

CONSTRUCTION PLAN

KNIGHTDALE GATEWAY

5901 FARMWELL ROAD

ST. MATTHEW'S TOWNSHIP, KNIGHTDALE, NORTH CAROLINA

ZMA-16-21

WAKE COUNTY

ORDINANCE #22-08-17-006

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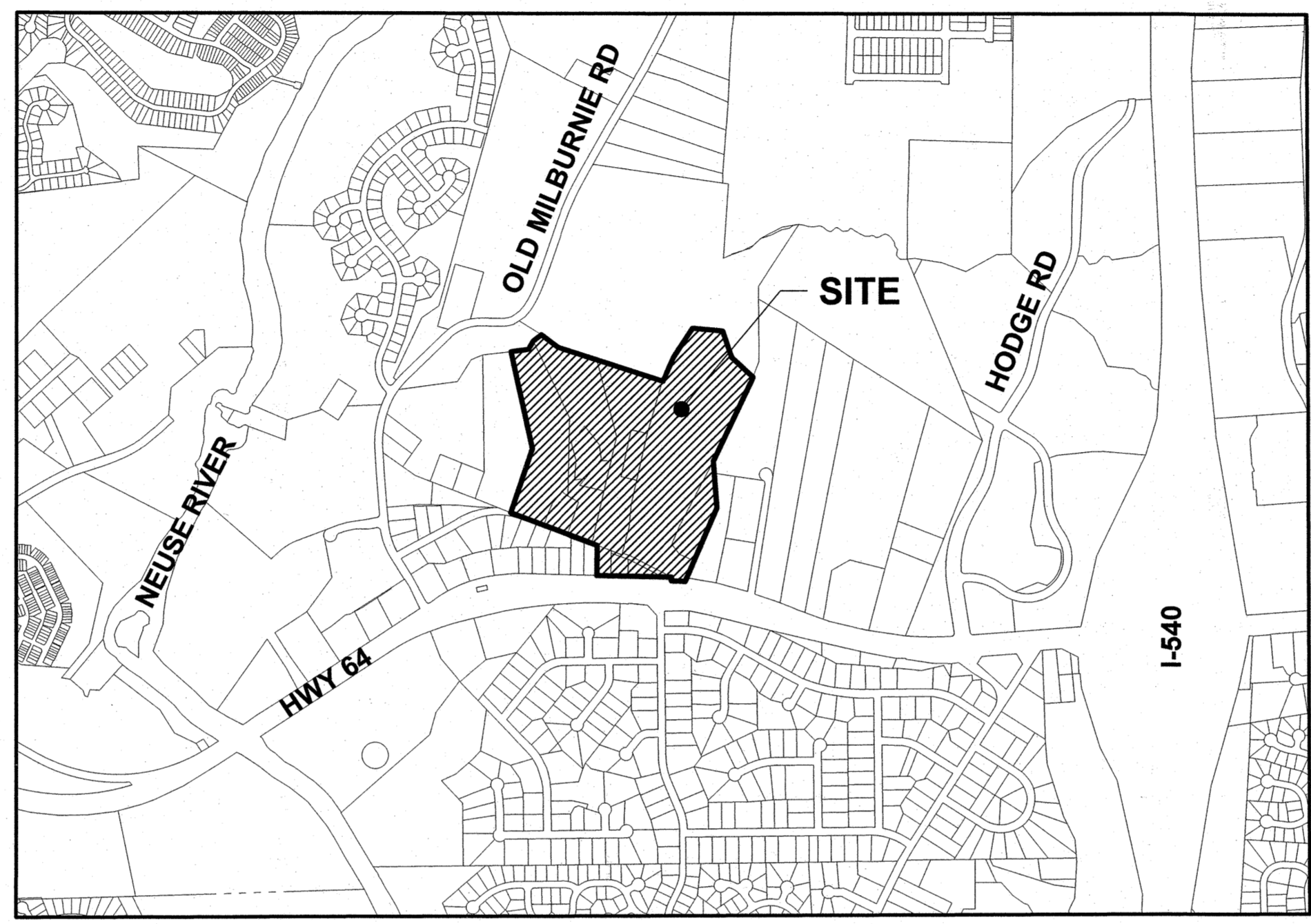
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GENERAL NOTES

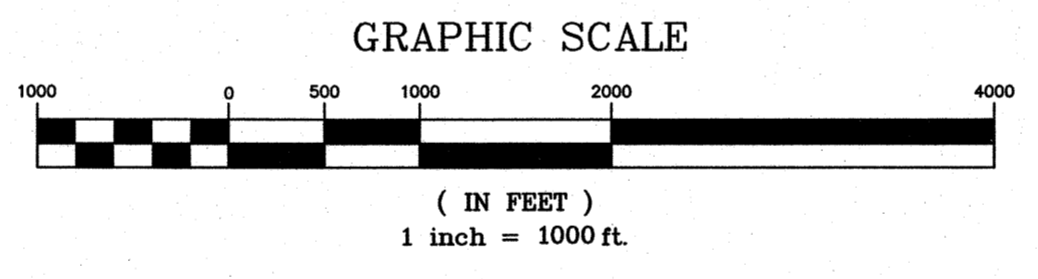
- SEE TRAFFIC IMPACT ANALYSIS REPORT TITLED "KNIGHTDALE GATEWAY" DATED MAY 19, 2022, PREPARED BY KIMLEY-HORN AND ASSOCIATES, INC., FOR DETAILED ANALYSIS.

WATER & SEWER

- CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS, AND SIZES OF EXISTING PUBLIC UTILITIES PRIOR TO ANY EXCAVATIONS, GRADING, OR INSTALLATION OF UNDERGROUND UTILITIES ON OR ADJACENT TO THE PROJECT.
- ALL SANITARY SEWER AND WATER LOCATED OUTSIDE THE PROPOSED STREET RIGHT-OF-WAY SHALL BE PROVIDED WITH STANDARD EASEMENT WIDTHS AS PER CITY OF RALEIGH REQUIREMENTS AND SHALL BE DEDICATED TO THE CITY OF RALEIGH ON THE FINAL PLAT.
- NO SERVICES SHALL BE BENT OR INSTALLED IN SUCH A WAY THAT DOES NOT COMPLY WITH CITY STANDARDS.
- A PLAT FOR ALL CITY OF RALEIGH SANITARY SEWER EASEMENTS WILL BE SUBMITTED TO CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT FOR REVIEW PRIOR TO RECORDING AND PRIOR TO THE ISSUANCE OF BUILDING PERMITS FROM THE TOWN OF KNIGHTDALE.



VICINITY MAP
SCALE: 1"=1,000'



SITE DATA TABLE

SITE ACREAGE:	54.13 ACRES
EXISTING ZONING:	MI-PUD (MANUFACTURING & INDUSTRIAL - PLANNED UNIT DEVELOPMENT)
OVERLAY DISTRICT:	NONE
EXISTING LAND USE:	SINGLE FAMILY
PROPOSED LAND USE:	MANUFACTURING, LIGHT (UDO 5.7.B) RESEARCH AND DEVELOPMENT (UDO 5.7E) STORAGE - WAREHOUSE, INDOOR STORAGE (UDO 5.7G) WHOLESALE AND DISTRIBUTION (UDO 5.7H) BREWERY/WINERY/DISTILLERY (UDO 3.1.C.6) LABORATORY - MEDICAL, ANALYTICAL, RESEARCH & DEVELOPMENT (UDO 3.1.C.6)
WATERSHED:	LOWER NEUSE
PROPOSED IMPERVIOUS AREA:	953,964 SF (21.9 AC.)
PROPOSED NO. BUILDINGS:	2
BUILDING #1 AREA:	289,632 SF
BUILDING #2 AREA:	221,363 SF
TOTAL BUILDING AREA:	510,995 SF
PHASING:	NONE
FRONT SETBACK (MIN.) **:	50 FT
SIDE SETBACK (MIN.) **:	50 FT
REAR SETBACK (MIN.) **:	50 FT
** IF ADJACENT TO RESIDENTIAL DISTRICT, 100 FEET.	
REQUIRED RECREATION OPEN SPACE:	0 SF
PROVIDED RECREATION OPEN SPACE:	0 SF

IMPROVEMENT QUANTITIES

	RALEIGH	KNIGHTDALE
NUMBER OF BUILDINGS	N/A	2
NUMBER OF LOT(S)	N/A	2
PUBLIC GRAVITY SEWER 8" (LF)	2,352	0
NUMBER OF SEWER STUBS/TIES (EA)	8	0
PUBLIC WATER 12" (LF)	888	0
NUMBER OF WATER STUBS/TIES (EA)	3	0
PUBLIC STREET (LF)	N/A	811
PUBLIC SIDEWALK (LF)	N/A	2,050
PUBLIC CURB & GUTTER (LF)	N/A	3,404
PUBLIC STORM DRAINAGE (LF)	N/A	1,149

DEVELOPER
BEACON PARTNERS
500 EAST MOREHEAD ST
SUITE 200
CHARLOTTE, NC 28202
PHONE (704) 597-7757

ENGINEER
ADVANCED CIVIL DESIGN, INC.
51 KILMAYNE DRIVE, SUITE 102
CARY, NC 27511
PHONE (919) 481-6290
FAX (919) 336-5127

OWNER
BEACON KG LLC
500 EAST MOREHEAD ST
SUITE 200
CHARLOTTE, NC 28202
PHONE (704) 597-7757

USE STANDARDS

- UDO SECTION 5.7.B LIGHT MANUFACTURING:**
- ALL MATERIALS OR EQUIPMENT SHALL BE STORED WITHIN AN ENCLOSED BUILDING OR STORED WITHIN AN OUTDOOR STORAGE AREA THAT COMPLIES WITH ALL REGULATIONS SET FORTH IN SECTION 5.10 AND IS RESTRICTED TO THE REAR YARD.
 - ANY OPERATION WHICH RESULTS IN THE CREATION OF NOXIOUS VIBRATIONS, ODORS, DUST, GLARE, OR SOUND IS PROHIBITED.
- UDO SECTION 5.7E RESEARCH AND DEVELOPMENT:**
- ALL MATERIALS OR EQUIPMENT SHALL BE STORED WITHIN AN ENCLOSED BUILDING OR STORED WITHIN AN OUTDOOR STORAGE AREA THAT COMPLIES WITH ALL REGULATIONS SET FORTH IN SECTION 5.10 AND IS RESTRICTED TO THE REAR YARD.
 - ANY OPERATION WHICH RESULTS IN THE CREATION OF NOXIOUS VIBRATIONS, ODORS, DUST, GLARE OR SOUND IS PROHIBITED.
- UDO SECTION 5.7G STORAGE - WAREHOUSE, INDOOR STORAGE:**
- AN INDOOR STORAGE WAREHOUSE BUILDING IS LIMITED TO FIVE THOUSAND (5,000) SQUARE FEET PER FLOOR IN THE TC AND RR DISTRICTS.
 - OUTDOOR STORAGE IS NOT PERMITTED.
 - IN THE RR DISTRICT, ALL AREAS SHALL BE SCREENED FROM ANY PRE-EXISTING ADJACENT RESIDENCE (OTHER THAN THE OWNERS) BY A TYPE-A BUFFER YARD (SECTION 7.4 (1)(2)).
- UDO SECTION 5.7H WHOLESALE AND DISTRIBUTION:**
- ALL VEHICLE STORAGE AREAS SHALL BE ENCLOSED BY AN OPAQUE FENCE OR WALL, RESTRICTED TO THE REAR YARD, AND SCREENED FROM OFF-SITE VIEW OF A PUBLIC RIGHT-OF-WAY BY A TYPE-A BUFFER YARD (SECTION 7.4 (1)(2)).
 - NO OUTDOOR PUBLIC ADDRESS SYSTEM SHALL BE PERMITTED WHICH CAN BE HEARD BEYOND THE BOUNDARIES OF THE PROPERTY.

ATTENTION CONTRACTORS

The Construction Contractor responsible for the extension of water and sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 986-4540 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.

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

SITE PERMITTING APPROVAL

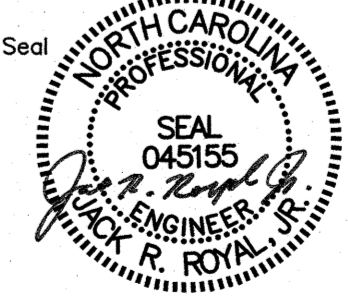
Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-5131

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-3983

Town Approved Standards Shall Control. In the event of a conflict or inconsistency between these construction drawings and the Town of Knightdale's Approved Standards for this project, the Approved Standards shall control. Town of Knightdale Approved Standards shall mean all development documents necessary for approval for the Property including, but not limited to, any special use permit, subdivision plan, site plan, subdivision plat(s), phasing schedule, Development Agreement, Utility Allocation Agreement, Annexation Agreement, the Town of Knightdale Standard Specification and Details Manual and applicable provisions of the North Carolina State Building Code.


Professional Design Engineer Certification. These improvements shall be constructed in accordance with the following drawings and with the Standard Specifications of the Town of Knightdale.
I, Jack R. Royal Jr., PE, certify that the Standard Specifications of the Town of Knightdale have been thoroughly checked and found to be applicable to this project. All exceptions to the applicable Town standards have been previously approved by the Town of Knightdale and said exceptions are shown on Sheet(s) _____ of these drawings.


Seal:  By: Jack R. Royal Jr., PE
Date: 03/20/2023

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.


