

# CONSTRUCTION INFRASTRUCTURE DRAWINGS

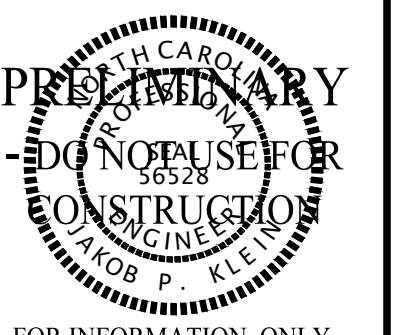
## FOR KALAS FALLS

PHASE 5  
SITUATED IN THE  
TOWN OF ROLESVILLE  
WAKE COUNTY, NORTH CAROLINA  
CID-25-01 ORIGINAL SUBMITTAL: DECEMBER 23<sup>rd</sup>, 2024

**Public**  
Sewer Collection / Extension System  
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 # \_\_\_\_\_

**Public**  
Water Distribution / Extension System  
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 # \_\_\_\_\_

**AMERICAN**  
Engineering  
American Engineering Associates - Southeast, P.A.  
4020 Westchase Boulevard, Suite 450  
Raleigh, NC 27607  
919-469-1101



FOR INFORMATION, ONLY

OVERALL SITE DATA		
DATA TYPE	NUMBER	UDO SECTION
PIN	1767-17-5039	
DEED BOOK AND PAGE #	17691, 1863	
TOTAL KALAS FALLS ACREAGE	282.73 AC	
TOTAL TRACT ACREAGE (INCLUDES R/W DEDICATION AND POSSIBLE OVERLAP AREA)	23.55 AC	
ZONING	R&PUD-CZ	MA-19-02
NUMBER OF TOWNHOMES		
APPROVED DURING REZONING	95	MA-19-02
PROVIDED	95	
TOTAL NUMBER OF LOTS		
APPROVED DURING REZONING	550	MA-19-02
PROVIDED	549	
WATERSHED	LOWER NEUSE RIVER	
RIVER BASIN	NEUSE RIVER	
TOWNSHIP	ROLESVILLE	
RECEIVING WATER	HARRIS CREEK	
STREAM INDEX	27-26	
CLASSIFICATION	C,NSW	
EXISTING USAGE	VACANT	
PROPOSED USAGE	RESIDENTIAL	
PHASE 5 DENSITY	4.03	
MAXIMUM DENSITY (5 PHASES)	2.10	MA-19-02
PROPOSED DENSITY (5 PHASES)	1.94	
TOWNHOME MINIMUM BUILDING SETBACKS:		
FRONT SETBACK	15'	SUP 19-01
REAR SETBACK	15'	UDO: 6.2.3.2 (a)
TOWNHOME MINIMUM BUILDING SEPARATIONS:		
SIDE SEPARATION	16'	SUP 19-01
REAR SEPARATION	25'	
PHASE 5 EXISTING IMPERVIOUS	3.52 AC	
PHASE 5 PROPOSED IMPERVIOUS	9.31 AC	
PHASE 5 EXISTING TREE COVERAGE	32%	
PHASE 5 TOTAL AREA OF LOTS	5.64 AC	
PHASE 5 AVERAGE LOT SIZE	2,587 SF	
MINIMUM TOWNHOME LOT SIZE	2,280 SF	
PHASE 5 MAXIMUM IMPERVIOUS PER LOT	1,250 SF	
PHASE 5 MAXIMUM BUILDING HEIGHT	35'	TABLE 3.1.2
PHASE 5 LIMITS OF DISTURBANCE	16.27 AC	
PHASE 5 AREA IN PUBLIC R/W	3.40 AC	
PHASE 5 ROAD DETAILS	GRAYMONT OAKS DR: 50' PUBLIC R/W 27' B-B 1,881 LF ARMFIELD CREEK PLACE: 50' PUBLIC R/W 27' B-B 1,047 LF	
PARKING COUNT		
REQUIRED	PROVIDED	UDO: 10.1.10 & 6.2.3.2 (d)
RESIDENT: 238 (95 UNITS @ 3 BEDROOMS PER UNIT 95 X 2 = 190 + 95 X .5 = 48)	95 DRIVEWAY 95 GARAGE 48 PARKING	2 SPACES PER DWELLING + 0.5 ADDITIONAL SPACES EVERY BEDROOM OVER 2 PER DWELLING
GUEST: 23 + 1 ADA (95 UNITS/4)	21 + 1 VAN ADA + 2 ADA	1 SPACE PER 4 DWELLING UNITS
TOTAL: 262	TOTAL: 262	



THESE IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE FOLLOWING DRAWINGS AND THE STANDARD SPECIFICATIONS OF THE CITY OF RALEIGH, WAKE COUNTY, TOWN OF ROLESVILLE, AND NCDOT.

REQUIRED APPROVALS	
PERMIT	PERMIT NUMBER:
TOWN OF ROLESVILLE SPECIAL USE PERMIT	SUP 19-01
TOWN OF ROLESVILLE PRELIMINARY PLAT	PSP-24-04
TOWN OF ROLESVILLE CONSTRUCTION INFRASTRUCTURE DRAWINGS	CID-25-01
WAKE COUNTY EROSION CONTROL	SEC-138275-2024
WAKE COUNTY STORMWATER	TBD
CITY OF RALEIGH UTILITIES	TBD

RALEIGH WATER INSPECTIONS QUANTITIES	
PHASE NUMBER	5
NUMBER OF LOTS	95
NUMBER OF UNITS	95
PUBLIC WATER (LF)	2,954
PUBLIC SEWER (LF)	2,283
PUBLIC FORCE MAIN (LF)	N/A
PRIVATE SEWER* (LF)	N/A
WATER SERVICE STUBS (QUANTITY)	95
SEWER SERVICE STUBS (QUANTITY)	95
AVERAGE DAILY FLOW PER PHASE**	21,375 GPD

\*Sewer mains and manholes as part of a collection system  
\*\*Entire Project Flow. Based on 75gpd per bedroom for residential (Apartments, single Family dwelling, townhouse, condos), or based on 15A NCAC 02T .0114 Wastewater Design Flow Rates for Commercial and Industrial.  
The meter size must match domestic service size (Exemption - 3/4" service tap with 3/8" meter)

SHEET LIST	
Sheet Number	Sheet Title
G-001	Cover Sheet
G-002	Conditions of Approval
G-003	Lot Areas and Open Space Plan
CV100	Existing Conditions
CX100	Demolition Plan
CS100	Overall Site Plan
CS110	Signage & Striping Plan
CS401	Site Plan Area A
CS402	Site Plan Area B
CS403	Site Plan Area C
CS500	Site Details
CS501	Site Details
CS502	Site Details
CT200	Graymont Oaks Dr. Plan & Profile
CT201	Graymont Oaks Dr. Plan & Profile
CT202	Armfield Creek Place Plan & Profile
CU100	Utility Plan Overall
CU401	Utility Plan Area A
CU402	Utility Plan Area B
CU403	Utility Plan Area C
CU500	Utility Details
CU501	Utility Details
CU502	Utility Details
CU503	Utility Details
CE100	ESC Phase 1 Overall
CE400	ESC Phase 1 Area A
CE401	ESC Phase 1 Area B
CE402	ESC Phase 1 Area C
CE110	ESC Phase 2 Overall
CE410	ESC Phase 2 Area A
CE411	ESC Phase 2 Area B
CE412	ESC Phase 2 Area C
CE413	ESC Phase 2 Offsite Area
CE130	NPDES PLAN
CE500	ESC Details
CE501	ESC Details
CE502	ESC Details
CE503	ESC Details
CE504	ESC Details
CG100	Grading & Drainage Overall
CG400	Grading & Drainage Area A
CG401	Grading & Drainage Area B
CG402	Grading & Drainage Area C
CG403	Grading & Drainage Offsite
CD110	Storm Drainage Tables
CD200	Storm Drainage Plan & Profiles
CD201	Culvert Crossing Plan & Profile
CD500	Drainage Details
CD501	Drainage Details
CD502	Drainage Details
LP100	Landscape Plan Overall
LP401	Landscape Plan Area A
LP402	Landscape Plan Area B
LP403	Landscape Plan Area C
LP500	Landscape Details

PROJECT TEAM	
PROPERTY OWNER:	MITCHELL MILL ROAD INVESTORS LLC CONTACT: KARL BLACKLEY 105 WESTON ESTATES WAY CARY, NC 27513 919-481-3000
ENGINEER:	AMERICAN ENGINEERING ASSOCIATES-SOUTHEAST, PA CONTACT: JAKOB KLEIN 4020 WESTCHASE BLVD, SUITE 450 RALEIGH, NC 27607
DEVELOPER:	MITCHELL MILL ROAD INVESTORS LLC CONTACT: KARL BLACKLEY 105 WESTON ESTATES WAY CARY, NC 27513 919-481-3000
SURVEYOR:	WITHERS RAVENEL CONTACT: MATT TIMLIN 115 MACKENAN DRIVE CARY, NC 27511 919-469-3340
BUFFER/WETLAND:	WITHERS RAVENEL CONTACT: TROY BEASLEY 219 STATION ROAD, STE. 201 WILMINGTON, NC 28405

### ATTENTION CONTRACTORS

The Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Inspector at 919-996-3245 or <https://cityworks.raleighnc.gov/pucontractors/new> and schedule a Pre-construction meeting prior to beginning any construction. Raleigh Water must be contacted at (919) 996-4540 at least twenty-four hours prior to beginning any work activity around critical water and sewer infrastructure. Failure to notify the Divisions 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 jobsite, 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.

### STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

KALAS FALLS  
PHASE 5  
CONSTRUCTION INFRASTRUCTURE  
DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER: R180115  
CHECKED BY: JK  
DRAWN BY: GE, RC  
DATE: 03-03-2025  
SHEET TITLE:

### COVER SHEET

SHEET NO.:  
**G-001**

THE REZONING FOR THIS DEVELOPMENT WAS APPROVED ON 11/19/2019 (MA-19-02) AND AS SUCH, THE PROJECT FALLS UNDER THE GOVERNANCE OF THE 2004 UDO. PLEASE SEE SHEET G002 FOR REZONING AND SPECIAL USE PROJECT SPECIFIC CONDITIONS.

EROSION AND SEDIMENT CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT APPROVED

EROSION CONTROL  S-xxxx

STORMWATER MGMT.  S-xxxx

FLOOD STUDY

DATE xx/xx/20

ENVIRONMENTAL CONSULTANT SIGNATURE

**North Carolina 811**  
\*\*\* 3 Days Before Digging \*\*\*  
North Carolina 811  
811 or 1-800-432-4949  
Remote Ticket Entry  
<http://nc811.org/remoteticketentry.htm>

**MA-19-02 REZONING CONDITIONS:**

- a. THE MAXIMUM DEVELOPMENT DENSITY SHALL BE 2.1 DWELLING UNITS PER ACRE
- b. PERMITTED USES SHALL ONLY INCLUDE SINGLE FAMILY DETACHED DWELLINGS, TOWNHOUSES, NEIGHBORHOOD RECREATION CENTER, OPEN SPACE, GREENWAY, AND ASSOCIATED ACCESSORY USES
- c. TOTAL NUMBER OF DWELLING UNITS ON THE SUBJECT PROPERTY SHALL NOT EXCEED 550, AND NOT MORE THAN 95 OF THESE DWELLING UNITS ARE PERMITTED TO BE TOWNHOMES.
- d. THE MINIMUM LOT SIZE FOR SINGLE FAMILY DETACHED DWELLINGS SHALL BE 6,000 SQUARE FEET, WITH A MINIMUM LOT WIDTH OF 50'.
- e. DEVELOPMENT OF THE SUBJECT PROPERTY SHALL INCLUDE 250% OF THE UDO REQUIRED OPEN SPACE, AS SUCH REQUIREMENTS EXIST AS OF THE DATE OF THIS ZONING.
- f. A TYPE A BUFFER (WITH BERM, IF PERMITTED) WILL BE INSTALLED AND MAINTAINED ALONG THE SUBJECT PROPERTY'S FRONTAGE ALONG ROLESVILLE ROAD.
- g. UP TO 460' OF PRIVACY FENCE AND UP TO 400' OF TYPE A BUFFER SHALL BE INSTALLED AND MAINTAINED ALONG THE COMMON PROPERTY LINE OF THE STALLINGS PROPERTY (WAKE COUNTY PIN 1768-30-6321) ON BOTH SIDES OF DRESDEN DRIVE AND ALONG THE EXISTING POND DAM. THE FENCE WITHIN THE POND AREA SHALL BE PLACED SO THAT THERE IS NO IMPACT TO THE EXISTING STATE MANDATED BUFFER.
- h. THE EXISTING DRIVEWAY THROUGH THE SUBJECT PROPERTY (FROM ROLESVILLE ROAD) THAT SERVES AS ACCESS FOR THE STALLINGS TRACT (WAKE COUNTY PIN 1768-30-6321) AND WOODLIEF TRACT (1768-30-8414) SHALL BE REALIGNED BY THE DEVELOPER TO ALLOW CONNECTION, AND AT NO TIME SHALL ACCESS TO THOSE PROPERTIES BE BLOCKED WITHOUT PROVIDING FOR ANOTHER MEANS OF INGRESS/EGRESS.
- i. ALL HOMES CONSTRUCTED ON THE PROPERTY SHALL INCLUDE EITHER CRAWL SPACE FOUNDATIONS OR STEM WALL FOUNDATIONS. ANY STEM WALL FOUNDATIONS SHALL HAVE A BRICK VENEER AROUND THE FULL PERIMETER OF THE HOUSE.
- j. TRANSPORTATION IMPROVEMENTS: TO ADDRESS TRANSPORTATION IMPACTS REASONABLY EXPECTED TO BE GENERATED BY THE DEVELOPMENT, PRIOR TO REQUEST FOR THE FIRST BUILDING PERMIT FOR THE PROPERTY, THE FOLLOWING IMPROVEMENTS SHALL BE CONSTRUCTED AND INSTALLED AS RECOMMENDED BY THE KALAS/WATKINS FAMILY PROPERTY TIA DATED AUGUST 24, 2019, ON FILE WITH THE TOWN OF ROLESVILLE: ROLESVILLE ROAD AT SITE DRIVEWAY A:
  - i. CONSTRUCT DRIVEWAY A AS A FULL-MOVEMENT ACCESS POINT ONTO ROLESVILLE ROAD WITH ONE INGRESS LANE AND ONE EGRESS LANE;
  - ii. CONSTRUCT AN EXCLUSIVE EASTBOUND RIGHT-TURN LANE WITH 100 FEET OF FULL- WIDTH STORAGE AND APPROPRIATE TAPER ON DRIVEWAY A;
  - iii. CONSTRUCT AN EXCLUSIVE NORTHBOUND LEFT-TURN LANE WITH 100 FEET OF FULL- WIDTH STORAGE AND APPROPRIATE TAPER ON DRIVEWAY A;
  - iv. CONSTRUCT AN EXCLUSIVE SOUTHBOUND RIGHT-TURN LANE WITH 100 FEET OF FULL-WIDTH STORAGE AND APPROPRIATE TAPER ON ROLESVILLE ROAD.

- k. TRANSPORTATION IMPROVEMENTS: TO ADDRESS TRANSPORTATION IMPACTS REASONABLY EXPECTED TO BE GENERATED BY THE DEVELOPMENT, PRIOR TO REQUEST FOR THE FIRST BUILDING PERMIT FOR THE PROPERTY, THE FOLLOWING IMPROVEMENTS SHALL BE CONSTRUCTED AND INSTALLED AS RECOMMENDED BY THE KALAS/WATKINS FAMILY PROPERTY TIA DATED AUGUST 24, 2019, ON FILE WITH THE TOWN OF ROLESVILLE: ROLESVILLE ROAD AT SITE DRIVEWAY B:
  - i. CONSTRUCT DRIVEWAY B AS A FULL-MOVEMENT ACCESS POINT ONTO ROLESVILLE ROAD WITH ONE INGRESS LANE AND ONE EGRESS LANE;
  - ii. CONSTRUCT AN EXCLUSIVE NORTHBOUND LEFT-TURN LANE WITH 100 FEET OF FULL- WIDTH STORAGE AND APPROPRIATE TAPER ON ROLESVILLE ROAD; AND
  - iii. CONSTRUCT AN EXCLUSIVE SOUTHBOUND RIGHT-TURN LANE WITH 50 FEET OF FULL- WIDTH STORAGE AND APPROPRIATE TAPER ON ROLESVILLE ROAD.
 TRANSPORTATION IMPROVEMENTS: TO ADDRESS TRANSPORTATION IMPACTS REASONABLY EXPECTED TO BE GENERATED BY THE DEVELOPMENT, PRIOR TO REQUEST FOR THE FIRST BUILDING PERMIT FOR THE PROPERTY, THE FOLLOWING IMPROVEMENTS SHALL BE CONSTRUCTED AND INSTALLED AS RECOMMENDED BY THE KALAS/WATKINS FAMILY PROPERTY TIA DATED AUGUST 24, 2019, ON FILE WITH THE TOWN OF ROLESVILLE: ROLESVILLE ROAD AT SITE DRIVEWAY C:
  - i. CONSTRUCT DRIVEWAY C AS A FULL-MOVEMENT ACCESS POINT ONTO ROLESVILLE ROAD WITH ONE INGRESS LANE AND ONE EGRESS LANE;
  - ii. CONSTRUCT AN EXCLUSIVE EASTBOUND RIGHT-TURN LANE WITH 100 FEET OF FULL- WIDTH STORAGE AND APPROPRIATE TAPER ON DRIVEWAY C;
  - iii. CONSTRUCT AN EXCLUSIVE NORTHBOUND LEFT-TURN LANE WITH 100 FEET OF FULL- WIDTH STORAGE AND APPROPRIATE TAPER ON ROLESVILLE ROAD; AND
  - iv. CONSTRUCT AN EXCLUSIVE SOUTHBOUND RIGHT-TURN LANE WITH 100 FEET OF FULL-WIDTH STORAGE AND APPROPRIATE TAPER ON ROLESVILLE ROAD.
- m. TRANSPORTATION IMPROVEMENTS: TO ADDRESS TRANSPORTATION IMPACTS REASONABLY EXPECTED TO BE GENERATED BY THE DEVELOPMENT, THE PROPERTY OWNER OR DEVELOPER WILL PROVIDE FOR THE FOLLOWING IMPROVEMENT IN ACCORDANCE WITH AND SUBJECT TO THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) AND TOWN OF ROLESVILLE (TOWN) APPROVAL AND STANDARDS AND SPECIFICATIONS AS RECOMMENDED BY THE KALAS/WATKINS FAMILY PROPERTY TIA DATED AUGUST 24, 2019, ON FILE WITH THE TOWN OF ROLESVILLE IN ACCORDANCE WITH THE FOLLOWING: ROLESVILLE ROAD AT MITCHELL MILL ROAD
  - i. THE TOWN MAY PROVIDE A FULL SIGNAL WARRANT ANALYSIS ("TOWN WARRANT ANALYSIS") PRIOR TO APPROVAL OF THE PLAT CONTAINING THE 100' LOT TO BE DEVELOPED UPON THE SUBJECT PROPERTY. IF A SIGNAL IS WARRANTED AS PART OF THE TOWN WARRANT ANALYSIS, TRAFFIC SIGNAL EASEMENTS TO ACCOMMODATE TRAFFIC SIGNAL EQUIPMENT SHALL BE PROVIDED BY THE OWNER OR DEVELOPER TO THE

EXTENT SUCH PROPERTY IS OWNED AND CONTROLLED BY THE OWNER OR DEVELOPER AND, WITHIN 12 MONTHS OF BEING WARRANTED AND APPROVED BY THE TOWN OF ROLESVILLE AND THE NCDOT, THE PROPERTY OWNER OR DEVELOPER SHALL DESIGN, CONSTRUCT AND INSTALL A TRAFFIC SIGNAL SUBJECT TO FINAL APPROVAL BY THE TOWN OF ROLESVILLE AND THE NCDOT.

IF THE SIGNAL IS NOT WARRANTED BY THE TOWN WARRANT ANALYSIS, THE OWNER OR DEVELOPER SHALL PROVIDE A FULL SIGNAL WARRANT ANALYSIS ("OWNER WARRANT ANALYSIS") PRIOR TO APPROVAL OF THE PLAT CONTAINING THE 300' LOT TO BE DEVELOPED UPON THE SUBJECT PROPERTY. IF A SIGNAL IS WARRANTED AS PART OF THE OWNER WARRANT ANALYSIS, TRAFFIC SIGNAL EASEMENTS TO ACCOMMODATE TRAFFIC SIGNAL EQUIPMENT SHALL BE PROVIDED BY THE OWNER OR DEVELOPER TO THE EXTENT SUCH PROPERTY IS OWNED AND CONTROLLED BY THE OWNER OR DEVELOPER AND, WITHIN 12 MONTHS OF BEING WARRANTED AND APPROVED BY THE TOWN OF ROLESVILLE AND THE NCDOT, THE PROPERTY OWNER OR DEVELOPER SHALL DESIGN, CONSTRUCT AND INSTALL A TRAFFIC SIGNAL SUBJECT TO FINAL APPROVAL BY THE TOWN OF ROLESVILLE AND THE NCDOT.

IF THE SIGNAL IS NOT WARRANTED BY THE OWNER WARRANT ANALYSIS, THE TOWN MAY PROVIDE A FINAL FULL SIGNAL WARRANT ANALYSIS ("FINAL WARRANT ANALYSIS") PRIOR TO APPROVAL OF THE PLAT CONTAINING THE 450' LOT TO BE DEVELOPED ON THE SUBJECT PROPERTY. IF A SIGNAL IS WARRANTED AS PART OF THE FINAL WARRANT ANALYSIS, TRAFFIC SIGNAL EASEMENTS TO ACCOMMODATE TRAFFIC SIGNAL EQUIPMENT SHALL BE PROVIDED BY THE OWNER OR DEVELOPER TO THE EXTENT SUCH PROPERTY IS OWNED AND CONTROLLED BY THE OWNER OR DEVELOPER AND, WITHIN 12 MONTHS OF BEING WARRANTED AND APPROVED BY THE TOWN OF ROLESVILLE AND THE NCDOT, THE PROPERTY OWNER OR DEVELOPER SHALL DESIGN, CONSTRUCT AND INSTALL A TRAFFIC SIGNAL SUBJECT TO FINAL APPROVAL BY THE TOWN OF ROLESVILLE AND THE NCDOT.

ALL TRAFFIC SIGNALS TO BE INSTALLED SHALL BE CONSTRUCTED WITH STEEL POLES WITH MAST ARMS APPROVED BY THE TOWN AND NCDOT.

n. TO ADDRESS CONCERNS RELATED TO THE TIMING OF FUTURE ROLESVILLE ROAD WIDENING, SPECIFICALLY AS IT RELATES TO THAT PORTION OF ROLESVILLE ROAD FRONTAGE BETWEEN THE NORTHERN AND SOUTHERN BOUNDARIES OF THE SUBJECT PROPERTY THAT IS NOT PART OF THIS APPLICATION (THE "ROLESVILLE ROAD RIGHT-OF-WAY GAP"), THE DEVELOPER SHALL WIDEN THE ROLESVILLE ROAD RIGHT-OF-WAY GAP TO ONE-HALF OF ITS ULTIMATE SECTION. DEVELOPER'S OBLIGATIONS HEREUNDER ARE SUBJECT TO NCDOT APPROVAL, AND THERE BEING SUFFICIENT RIGHT-OF-WAY (AND ASSOCIATED EASEMENTS) FOR SUCH IMPROVEMENTS AT THE TIME THE DEVELOPER IS PERFORMING ITS OTHER ROADWAY WIDENING OBLIGATIONS FOR THE SUBJECT PROPERTY.

**SUP 19-01 SPECIAL USE PERMIT CONDITIONS:**

- ALL ZONING CONDITIONS ATTACHED TO THE RESIDENTIAL PLANNED UNIT DEVELOPMENT CONDITIONAL USE ZONING DISTRICT (R&PUD-CZ) AS APPROVED BY CASE: MA 19-02 SHALL COMPLY WITH THE PUD MASTER PLAN.
  - i. WITH RESPECT TO THE ZONING CONDITION RELATED TO THE TRAFFIC SIGNAL, IF A SIGNAL IS FOUND TO BE WARRANTED BUT THE TOWN DESIRES A ROUNDABOUT OR TRAFFIC FACILITY OTHER THAN A SIGNAL TO ADDRESS THE INTERSECTION AT MITCHELL MILL ROAD AND ROLESVILLE ROAD, THE DEVELOPER AGREES TO CONTRIBUTE A PAYMENT-IN-LIEU EQUAL TO THE COST OF CONSTRUCTION OF THE SIGNAL TO THE TOWN FOR THE ALTERNATE TRAFFIC FACILITY. THE TOWN'S ACCEPTANCE OF SUCH PAYMENT-IN-LIEU SHALL BE DEEMED A COMPLETE SATISFACTION OF THE ZONING CONDITION RELATED TO THE TRAFFIC SIGNAL.
- b. THE OWNER /DEVELOPER RESERVES THE RIGHT TO DRAIN THE EXISTING PONDS ON THE PROPERTY IF IT IS DETERMINED THAT REPAIR OR RECONSTRUCTION ARE NOT FEASIBLE OF ANY OF THE PONDS OR WILL BE UNSAFE FOR THE SURROUNDING AREA.
- c. TO THE EXTENT POSSIBLE, THE DEVELOPER SHALL STRIPE ON-STREET PARKING SPACES WITHIN THE PUBLIC RIGHT-OF-WAY TO ALLOW FOR CONVENIENT ACCESS TO THE PUBLIC GREEN WAY.

**CONDITIONS FOR SINGLE FAMILY RESIDENTIAL:**

- a. GENERAL ARCHITECTURAL REQUIREMENTS OF THE NEIGHBORHOOD WILL BE GOVERNED BY RECORDED CONDITIONS, COVENANTS AND RESTRICTIONS. THE DEVELOPER SHALL SUBMIT A COPY OF THE CONDITIONS, COVENANTS AND RESTRICTIONS TO THE TOWN OF ROLESVILLE TO ALLOW THE TOWN ATTORNEY TO REVIEW THEM BEFORE RECORDATION.
- b. ALL REQUIRED OPEN SPACE AND DRAINAGE EASEMENTS WILL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, WITH THE EXCEPTION OF THE PUBLIC GREENWAY.
- c. IF UNMARKED HUMAN BURIALS OR HUMAN SKELETAL REMAINS ARE ENCOUNTERED AS A RESULT OF OBSTRUCTION OR AGRICULTURAL ACTIVITIES, DISTURBANCE OF THE REMAINS SHALL CEASE IMMEDIATELY AND SHALL NOT RESUME WITHOUT AUTHORIZATION FROM EITHER THE COUNTY MEDICAL EXAMINER OR THE STATE ARCHAEOLOGIST.
- d. AT NO TIME SHALL DEVELOPMENT ACTIVITIES EXCEED THE NOISE STANDARDS SET FOR THE IN ROLESVILLE TOWN CODE

**GENERAL NOTES:**

- 1. SEE SHEET CV100 FOR PROPERTY LINE INFORMATION FOR EXISTING PARCEL.

OF ORDINANCES CHAPTER 130.

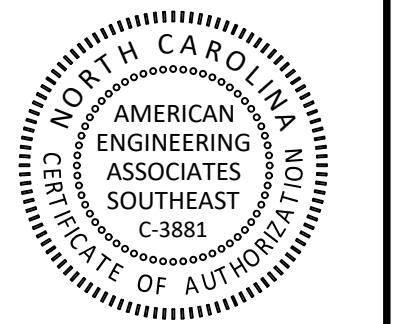
- e. SUBJECT TO THE APPROVAL OF THE UNITED STATES POSTAL SERVICE THE DEVELOPER SHALL PROVIDE AT LEAST TWO MAIL KIOSKS SEPARATED BY AT LEAST 500 LINEAR FEET WITHIN THE SUBDIVISION FOR MAIL SERVICE.
- f. PRIOR TO ISSUANCE OF THE FIRST BUILDING PERMIT FOR ANY PARTICULAR PHASE OF THE DEVELOPMENT, ALL GREENWAYS IN THAT PHASE SHALL BE COMPLETED INCLUDING DEDICATION OF A THIRTY-FOOT PUBLIC GREENWAY EASEMENT, CONSTRUCTION OF TEN-FOOT PAVED TRAILS AND ALL APPLICABLE SIGNAGE. ONCE COMPLETED TO THE TOWN'S SATISFACTION THE TOWN WILL ACCEPT OWNERSHIP AND MAINTENANCE OF THE PUBLIC GREENWAY. THIS CONDITION MAY BE SATISFIED BY POSTING A SURETY IN THE AMOUNT OF 125% COST OF THE INFRASTRUCTURE IMPROVEMENT BEING DEFERRED.
- g. SIDEWALKS TO RESIDENCES MAY EXTEND FROM THE RESIDENTIAL DRIVEWAYS OR FROM PUBLIC SIDEWALKS. IT IS NOT REQUIRED THAT RESIDENTIAL WALKS CONNECT TO PUBLIC SIDEWALKS.
- h. ONSITE AMENITIES TO INCLUDE A COMMUNITY SWIMMING POOL AND PLAYGROUND AREA SHALL BE PROVIDED PRIOR TO THE ISSUANCE OF THE 50TH BUILDING PERMIT IN PHASE II. THE AMENITY SITE IS SUBJECT TO FURTHER REVIEW AND APPROVAL BY THE TOWN THROUGH THE SITE PLAN REVIEW PROCESS.
- i. CUL-DE-SAC LENGTH MAY EXCEED 250' DUE TO TOPOGRAPHY AND STREAM BUFFERS OF THE SITE CONDITIONS.
- j. GARAGES MAY FACE THE STREET.
- k. TWO-CAR GARAGE DOORS MAY BE SINGLE OR DOUBLE.
- l. DEVELOPMENT IS NOT REQUIRED TO BE IN SEQUENTIAL PHASES.
- m. BECAUSE OF EXISTING DIFFICULT TOPOGRAPHY OF THE SITE, ALLEYS ARE NOT REQUIRED TO SERVE EVERY DWELLING.

**CONDITIONS FOR RESIDENTIAL TOWNHOMES**

- a. CONDITIONS (A) THROUGH (H) IN PARAGRAPH 2, CONDITION FOR SINGLE-FAMILY RESIDENTIAL SHALL ALSO APPLY TO TOWNHOUSE DEVELOPMENT.
- b. IF PRIVATE STREETS ARE APPROVED WITH THE TOWNHOUSE SITE PLAN, THEN THE FRONT FACADE OF A TOWNHOUSE

UNIT OR A TOWNHOUSE GARAGE MAY BE SET BACK EIGHTEEN FEET (18') FROM THE BACK OF CURB.

- c. NO TOWNHOUSE STRUCTURE MAY EXCEED SIX UNITS.
- d. AT LEAST ONE VOLLEYBALL COURT SHALL BE BUILT AT THE SAME TIME THAT THE PUBLIC GREENWAY IS CONSTRUCTED.
- e. THE BACK OF A TOWNHOUSE STRUCTURE SHALL NOT BE CLOSER THAN 25' TO ANOTHER TOWNHOUSE STRUCTURE.
- f. SIDE SETBACKS BETWEEN STRUCTURES SHALL BE NO LESS THAN 16'.
- g. GARAGES AND GARAGE DOORS MAY BE SINGLE OR DOUBLE.



FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	12/27/2024	CID-SUBMITTAL #1

**STIPULATION FOR REUSE**

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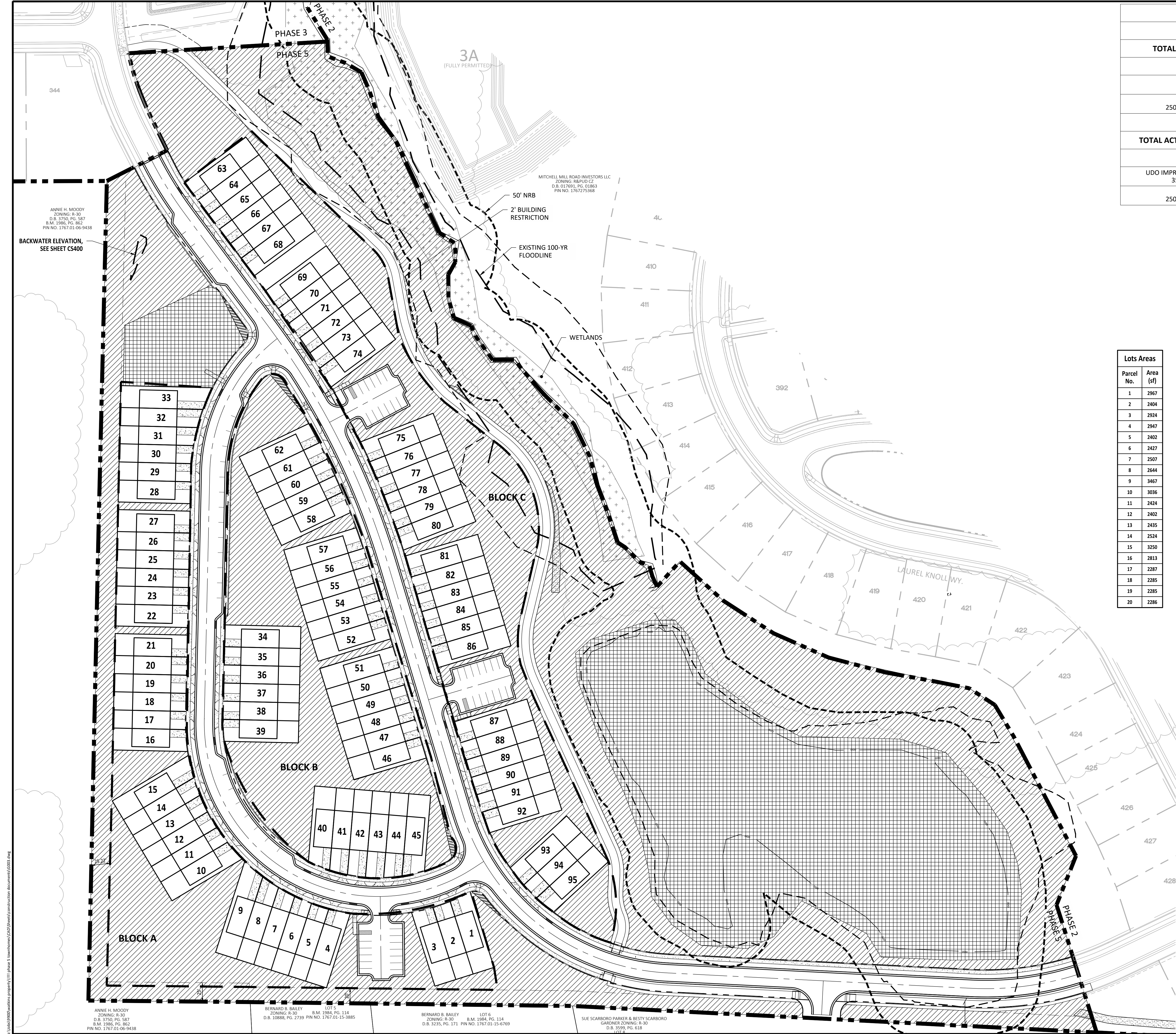
KALAS FALLS  
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CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER: R180115  
CHECKED BY: JK  
DRAWN BY: GE, RC  
DATE: 03-03-2025  
SHEET TITLE:

**CONDITIONS OF APPROVAL**

SHEET NO.:  
**G-002**

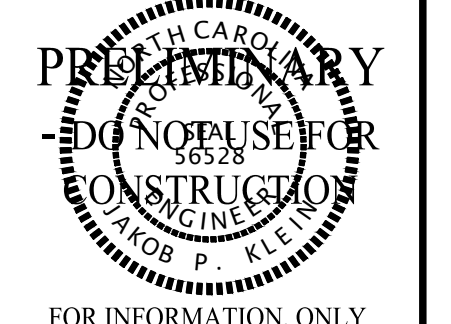
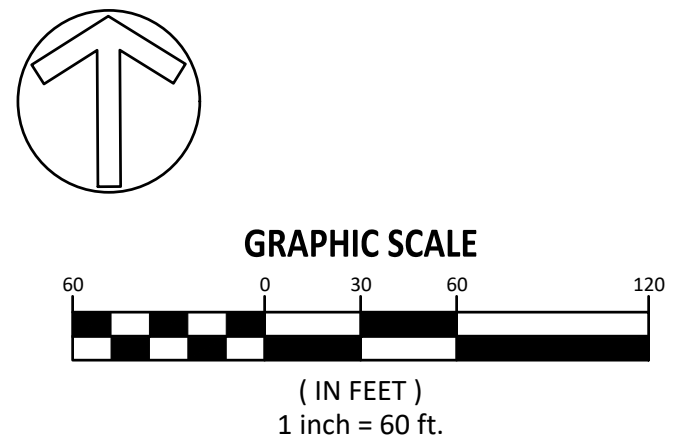




SITE DATA TABLE			
	REQUIRED	PROVIDED	UDO SECTION
<b>TOTAL OPEN SPACE</b>	<b>8.83 AC</b>	<b>13.32 AC</b>	
REQUIREMENT CALCULATIONS			
UDO TOTAL OPEN SPACE 15% OF GROSS ACREAGE	23.55 AC x 0.15 = 3.53 AC		UDO: 6.2.3.2 (h)
REZONING 250% OF UDO REQUIREMENT	3.53 AC x 2.5 = 8.83 AC		MA-19-02
	REQUIRED	PROVIDED	UDO SECTION
<b>TOTAL ACTIVE OPEN SPACE</b>	<b>3.10 AC</b>	<b>3.92 AC</b>	
REQUIREMENT CALCULATIONS			
UDO IMPROVED RECREATION SPACE 35% OF TOTAL OPEN SPACE	3.53 AC x 0.35 = 1.24 AC		UDO: 6.2.3.2 (h)
REZONING 250% OF UDO REQUIREMENT	1.24 AC x 2.5 = 3.10 AC		MA-19-02

Lots Areas		Lots Areas		Lots Areas		Lots Areas		Lots Areas	
Parcel No.	Area (sf)	Parcel No.	Area (sf)	Parcel No.	Area (sf)	Parcel No.	Area (sf)	Parcel No.	Area (sf)
1	2967	21	2762	41	2670	61	2482	81	2897
2	2404	22	2763	42	2739	62	2976	82	2398
3	2924	23	2287	43	2738	63	2907	83	2398
4	2947	24	2288	44	2670	64	2407	84	2398
5	2402	25	2288	45	3034	65	2407	85	2398
6	2427	26	2288	46	2898	66	2407	86	2897
7	2507	27	2766	47	2403	67	2407	87	2904
8	2644	28	2763	48	2407	68	2908	88	2412
9	3467	29	2285	49	2412	69	2900	89	2421
10	3036	30	2304	50	2416	70	2400	90	2429
11	2424	31	2378	51	2925	71	2405	91	2437
12	2402	32	2514	52	2905	72	2423	92	2924
13	2435	33	3314	53	2411	73	2455	93	2968
14	2524	34	2900	54	2417	74	3028	94	2469
15	3250	35	2400	55	2423	75	2956	95	2923
16	2813	36	2400	56	2425	76	2416		
17	2287	37	2400	57	2916	77	2402		
18	2285	38	2400	58	2952	78	2402		
19	2285	39	2880	59	2473	79	2416		
20	2286	40	3034	60	2485	80	2956		

LEGEND	
	OPEN SPACE
	ACTIVE OPEN SPACE
	BLOCKS
	SIGHT DISTANCE TRIANGLE



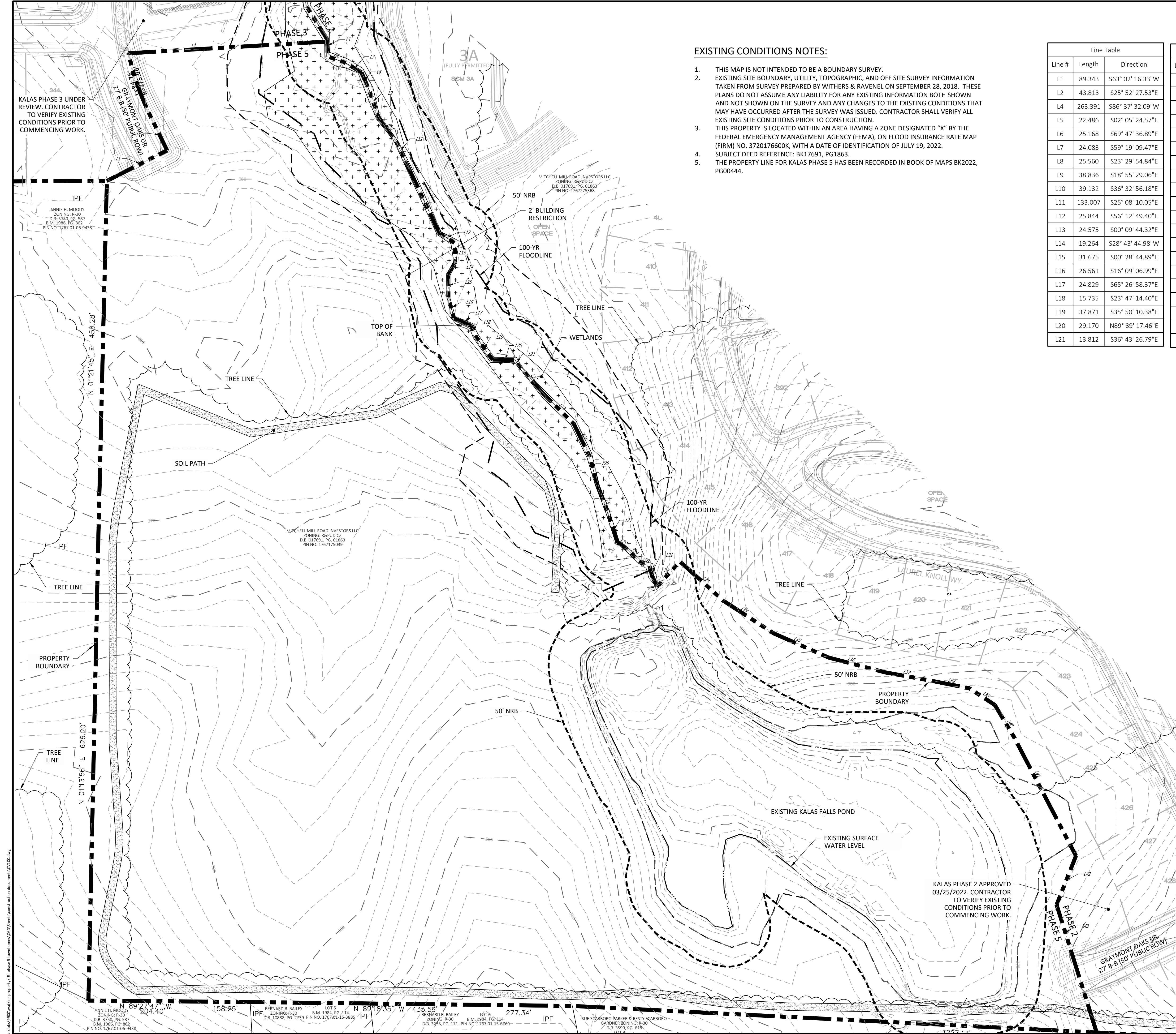
NO.	DATE	REVISION:
1	12/25/2024	CID SUBMITTAL #1

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KALAS FALLS  
 PHASE 5  
 CONSTRUCTION INFRASTRUCTURE  
 DOCUMENTS  
 CID-25-01  
 TOWN OF ROLESVILLE,  
 WAKE COUNTY, NC

JOB NUMBER: R180115  
 CHECKED BY: JK  
 DRAWN BY: GE, RC  
 DATE: 03-03-2025  
 SHEET TITLE:  
**LOT AREAS AND  
 OPEN SPACE  
 PLAN**  
 SHEET NO.:  
**G-003**





**EXISTING CONDITIONS NOTES:**

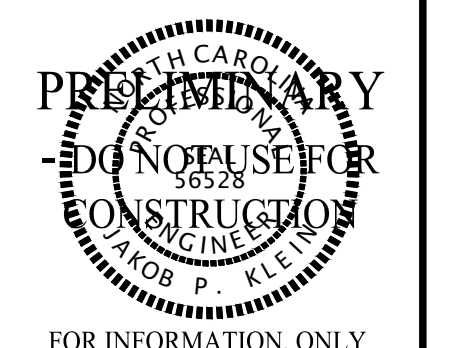
1. THIS MAP IS NOT INTENDED TO BE A BOUNDARY SURVEY.
2. EXISTING SITE BOUNDARY, UTILITY, TOPOGRAPHIC, AND OFF SITE SURVEY INFORMATION TAKEN FROM SURVEY PREPARED BY WITHERS & RAVENEL ON SEPTEMBER 28, 2018. THESE PLANS DO NOT ASSUME ANY LIABILITY FOR ANY EXISTING INFORMATION BOTH SHOWN AND NOT SHOWN ON THE SURVEY AND ANY CHANGES TO THE EXISTING CONDITIONS THAT MAY HAVE OCCURRED AFTER THE SURVEY WAS ISSUED. CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION.
3. THIS PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATED "X" BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP (FIRM) NO. 3720176600K, WITH A DATE OF IDENTIFICATION OF JULY 19, 2022. SUBJECT DEED REFERENCE: BK17691, PG1863.
4. THE PROPERTY LINE FOR KALAS PHASE 5 HAS BEEN RECORDED IN BOOK OF MAPS BK2022, PG00444.

