PLAN APPROVALS
SPECIAL USE PERMIT (SUP18-06) - SEPTEMBER 17, 2019
PRELIMINARY PLAT - OCTOBER 20, 2020
WAKE COUNTY LAND DISTURBANCE PERMIT - SEC - 048926 - 2020 (ISSUED 08/19/2020)



TOWN OF ROLESVILLE
PROJECT IDENTIFICATION #
CD-20-05

ALL CONSTRUCTION SHALL BE IN
ACCORDANCE WITH TOWN OF
ROLESVILLE STANDARDS AND
SPECIFICATIONS

The Nau Company
Consulting Civil Engineers
PO Box 810 Rolesville, NC 27571
919 435 6395
NCBELS License P 0751



STORMWATER REQUIREMENTS

THIS PROJECT IS SUBJECT TO THE STORMWATER REQUIREMENTS FOR THE TOWN OF ROLESVILLE FOUND IN UDO SECTION 7.5. THESE STORMWATER REQUIREMENTS ARE SUMMARIZED IN THE TABLE BELOW.

STANDARD	REQUIREMENT	REFERENCE
RUNOFF VOLUME	FIRST INCH OF RAINFALL	UDO 7.5.4.A.4.a
RUNOFF VOLUME DRAWDOWN TIME	48 HOURS TO 120 HOURS	UDO 7.5.4.A.4.a
TSS REMOVAL	85%	UDO 7.5.4.A.4.b
NUTRIENT REMOVAL	NITROGEN ONLY	UDO 7.5.4.A.4.c
PEAK FLOW	1-YEAR 24-HOUR POST LESS THAN 1-YEAR 24-HOUR PRE	UDO 7.5.4.A.4.d
GENERAL ENGINEERING DESIGN CRITERIA	PER NC BMP MANUAL STANDARDS	UDO 7.5.4.A.4.e
DOWNSTREAM IMPACT ANALYSIS	"10% RULE" FOR THE 10-YEAR 24-HOUR STORM	UDO 7.5.4.B

SINGLE FAMILY PARKING REQUIREMENTS	
# OF SF UNITS SERVED	260
SINGLE FAMILY PARKING REQUIREMENTS	2 PER DWELLING UNIT
# OF SPACES REQUIRED FOR SINGLE FAMILY PARKING	2 x 260 = 520 SPACES
# OF SPACES REQUIRED FOR SF MAIL CBU PARKING	11 SPACES (PER UDO 9.16.3)
TOTAL OF SPACES REQUIRED FOR SINGLE FAMILY AREA	520+11=531
POOL PARKING REQUIREMENTS PER UDO 10.1.10	1 SPACE PER 300 SF OF POOL DECK = 5472/300 = 19 STANDARD SPACES + 1 ACCESSIBLE SPACE
TOTAL OF SPACES PROVIDED FOR SINGLE FAMILY AREA	19 STANDARD SPACES + 1 ACCESSIBLE SPACE DESIGNATED FOR POOL USE 10 STANDARD SPACES + 1 ACCESSIBLE SPACE DESIGNATED FOR MAIL CBU PARKING 2 ADDITIONAL STANDARD SPACES 520 SPACES PROVIDED BY DRIVEWAYS AND GARAGES

TOWNHOME AREA PARKING REQUIREMENTS	
# OF 3BR UNITS SERVED	179
TOWNHOME PARKING REQUIREMENTS	2.5 PER UNIT PLUS ONE VISITOR SPACE PER 4 UNITS
# OF SPACES REQUIRED FOR TOWNHOME PARKING	2.5 x 179 = 448 RESIDENT SPACES 179/4 = 45 GUEST SPACES 448 + 45 = 493 TOTAL SPACES
# OF SPACES REQUIRED FOR TH MAIL CBU PARKING	8 SPACES (PER UDO 9.16.3)
TOTAL OF SPACES REQUIRED FOR TOWNHOME AREA	500 SPACES + 1 ACCESSIBLE SPACE
TOTAL OF SPACES PROVIDED FOR TOWNHOME AREA	448 RESIDENT SPACES (358 PROVIDED BY DRIVEWAYS AND GARAGES, 90 SPACES PROVIDED IN PARKING AREAS) 45 VISITOR SPACES PROVIDED IN PARKING AREAS 8 MAIL CBU SPACES + 1 ACCESSIBLE SPACE = 500 SPACES + 1 ACCESSIBLE SPACE

JONES DAIRY ROAD WIDENING IS UNDER SEPARATE COVER AND HAS BEEN ALREADY BEEN SUBMITTED. IT IS CURRENTLY UNDER REVIEW.

AVERETTE ROAD WIDENING IS UNDER SEPARATE COVER AND HAS BEEN ALREADY BEEN SUBMITTED. IT IS CURRENTLY UNDER REVIEW.

PROPOSED SITE DATA	
ZONING	R & PUD
EXISTING SITE AREA	88.59 ACRES (3,859,005 SF)
R/W DEDICATION	0.78 ACRES (34,140 SF) JONES DAIRY ROAD
OTHER DEDICATIONS	0.15 ACRES (6,824 SF) AVERETTE ROAD SIDEWALK
PROPOSED NET SITE AREA	87.66 ACRES (3,818,041 SF)
PROPOSED USE	SINGLE FAMILY AND TOWNHOME UNITS
SINGLE FAMILY UNITS	260 UNITS
TOWNHOME UNITS	179 UNITS
TOTALS UNITS	439 UNITS
SINGLE FAMILY AREA (GROSS)	68.52 ACRES (2,984,678 SF)
TOWNHOME AREA (GROSS)	20.07 ACRES (874,327 SF)
DENSITY	
SINGLE FAMILY	260 UNITS/68.52 ACRES = 3.79 UNITS/ACRE
TOWNHOME	179 UNITS/20.07 ACRES = 8.92 UNITS/ACRE
CENTRAL	439 UNITS/88.59 ACRES = 4.96 UNITS/ACRE

AS REQUIRED BY SECTION 6.2 OF THE UDO, MAX. OVERALL DENSITY FOR THE AGGREGATE PORTIONS OF THE PUD SHALL BE EIGHT (8) UNITS PER GROSS ACRE OF THE ENTIRE TRACT AND NO INDIVIDUAL SUBDIVISION, SECTION, DEVELOPMENT OR DEVELOPMENT PHASE SIX (6) UNITS PER GROSS ACRE, EXCEPT FOR TOWNHOME UNITS, WHICH SHALL NOT EXCEED TEN UNITS PER ACRE.

SINGLE FAMILY LOT DIMENSIONAL REQUIREMENTS	
MIN. LOT AREA	6,000 SF
MIN. LOT WIDTH	50 FT
FRONT SETBACK	25 FT
SIDE SETBACK	5 FT
REAR SETBACK	25 FT
SIDE CORNER SETBACK	10 FT

TOWNHOME LOT DIMENSIONAL REQUIREMENTS	
MIN. LOT AREA	1,100 SF
MIN. LOT WIDTH	20 FT
FRONT SETBACK (MIN.)	15 FT
REAR SETBACK	15 FT
DISTANCE BETWEEN BUILDINGS	30 FT

ATTENTION CONTRACTORS

THE CONSTRUCTION CONTRACTOR RESPONSIBLE FOR THE EXTENSION OF WATER, SEWER AND/OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR CONTACTING THE PUBLIC UTILITIES DEPARTMENT AT 919-998-4540 AT LEAST 24 HOURS PRIOR TO BEGINNING ANY OF THEIR CONSTRUCTION.

FAILURE TO NOTIFY BOTH CITY DEPARTMENTS IN ADVANCE OF BEGINNING CONSTRUCTION WILL RESULT IN THE ISSUANCE OF MONETARY FINES, AND PENALTIES, AND THE POSSIBLE VIOLATION OF CITY OF RALEIGH STANDARDS WILL RESULT IN A FINE AND POSSIBLE EXCLUSION FROM FUTURE WORK IN THE CITY OF RALEIGH.

FAILURE TO CALL FOR INSPECTION, INSTALL A DOWNSTREAM PLUG, HAVE PERMITTED PLANS ON THE JOBITE, OR ANY OTHER VIOLATION OF CITY OF RALEIGH STANDARDS WILL RESULT IN A FINE AND POSSIBLE EXCLUSION FROM FUTURE WORK IN THE CITY OF RALEIGH.

SITE PERMITTING APPROVAL
Water and Sewer Permits (if Applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # _____

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The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # _____

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City of Raleigh Development Approval _____
Raleigh Water Review Officer _____

GENERAL NOTES

- THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS AND SURVEYOR SHALL CONFIRM THAT THE MOST CURRENT SET OF PLANS AND/OR PLAN SHEETS ARE BEING USED FOR CONSTRUCTION AND SHALL KEEP A COPY OF SAID PLANS ON-SITE OR OTHERWISE AVAILABLE FOR REVIEW BY THE OWNER, THE OWNER'S REPRESENTATIVE(S) AND THE PERMITTING AUTHORITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION CONFERENCE WITH REPRESENTATIVES OF THE PERMITTING AUTHORITIES AND A REPRESENTATIVE OF THE OWNER.
- THE CONTRACTOR SHALL CONFIRM THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED FOR THE PROPOSED CONSTRUCTION, BEGINNING ANY ASPECT OF CONSTRUCTION OR FABRICATING ANY ITEM PRIOR TO RECEIVING ALL PLANS AND APPROPRIATE DOCUMENTATION OF APPROVAL SHALL CAUSE THE CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ANY SUBSEQUENT MODIFICATIONS TO THEIR WORK.
- THE CONTRACTOR SHALL CONFIRM THAT ALL CONSTRUCTION AND CONSTRUCTION MATERIALS ARE IN ACCORDANCE WITH THE PERMITS ISSUED AND THE LATEST APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL CODES. IN THE EVENT OF CONFLICT BETWEEN ANY OF THESE STANDARDS, SPECIFICATIONS, OR PLANS, THE MOST STRINGENT SHALL GOVERN.
- THE CONTRACTOR SHALL DETERMINE AND BE RESPONSIBLE FOR THE MEANS AND METHODS NECESSARY FOR THE CONSTRUCTION OF THE PROJECT AS SHOWN ON THESE PLANS.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE APPROPRIATE PERMITTING AUTHORITY TO PROVIDE THE REQUIRED COORDINATION, DOCUMENTATION AND INSPECTIONS FOR THE RELOCATION OR CONNECTION TO ANY EXISTING UTILITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSPECTIONS REQUIRED TO PREPARE AS-BUILT CERTIFICATIONS.
- THE DEVELOPER IS RESPONSIBLE FOR OBTAINING ANY OFFSITE EASEMENTS.
- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY THAT ALL NECESSARY RIGHT OF WAY, EASEMENTS AND ENCROACHMENT AGREEMENTS HAVE BEEN OBTAINED.
- THE CONTRACTOR SHALL CONFIRM THE LOCATION AND ELEVATION OF ALL EXISTING UTILITIES (INCLUDING STORM STRUCTURES) WITHIN THE LIMITS OF CONSTRUCTION PRIOR TO BEGINNING CONSTRUCTION AND NOTIFY THE OWNER OR ENGINEER OF ANY DISCREPANCIES. BEGINNING CONSTRUCTION PRIOR TO LOCATING UTILITIES WITHIN THE LIMITS OF CONSTRUCTION AND NOTIFYING THE OWNER OR ENGINEER OF ANY DISCREPANCIES SHALL CAUSE THE CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ANY SUBSEQUENT MODIFICATIONS TO THEIR WORK.
- DEPARTURES FROM THE APPROVED CONSTRUCTION DRAWINGS, MUNICIPAL SPECIFICATIONS OR ISSUED PERMITS THAT ARE DEEMED NECESSARY SHALL COORDINATED WITH THE APPROPRIATE PERMITTING AUTHORITY. CHANGES MADE WITHOUT THE APPROPRIATE APPROVAL SHALL CAUSE THE CONTRACTOR TO ASSUME RESPONSIBILITY FOR ANY SUBSEQUENT MODIFICATIONS TO THEIR WORK.
- THE STAKING SURVEYOR AND/OR THEIR SUBCONTRACTOR SHALL INDEPENDENTLY VERIFY THE HORIZONTAL AND VERTICAL DATUM FOR THIS PROJECT PRIOR TO CONSTRUCTION.
- RETAINING WALLS SHALL BE DESIGNED BY OTHERS.
- THE CONTRACTOR SHALL NOTE THAT THE PLANS DO NOT SHOW EVERY OFFSET, TRANSITION, FITTING ETC. THAT MAY BE REQUIRED FOR CONSTRUCTION.
- ALL GRADING, DIMENSIONS, SLOPES TO BUILDING ACCESS/EGRESS POINTS, HANDICAP RAMPS/PARKING SPACES, STRIPING AND PAVEMENT MARKINGS SHALL CONFORM TO ADA REQUIREMENTS AND THE NORTH CAROLINA STATE BUILDING CODE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ADA CONFORMANCE PRIOR TO ANY CONSTRUCTION.
- ALL DIMENSIONS ARE TO BACK-OF-CURB UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ANY/ALL BUILDING DIMENSIONS AND CONFIRM THAT ANY/ALL BUILDING ALIGNMENTS CONFORM TO THE APPROVED CIVIL PLANS PRIOR TO ANY CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL CONFIRM ALL COMPACTION REQUIREMENTS WITH THE GEOTECHNICAL ENGINEER.

PROJECT NOTES

- ALL WATER MAINS WITHIN PUBLIC EASEMENTS AND RIGHTS-OF-WAY SHALL BE OWNED, OPERATED AND MAINTAINED BY THE CITY OF RALEIGH.
- ALL SEWER MAINS WITHIN PUBLIC EASEMENTS AND RIGHTS-OF-WAY SHALL BE OWNED, OPERATED AND MAINTAINED BY THE CITY OF RALEIGH.
- THE STREETS FOR THIS PROJECT WILL BE A COMBINATION OF PUBLIC AND PRIVATE ROADS. THE PUBLIC ROADS WILL BE MAINTAINED BY THE TOWN OF ROLESVILLE AND THE PRIVATE ROADS WILL BE MAINTAINED BY THE HOA.
- ROAD WIDENING IS REQUIRED FOR THIS PROJECT. ROAD WIDENING SUBMITTAL IS UNDER A SEPARATE COVER AND WAS SUBMITTED WITH THE #10 SOUTH PROJECT.
- AS-BUILT CERTIFICATIONS REQUIRED FOR THIS PROJECT INCLUDE BUT MAY NOT BE LIMITED TO: PUBLIC WATER, PUBLIC SEWER, SOIL COMPACTION, STORMWATER CONTROL MEASURES.

CLIENT:

REVISIONS

The Nau Company
Consulting Civil Engineers

PO Box 810, Rolesville, NC 27571
919-435-6395
NCBELS License P-0751

PROJECT NO: _____

DESIGN BY: JPE

DRAWN BY: RSF

SCALE: 1"=150'

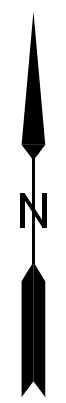
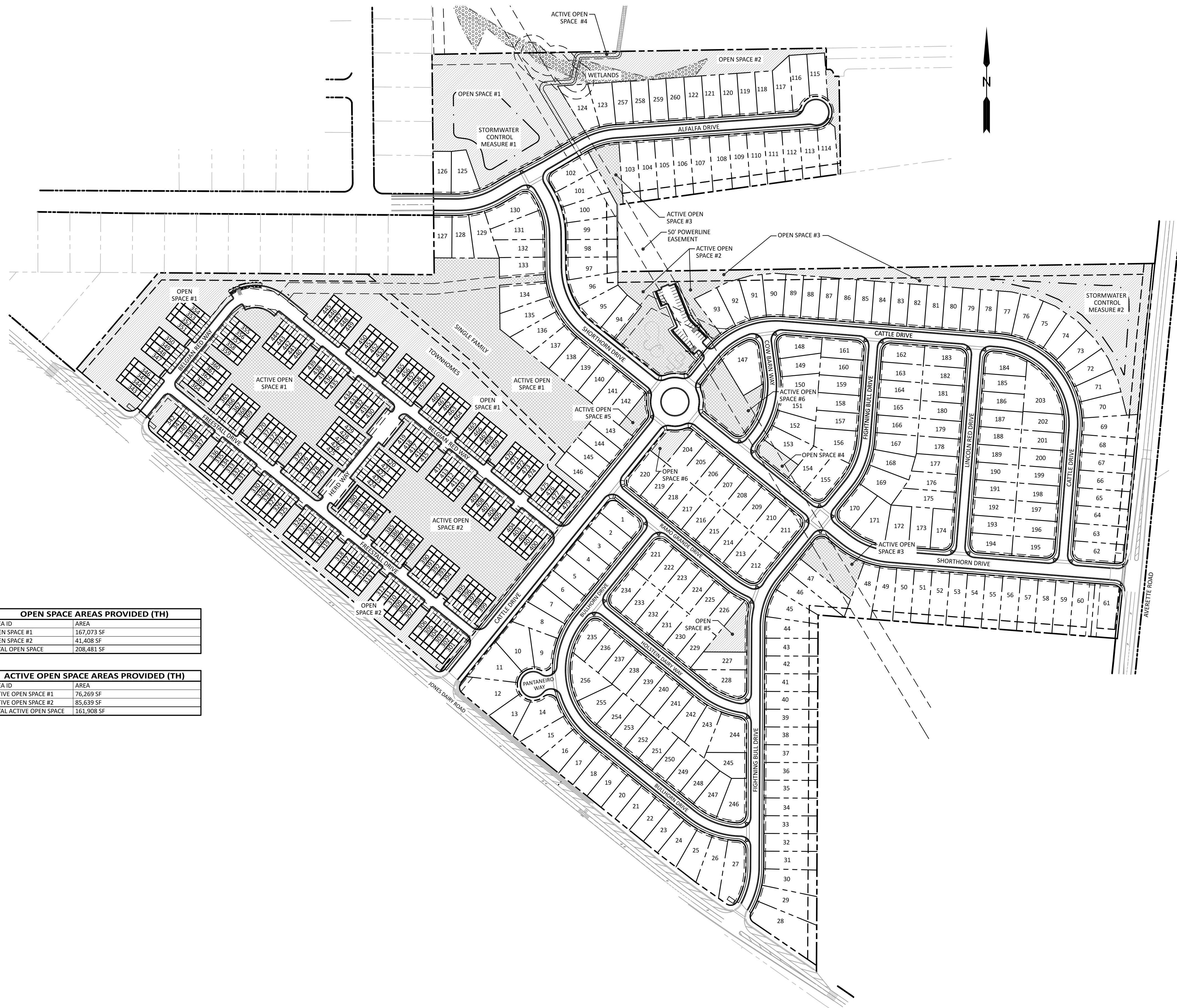
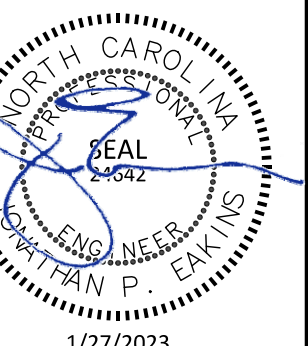
DATE: 2023-01-27

SHEET NO: **C2.0**

PRESERVE AT JONES DAIRY - CENTRAL CONSTRUCTION DRAWINGS

ROLESVILLE, NC

SITE PLAN - OVERALL



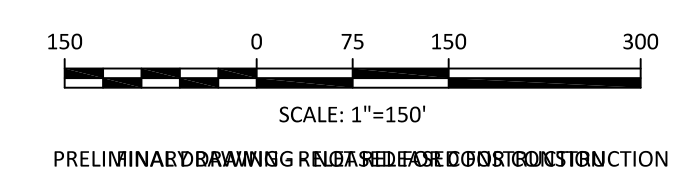
OPEN SPACE AREAS PROVIDED (TH)	
AREA ID	AREA
OPEN SPACE #1	167,073 SF
OPEN SPACE #2	43,408 SF
TOTAL OPEN SPACE	208,481 SF

ACTIVE OPEN SPACE AREAS PROVIDED (TH)	
AREA ID	AREA
ACTIVE OPEN SPACE #1	76,269 SF
ACTIVE OPEN SPACE #2	85,639 SF
TOTAL ACTIVE OPEN SPACE	161,908 SF

OPEN SPACE REQUIREMENTS		
AREA	SINGLE FAMILY	TOWNHOME
	2,984,678 SF	874,327 SF
% OPEN SPACE REQUIRED	10%	15%
OPEN SPACE AREA REQUIRED	298,468 SF	131,149 SF
% ACTIVE/IMPROVED OPEN SPACE REQUIRED	50%	35%
ACTIVE/IMPROVED OPEN SPACE AREA REQUIRED	149,234 SF	45,902 SF
TOTAL OPEN SPACE AREA REQUIRED	429,617 SF	
TOTAL OPEN SPACE AREA PROVIDED	515,589 SF	
TOTAL ACTIVE/IMPROVED OPEN SPACE AREA REQUIRED	195,136 SF	
TOTAL ACTIVE/IMPROVED OPEN SPACE AREA PROVIDED	374,174 SF	

OPEN SPACE AREAS PROVIDED (SF)	
AREA ID	AREA
OPEN SPACE #1	111,352 SF
OPEN SPACE #2	49,179 SF
OPEN SPACE #3	117,164 SF
OPEN SPACE #4	5,631 SF
OPEN SPACE #5	9,532 SF
OPEN SPACE #6	5,865 SF
TOTAL OPEN SPACE	307,108 SF

ACTIVE OPEN SPACE AREAS PROVIDED (SF)	
AREA ID	AREA
ACTIVE OPEN SPACE #1	113,141 SF
ACTIVE OPEN SPACE #2	40,127 SF
ACTIVE OPEN SPACE #3	15,943 SF
ACTIVE OPEN SPACE #4	7,066 SF
ACTIVE OPEN SPACE #5	4,865 SF
ACTIVE OPEN SPACE #6	21,645 SF
ACTIVE OPEN SPACE #7	9,479 SF
TOTAL ACTIVE OPEN SPACE	212,266 SF

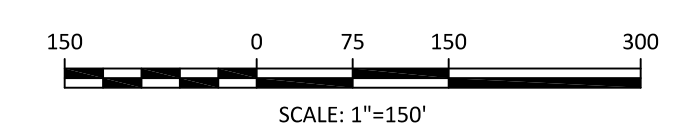




PHASING PLAN NOTE

THE PHASE LINES SHOWN ON THIS PLAN REPRESENT THE ORDER OF LOT RECORDATION, INSTALLATION AND ROUTING OF UTILITIES TO BE COORDINATED WITH PROJECT ENGINEER TO MATCH INTENTION OF PHASING PLAN. ACTUAL PHASING LINES FOR UTILITIES MAY DIFFER FROM LOTS.

