

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

SYMBOLS AND ABBREVIATIONS

| | | | |
|--------|-----------------------------|--|---|
| ABC | AGGREGATE BASE COURSE | | EXISTING CURB INLET |
| ALUM | ALUMINUM | | EXISTING GRATE INLET/YARD INLET |
| AST2 | ALUMINIZED STEEL - TYPE 2 | | EXISTING FLARED END SECTION |
| B-B | BACK TO BACK | | EXISTING FIRE HYDRANT |
| BOA | BLOW-OFF ASSEMBLY | | EXISTING BLOW-OFF ASSEMBLY |
| C&G | CURB AND GUTTER | | EXISTING GATE VALVE |
| CF | CUBIC FEET PER SECOND | | EXISTING REDUCER |
| CI | CURB INLET | | EXISTING WATER METER |
| CL | CENTER LINE | | EXISTING SAN SEWER MANHOLE |
| CMP | CORRUGATED METAL PIPE | | EXISTING CLEAN OUT |
| CO | CLEAN OUT | | EXISTING POWER POLE |
| COM | COMMUNICATION | | EXISTING TELEPHONE PEDESTAL |
| CONC | CONCRETE | | EXISTING AREA LIGHT |
| DCV | DOUBLE CHECK VALVE | | EXISTING SIGN |
| DDCV | DOUBLE DETECTOR CHECK VALVE | | NEW CURB INLET |
| DI | DROP INLET | | NEW GRATE INLET/YARD INLET |
| DIP | DUCTILE IRON PIPE | | NEW FLARED END SECTION |
| EASE | EASEMENT | | NEW FIRE HYDRANT |
| ELEC | ELECTRIC | | NEW BLOW-OFF ASSEMBLY |
| EX | EXISTING | | NEW GATE VALVE |
| FES | FLARED END SECTION | | NEW REDUCER |
| FH | FIRE HYDRANT | | NEW WATER METER |
| FM | FORCE MAIN | | NEW TEE |
| FT | FEET | | NEW PLUG |
| FT/SEC | FEET PER SEC | | NEW MANHOLE |
| GALV | GALVANIZED | | NEW CLEAN OUT |
| GV | GATE VALVE | | NEW SIGN |
| HDPE | HIGH DENSITY POLYETHYLENE | | IRON PIPE |
| L | LENGTH | | BENCHMARK |
| LF | LINEAR FEET | | |
| MH | MANHOLE | | TEMP SILT FENCE |
| PAVE | PAVEMENT | | TEMP TREE PROTECTION FENCE |
| PE | FINISHED PAD ELEVATION | | TEMP COMBINATION SILT/TREE PROTECTION FENCE |
| PP | POWER POLE | | TEMP DIVERSION DITCH |
| PVC | POLYVINYL CHLORIDE | | DISTURBED LIMITS |
| R | RADIUS | | STREAM |
| R/W | RIGHT-OF-WAY | | EXISTING GAS LINE |
| RED | REDUCER | | EXISTING COMMUNICATIONS LINE |
| RCP | REINFORCED CONCRETE PIPE | | EXISTING UNDERGROUND TELEPHONE |
| RPZ | REDUCED PRESSURE ZONE | | EXISTING UNDERGROUND ELECTRIC |
| SS | SANITARY SEWER | | EXISTING OVERHEAD ELECTRIC |
| STA | STATION | | EXISTING WATER LINE |
| TDD | TEMPORARY DIVERSION DITCH | | EXISTING SANITARY SEWER FORCE MAIN |
| TELE | TELEPHONE | | EXISTING SANITARY SEWER |
| TSB | TEMPORARY SEDIMENT BASIN | | EXISTING STORM DRAINAGE |
| UG | UNDERGROUND | | NEW STORM DRAINAGE |
| WCR | WHEELCHAIR RAMP | | NEW WATER LINE |
| W/L | WATER LINE | | NEW SANITARY SEWER |
| WM | WATER METER | | NEW SANITARY SEWER FORCE MAIN |
| YI | YARD INLET | | NEW GAS MAIN |
| | | | HANDICAPPED ACCESSIBLE ROUTE |

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF ROLESVILLE AND NCDOT

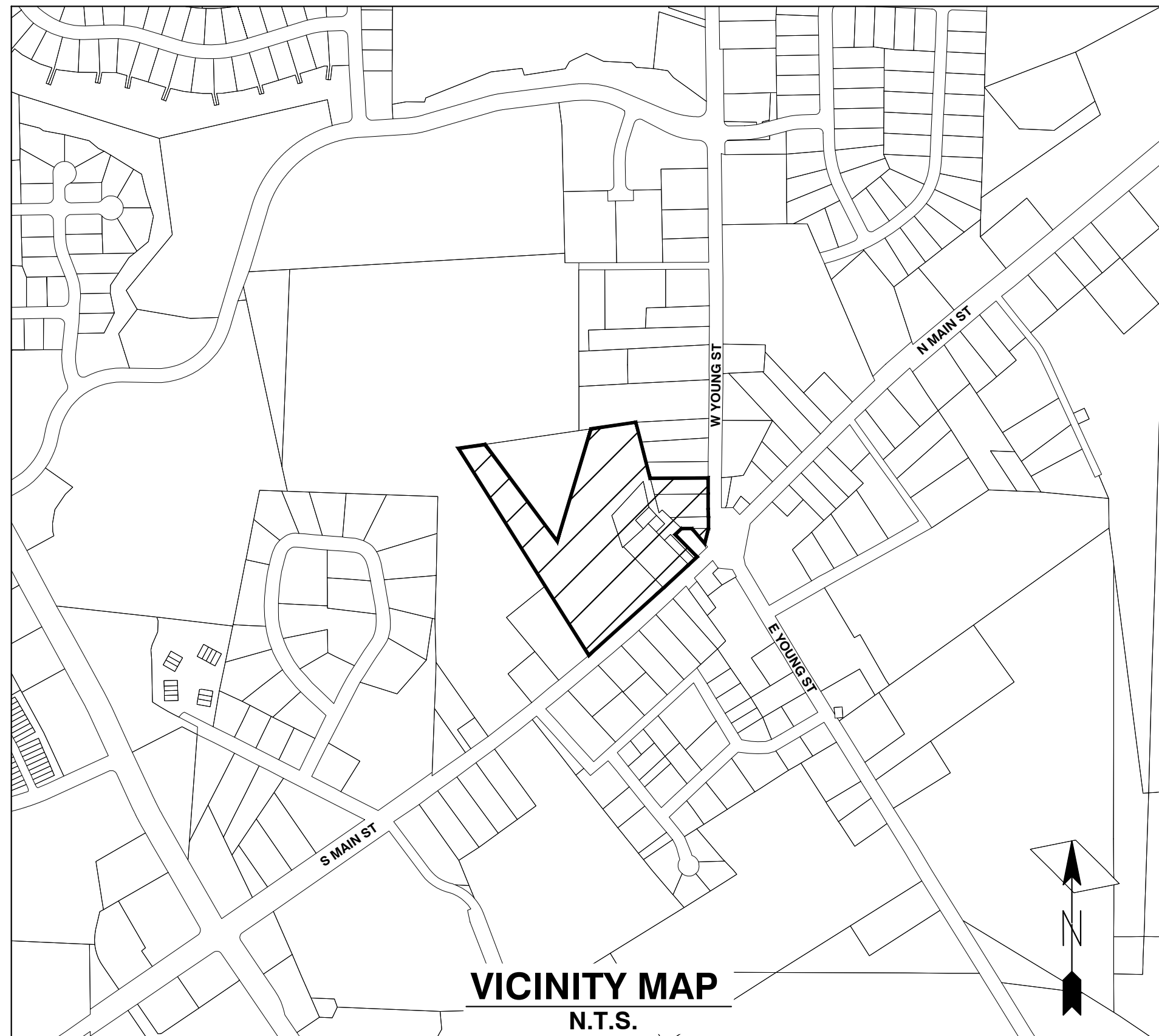
COBBLESTONE VILLAGE MIXED USE DEVELOPMENT

TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

CONSTRUCTION DRAWINGS

TOWN OF ROLESVILLE PROJECT NO. SITE PLAN APPLICATION NO. CUP-SB-21-01

CASE NO. SP21-01



VICINITY MAP N.T.S.

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 # W-3879
 Authorization to Construct See digital signature

Private
Sewer Collection / Extension System
 The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh Public Utilities Department Permit # S-4962 (P)
 Authorization to Construct See digital signature

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # W-3879

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 # S-2892 (P)

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

City of Raleigh Public Utilities Department Permit #

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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

City of Raleigh Development Approval _____
 Raleigh Water Review Officer

OWNER:

COBBLESTONE CROSSING SPE, LLC
 8480 HONEYCUTT ROAD, STE 200
 RALEIGH, NC 27615

DEVELOPER:

KDM DEVELOPMENT CORPORATION
 1080 PITTSFORD VICTOR RD, STE 202
 PITTSFORD NY 14534-3805

CONTACT: KENYON BURHNAM
 PHONE: 585-465-0099
 EMAIL: KENYON@KDMDEVELOPMENT.COM

SHEET INDEX

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CONSTRUCTION NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE MUNICIPALITY STANDARDS, SPECIFICATIONS, AND DETAILS. WORK IN THIS PROJECT SHALL ALSO CONFORM TO THESE PLANS, THE LATEST EDITIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) ROAD AND BRIDGE SPECIFICATIONS, THE ROAD AND BRIDGE STANDARDS, THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL HANDBOOK, THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS, THE FINAL GEOTECHNICAL REPORT, AND GENERAL DESIGN STANDARDS. IN THE EVENT OF CONFLICT BETWEEN ANY OF THESE STANDARDS, SPECIFICATIONS, OR PLANS, THE MOST STRINGENT SHALL GOVERN.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR TRENCH SAFETY DURING ALL PHASES OF CONSTRUCTION.
- THE LOCATION AND SIZE OF EXISTING UTILITIES AS SHOWN IS APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR HORIZONTALLY AND VERTICALLY LOCATING AND PROTECTING ALL PUBLIC OR PRIVATE UTILITIES WHICH LIE IN OR ADJACENT TO THE CONSTRUCTION SITE. AT LEAST 48 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE NORTH CAROLINA ONE-CALL UTILITIES LOCATION SERVICE (ULOC) AT 1-800-632-4949 FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE SITE.
- THE CONTRACTOR SHALL SALVAGE AND PROTECT ALL EXISTING POWER POLES, SIGNS, MANHOLES, TELEPHONE RISERS, WATER VALVES, ETC. DURING ALL CONSTRUCTION PHASES. THE CONTRACTOR SHALL REPAIR, AT HIS OWN EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
- TRAFFIC CONTROL ON PUBLIC STREETS SHALL BE IN CONFORMANCE WITH THE TRAFFIC CONTROL PLAN, THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND AS FURTHER DIRECTED BY CITY AND STATE INSPECTORS.
- ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SPECIFICATIONS AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS OR SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR AFTER HIS DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES, OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ARRANGE THE MEETING WITH THE CITY ENGINEERING DIVISION.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL REQUIRED PERMITS AND APPROVALS PRIOR TO COMMENCING CONSTRUCTION.
- ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE, AND AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL USE SILT FENCES (OR OTHER METHODS APPROVED BY THE ENGINEER AND APPLICABLE MUNICIPALITY) AS REQUIRED TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL EROSION, CONSERVATION, AND SILTATION ORDINANCES. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS OR OTHER GROWTH TO PREVENT EROSION.
- THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
- MATERIALS USED TO CONSTRUCT EMBANKMENTS FOR ANY PURPOSE, BACKFILL AROUND DRAINAGE STRUCTURES, OR IN UTILITY TRENCHES FOR ANY OTHER DEPRESSION REQUIRING FILL OR BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AS SET OUT IN ASTM STANDARD D998. STONE BACKFILL SHALL BE COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST AS SET OUT IN ASTM STANDARD D1557. THE CONTRACTOR SHALL, PRIOR TO ANY OPERATIONS INVOLVING FILLING OR BACKFILLING, SUBMIT THE RESULTS OF THE PROCTOR TEST TOGETHER WITH A CERTIFICATION THAT THE SOIL TESTED IS REPRESENTATIVE OF THE MATERIALS TO BE USED ON THE PROJECT. TESTS SHALL BE CONDUCTED BY A CERTIFIED MATERIALS TESTING LABORATORY AND THE CERTIFICATIONS MADE BY A LICENSED PROFESSIONAL ENGINEER REPRESENTING THE LABORATORY.
- PROPOSED CONTOURS AND GUTTER GRADIENTS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND ROADWAY PROFILES/SUPERELEVATIONS ARE TO BE USED IN CASE OF DISCREPANCY.
- THE CONTRACTOR SHALL REVIEW, VERIFY AND COORDINATE ALL DIMENSIONS SHOWN ON PLANS, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER PRIOR TO STARTING PROJECT.
- ALL CURB JOINTS SHALL EXTEND THROUGH THE CURB. MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS IS 1.5 FEET. ALL JOINTS SHALL BE SEALED WITH JOINT SEALANT.
- ALL HANDICAP RAMPING, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA REQUIREMENTS AND THE 'NORTH CAROLINA STATE BUILDING CODE, VOL. 1-C ACCESSIBILITY CODE.
- OWNER SHALL PROVIDE FENCING AND OTHER SAFETY MEASURES NECESSARY IN AND AROUND ANY PROPOSED STORMWATER MANAGEMENT MEASURES (PONDING, WETLANDS, ETC.) OBTAINING PROPER PERMITS SHALL BE THE RESPONSIBILITY OF THE OWNER.
- RETAINING WALLS EXCEEDING 30 INCHES IN HEIGHT SHALL INCLUDE FALL PROTECTION IN THE FORM OF A HANDRAIL OR FENCING ON THE HIGH SIDE OF THE RETAINING WALL.
- PROPER COMPACTION OF ALL FILL SOILS PLACED ON SITE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COMPACTION SHALL BE ADEQUATE TO SUPPORT THE PROPOSED USE OF AREAS IN WHICH FILL SOILS ARE PLACED. THE CONTRACTOR SHALL HIRE A GEOTECHNICAL ENGINEER TO TEST AND VERIFY THAT COMPACTION IS ADEQUATE FOR THE PROPOSED USE OF THE AREA OF FILL PLACEMENT.
- ALL ASPECTS OF THIS PROJECT SHALL BE IN FULL COMPLIANCE WITH CURRENT ADA STANDARDS. IF THE CONTRACTOR NOTES ANY ASPECTS OF THE PROJECT WHICH ARE NOT IN COMPLIANCE, THE ENGINEER SHALL BE NOTIFIED PRIOR TO ANY FURTHER WORK BEING PERFORMED. ANY WORK PERFORMED AFTER THE CONTRACTOR NOTES SUCH A NON COMPLIANCE IS SUBJECT TO REMOVAL AND REPAIR AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR OR OWNER SHALL EMPLOY A GEOTECHNICAL ENGINEER TO TEST ALL EMBANKMENTS AND FILL PLACEMENT FOR PROPER COMPACTION. PROPER COMPACTION SHALL BE PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS OR THESE PLANS, WHICHEVER IS MORE STRINGENT. EMBANKMENTS FOR PONDS SHALL BE PLACED IN 6 INCH LOOSE LAYERS AND SHALL BE COMPACTED TO A DENSITY OF NO LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY AT A MOISTURE CONTENT OF 4% OR TWO PERCENTAGE POINTS OF THE OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D998. THE CONTRACTOR SHALL TAKE PHOTOGRAPHS OF THE OUTLET STRUCTURE AT ALL AT ALL PHASES OF INSTALLATION AND SHALL RETAIN WITH GEOTECHNICAL TESTING DATA. THE CONTRACTOR SHALL ALSO RETAIN ALL SHIPPING RECORDS AND SPECIFICATIONS FOR THE OUTLET STRUCTURE MATERIALS AND STRUCTURES. ALL OF THE ABOVE DATA MAY BE REQUIRED AS PART OF THE MUNICIPALITY AS-BUILT PROCESS AND SHALL BE MADE AVAILABLE TO THE ENGINEER UPON REQUEST. THE CONTRACTOR AND OWNER SHALL HAVE DOCUMENTATION OF THESE TESTS AVAILABLE UPON REQUEST.
- RETAINING WALLS SHOWN HEREIN SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL ENGINEER WITH EXPERIENCE DESIGNING RETAINING WALLS. AT LEAST 14 DAYS PRIOR TO BEGINNING CONSTRUCTION OF RETAINING WALLS, THE CONTRACTOR SHALL CONTACT THE OWNER'S GEOTECHNICAL ENGINEER TO SCHEDULE AND COORDINATE ALL APPROPRIATE INSPECTIONS, TESTING, AND VERIFICATION NECESSARY DURING RETAINING WALL CONSTRUCTION. THE GEOTECHNICAL ENGINEER SHALL PROVIDE CONTINUOUS INSPECTION, TESTING AND VERIFICATION FOR THE DURATION OF RETAINING WALL CONSTRUCTION. PROPER SCHEDULING, EXECUTION, AND RECORD KEEPING FOR ALL REQUIRED INSPECTIONS, TESTING, AND VERIFICATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH RECORDS SHALL BE RETAINED AND SHALL BE PROVIDED TO THE OWNER AND BASS, NIXON & KENNEDY, INC. ALL MONITORING, TESTING, AND VERIFICATION SHALL CONFORM TO THE MOST RECENT VERSION OF THE NC BUILDING CODE CHAPTER 18, SECTION 1806 OR THE WALL DESIGN ENGINEER'S SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.



QUANTITY SUMMARY

| | |
|---------------------------|------|
| PHASE NUMBER(S) | 1 |
| NUMBER OF LOT(S) | 1 |
| LOT NUMBER(S) BY PHASE | N/A |
| NUMBER OF UNITS | 188 |
| LIVABLE BUILDINGS | 6 |
| OPEN SPACE (AC) | 1.92 |
| NUMBER OF OPEN SPACE LOTS | N/A |
| PUBLIC WATER (LF) | 875 |
| PRIVATE SEWER (LF) | 550 |
| PUBLIC STREET (LF) | 0 |
| PUBLIC SIDEWALK (LF) | 255 |

ENGINEER:



BASS, NIXON & KENNEDY, INC.
 CONSULTING ENGINEERS

6310 CHAPEL HILL ROAD, SUITE 250
 RALEIGH, NORTH CAROLINA 27607
 TELEPHONE: (919) 851-4422
 FAX: (919) 851-8968

CERTIFICATION NUMBERS: NCBELS (C-0110)
 NCBOLA (C-0267)

CONTACT: MARTY D. BIZZELL, PE, CPESC
 EMAIL: Marty.Bizzell@BNKinc.com



12/08/23

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT

APPROVED
 EROSION CONTROL S-_____
 STORMWATER MGMT. S-_____
 FLOOD STUDY S-_____
 DATE _____

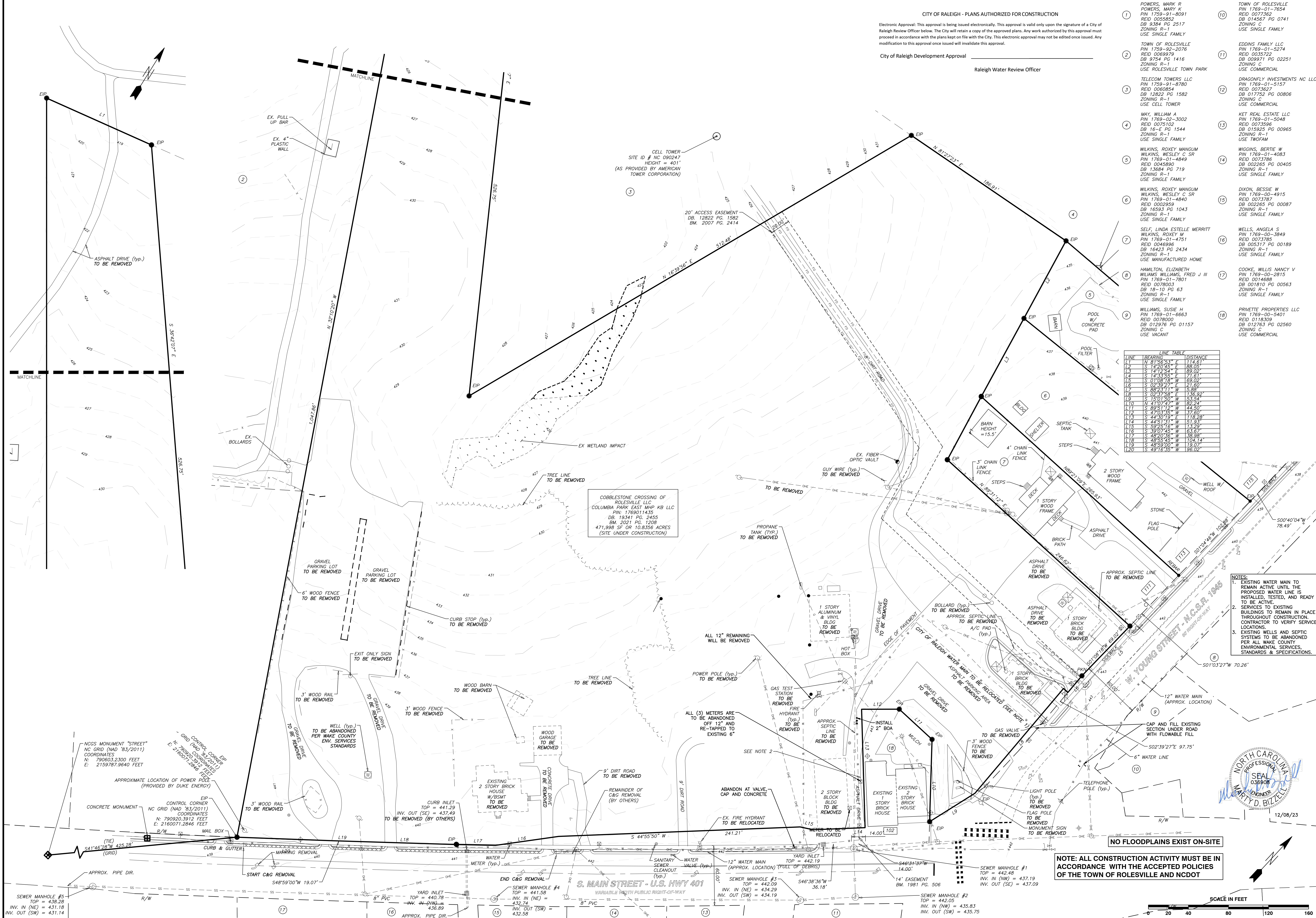


ENVIRONMENTAL CONSULTANT SIGNATURE

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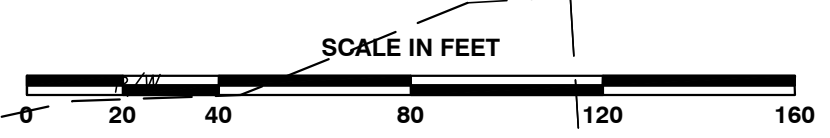
LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| L1 | S 81°00'00" E | 114.40' |
| L2 | S 14°20'25" E | 88.05' |
| L3 | S 17°25'00" E | 80.00' |
| L4 | S 14°33'55" E | 71.61' |
| L5 | S 01°08'18" W | 09.00' |
| L6 | S 88°24'11" W | 5.88' |
| L7 | S 17°00'00" W | 116.93' |
| L8 | S 15°01'50" W | 53.52' |
| L9 | N 41°07'27" W | 82.22' |
| L10 | S 89°51'12" W | 44.50' |
| L11 | S 27°33'35" W | 37.60' |
| L12 | S 44°51'41" W | 51.93' |
| L13 | S 59°25'16" W | 73.29' |
| L14 | S 48°00'00" W | 116.67' |
| L15 | S 48°00'00" W | 38.98' |
| L16 | S 48°00'00" W | 104.14' |
| L17 | S 48°00'00" W | 116.67' |
| L18 | S 48°00'00" W | 104.14' |
| L19 | S 48°00'00" W | 116.67' |
| L20 | S 49°16'35" W | 96.02' |

- NOTES:
- EXISTING WATER MAIN TO REMAIN ACTIVE UNTIL THE PROPOSED WATER LINE IS INSTALLED, TESTED, AND READY TO BE ACTIVE.
 - SERVICES TO EXISTING BUILDINGS TO REMAIN IN PLACE THROUGHOUT CONSTRUCTION. CONTRACTOR TO VERIFY SERVICE LOCATIONS.
 - EXISTING WELLS AND SEPTIC SYSTEMS TO BE ABANDONED PER ALL WAKE COUNTY ENVIRONMENTAL SERVICES, STANDARDS & SPECIFICATIONS.



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BASS, NIXON & KENNEDY, INC.
 CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 881-4422 FAX: (919) 881-6868
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

| PROGRESS | DATE | DRAWN BY | MRM | NO. | DESCRIPTION | BY |
|----------|----------|---------------------------|-----|-----|-------------|----|
| 3 | 12-08-23 | TOWN OF ROLESVILLE | MRM | | | |
| 2 | 10-16-23 | T.O.R. COMMENTS | MRM | | | |
| 1 | 09-21-23 | CHANGES FROM 06-02-22 CDS | MRM | | | |

COBBLESTONE VILLAGE
 MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

NOT RELEASED FOR CONSTRUCTION OR BID SOLICITATION

SHEET **C0.1**

SCALE: 1" = 40'

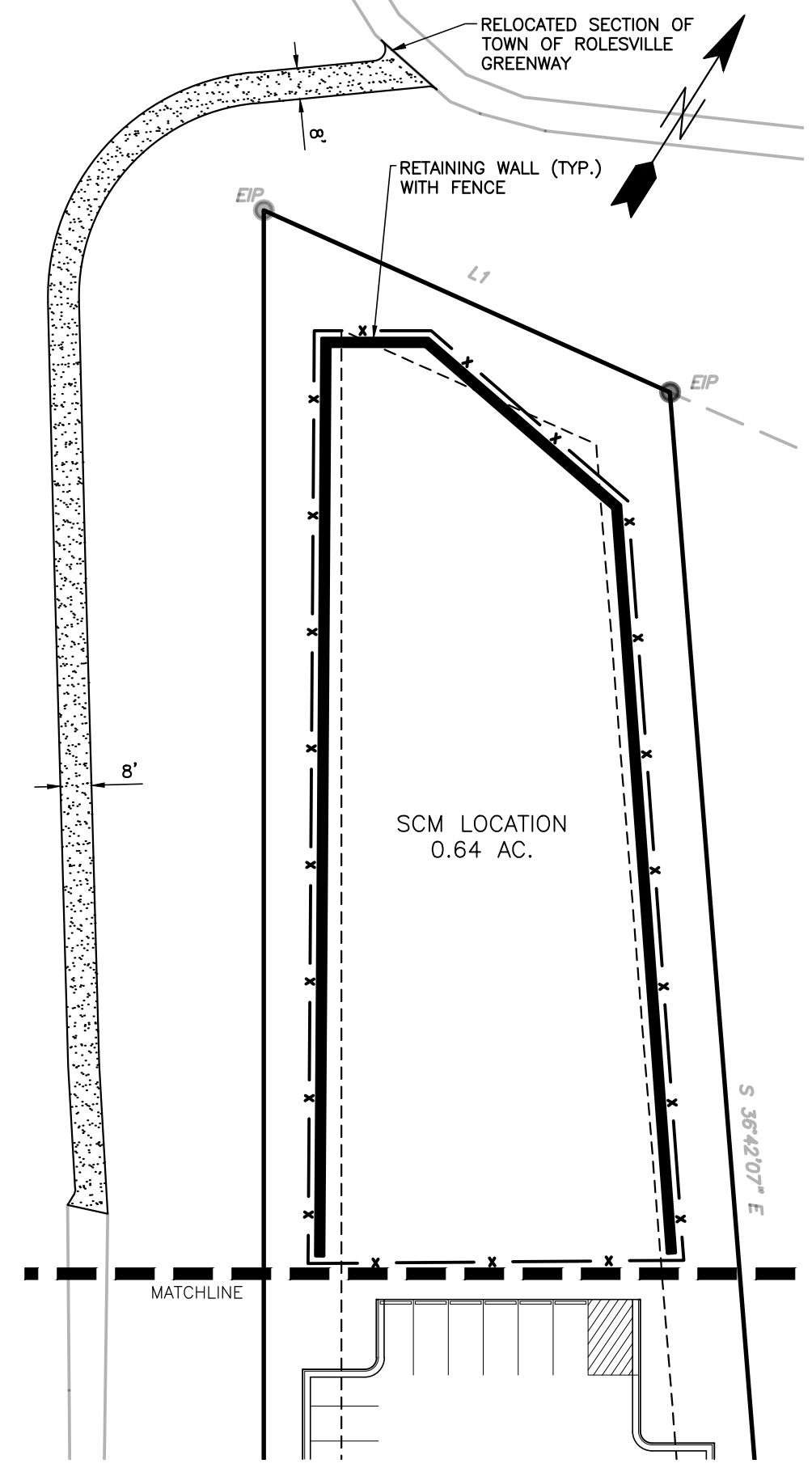
| NO. | DATE | DESCRIPTION | BY |
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| 1 | 09-21-23 | CHANGES FROM 06-02-22 CD'S | MRM |
| 2 | 10-16-23 | T.O.R. COMMENTS | MRM |
| 3 | 12-06-23 | TOWN OF ROLESVILLE COMMENTS | MRM |

COBBLESTONE VILLAGE
MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

SHEET C1.1

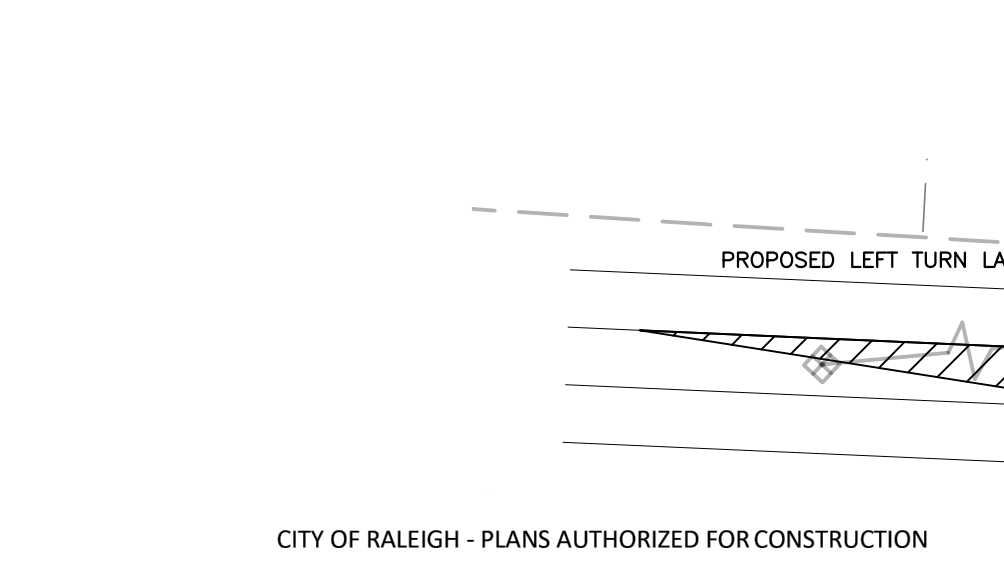
NOT RELEASED FOR CONSTRUCTION OR BID SOLICITATION

- CONDITIONS OF APPROVAL:**
1. TECHNICAL REVIEW COMMITTEE APPROVAL AND ISSUANCE OF REQUIRED PERMITS FROM ALL AGENCIES MUST BE ACHIEVED AND SUBMITTED FOR REVIEW AND RECORD RETENTION PRIOR TO FINAL SIGNATURE AND APPROVAL OF THE SITE PLAN.
 2. CROSS-CONNECTION ACCESS TO ONE OF THE THREE ADJACENT PROPERTIES TO THE EAST ALONG W. YOUNG STREET (111, 113, AND 115 W. YOUNG STREET) FOR FUTURE DEVELOPMENT WILL BE PROVIDED.
 3. BEST EFFORTS WILL BE MADE FOR GREENWAY ACCESS ACROSS THE TELECOM TOWERS, LLC SITE FOR PEDESTRIAN TRAFFIC FROM OVERFLOW PARKING SITE LOCATED AT THE TERMINUS OF SCARBORO STREET IN MAIN STREET PARK.
 4. BASED UPON TESTIMONY REGARDING SHARED PARKING IN A MIXED-USE DEVELOPMENT, A 15% PARKING REDUCTION IS GRANTED RESULTING IN 467 REQUIRED SPACES.
 5. A MAXIMUM HEIGHT OF 60 FEET IS APPROVED PER THE BUILDING HEIGHT DESIGN ALTERNATIVE FOR THE SITE AS SHOWN ON THE SITE PLAN, PROVIDED ALL OTHER APPLICABLE STANDARDS ACCORDING TO THE LDO ARE MET.
 6. FINAL STREET DESIGN SHALL INCORPORATE A ROUNDABOUT OR OTHER CUT-THROUGH FOR DROP-OFFS CONSISTENT WITH THE DESIGN REQUIREMENTS OF THE TOWN COMMUNITY BUILDING AS PROVIDED BY THE TOWN'S ARCHITECTURAL CONSULTANT.
 7. SLIP APPROVED BY BOARD OF COMMISSIONERS ON OCTOBER 5, 2021.



OVERALL SITE DATA

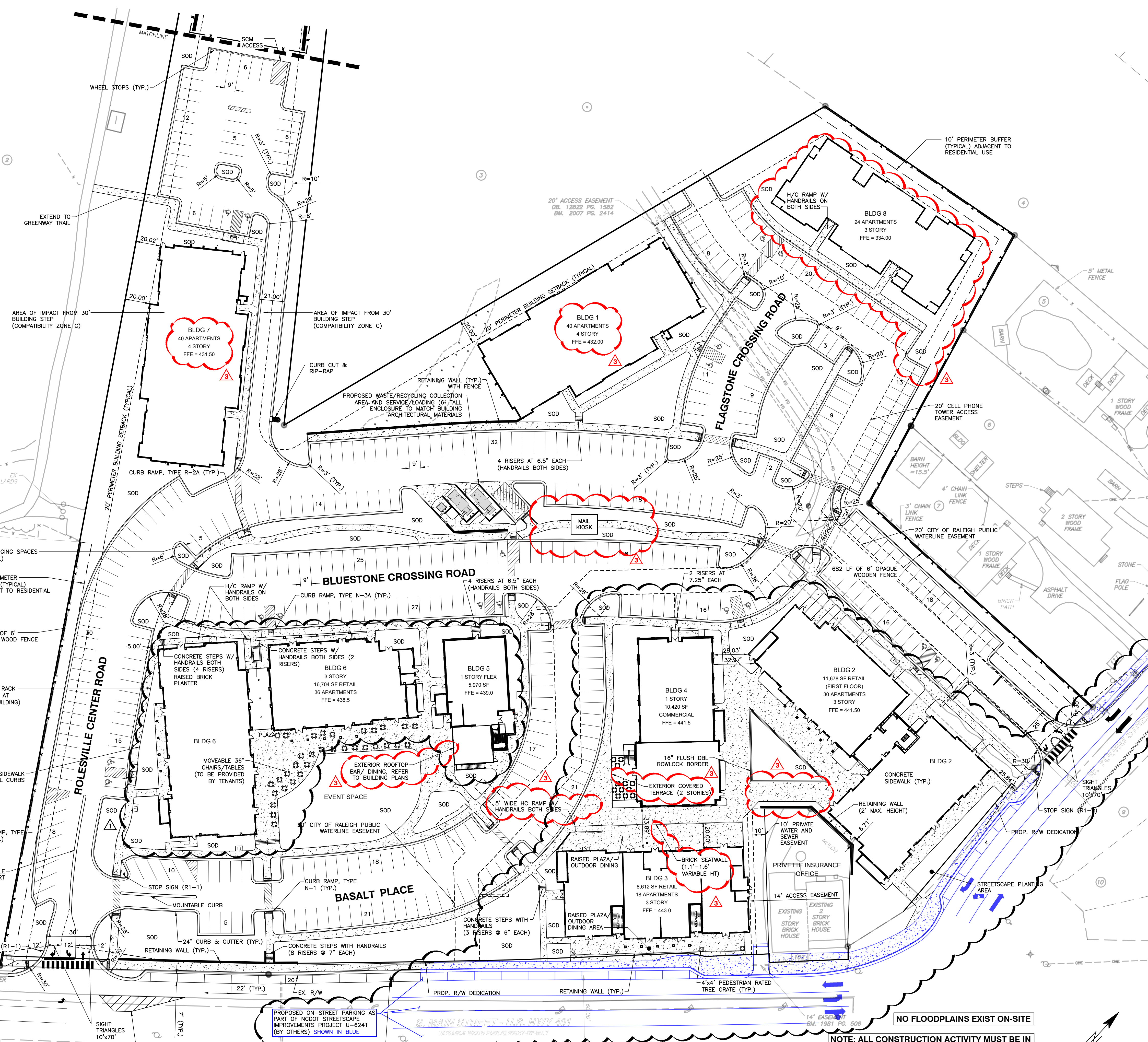
| | | | |
|---|--|---|--|
| SITE AREA | 10.96 AC (477,418 SF±) | EV CHARGING SPACES (4 TOTAL) | 10' PERIMETER BUFFER (TYPICAL) ADJACENT TO RESIDENTIAL USE |
| P.I.N. | 1769-01-1935 | 352 LF OF 6' OPAQUE WOOD FENCE | BICYCLE RACK (TYPICAL AT EACH BUILDING) |
| ZONING DISTRICT: | TOWN CENTER (TC) | 6' CONC. SIDEWALK ADJACENT TO ALL CURBS | CURB RAMP, TYPE R-2 (TYP.) |
| USE: | RESIDENTIAL, MIXED USE | MOUNTABLE COURT | |
| OPEN SPACE AREA: | 1.92 AC PROVIDED (1.10 AC REQUIRED, 10%) | | |
| IMPERVIOUS AREA: | 7.50 AC | | |
| IMPERVIOUS AREA (%): | 68% | | |
| APARTMENT MIX | | | |
| 1 BEDROOM | 96 UNITS | | |
| 2 BEDROOM | 80 UNITS | | |
| 3 BEDROOM | 12 UNITS | | |
| TOTAL APARTMENTS | 188 UNITS | | |
| RESIDENTIAL DENSITY: | 17.15 UNITS/ACRE | | |
| TOTAL RETAIL/FLEX/COMMERCIAL: | 53,384 SQUARE FEET | | |
| EVENT SPACE: | 0.44 ACRES / 18,976 SQUARE FEET | | |
| PARKING REQUIREMENTS PER TC DISTRICT DEVELOPMENT STANDARDS | | | |
| MIXED USE RESIDENTIAL: 2.0 SPACES PER UNIT | 188 x 2 = 376 SPACES REQUIRED | | |
| MIXED USE NON-RESIDENTIAL: 3 SPACES PER 1000 GSF | 53,384/1000 x 3 = 161 SPACES REQUIRED | | |
| TOTAL PARKING REQUIRED/PROVIDED: | 537 SPACES REQUIRED / 468 PROVIDED | | |
| 5% OF ON STREET PARKING MAY BE COUNTED AS REQUIRED PARKING (27 ALLOWED / 24 PROVIDED) | | | |
| 15% PARKING REDUCTION ALLOWED FOR SHARED PARKING: 537 x .85 = 457 REQUIRED / 468 PROVIDED | | | |
| BUILDING 1: | 51,882 SF APARTMENTS | | |
| BUILDING 2: | 11,678 SF RETAIL, 23,356 SF APARTMENTS | | |
| BUILDING 3: | 8,612 SF RETAIL, 17,224 SF APARTMENTS | | |
| BUILDING 4: | 10,420 SF RETAIL | | |
| BUILDING 5: | 5,970 FLEX | | |
| BUILDING 6: | 16,704 SF RETAIL, 33,408 SF APARTMENTS | | |
| BUILDING 7: | 51,882 SF APARTMENTS | | |
| BUILDING 8: | 31,710 SF APARTMENTS | | |



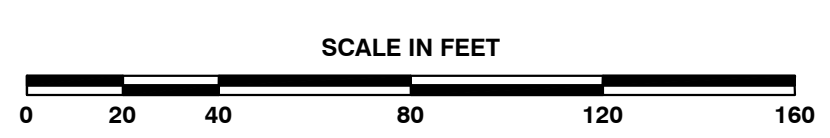
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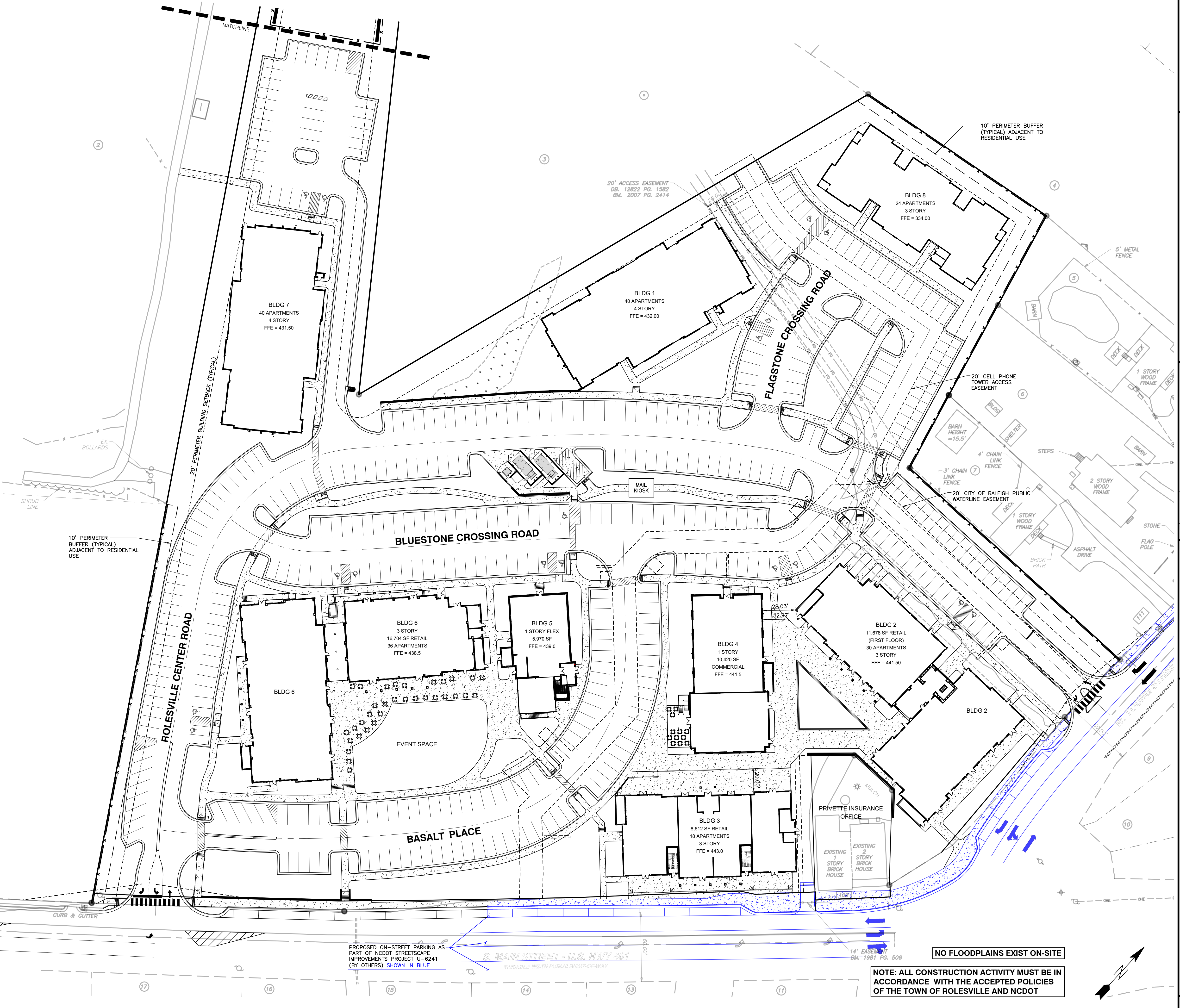
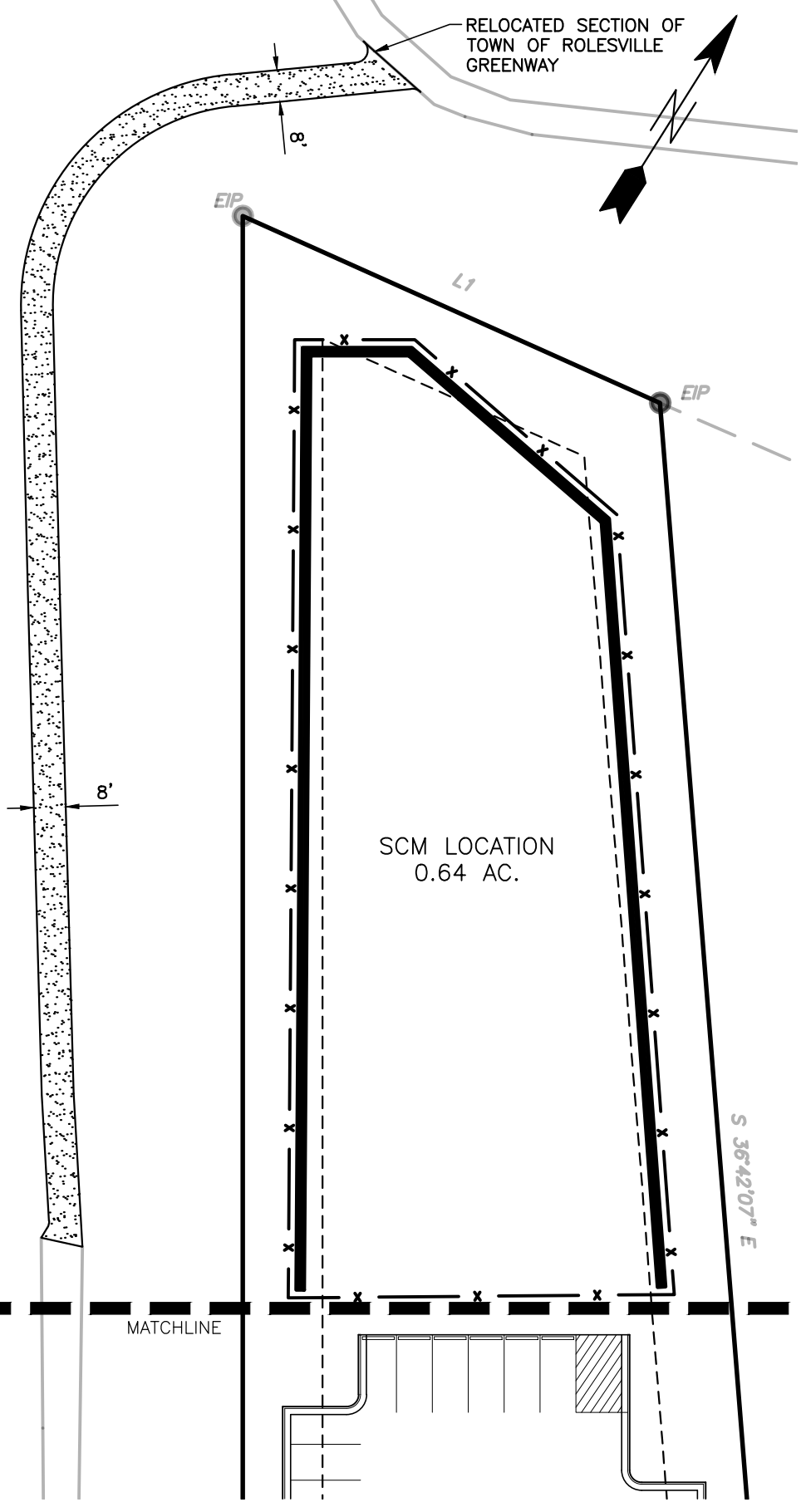
City of Raleigh Development Approval

Raleigh Water Review Officer



NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF ROLESVILLE AND NCDOT





BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 881-1122 FAX: (919) 881-8686
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

| NO. | DATE | DESCRIPTION | BY |
|-----|----------|-----------------------------|-----|
| 1 | 09-21-23 | CHANGES FROM 06-02-22 CD'S | MRM |
| 2 | 10-16-23 | T.O.R. COMMENTS | MRM |
| 3 | 12-06-23 | TOWN OF ROLESVILLE COMMENTS | MRM |

PROGRESS DATE
 03-19-17
 JOB NO.
 19187
 DRAWN BY
 MRM
 CHECKED BY
 MDB
OPEN SPACE PLAN
 SCALE: 1" = 40'

COBBLESTONE VILLAGE
MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

SHEET **C1.2**
 TOWN OF ROLESVILLE PROJECT NO.

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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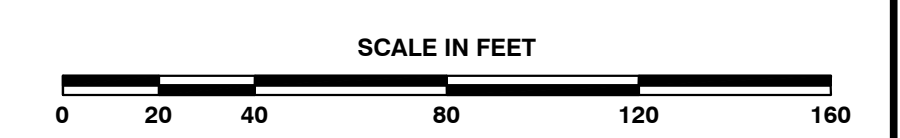
Raleigh Water Review Officer _____

PROPOSED ON-STREET PARKING AS PART OF NCDOT STREETSCAPE IMPROVEMENTS PROJECT U-8241 (BY OTHERS) SHOWN IN BLUE

S. MAIN STREET - U.S. HWY 401
 VARIABLE WIDTH PUBLIC RIGHT-OF-WAY
 BM-1981 PG. 506

NO FLOODPLAINS EXIST ON-SITE

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NOT RELEASED FOR CONSTRUCTION OR BID SOLICITATION

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City of Raleigh Development Approval _____
Raleigh Water Review Officer _____

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 # W-3879
Authorization to Construct See digital signature

Private
Sewer Collection / Extension System
The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh
Public Utilities Department Permit # S-4962 (P)
Authorization to Construct See digital signature

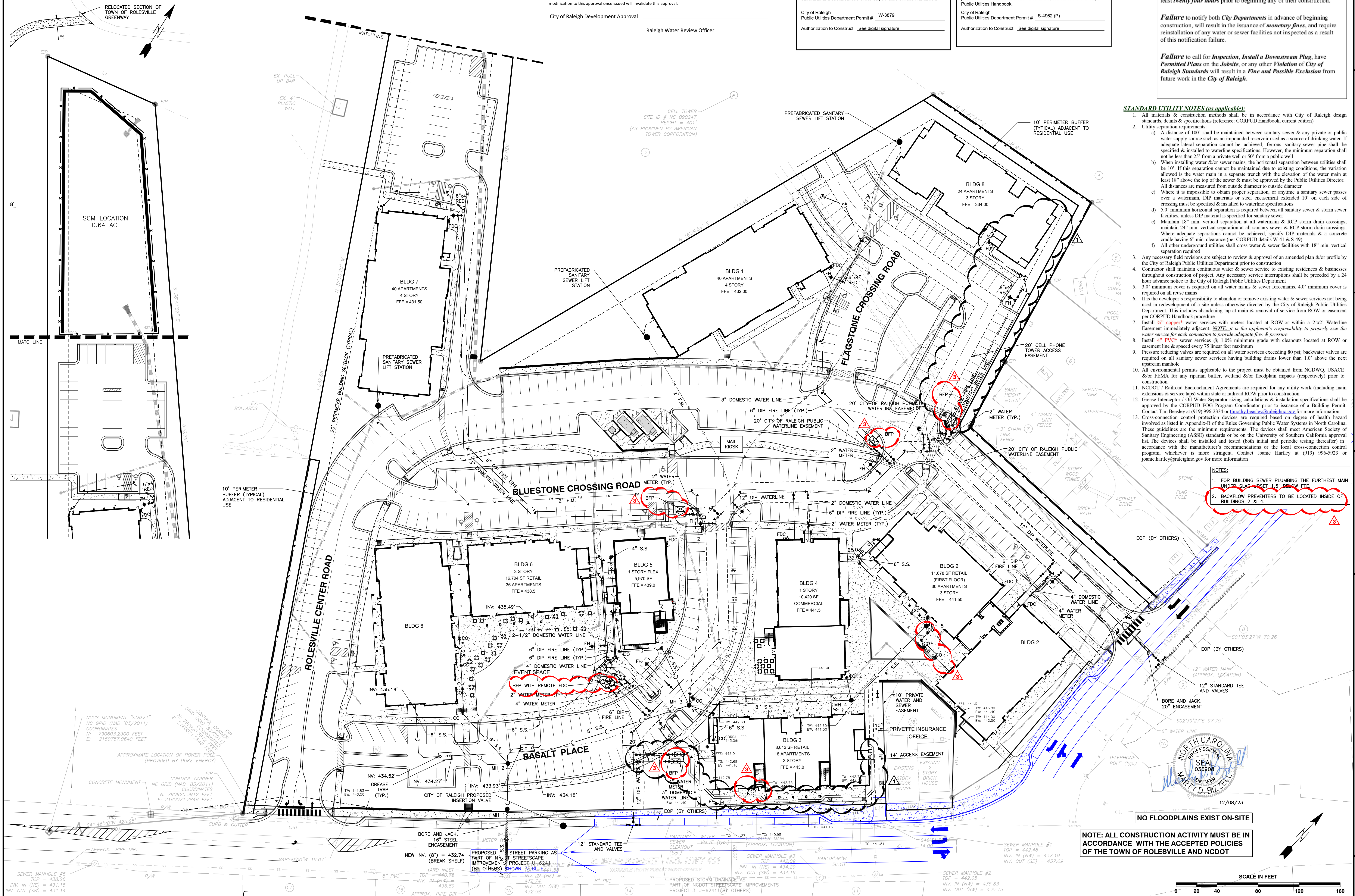
ATTENTION CONTRACTORS
The **Construction Contractor** responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the **Public Utilities Department** at (919) 996-4540 at least **twenty four hours** prior to beginning any of their construction.

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

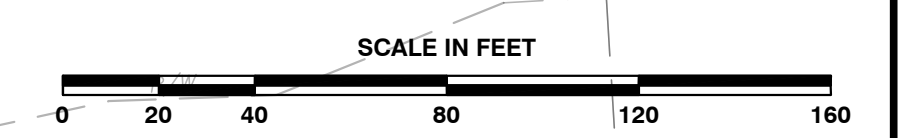
Failure to call for **Inspection, Install a Downstream Plug**, have **Permitted Plans** on the **Jobsite**, or any other **Violation of City of Raleigh Standards** will result in a **Fine and Possible Exclusion** from future work in the **City of Raleigh**.

- STANDARD UTILITY NOTES (as applicable):**
- 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 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 24" min. vertical separation at all sanitary sewer & RCP storm drain crossings. Where adequate separations cannot be achieved, specify DIP materials & a concrete cradle having 6" min. clearance (per CORPUD details W-41 & S-49)
 - All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required
 - Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction
 - Contractor shall maintain continuous water & sewer service to existing residences & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24 hour advance notice to the City of Raleigh Public Utilities Department
 - 3.0' minimum cover is required on all water mains & sewer 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' Watertight Easement immediately adjacent **NOTE: It is the applicant's responsibility to properly size the water service for each connection to provide adequate flow & pressure**
 - Install 4" PVC* sewer services @ 1.0% minimum grade with cleanouts located at ROW or easement line & spaced every 75 linear feet maximum
 - Pressure reducing valves are required on all water services exceeding 80 psi; backwater valves are required on all sanitary sewer services having building drains lower than 1.0' above the next upstream manhole
 - All environmental permits applicable to the project must be obtained from 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 CORPUD FOG Program Coordinator prior to issuance of a Building Permit. Contact Tim Besley at (919) 996-2334 or timothy.besley@raleighnc.gov for more information
 - Cross-connection control protection devices are required based on degree of health hazard involved as listed in Appendix-B of the Rules Governing Public Water Systems in North Carolina. These guidelines are the minimum requirements. The devices shall meet American Society of Sanitary Engineering (ASSE) standards or be on the University of Southern California approval list. The devices shall be installed and tested (both initial and periodic testing thereafter) in accordance with the manufacturer's recommendations or the local cross-connection control program, whichever is more stringent. Contact Joanie Hartley at (919) 996-5923 or joanie.hartley@raleighnc.gov for more information

- NOTES:**
- FOR BUILDING SEWER PLUMBING THE FURTHEST MAIN UNDER SLAB (SET 1.5' BELOW FFE)
 - BACKFLOW PREVENTERS TO BE LOCATED INSIDE OF BUILDINGS 2 & 4.



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CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 981-4422 FAX: (919) 981-6868
CERTIFICATION NUMBERS: NCBELS (C-011); NCBOLA (C-0267)

COBBLESTONE VILLAGE MIXED USE DEVELOPMENT
TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

UTILITY PLAN
SCALE: 1" = 40'

| DATE | MRN | PROGRESS | BY | DESCRIPTION |
|----------|-----|----------|----|-----------------------------|
| 03-19-17 | | | | |
| 12-06-23 | | | | TOWN OF ROLESVILLE COMMENTS |
| 10-16-23 | | | | T.O.R. COMMENTS |
| 09-21-23 | | | | CHANGES FROM 06-02-23 CDS |
| | | | | NO. |
| | | | | DATE |
| | | | | REVISIONS |

CHK BY: MBB

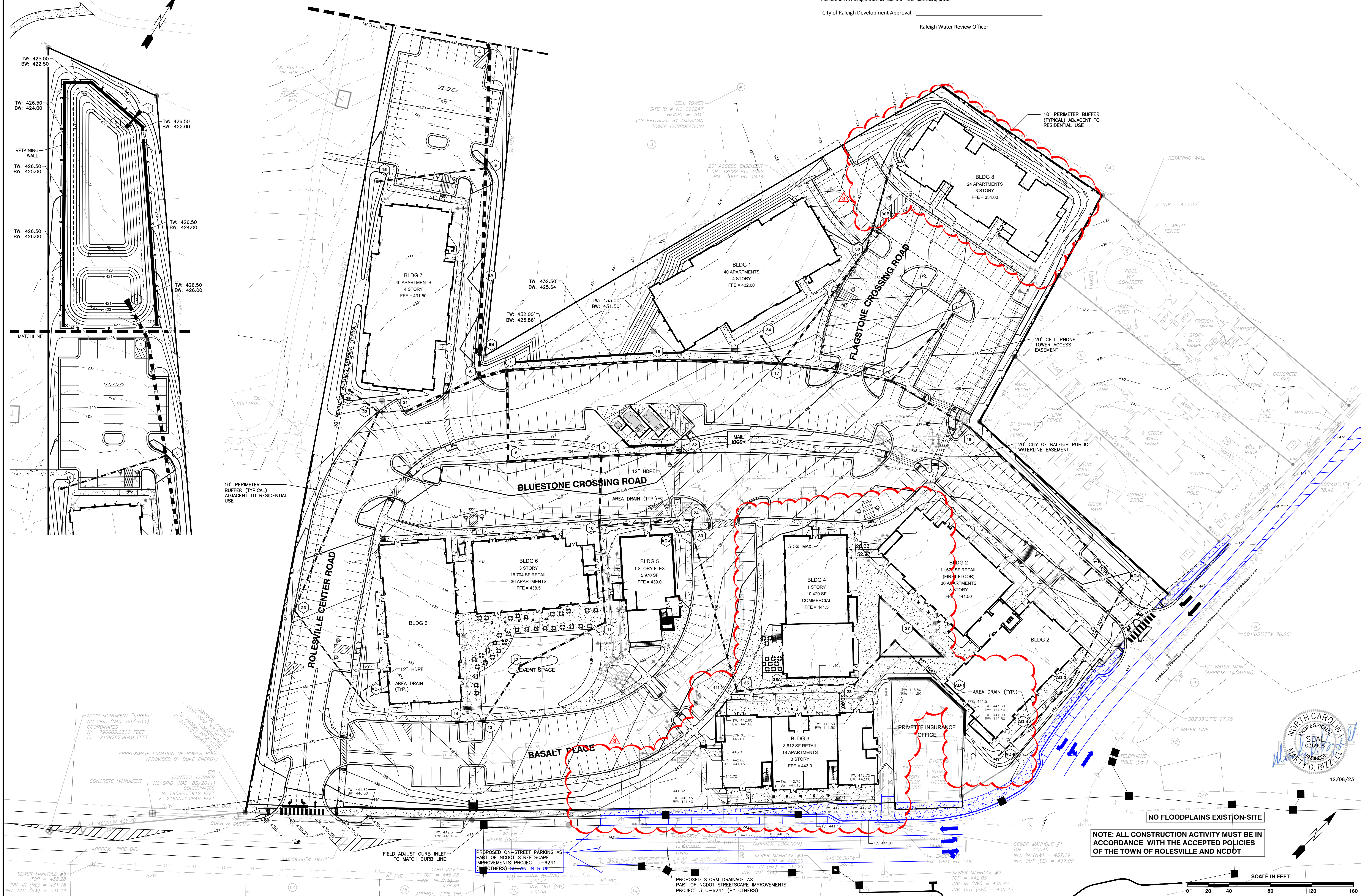
CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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Raleigh Water Review Officer _____

| Structure | d _s (ft) | Velocity (fps) | Length (ft) | Width (ft) | Depth (in) | Type | d ₅₀ |
|-----------|---------------------|----------------|-------------|------------|------------|-----------|-----------------|
| FES 1 | 2.00 | 7.4 | 12 | 6 | 22 | Class 'B' | 6" - 13" |
| FES 3 | 3.00 | 6.5 | 18 | 9 | 22 | Class 'B' | 6" - 13" |

* Per NYDOT Dissipator Schedule Fig.1



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)881-1122 FAX: (919)881-6886
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

| NO. | DATE | DESCRIPTION | BY |
|-----|----------|-----------------------------|-----|
| 3 | 12-06-23 | TOWN OF ROLESVILLE COMMENTS | MRM |
| 2 | 10-16-23 | T.O.R. COMMENTS | MRM |
| 1 | 09-21-23 | CHANGES FROM 06-02-22 CD'S | MRM |

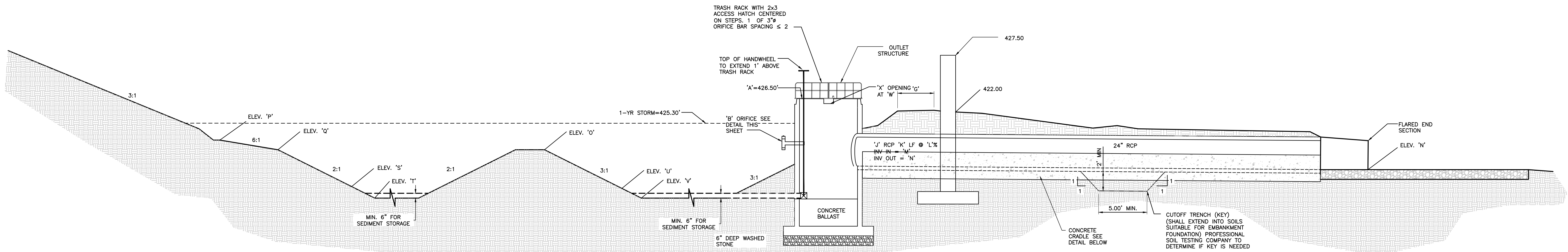
GRADING PLAN
 SCALE: 1" = 40'
 CHK BY: MDB

COBBLESTONE VILLAGE
MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

SHEET **C3.1**



NO FLOODPLAINS EXIST ON-SITE
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CROSS-SECTION OF WET POND A-A

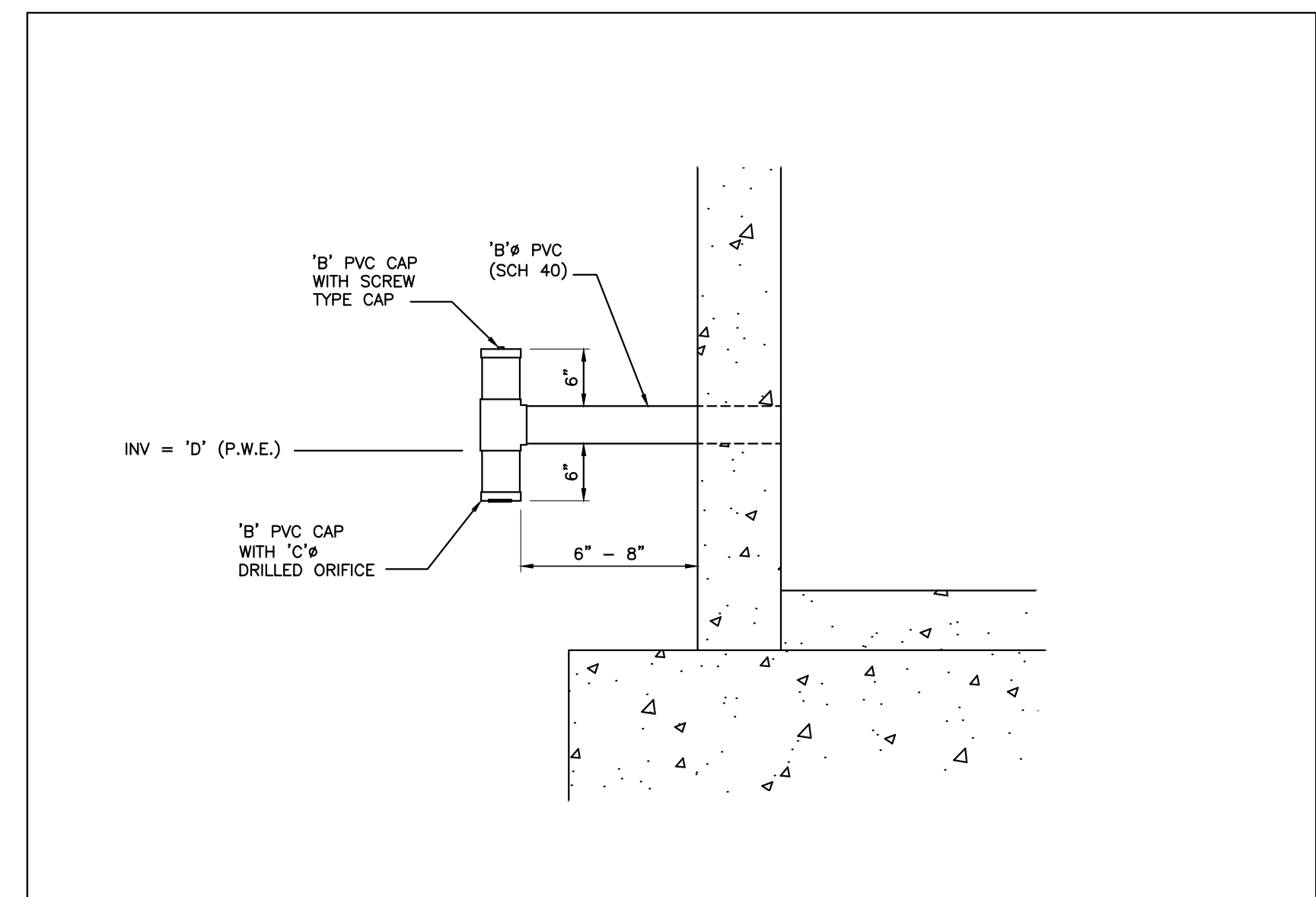
NTS

BOUYANCY CALCULATIONS FOR RISER/BARREL
COBBLESTONE VILLAGE
WET POND - SCM

| | |
|-------------------------------------|---------|
| Square Riser Inside Length (ft): | 4.0 |
| Riser Wall Thickness (in): | 6 |
| Pond Bottom Elevation (ft): | 420.00 |
| Riser Crest Elevation (ft): | 426.50 |
| Density of Riser Matt (lb/cf): | 150.00 |
| Pipe Inside Diameter (in): | 24 |
| Pipe Wall Thickness (in): | 3 |
| Length of Pipe Exposed (ft): | 1.00 |
| Density H2O (lb/cf): | 62.40 |
| Volume H2O Displaced by Riser (cf): | 131.63 |
| Weight H2O Displaced by Riser (lb): | 8213.40 |
| Volume H2O Displaced by Pipe (cf): | 4.91 |
| Weight H2O Displaced by Pipe (lb): | 306.31 |
| Total Uplift Force (lb): | 8519.71 |
| Weight of Riser (lb): | 4,144 |
| Weight of Pipe (lb): | 265.07 |
| Pipe/Riser Downward Force (lb): | 4408.82 |

Ballast Concrete:

| | |
|----------------------------------|--------|
| Minimum Factor of Safety: | 1.2 |
| Required ballast thickness (in): | 37.02 |
| Provided Ballast Thickness (in): | 40 |
| Total Downward Force (lb): | 10,692 |
| Provided Factor of Safety: | 1.25 |