Line #	Length	Direction
L1	89.343	S63° 02' 16.33"W
L2	43.813	S25° 52' 27.53"E
L4	263.391	S86° 37' 32.09"W
L5	22.486	S02° 05' 24.57"E
L6	25.168	S69° 47' 36.89"E
L7	24.083	S59° 19' 09.47"E
L8	25.560	S23° 29' 54.84"E
L9	38.836	S18° 55' 29.06"E
L10	39.132	S36° 32' 56.18"E
L11	133.007	S25° 08' 10.05"E
L12	25.844	S56° 12' 49.40"E
L13	24.575	S00° 09' 44.32"E
L14	19.264	S28° 43' 44.98"W
L15	31.675	S00° 28' 44.89"E
L16	26.561	S16° 09' 06.99"E
L17	24.829	S65° 26' 58.37"E
L18	15.735	S23° 47' 14.40"E
L19	37.871	S35° 50' 10.38"E
L20	29.170	N89° 39' 17.46"E
L21	13.812	S36° 43' 26.79"E

Line #	Length	Direction
L22	45.322	S41° 08' 47.23"E
L23	54.899	S45° 19' 18.20"E
L24	47.917	S25° 50' 06.75"E
L25	39.430	S15° 02' 47.01"E
L26	45.154	S20° 07' 39.03"E
L27	34.935	S18° 40' 54.88"E
L28	12.483	S55° 05' 51.02"E
L29	25.873	S44° 58' 25.51"E
L30	14.659	S66° 50' 21.80"E
L31	14.960	S16° 06' 27.70"E
L32	44.962	N42° 07' 50.30"E
L33	77.309	S47° 52' 09.70"E
L34	79.493	S57° 02' 25.30"E
L35	79.294	S66° 11' 59.22"E
L36	77.675	S75° 19' 43.78"E
L37	60.955	S79° 44' 14.64"E
L38	52.005	S78° 44' 21.36"E
L39	40.296	S56° 52' 01.66"E
L40	48.687	S30° 52' 42.44"E
L41	178.032	S27° 32' 01.54"E

Line #	Length	Direction
L42	69.570	S21° 36' 27.12"W
L43	177.063	S17° 23' 47.01"E

SITE LEGEND	
	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER (NRB)
	EXISTING SURFACE WATER LEVEL
	TOP OF BANK
	EXISTING TREELINE
	WETLANDS
	EXISTING SOIL DRIVE PATH



FOR INFORMATION, ONLY

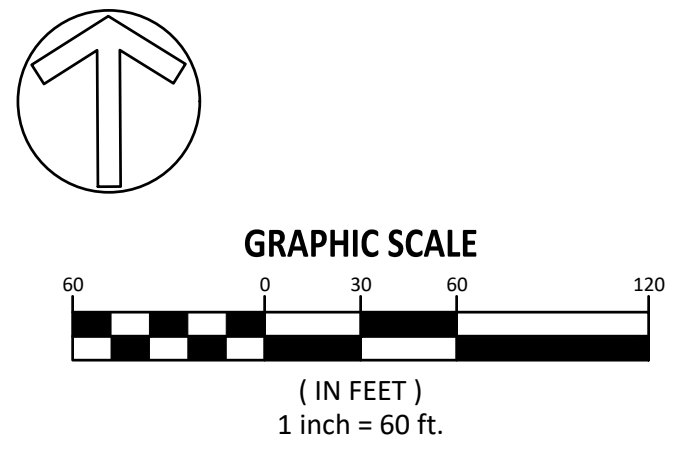
NO.	DATE	REVISION
1	12/25/2024	CID-SUBMITTAL #1

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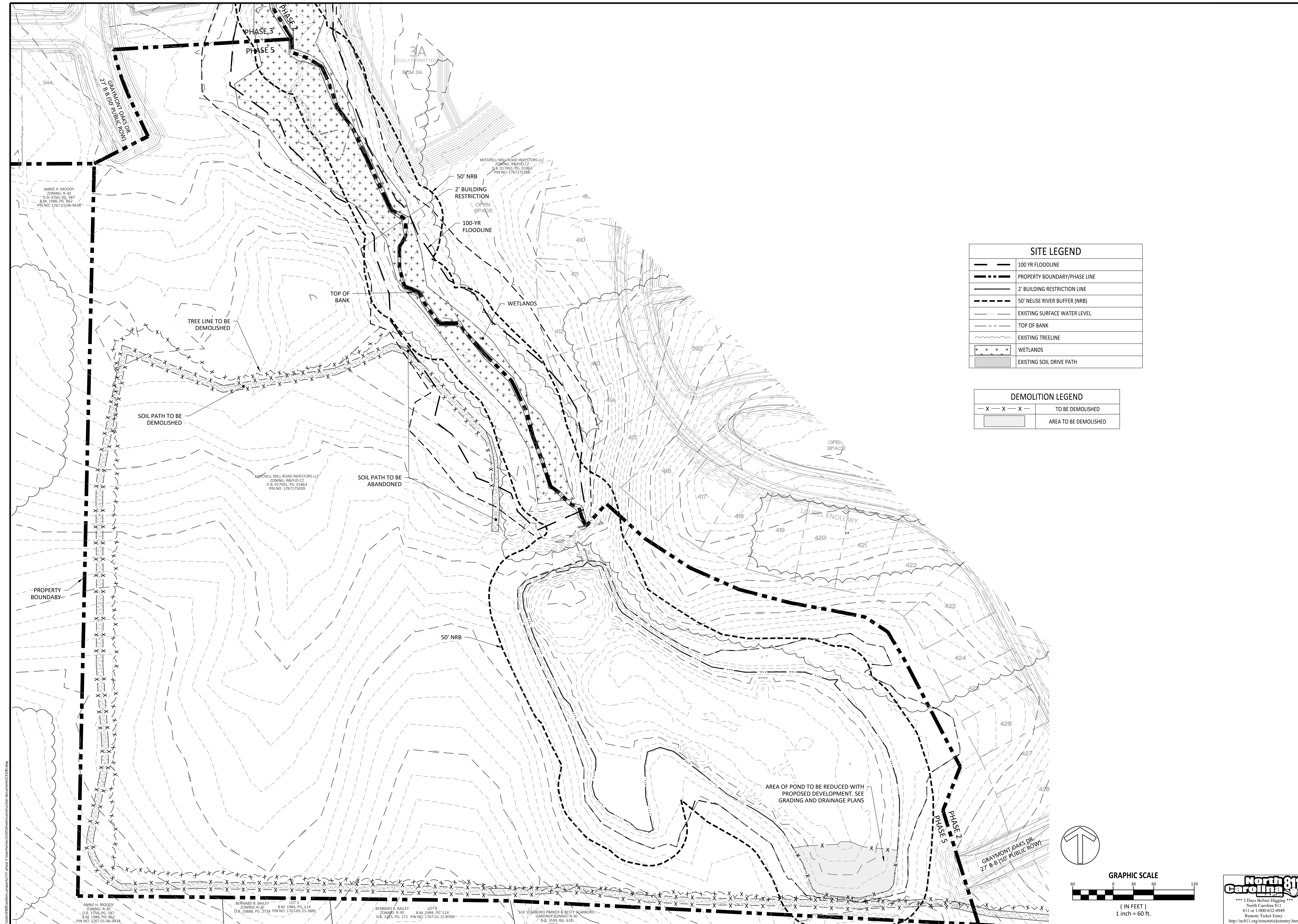
KALAS FALLS  
 PHASE 5  
 CONSTRUCTION INFRASTRUCTURE  
 DOCUMENTS  
 CID-25-01  
 TOWN OF ROLESVILLE,  
 WAKE COUNTY, NC

JOB NUMBER: R180115  
 CHECKED BY: JK  
 DRAWN BY: GE, RC  
 DATE: 03-03-2025

SHEET TITLE:  
**EXISTING CONDITIONS**  
 SHEET NO.:  
**CV100**



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 2025-03-03



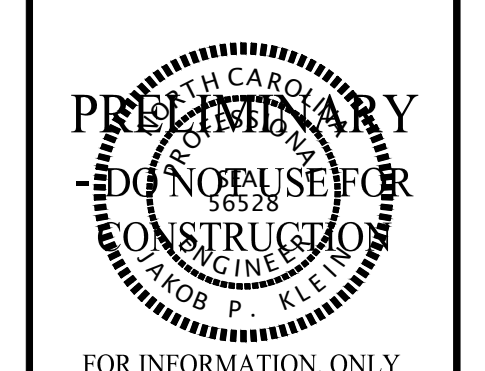
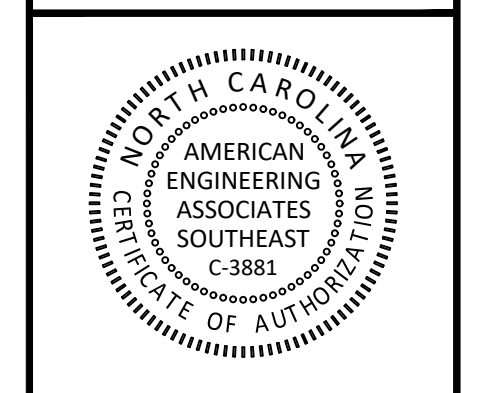
**SITE LEGEND**

	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER (NRB)
	EXISTING SURFACE WATER LEVEL
	TOP OF BANK
	EXISTING TREELINE
	WETLANDS
	EXISTING SOIL DRIVE PATH

**DEMOLITION LEGEND**

	TO BE DEMOLISHED
	AREA TO BE DEMOLISHED

**AMERICAN**  
Engineering  
American Engineering Associates - Southeast, P.A.  
4020 Westchase Boulevard, Suite 450  
Raleigh, NC 27607  
919-469-1101



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NO.	DATE	REVISION:
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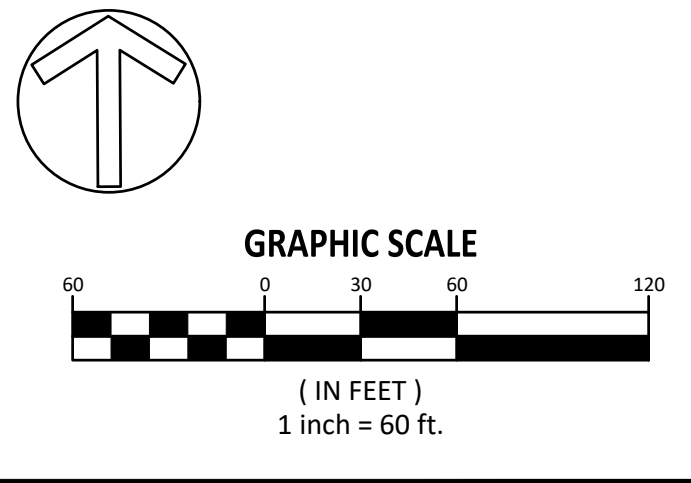
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KALAS FALLS  
PHASE 5  
CONSTRUCTION INFRASTRUCTURE  
DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

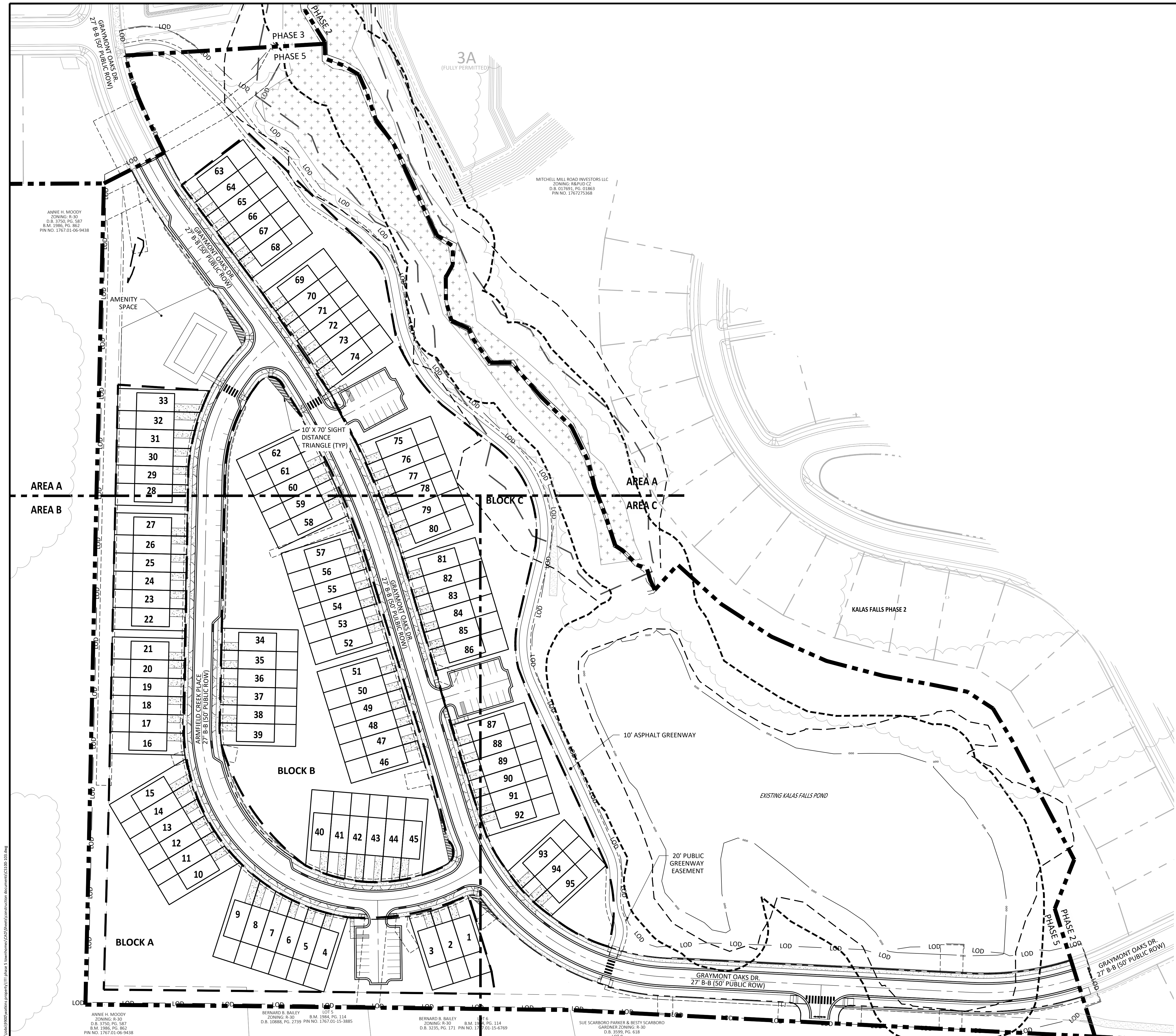
JOB NUMBER:	R180115
CHECKED BY:	JK
DRAWN BY:	GE, RC
DATE:	03-03-2025

**DEMOLITION PLAN**

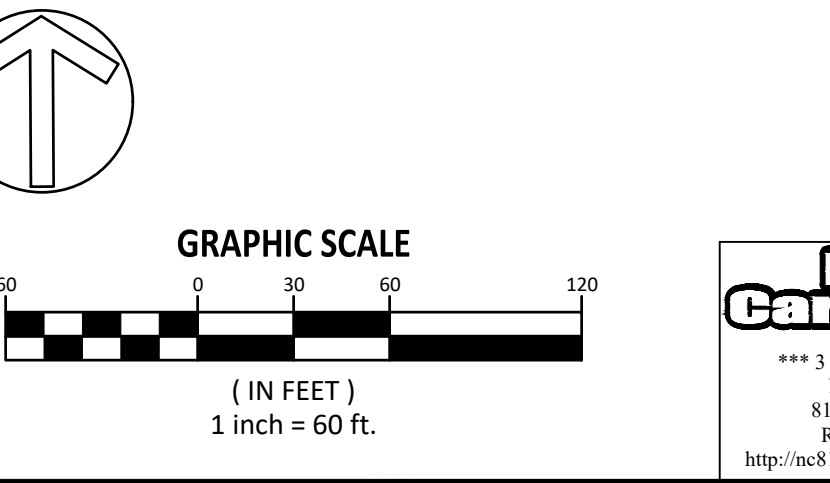
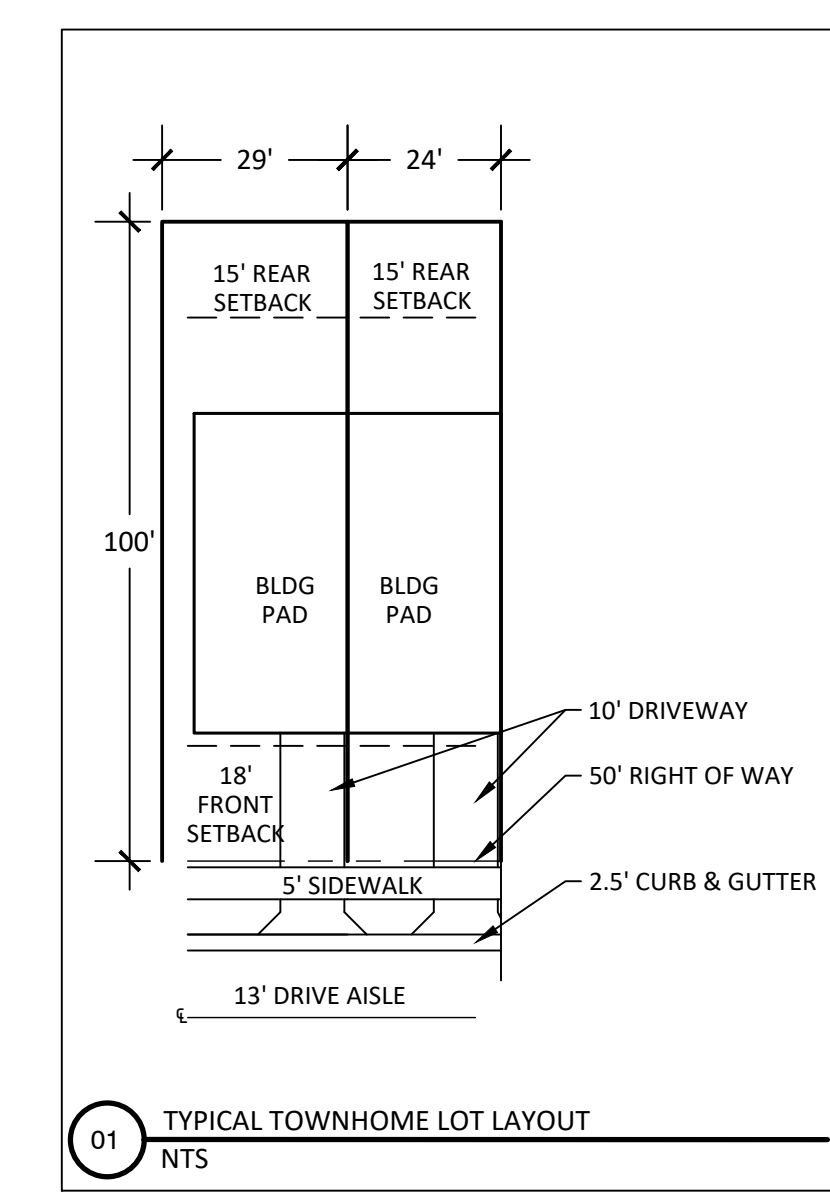
SHEET NO.:  
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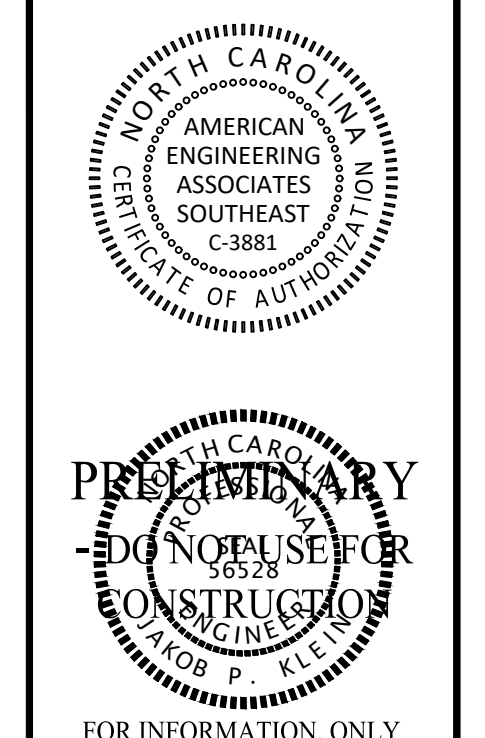
**North Carolina 811**  
\*\*\* 3 Days Before Digging \*\*\*  
North Carolina 811  
811 or 1-800-432-4949  
Remote Ticket Entry  
http://nc811.org/remoteticketentry.htm



SITE LEGEND	
	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER
	PROPOSED SURFACE WATER LEVEL
	RIGHT-OF-WAY
	LIMITS OF DISTURBANCE
	LOT LINE
	WETLANDS
	AMENITY AREA
	CONCRETE
	10' CURB TRANSITION



**AMERICAN Engineering**  
American Engineering Associates - Southeast, P.A.  
4020 Westchase Boulevard, Suite 450  
Raleigh, NC 27607  
919-469-1101



NO.	DATE	REVISION	CID: SUBMITTAL #1
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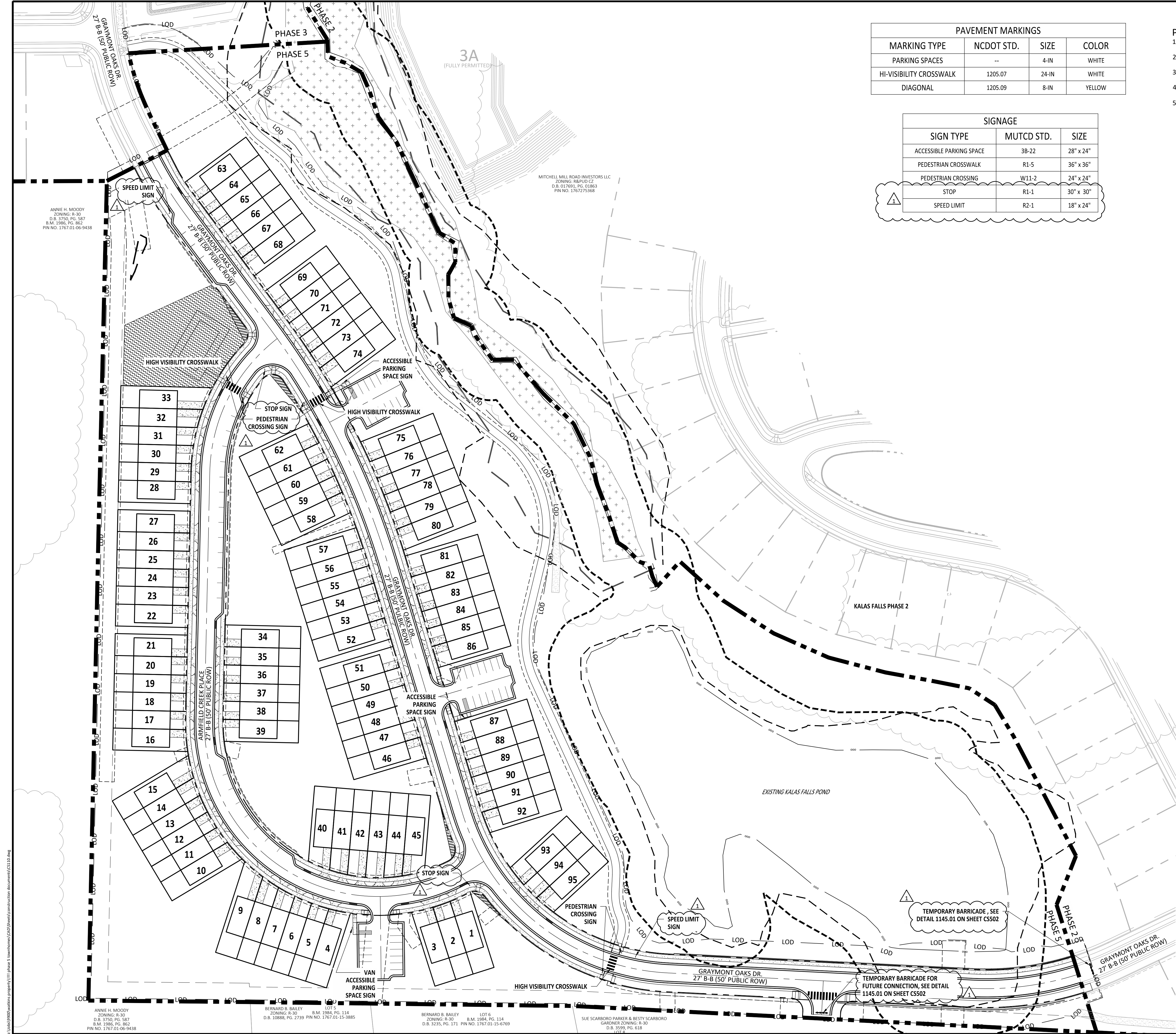
KALAS FALLS PHASE 5  
CONSTRUCTION INFRASTRUCTURE DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER:	R180115
CHECKED BY:	JK
DRAWN BY:	GE, RC
DATE:	03-03-2025
SHEET TITLE:	OVERALL SITE PLAN

**OVERALL SITE PLAN**  
SHEET NO.: CS100



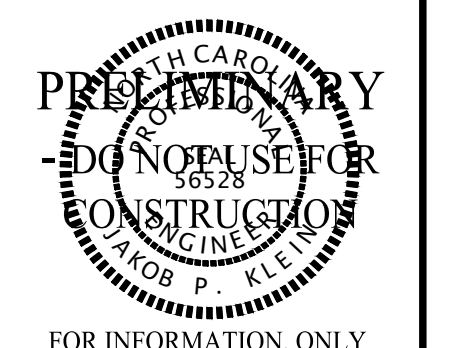
2025-03-03



PAVEMENT MARKINGS			
MARKING TYPE	NCDOT STD.	SIZE	COLOR
PARKING SPACES	--	4-IN	WHITE
HI-VISIBILITY CROSSWALK	1205.07	24-IN	WHITE
DIAGONAL	1205.09	8-IN	YELLOW

SIGNAGE		
SIGN TYPE	MUTCD STD.	SIZE
ACCESSIBLE PARKING SPACE	3B-22	28" x 24"
PEDESTRIAN CROSSWALK	R1-5	36" x 36"
PEDESTRIAN CROSSING	W11-2	24" x 24"
STOP	R1-1	30" x 30"
SPEED LIMIT	R2-1	18" x 24"

- PAVEMENT MARKING & SIGNAGE NOTES:**
1. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC TYPE EXCEPT FOR PARKING SPACE LINES WHICH SHALL BE ALKYN-RESIN TYPE PAINT.
  2. CONTRACTOR TO REFERENCE NCDOT STANDARDS AS NOTED FOR MORE DETAIL ON STRIPING.
  3. ALL SIGNAGE SHALL BE FIELD STAKED AND THE LOCATIONS APPROVED BY TOWN OF ROLESVILLE PRIOR TO SIGN INSTALLATION.
  4. ALL SITE SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.
  5. ALL SIGNS ARE TO BE MOUNTED WITH 7 FT MINIMUM CLEARANCE TO THE BOTTOM OF THE SIGN, ON 3 LB GALVANIZED STEEL U-CHANNEL POST AND SET WITHIN 3 FT DEEP X 12 INCH DIAMETER CONCRETE FOOTING.



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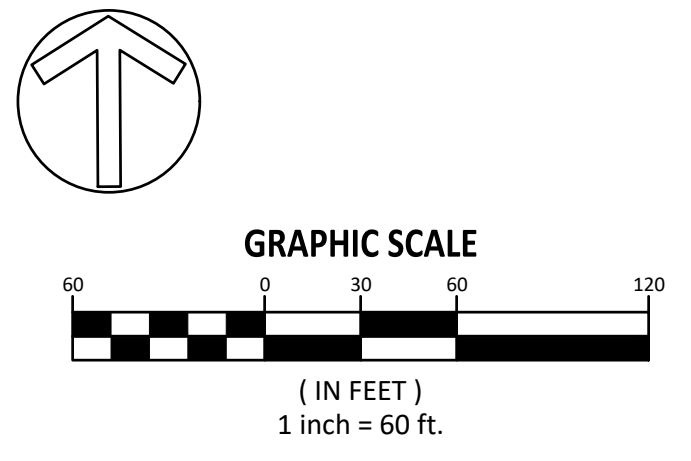
NO.	DATE	REVISION:
1	12/25/2024	CID-SUBMITTAL #1

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**KALAS FALLS PHASE 5 CONSTRUCTION INFRASTRUCTURE DOCUMENTS**  
 CID-25-01  
 TOWN OF ROLESVILLE, WAKE COUNTY, NC

JOB NUMBER: R180115  
 CHECKED BY: JK  
 DRAWN BY: GE, RC  
 DATE: 03-03-2025

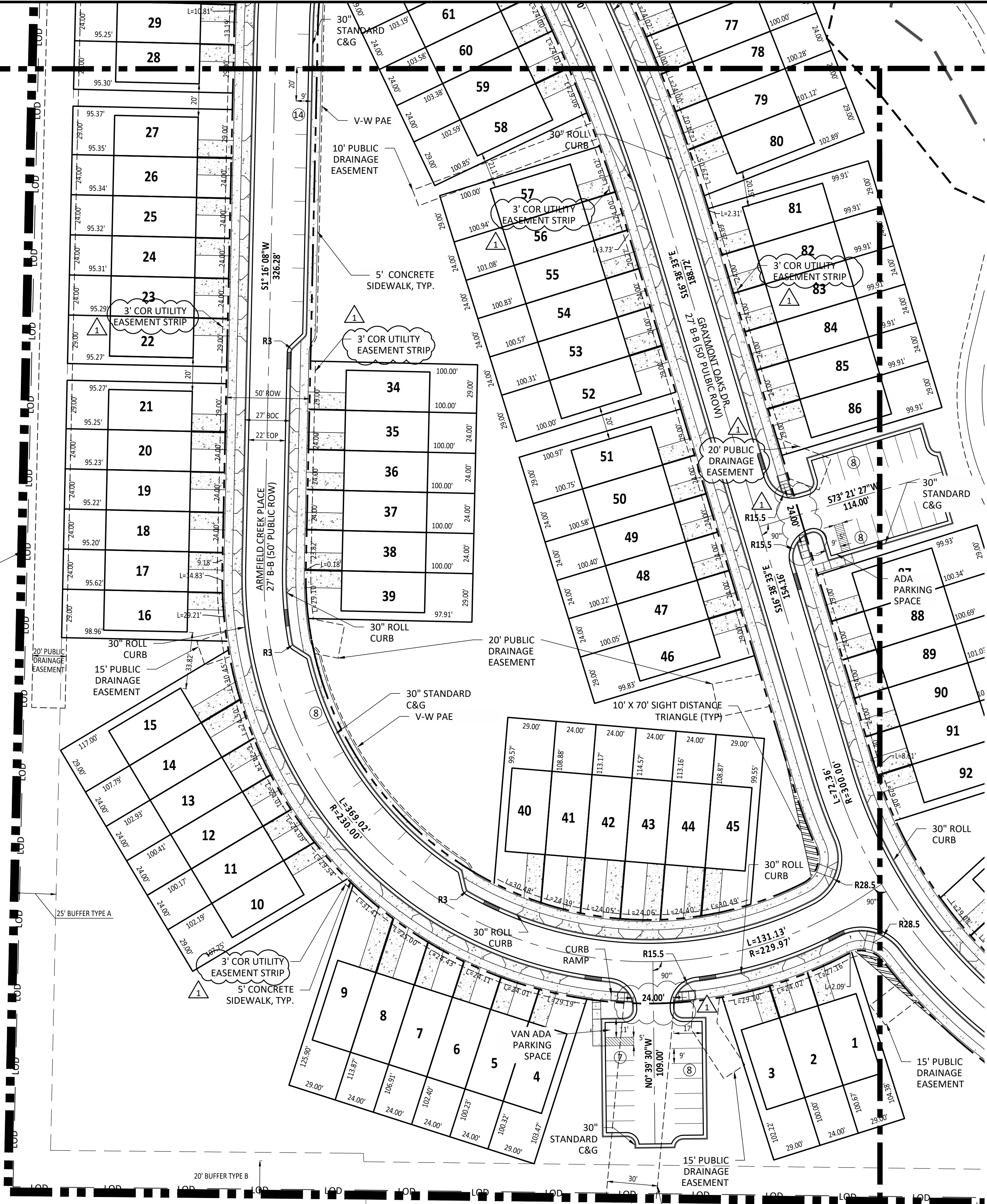
SHEET TITLE:  
**SIGNAGE & STRIPING PLAN**  
 SHEET NO.:  
**CS110**







AREA A  
AREA B



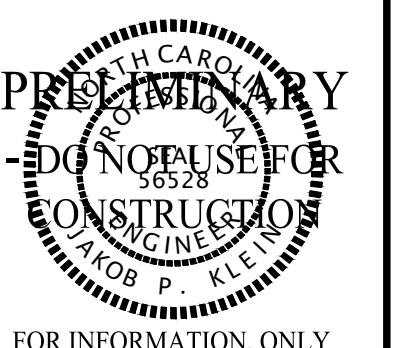
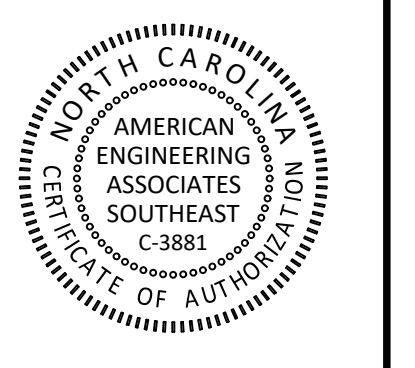
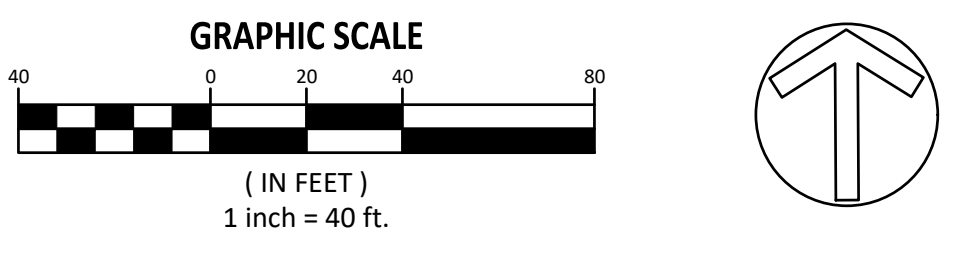
ANNIE H. MOODY  
ZONING: R-30  
D.B. 3750, PG. 587  
B.M. 1986, PG. 862  
PIN NO. 1767.01-06-9438

BERNARD B. BAILEY LOT 5  
ZONING: R-30 B.M. 1984, PG. 114  
D.B. 10888, PG. 2739 PIN NO. 1767.01-15-3885

BERNARD B. BAILEY LOT 6  
ZONING: R-30 B.M. 1984, PG. 114  
D.B. 3235, PG. 171 PIN NO. 1767.01-15-6769

SITE LEGEND	
	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER
	PROPOSED SURFACE WATER LEVEL
	RIGHT-OF-WAY
	LIMITS OF DISTURBANCE
	LOT LINE
	WETLANDS
	AMENITY AREA
	CONCRETE
	10' CURB TRANSITION

- NOTES:
- V-W IS VARIABLE WIDTH (APPLICABLE TO EASEMENTS)
  - PAE IS PEDESTRIAN ACCESS EASEMENT
  - COR IS CITY OF RALEIGH



FOR INFORMATION, ONLY

NO.	DATE	REVISION:
1	12/25/2024	CID SUBMITTAL #1

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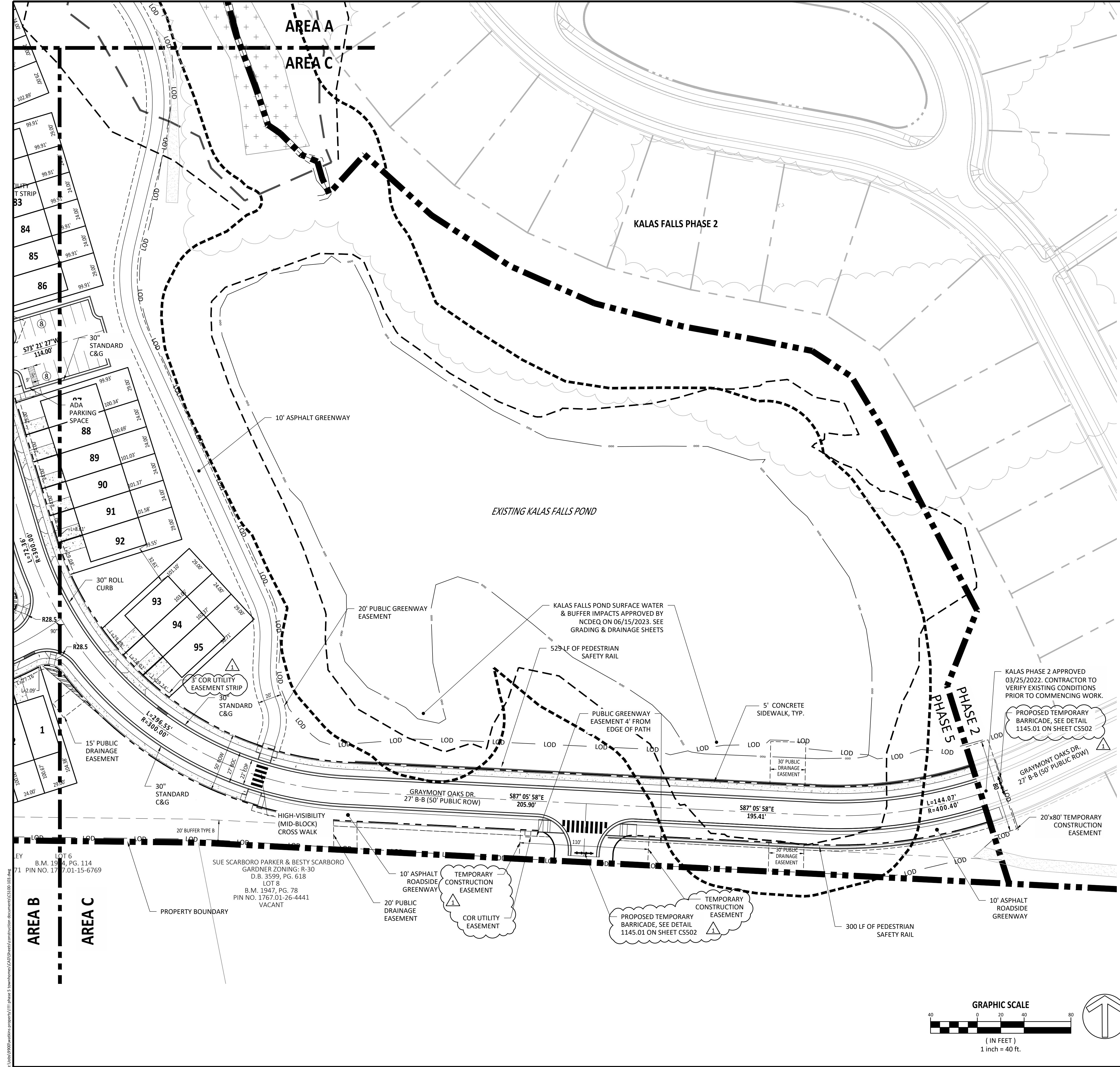
KALAS FALLS  
PHASE 5  
CONSTRUCTION INFRASTRUCTURE  
DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER: R180115  
CHECKED BY: JK  
DRAWN BY: GE, RC  
DATE: 03-03-2025

**SITE PLAN  
AREA B**

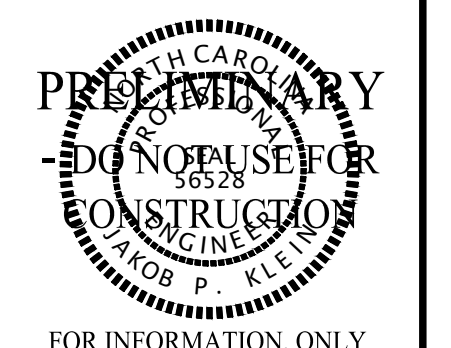
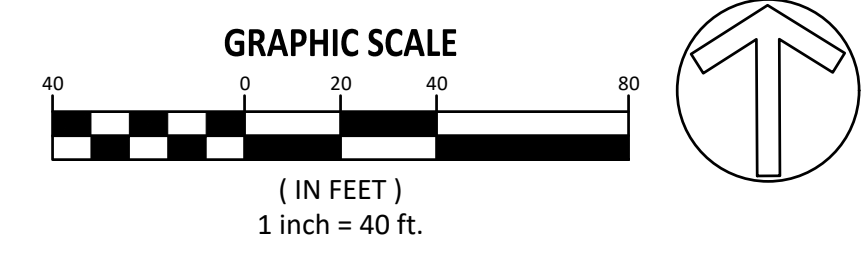
SHEET NO.:  
**CS402**





SITE LEGEND	
	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER
	PROPOSED SURFACE WATER LEVEL
	RIGHT-OF-WAY
	LIMITS OF DISTURBANCE
	LOT LINE
	WETLANDS
	AMENITY AREA
	CONCRETE
	10' CURB TRANSITION

- NOTES:
- LOD IS LIMITS OF DISTURBANCE.
  - TCE IS TEMPORARY CONSTRUCTION EASEMENT.
  - COR IS CITY OF RALEIGH.



NO.	DATE	REVISION:
1	12/25/2024	CID-SUBMITTAL #1

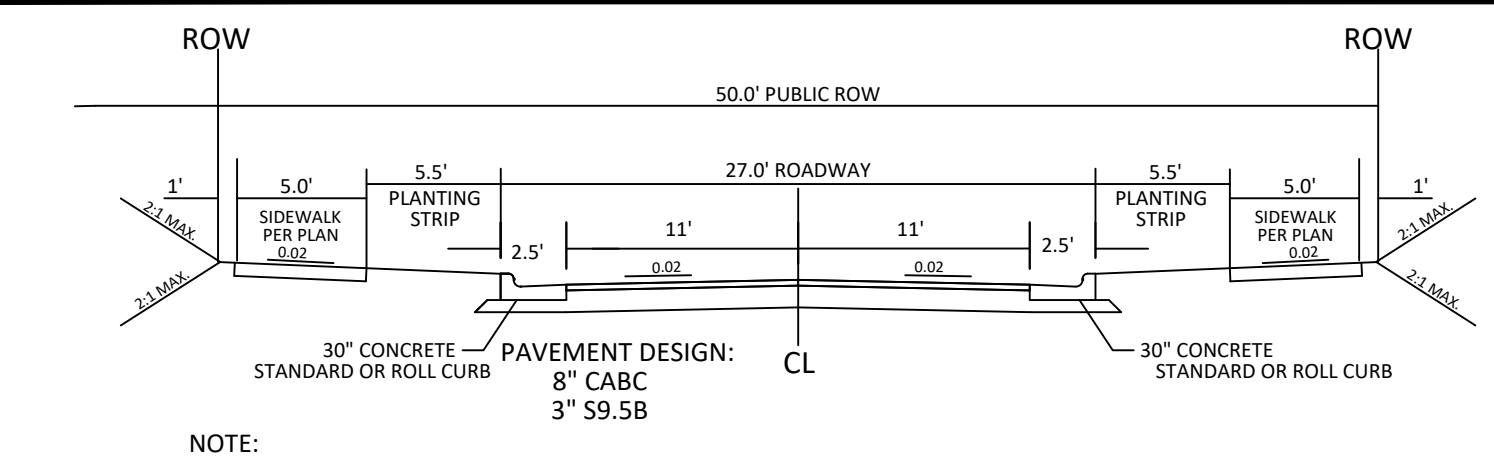
**STIPULATION FOR REUSE**  
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**KALAS FALLS PHASE 5 CONSTRUCTION INFRASTRUCTURE DOCUMENTS**  
 CID-25-01  
 TOWN OF ROLESVILLE, NC  
 WAKE COUNTY, NC

JOB NUMBER: R180115  
 CHECKED BY: JK  
 DRAWN BY: GE, RC  
 DATE: 03-03-2025

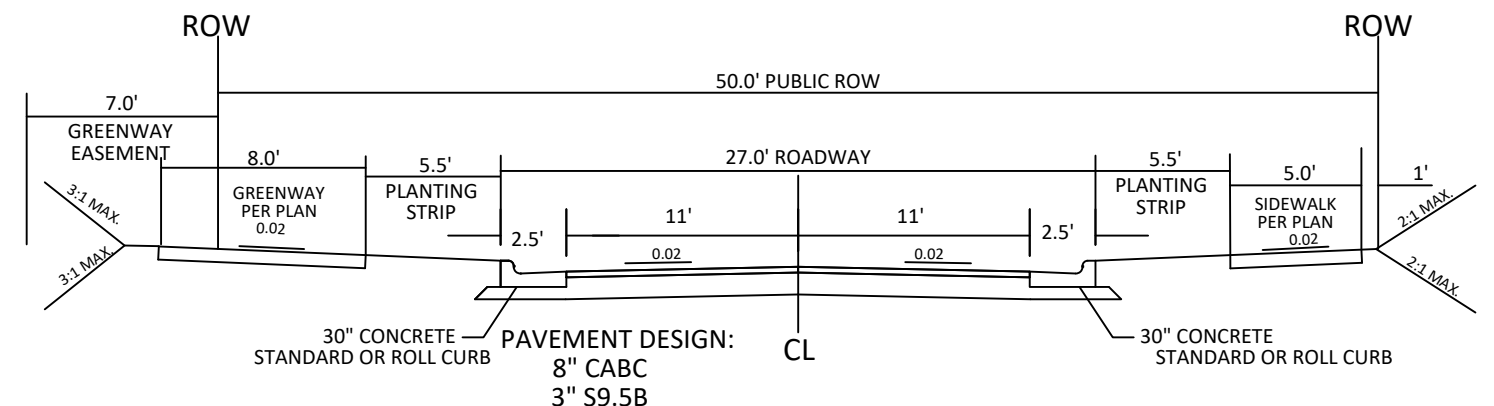
**SITE PLAN AREA C**  
 SHEET NO.: CS403





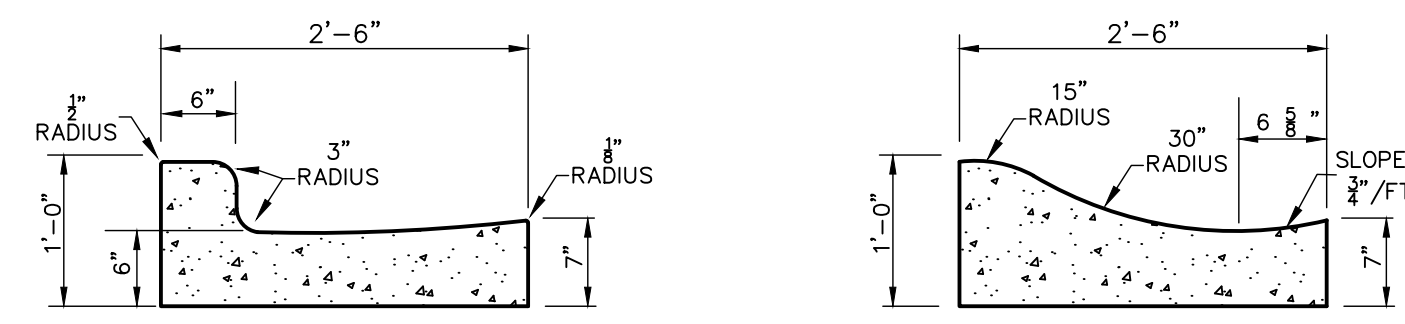
NOTE:  
 1. NORMAL CROWN OF 0.02 UNLESS OTHERWISE DIRECTED BY TOWN ENGINEER.  
 2. ASPHALT WILL BE INSTALLED AT A MIN. 1.5" LIFTS.

27' B-B ON A 50' R/W  
 TYPICAL SECTION



NOTE:  
 1. NORMAL CROWN OF 0.02 UNLESS OTHERWISE DIRECTED BY TOWN ENGINEER.  
 2. ASPHALT WILL BE INSTALLED AT A MIN. 1.5" LIFTS.  
 3. SEE SITE PLAN FOR LOCATION OF STANDARD OR ROLL CURB AND GUTTER.

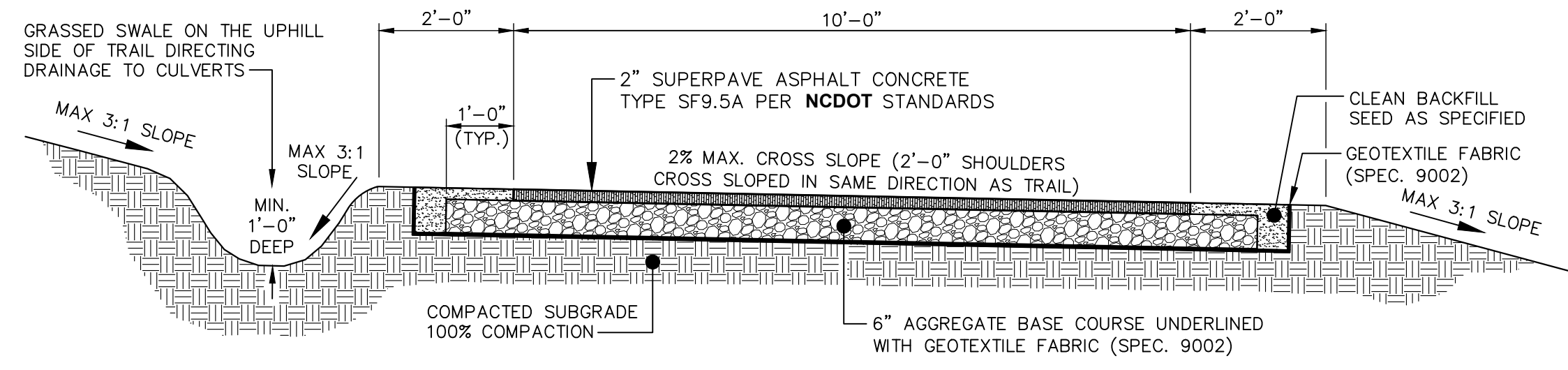
27' B-B ON A 50' R/W WITH GREENWAY TRAIL  
 TYPICAL SECTION



30" STANDARD CURB & GUTTER  
 30" ROLLED CURB

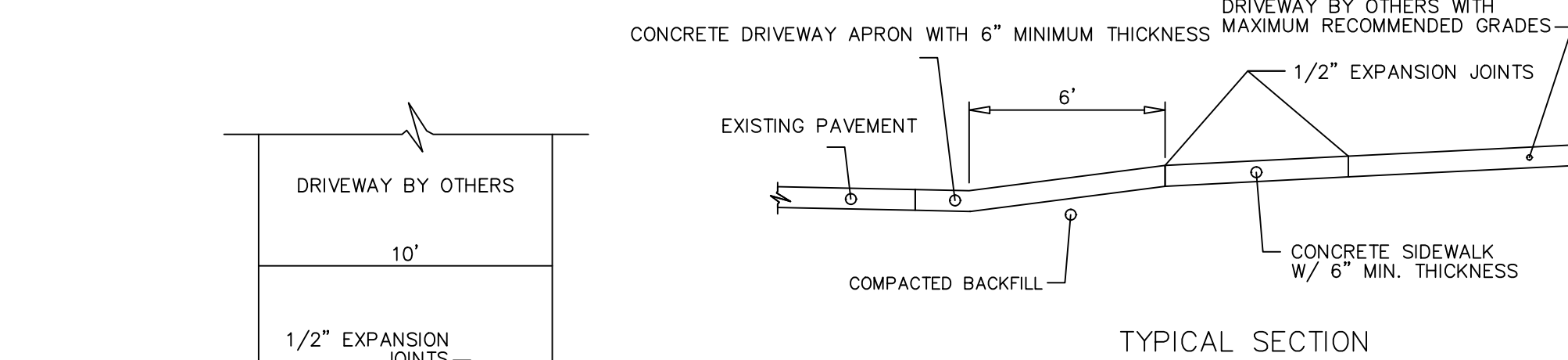
NOTE:  
 1. CONCRETE SHALL BE 3000 PSI.  
 2. CONTRACTION JOINTS SHALL BE SPACED AT 10' INTERVALS OR 15' INTERVALS WHEN A MACHINE IS USED.  
 3. EXPANSION JOINTS SHALL BE SPACED AT 50' INTERVALS.  
 4. FINISH ALL CONCRETE WITH CURING COMPOUND.  
 5. FOLLOW ALL APPLICABLE ACI REQUIREMENTS.  
 6. ROLLED CURB SHALL ONLY BE USED FOR APPROVED APPLICATIONS.

CURB & GUTTER DETAIL  
 NTS



NOTES:  
 1. CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING ALL SLOPES DISTURBED BY CONSTRUCTION.  
 2. NO ABOVE GROUND UTILITIES OR UTILITY SURFACE COVERS/PLATES/MANHOLES SHALL BE LOCATED WITHIN TRAIL AND SHALL BE MINIMUM 2 FEET FROM THE EDGE OF TRAIL. RAISED MANHOLES SHALL BE MINIMUM 4 FEET FROM TRAIL EDGE.  
 3. ALL TRAILS SHALL BE LOCATED MINIMUM 5 FEET FROM THE BACK OF CURB.  
 4. SIDE SLOPES SHALL NOT EXCEED 3:1. CUT & FILL SLOPES SHALL TIE INTO EXISTING SLOPES TO CREATE AN EVEN TRANSITION.  
 5. CROSS SLOPE TYPICALLY TO LOW SIDE BUT CROSS SLOPE TO INSIDE OF DOWNHILL CURVES, WITH GRADUAL TRANSITIONS BETWEEN ANY CROSS SLOPE DIRECTION CHANGES.