LOTS BY PHASE		
SF PHASE	LOT #S	# OF LOTS
PHASE 1	94-146	57
PHASE 2	1-6, 217-221, 229-243	26
PHASE 3	7-26, 247-256	30
PHASE 4	75-93, 147	24
PHASE 5	152-170, 204-211	27
PHASE 6	27-47, 212-216, 222-228, 244-246	36
PHASE 7	175-194	20
PHASE 8	62-74, 195-203	22
PHASE 9	48-61, 171-174	18
TOTAL SF LOTS		260
TH PHASE	LOT #S	# OF LOTS
PHASE 1	400-419, 430-479	70
PHASE 2	343-364	22
PHASE 3	325-342, 365-379, 420-429	43
PHASE 4	301-324, 380-399	44
TOTAL TH LOTS		179



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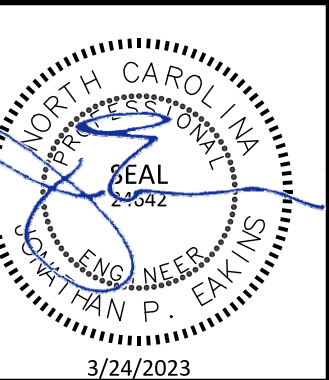
CLIENT:
PRESERVE AT JONES DAIRY, LLC
10534 ARNOLD PALMER DRIVE
RALEIGH, NC 27617 919-491-0761

NO.	DATE	REVISIONS
1	2023-03-17	REVISIONS PER DOT COMMENTS FOR WATER LINE CONNECTIONS
2	2023-03-23	TOWARDS STATION AND BEARS MARKS OF GPS 200-220 TO TOWARDS FIGHTING BULL DRIVE
3	2023-03-24	REVISED PHASE LINES

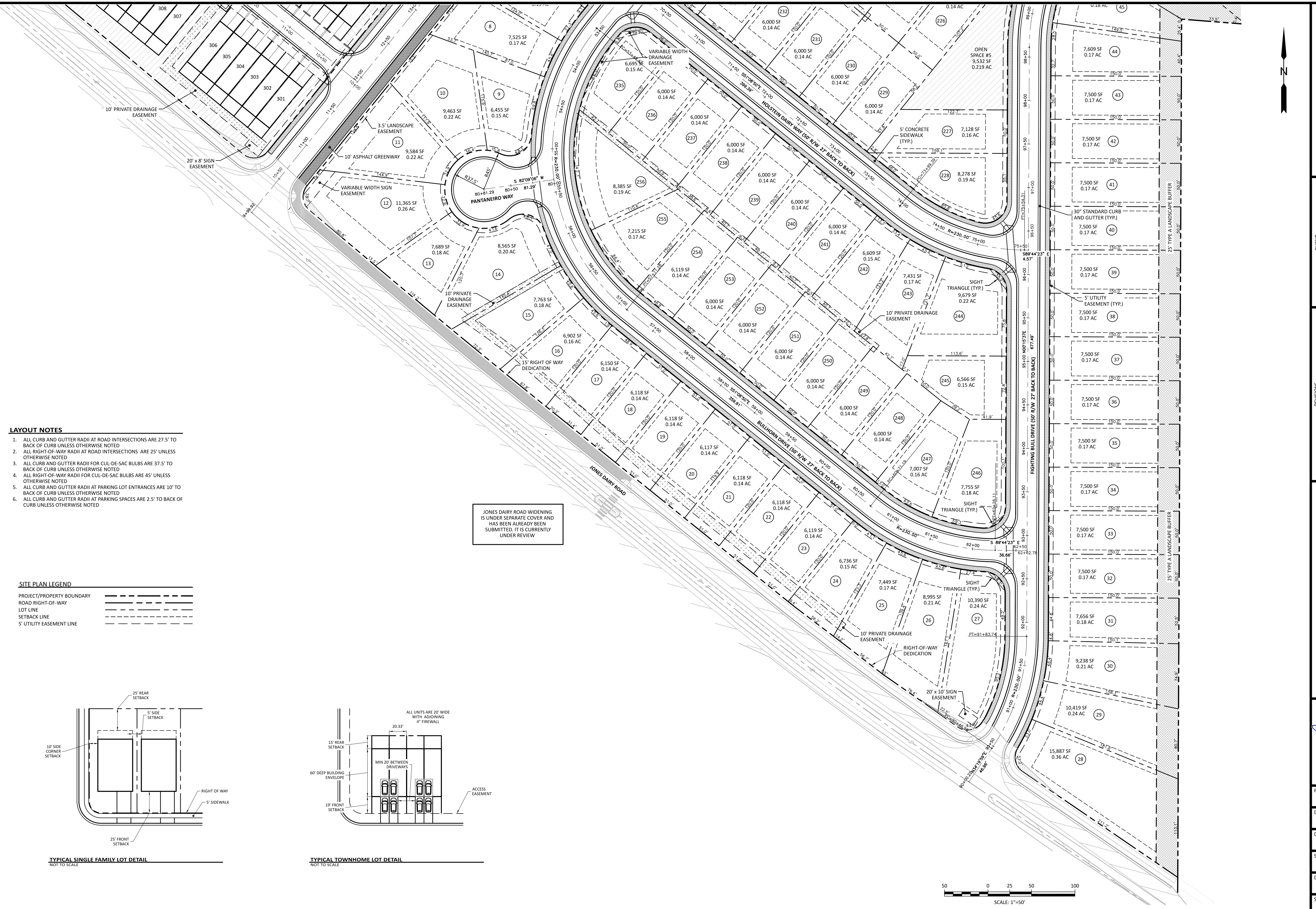
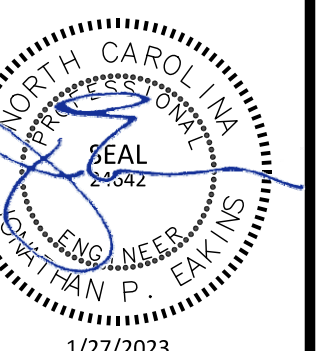
**PRESERVE AT JONES DAIRY - CENTRAL
CONSTRUCTION DRAWINGS**

ROLESVILLE, NC

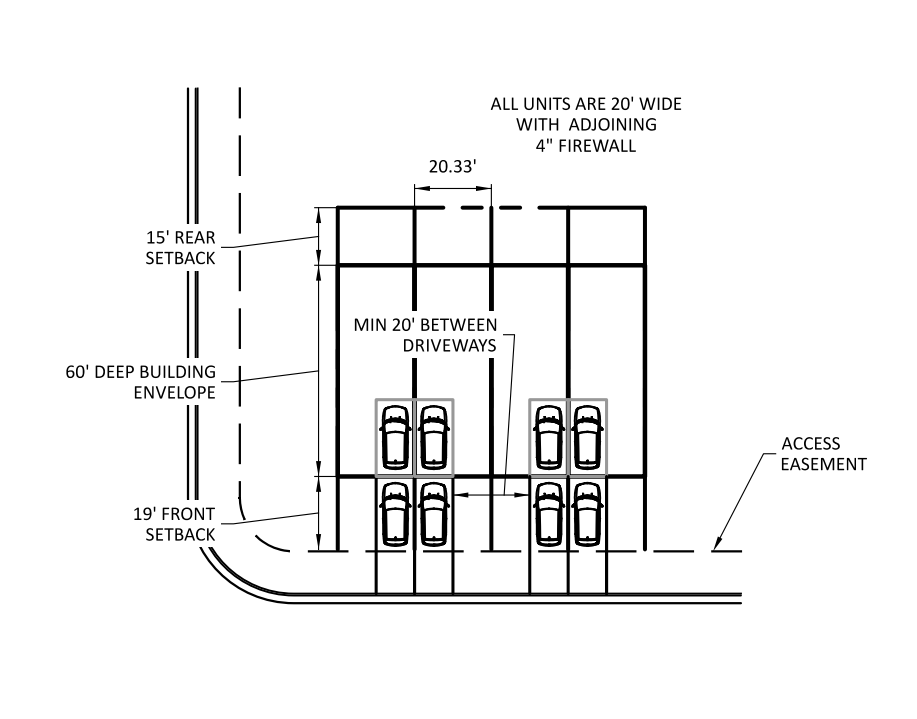
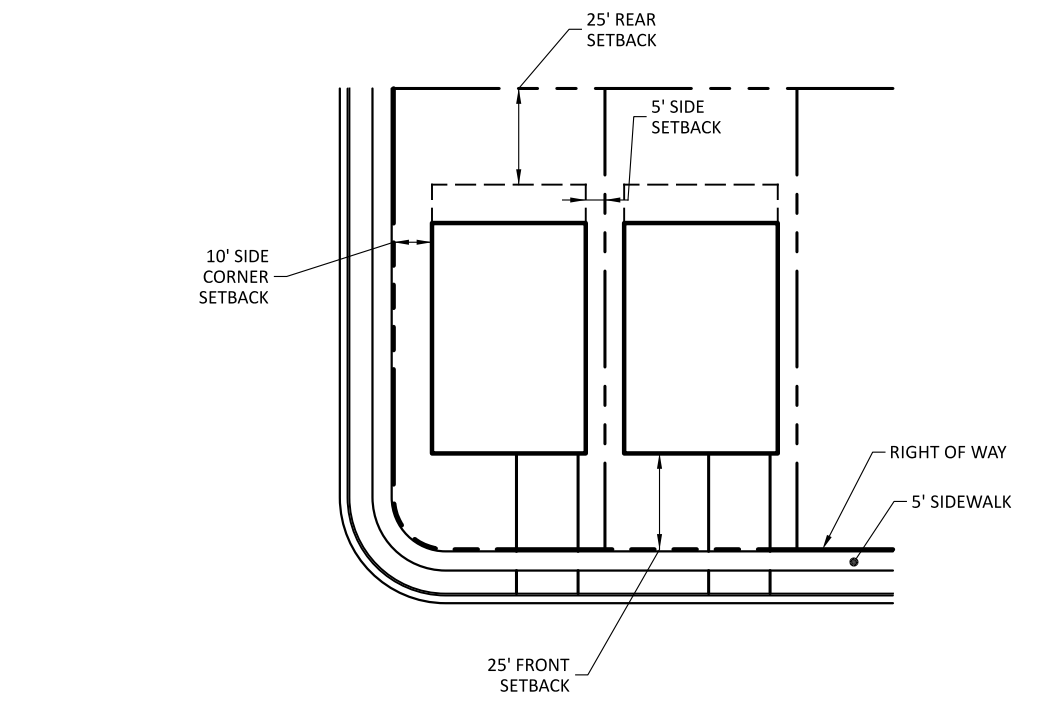
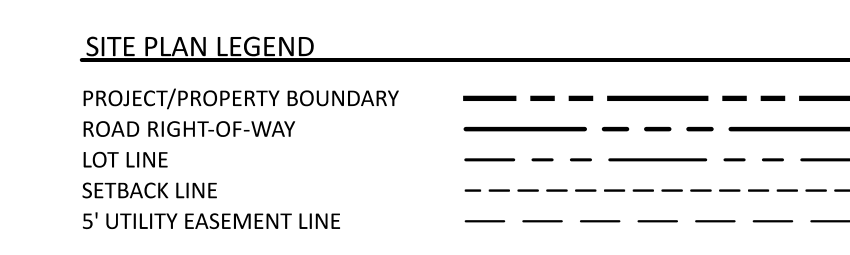
PHASING PLAN - OVERALL



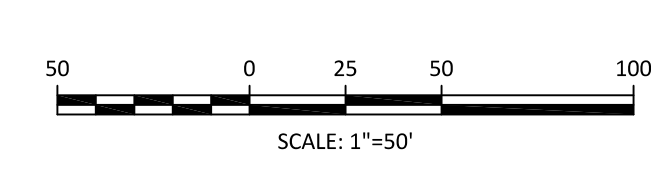
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DESIGN BY: JPE
DRAWN BY: RSF
SCALE: 1"=150'
DATE: 2023-01-27
SHEET NO: **C2.2**

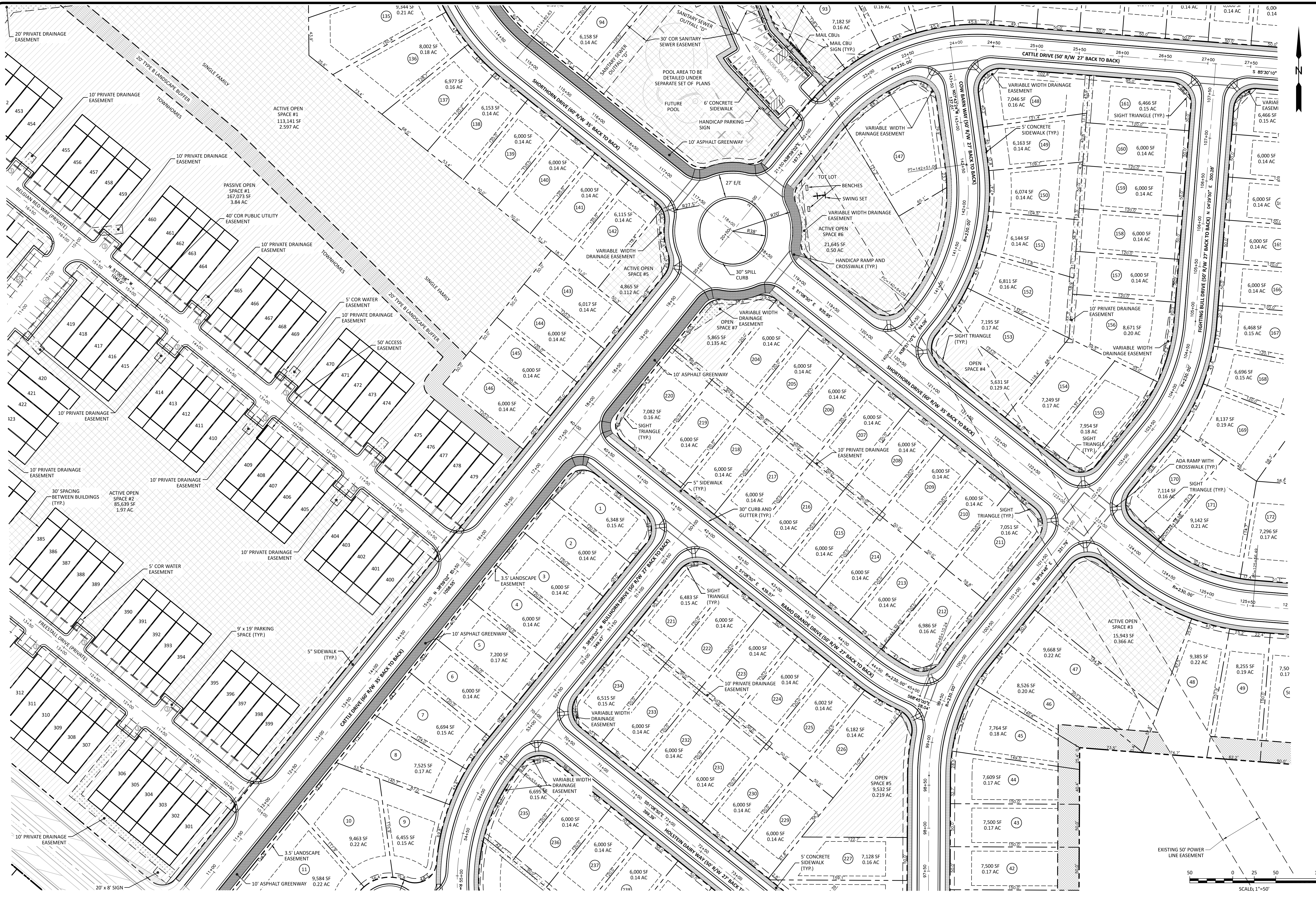


- LAYOUT NOTES**
1. ALL CURB AND GUTTER RADII AT ROAD INTERSECTIONS ARE 27.5' TO BACK OF CURB UNLESS OTHERWISE NOTED
 2. ALL RIGHT-OF-WAY RADII AT ROAD INTERSECTIONS ARE 25' UNLESS OTHERWISE NOTED
 3. ALL CURB AND GUTTER RADII FOR CUL-DE-SAC BULBS ARE 37.5' TO BACK OF CURB UNLESS OTHERWISE NOTED
 4. ALL RIGHT-OF-WAY RADII FOR CUL-DE-SAC BULBS ARE 45' UNLESS OTHERWISE NOTED
 5. ALL CURB AND GUTTER RADII AT PARKING LOT ENTRANCES ARE 10' TO BACK OF CURB UNLESS OTHERWISE NOTED
 6. ALL CURB AND GUTTER RADII AT PARKING SPACES ARE 2.5' TO BACK OF CURB UNLESS OTHERWISE NOTED



JONES DAIRY ROAD WIDENING IS UNDER SEPARATE COVER AND HAS BEEN ALREADY BEEN SUBMITTED. IT IS CURRENTLY UNDER REVIEW





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CLIENT:
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 10534 ARNOLD PALMER DRIVE
 RALEIGH, NC 27617 919-491-0761

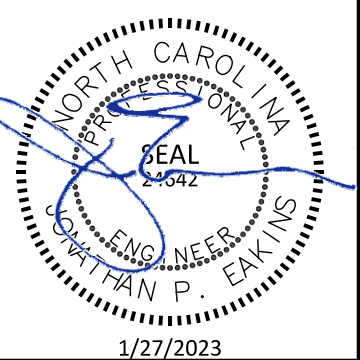
REVISIONS

NO.	DESCRIPTION

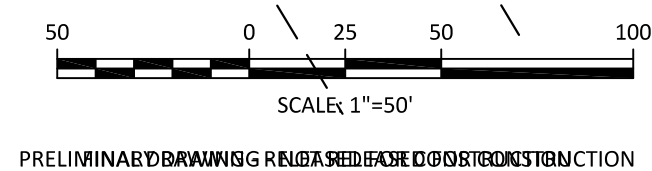
**PRESERVE AT JONES DAIRY - CENTRAL
 CONSTRUCTION DRAWINGS**

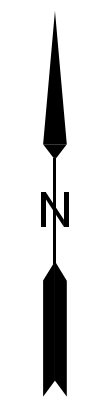
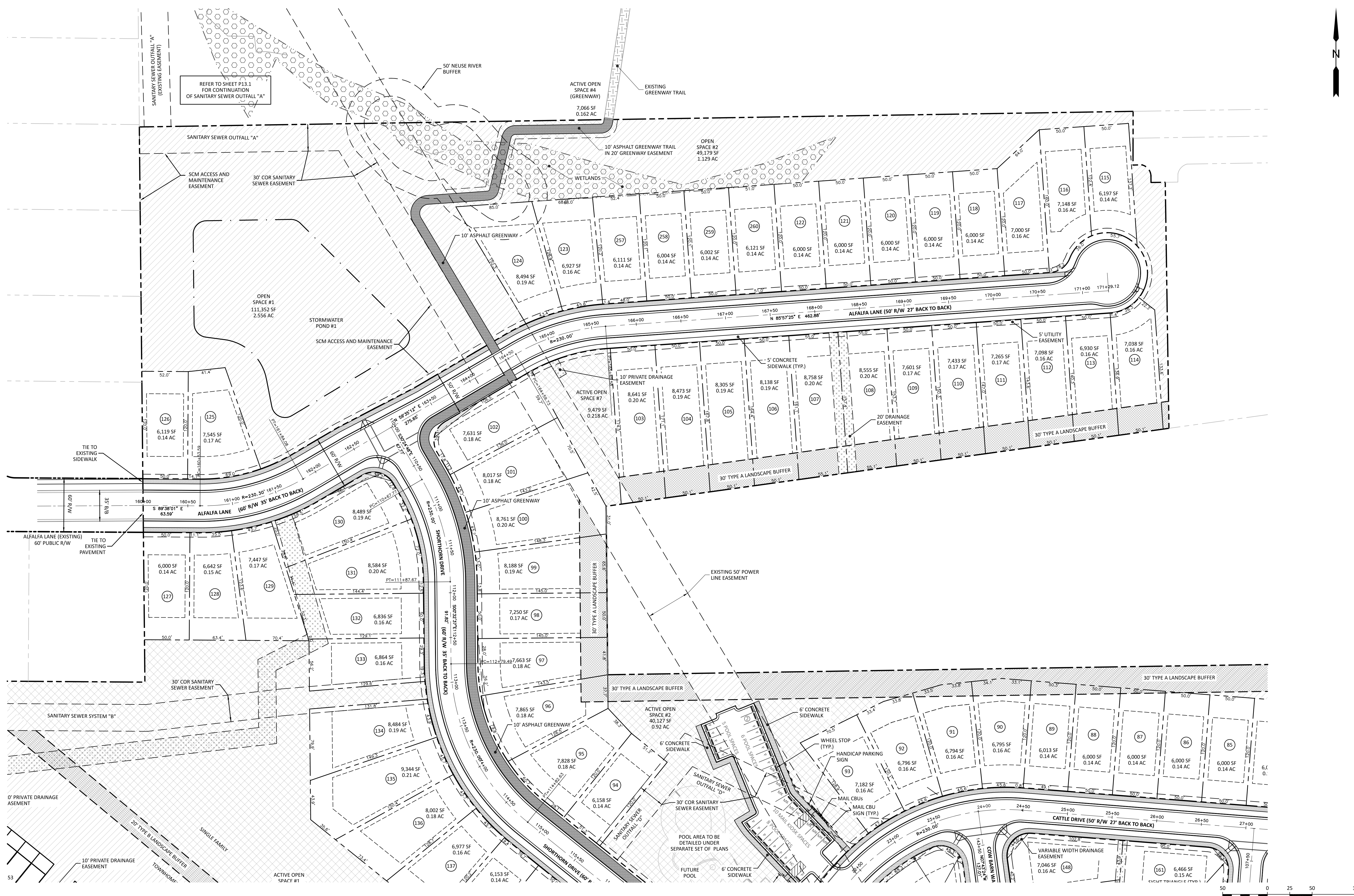
ROLESVILLE, NC

SITE PLAN - CENTRAL



PROJECT NO: ---
 DESIGN BY: JPE
 DRAWN BY: RSF
 SCALE: 1"=50'
 DATE: 2023-01-27
 SHEET NO: **C2.4**



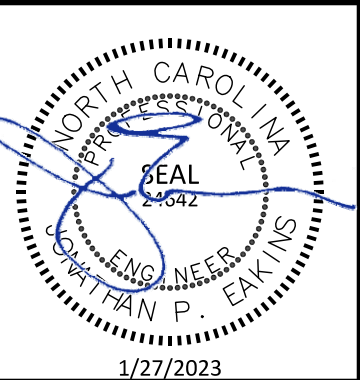


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CLIENT:
 PRESERVE AT JONES DAIRY, LLC
 10534 ARNOLD PALMER DRIVE
 RALEIGH, NC 27617 919-491-0761

NO.	DATE	DESCRIPTION

PRESERVE AT JONES DAIRY - CENTRAL
 CONSTRUCTION DRAWINGS
 ROLESVILLE, NC
 SITE PLAN - NORTH



PROJECT NO: ---
 DESIGN BY: JPE
 DRAWN BY: RSF
 SCALE: 1"=50'
 DATE: 2023-01-27
 SHEET NO: **C2.5**

SCALE: 1"=50'
 PRELIMINARY DRAWING - NOT FOR CONSTRUCTION

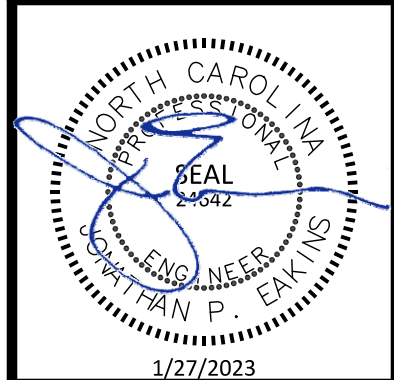


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 NCBELS License P-0751

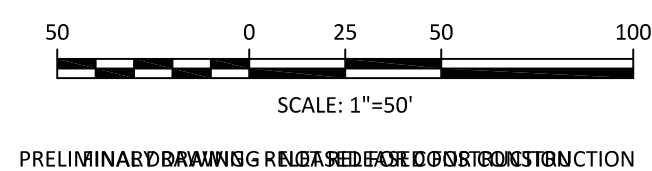
CLIENT:
 PRESERVE AT JONES DAIRY, LLC
 10534 ARNOLD PALMER DRIVE
 RALEIGH, NC 27617 919-491-0761

NO.	DATE	DESCRIPTION

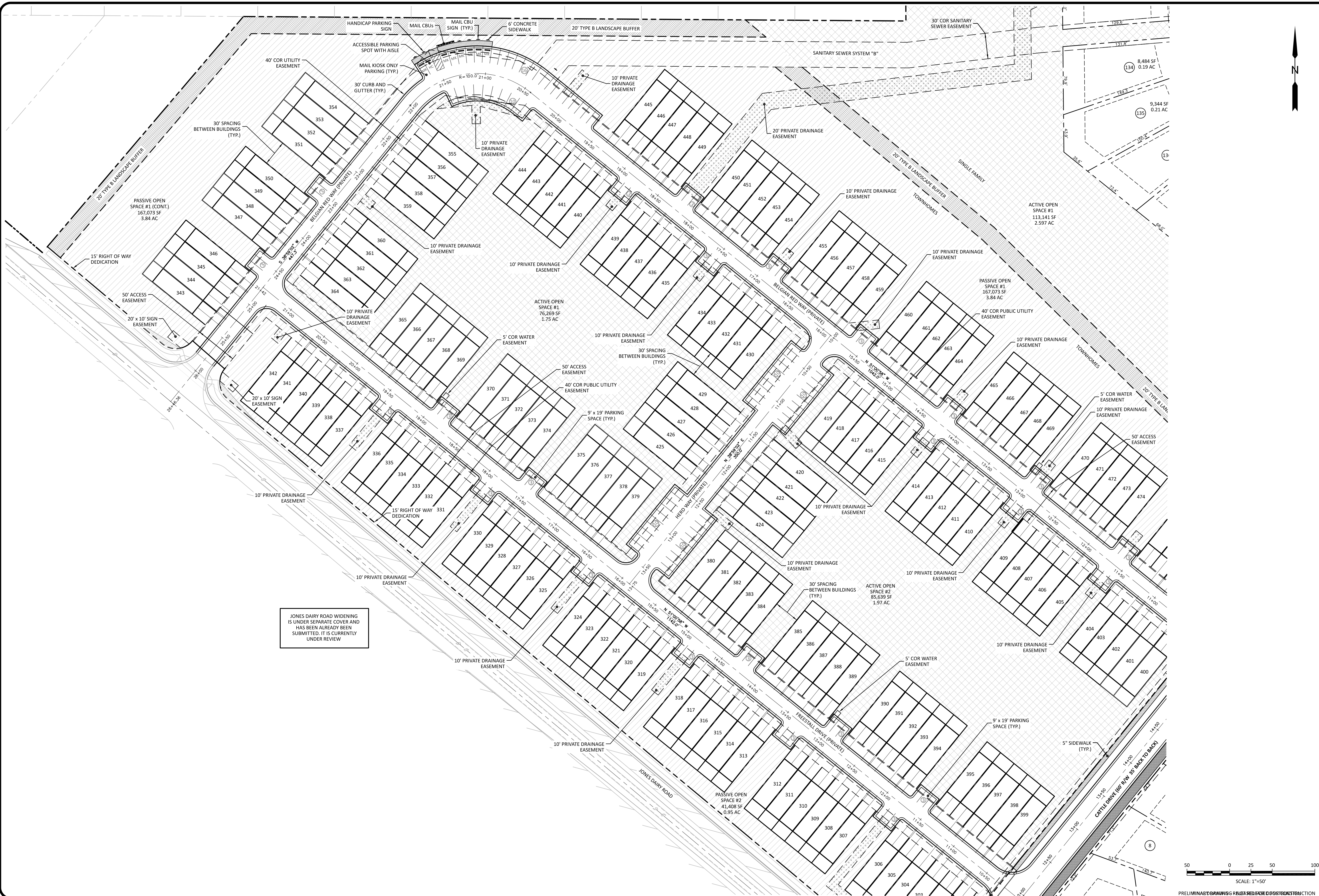
PRESERVE AT JONES DAIRY - CENTRAL CONSTRUCTION DRAWINGS
 ROLESVILLE, NC
 SITE PLAN - EAST