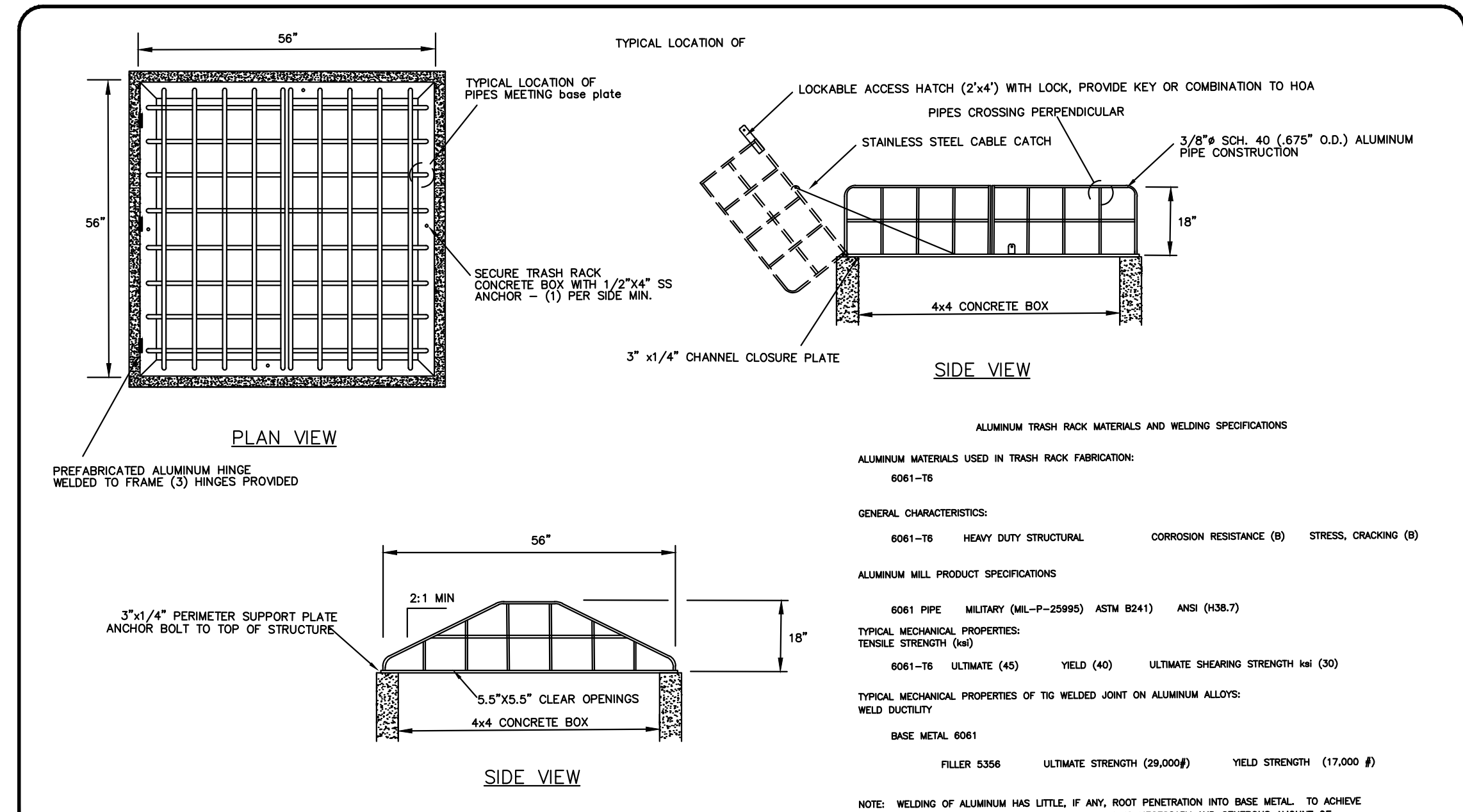
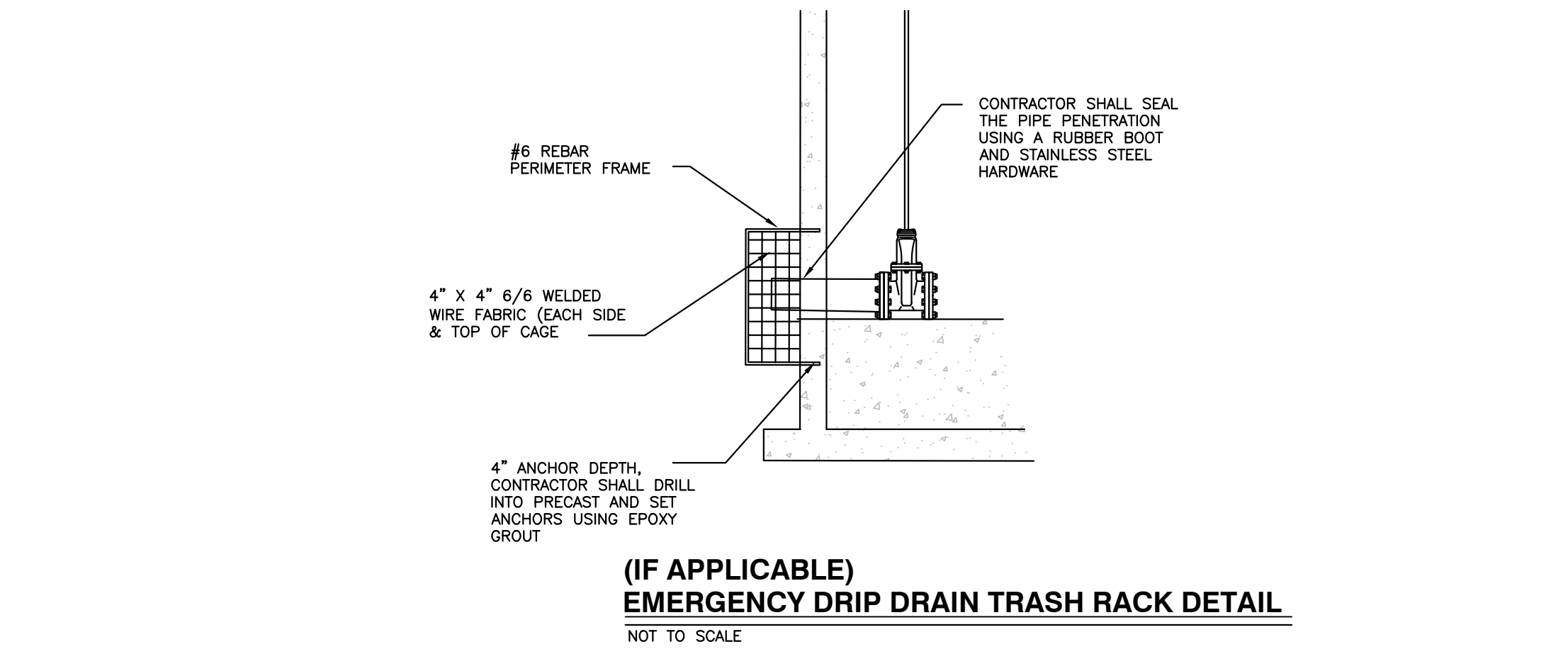
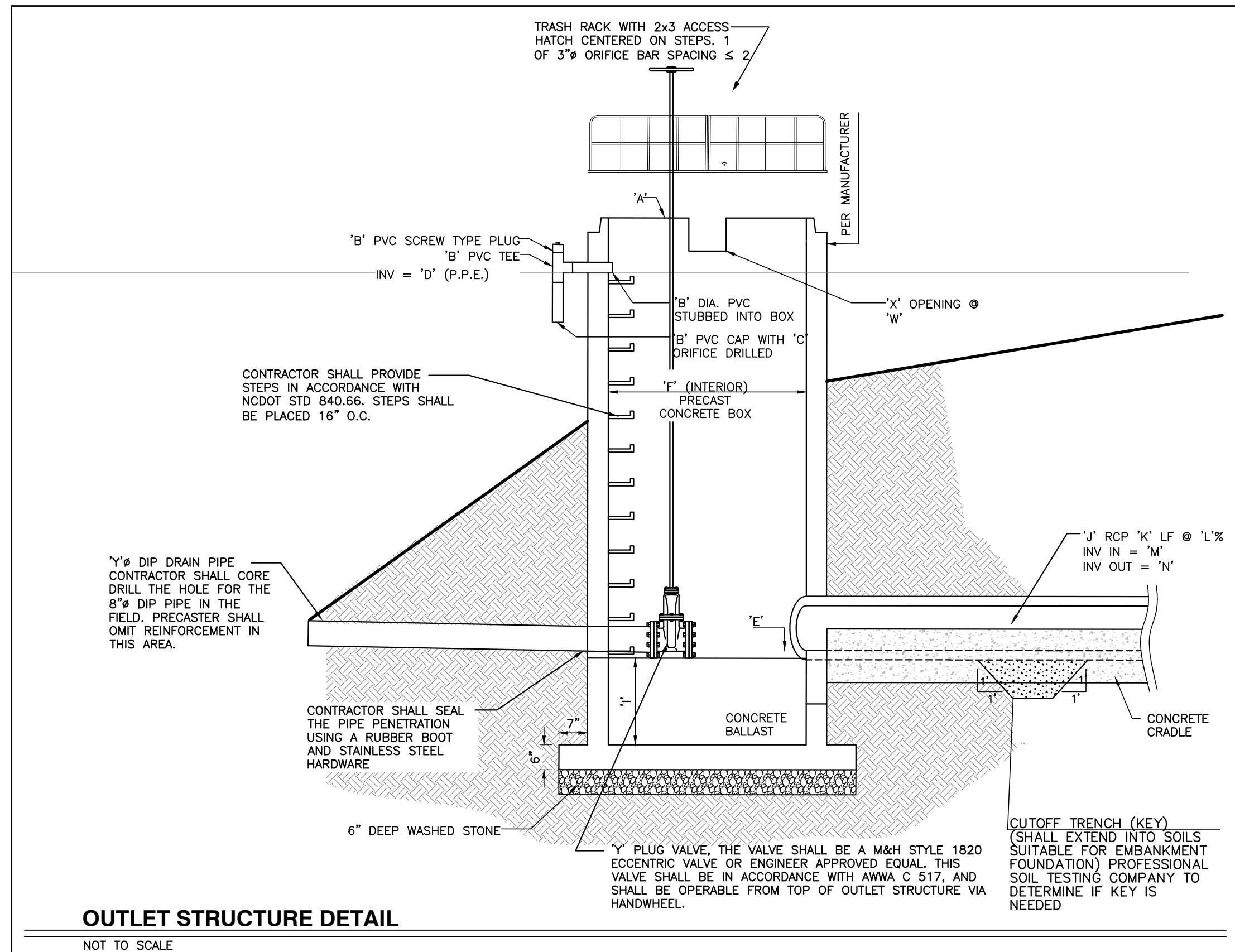


INVERTED INTAKE DETAIL (RISER)

POND LEGEND - SCM

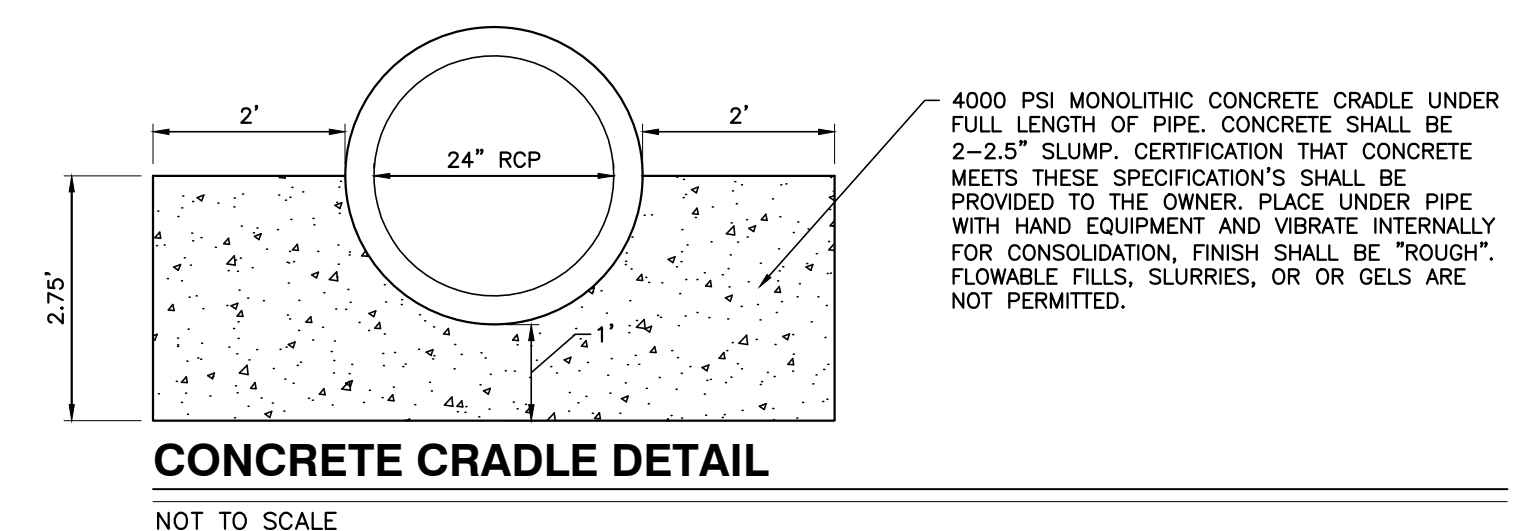
| Description | Design | As-Built |
|--|-----------|----------|
| A Top of Riser | 426.50 ft | |
| B Diameter of PVC Drawdown Pipe | 4 in | |
| C Drawdown Orifice Opening | 2.5 in | |
| D Drawdown Pipe Elevation / Permanent Pool | 424.50 ft | |
| E Inside Bottom Riser Elevation | 420.00 ft | |
| F Outlet Structure Size | 4ft x 4ft | |
| G Top of Berm Width | 10 ft | |
| H Top of Dam | 428.00 ft | |
| I Ballast Thickness | 40 in | |
| J Size of Outlet Pipe | 24 in | |
| K Length of Outlet Pipe | 18 ft | |
| L Slope of Outlet Pipe | 2.78 % | |
| M Invert in Outlet Pipe | 420.00 ft | |
| N Invert Outlet Pipe | 419.80 ft | |
| O Top Elevation Forebay Berm | 424.00 ft | |
| P Elevation Top of Litoral Shelf | 425.00 ft | |
| Q Elevation Bottom of Litoral Shelf | 424.00 ft | |
| R Slope of Litoral Shelf | 6:1 | |
| S Sediment Cleanout Elevation Forbay | 422.00 ft | |
| T Bottom Elevation Forebay | 421.00 ft | |
| U Sediment Cleanout Elevation Permanent Pool | 421.00 ft | |
| V Bottom Elevation Permanent Pool | 420.00 ft | |
| W Elevation Secondary Weir | 426.20 ft | |
| X Width Secondary Weir | 12 in | |

Special Instructions
 Place Drawdown pipe opposite of outlet pipe and ensure a minimum of 12" clearance between drawdown pipe opening and ground elevation to allow for proper drainage. Place secondary weir above drawdown pipe on same side of outlet structure.



TRASH RACK SUBMITTAL - Aluminum Trashrack for 4x4 Box

TRASH RACK DETAIL



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City of Raleigh Development Approval _____

Raleigh Water Review Officer

12/08/23

NO FLOODPLAINS EXIST ON-SITE

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PROGRESS MRM DATE DRAWN BY

03-19-17 03-19-17

3 12-08-23 TOWN OF ROLESVILLE COMMENTS

2 10-16-23 T.O.R. COMMENTS

1 09-21-23 CHANGES FROM 06-02-22 CDS

NO. DATE DESCRIPTION BY

1 09-21-23 CHANGES FROM 06-02-22 CDS MRM

2 10-16-23 T.O.R. COMMENTS MRM

3 12-08-23 TOWN OF ROLESVILLE COMMENTS MRM

CHK BY: MDB

SCALE: N.T.S.

BMP DETAILS

CONSTRUCTION SEQUENCE - STAGE 1

- ONCE THE EROSION AND SEDIMENT CONTROL PLAN APPROVAL AND NCG01 CERTIFICATE OF COVERAGE ARE OBTAINED, SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL CONSULTANT, OBTAIN A LAND-DISTURBING PERMIT.
- INSTALL GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SKIMMER SEDIMENT BASINS AND OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
- CALL ENVIRONMENTAL CONSULTANT FOR AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT TO OBTAIN A CERTIFICATE OF COMPLIANCE.
- BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. ROUGH GRADE SITE.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDEED AREAS PER GROUND STABILIZATION TIME FRAMES.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, ALLEY PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDEED AREAS PER GROUND STABILIZATION TIME FRAMES.
- CALL ENVIRONMENTAL CONSULTANT FOR AN ONSITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT PRIOR TO THE REMOVAL OF SKIMMER SEDIMENT BASIN #1.
- CONTINUE TO SOIL EROSION PLAN STAGE 2 ONCE SKIMMER BASIN #1 HAS BEEN REMOVED.

NOTE: WAKE COUNTY MUST GRANT PERMISSION TO CONVERT THE SEDIMENT BASIN OVER TO THE STORMWATER USE PRIOR TO COMPLETING ANY RELATED WORK.
TOTAL DISTURBED AREA = 11.0 AC

DENUDED AREA = 10.96 AC

REQUIRED WAKE COUNTY BASIN REMOVAL AND/OR CONVERSION SEQUENCE

- SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED OR CONVERTED TO A PERMANENT STORMWATER POND, INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
- UTILIZE OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SEDIMENT BASIN SURFACE FOR DRAW DOWN OF WATER IN BASIN FOR MAINTENANCE OR CLOSE OUT UNLESS INFEASIBLE. SEE REQUIREMENTS OF NCG01 PERMIT PART 1, SECTION C, ITEM (4) ENTITLED "DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT" AND REFER TO WAKE COUNTY "FILTER BAG FOR Dewatering ACTIVITIES" CONSTRUCTION DETAIL.
- REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES, IF CULVERT PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
- PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
- INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
- WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVICE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION. NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

SEDIMENT BASIN SUMMARY CHART

| Structure Number | 1 | 2 | 3 |
|----------------------------|---------------------------|---------------------------|-------------------------|
| Drainage Area (Acres) | 3.42 | 4.61 | 0.6 |
| Drainage Area (Sq. Ft) | (0.5)(7,223)(3.42)=12,351 | (0.5)(7,223)(4.61)=16,641 | (0.5)(7,223)(0.6)=2,127 |
| Weir Size (ft) | 10 x 1.5 | 10 x 1.5 | 10 x 1.5 |
| Surface Area Required (SF) | (435)(12.35)=5,372 | (435)(16.64)=7,238 | (435)(2.17)=944 |
| Volume Required (CF) | (1800)(3.42)=6,156 | (1800)(4.61)=8,298 | (1800)(0.60)=1,080 |
| Dimensions (ft) | see plans | see plans | see plans |
| Surface Area Provided (SF) | 5,400 | 10,640 | 1,584 |
| Volume Provided (CF) | 13,572 | 27,636 | 2,563 |
| Skimmer Size | 4" | 4" | 3" |
| Orifice Radius | 0.5" | 0.5" | 0.25" |
| Orifice Diameter | 1.0" | 1.25" | 0.5" |
| Drawdown Time (Days) | 4.62 | 3.98 | 3.74 |
| Number of Baffles | 3 | 3 | 3 |

DITCH/CHANNEL CALCULATIONS

| DIVERSION DITCH ID | LENGTH (LF) | DA (Ac) | Q10 (CFS) | SLOPE (%) | V10 (FPS) | LINER* | PERMISSIBLE SHEAR STRESS (PSF) | CALCULATED SHEAR STRESS (PSF) |
|--------------------|-------------|---------|-----------|-----------|-----------|--------|--------------------------------|-------------------------------|
| DV-1 | 296 | 1.02 | 2.34 | 2.00 | 2.01 | SC150 | 2.00 | 0.78 |
| DV-2 | 495 | 1.00 | 2.30 | 2.60 | 2.29 | SC150 | 2.00 | 0.84 |
| DV-3 | 442 | 0.52 | 1.19 | 1.80 | 0.92 | SC150 | 1.80 | 0.29 |
| DV-4 | 167 | 0.08 | 0.13 | 2.90 | 0.96 | SC150 | 1.80 | 0.38 |

*NAG = NORTH AMERICAN GREEN OR EQUIVALENT

Skimmer Basin #1

| Skimmer Size (Inches) | Head on Skimmer (feet) | Orifice Size (1/4 inch increments) | Dewatering Time (days) |
|-----------------------|------------------------|------------------------------------|------------------------|
| 4 | 0.333 | 1.25 | 4.62 |
| 3 | 0.333 | 1.00 | 3.98 |
| 2 | 0.333 | 0.75 | 3.74 |

Skimmer Basin #2

| Skimmer Size (Inches) | Head on Skimmer (feet) | Orifice Size (1/4 inch increments) | Dewatering Time (days) |
|-----------------------|------------------------|------------------------------------|------------------------|
| 4 | 0.333 | 1.25 | 3.98 |
| 3 | 0.333 | 1.00 | 3.74 |
| 2 | 0.333 | 0.75 | 3.74 |

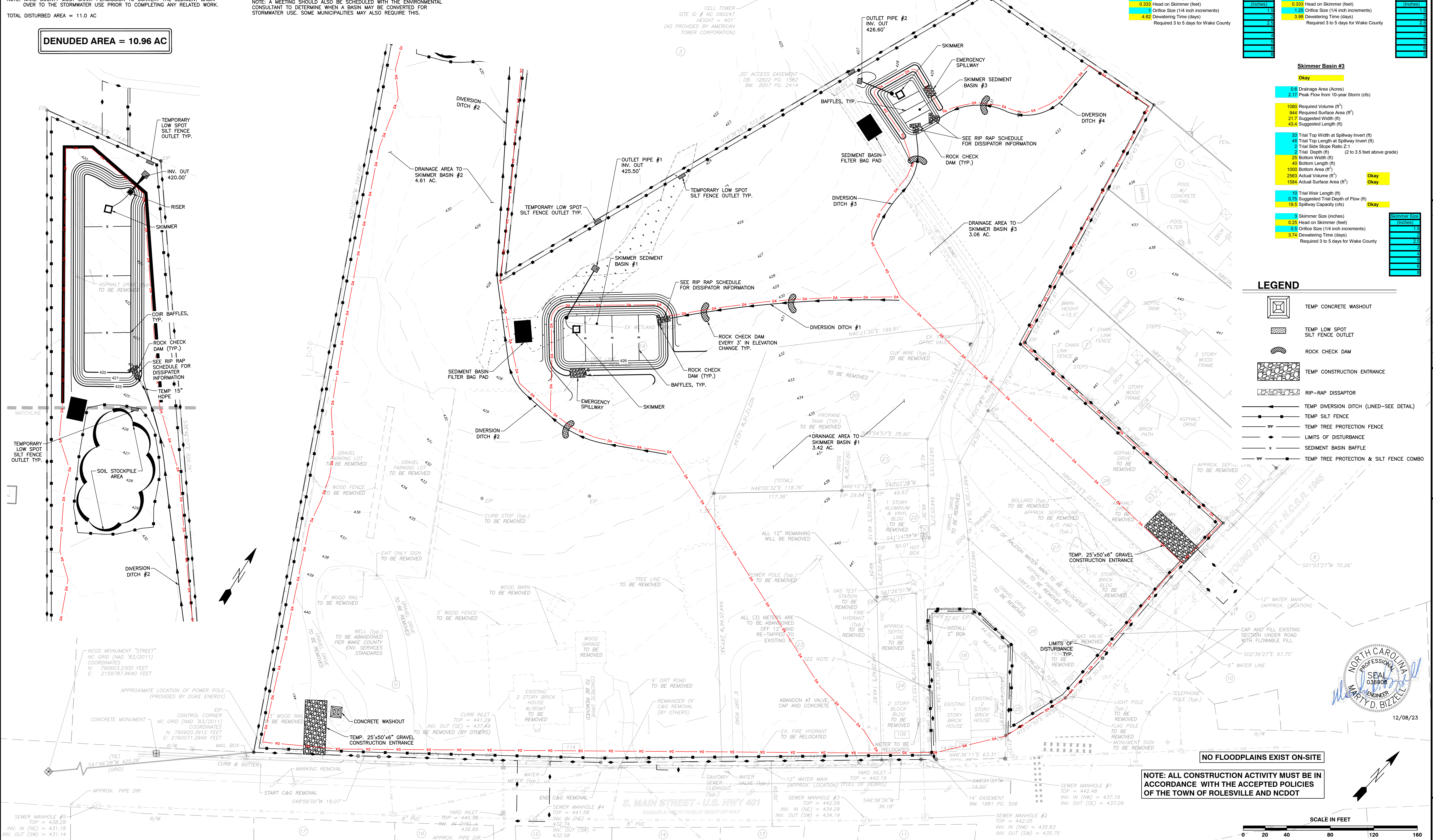
Skimmer Basin #3

| Skimmer Size (Inches) | Head on Skimmer (feet) | Orifice Size (1/4 inch increments) | Dewatering Time (days) |
|-----------------------|------------------------|------------------------------------|------------------------|
| 4 | 0.333 | 1.25 | 3.74 |
| 3 | 0.333 | 1.00 | 3.74 |
| 2 | 0.333 | 0.75 | 3.74 |

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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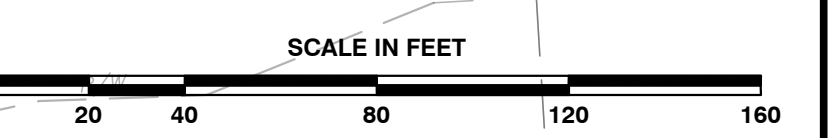
City of Raleigh Development Approval _____
Raleigh Water Review Officer _____



LEGEND

- TEMP CONCRETE WASHOUT
- TEMP LOW SPOT SILT FENCE OUTLET
- ROCK CHECK DAM
- TEMP CONSTRUCTION ENTRANCE
- RIIP-RAP DISSIPATOR
- TEMP DIVERSION DITCH (LINED-SEE DETAIL)
- TEMP SILT FENCE
- TEMP TREE PROTECTION FENCE
- LIMITS OF DISTURBANCE
- SEDIMENT BASIN BAFFLE
- TEMP TREE PROTECTION & SILT FENCE COMBO

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF ROLESVILLE AND NCDOT



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)881-4422 FAX: (919)881-8686
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

| NO. | DATE | DESCRIPTION | BY |
|-----|----------|-----------------------------|-----|
| 1 | 09-21-23 | CHANGES FROM 06-05-22 CDS | MRM |
| 2 | 10-16-23 | T.O.R. COMMENTS | MRM |
| 3 | 12-06-23 | TOWN OF ROLESVILLE COMMENTS | MRM |

PROJECT: EROSION CONTROL PLAN - STAGE 1
DRAWN BY: MRM
CHECKED BY: MDB
SCALE: 1" = 40'
TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA
SHEET C3.3
TOWN OF ROLESVILLE PROJECT NO.

NOT RELEASED FOR CONSTRUCTION OR BID SOLICITATION

CONSTRUCTION SEQUENCE - STAGE 2

- BEGIN CONSTRUCTION OF ALL BUILDINGS.
- STABILIZE SITE AS NEW DISTURBED AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDATED AREAS PER GROUND STABILIZATION TIME FRAMES.
- WHEN CONSTRUCTION OF PARKING LOTS ARE COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL ENVIRONMENTAL CONSULTANT FOR AN INSPECTION.
- IF THE SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS, ETC., AND SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES, SUCH AS VELOCITY DISSIPATORS, SHOULD NOW BE INSTALLED.
- WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.

NOTE: WAKE COUNTY MUST GRANT PERMISSION TO CONVERT THE SEDIMENT BASIN OVER TO THE STORMWATER USE PRIOR TO COMPLETING ANY RELATED WORK.

TOTAL DISTURBED AREA = 10.96 AC

ENVIRONMENTAL CONSULTANT: JEEVAN NEUPANE (919-819-8907)

REQUIRED WAKE COUNTY BASIN REMOVAL AND/OR CONVERSION SEQUENCE

- SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED OR CONVERTED TO A PERMANENT STORMWATER POND. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
- UTILIZE OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SEDIMENT BASIN SURFACE FOR DRAW DOWN OF WATER IN BASIN FOR MAINTENANCE OR CLOSE OUT UNLESS INFEASIBLE. SEE REQUIREMENTS OF NCG01 PERMIT PART II, SECTION C, ITEM (4) ENTITLED "DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT" AND REFER TO WAKE COUNTY "FILTER BAG FOR DEWATERING ACTIVITIES" CONSTRUCTION DETAIL.
- REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF CULVERT PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
- PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
- INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
- WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION. NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.

Skimmer Basin #2

| | |
|--|------|
| 6.99 Drainage Area (Acres) | Okay |
| 25.23 Peak Flow from 10-year Storm (cfs) | |
| 12.62 Required Volume (ft ³) | |
| 10975 Required Surface Area (ft ²) | |
| 74.1 Suggested Width (ft) | |
| 148.2 Suggested Length (ft) | |
| 58 Trial Top Width at Spillway Invert (ft) | |
| 190 Trial Top Length at Spillway Invert (ft) | |
| 2 Trial Side Slope Ratio 2:1 | |
| 3 Trial Depth (ft) (2 to 3.5 feet above grade) | |
| 46 Bottom Width (ft) | |
| 178 Bottom Length (ft) | |
| 6188 Bottom Area (ft ²) | |
| 28740 Actual Volume (ft ³) | Okay |
| 11020 Actual Surface Area (ft ²) | Okay |
| 20 Trial Weir Length (ft) | |
| 0.75 Suggested Trial Depth of Flow (ft) | Okay |
| 39.9 Spillway Capacity (cfs) | Okay |
| 4 Skimmer Size (inches) | |
| 0.333 Head on Skimmer (feet) | |
| 1.6 Orifice Size (1/4 inch increments) | |
| 4.20 Dewatering Time (days) | |

| Skimmer Size (inches) | Days |
|-----------------------|--------|
| 4 | 3 |
| 6 | 2 |
| 8 | 1.5 |
| 10 | 1 |
| 12 | 0.75 |
| 14 | 0.5 |
| 16 | 0.375 |
| 18 | 0.25 |
| 20 | 0.1875 |

SEDIMENT BASIN SUMMARY CHART

| Sediment Basin Number | 1 | 2 |
|----------------------------|------------------------|-------------------------|
| Drainage Area (acres) | 1.74 | 6.99 |
| Q10(cfs) | (0.5)(7.22)(1.74)=6.28 | (0.5)(7.22)(6.99)=25.23 |
| Weir Size (ft) | 10 x 1.5 | 10 x 1.5 |
| Surface Area Required (SF) | (435)(6.28)=2,732 | (435)(25.23)=10,975 |
| Volume Required (CF) | (1800)(1.74)=3,132 | (1800)(6.99)=12,620 |
| Dimensions (ft) | see plans | see plans |
| Surface Area Provided (SF) | 2,800 | 11,000 |
| Volume Provided (CF) | 5,648 | 27,800 |
| Skimmer Size | 4" | 4" |
| Orifice Radius | 0.4" | 0.75" |
| Orifice Diameter | 0.75" | 1.5" |
| Drawdown Time (Days) | 4.18 | 4.2 |
| Number of Baffles | 3 | 3 |

DITCH/CHANNEL CALCULATIONS

| DIVERSION DITCH ID | LENGTH (LF) | DA (Ac) | Q10 (CFS) | SLOPE (%) | V10 (FPS) | LINER * | PERMISSIBLE SHEAR STRESS (PSF) | CALCULATED SHEAR STRESS (PSF) |
|--------------------|-------------|---------|-----------|-----------|-----------|---------|--------------------------------|-------------------------------|
| DV-1 | 296 | 1.02 | 2.34 | 2.00 | 2.01 | SC150 | 2.00 | 0.78 |
| DV-2 | 495 | 1.00 | 2.30 | 2.60 | 2.29 | SC150 | 2.00 | 0.94 |
| DV-3 | 442 | 0.52 | 1.19 | 1.80 | 0.92 | SC150 | 1.80 | 0.29 |
| DV-4 | 167 | 0.06 | 0.13 | 2.90 | 0.96 | SC150 | 1.80 | 0.38 |

* NAG = NORTH AMERICAN GREEN OR EQUIVALENT

LEGEND

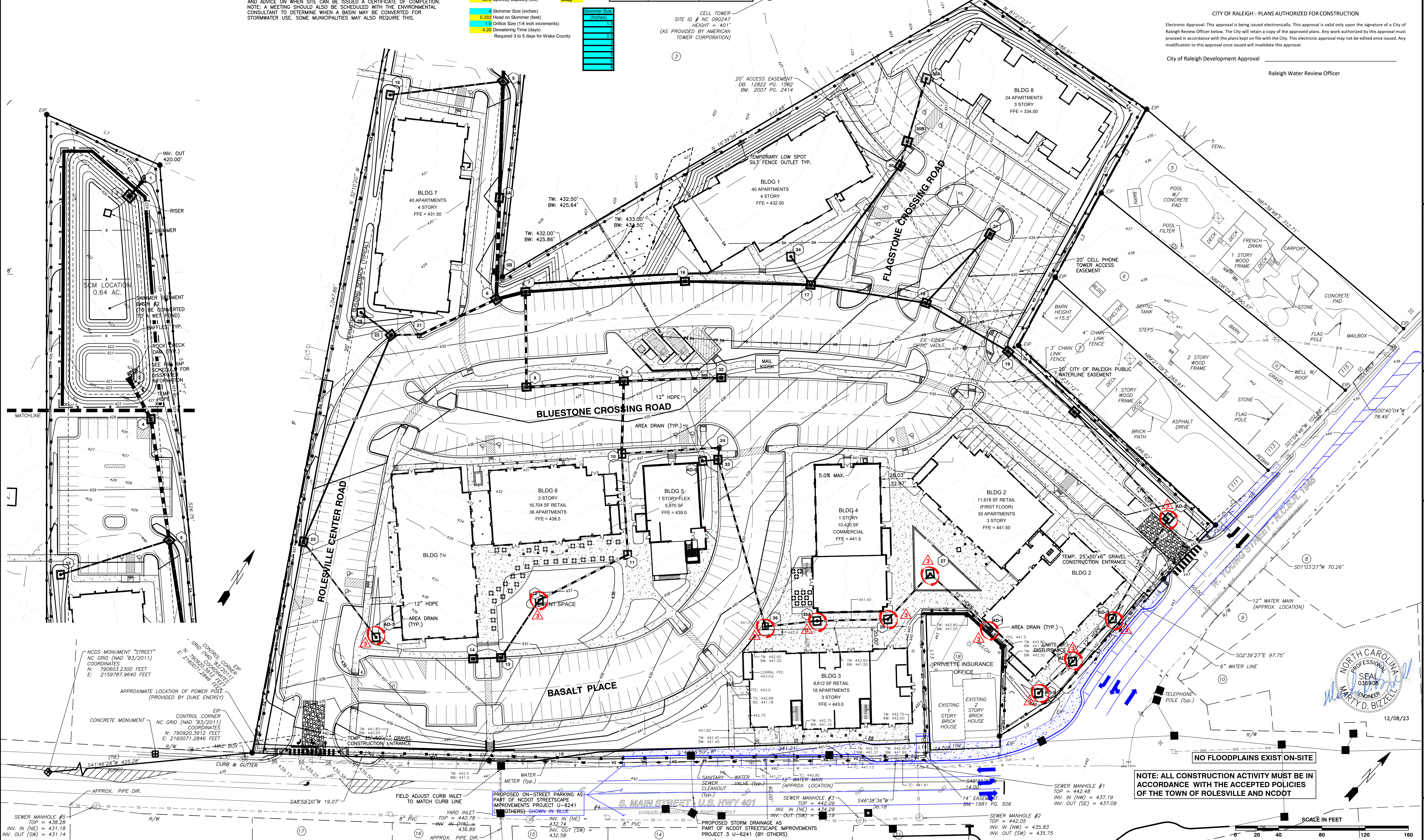
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City of Raleigh Development Approval

Raleigh Water Review Officer



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CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)881-1122 FAX: (919)881-8686
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

| NO. | DATE | DESCRIPTION | BY |
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| 1 | 09-21-23 | CHANGES FROM 06-02-22 CDS | MRM |
| 2 | 10-16-23 | T.O.R. COMMENTS | MRM |
| 3 | 12-06-23 | TOWN OF ROLESVILLE COMMENTS | MRM |

PROGRESS: MRN
 DRAWN BY: MRN
 CHECK BY: MDB
 SCALE: 1" = 40'

COBBLESTONE VILLAGE
MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

NOT RELEASED FOR CONSTRUCTION OR BID SOLICITATION

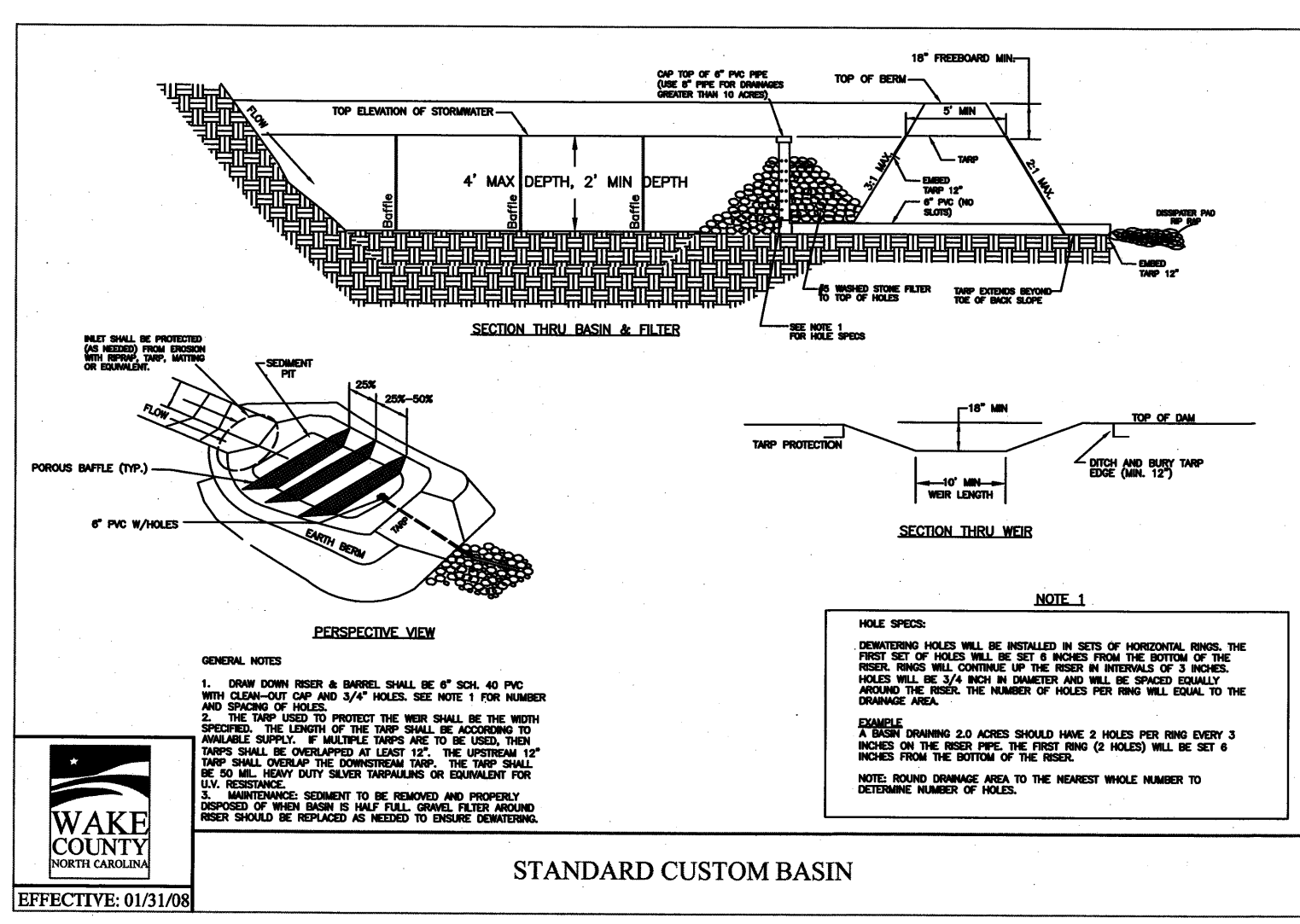
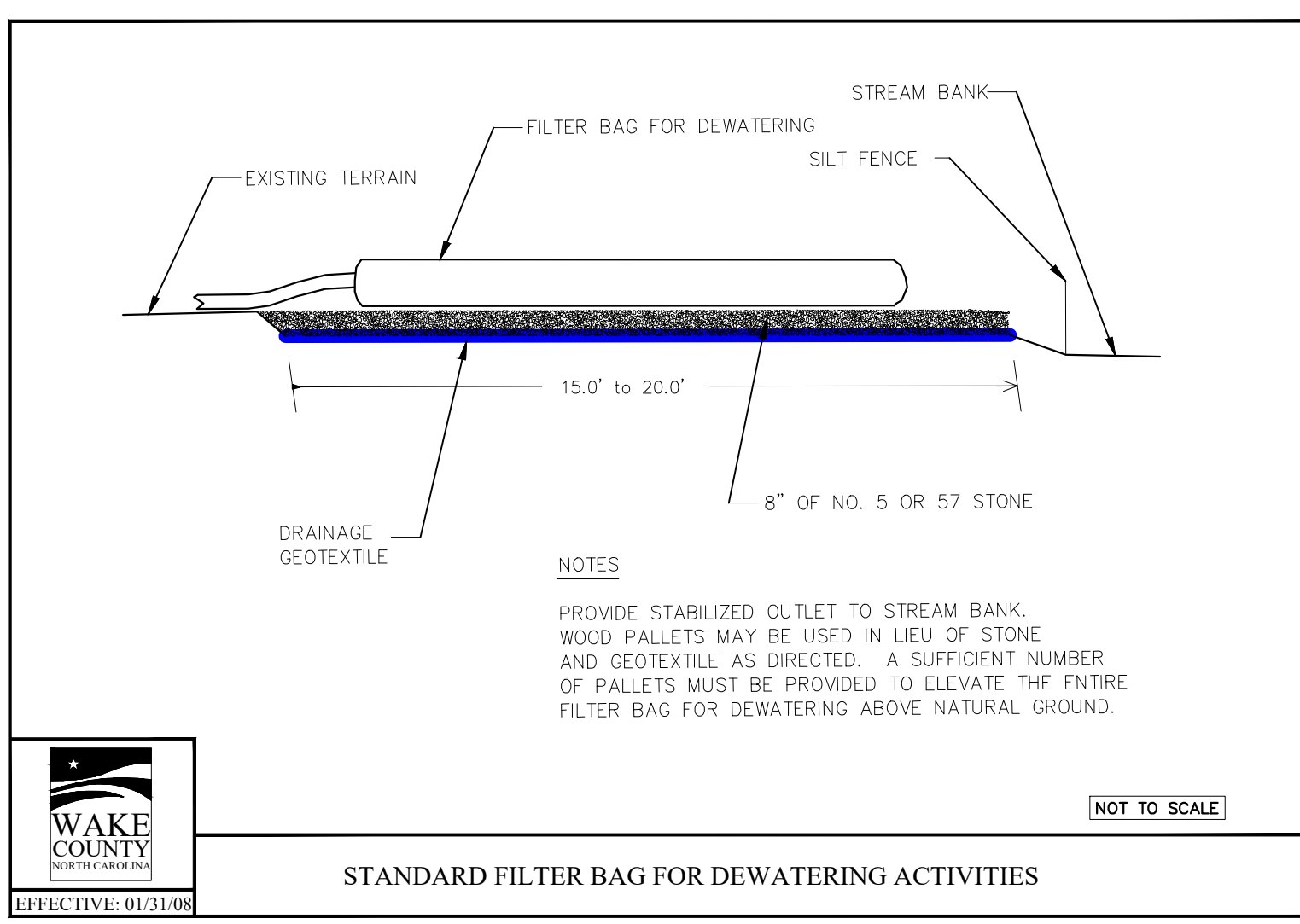
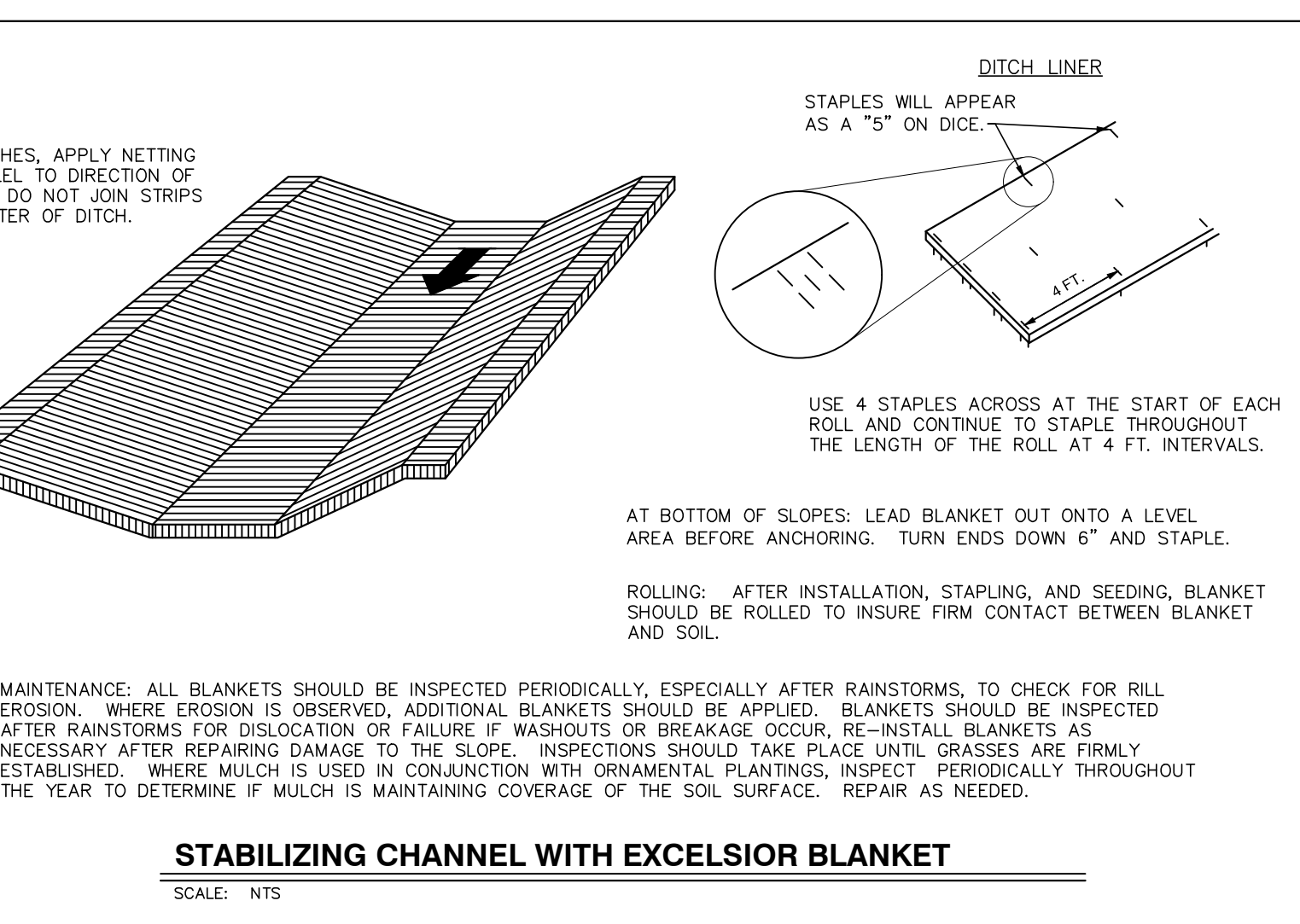
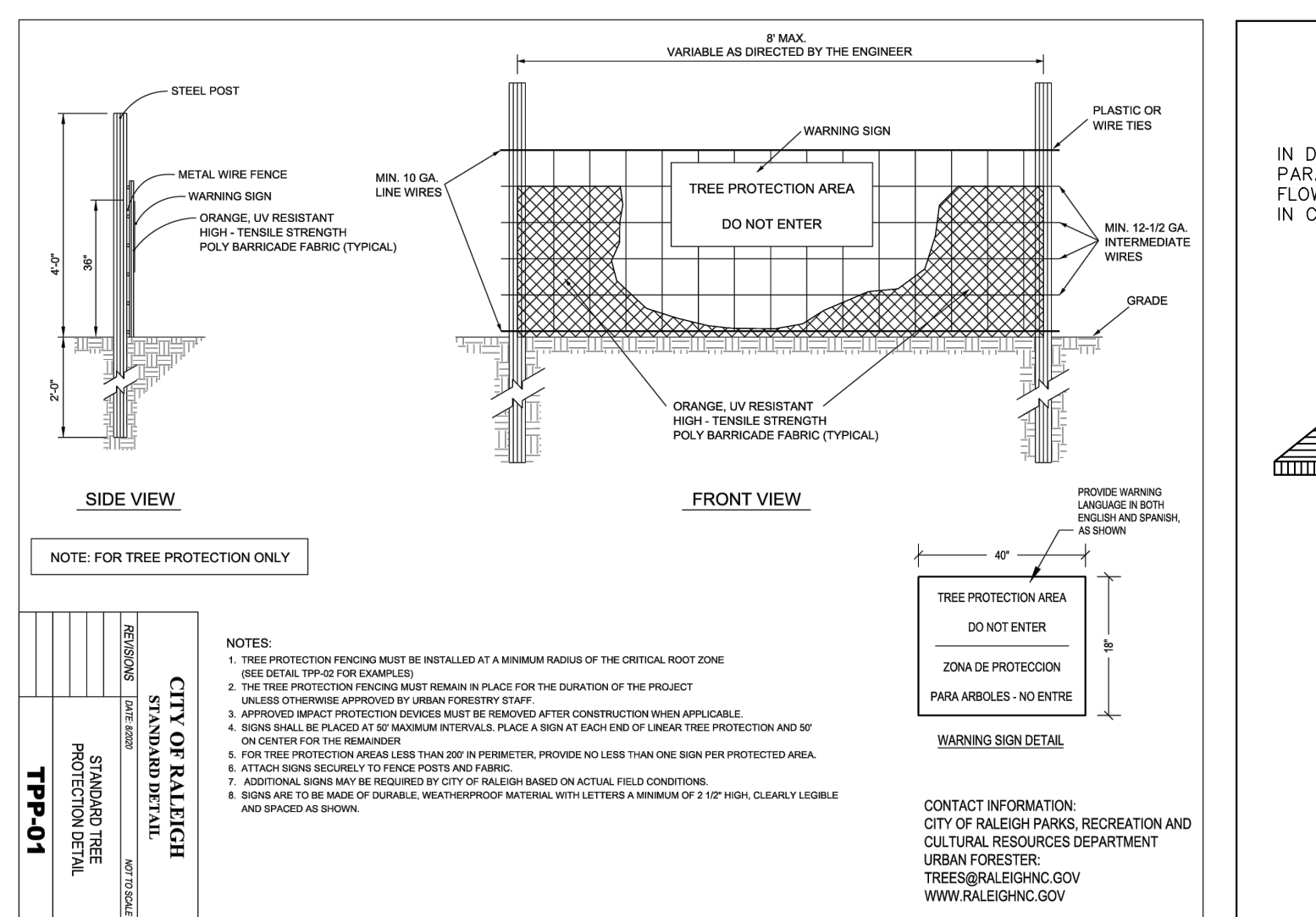
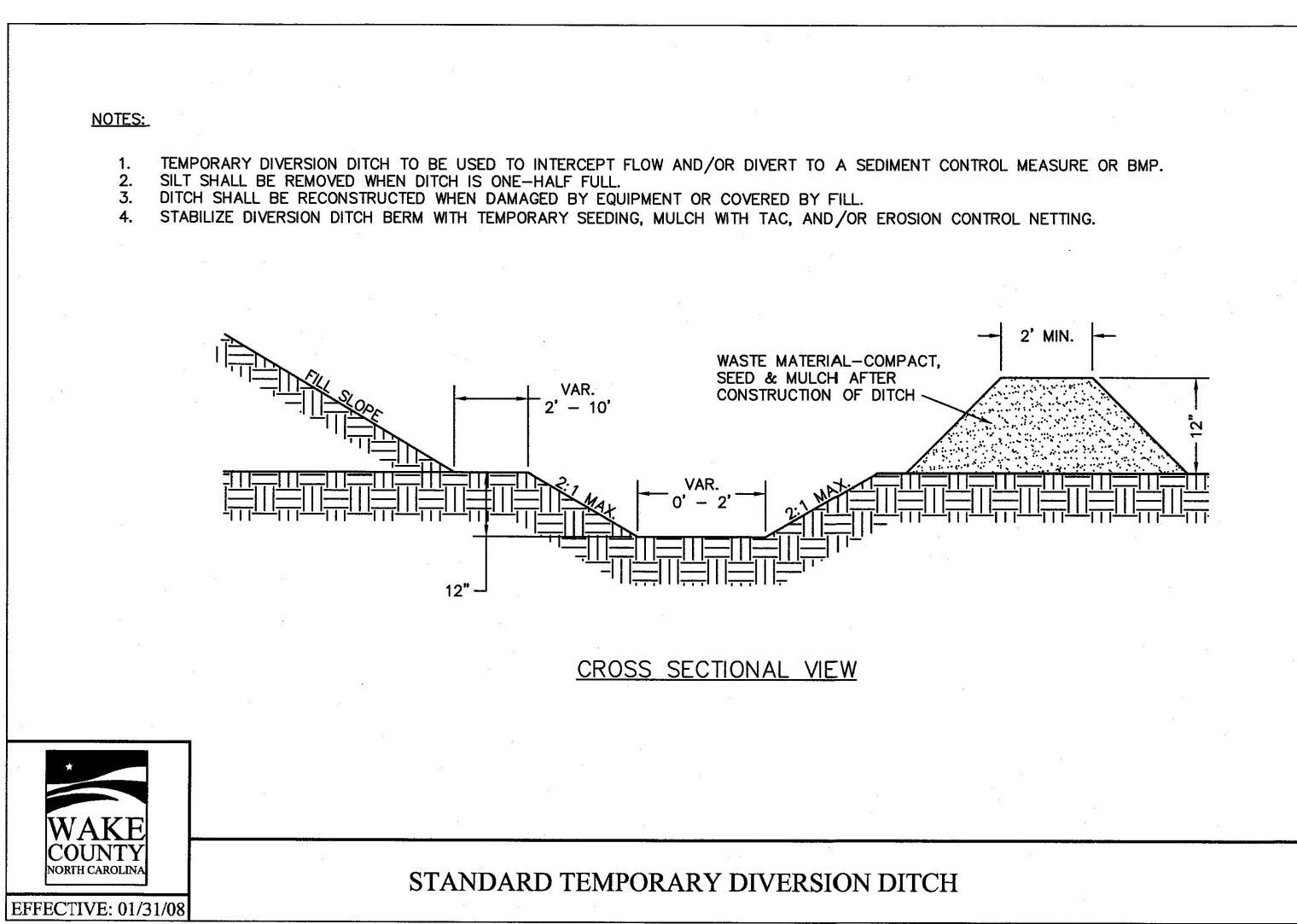
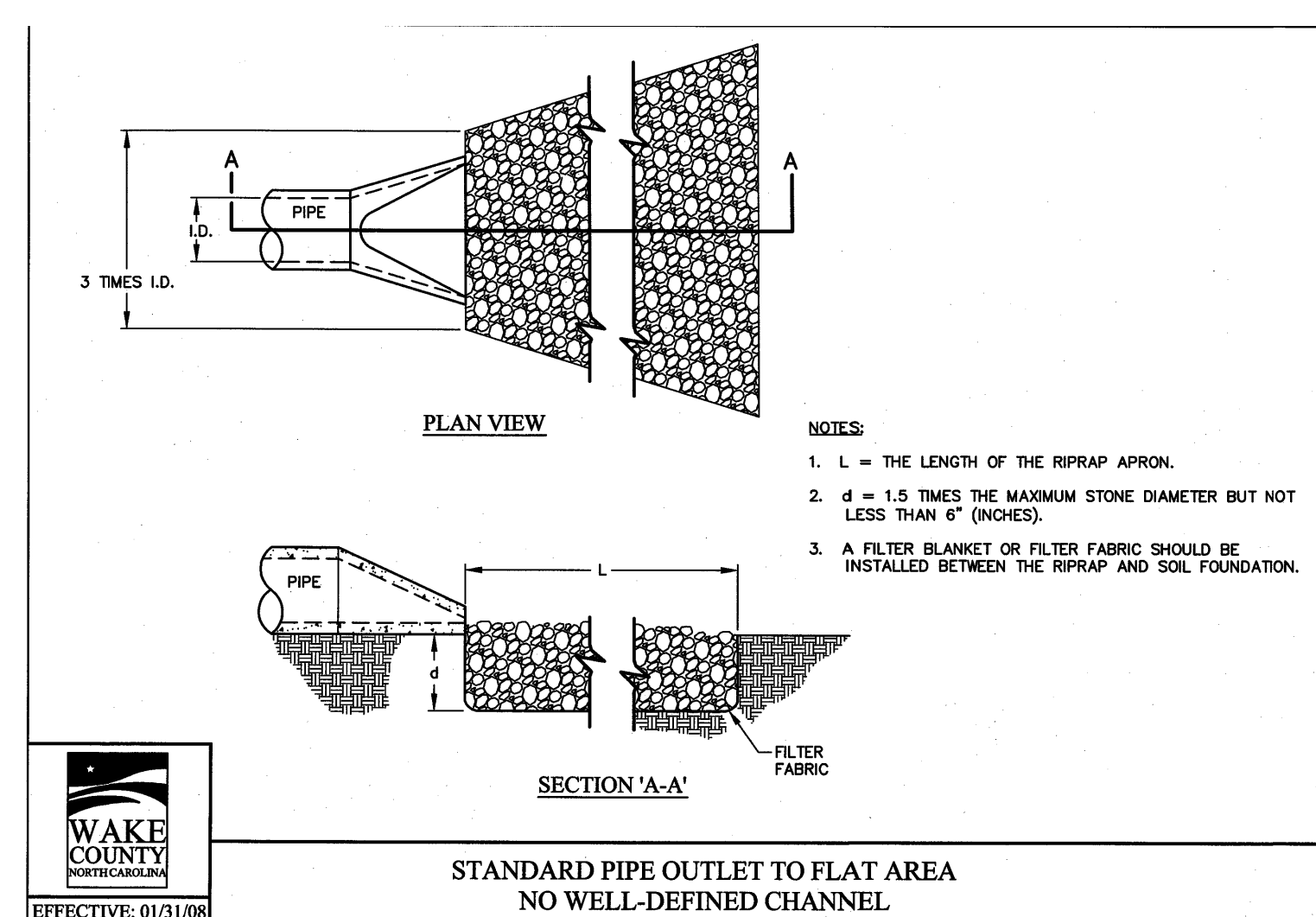
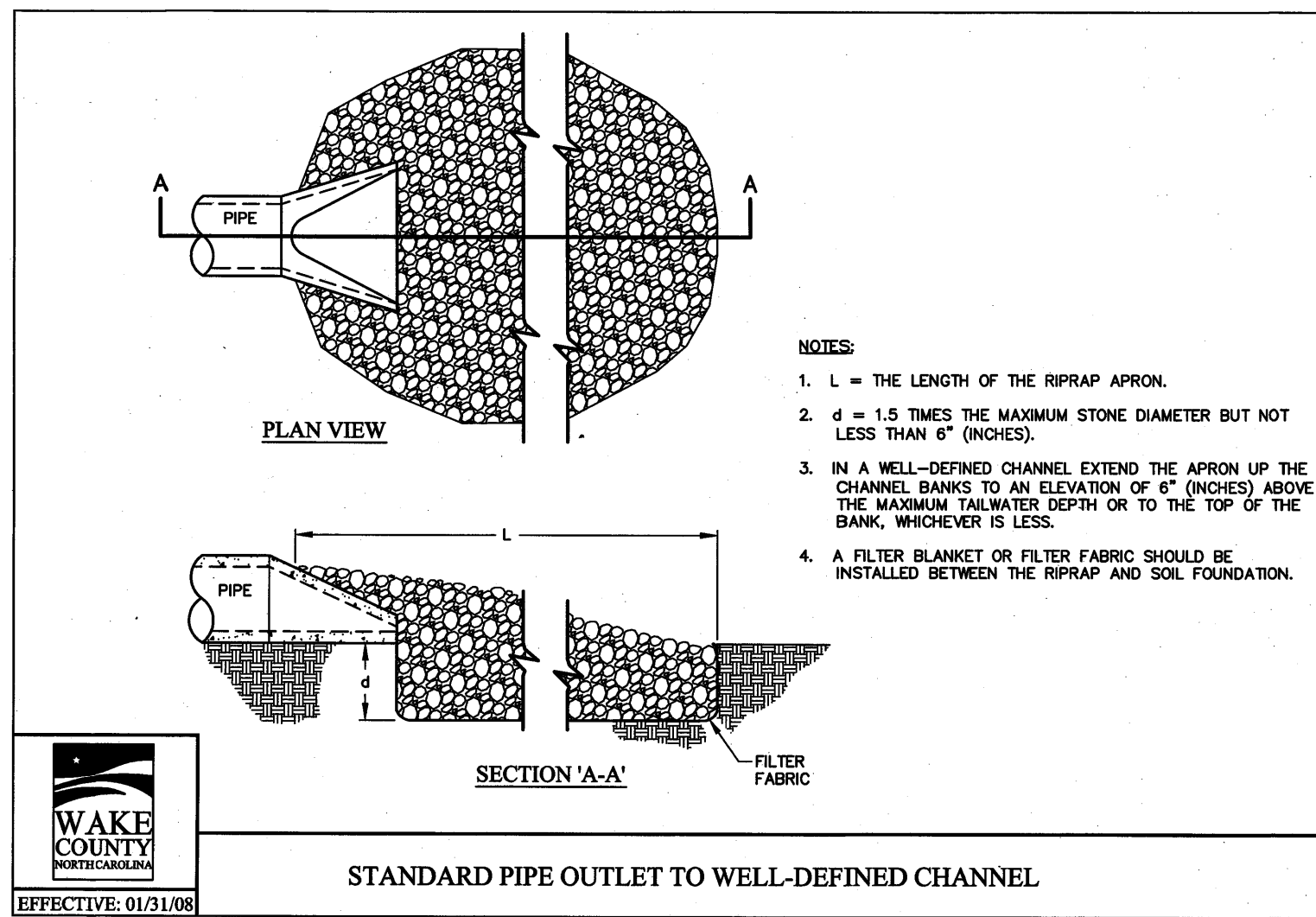
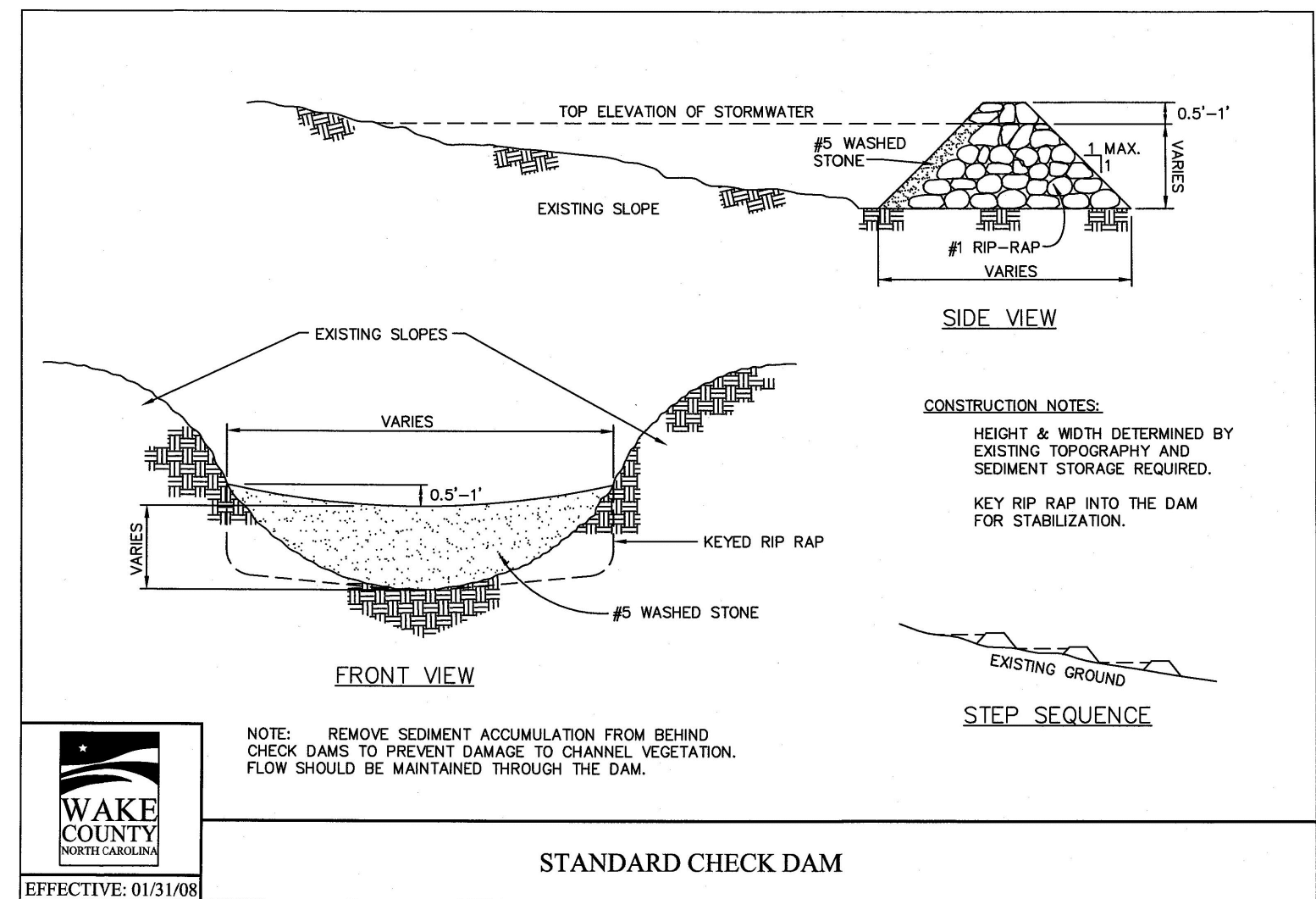
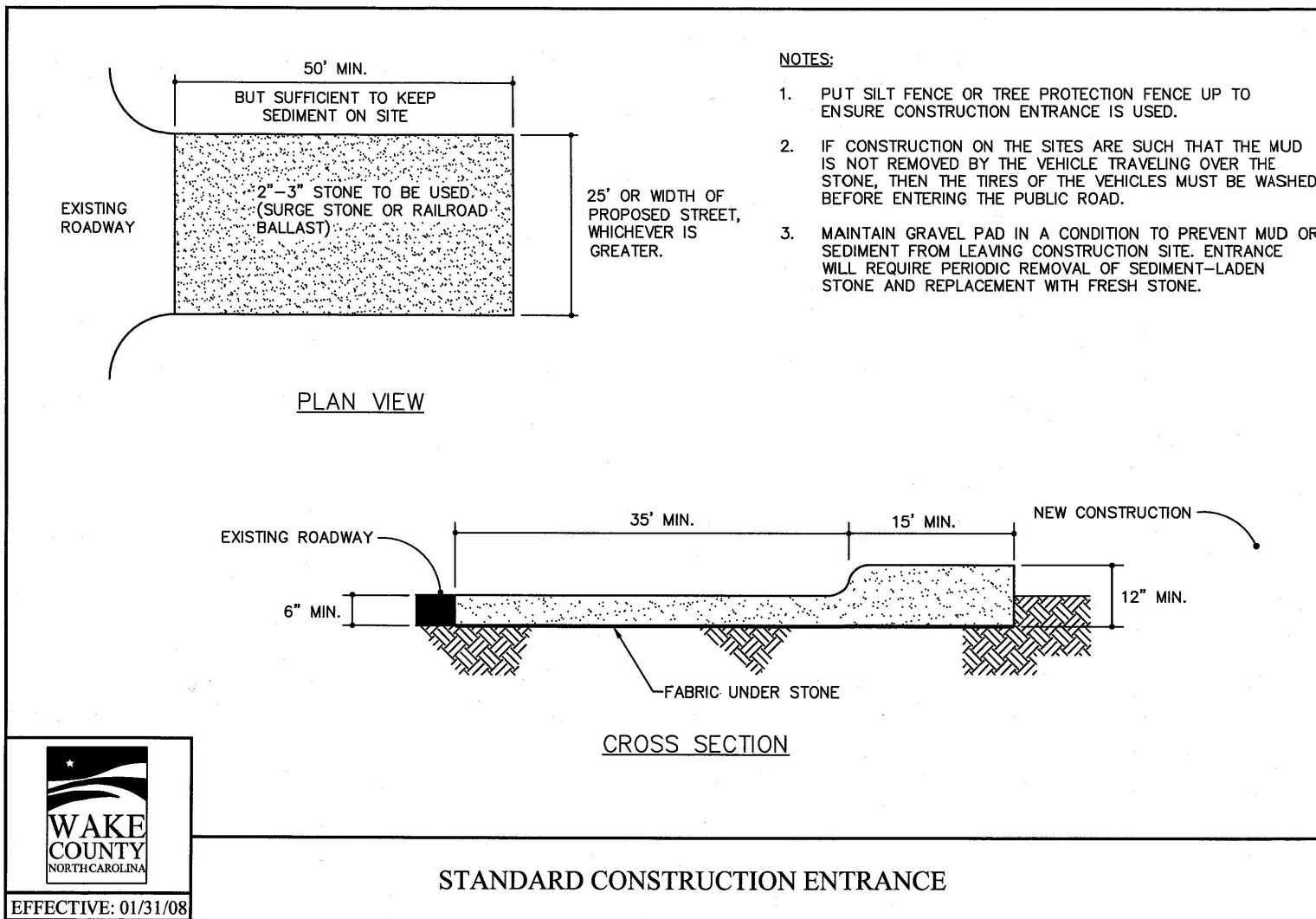


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SCALE IN FEET

SEWER MANHOLE #5
 TOP = 438.28
 INV. IN (NE) = 431.18
 INV. OUT (SW) = 431.14

SEWER MANHOLE #2
 TOP = 442.05
 INV. IN (NW) = 435.83
 INV. OUT (SW) = 435.75



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City of Raleigh Development Approval _____

Raleigh Water Review Officer _____

DATE: 12/08/23

PROGRESS DATE DRAWN BY

03-19157 DATE: 12-08-23 DRAWN BY: MRM

JOB NO. 10-16-23 T.O.R. COMMENTS: MRM

1 09-21-23 CHANGES FROM 06-02-22 CD'S: MRM

NO. 1 DESCRIPTION: MRM

BY: MRM

REVISIONS:

NO. DATE DESCRIPTION BY

1 09-21-23 CHANGES FROM 06-02-22 CD'S MRM

2 10-16-23 T.O.R. COMMENTS MRM

3 12-08-23 TOWN OF ROLESVILLE COMMENTS MRM

COBBLESTONE VILLAGE MIXED USE DEVELOPMENT

TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

CHEK BY: MDB

SCALE: N.T.S.