By: _____ Date: _____
Development Services Engineer

By: _____ Date: _____
Administrator

PLAN PREPARED BY:

ADVANCED CIVIL DESIGN
 ENGINEERS & SURVEYORS
 51 Kilmayne Drive, Suite 102
 Cary, North Carolina 27511
 ph 919-481-6290
 fax 919-336-5127

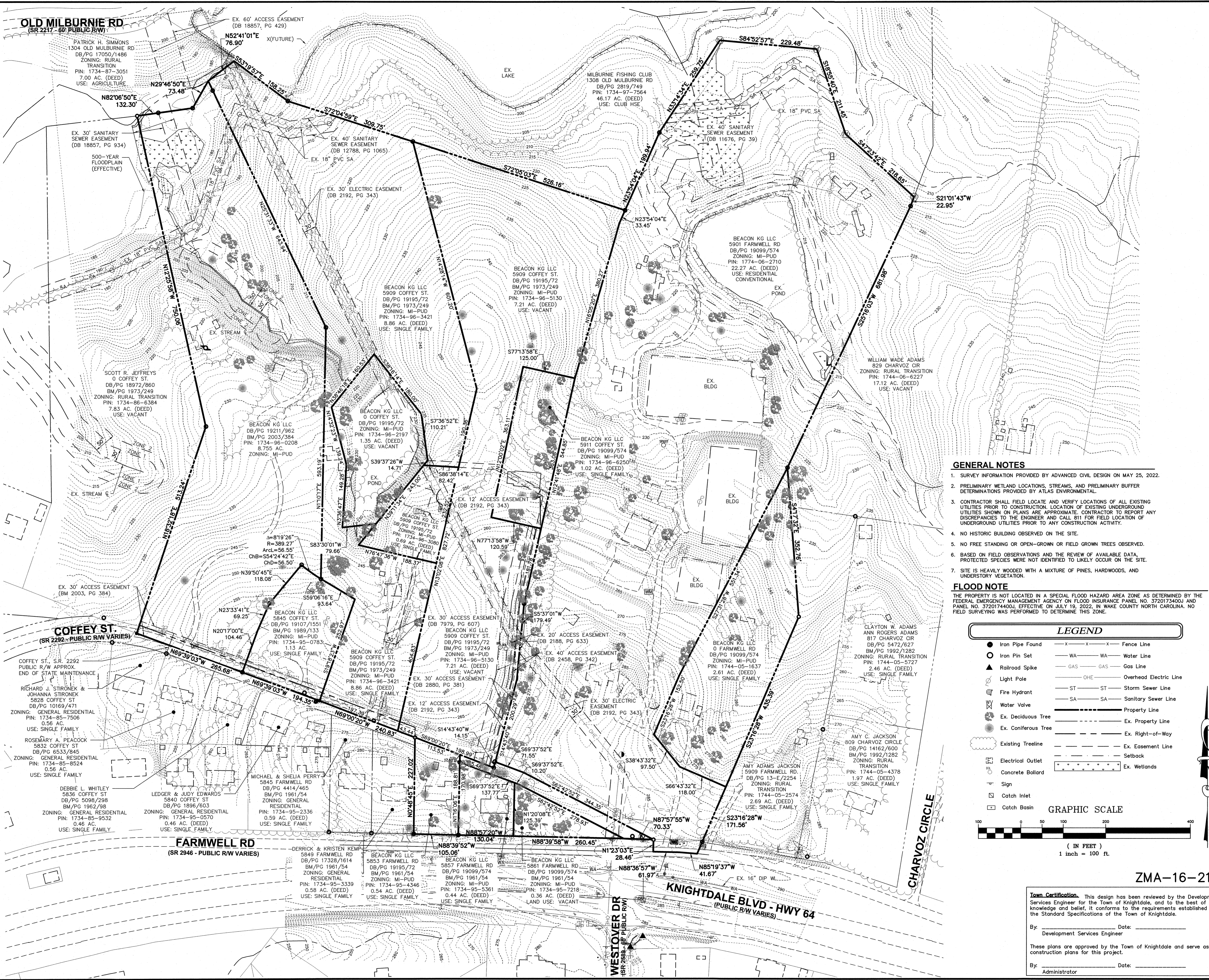
PLAN PREPARED FOR:

BEACON PARTNERS
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 fax 704-598-6335

5901 Farmwell Road, Knightdale, NC 27610 - Wake County
KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
 FOR
BEACON PARTNERS
COVER SHEET



Issue Dates:	09/20/2022 - Construction Plan Submittal #1
	11/11/2022 - Construction Plan Submittal #2
	12/22/2022 - Construction Plan Submittal #3
	02/07/2023 - Construction Plan Submittal #4
	03/03/2023 - Construction Plan Submittal #5
	03/20/2023 - Construction Plan Signature Set
Date:	03/20/2023
Scale:	1" = 1,000'
Drawn By:	AMK
Checked By:	JRR
Project Number:	21-0011-504
Drawing Number:	C.1.0

C:\21-0011-504NC\Drawings\Production Drawings\Site Construction\0011-504NC OVERALL EXISTING CONDITIONS.dwg Overall Existing Mar 20, 2023 10:53:56am Joyal



GENERAL NOTES

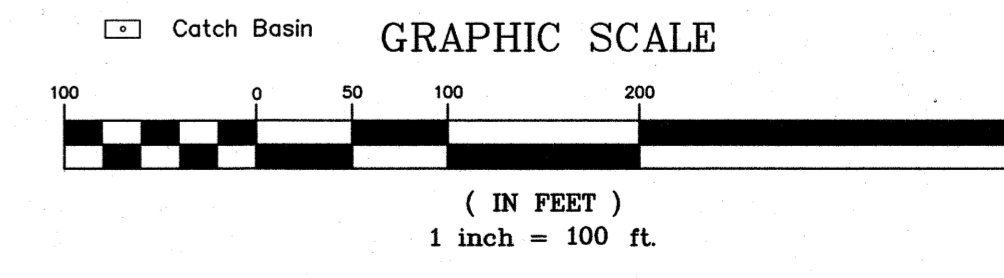
1. SURVEY INFORMATION PROVIDED BY ADVANCED CIVIL DESIGN ON MAY 25, 2022.
2. PRELIMINARY WETLAND LOCATIONS, STREAMS, AND PRELIMINARY BUFFER DETERMINATIONS PROVIDED BY ATLAS ENVIRONMENTAL.
3. CONTRACTOR SHALL FIELD LOCATE AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR TO REPORT ANY DISCREPANCIES TO THE ENGINEER AND CALL 811 FOR FIELD LOCATION OF UNDERGROUND UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITY.
4. NO HISTORIC BUILDING OBSERVED ON THE SITE.
5. NO FREE STANDING OR OPEN-GROWN OR FIELD GROWN TREES OBSERVED.
6. BASED ON FIELD OBSERVATIONS AND THE REVIEW OF AVAILABLE DATA, PROTECTED SPECIES WERE NOT IDENTIFIED TO LIKELY OCCUR ON THE SITE.
7. SITE IS HEAVILY WOODED WITH A MIXTURE OF PINES, HARDWOODS, AND UNDERSTORY VEGETATION.

FLOOD NOTE

THE PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA ZONE AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY ON FLOOD INSURANCE PANEL NO. 3720173400J AND PANEL NO. 3720174400J, EFFECTIVE ON JULY 19, 2022, IN WAKE COUNTY NORTH CAROLINA. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE.

LEGEND

- Iron Pipe Found
- Iron Pin Set
- ▲ Railroad Spike
- Light Pole
- ⊕ Fire Hydrant
- ⊕ Water Valve
- ⊕ Ex. Deciduous Tree
- ⊕ Ex. Coniferous Tree
- ⊕ Existing Treeline
- ⊕ Electrical Outlet
- ⊕ Concrete Bollard
- ⊕ Sign
- ⊕ Catch Inlet
- ⊕ Catch Basin
- x-x-x-x- Fence Line
- WA-WA- Water Line
- GAS-GAS- Gas Line
- OHE- Overhead Electric Line
- ST-ST- Storm Sewer Line
- SA-SA- Sanitary Sewer Line
- - - - - Property Line
- - - - - Ex. Property Line
- - - - - Ex. Right-of-Way
- - - - - Ex. Easement Line
- - - - - Setback
- - - - - Ex. Wetlands



ZMA-16-21

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

PLAN PREPARED BY:

ADVANCED CIVIL DESIGN
ENGINEERS SURVEYORS

51 Kilmegone Drive, Suite 102
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5901 Farmwell Road, Knightdale, NC 27610 - Wake County

**KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS**

OVERALL EXISTING CONDITIONS PLAN

Issue Dates:	09/20/2022 - Construction Plan Submittal #1
	11/11/2022 - Construction Plan Submittal #2
	12/22/2022 - Construction Plan Submittal #3
	02/10/2023 - Construction Plan Submittal #4
	03/03/2023 - Construction Plan Submittal #5
	03/20/2023 - Construction Plan Signature Set

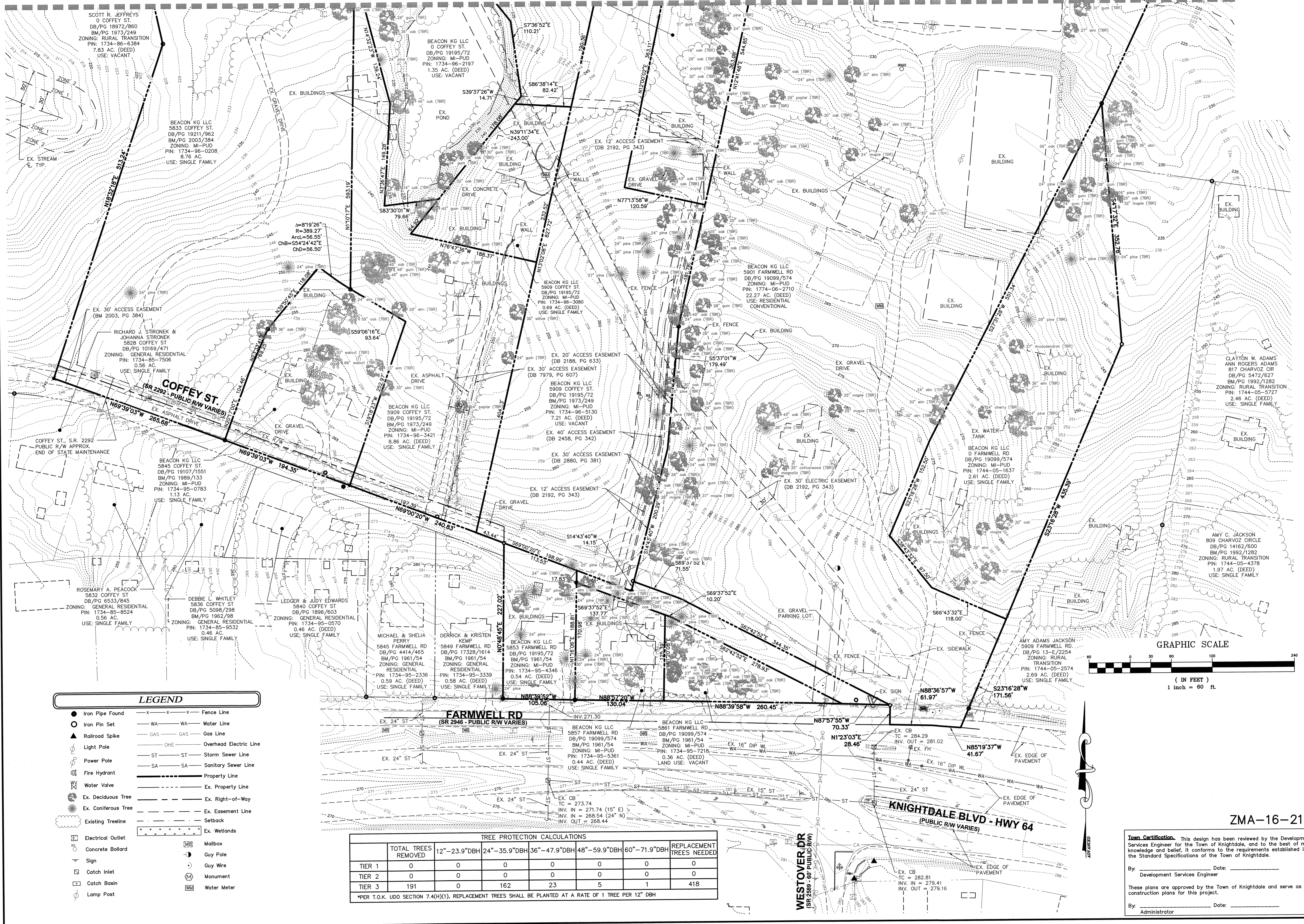
Date: 03/20/2023
Scale: 1" = 100'

Drawn By: AMK
Checked By: JRR

Project Number:
21-0011-504

Drawing Number:
C.2.0

MATCHLINE - SEE SHEET C.2.2



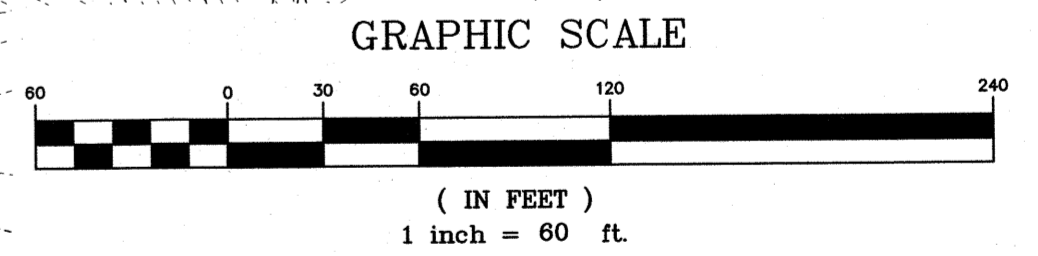
LEGEND

● Iron Pipe Found	—x—x—x—x—	Fence Line
○ Iron Pin Set	—WA—WA—	Water Line
▲ Railroad Spike	—GAS—GAS—	Gas Line
⊕ Light Pole	—OHE—	Overhead Electric Line
⊕ Power Pole	—ST—ST—	Storm Sewer Line
⊕ Fire Hydrant	—SA—SA—	Sanitary Sewer Line
⊕ Water Valve	—	Property Line
⊕ Ex. Deciduous Tree	—	Ex. Property Line
⊕ Ex. Coniferous Tree	—	Ex. Right-of-Way
⊕ Existing Treeline	—	Ex. Easement Line
⊕ Electrical Outlet	—	Setback
⊕ Concrete Bollard	—	Ex. Wetlands
⊕ Sign	⊕	Mailbox
⊕ Catch Inlet	⊕	Guy Pole
⊕ Catch Basin	⊕	Guy Wire
⊕ Lamp Post	⊕	Monument
	⊕	Water Meter

TREE PROTECTION CALCULATIONS

	TOTAL TREES REMOVED	12"-23.9"DBH	24"-35.9"DBH	36"-47.9"DBH	48"-59.9"DBH	60"-71.9"DBH	REPLACEMENT TREES NEEDED
TIER 1	0	0	0	0	0	0	0
TIER 2	0	0	0	0	0	0	0
TIER 3	191	0	162	23	5	1	418

*PER T.O.K. UDO SECTION 7.4(H)(1), REPLACEMENT TREES SHALL BE PLANTED AT A RATE OF 1 TREE PER 12" DBH



PLAN PREPARED BY:

ADVANCED CIVIL DESIGN ENGINEERS

51 Killdeer Drive, Suite 102
Cary, North Carolina 27511
PH 919.481.0990
FOR 919.336.9127

PLAN PREPARED FOR:

BEACON PARTNERS

500 East Main Street
Suite 200
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Tel. 704.261.2177
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5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY CONSTRUCTION PLAN

FOR

BEACON PARTNERS EXISTING CONDITIONS PLAN

03/20/2023

Issue Dates:

09/20/2022	- Construction Plan Submittal #1
11/11/2022	- Construction Plan Submittal #2
12/22/2022	- Construction Plan Submittal #3
02/10/2023	- Construction Plan Submittal #4
03/03/2023	- Construction Plan Submittal #5
03/20/2023	- Construction Plan Signature Set

Date: 03/20/2023
Scale: 1" = 60'

Drawn By: AMK
Checked By: JRR

Project Number:
21-0011-504

Drawing Number:
C.2.1

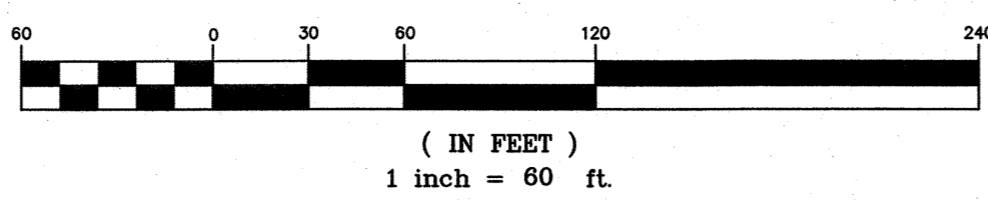
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By: _____ Date: _____
Development Services Engineer

By: _____ Date: _____
Administrator

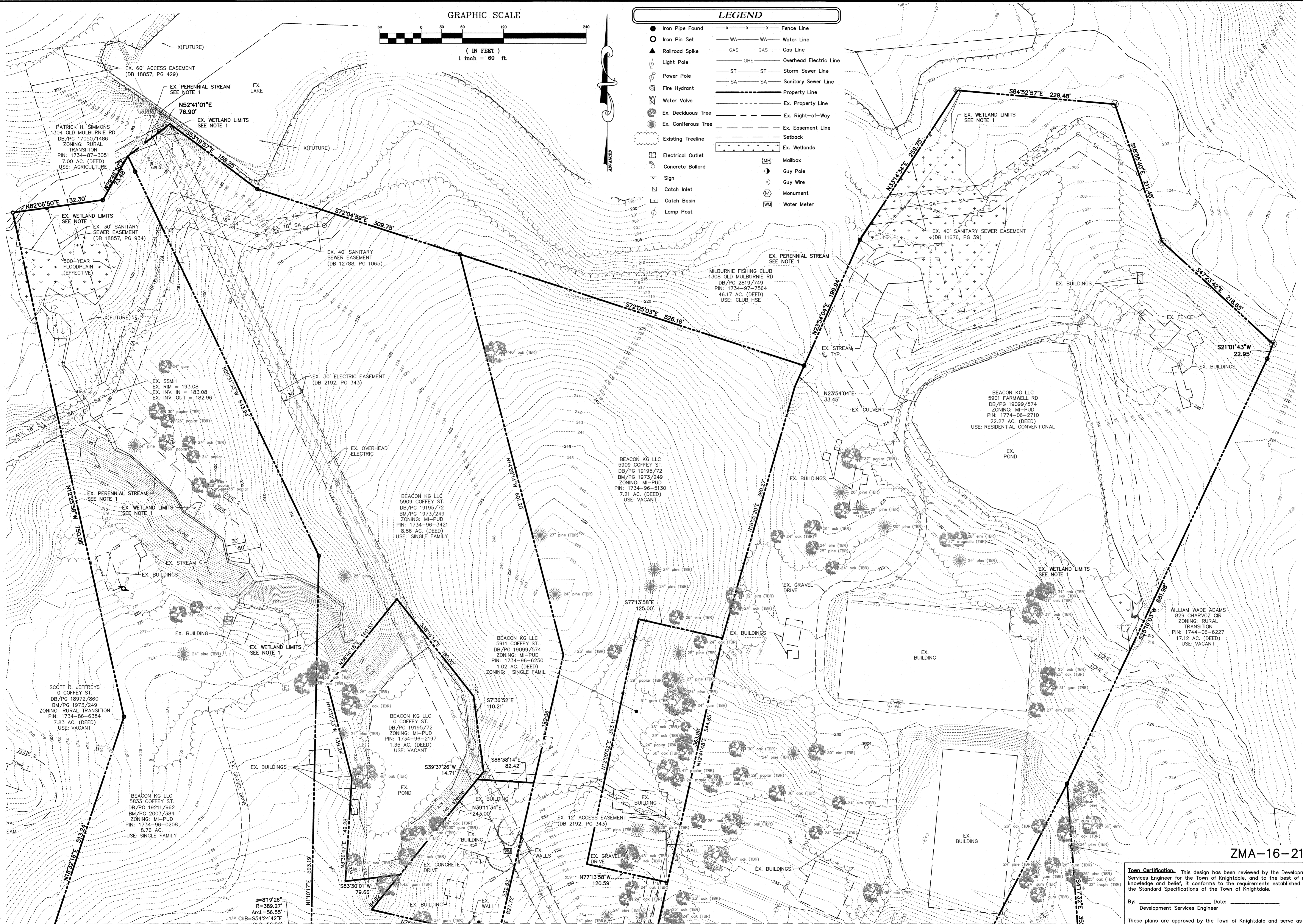
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GRAPHIC SCALE



LEGEND

- Iron Pipe Found
- Iron Pin Set
- ▲ Railroad Spike
- Light Pole
- Power Pole
- Fire Hydrant
- Water Valve
- Ex. Deciduous Tree
- Ex. Coniferous Tree
- Existing Tree Line
- Electrical Outlet
- Concrete Bollard
- Sign
- Catch Inlet
- Catch Basin
- Lamp Post
- Fence Line
- WA — Water Line
- GAS — Gas Line
- OHE — Overhead Electric Line
- ST — Storm Sewer Line
- SA — Sanitary Sewer Line
- Property Line
- Ex. Property Line
- Ex. Right-of-Way
- Ex. Easement Line
- Setback
- Ex. Wetlands
- Mailbox
- Guy Pole
- Guy Wire
- Monument
- Water Meter



MATCHLINE - SEE SHEET C.2.1

ZMA-16-21

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

By: _____ Date: _____
 Administrator

PLAN PREPARED BY:

51 Kingsway Drive, Suite 102
 Cary, North Carolina 27511
 PH: 919.486.6800
 FX: 919.336.9327

PLAN PREPARED FOR:

500 East Morehead St.
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 Charlotte, North Carolina 28269
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 Fax: 704.598.4335

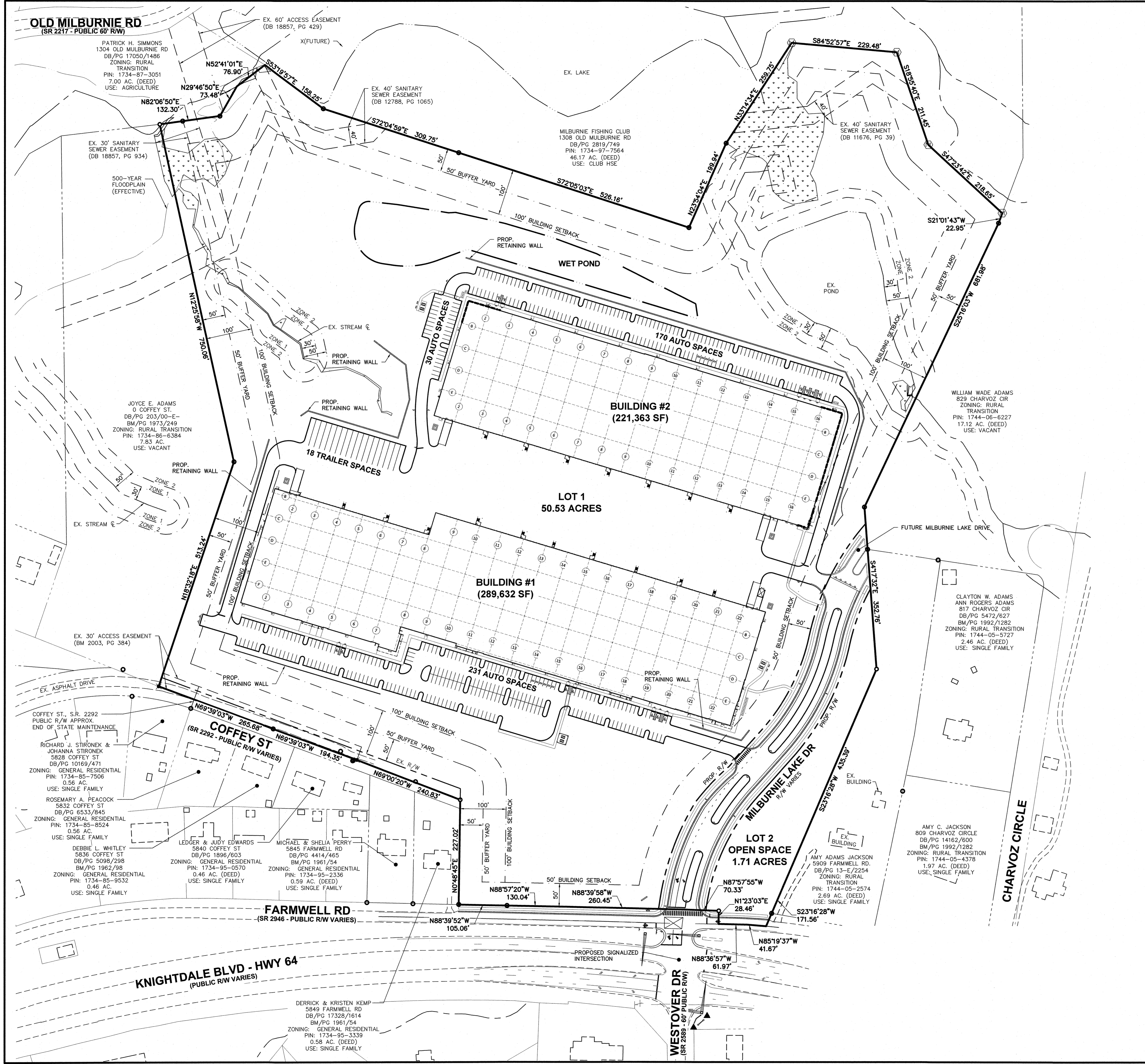
5901 Farmwell Road, Knightdale, NC 27610 - Wake County

**KNIGHTDALE GATEWAY
 CONSTRUCTION PLAN
 FOR
 BEACON PARTNERS
 EXISTING CONDITION PLAN**

Issue Dates:	09/20/2022 - Construction Plan Submittal #1
	11/17/2022 - Construction Plan Submittal #2
	12/22/2022 - Construction Plan Submittal #3
	02/10/2023 - Construction Plan Submittal #4
	03/03/2023 - Construction Plan Submittal #5
	03/20/2023 - Construction Plan Signature Set
Date:	03/20/2023
Scale:	1" = 60'
Drawn By:	AMK
Checked By:	JRR
Project Number:	21-0011-504
Drawing Number:	C.2.2

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SITE DATA TABLE

SITE ACREAGE: 54.13 ACRES
 EXISTING ZONING: M-PUD (MANUFACTURING & INDUSTRIAL - PLANNED UNIT DEVELOPMENT)
 OVERLAY DISTRICT: NONE
 EXISTING LAND USE: SINGLE FAMILY
 PROPOSED LAND USE: MANUFACTURING, LIGHT (UDO 5.7.B)
 RESEARCH AND DEVELOPMENT (UDO 5.7E)
 STORAGE - WAREHOUSE, INDOOR STORAGE (UDO 5.7G)
 WHOLESALE AND DISTRIBUTION (UDO 5.7H)
 BREWERY/WINERY/DISTILLERY (UDO 3.1.C.6)
 LABORATORY - MEDICAL, ANALYTICAL, RESEARCH & DEVELOPMENT (UDO 3.1.C.6)

WATERSHED: LOWER NEUSE
 PROPOSED IMPERVIOUS AREA: 953,964 SF (21.9 AC.)
 PROPOSED NO. BUILDINGS: 2
 BUILDING #1 AREA: 289,632 SF
 BUILDING #2 AREA: 221,363 SF
 TOTAL BUILDING AREA: 510,995 SF
 PHASING: NONE
 FRONT SETBACK (MIN.) **: 50 FT
 SIDE SETBACK (MIN.) **: 50 FT
 REAR SETBACK (MIN.) **: 50 FT

** IF ADJACENT TO RESIDENTIAL DISTRICT, 100 FEET.

REQUIRED RECREATION OPEN SPACE: 0 SF
 PROVIDED RECREATION OPEN SPACE: 0 SF

PARKING CALCULATIONS

USE TYPE: MANUFACTURING, LIGHT
 MAXIMUM NO. OF PARKING SPACES: 1.5 PER KSF GFA
 MINIMUM NO. OF PARKING SPACES: 0.5 X MAXIMUM
 **KSF = 1,000 SF; GFA = GROSS FLOOR AREA

BUILDING NO.	GFA (SF)	MAX. SPACES	MIN. SPACES	AUTO SPACES PROVIDED	TRUCK SPACES PROVIDED
1	289,632	434	217	231	18
2	221,363	332	166	200	0

ELECTRIC VEHICLE REQUIREMENTS: 1 PER 40 SPACES = 11 SPACES
 # OF CHARGING STATIONS/DEDICATED SPACES PROVIDED: 11 SPACES

BICYCLE PARKING REQUIRED: 1 PER 10 PARKING SPACES = 45 SPACES
 BICYCLE PARKING PROVIDED: 46 SPACES

TOWN OF KNIGHTDALE WATER ALLOCATION POLICY

TOWN OF KNIGHTDALE WATER ALLOCATION POLICY CALCULATIONS ARE SHOWN BELOW:
 PROPOSED MANUFACTURING/INDUSTRIAL EMPLOYMENT CENTER - 507,000 SF
 MANUFACTURING/INDUSTRIAL EMPLOYMENT CENTER POINTS EARNED: 70 BASE POINTS

GENERAL NOTES

- ALL PARKING AREAS MUST BE PAVED AND HAVE STANDARD CURB & GUTTER.
- DEVELOPMENT WILL NOT BE PHASED.