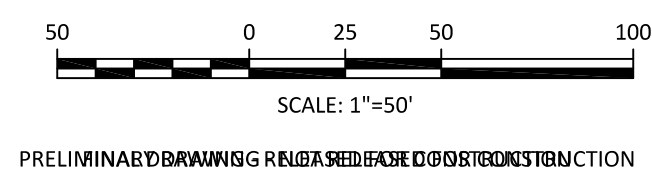
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DRAWN BY:	RSF
SCALE:	1"=50'
DATE:	2023-01-27
SHEET NO:	C2.6



PRELIMINARY DRAWING FOR PERMIT SUBMITTAL



JONES DAIRY ROAD WIDENING IS UNDER SEPARATE COVER AND HAS BEEN ALREADY BEEN SUBMITTED. IT IS CURRENTLY UNDER REVIEW



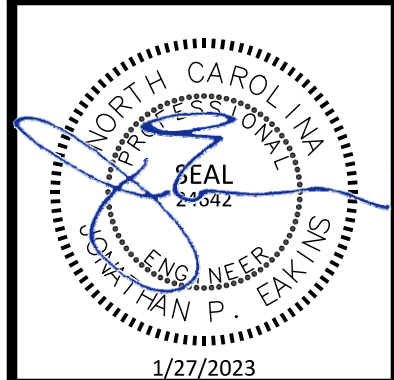
The Nau Company
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 919-435-6395
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CLIENT:
 PRESERVE AT JONES DAIRY, LLC
 10534 ARNOLD PALMER DRIVE
 RALEIGH, NC 27617 919-491-0761

REVISIONS

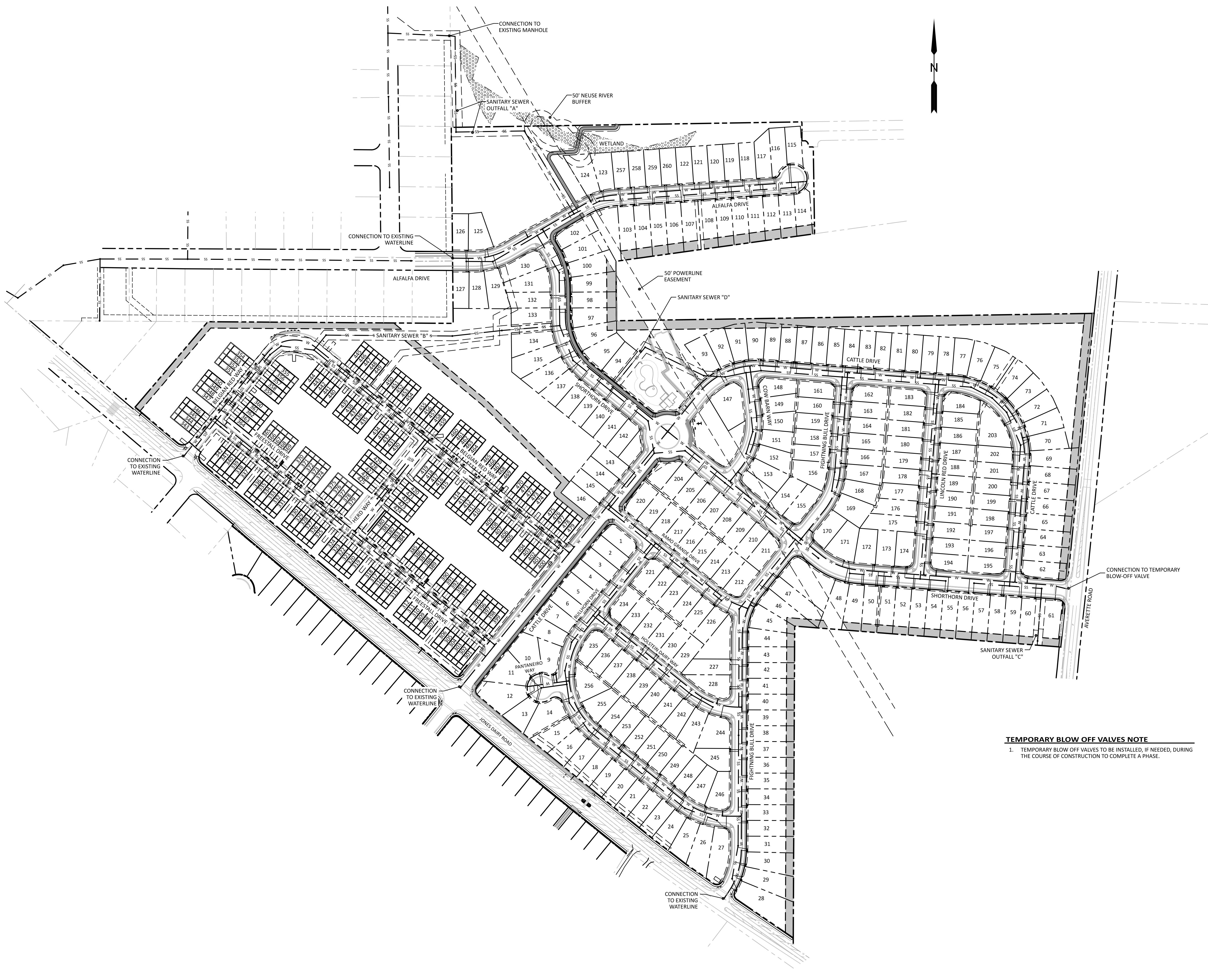
NO.	DATE	DESCRIPTION

**PRESERVE AT JONES DAIRY - CENTRAL
 CONSTRUCTION DRAWINGS**
 ROLESVILLE, NC
 SITE PLAN - WEST



PROJECT NO: ---
 DESIGN BY: JPE
 DRAWN BY: RSF
 SCALE: 1"=50'
 DATE: 2023-01-27
 SHEET NO: **C2.7**

PRELIMINARY DRAWING. RULING RED LINE. DO NOT CONSTRUCTION



CITY OF RALEIGH STANDARD UTILITY NOTES

- ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION)
- UTILITY SEPARATION REQUIREMENTS:
 A) A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
 B) WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
 C) WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASUREMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
 D) 5' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
 E) MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS, MAINTAIN 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49)
 F) ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
- ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION
- CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT
- 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMANS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS
- IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE
- INSTALL 3/4" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE
- INSTALL 4" PVC SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM
- PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI. BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE
- ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDMQL, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
- NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION
- GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT TIM BEASLEY AT (919) 996-2334 OR TIMOTHY.BEASLEY@RALEIGHNC.GOV FOR MORE INFORMATION
- CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. CONTACT JOANIE HARTLEY AT (919) 996-5923 OR JOANIE.HARTLEY@RALEIGHNC.GOV FOR MORE INFORMATION

TEMPORARY BLOW OFF VALVES NOTE

- TEMPORARY BLOW OFF VALVES TO BE INSTALLED, IF NEEDED, DURING THE COURSE OF CONSTRUCTION TO COMPLETE A PHASE.

ATTENTION CONTRACTORS

THE CONSTRUCTION CONTRACTOR RESPONSIBLE FOR THE EXTENSION OF WATER, SEWER AND/OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR CONTACTING THE PUBLIC UTILITIES DEPARTMENT AT 919-996-4540 AT LEAST 24 HOURS PRIOR TO BEGINNING ANY OF THEIR CONSTRUCTION.

FAILURE TO NOTIFY BOTH CITY DEPARTMENTS IN ADVANCE OF BEGINNING CONSTRUCTION WILL RESULT IN THE ISSUANCE OF MONETARY FINES, AND REQUIRE REINSTATEMENT OF ANY WATER OR SEWER FACILITIES NOT INSPECTED AS A RESULT OF THIS NOTIFICATION FAILURE.

FAILURE TO CALL FOR INSPECTION, INSTALL A DOWNSTREAM PLUG, HAVE PERMITTED PLANS ON THE JOBITE, OR ANY OTHER VIOLATION OF CITY OF RALEIGH STANDARDS WILL RESULT IN A FINE AND POSSIBLE EXCLUSION FROM FUTURE WORK IN THE CITY OF RALEIGH.

SITE PERMITTING APPROVAL
Water and Sewer Permits (if Applicable)

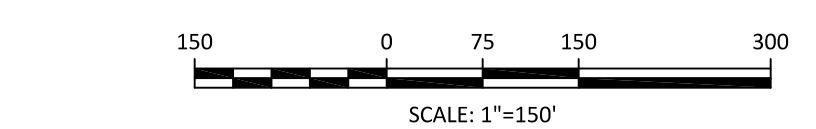
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # **S-5188**

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # **W-1015**

CITY OF RALEIGH PLANS AUTHORIZED FOR CONSTRUCTION

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer Below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval
Raleigh Water Review Officer



The Nau Company
Consulting Civil Engineers
PO Box 810, Rolesville, NC 27571
919-435-6395
NCBELS License P-0751

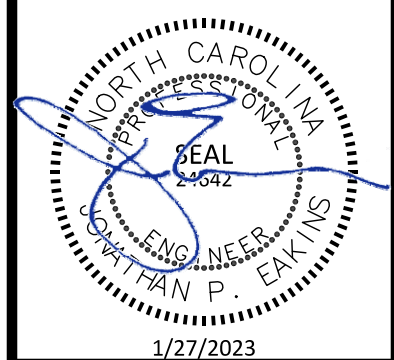
CLIENT:
PRESERVE AT JONES DAIRY, LLC
10534 ARNOLD PALMER DRIVE
RALEIGH, NC 27617 919-491-0761

REVISIONS					

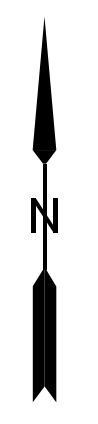
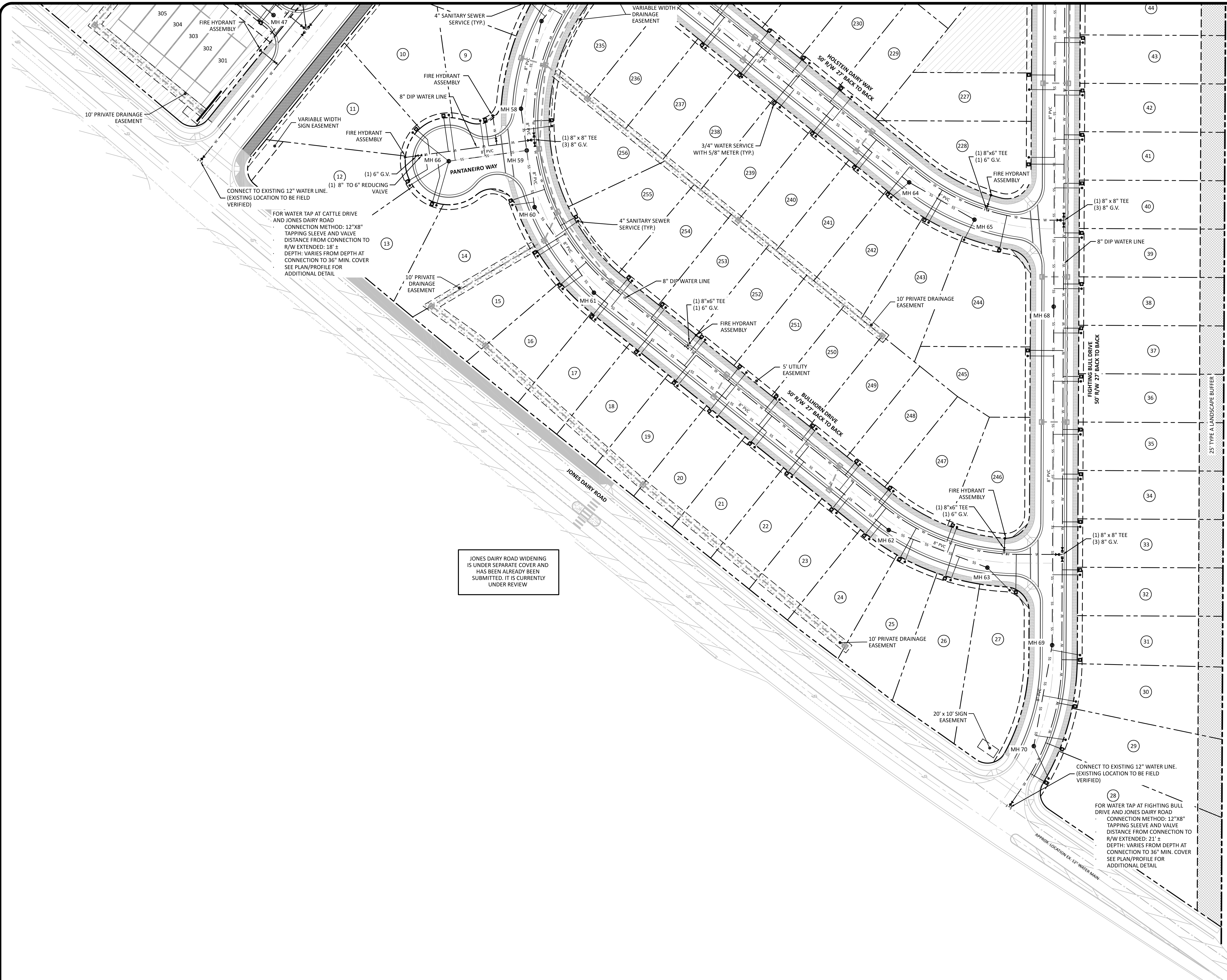
PRESERVE AT JONES DAIRY - CENTRAL
CONSTRUCTION DRAWINGS

ROLESVILLE, NC

UTILITY PLAN - OVERALL



PROJECT NO: ---
 DESIGN BY: JPE
 DRAWN BY: RSF
 SCALE: 1"=150'
 DATE: 2023-01-27
 SHEET NO: **C3.0**



FOR WATER TAP AT CATTLE DRIVE AND JONES DAIRY ROAD CONNECTION METHOD: 12" X 8" TAPPING SLEEVE AND VALVE DISTANCE FROM CONNECTION TO R/W EXTENDED: 18' ± DEPTH: VARIES FROM DEPTH AT CONNECTION TO 36" MIN. COVER SEE PLAN/PROFILE FOR ADDITIONAL DETAIL

JONES DAIRY ROAD WIDENING IS UNDER SEPARATE COVER AND HAS BEEN ALREADY BEEN SUBMITTED. IT IS CURRENTLY UNDER REVIEW

CONNECT TO EXISTING 12" WATER LINE. (EXISTING LOCATION TO BE FIELD VERIFIED)

FOR WATER TAP AT FIGHTING BULL DRIVE AND JONES DAIRY ROAD CONNECTION METHOD: 12" X 8" TAPPING SLEEVE AND VALVE DISTANCE FROM CONNECTION TO R/W EXTENDED: 21' ± DEPTH: VARIES FROM DEPTH AT CONNECTION TO 36" MIN. COVER SEE PLAN/PROFILE FOR ADDITIONAL DETAIL

TEMPORARY BLOW OFF VALVES NOTE
 1. TEMPORARY BLOW OFF VALVES TO BE INSTALLED, IF NEEDED, DURING THE COURSE OF CONSTRUCTION TO COMPLETE A PHASE.

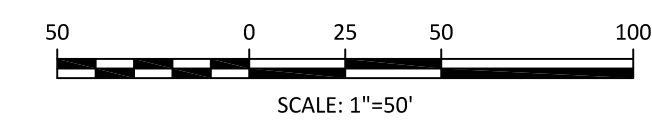
IRRIGATION NOTE
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 2. ALL NEW PERMANENT IN-GROUND IRRIGATION SYSTEMS SHALL ALSO BE EQUIPPED WITH AN APPROVED RPZ BACKFLOW ASSEMBLY AND FUNCTIONAL RAIN SENSOR.

UTILITY PLAN LEGEND

SANITARY SEWER PIPE	— SS — SS — SS —
SANITARY SEWER MANHOLE	●
SANITARY SEWER CLEANOUT	○
WATER PIPE	— W — W — W —
WATER METER	□
WATER HYDRANT	⊕
WATER VALVES	⊕
WATER FITTINGS	⊕

ATTENTION CONTRACTORS
 THE CONSTRUCTION CONTRACTOR RESPONSIBLE FOR THE EXTENSION OF WATER, SEWER AND/OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR CONTACTING THE PUBLIC UTILITIES DEPARTMENT AT 919-996-4540 AT LEAST 24 HOURS PRIOR TO BEGINNING ANY OF THEIR CONSTRUCTION.
 FAILURE TO NOTIFY BOTH CITY DEPARTMENTS IN ADVANCE OF BEGINNING CONSTRUCTION WILL RESULT IN THE ISSUANCE OF MONETARY FINES, AND REQUIRE REINSTALLATION OF ANY WATER OR SEWER FACILITIES NOT INSPECTED AS A RESULT OF THIS NOTIFICATION FAILURE.
 FAILURE TO CALL FOR INSPECTION, INSTALL A DOWNSTREAM PLUG, HAVE PERMITTED PLANS ON THE JOB SITE, OR ANY OTHER VIOLATION OF CITY OF RALEIGH STANDARDS WILL RESULT IN A FINE AND POSSIBLE EXCLUSION FROM FUTURE WORK IN THE CITY OF RALEIGH.

SITE PERMITTING APPROVAL
 Water and Sewer Permits (if Applicable)
 The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # **W-1018**.
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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
 Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer Below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.
 City of Raleigh Development Approval: _____
 Raleigh Water Review Officer



The Nau Company
 Consulting Civil Engineers
 PO Box 810, Rolesville, NC 27571
 919-435-6395
 NCBELS License P-0751

CLIENT:
 PRESERVE AT JONES DAIRY, LLC
 10534 ARNOLD PALMER DRIVE
 RALEIGH, NC 27617 919-491-0761

NO.	REVISIONS	DATE
1	2023-01-17	REVISED PER DOT COMMENTS FOR WATER LINE CONNECTIONS

PRESERVE AT JONES DAIRY - CENTRAL
 CONSTRUCTION DRAWINGS

ROLESVILLE, NC

UTILITY PLAN - SOUTH

PROJECT NO: ---

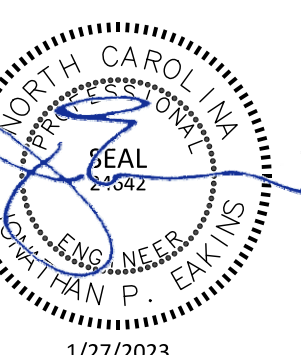
DESIGN BY: JPE

DRAWN BY: RSF

SCALE: 1"=50'

DATE: 2023-01-27

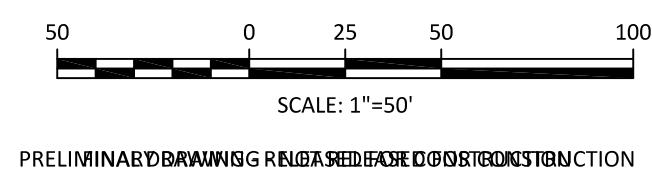
SHEET NO: **C3.1**

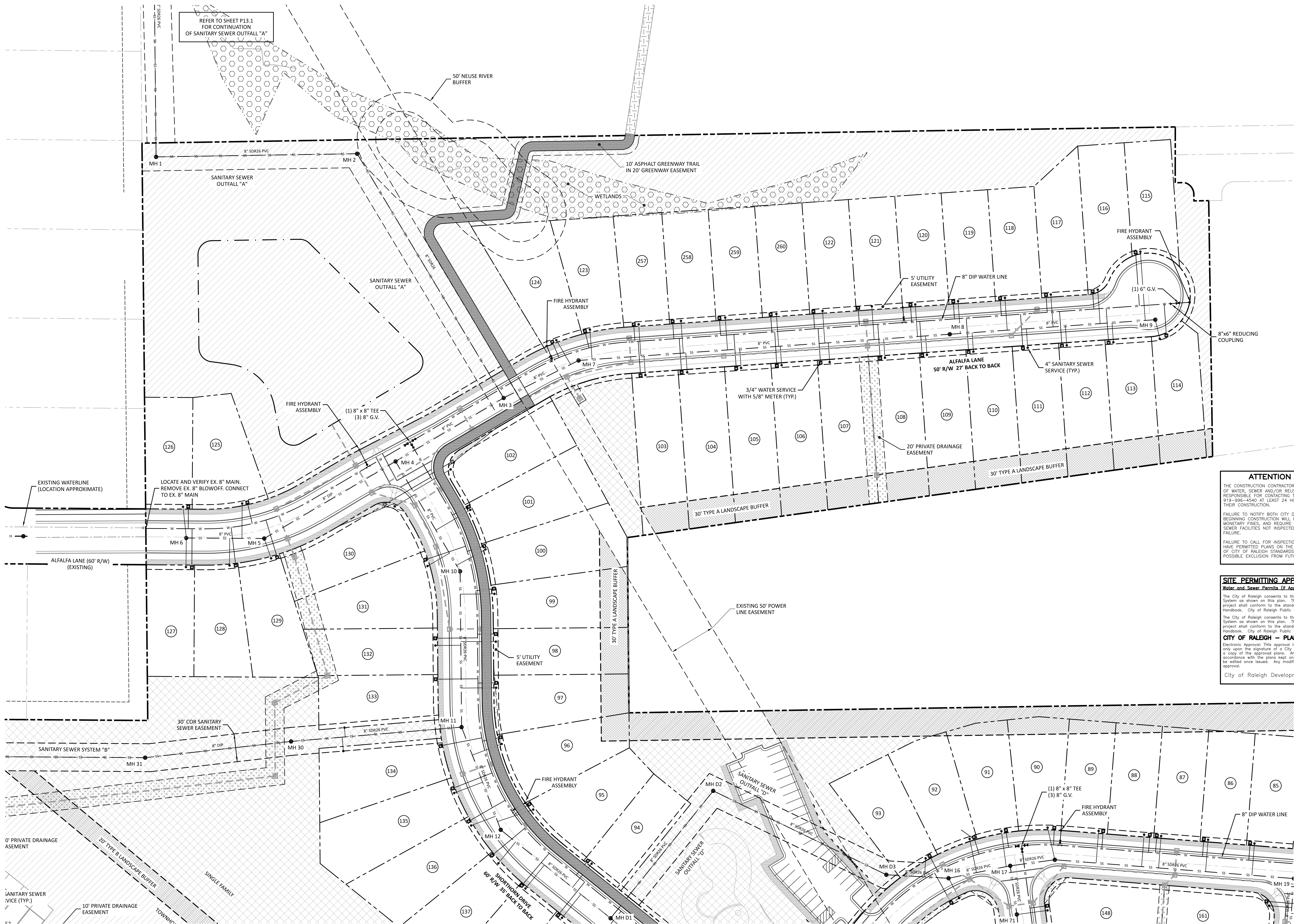


ATTENTION CONTRACTORS
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 FAILURE TO NOTIFY BOTH CITY DEPARTMENTS IN ADVANCE OF BEGINNING CONSTRUCTION WILL RESULT IN THE ISSUANCE OF MONETARY FINES, AND REQUIRE REINSTALLATION OF ANY WATER OR SEWER FACILITIES NOT INSPECTED AS A RESULT OF THIS NOTIFICATION FAILURE.
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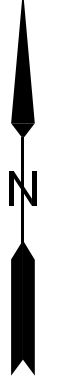
SITE PERMITTING APPROVAL
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 City of Raleigh Development Approval:
 Raleigh Water Review Officer:

TEMPORARY BLOW OFF VALVES NOTE
 1. TEMPORARY BLOW OFF VALVES TO BE INSTALLED, IF NEEDED, DURING THE COURSE OF CONSTRUCTION TO COMPLETE A PHASE.