WAKE COUNTY NORTH CAROLINA

PROFESSIONAL SEAL

036908

ENGINEER

MARTY D. BIZELL

BANK

BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)881-1122 FAX: (919)881-6888
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COBBLESTONE VILLAGE MIXED USE DEVELOPMENT

TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

CHEK BY: MDB

SCALE: N.T.S.

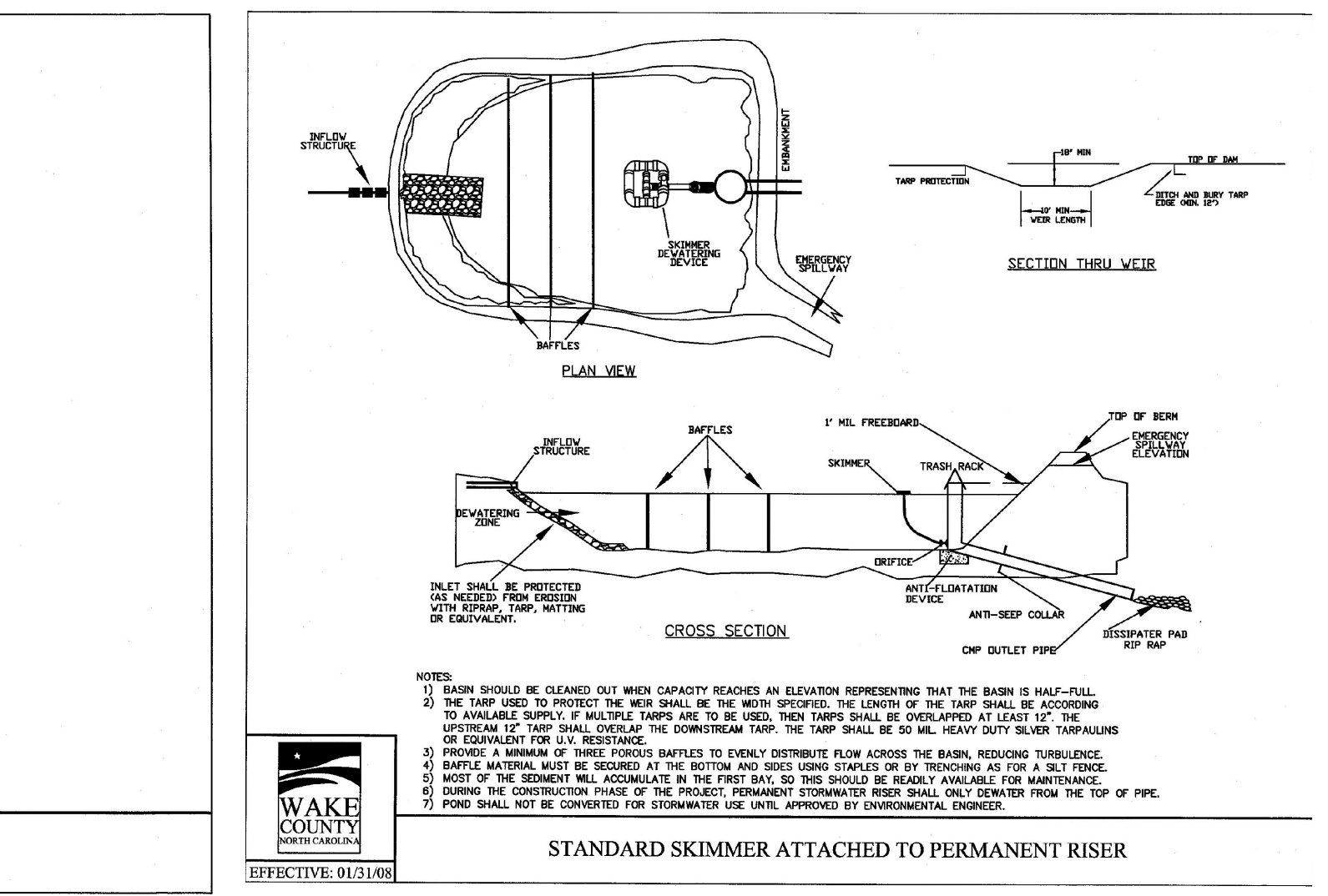
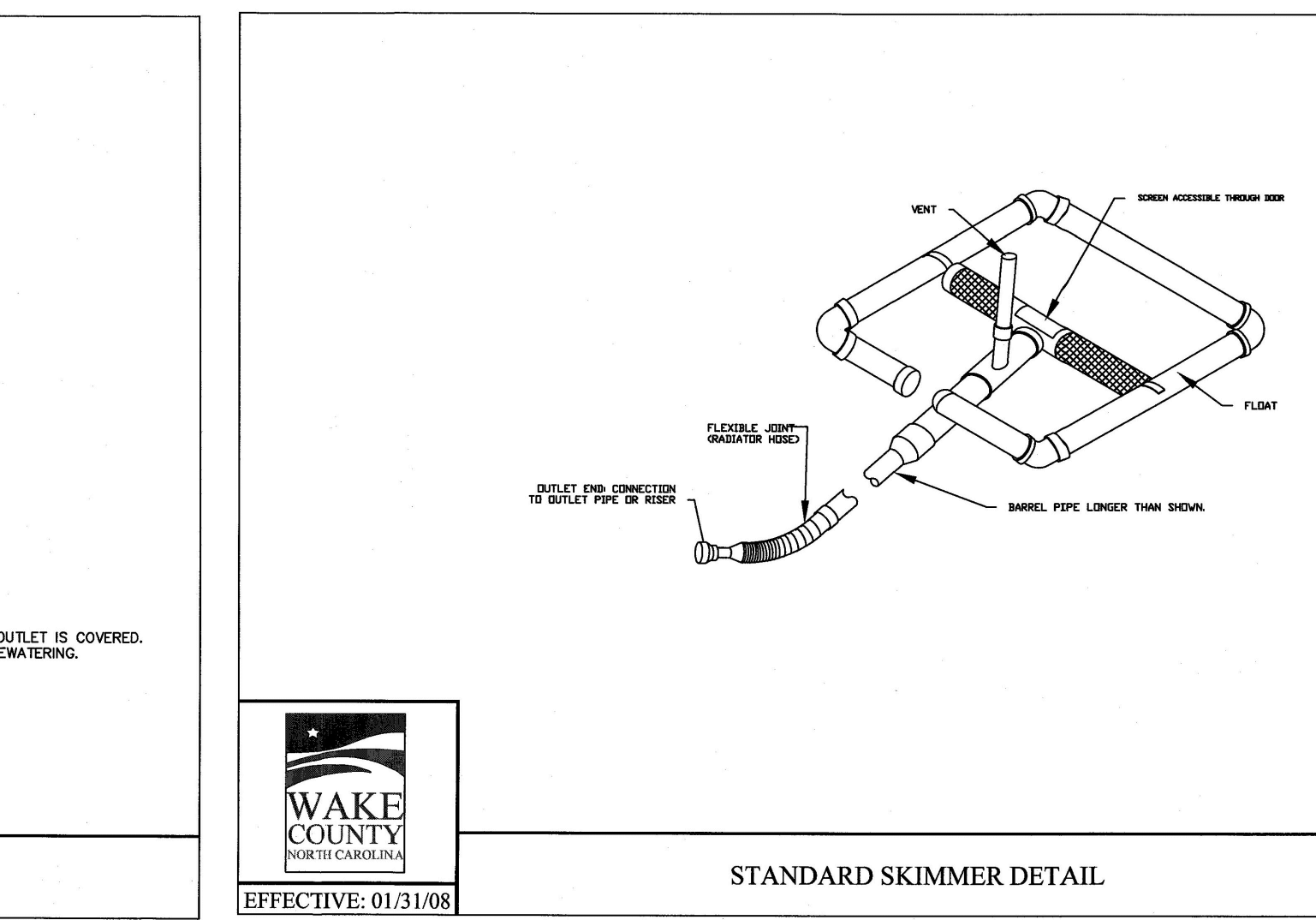
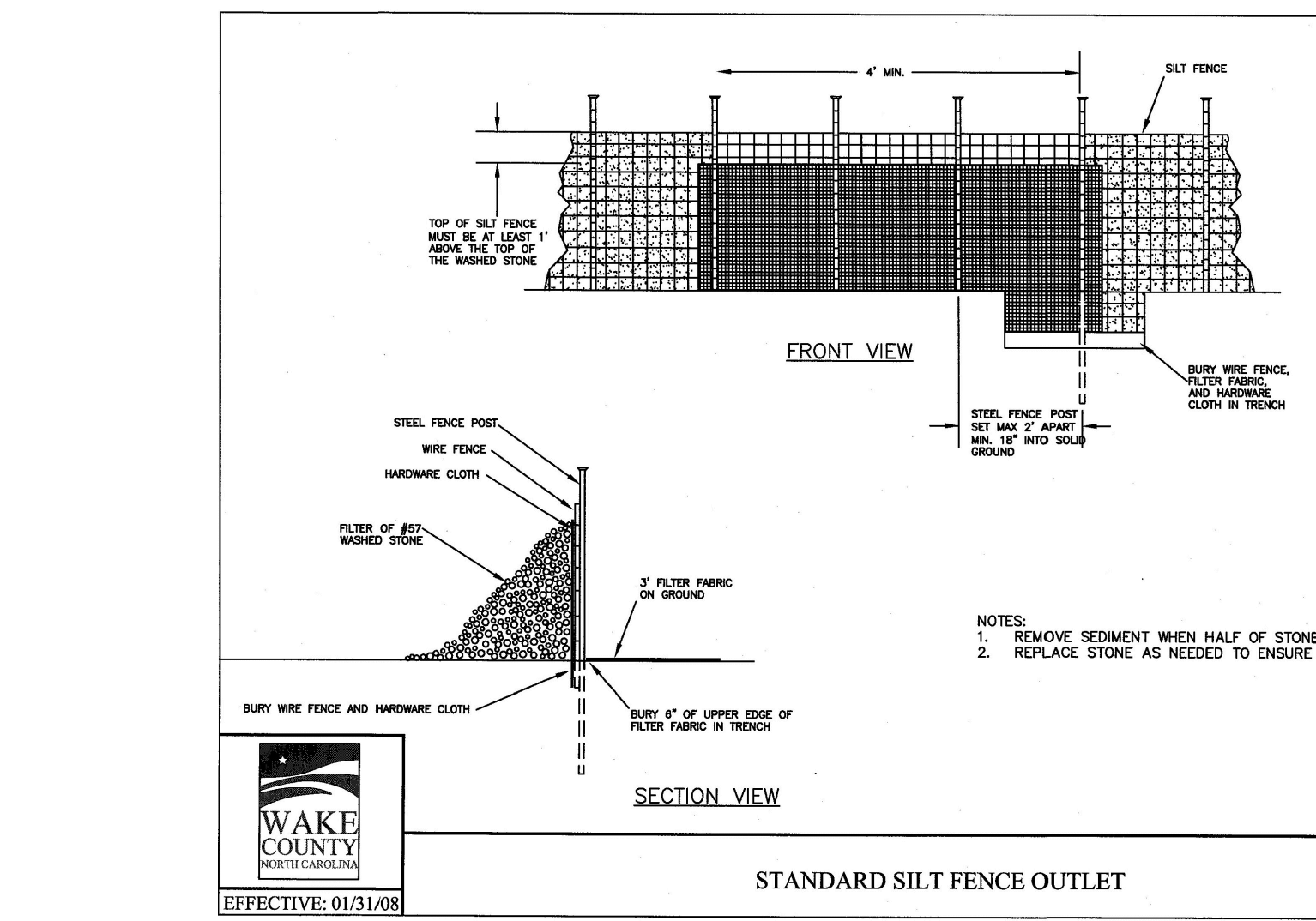
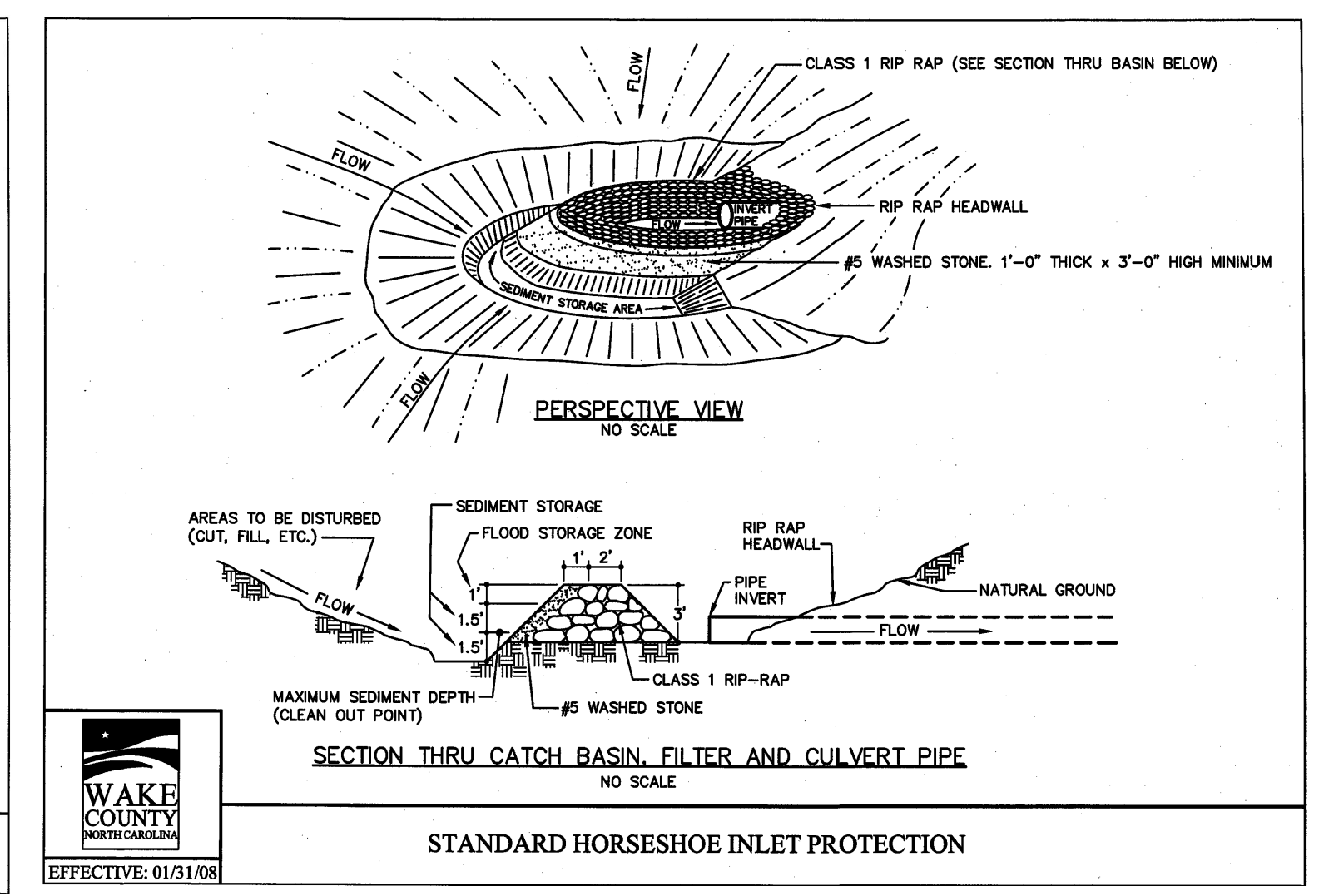
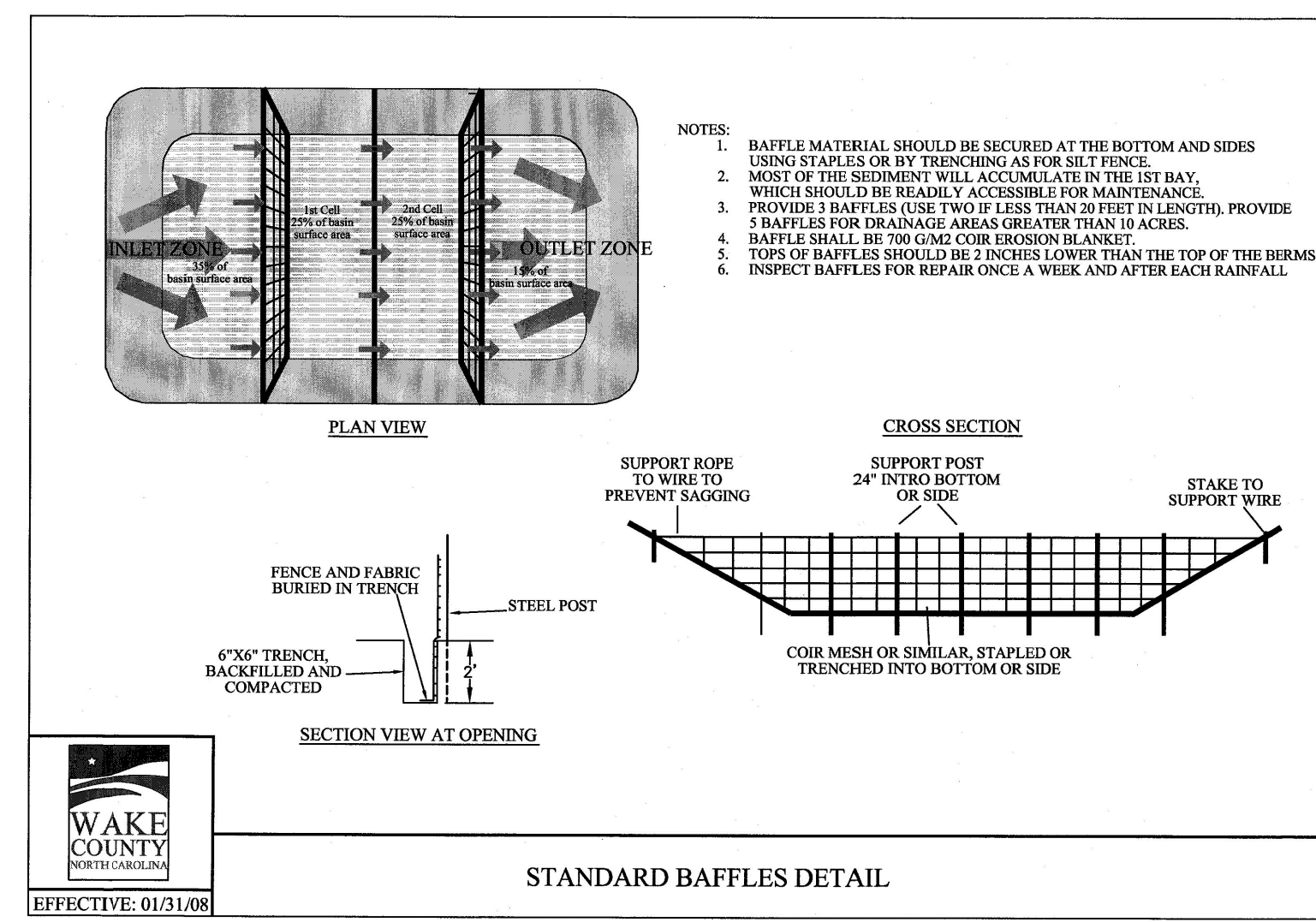
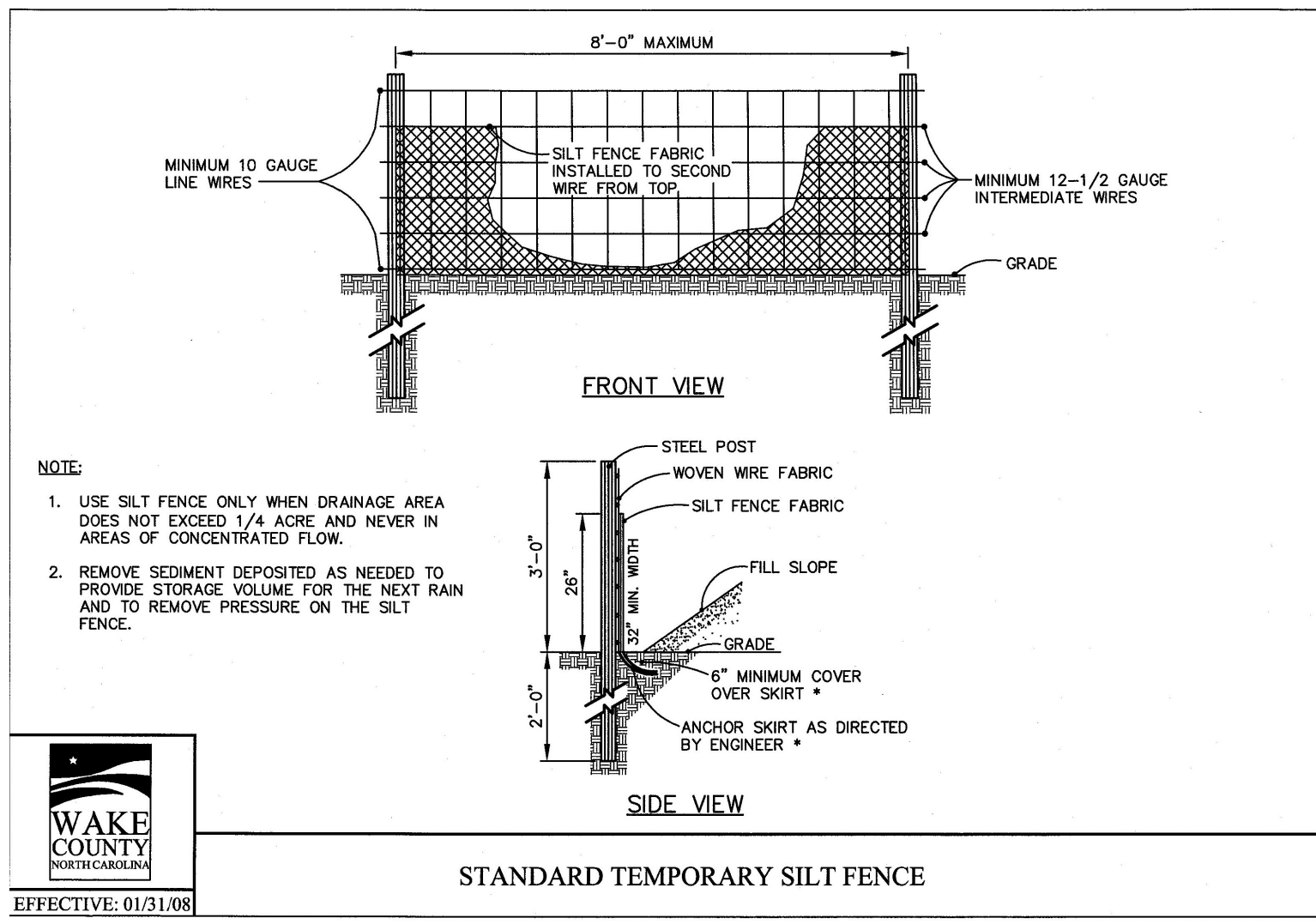
WAKE COUNTY NORTH CAROLINA

PROFESSIONAL SEAL

036908

ENGINEER

MARTY D. BIZELL

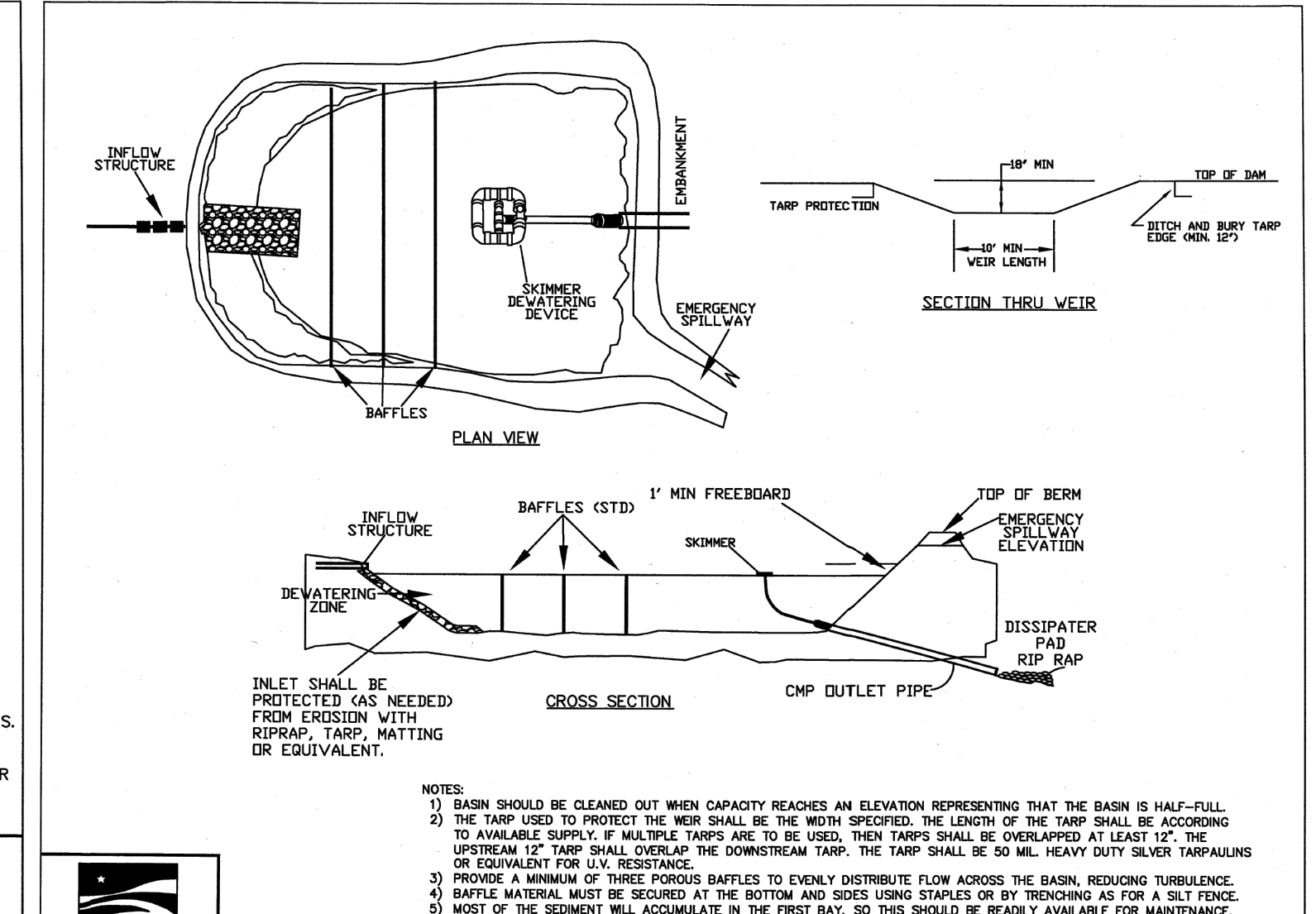
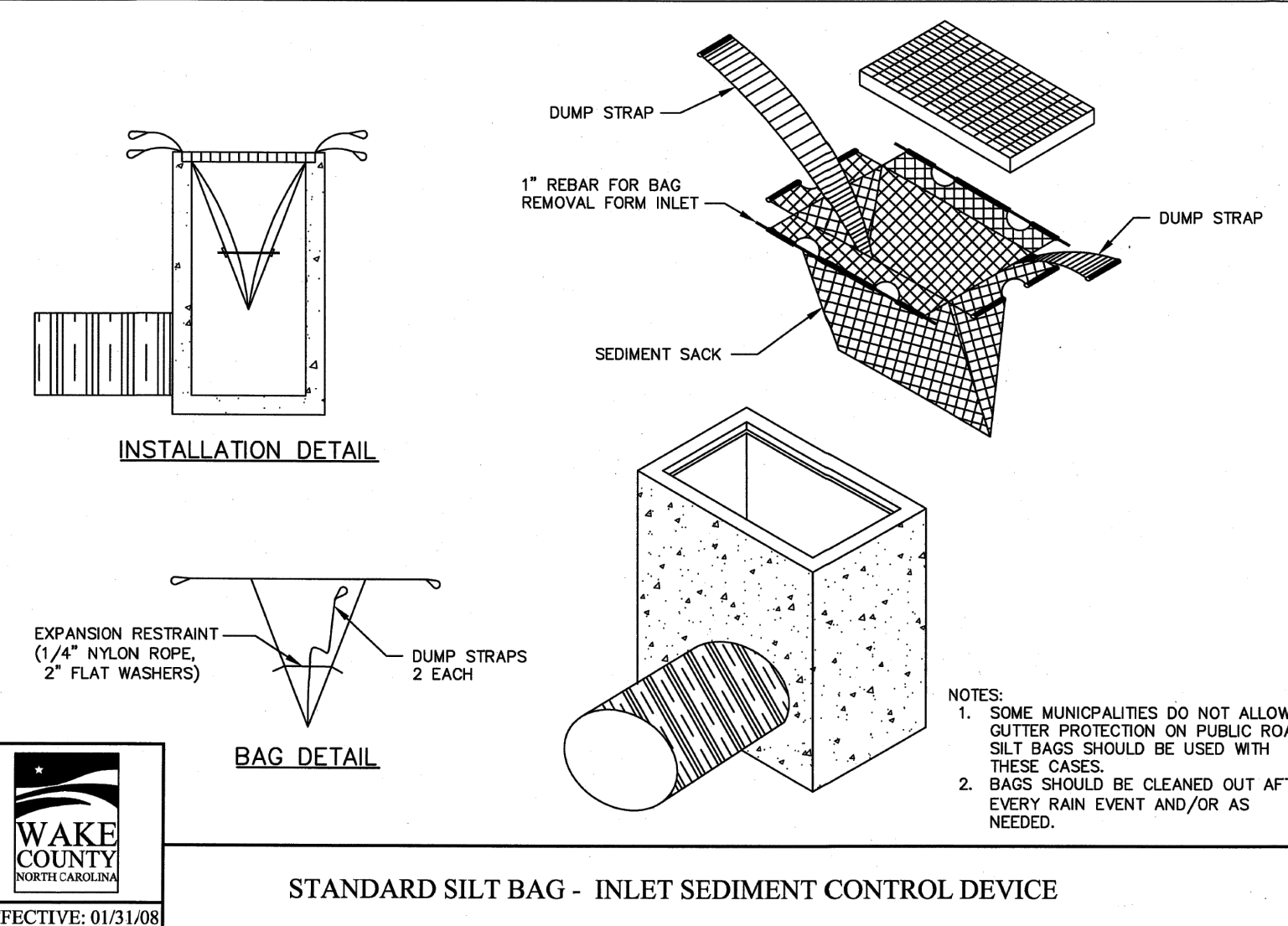


SEEDING INFORMATION:

| SEEDBED PREPARATION | | SEEDING SCHEDULE | |
|---|--|---|--|
| 1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE. | | PERMANENT SEEDING - SHOULDERS, SIDE DITCHES, SLOPES (MAX. 3:1) | |
| 2. RIP THE ENTIRE AREA TO 6 INCHES DEPTH. | | DATE | TALL FESCUE |
| 3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM. | | AUG. 15 - NOV. 1 | 200 LBS./ACRE |
| 4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPER PHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW*). | | NOV. 1 - MAR. 1 | 200 LBS./ACRE |
| 5. CONTINUE TILLAGE UNTIL A WELL PULVERIZED FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP. | | | AND ABRUZZI RYE 25 LBS./ACRE (NURSE CROP) |
| 6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER LIGHTLY WITH SEEDING EQUIPMENT OR CULTPACK AFTER SEEDING. | | MAR. 1 - APR. 15 | 200 LBS./ACRE |
| 7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH. | | APR. 15 - JUN. 30 | 15 LBS./ACRE |
| 8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 80% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES. | | PERMANENT SEEDING - SLOPES (3:1 TO 2:1) | |
| 9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED. | | AUG. 15 - NOV. 1 | TALL FESCUE |
| * APPLY AGRICULTURAL LIMESTONE - 2 TONS/ACRE | | NOV. 1 - MAR. 1 | TALL FESCUE AND SERICEA LESPEDEZA (UNHULLED, UNSCARIFIED) |
| FERTILIZER - 10-10-10 ANALYSIS AT 800-1,000 LBS./ACRE | | MAR. 1 - JUNE 1 | TALL FESCUE AND SERICEA LESPEDEZA (SCARIFIED) |
| SUPER PHOSPHATE - 500 LBS. OF 20% ANALYSIS SUPER PHOSPHATE | | MAR. 15 - JUNE 30 | WEEDING LOVEGRASS |
| MULCH - 2 TONS (APPROX. 80 BALES) SMALL SMALL GRAIN STRAW/ACRE | | MAR. 15 - JUNE 30 | HULLED COMMON BERMUDAGRASS AND SERICEA LESPEDEZA (SCARIFIED) |
| ANCHOR - TACK WITH LIQUID ASPHALT AT 400 GAL./ACRE OR EMULSIFIED ASPHALT AT 300 GALLONS/ACRE | | JUNE 1 - SEPT. 1 | TALL FESCUE AND BROWNTOP MILLET (NURSE CROP) OR SORGHUM-SUDAN HYBRIDS (NURSE CROP) |
| | | | 200 LBS./ACRE 35 LBS./ACRE 30 LBS./ACRE |

CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENIED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

*NURSE CROP/TEMPORARY-RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING, OTHERWISE FESCUE MAY BE SHADED OUT.



SEEDING INFORMATION:

SEEDBED PREPARATION

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.

2. RIP THE ENTIRE AREA TO 6 INCHES DEPTH.

3. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.

4. APPLY AGRICULTURAL LIME, FERTILIZER, AND SUPER PHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE BELOW*).

5. CONTINUE TILLAGE UNTIL A WELL PULVERIZED FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.

6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER LIGHTLY WITH SEEDING EQUIPMENT OR CULTPACK AFTER SEEDING.

7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.

8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 80% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.

9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

* APPLY AGRICULTURAL LIMESTONE - 2 TONS/ACRE
 FERTILIZER - 10-10-10 ANALYSIS AT 800-1,000 LBS./ACRE
 SUPER PHOSPHATE - 500 LBS. OF 20% ANALYSIS SUPER PHOSPHATE
 MULCH - 2 TONS (APPROX. 80 BALES) SMALL SMALL GRAIN STRAW/ACRE
 ANCHOR - TACK WITH LIQUID ASPHALT AT 400 GAL./ACRE OR EMULSIFIED ASPHALT AT 300 GALLONS/ACRE

SEEDING SCHEDULE

PERMANENT SEEDING - SHOULDERS, SIDE DITCHES, SLOPES (MAX. 3:1)

| DATE | TALL FESCUE | PLANTING RATE |
|-------------------|--|-------------------------------|
| AUG. 15 - NOV. 1 | TALL FESCUE | 200 LBS./ACRE |
| NOV. 1 - MAR. 1 | TALL FESCUE AND ABRUZZI RYE (NURSE CROP) | 200 LBS./ACRE 25 LBS./ACRE |
| MAR. 1 - APR. 15 | TALL FESCUE | 200 LBS./ACRE |
| APR. 15 - JUN. 30 | HULLED COMMON BERMUDAGRASS | 15 LBS./ACRE |

PERMANENT SEEDING - SLOPES (3:1 TO 2:1)

| DATE | TALL FESCUE | PLANTING RATE |
|-------------------|---|---|
| AUG. 15 - NOV. 1 | TALL FESCUE AND SERICEA LESPEDEZA (UNHULLED, UNSCARIFIED) | 200 LBS./ACRE 60 TO 70 LBS./ACRE |
| NOV. 1 - MAR. 1 | TALL FESCUE AND SERICEA LESPEDEZA (UNHULLED, UNSCARIFIED) AND ABRUZZI RYE | 200 LBS./ACRE 60 TO 70 LBS./ACRE 25 LBS./ACRE |
| MAR. 1 - JUNE 1 | TALL FESCUE AND SERICEA LESPEDEZA (SCARIFIED) | 200 LBS./ACRE 40 TO 50 LBS./ACRE |
| MAR. 15 - JUNE 30 | WEEDING LOVEGRASS | 10 LBS./ACRE |
| MAR. 15 - JUNE 30 | HULLED COMMON BERMUDAGRASS AND SERICEA LESPEDEZA (SCARIFIED) | 40 TO 50 LBS./ACRE 15 LBS./ACRE |

TEMPORARY SEEDING

| DATE | TALL FESCUE | PLANTING RATE |
|------------------|--|---|
| JUNE 1 - SEPT. 1 | TALL FESCUE AND BROWNTOP MILLET (NURSE CROP) OR SORGHUM-SUDAN HYBRIDS (NURSE CROP) | 200 LBS./ACRE 35 LBS./ACRE 30 LBS./ACRE |

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*NURSE CROP/TEMPORARY-RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING, OTHERWISE FESCUE MAY BE SHADED OUT.

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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

City of Raleigh Development Approval _____

Raleigh Water Review Officer



12/08/23



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)881-4422 FAX: (919)881-8686
 CERTIFICATION NUMBERS: NCBELS (C-010); NCBOLA (C-0267)

| NO. | DATE | DESCRIPTION | BY |
|-----|----------|-----------------------------|-----|
| 1 | 09-21-23 | CHANGES FROM 06-02-22 CDS | MRM |
| 2 | 10-16-23 | T.O.R. COMMENTS | MRM |
| 3 | 12-08-23 | TOWN OF ROLESVILLE COMMENTS | MRM |

PROGRESS DRAWN BY DATE

03-19-17 08-19-17

EROSION CONTROL DETAILS

SCALE: N.T.S.

CHK BY: MDB

COBBLESTONE VILLAGE MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

SHEET C3.6



BASS, NIXON & KENNEDY, INC. CONSULTING ENGINEERS 6310 CHARPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607 TELEPHONE: (919)881-7422 FAX: (919)881-6886 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

Table with 2 columns: NO., DATE. Rows include MRM 12-08-23 TOWN OF ROLESVILLE COMMENTS, MRM 10-16-23 T.O.R. COMMENTS, MRM 09-21-23 CHANGES FROM 06-02-22 CDS

Table with 2 columns: NO., DATE. Rows include MRM 03-19-17 PROGRESS, MRM 03-19-17 JOB NO. NCG01 PLAN

Table with 2 columns: NO., DATE. Rows include MRM 03-19-17 PROGRESS, MRM 03-19-17 JOB NO. NCG01 PLAN

Table with 2 columns: NO., DATE. Rows include MRM 03-19-17 PROGRESS, MRM 03-19-17 JOB NO. NCG01 PLAN

Table with 2 columns: NO., DATE. Rows include MRM 03-19-17 PROGRESS, MRM 03-19-17 JOB NO. NCG01 PLAN

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT. Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively).

Table: Temporary and Permanent Groundcover*. Columns: SITE AREA DESCRIPTION, STABILIZATION, TIMEFRAME EXCEPTIONS. Rows include: Perimeter dikes, seals, ditches, slopes; High Quality Water (HQW) Zones; Slopes steeper than 3:1; Slopes 3:1 or flatter; All other areas with slopes flatter than 4:1.

*For Falls Lake watershed, in disturbed areas where grading activities are incomplete, provide temporary groundcover no later than seven (7) days for slopes steeper than 3:1; ten (10) days for slopes equal to or flatter than 3:1; fourteen (14) days for areas with no slope.

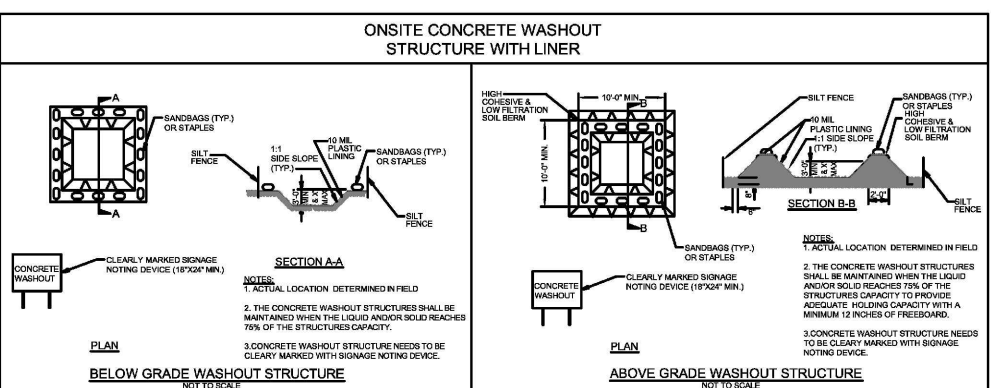
GROUND STABILIZATION SPECIFICATION. Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Table: Temporary Stabilization vs Permanent Stabilization. Lists methods like straw mulch, geotextiles, permanent soil reinforcement, etc.

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS. 1. Select flocculants that are appropriate for the soils being exposed during construction... 5. Store flocculants in leak-proof containers...



EQUIPMENT AND VEHICLE MAINTENANCE. 1. Maintain vehicles and equipment to prevent discharge of fluids. 2. Provide drip pans under any stored equipment. 3. Identify leaks and repair as soon as feasible...



CONCRETE WASHOUTS. 1. Do not discharge concrete or cement slurry from the site. 2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations...

HERBICIDES, PESTICIDES AND RODENTICIDES. 1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions. 2. Store herbicides, pesticides and rodenticides in their original containers...

HAZARDOUS AND TOXIC WASTE. 1. Create designated hazardous waste collection areas on-site. 2. Place hazardous waste containers under cover or in secondary containment.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE. 1. Never bury or burn waste. Place litter and debris in approved waste containers. 2. Provide a sufficient number of waste containers on site to manage the quantity of waste produced.

PAINT AND OTHER LIQUID WASTE. 1. Do not dump paint and other liquid waste into storm drains, streams or wetlands. 2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters...

PORTABLE TOILETS. 1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.

EARTHEN STOCKPILE MANAGEMENT. 1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 03/01/19

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING. SECTION A: SELF-INSPECTION. Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day...

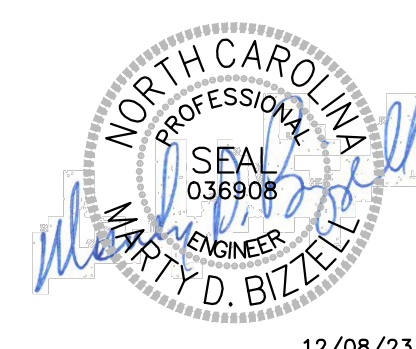
PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING. SECTION B: RECORDKEEPING. 1. E&S Plan Documentation. The approved E&S plan as well as any approved deviation shall be kept on the site. The approved E&S plan must be kept up-to-date throughout the coverage under this permit.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING. SECTION C: REPORTING. 1. Occurrences that Must be Reported. Permittees shall report the following occurrences: (a) Visible sediment deposition in a stream or wetland. (b) Oil spills if: They are 25 gallons or more, They are less than 25 gallons but cannot be cleaned up within 24 hours...

PART II, SECTION G, ITEM (4) DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT. Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19



12/08/23

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

City of Raleigh Development Approval _____
 Raleigh Water Review Officer

| STORMDRAINAGE PIPE TABLE | | | | | | | |
|--------------------------|----------------|-------------|-------------|--------|----------|----------|-------|
| U.S. STRUCTURE | D.S. STRUCTURE | U.S. INVERT | D.S. INVERT | LENGTH | DIAMETER | MATERIAL | SLOPE |
| 2 | 1 | 420.00 | 419.80 | 18.80 | 24 | HDPE | 1.06% |
| 4 | 3 | 421.26 | 421.00 | 43.91 | 36 | HDPE | 0.60% |
| 5 | 4 | 422.04 | 421.36 | 113.45 | 36 | HDPE | 0.60% |
| 5A | 5 | 422.79 | 422.14 | 107.85 | 36 | HDPE | 0.60% |
| 5B | 5A | 423.20 | 422.79 | 68.66 | 36 | HDPE | 0.60% |
| 6 | 5B | 423.35 | 423.20 | 25.31 | 36 | HDPE | 0.60% |
| 7 | 6 | 423.62 | 423.45 | 28.04 | 36 | HDPE | 0.60% |
| 8 | 7 | 425.82 | 424.94 | 88.24 | 24 | HDPE | 1.00% |
| 9 | 8 | 426.82 | 425.92 | 90.21 | 24 | HDPE | 1.00% |
| 10 | 9 | 427.59 | 426.92 | 67.14 | 24 | HDPE | 1.00% |
| 11 | 10 | 428.63 | 427.69 | 93.66 | 18 | HDPE | 1.00% |
| 12 | 11 | 429.65 | 428.73 | 91.93 | 18 | HDPE | 1.00% |

| STORMDRAINAGE PIPE TABLE | | | | | | | |
|--------------------------|----------------|-------------|-------------|--------|----------|----------|-------|
| U.S. STRUCTURE | D.S. STRUCTURE | U.S. INVERT | D.S. INVERT | LENGTH | DIAMETER | MATERIAL | SLOPE |
| 13 | 12 | 430.39 | 429.75 | 63.96 | 15 | HDPE | 1.00% |
| 14 | 13 | 430.75 | 430.49 | 25.95 | 15 | HDPE | 1.00% |
| 15 | 5 | 424.10 | 423.05 | 105.41 | 15 | HDPE | 1.00% |
| 16 | 7 | 424.61 | 423.72 | 147.77 | 24 | HDPE | 0.60% |
| 17 | 16 | 425.41 | 424.71 | 116.44 | 24 | HDPE | 0.60% |
| 18 | 17 | 428.85 | 427.77 | 107.92 | 15 | HDPE | 1.00% |
| 19 | 18 | 431.57 | 430.69 | 88.39 | 15 | HDPE | 1.00% |
| 20 | 19 | 432.50 | 431.67 | 83.01 | 15 | HDPE | 1.00% |
| 21 | 6 | 424.22 | 423.45 | 76.89 | 24 | HDPE | 1.00% |
| 22 | 21 | 424.60 | 424.32 | 27.60 | 15 | HDPE | 1.00% |
| 23 | 22 | 426.78 | 424.70 | 207.76 | 15 | HDPE | 1.00% |
| 24 | 10 | 432.22 | 430.86 | 90.55 | 15 | HDPE | 1.50% |

| STORMDRAINAGE PIPE TABLE | | | | | | | |
|--------------------------|----------------|-------------|-------------|--------|----------|----------|-------|
| U.S. STRUCTURE | D.S. STRUCTURE | U.S. INVERT | D.S. INVERT | LENGTH | DIAMETER | MATERIAL | SLOPE |
| 27 | 28 | 436.27 | 435.41 | 57.44 | 15 | HDPE | 1.50% |
| 28 | 35A | 435.31 | 434.76 | 65.53 | 15 | HDPE | 0.84% |
| 29 | 22 | 425.05 | 424.70 | 34.83 | 15 | HDPE | 1.00% |
| 30 | 17 | 426.34 | 425.51 | 137.91 | 18 | HDPE | 0.60% |
| 30A | 30B | 426.96 | 426.66 | 60.86 | 15 | HDPE | 0.50% |
| 30B | 30 | 426.46 | 426.34 | 23.19 | 15 | HDPE | 0.50% |
| 31 | 18 | 429.82 | 428.95 | 87.08 | 15 | HDPE | 1.00% |
| 32 | 9 | 429.50 | 428.60 | 90.23 | 15 | HDPE | 1.00% |
| 33 | 24 | 432.43 | 432.32 | 11.23 | 15 | HDPE | 1.00% |
| 34 | 17 | 428.09 | 427.77 | 32.09 | 12 | HDPE | 1.00% |
| 35 | 33 | 434.14 | 432.53 | 160.60 | 15 | HDPE | 1.00% |
| 35A | 35 | 434.76 | 434.24 | 48.13 | 15 | HDPE | 1.07% |

| STORMDRAINAGE PIPE TABLE | | | | | | | |
|--------------------------|----------------|-------------|-------------|--------|----------|----------|-------|
| U.S. STRUCTURE | D.S. STRUCTURE | U.S. INVERT | D.S. INVERT | LENGTH | DIAMETER | MATERIAL | SLOPE |
| AD-1 | 27 | 438.35 | 437.59 | 75.93 | 12 | HDPE | 1.00% |
| AD-2 | 20 | 434.02 | 432.70 | 131.56 | 12 | HDPE | 1.00% |
| AD-3 | AD-2 | 433.18 | 432.13 | 105.35 | 12 | HDPE | 1.00% |
| AD-4 | AD-3 | 433.92 | 433.38 | 54.03 | 12 | HDPE | 1.00% |
| AD-5 | AD-4 | 435.05 | 434.62 | 43.08 | 12 | HDPE | 1.00% |
| AD-6 | 33 | 432.68 | 432.53 | 14.61 | 12 | HDPE | 1.00% |
| AD-7 | 23 | 428.09 | 426.98 | 111.06 | 12 | HDPE | 1.00% |

| STORMDRAINAGE STRUCTURE TABLE | | |
|-------------------------------|--|------------------|
| STRUCTURE NAME | INSERTION RIM ELEVATION (FLOWLINE) | STRUCTURE TYPE |
| 1 | 422.45 INV. IN= 419.80 (2) | 24" FES |
| 2 | 428.50 INV. OUT= 420.00 (1) | RISER |
| 3 | 424.83 INV. IN= 421.00 (4) | 36" FES |
| 4 | 428.06 INV. IN= 421.36 (5) INV. OUT= 421.28 (3) | NCDOT CURB INLET |
| 5 | 429.40 INV. IN= 422.14 (5A) INV. IN= 423.05 (15) INV. OUT= 422.04 (4) | NCDOT CURB INLET |
| 5A | 429.50 INV. IN= 422.79 (5B) INV. OUT= 422.79 (5) | NCDOT CURB INLET |
| 5B | 429.00 INV. IN= 423.20 (6) INV. OUT= 423.20 (5A) | HDPE YARD INLET |
| 6 | 430.50 INV. IN= 423.45 (7) INV. IN= 423.45 (21) INV. OUT= 423.35 (5B) | NCDOT CURB INLET |
| 7 | 430.65 INV. IN= 424.94 (8) INV. IN= 423.72 (16) INV. OUT= 423.62 (6) | NCDOT CURB INLET |

| STORMDRAINAGE STRUCTURE TABLE | | |
|-------------------------------|--|------------------|
| STRUCTURE NAME | INSERTION RIM ELEVATION (FLOWLINE) | STRUCTURE TYPE |
| 8 | 433.45 INV. IN= 425.92 (9) INV. OUT= 425.82 (7) | NCDOT CURB INLET |
| 9 | 433.25 INV. IN= 426.92 (10) INV. IN= 428.60 (32) INV. OUT= 426.82 (8) | NCDOT CURB INLET |
| 10 | 436.67 INV. IN= 427.69 (11) INV. IN= 430.86 (24) INV. OUT= 427.59 (9) | HDPE YARD INLET |
| 11 | 437.44 INV. IN= 428.73 (12) INV. OUT= 428.63 (10) | HDPE YARD INLET |
| 12 | 436.50 INV. IN= 429.75 (13) INV. OUT= 429.65 (11) | HDPE YARD INLET |
| 13 | 435.50 INV. IN= 430.49 (14) INV. OUT= 430.39 (12) | NCDOT CURB INLET |
| 14 | 435.50 INV. OUT= 430.75 (13) | NCDOT CURB INLET |
| 15 | 428.50 INV. OUT= 424.10 (5) | HDPE YARD INLET |
| 16 | 432.50 INV. IN= 424.71 (17) INV. OUT= 424.61 (7) | NCDOT CURB INLET |

| STORMDRAINAGE STRUCTURE TABLE | | |
|-------------------------------|---|------------------|
| STRUCTURE NAME | INSERTION RIM ELEVATION (FLOWLINE) | STRUCTURE TYPE |
| 17 | 434.01 INV. IN= 427.77 (18) INV. IN= 425.51 (30) INV. IN= 427.77 (34) INV. OUT= 425.41 (16) | NCDOT CURB INLET |
| 18 | 435.60 INV. IN= 430.69 (19) INV. IN= 428.95 (31) INV. OUT= 428.85 (17) | NCDOT CURB INLET |
| 19 | 437.52 INV. IN= 431.67 (20) INV. OUT= 431.57 (18) | NCDOT CURB INLET |
| 20 | 438.60 INV. IN= 432.70 (AD-2) INV. OUT= 432.50 (19) | NCDOT CURB INLET |
| 21 | 431.60 INV. IN= 424.32 (22) INV. OUT= 424.22 (6) | HDPE YARD INLET |
| 22 | 431.50 INV. IN= 424.70 (23) INV. IN= 424.70 (29) INV. OUT= 424.60 (21) | NCDOT CURB INLET |
| 23 | 435.80 INV. IN= 426.98 (AD-7) INV. OUT= 426.78 (22) | NCDOT CURB INLET |
| 24 | 437.18 INV. IN= 432.32 (33) INV. OUT= 432.22 (10) | HDPE YARD INLET |
| 27 | 440.00 INV. IN= 437.59 (AD-1) INV. OUT= 436.27 (28) | HDPE YARD INLET |

| STORMDRAINAGE STRUCTURE TABLE | | |
|-------------------------------|---|------------------|
| STRUCTURE NAME | INSERTION RIM ELEVATION (FLOWLINE) | STRUCTURE TYPE |
| 28 | 441.00 INV. IN= 435.41 (27) INV. OUT= 435.31 (35A) | HDPE YARD INLET |
| 29 | 428.50 INV. OUT= 425.05 (22) | HDPE YARD INLET |
| 30 | 430.50 INV. IN= 426.34 (30B) INV. OUT= 426.34 (17) | NCDOT CURB INLET |
| 30A | 430.50 INV. OUT= 426.96 (30B) | HDPE YARD INLET |
| 30B | 430.00 INV. IN= 426.66 (30A) INV. OUT= 426.46 (30) | YARD INLET |
| 31 | 434.10 INV. OUT= 429.82 (18) | NCDOT CURB INLET |
| 32 | 435.52 INV. OUT= 429.50 (9) | NCDOT CURB INLET |
| 33 | 437.50 INV. IN= 432.53 (35) INV. IN= 432.53 (AD-6) INV. OUT= 432.43 (24) | NCDOT CURB INLET |
| 34 | 431.00 INV. OUT= 428.09 (17) | HDPE YARD INLET |

| STORMDRAINAGE STRUCTURE TABLE | | |
|-------------------------------|---|-----------------|
| STRUCTURE NAME | INSERTION RIM ELEVATION (FLOWLINE) | STRUCTURE TYPE |
| 35 | 441.00 INV. IN= 434.24 (35A) INV. OUT= 434.14 (33) | HDPE YARD INLET |
| 35A | 441.00 INV. IN= 434.76 (28) INV. OUT= 434.76 (35) | HDPE YARD INLET |
| AD-1 | 441.40 INV. OUT= 438.35 (27) | HDPE YARD INLET |
| AD-2 | 441.05 INV. IN= 432.13 (AD-3) INV. OUT= 434.02 (20) | HDPE YARD INLET |
| AD-3 | 440.50 INV. IN= 433.38 (AD-4) INV. OUT= 433.18 (AD-2) | HDPE YARD INLET |
| AD-4 | 440.50 INV. IN= 434.62 (AD-5) INV. OUT= 433.92 (AD-3) | HDPE YARD INLET |
| AD-5 | 440.50 INV. OUT= 435.05 (AD-4) | HDPE YARD INLET |
| AD-6 | 438.00 INV. OUT= 432.68 (33) | HDPE YARD INLET |
| AD-7 | 435.50 INV. OUT= 428.09 (23) | HDPE YARD INLET |

NOTE: ALL STORM ITEMS SHALL BE AS-BUILT PER THE TOWN UDO SECTION 7.5.5, WHICH SPECIFIES REQUIREMENTS AS-BUILTS FOR STORM.



12/08/23

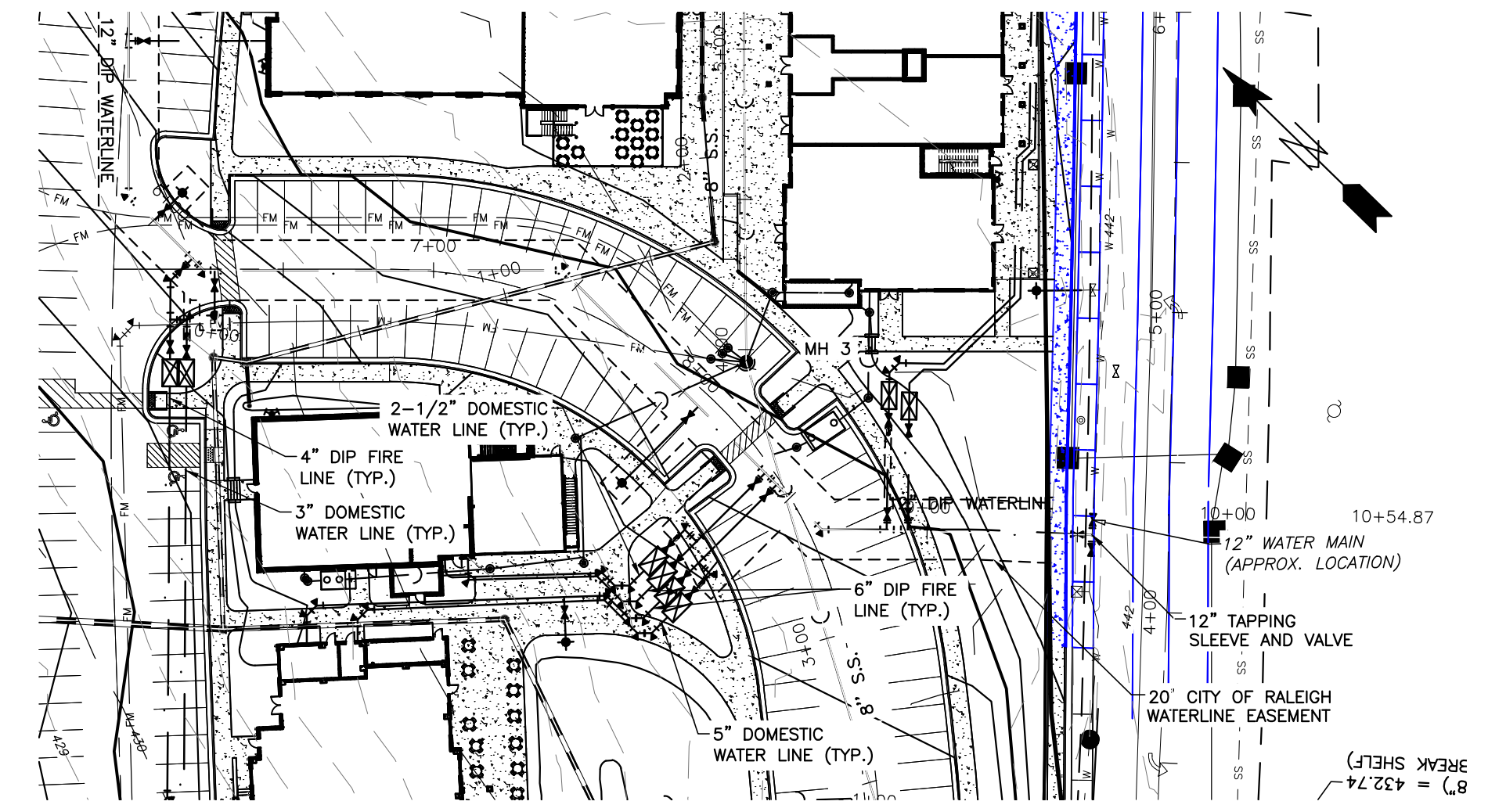
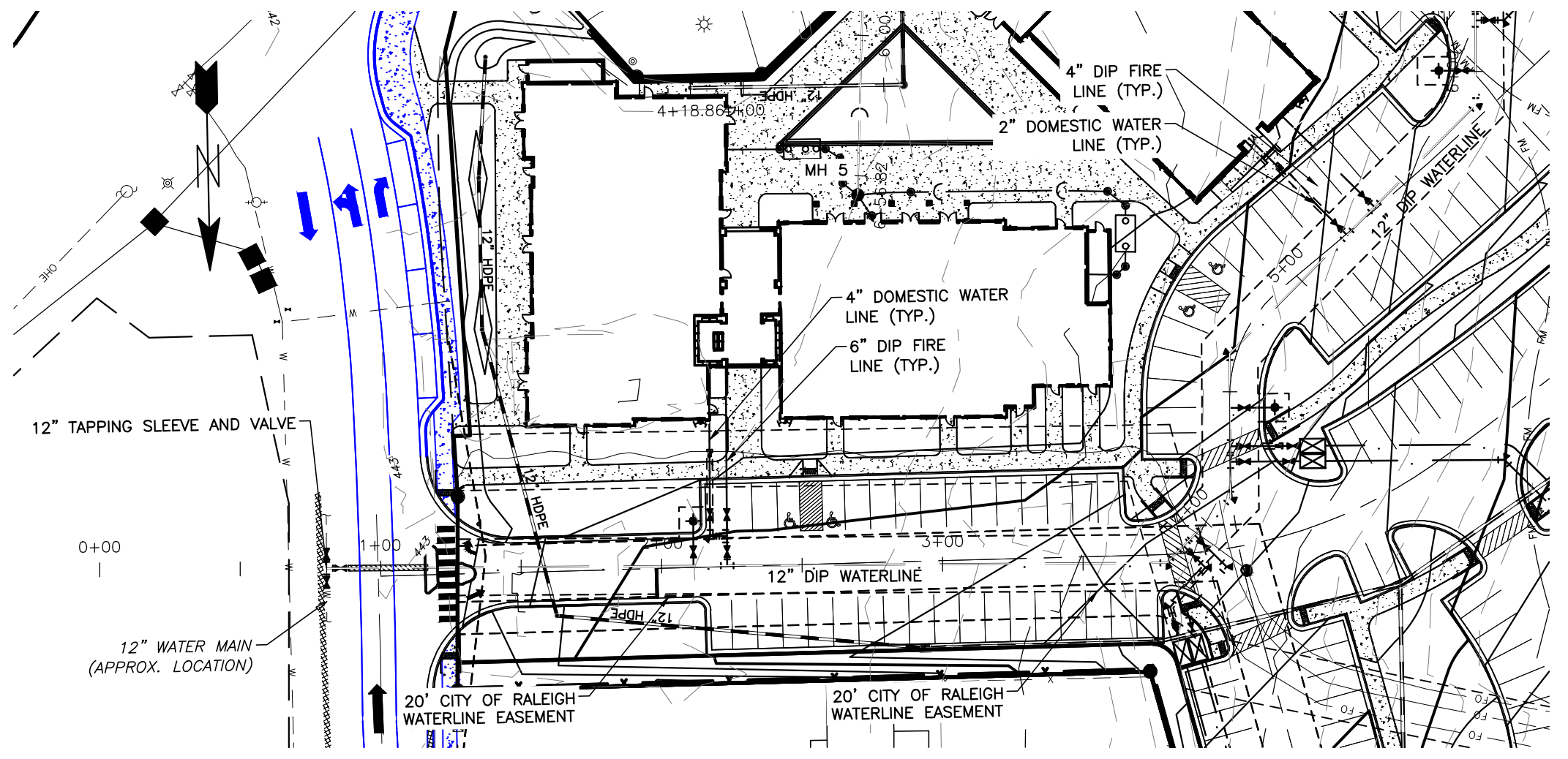
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)881-1122 FAX: (919)881-8686
 CERTIFICATION NUMBERS: NCBOLA (C-0267)

| NO. | DATE | DESCRIPTION | BY |
|-----|----------|-----------------------------|-----|
| 3 | 12-06-23 | TOWN OF ROLESVILLE COMMENTS | MRM |
| 2 | 10-16-23 | T.O.R. COMMENTS | MRM |
| 1 | 09-21-23 | CHANGES FROM 06-02-22 CDS | MRM |

PROGRESS DATE DRAWN BY
 03-19157 DATE DRAWN BY
 SCALE: CHK BY: MDB

COBBLESTONE VILLAGE MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

SHEET C3.8



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 # W-3879
 Authorization to Construct See digital signature

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

City of Raleigh Development Approval _____
 Raleigh Water Review Officer



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)881-1422 FAX: (919)881-8686
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