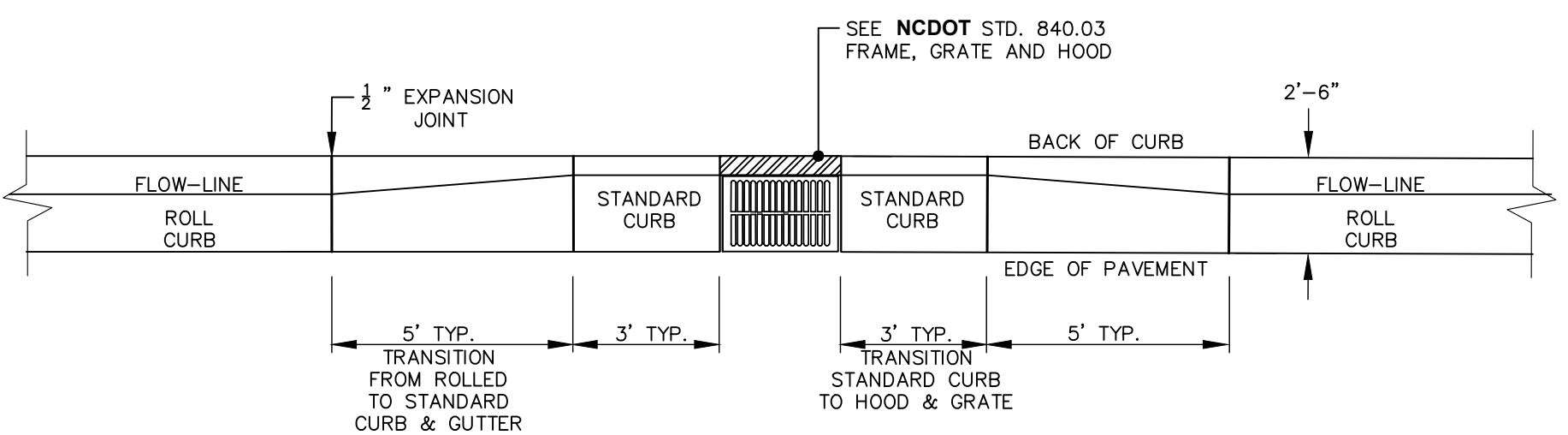
STANDARD 10-FT GREENWAY TRAIL



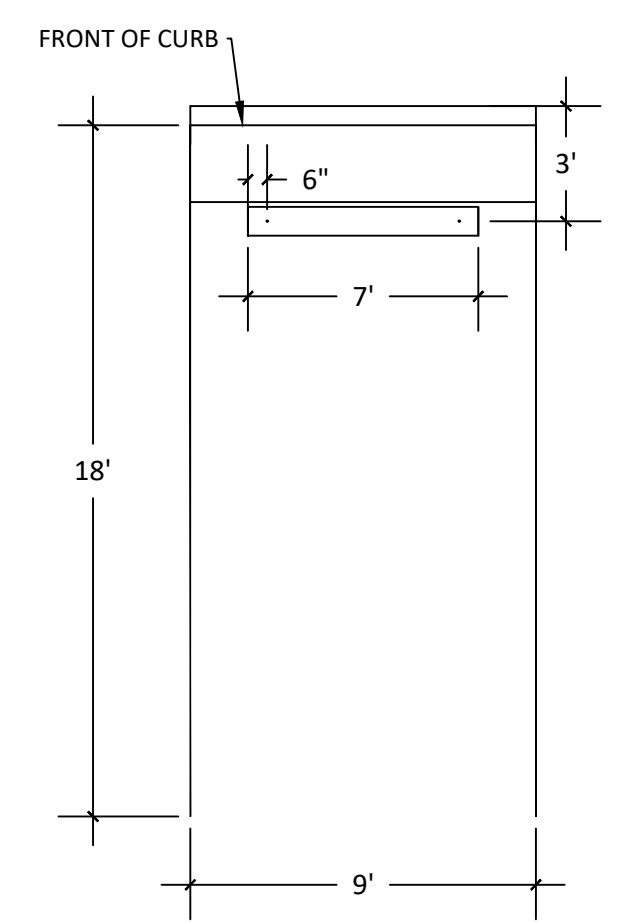
NOTES:  
 1. CURB SHALL BE TAPERED TO FINISH FLUSH WITH SIDEWALK.  
 2. SIDEWALK SECTION SHALL BE REQUIRED ALONG ALL STREETS.  
 3. THE TOWN IS NOT RESPONSIBLE FOR VEHICLES THAT DRAG DUE TO GRADE OF DRIVEWAY. THE DRIVEWAY IS PRIVATELY MAINTAINED.  
 4. ALL CONCRETE SHALL BE 3,000 PSI.

PLAN VIEW

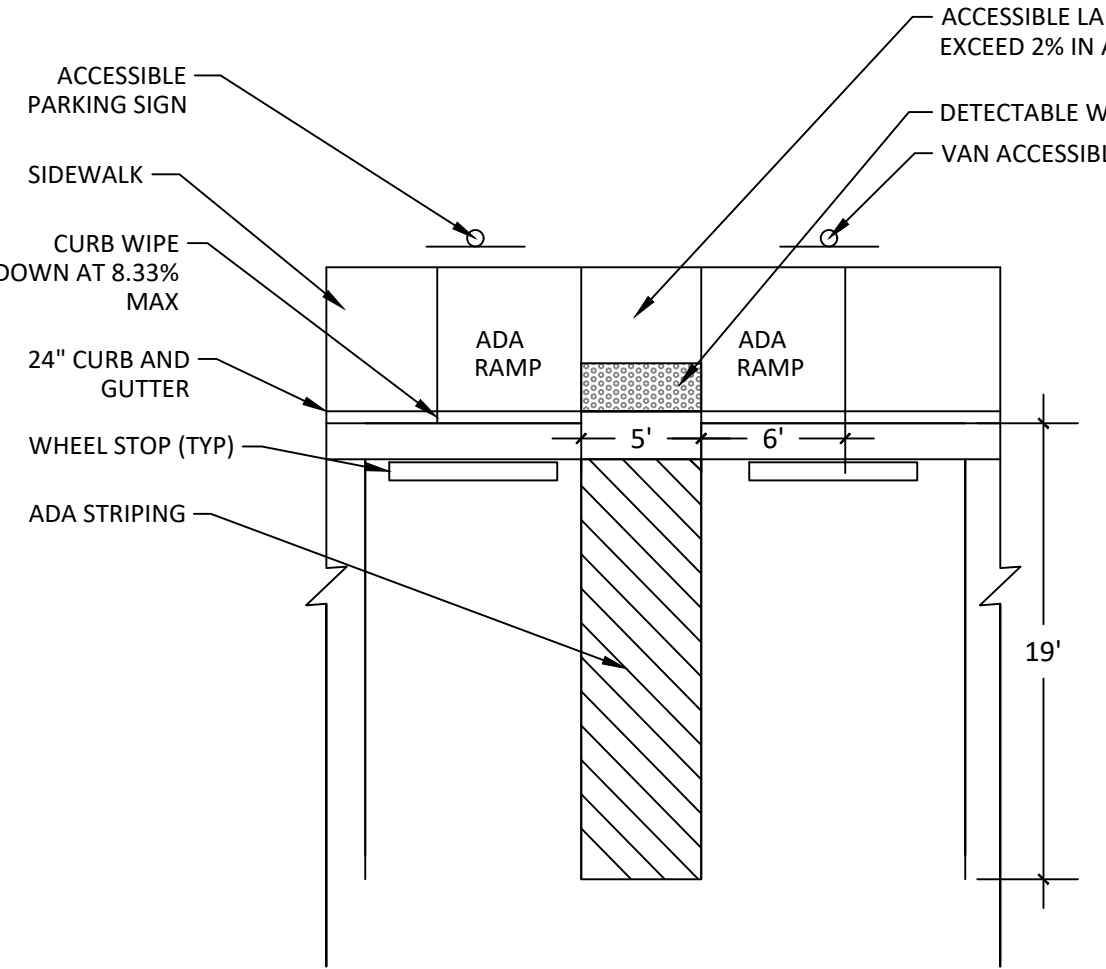
DRIVEWAY APRON



CONCRETE CURB AND GUTTER TRANSITION  
 (ROLLED CURB TO STANDARD CURB)

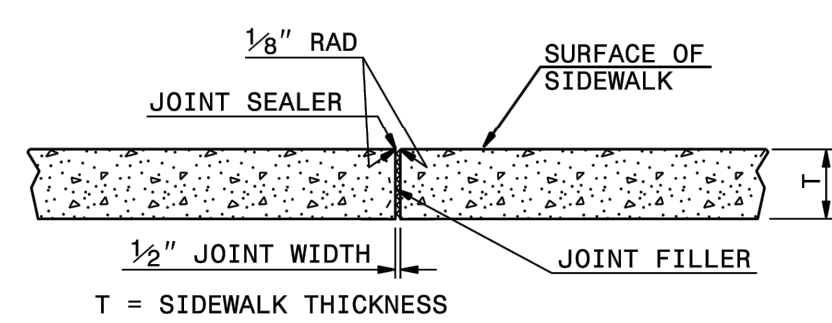


2 STANDARD PARKING SPACE  
 1" = 5'

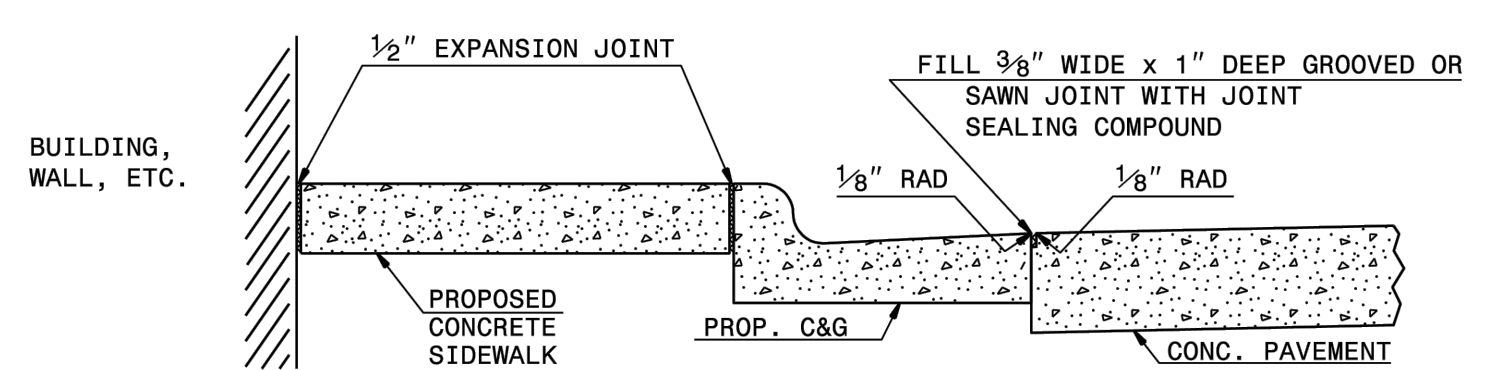


3 ADA PARKING  
 1/8" = 1'-0"

NOTES:  
 CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.  
 PLACE A GROOVE JOINT 1" DEEP WITH 1/8" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.  
 SEE STD. DWG. 848.05 FOR CURB RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



TRANSVERSE EXPANSION JOINT  
 IN SIDEWALK

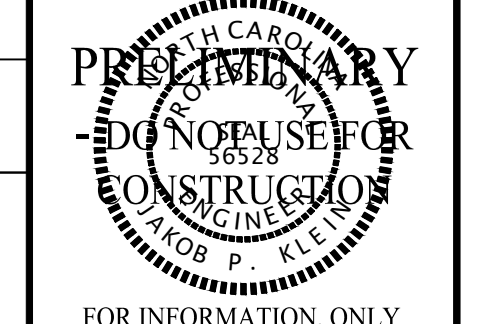


DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

STATE OF NORTH CAROLINA  
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 RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR  
 CONCRETE SIDEWALK

SHEET 1 OF 1  
 848.01



FOR INFORMATION, ONLY

NO.	DATE	REVISION:	CID:SUBMITTAL #1
1	12/25/2024		

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 PHASE 5  
 CONSTRUCTION INFRASTRUCTURE DOCUMENTS  
 CID-25-01  
 TOWN OF ROLESVILLE,  
 WAKE COUNTY, NC

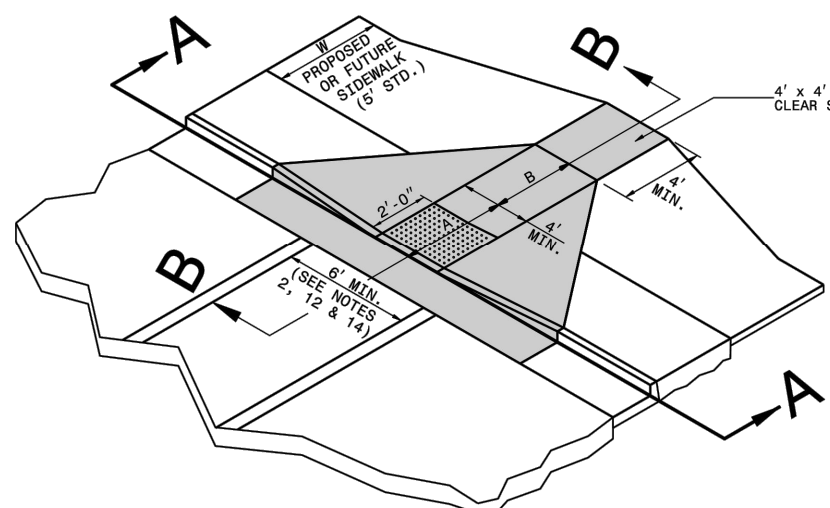
JOB NUMBER: R180115  
 CHECKED BY: JK  
 DRAWN BY: GE, RC  
 DATE: 03-03-2025  
 SHEET TITLE:

SITE DETAILS

SHEET NO.:  
 CS500

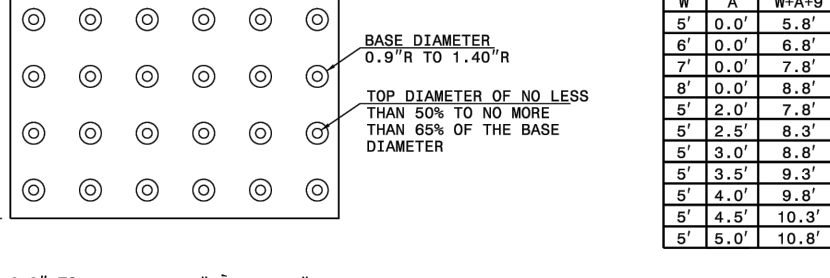


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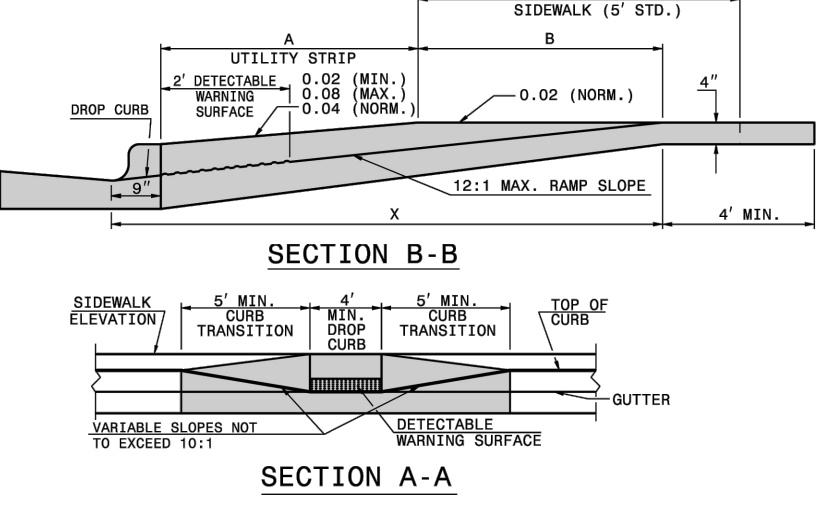


**ISOMETRIC VIEW**

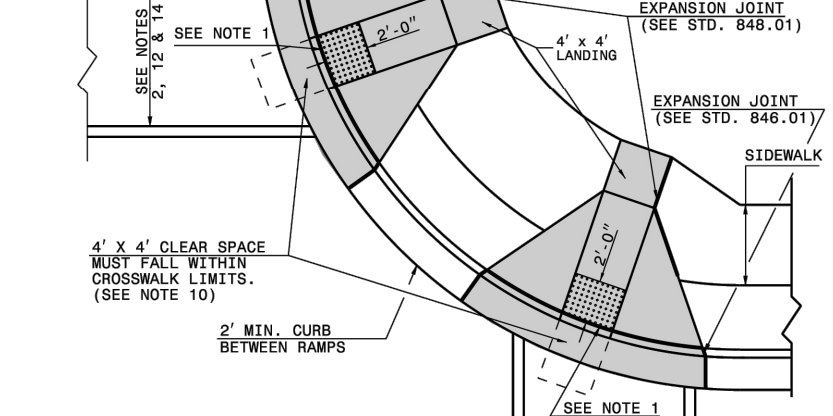
NOTES:  
 DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.  
 DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



**DETECTABLE WARNING SURFACE**



**SECTION A-A**

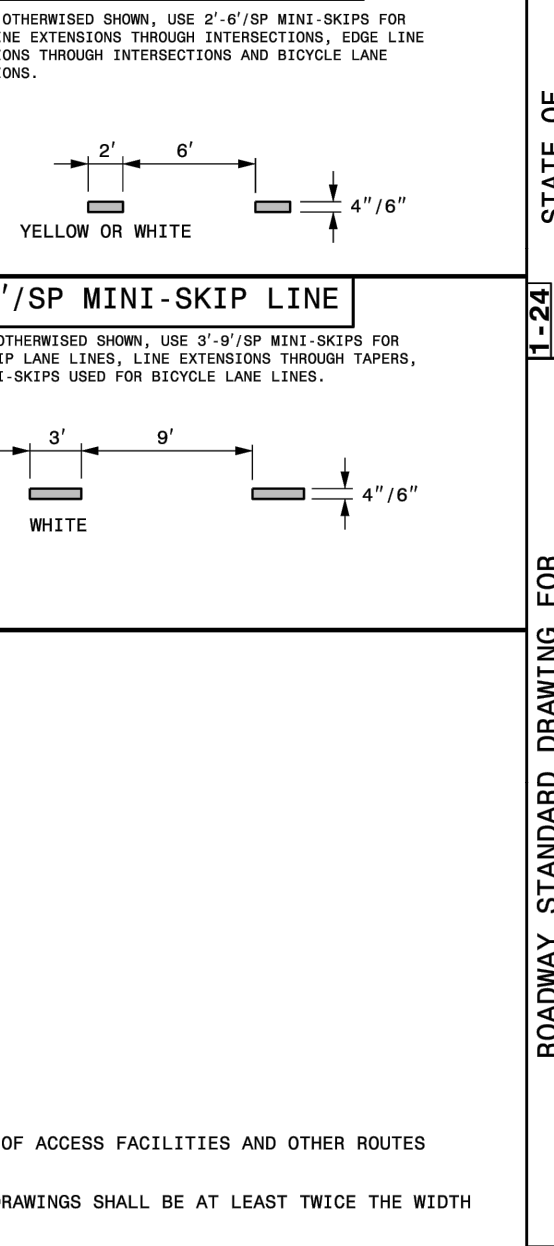
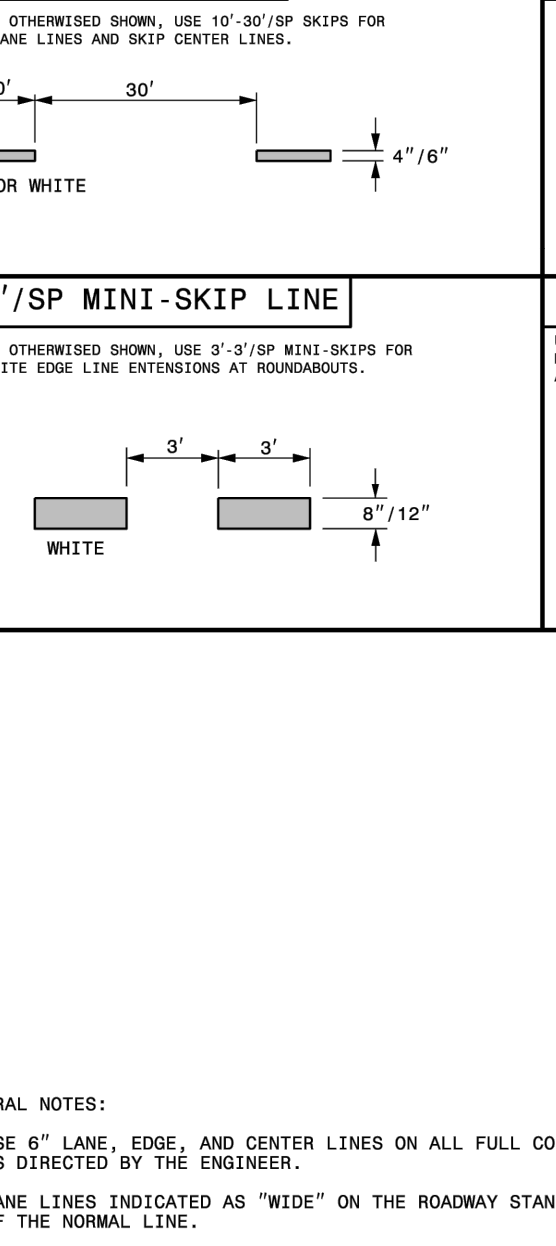
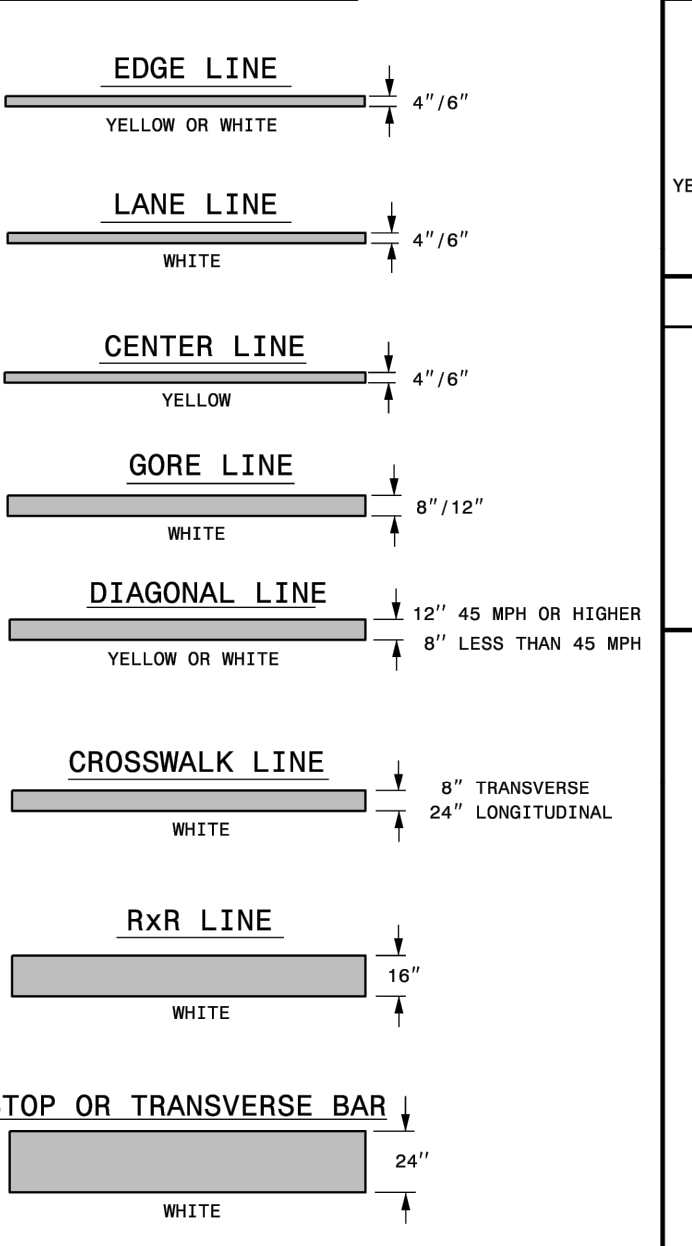


**PLAN VIEW**

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

ROADWAY STANDARD DRAWING FOR  
**CURB RAMP**  
 PROPOSED CURB AND GUTTER

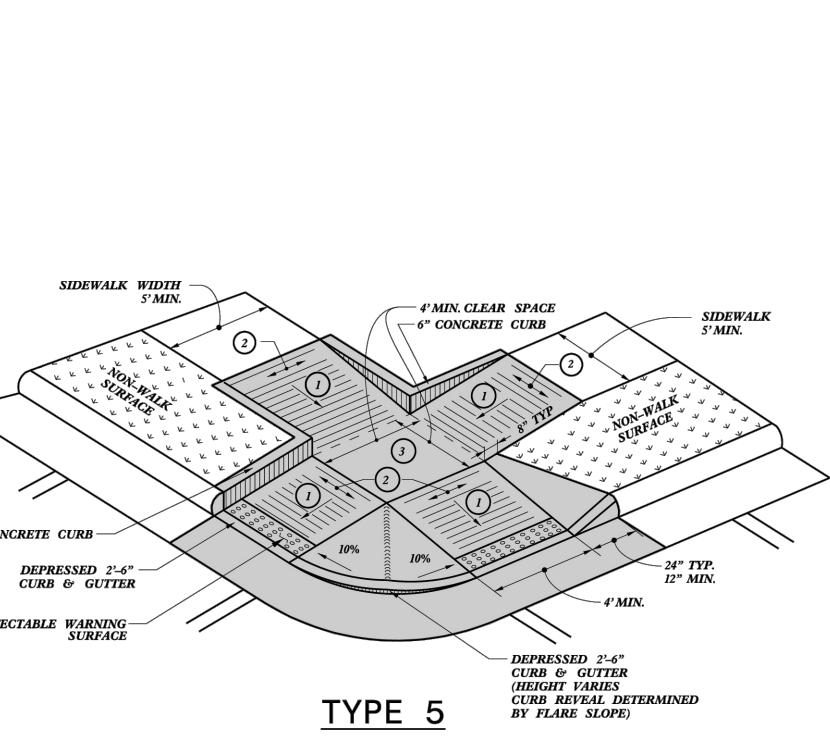
SHEET 1 OF 13  
**848.06**



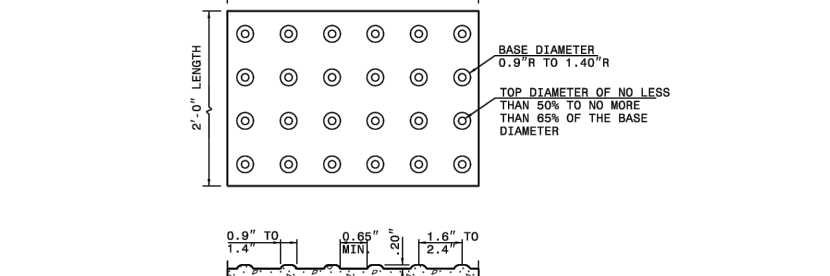
STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N. C.

ROADWAY STANDARD DRAWING FOR  
**PAVEMENT MARKINGS**  
 LINE TYPES AND OFFSETS

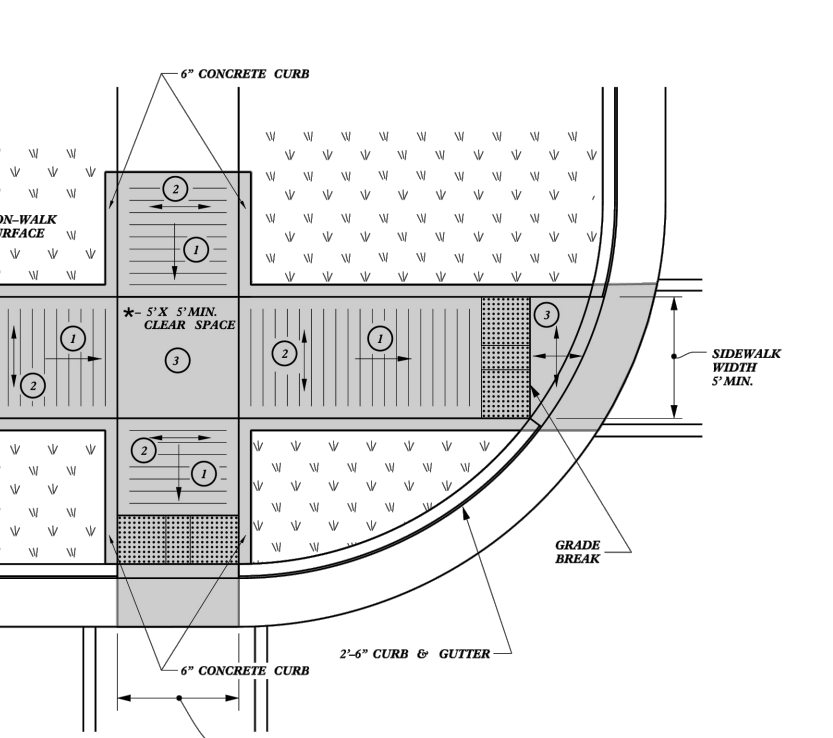
SHEET 1 OF 2  
**1205.01**



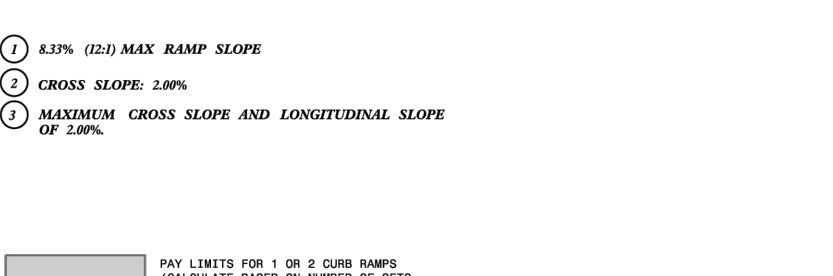
**TYPE 5**



**TYPE 5A**



**TYPE 5A**

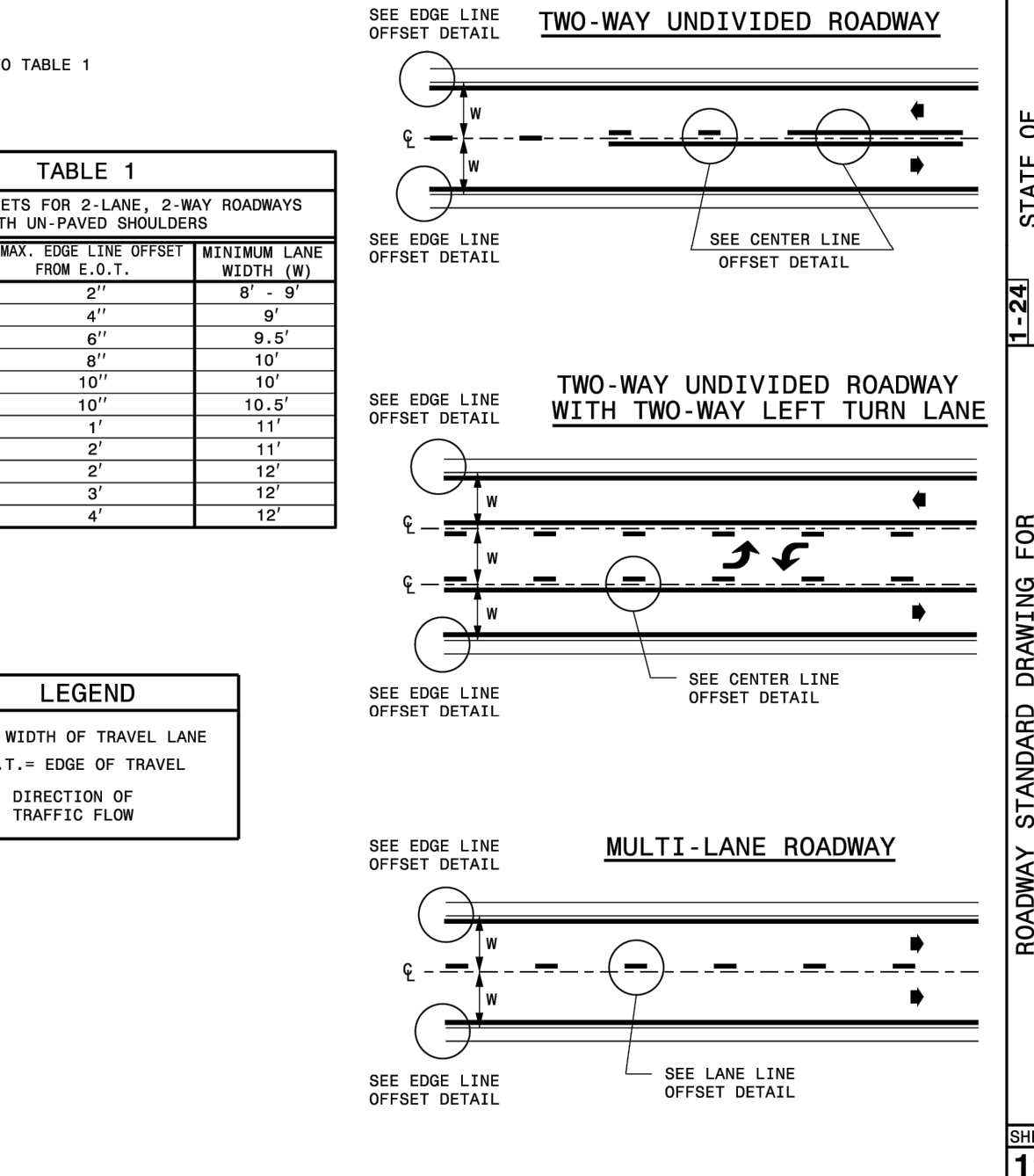
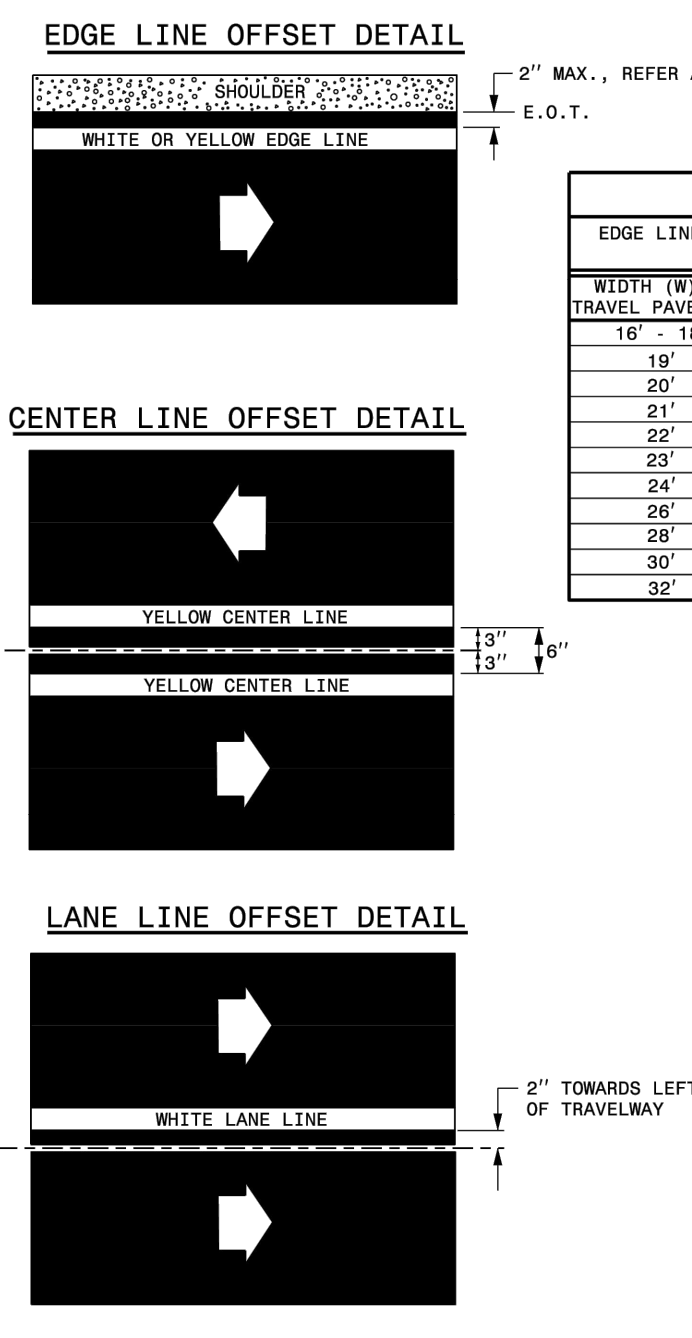


**TYPE 5A**

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ROADWAY STANDARD DRAWING FOR  
**CURB RAMP**  
 SHARED LANDING

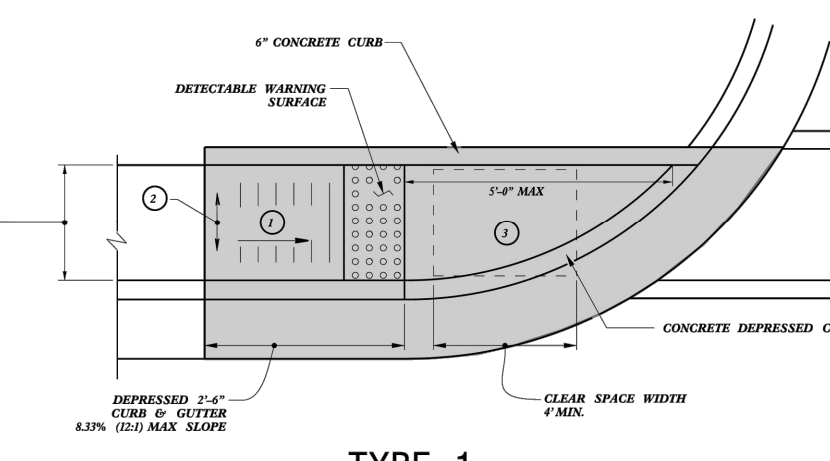
SHEET 11 OF 13  
**848.06**



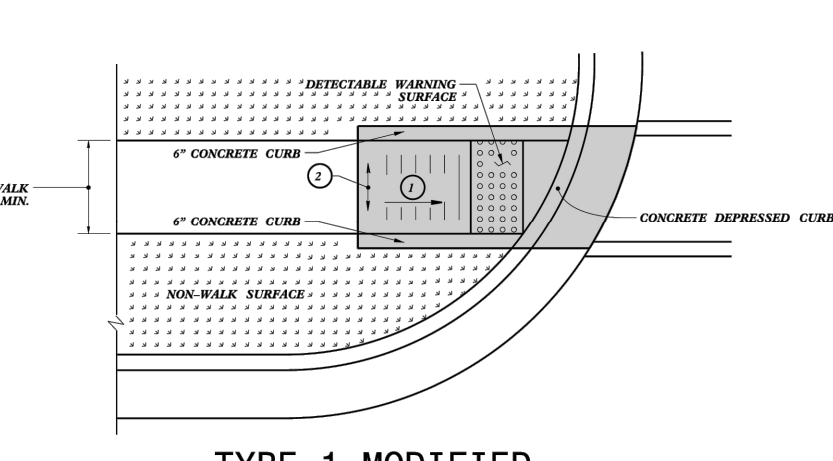
STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N. C.

ROADWAY STANDARD DRAWING FOR  
**PAVEMENT MARKINGS**  
 LINE TYPES AND OFFSETS

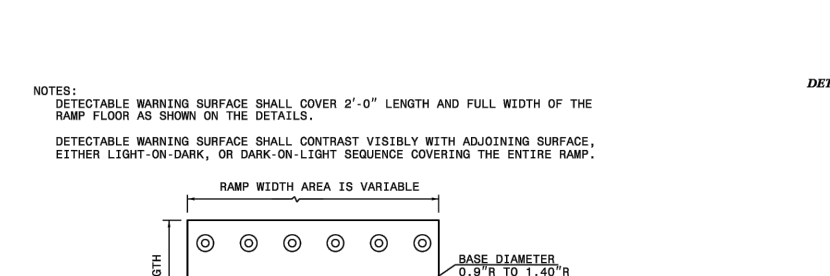
SHEET 2 OF 2  
**1205.01**



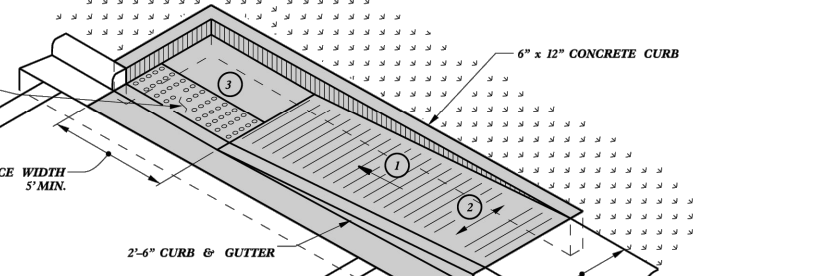
**TYPE 1**



**TYPE 1 MODIFIED**



**TYPE 1**

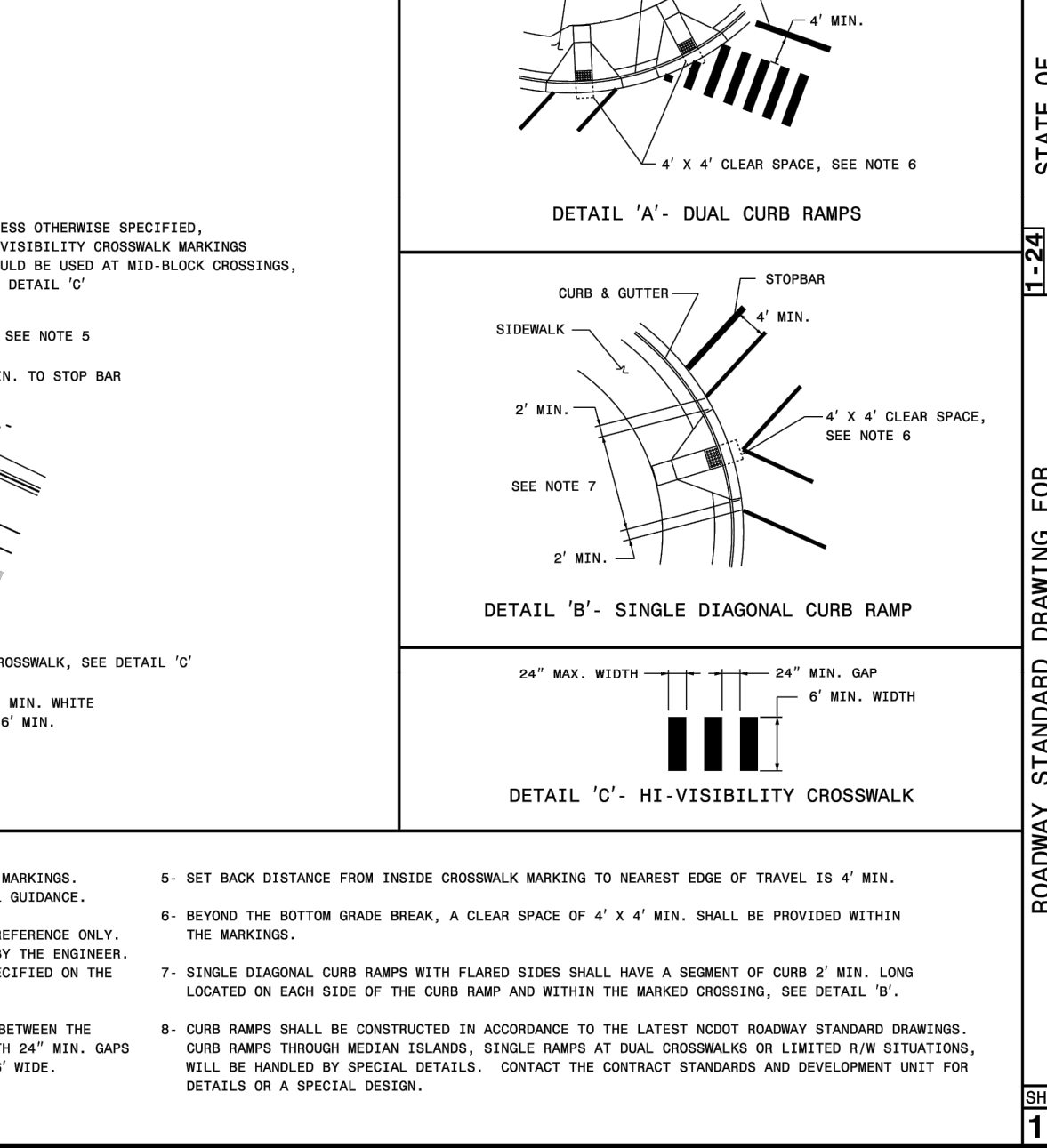
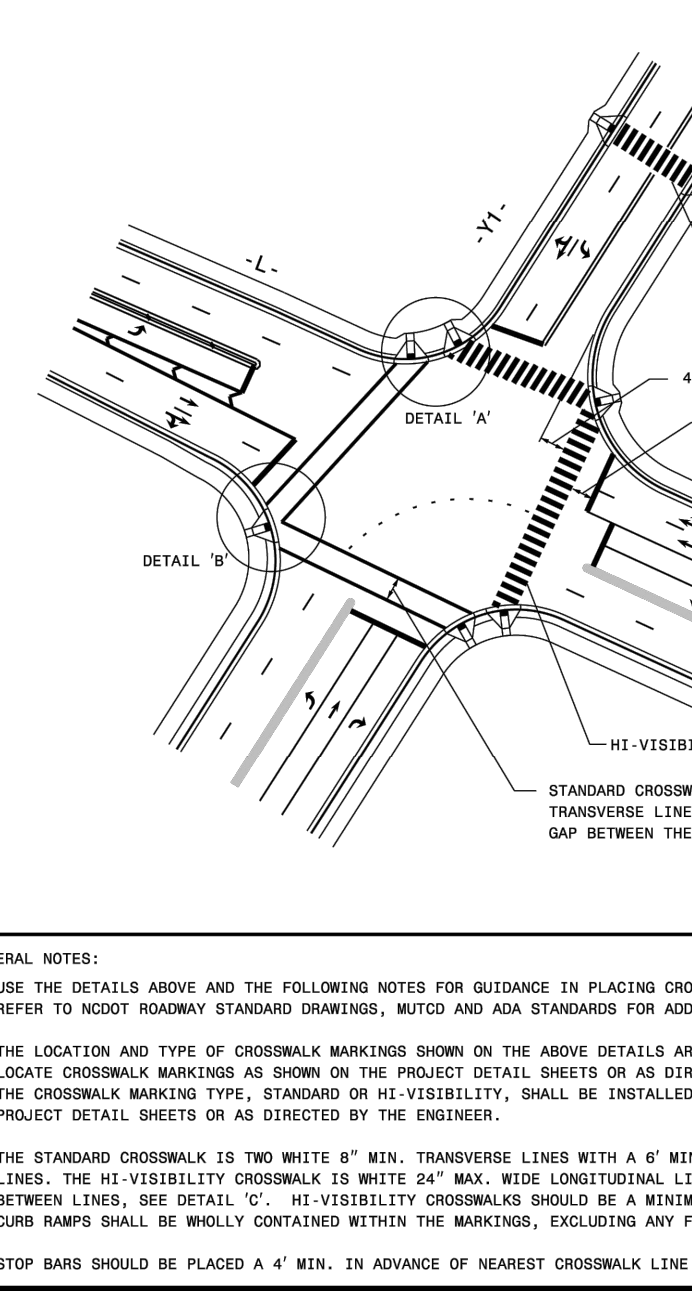


**TYPE 1A**

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ROADWAY STANDARD DRAWING FOR  
**CURB RAMP**  
 DIRECTIONAL RAMP

SHEET 6 OF 13  
**848.06**



STATE OF NORTH CAROLINA  
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 RALEIGH, N. C.