REFER TO SHEET P13.1 FOR CONTINUATION OF SANITARY SEWER OUTFALL "A"



The Nau Company
 Consulting Civil Engineers
 PO Box 810, Rolesville, NC 27571
 919-435-6395
 NCBELS License P-0751

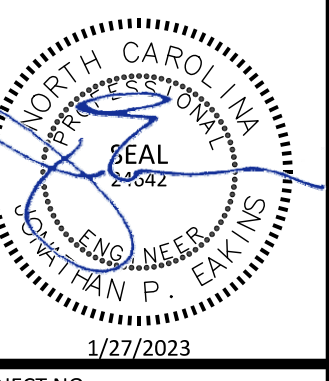
CLIENT:
 PRESERVE AT JONES DAIRY, LLC
 10534 ARNOLD PALMER DRIVE
 RALEIGH, NC 27617 919-491-0761

REVISIONS

ATTENTION CONTRACTORS
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SITE PERMITTING APPROVAL
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 City of Raleigh Development Approval _____
 Raleigh Water Review Officer

PRESERVE AT JONES DAIRY - CENTRAL CONSTRUCTION DRAWINGS
 ROLESVILLE, NC
 UTILITY PLAN - NORTH

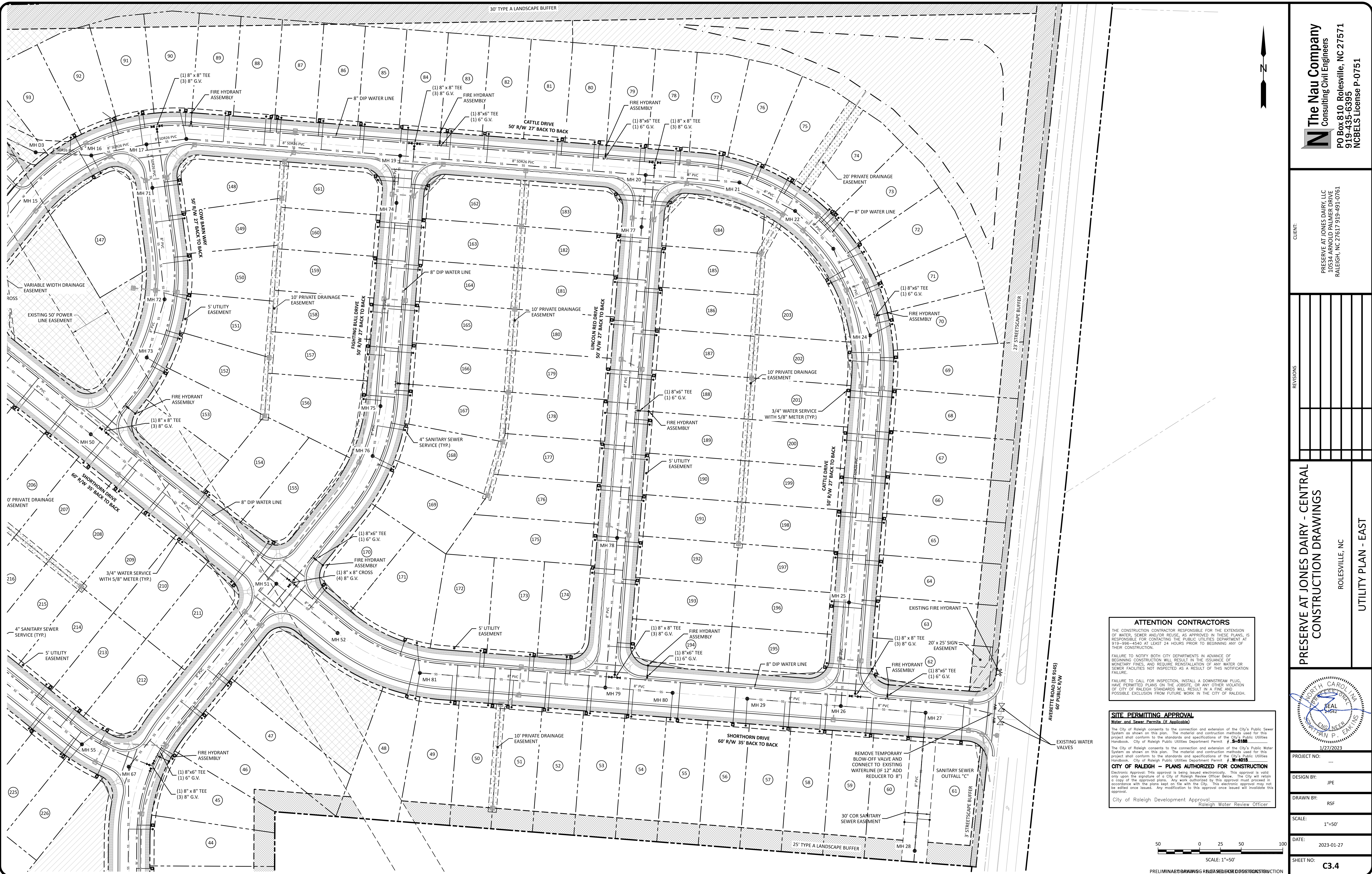


PROJECT NO: ---
 DESIGN BY: JPE
 DRAWN BY: RSF
 SCALE: 1"=50'
 DATE: 2023-01-27
 SHEET NO: **C3.3**

TEMPORARY BLOW OFF VALVES NOTE
 1. TEMPORARY BLOW OFF VALVES TO BE INSTALLED, IF NEEDED, DURING THE COURSE OF CONSTRUCTION TO COMPLETE A PHASE.



SCALE: 1"=50'
 PRELIMINARY DRAWING - SUBJECT TO CHANGE DURING CONSTRUCTION

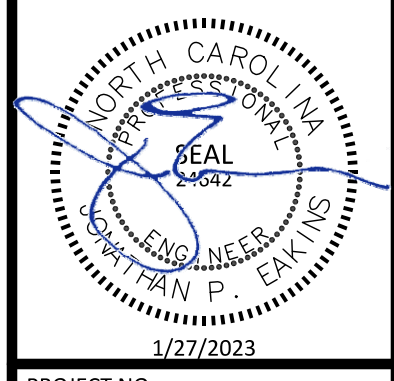


NO.	REVISIONS

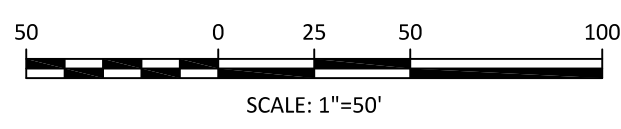
PRESERVE AT JONES DAIRY - CENTRAL
CONSTRUCTION DRAWINGS
ROLESVILLE, NC
UTILITY PLAN - EAST

ATTENTION CONTRACTORS
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SITE PERMITTING APPROVAL
Water and Sewer Permits (if Applicable)
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City of Raleigh Development Approval
Raleigh Water Review Officer



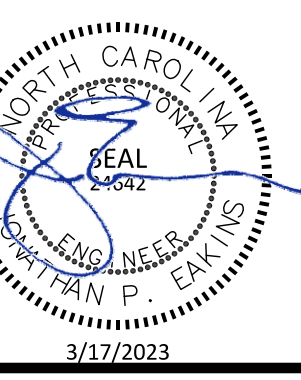
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DESIGN BY:	JPE
DRAWN BY:	RSF
SCALE:	1"=50'
DATE:	2023-01-27
SHEET NO:	C3.4



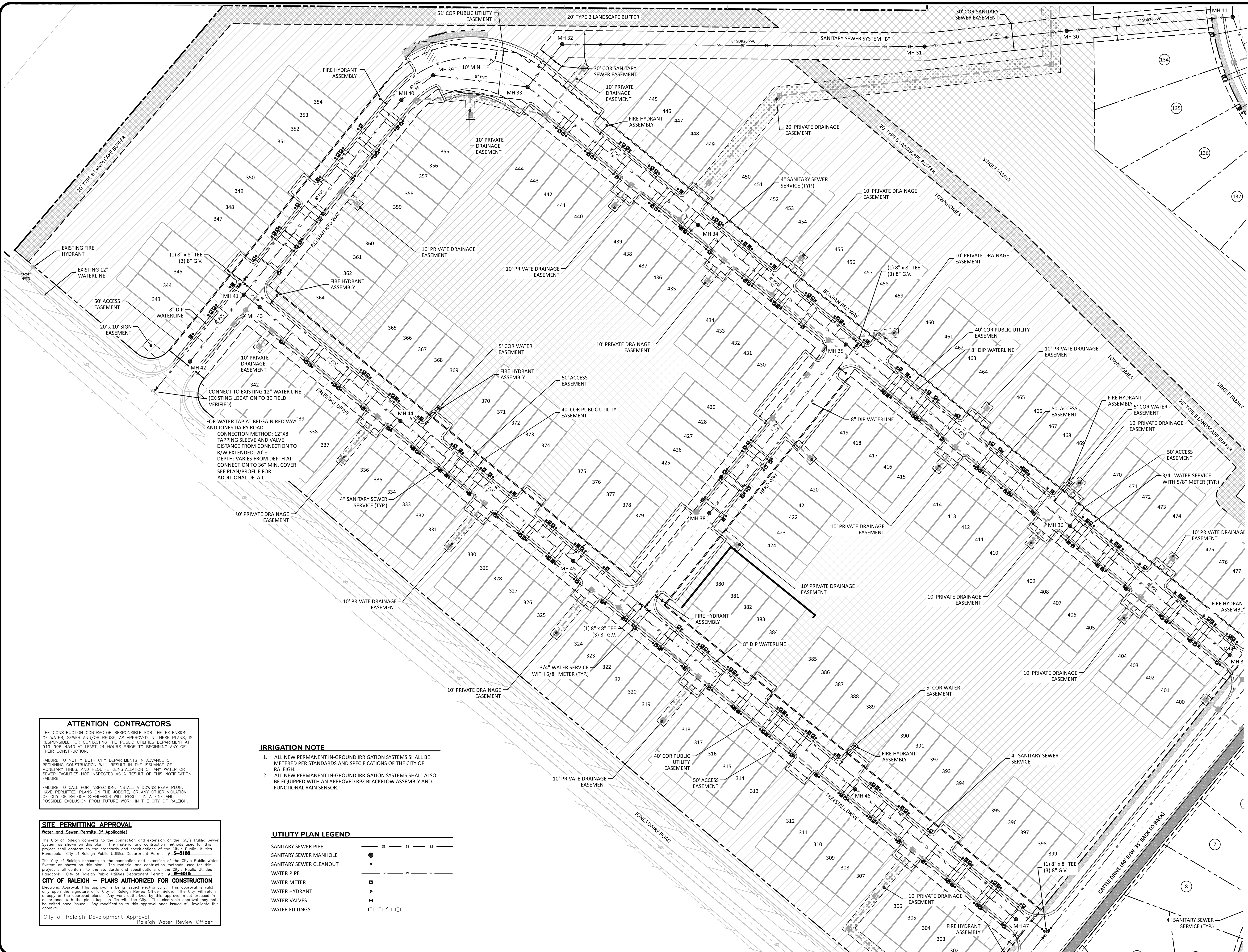
SCALE: 1"=50'
PRELIMINARY DRAWING - R/A/S/B/S/R/23/01/27/2023

NO.	DATE	REVISIONS
1	2023-01-17	REVISIONS PER COMMENTS FOR WATER LINE CONNECTIONS

**PRESERVE AT JONES DAIRY - CENTRAL
 CONSTRUCTION DRAWINGS**
 ROLESVILLE, NC
 UTILITY PLAN - WEST



PROJECT NO:	---
DESIGN BY:	JPE
DRAWN BY:	RSF
SCALE:	1"=50'
DATE:	2023-01-27
SHEET NO:	C3.5



CONNECT TO EXISTING 12" WATER LINE.
 (EXISTING LOCATION TO BE FIELD VERIFIED)
 FOR WATER TAP AT BELGAIN RED WAY AND JONES DAIRY ROAD
 CONNECTION METHOD: 12"x8" TAPPING SLEEVE AND VALVE
 DISTANCE FROM CONNECTION TO R/W EXTENDED: 20' ±
 DEPTH: VARIES FROM DEPTH AT CONNECTION TO 36" MIN. COVER
 SEE PLAN/PROFILE FOR ADDITIONAL DETAIL

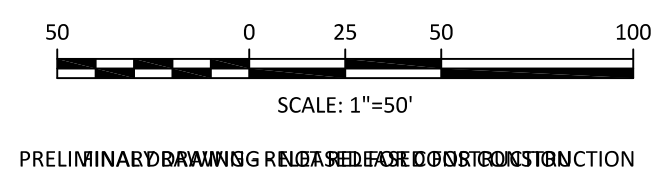
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- IRRIGATION NOTE**
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 2. ALL NEW PERMANENT IN-GROUND IRRIGATION SYSTEMS SHALL ALSO BE EQUIPPED WITH AN APPROVED RPZ BACKFLOW ASSEMBLY AND FUNCTIONAL RAIN SENSOR.

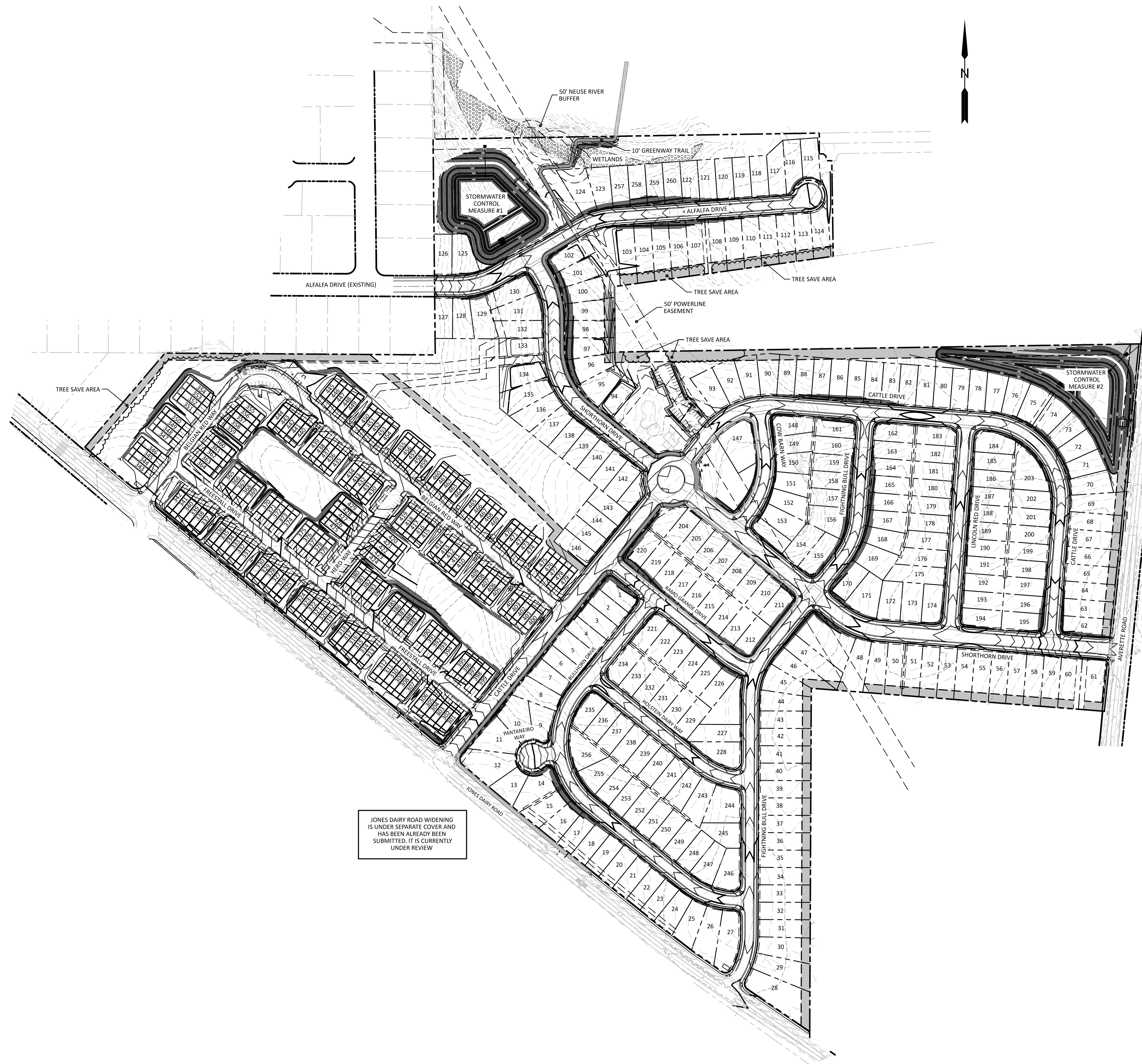
SITE PERMITTING APPROVAL
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 City of Raleigh Development Approval
 Raleigh Water Review Officer

UTILITY PLAN LEGEND

SANITARY SEWER PIPE	— SS — SS — SS
SANITARY SEWER MANHOLE	●
SANITARY SEWER CLEANOUT	○
WATER PIPE	— W — W — W
WATER METER	◊
WATER HYDRANT	◆
WATER VALVES	⊕
WATER FITTINGS	⊞



PRELIMINARY DRAWING - NOT FOR CONSTRUCTION



STORM DRAINAGE NOTES

1. RIM ELEVATION FOR A CATCH BASIN (CB) OR CURB INLET (CI) IS TOP OF CURB (T/C). RIM ELEVATION FOR DROP INLET (DI) OR YARD INLET (YI) IS TOP OF BOX OR TOP OF GRATE (NOT SLAB). RIM ELEVATION FOR A MANHOLE (MH) OR JUNCTION BOX (JB) IS CENTER OF THE STRUCTURE COVER.
2. ALL STORM DRAINAGE PIPES SHALL BE CLASS III REINFORCED CONCRETE PIPE (RCP) UNLESS NOTED OTHERWISE.
3. ALL STORM DRAINAGE PIPE IN TRAFFIC AREAS SHALL HAVE A MINIMUM COVER OF 2 FEET TO THE PIPE CROWN UNLESS OTHERWISE APPROVED.
4. ALL STORM DRAINAGE PIPE IN TRAFFIC NON-AREAS SHALL HAVE A MINIMUM COVER OF 1 FOOT TO THE PIPE CROWN UNLESS OTHERWISE APPROVED.
5. ALL CONCRETE SHALL MEET A MINIMUM 3000 PSI COMPRESSIVE STRENGTH.
6. ALL PIPE IN STORM DRAINAGE STRUCTURES SHALL BE STRUCK EVEN WITH THE INSIDE WALL.
7. ALL PIPE JOINTS SHALL BE MADE WITH PREFORMED JOINT SEALER WHICH CONFORMS TO AASHTO SPECIFICATION M-198 FOR TYPE B FLEXIBLE PASTIC GASKETS UNLESS OTHERWISE NOTED.
8. EACH DRAINAGE STRUCTURE SHALL HAVE A SHAPED INVERT CONSTRUCTED FROM CONCRETE, AND A BENCH WITH A MAXIMUM 5:1 SLOPE. THE BENCH SHALL BEGIN AT A HEIGHT OF ONE-HALF THE PIPE DIAMETER FOR 12 TO 24 INCH PIPE, ONE-THIRD THE PIPE DIAMETER FOR 30 - 48 INCH PIPE, AND ONE-FOURTH THE DIAMETER FOR PIPE GREATER THAN 48 INCHES.
9. ALL BACKFILL SHALL BE NON-PLASTIC IN NATURE, FREE FROM ROOTS, VEGETATIVE MATTER, WASTE, CONSTRUCTION MATERIAL OR OTHER OBJECTIONABLE MATERIAL. SUITABLE SOILS SHALL BE CAPABLE OF COMPACTED BY MECHANICAL MEANS AND SHALL HAVE NO TENDENCY TO FLOW OR BEHAVE IN A PLASTIC MANNER UNDER TAMPING BLOWS OR PROOF ROLLING.
10. MATERIALS DEEMED AS UNSUITABLE FOR BACKFILL PURPOSES SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.
11. BACKFILLING OF TRENCHES SHALL BE PERFORMED IMMEDIATELY AFTER PIPE IS LAID. THE FILL AROUND AND ABOVE THE PIPE SHALL BE COMPACTED IN ACCORDANCE WITH THE PERMITTING AUTHORITY'S SPECIFICATIONS AND/OR THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
12. UNDER NO CIRCUMSTANCES SHALL WATER BE ALLOWED TO RISE IN UNBACKFILLED TRENCHES AFTER PIPE HAS BEEN PLACED.

GRADING NOTES

1. PROPOSED CONTOURS REPRESENT APPROXIMATE ELEVATIONS AT A POINT. PROPOSED SPOT ELEVATIONS AND ROADWAY PROFILES SUPERSEED CONTOUR INFORMATION.
2. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE AWAY FROM BUILDING FOUNDATIONS AND SHALL MAINTAIN ADEQUATE DRAINAGE DURING CONSTRUCTION.
3. ALL GRADING, BACKFILLING, EXCAVATION, ETC. SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS SET FORTH BY THE LOCAL GOVERNING AUTHORITY. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR COORDINATING ALL CONSTRUCTION ACTIVITIES WITH SAID AUTHORITY.
4. CONTRACTOR IS TO CONTACT NORTH CAROLINA "ONE CALL" AT 811 FOR UNDERGROUND UTILITY LOCATION 48 HOURS PRIOR TO ANY DIGGING.
5. CONTRACTOR SHALL LOCATE AND VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
6. ANY AND ALL DISTURBED AREAS SHALL BE FINE GRADED, SEEDED WITH PERMANENT GRASS SEEDING MIX AND STRAWED PRIOR TO DEMOBILIZATION FROM THE SITE.
7. ALL SWALES/DITCHES ALONG PROPERTY LINES AND REAR YARDS SHOULD BE 2% OR STEEPER.
8. SLOPES STEEPER THAN 3H:1V SHOULD BE EVALUATED AND DESIGNED BY A GEOTECHNICAL ENGINEER.
9. THE CONTRACTOR SHALL NOTE THAT SPILL CURBS SHALL BE USED AS NECESSARY IN PARKING AREAS, AT INTERSECTIONS, AT MEDIANS TO ELIMINATE AREAS OF STANDING WATER IN THE CURB.

EROSION CONTROL NOTE

A LAND DISTURBANCE PERMIT WAS ISSUED BY WAKE COUNTY FOR THIS PROJECT ON AUGUST 19, 2021 UNDER S&E PERMIT # SEC-048926-2020 BASED ON PLANS PREPARED BY OTHERS. REFER TO THE APPROVED EROSION CONTROL PLANS FOR THE INSTALLATION AND MAINTENANCE OF THE NECESSARY EROSION CONTROL DEVICES.

AVERETTE ROAD WIDENING IS UNDER SEPARATE COVER AND HAS BEEN ALREADY BEEN SUBMITTED. IT IS CURRENTLY UNDER REVIEW

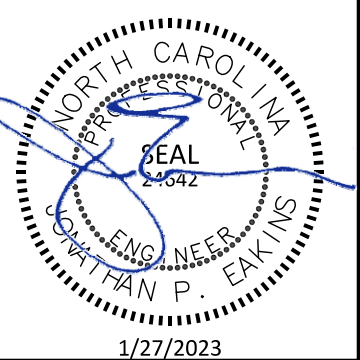
JONES DAIRY ROAD WIDENING IS UNDER SEPARATE COVER AND HAS BEEN ALREADY BEEN SUBMITTED. IT IS CURRENTLY UNDER REVIEW

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PO Box 810, Rolesville, NC 27571
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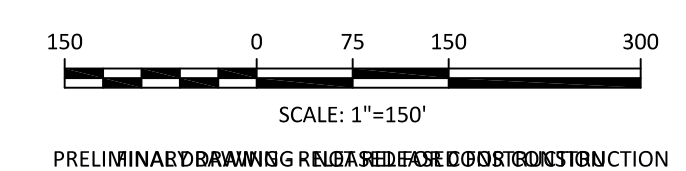
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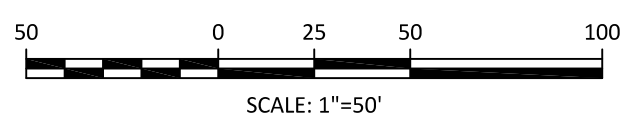
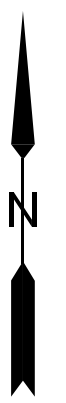
REVISIONS			

PRESERVE AT JONES DAIRY - CENTRAL
CONSTRUCTION DRAWINGS
ROLESVILLE, NC
GRADING PLAN - OVERALL



PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: RSF
SCALE: 1"=150'
DATE: 2023-01-27
SHEET NO: **C4.0**





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 NCBELS License P-0751

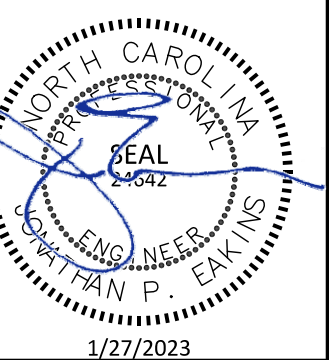
CLIENT:
 PRESERVE AT JONES DAIRY, LLC
 10534 ARNOLD PALMER DRIVE
 RALEIGH, NC 27617 919-491-0761