LEGEND

- Iron Pipe Found
- Calculated Point
- Railroad Spike
- Ex. Fence Line
- Ex. Property Line
- Property Line
- Ex. Wetlands

GRAPHIC SCALE
 (IN FEET)
 1 inch = 100 ft

PLAN PREPARED BY: **ADVANCED CIVIL DESIGN ENGINEERS**
 51 Veterans Drive, Suite 105
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 FAX: 919.338.9327

PLAN PREPARED FOR: **BEACON PARTNERS**
 500 East Morehead St.
 Raleigh, North Carolina 27609
 Tel: 704.597.7777
 Fax: 704.596.4315

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY CONSTRUCTION PLAN FOR BEACON PARTNERS OVERALL SITE PLAN

03/20/2023

Issue Dates:
 09/20/2022 - Construction Plan Submittal #1
 11/11/2022 - Construction Plan Submittal #2
 12/22/2022 - Construction Plan Submittal #3
 02/10/2023 - Construction Plan Submittal #4
 03/03/2023 - Construction Plan Submittal #5
 03/20/2023 - Construction Plan Signature Set

Date: 03/20/2023
 Scale: 1" = 100'

Drawn By: AMK
 Checked By: JRR

Project Number: 21-0011-504
 Drawing Number: C.3.0

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator

MATCHLINE - SEE SHEET C.3.2

JOYCE E. ADAMS
O COFFEY ST.
DB/PG 203/00-E-
BM/PG 1973/249
ZONING: RURAL TRANSITION
PIN: 1734-86-6384
7.83 AC.
USE: VACANT

BUILDING #2
(221,363 SF)
850'x260'

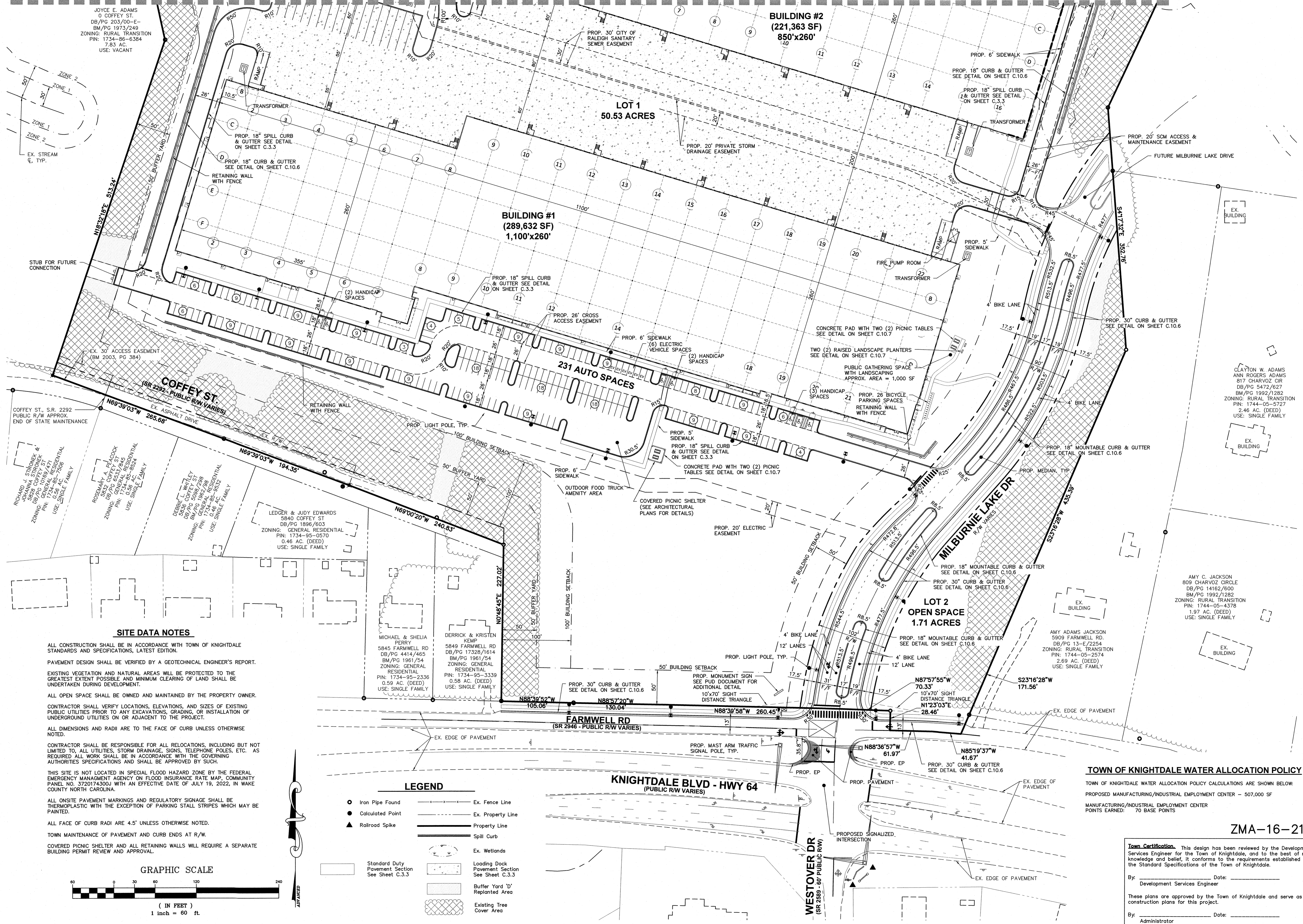
LOT 1
50.53 ACRES

BUILDING #1
(289,632 SF)
1,100'x260'

231 AUTO SPACES

LOT 2
OPEN SPACE
1.71 ACRES

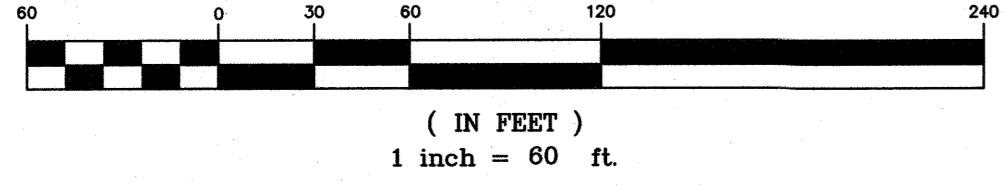
KNIGHTDALE BLVD - HWY 64
(PUBLIC R/W VARIES)



SITE DATA NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS, LATEST EDITION.
PAVEMENT DESIGN SHALL BE VERIFIED BY A GEOTECHNICAL ENGINEER'S REPORT.
EXISTING VEGETATION AND NATURAL AREAS WILL BE PROTECTED TO THE GREATEST EXTENT POSSIBLE AND MINIMUM CLEARING OF LAND SHALL BE UNDERTAKEN DURING DEVELOPMENT.
ALL OPEN SPACE SHALL BE OWNED AND MAINTAINED BY THE PROPERTY OWNER.
CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS, AND SIZES OF EXISTING PUBLIC UTILITIES PRIOR TO ANY EXCAVATIONS, GRADING, OR INSTALLATION OF UNDERGROUND UTILITIES ON OR ADJACENT TO THE PROJECT.
ALL DIMENSIONS AND RADII ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TELEPHONE POLES, ETC. AS REQUIRED ALL WORK SHALL BE IN ACCORDANCE WITH THE GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH.
THIS SITE IS NOT LOCATED IN SPECIAL FLOOD HAZARD ZONE BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY ON FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 3720174300J WITH AN EFFECTIVE DATE OF JULY 19, 2022, IN WAKE COUNTY NORTH CAROLINA.
ALL ON-SITE PAVEMENT MARKINGS AND REGULATORY SIGNAGE SHALL BE THERMOPLASTIC WITH THE EXCEPTION OF PARKING STALL STRIPES WHICH MAY BE PAINTED.
ALL FACE OF CURB RADI ARE 4.5' UNLESS OTHERWISE NOTED.
TOWN MAINTENANCE OF PAVEMENT AND CURB ENDS AT R/W.
COVERED PICNIC SHELTER AND ALL RETAINING WALLS WILL REQUIRE A SEPARATE BUILDING PERMIT REVIEW AND APPROVAL.

GRAPHIC SCALE



LEGEND

- Iron Pipe Found
- Calculated Point
- ▲ Railroad Spike
- Ex. Fence Line
- Ex. Property Line
- Property Line
- Spill Curb
- Ex. Wetlands
- Loading Deck Pavement Section See Sheet C.3.3
- Buffer Yard 'D' Replanted Area
- Existing Tree Cover Area

TOWN OF KNIGHTDALE WATER ALLOCATION POLICY

TOWN OF KNIGHTDALE WATER ALLOCATION POLICY CALCULATIONS ARE SHOWN BELOW:
PROPOSED MANUFACTURING/INDUSTRIAL EMPLOYMENT CENTER - 507,000 SF
MANUFACTURING/INDUSTRIAL EMPLOYMENT CENTER
POINTS EARNED: 70 BASE POINTS

ZMA-16-21

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer
By: _____ Date: _____
Administrator

PLAN PREPARED BY:
ADVANCED
CIVIL DESIGN
ENGINEERS SURVEYORS
51 Kilmorye Drive, Suite 102
Cary, North Carolina 27511
PH 919.461.6260
FAX 919.336.5127

PLAN PREPARED FOR:
BEACON PARTNERS
500 East Morehead St.
Suite 200
Charlotte, North Carolina 28219
Tel. 704.597.7757
Fax 704.598.6313

5901 Farmwell Road, Knightdale, NC 27610 - Wake County
KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
SITE PLAN

SEAL
045155
NORTH CAROLINA
PROFESSIONAL
ENGINEER
R. J. ROYAL
03/20/2023

Issue Dates:

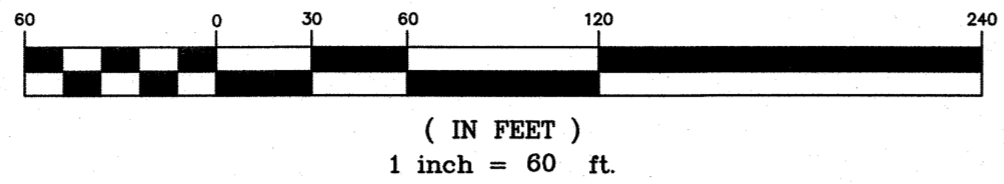
09/20/2022	- Construction Plan Submittal #1
11/11/2022	- Construction Plan Submittal #2
12/22/2022	- Construction Plan Submittal #3
02/10/2023	- Construction Plan Submittal #4
03/03/2023	- Construction Plan Submittal #5
03/20/2023	- Construction Plan Signature Set

Date: 03/20/2023
Scale: 1" = 60'
Drawn By: AMK
Checked By: JRR
Project Number: 21-0011-504
Drawing Number: C.3.1

GENERAL NOTES

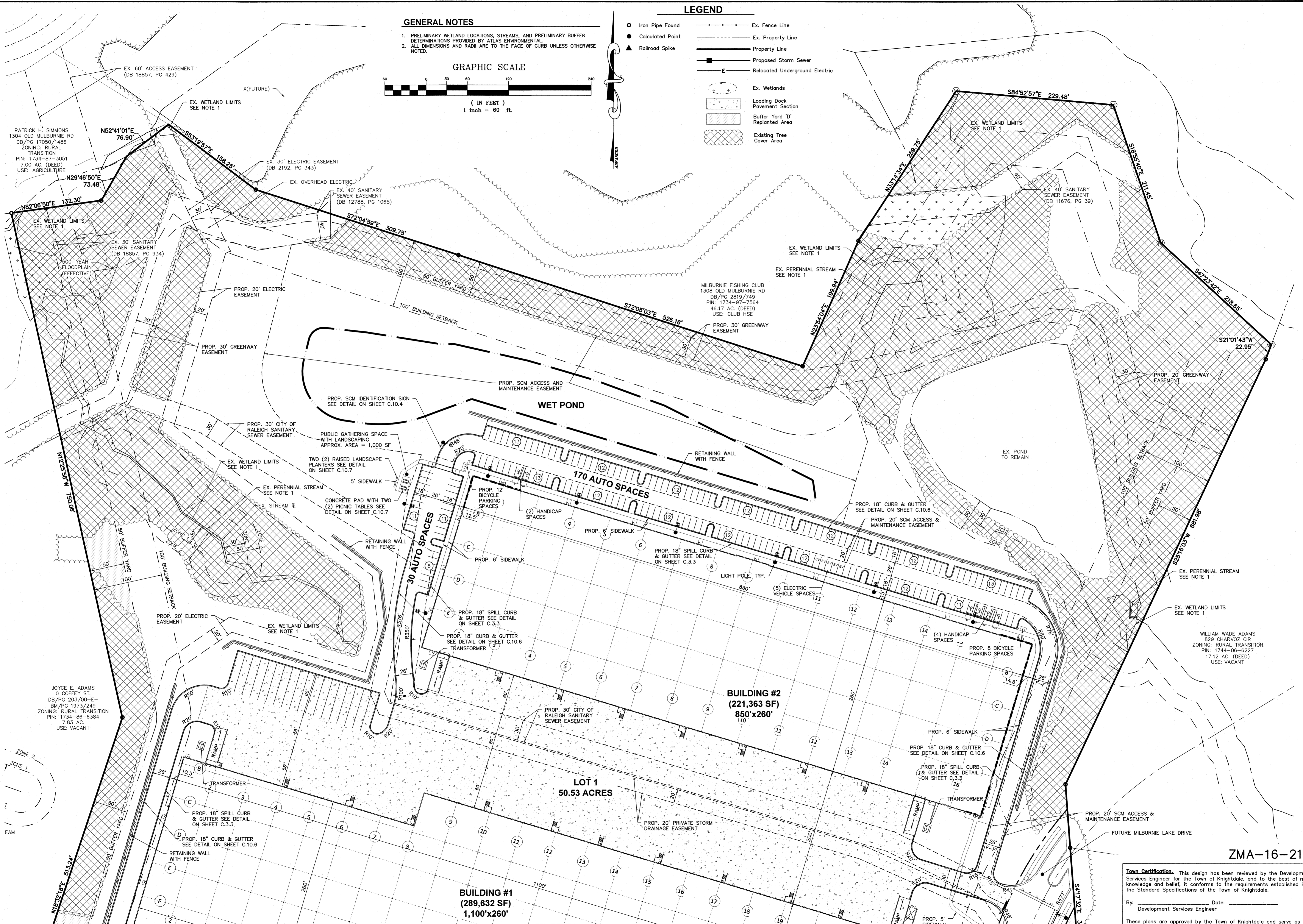
1. PRELIMINARY WETLAND LOCATIONS, STREAMS, AND PRELIMINARY BUFFER DETERMINATIONS PROVIDED BY ATLAS ENVIRONMENTAL.
2. ALL DIMENSIONS AND RADII ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.