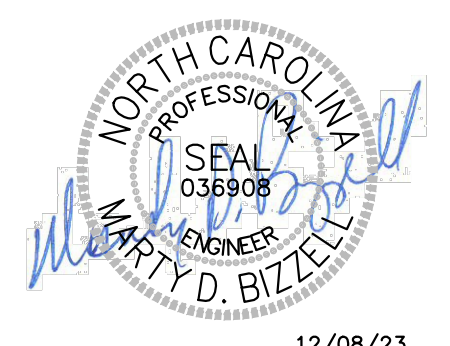
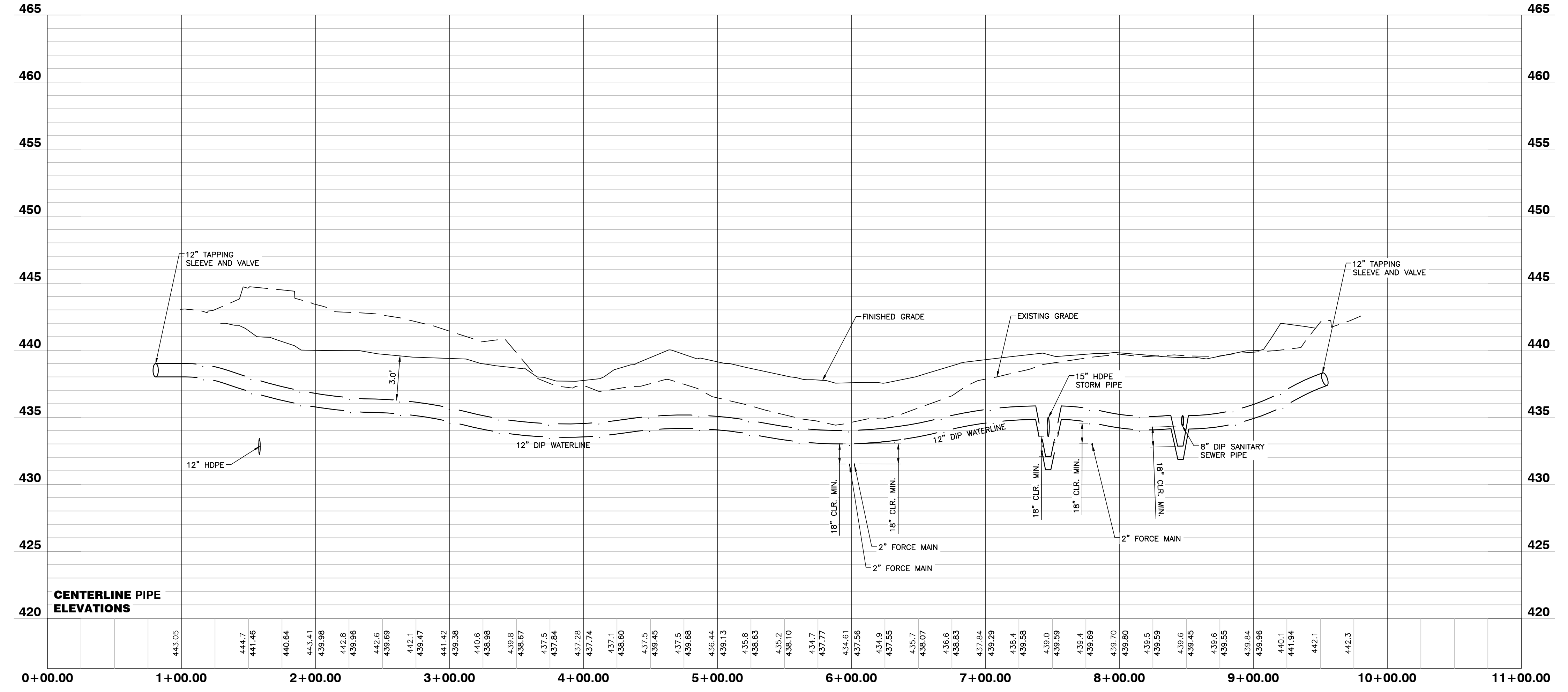
| NO. | DATE | DESCRIPTION | BY |
|-----|----------|-----------------------------|-----|
| 3 | 12-06-23 | TOWN OF ROLESVILLE COMMENTS | MRM |
| 2 | 10-16-23 | T.O.R. COMMENTS | MRM |
| 1 | 09-21-23 | CHANGES FROM 06-02-22 CDS | MRM |

| PROGRESS | MRM | DATE | DRAWN BY |
|----------|-----|------|----------|
| 03-19157 | | | |

COBBLESTONE VILLAGE
MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

SHEET **C4.1**

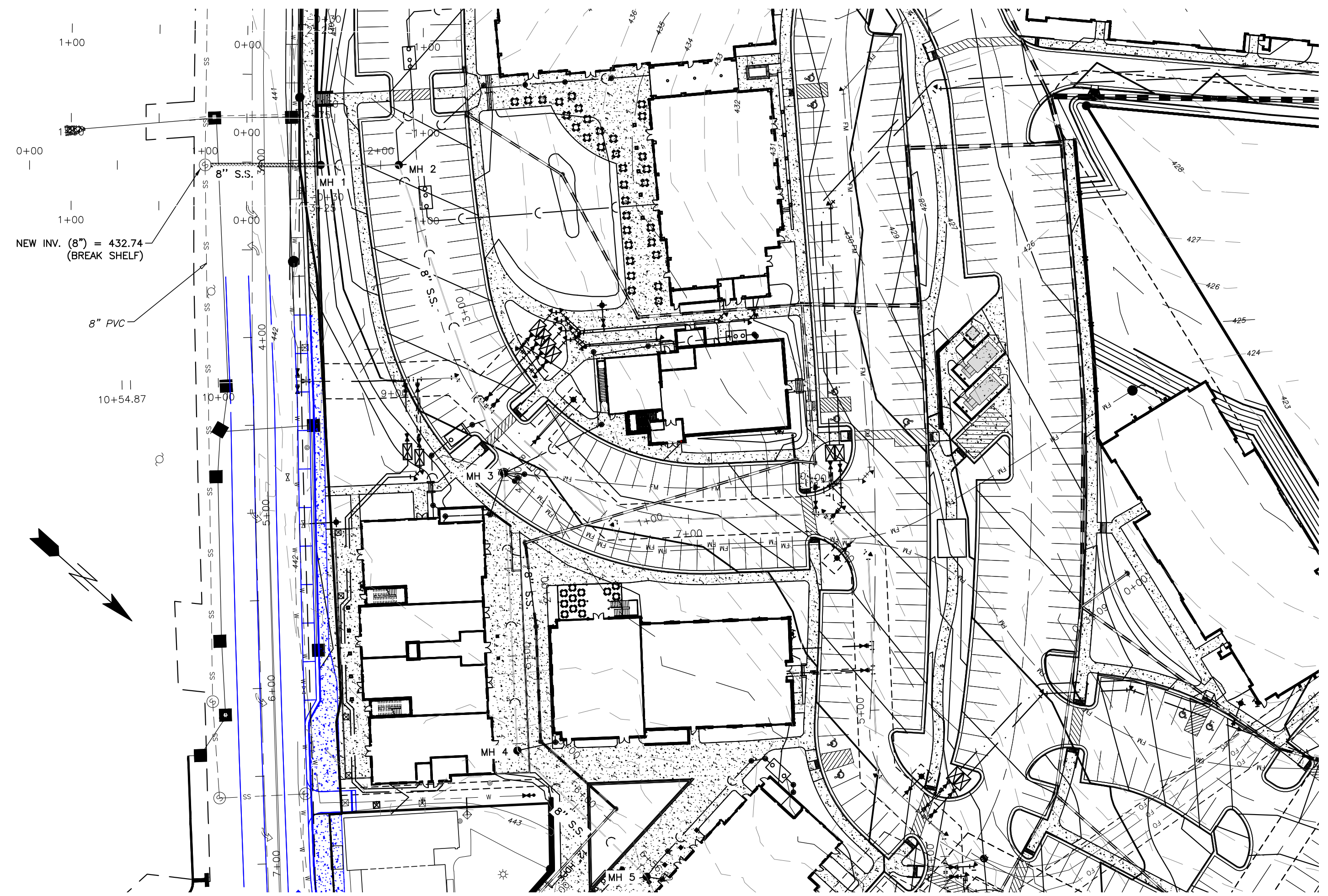
PUBLIC WATERLINE PROFILE



12/08/23

NO FLOODPLAINS EXIST ON-SITE

NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF ROLESVILLE AND NCDOT



Private Sewer Collection / Extension System
 The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh
 Public Utilities Department Permit # S-4962 (P)
 Authorization to Construct See digital signature

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
 Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.
 City of Raleigh Development Approval _____
 Raleigh Water Review Officer _____



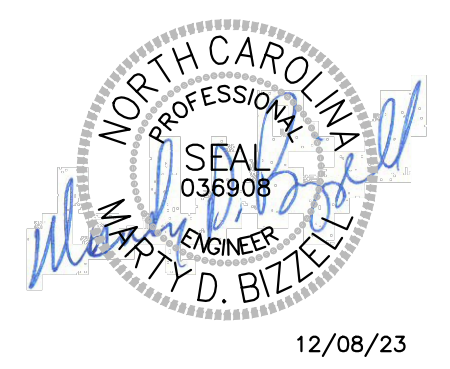
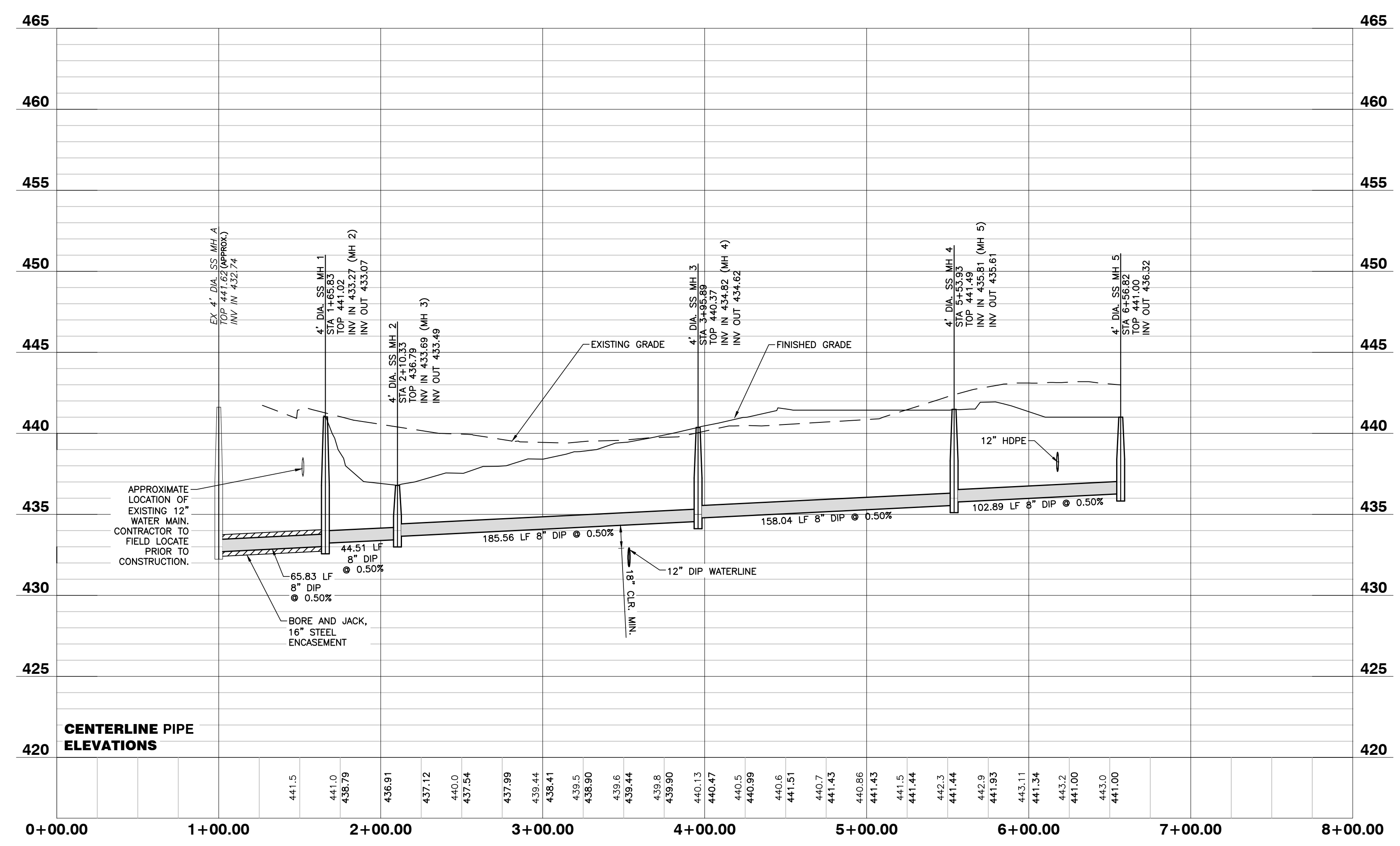
BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-1422 FAX: (919)851-8686
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

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| 1 | 09-21-23 | CHANGES FROM 06-02-22 CD'S | MRM | MRM |

| PROGRESS | MRM | DATE | DRAWN BY |
|----------|-----|------|----------|
| 03-19157 | MRM | | |

SANITARY SEWER PROFILE
 SCALE: 1" = 50' H; 1" = 5' V CHK BY: MDB

SANITARY SEWER PROFILE



12/08/23

NO FLOODPLAINS EXIST ON-SITE

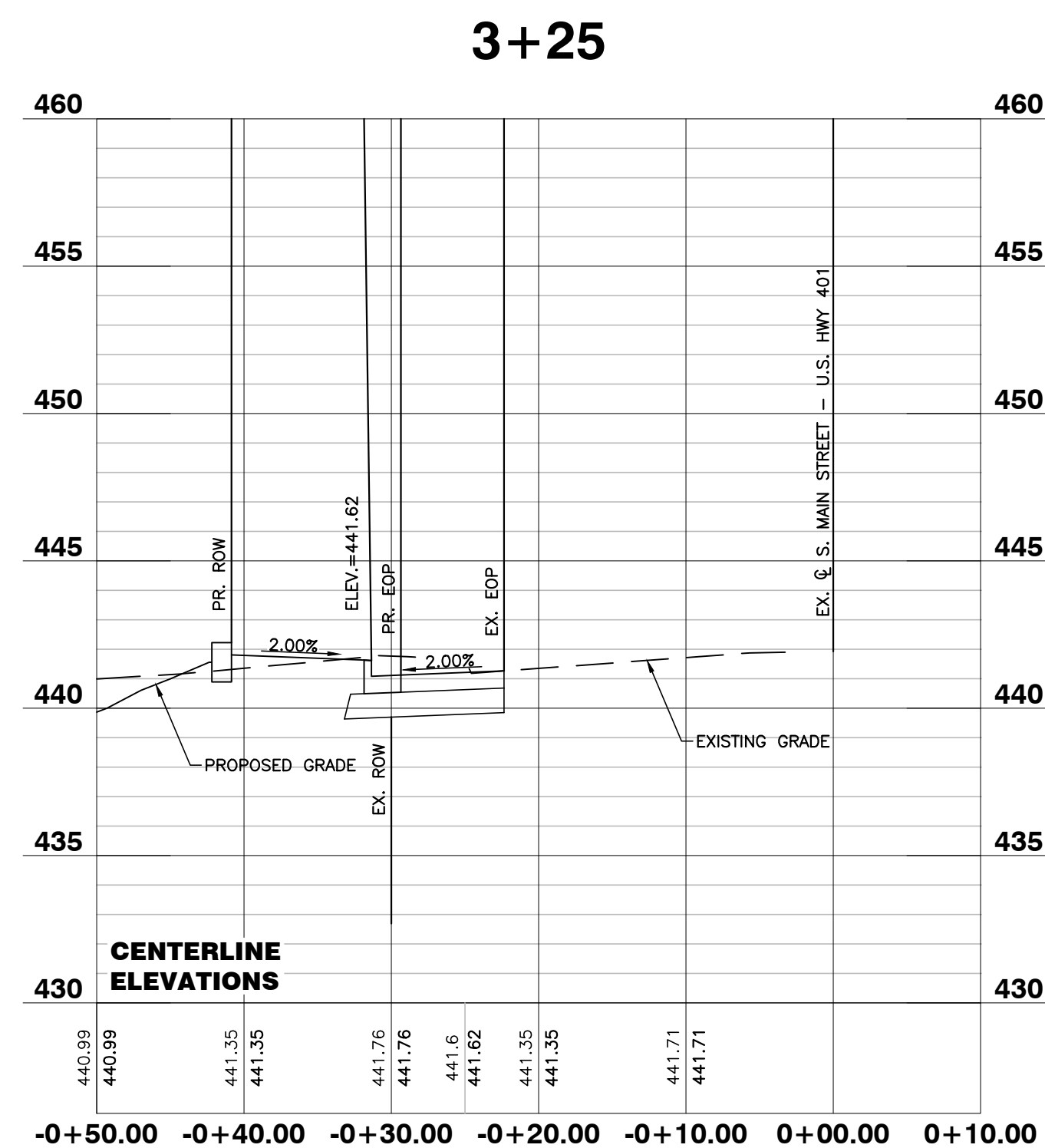
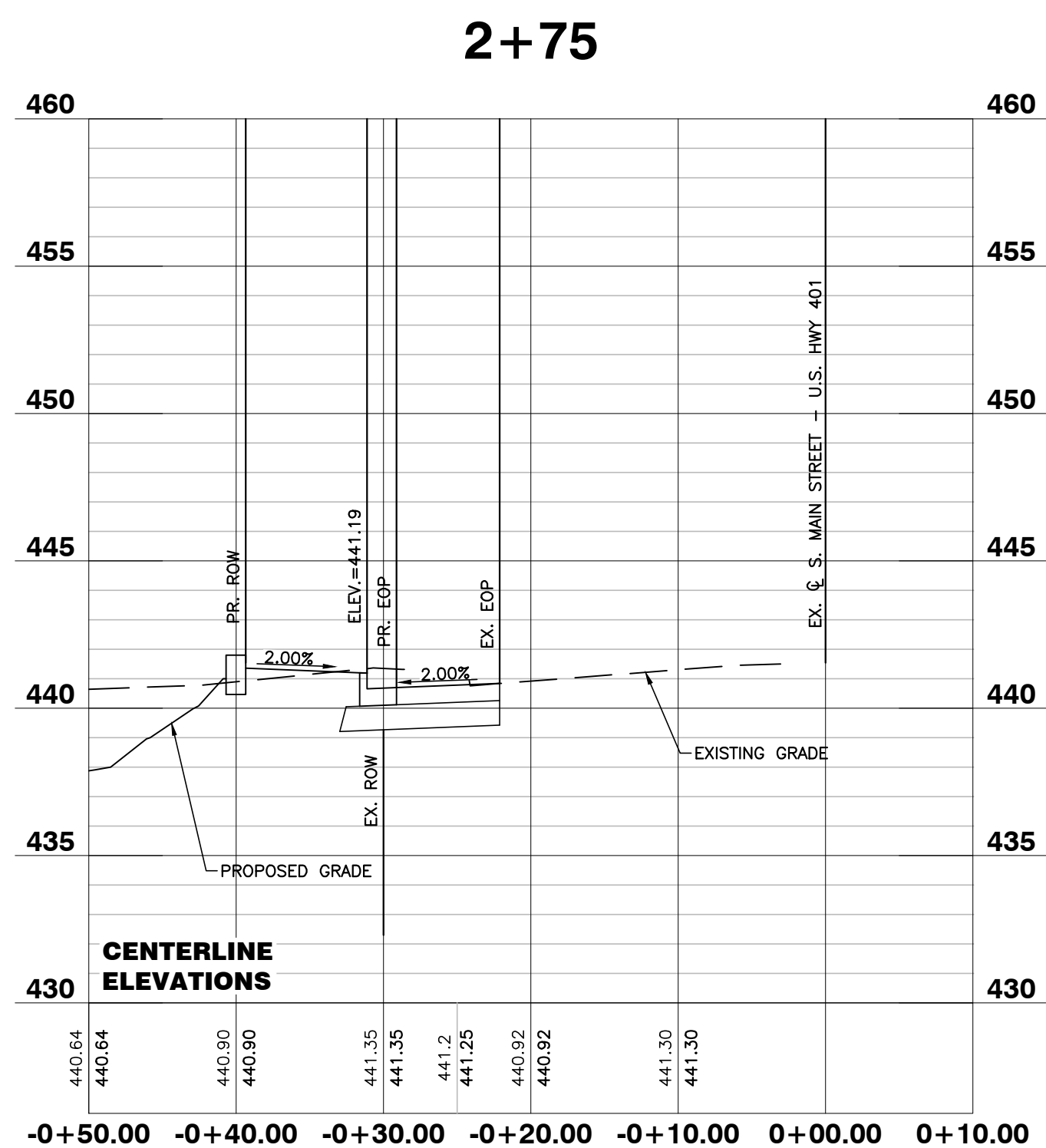
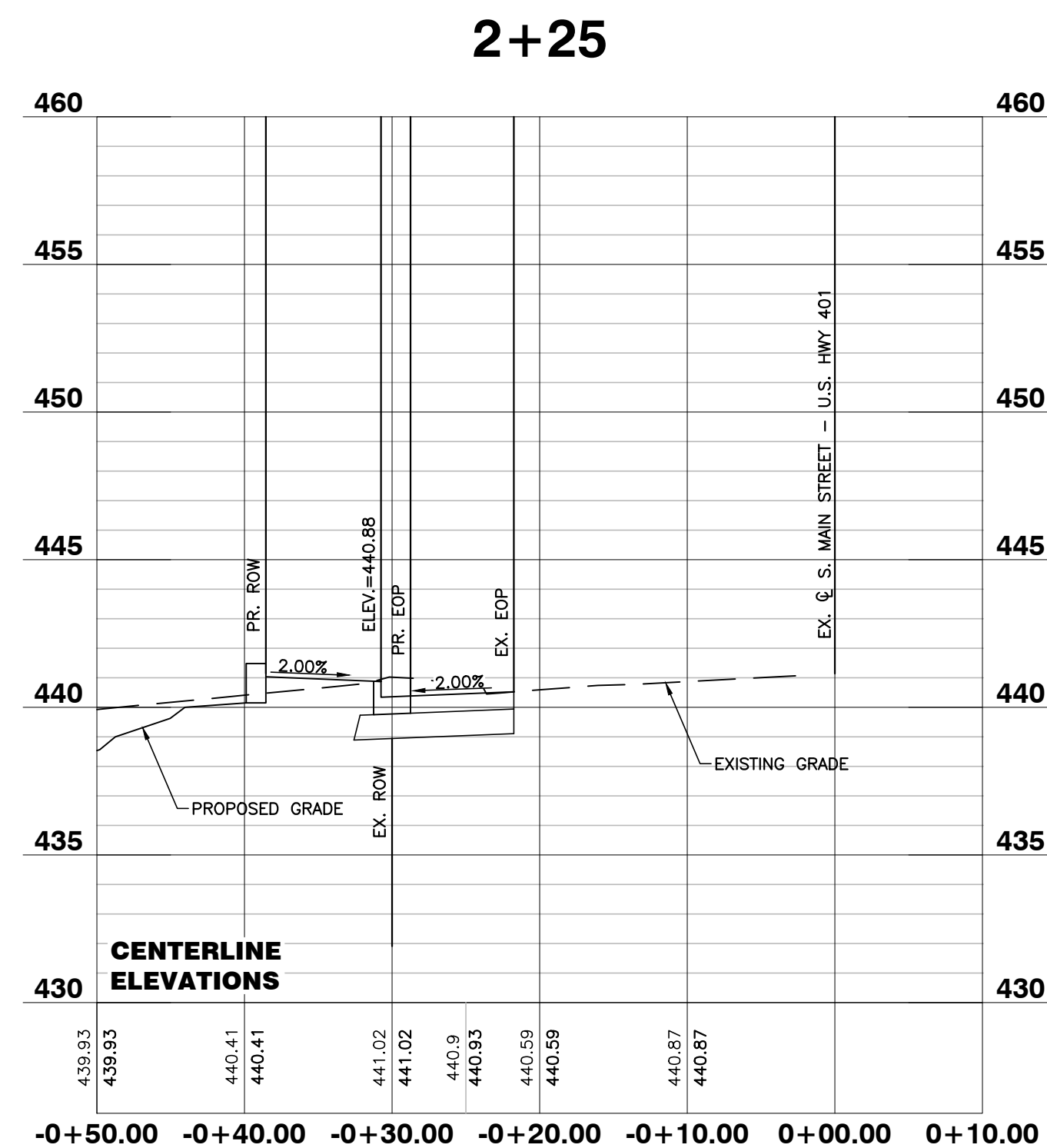
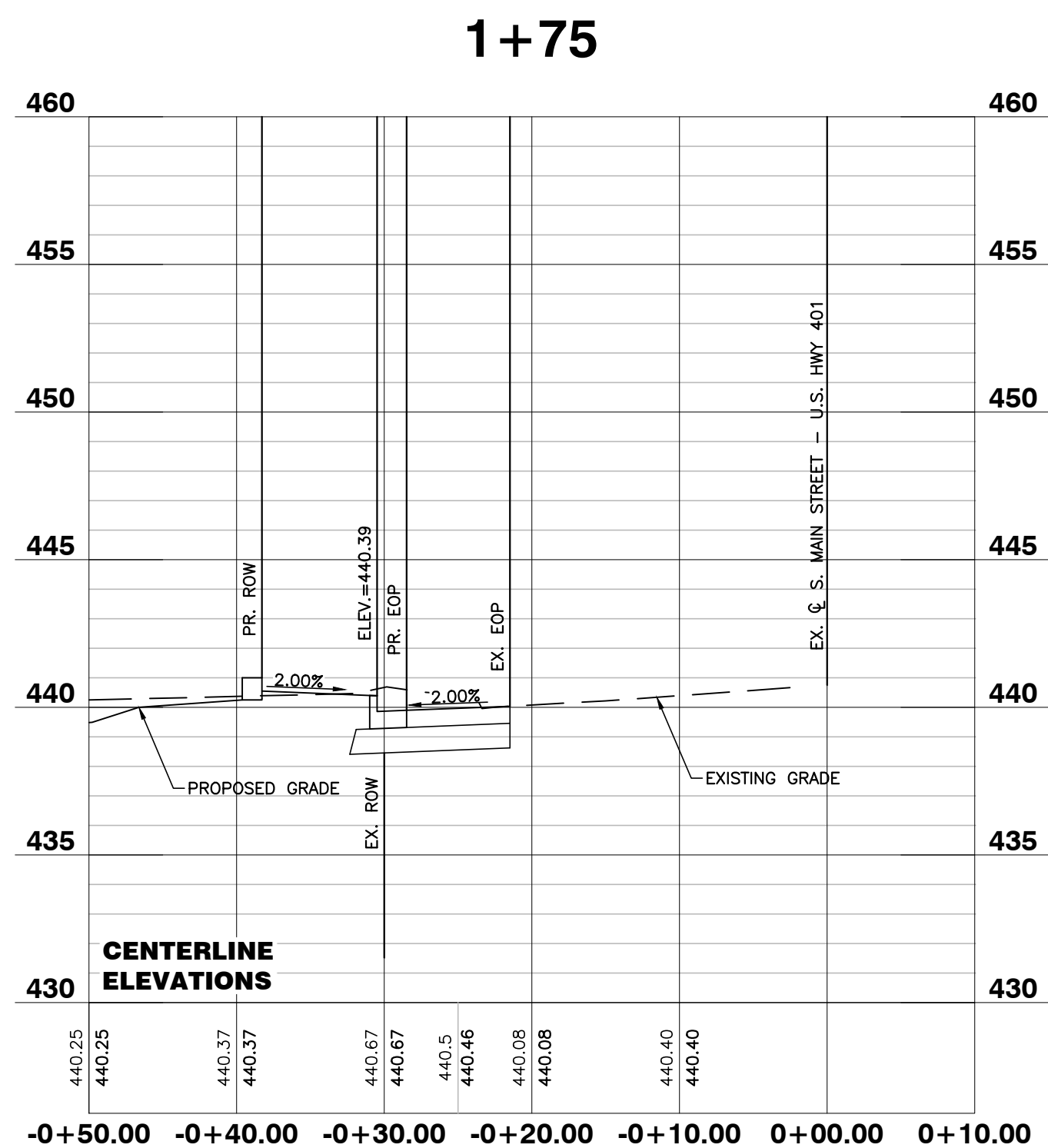
NOTE: ALL CONSTRUCTION ACTIVITY MUST BE IN ACCORDANCE WITH THE ACCEPTED POLICIES OF THE TOWN OF ROLESVILLE AND NCDOT

COBBLESTONE VILLAGE
MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

SHEET **C4.2**



BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)851-1122 FAX: (919)851-8686
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)



| PROGRESS | MRM | DATE | DESCRIPTION |
|----------|-----|----------|-----------------------------|
| 03-19-17 | MRM | | REVISIONS |
| | MRM | 12-06-23 | TOWN OF ROLESVILLE COMMENTS |
| | MRM | 10-16-23 | T.O.R. COMMENTS |
| | MRM | 09-21-23 | CHANGES FROM 06-02-22 CDS |
| | MRM | | NO. DATE DESCRIPTION |

03-19-17 PROGRESS MRM DATE DRAWN BY
 S. MAIN ST. - U.S. 401
 WIDENING CROSS SECTIONS
 SCALE: 1" = 50' H; 1" = 5' V CHK BY: MDB

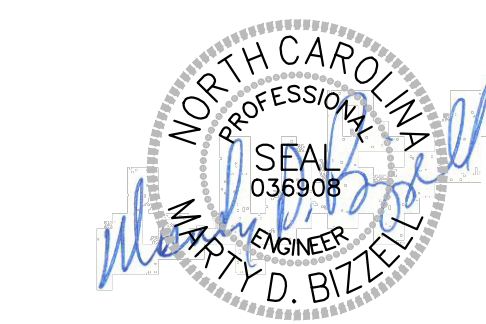
COBBLESTONE VILLAGE
MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

SHEET C4.3

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval _____
 Raleigh Water Review Officer



12/08/23

NO FLOODPLAINS EXIST ON-SITE

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BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 950, RALEIGH, NC 27607
 TELEPHONE: (919)881-4222 FAX: (919)881-8686
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

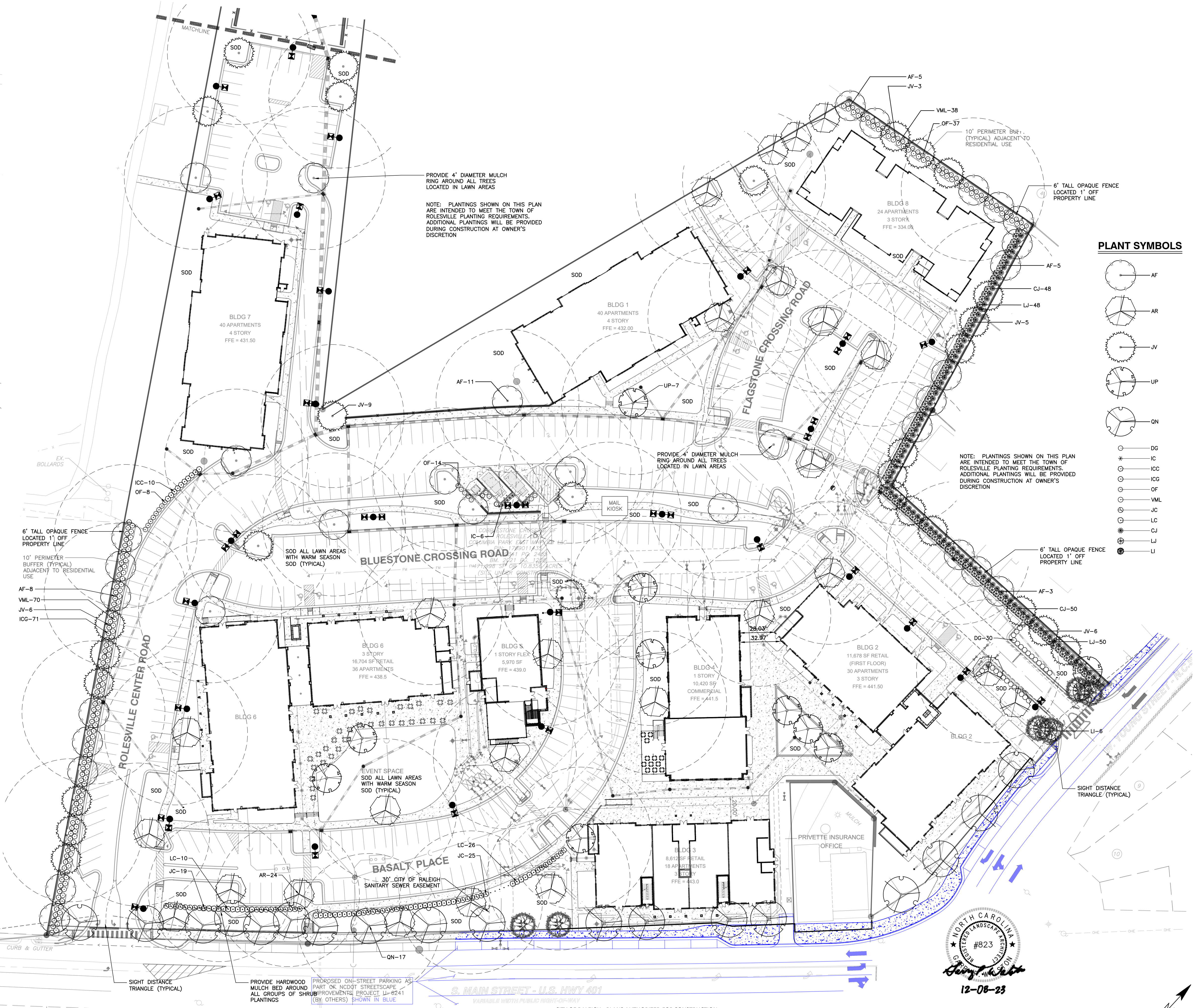
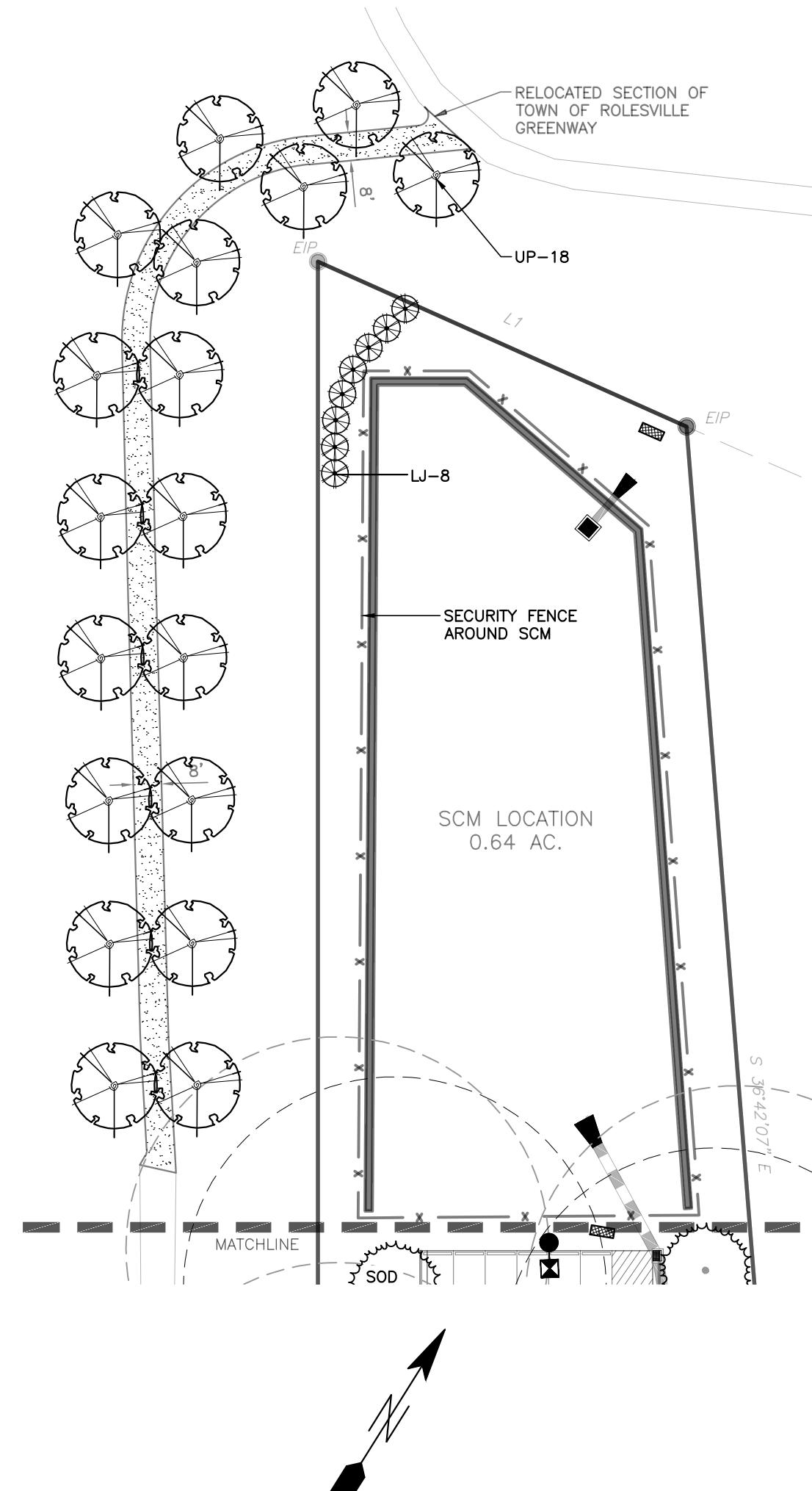
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|-----|----------|----------------------|----|
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| 3 | 05-16-22 | PER TOR COMMENTS | GW |
| 2 | 04-20-22 | PER TOR COMMENTS | GW |
| 1 | 5-28-21 | PER TOR COMMENTS | GW |
| | | NO. DATE DESCRIPTION | |

| PROGRESS | DATE | PER TOR COMMENTS | BY |
|----------|----------|------------------|----|
| 4 | 12-08-23 | PER TOR COMMENTS | GW |
| 3 | 05-16-22 | PER TOR COMMENTS | GW |
| 2 | 04-20-22 | PER TOR COMMENTS | GW |
| 1 | 5-28-21 | PER TOR COMMENTS | GW |

LANDSCAPE PLAN
 SCALE: 1" = 40'
 CHK BY: GPW

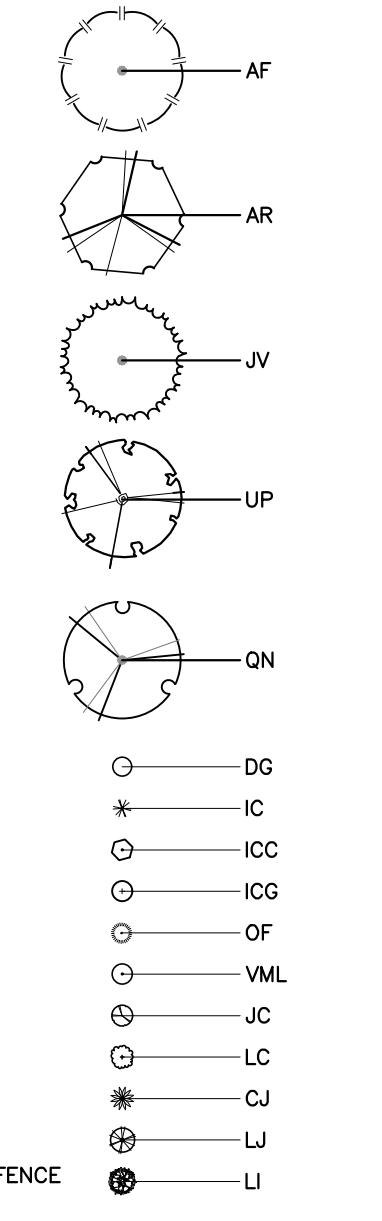
COBBLESTONE VILLAGE
MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

SHEET L1.1
 NOT RELEASED FOR CONSTRUCTION OR BID SOLICITATION



| KEY | SCIENTIFIC NAME | COMMON NAME | QUAN. | CAL. | HT. | ROOT | USE |
|-------------------------|-------------------------------------|----------------------------|-------|------|-----|-------|---------------|
| CANOPY TREES | | | | | | | |
| AF | Acer freemanii | Freeman Maple | 32 | 2.5" | 8' | B&B | Buffer/VUA |
| AR | Acer rubrum 'Brandywine' | Brandywine Red Maple | 26 | 2.5" | 8' | B&B | VUA |
| JV | Juniperus virginiana | Eastern Red Cedar | 29 | 2.5" | 8' | B&B | Buffer/VUA |
| QN | Quercus nuttallii | Nuttall Oak | 18 | 2.5" | 8' | B&B | Street Tree |
| UP | Ulmus parvifolia 'Allee' | Allee Elm | 28 | 2.5" | 8' | B&B | VUA |
| UNDERSTORY TREES | | | | | | | |
| LI | Lagerstroemia indica 'Tonto' | Crepe Myrtle | 6 | 1.5" | 6' | B&B | Street |
| SHRUBS | | | | | | | |
| CI | Cleyera japonica | Japanese Cleyera | 98 | | 24" | CONT. | Buffer |
| DJ | Distylium 'Green Wave' | Green Wave Distylium | 30 | | 24" | CONT. | VUA |
| IC | Ilex crenata 'Sky Pencil' | Sky Pencil Holly | 6 | | 36" | CONT. | Dumpster |
| ICC | Ilex crenata 'Chesapeake' | Chesapeake Holly | 10 | | 24" | CONT. | VUA Screen |
| ICG | Ilex crenata 'Green Lustre' | Green Lustre Japanese Holl | 71 | | 24" | CONT. | Buffer |
| JC | Juniperus chinensis 'Sawbrook Gold' | Sawbrook Gold Juniper | 44 | | 24" | CONT. | VUA Screen |
| LC | Loropetalum chinense 'Da ruma' | Daruma Loropetalum | 36 | | 24" | CONT. | VUA Screen |
| LI | Ligustrum japonicum | Wax Ligustrum | 106 | | 24" | CONT. | Buffer |
| OF | Osmanthus fragrans | Fragrant Tea Olive | 59 | | 24" | CONT. | Buffer/Screen |
| VML | Viburnum x 'Moonlit Lace' | Moonlit Lace Viburnum | 108 | | 24" | CONT. | Buffer |

PLANT SYMBOLS



NOTE: PLANTINGS SHOWN ON THIS PLAN ARE INTENDED TO MEET THE TOWN OF ROLESVILLE PLANTING REQUIREMENTS. ADDITIONAL PLANTINGS WILL BE PROVIDED DURING CONSTRUCTION AT OWNER'S DISCRETION.

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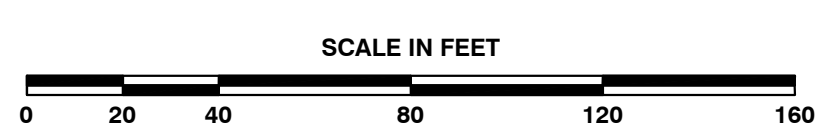
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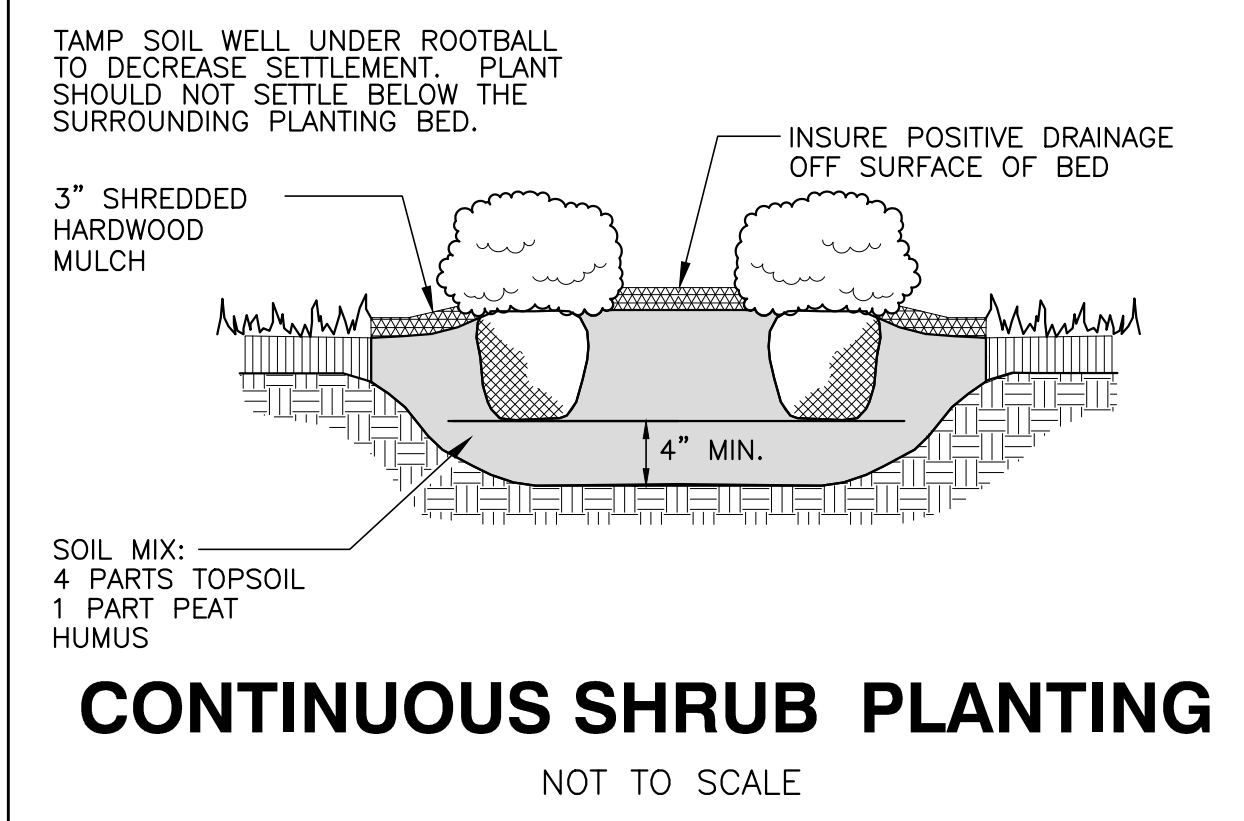
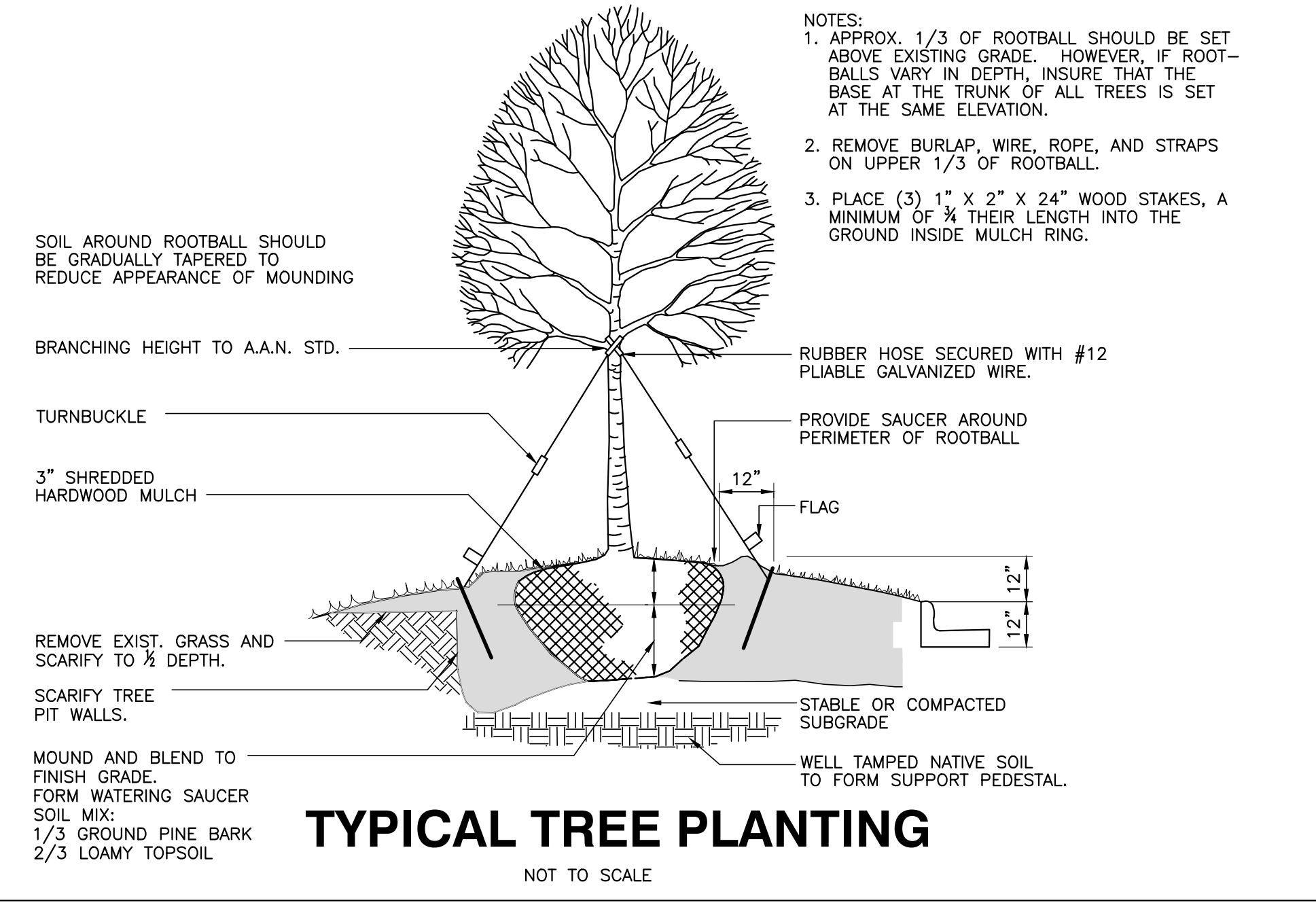
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 Raleigh Water Review Officer

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CONSULTING ENGINEERS
6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 881-1122 FAX: (919) 881-6868
CERTIFICATION NUMBERS: NCBOLA (C-0110); NCBOLA (C-0267)

GENERAL NOTES

- A/C UNITS, TRANSFORMERS AND OTHER MECHANICAL OR UTILITY EQUIPMENT, NOT SHOWN ON THE PLAN, SHALL BE SCREENED FROM VIEW EITHER BY ADJUSTING PLANTINGS SHOWN IN CLOSE PROXIMITY TO EQUIPMENT OR BY THE ADDITION OF WAX MYRTLES @ 24" HT, 5" OC (SEE GENERAL NOTES FOR EQUIPMENT ACCESSIBILITY AND PLANTING PROXIMITY, ETC.). DUMPSTER IS SCREENED FROM OFF-SITE VIEWS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES PRIOR TO PLANTING.
- MULCH SHALL BE 3" DEEP SHREDDED HARDWOOD MULCH UNLESS OTHERWISE NOTED.
- VERIFICATION OF TOTAL QUANTITIES AS SHOWN IN THE PLANT LIST AND ON THE PLAN SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR. ANY DISCREPANCIES BETWEEN PLANT LIST AND PLANTING PLAN SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION.
- ALL TREES, SHRUBS, GROUNDCOVER, ETC. SHALL CONFORM TO ACCEPTED STANDARDS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL ROOTBALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO PLANTING.
- B&B AS LISTED UNDER "ROOT" IN THE PLANT LIST INDICATES BALLED & BURLAPPED.
- ALL PLANTS/PLANTINGS SHALL BE MULCHED IMMEDIATELY AFTER PLANTING AND WATERED.
- ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THEY BORE TO PREVIOUS EXISTING GRADE (UNLESS OTHERWISE NOTED).
- ALL TREES AND SHRUBS SHALL REQUIRE MULCH RINGS AT THEIR BASE IF LEFT WITHIN LAWN AREAS.
- MULCH EDGES AND PROPOSED PLANTINGS SHALL NOT DISTURB ANY EXISTING GROUPS OF TREES TO REMAIN. EDGES ARE SHOWN FOR APPROXIMATION ONLY, BUT ARE TO INDICATE SMOOTH, CLEAN CURVES.
- CULVERTS, RIP-RAP STRUCTURES, AND OTHER STORMWATER DEVICES SHALL BE SCREENED WITH EVERGREEN SHRUBS. IF STRUCTURES ARE NOT SHOWN ON THE PLAN, INSTALL WAX MYRTLES @ 24" HT. - 5" OC.
- A 2' BUMPER OVERHANG, FROM THE BACK OF CURB, SHALL BE ALLOTTED FOR MATURE SHRUBS.
- TREE PROTECTION FENCING SHALL BE MAINTAINED UNTIL ALL SITE WORK IS COMPLETED. THE FENCING SHALL BE REMOVED PRIOR TO THE FINAL SITE INSPECTION FOR THE CERTIFICATE OF OCCUPANCY (C.O.). THE SITE SHALL BE STABILIZED AND SEEDED PRIOR TO THE ISSUANCE OF A (C.O.).
- UNLESS OTHERWISE NOTED ON THE PLAN, ALL DISTURBED AREAS ARE TO BE SEEDED WITH WARM SEASON GRASS, INCLUDING PARKING LOT PERIMETERS AND PARKING LOT ISLANDS.
- PERIMETER BUFFER AREAS ARE TO BE MULCHED TO A DEPTH OF THREE INCHES.

LANDSCAPE CALCULATIONS

PERIMETER BUFFERS (10' TYPICAL):

WEST (1) - 352 LF = 4 TREES / 100 LF = 14 TREES REQUIRED/PROVIDED
= 40 SHRUBS / 100 LF = 141 SHRUBS REQUIRED/PROVIDED
= 352 LF MIN. 6' TALL FENCE REQUIRED

NORTH (2) - 187 LF = 4 TREES / 100 LF = 8 TREES REQUIRED/PROVIDED
= 40 SHRUBS / 100 LF = 75 SHRUBS REQUIRED/PROVIDED
= 187 LF MIN. 6' TALL FENCE REQUIRED

NORTHEAST (3) - 240 LF = 4 TREES / 100 LF = 10 TREES REQUIRED/PROVIDED
= 40 SHRUBS / 100 LF = 96 SHRUBS REQUIRED/PROVIDED
= 240 LF MIN. 6' TALL FENCE REQUIRED

EAST (4) - 247 LF = 4 TREES / 100 LF = 10 TREES REQUIRED/PROVIDED
= 40 SHRUBS / 100 LF = 100 SHRUBS REQUIRED/PROVIDED
= 247 LF MIN. 6' TALL FENCE REQUIRED

STREET YARDS:

MAIN ST - 595 LF = 1 TREE / 50 LF = 12 TREES REQUIRED/PROVIDED

WEST YOUNG ST - 242 LF = 1 TREE / 50 LF = 5 TREES REQUIRED/PROVIDED

VEHICULAR USE AREA COVERAGE: 1 TREE WITHIN 60' OF EACH PARKING SPACE

PLANTING NOTES:

LOCATE PLANTS AND PLANTING BEDS BY USING SCALED DIMENSIONS FROM STREET, PROPERTY LINES, BACK OF CURB, BUILDINGS, WALLS, ETC. ALL PLANTS SHALL MEET OR EXCEED THE MINIMUM STANDARDS SET BY THE U.S.D.A. FOR NURSERY STOCK SPONSORED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC., WASHINGTON, D.C. NO SUBSTITUTIONS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE OWNER AND/OR THE LANDSCAPE ARCHITECT. SYMBOLS: B&B = BALLED & BURLAPPED; B.R. = BARE ROOT; CONT. = CONTAINER, O.C. = ON-CENTER

STREET TREE PLANTINGS TO BE COORDINATED IN CONCURRENCE WITH NCDOT STREETSCAPE IMPROVEMENT PROJECT ALONG S. MAIN AND YOUNG STREET(S).

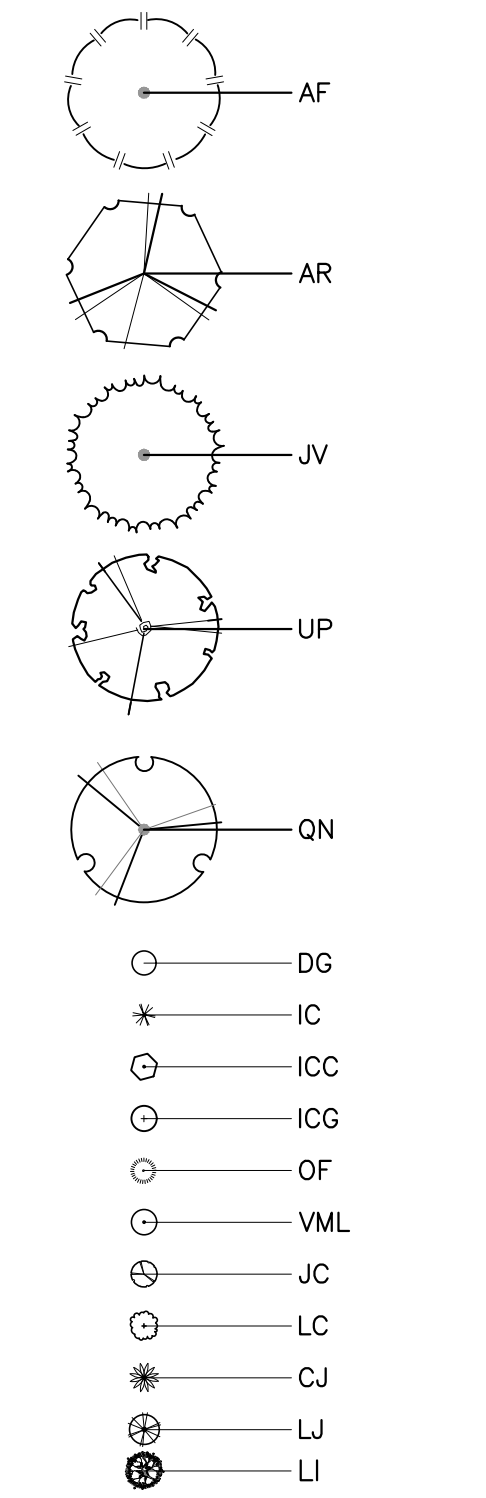
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PLANT SYMBOLS



NO FLOODPLAINS EXIST ON-SITE

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COBBLESTONE VILLAGE MIXED USE DEVELOPMENT
TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

SHEET L1.2

Outdoor Lighting

SHOEBOX LED



LED
(Light-emitting diode) 150220420/330 watts

Mounting height 29' - 30'

Color
Black
Bronze
Gray (Special conditions)

Pole
Wood
Style A

IESNA cutoff classification: Full-cutoff
Color temperature: 3,000K Primary
4,000K Available

| FIXTURE | WATTS | LUMENS | PATTERN | BUG RATING |
|---------|-------|--------|---------|------------|
| Shoebox | 150 | 19,017 | III | B3-U0-G3 |
| | | 18,490 | IV | B3-U0-G4 |
| | | 19,980 | V | B3-U0-G3 |
| Shoebox | 220 | 29,744 | III | B3-U0-G4 |
| | | 23,961 | IV | B3-U0-G4 |
| | | 24,461 | V | B3-U0-G3 |
| Shoebox | 420 | 41,379 | IV | B3-U0-G5 |
| | | 40,868 | V | B3-U0-G5 |
| Shoebox | 530 | 51,429 | IV | B3-U0-G5 |
| | | 57,059 | V | B3-U0-G5 |

LIGHT DISTRIBUTION PATTERNS



POLE AVAILABLE **MOUNTING HEIGHT** **FOUNDATION**

| Style A | 25', 30', 35' | Direct Bury, Anchor Base |
|---------|---------------|--------------------------|
| Wood | 25', 30', 35' | Direct Bury |

For additional information, contact us at OOL_Cons@bnk-engineers.com

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STATISTICS

| | |
|---------|--------|
| AVERAGE | 1.8 fc |
| MAXIMUM | 5.6 fc |
| MINIMUM | 0.4 fc |
| MAXMIN | 14.0:1 |
| AVGMIN | 4.5:1 |

NOTE:

- BUILDING LIGHTING SHALL BE PROVIDED TO ILLUMINATE ENTRANCES AND EXITS TO MEET IES STANDARDS AS PART OF THE BUILDING ELECTRICAL DESIGN AND IS NOT INCLUDED IN THE SCOPE OF THIS SITE LIGHTING LAYOUT.
- ALL SITE LIGHTING SHALL BE SHIELDED FROM ADJACENT PUBLIC STREETS USING HOUSE SIDE SHIELDS IF GREATER THAN 2.0 FC AT PROPERTY LINE.
- THE INTENT OF THIS DRAWING IS TO SHOW FOOTCANDLE LEVELS BASED ON FIXTURES SHOWN. ACTUAL LEVELS MAY VARY BASED ON ACTUAL FIXTURE INSTALLED.
- THIS DRAWING IS INTENDED FOR PRELIMINARY SITE PLAN APPROVAL OF DESIGNED LIGHTING LEVELS AND IS NOT INTENDED TO BE USED FOR CONSTRUCTION.

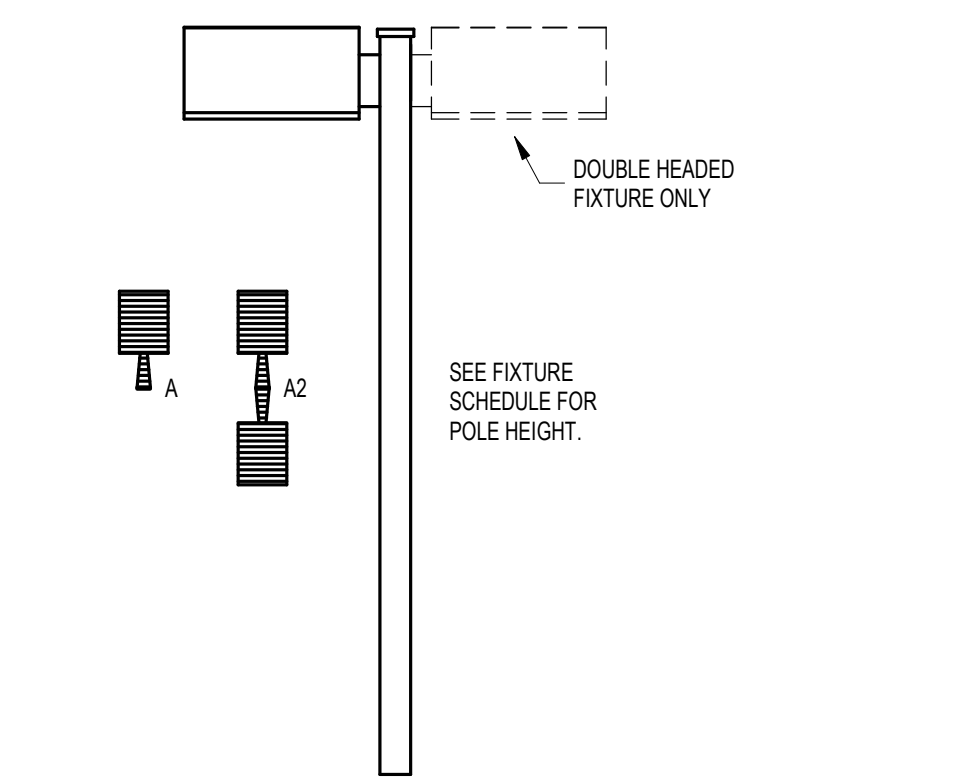
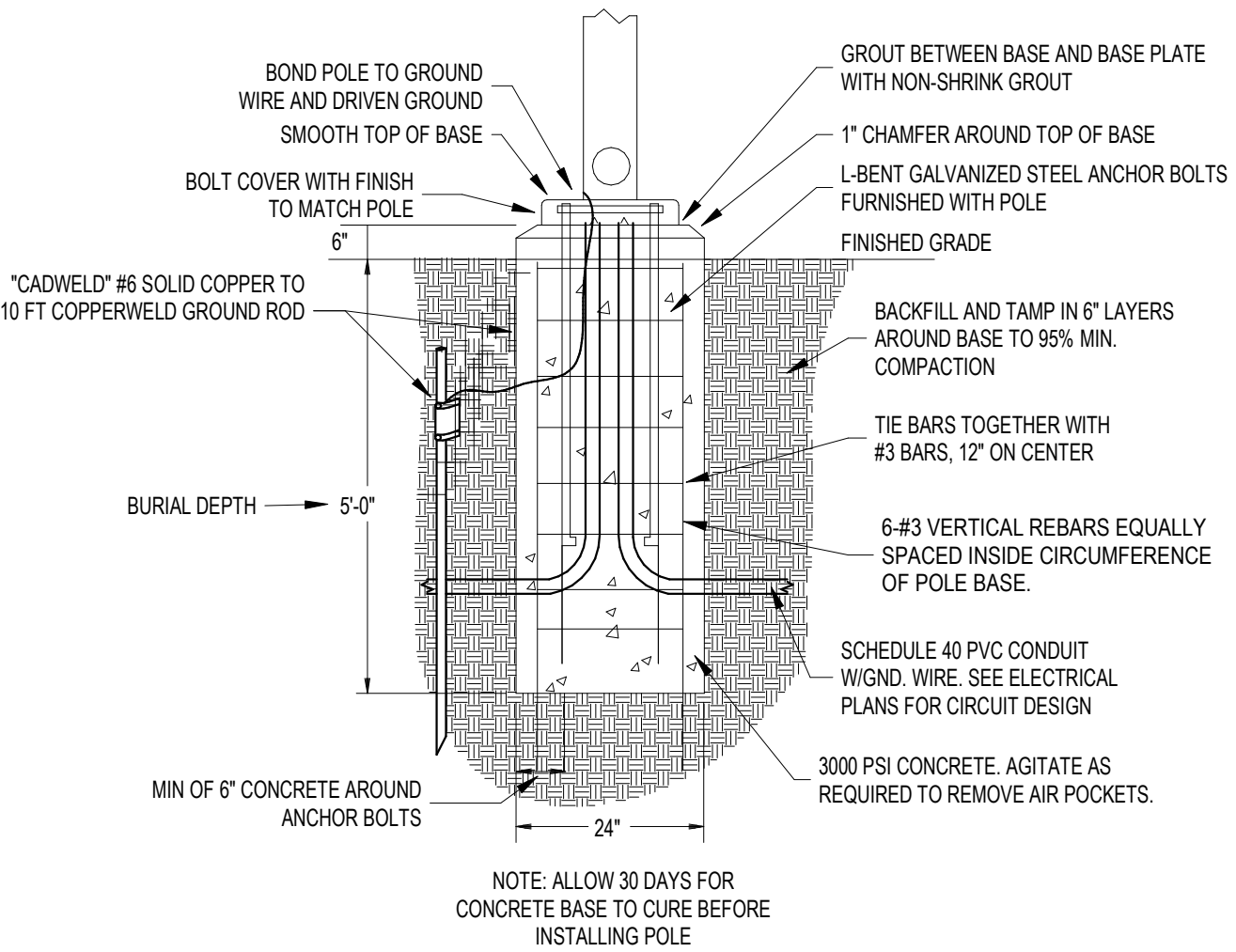
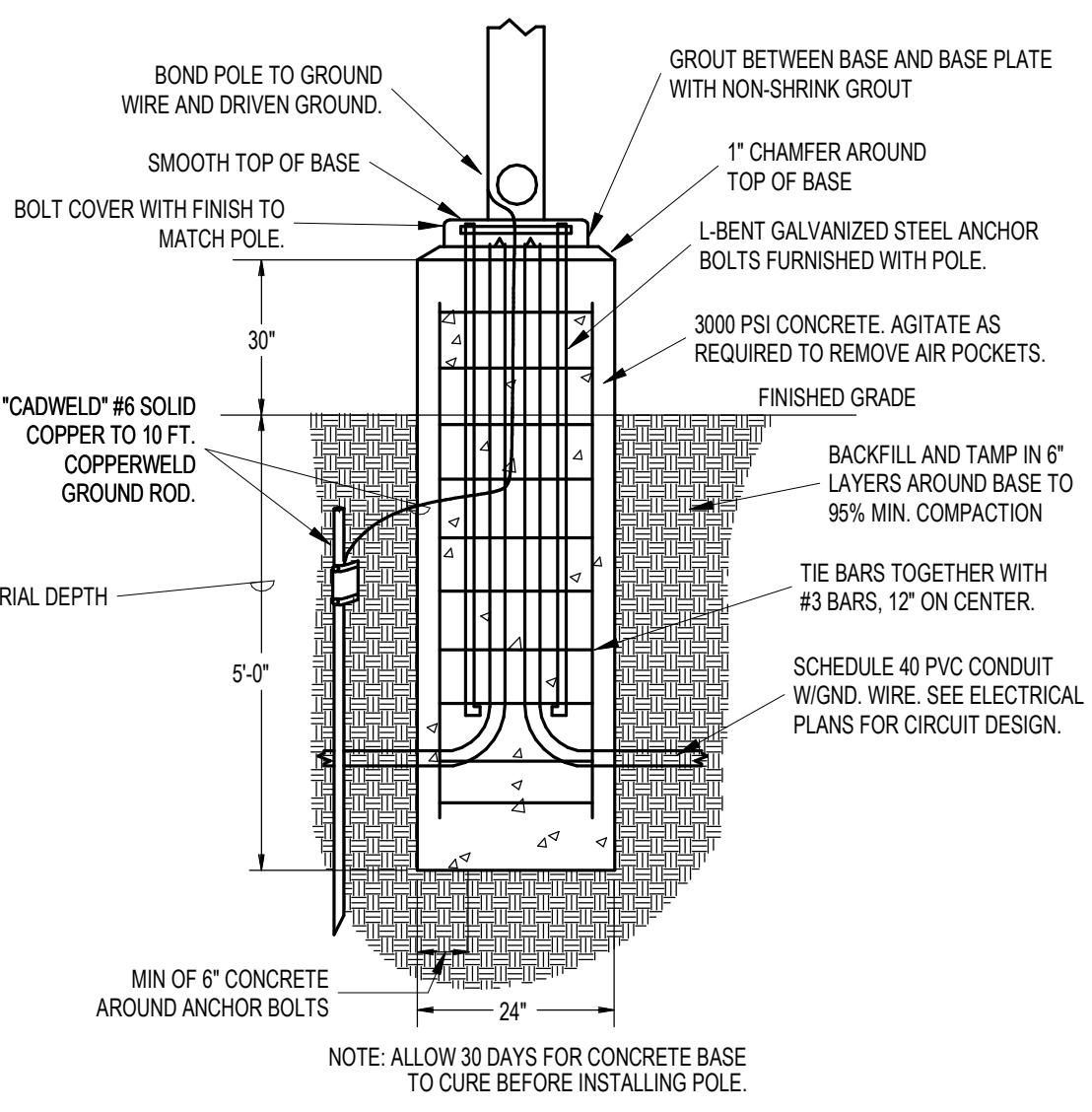
ELECTRICAL CONNECTION NOTE:

THIS IS A SITE LIGHTING CALCULATION PLAN ONLY AND DOES NOT PROVIDE ELECTRICAL CONNECTIONS FOR FIXTURES SHOWN. SITE DEVELOPERS (OWNERS, BUILDERS AND GENERAL CONTRACTORS) ARE RESPONSIBLE FOR COORDINATING WITH BUILDING ELECTRICAL CONTRACTOR OR POWER COMPANY FOR POWER CONNECTIONS FOR ALL FIXTURES.