REVISIONS

**PRESERVE AT JONES DAIRY - CENTRAL
 CONSTRUCTION DRAWINGS**

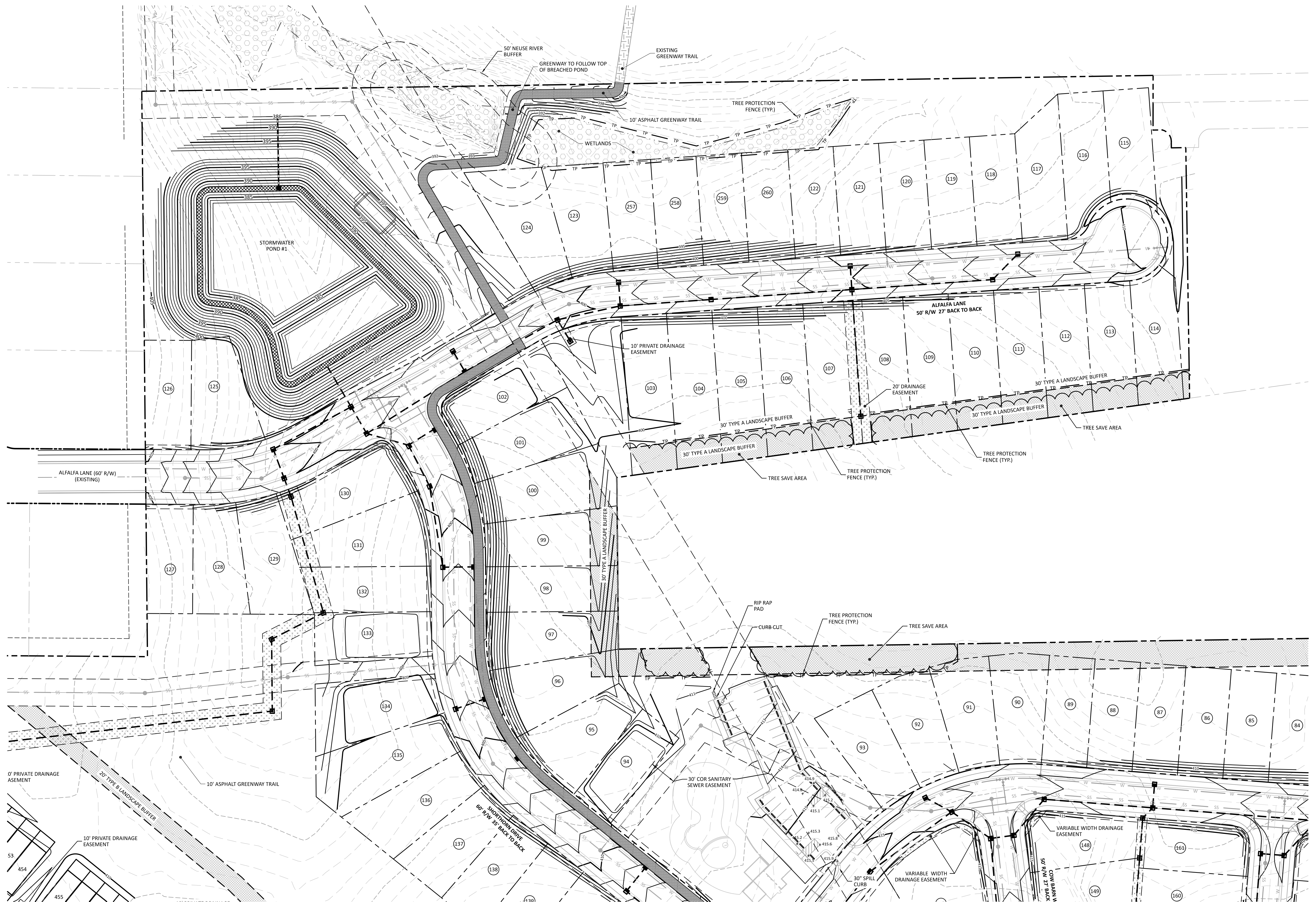
ROLESVILLE, NC

GRADING PLAN - CENTRAL



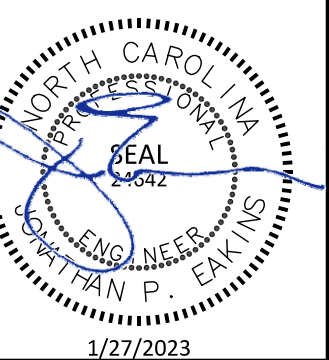
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SCALE:	1"=50'
DATE:	2023-01-27
SHEET NO:	C4.2

PRELIMINARY DRAWING - NOT FOR CONSTRUCTION

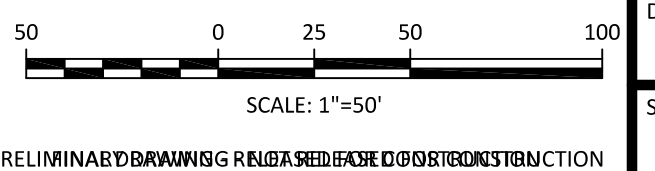


REVISIONS

PRESERVE AT JONES DAIRY - CENTRAL
 CONSTRUCTION DRAWINGS
 ROLESVILLE, NC
 GRADING PLAN - NORTH



PROJECT NO: ---
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 DATE: 2023-01-27
 SHEET NO: **C4.3**



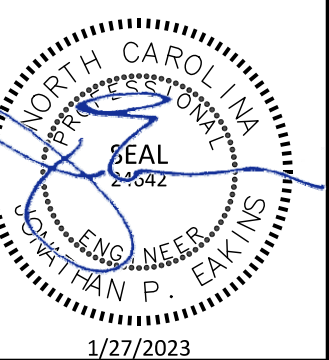


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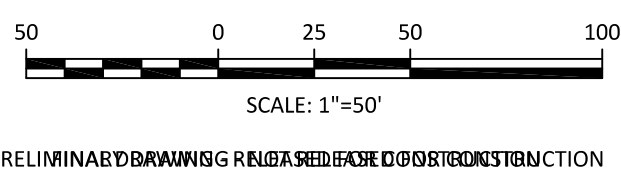
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REVISIONS		

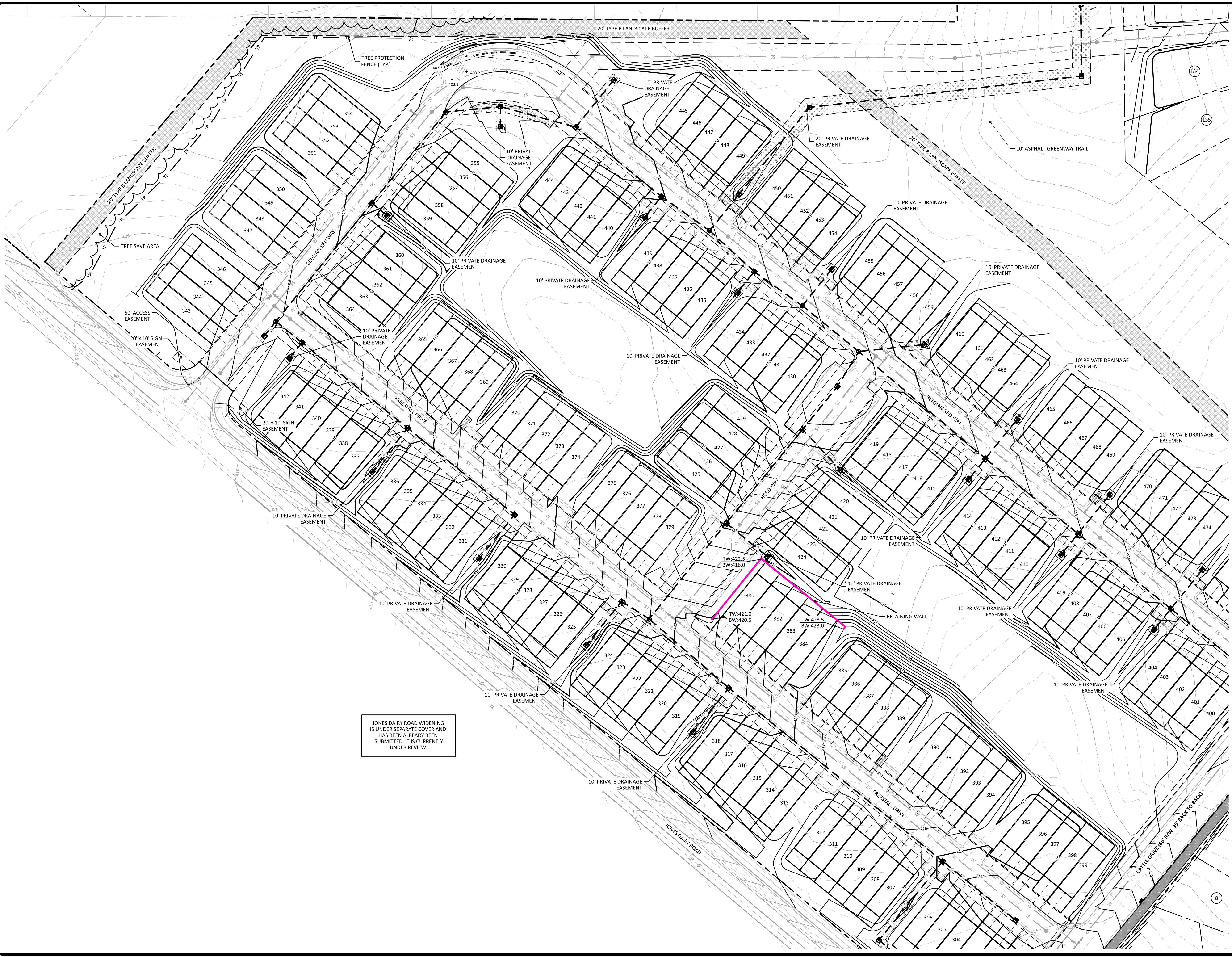
PRESERVE AT JONES DAIRY - CENTRAL
 CONSTRUCTION DRAWINGS
 ROLESVILLE, NC
 GRADING PLAN - EAST



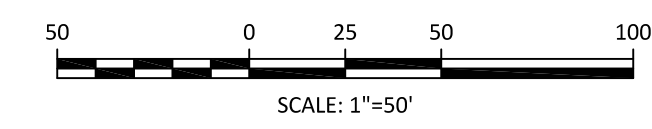
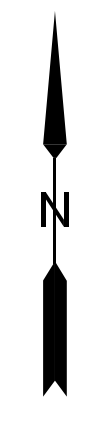
PROJECT NO: ---
 DESIGN BY: JPE
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JONES DAIRY ROAD WIDENING IS UNDER SEPARATE COVER AND HAS BEEN ALREADY BEEN SUBMITTED. IT IS CURRENTLY UNDER REVIEW

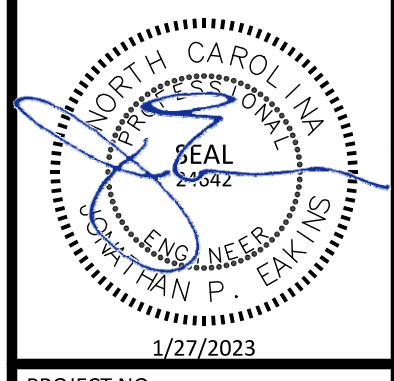


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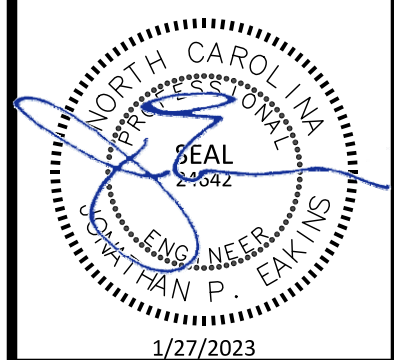
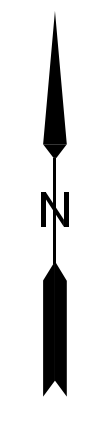
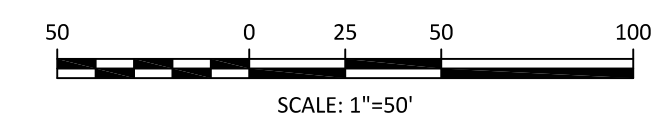
REVISIONS

PRESERVE AT JONES DAIRY - CENTRAL
 CONSTRUCTION DRAWINGS
 ROLESVILLE, NC
 GRADING PLAN - WEST



PROJECT NO: ---
 DESIGN BY: JPE
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 DATE: 2023-01-27
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PRELIMINARY DRAWING R E A D A S E E R E D O R S T R U C T I O N



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DATE:	2023-01-27
SHEET NO:	C5.1

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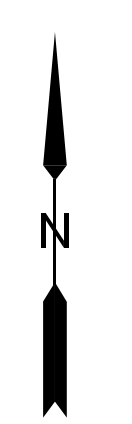
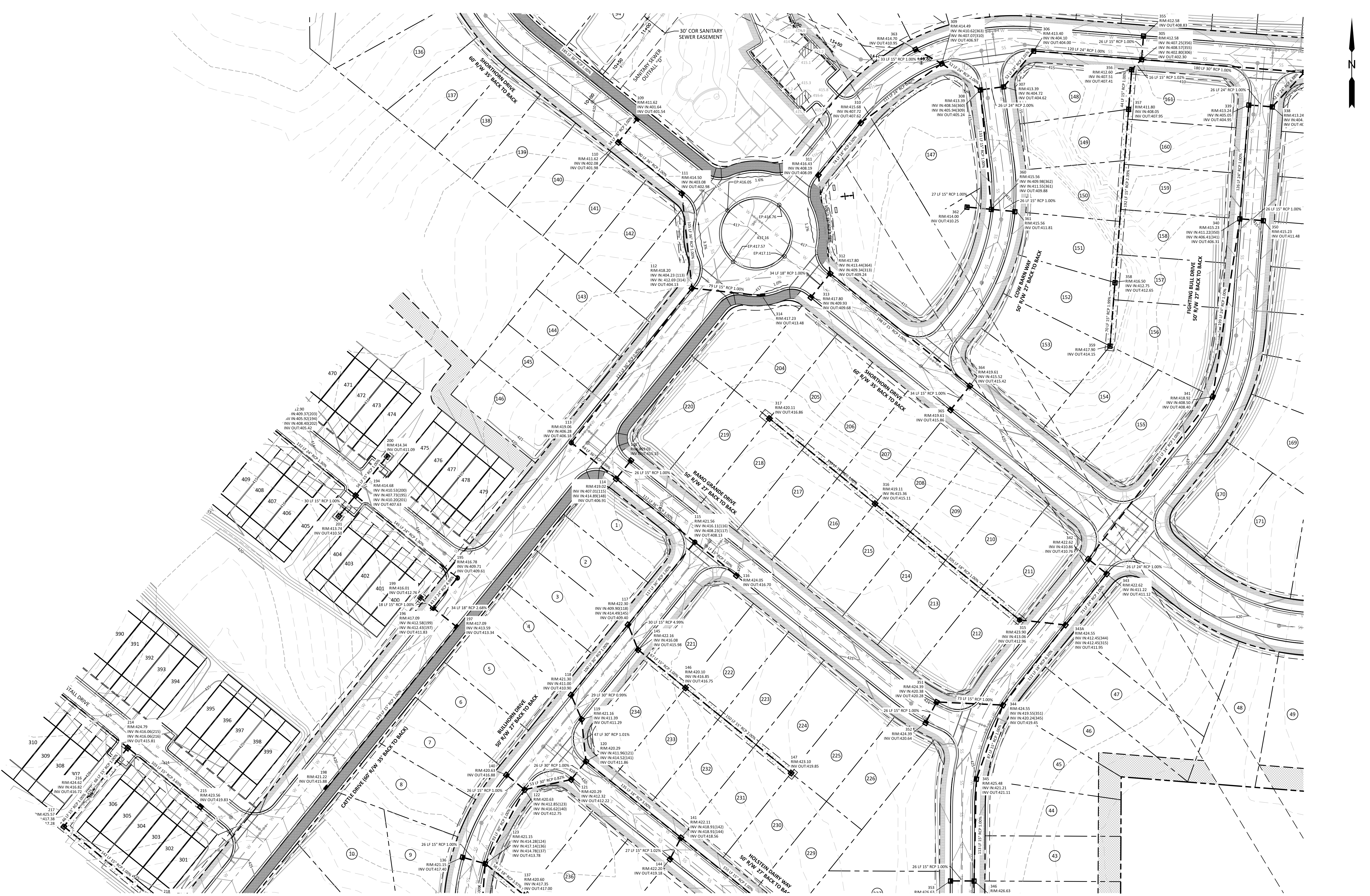
 ROLESVILLE, NC

DRAINAGE PLAN - SOUTH

REVISIONS	

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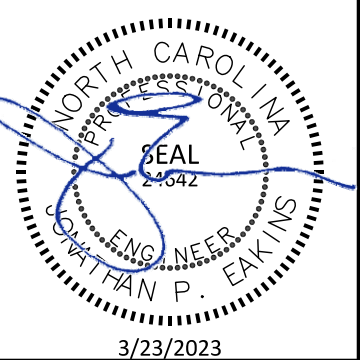
CLIENT:
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NO.	DATE	REVISIONS
1	2023-03-17	REVISIONS PER DOT COMMENTS FOR WATER LINE CONNECTIONS
2	2023-03-23	REVISIONS PER DOT COMMENTS FOR WATER LINE CONNECTIONS TOWARDS FIGHTING BULL DRIVE

**PRESERVE AT JONES DAIRY - CENTRAL
 CONSTRUCTION DRAWINGS**

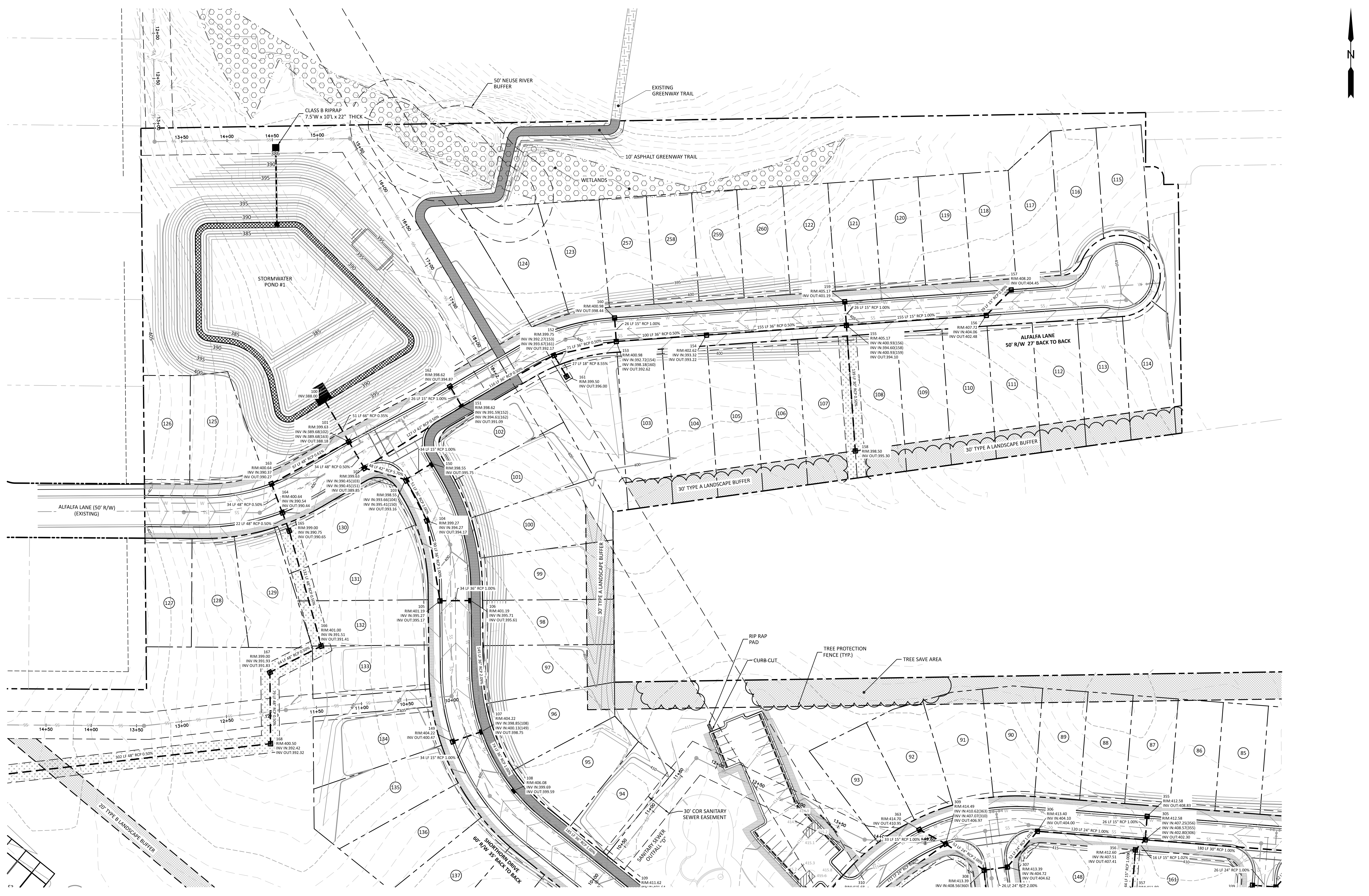
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DRAINAGE PLAN - CENTRAL



PROJECT NO:	---
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DATE:	2023-01-27
SHEET NO:	C5.2

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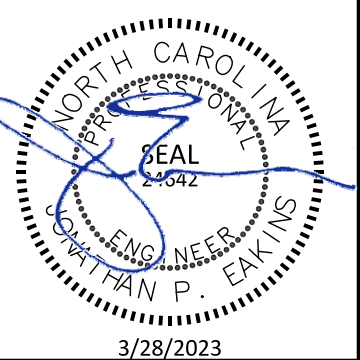


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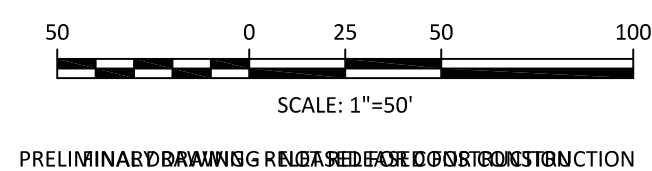
CLIENT:
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NO.	DATE	REVISIONS
1	2023-03-17	REVISIONS PER DOT COMMENTS FOR WATER LINE CONNECTIONS
2	2023-03-23	REVISED STORM INVERT VALUES OF 100'S 300-230 TO 100W
3	2023-03-24	TOWARDS FIGHTING BULL DRIVE
4	2023-03-28	REVISED STORM PIPE DATA FROM STORM STRUCTURES TO 100

PRESERVE AT JONES DAIRY - CENTRAL
CONSTRUCTION DRAWINGS
 ROLESVILLE, NC
DRAINAGE PLAN - NORTH



PROJECT NO:	---
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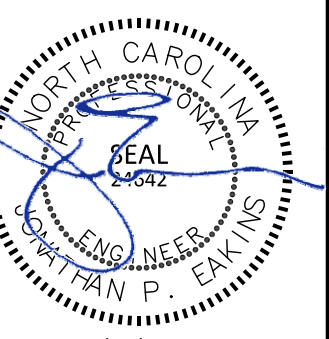
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REVISIONS	DATE	DESCRIPTION
1	2023-03-17	REVISIONS PER DOT COMMENTS FOR WATER LINE CONNECTIONS
2	2023-03-23	TOWARDS STORM INLET BEARS WEIGHT OF LOT 200 TO LOT 201 TOWARDS FIGHTING BULL DRIVE

**PRESERVE AT JONES DAIRY - CENTRAL
 CONSTRUCTION DRAWINGS**

ROLESVILLE, NC

DRAINAGE PLAN - EAST

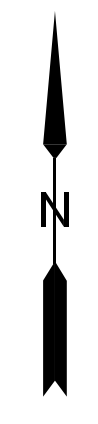
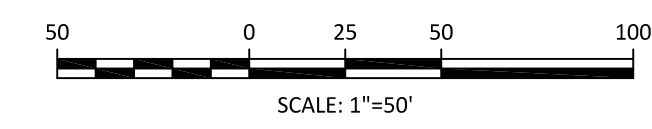
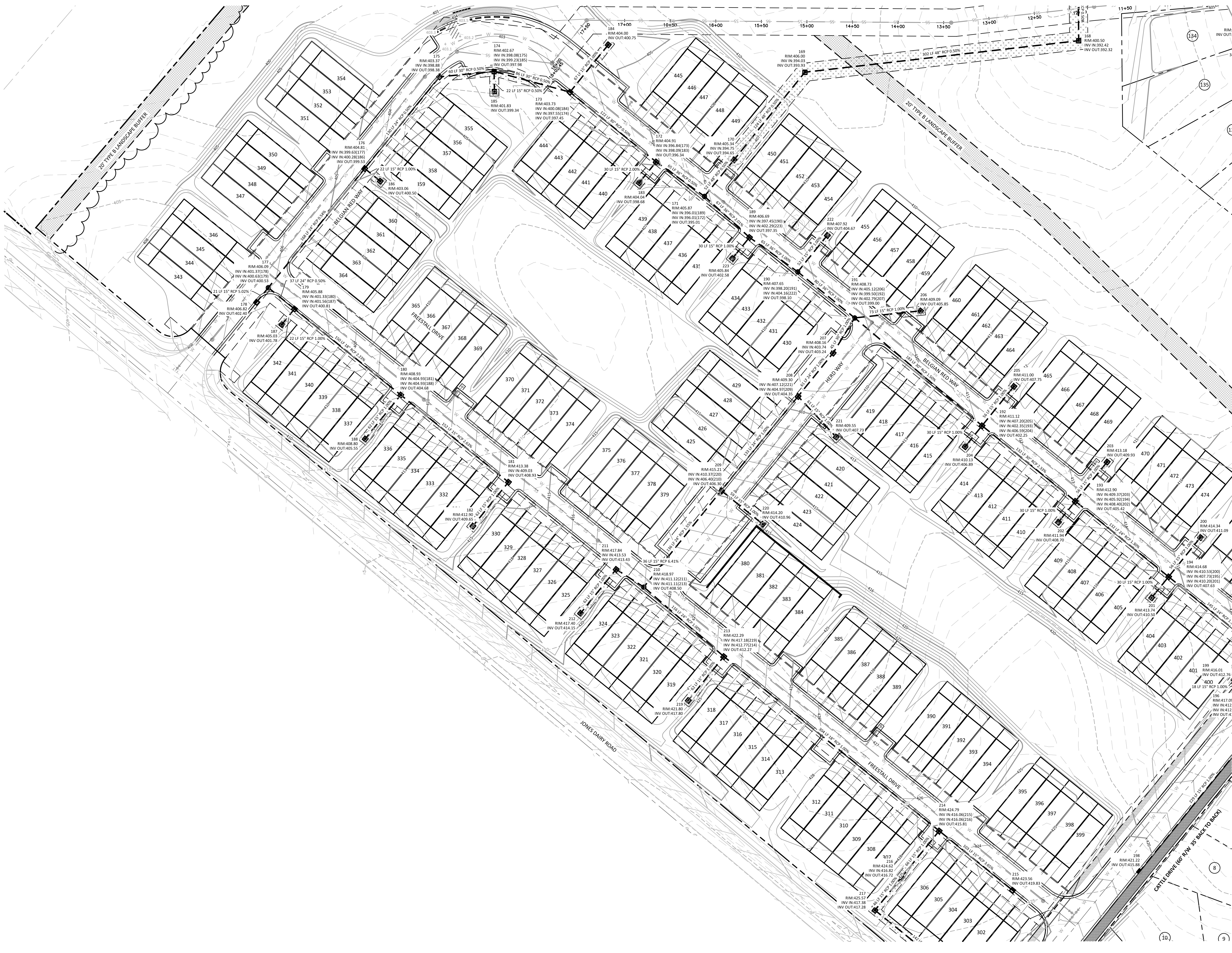


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DATE:	2023-01-27
SHEET NO:	C5.4

THIS STORM NETWORK IS PART OF THE AVERETTE ROAD WIDENING CD SUBMITTAL. FINAL STORM STRUCTURE AND PIPE SPECIFICATIONS ARE IN COORDINATION WITH NCDOT AND ARE SUBJECT TO CHANGE FROM WHAT IS SHOWN ON THESE PLANS.