ROADWAY STANDARD DRAWING FOR  
**PAVEMENT MARKINGS**  
 PEDESTRIAN CROSSWALKS

SHEET 1 OF 2  
**1205.07**



STATE OF NORTH CAROLINA  
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ROADWAY STANDARD DRAWING FOR  
**CURB RAMP**  
 DIRECTIONAL RAMP

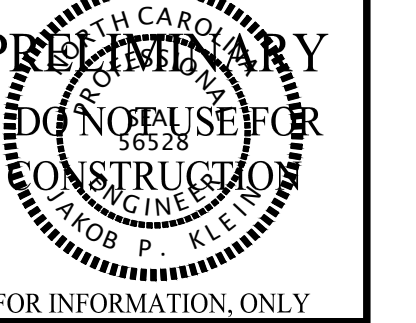
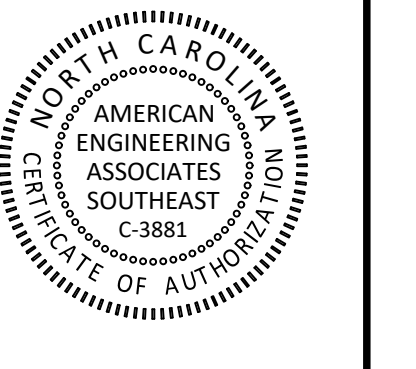
SHEET 6 OF 13  
**848.06**



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

ROADWAY STANDARD DRAWING FOR  
**PAVEMENT MARKINGS**  
 PEDESTRIAN CROSSWALKS

SHEET 1 OF 2  
**1205.07**



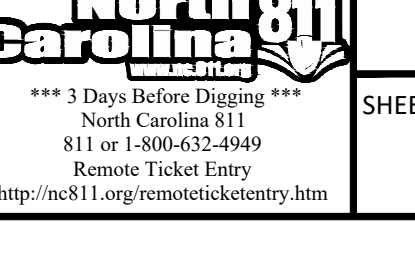
NO.	DATE	REVISION
1	12/25/2024	CID-SUBMITTAL #1

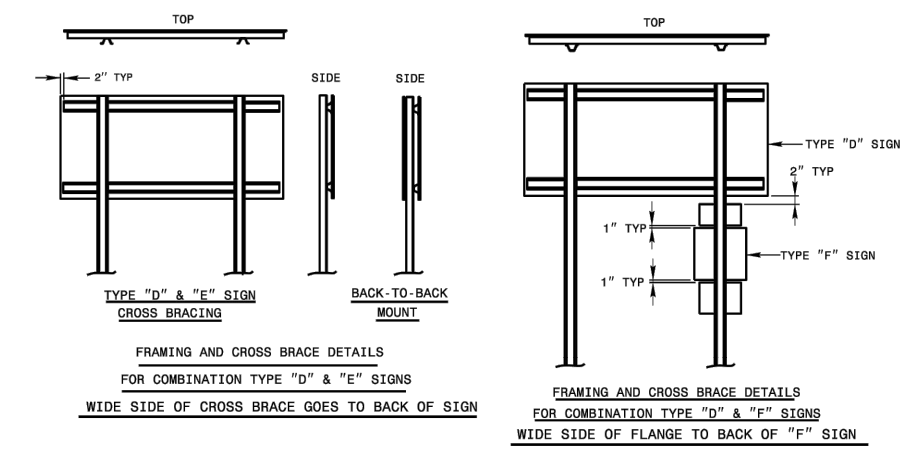
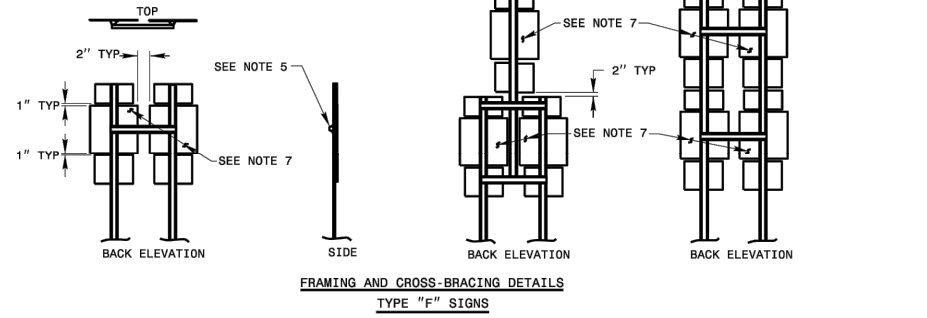
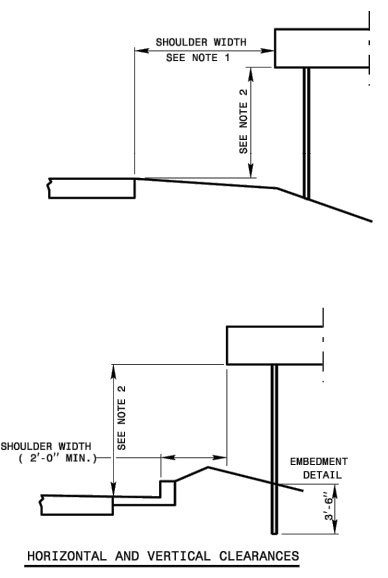
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 PHASE 5  
 CONSTRUCTION INFRASTRUCTURE DOCUMENTS  
 CID-25-01  
 TOWN OF ROLESVILLE,  
 WAKE COUNTY, NC

JOB NUMBER: R180115  
 CHECKED BY: JK  
 DRAWN BY: GE, RC  
 DATE: 03-03-2025  
 SHEET TITLE:

**SITE DETAILS**  
**CS501**



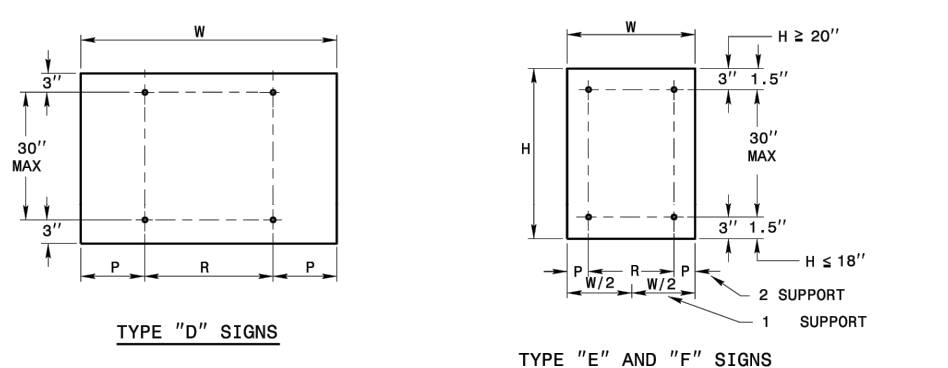
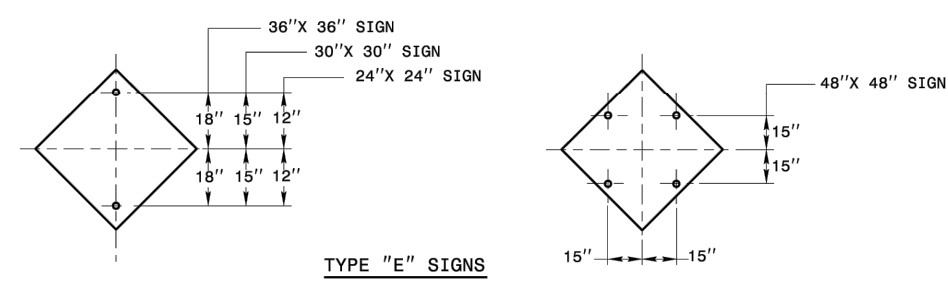


- NOTES:
1. ERECT TYPE "D", "E", AND "F" SIGNS ON FREESTANDING WITH THE NEAR EDGE OF THE SIGN 20 FT FROM THE TRAVEL LANE. ERECT ALL OTHER "D", "E", AND "F" SIGNS WITH THE NEAR EDGE OF THE SIGN AT THE EDGE OF THE SHOULDER OR 10 FT FROM THE EDGE OF THE TRAVEL LANE, OR AS DIMENSIONED ON PLAN SHEETS.
  2. ERECT TYPE "D", "E", AND "F" SIGNS WITH THE BOTTOM OF SIGN ASSEMBLY AT LEAST 7 FT ABOVE THE EDGE OF THE TRAVEL LANE ON ROADS WITH 2 OR MORE LANES IN THE SAME DIRECTION AND AT LEAST 9 FT ON OTHER ROUTES. THE VERTICAL CLEARANCE IS 9 FT. THESE REQUIREMENTS FOR FUTURE TRAFFIC AND/OR PARKED VEHICLES.
  3. THE VERTICAL DIMENSION BETWEEN MOUNTING HOLE CENTERS ON ALL TYPES "D", "E", AND "F" SIGNS IS 20" MAXIMUM. THE HORIZONTAL AND VERTICAL DIMENSIONS BETWEEN MOUNTING HOLES IS TO THE WHOLE INCH.
  4. ATTACH SIGN WITH 5/16" HEX HEAD BOLT, NYLON WASHER, SHIM, FLAT WASHER, LOCK WASHER, HEX NUT AND WASHING OF 1/2" WITH 1/4" BUSHING. SEE ASSEMBLY DETAIL SHEET 2 OF 2 FOR SIGN.
  5. FURNISH AND INSTALL CROSS-BRACING AS SHOWN IN DETAIL. PAINT ENDS OF CROSS BRACES WITH APPROVED ZINC PAINT.
  6. INSTALL SUPPORT AND CROSS-BRACING WITH THE WIDE SIDE OF THE FLANGE TOWARD THE BACK OF SIGN(S) FOR COMBINATION TYPE "D" AND "F" SIGNS.
  7. THE SHIELD HEIGHTS IN THESE ASSEMBLIES CAN NOT BE LARGER THAN 24".
  8. IF SIGN ASSEMBLIES REQUIRE MORE THAN TWO U-CHANNEL SUPPORTS, THE SUPPORTS SHALL BE PLACED WITHIN 4 FT. BETWEEN CHANNEL SUPPORTS. THE SIGN ASSEMBLY MUST BE PLACED BEHIND BARRIER PROTECTION.

STATE OF NORTH CAROLINA  
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RALEIGH, N. C.

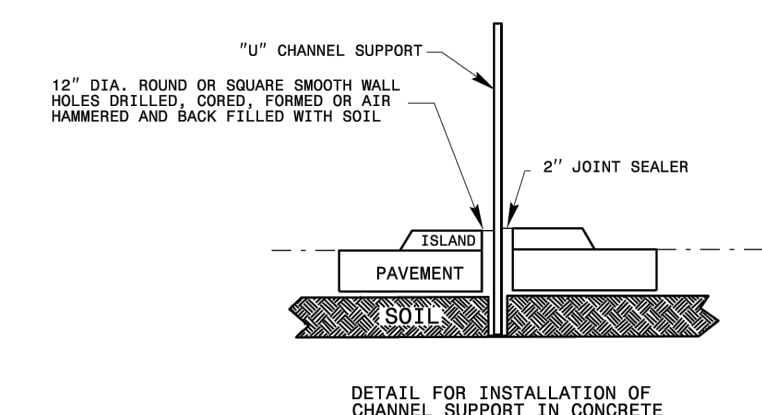
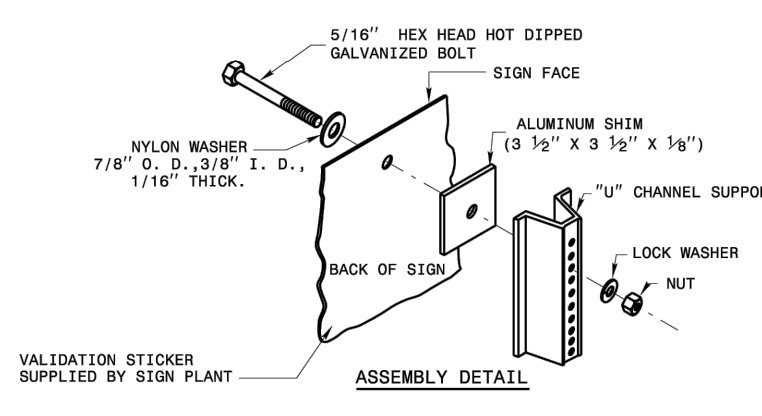
ROADWAY STANDARD DRAWING FOR  
**MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL SUPPORTS**

SHEET 1 OF 2  
**904.50**



NO. SUPPORTS			
2	3	4	5
2576	1576	1076	776
1556	1056	756	456

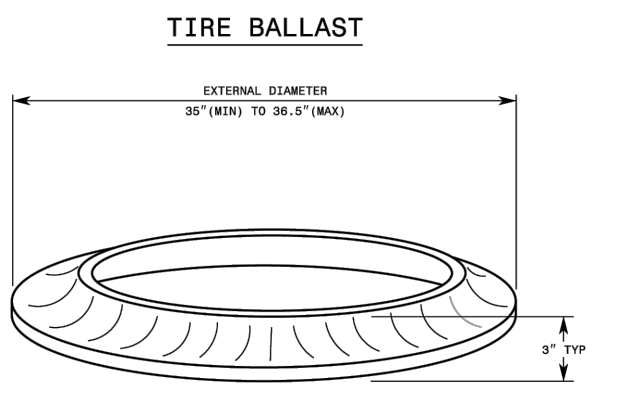
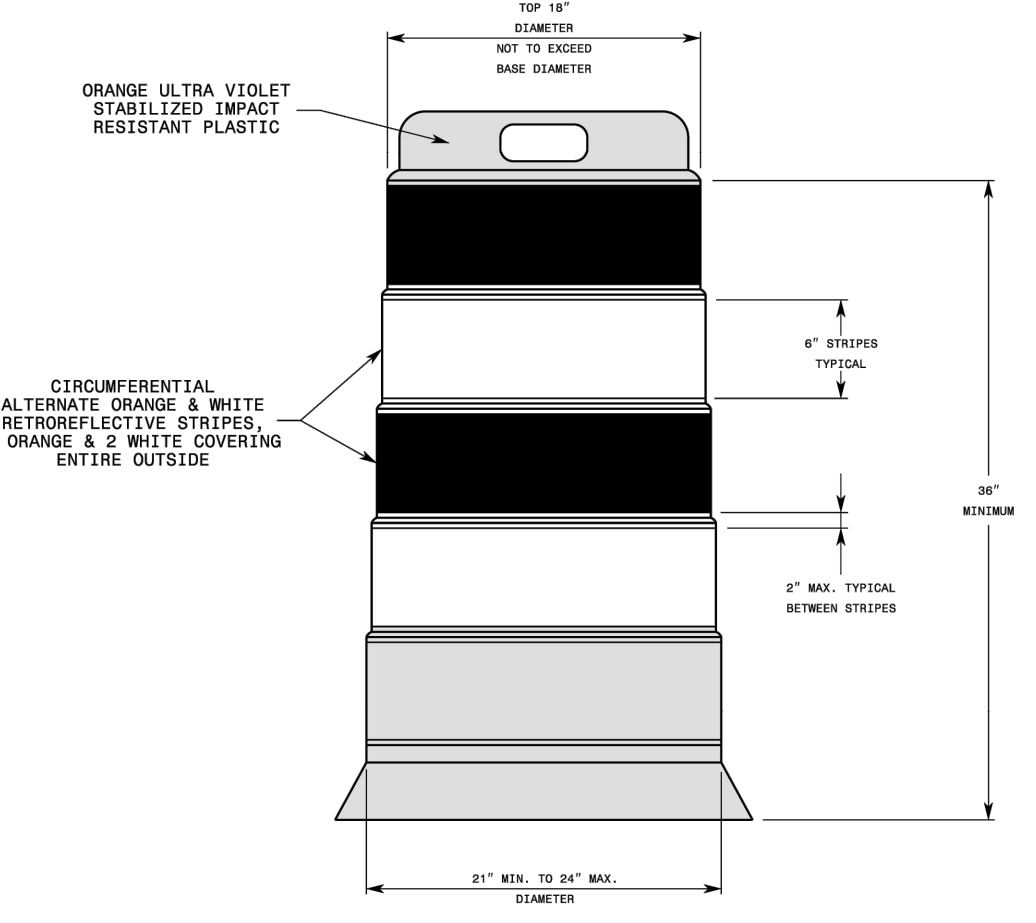
HOLE PUNCHING DETAIL



STATE OF NORTH CAROLINA  
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ROADWAY STANDARD DRAWING FOR  
**MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL SUPPORTS**

SHEET 2 OF 2  
**904.50**

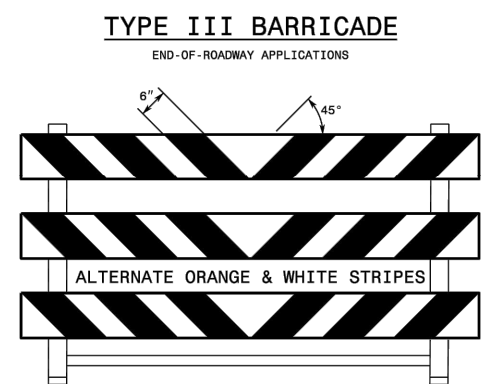
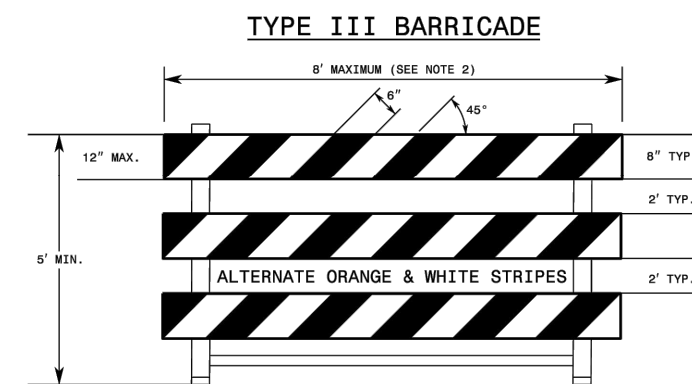


- GENERAL NOTES
1. BALLASTING SHALL BE ACHIEVED BY THE SAND BAG, TIRE-SIDEMALL, OR PREFORMED WEIGHTED BASE METHODS. USE THE TIRE BALLAST AS SPECIFIED BY THE MANUFACTURER. DO NOT PLACE BALLAST ON TOP OF THE DRUM.
  2. IF NECESSARY PLACE THE NAME OF THE AGENCY, CONTRACTOR, OR SUPPLIER ON NON-RETROREFLECTIVE DRUM SURFACES. SHOW THE LETTERS AND NUMBERS USING A NON-RETROREFLECTIVE COLOR AND NOT OVER 2" IN HEIGHT.
  3. ALL DRUMS MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCT LIST.
  4. REFER TO THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR ADDITIONAL INFORMATION.

STATE OF NORTH CAROLINA  
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DIVISION OF HIGHWAYS  
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ROADWAY STANDARD DRAWING FOR  
**DRUMS**

SHEET 1 OF 1  
**1130.01**

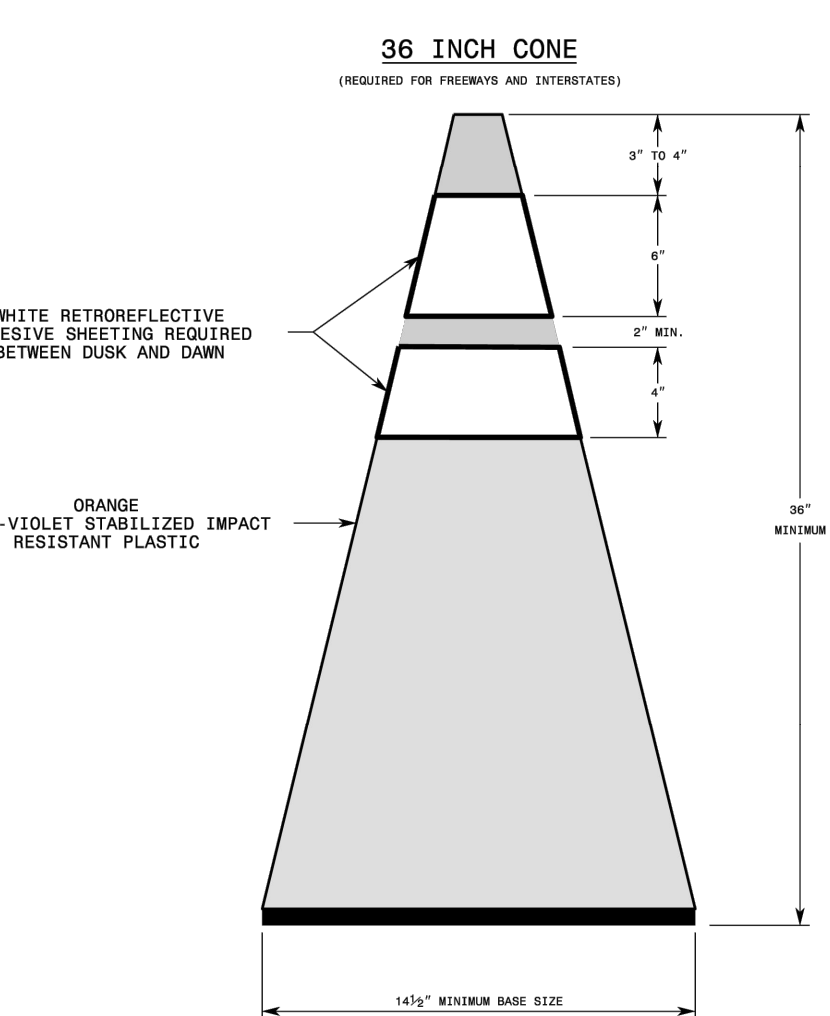
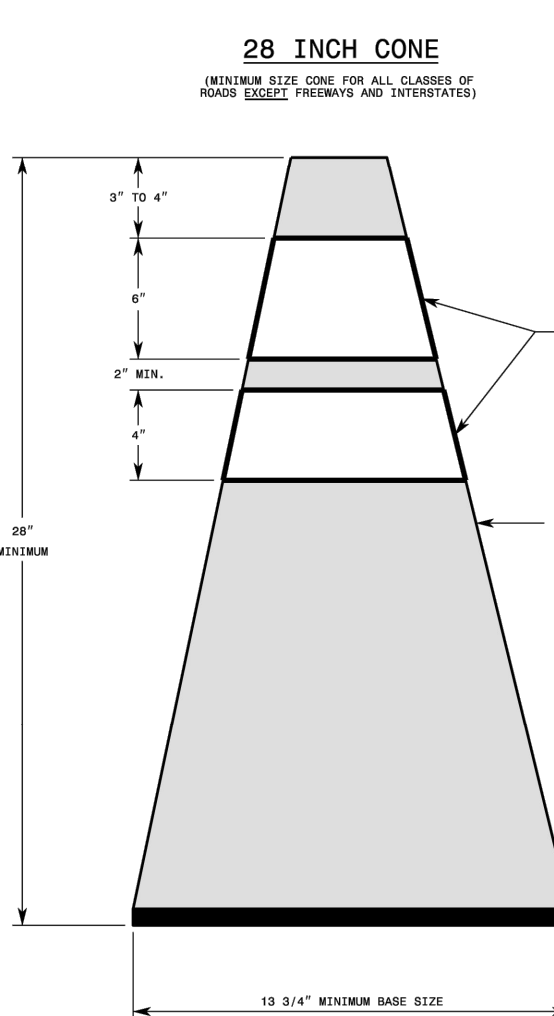


- GENERAL NOTES
1. HORIZONTAL RAILS FOR BARRICADES MAY BE CONSTRUCTED OF APPROVED COMPOSITE, HOLLOW/ CORRUGATED EXTRUDED RIGID POLYOLEFIN, HIGH DENSITY POLYETHYLENE, OR OTHER NCDOT APPROVED MATERIAL.
  2. BARRICADE SHALL BE LIMITED TO A MAXIMUM LENGTH OF 8 FT UNLESS NCDOT APPROVED.
  3. ONLY NCDOT APPROVED COMPOSITE AND ROLL-UP SIGNS MAY BE MOUNTED ON THE BARRICADE RAILS. MOUNT SIGNS TO BARRICADE RAILS TO ENSURE SIGN WILL NOT BECOME DETACHED UNDER NORMAL WIND AND TRAFFIC CONDITIONS.
  4. SIGNS SHALL BE MOUNTED A MINIMUM OF 1 FOOT FROM THE GROUND TO THE BOTTOM OF THE SIGN UNLESS SIGN R11-3 IS REQUIRED BY THE PLANS OR DIRECTED BY THE ENGINEER.
  5. ASSEMBLY OF THE GENERIC BARRICADES MUST BE SELF CERTIFIED BY THE ASSEMBLER.
  6. BARRICADES USED TO CLOSE A ROADWAY SHALL EXTEND ACROSS THE ENTIRE ROADWAY. WHERE LOCAL TRAFFIC MUST BE MAINTAINED, THEY MAY BE PLACED IN A STAGGERED PATTERN.
  7. STRIPES ON WORK ZONE BARRICADE RAILS SHALL BE ALTERNATE ORANGE AND WHITE RETROREFLECTIVE STRIPES, SLOPED DOWNWARD TOWARD THE SIDE WHICH TRAFFIC IS TO PASS OR TURN IN DETOURING. WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD SLOPE DOWNWARD TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.
  8. USE RED AND WHITE STRIPES FOR PERMANENT BARRICADES.
  9. ALL BARRICADES MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCTS LIST.
  10. PLACE SANDBAGS OR OTHER APPROVED BALLASTING METHODS ON THE FEET OF THE FRAME. DO NOT PLACE SANDBAGS ON TOP OF A STRIPPED RAIL OR STABILIZER BAR. DO NOT BALLAST BARRICADES BY HEAVY OBJECTS SUCH AS ROCKS, CHUNKS OF CONCRETE OR OTHER ITEMS THAT WOULD CAUSE DAMAGE IF THE BARRICADE IS STRUCK BY A VEHICLE.

STATE OF NORTH CAROLINA  
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ROADWAY STANDARD DRAWING FOR  
**BARRICADES TYPE-III**

SHEET 1 OF 1  
**1145.01**

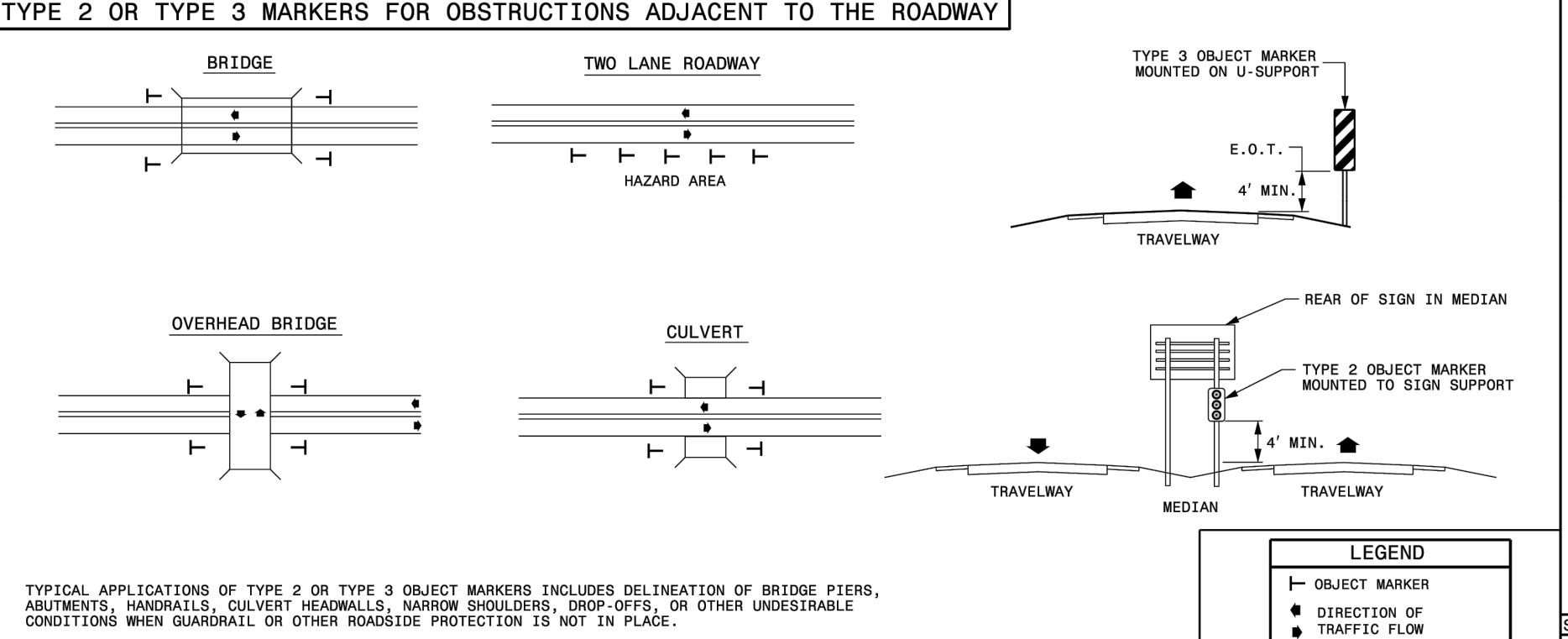
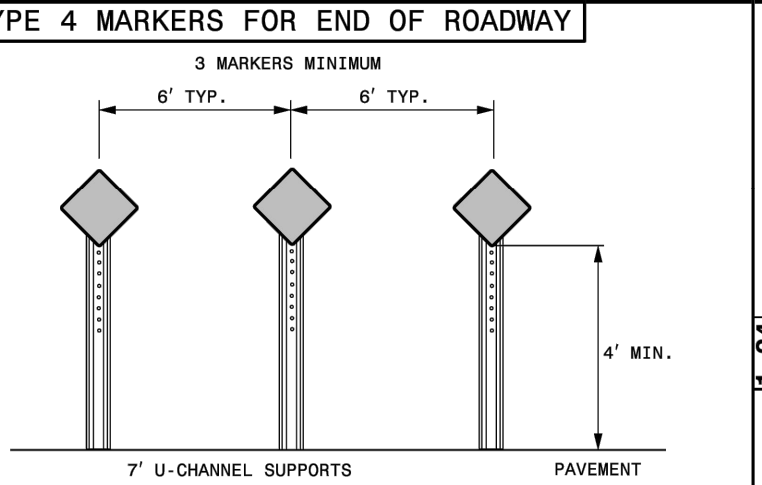
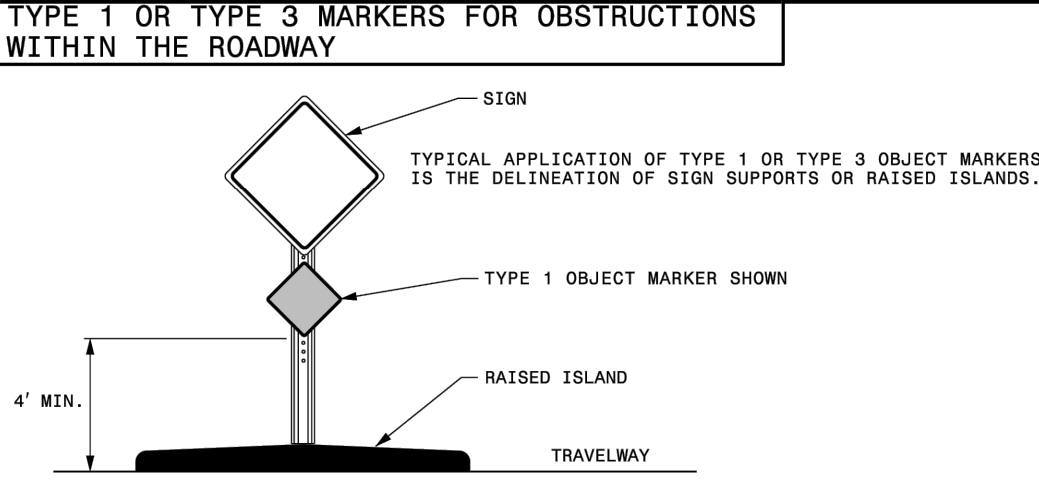


- GENERAL NOTES
1. ACHIEVE BALLASTING BY USING SPECIAL WEIGHTED BASES SUCH AS SAND BAG RINGS, DOUBLING CONES, OR BASES THAT CAN BE FILLED WITH BALLAST. SEVENTY PERCENT OF THE WEIGHT OF THE CONE MUST BE IN THE BASE. USE BALLASTS THAT DO NOT PRESENT A HAZARD WHEN STRUCK.
  2. ALL CONES MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCTS LIST.

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

ROADWAY STANDARD DRAWING FOR  
**CONES**

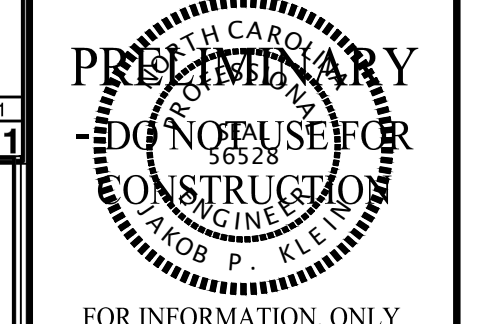
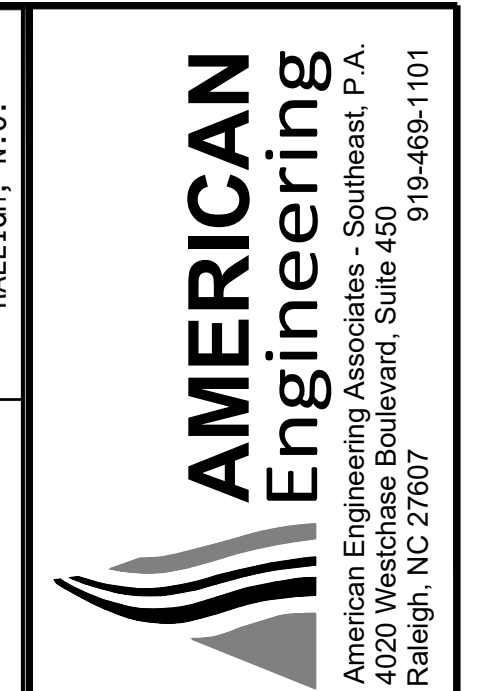
SHEET 1 OF 1  
**1135.01**



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

ROADWAY STANDARD DRAWING FOR  
**OBJECT MARKERS INSTALLATION**

SHEET 1 OF 1  
**1264.02**



NO.	DATE	REVISION:
1	12/25/2024	CID-SUBMITTAL #1

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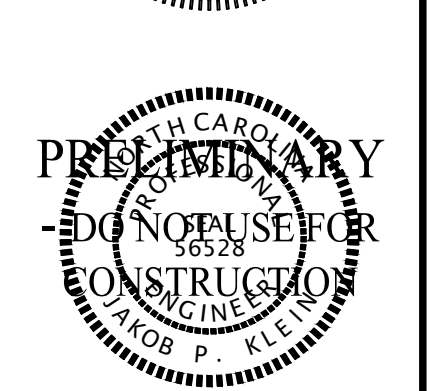
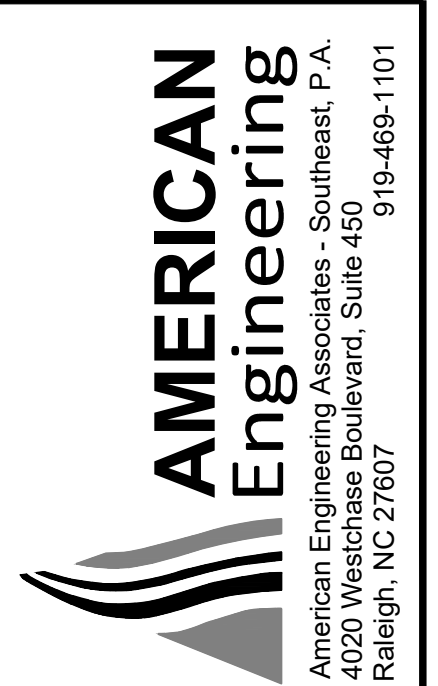
KALAS FALLS  
PHASE 5  
CONSTRUCTION INFRASTRUCTURE DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER: R180115  
CHECKED BY: JK  
DRAWN BY: GE, RC  
DATE: 03-03-2025  
SHEET TITLE:  
**SITE DETAILS**  
SHEET NO.:  
**CS502**



**Public**  
**Sewer Collection / Extension System**  
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 # \_\_\_\_\_

**Public**  
**Water Distribution / Extension System**  
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City of Raleigh  
Public Utilities Department Permit # \_\_\_\_\_



FOR INFORMATION ONLY

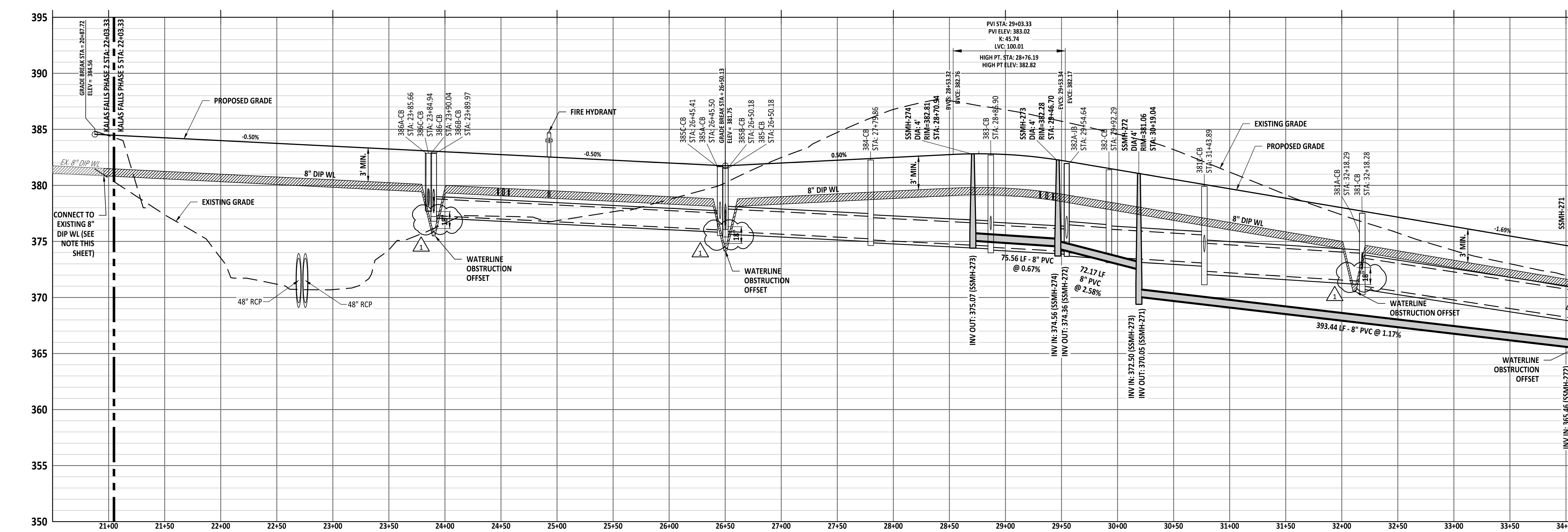
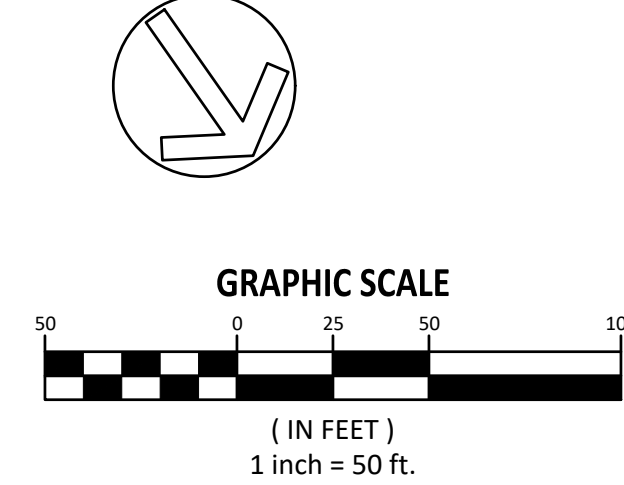
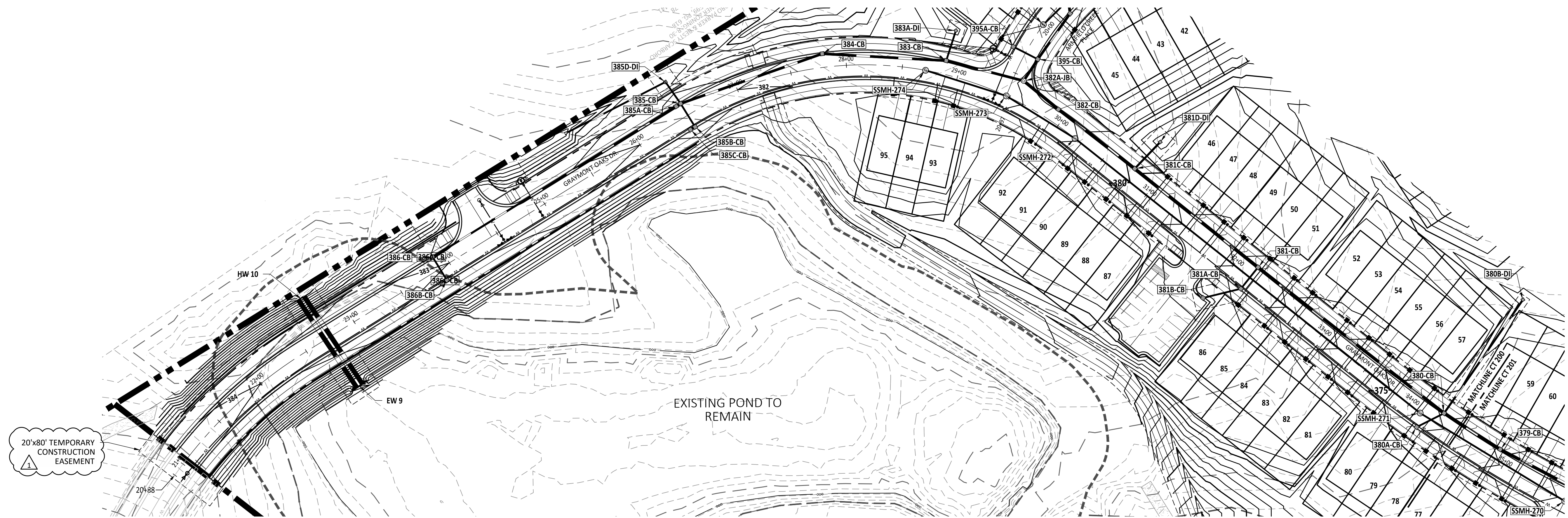
NO.	DATE	REVISION:
1	12/25/2024	CID:SUBMITTAL #1

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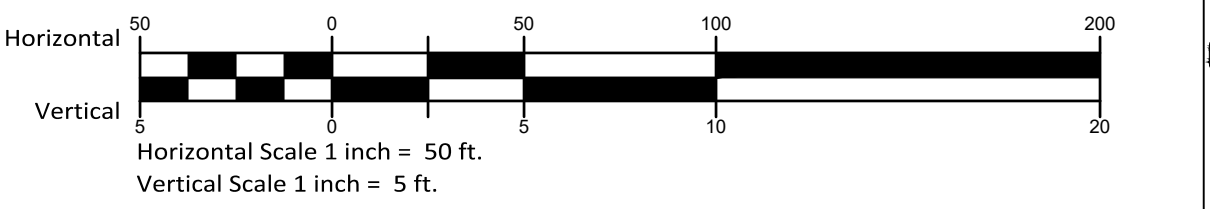
KALAS FALLS  
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DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER: R180115  
CHECKED BY: JK  
DRAWN BY: GE, RC  
DATE: 03-03-2025  
SHEET TITLE:

**GRAYMONT OAKS DR. PLAN & PROFILE**  
SHEET NO.: **CT200**



**GRAYMONT OAKS DR. PROFILE**  
**NOTE:**  
1. CONTRACTOR TO CONFIRM LOCATION, DEPTH, SIZE, AND MATERIAL OF EXISTING UTILITIES, SANITARY SEWER, AND STORM WATER INFRASTRUCTURE AND REPORT ANY DISCREPANCIES TO AMERICAN ENGINEERING.

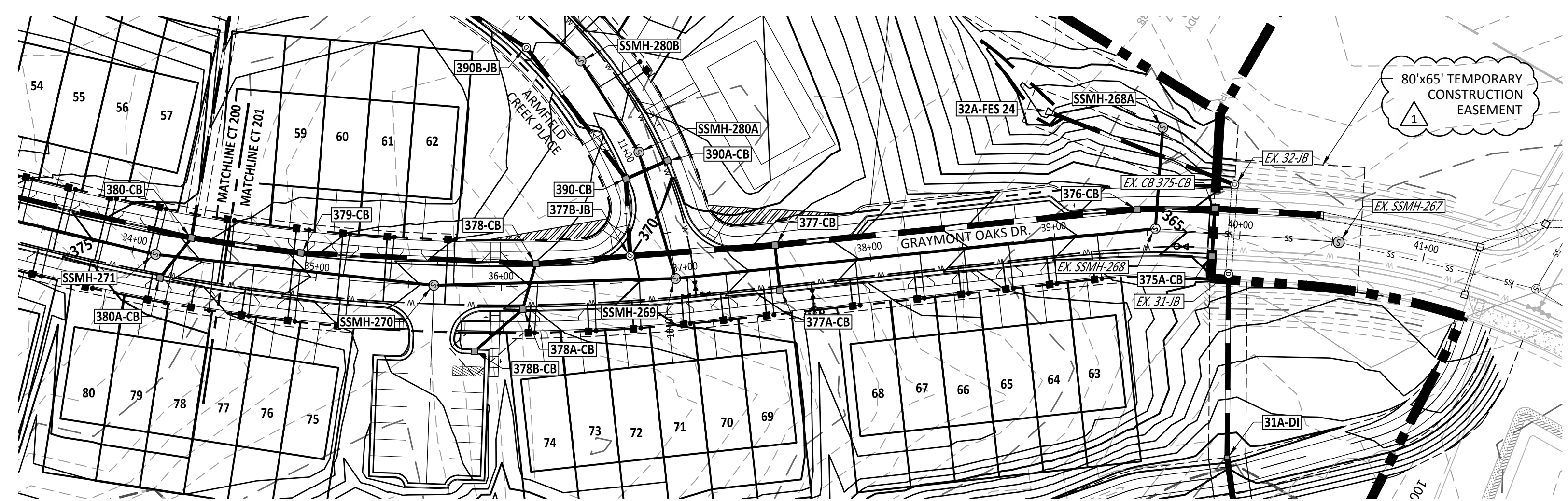
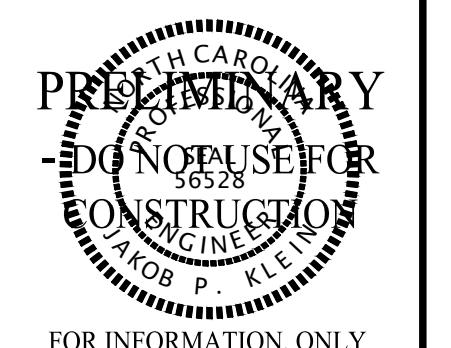


S:\1500\15000\15000.dwg (Phase 5: Sewer/Storm) \15000.ctb [Printed on 03/03/2025] [03/03/2025 09:03:00 AM] PLOTTED BY: JKH

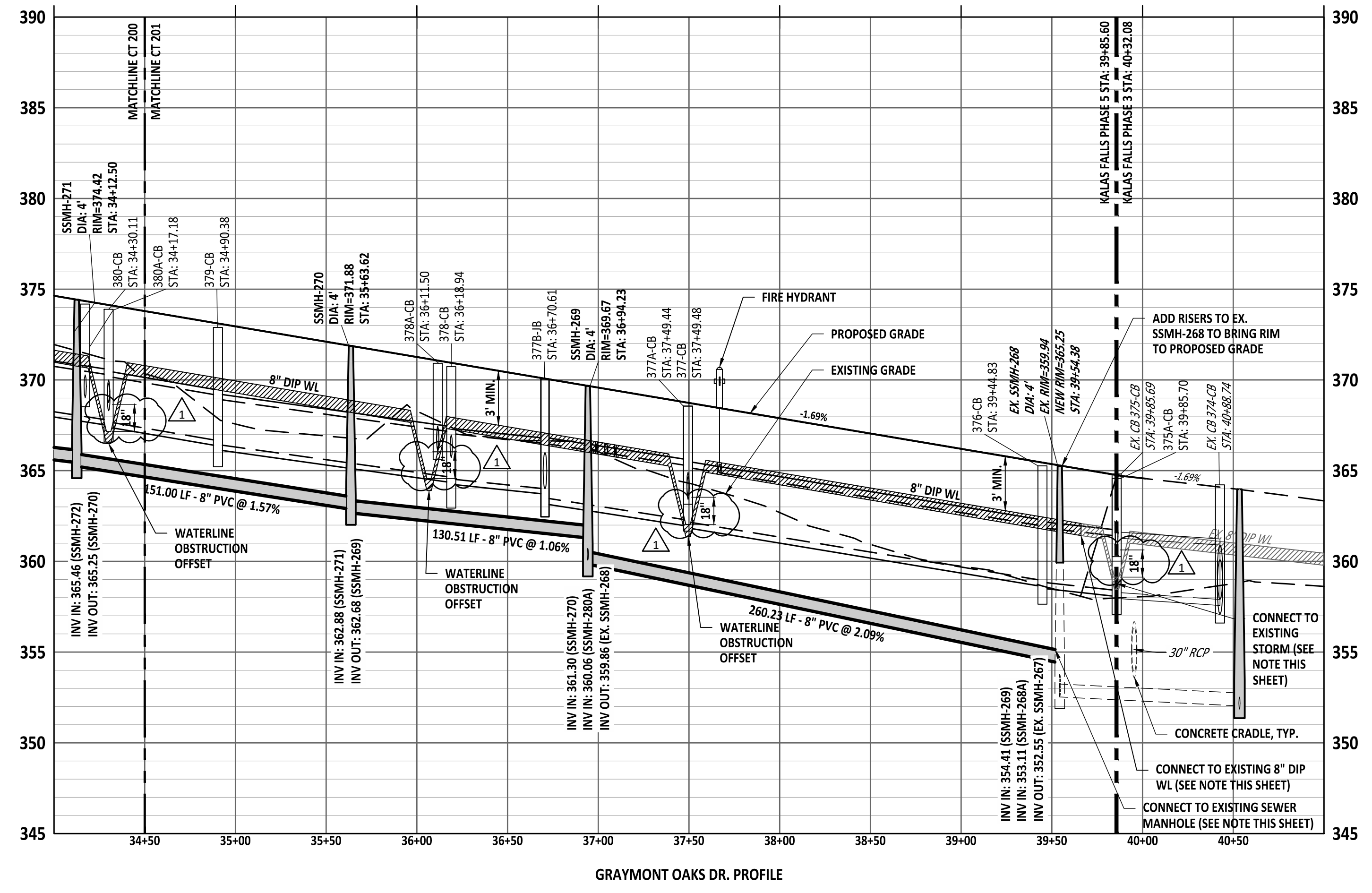
2025-03-03

**Public**  
**Sewer Collection / Extension System**  
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City of Raleigh  
Public Utilities Department Permit # \_\_\_\_\_

**Public**  
**Water Distribution / Extension System**  
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City of Raleigh  
Public Utilities Department Permit # \_\_\_\_\_

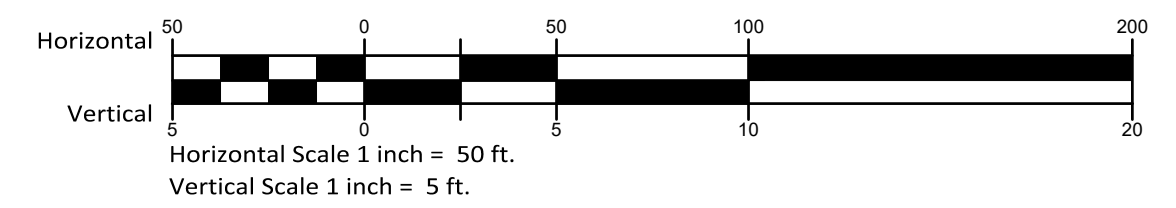


GRAYMONT OAKS DR. PLAN



GRAYMONT OAKS DR. PROFILE

NOTE:  
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NO.	DATE	REVISION:
1	12/23/2024	CID:SUBMITTAL.#1

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KALAS FALLS  
PHASE 5  
CONSTRUCTION INFRASTRUCTURE  
DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER: R180115  
CHECKED BY: JK  
DRAWN BY: GE, RC  
DATE: 03-03-2025

SHEET TITLE:  
**GRAYMONT OAKS DR. PLAN & PROFILE**  
SHEET NO.:  
**CT201**

**Public Sewer Collection / Extension System**

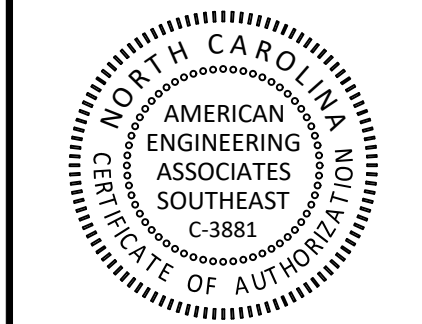
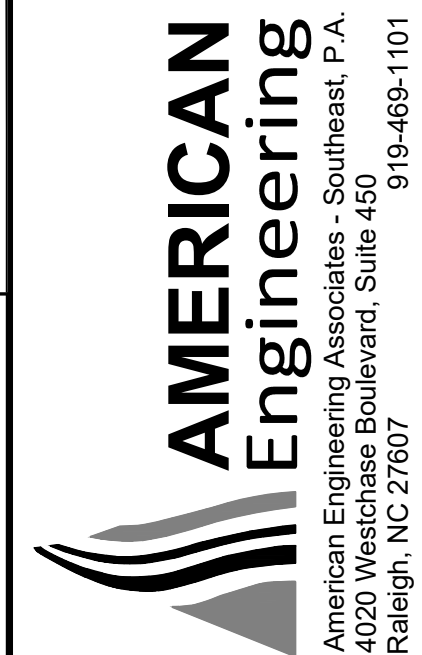
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City of Raleigh  
Public Utilities Department Permit # \_\_\_\_\_