4 FIRST FLOOR SITE LIGHTING
SCALE: 1" = 50'-0"

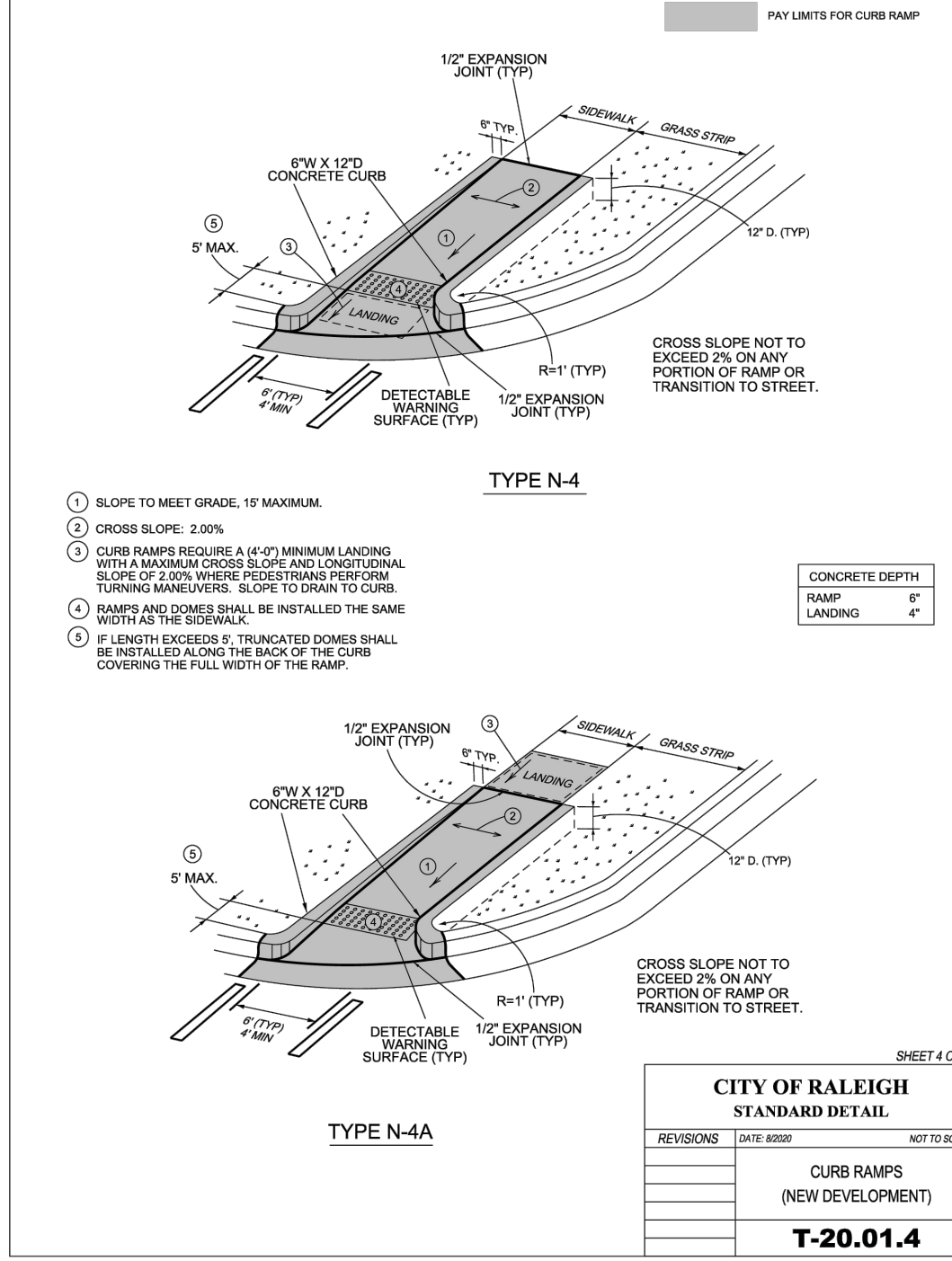
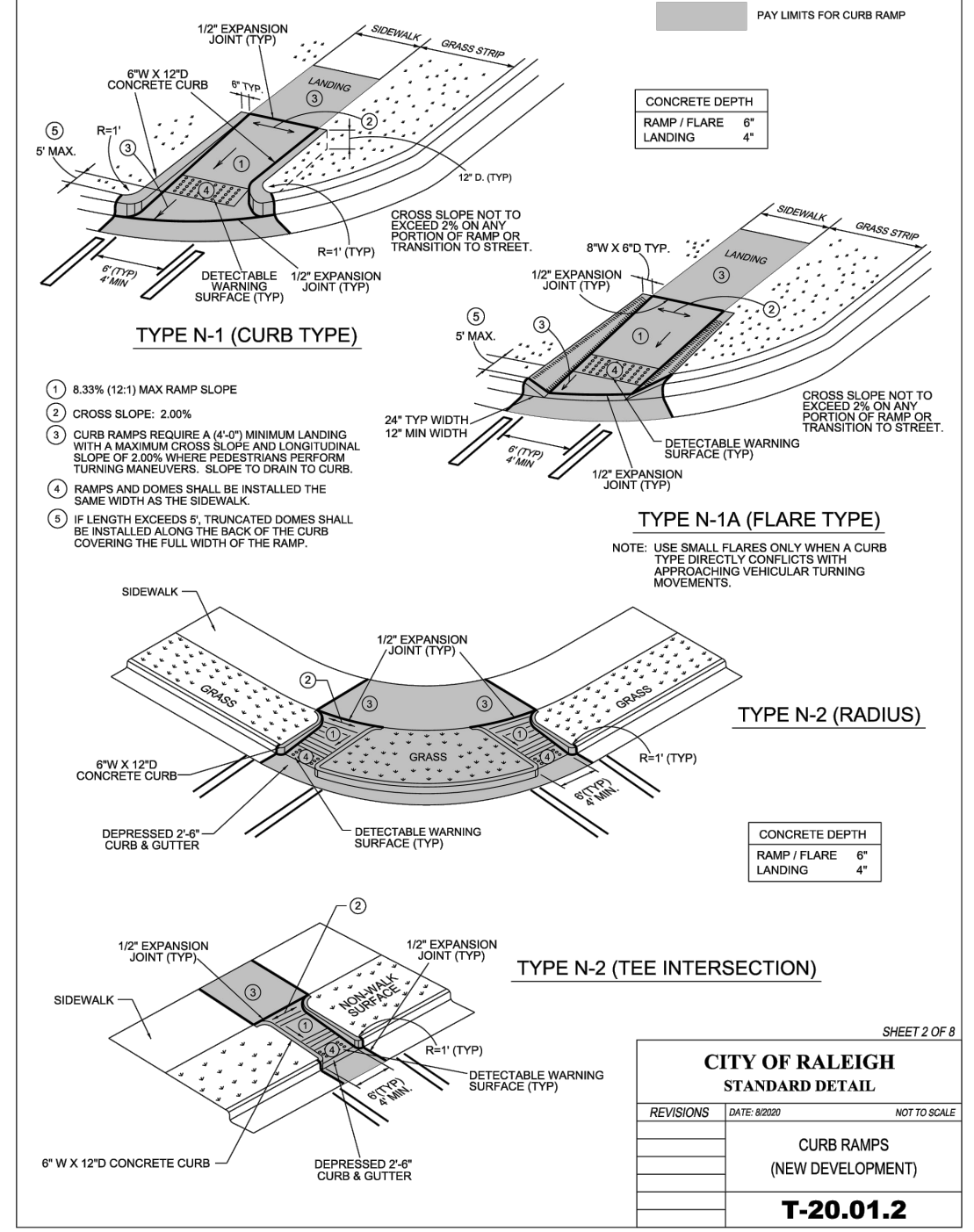
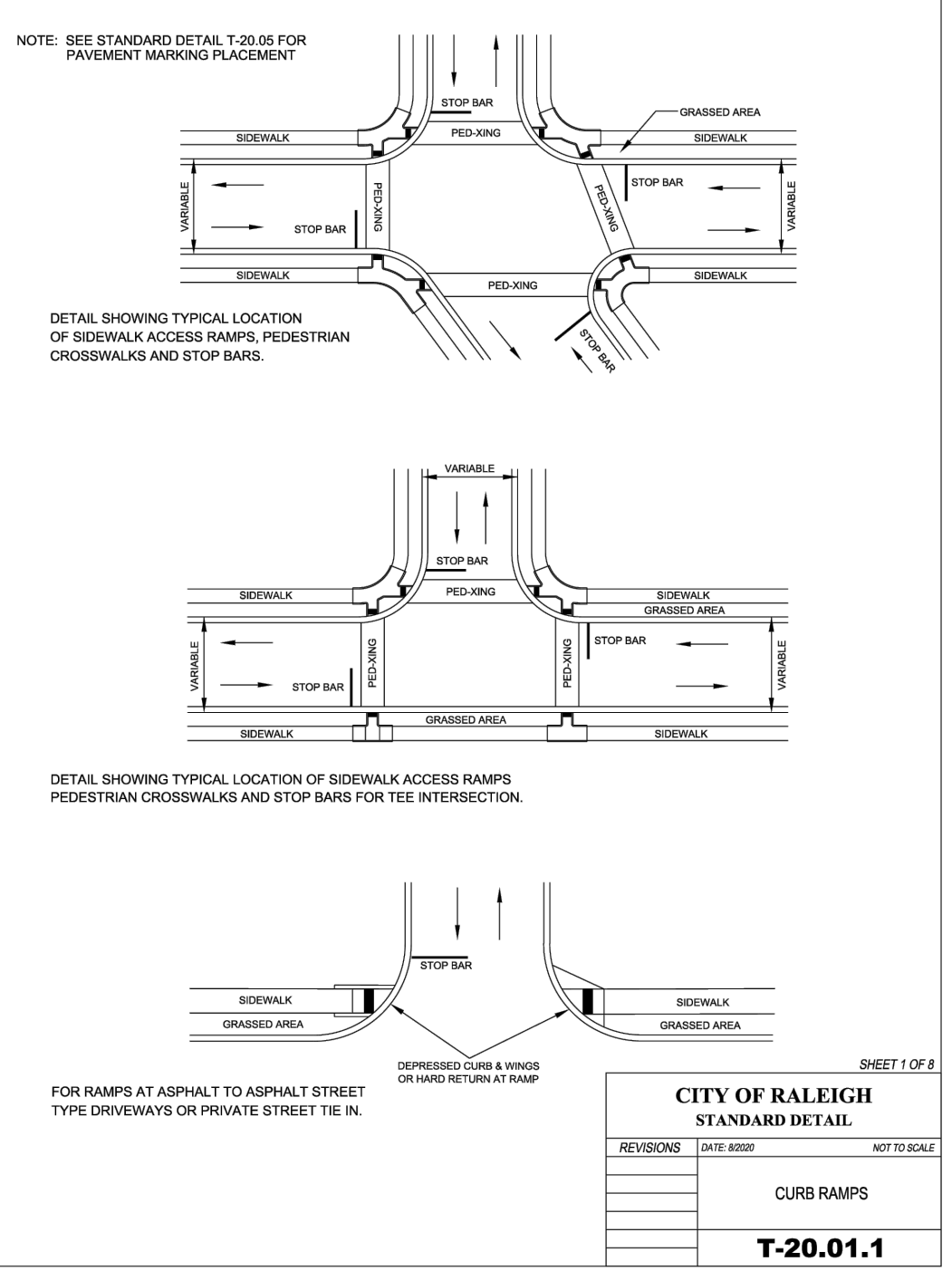
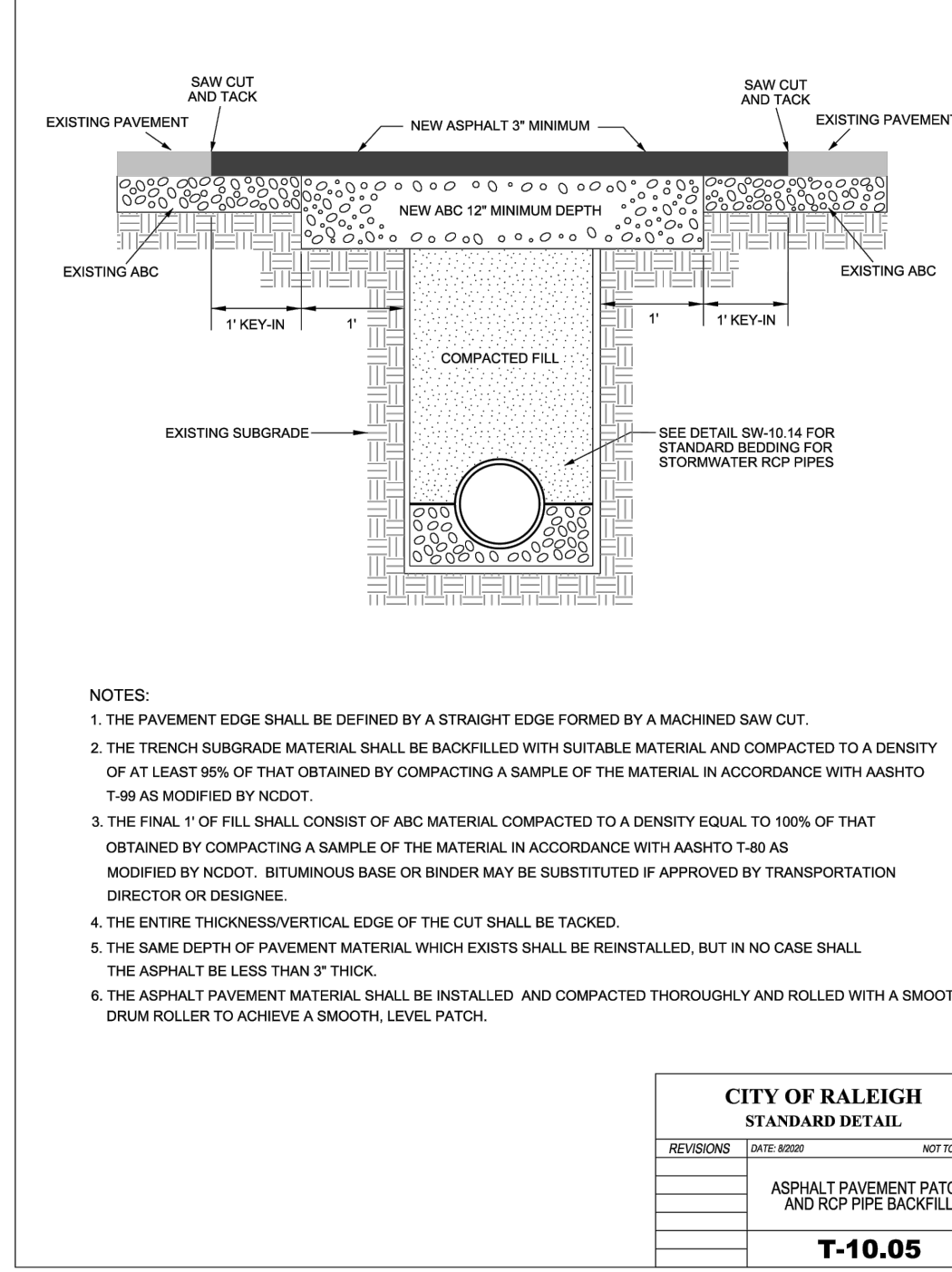
Lighting Fixture Schedule

| Type Mark | Description | Manufacturer | Model | Voltage | Wattage | Mounting Height |
|-----------|---|-------------------|-----------------------------------|---------|---------|-----------------|
| A | NEW LED POLE MOUNTED PARKING LOT LIGHTING | EATON-STREETWORKS | LED 50W SHOEBOX - TYPE IV -3000K | 277 V | 59.0 W | 25' |
| B | NEW LED POLE MOUNTED PARKING LOT LIGHTING | EATON-STREETWORKS | LED 150W SHOEBOX - TYPE IV -4000K | 277 V | 166.0 W | 25' |
| B1 | NEW LED POLE MOUNTED PARKING LOT LIGHTING | EATON-STREETWORKS | LED 150W SHOEBOX - TYPE IV -4000K | 277 V | 332.0 W | 25' |
| B2 | NEW LED POLE MOUNTED PARKING LOT LIGHTING | EATON-STREETWORKS | LED 150W SHOEBOX - TYPE IV -4000K | 277 V | 332.0 W | 25' |



2 SITE LIGHTING POLE BASE DETAIL - 5'(6\"/>

3 FIXTURE "A" & "A2" DETAIL
SCALE: NONE



CITY OF RALEIGH CURB RAMPS GENERAL NOTES

- CITY OF RALEIGH STANDARD CURB RAMPS HAVE BEEN DEVELOPED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) AND PUBLIC RIGHT OF WAY ACCESS GUIDELINES (PROWAG).
- CURB RAMPS SHALL BE PROVIDED AT LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. SIDEWALK ACCESS RAMPS SHALL BE LOCATED AS INDICATED IN THE DETAIL, HOWEVER, THE LOCATION MAY BE ADJUSTED IN COORDINATION WITH THE CITY OF RALEIGH WHERE EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. AFFECT PLACEMENT.
- DOUBLE WHEELCHAIR RAMPS ARE TO BE INSTALLED AT ALL PUBLIC STREET INTERSECTIONS WHERE SIDEWALK IS REQUIRED.
- THE WALKING SURFACE SHALL BE SLIP RESISTANT. THE COLOR FOR THE DETECTABLE WARNING AREA SHALL BE YELLOW FOR CONTRAST.
- NO SLOPE ON THE SIDEWALK ACCESS RAMP SHALL EXCEED 1" (2-1/2) IN RELATIONSHIP TO THE GRADE OF THE STREET.
- IN NO CASE SHALL THE WIDTH OF THE SIDEWALK ACCESS RAMP BE LESS THAN 48" ALL RAMPS SHALL BE INSTALLED THE SAME WIDTH AS THE SIDEWALK.
- USE CLASS A (3000 PSI) CONCRETE WITH A SIDEWALK FINISH IN ORDER TO OBTAIN A ROUGH NONSKID SURFACE.
- A 1/2" EXPANSION JOINT INSTALLED FULL DEPTH WILL BE REQUIRED WHERE THE CONCRETE SIDEWALK ACCESS RAMP JOINS THE CURB AND ALSO WHERE NEW CONCRETE ABUTS EXISTING CONCRETE.
- CURB RAMPS SHOULD BE PLACED PARALLEL TO THE DIRECTION OF TRAVEL.

CITY OF RALEIGH STANDARD DETAIL

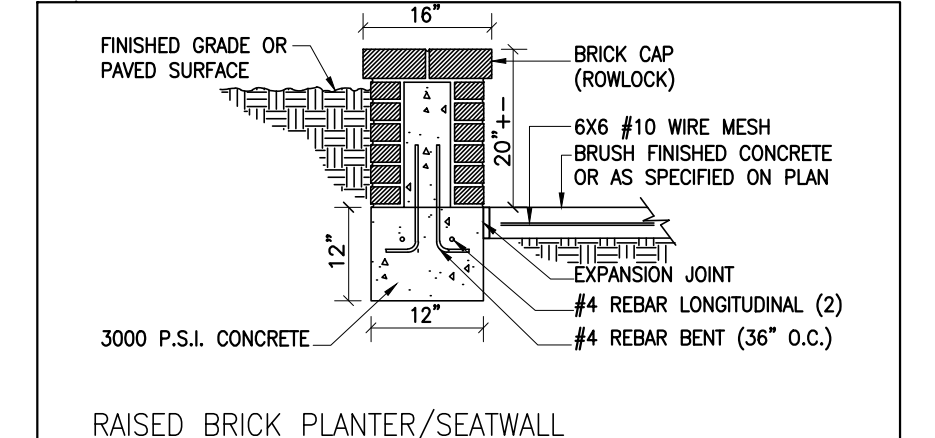
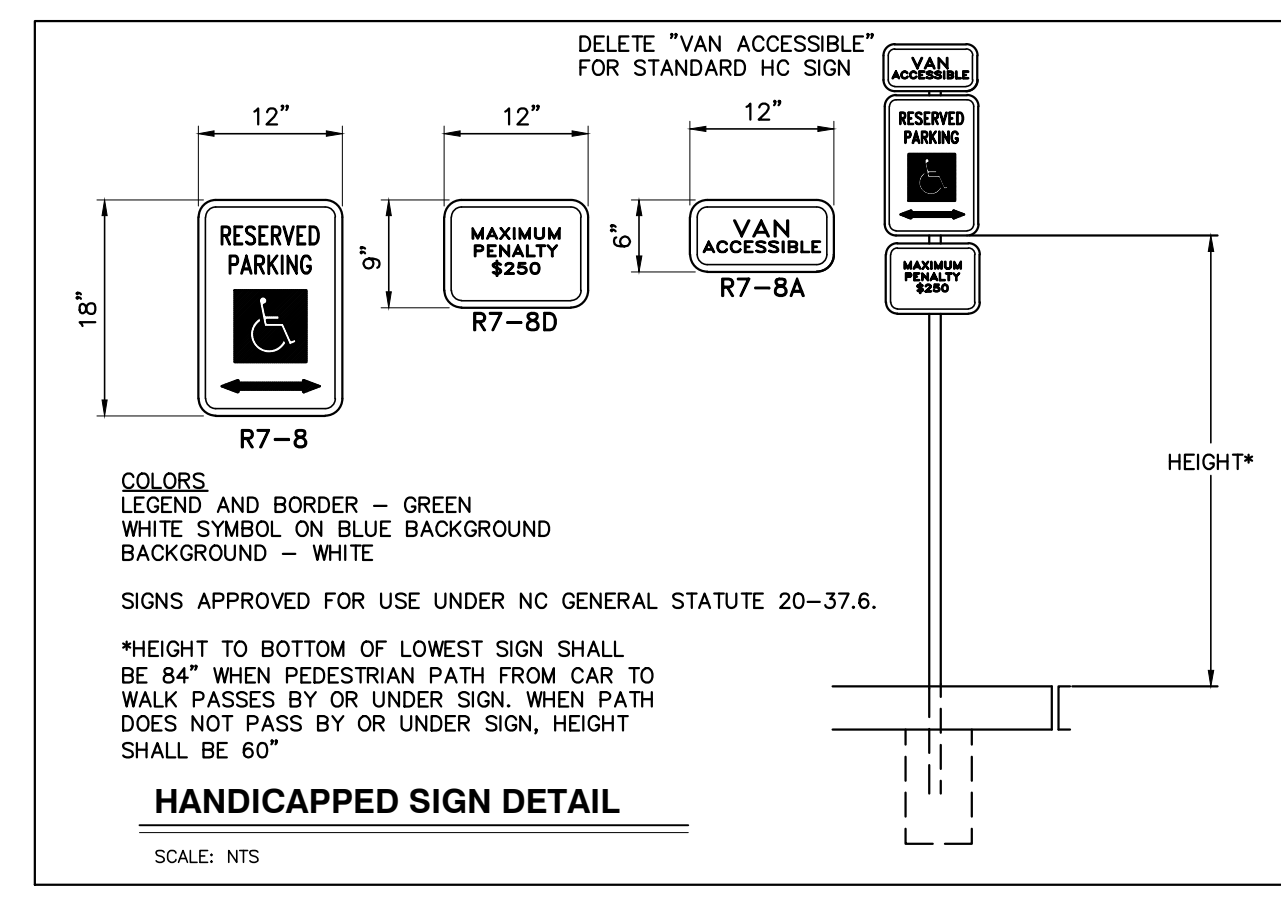
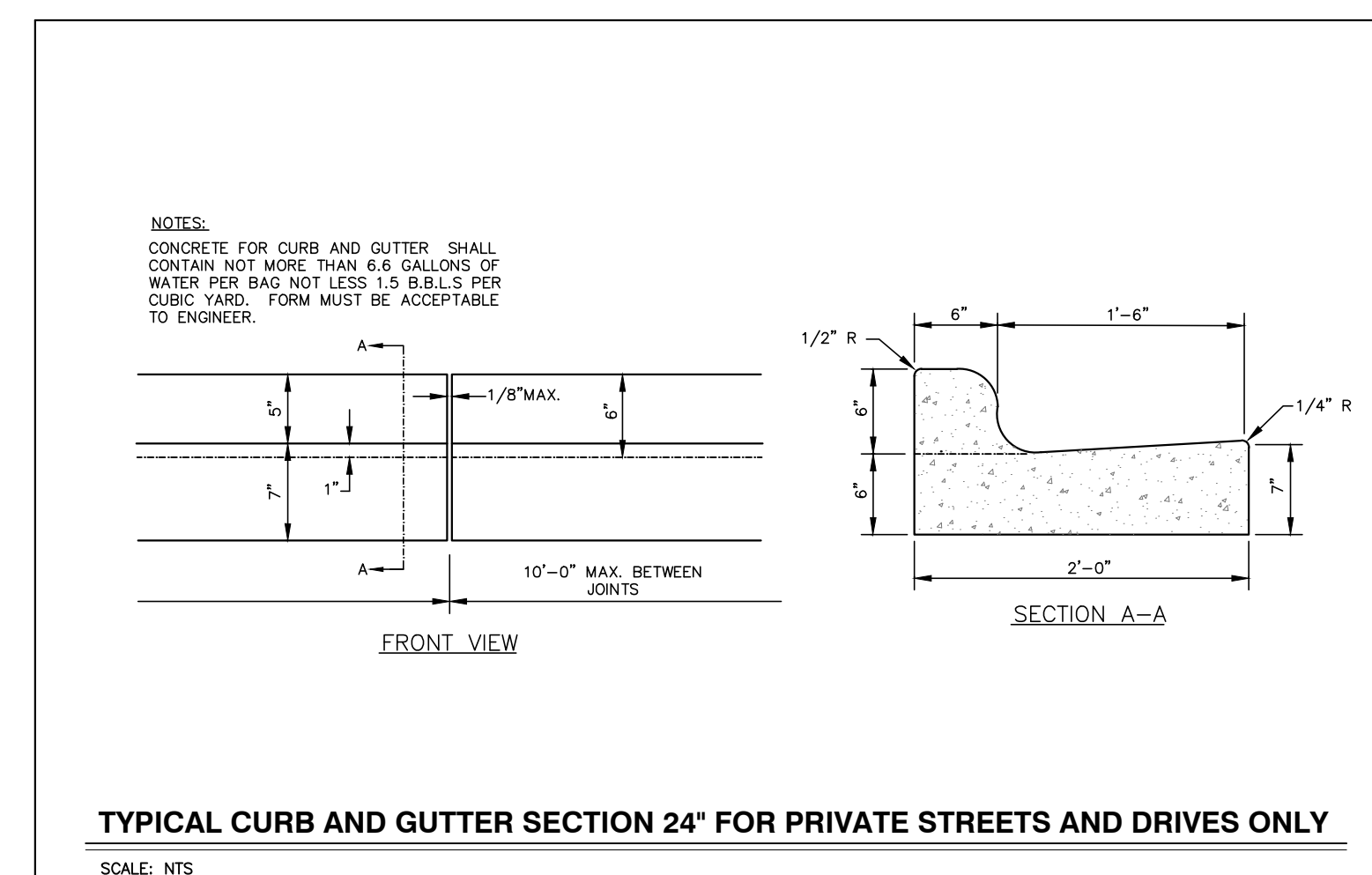
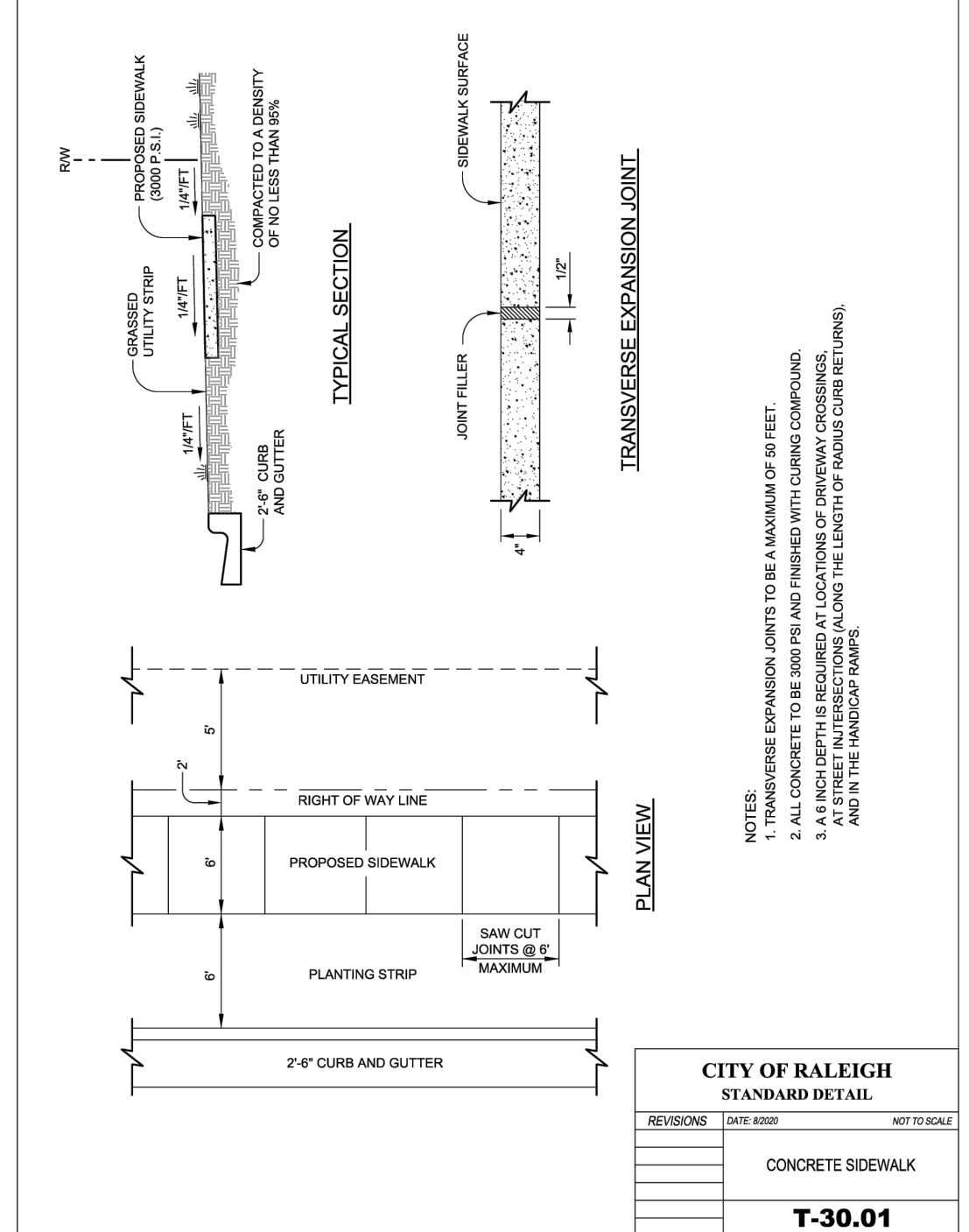
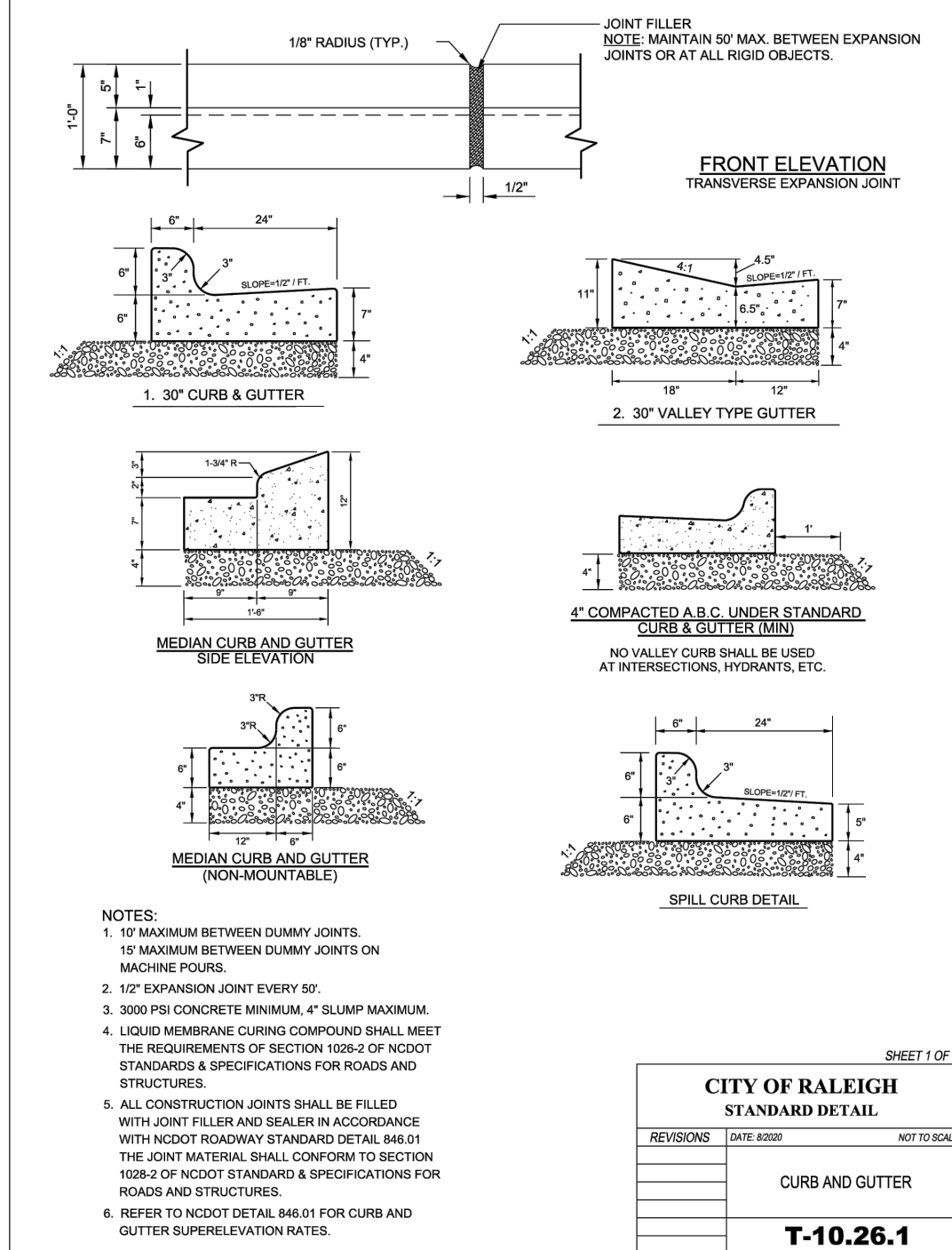
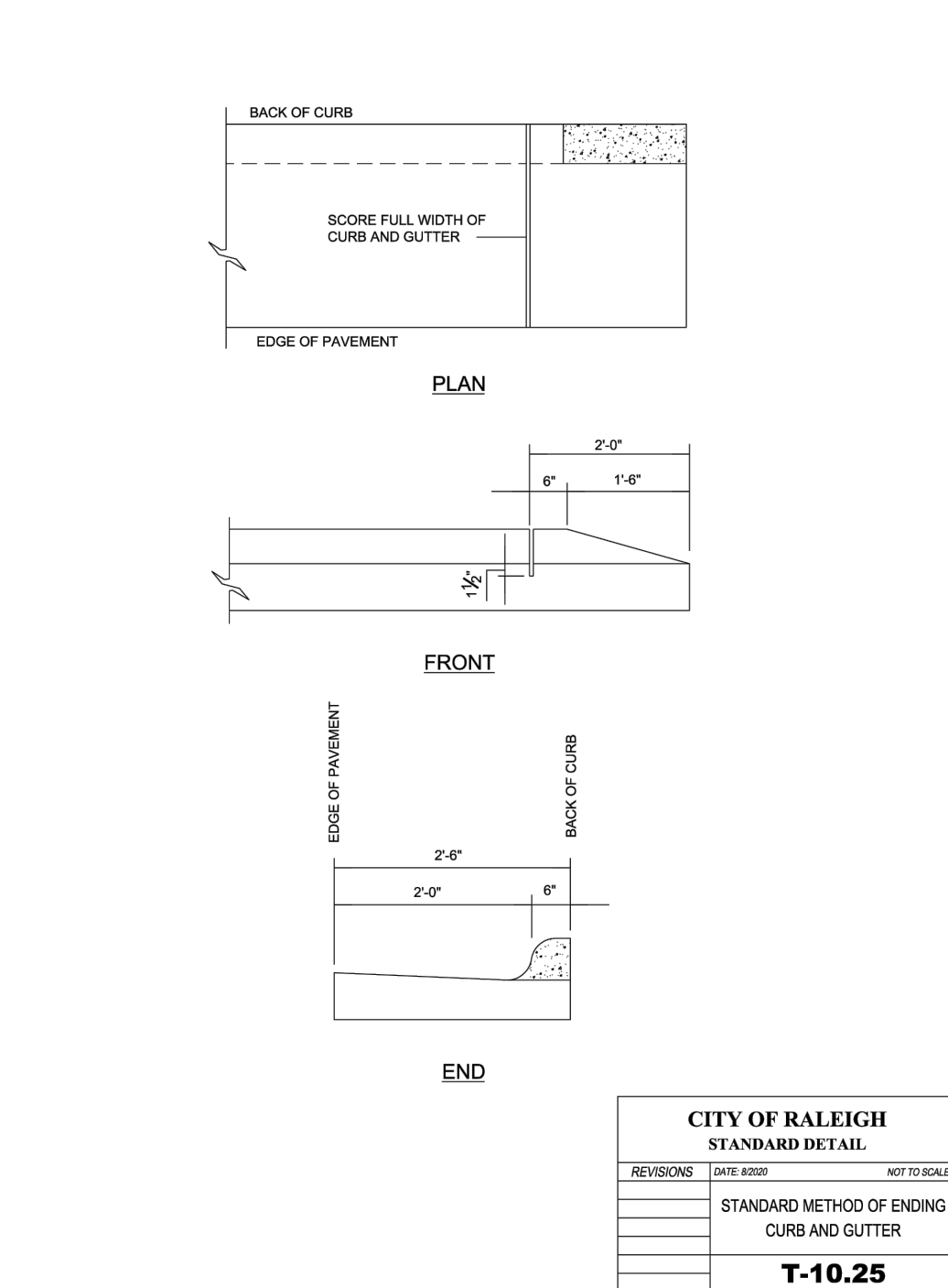
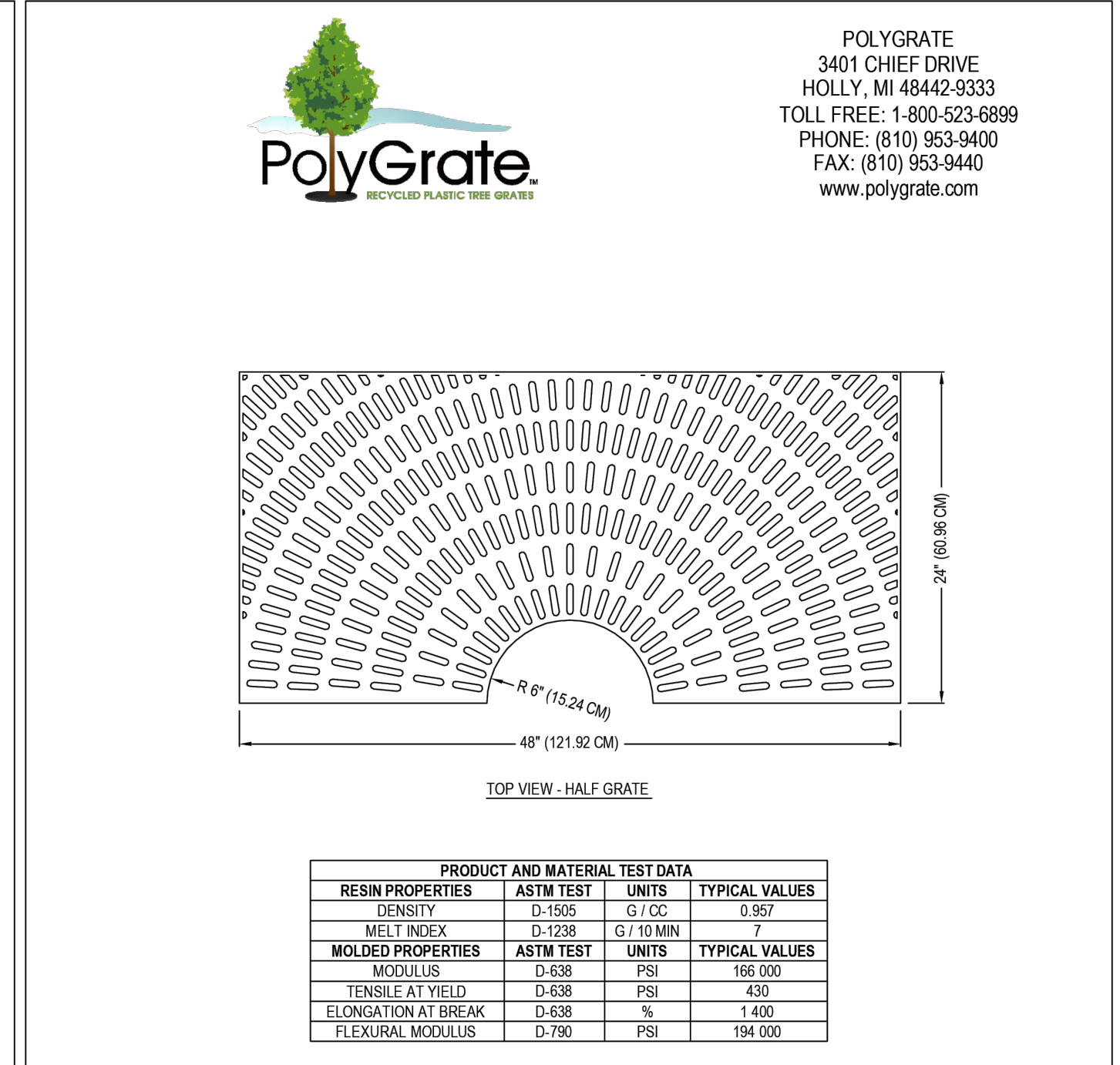
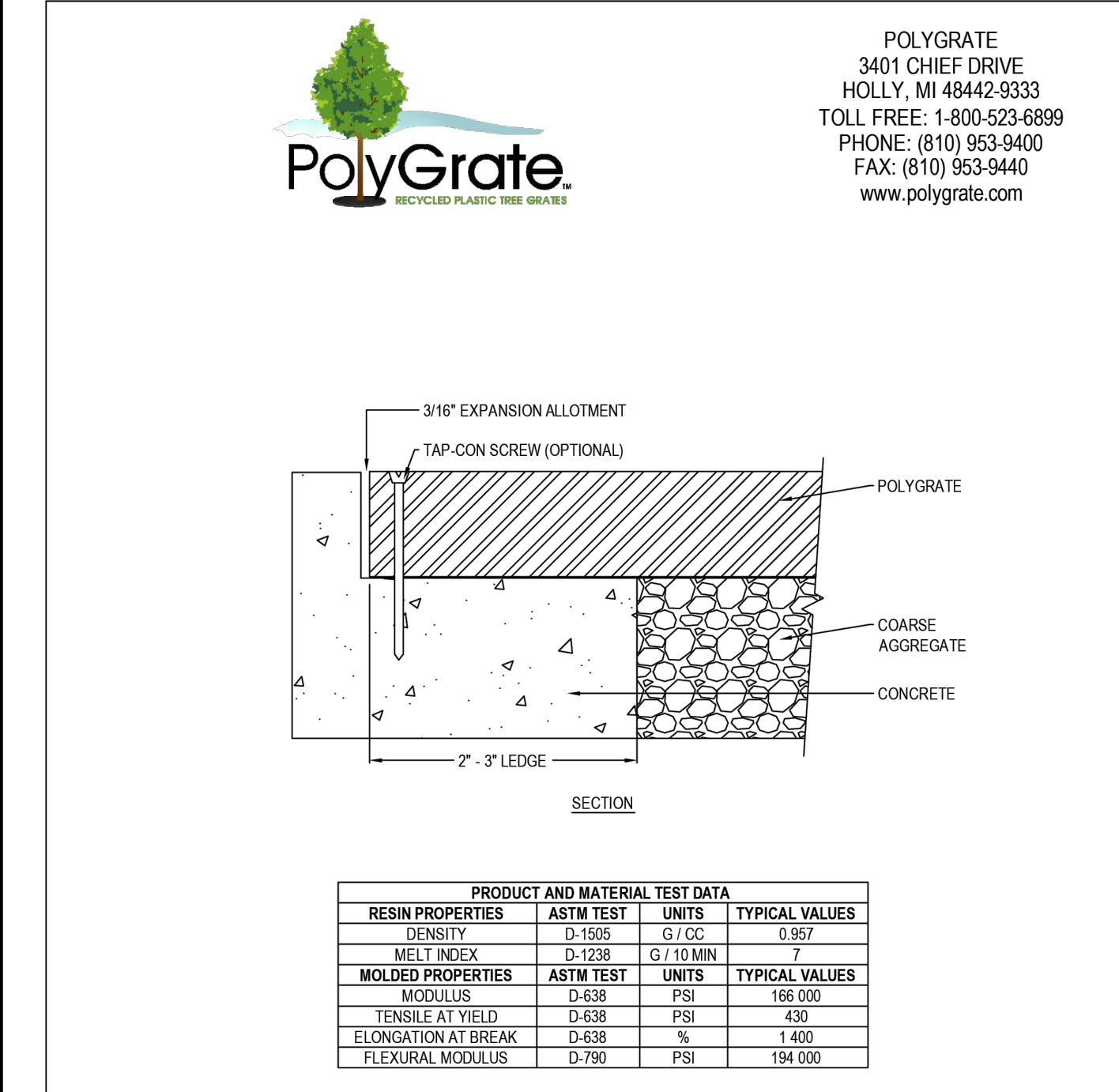
REVISIONS: DATE: 05/18/05 NOT TO SCALE

T-20.01.8

CURB RAMP NOTES

BASS, NIXON & KENNEDY, INC. CONSULTING ENGINEERS

6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919) 881-1212 FAX: (919) 881-6888
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)



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Raleigh Water Review Officer

12/08/23



COBBLESTONE VILLAGE MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

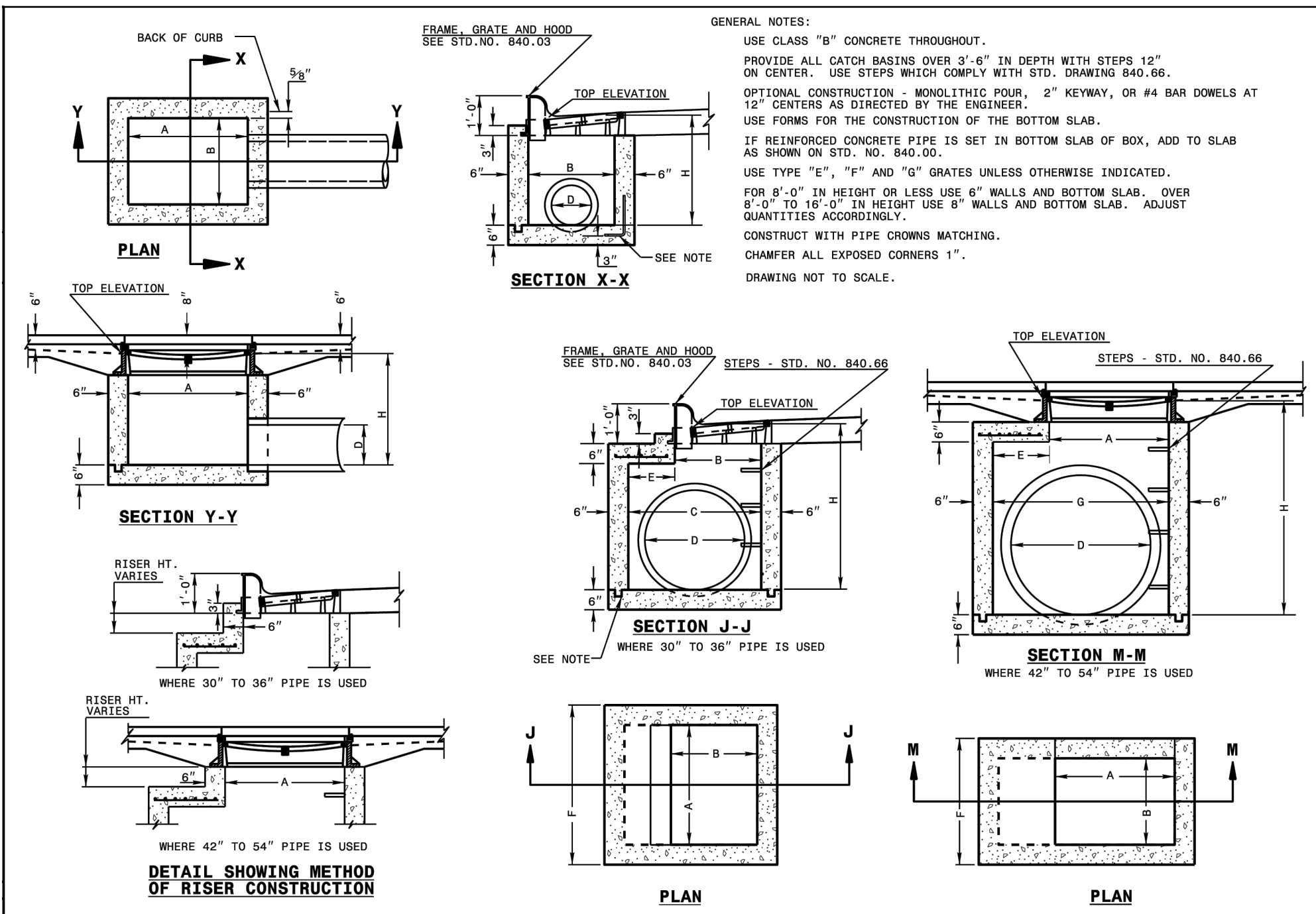
SHEET C5.1

PROGRESS DATE: 03-19-17
 DRAWN BY: MRM
 REVISIONS: DATE: 12-08-23
 TOWN OF ROLESVILLE COMMENTS: MRM
 10-16-23 T.O.R. COMMENTS: MRM
 09-21-23 CHANGES FROM 06-05-22: CD'S MRM
 NO. DATE DESCRIPTION BY

SCALE: N.T.S. CHK BY: MDB

TOWN OF ROLESVILLE PROJECT NO.

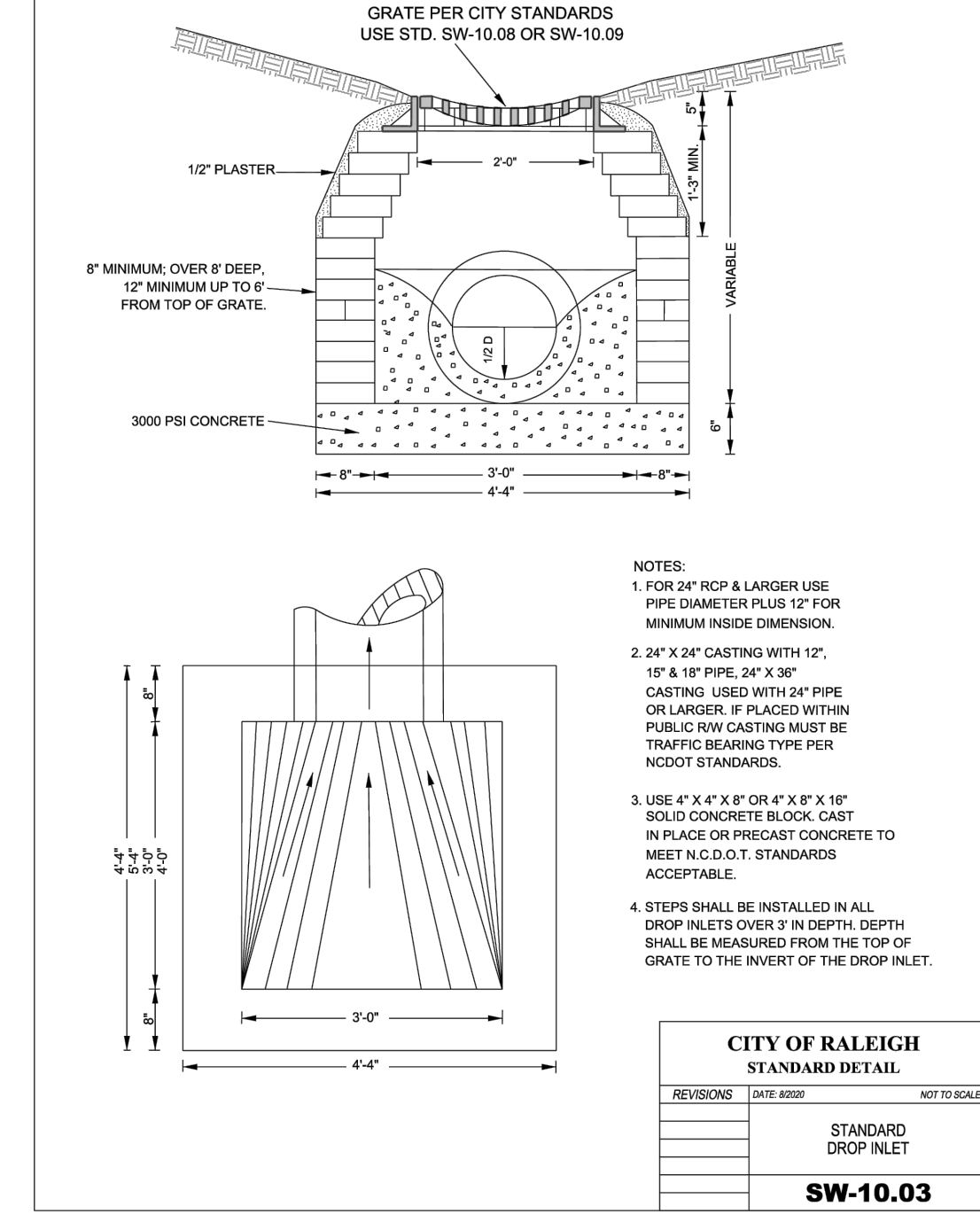
NOT RELEASED FOR CONSTRUCTION OR BID SOLICITATION



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

ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
 12" THRU 54" PIPE

SHEET 1 OF 2
840.02



CITY OF RALEIGH
 STANDARD DETAIL

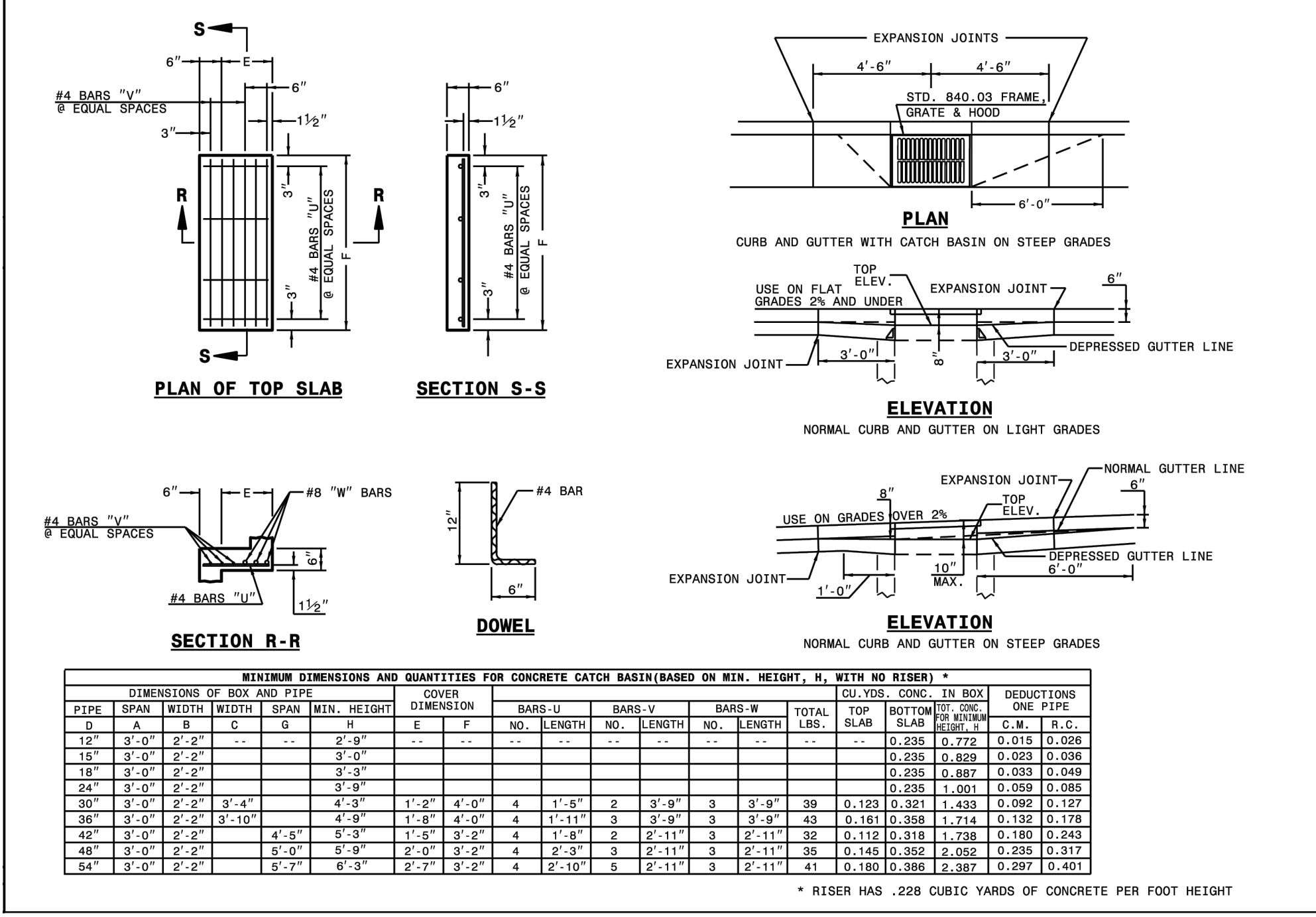
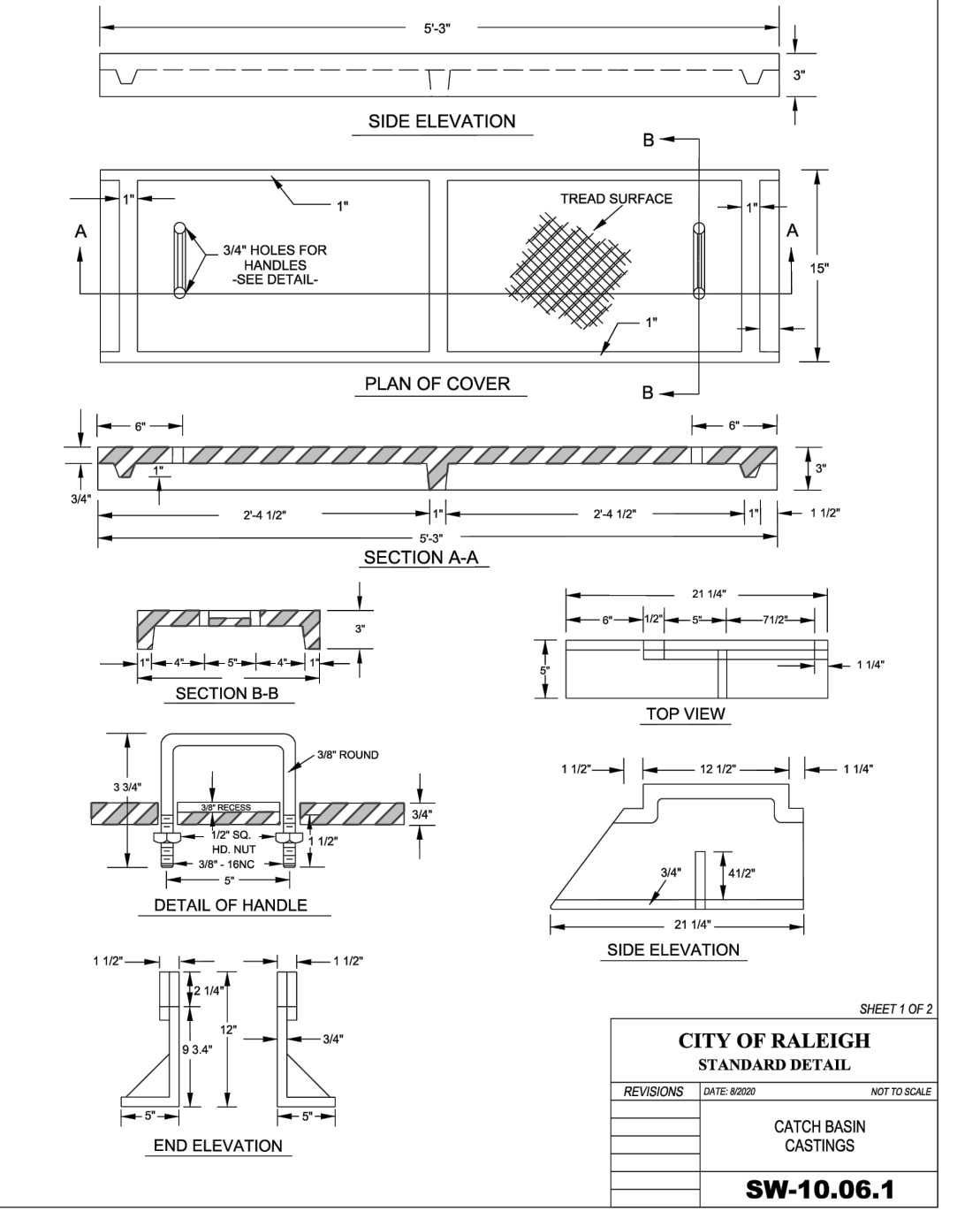
REVISIONS DATE REASON NOT TO SCALE