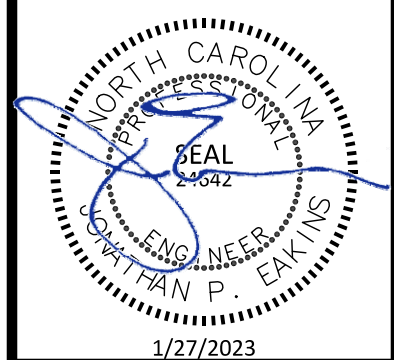
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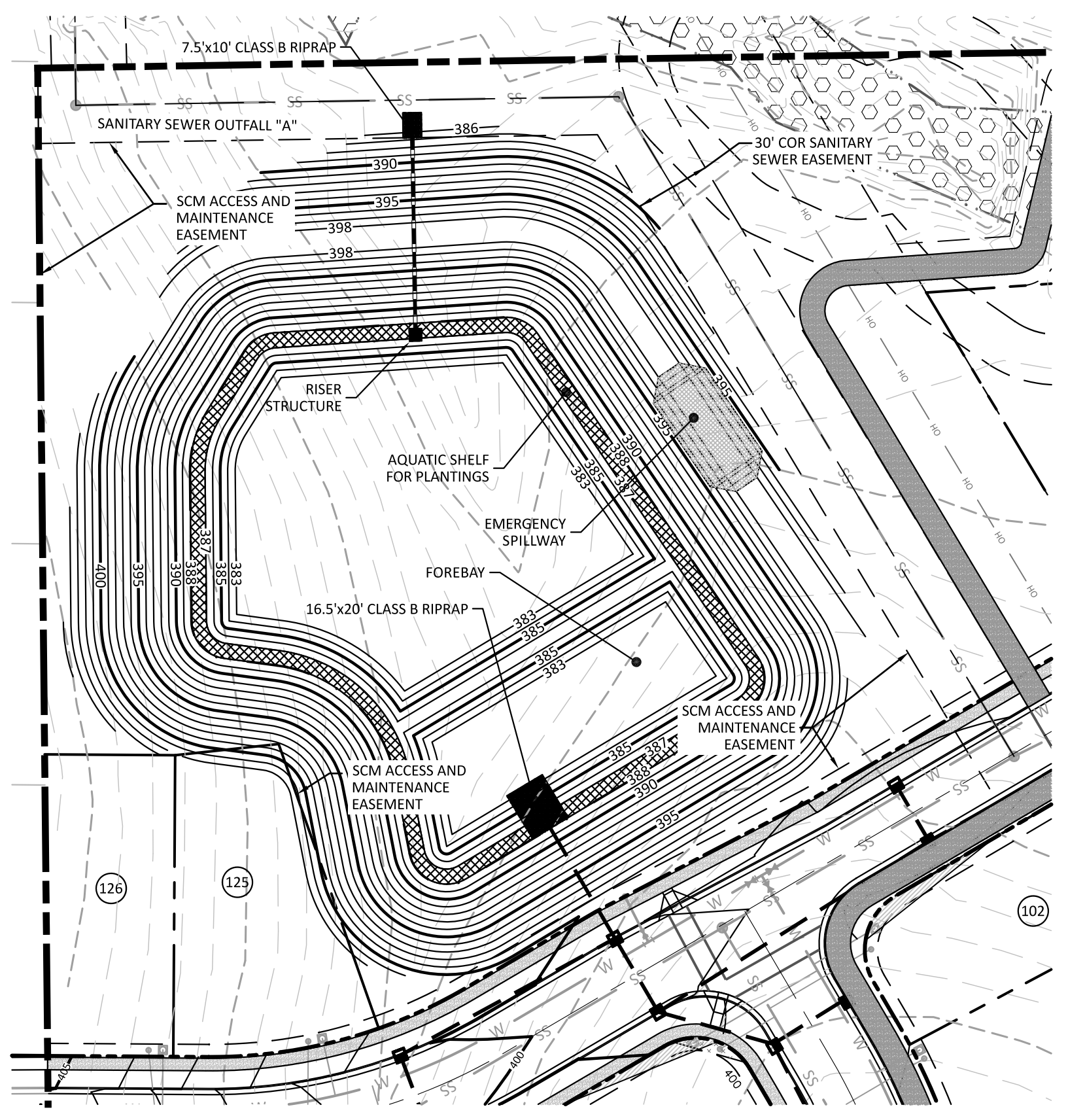
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CONSTRUCTION DRAWINGS**
ROLESVILLE, NC
DRAINAGE PLAN - WEST

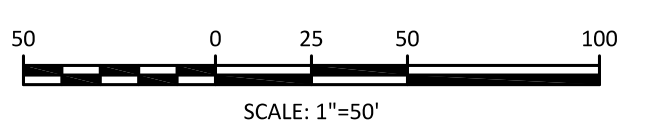


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DESIGN BY: JPE
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SCALE: 1"=50'
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SHEET NO: **C5.5**

PRELIMINARY DRAWING & SUBJECT TO CHANGE WITHOUT NOTICE



POND GRADING
SCALE: 1"=50'



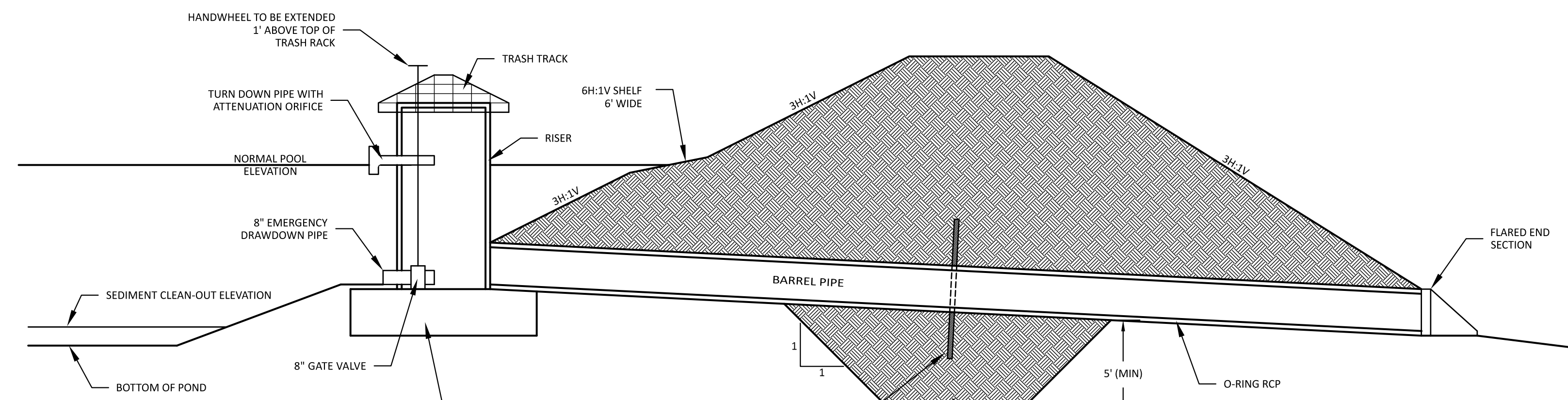
CONSTRUCTION DESIGN DATA		
DESIGN PARAMETER	DESIGN VALUE	AS-BUILT VALUE
TOP OF DAM ELEVATION	398.0	XXX
SEDIMENT CLEANOUT ELEV.	384.0	XXX
BOTTOM OF POND ELEVATION	383.0	XXX
RISER CREST ELEV.	394.0	XXX
RISER SIZE	60"x60" I.D. SQUARE	XXX
NORMAL POOL ELEVATION	388.0	XXX
ORIFICE ELEVATION	388.0	XXX
ORIFICE DIAMETER	6 IN.	XXX
BARREL DIAMETER	30 IN.	XXX
BARREL UPSTREAM INV.	387.0	XXX
BARREL DOWNSTREAM INV.	386.0	XXX
BARREL LENGTH	79 FT	XXX
SPILLWAY NOTCHES	1	XXX
NOTCH ELEVATION	392.0	XXX
EMERGENCY SPILLWAY ELEV	395.5	XXX
EMERGENCY SPILLWAY LENGTH	40 FT	XXX
ANTI-FLOTATION BLOCK SIZE	8'x8'x24" THICK	XXX
ANTI-SEEPAGE COLLAR SIZE	9'x9'	XXX

CALCULATED POND DATA		
PARAMETER	VALUE	STATUS
SURFACE AREA REQUIRED	30,892 SF	XXX
SURFACE AREA PROVIDED	32,570 SF	XXX
WQ RAINFALL VOLUME	92,605 CF	XXX
ELEV. AT WQ VOLUME	390.6	XXX
Q(1) DISCHARGE	7.5 CFS	XXX
Q(1) ELEV.	392.5	XXX
Q(10) DISCHARGE	70.1 CFS	XXX
Q(10) ELEV.	395.6	XXX
Q(100) DISCHARGE	317.6 CFS	XXX
Q(100) ELEV.	396.9	XXX

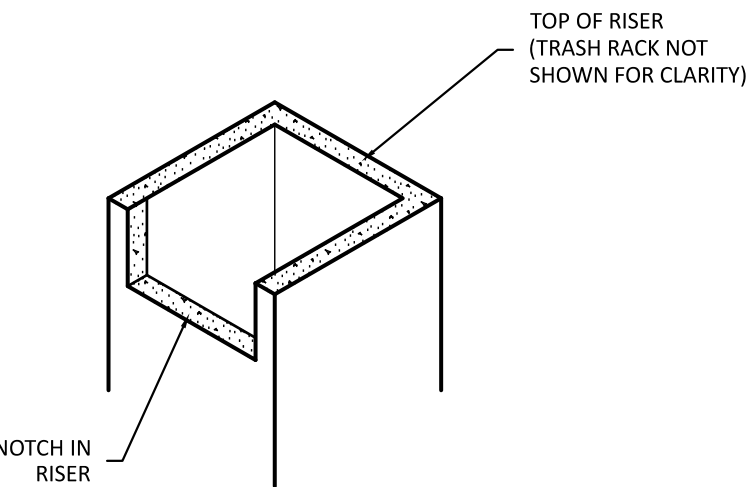
POND CONTOUR DATA		
ELEVATION	AREA	STATUS
388	32,570 SF	XXX
389	34,749 SF	XXX
390	36,983 SF	XXX
391	39,275 SF	XXX
392	41,763 SF	XXX
393	44,027 SF	XXX
394	46,488 SF	XXX
395	49,005 SF	XXX
396	51,580 SF	XXX
397	54,210 SF	XXX
398	56,897 SF	XXX

REFER TO THE STORMWATER CONTROL MEASURE DATA BLOCK ON THIS SHEET FOR ELEVATIONS, SIZES AND DIMENSIONS OF THE ELEMENTS SHOWN ON THIS SECTION

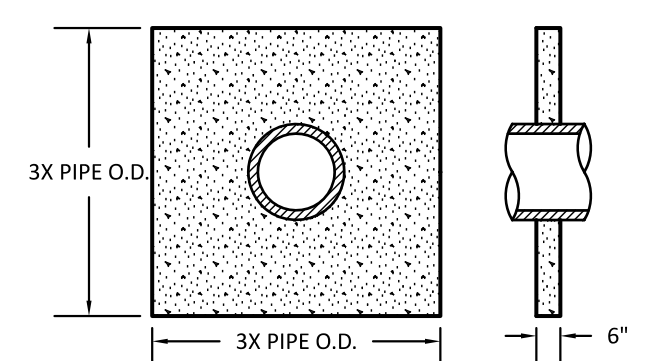
POND LINER
A POND LINER MAY BE NECESSARY FOR THE POND TO HOLD WATER BASED ON THE GEOTECHNICAL CONDITIONS PRESENT AT THE SITE. REFER TO THE GEOTECHNICAL INVESTIGATION FOR ADDITIONAL INFORMATION



TYPICAL DAM CROSS SECTION
NOT TO SCALE



NOTCH IN RISER
NOT TO SCALE



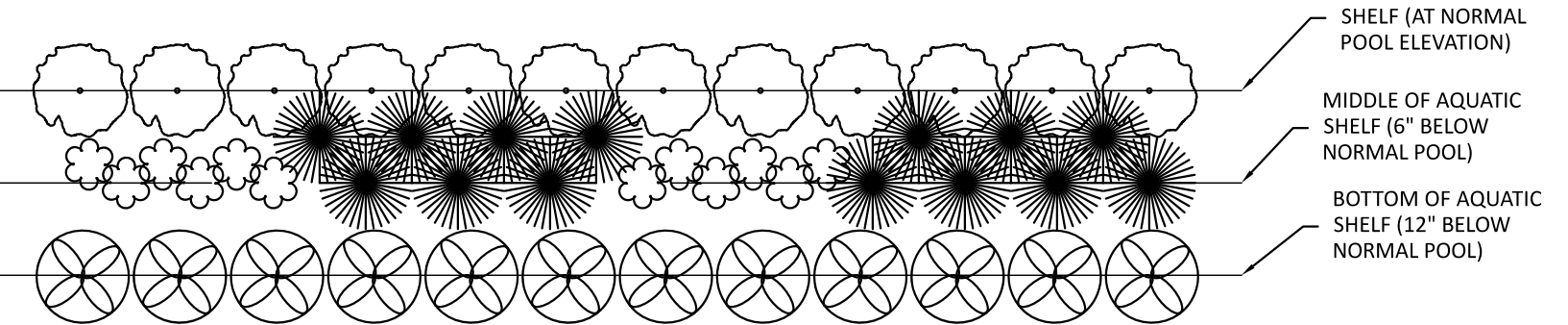
ANTI-SEEPAGE COLLAR
NOT TO SCALE

- NOTES**
- THE CONCRETE COLLAR SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 3000 PSI.
 - ANTI-SEEPAGE COLLARS SHALL BE CONNECTED TO THE BARREL PIPE WITH A WATER TIGHT JOINT.
 - INSTALL ANTI-SEEPAGE COLLAR AT THE CENTER OF THE EMBANKMENT.
 - ANTI-SEEPAGE COLLARS SHALL BE INSTALLED AT LEAST 2 FEET FROM ANY PIPE JOINT.

AQUATIC SHELF PLANTINGS

SYMBOL	TOTAL	BOTANICAL NAME	COMMON NAME
	252	PONTERDIA CORDATA	PICKERELWEED
	252	IRIS VIRGINICA	BLUE FLAG IRIS
	294	JUNCUS EFFUSUS var SOLUTUS	SOFT RUSH
	252	HIBISCUS COCCINEUS	SCARLET ROSE MALLOW

- NOTES**
- BLUE FLAG IRIS AND SOFT RUSH PERFORM BEST WHEN PLANTED IN 0" TO 2" OF WATER. THEREFORE THESE TWO VARIETIES SHOULD BE PLANTED CLOSE TO THE NORMAL POOL ELEVATION BUT STILL BELOW THE NORMAL POOL ELEVATION.



TYPICAL 200 SQUARE FOOT AQUATIC SHELF PLANTINGS
NOT TO SCALE

AREA OF SHELF	4,187 SF
REQUIRED PLANTING RATE	50 PER 200 SF OF SHELF AREA
PLANTINGS REQUIRED	1,047
PLANTINGS PROVIDED	1,050

SEEDING SPECIFICATIONS

COMPLETE GRADING BEFORE PREPARING SEEDBEDS, AND INSTALL ALL NECESSARY EROSION CONTROL PRACTICES SUCH AS, DIKES, WATERWAYS, AND BASINS. MINIMIZE STEEP SLOPES BECAUSE THEY MAKE SEEDBED PREPARATION DIFFICULT AND INCREASE THE EROSION HAZARD. IF SOILS BECOME COMPACTED DURING GRADING, LOOSEN THEM TO A DEPTH OF 6-8 INCHES USING A RIPPER, HARROW, OR CHISEL PLOW.

SEEDBED PREPARATION
GOOD SEEDBED PREPARATION IS ESSENTIAL TO SUCCESSFUL PLANT ESTABLISHMENT. A GOOD SEEDBED IS WELL-PULVERIZED, LOOSE, AND UNIFORM. WHERE HYDROSEEDING METHODS ARE USED, THE SURFACE MAY BE LEFT WITH A MORE IRREGULAR SURFACE OF LARGE CLODS AND STONES.

- LIMING—APPLY LIME ACCORDING TO SOIL TEST RECOMMENDATIONS. IF THE PH (ACIDITY) OF THE SOIL IS NOT KNOWN, AN APPLICATION OF GROUND AGRICULTURAL LIME AT THE RATE OF 1 TO 1 1/2 TONS/ACRE ON COARSE-TEXTURED SOILS AND 2-TONS/ACRE ON FINETEXTURED SOILS IS USUALLY SUFFICIENT. APPLY LIMESTONE UNIFORMLY AND INCORPORATE INTO THE TOP 4-6 INCHES OF SOIL. SOILS WITH A PH OF 6 OR HIGHER NEED NOT BE LIMED.
- FERTILIZER—BASE APPLICATION RATES ON SOIL TESTS. WHEN THESE ARE NOT POSSIBLE, APPLY A 10-10-10 GRADE FERTILIZER AT 700-1,000 LB/ACRE. BOTH FERTILIZER AND LIME SHOULD BE INCORPORATED INTO THE TOP 4-6 INCHES OF SOIL. IF A HYDRAULIC SEEDER IS USED, DO NOT MIX SEED AND FERTILIZER MORE THAN 30 MINUTES BEFORE APPLICATION.
- SURFACE ROUGHENING—IF RECENT TILLAGE OPERATIONS HAVE RESULTED IN A LOOSE SURFACE, ADDITIONAL ROUGHENING MAY NOT BE REQUIRED, EXCEPT TO BREAK UP LARGE CLODS. IF RAINFALL CAUSES THE SURFACE TO BECOME SEALED OR CRUSTED, LOOSEN IT JUST PRIOR TO SEEDING BY DISKING, RAKING, HARROWING, OR OTHER SUITABLE METHODS. GROOVE OR FURROW SLOPES STEEPER THAN 3:1 ON THE CONTOUR BEFORE SEEDING (PRACTICE 6.03, SURFACE ROUGHENING).

PLANT SELECTION
SELECT AN APPROPRIATE SPECIES OR SPECIES MIXTURE FROM TABLE 6.10A FOR SEEDING IN LATE WINTER AND EARLY SPRING. TABLE 6.10B FOR SUMMER, AND TABLE 6.10C FOR FALL. IN THE MOUNTAINS, DECEMBER AND JANUARY SEEDINGS HAVE POOR CHANCES OF SUCCESS. WHEN IT IS NECESSARY TO PLANT AT THESE TIMES, USE RECOMMENDATIONS FOR FALL AND A SECURELY TACKED MULCH.

SEEDING
EVENLY APPLY SEED USING A CYCLONE SEEDER (BROADCAST), DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. USE SEEDING RATES GIVEN IN TABLES 6.10A-6.10C. BROADCAST SEEDING AND HYDROSEEDING ARE APPROPRIATE FOR STEEP SLOPES WHERE EQUIPMENT CANNOT BE DRIVEN. HAND BROADCASTING IS NOT RECOMMENDED BECAUSE OF THE DIFFICULTY IN ACHIEVING A UNIFORM DISTRIBUTION. SMALL GRAINS SHOULD BE PLANTED NO MORE THAN 1 INCH DEEP, AND GRASSES AND LEGUMES NO MORE THAN 1/2 INCH. BROADCAST SEED MUST BE COVERED BY RAKING OR CHAIN DRAGGING, AND THEN LIGHTLY FIRMED WITH A ROLLER OR CULTIPACKER. HYDROSEEDING MIXTURES SHOULD INCLUDE A WOOD FIBER (CELLULOSE) MULCH.

- MULCHING**
THE USE OF AN APPROPRIATE MULCH WILL HELP ENSURE ESTABLISHMENT UNDER NORMAL CONDITIONS, AND IS ESSENTIAL TO SEEDING SUCCESS UNDER HARSH SITE CONDITIONS (PRACTICE 6.14, MULCHING). HARSH SITE CONDITIONS INCLUDE:
- SEEDING IN FALL FOR WINTER COVER (WOOD FIBER MULCHES ARE NOT CONSIDERED ADEQUATE FOR THIS USE).
 - SLOPES STEEPER THAN 3:1.
 - EXCESSIVELY HOT OR DRY WEATHER.
 - ADVERSE SOILS (SHALLOW, ROCKY, OR HIGH IN CLAY OR SAND), AND
 - AREAS RECEIVING CONCENTRATED FLOW.
- IF THE AREA TO BE MULCHED IS SUBJECT TO CONCENTRATED WATER FLOW, AS IN CHANNELS, ANCHOR MULCH WITH NETTING (PRACTICE 6.14, MULCHING).

FROM: DEMLR EC MANUAL SECTION 6.10 REVISED 5/13

EMERGENCY SPILLWAY GROUND COVER

THE EMERGENCY SPILLWAY SHALL BE SODDED PER THESE SPECIFICATIONS

PERMANENT SODDING

ALL SOD SHOULD BE PLACED IN ACCORDANCE WITH SECTION 6.12 OF THE DNR EROSION CONTROL MANUAL.

SPECIES:
HYBRID BERMUDAGRASS

- SOIL PREPARATION:**
APPLY LIME AT A RATE OF 100 LB PER 1,000 SF. APPLY FERTILIZER AT A RATE OF 25 LB PER 1,000 SF OF 10-10-10 IN FALL OR 5-10-10 IN SPRING.
- SOD INSTALLATION:**
- PRIOR TO LAYING SOD, CLEAR SURFACE OF SOIL OF ALL TRASH AND DEBRIS. FILL ALL LOW SPOTS TO AVOID STANDING WATER.
 - PRIOR TO INSTALLATION, STORE ALL SOD IN SHADE AND MOISTEN TO MAINTAIN VIABILITY. DELIVERY AND INSTALLATION OF SOD SHOULD TAKE PLACE WITHIN A PERIOD OF 36 HOURS.
 - DURING SUMMER, LIGHTLY IRRIGATE SOIL IMMEDIATELY BEFORE LAYING SOD.
 - LAY FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. STAGGER STRIPS IN A BRICK-LIKE PATTERN. ENSURE THAT THE SOD IS NOT STRETCHED OR OVERLAPPED. TRIM AND FIT IRREGULAR AREAS WITH A KNIFE OR SHARP SPADE.
 - INSTALL STRIPS OF SOD WITH THEIR LONGEST DIMENSION PERPENDICULAR TO THE SLOPE. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SECURE SOD WITH PEGS OR STAPLES.
 - AFTER SODDING OF AREAS IS COMPLETE, ROLL SOD TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.
 - IRRIGATE UNTIL THE SOIL IS WET 4 INCHES BELOW THE SOD. KEEP SODDED AREAS MOIST TO A DEPTH OF 4 INCHES UNTIL GRASS TAKES ROOT.
 - NO MOWING SHOULD OCCUR UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2-3 WEEKS.

MAINTENANCE:
WATER AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE. GRASS HEIGHT SHOULD BE MAINTAINED BETWEEN 1 AND 2 INCHES. APPLY FERTILIZER ANNUALLY AT A RATE OF 5-6 LB NITROGEN PER 1,000 SF.

PERMANENT SEEDING

FOR GENTLE SLOPES, SUN OR SEMI-SHADE, HIGH-MAINTENANCE, MINIMUM CARE LAWNS

SEEDING MIXTURE	RATE (LB/ACRE)
TALL FESCUE BLEND (EQUAL PARTS OF TWO OR PREFERABLY THREE TURF-TYPE TALL FESCUES)	200-500

SEEDING DATES	BEST	POSSIBLE
BELOW 2,500 FT	AUG 15 - SEPT 1	JULY 25 - SEPT 15
Above 2,500 FT	MAR 1 - APR 1 JULY 25 - AUG 15 MAR 20 - APR 20	MAR 1 - MAY 10 JULY 15 - AUG 30 MAR 5 - MAY 15

SOIL AMMENDMENTS
APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 4,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 4,000 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 AT 400 GAL/ACRE, NETTING, OR ROVING OR BY ROLLING AND WATERING

MAINTENANCE
THE BUNCH-TYPE HABIT OF TALL FESCUE RESTRICTS ITS SPREAD INTO DAMAGED AREAS. RESEED BARE SPOTS IN THE FALL. RESEED, FERTILIZE, AND MULCH DAMAGED AREAS IMMEDIATELY.