GRAPHIC SCALE



LEGEND

- Iron Pipe Found
- Calculated Point
- ▲ Railroad Spike
- Ex. Fence Line
- - - Ex. Property Line
- Property Line
- Proposed Storm Sewer
- Relocated Underground Electric
- Ex. Wetlands
- Loading Dock Pavement Section
- Buffer Yard 'D' Replanted Area
- Existing Tree Cover Area



BUILDING #1
(289,632 SF)
1,100'x260'

BUILDING #2
(221,363 SF)
850'x260'

LOT 1
50.53 ACRES

170 AUTO SPACES

30 AUTO SPACES

WET POND

ZMA-16-21

MATCHLINE - SEE SHEET C.3.1

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

By: _____ Date: _____
Administrator

PLAN PREPARED BY:

51 Kilmear Drive, Suite 102
Cary, North Carolina 27511
ph 919.481.6290
fax 919.336.9127

PLAN PREPARED FOR:

500 East Marshall St.
Suite 200
Charlotte, North Carolina 28269
tel. 704.597.7777
fax 704.596.6333

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
SITE PLAN

WILLIAM WADE ADAMS
829 CHARVOZ CIR
ZONING: RURAL TRANSITION
PIN: 1744-06-6227
17.12 AC. (DEED)
USE: VACANT

Issue Dates:

09/20/2022	- Construction Plan Submittal #1
11/11/2022	- Construction Plan Submittal #2
12/22/2022	- Construction Plan Submittal #3
02/10/2023	- Construction Plan Submittal #4
03/03/2023	- Construction Plan Submittal #5
03/20/2023	- Construction Plan Signature Set

Date: 03/20/2023
Scale: 1" = 60'

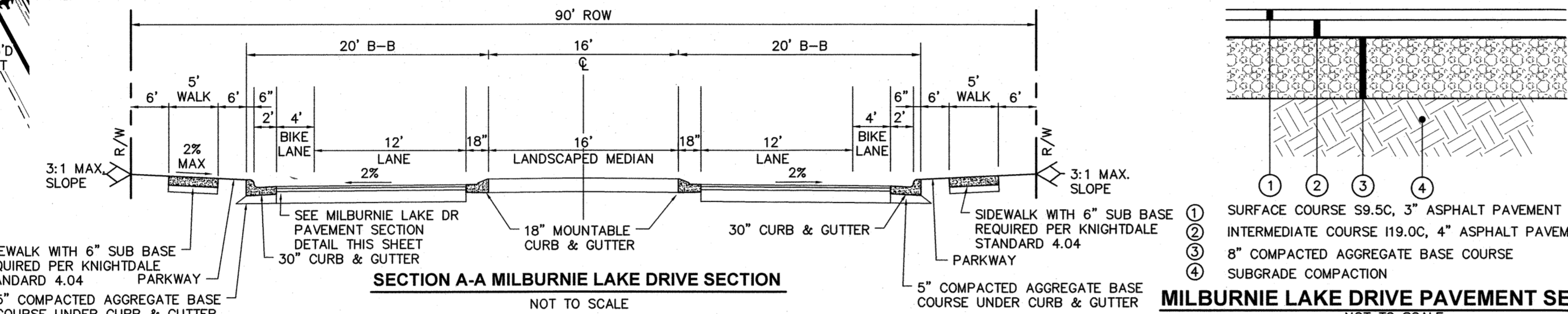
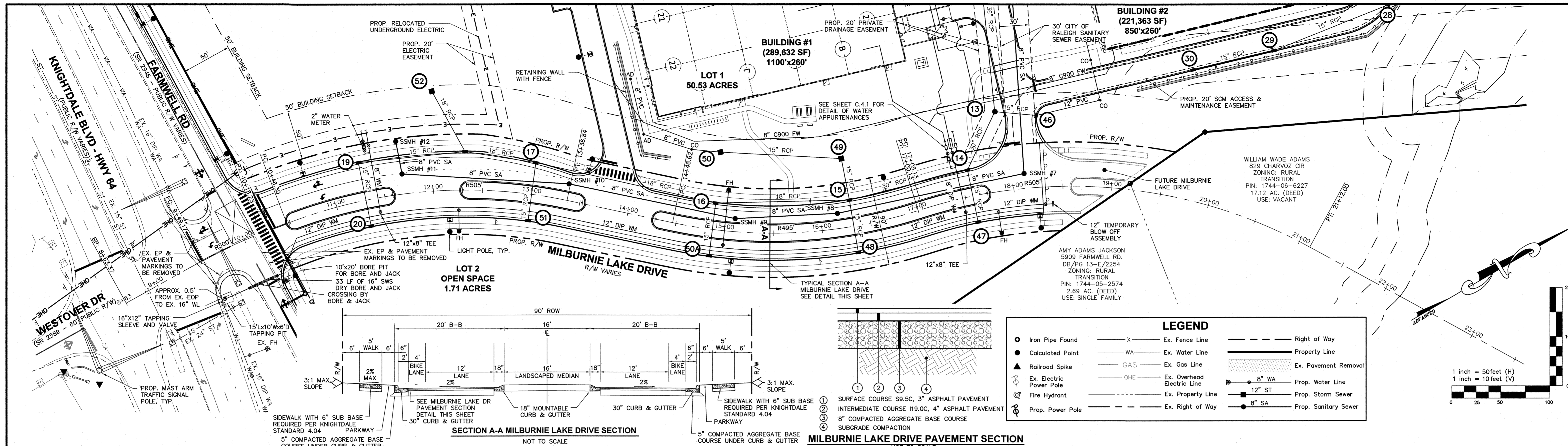
Drawn By: AMK
Checked By: JRR

Project Number:
21-0011-504

Drawing Number:
C.3.2

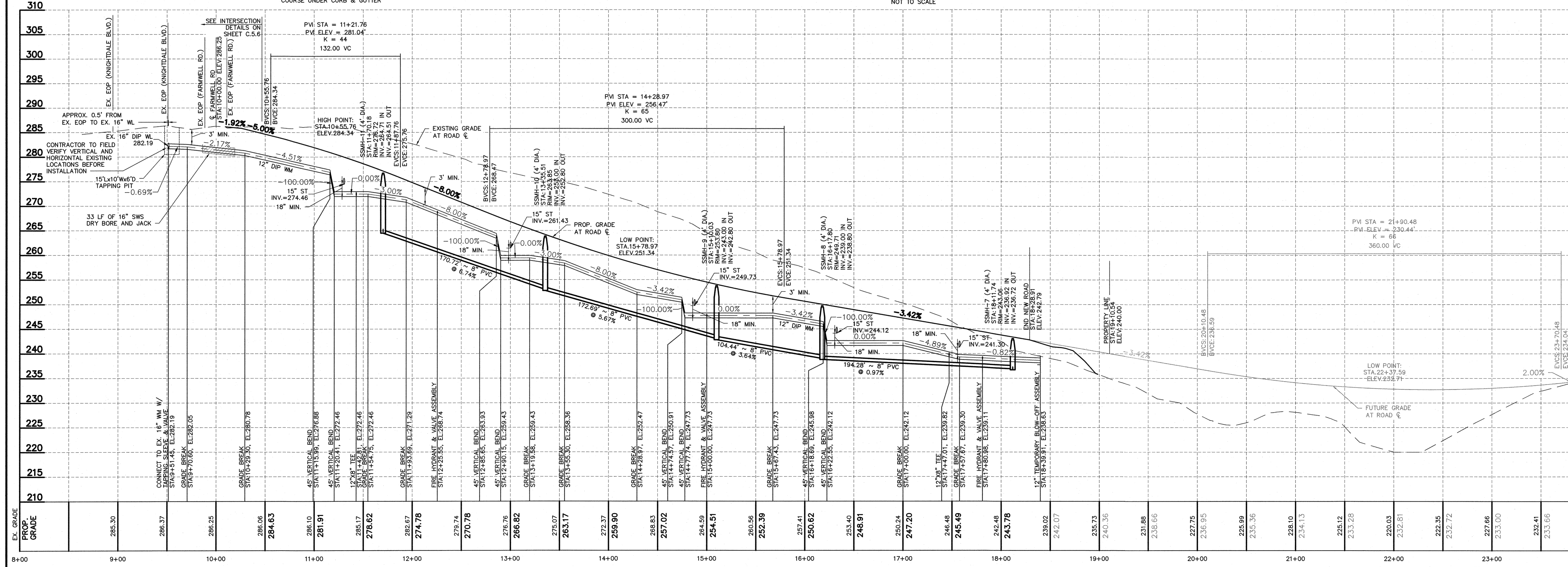
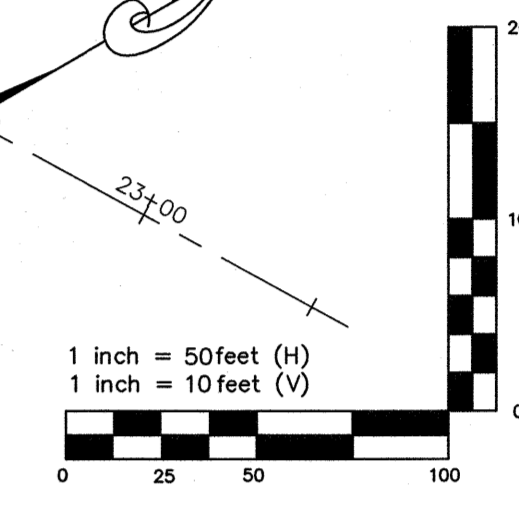
O:\21-0011-504NC\DWG\Production Drawings\SITE CONSTRUCTION\0011-504NC SITE PLAN.dwg SITE 2 Mar 20, 2023 10:31:49am Poyl

C:\21-0011-50ANC\DWG\Production Drawings\Site Construction\0011-50ANC NEW ROAD PLAN & PROFILE Mar 20, 2023 - 10:32:35am Royal



LEGEND

- Iron Pipe Found
- Calculated Point
- Railroad Spike
- Ex. Electric Power Pole
- Fire Hydrant
- Prop. Power Pole
- X — Ex. Fence Line
- WA — Ex. Water Line
- GAS — Ex. Gas Line
- OHE — Ex. Overhead Electric Line
- — Ex. Property Line
- — Ex. Right of Way
- — Right of Way
- — Property Line
- — Ex. Pavement Removal
- 8" WA Prop. Water Line
- 12" ST Prop. Storm Sewer
- 8" SA Prop. Sanitary Sewer



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

Water and Sewer Permits (if applicable)

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

City of Raleigh Public Utilities Department Permit # **S-5131**

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-3983**

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

ZMA-16-21

Date: 03/20/2023
Scale: H:1"=50'; V:1"=10'

Drawn By: AMK Checked By: JRR

Project Number:
21-0011-504

Drawing Number:
C.3.4

Issue Dates:	Construction Plan Submittal #1	Construction Plan Submittal #2	Construction Plan Submittal #3	Construction Plan Submittal #4	Construction Plan Signature Set
09/20/2022	09/20/2022	11/11/2022	12/22/2022	02/10/2023	03/20/2023

PLAN PREPARED BY: **ADVANCED CIVIL DESIGN ENGINEERS SURVEYORS**

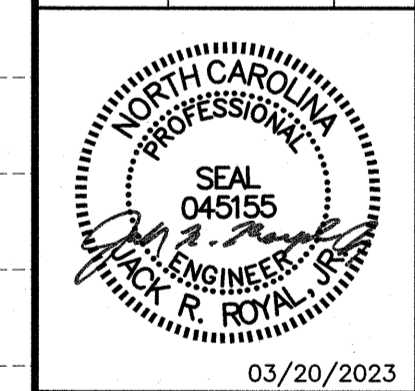
51 Kilmegon Drive, Suite 102
Cary, North Carolina 27513
PH 919.461.6990
CO 919.336.9277