**Public Water Distribution / Extension System**

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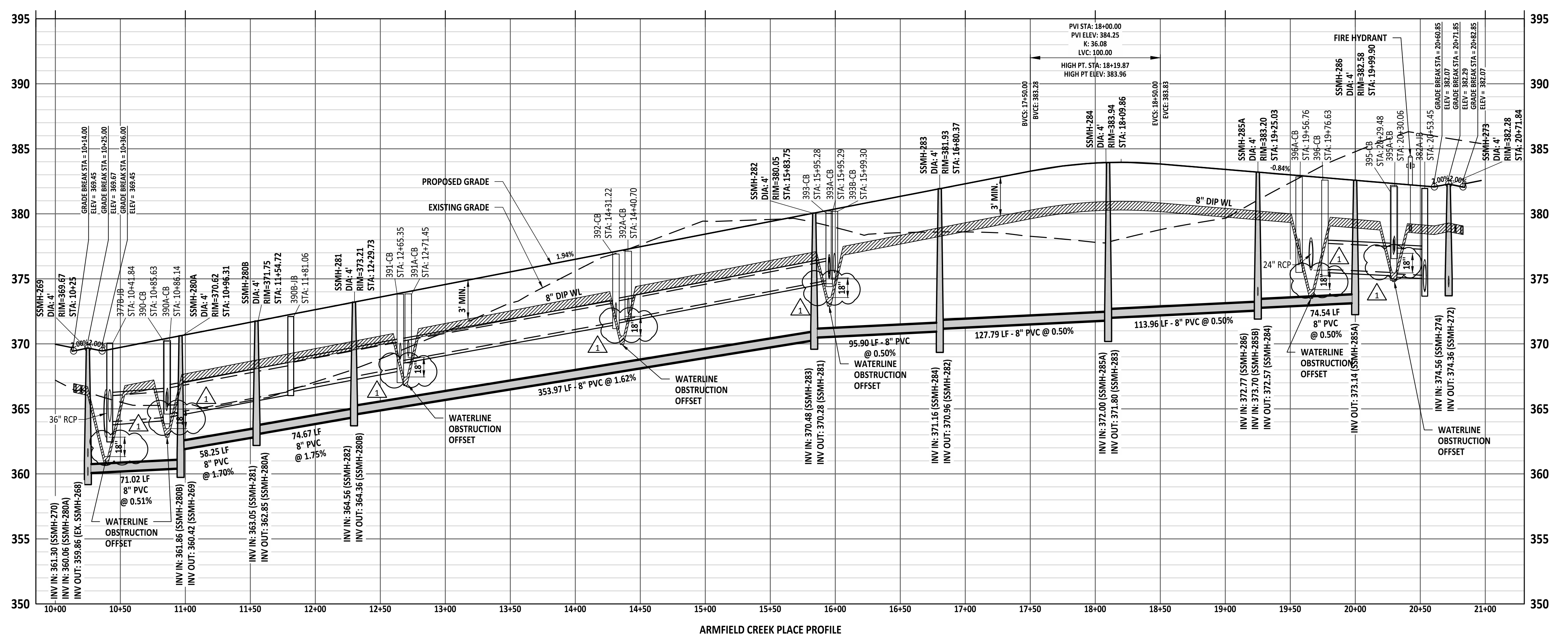
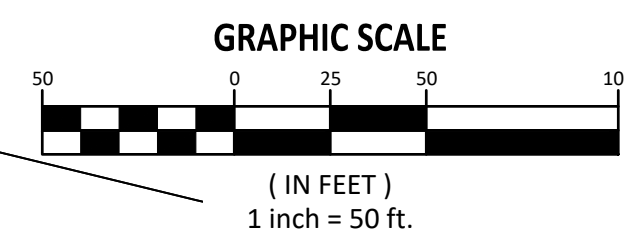
City of Raleigh  
Public Utilities Department Permit # \_\_\_\_\_



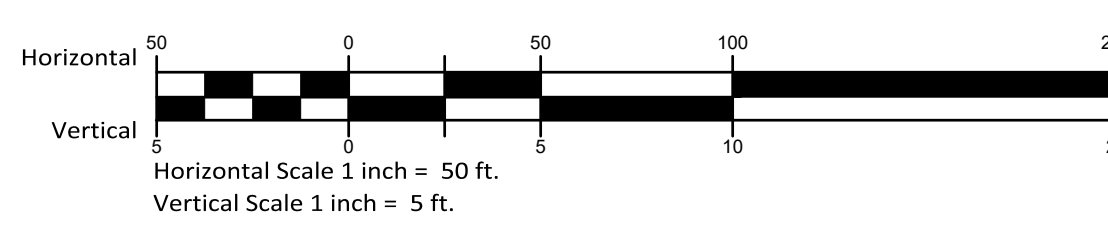
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ARMFIELD CREEK PLACE PLAN



ARMFIELD CREEK PLACE PROFILE



NO.	DATE	REVISION:
1	12/25/2024	CID SUBMITTAL #1

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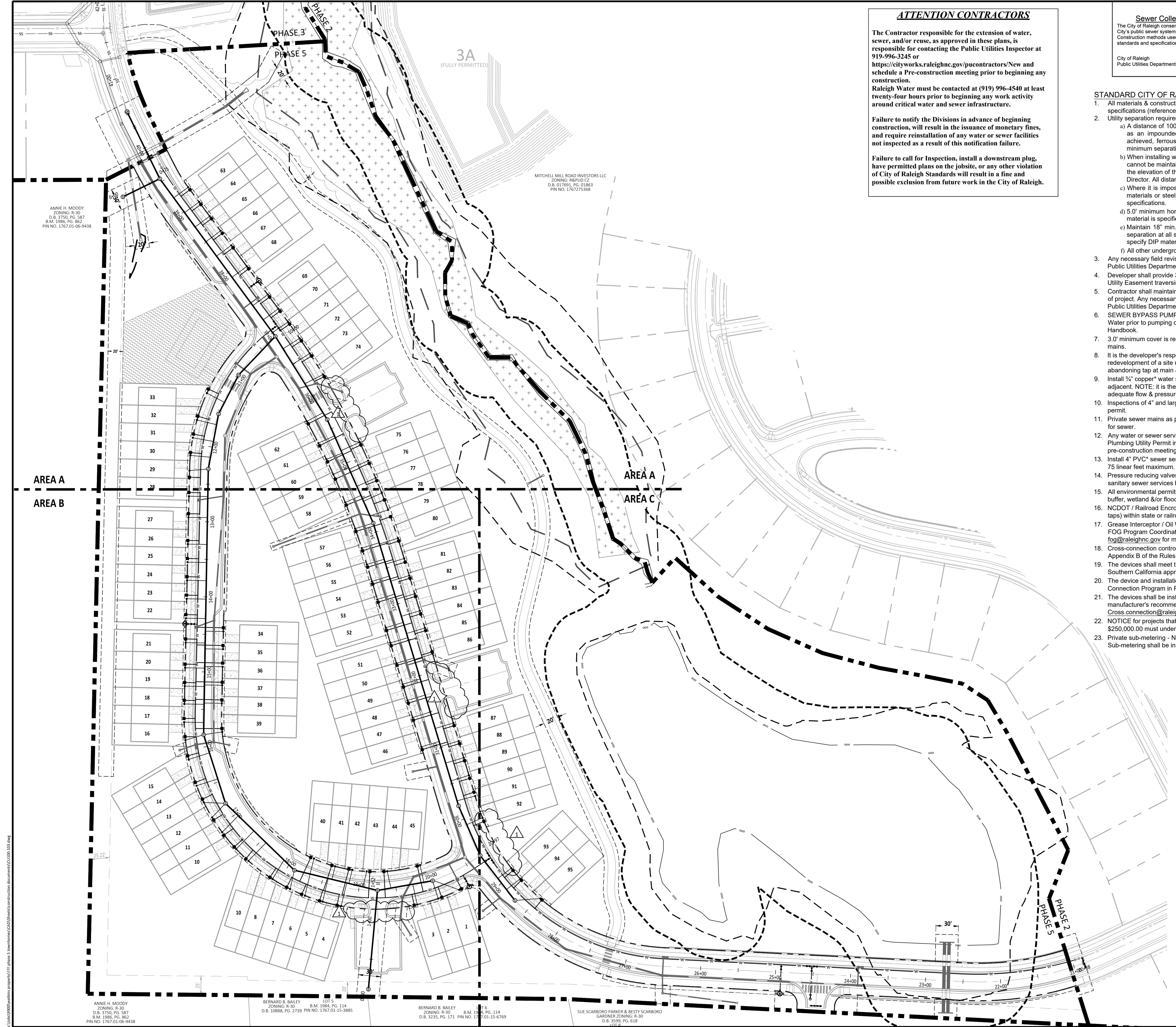
KALAS FALLS  
PHASE 5  
CONSTRUCTION INFRASTRUCTURE DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER:	R180115
CHECKED BY:	JK
DRAWN BY:	GE, RC
DATE:	03-03-2025

SHEET TITLE:  
**ARMFIELD CREEK PLACE PLAN & PROFILE**  
SHEET NO.:  
**CT202**

\\sbs01\000\work\projects\11111\phase 5\_bombardier\GIS\DWG\infrastructure\construction\document\CT202.dwg





**ATTENTION CONTRACTORS**

The Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Inspector at 919-996-3245 or <https://cityworks.raleighnc.gov/nucontractors/New> and schedule a Pre-construction meeting prior to beginning any construction.

Raleigh Water must be contacted at (919) 996-4540 at least twenty-four hours prior to beginning any work activity around critical water and sewer infrastructure.

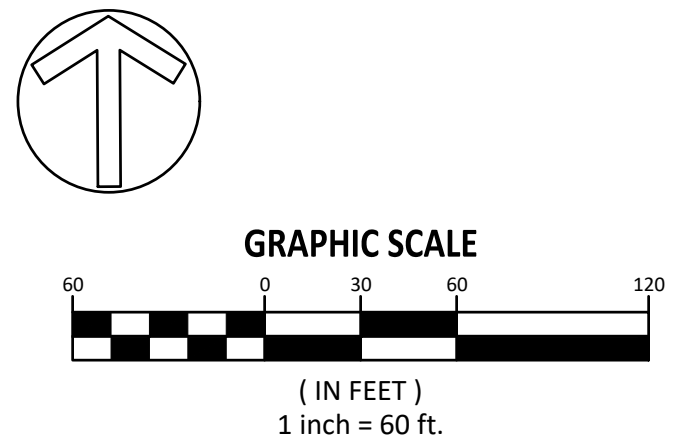
Failure to notify the Divisions in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for Inspection, install a downstream plug, have permitted plans on the jobsite, 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.

<p align="center"><b>Public</b></p> <p align="center"><b>Sewer Collection / Extension System</b></p> <p>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.</p> <p>City of Raleigh Public Utilities Department Permit # _____</p>	<p align="center"><b>Public</b></p> <p align="center"><b>Water Distribution / Extension System</b></p> <p>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.</p> <p>City of Raleigh Public Utilities Department Permit # _____</p>
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- STANDARD CITY OF RALEIGH 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 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 watertight specifications. However, the minimum separation shall not be less than 25' from a private well or 50' from a public well.
    - 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.
    - Where it is impossible to obtain proper separation, or anytime a sanitary sewer passes over a watermain, DIP materials or steel encasement extended 10' on each side of crossing must be specified & installed to watertight specifications.
    - 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DIP material is specified for sanitary sewer.
    - Maintain 18" min. vertical separation at all watermain & RCP storm drain crossings; maintain 18" 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).
    - 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 profiles by the City of Raleigh Public Utilities Department prior to construction.
  - Developer shall provide 30 days advance written notice to owner for any work required within an existing City of Raleigh Utility Easement traversing private property.
  - 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.
  - SEWER BYPASS PUMPING - A bypass plan sealed by an NC Professional Engineer shall be provided to Raleigh Water prior to pumping operations for approval. The operations and equipment shall comply with the Public Utilities Handbook.
  - 3.0' minimum cover is required on all water mains & sewer force mains. 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.
  - Inspections of 4" and larger water mains of the private distribution system will be inspected as part of the infrastructure permit.
  - Private sewer mains as part of a collection system are permitted and inspected under the private infrastructure permit for sewer.
  - Any water or sewer services on private property that will be installed under Construction Drawings may require a Plumbing Utility Permit in the City of Raleigh. Consult with the Engineering Inspection Coordinator during the pre-construction meeting on the necessary permits.
  - 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 NCDWQ, 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 RW FOG Program Coordinator prior to issuance of a UC and/or Building Permit. Contact (919) 996-4516 or [fog@raleighnc.gov](mailto:fog@raleighnc.gov) for more information.
  - Cross-connection control protection devices are required based on the degree of health hazard involved as listed in Appendix B of the Rules Governing Public Water Systems in North Carolina.
  - The devices shall meet the American Society of Sanitary Engineering (ASSE) standards and be on the University of Southern California approval list.
  - The device and installation shall meet the guidelines of Appendix A - Guidelines and Requirements for the Cross Connection Program in Raleigh's Service Area.
  - 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 [Cross.connection@raleighnc.gov](mailto:Cross.connection@raleighnc.gov) for more information.
  - NOTICE for projects that involve an oversized main or urban main replacement. Any City reimbursement greater than \$250,000.00 must undergo the public bidding process.
  - Private sub-metering - No resale of water shall occur without approval of the North Carolina Utility Commission. Sub-metering shall be in accordance with Section 1400 of the "SAFE DRINKING WATER ACT".

SITE LEGEND	
	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER
	PROPOSED SURFACE WATER LEVEL
	RIGHT-OF-WAY
	LIMITS OF DISTURBANCE
	LOT LINE
	WETLANDS
	AMENITY AREA
	CONCRETE
	10' CURB TRANSITION



ANNIE H. MOODY  
ZONING: R-30  
D.B. 3750, PG. 587  
B.M. 1986, PG. 862  
PIN NO. 1767-01-06-9438

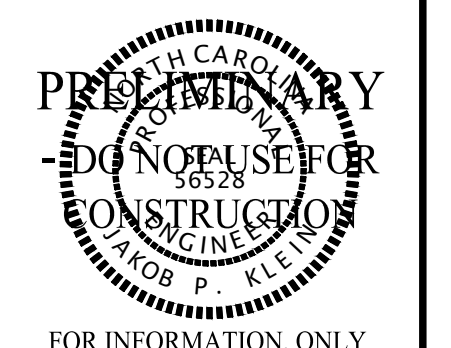
MITCHELL MILL ROAD INVESTORS LLC  
ZONING: R&PUD CZ  
D.B. 017801, PG. 03263  
PIN NO. 1767275368

ANNIE H. MOODY  
ZONING: R-30  
D.B. 3750, PG. 587  
B.M. 1986, PG. 862  
PIN NO. 1767-01-06-9438

BERNARD B. BAILEY  
ZONING: R-30  
D.B. 10688, PG. 2739  
PIN NO. 1767-01-15-3885

BERNARD B. BAILEY  
ZONING: R-30  
D.B. 3235, PG. 171  
PIN NO. 17-01-15-6769

SUE SCARBORO PARKER & BESTY SCARBORO  
GARDNER ZONING: R-30  
D.B. 3559, PG. 618  
D.B. 0129



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NO.	DATE	REVISION:
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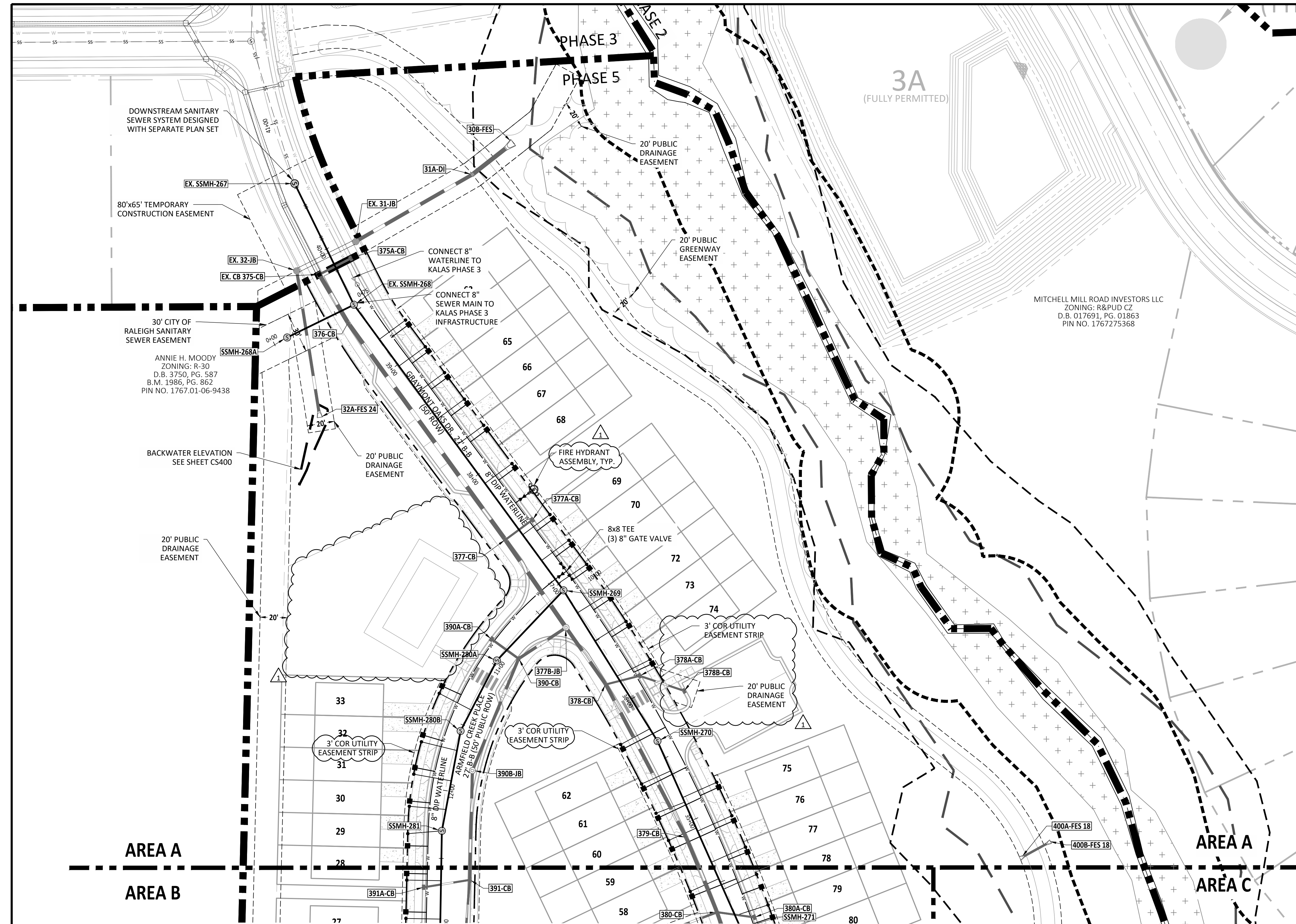
KALAS FALLS  
PHASE 5  
CONSTRUCTION INFRASTRUCTURE  
DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER: R180115  
CHECKED BY: JK  
DRAWN BY: GE, RC  
DATE: 03-03-2025

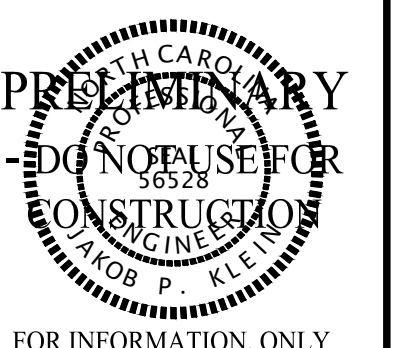
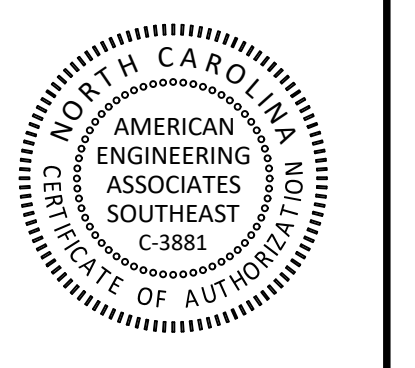
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**UTILITY PLAN  
OVERALL**

SHEET NO.:  
**CU100**

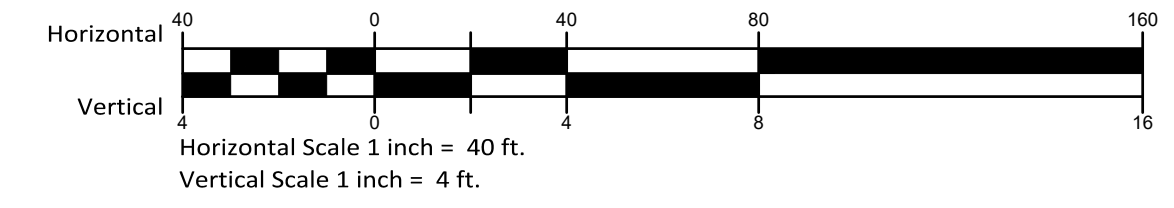
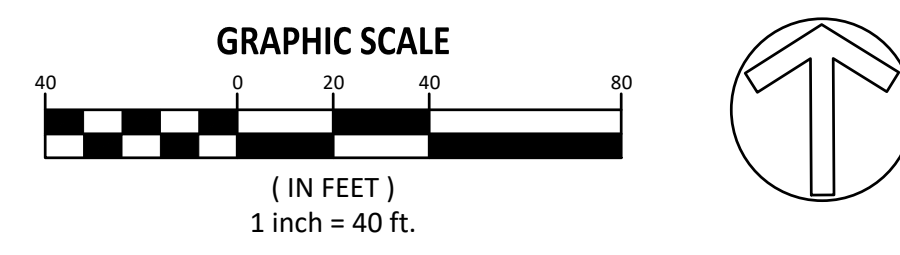
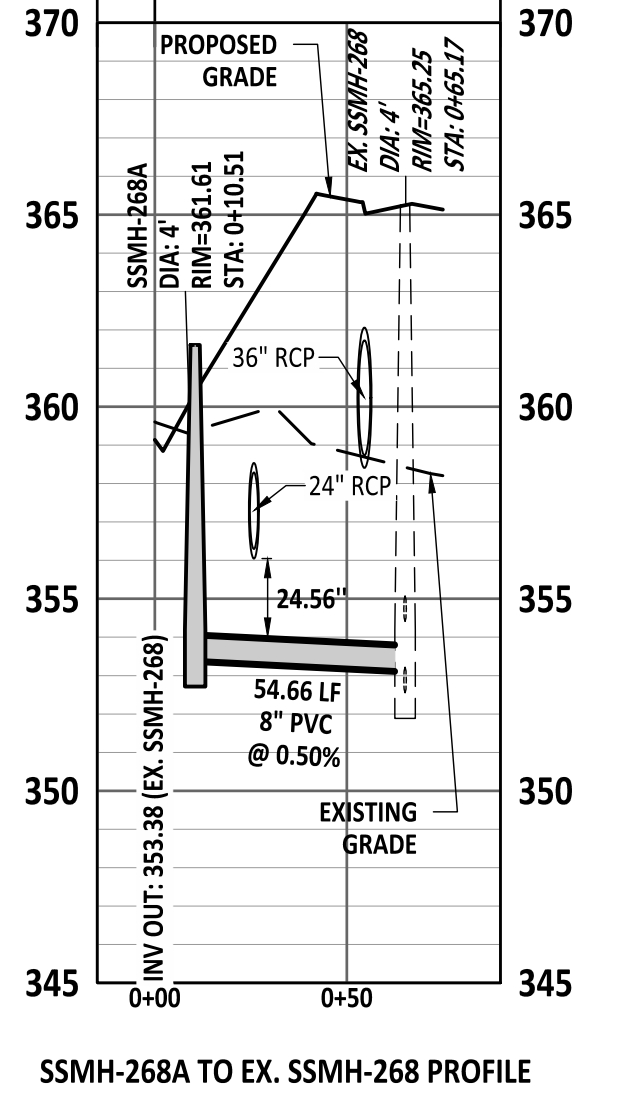
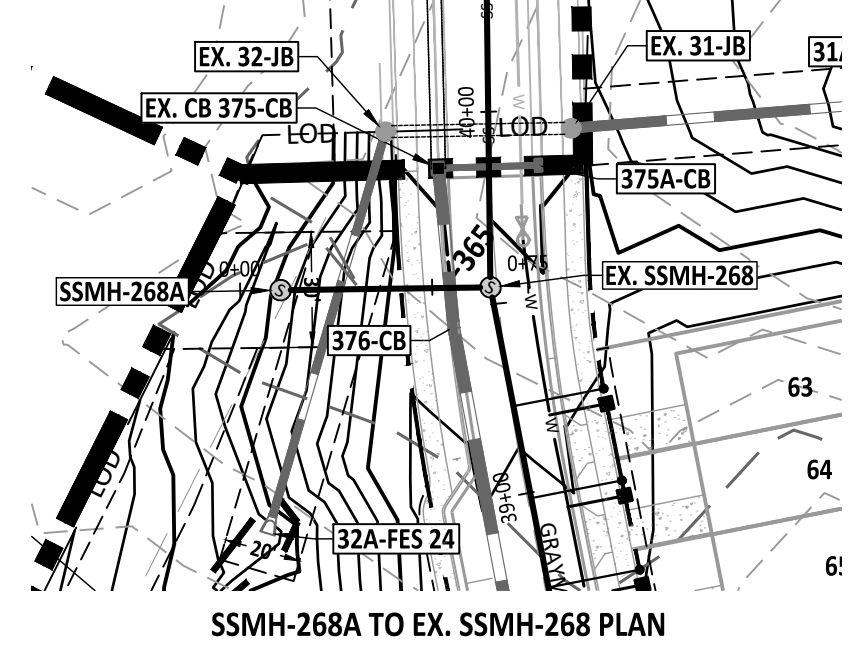




Public Sewer Collection / Extension System	Public Water Distribution / Extension System
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City of Raleigh Public Utilities Department Permit #	City of Raleigh Public Utilities Department Permit #



SITE LEGEND	
(Dashed line)	100 YR FLOODLINE
(Thick dashed line)	PROPERTY BOUNDARY/PHASE LINE
(Thin dashed line)	2' BUILDING RESTRICTION LINE
(Wavy dashed line)	50' NEUSE RIVER BUFFER
(Dotted line)	PROPOSED SURFACE WATER LEVEL
(Dashed line)	RIGHT-OF-WAY
(Dotted line)	LIMITS OF DISTURBANCE
(Thin solid line)	LOT LINE
(Cross-hatch pattern)	WETLANDS
(Stippled pattern)	AMENITY AREA
(Solid gray fill)	CONCRETE
(Dashed line)	10' CURB TRANSITION



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KALAS FALLS  
PHASE 5  
CONSTRUCTION INFRASTRUCTURE  
DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER:	R180115
CHECKED BY:	JK
DRAWN BY:	GE, RC
DATE:	03-03-2025
SHEET TITLE:	UTILITY PLAN AREA A
SHEET NO.:	CU401



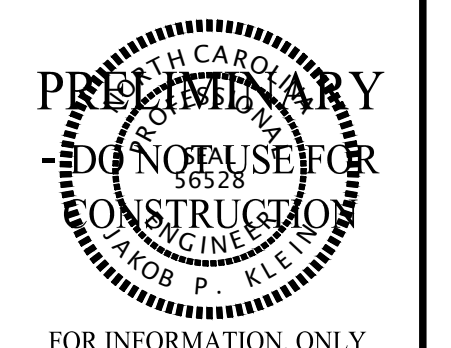
2025-03-03

AREA A

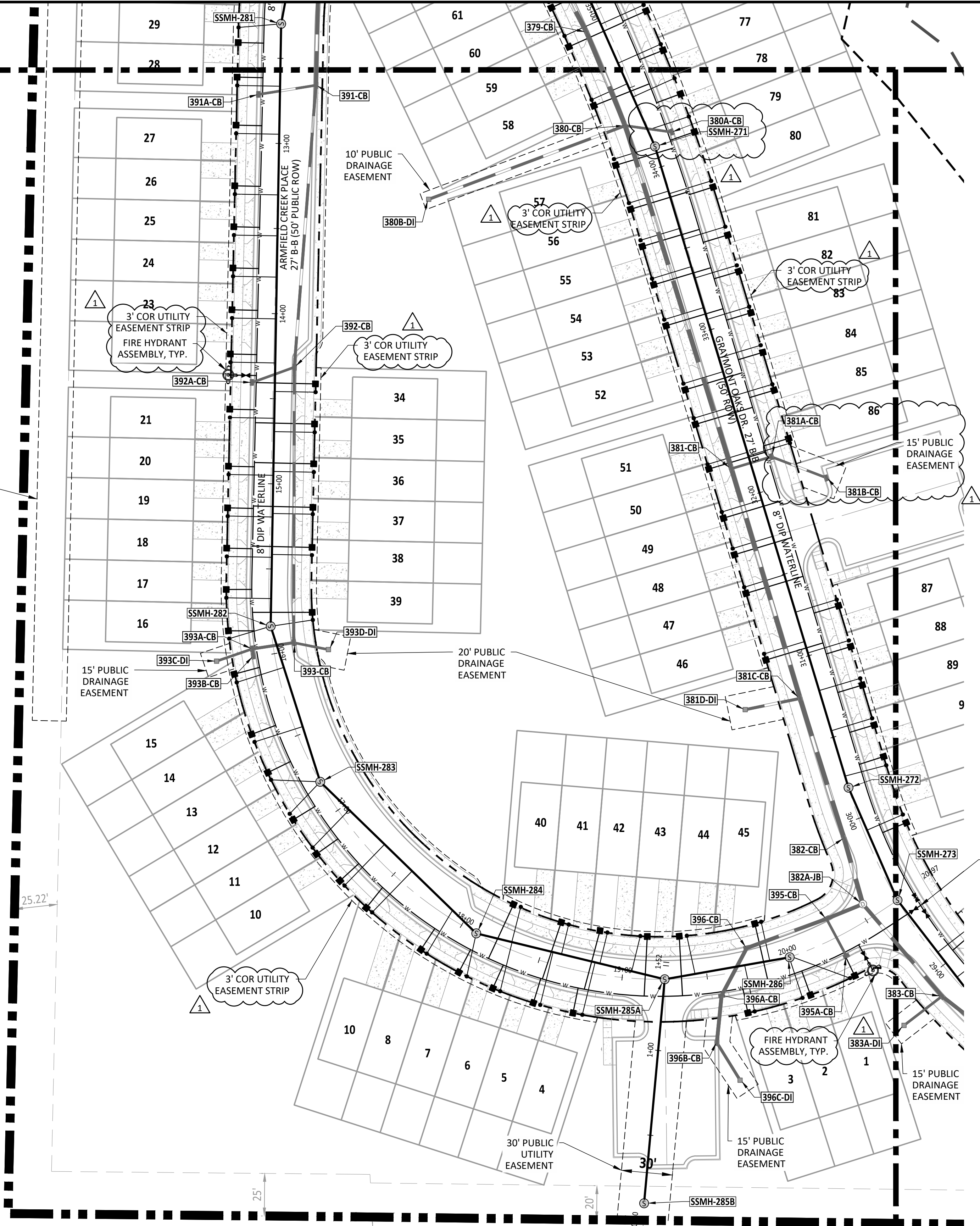
AREA B

**Public Sewer Collection / Extension System**  
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 City of Raleigh  
 Public Utilities Department Permit # \_\_\_\_\_

**Public Water Distribution / Extension System**  
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 City of Raleigh  
 Public Utilities Department Permit # \_\_\_\_\_

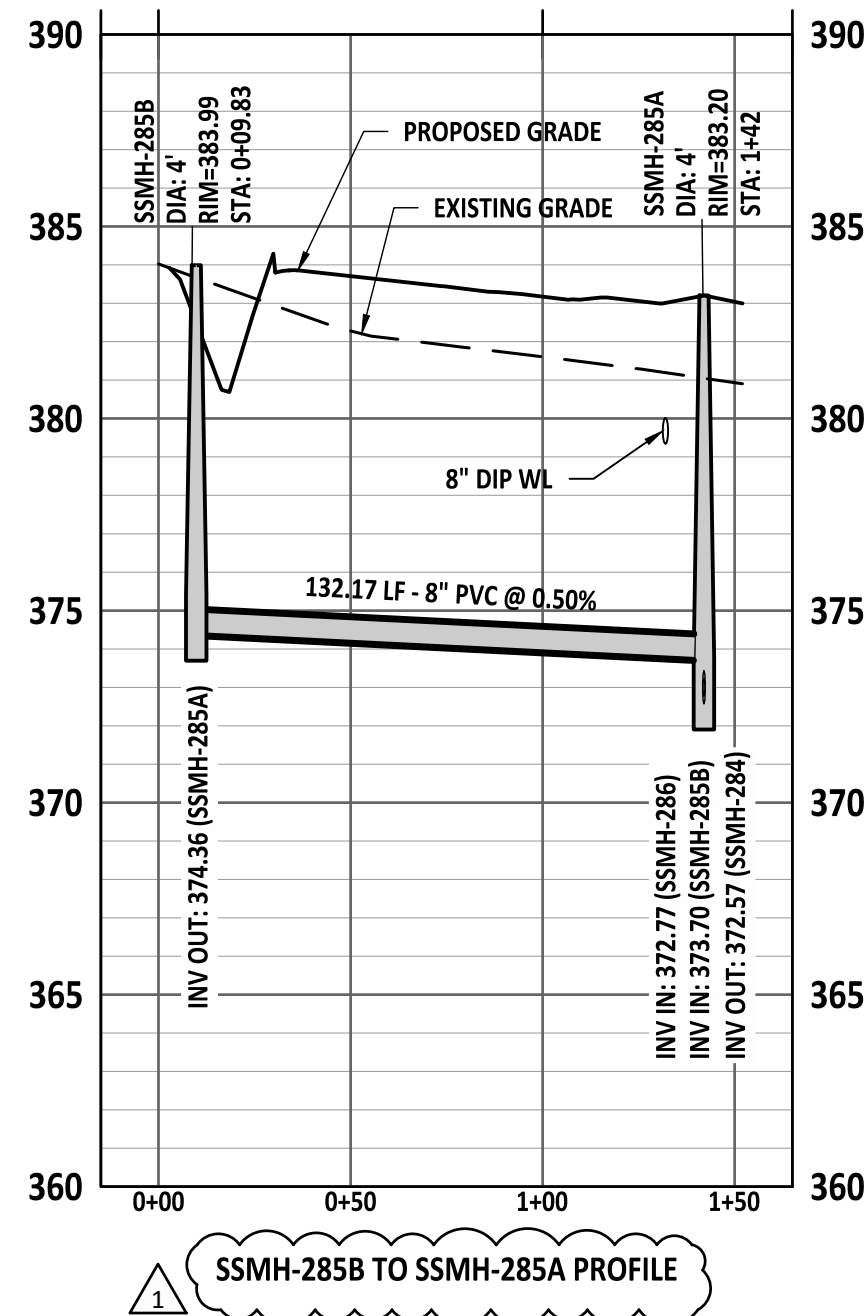
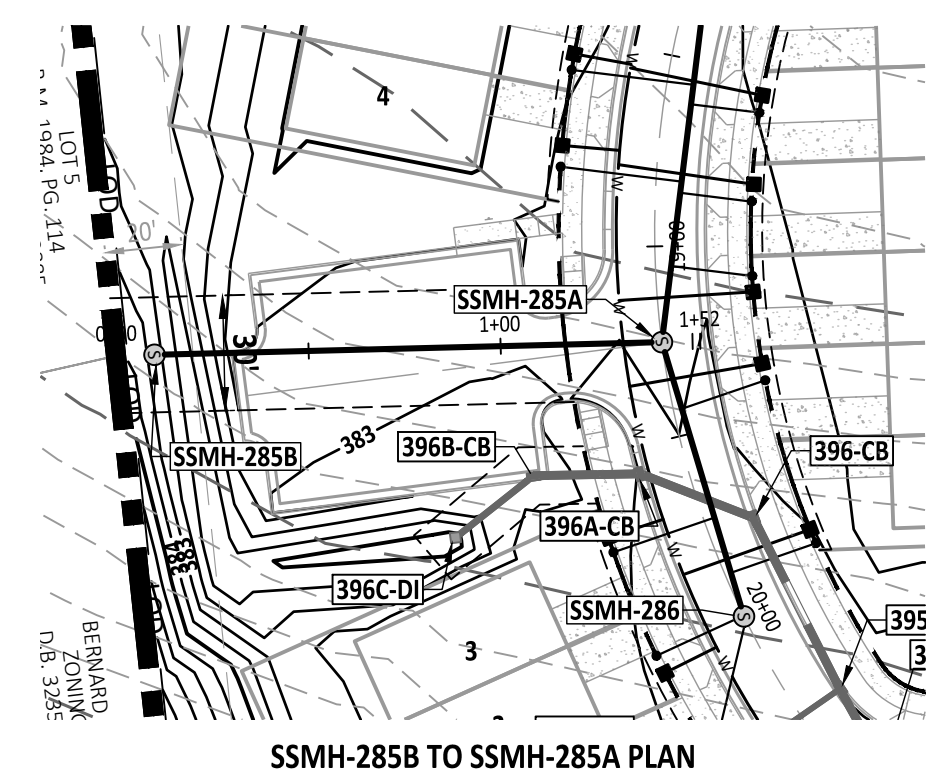


FOR INFORMATION, ONLY



**SITE LEGEND**

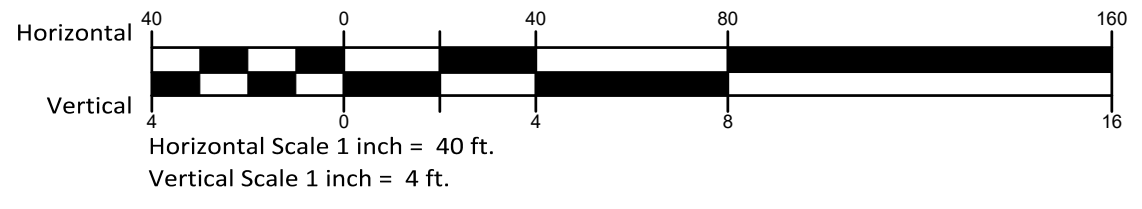
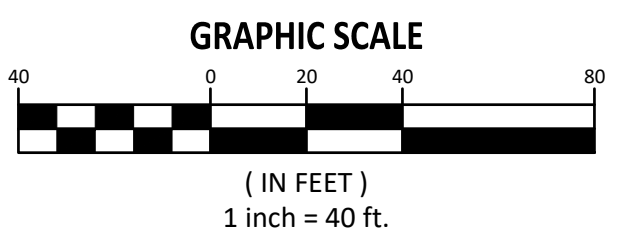
--- (dashed line)	100 YR FLOODLINE
--- (dash-dot line)	PROPERTY BOUNDARY/PHASE LINE
--- (dotted line)	2' BUILDING RESTRICTION LINE
--- (long-dashed line)	50' NEUSE RIVER BUFFER
--- (dotted line)	PROPOSED SURFACE WATER LEVEL
--- (solid line)	RIGHT-OF-WAY
--- (dotted line)	LIMITS OF DISTURBANCE
--- (solid line)	LOT LINE
--- (stippled area)	WETLANDS
--- (cross-hatched area)	CONCRETE
--- (dotted area)	10' CURB TRANSITION



ANNIE H. MOODY ZONING: R-30 D.B. 3750, PG. 587 B.M. 1986, PG. 862 PIN NO. 1767.01-06-9438

BERNARD B. BAILEY LOT 5 ZONING: R-30 B.M. 1984, PG. 114 D.B. 10888, PG. 2739 PIN NO. 1767.01-15-3885

BERNARD B. BAILEY LOT 6 ZONING: R-30 B.M. 1984, PG. 114 D.B. 3235, PG. 171 PIN NO. 1767.01-15-6769



**STIPULATION FOR REUSE**  
 THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

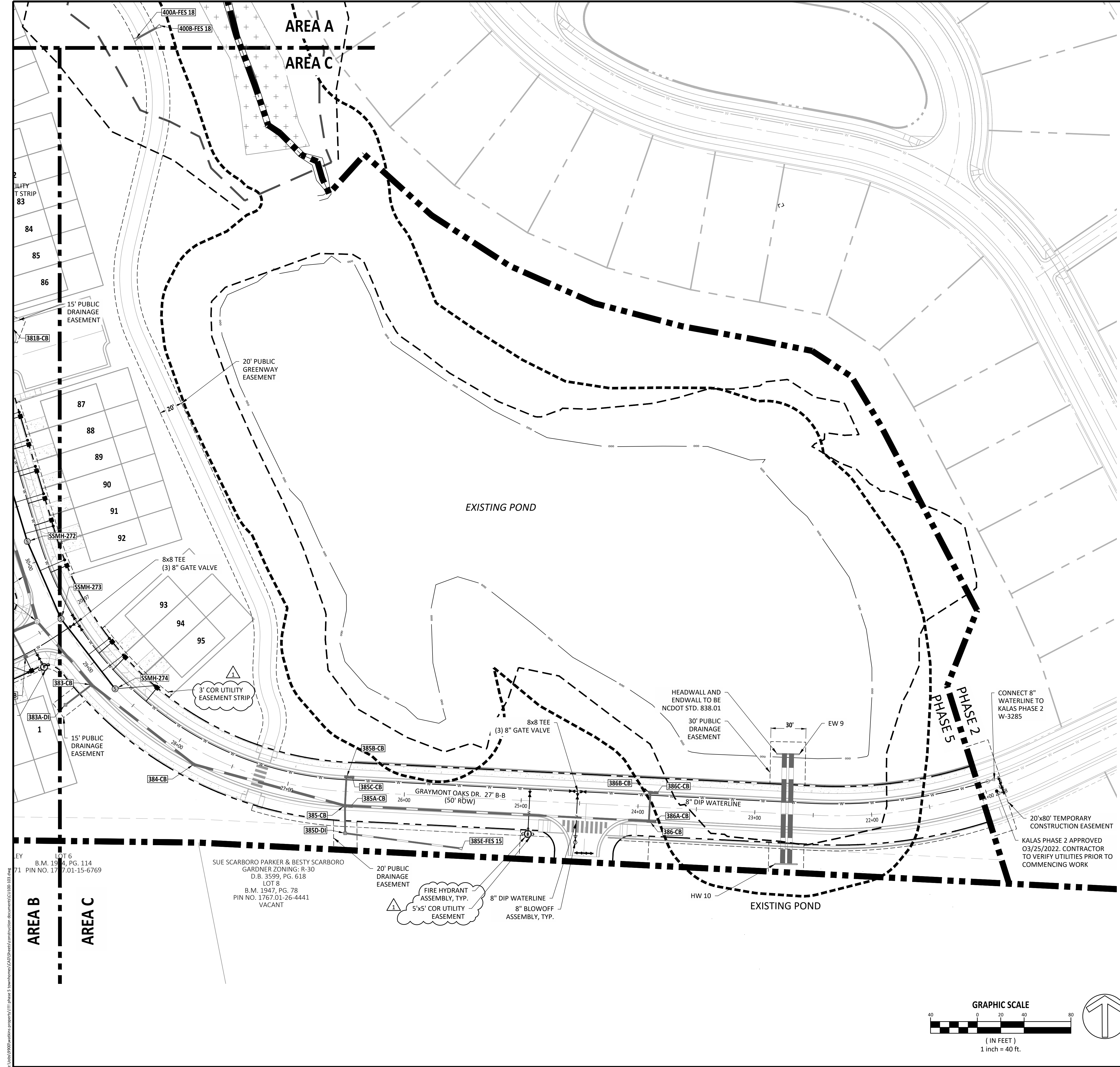
KALAS FALLS  
 PHASE 5  
 CONSTRUCTION INFRASTRUCTURE DOCUMENTS  
 CID-25-01  
 TOWN OF ROLESVILLE,  
 WAKE COUNTY, NC

JOB NUMBER: R180115  
 CHECKED BY: JK  
 DRAWN BY: GE, RC  
 DATE: 03-03-2025

SHEET TITLE:  
**UTILITY PLAN  
 AREA B**

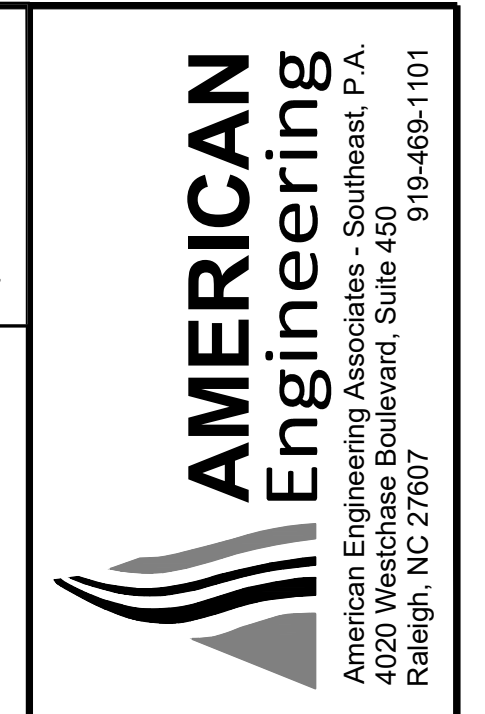
SHEET NO.:  
**CU402**





**Public Sewer Collection / Extension System**  
 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 # \_\_\_\_\_

**Public Water Distribution / Extension System**  
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 City of Raleigh  
 Public Utilities Department Permit # \_\_\_\_\_



SITE LEGEND	
	100 YR FLOODLINE
	PROPERTY BOUNDARY/PHASE LINE
	2' BUILDING RESTRICTION LINE
	50' NEUSE RIVER BUFFER
	PROPOSED SURFACE WATER LEVEL
	RIGHT-OF-WAY
	LIMITS OF DISTURBANCE
	LOT LINE
	WETLANDS
	CONCRETE
	10' CURB TRANSITION

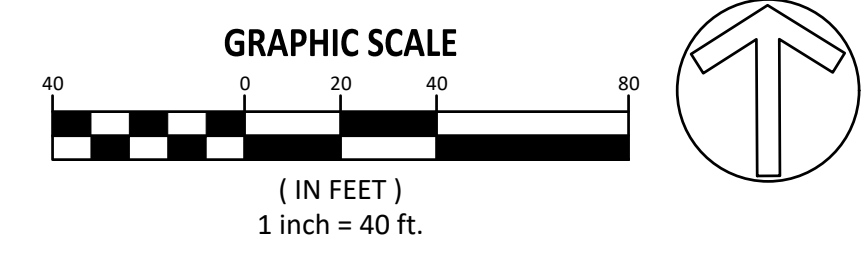
NO.	DATE	REVISION:
1	12/25/2024	CID-SUBMITTAL #1

**STIPULATION FOR REUSE**  
 THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

KALAS FALLS  
 PHASE 5  
 CONSTRUCTION INFRASTRUCTURE  
 DOCUMENTS  
 CID-25-01  
 TOWN OF ROLESVILLE,  
 WAKE COUNTY, NC

JOB NUMBER: R180115  
 CHECKED BY: JK  
 DRAWN BY: GE, RC  
 DATE: 03-03-2025

SHEET TITLE:  
**UTILITY PLAN**  
**AREA C**  
 SHEET NO.:  
**CU403**



LOT 6  
 B.M. 1944, PG. 114  
 PIN NO. 177.01-15-6769

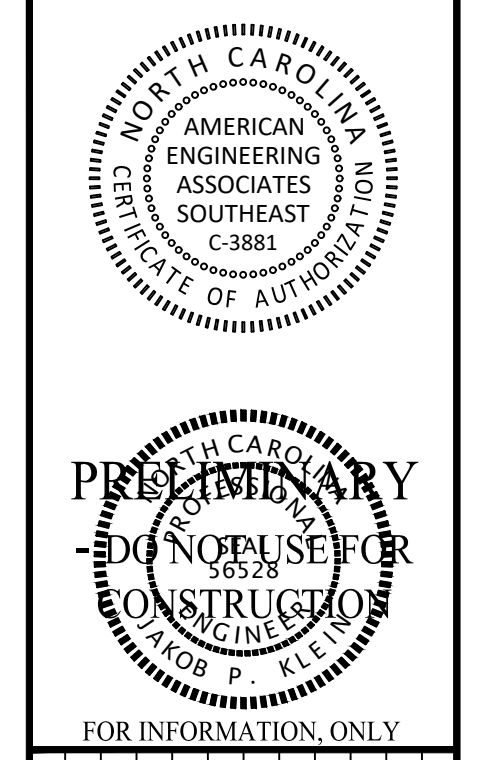
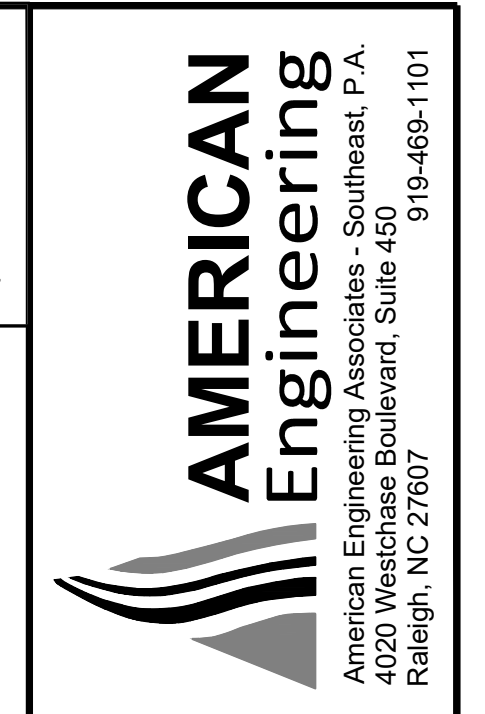
LOT 5  
 B.M. 1947, PG. 78  
 PIN NO. 1767.01-26-4441  
 VACANT

LOT 1  
 B.M. 1944, PG. 114  
 PIN NO. 177.01-15-6769

SUE SCARBORO PARKER & BESTY SCARBORO  
 GARDNER ZONING: R-30  
 D.B. 3559, PG. 618  
 LOT 5  
 B.M. 1947, PG. 78  
 PIN NO. 1767.01-26-4441  
 VACANT