STANDARD DROP INLET
SW-10.03

CITY OF RALEIGH
 STANDARD DETAIL

REVISIONS DATE REASON NOT TO SCALE

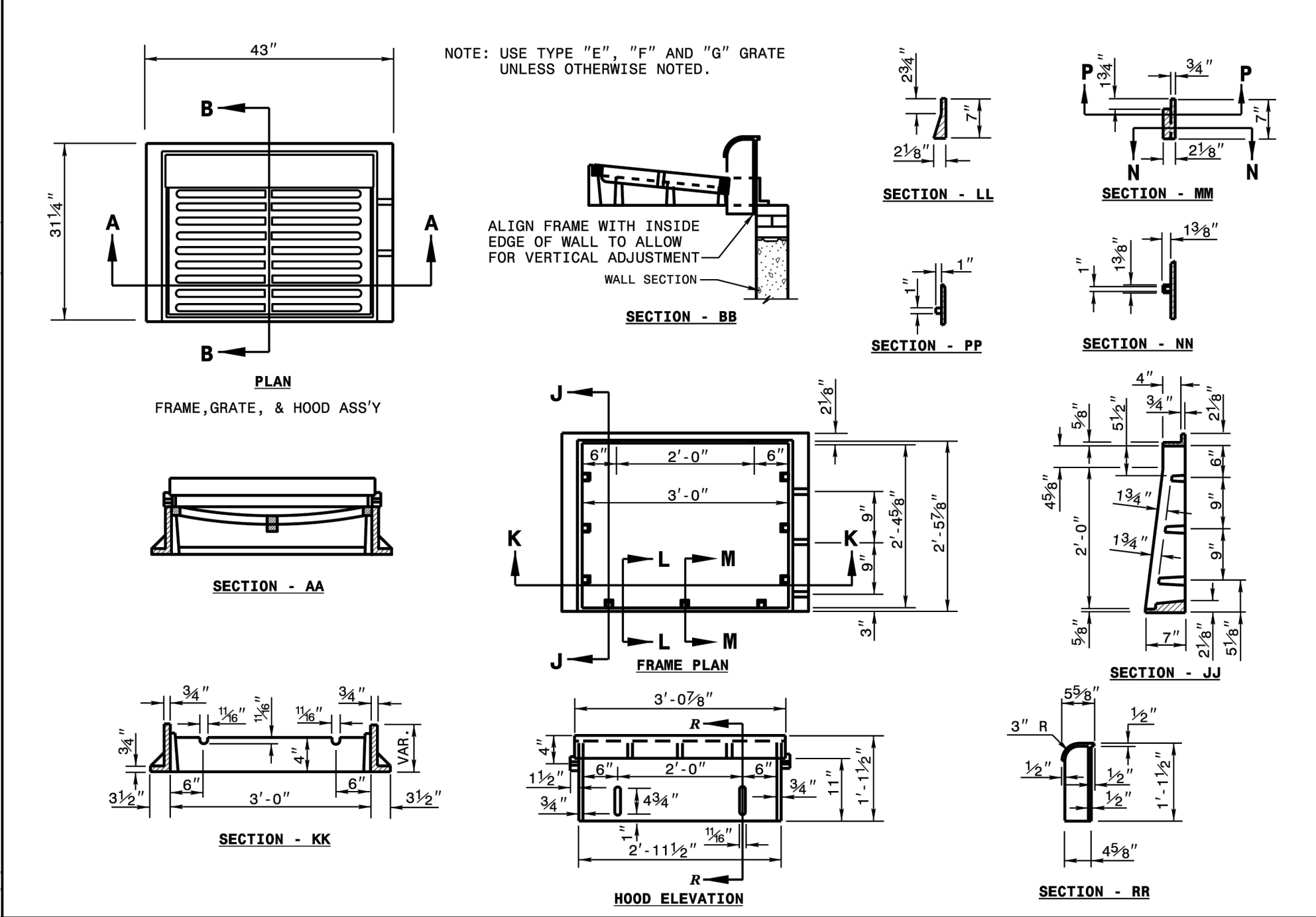
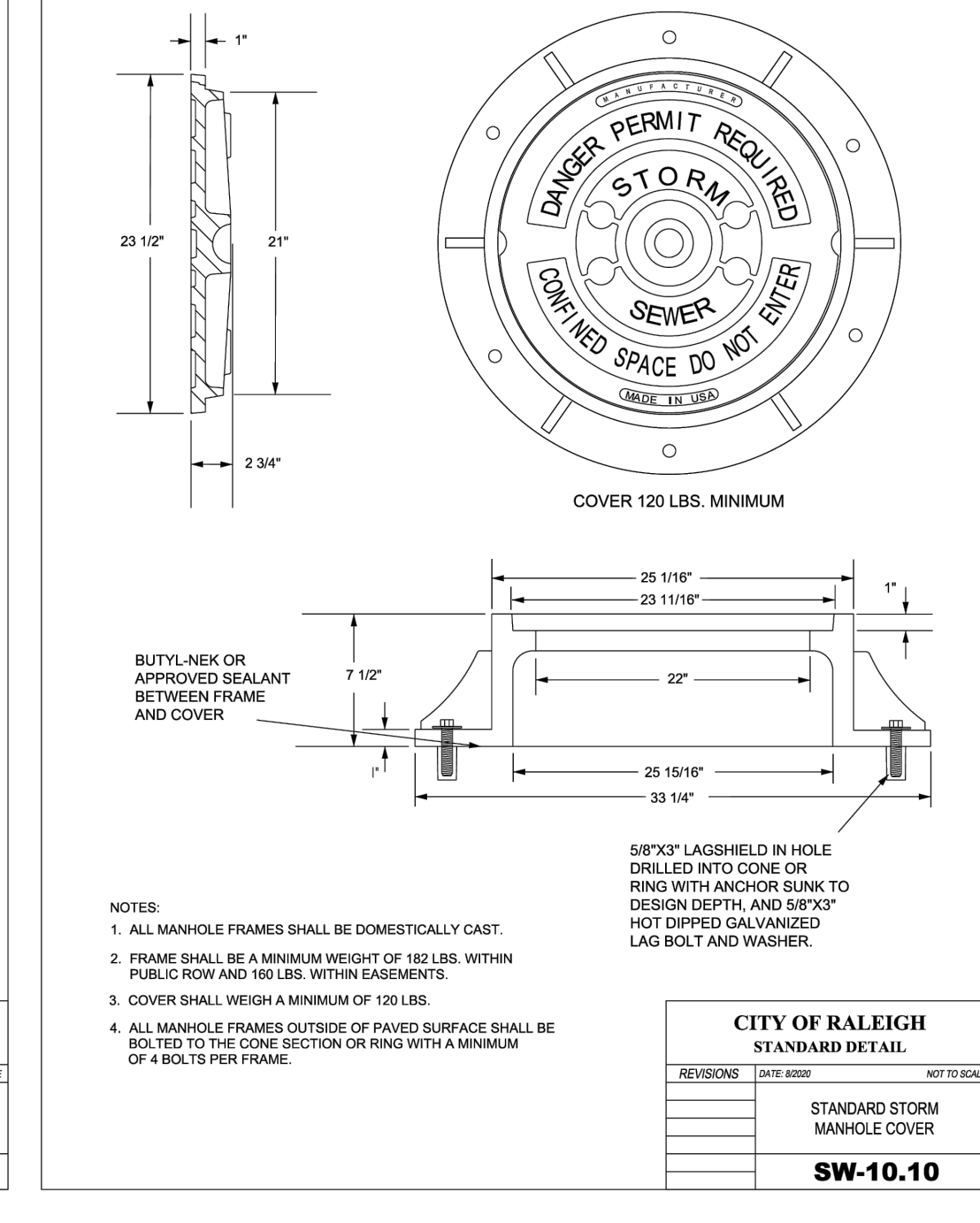
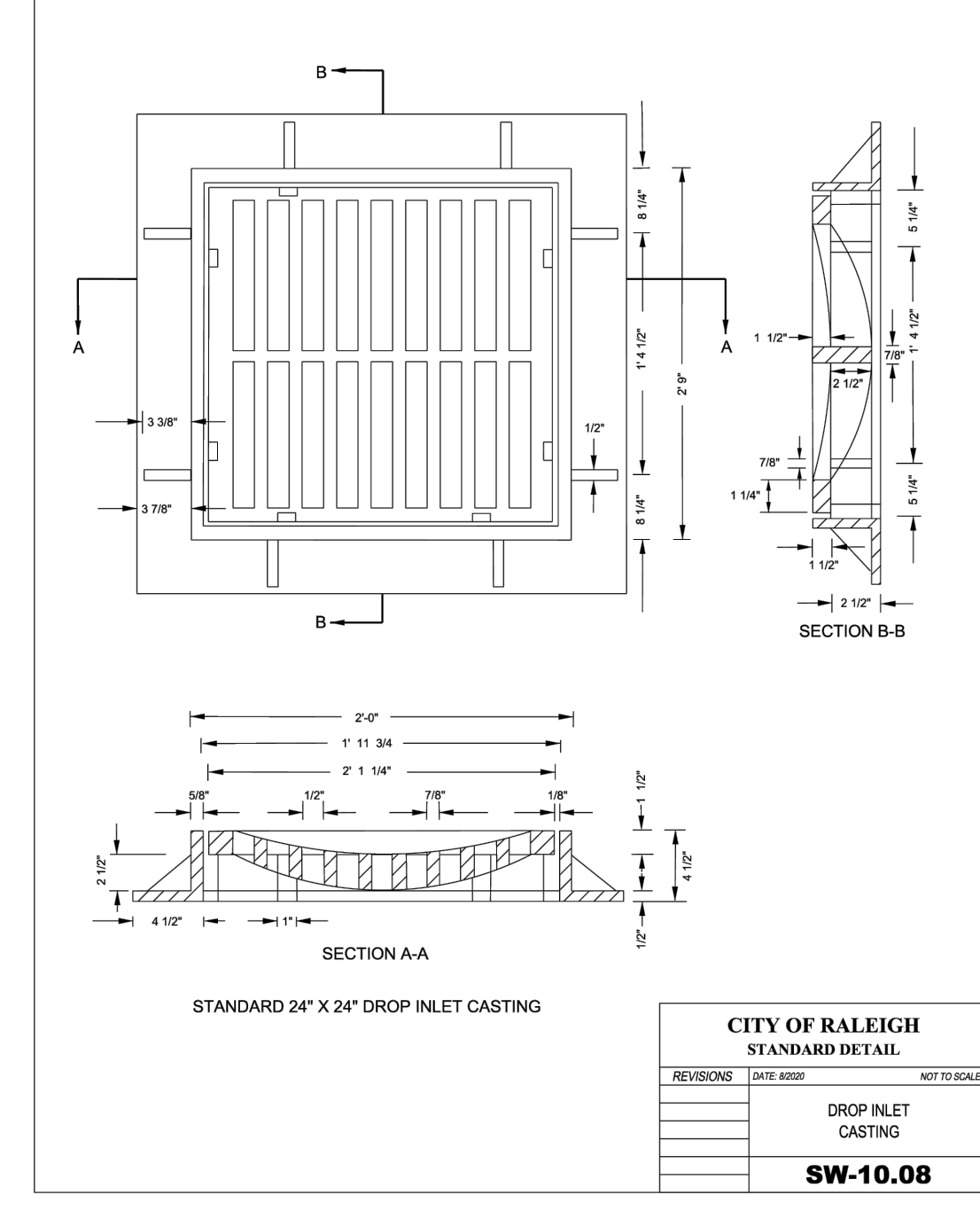
STANDARD CLASS "1" MANHOLE
SW-10.05



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

ROADWAY STANDARD DRAWING FOR
CONCRETE CATCH BASIN
 12" THRU 54" PIPE

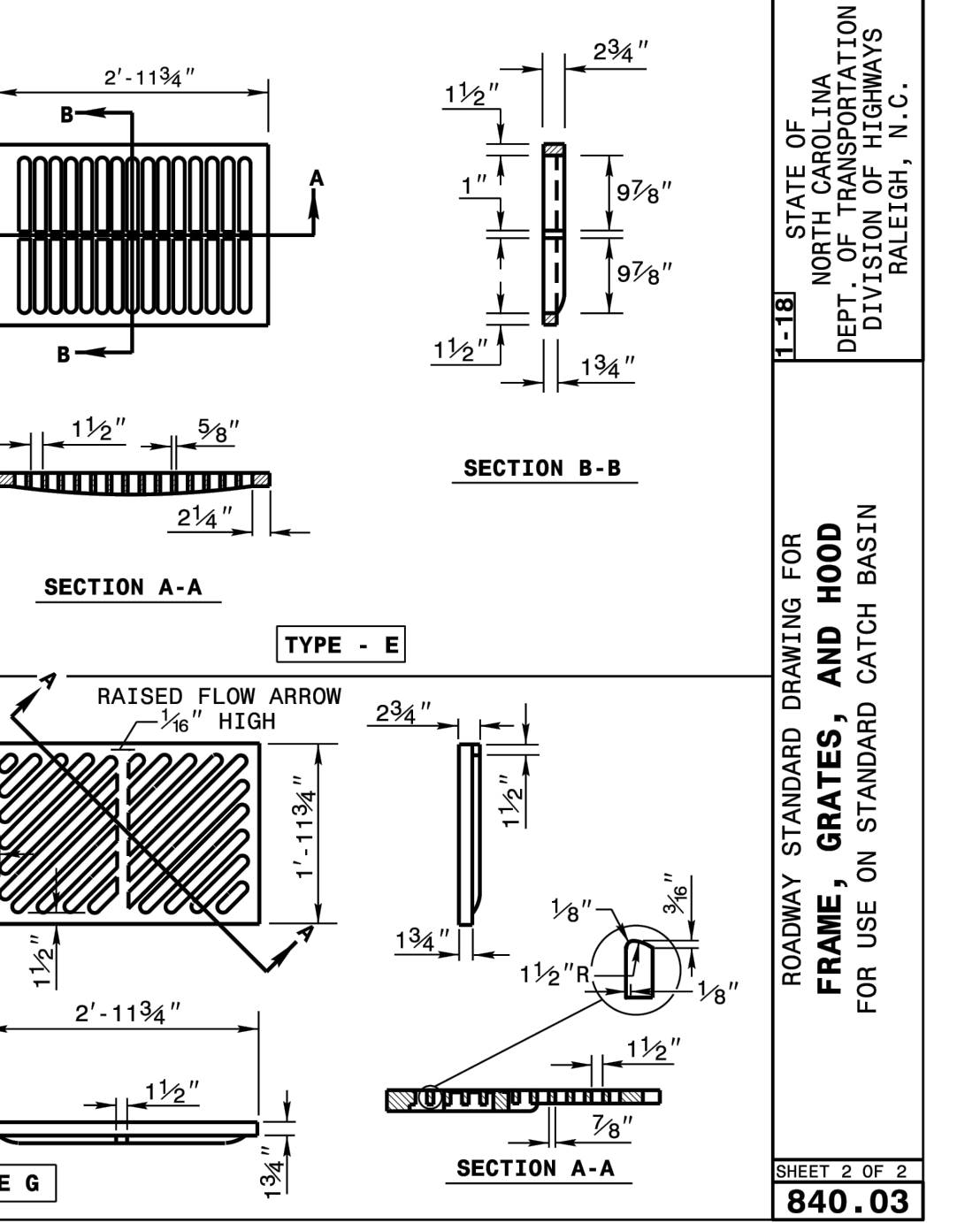
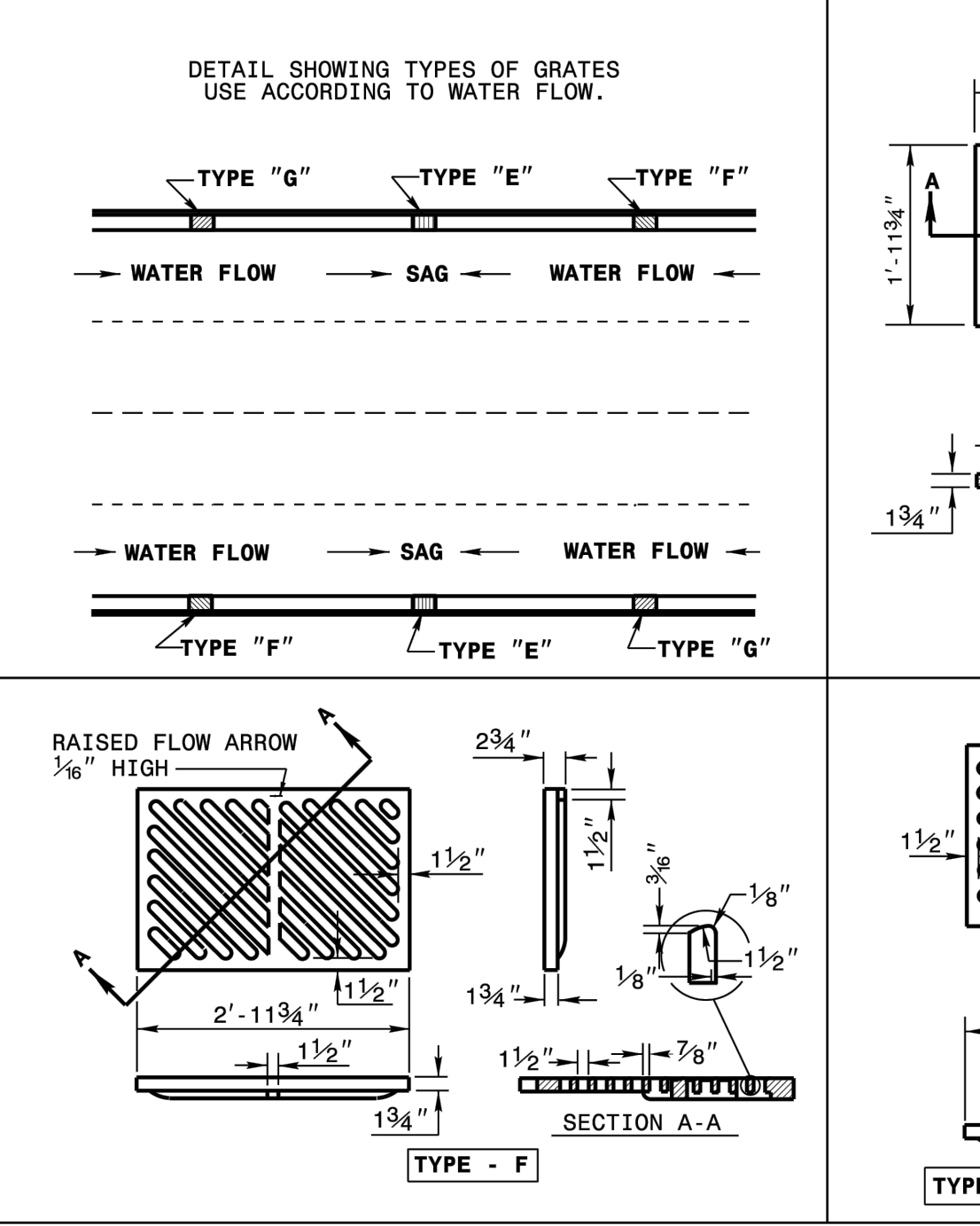
SHEET 2 OF 2
840.02



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

ROADWAY STANDARD DRAWING FOR
FRAME, GRATES, AND HOOD
 FOR USE ON STANDARD CATCH BASIN

SHEET 1 OF 2
840.03



CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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

City of Raleigh Development Approval _____

Raleigh Water Review Officer _____

12/08/23

PROFESSIONAL SEAL
 W. D. BIZELLE
 ENGINEER

BANK

BASS, NIXON & KENNEDY, INC.
 CONSULTING ENGINEERS
 6310 CHAPEL HILL ROAD, SUITE 250, RALEIGH, NC 27607
 TELEPHONE: (919)881-4122 FAX: (919)881-6868
 CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

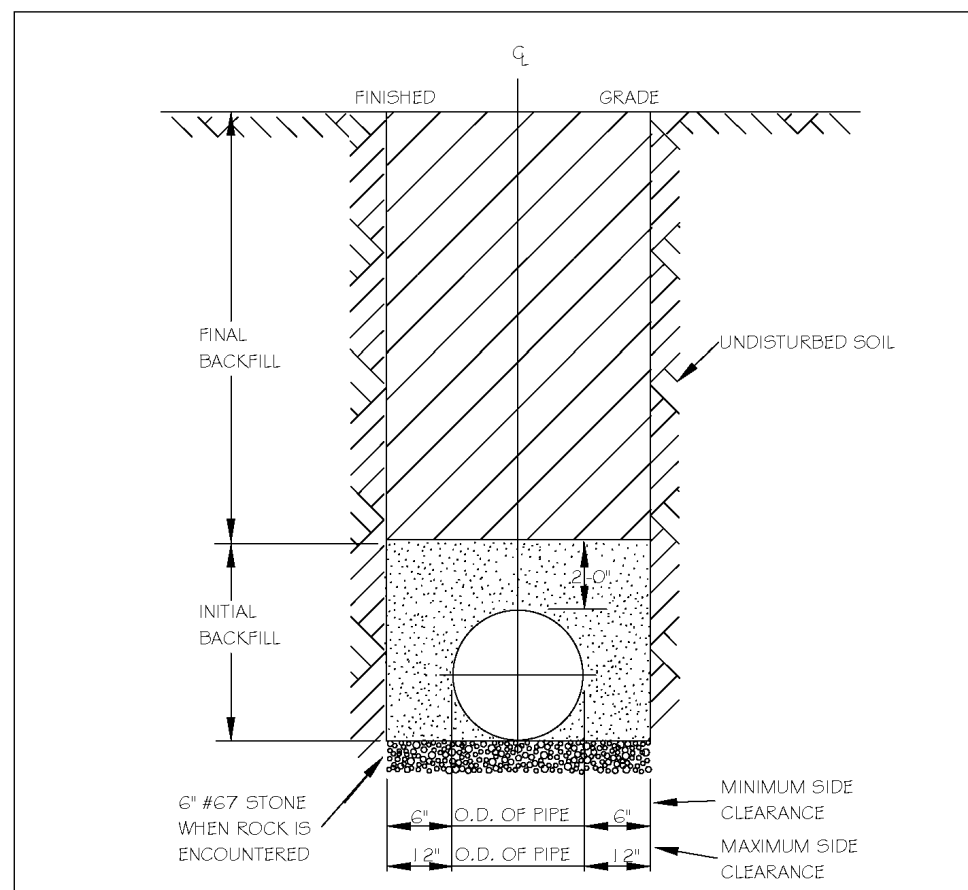
| NO. | DATE | DESCRIPTION | BY |
|-----|----------|-----------------------------|-----|
| 1 | 09-21-23 | CHANGES FROM 06-02-22 CDS | MRM |
| 2 | 10-16-23 | T.O.R. COMMENTS | MRM |
| 3 | 12-06-23 | TOWN OF ROLESVILLE COMMENTS | MRM |

SCALE: N.T.S. CHK BY: MDB

COBBLESTONE VILLAGE MIXED USE DEVELOPMENT
 TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

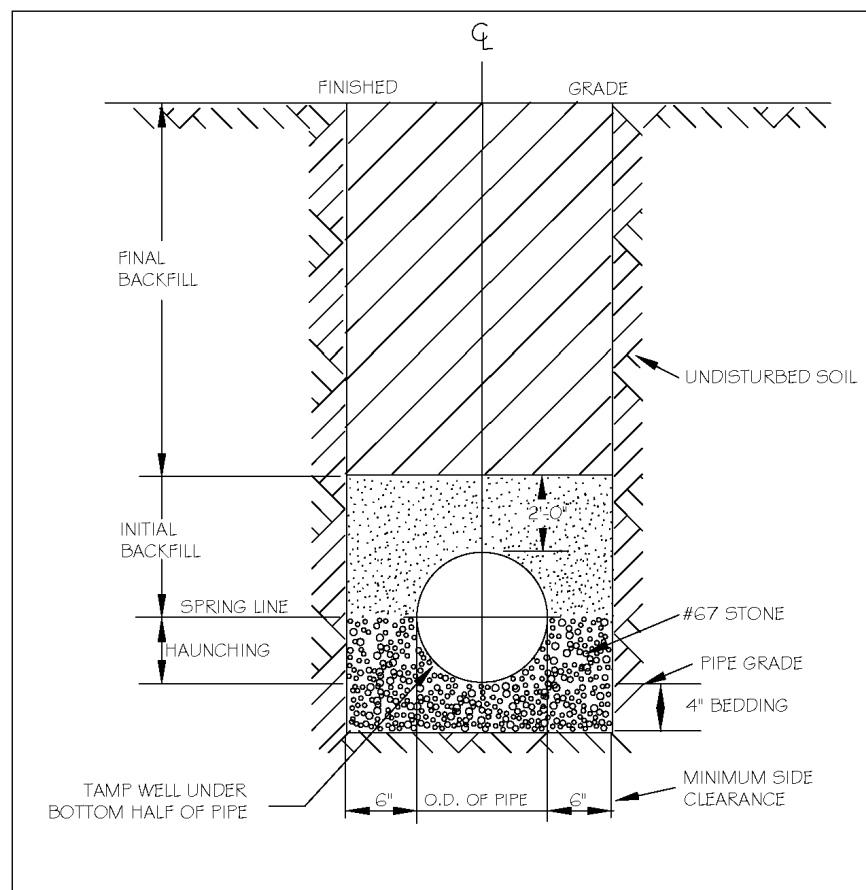
SHEET C5.2

TOWN OF ROLESVILLE PROJECT NO.



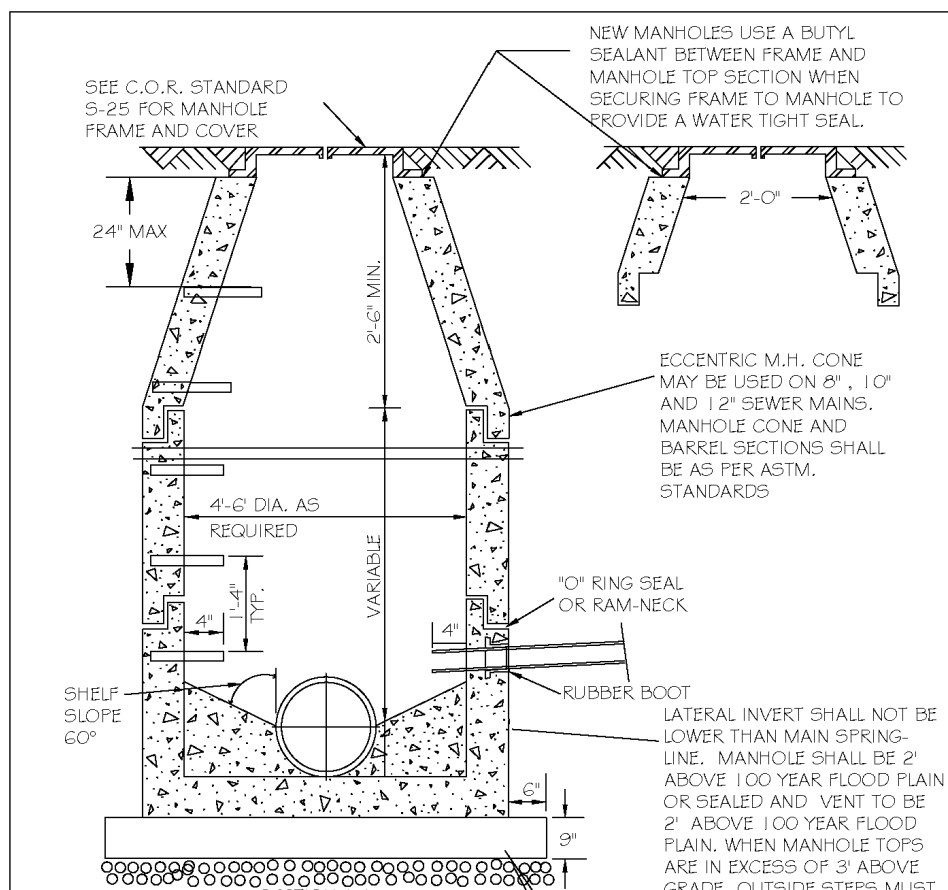
NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.
5. ACHIEVE 90% COMPACTION IN NON-TRAFFIC AREAS, AND 95% COMPACTION IN TRAFFIC AREAS.
6. IF IN BASEMENT AT TOPSOIL, AND 1" CLEAN GRIEST FILL MAY BE REQUIRED.
7. NO BOULDERS 6" IN DIAMETER OR GREATER ALLOWED IN FINAL BACKFILL.

| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|---|-----------|--------|-----------|------|
| TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-4 | KRT | 3-2-00 | | |



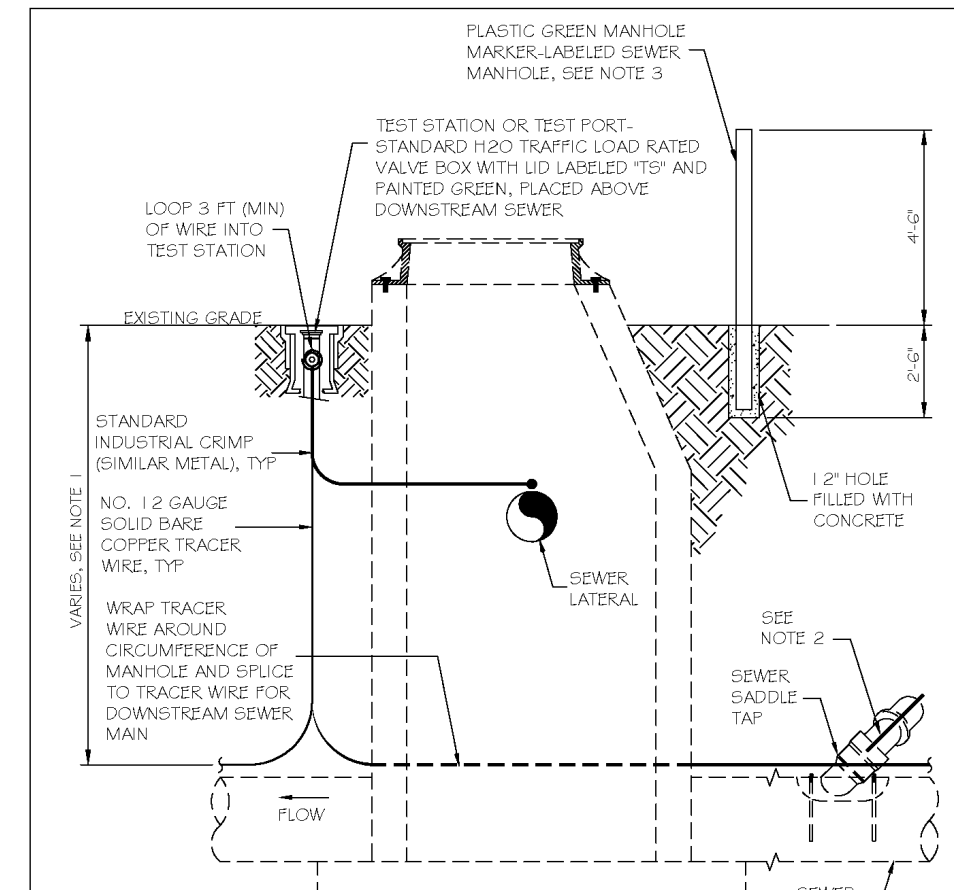
NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|---|-----------|--------|-----------|------|
| TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-5 | KRT | 7-2-02 | | |



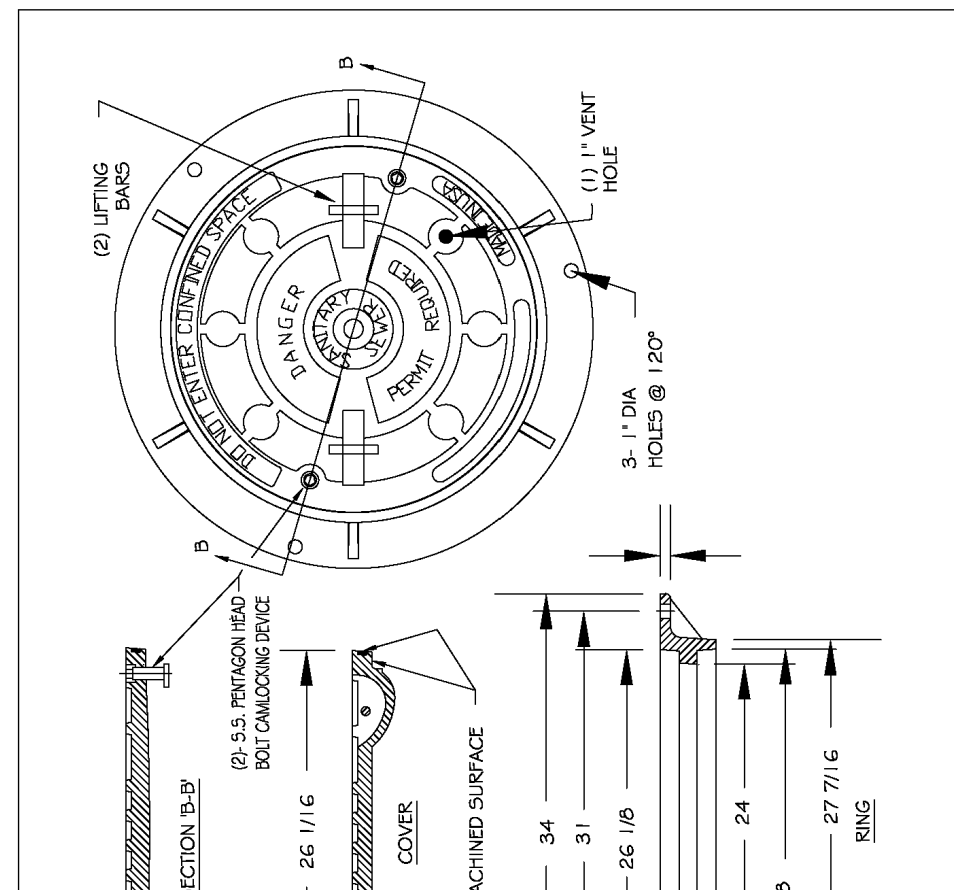
NEW MANHOLES USE A BUTYL SEALANT BETWEEN FRAME AND MANHOLE TOP SECTION WHEN SECURING FRAME TO MANHOLE TO ENSURE A WATER TIGHT SEAL.

| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|---|-----------|----------|-----------|---------|
| STANDARD PRECAST SANITARY SEWER MANHOLE | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-20 | T.G.A. | 12-31-02 | AKB | 2-21-05 |
| | KRT | 3-30-00 | DTL | 6-14-08 |



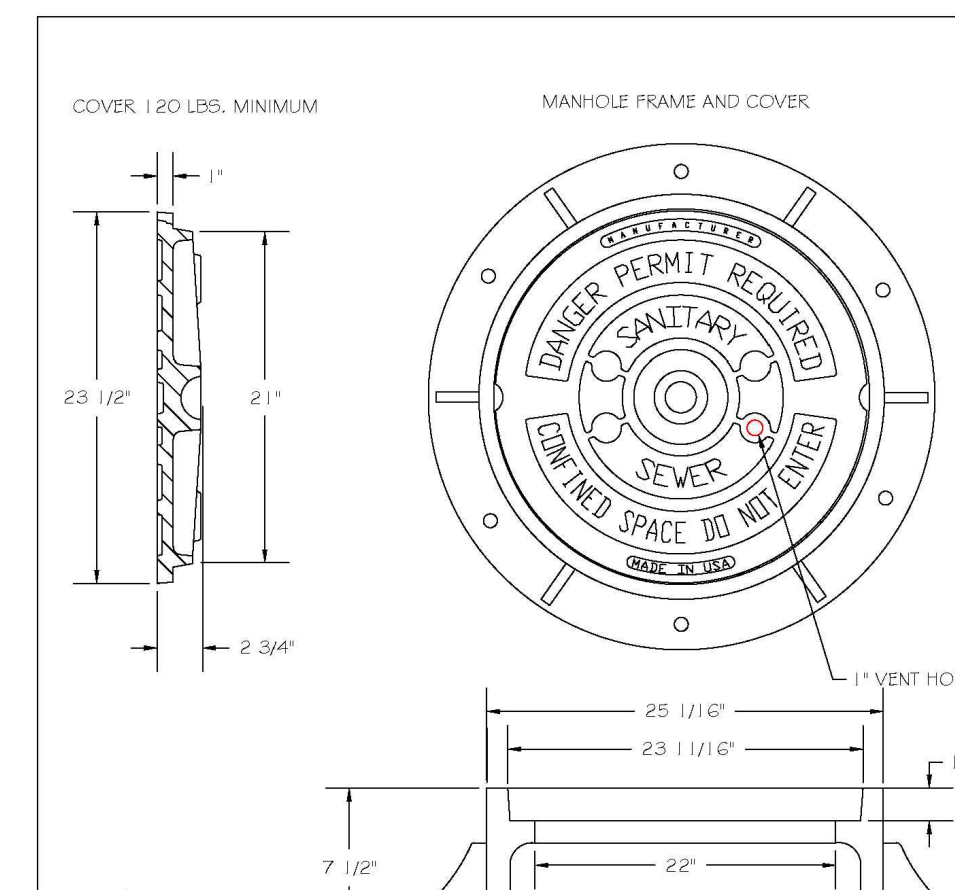
NOTES:
1. THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. FOR GRAVITY MAIN AND OR LATERAL INSTALLATIONS LESS THAN 8 FT, THE TRACER WIRE SHALL BE ATTACHED TO THE PIPE TRACER WIRE SHALL BE ADJACENT TO THE PIPE AT 10 FOOT INTERVALS. FOR GRAVITY MAIN AND OR LATERAL INSTALLATION DEEPER THAN 8 FT, THE TRACER WIRE SHALL BE INSTALLED AT A DEPTH OF 7.5 FT. THE WIRE SHALL BE PROTECTED FROM DAMAGE DURING THE COURSE OF THE WORK. NO BREAKS OR CUTS IN THE TRACER WIRE SHALL BE PERMITTED. WHERE LATERAL TAPS ARE MADE BY SERVICE SAIDLES, THE TRACER WIRE SHALL NOT BE ALLOWED TO BE PLACED BETWEEN THE SAIDLE AND MAIN.
2. MANHOLE MARKERS SHALL BE PLACED ADJACENT TO MANHOLES AT THE DISCRETION OF OWNER OR OWNER'S REPRESENTATIVE.

| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|--|-----------|-------|-----------|------|
| GRAVITY SEWER MAIN TRACER WIRE AND MANHOLE MARKER | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-20A | WJE | 09-11 | | |



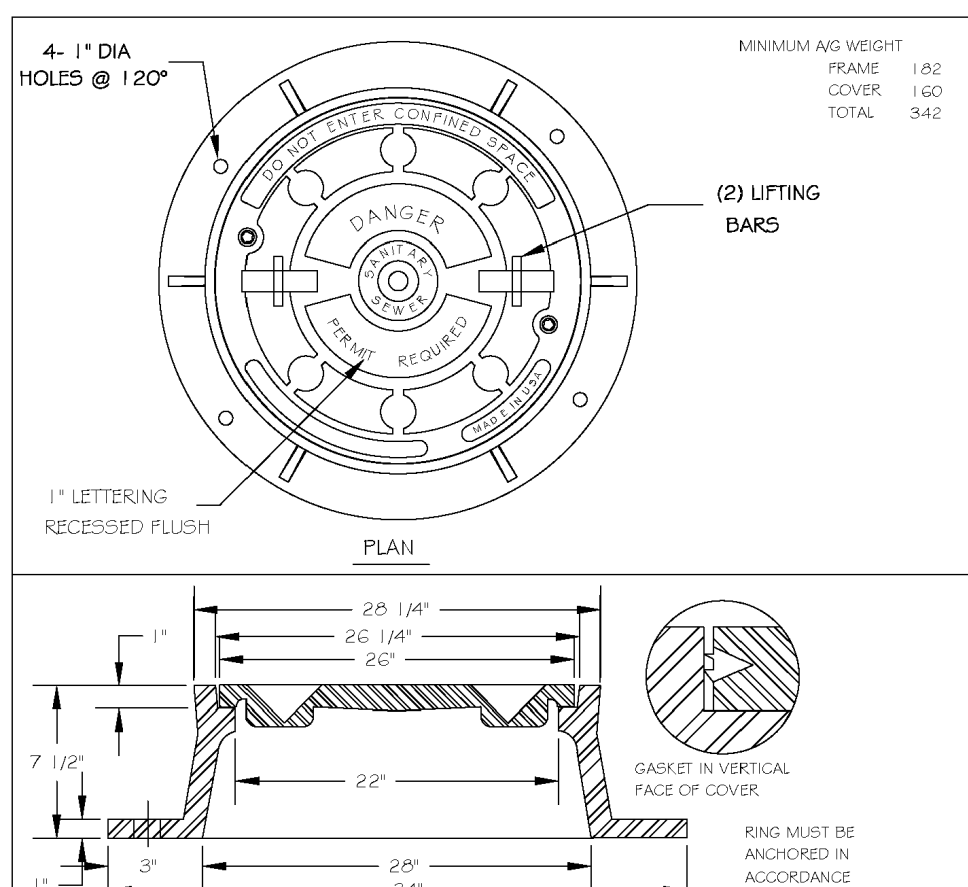
Notes: solid cover required when water tight manhole specified.

| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|---|-----------|---------|-----------|---------|
| FLAT TOP MANHOLE COVER | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-25.01 | KRT | 3-1-07 | A.B.B. | 2-9-05 |
| | KRT | 3-30-00 | D.H.L. | 6-18-08 |



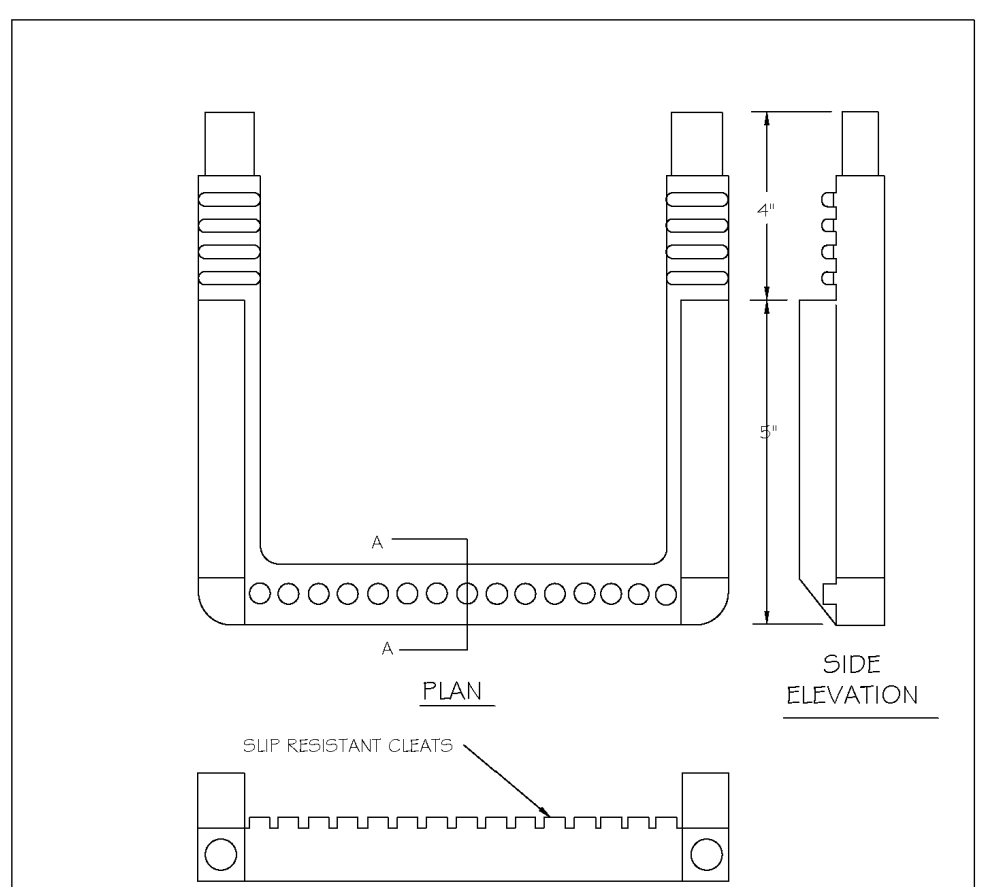
NOTES:
1) ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2) FRAME SHALL BE A MINIMUM WEIGHT OF 120 LBS. WITHIN PUBLIC ROW AND 140 LBS. WITHIN EASEMENTS.
3) COVER SHALL WEIGH A MIN. OF 120 LBS.
4) ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE SET TO THE CORNER SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|---|-----------|---------|-----------|---------|
| STANDARD MANHOLE COVER | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-25 | KRT | 3-1-07 | A.B.B. | 2-9-05 |
| | KRT | 3-30-00 | D.H.L. | 6-18-08 |



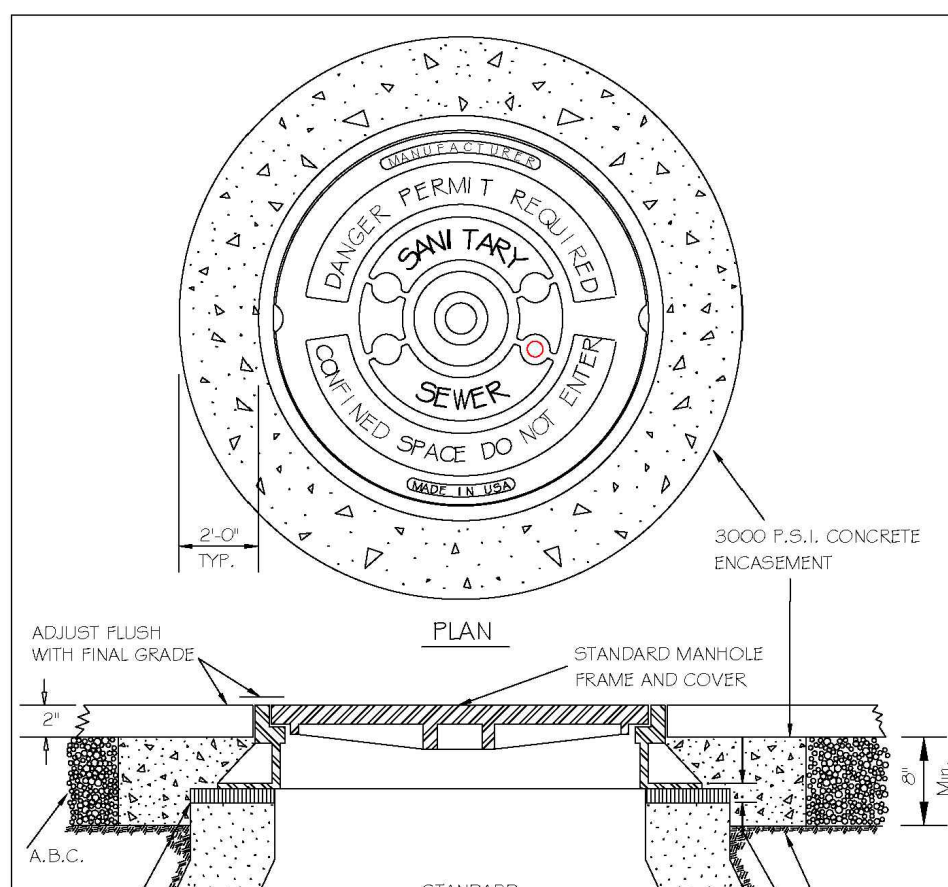
MINIMUM AG WEIGHT
FRAME 140
COVER 140
TOTAL 280

| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|---|-----------|---------|-----------|---------|
| MANHOLE FRAME AND WATERTIGHT COVER | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-26 | KRT | 3-1-07 | AKB | 2-23-05 |
| | KRT | 3-30-00 | DTL | 6-14-08 |



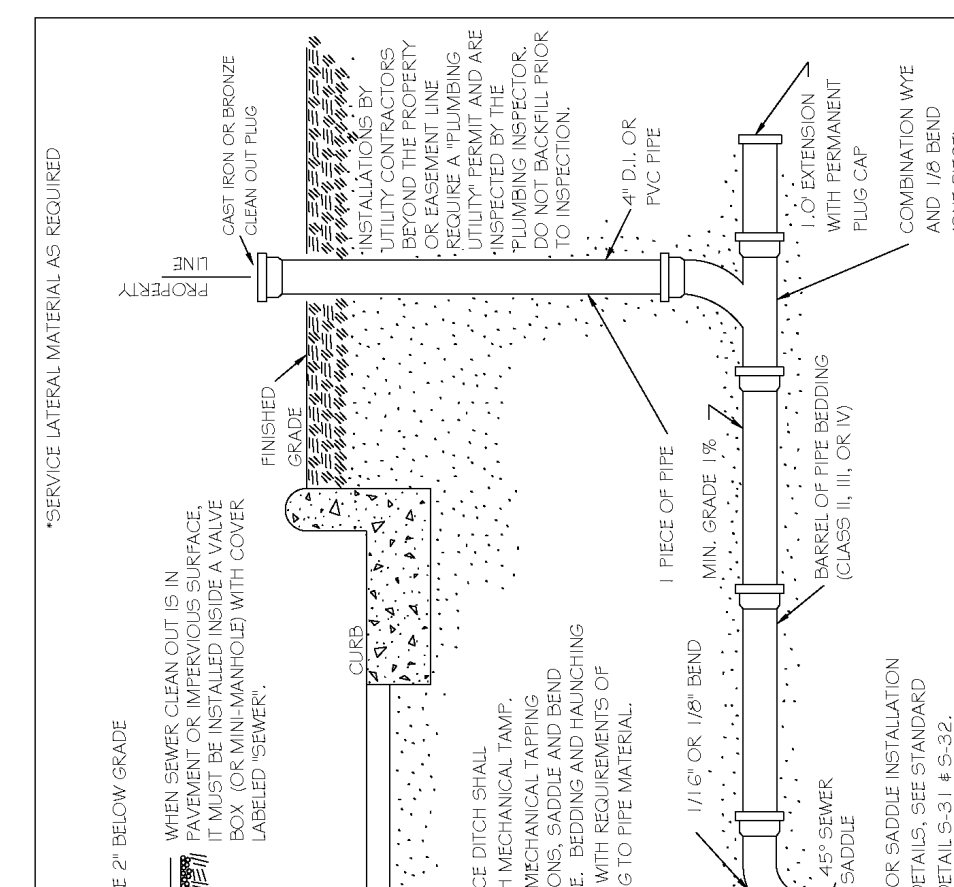
SECTION A - A

| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|---|-----------|---------|-----------|------|
| STANDARD SLIP RESISTANT MANHOLE STEP DETAIL | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-28 | KRT | 3-30-00 | | |



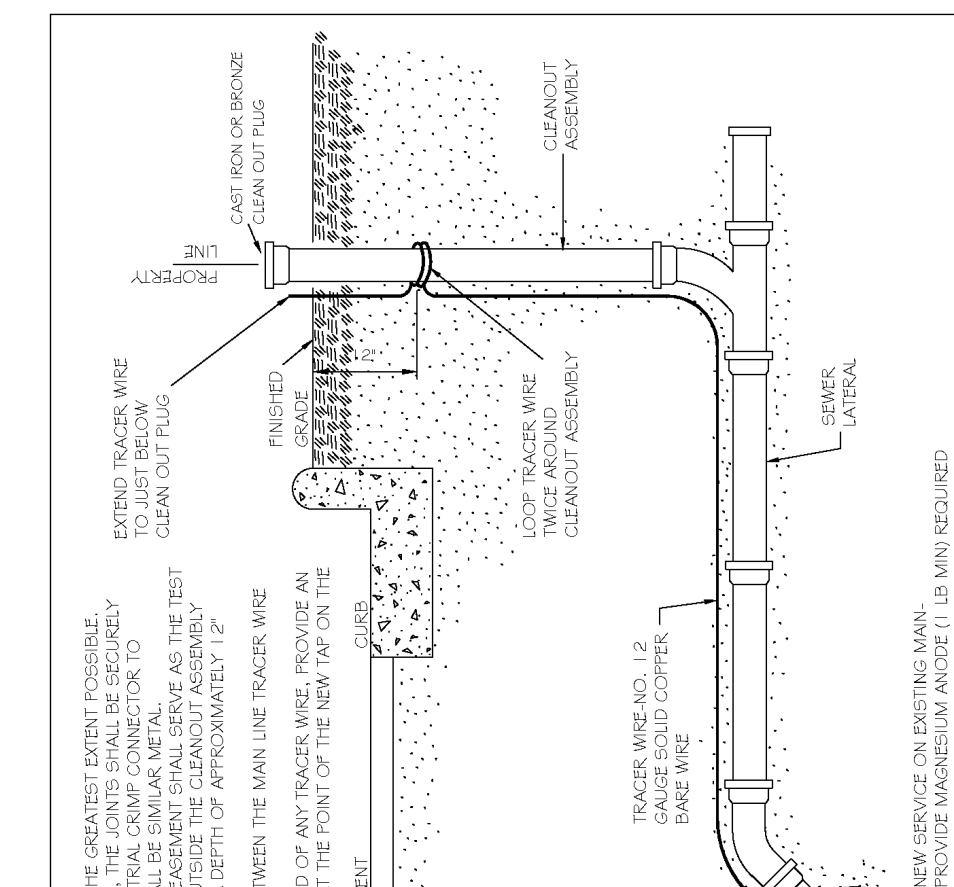
SECTION

| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|--|-----------|----------|-----------|----------|
| STANDARD MANHOLE FRAME AND COVER DETAIL WITHIN PAVED SURFACES | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-29 | T.G.A. | 12-31-02 | AKB | 3-30-05 |
| | KRT | 3-30-00 | DTL | 11-29-07 |



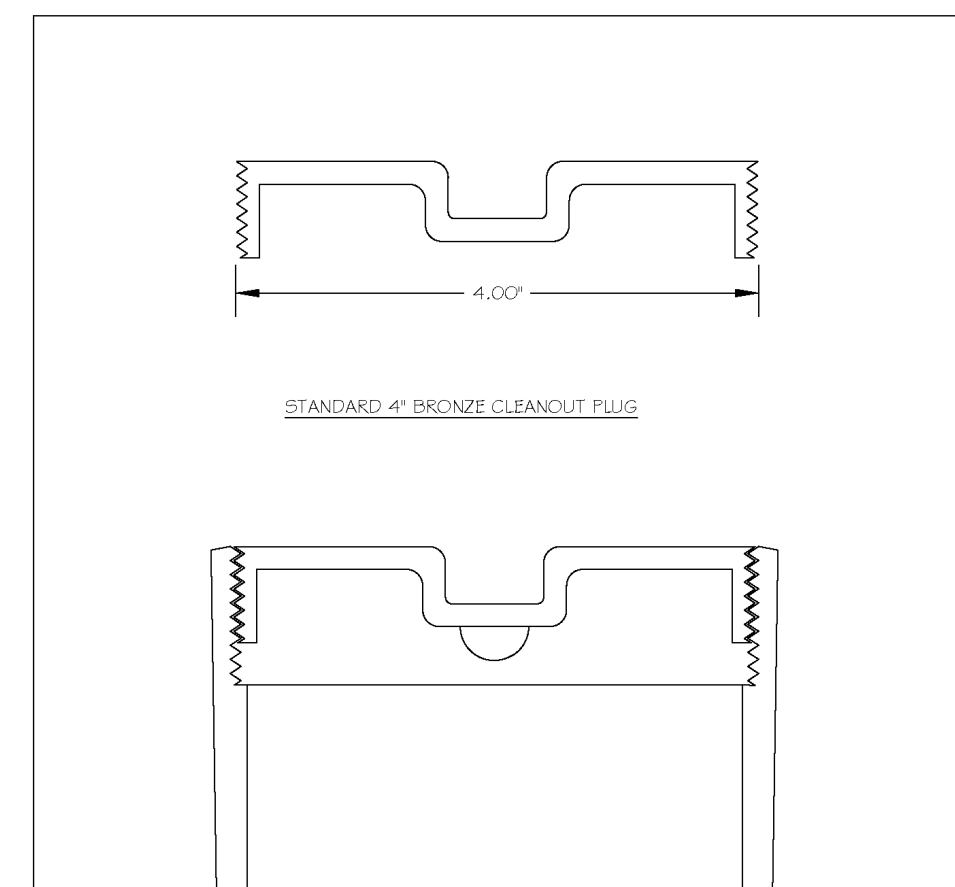
PAVEMENT OPTION

| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|---|-----------|----------|-----------|----------|
| TYPICAL SANITARY SEWER LATERAL CONNECTION | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-30 | T.G.A. | 12-31-02 | A.B.B. | 4-24-05 |
| | KRT | 3-30-00 | D.H.L. | 11-18-05 |



NOTES:
1. THE TRACER WIRE SHALL BE CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. FOR GRAVITY MAIN AND OR LATERAL INSTALLATIONS LESS THAN 8 FT, THE TRACER WIRE SHALL BE ATTACHED TO THE PIPE TRACER WIRE SHALL BE ADJACENT TO THE PIPE AT 10 FOOT INTERVALS. FOR GRAVITY MAIN AND OR LATERAL INSTALLATION DEEPER THAN 8 FT, THE TRACER WIRE SHALL BE INSTALLED AT A DEPTH OF 7.5 FT. THE WIRE SHALL BE PROTECTED FROM DAMAGE DURING THE COURSE OF THE WORK. NO BREAKS OR CUTS IN THE TRACER WIRE SHALL BE PERMITTED. WHERE LATERAL TAPS ARE MADE BY SERVICE SAIDLES, THE TRACER WIRE SHALL NOT BE ALLOWED TO BE PLACED BETWEEN THE SAIDLE AND MAIN.
2. MANHOLE MARKERS SHALL BE PLACED ADJACENT TO MANHOLES AT THE DISCRETION OF OWNER OR OWNER'S REPRESENTATIVE.

| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|---|-----------|---------|-----------|----------|
| TYPICAL SANITARY SEWER LATERAL TRACER WIRE | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-30A | WJE | 3-1-07 | A.B.B. | 2-9-05 |
| | KRT | 3-30-00 | D.H.L. | 11-18-05 |

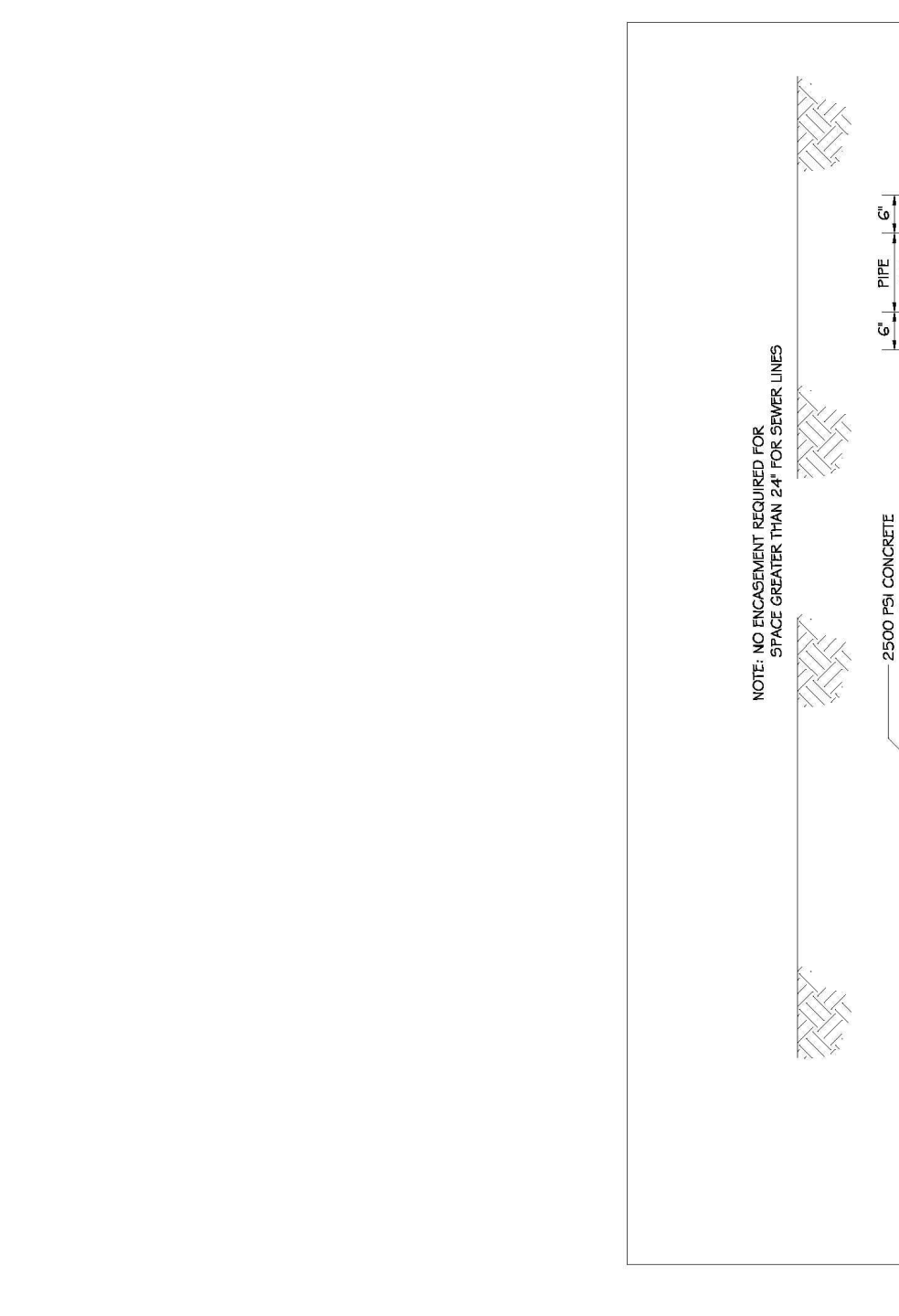


STYLES ACCEPTED:
INVERTED NUT
RAGGED NUT

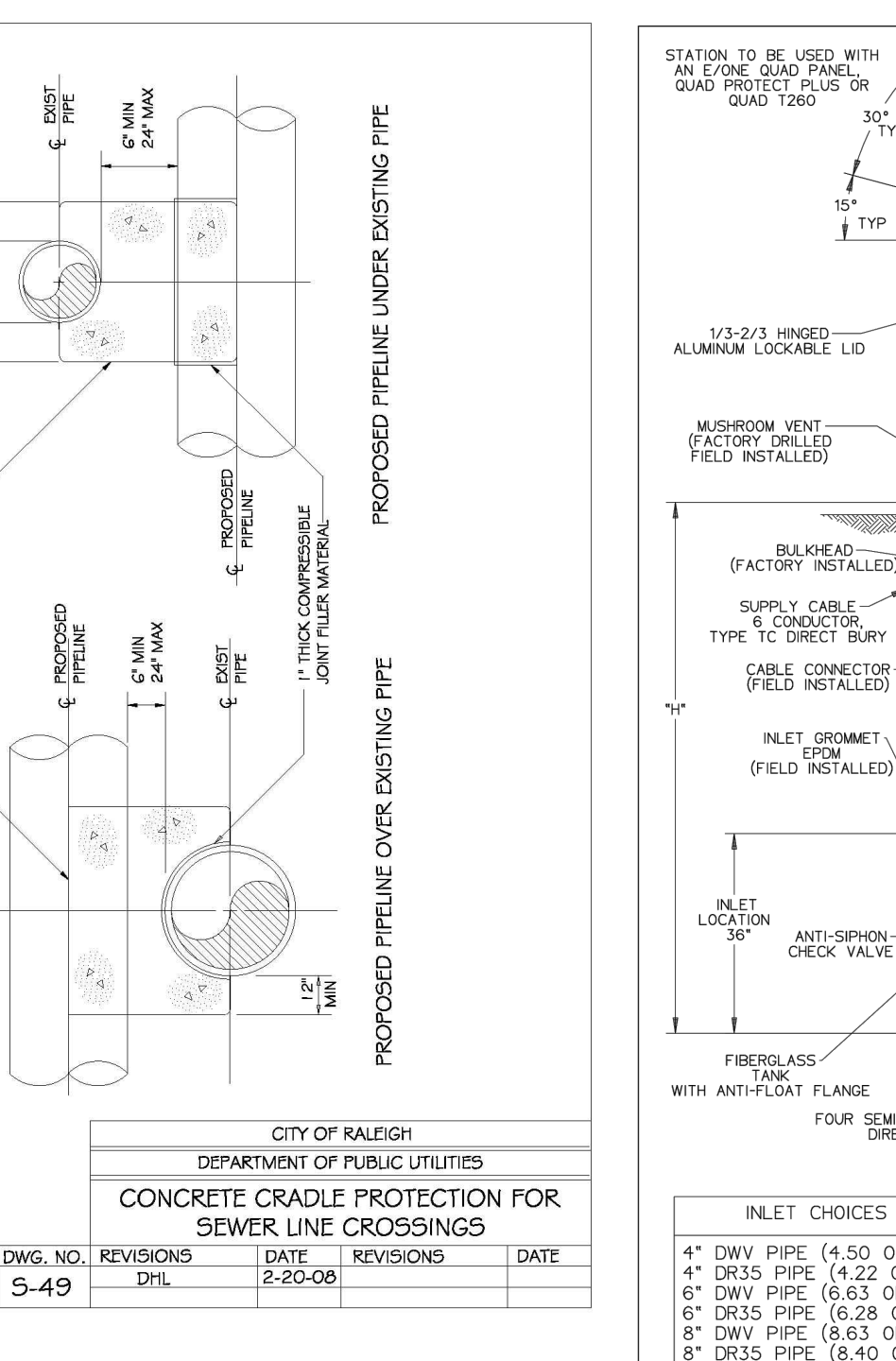
| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|---|-----------|---------|-----------|------|
| 4" CLEANOUT PLUG | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-34 | D.W.C. | 3-27-05 | | |



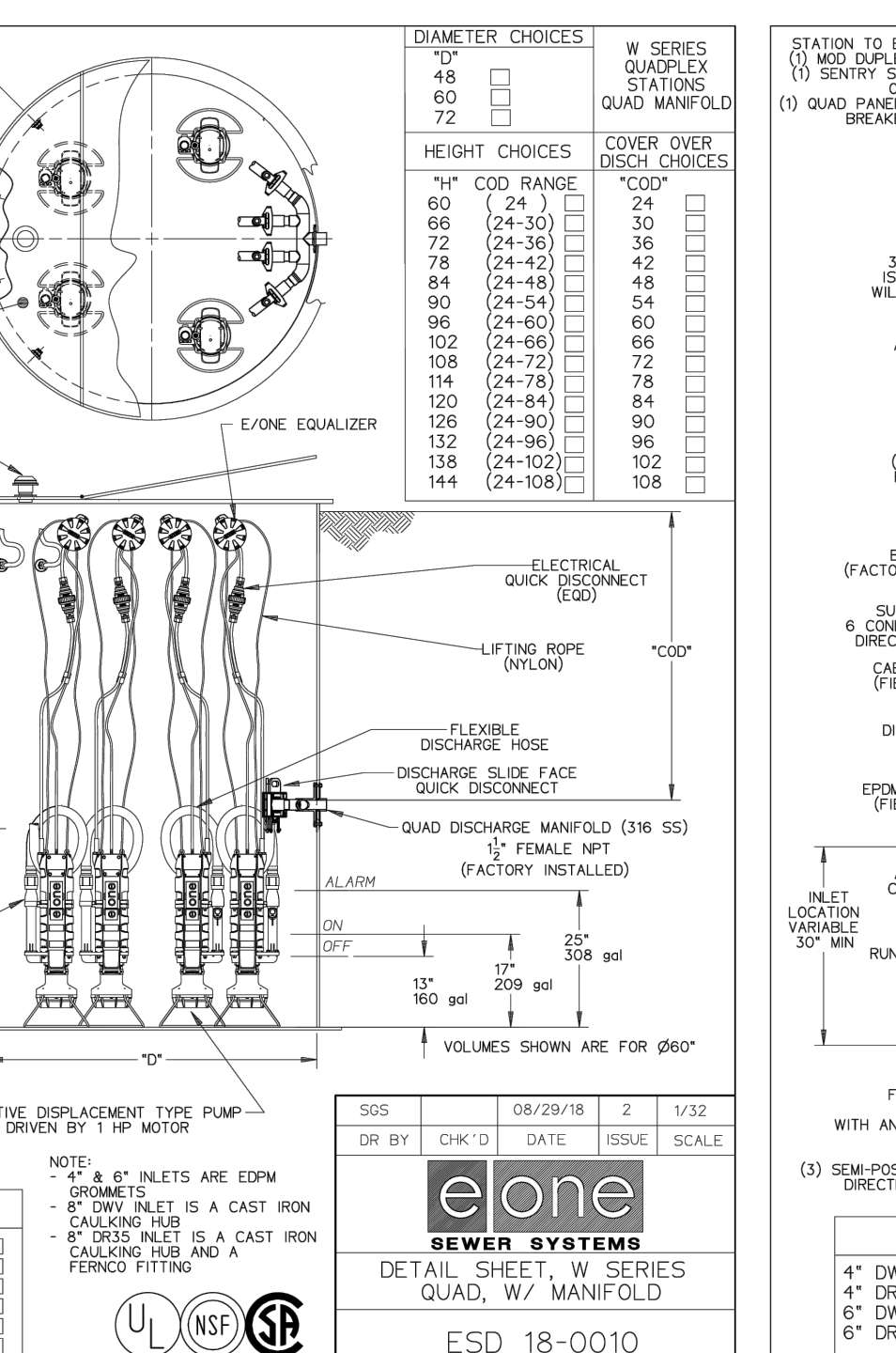
| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|--|-----------|---------|-----------|------|
| CONCRETE CRADLE PROTECTION FOR SEWER LINE CROSSINGS | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-49 | D.H.L. | 2-20-00 | | |



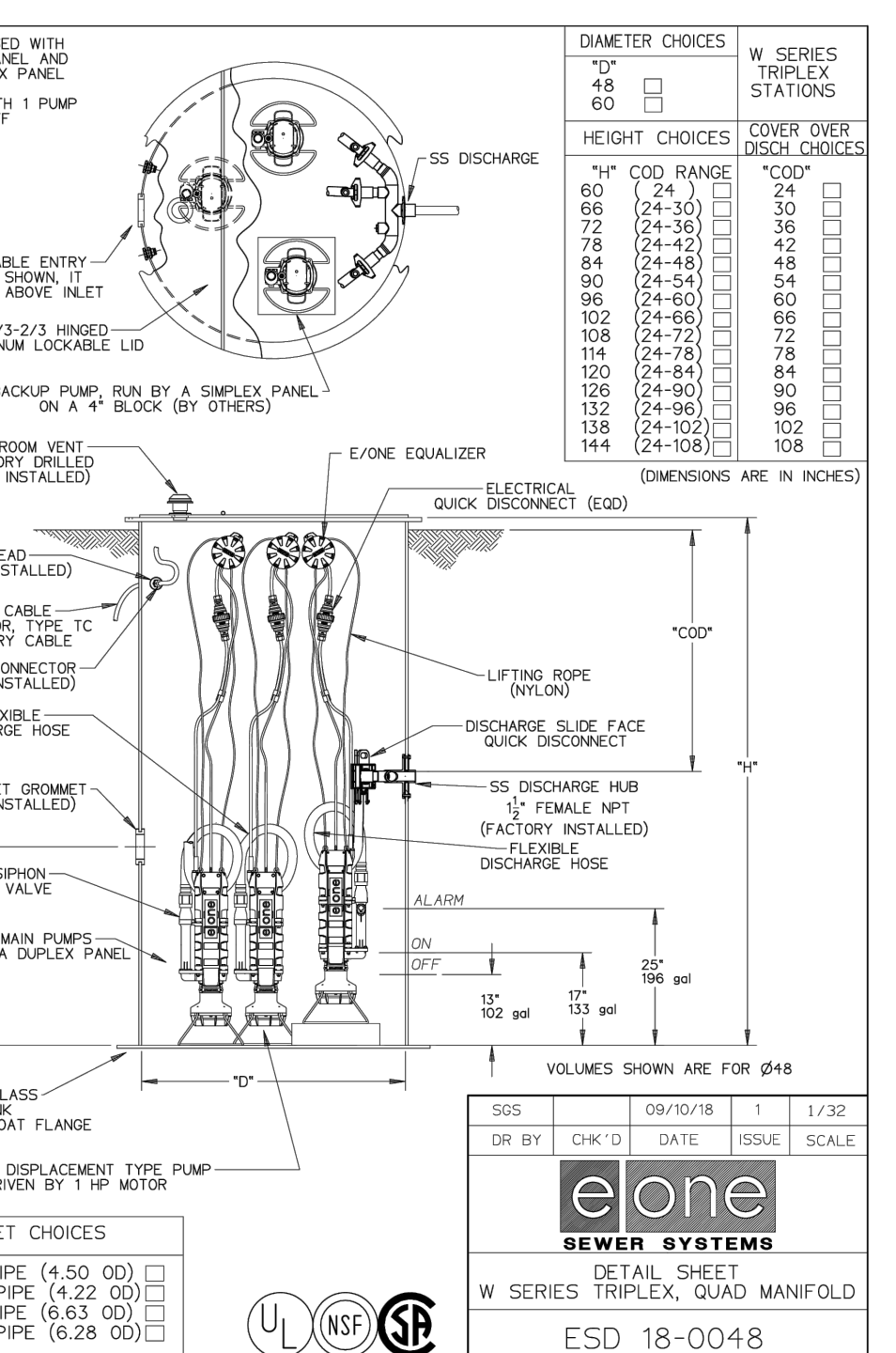
| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|--|-----------|---------|-----------|------|
| CONCRETE CRADLE PROTECTION FOR SEWER LINE CROSSINGS | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-49 | D.H.L. | 2-20-00 | | |



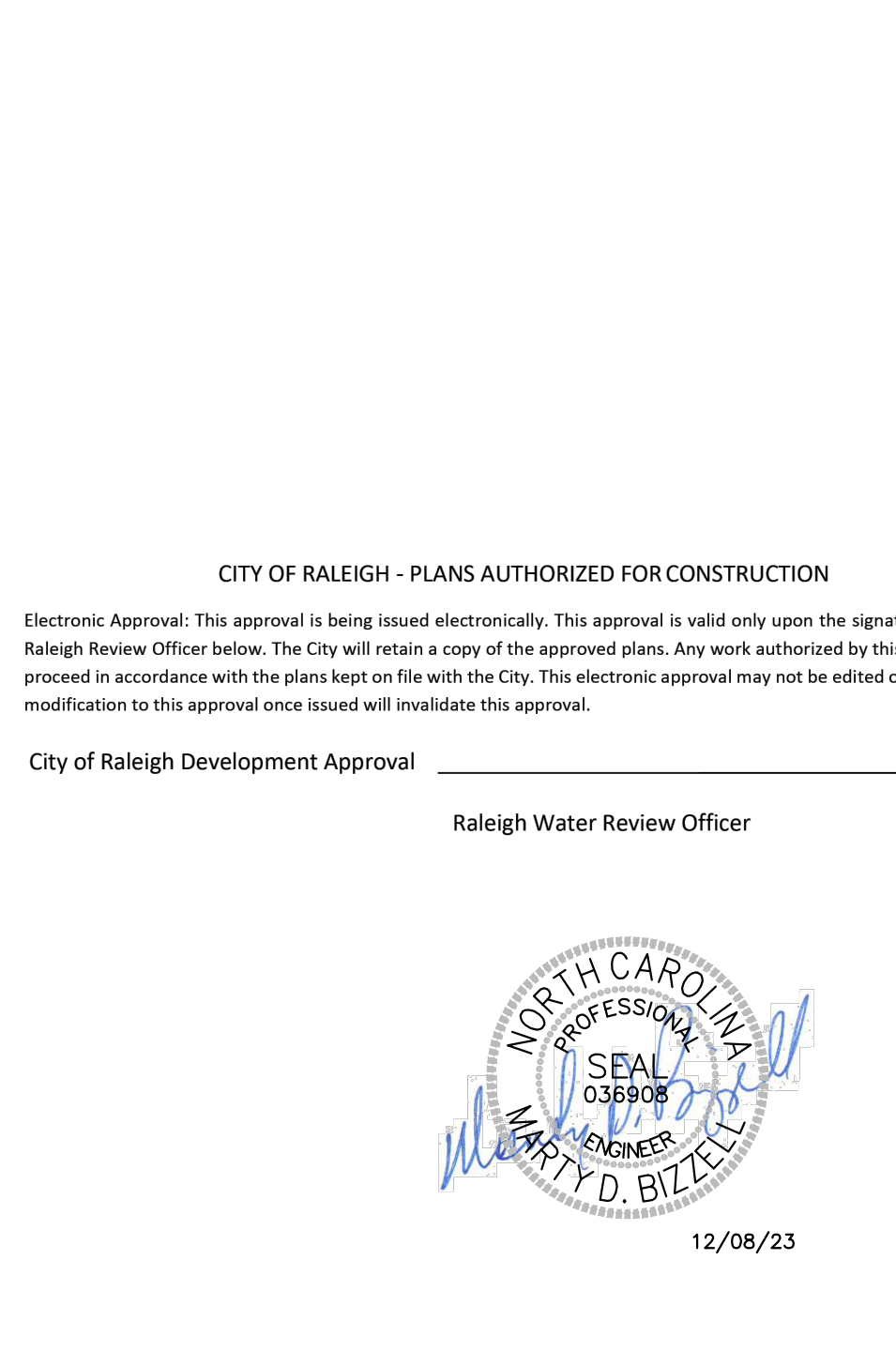
| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|--|-----------|----------|-----------|----------|
| STATION TO BE USED WITH AN EXISTING QUAD PROJECT PLUS OR QUAD 1000 | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-50 | T.G.A. | 12-31-02 | AKB | 3-30-05 |
| | KRT | 3-30-00 | DTL | 11-29-07 |



| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|--|-----------|----------|-----------|----------|
| STATION TO BE USED WITH AN EXISTING QUAD PROJECT PLUS OR QUAD 1000 | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-50 | T.G.A. | 12-31-02 | AKB | 3-30-05 |
| | KRT | 3-30-00 | DTL | 11-29-07 |



| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|--|-----------|----------|-----------|----------|
| STATION TO BE USED WITH AN EXISTING QUAD PROJECT PLUS OR QUAD 1000 | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-50 | T.G.A. | 12-31-02 | AKB | 3-30-05 |
| | KRT | 3-30-00 | DTL | 11-29-07 |



| CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES | | | | |
|--|-----------|----------|-----------|----------|
| STATION TO BE USED WITH AN EXISTING QUAD PROJECT PLUS OR QUAD 1000 | | | | |
| DWG. NO. | REVISIONS | DATE | REVISIONS | DATE |
| S-50 | T.G.A. | 12-31-02 | AKB | 3-30-05 |
| | KRT | 3-30-00 | DTL | 11-29-07 |

BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919)881-7222 FAX: (919)881-8686
CERTIFICATION NUMBERS: NCBELS (C-0119); NCBOLA (C-0267)

COBBLESTONE VILLAGE MIXED USE DEVELOPMENT
TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

PROGRESS MRM DATE DRAWN BY
03-18-17 MRM
10-16-23 MRM
09-21-23 MRM

DETAILS
TOWN OF ROLESVILLE COMMENTS
T.O.R. COMMENTS
CHANGES FROM 06-02-22 CD'S

NO. DESCRIPTION
BY

REVISIONS
DATE

SCALE: N.T.S.
CHK BY: M.B.