PLAN PREPARED FOR: **BEACON PARTNERS**

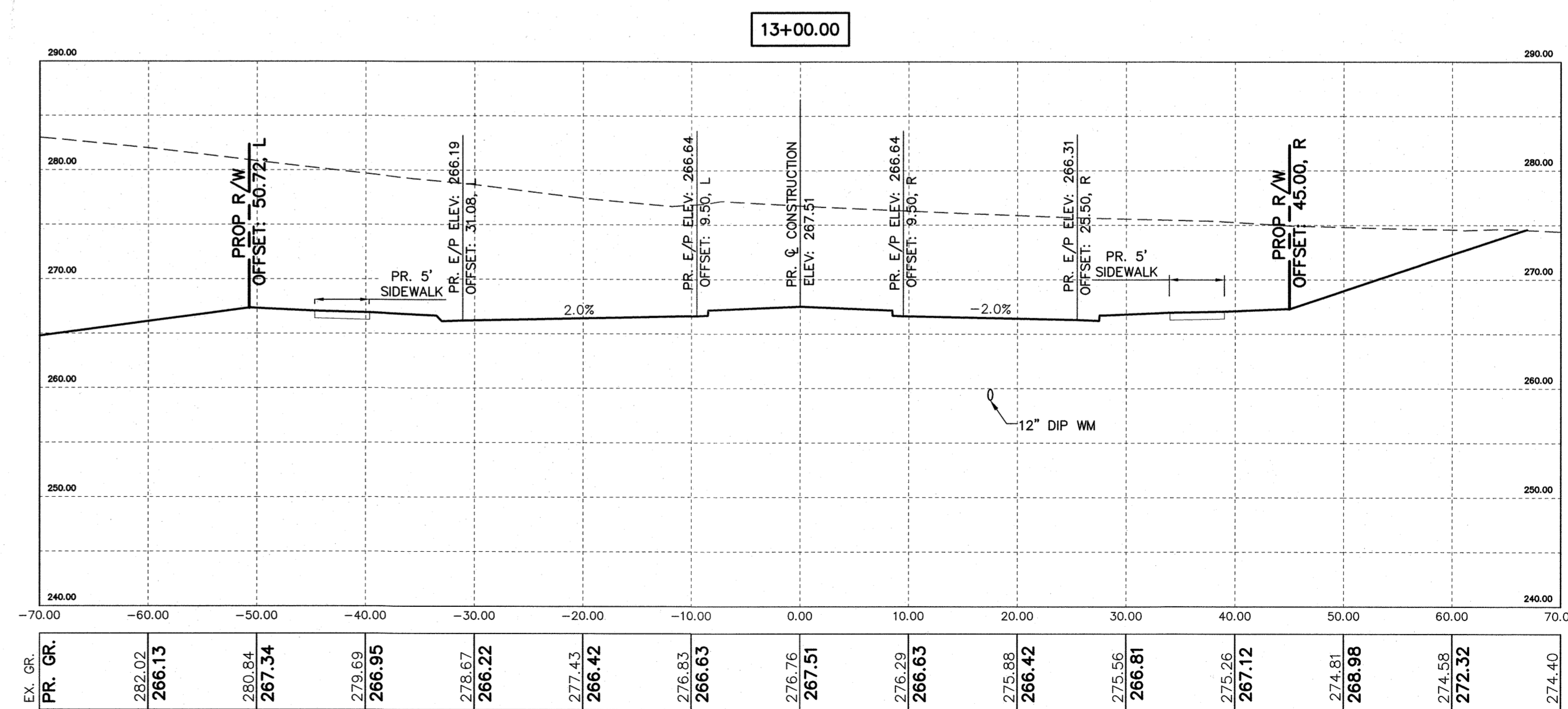
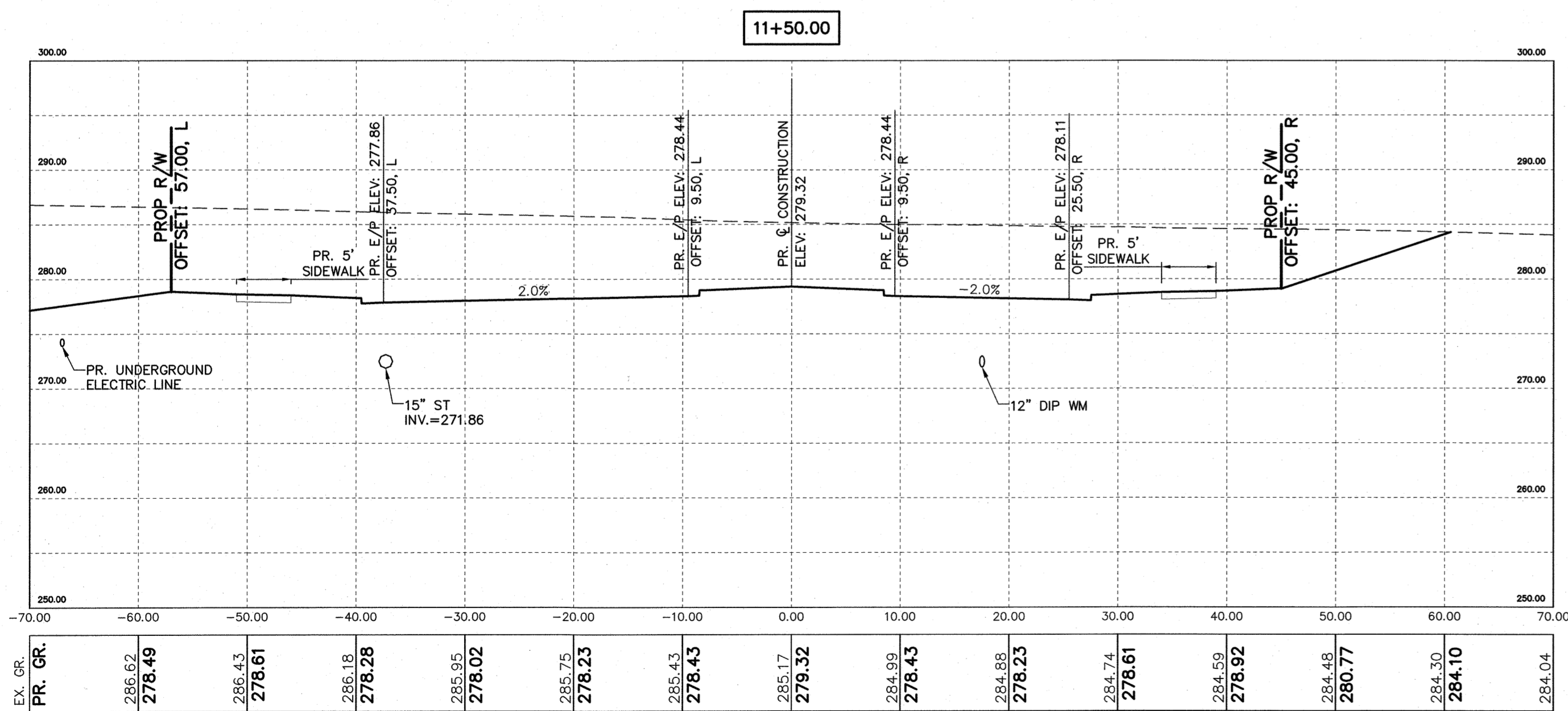
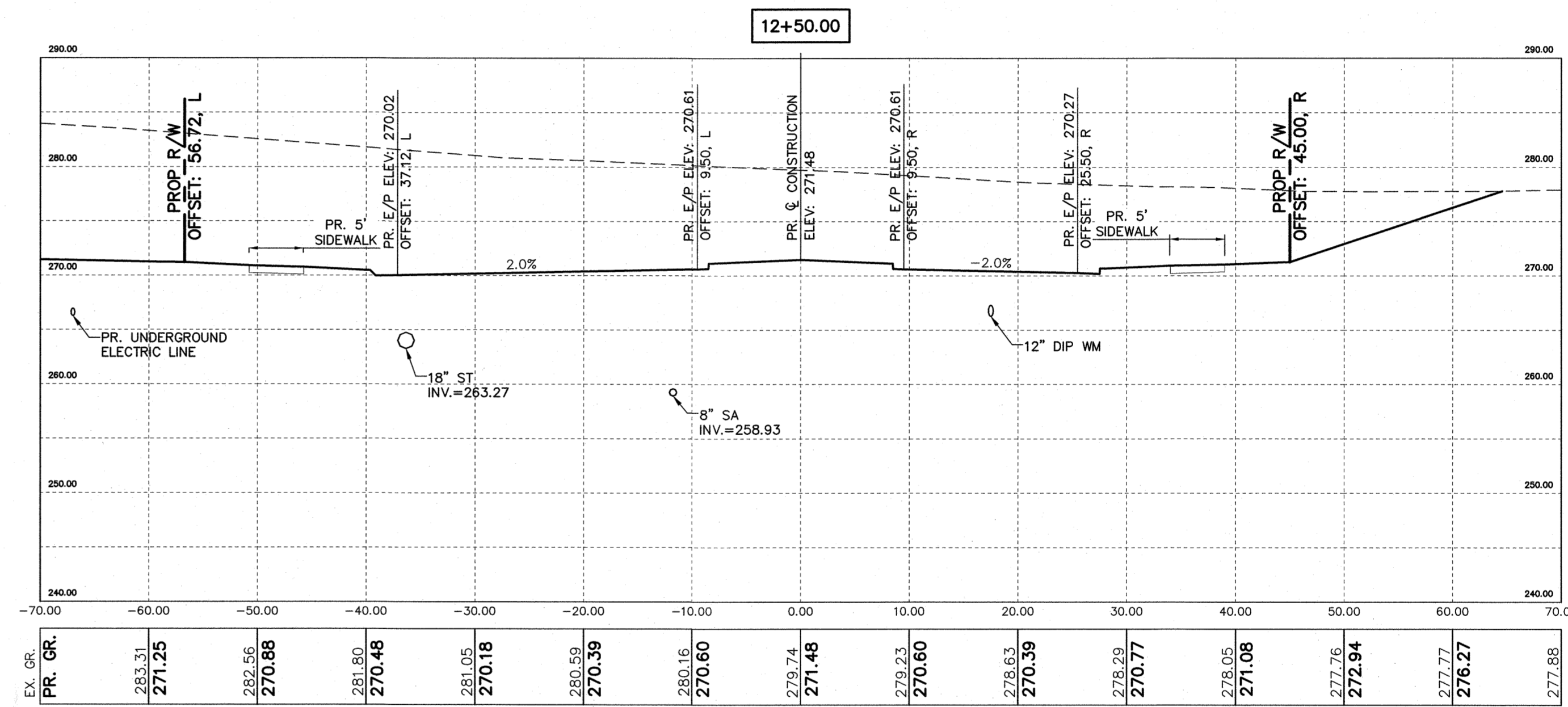
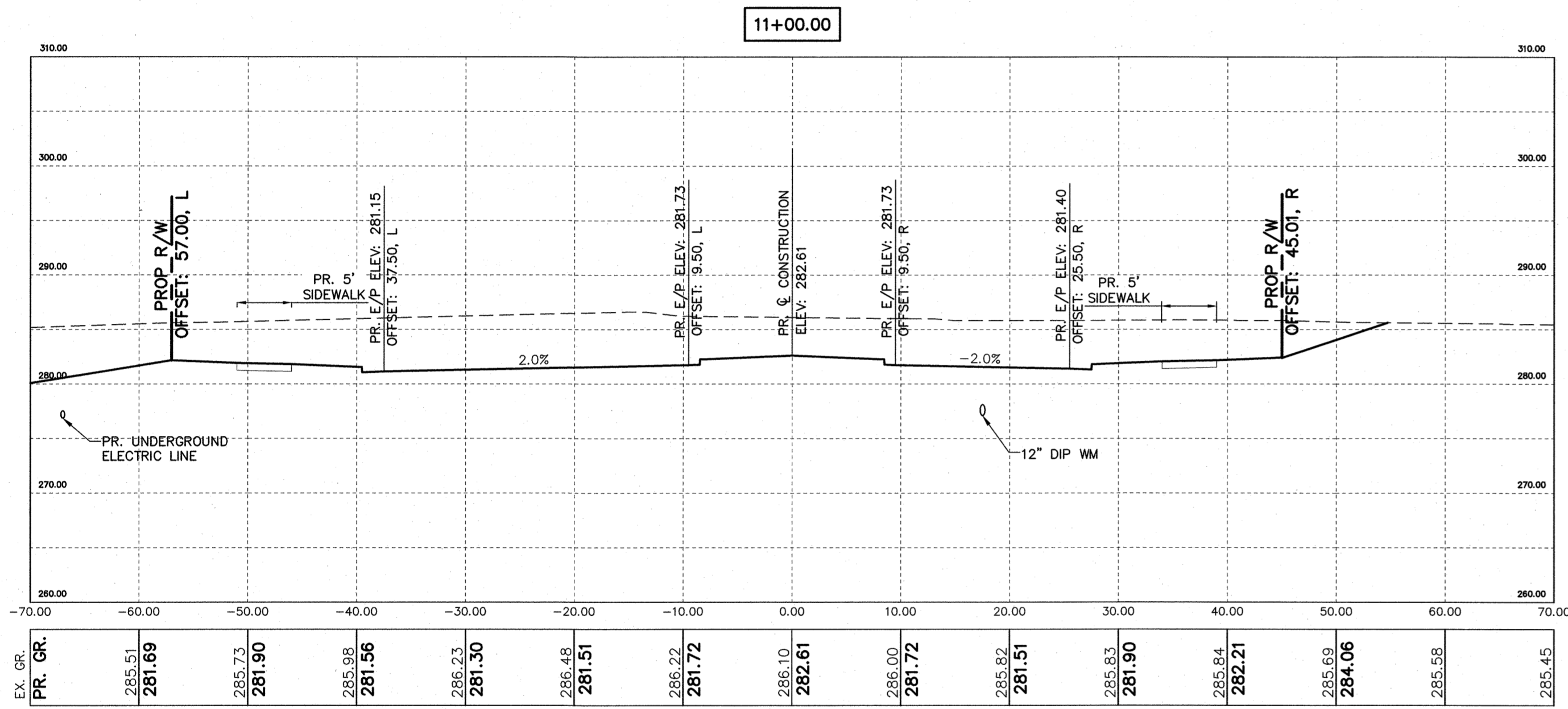
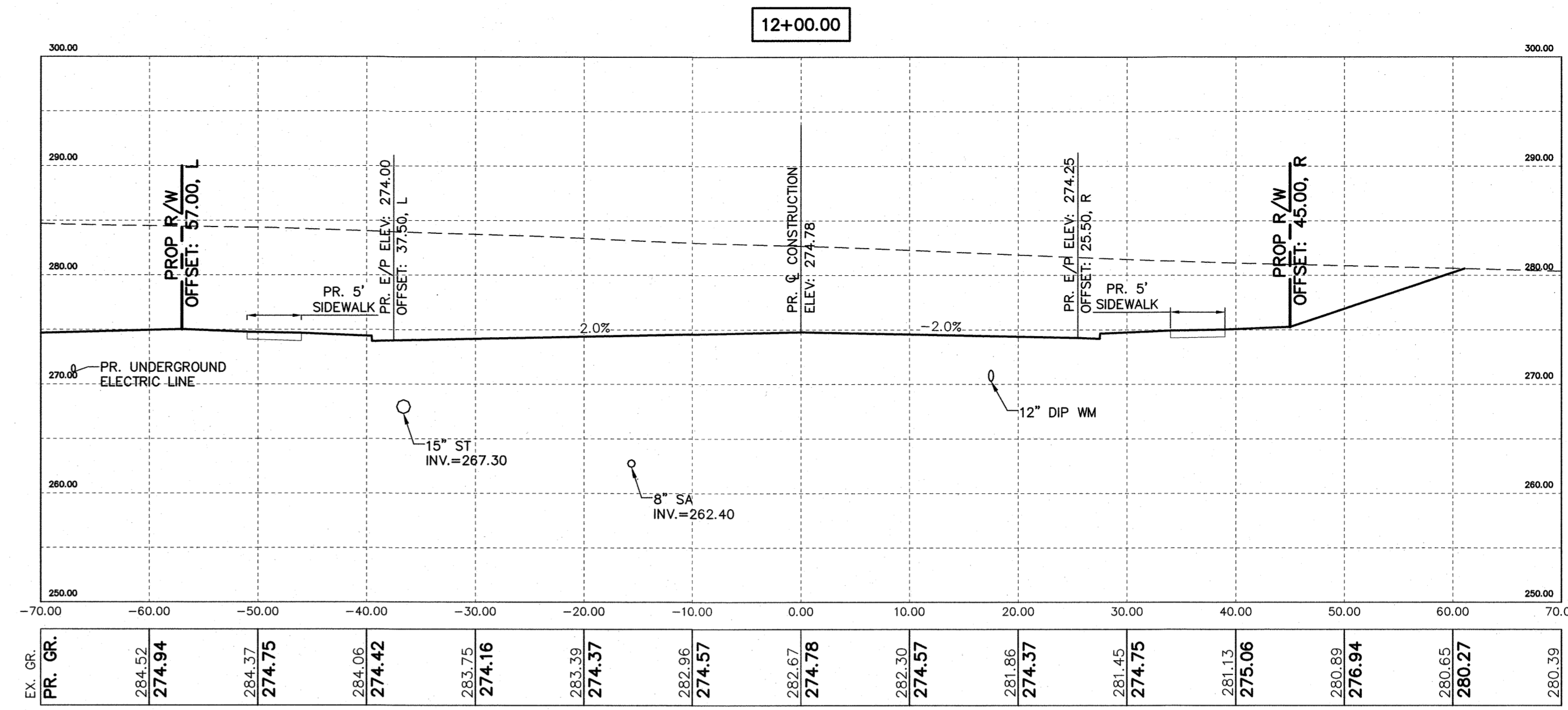
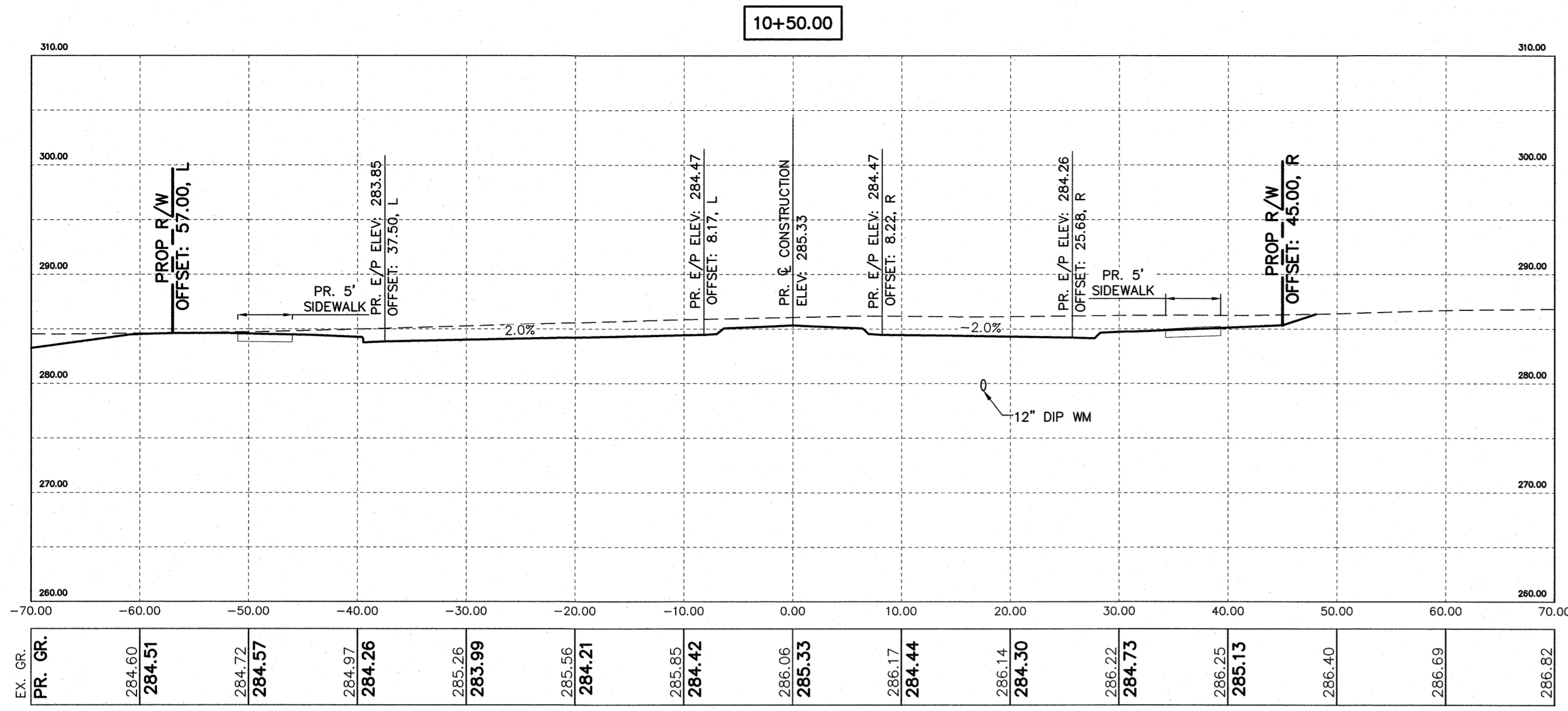
540 East Mountain Dr.
Charlotte, North Carolina 28219
PH 704.597.7757
FX 704.596.6315

**KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
MILBURNIE LAKE DRIVE PLAN & PROFILE**

5901 Farmwell Road, Knightdale, NC 27610 - Wake County



03/20/2023



CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval _____
Raleigh Water Review Officer

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh Public Utilities Department Permit # **S-5131**

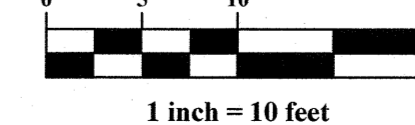
The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh Public Utilities Department Permit # **W-3983**

LEGEND

- EXISTING GROUND
- PROPOSED GRADE

GRAPHIC SCALE



Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

ZMA-16-21

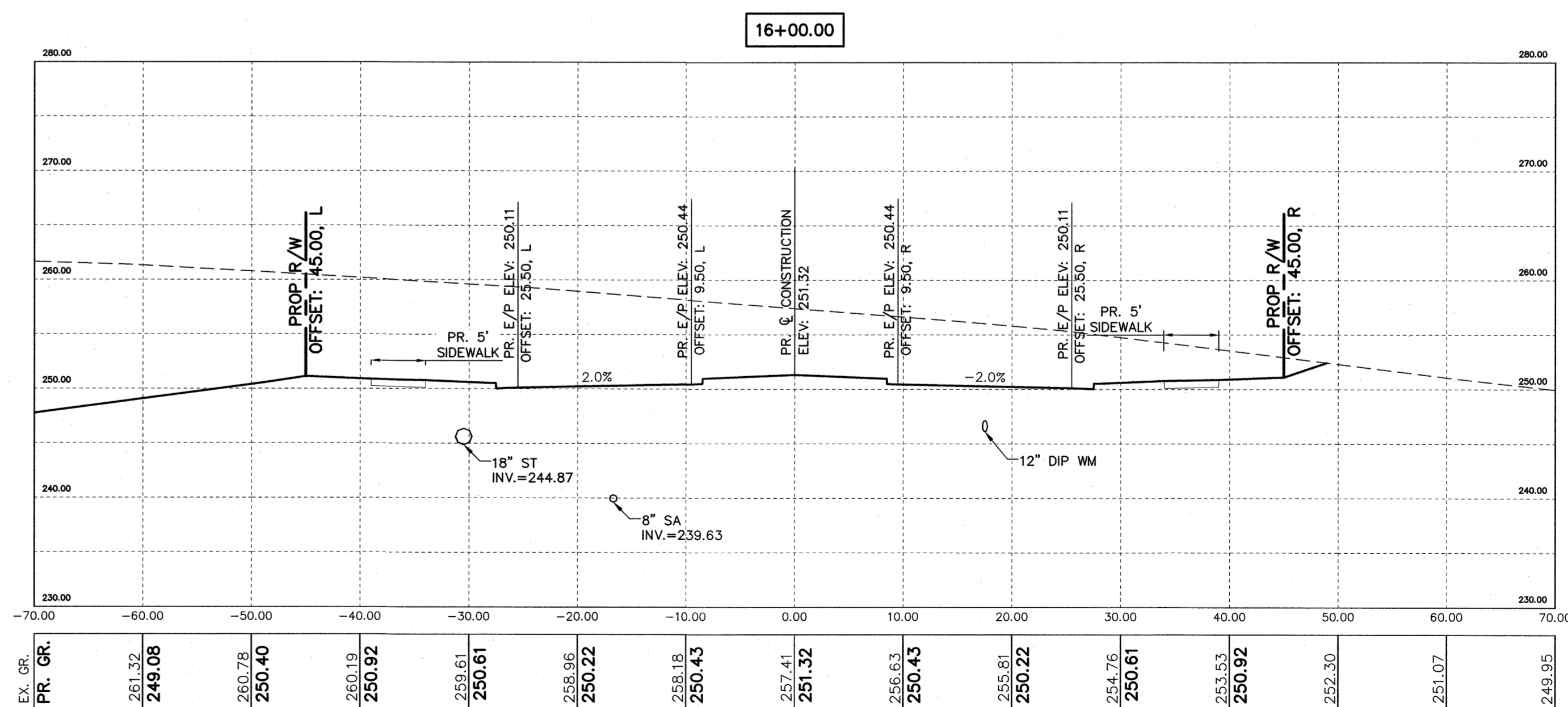
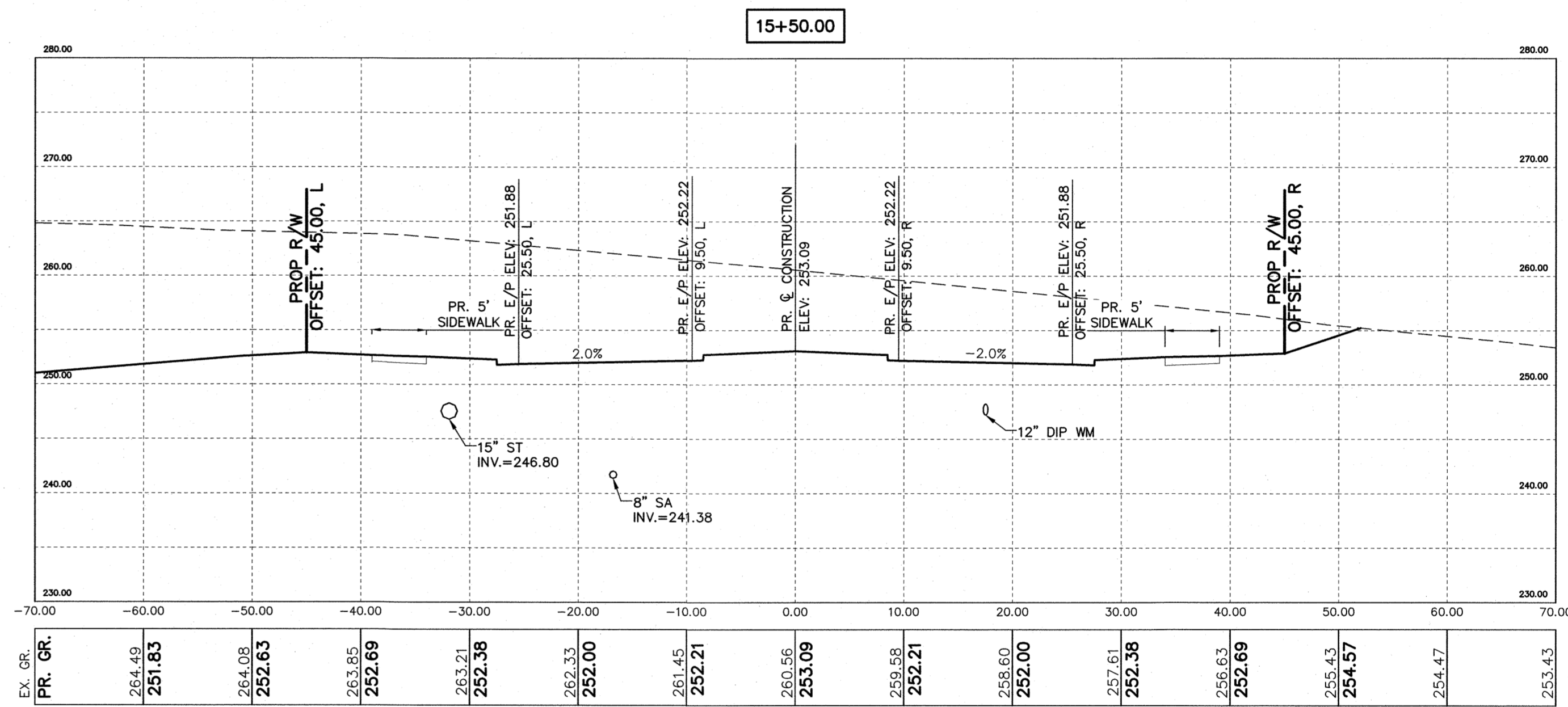
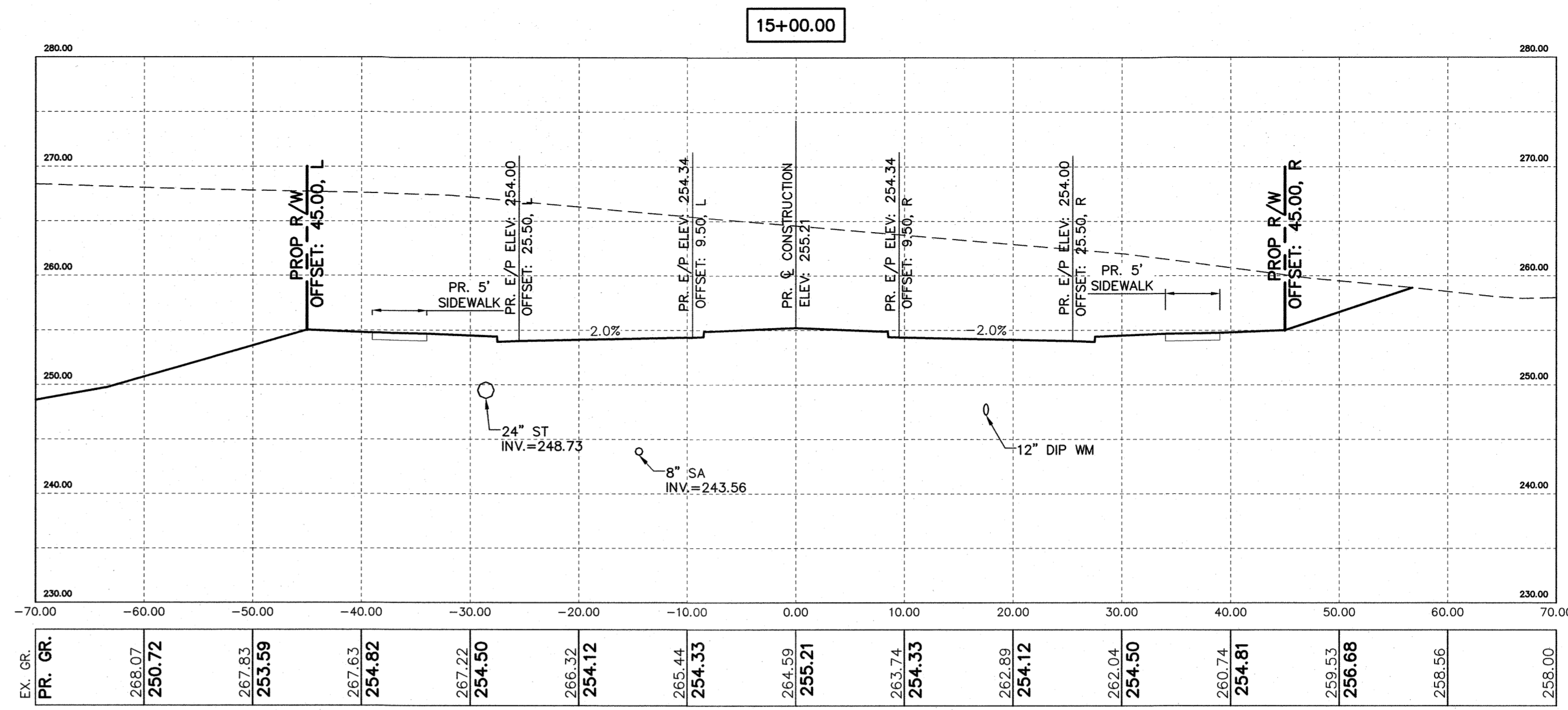
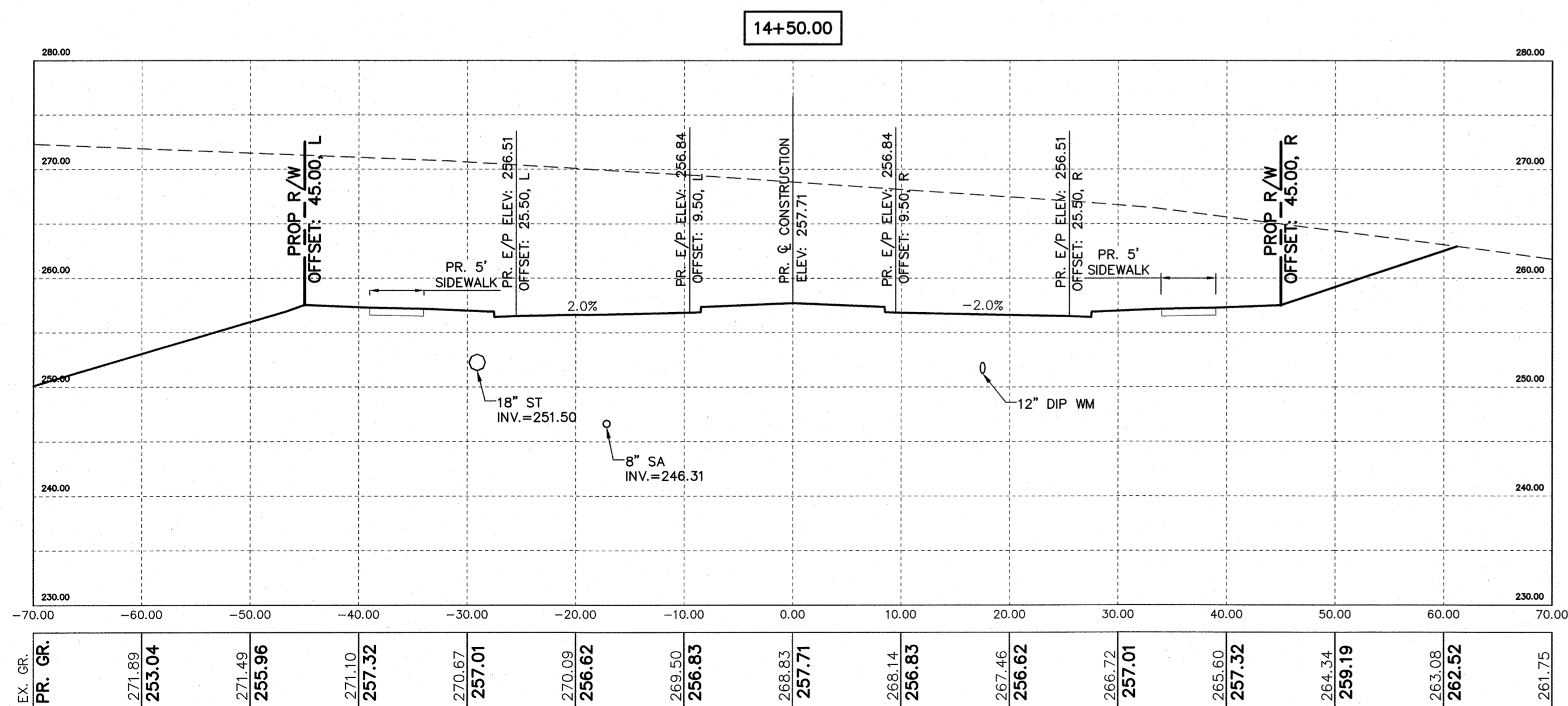
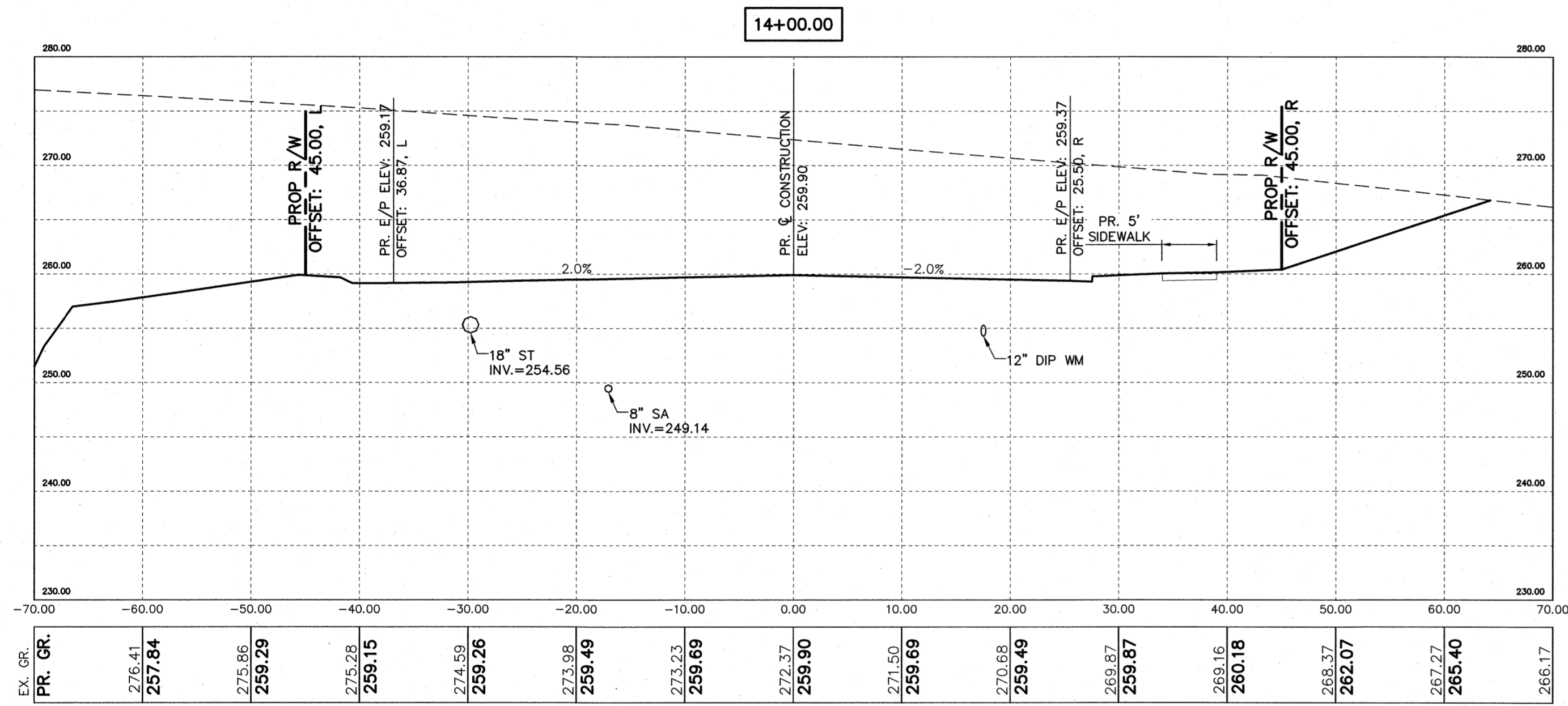
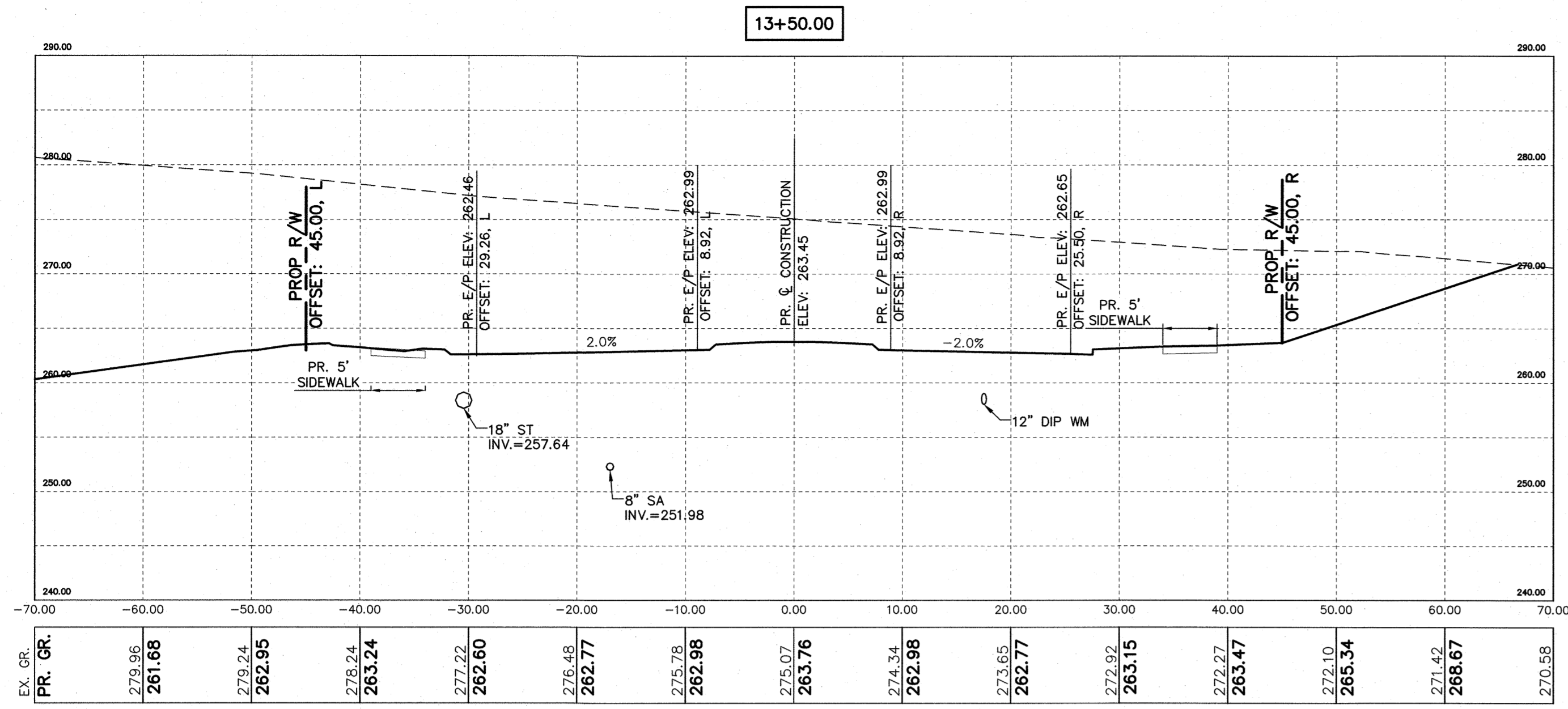
PLAN PREPARED BY:
ADVANCED CIVIL DESIGN
ENGINEERS SURVEYORS
51 Kilmayne Drive, Suite 102
Cary, North Carolina 27511
ph 919.481.6990
fax 919.336.5127

PLAN PREPARED FOR:
BEACON PARTNERS
500 East Main Street, Suite 200
Charlotte, North Carolina 28259
tel. 704.597.7737
fax 704.596.6133

5901 Farmwell Road, Knightdale, NC 27610 - Wake County
KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
MILBURNIE LAKE DRIVE CROSS SECTIONS

PROFESSIONAL SEAL
045155
NORTH CAROLINA ENGINEERING BOARD