FIRE HYDRANT  
 ASSEMBLY, TYP.  
 5'x5' COR UTILITY  
 EASEMENT

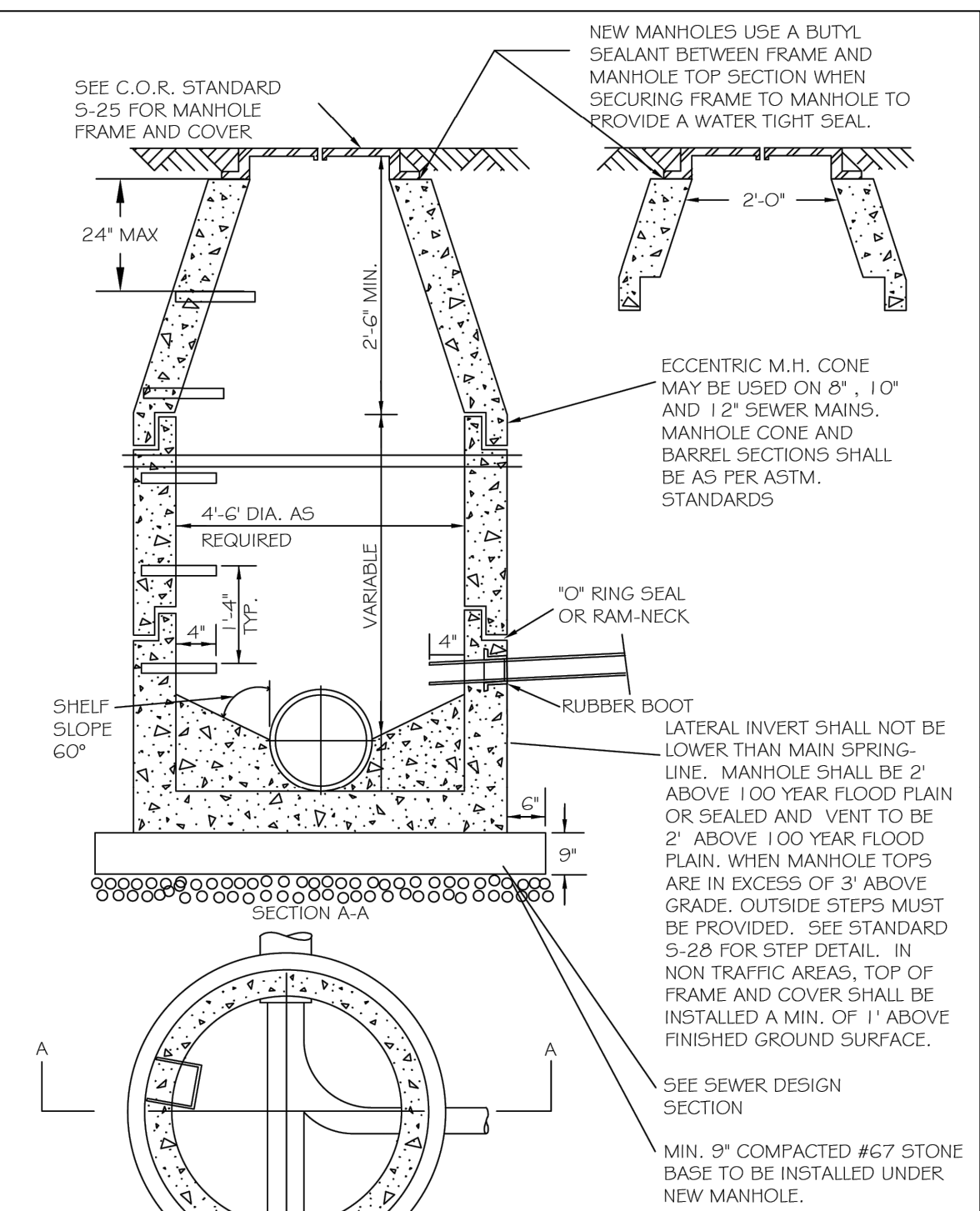
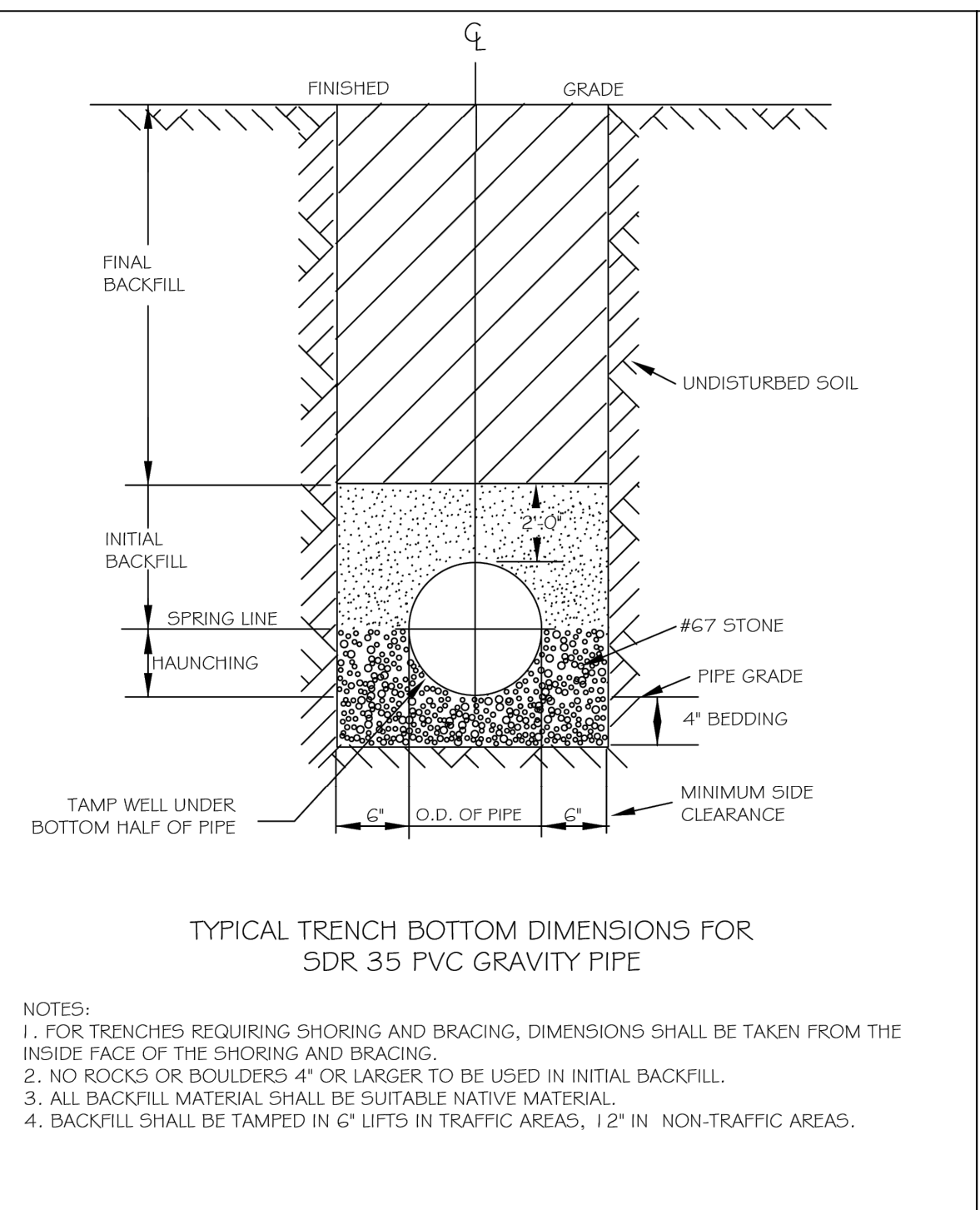
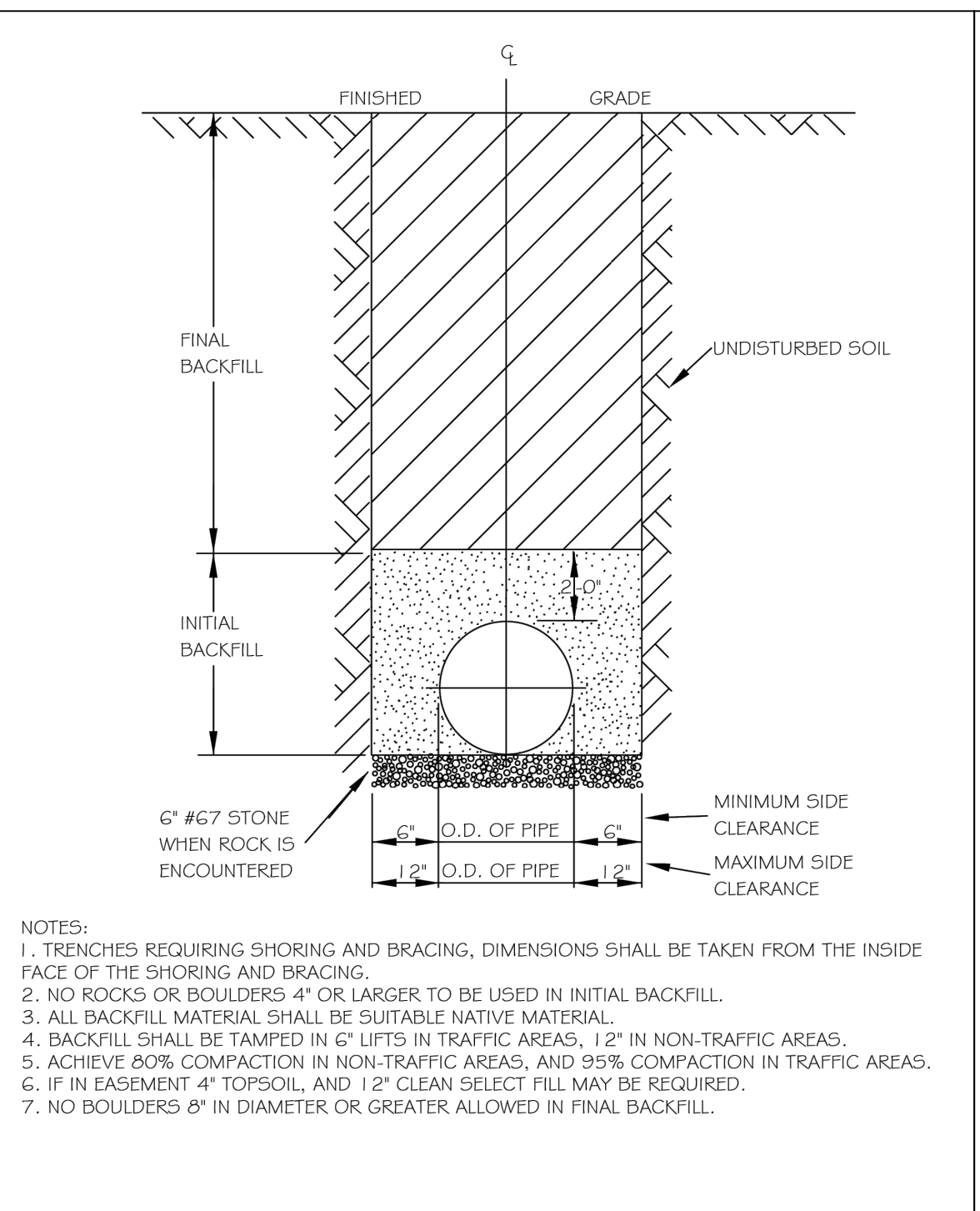
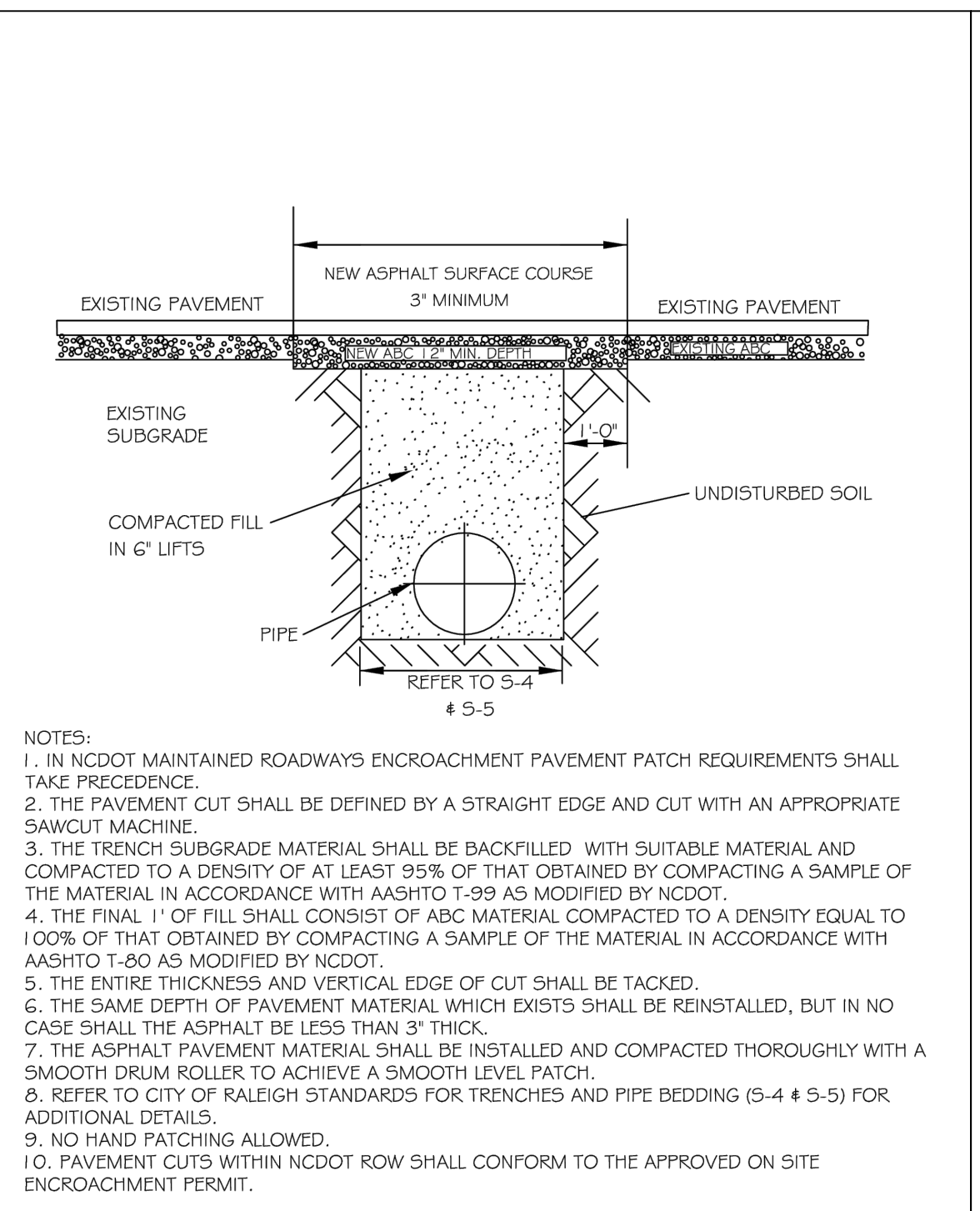
20'x80' TEMPORARY  
 CONSTRUCTION EASEMENT  
 KALAS PHASE 2 APPROVED  
 03/25/2022. CONTRACTOR  
 TO VERIFY UTILITIES PRIOR TO  
 COMMENCING WORK



FOR INFORMATION ONLY

NO.	DATE	REVISION:
1	12/25/2024	CID-SUBMITTAL #1

SSWR STRUCTURE TABLE			
STRUCTURE NAME:	DESCRIPTION	PIPES IN:	PIPES OUT
EX. SSMH-267	SSWR MH 48 RIM = 363.98 INV IN = 352.05	8" PVC INV.=352.05	
EX. SSMH-268	SSWR MH 48 RIM = 365.25 INV IN = 354.41 INV OUT = 353.11	8" PVC INV.=354.41 8" PVC INV.=353.11	8" PVC INV.=352.55
SSMH-268A	SSWR MH 48 RIM = 361.61 INV OUT = 353.38		8" PVC INV.=353.38
SSMH-269	SSWR MH 48 RIM = 369.67 INV IN = 361.30 INV IN = 360.06 INV OUT = 359.86	8" PVC INV.=361.30 8" PVC INV.=360.06	8" PVC INV.=359.86
SSMH-270	SSWR MH 48 RIM = 371.88 INV IN = 362.88 INV OUT = 362.68	8" PVC INV.=362.88	8" PVC INV.=362.68
SSMH-271	SSWR MH 48 RIM = 374.42 INV IN = 365.46 INV OUT = 365.25	8" PVC INV.=365.46	8" PVC INV.=365.25
SSMH-272	SSWR MH 48 RIM = 381.06 INV IN = 372.50 INV OUT = 370.05	8" PVC INV.=372.50	8" PVC INV.=370.05
SSMH-273	SSWR MH 48 RIM = 382.28 INV IN = 374.56 INV OUT = 374.36	8" PVC INV.=374.56	8" PVC INV.=374.36
SSMH-274	SSWR MH 48 RIM = 382.81 INV OUT = 375.07		8" PVC INV.=375.07
SSMH-280A	SSWR MH 48 RIM = 370.62 INV IN = 361.86 INV OUT = 360.42	8" PVC INV.=361.86	8" PVC INV.=360.42
SSMH-280B	SSWR MH 48 RIM = 371.75 INV IN = 363.05 INV OUT = 362.85	8" PVC INV.=363.05	8" PVC INV.=362.85
SSMH-281	SSWR MH 48 RIM = 373.21 INV IN = 364.56 INV OUT = 364.36	8" PVC INV.=364.56	8" PVC INV.=364.36
SSMH-282	SSWR MH 48 RIM = 380.05 INV IN = 370.48 INV OUT = 370.28	8" PVC INV.=370.48	8" PVC INV.=370.28
SSMH-283	SSWR MH 48 RIM = 381.93 INV IN = 371.16 INV OUT = 370.96	8" PVC INV.=371.16	8" PVC INV.=370.96
SSMH-284	SSWR MH 48 RIM = 383.94 INV IN = 372.00 INV OUT = 371.80	8" PVC INV.=372.00	8" PVC INV.=371.80
SSMH-285A	SSWR MH 48 RIM = 383.20 INV IN = 372.77 INV IN = 373.70 INV OUT = 372.57	8" PVC INV.=372.77 8" PVC INV.=373.70	8" PVC INV.=372.57
SSMH-285B	SSWR MH 48 RIM = 383.99 INV OUT = 374.36		8" PVC INV.=374.36
SSMH-286	SSWR MH 48 RIM = 382.58 INV OUT = 373.14		8" PVC INV.=373.14



CITY OF RALEIGH		CITY OF RALEIGH	
DEPARTMENT OF PUBLIC UTILITIES		DEPARTMENT OF PUBLIC UTILITIES	
DWG. NO.	REV. NO.	DATE	DATE
S-3	RRH	3-30-00	10-8-10

CITY OF RALEIGH		CITY OF RALEIGH	
DEPARTMENT OF PUBLIC UTILITIES		DEPARTMENT OF PUBLIC UTILITIES	
DWG. NO.	REV. NO.	DATE	DATE
S-4	RRH	3-30-00	

CITY OF RALEIGH		CITY OF RALEIGH	
DEPARTMENT OF PUBLIC UTILITIES		DEPARTMENT OF PUBLIC UTILITIES	
DWG. NO.	REV. NO.	DATE	DATE
S-5	RRH	7-2-82	3-30-00

CITY OF RALEIGH		CITY OF RALEIGH	
DEPARTMENT OF PUBLIC UTILITIES		DEPARTMENT OF PUBLIC UTILITIES	
DWG. NO.	REV. NO.	DATE	DATE
S-20	RRH	3-30-00	6-16-08

BILL OF MATERIAL FOR 4" MANHOLE

BAR	SIZE	LENGTH	NO.	WT. LBS.
T2	#5	5'-0"	110	103
CL. W' CONCRETE TOTAL CU. YDS. .000				

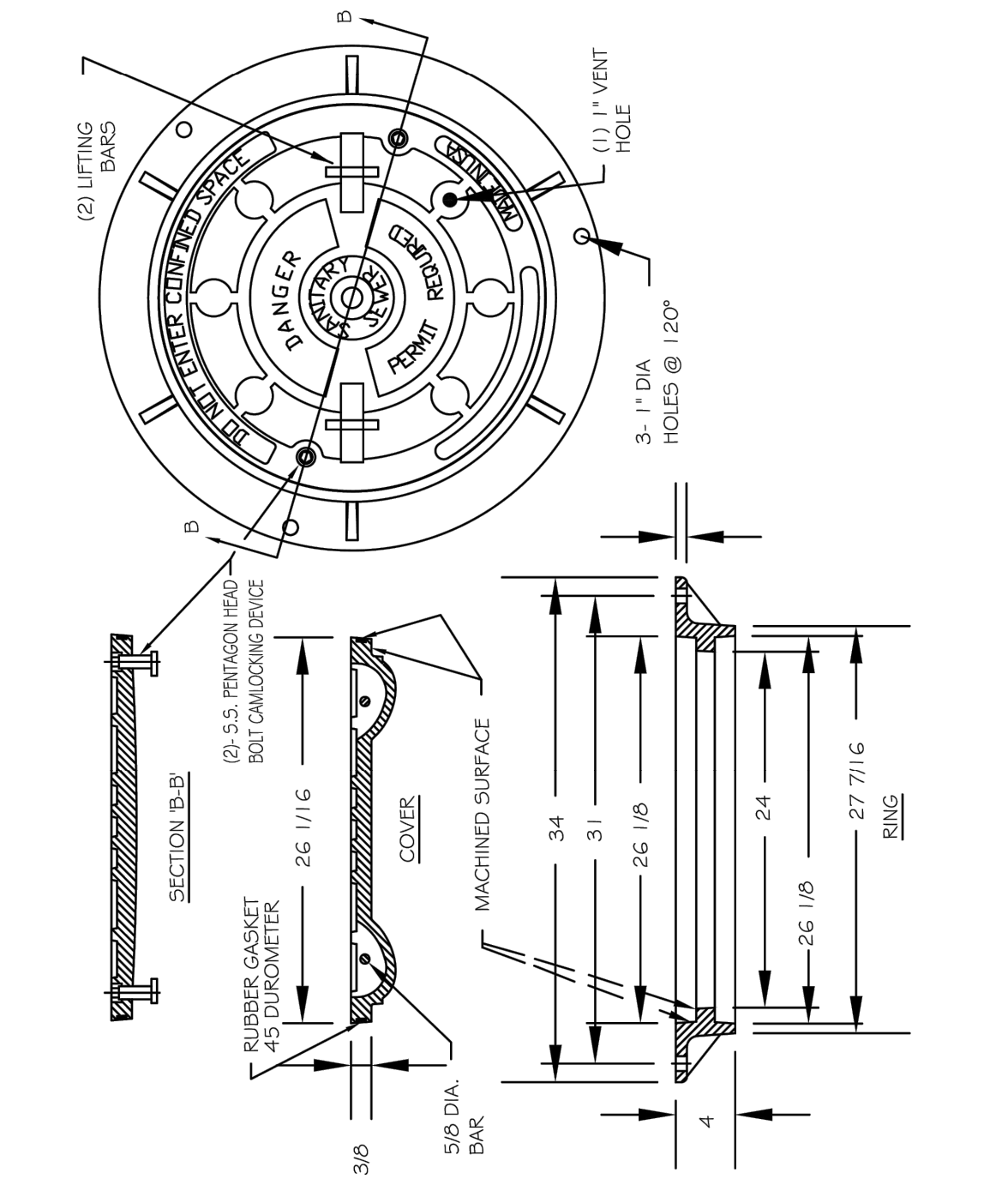
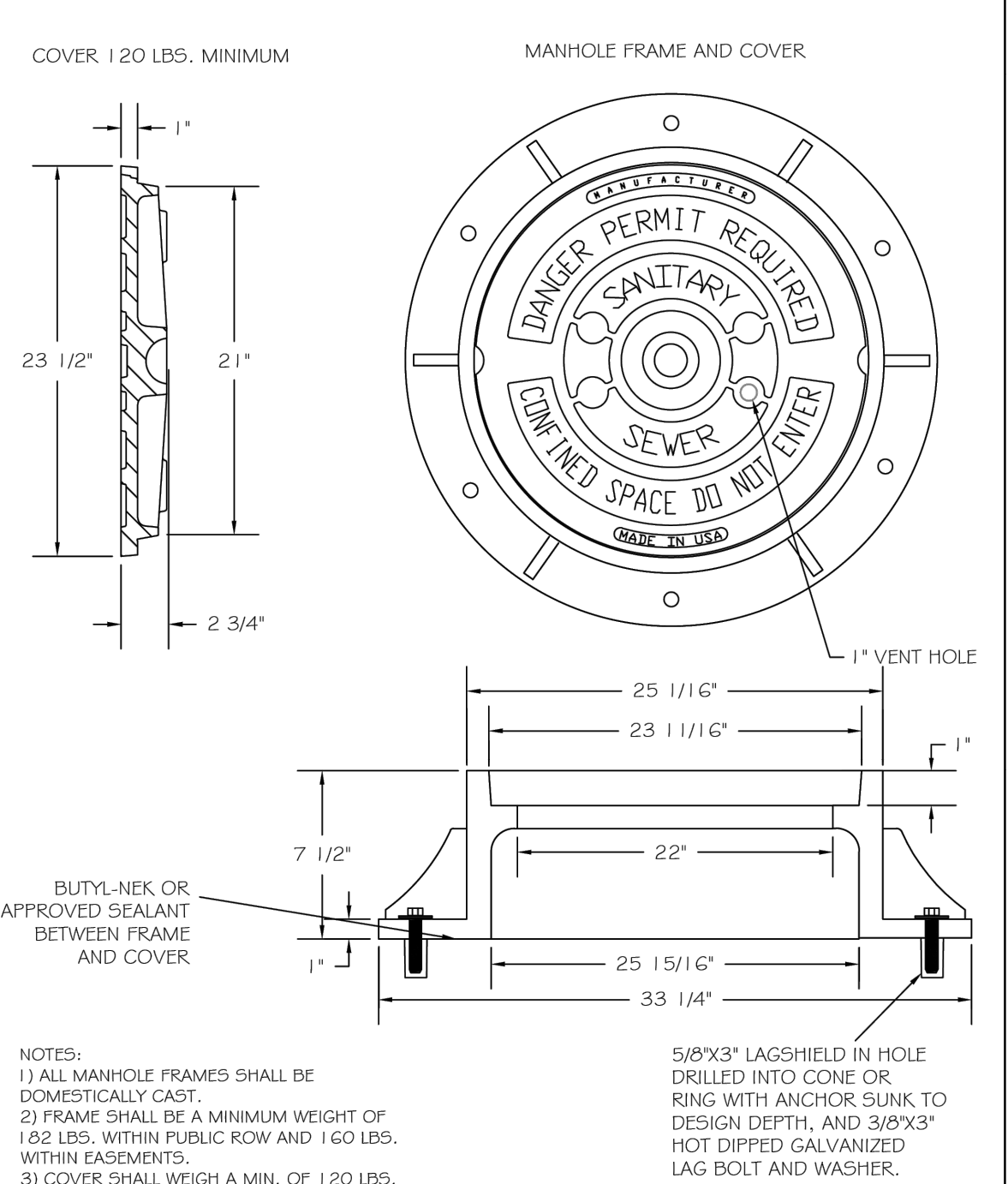
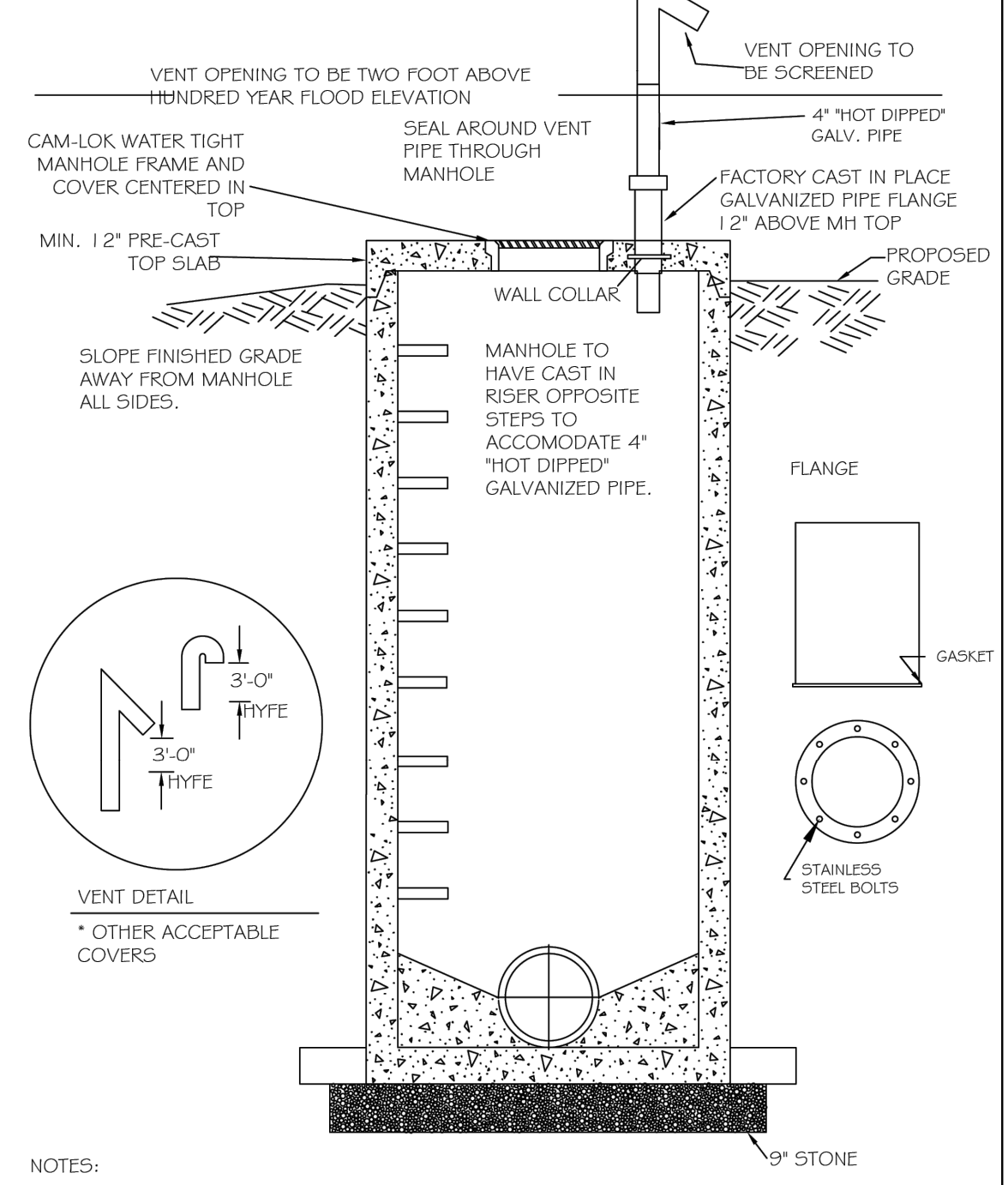
BILL OF MATERIAL FOR 4" MANHOLE

BAR	SIZE	LENGTH	NO.	WT. LBS.
T1	#5	7'-0"	20	136
CL. W' CONCRETE TOTAL CU. YDS. .361				

BILL OF MATERIAL FOR 4" MANHOLE

BAR	SIZE	LENGTH	NO.	WT. LBS.
T2	#5	7'-0"	24	145
CL. W' CONCRETE TOTAL CU. YDS. .778				

\* ALL BARS ARE MINIMUM #3 THICK



CITY OF RALEIGH		CITY OF RALEIGH	
DEPARTMENT OF PUBLIC UTILITIES		DEPARTMENT OF PUBLIC UTILITIES	
DWG. NO.	REV. NO.	DATE	DATE
S-21	RRH	3-1-87	2-9-05
		3-30-00	

CITY OF RALEIGH		CITY OF RALEIGH	
DEPARTMENT OF PUBLIC UTILITIES		DEPARTMENT OF PUBLIC UTILITIES	
DWG. NO.	REV. NO.	DATE	DATE
S-24	RRH	6-7-99	4-15-04
		3-30-00	6/16/08

CITY OF RALEIGH		CITY OF RALEIGH	
DEPARTMENT OF PUBLIC UTILITIES		DEPARTMENT OF PUBLIC UTILITIES	
DWG. NO.	REV. NO.	DATE	DATE
S-25	RRH	3-1-87	2-9-05
		3-30-00	6-18-08

CITY OF RALEIGH		CITY OF RALEIGH	
DEPARTMENT OF PUBLIC UTILITIES		DEPARTMENT OF PUBLIC UTILITIES	
DWG. NO.	REV. NO.	DATE	DATE
S-25a	RRH	3-1-87	2-9-05
		3-30-00	6-18-08

KALAS FALLS  
PHASE 5  
CONSTRUCTION INFRASTRUCTURE  
DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER: R180115  
CHECKED BY: JK  
DRAWN BY: GE, RC  
DATE: 03-03-2025  
SHEET TITLE: UTILITY DETAILS  
SHEET NO.: CU500

North Carolina 811  
\*\*\* 3 Days Before Digging \*\*\*  
North Carolina 811  
811 or 1-800-432-4949  
Remote Ticket Entry  
http://nc811.org/remoteticketentry.htm

Public Sewer Collection / Extension System

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City of Raleigh Public Utilities Department Permit #

Public Water Distribution / Extension System

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City of Raleigh Public Utilities Department Permit #



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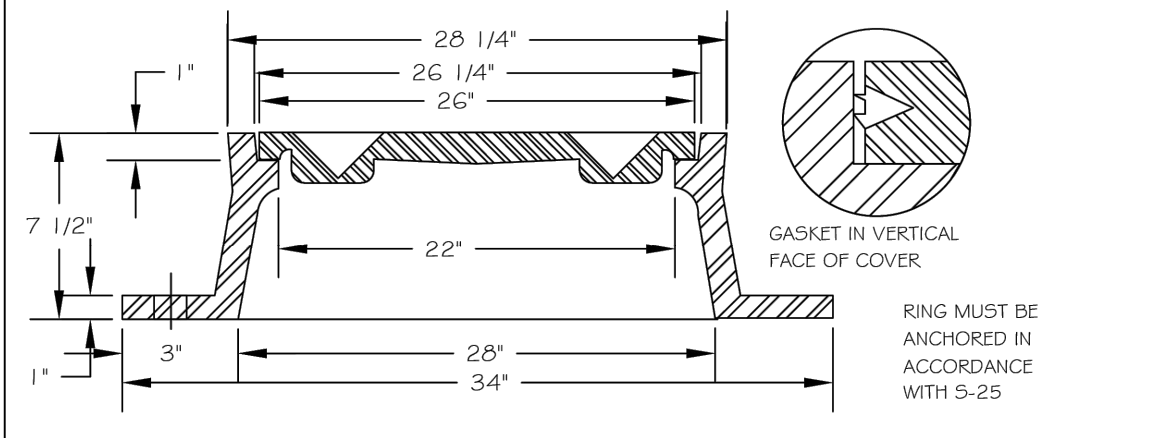
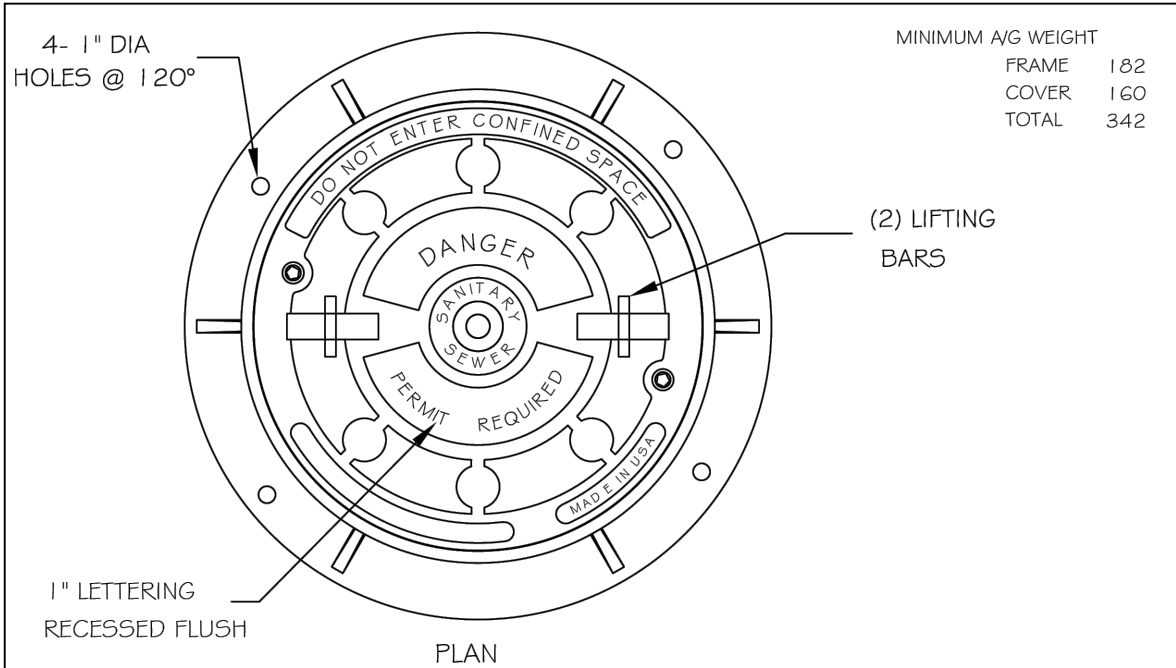


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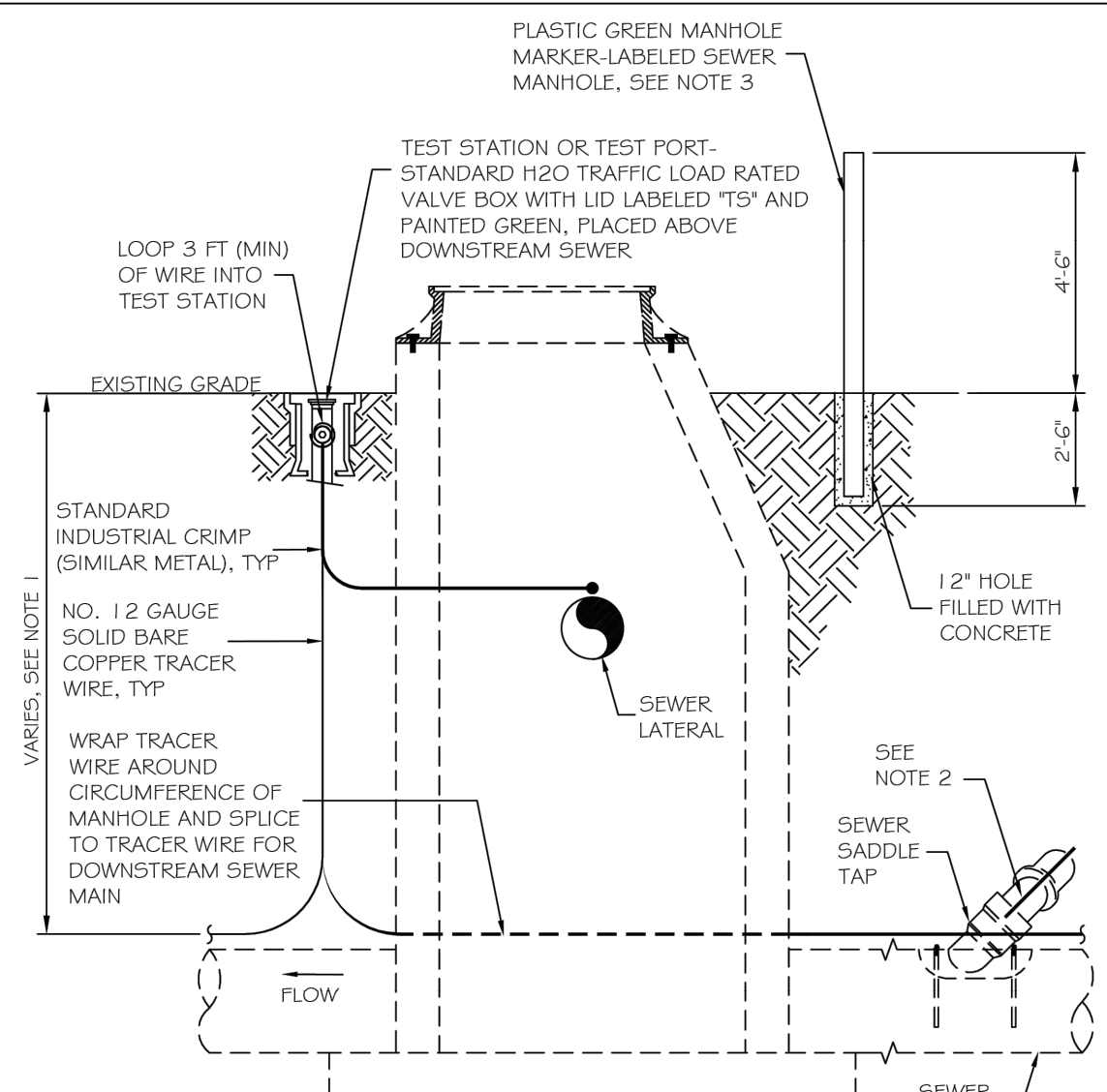


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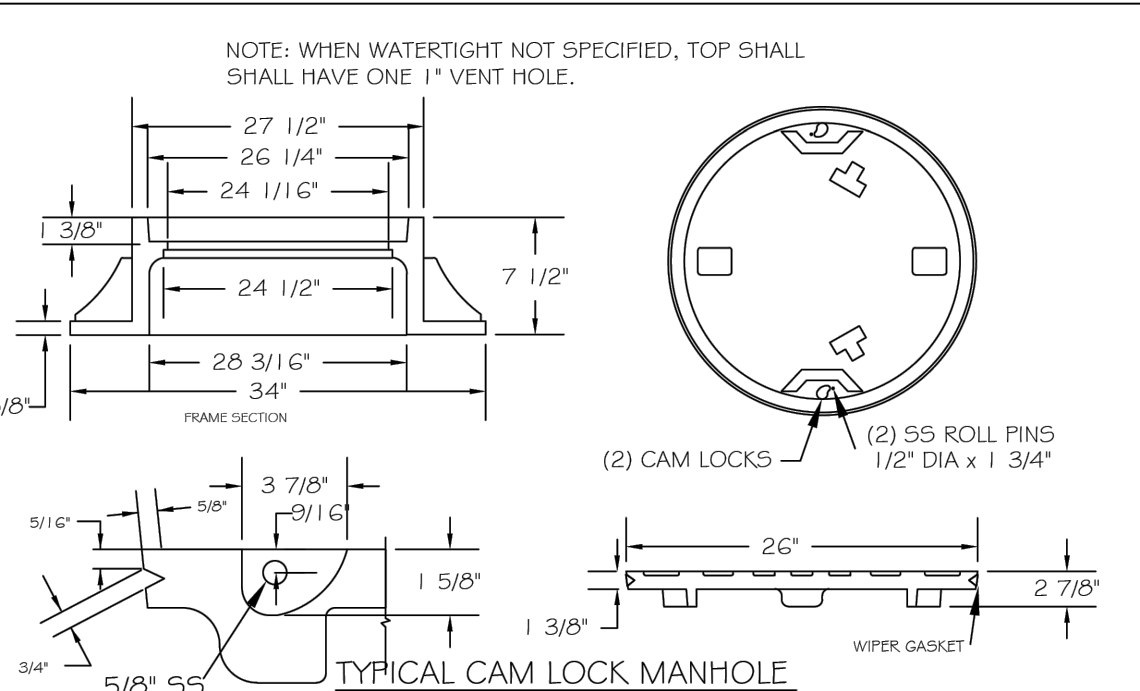


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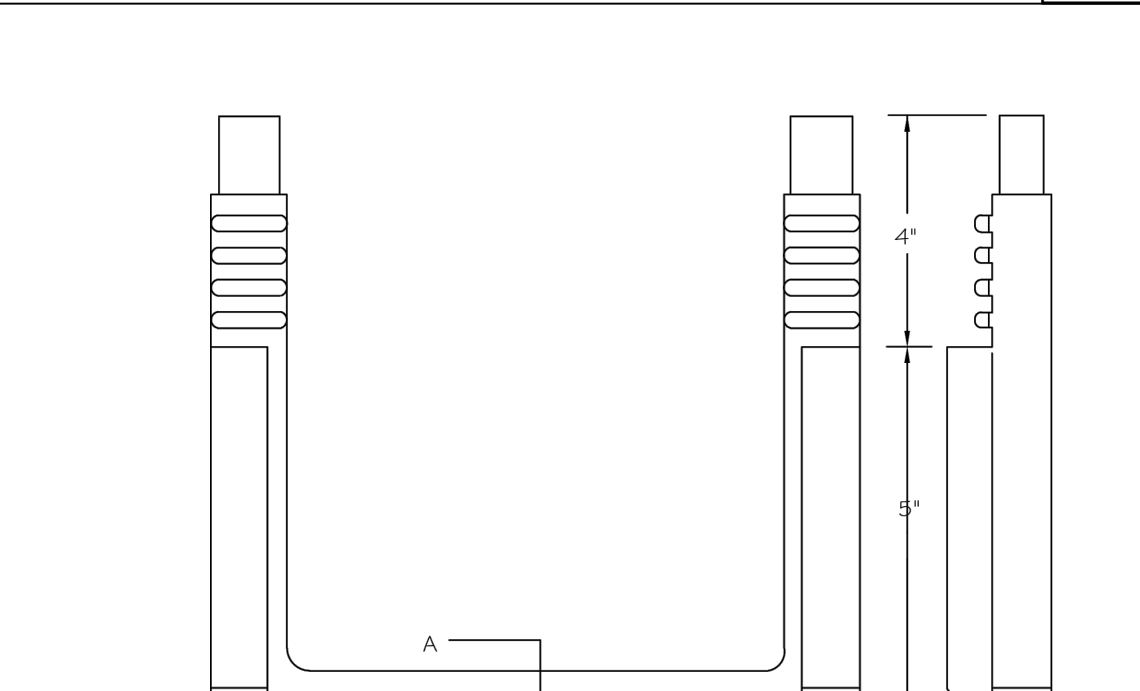


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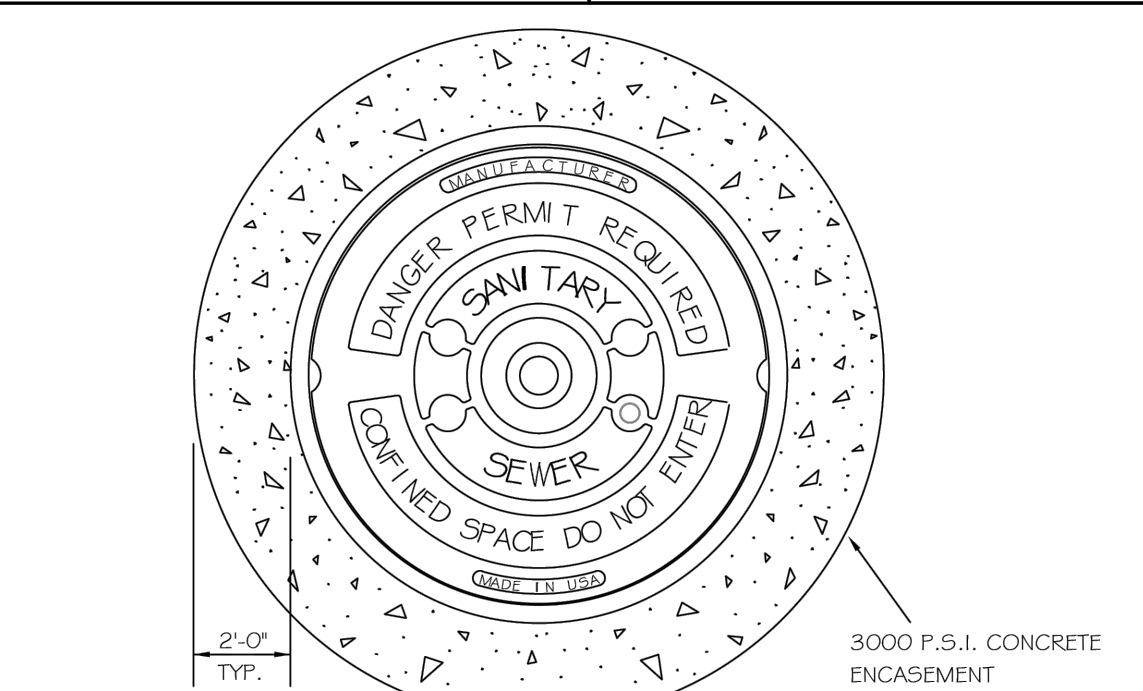


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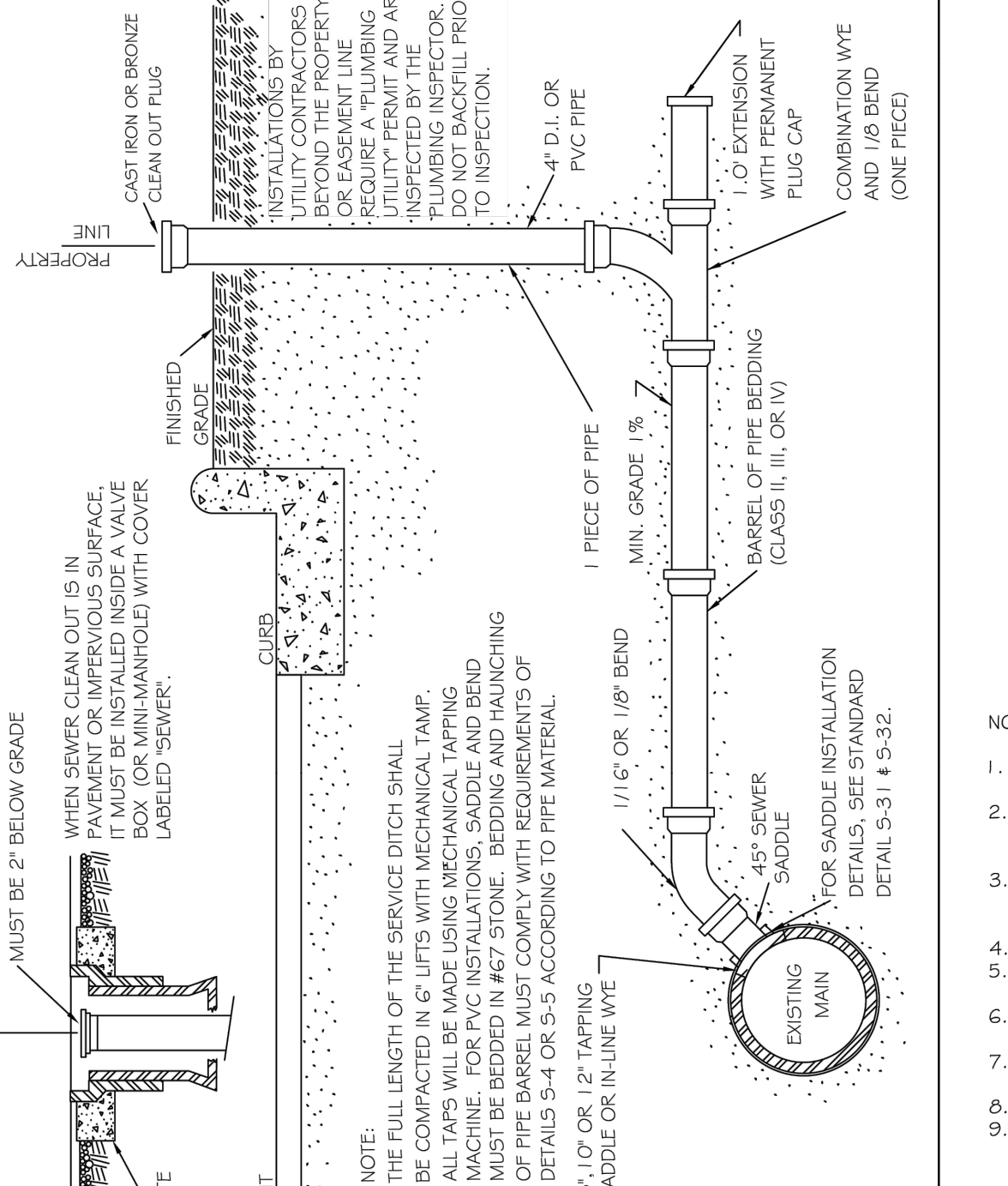


Table with 2 columns: DWG. NO., REVISIONS, DATE. Row 1: 5-30, Y.C.A., RHH, 6-92, 3-30-00, A.B.B., D.H.L., 4-8-04, 6-18-08.