SHEET C5.3

TOWN OF ROLESVILLE PROJECT NO.

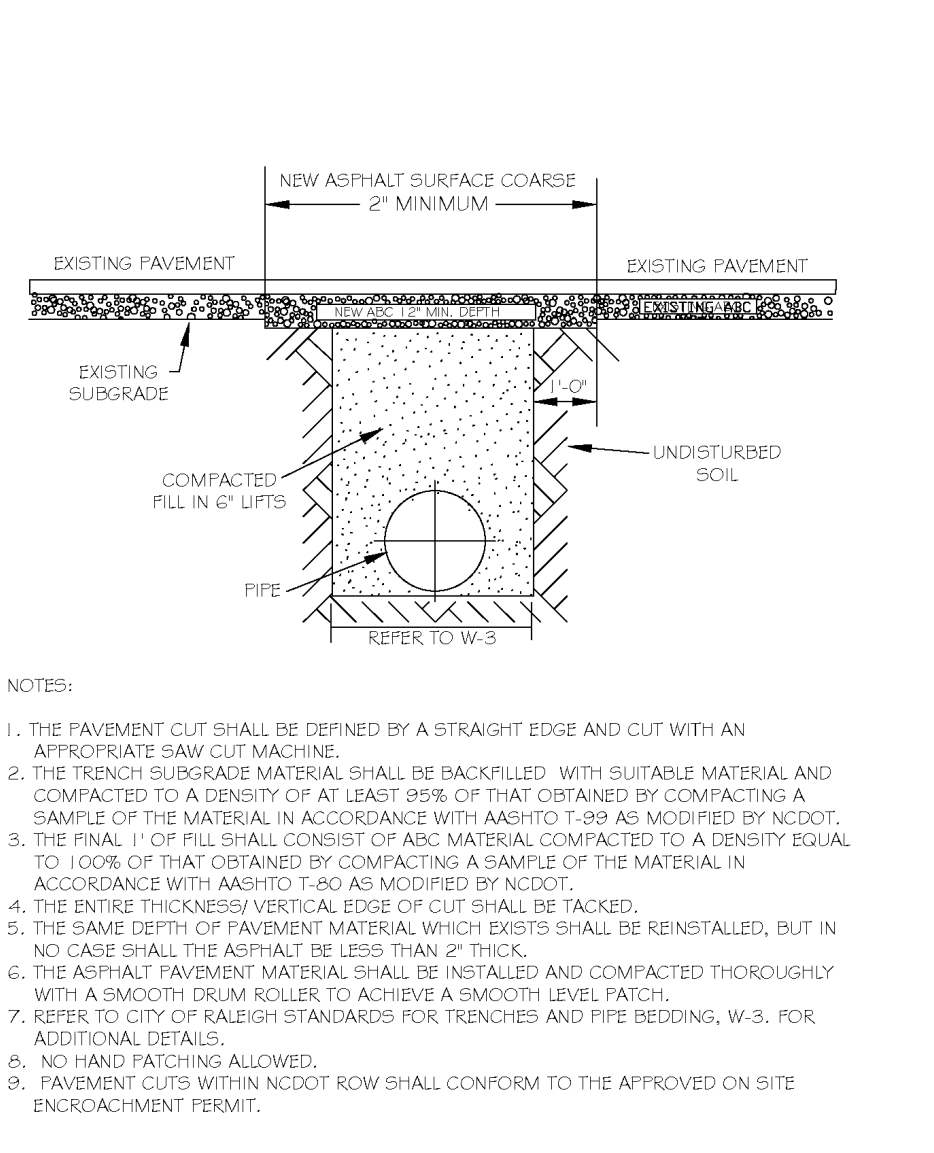


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-2.

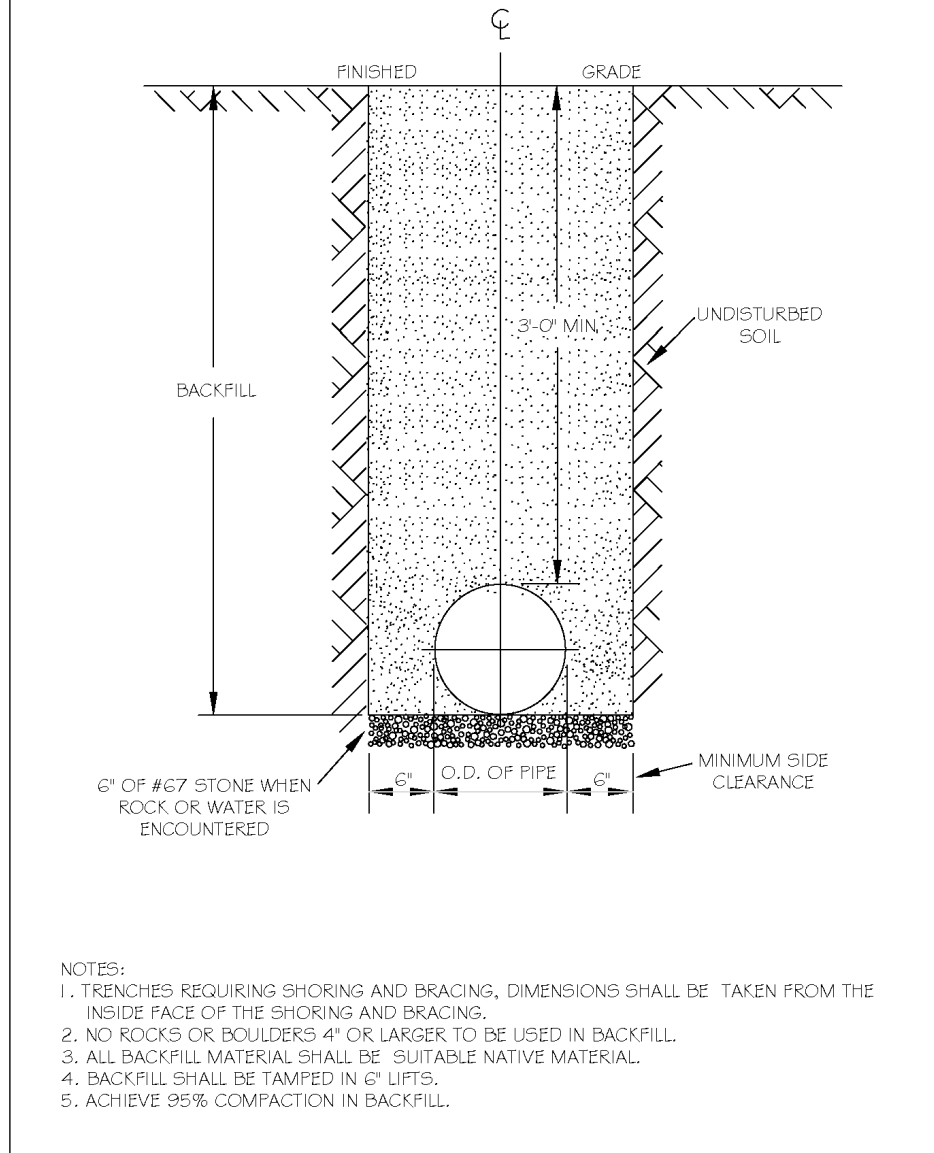


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-3.

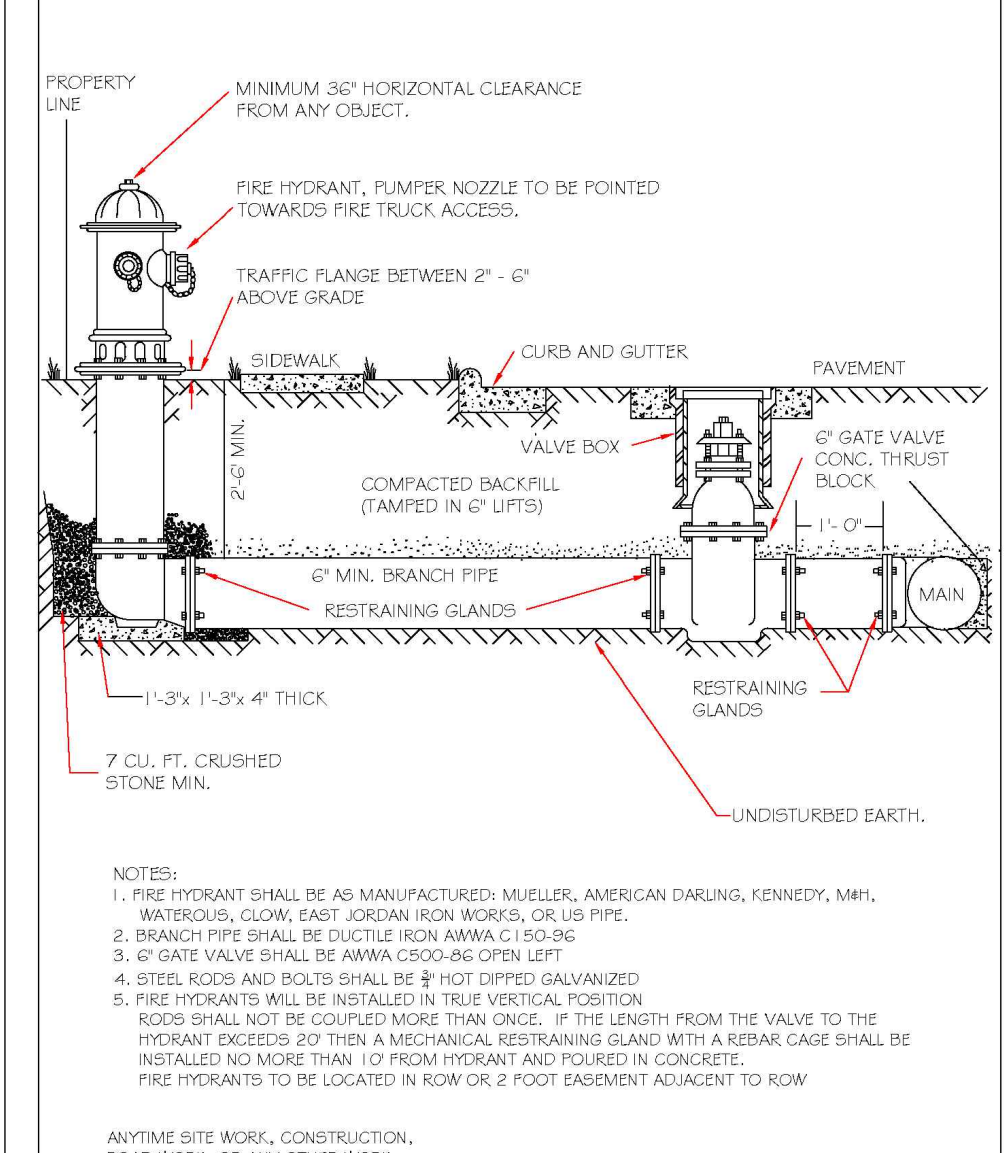


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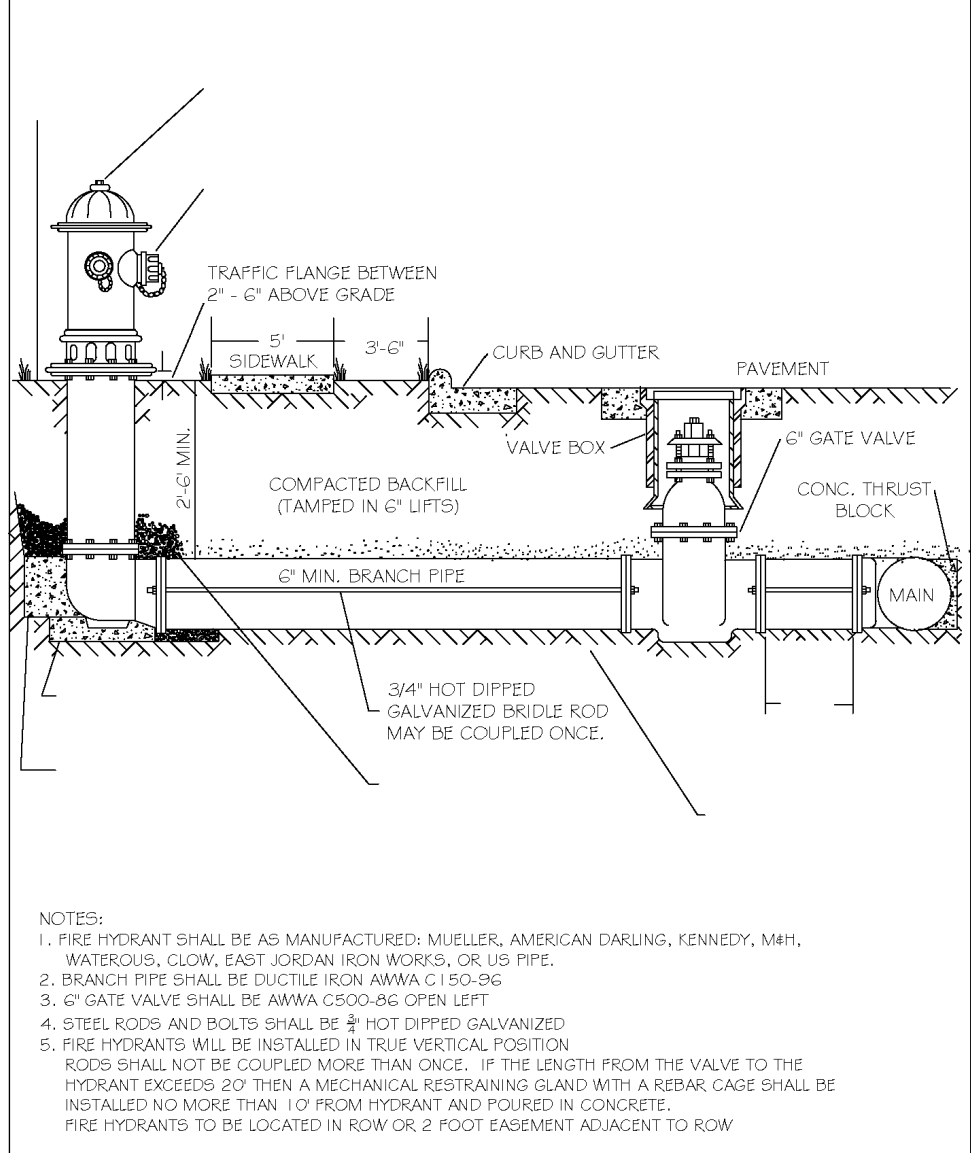


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-4a.

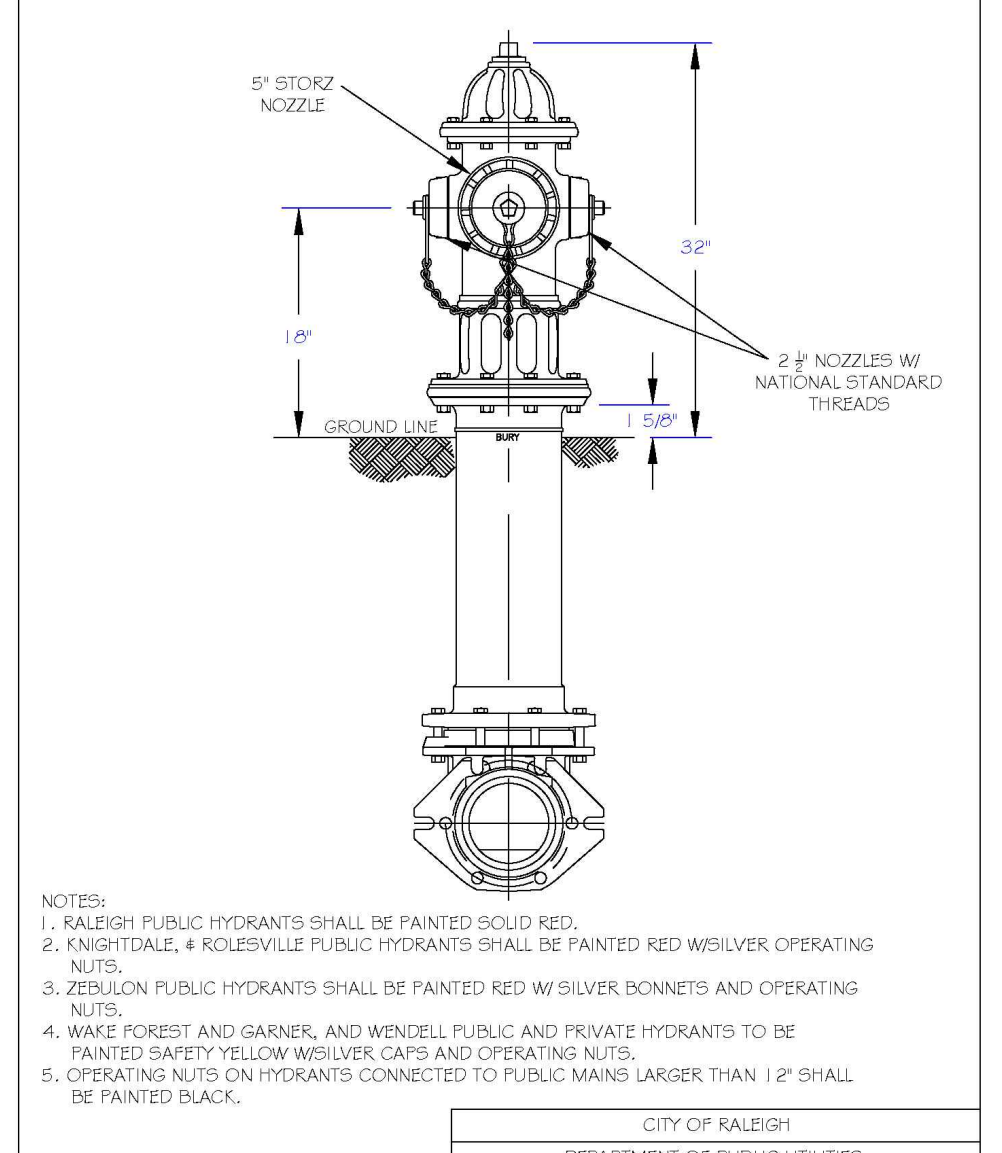


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-5.

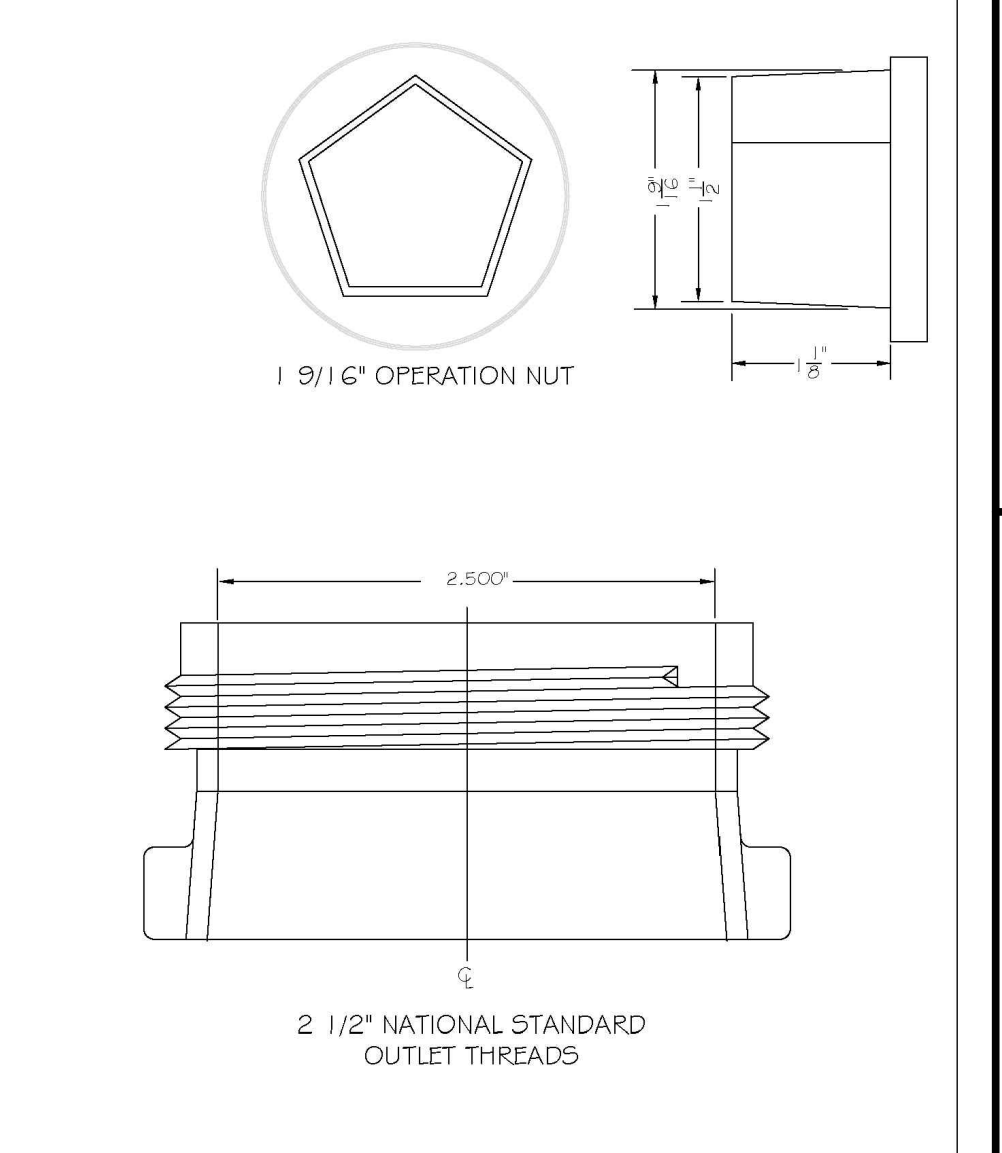


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-6.

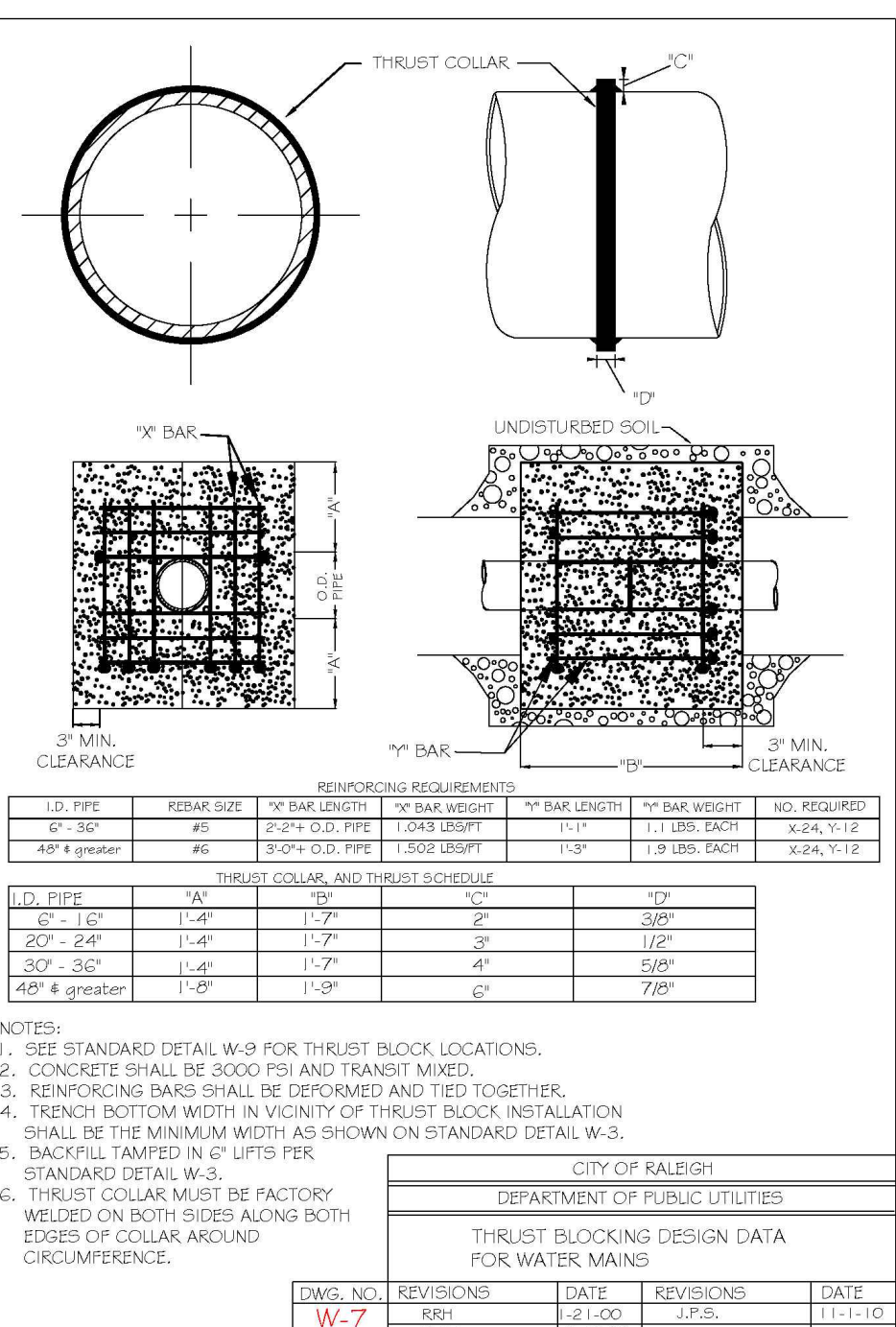


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-7.

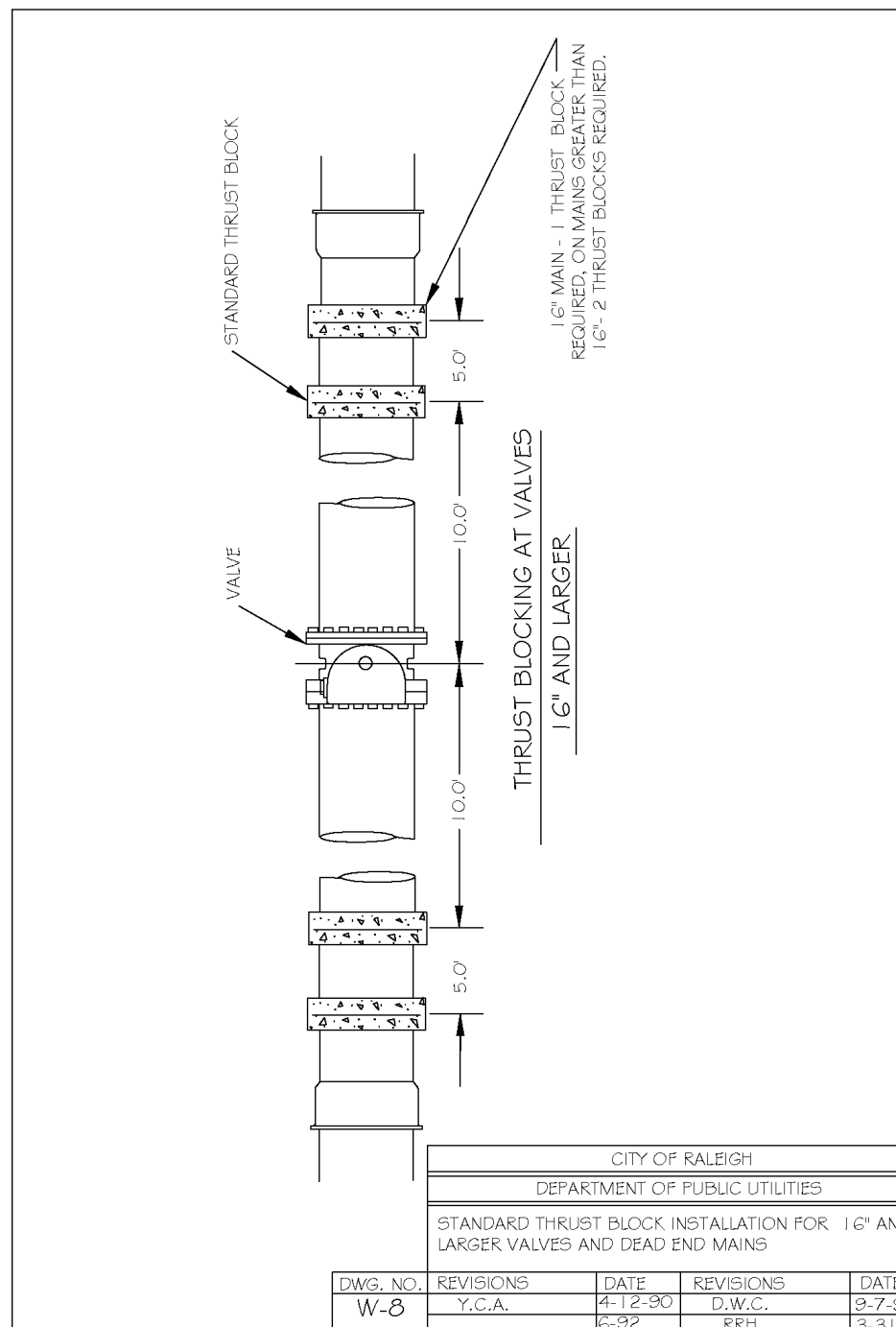


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-8.

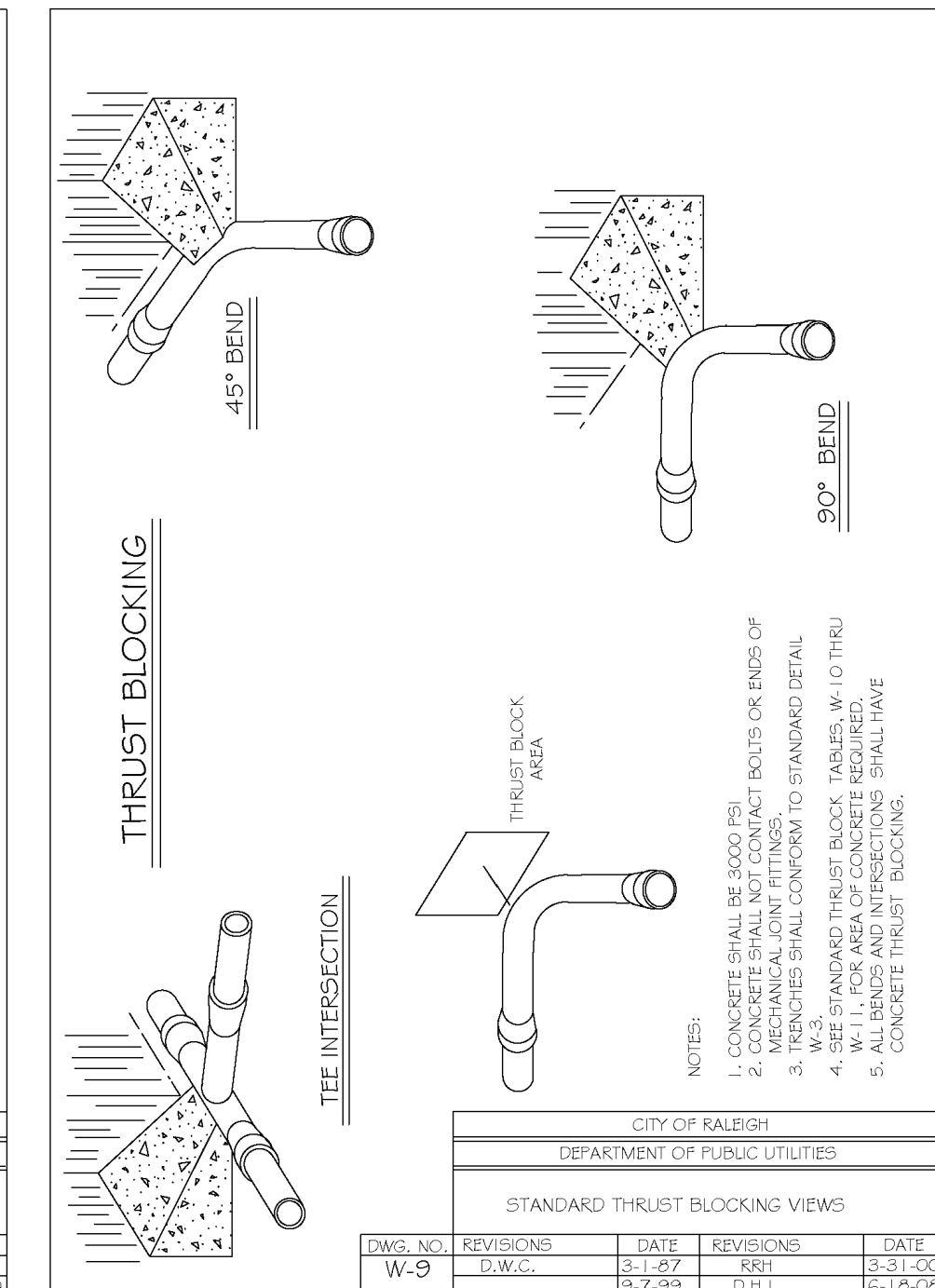


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-9.

Table: REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS. Includes data for 6, 8, 12, 14, 24, 30, 36, 48 inch pipes.

Table: THRUST BLOCKING DESIGN QUANTITY TABLE. Includes data for 6, 8, 12, 14, 24, 30, 36, 48 inch pipes.

Table: REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS. Includes data for 6, 8, 12, 14, 24, 30, 36, 48 inch pipes.

Table: THRUST BLOCKING DESIGN QUANTITY TABLE. Includes data for 6, 8, 12, 14, 24, 30, 36, 48 inch pipes.

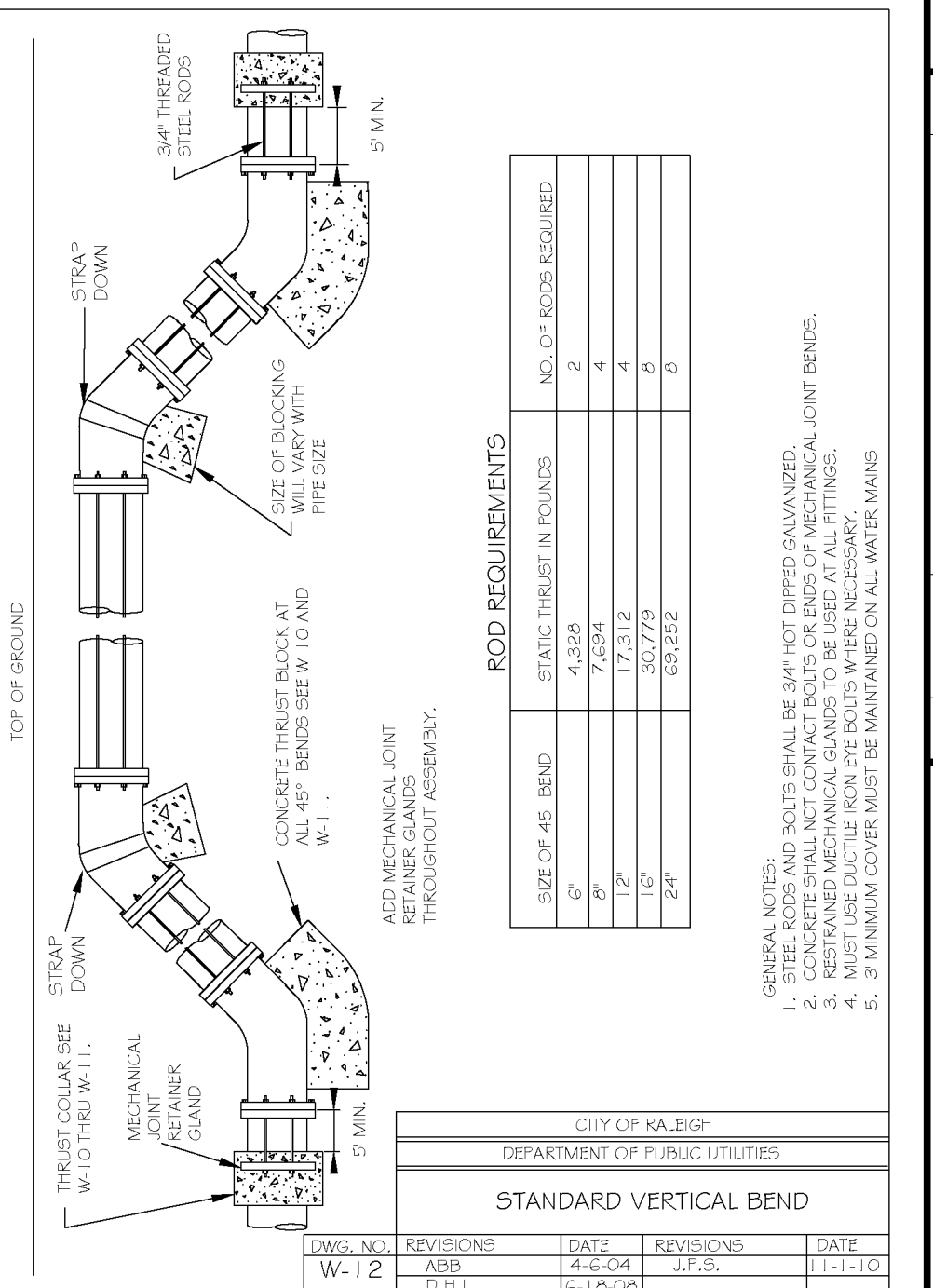


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-11.

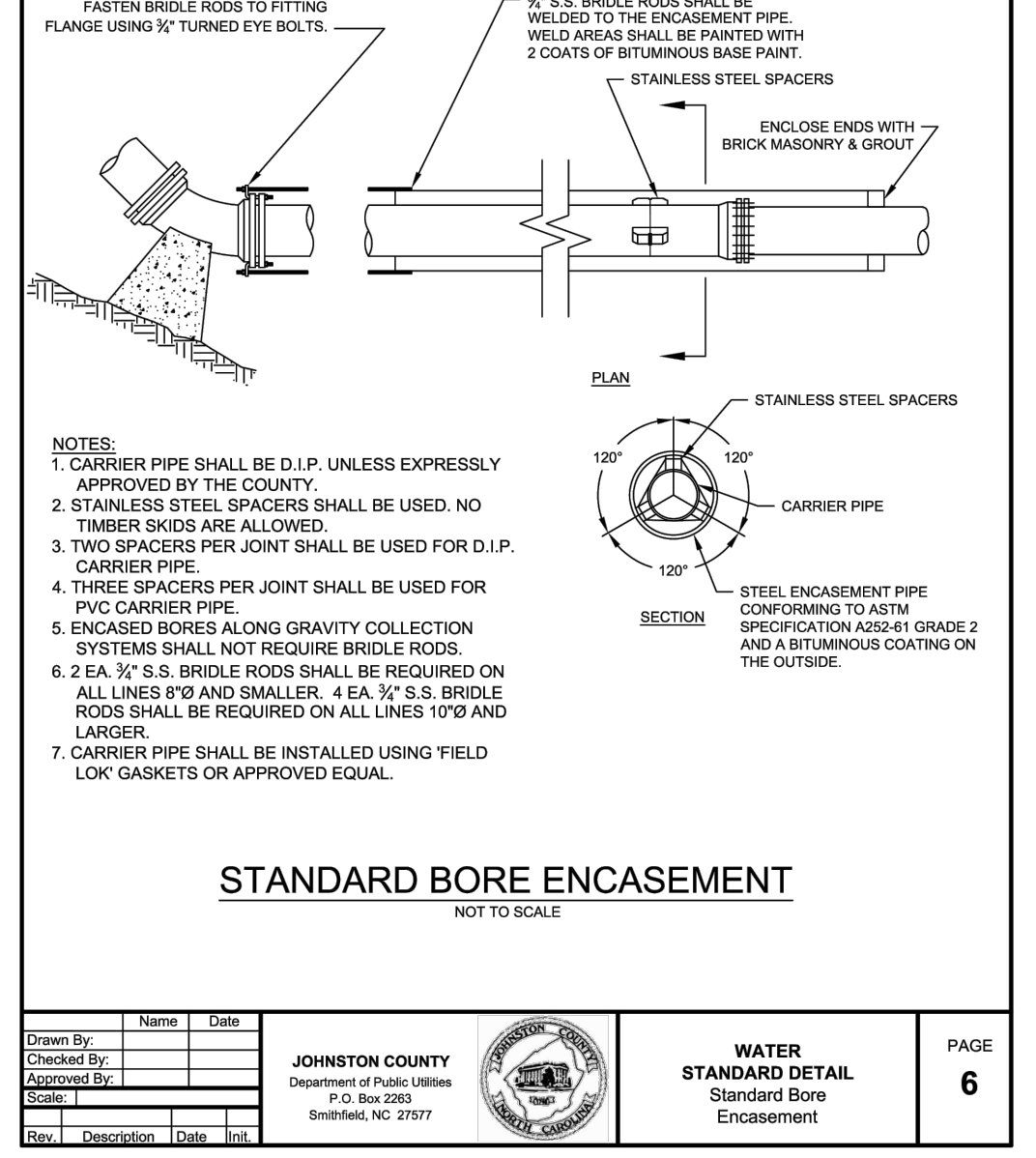


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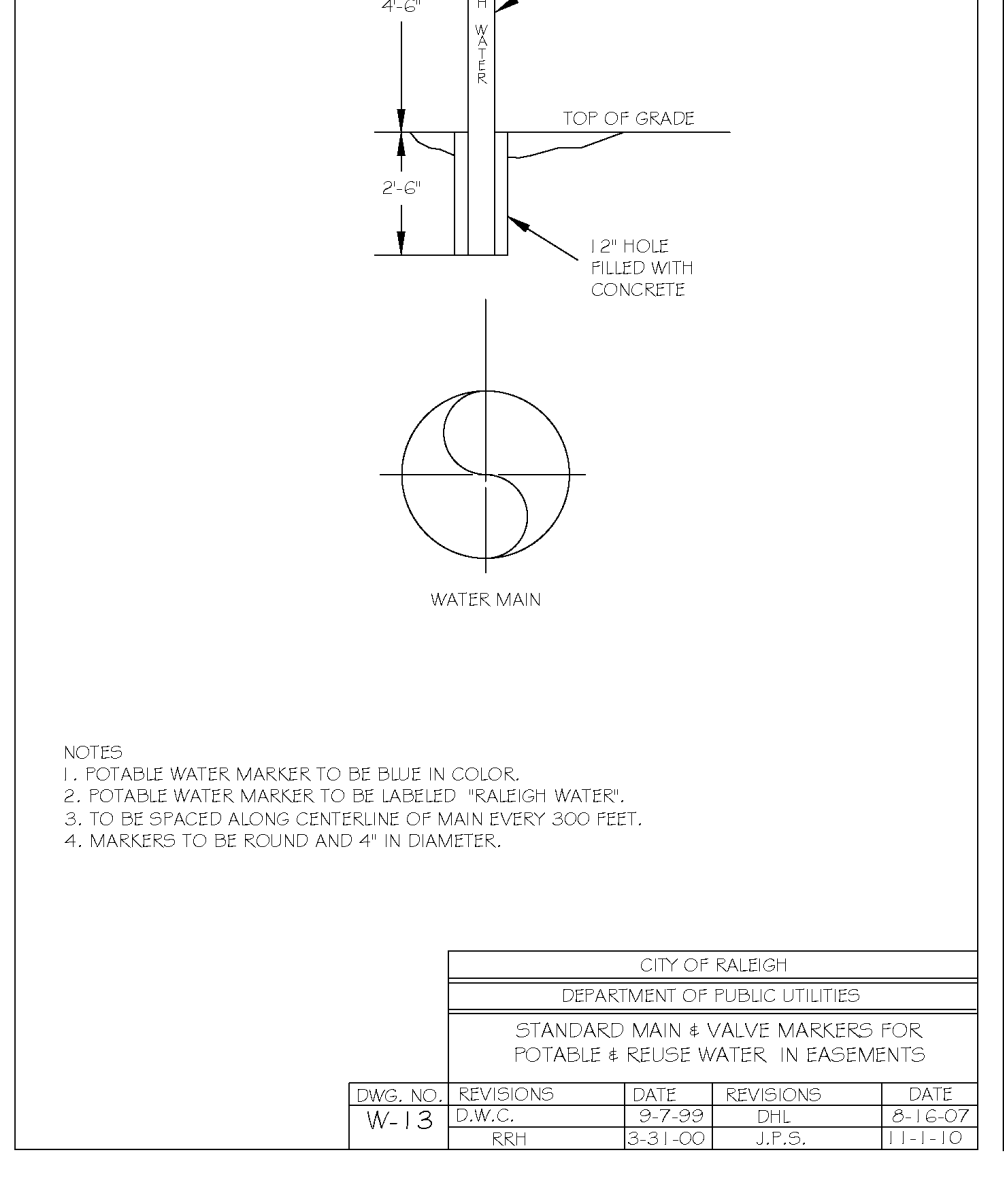


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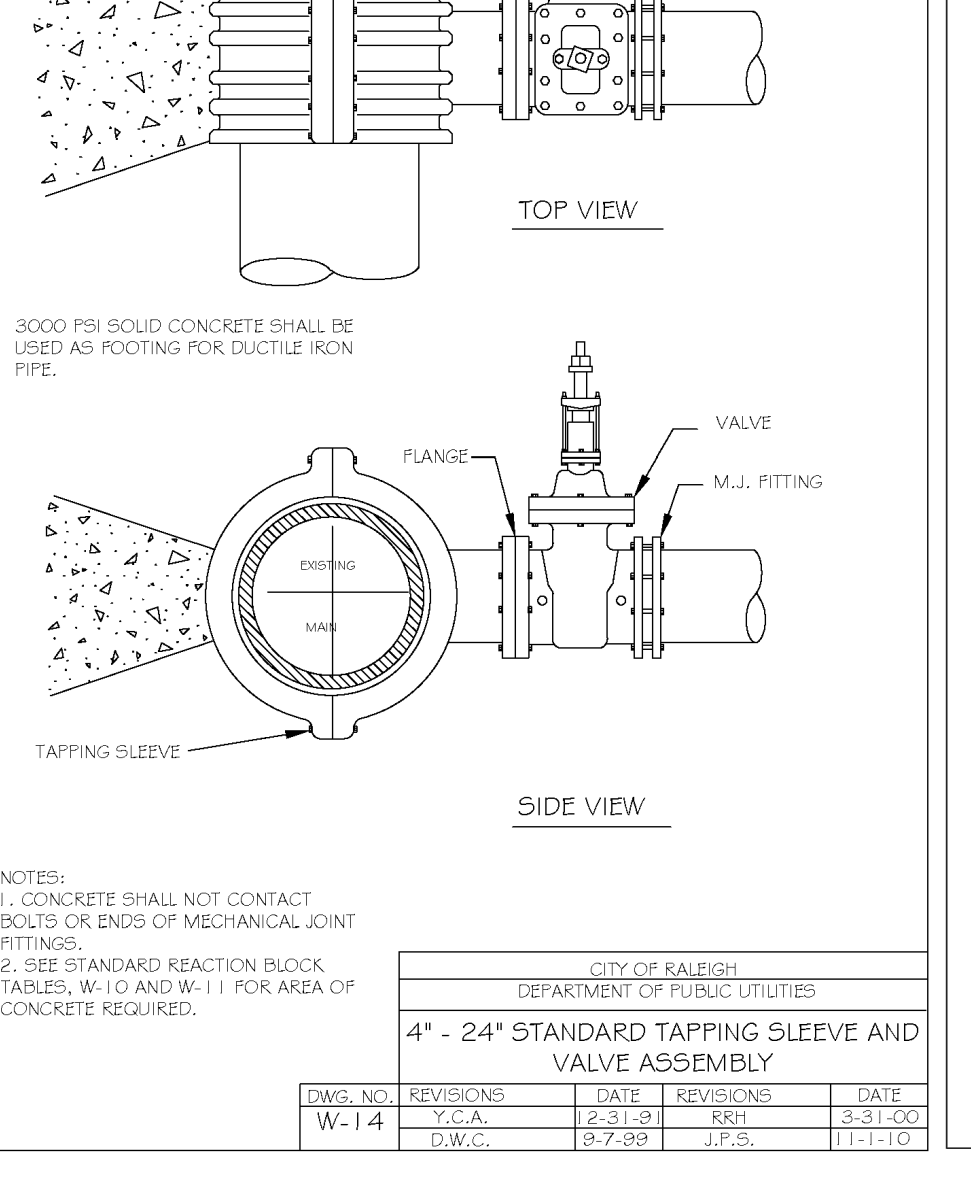


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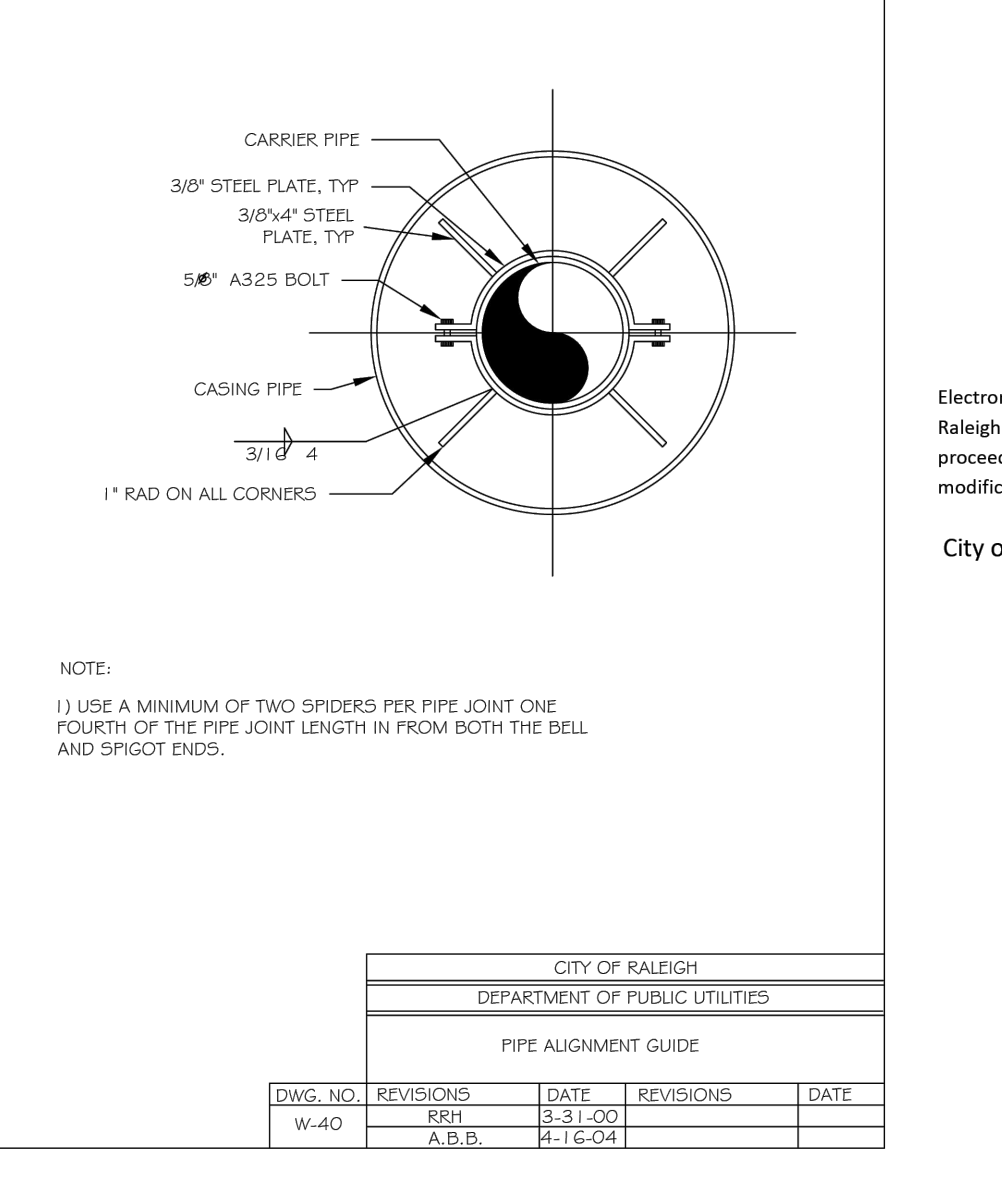
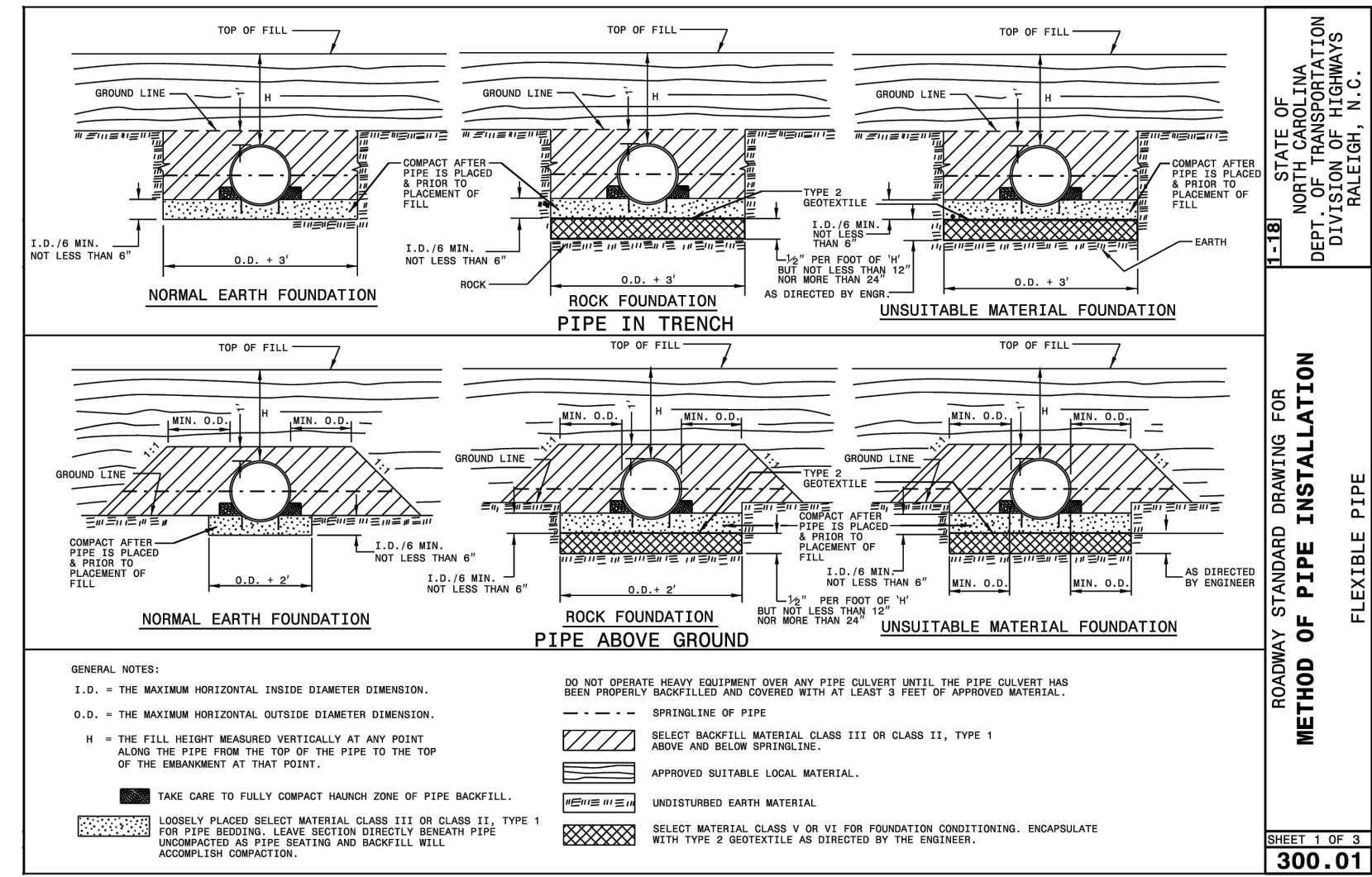
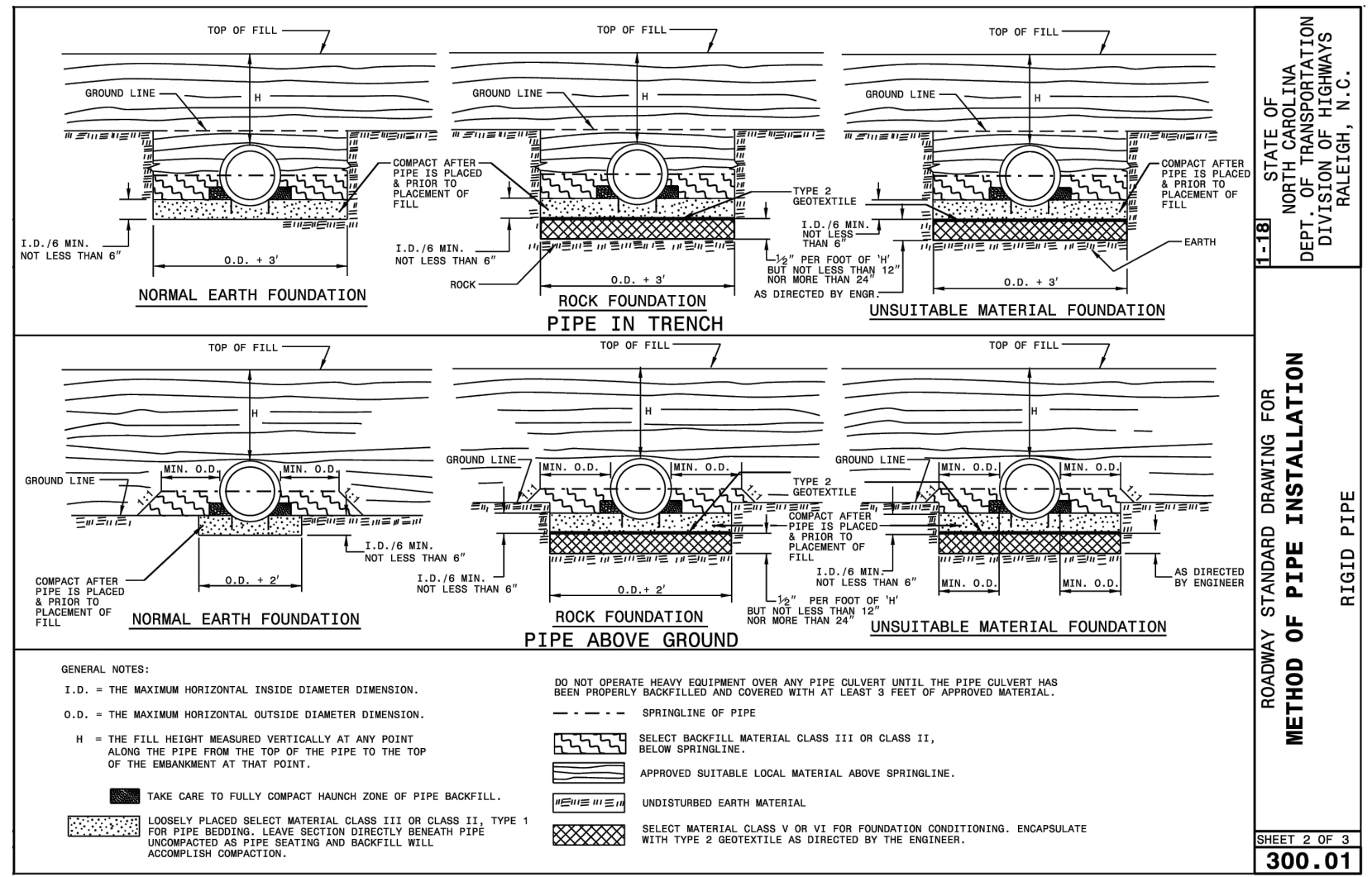


Table with columns: DWG. NO., REVISIONS, DATE, REVISIONS, DATE. Includes revision history for W-40.

Project information including: BASS, NIXON & KENNEDY, INC. CONSULTING ENGINEERS; COBBLESTONE VILLAGE MIXED USE DEVELOPMENT; SHEET C5.4; TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA; and various revision and approval stamps.