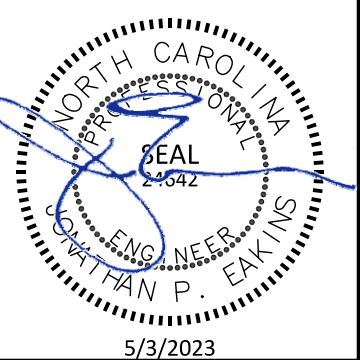
NOTE: PERMANENT SEEDING NOTED ABOVE IS ONLY FOR AREAS NOT COVERED WITH SOD

The Nau Company
Consulting Civil Engineers
PO Box 810, Rolesville, NC 27571
919-435-6395
NCBELS License P-0751

CLIENT:
PRESERVE AT JONES DAIRY, LLC
10534 ARNOLD PALMER DRIVE
RALEIGH, NC 27617 919-491-0761

REVISIONS	DATE	DESCRIPTION
1	2023-01-17	REVISIONS PER DOT COMMENTS FOR WATER LINE CONNECTIONS
2	2023-01-23	REVISED STORM MAIN (REAR WALKS OF 10534-230 TO 10534)
3	2023-01-23	TOWARDS FIGHTING BULL DRIVE
4	2023-01-24	REVISED PHASE LINES
5	2023-01-26	REVISED STORM PIPE DATA FROM STORM STRUCTURES (DA TO 100)
6	2023-05-03	REVISED POND GRADING AND REVISIONS PER TOWN REVIEW
7	2023-05-03	REVISED POND GRADING

PRESERVE AT JONES DAIRY - CENTRAL CONSTRUCTION DRAWINGS
ROLESVILLE, NC
POND #1 GRADING PLAN



PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: RSF
SCALE: AS NOTED
DATE: 2023-01-27
SHEET NO: **C6.1**

TRASH RACK DETAIL

NOT TO SCALE

- NOTES**
- THE TRASH RACK SHALL BE CONSTRUCTED OF #4 REBAR
 - THE TRASH RACK SHALL BE ATTACHED TO THE RISER WITH FOUR ANGLES GALVANIZED STEEL CLAMPS
 - THE TRASH RACK WILL BE PROVIDED WITH A HINGED ACCESS HATCH PROVIDED BY THE FABRICATOR.

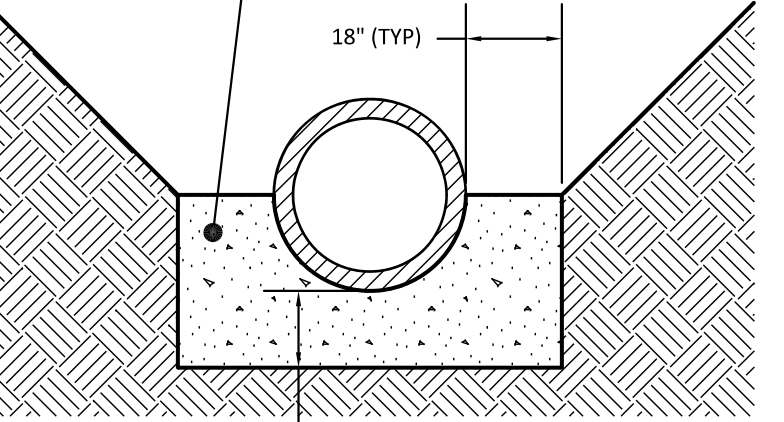
CONCRETE CRADLE ALTERNATE

THE CONTRACTOR MAY CHOOSE TO ELIMINATE THE CONCRETE CRADLE AND USE COMPACTED BACKFILL. IF THE CONCRETE CRADLE IS NOT USED THE COMPACTED BACKFILL MUST BE PLACED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

POND CERTIFICATION REQUIREMENTS

THE CONTRACTOR SHALL NOTE THAT THE FOLLOWING DOCUMENTATION IS REQUIRED FOR CERTIFICATION OF THIS POND. ADDITIONAL ITEMS MAY BE REQUIRED DEPENDING ON THE REVIEWING AUTHORITY.

- AN AS-BUILT SURVEY WITH BARREL PIPE INVERTS AND DIAMETER, RISER DIMENSIONS AND CREST ELEVATION, ORIFICE ELEVATION(S) AND DIAMETER(S)
- AN AS-BUILT TOPOGRAPHIC SURVEY OF THE POND AT ONE FOOT CONTOUR INTERVALS, INCLUDING THE TOP OF EMBANKMENT AND DOWNSTREAM SLOPE(S) OF THE EMBANKMENT
- COMPACTION TESTS PERFORMED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. THIS SHOULD INCLUDE COMPACTION TESTS OF SOIL UNDER THE BARREL PIPE IF THE CONCRETE CRADLE WAS NOT USED.
- VERIFICATION OF ANTI-SEEPAGE COLLAR SIZE AND INSTALLATION
- VERIFICATION OF ANTI-FLOTATION BLOCK DIMENSIONS AND INSTALLATION

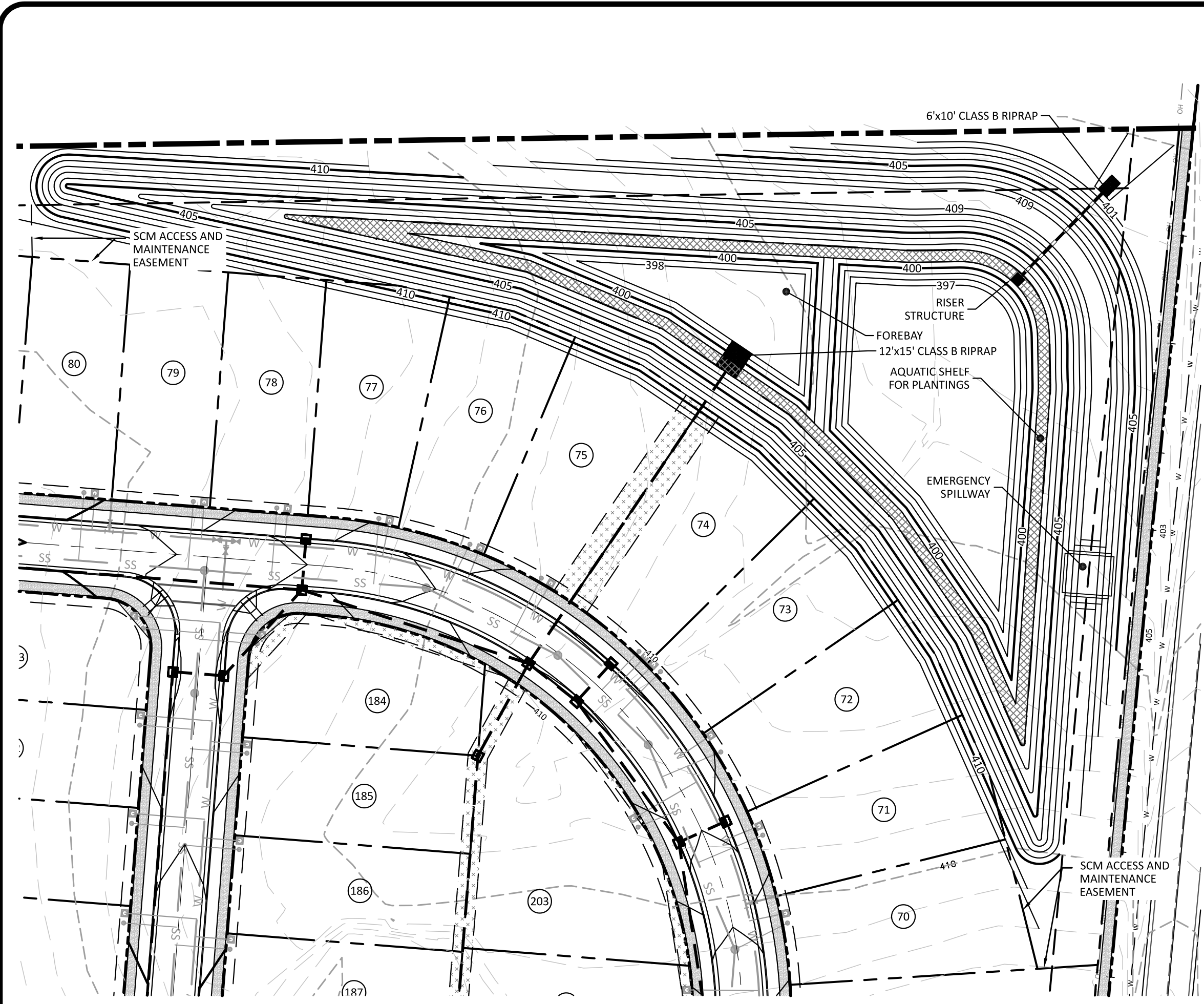


CONCRETE CRADLE DETAIL

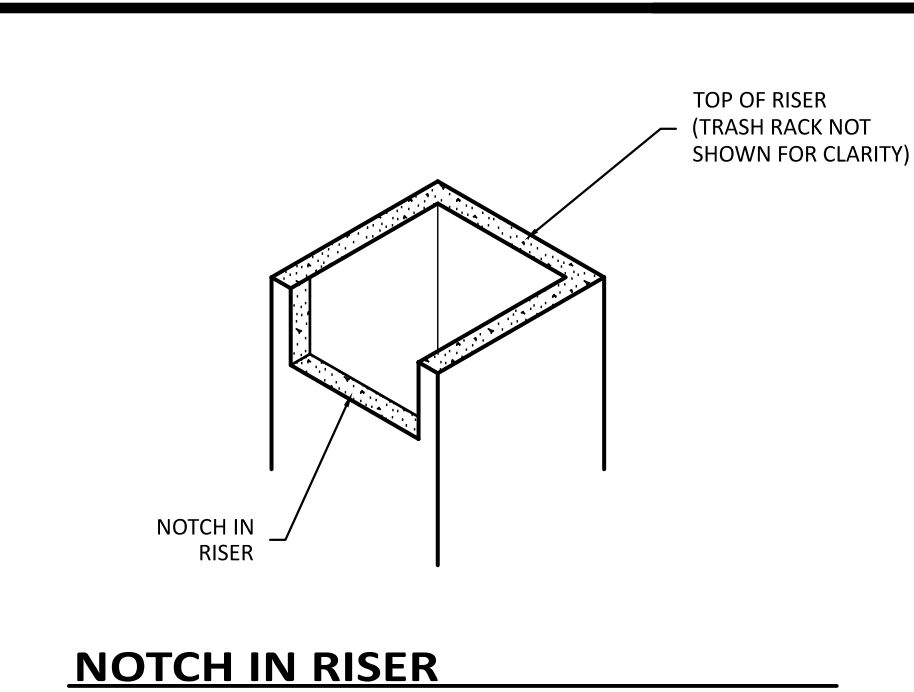
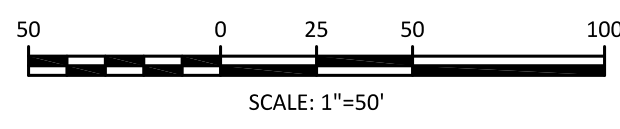
NOT TO SCALE

- CONCRETE CRADLE NOTES**
- EXCAVATE TRENCH FOR THE CONCRETE CRADLE AND BARREL PER THE DIMENSIONS ON THE CONCRETE CRADLE DETAIL.
 - PLACE BARREL PIPE ON CONCRETE BLOCKS TO ACHIEVE SLOPE AND INVERTS NOTED ON THE POND DETAIL SHEET.
 - PLACE 2 FOOT WIDE STRIPS OF FILTER FABRIC OVER PIPE JOINTS BEFORE PLACING FLOWABLE FILL.
 - PLACE FLOWABLE FILL AS ONE LIFT UP TO THE SPRINGLINE OF THE PIPE.
 - ALLOW CRADLE TO CURE FOR AT LEAST 7 DAY BEFORE USING ANY VIBRATING EQUIPMENT IN THE VICINITY OF THE PIPE.

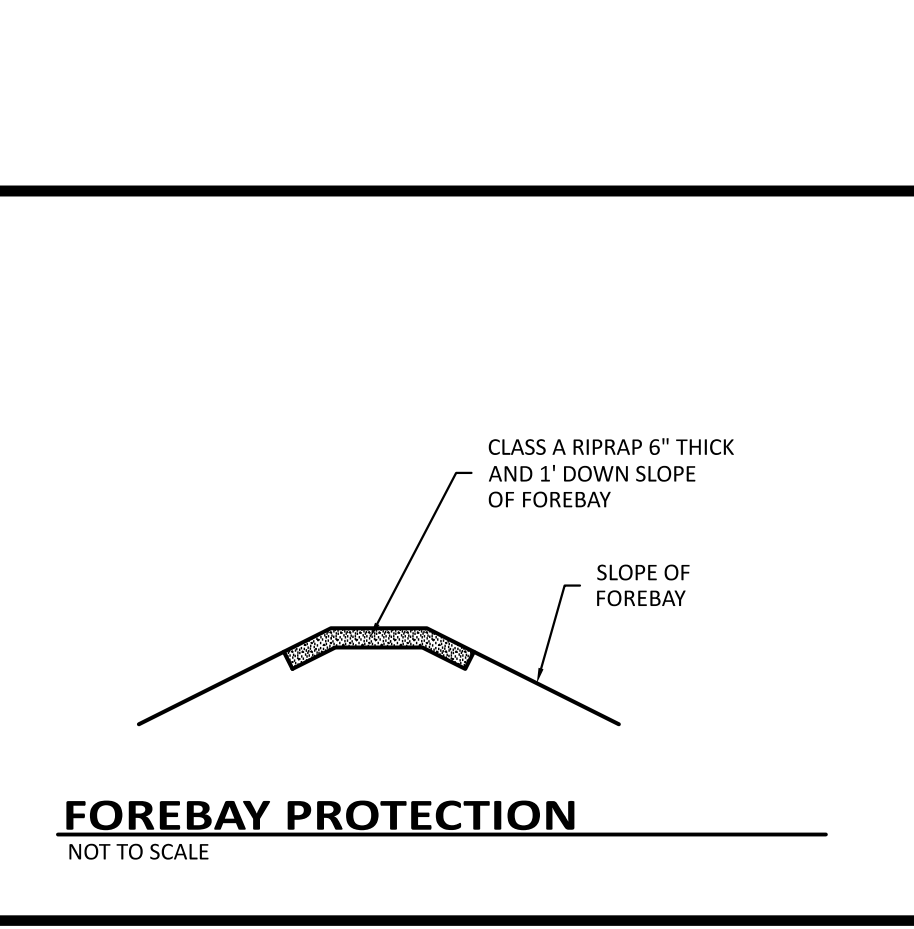
FINAL DRAWING - RELEASED FOR CONSTRUCTION



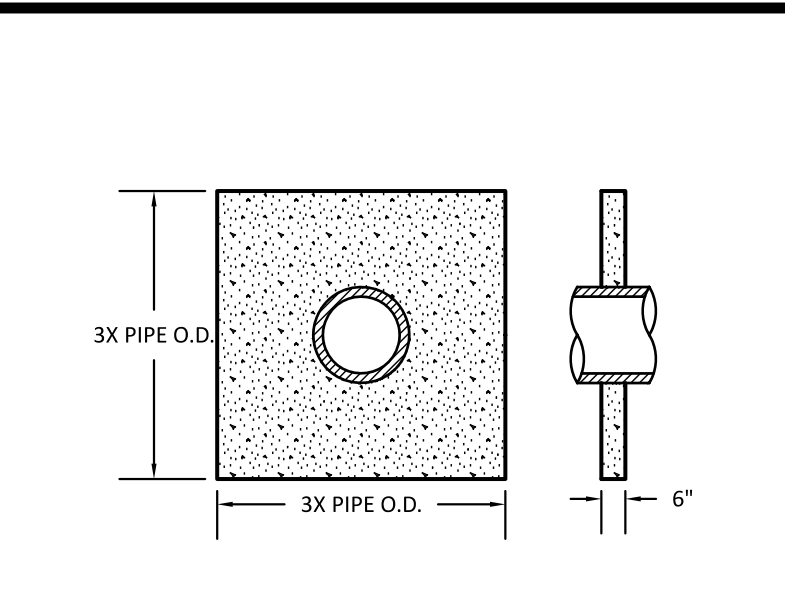
POND GRADING
SCALE: 1"=50'



NOTCH IN RISER
NOT TO SCALE



FOREBAY PROTECTION
NOT TO SCALE



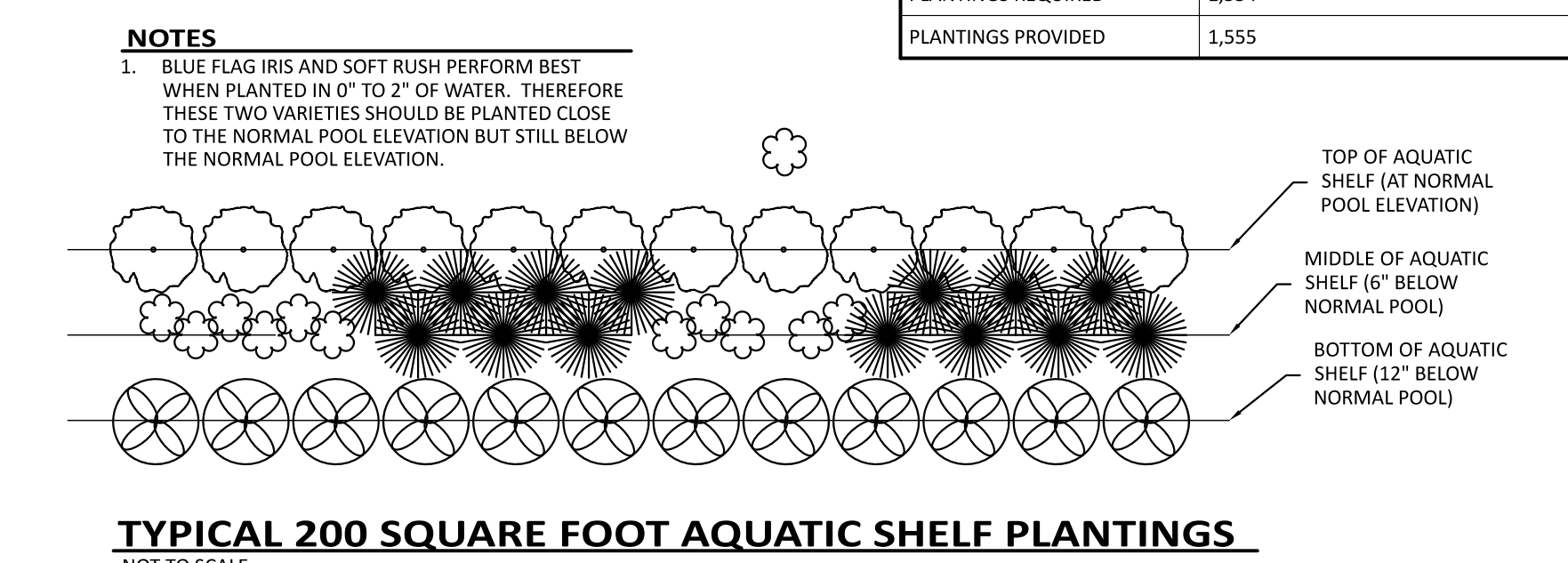
ANTI-SEEPAGE COLLAR
NOT TO SCALE

- NOTES**
1. THE CONCRETE COLLAR SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 3000 PSI.
 2. ANTI-SEEPAGE COLLARS SHALL BE CONNECTED TO THE BARREL PIPE WITH A WATER TIGHT JOINT.
 3. INSTALL ANTI-SEEPAGE COLLAR AT THE CENTER OF THE EMBANKMENT.
 4. ANTI-SEEPAGE COLLARS SHALL BE INSTALLED AT LEAST 2 FEET FROM ANY PIPE JOINT.

AQUATIC SHELF PLANTINGS

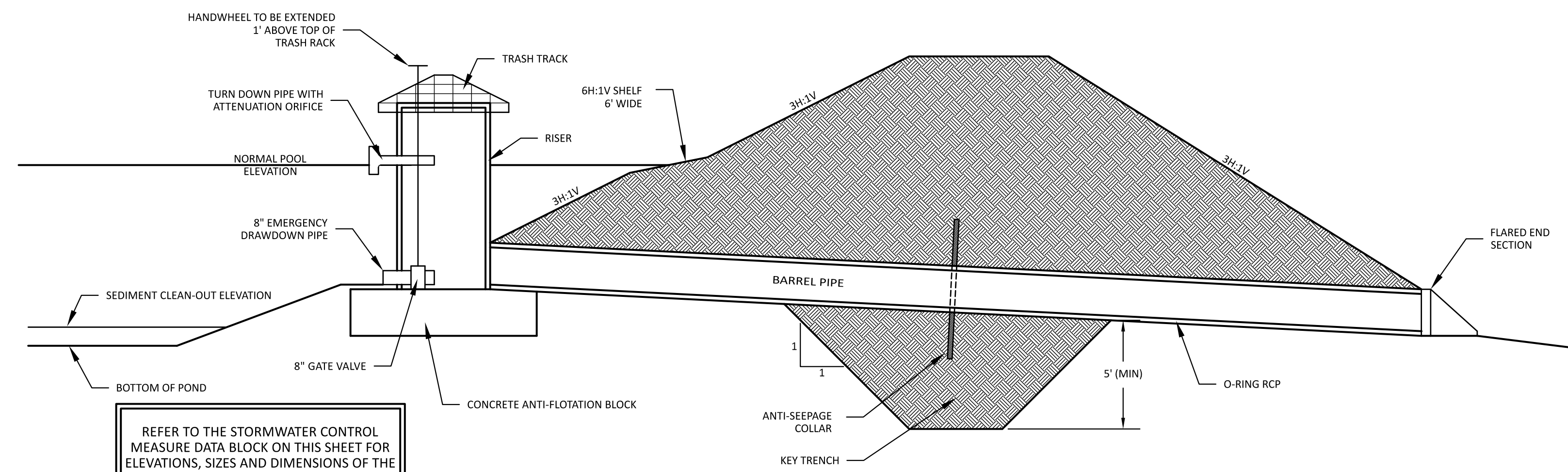
SYMBOL	TOTAL	BOTANICAL NAME	COMMON NAME
	373	PONTERIA CORDATA	PICKERELWEED
	373	IRIS VIRGINICA	BLUE FLAG IRIS
	436	JUNCUS EFFUSUS var SOLLUTUS	SOFT RUSH
	373	HIBISCUS COCCINEUS	SCARLET ROSE MALLOW

AREA OF SHELF	6,216 SF
REQUIRED PLANTING RATE	50 PER 200 SF OF SHELF AREA
PLANTINGS REQUIRED	1,554
PLANTINGS PROVIDED	1,555



CONSTRUCTION DESIGN DATA

DESIGN PARAMETER	DESIGN VALUE	AS-BUILT VALUE
TOP OF DAM ELEVATION	409.0	XXX
SEDIMENT CLEANOUT ELEV.	398.0	XXX
BOTTOM OF POND ELEVATION	397.0	XXX
RISER CREST ELEV.	405.5	XXX
RISER SIZE	48"x48" I.D. SQUARE	XXX
NORMAL POOL ELEVATION	402.0	XXX
ORIFICE ELEVATION	402.0	XXX
ORIFICE DIAMETER	5 IN.	XXX
BARREL DIAMETER	24 IN.	XXX
BARREL UPSTREAM INV.	401.0	XXX
BARREL DOWNSTREAM INV.	400.0	XXX
BARREL LENGTH	62 FT	XXX
SPILLWAY NOTCHES	1	XXX
NOTCH ELEVATION	404.0	XXX
EMERGENCY SPILLWAY ELEV.	406.5	XXX
EMERGENCY SPILLWAY LENGTH	20 FT	XXX
ANTI-FLOTATION BLOCK SIZE	6"x6"x18" THICK	XXX
ANTI-SEEPAGE COLLAR SIZE	7.5'x7.5'	XXX
CALCULATED POND DATA		
SURFACE AREA REQUIRED	23,548 SF	XXX
SURFACE AREA PROVIDED	28,467 SF	XXX
WQ RAINFALL VOLUME	55,383 CF	XXX
ELEV. AT WQ VOLUME	403.7	XXX
Q(1) DISCHARGE	7.1 CFS	XXX
Q(1) ELEV.	404.6	XXX
Q(10) DISCHARGE	38.8 CFS	XXX
Q(10) ELEV.	406.7	XXX
Q(100) DISCHARGE	156.7 CFS	XXX
Q(100) ELEV.	407.9	XXX
POND CONTOUR DATA		
ELEVATION	AREA	XXX
402	28,467 SF	XXX
403	32,027 SF	XXX
404	35,893 SF	XXX
405	40,060 SF	XXX
406	44,364 SF	XXX
407	48,732 SF	XXX
408	53,157 SF	XXX
409	57,638 SF	XXX



TYPICAL DAM CROSS SECTION
NOT TO SCALE

REFER TO THE STORMWATER CONTROL MEASURE DATA BLOCK ON THIS SHEET FOR ELEVATIONS, SIZES AND DIMENSIONS OF THE ELEMENTS SHOWN ON THIS SECTION

POND LINER
A POND LINER MAY BE NECESSARY FOR THE POND TO HOLD WATER BASED ON THE GEOTECHNICAL CONDITIONS PRESENT AT THE SITE. REFER TO THE GEOTECHNICAL INVESTIGATION FOR ADDITIONAL INFORMATION

SEEDING SPECIFICATIONS

COMPLETE GRADING BEFORE PREPARING SEEDBEDS, AND INSTALL ALL NECESSARY EROSION CONTROL PRACTICES SUCH AS, DIKES, WATERWAYS, AND BASINS. MINIMIZE STEEP SLOPES BECAUSE THEY MAKE SEEDBED PREPARATION DIFFICULT AND INCREASE THE EROSION HAZARD. IF SOILS BECOME COMPACTED DURING GRADING, LOOSEN THEM TO A DEPTH OF 6-8 INCHES USING A RIPPER, HARROW, OR CHISEL PLOW.