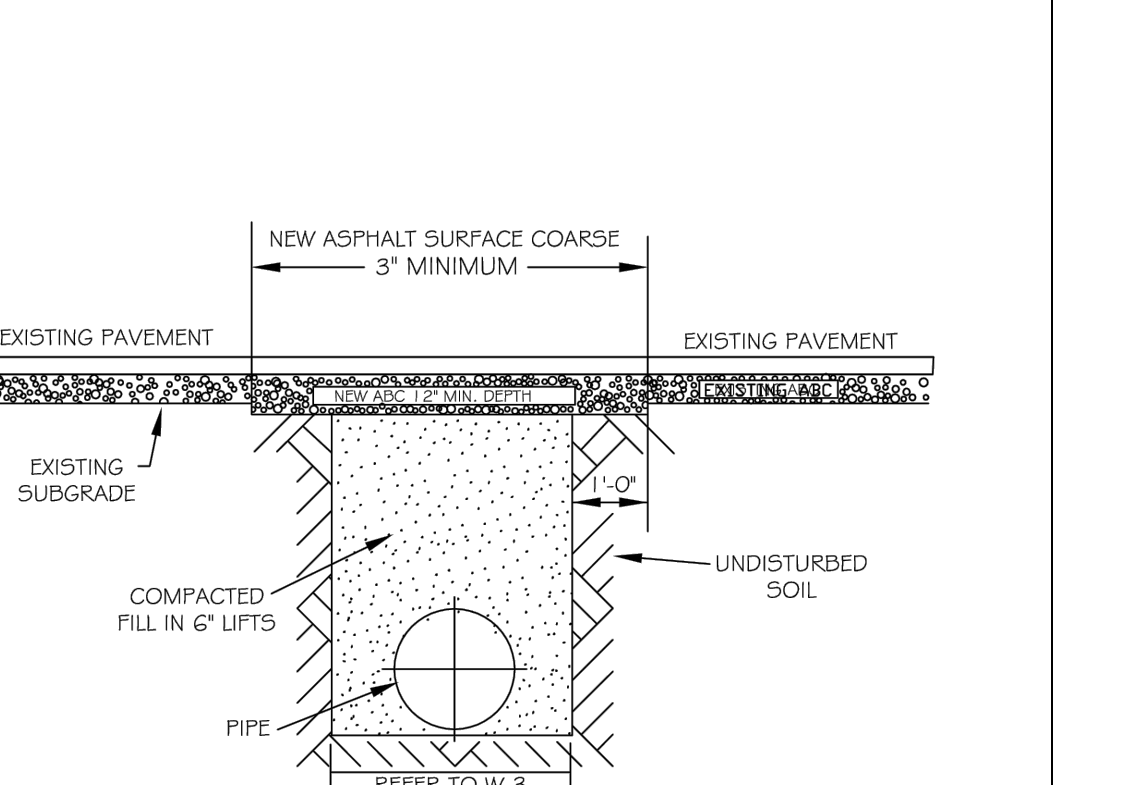


Table with 2 columns: DWG. NO., REVISIONS, DATE. Row 1: W-2, D.W.C., 11-1-99, RHH, 11-1-99, J.P.S., 10-29-10.

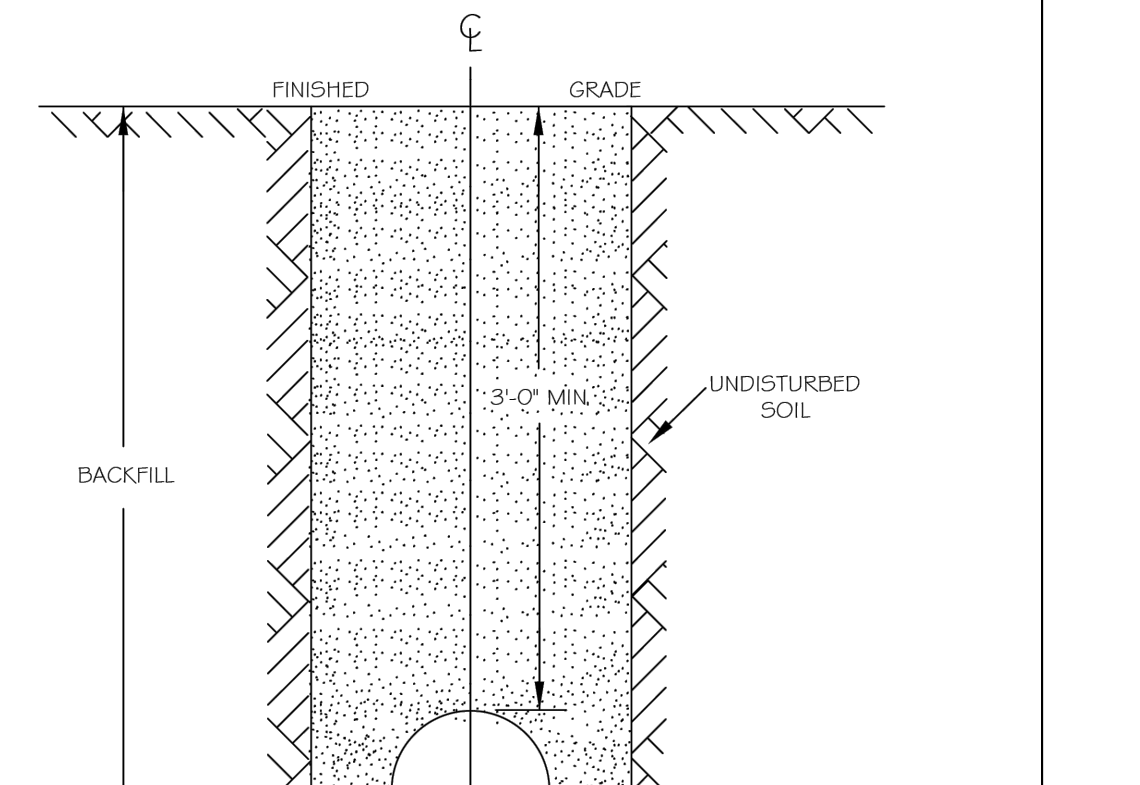


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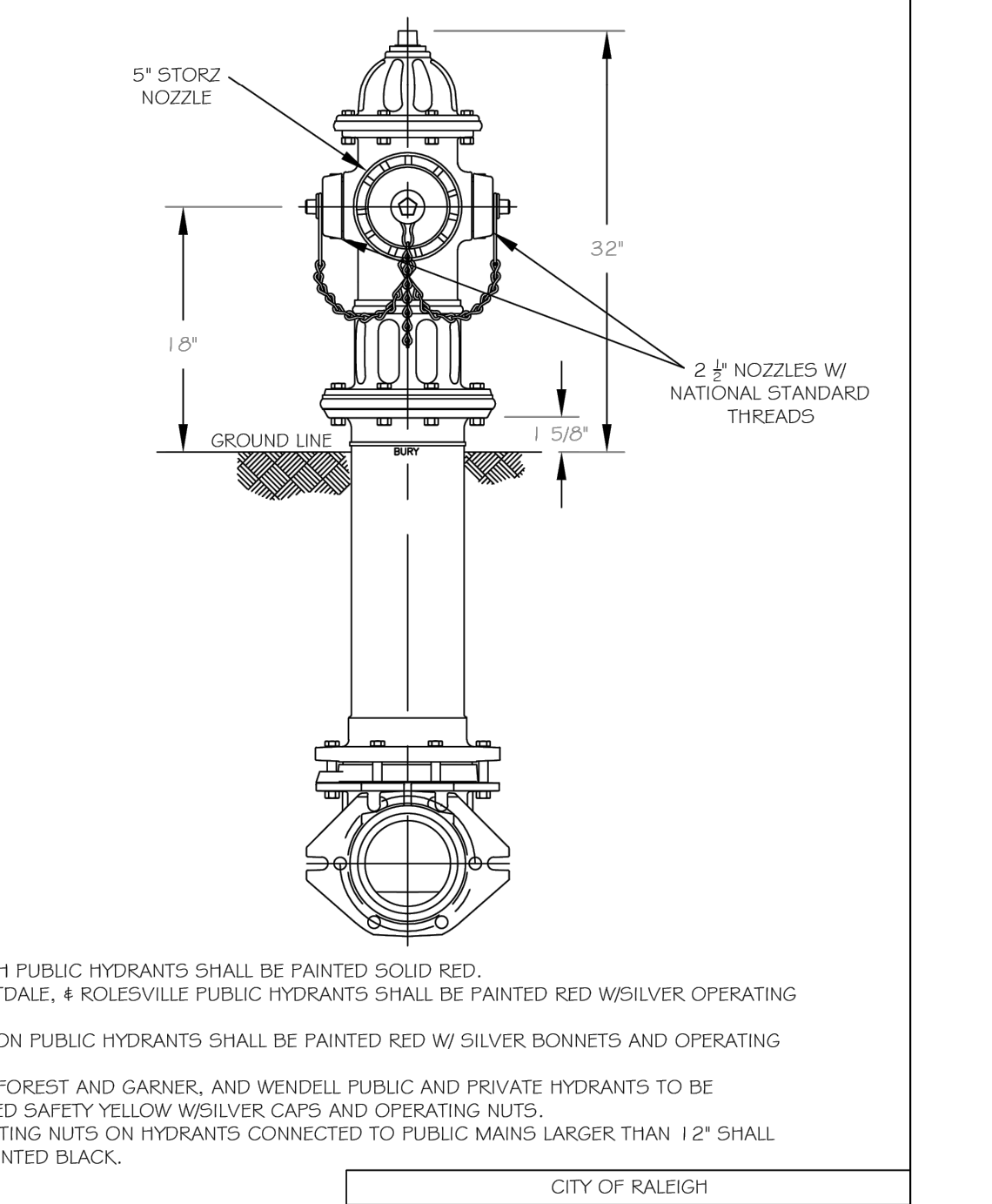


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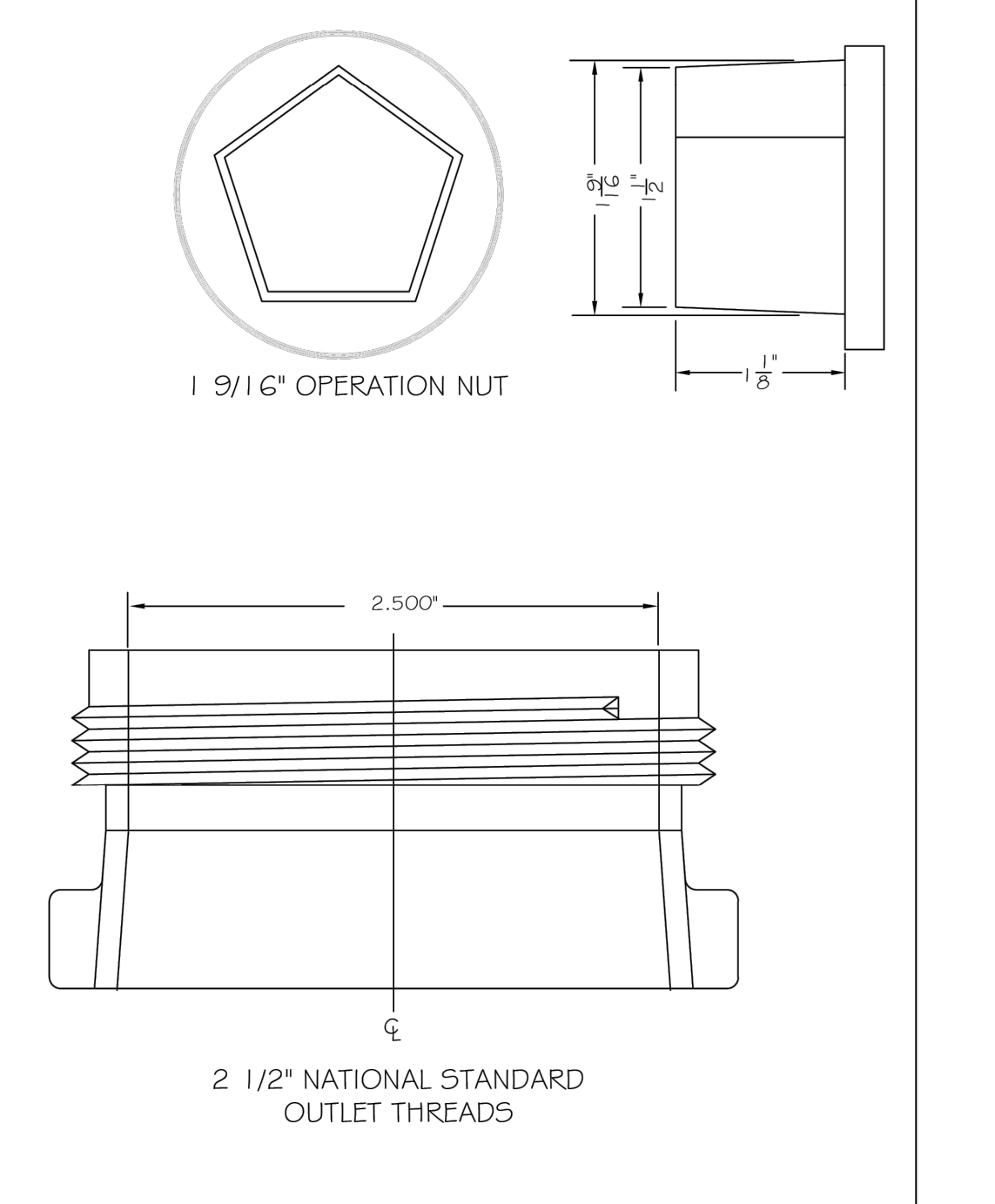


Table with 2 columns: DWG. NO., REVISIONS, DATE. Row 1: W-6, RHH, A.B.B., 4-13-04, J.P.S., 11-11-10.

\\s01\000\work\projects\1111\phase 5\drawings\CAD\2005\construction\document\CU500.dwg

KALAS FALLS PHASE 5 CONSTRUCTION INFRASTRUCTURE DOCUMENTS CID-25-01 TOWN OF ROLESVILLE, WAKE COUNTY, NC

JOB NUMBER: R180115 CHECKED BY: JK DRAWN BY: GE, RC DATE: 03-03-2025 SHEET TITLE: UTILITY DETAILS SHEET NO.: CU501

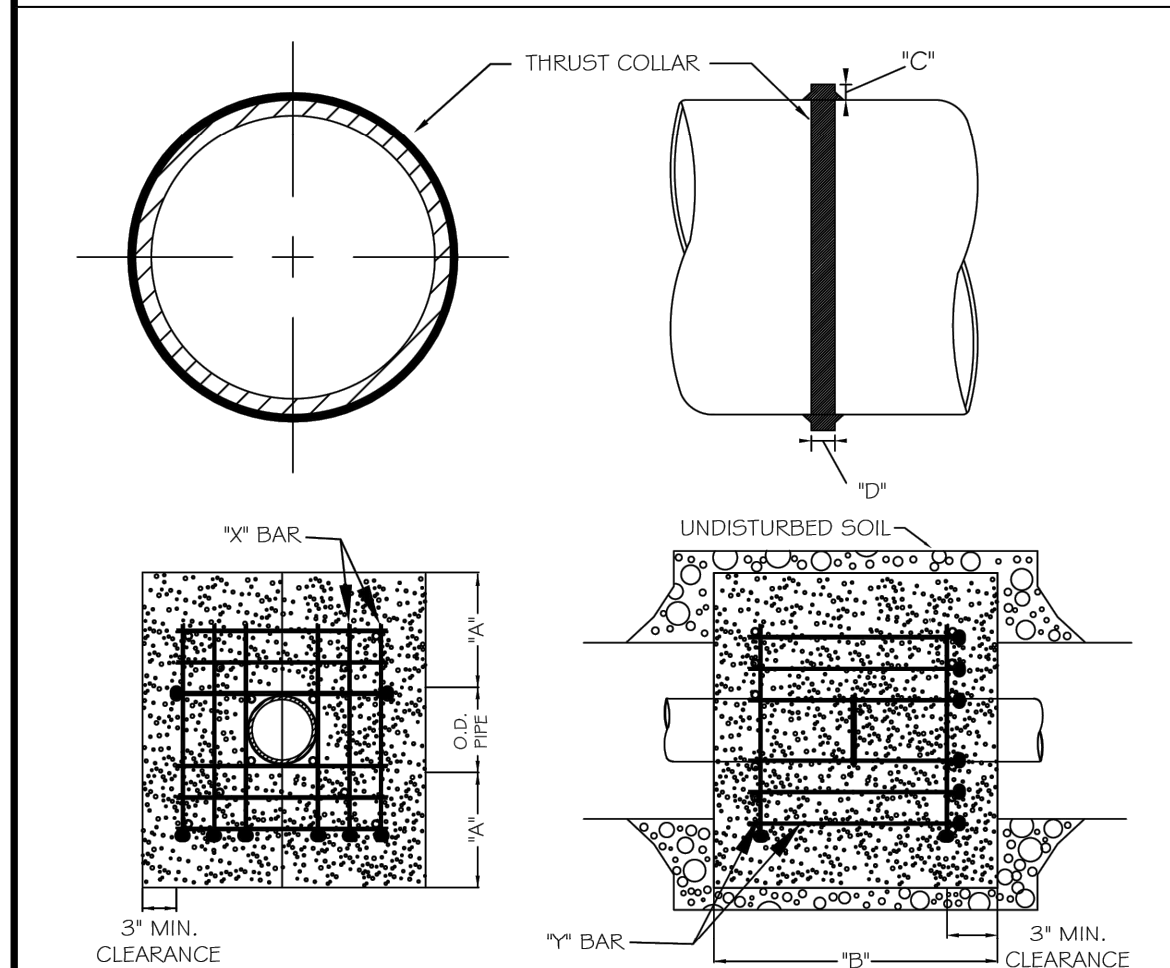


811 or 1-800-632-4949 Remote Ticket Entry

Public Sewer Collection / Extension System  
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Public Water Distribution / Extension System  
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City of Raleigh  
Public Utilities Department Permit #



REINFORCING REQUIREMENTS

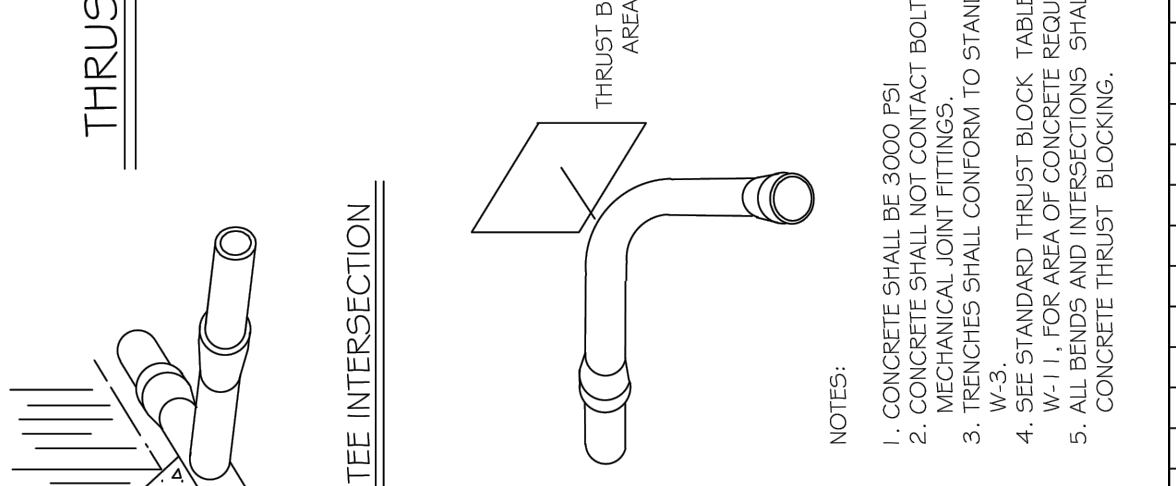
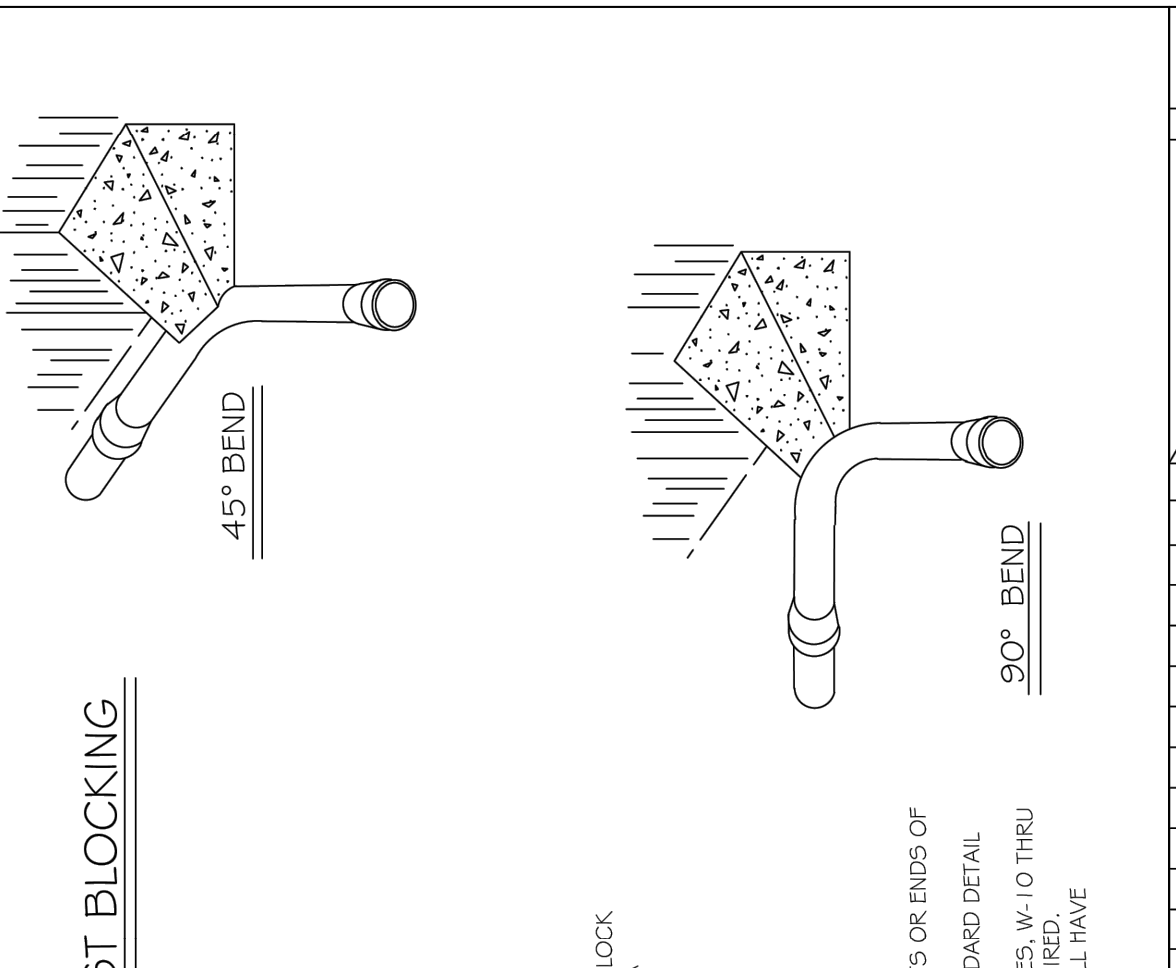
I.D. PIPE	REBAR SIZE	# BAR LENGTH	# BAR WEIGHT	# BAR LENGTH	# BAR WEIGHT	NO. REQUIRED
6" - 36"	#3	3'-2" O.D. PIPE	10.83 LBS/FT	1'-3"	1.1 LBS/ EACH	2-24, Y-12
48" & greater	#6	3'-0" O.D. PIPE	1,502 LBS/FT	1'-3"	1.9 LBS/ EACH	X-24, Y-12

THRUST COLLAR AND THRUST SCHEDULE

I.D. PIPE	"A"	"B"	"C"	"D"
6" - 16"	1'-4"	1'-7"	2"	3/8"
20" - 24"	1'-4"	1'-7"	3"	1/2"
30" - 36"	1'-4"	1'-7"	4"	5/8"
48" & greater	1'-8"	1'-9"	6"	7/8"

CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
THRUST BLOCKING DESIGN DATA FOR WATER MAINS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-7	RRH	1-21-00	J.P.S.	11-1-10
	D.H.L.	6-18-08		



CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
STANDARD THRUST BLOCKING VIEWS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-9	D.W.C.	3-1-87	RRH	3-31-00
		8-7-99	D.H.L.	6-18-08

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS  
BASED ON TEST PRESSURE OF 200 P.S.I.

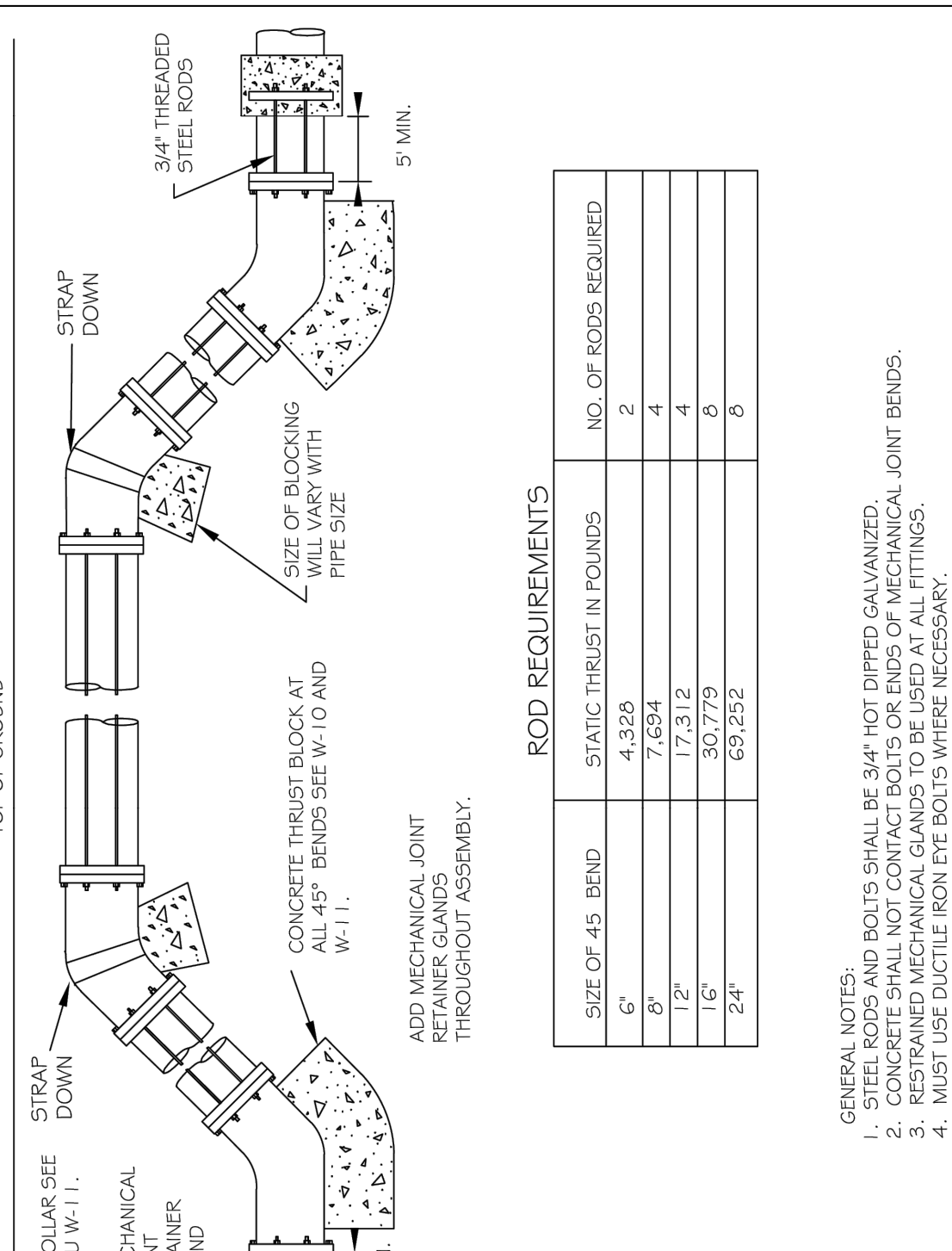
ALL AREAS GIVEN IN SQUARE FEET.

SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	ROCKFILL DRY CLAY ROOD LB/SFT	SOFT CLAY - 2000 LB/SFT	1000 LB/SFT CONCRETE SAND GRAVEL	ADD LB/SFT ABOVE DIRT	BAND CONTACT FIRM SAND 2000 LB/SFT	BAND CLEAN DRY SAND 4000 LB/SFT	SOFT LOAM DRY CLAY SAND - 1000 LB/SFT	ROCK, POOR TO GOOD LB/SFT
6"									
11 1/4"	1,108	1	1	1	1	1	2	1	
22 1/2"	2,207	1	2	2	1	1	3	1	
45"	4,328	2	3	3	1	1	5	1	
90"	7,996	2	4	5	1	1	8	1	
PLUG	5,655	2	3	4	1	1	6	1	
8"									
11 1/4"	1,970	1	1	2	1	1	2	1	
22 1/2"	3,922	1	2	3	1	1	4	1	
45"	7,694	2	4	5	1	1	8	1	
90"	14,215	4	8	9	2	2	15	2	
PLUG	10,053	3	5	6	2	2	10	1	
12"									
11 1/4"	4,433	2	3	3	1	1	5	1	
22 1/2"	8,826	3	5	6	2	2	9	1	
45"	17,312	5	9	11	3	3	18	2	
90"	31,983	8	16	19	4	4	32	4	
PLUG	22,619	6	12	14	3	3	23	3	
16"									
11 1/4"	7,881	2	4	5	1	1	8	1	
22 1/2"	15,691	4	8	10	2	2	16	2	
45"	30,779	8	16	19	4	4	31	4	
90"	56,861	15	29	35	8	8	57	6	
PLUG	40,213	10	21	25	5	5	41	5	

CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
THRUST BLOCKING DESIGN QUANTITY TABLE

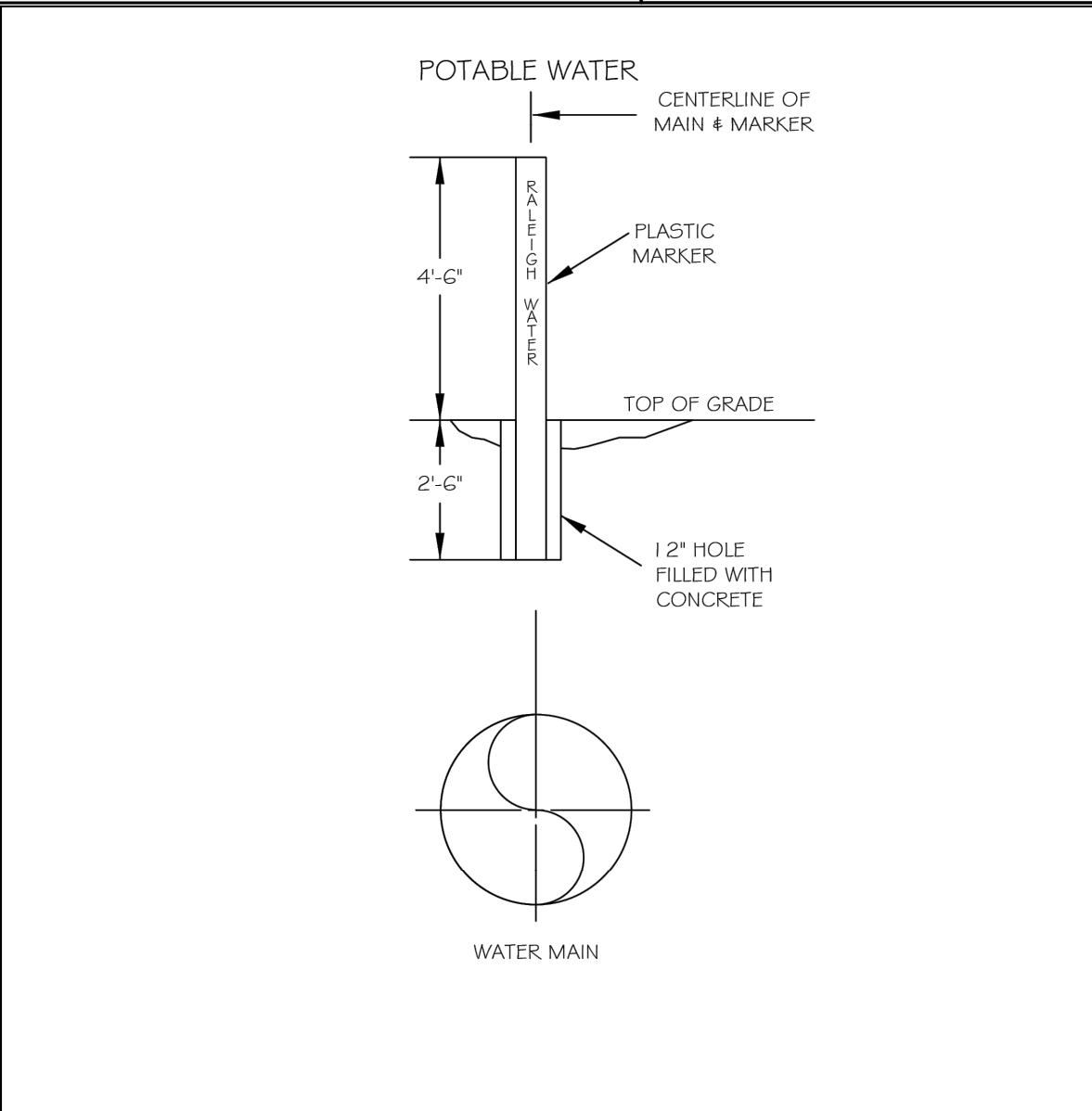
USE 6" - 90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-10		6-23-99		



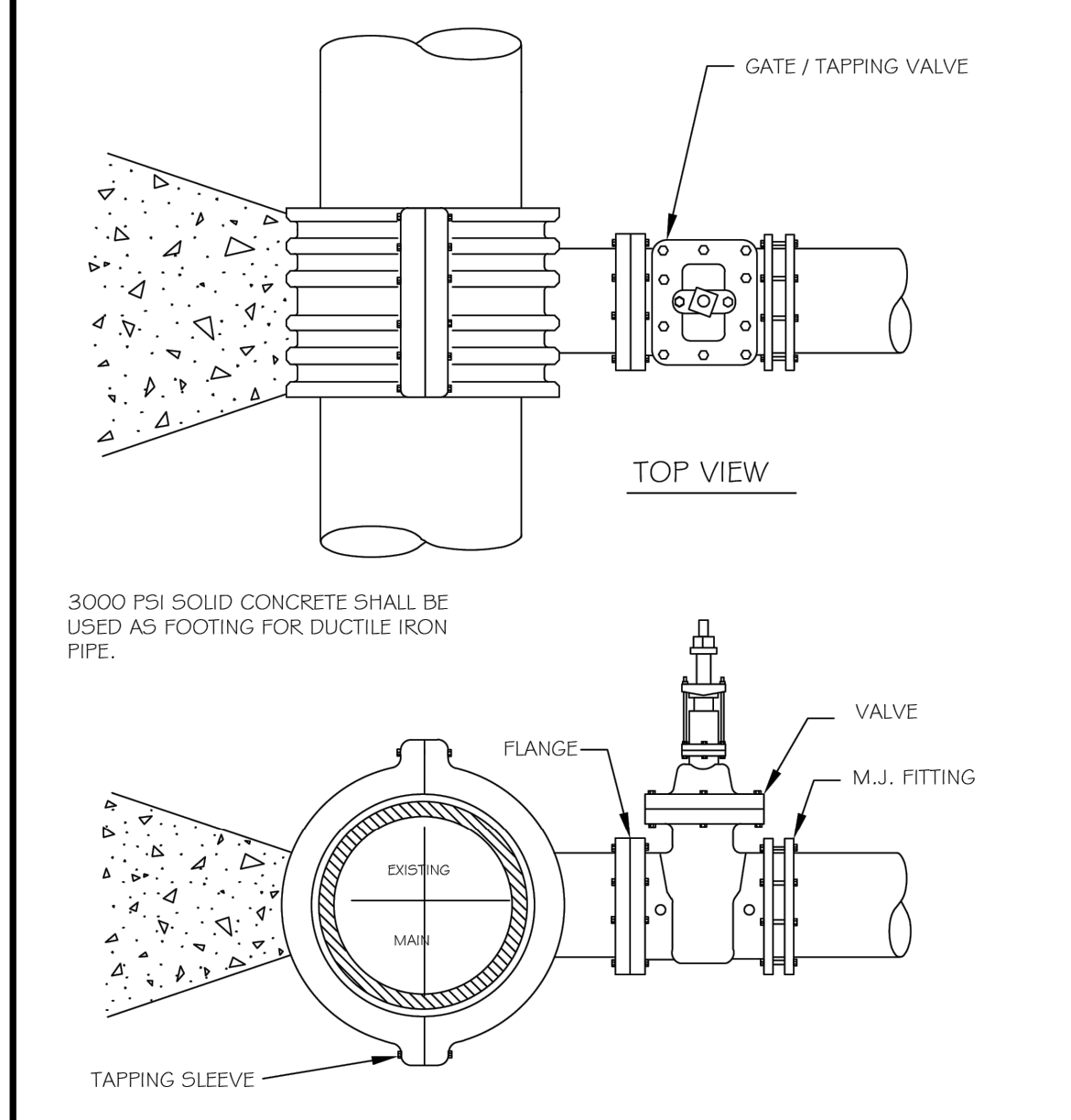
CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
STANDARD VERTICAL BEND

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-12	ABB	4-6-04	J.P.S.	11-1-10
	D.H.L.	6-18-08		

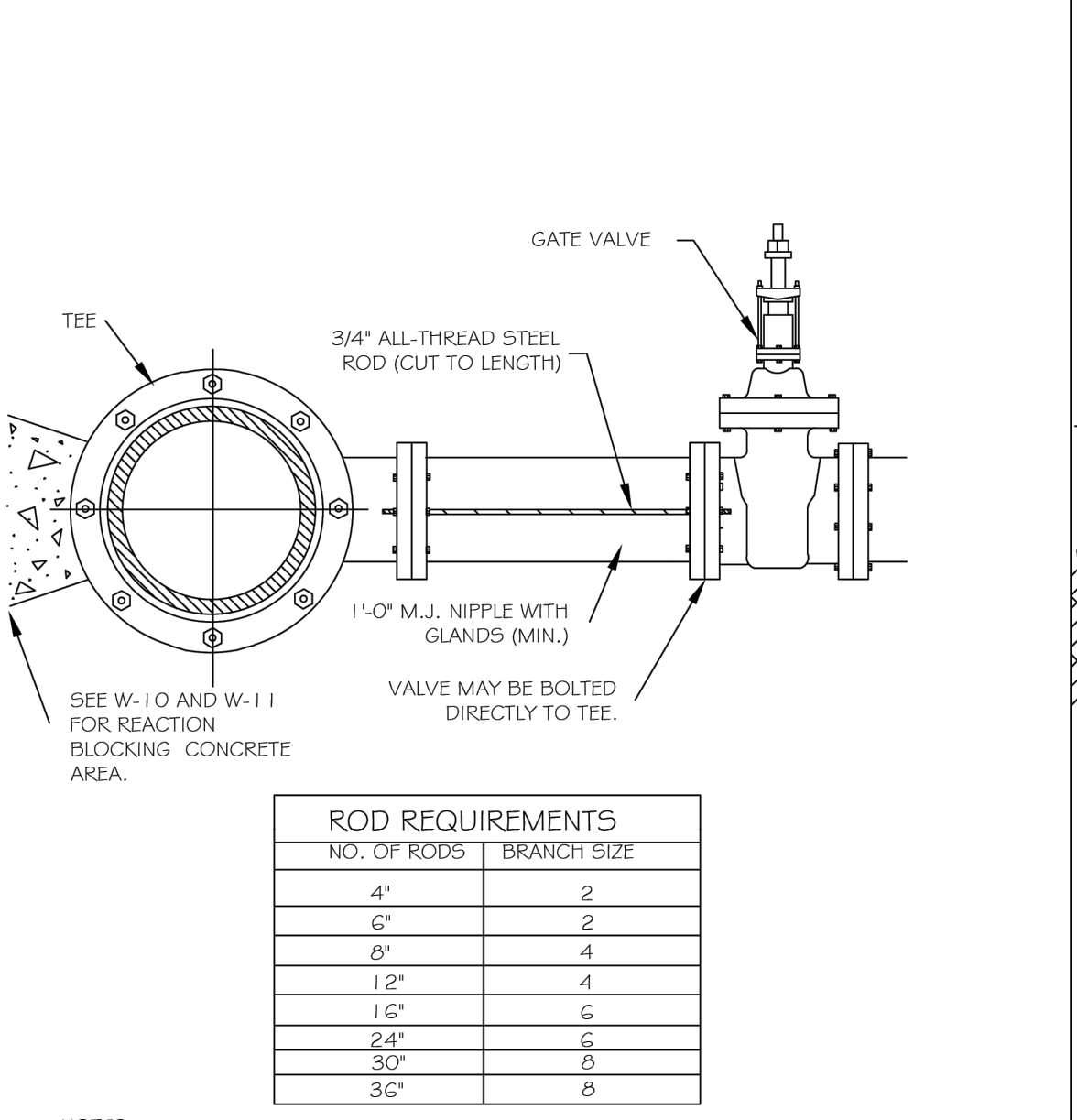


CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
STANDARD MAIN & VALVE MARKERS FOR POTABLE & REUSE WATER IN EASEMENTS

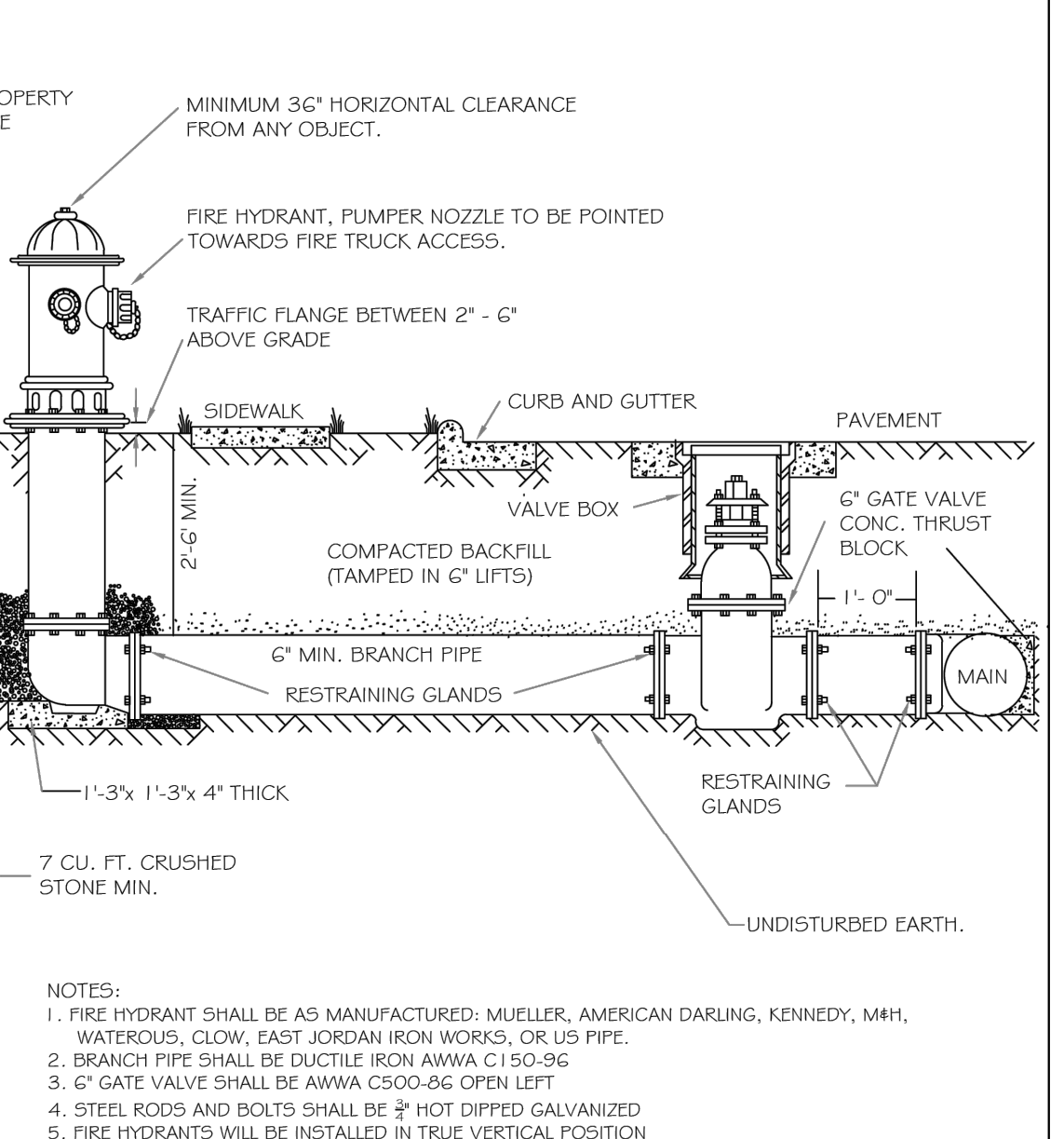
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-13	D.W.C.	9-7-99	D.H.L.	8-16-07
	RRH	8-31-00	J.P.S.	11-1-10



CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
4\"/>

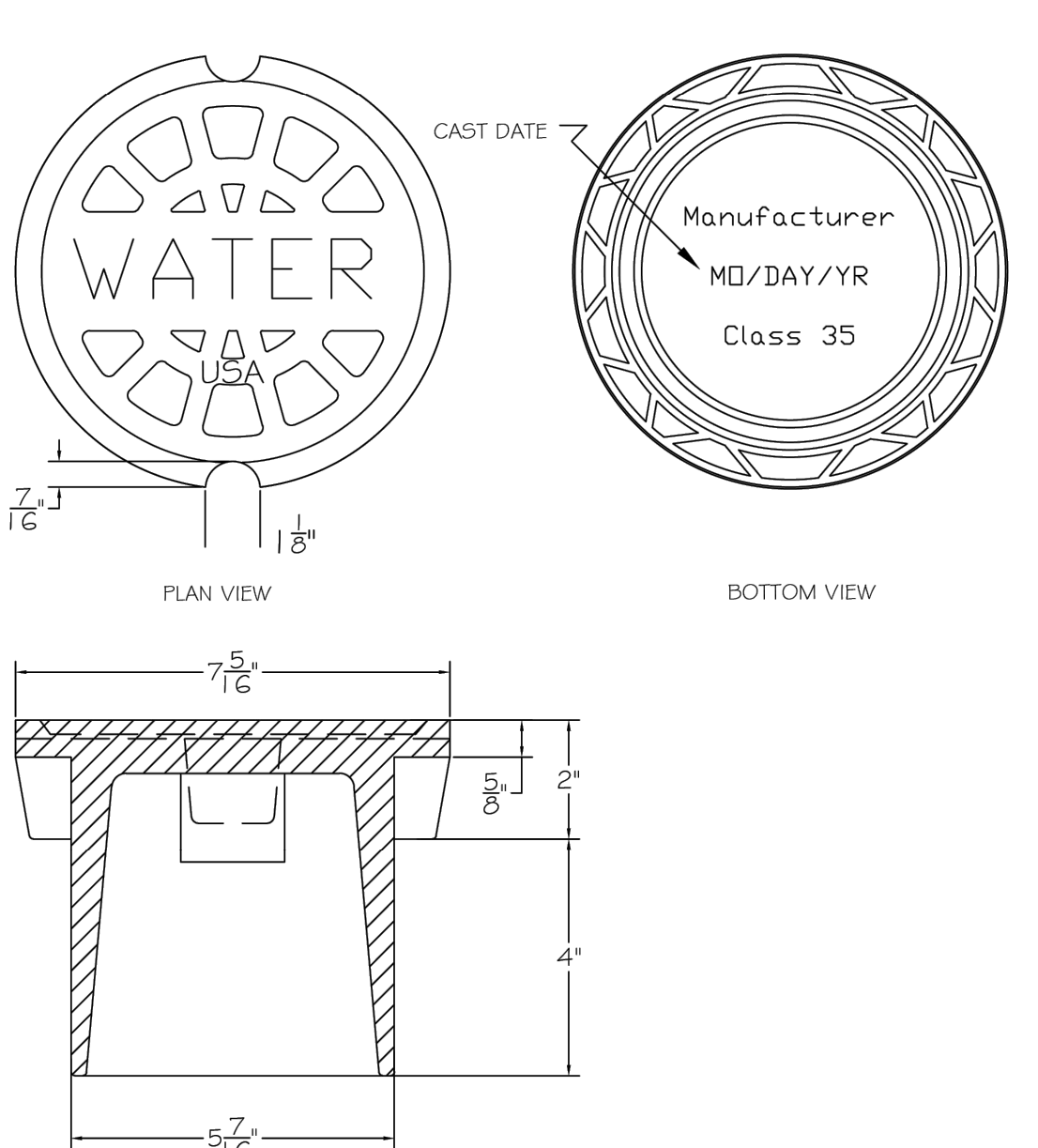


CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
VALVE RESTRAINT AT TEES AND CROSSINGS FOR LINES 4\"/>



CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
STANDARD FIRE HYDRANT INSTALLATION DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-4	ABB	4-6-04	FAP	2/1/09
	D.H.L.	2/14/08		



CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
5\"/>

CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
4\"/>

CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
VALVE RESTRAINT AT TEES AND CROSSINGS FOR LINES 4\"/>

CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
STANDARD FIRE HYDRANT INSTALLATION DETAIL

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-4	ABB	4-6-04	FAP	2/1/09
	D.H.L.	2/14/08		

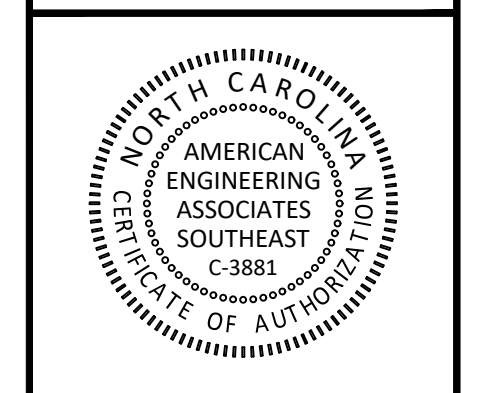
CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
5\"/>



CITY OF RALEIGH  
DEPARTMENT OF PUBLIC UTILITIES  
STANDARD MAIN & VALVE MARKERS FOR POTABLE & REUSE WATER IN EASEMENTS

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-13	D.W.C.	9-7-99	D.H.L.	8-16-07
	RRH	8-31-00	J.P.S.	11-1-10

AMERICAN Engineering  
American Engineering Associates - Southeast, P.A.  
4020 Westchase Boulevard, Suite 450  
Raleigh, NC 27607  
919-469-1101



NO. DATE REVISION: CID:SUBMITTAL.#1

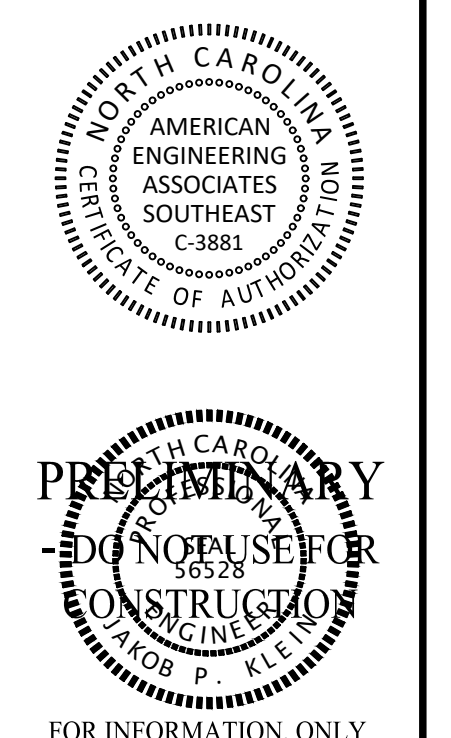
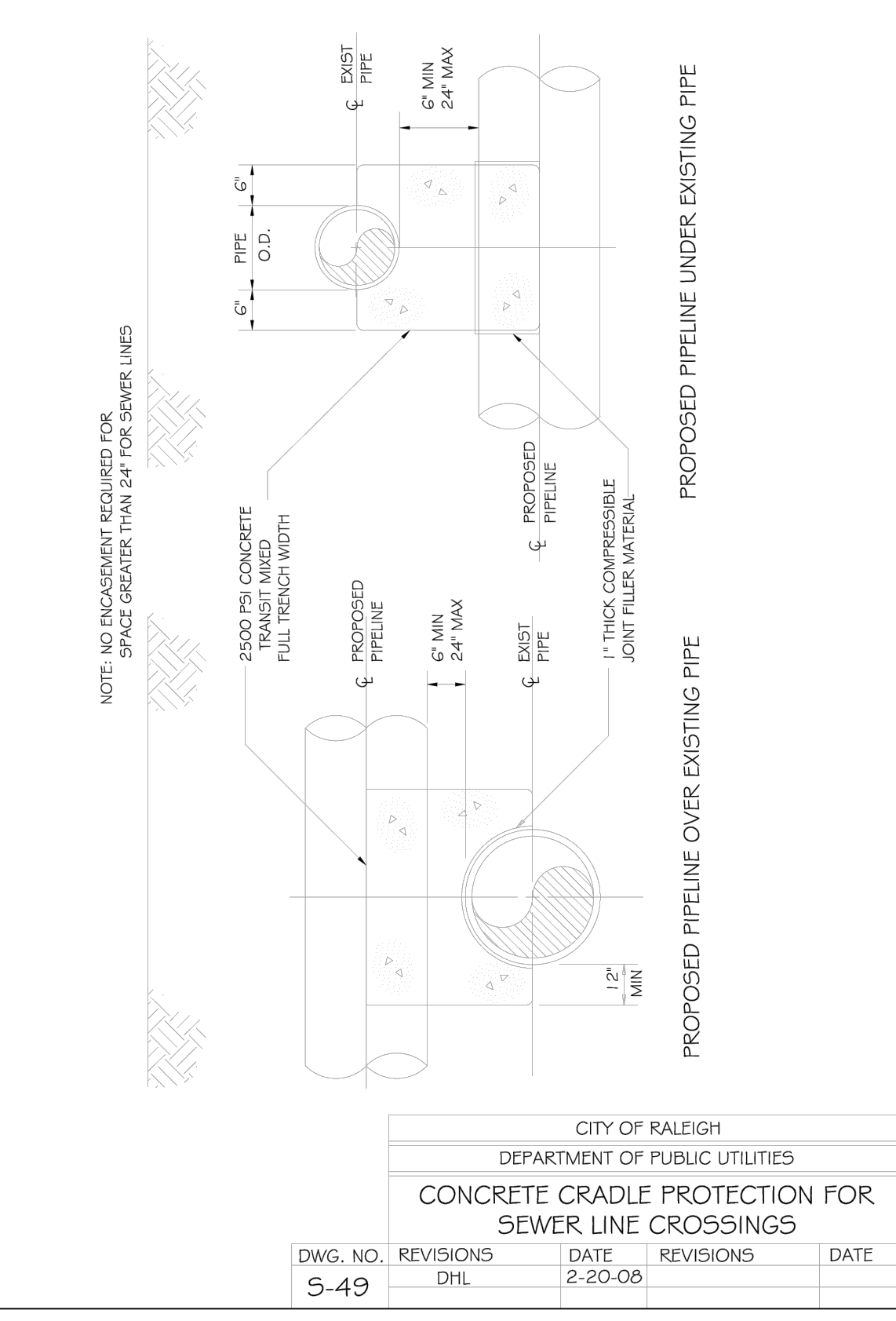
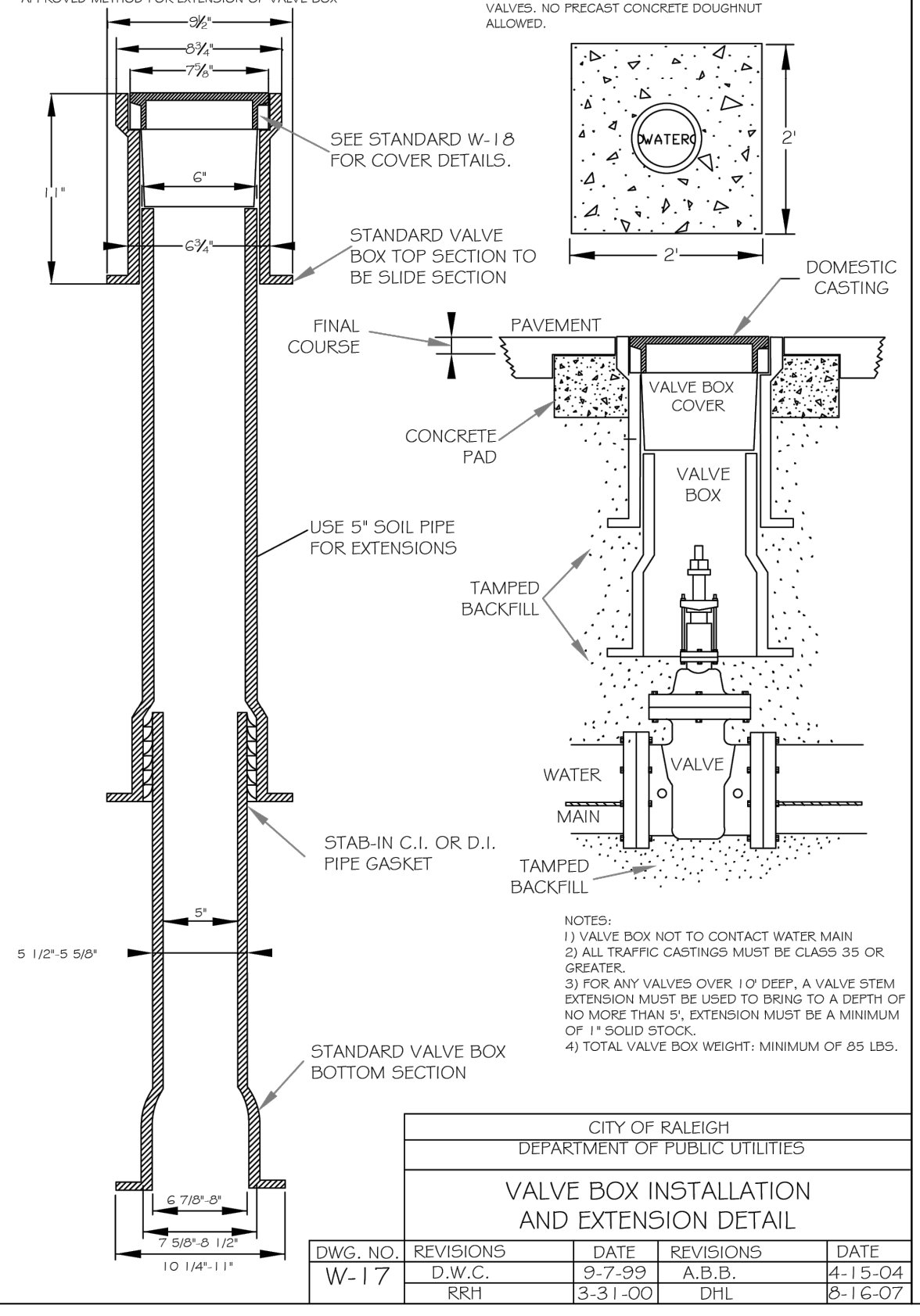
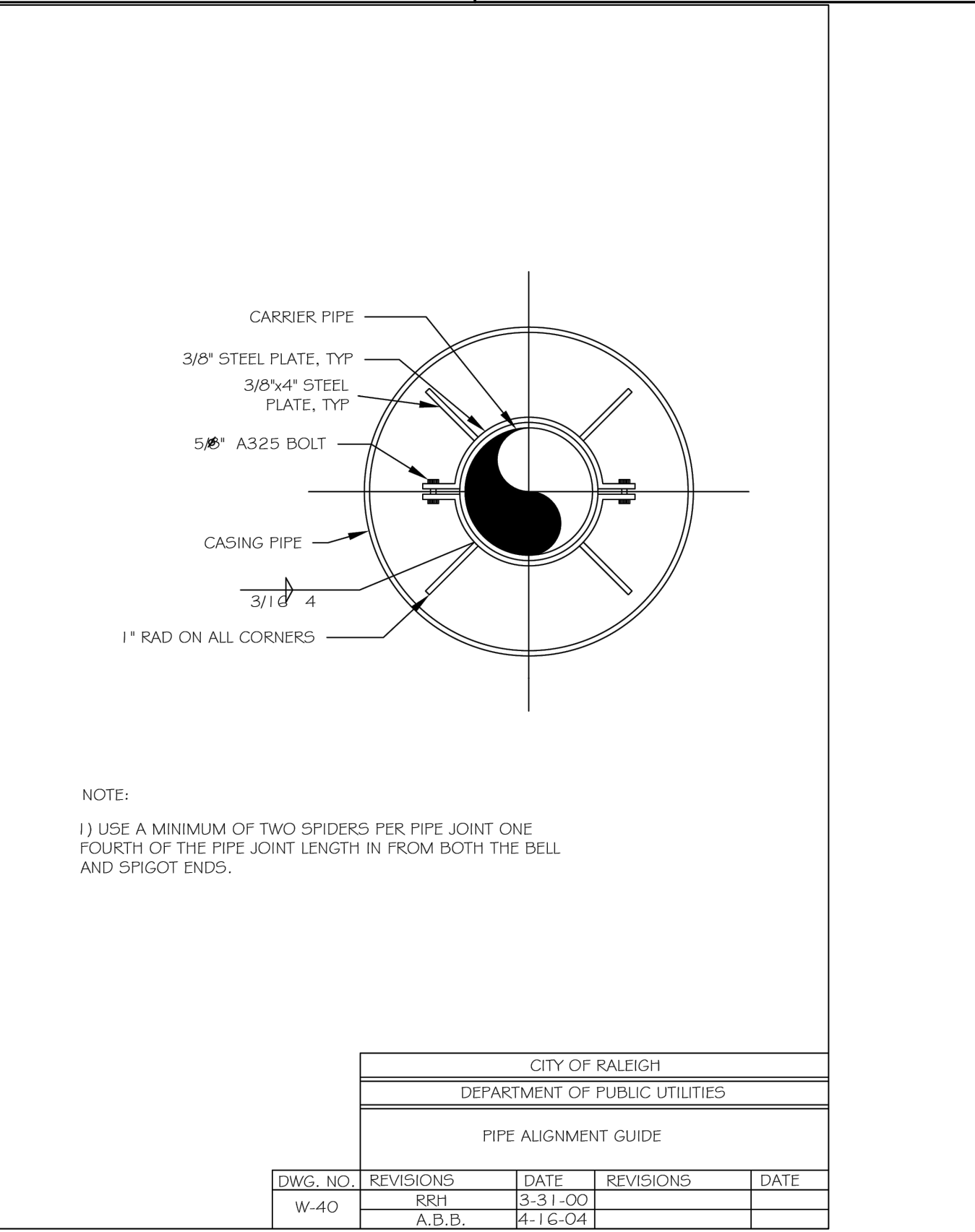
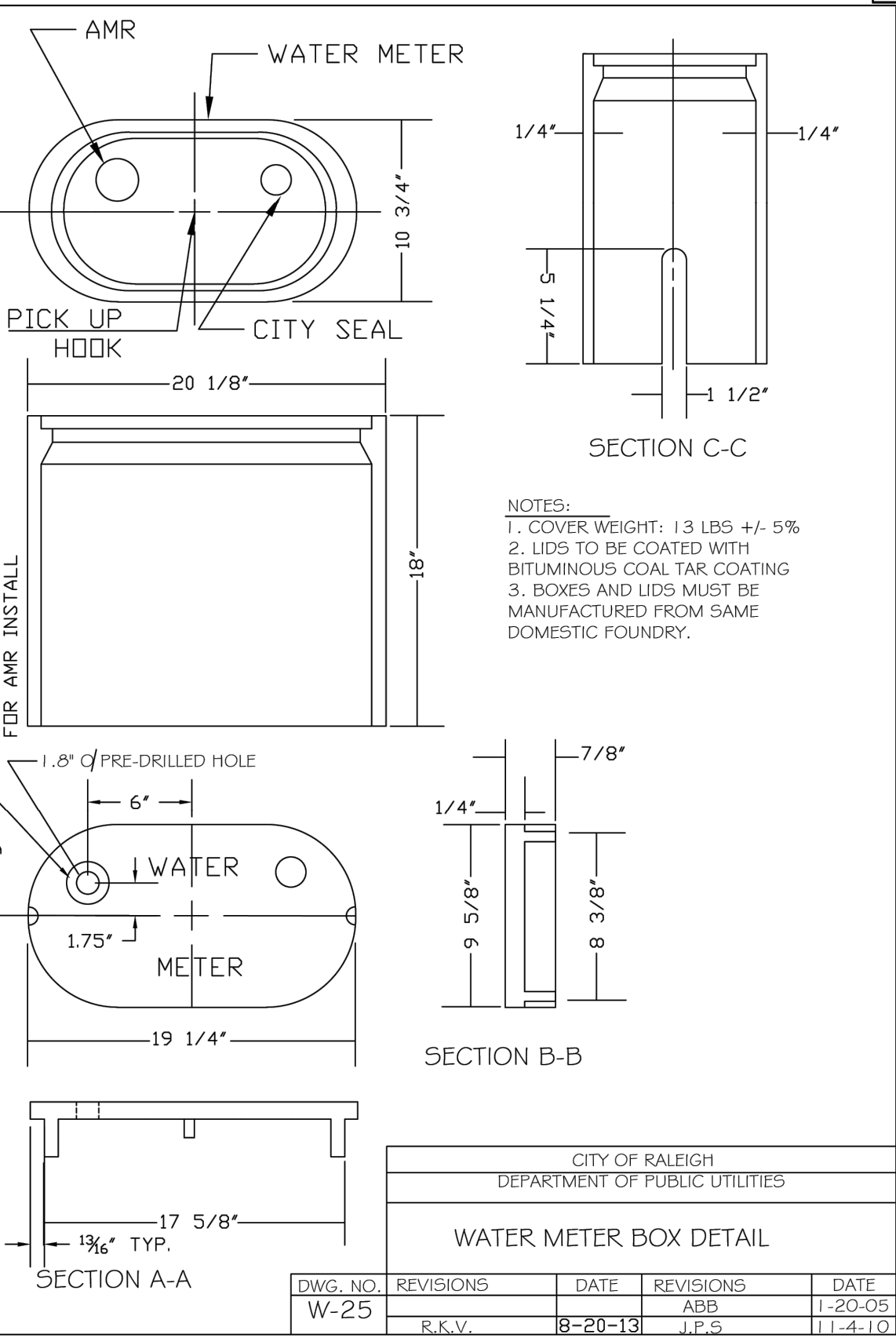
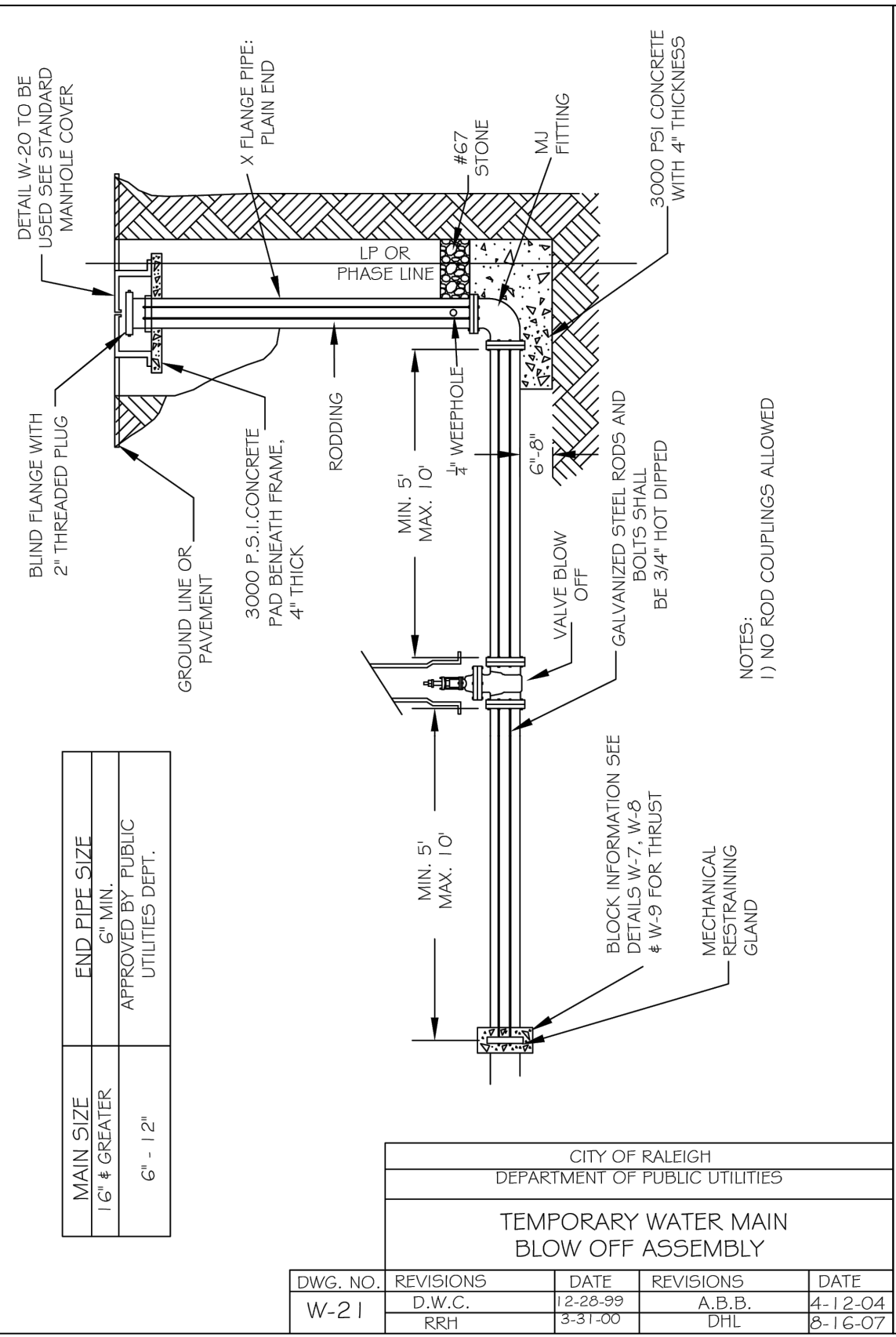
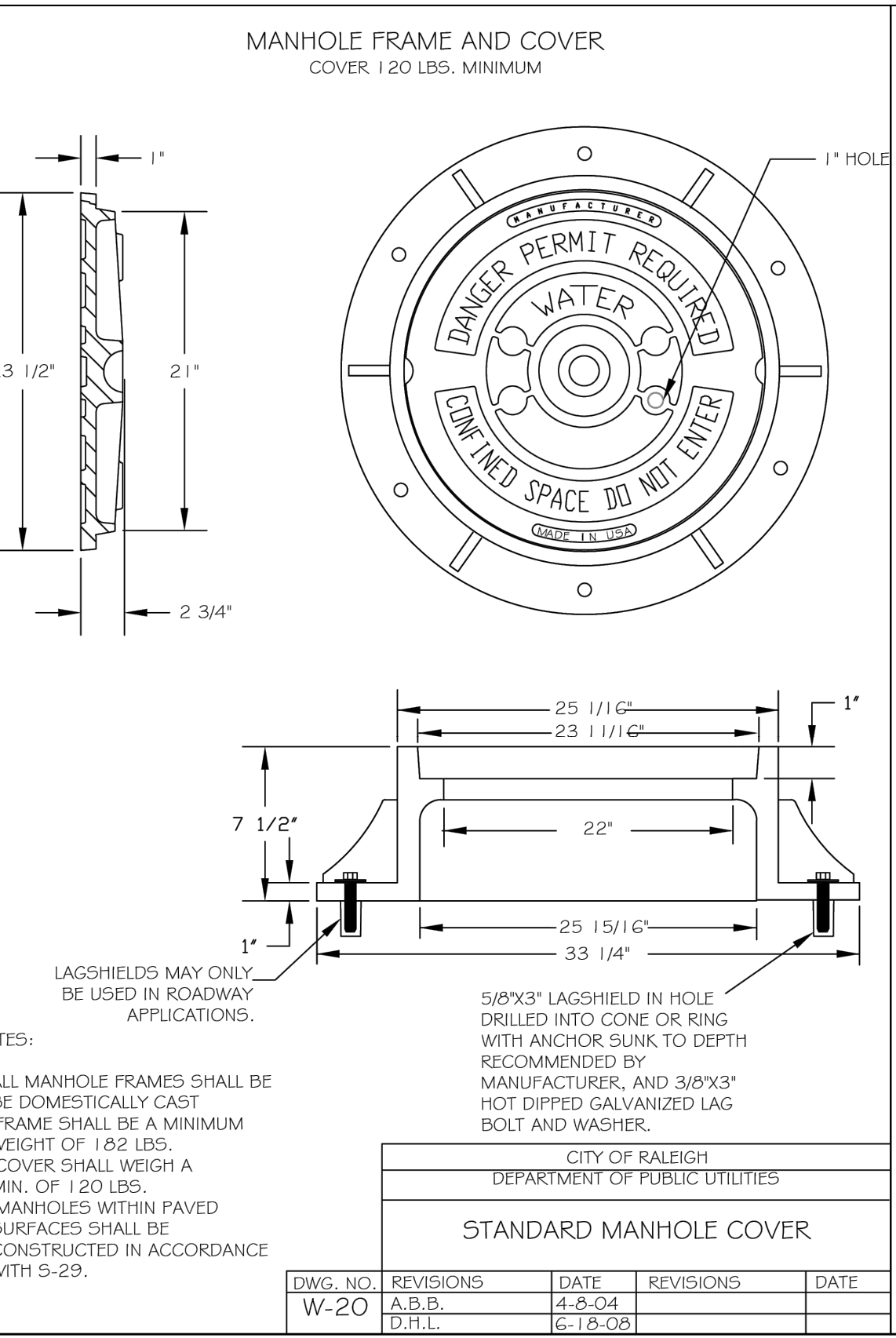
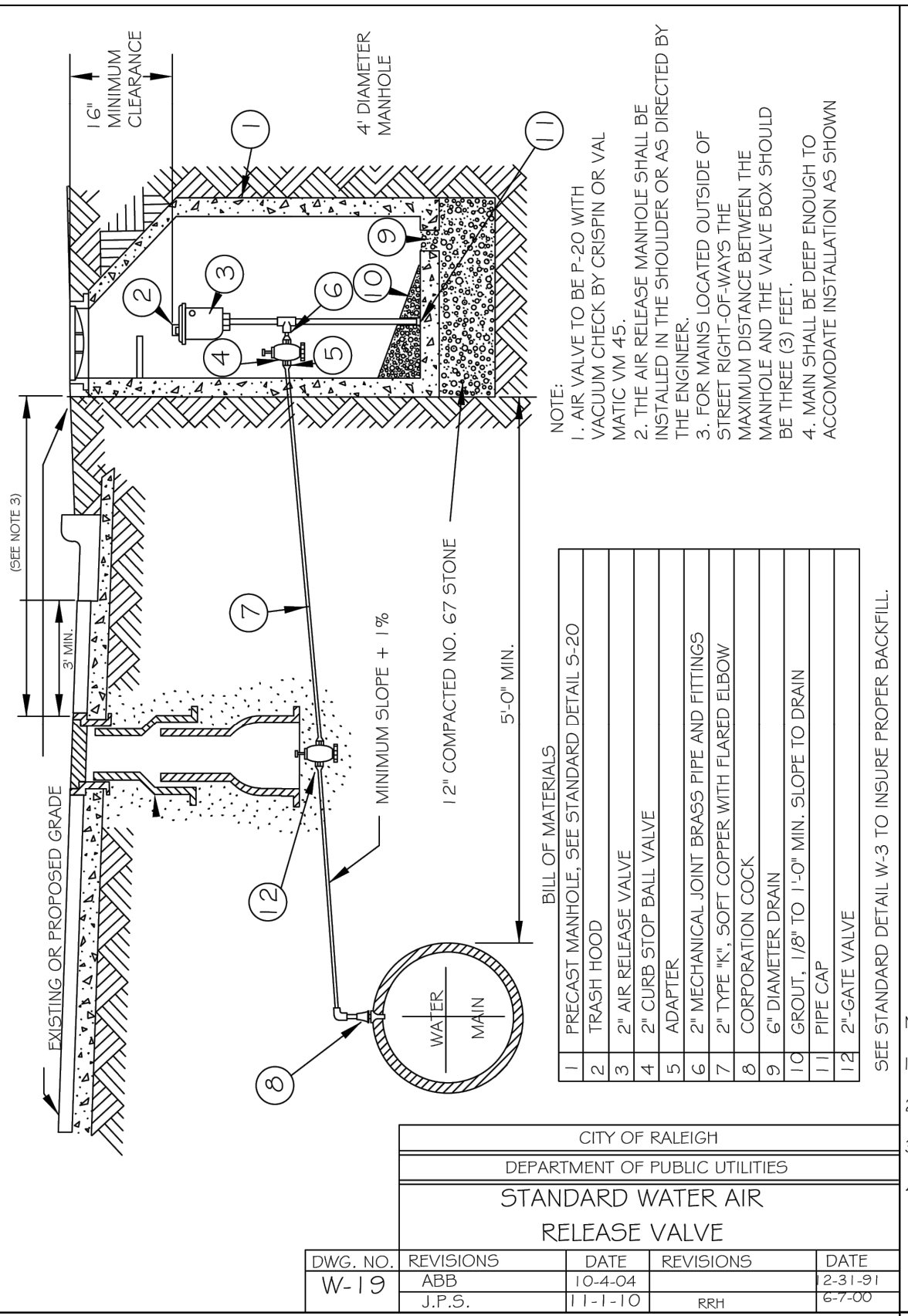
NO.	DATE	REVISION
1	12/25/2024	

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KALAS FALLS  
PHASE 5  
CONSTRUCTION INFRASTRUCTURE DOCUMENTS  
CID-25-01  
TOWN OF ROULESVILLE,  
WAKE COUNTY, NC

JOB NUMBER: R180115  
CHECKED BY: JK  
DRAWN BY: GE, RC  
DATE: 03-03-2025  
SHEET TITLE: UTILITY DETAILS  
SHEET NO.: CU502





FOR INFORMATION, ONLY

NO.	DATE	REVISION:	CID:SUBMITTAL: #1
1	12/25/2024		

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KALAS FALLS  
PHASE 5  
CONSTRUCTION INFRASTRUCTURE  
DOCUMENTS  
CID-25-01  
TOWN OF ROLESVILLE,  
WAKE COUNTY, NC

JOB NUMBER: R180115  
CHECKED BY: JK  
DRAWN BY: GE, RC  
DATE: 03-03-2025

SHEET TITLE:  
**UTILITY  
DETAILS**  
SHEET NO.:  
**CU503**



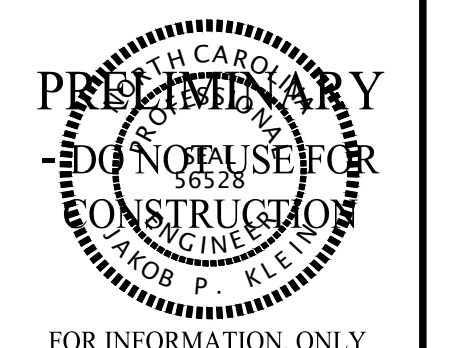
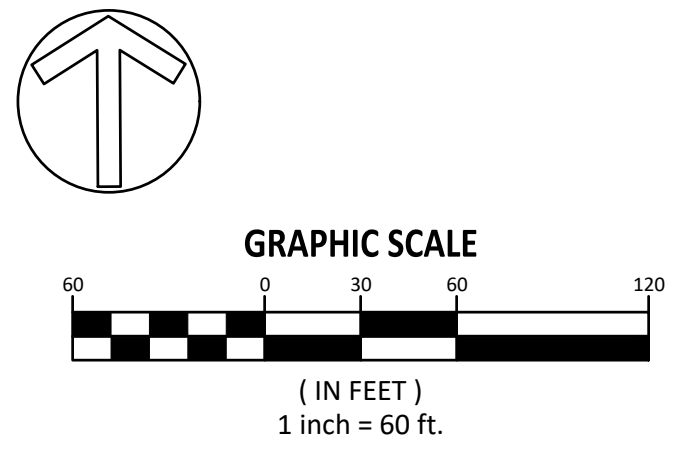




EROSION CONTROL LEGEND		REFERENCE DETAIL
— SF —	SILT FENCE	01 / CE502
— LOD —	LIMITS OF DISTURBANCE	SEE PLANS
— TF —	TREE PROTECTION FENCE	02 / CE503
— — — — —	DRAINAGE AREA	SEE PLANS
— >> —	TEMPORARY DIVERSION DITCH	06 / CE501, CE500, & CE503
—	SILT FENCE OUTLET	02 / CE502
○	SEDIMENT SACK INLET PROTECTION	03 / CE502
◡	STANDARD PIPE INLET PROTECTION	08 / CE502
◻	GRAVEL INLET PROTECTION	04 / CE501
◻	GRAVEL CHECK DAM	03 / CE501
◻	MAINTENANCE PAD	04 / CE503
◻	RIPRAP DISSIPATOR	08 / CE501 & CE500
— — — — —	DRAINAGE PIPE	09 / CE501
—	WATTLE	SW-20.23 / CE503
—	SKIMMER	01 / CE503
◻	TEMPORARY SKIMMER BASIN	05 & 06 / CE502
◻	STAGING AND LAYDOWN AREA	CE500 NOTES
◻	CONSTRUCTION ENTRANCE	02 / CE501
◻	CONCRETE WASHOUT PIT	03 / CE503

SITE LEGEND	
— — — — —	100 YR FLOODLINE
— — — — —	PROPERTY BOUNDARY/PHASE LINE
— — — — —	2' BUILDING RESTRICTION LINE
— — — — —	50' NEUSE RIVER BUFFER
— — — — —	PROPOSED SURFACE WATER LEVEL
— — — — —	RIGHT-OF-WAY
— — — — —	LIMITS OF DISTURBANCE
+	WETLANDS

NOTES:  
 1. SEE SHEET CE500 FOR TEMPORARY DIVERSION DITCH CALCULATIONS.



FOR INFORMATION ONLY

NO.	DATE	REVISION:
1	12/25/2024	CID-SUBMITTAL #1

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KALAS FALLS  
 PHASE 5  
 CONSTRUCTION INFRASTRUCTURE  
 DOCUMENTS  
 CID-25-01  
 TOWN OF ROLESVILLE,  
 WAKE COUNTY, NC

JOB NUMBER: R180115  
 CHECKED BY: JK  
 DRAWN BY: GE, RC  
 DATE: 03-03-2025

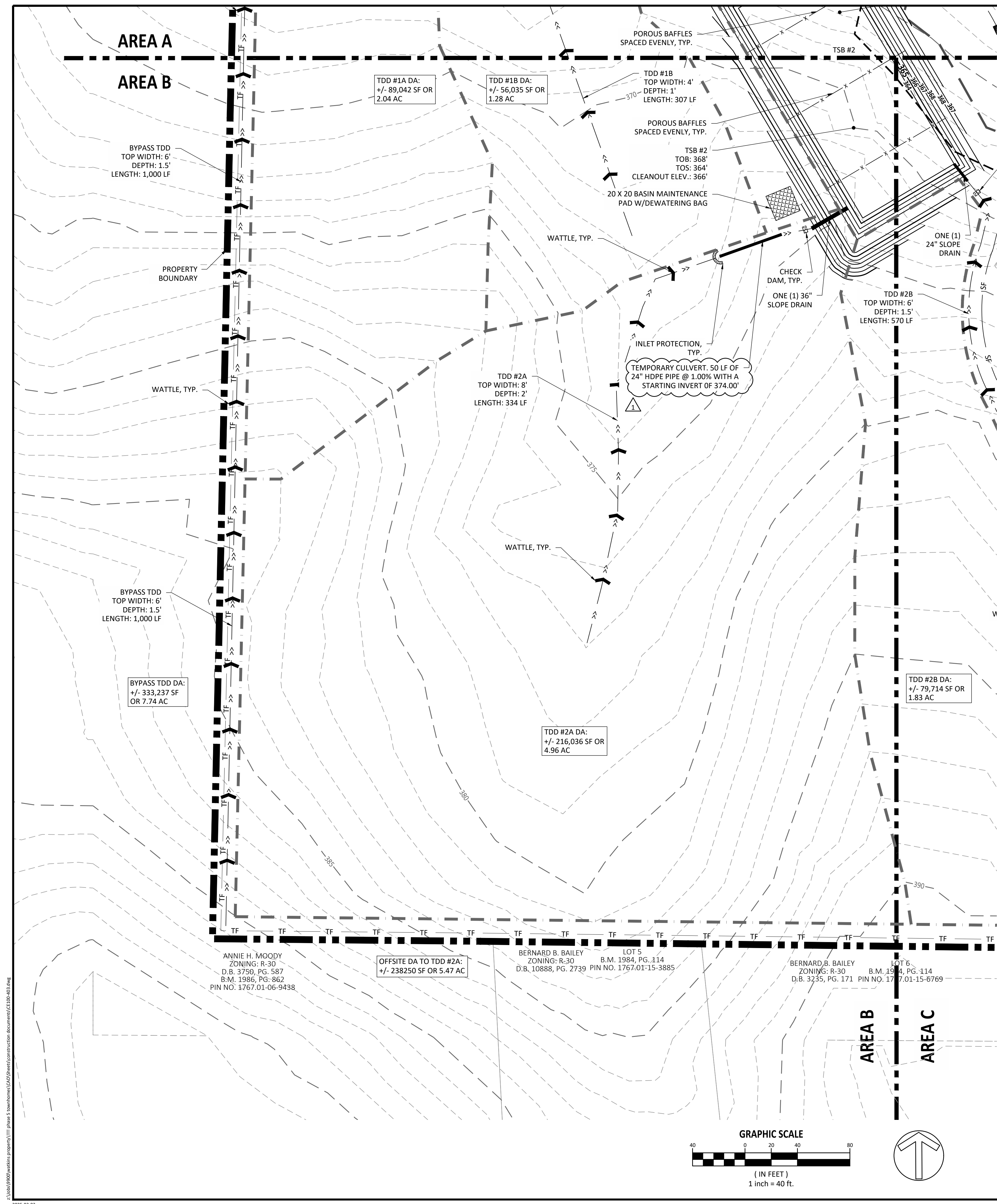
SHEET TITLE:  
**ESC PHASE 1  
 OVERALL**

SHEET NO.:  
**CE100**



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 2025-03-03

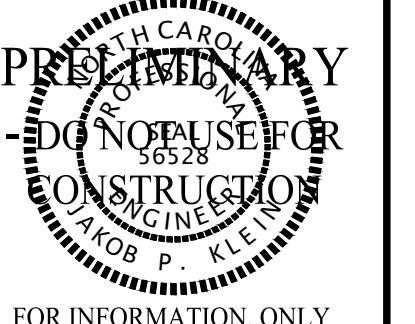
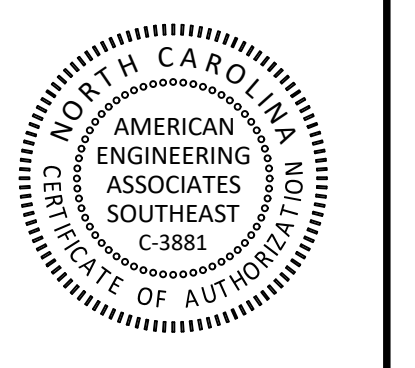




EROSION CONTROL LEGEND		REFERENCE DETAIL
SF	SILT FENCE	01 / CE502
LOD	LIMITS OF DISTURBANCE	SEE PLANS
TF	TREE PROTECTION FENCE	02 / CE503
	DRAINAGE AREA	SEE PLANS
>>	TEMPORARY DIVERSION DITCH	06 / CE501, CE500, & CE503
●	SILT FENCE OUTLET	02 / CE502
○	SEDIMENT SACK INLET PROTECTION	03 / CE502
□	STANDARD PIPE INLET PROTECTION	08 / CE502
□	GRAVEL INLET PROTECTION	04 / CE501
□	GRAVEL CHECK DAM	03 / CE501
□	MAINTENANCE PAD	04 / CE503
□	RIPRAP DISSIPATOR	08 / CE501 & CE500
—	DRAINAGE PIPE	09 / CE501
^	WATTLE	SW-20.23 / CE503
□	SKIMMER	01 / CE503
□	TEMPORARY SKIMMER BASIN	05 & 06 / CE502
□	STAGING AND LAYDOWN AREA	CE500 NOTES
□	CONSTRUCTION ENTRANCE	02 / CE501
□	CONCRETE WASHOUT PIT	03 / CE503

SITE LEGEND	
---	100 YR FLOODLINE
---	PROPERTY BOUNDARY/PHASE LINE
---	2' BUILDING RESTRICTION LINE
---	50' NEUSE RIVER BUFFER
---	PROPOSED SURFACE WATER LEVEL
---	RIGHT-OF-WAY
---	LIMITS OF DISTURBANCE
+	WETLANDS

- NOTES:**
- TEMPORARY STORM DRAINAGE CULVERT SPANNING PROPOSED RIGHT-OF-WAY TO ALLOW CONSTRUCTION OF ROAD INFRASTRUCTURE. CULVERT TO BE REMOVED FOLLOWING INITIAL ROAD CONSTRUCTION.
  - TSB IS TEMPORARY SEDIMENT BASIN.
  - TDD IS TEMPORARY DIVERSION DITCH.
  - SEE SHEET CE500 FOR TEMPORARY DIVERSION DITCH CALCULATIONS.
  - SEE SHEET CE500 FOR RIP RAP DISSIPATOR CALCULATIONS.
  - SEE SHEET CE500 FOR EROSION & SEDIMENT CONTROL PIPE AND STRUCTURE SCHEDULES.



FOR INFORMATION, ONLY

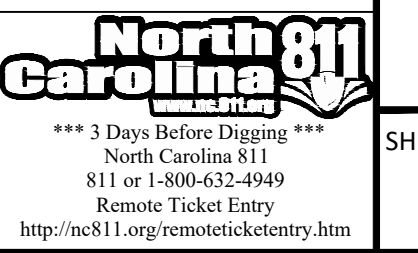
NO.	DATE	REVISION
1	12/23/2024	CID SUBMITTAL #1

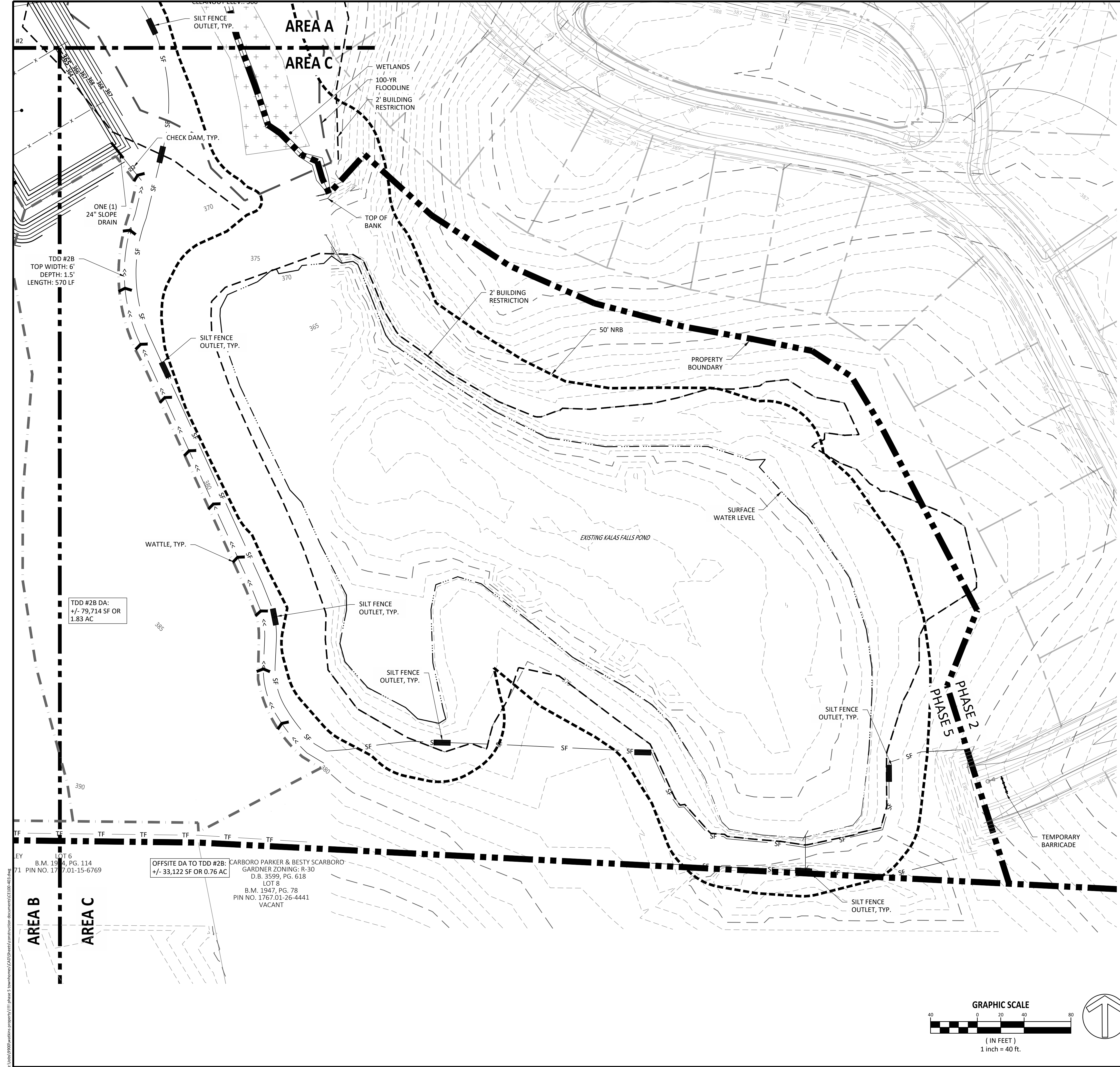
**STIPULATION FOR REUSE**  
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**KALAS FALLS**  
**PHASE 5**  
**CONSTRUCTION INFRASTRUCTURE**  
**DOCUMENTS**  
**CID-25-01**  
**TOWN OF ROLESVILLE,**  
**WAKE COUNTY, NC**

JOB NUMBER: R180115  
CHECKED BY: JK  
DRAWN BY: GE, RC  
DATE: 03-03-2025

**ESC PHASE 1**  
**AREA B**  
SHEET NO.: **CE401**

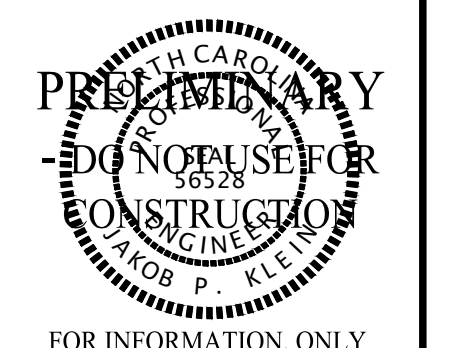




EROSION CONTROL LEGEND		REFERENCE DETAIL
— SF —	SILT FENCE	01 / CE502
— LOD —	LIMITS OF DISTURBANCE	SEE PLANS
— TF —	TREE PROTECTION FENCE	02 / CE503
— DA —	DRAINAGE AREA	SEE PLANS
>> —	TEMPORARY DIVERSION DITCH	06 / CE501, CE500, & CE503
— SF —	SILT FENCE OUTLET	02 / CE502
●	SEDIMENT SACK INLET PROTECTION	03 / CE502
⌒	STANDARD PIPE INLET PROTECTION	08 / CE502
□	GRAVEL INLET PROTECTION	04 / CE501
⊠	GRAVEL CHECK DAM	03 / CE501
▤	MAINTENANCE PAD	04 / CE503
▨	RIPRAP DISSIPATOR	08 / CE501 & CE500
— DP —	DRAINAGE PIPE	09 / CE501
— W —	WATTLE	SW-20.23 / CE503
— SK —	SKIMMER	01 / CE503
▭	TEMPORARY SKIMMER BASIN	05 & 06 / CE502
▨	STAGING AND LAYDOWN AREA	CE500 NOTES
▨	CONSTRUCTION ENTRANCE	02 / CE501
□	CONCRETE WASHOUT PIT	03 / CE503

SITE LEGEND	
— 100 YR FLOODLINE	100 YR FLOODLINE
— PROPERTY BOUNDARY/PHASE LINE	PROPERTY BOUNDARY/PHASE LINE
— 2' BUILDING RESTRICTION LINE	2' BUILDING RESTRICTION LINE
— 50' NEUSE RIVER BUFFER	50' NEUSE RIVER BUFFER
— PROPOSED SURFACE WATER LEVEL	PROPOSED SURFACE WATER LEVEL
— RIGHT-OF-WAY	RIGHT-OF-WAY
— LOD	LIMITS OF DISTURBANCE
+	WETLANDS

- NOTES:
1. TSB IS TEMPORARY SEDIMENT BASIN.
  2. TDD IS TEMPORARY DIVERSION DITCH.
  3. SEE SHEET CE500 FOR TEMPORARY DIVERSION DITCH CALCULATIONS.
  4. SEE SHEET CE500 FOR RIP RAP DISSIPATOR CALCULATIONS.
  5. SEE SHEET CE500 FOR EROSION & SEDIMENT CONTROL PIPE AND STRUCTURE SCHEDULES.



FOR INFORMATION, ONLY

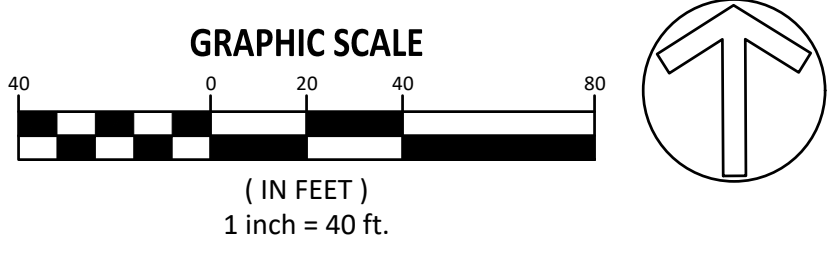
NO.	DATE	REVISION:
1	12/25/2024	CID:SUBMITTAL #1

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KALAS FALLS  
 PHASE 5  
 CONSTRUCTION INFRASTRUCTURE  
 DOCUMENTS  
 CID-25-01  
 TOWN OF ROLESVILLE,  
 WAKE COUNTY, NC

JOB NUMBER: R180115  
 CHECKED BY: JK  
 DRAWN BY: GE, RC  
 DATE: 03-03-2025

SHEET TITLE:  
**ESC PHASE  
 1 AREA C**  
 SHEET NO.:  
**CE402**



LOT 6  
 B.M. 1914, PG. 114  
 PIN NO. 177.01-15-6769

OFFSITE DA TO TDD #2B:  
 +/- 33,122 SF OR 0.76 AC

CARBORO PARKER & BESTY SCARBORO  
 GARDNER ZONING: R-30  
 D.B. 3599, PG. 618  
 LOT 5  
 B.M. 1947, PG. 78  
 PIN NO. 1767.01-26-4441  
 VACANT

AREA B  
 AREA C