ROADWAY STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
FLEXIBLE PIPE
SHEET 1 OF 3
300.01



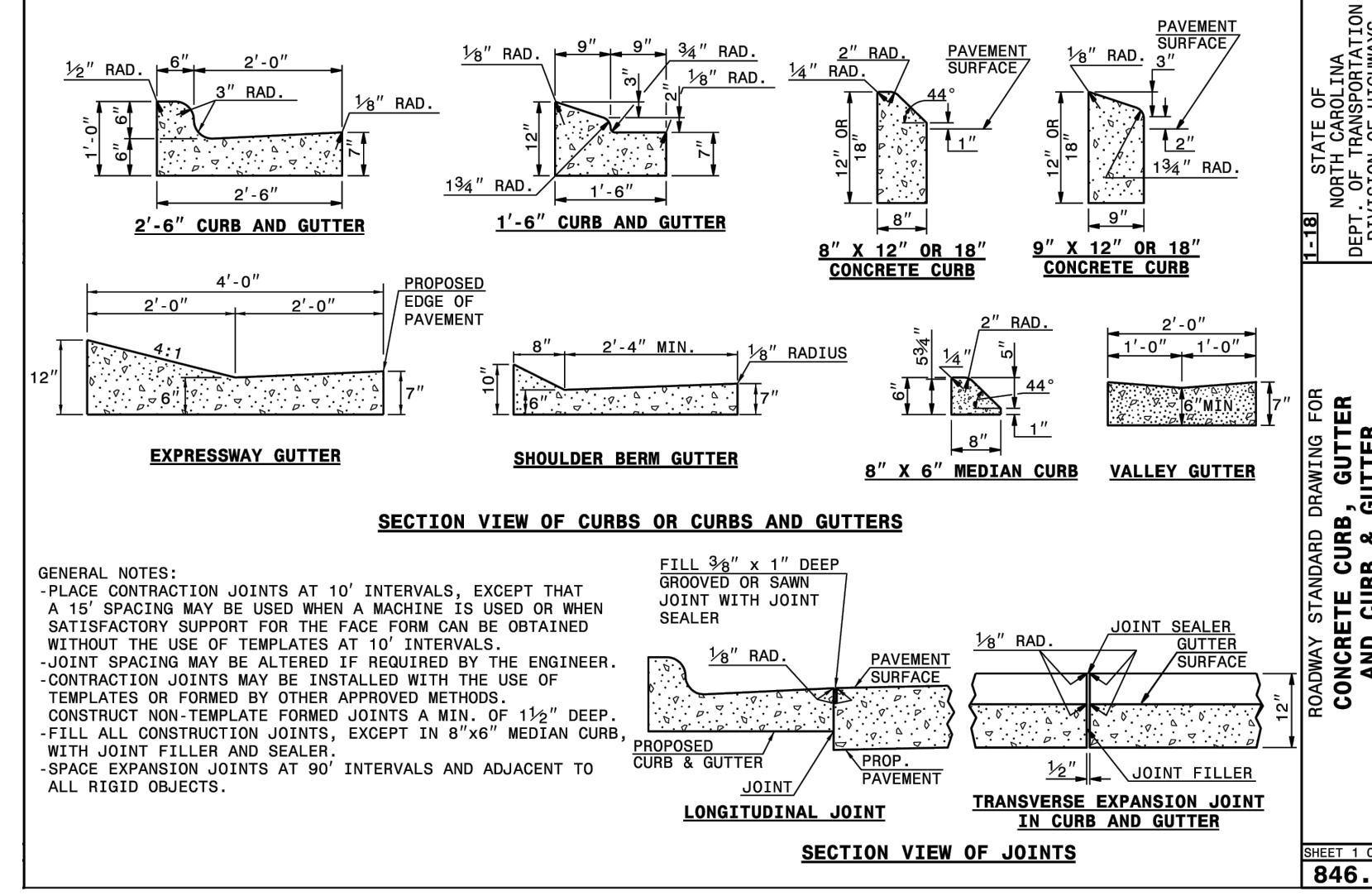
ROADWAY STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE
SHEET 2 OF 3
300.01

FLEXIBLE PIPE

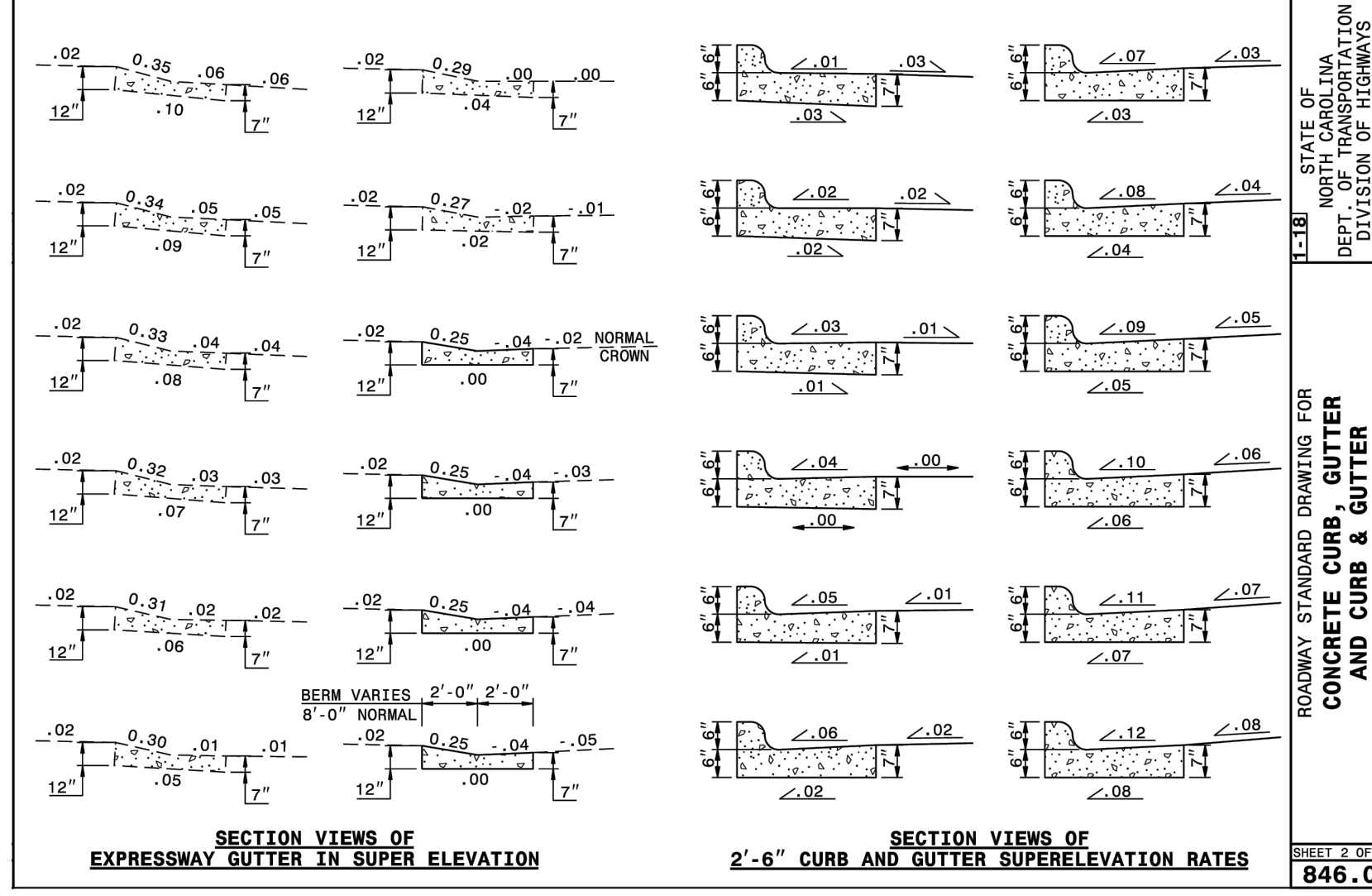
| Round Corrugated Steel Pipe 2 1/2 x 1/4 Corrugation | | | |
|--|----------------------|--------------------------------|-----|
| Diameter (Inches) | Minimum cover (Feet) | Maximum Height of Cover (Feet) | |
| 12 | 12 | 18 | 12 |
| 15 | 12 | 180 | 204 |
| 18 | 12 | 150 | 186 |
| 21 | 12 | 115 | 204 |
| 24 | 12 | 70 | 142 |
| 30 | 12 | 55 | 100 |
| 36 | 12 | 48 | 81 |
| 42 | 12 | 48 | 81 |
| 48 | 12 | 48 | 81 |
| 60 | 12 | 48 | 81 |
| 72 | 12 | 48 | 81 |
| 84 | 12 | 48 | 81 |

| Round Corrugated Aluminum Pipe 2 1/2 x 1/4 Corrugation | | | |
|---|----------------------|--------------------------------|-----|
| Diameter (Inches) | Minimum cover (Feet) | Maximum Height of Cover (Feet) | |
| 12 | 12 | 18 | 12 |
| 15 | 12 | 98 | 123 |
| 18 | 12 | 103 | 123 |
| 21 | 12 | 89 | 123 |
| 24 | 12 | 60 | 81 |
| 30 | 12 | 67 | 95 |
| 36 | 12 | 60 | 71 |
| 42 | 12 | 60 | 71 |
| 48 | 12 | 60 | 71 |
| 60 | 12 | 46 | 50 |
| 72 | 12 | 46 | 50 |
| 84 | 12 | 46 | 50 |

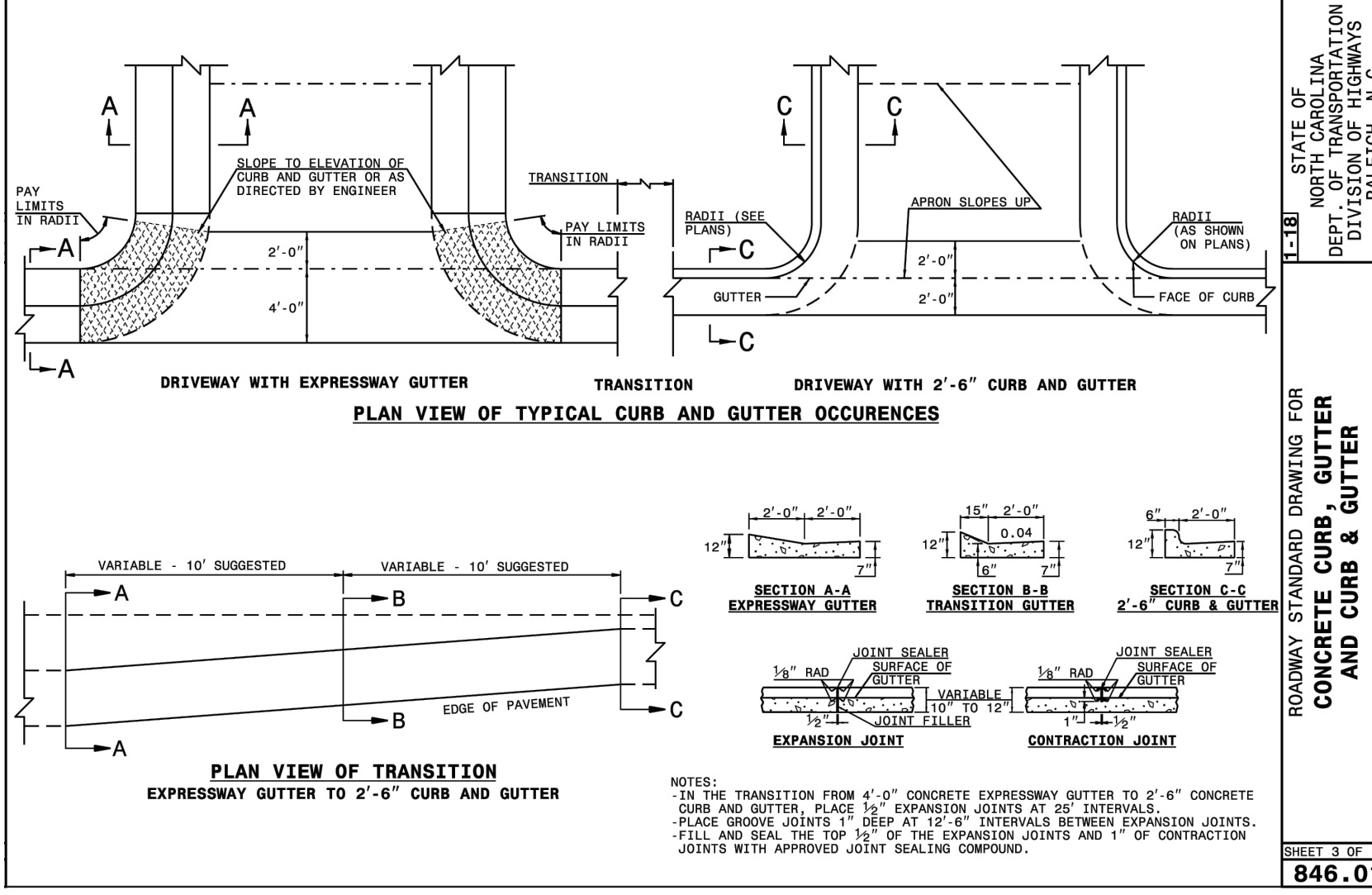
ROADWAY STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE
SHEET 3 OF 3
300.01



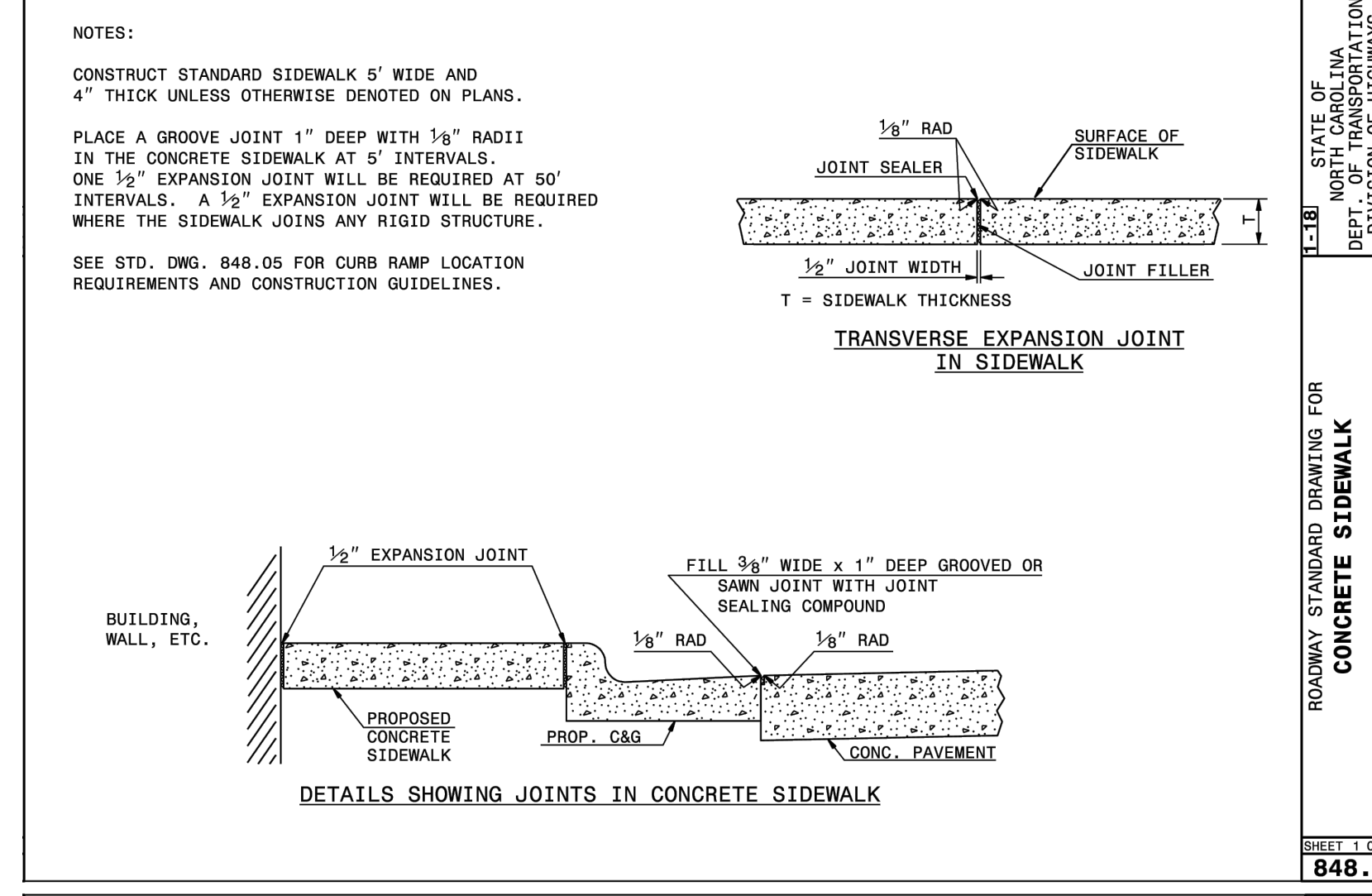
ROADWAY STANDARD DRAWING FOR
CONCRETE CURB, GUTTER
AND GUTTER
SHEET 1 OF 3
846.01



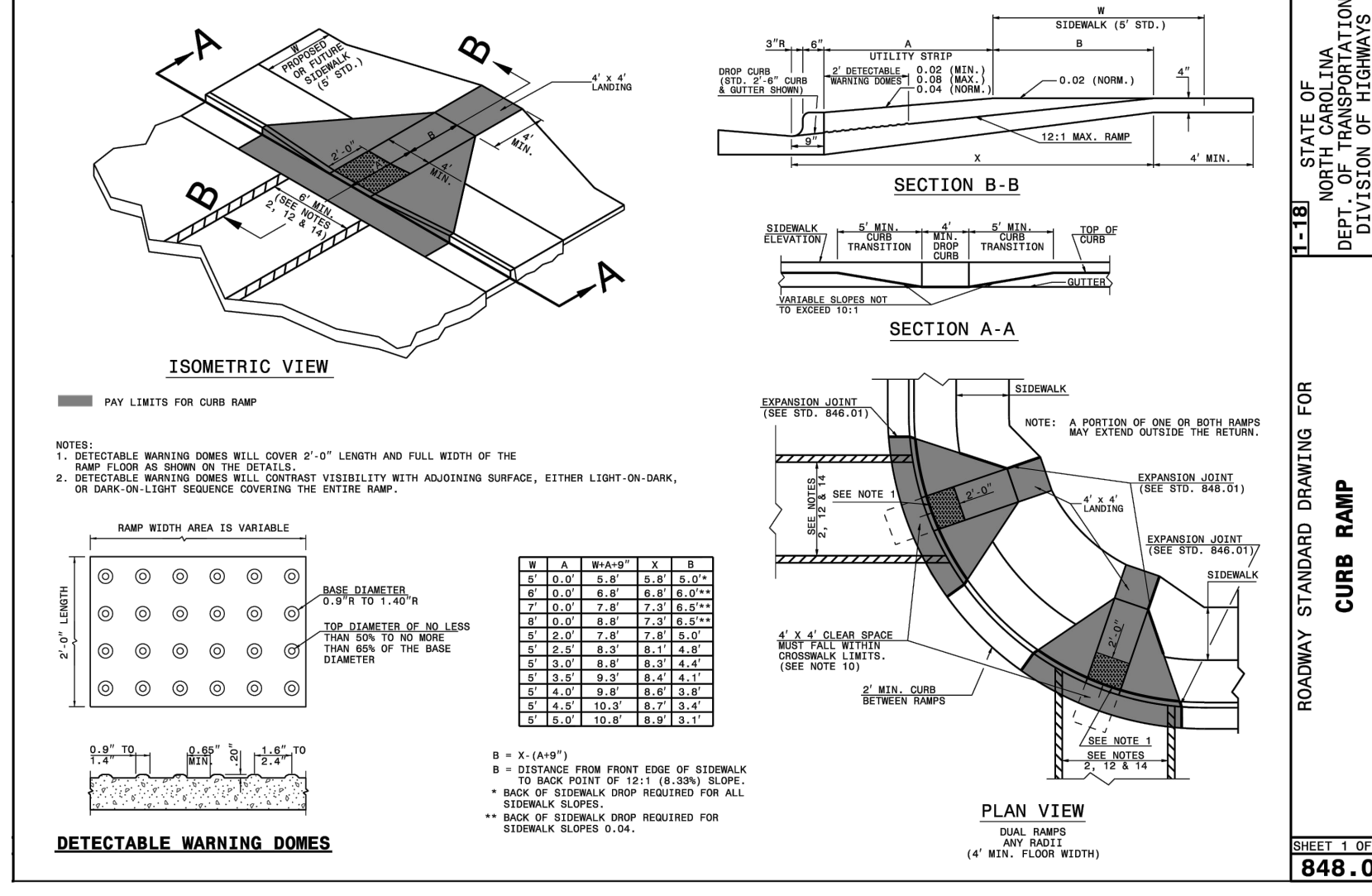
ROADWAY STANDARD DRAWING FOR
CONCRETE CURB, GUTTER
AND GUTTER
SHEET 2 OF 3
846.01



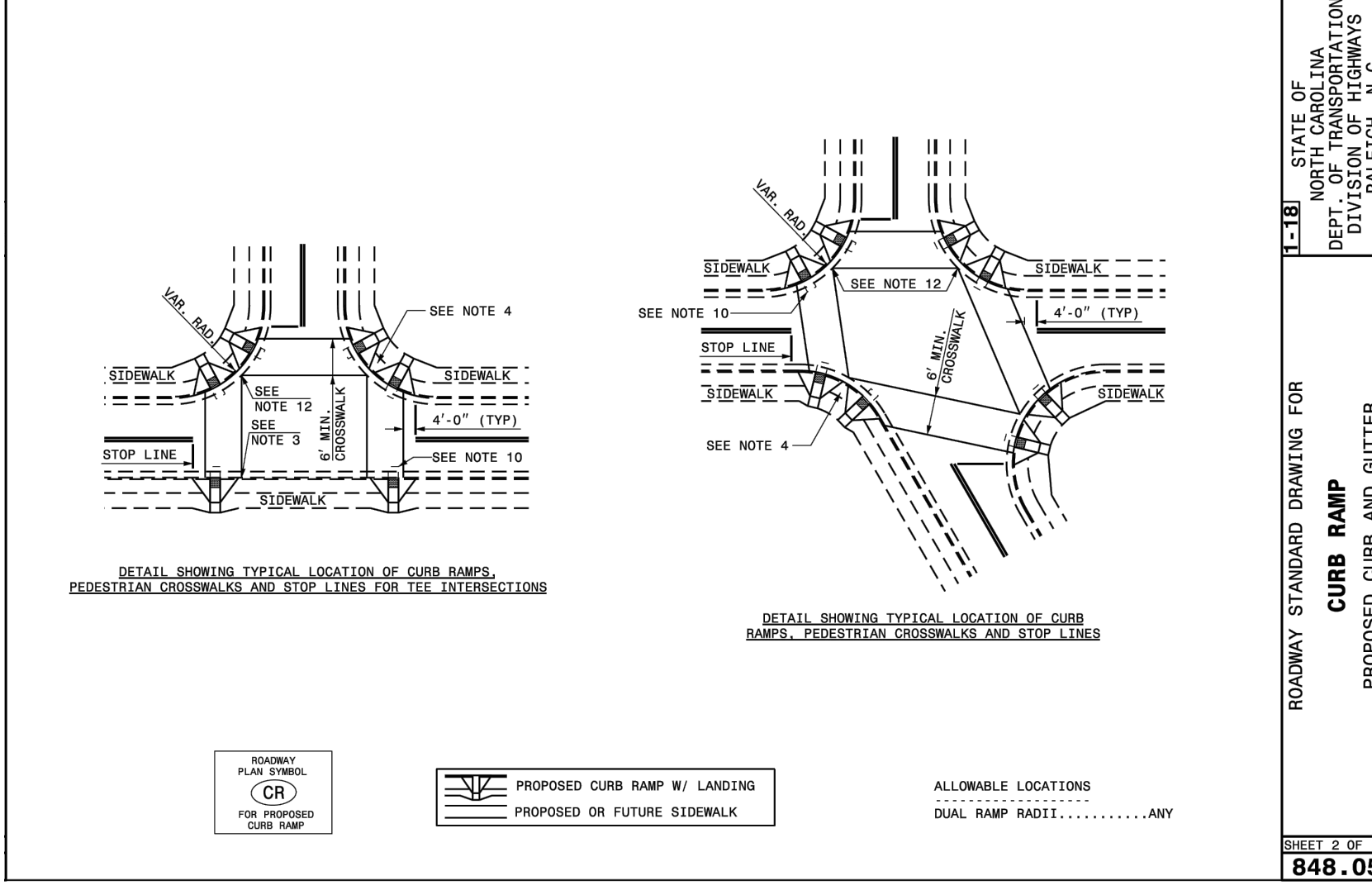
ROADWAY STANDARD DRAWING FOR
CONCRETE CURB, GUTTER
AND GUTTER
SHEET 3 OF 3
846.01



ROADWAY STANDARD DRAWING FOR
CONCRETE SIDEWALK
SHEET 1 OF 1
848.01



ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER
SHEET 1 OF 3
848.05



ROADWAY STANDARD DRAWING FOR
CURB RAMP
PROPOSED CURB AND GUTTER
SHEET 2 OF 3
848.05

- NOTES:
- CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
 - LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNALING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
 - COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
 - SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
 - REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
 - TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
 - CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
 - CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
 - ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
 - CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
 - CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
 - CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
 - TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
 - SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'x5' LANDING AT THE TOP OF A RAMP, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
 - CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
 - PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
 - CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

ROADWAY STANDARD DRAWING FOR
CURB RAMPS
NOTES
SHEET 3 OF 3
848.05

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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

City of Raleigh Development Approval _____

Raleigh Water Review Officer _____

12/08/23

BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
6310 CHASE HILL ROAD, SUITE 250, RALEIGH, NC 27607
TELEPHONE: (919) 881-1122 FAX: (919) 881-8686
CERTIFICATION NUMBERS: NCBELS (C-0110); NCBOLA (C-0267)

COBBLESTONE VILLAGE
MIXED USE DEVELOPMENT
TOWN OF ROLESVILLE, WAKE COUNTY, NORTH CAROLINA

PROGRESS MRM DATE DRAWN BY

DETAILS MRM NO. TOWN OF ROLESVILLE COMMENTS MRM NO. T.O.R. COMMENTS MRM NO. CHANGES FROM 06-02-22 CDS MRM NO. DESCRIPTION REVISIONS

3 12-08-23 TOWN OF ROLESVILLE COMMENTS MRM NO. T.O.R. COMMENTS MRM NO. CHANGES FROM 06-02-22 CDS MRM NO. DESCRIPTION REVISIONS

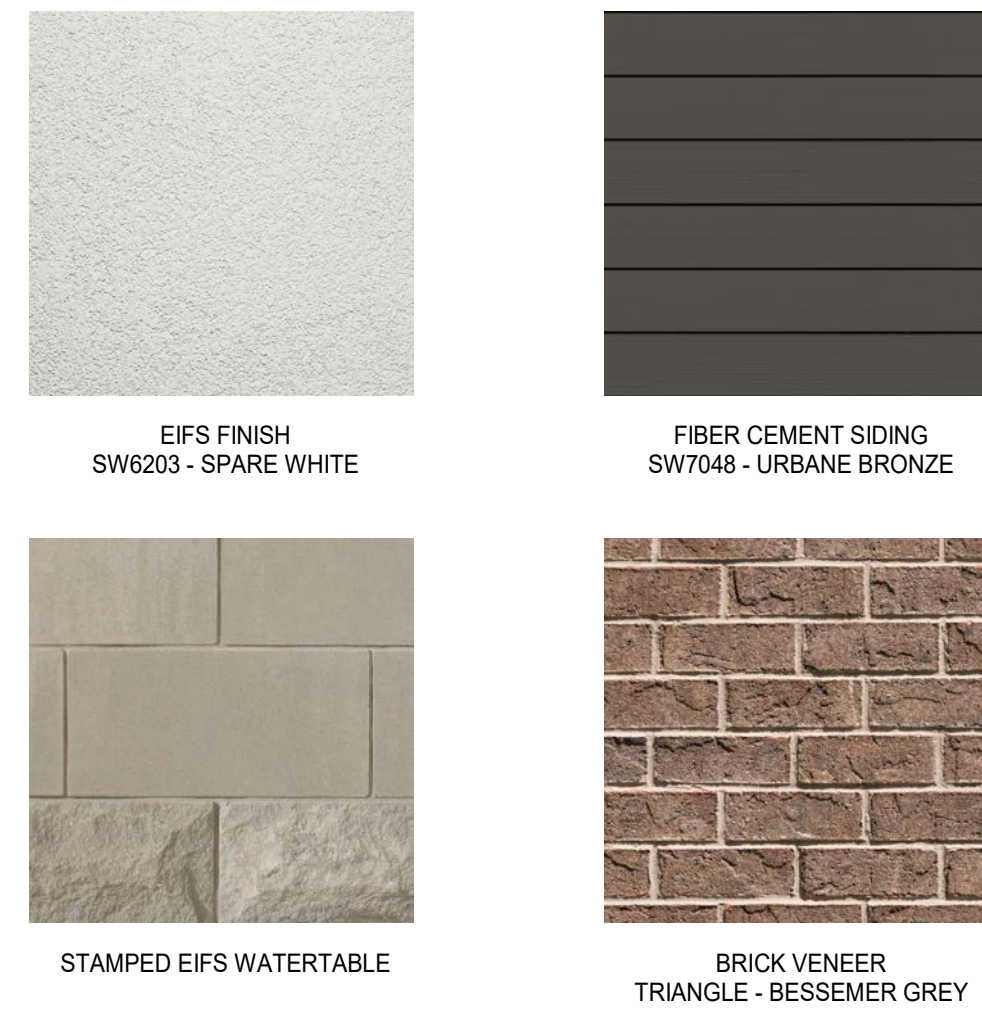
2 10-16-23 TOWN OF ROLESVILLE COMMENTS MRM NO. T.O.R. COMMENTS MRM NO. CHANGES FROM 06-02-22 CDS MRM NO. DESCRIPTION REVISIONS

1 09-21-23 TOWN OF ROLESVILLE COMMENTS MRM NO. T.O.R. COMMENTS MRM NO. CHANGES FROM 06-02-22 CDS MRM NO. DESCRIPTION REVISIONS

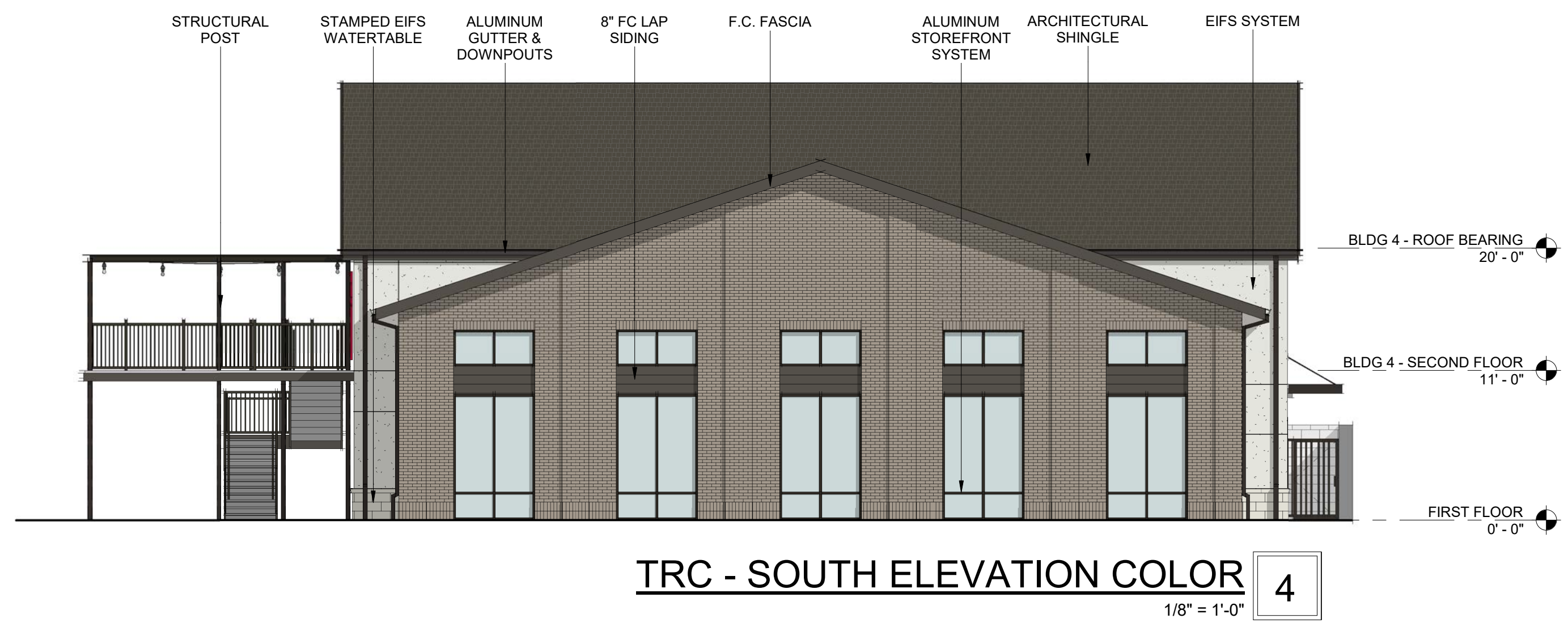
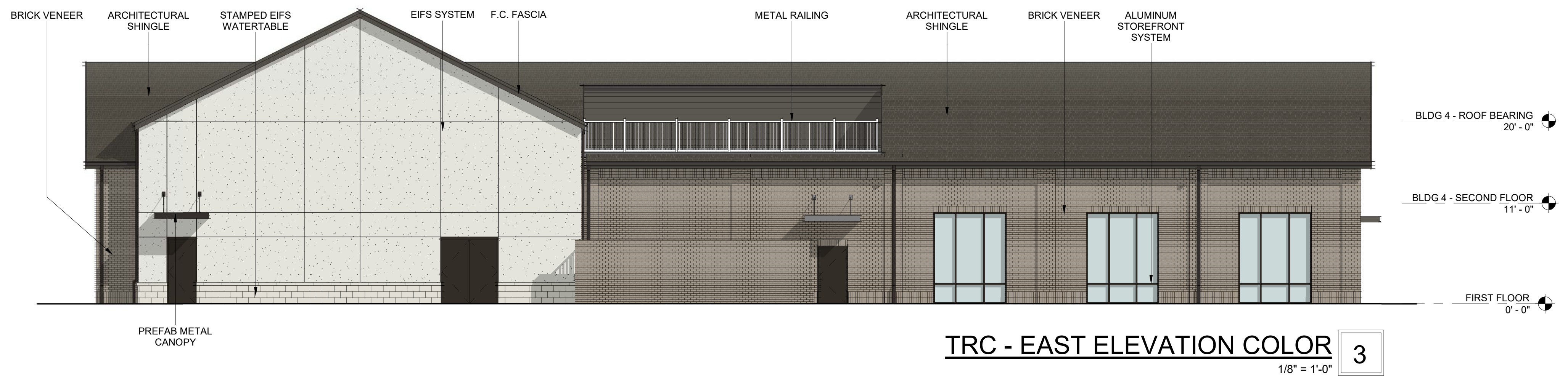
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SHEET C5.6

TOWN OF ROLESVILLE PROJECT NO. _____

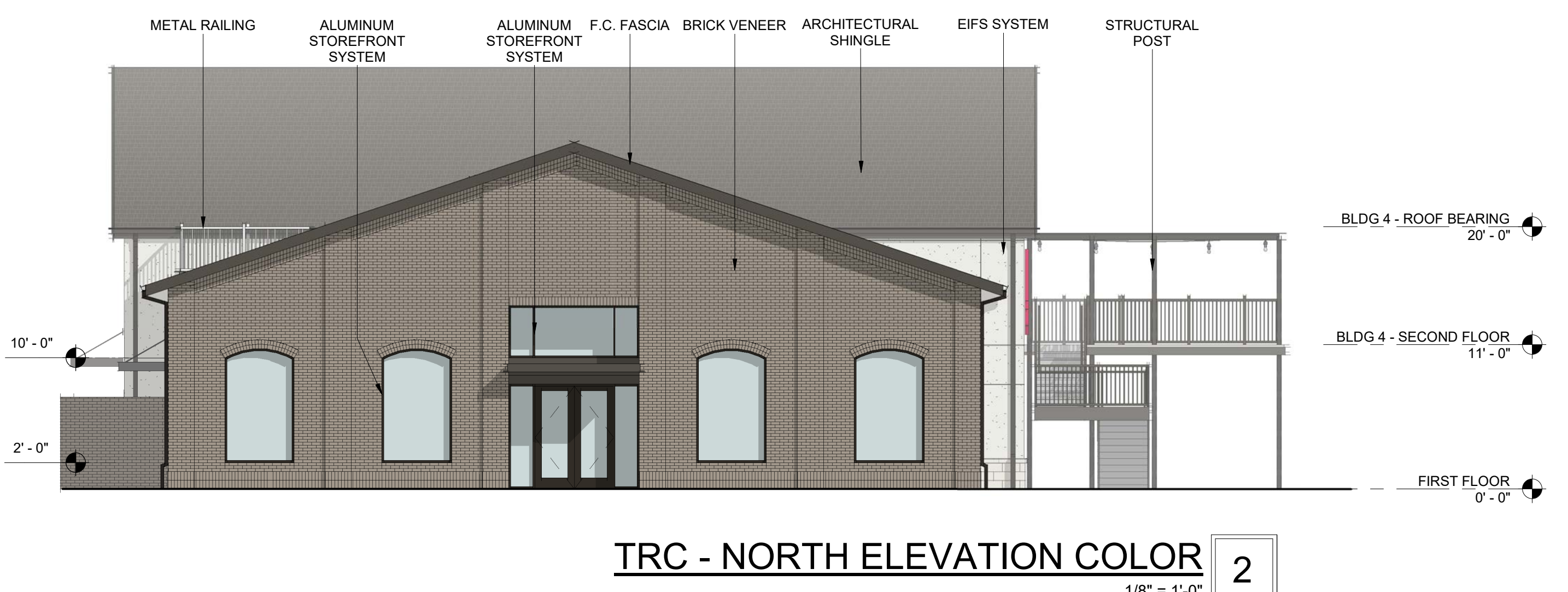


MATERIAL SWATCHES - BUILDING 4
1" = 1'-0"



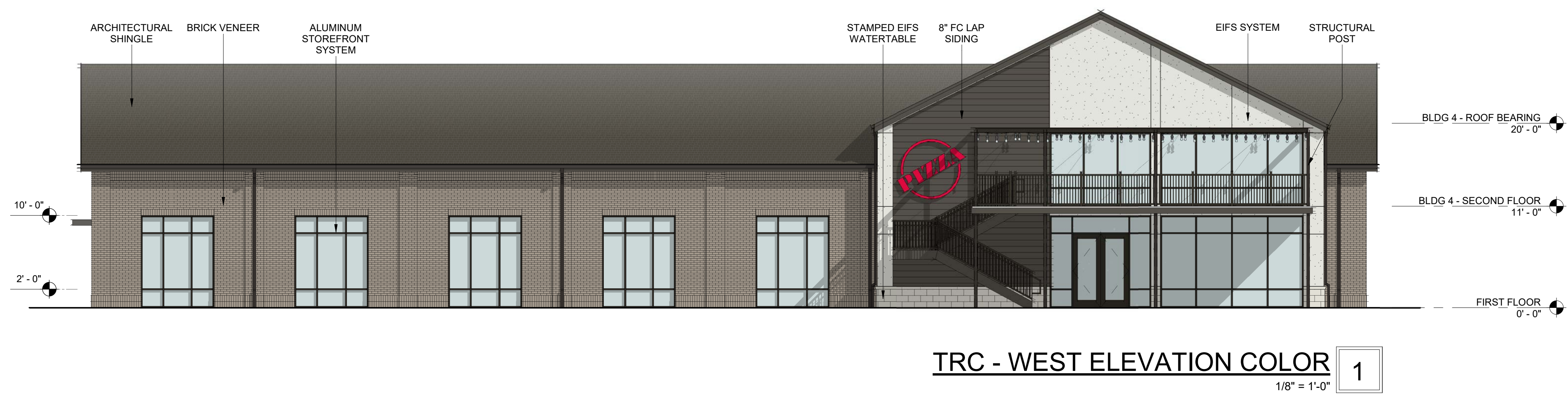
TRANSPARENCY CALCULATIONS
 GROUND LEVEL (RETAIL USE):
 TOTAL FACADE AREA (W/H): 496 SF
 REQD AREA OF TRANSPARENCY: 496 SF x 0.4 = 198 SF
 AREA OF TRANSPARENCY: 198 SF 40%

Section 7.4 - Town Center Overlay District
 7.4.18 Windows, doors, display windows and/or arcades shall make up at least 40 percent of the street facade on the first story as measured from two feet above grade to ten feet above grade.
 Blank walls are not permitted adjacent to streets.



TRANSPARENCY CALCULATIONS
 GROUND LEVEL (RETAIL USE):
 TOTAL FACADE AREA (W/H): 1,105 SF
 REQD AREA OF TRANSPARENCY: 1,105 SF x 0.4 = 442 SF
 AREA OF TRANSPARENCY: 442 SF 40%

Section 7.4 - Town Center Overlay District
 7.4.18 Windows, doors, display windows and/or arcades shall make up at least 40 percent of the street facade on the first story as measured from two feet above grade to ten feet above grade.
 Blank walls are not permitted adjacent to streets.



COBBLESTONE VILLAGE
ROLESVILLE, NORTH CAROLINA

EXTERIOR ELEVATIONS - BUILDING 4 A04
As indicated | 019032 | 09.01.23



FIBER CEMENT SIDING
SW7048 - URBANE BRONZE



BRICK VENEER
TRIANGLE - BESSEMER GREY

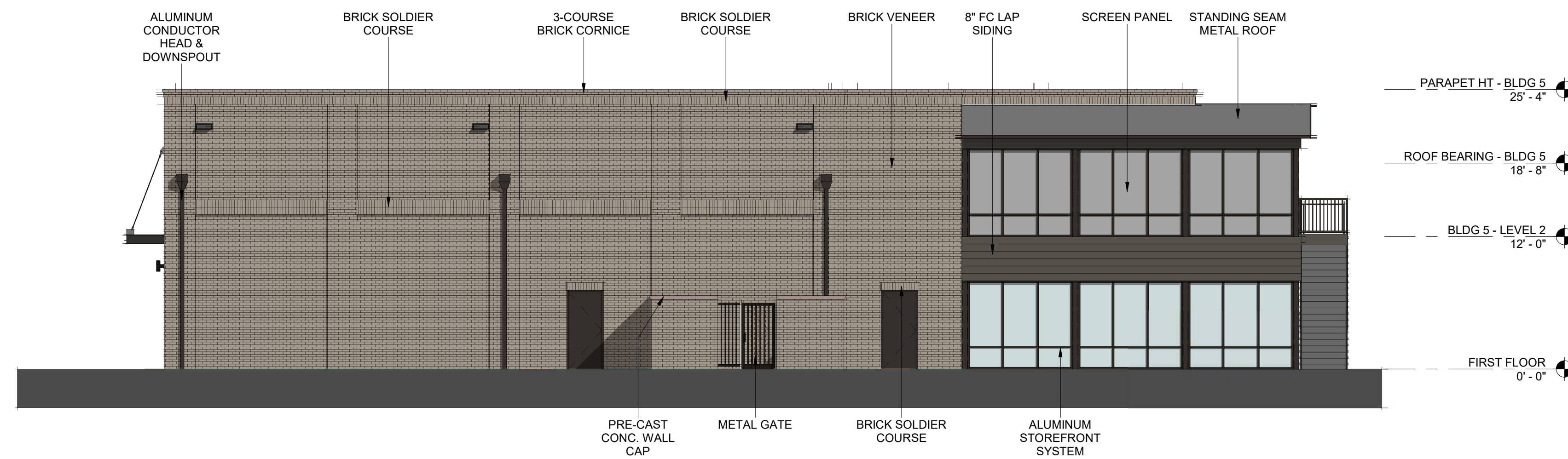


3D View BLDG 5 - SE 6

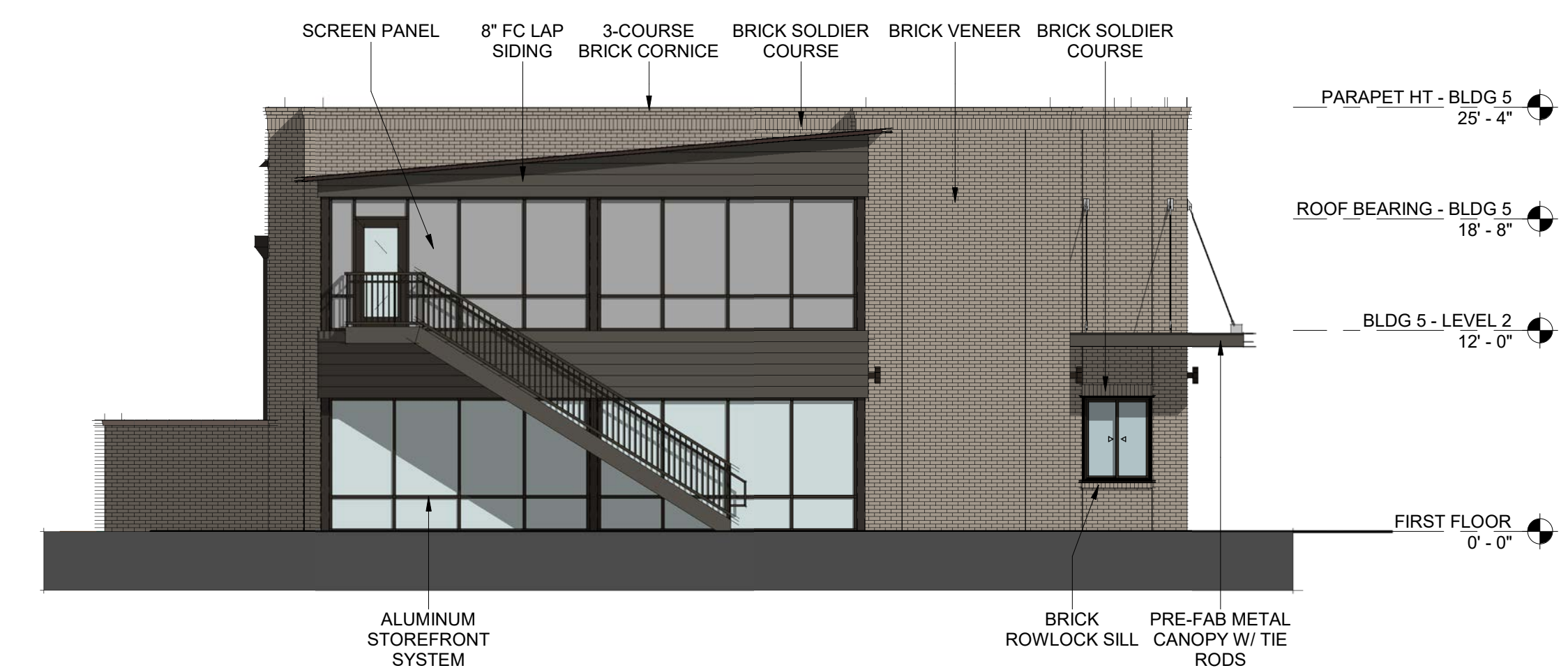


3D View BLDG 5 - NE 5

MAT. SWATCHES - BLDG 5 1
1" = 1'-0"



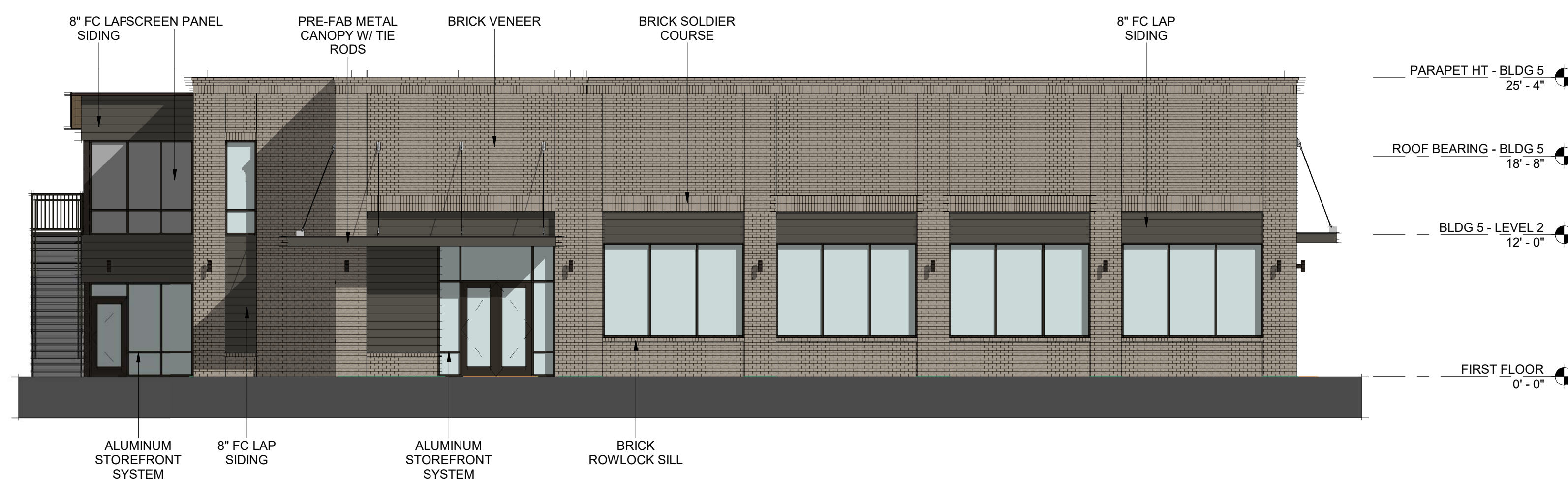
BLDG 5 - WEST ELEVATION 4
1/8" = 1'-0"



BLDG 5 - SOUTH ELEVATION 2
1/8" = 1'-0"

TRANSPARENCY CALCULATIONS
GROUND LEVEL (RETAIL USE):
TOTAL FACADE AREA (WxH): 824 SF
REQD AREA OF TRANSPARENCY: 824 SF x 0.4 = 330 SF
AREA OF TRANSPARENCY: 453 SF 55%

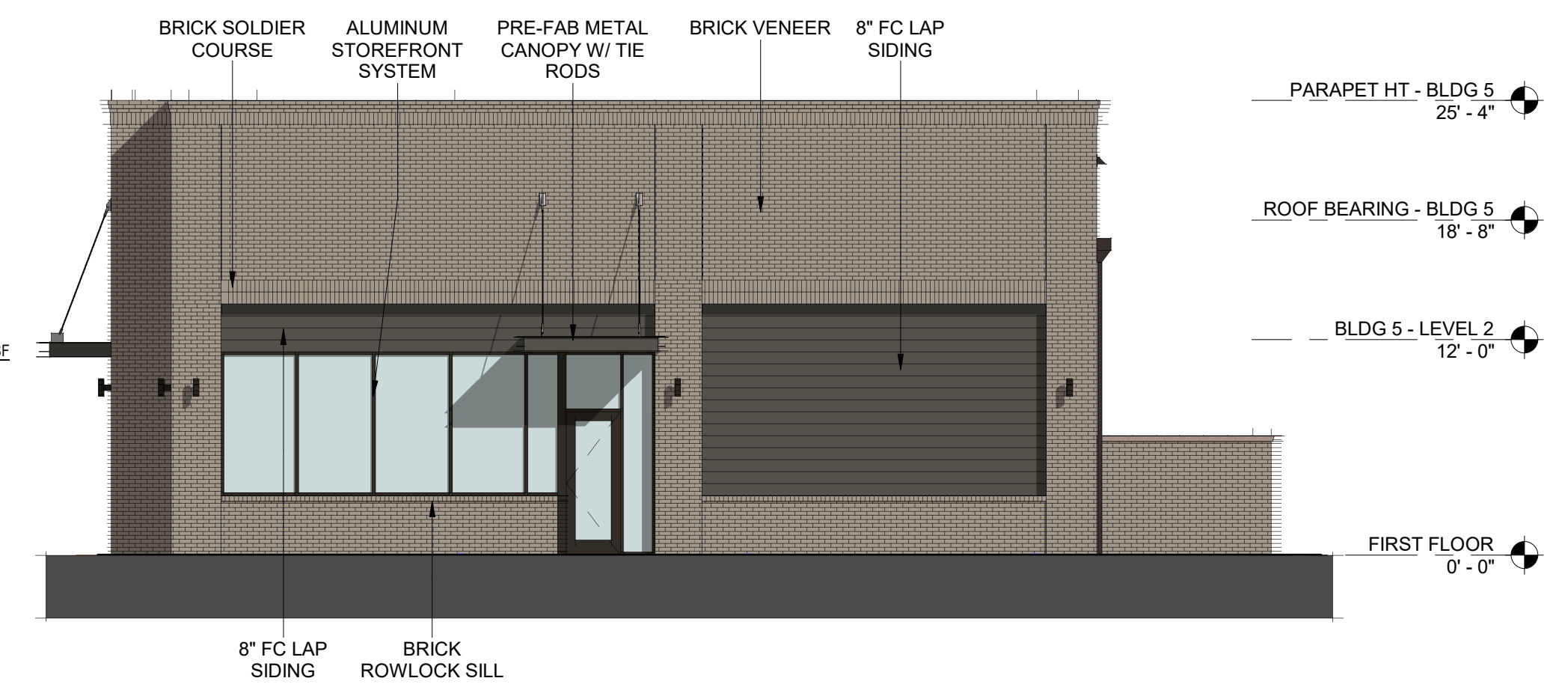
Section 7.4 - Town Center Overlay District
7.4.18 Windows, doors, display windows and/or arcades shall make up at least 40 percent of the street facade on the first story as measured from two feet above grade to ten feet above grade.
Blank walls are not permitted adjacent to streets.



BLDG 5 - EAST ELEVATION 3
1/8" = 1'-0"

TRANSPARENCY CALCULATIONS
GROUND LEVEL (RETAIL USE):
TOTAL FACADE AREA (WxH): 412 SF
REQD AREA OF TRANSPARENCY: 412 SF x 0.4 = 165 SF
AREA OF TRANSPARENCY: 165 SF 40%

Section 7.4 - Town Center Overlay District
7.4.18 Windows, doors, display windows and/or arcades shall make up at least 40 percent of the street facade on the first story as measured from two feet above grade to ten feet above grade.
Blank walls are not permitted adjacent to streets.



BLDG 5 - NORTH ELEVATION 1
1/8" = 1'-0"



COBBLESTONE VILLAGE
ROLESVILLE, NORTH CAROLINA

EXTERIOR ELEVATIONS - BUILDING 5 A05
As indicated | 019032 | 09.01.23



BLDG 8 - 03 RIGHT SIDE ELEVATION 4
1/8" = 1'-0"



BLDG 8 - 02 REAR ELEVATION 2
1/8" = 1'-0"

ROOF BRG. 1 - APTS
30' - 5 1/4"
THIRD FLOOR - APTS
21' - 4"
SECOND FLOOR - APTS
10' - 8"
FIRST FLOOR
0' - 0"



BLDG 8 - 04 LEFT SIDE ELEVATION 3
1/8" = 1'-0"



BLDG 8 - 01 FRONT ELEVATION 1
1/8" = 1'-0"

ROOF BRG. 1 - APTS
30' - 5 1/4"
THIRD FLOOR - APTS
21' - 4"
SECOND FLOOR - APTS
10' - 8"
FIRST FLOOR
0' - 0"

ARCHITECTURAL ASPHALT SHINGLES
FIBER CEMENT BOARD & BATTEN SIDING
ALUMINUM GUARDRAILS
MANUFACTURED STONE HEADER
MANUFACTURED STONE SILL
MANUFACTURED STONE VENEER

VINYL WINDOWS FIBER CEMENT LAP SIDING FIBER CEMENT LAP SIDING FIBER CEMENT PANEL & TRIM

SW 7048
Urbane Bronze

LAP SIDING - 8" EXPOSURE
PANEL & TRIM BOARD

SW 2803
Rookwood Terra Cotta

LAP SIDING - 8" EXPOSURE

SW 6187
Rosemary

BOARD & BATTON SIDING

SW 9164
Illusive Green

LAP SIDING - 6" EXPOSURE
PANEL & TRIM BOARD

SW 7042
Shoji White

LAP SIDING - 6" EXPOSURE

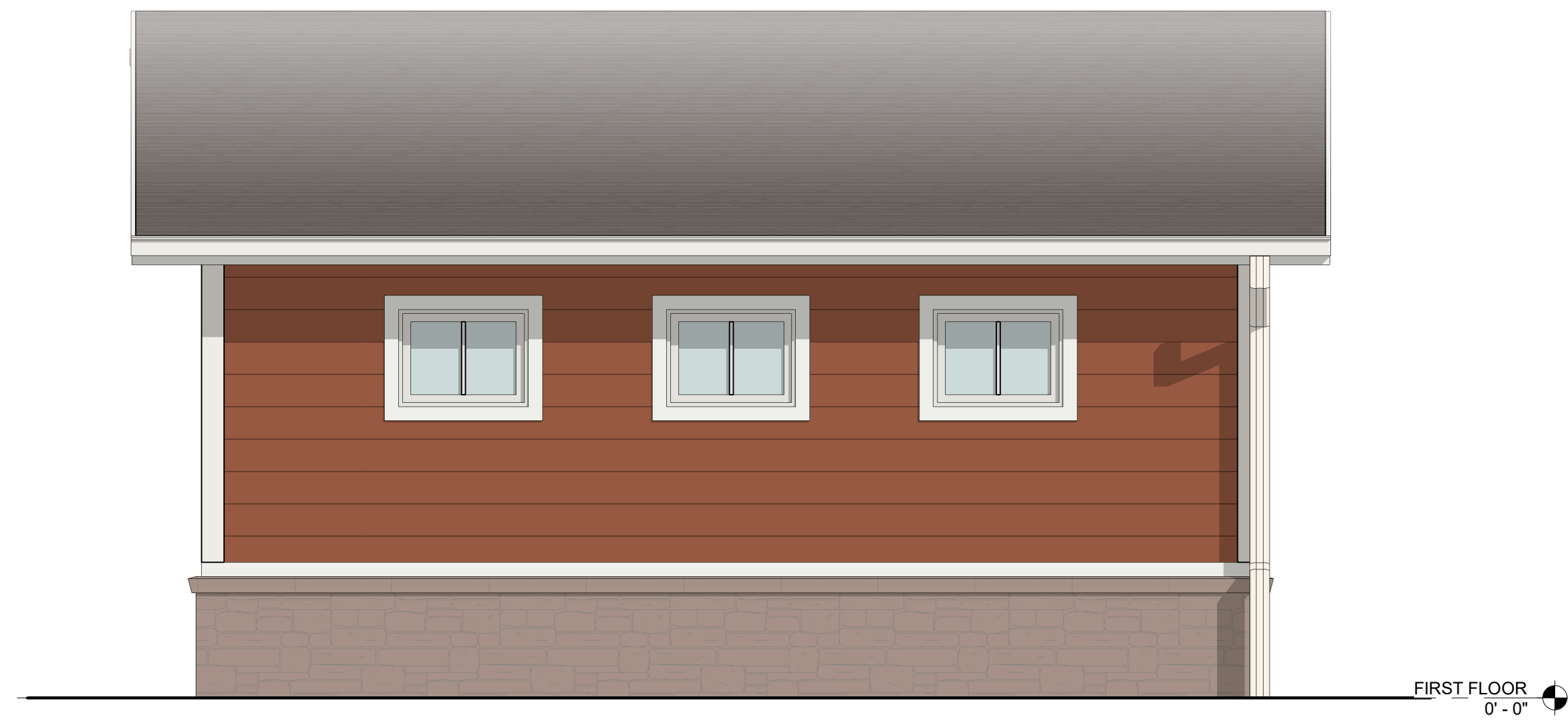
SW 7006
Extra White

PANEL & TRIM BOARD

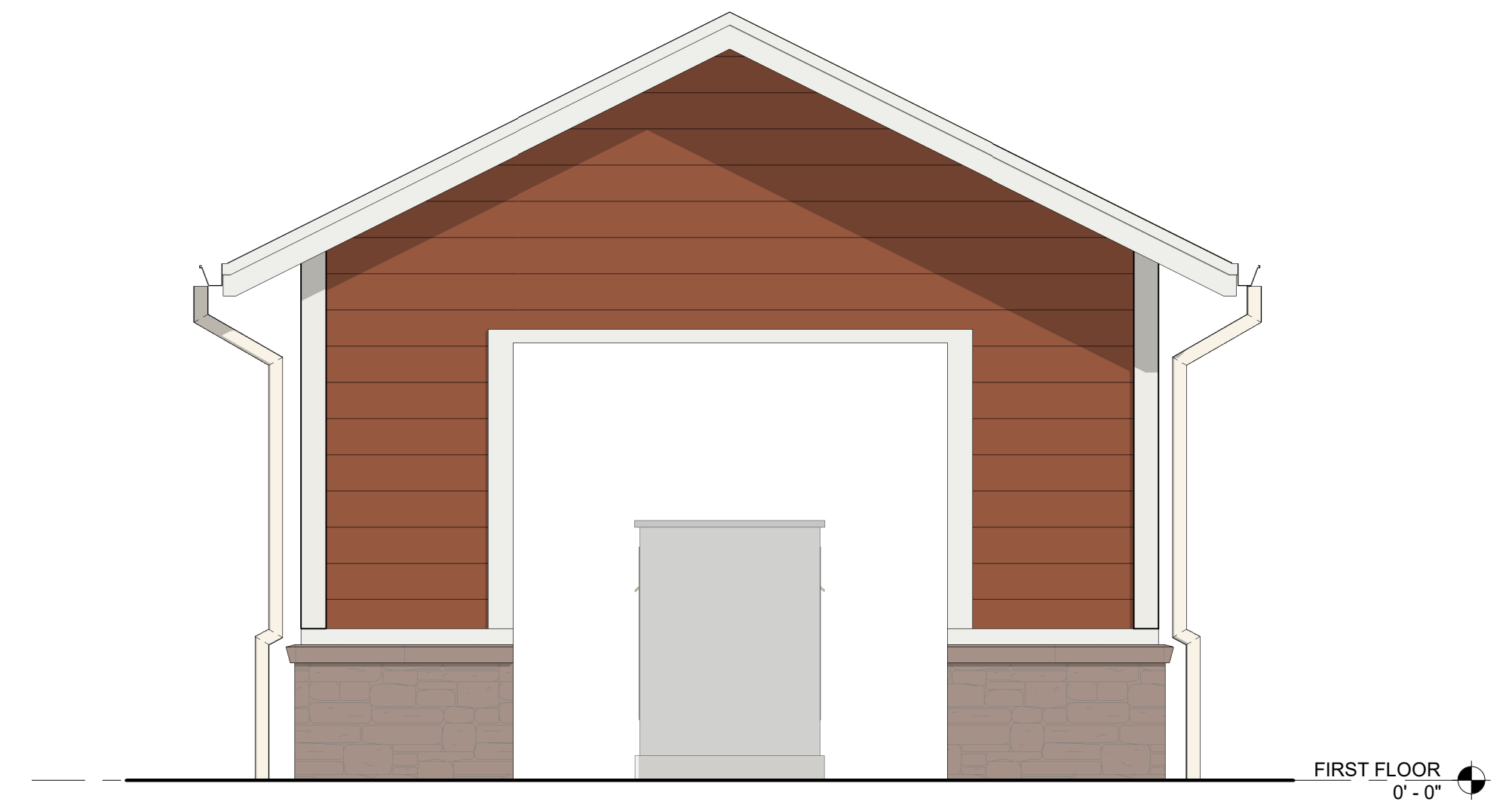


COBBLESTONE VILLAGE
ROLESVILLE, NORTH CAROLINA

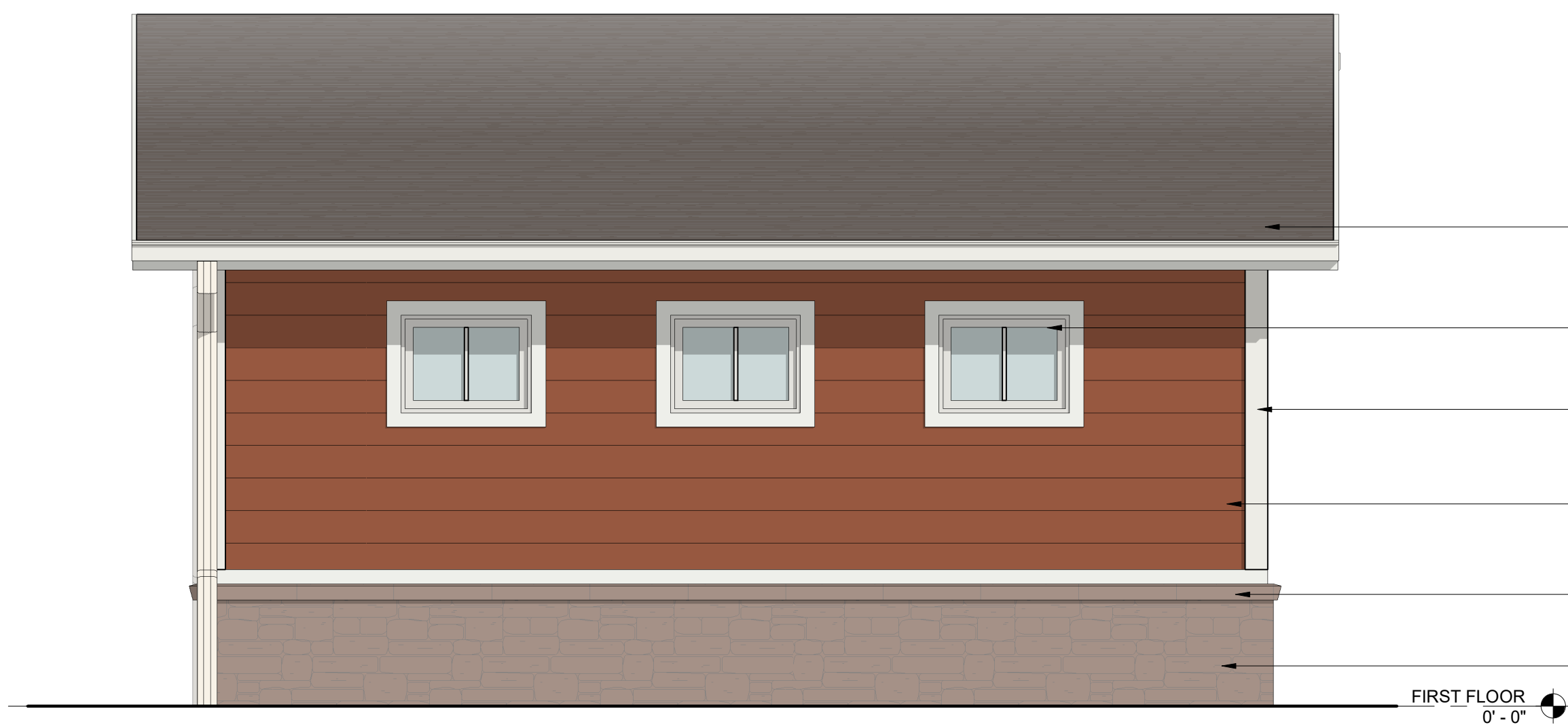
EXTERIOR ELEVATIONS - BUILDING 8 **A08**
1/8" = 1'-0" | 019032 | 09.01.23



RIGHT SIDE ELEVATION 4
3/8" = 1'-0"

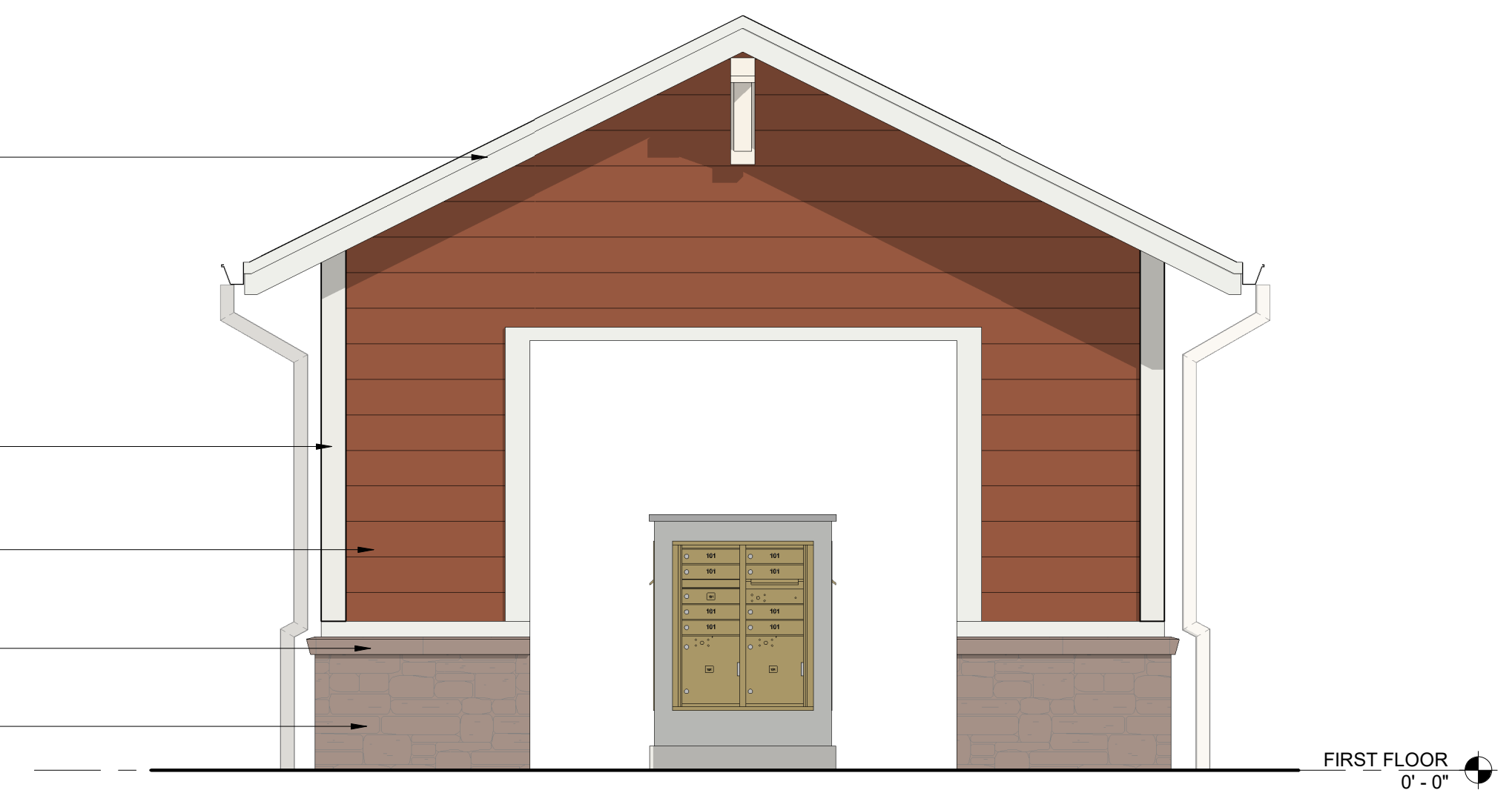


REAR ELEVATION 2
3/8" = 1'-0"



LEFT SIDE ELEVATION 3
3/8" = 1'-0"

- FIBER CEMENT FASCIA
- ARCHITECTURAL ASPHALT SHINGLES
- VINYL WINDOWS
- FIBER CEMENT TRIM
- 6" FIBER CEMENT LAP SIDING
- MANUFACTURED STONE HEADER
- MANUFACTURED STONE VENEER



FRONT ELEVATION 1
3/8" = 1'-0"