SEEDBED PREPARATION
GOOD SEEDBED PREPARATION IS ESSENTIAL TO SUCCESSFUL PLANT ESTABLISHMENT. A GOOD SEEDBED IS WELL-PULVERIZED, LOOSE, AND UNIFORM. WHERE HYDROSEEDING METHODS ARE USED, THE SURFACE MAY BE LEFT WITH A MORE IRREGULAR SURFACE OF LARGE CLODS AND STONES.

- LIMING—APPLY LIME ACCORDING TO SOIL TEST RECOMMENDATIONS. IF THE PH (ACIDITY) OF THE SOIL IS NOT KNOWN, AN APPLICATION OF GROUND AGRICULTURAL LIMESTONE AT THE RATE OF 1 TO 1 1/2 TONS/ACRE ON COARSE-TEXTURED SOILS AND 2-3 TONS/ACRE ON FINETEXTURED SOILS IS USUALLY SUFFICIENT. APPLY LIMESTONE UNIFORMLY AND INCORPORATE INTO THE TOP 4-6 INCHES OF SOIL. SOILS WITH A PH OF 6 OR HIGHER NEED NOT BE LIMED.
- FERTILIZER—BASE APPLICATION RATES ON SOIL TESTS. WHEN THESE ARE NOT POSSIBLE, APPLY A 10-10-10 GRADE FERTILIZER AT 700-1,000 LB/ACRE. BOTH FERTILIZER AND LIME SHOULD BE INCORPORATED INTO THE TOP 4-6 INCHES OF SOIL IF A HYDRAULIC SEEDER IS USED, DO NOT MIX SEED AND FERTILIZER MORE THAN 30 MINUTES BEFORE APPLICATION.
- SURFACE ROUGHENING—IF RECENT TILLAGE OPERATIONS HAVE RESULTED IN A LOOSE SURFACE, ADDITIONAL ROUGHENING MAY NOT BE REQUIRED, EXCEPT TO BREAK UP LARGE CLODS. IF RAINFALL CAUSES THE SURFACE TO BECOME SEALED OR CRUSTED, LOOSEN IT JUST PRIOR TO SEEDING BY DISKING, RAKING, HARROWING, OR OTHER SUITABLE METHODS. GROOVE OR FURROW SLOPES STEEPER THAN 3:1 ON THE CONTOUR BEFORE SEEDING (PRACTICE 6.03, SURFACE ROUGHENING).

PLANT SELECTION
SELECT AN APPROPRIATE SPECIES OR SPECIES MIXTURE FROM TABLE 6.10A FOR SEEDING IN LATE WINTER AND EARLY SPRING, TABLE 6.10B FOR SUMMER, AND TABLE 6.10C FOR FALL. IN THE MOUNTAINS, DECEMBER AND JANUARY SEEDINGS HAVE POOR CHANCES OF SUCCESS. WHEN IT IS NECESSARY TO PLANT AT THESE TIMES, USE RECOMMENDATIONS FOR FALL AND A SECURELY TACKED MULCH.

SEEDING
EVENLY APPLY SEED USING A CYCLONE SEEDER (BROADCAST), DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. USE SEEDING RATES GIVEN IN TABLES 6.10A-6.10C. BROADCAST SEEDING AND HYDROSEEDING ARE APPROPRIATE FOR STEEP SLOPES WHERE EQUIPMENT CANNOT BE DRIVEN. HAND BROADCASTING IS NOT RECOMMENDED BECAUSE OF THE DIFFICULTY IN ACHIEVING A UNIFORM DISTRIBUTION. SMALL GRAINS SHOULD BE PLANTED NO MORE THAN 1 INCH DEEP. GRASSES AND LEGUMES NO MORE THAN 1/2 INCH. BROADCAST SEED MUST BE COVERED BY RAKING OR CHAIN DRAGGING, AND THEN LIGHTLY FIRMED WITH A ROLLER OR CULTIPACKER. HYDROSEED MIXTURES SHOULD INCLUDE A WOOD FIBER (CELLULOSE) MULCH.

MULCHING
THE USE OF AN APPROPRIATE MULCH WILL HELP ENSURE ESTABLISHMENT UNDER NORMAL CONDITIONS, AND IS ESSENTIAL TO SEEDING SUCCESS UNDER HARSH SITE CONDITIONS (PRACTICE 6.14, MULCHING). HARSH SITE CONDITIONS INCLUDE:

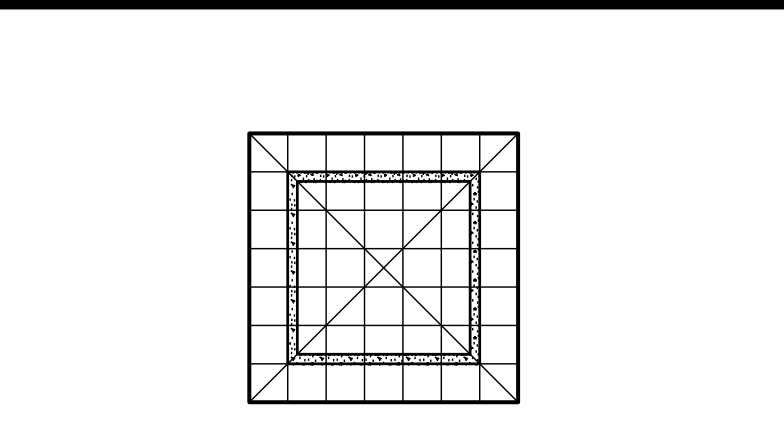
- SEEDING IN FALL FOR WINTER COVER (WOOD FIBER MULCHES ARE NOT CONSIDERED ADEQUATE FOR THIS USE).
- SLOPES STEEPER THAN 3:1.
- EXCESSIVELY HOT OR DRY WEATHER.
- ADVERSE SOILS (SHALLOW, ROCKY, OR HIGH IN CLAY OR SAND), AND
- AREAS RECEIVING CONCENTRATED FLOW.

IF THE AREA TO BE MULCHED IS SUBJECT TO CONCENTRATED WATERFLOW, AS IN CHANNELS, ANCHOR MULCH WITH NETTING (PRACTICE 6.14, MULCHING).

FROM: DEMLR EC MANUAL SECTION 6.10 REVISED 5/13

EMERGENCY SPILLWAY GROUND COVER

THE EMERGENCY SPILLWAY SHALL BE SODDED PER THESE SPECIFICATIONS



TRASH RACK DETAIL
NOT TO SCALE

- NOTES**
1. THE TRASH RACK SHALL BE CONSTRUCTED OF #4 REBAR
 2. THE TRASH RACK SHALL BE ATTACHED TO THE RISER WITH FOUR PLACING STRIPS OR GALVANIZED STEEL CLAMPS
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2. AN AS-BUILT TOPOGRAPHIC SURVEY OF THE POND AT ONE FOOT CONTOUR INTERVALS, INCLUDING THE TOP OF EMBANKMENT AND DOWNSTREAM SLOPE(S) OF THE EMBANKMENT
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4. VERIFICATION OF ANTI-SEEPAGE COLLAR SIZE AND INSTALLATION
5. VERIFICATION OF ANTI-FLOTATION BLOCK DIMENSIONS AND INSTALLATION

PERMANENT SODDING

ALL SOD SHOULD BE PLACED IN ACCORDANCE WITH SECTION 6.12 OF THE DENR EROSION CONTROL MANUAL.

SPECIES:
HYBRID BERMUDAGRASS

SOIL PREPARATION:
APPLY LIME AT A RATE OF 100 LB PER 1,000 SF. APPLY FERTILIZER AT A RATE OF 25 LB PER 1,000 SF OF 10-10-10 IN FALL OR 5-10-10 IN SPRING.

- SOD INSTALLATION:**
1. PRIOR TO LAYING SOD, CLEAR SURFACE OF SOIL OF ALL TRASH AND DEBRIS. FILL ALL LOW SPOTS TO AVOID STANDING WATER.
 2. PRIOR TO INSTALLATION, STORE ALL SOD IN SHADE AND MOISTEN TO MAINTAIN VIABILITY. DELIVERY AND INSTALLATION OF SOD SHOULD TAKE PLACE WITHIN A PERIOD OF 36 HOURS.
 3. DURING SUMMER, LIGHTLY IRRIGATE SOIL IMMEDIATELY BEFORE LAYING SOD.
 4. LAY FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH OTHER. STAGGER STRIPS IN A BRICK-LIKE PATTERN. ENSURE THAT THE SOD IS NOT STRETCHED OR OVERLAPPED. TRIM AND FIT IRREGULAR AREAS WITH A KNIFE OR SHARP SPADE.
 5. INSTALL STRIPS OF SOD WITH THEIR LONGEST DIMENSION PERPENDICULAR TO THE SLOPE. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SECURE SOD WITH PEGS OR STAPLES.
 6. AFTER SODDING OF AREAS IS COMPLETE, ROLL SOD TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL.
 7. IRRIGATE UNTIL THE SOIL IS WET 4 INCHES BELOW THE SOD. KEEP SODDED AREAS MOIST TO A DEPTH OF 4 INCHES UNTIL GRASS TAKES ROOT.
 8. NO MOWING SHOULD OCCUR UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2-3 WEEKS.

MAINTENANCE:
WATER AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE. GRASS HEIGHT SHOULD BE MAINTAINED BETWEEN 1 AND 2 INCHES. APPLY FERTILIZER ANNUALLY AT A RATE OF 5-6 LB NITROGEN PER 1,000 SF.

PERMANENT SEEDING

FOR GENTLE SLOPES, SUN OR SEMI-SHADE, HIGH-MAINTENANCE, MINIMUM CARE LAWNS

SEEDING MIXTURE

SPECIES	RATE (LB/ACRE)
TALL FESCUE BLEND (EQUAL PARTS OF TWO OR PREFERABLY THREE TURF-TYPE TALL FESCUES)	200-500

SEEDING DATES

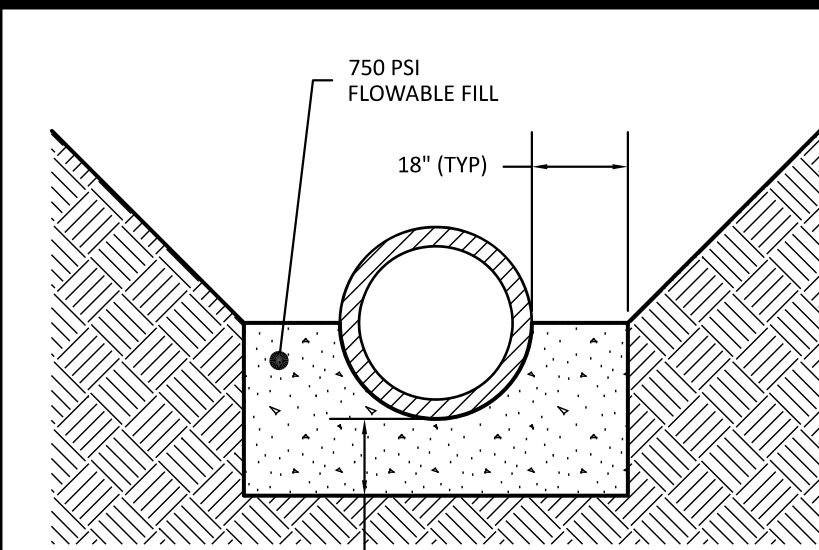
BELOW 2,500 FT	BEST AUG 15 - SEPT 1	POSSIBLE JULY 25 - SEPT 15
ABOVE 2,500 FT	MAR 1 - APR 1	MAR 1 - MAY10
	JULY 25 - AUG 15	JULY 15 - AUG 30
	MAR 20 - APR 20	MAR 5 - MAY 15

SOIL AMMENDMENTS
APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY 4,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 4,000 LB/ACRE 10-10-10 FERTILIZER.

MULCH
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THE BUNCH-TYPE HABIT OF TALL FESCUE RESTRICTS ITS SPREAD INTO DAMAGED AREAS. RESEED BARE SPOTS IN THE FALL. RESEED, FERTILIZE, AND MULCH DAMAGED AREAS IMMEDIATELY.

NOTE: PERMANENT SEEDING NOTED ABOVE IS ONLY FOR AREAS NOT COVERED WITH SOD



CONCRETE CRADLE DETAIL
NOT TO SCALE

- CONCRETE CRADLE NOTES**
1. EXCAVATE TRENCH FOR THE CONCRETE CRADLE AND BARREL PER THE DIMENSIONS ON THE CONCRETE CRADLE DETAIL.
 2. PLACE BARREL PIPE ON CONCRETE BLOCKS TO ACHIEVE SLOPE AND INVERTS NOTED ON THE POND DETAIL SHEET.
 3. PLACE 2 FOOT WIDE STRIPS OF FILTER FABRIC OVER PIPE JOINTS BEFORE PLACING FLOWABLE FILL.
 4. PLACE FLOWABLE FILL AS ONE LIFT UP TO THE SPRINGLINE OF THE PIPE.
 5. ALLOW CRADLE TO CURE FOR AT LEAST 7 DAY BEFORE USING ANY VIBRATING EQUIPMENT IN THE VICINITY OF THE PIPE.

CONCRETE CRADLE ALTERNATE
THE CONTRACTOR MAY CHOOSE TO ELIMINATE THE CONCRETE CRADLE AND USE COMPACTED BACKFILL. IF THE CONCRETE CRADLE IS NOT USED THE COMPACTED BACKFILL MUST BE PLACED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

The Nau Company
Consulting Civil Engineers

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919-435-6395
NCBELS License P-0751

CLIENT: PRESERVE AT JONES DAIRY, LLC
10534 ARNOLD PALMER DRIVE
RALEIGH, NC 27617 919-491-0761

REVISIONS

NO.	DATE	REVISION

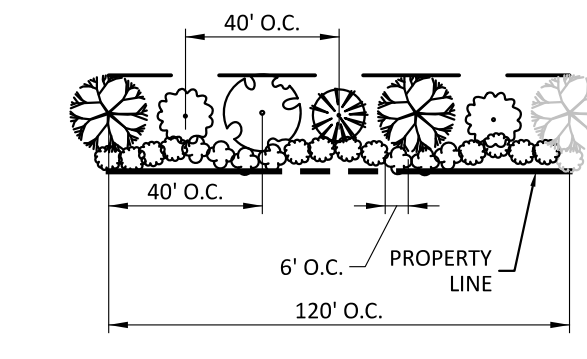
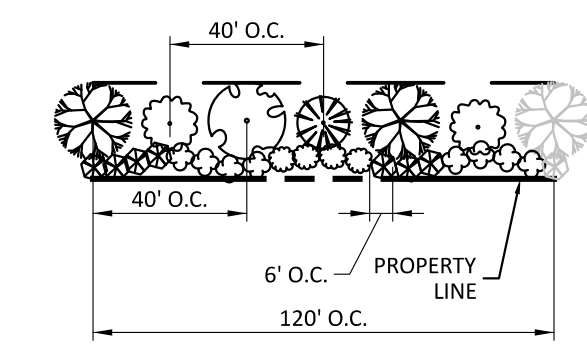
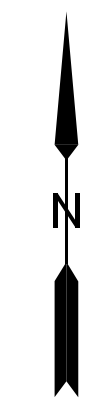
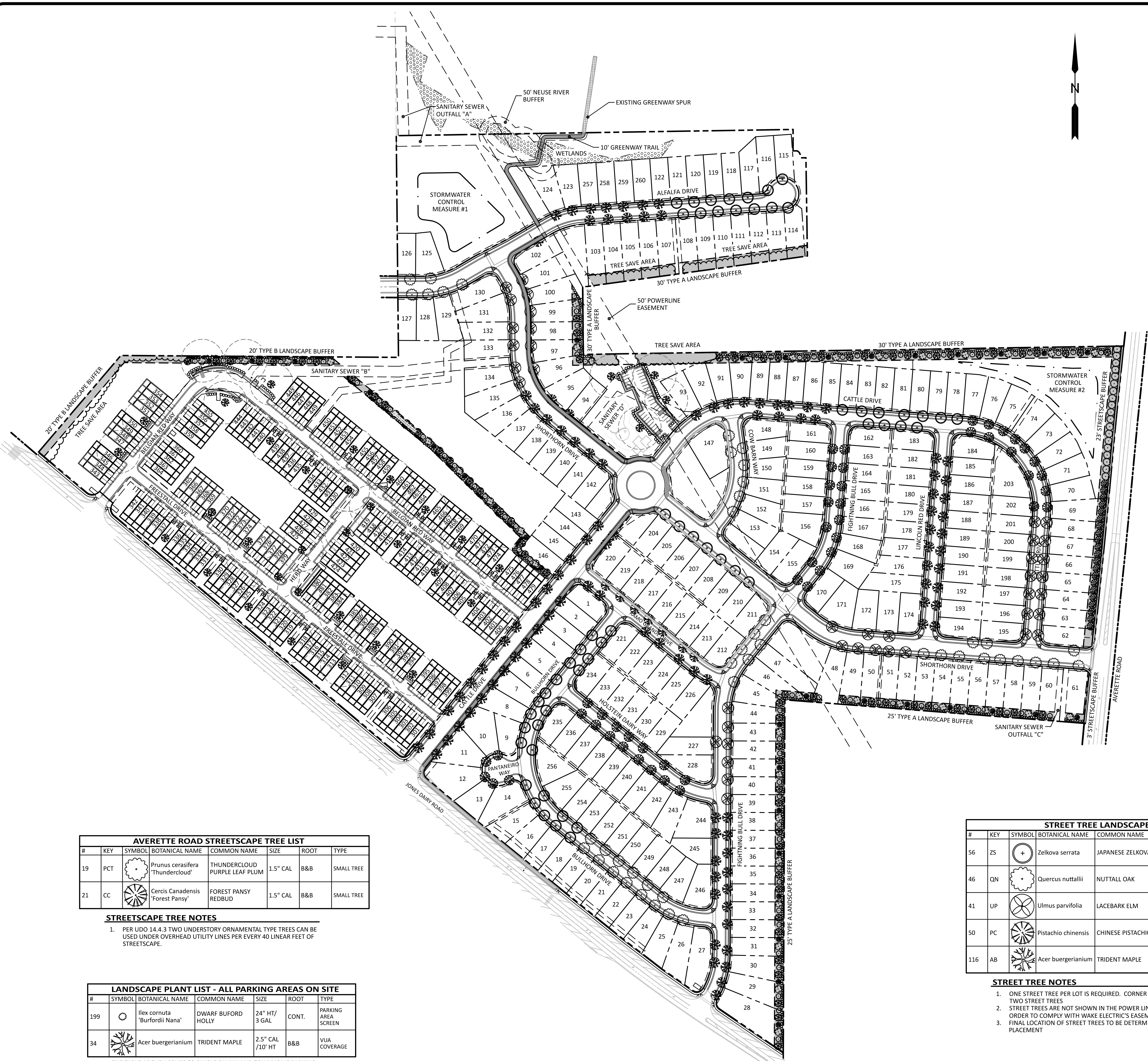
PROJECT NO: ---

POND #2 GRADING PLAN

PRESERVE AT JONES DAIRY - CENTRAL
CONSTRUCTION DRAWINGS

ROLESVILLE, NC

DESIGN BY: JPE
DRAWN BY: RSF
SCALE: AS NOTED
DATE: 2023-01-27
SHEET NO: **C6.2**



TYPE "B" BUFFER LANDSCAPE PLANT LIST						
#	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	TYPE
78		<i>Ilex glabra</i>	Inkberry Holly	24" HT/ 3 GAL	CONT.	EVERGREEN SHRUB
32		<i>Berberis julianae</i>	Wintergreen Barberry	24" HT/ 3 GAL	CONT.	EVERGREEN SHRUB
80		<i>Osmanthus heterophyllus</i>	Holly Osmanthus	24" HT/ 3 GAL	CONT.	EVERGREEN SHRUB
10		<i>Cercis canadensis</i>	Forest Pansy Redbud	1.5" CAL/ 8" HT	B&B	UNDERSTORY TREE
20		<i>Magnolia stellata</i>	Star Magnolia	1.5" CAL/ 8" HT	B&B	UNDERSTORY TREE
10		<i>Quercus phellos</i>	Willow Oak	2.5" CAL/ 10' HT	B&B	CANOPY TREE
21		<i>Quercus nuttalli</i>	Nuttall Oak	2.5" CAL/ 10' HT	B&B	CANOPY TREE

GROUND COVER IN BUFFER AREA SHALL BE MULCH/PINE STRAW

TYPE "A" BUFFER LANDSCAPE PLANT LIST						
#	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	TYPE
306		<i>Ligustrum japonicum</i>	Curley-leaf Privet	24" HT/ 3 GAL	CONT.	EVERGREEN SHRUB
176		<i>Osmanthus heterophyllus</i>	Holly Osmanthus	24" HT/ 3 GAL	CONT.	EVERGREEN SHRUB
46		<i>Viburnum awabuki</i>	Chindo Viburnum	1.5" CAL/ 8" HT	B&B	LARGE SCREENING SHRUB
71		<i>Ilex x 'Nellie R. Stevens'</i>	Nellie Stevens Holly	1.5" CAL/ 8" HT	B&B	LARGE SCREENING SHRUB
27		<i>Quercus phellos</i>	Willow Oak	2.5" CAL/ 10' HT	B&B	CANOPY TREE
51		<i>Quercus alba</i>	White Oak	2.5" CAL/ 10' HT	B&B	CANOPY TREE

GROUND COVER IN BUFFER AREA SHALL BE MULCH/PINE STRAW

STREET TREE LANDSCAPE PLANT LIST							
#	KEY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	TYPE
56	ZS		<i>Zelkova serrata</i>	JAPANESE ZELKOVA	2.5" CAL/ 10' HT	B&B	STREET TREE
46	QN		<i>Quercus nuttalli</i>	NUTTALL OAK	2.5" CAL/ 10' HT	B&B	STREET TREE
41	UP		<i>Ulmus parvifolia</i>	LACEBARK ELM	2.5" CAL/ 10' HT	B&B	STREET TREE
50	PC		<i>Pistachio chinensis</i>	CHINESE PISTACHIO	2.5" CAL/ 10' HT	B&B	STREET TREE
116	AB		<i>Acer buergerianum</i>	TRIDENT MAPLE	2.5" CAL/ 10' HT	B&B	STREET TREE

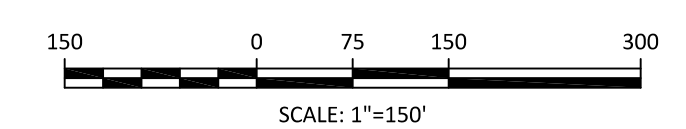
- STREET TREE NOTES**
- ONE STREET TREE PER LOT IS REQUIRED. CORNER LOTS SHALL HAVE TWO STREET TREES
 - STREET TREES ARE NOT SHOWN IN THE POWER LINE EASEMENT IN ORDER TO COMPLY WITH WAKE ELECTRIC'S EASEMENT REQUIREMENTS.
 - FINAL LOCATION OF STREET TREES TO BE DETERMINED BY DRIVEWAY PLACEMENT

AVERETTE ROAD STREETSCAPE TREE LIST							
#	KEY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	TYPE
19	PCT		<i>Prunus cerasifera</i>	THUNDERCLOUD PURPLE LEAF PLUM	1.5" CAL	B&B	SMALL TREE
21	CC		<i>Cercis canadensis</i>	FOREST PANSY REDBUD	1.5" CAL	B&B	SMALL TREE

- STREETSCAPE TREE NOTES**
- PER UDO 14.4.3 TWO UNDERSTORY ORNAMENTAL TYPE TREES CAN BE USED UNDER OVERHEAD UTILITY LINES PER EVERY 40 LINEAR FEET OF STREETSCAPE.

LANDSCAPE PLANT LIST - ALL PARKING AREAS ON SITE						
#	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	TYPE
199		<i>Ilex cornuta</i>	DWARF BUFORD HOLLY	24" HT/ 3 GAL	CONT.	PARKING AREA SCREEN
34		<i>Acer buergerianum</i>	TRIDENT MAPLE	2.5" CAL/ 10' HT	B&B	VIA COVERAGE

THE TABLE ABOVE APPLIES TO SINGLE FAMILY AND TOWNHOME PARKING AREAS



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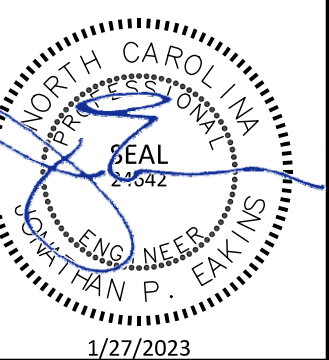
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REVISIONS

PRESERVE AT JONES DAIRY - CENTRAL
CONSTRUCTION DRAWINGS

ROLESVILLE, NC

LANDSCAPE PLAN - OVERALL



PROJECT NO: ---
DESIGN BY: JPE
DRAWN BY: RSP
SCALE: 1"=150'
DATE: 2023-01-27
SHEET NO: **C7.0**

PRELIMINARY DRAWING - NOT FOR CONSTRUCTION