ROYAL, JR.

Issue Dates:	09/20/2022 - Construction Plan Submittal #1
	11/11/2022 - Construction Plan Submittal #2
	12/22/2022 - Construction Plan Submittal #3
	02/10/2023 - Construction Plan Submittal #4
	03/03/2023 - Construction Plan Submittal #5
	03/20/2023 - Construction Plan Signature Set
Date:	03/20/2023
Scale:	1" = 10'
Drawn By:	AMK
Checked By:	JRR
Project Number:	21-0011-504
Drawing Number:	C.3.5



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

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

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

City of Raleigh Public Utilities Department Permit # **S-5131**

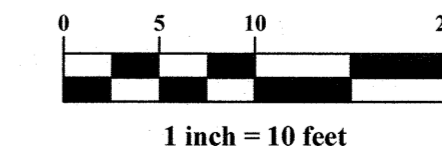
The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh Public Utilities Department Permit # **W-3983**

LEGEND

- EXISTING GROUND
- PROPOSED GRADE

GRAPHIC SCALE



Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator

PLAN PREPARED BY:

ADVANCED CIVIL DESIGN
 ENGINEERS SURVEYORS
 91 Kilmayne Drive, Suite 102
 Cary, North Carolina 27511
 ph 919.461.6990
 fax 919.358.9277

PLAN PREPARED FOR:

BEACON PARTNERS
 540 East Mountain St.
 Raleigh, North Carolina 27619
 tel. 704.597.7757
 fax 704.598.6115

5901 Farmwell Road, Knightdale, NC 27610 - Wake County
KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
 FOR
BEACON PARTNERS
MILBURNIE LAKE DRIVE CROSS SECTIONS

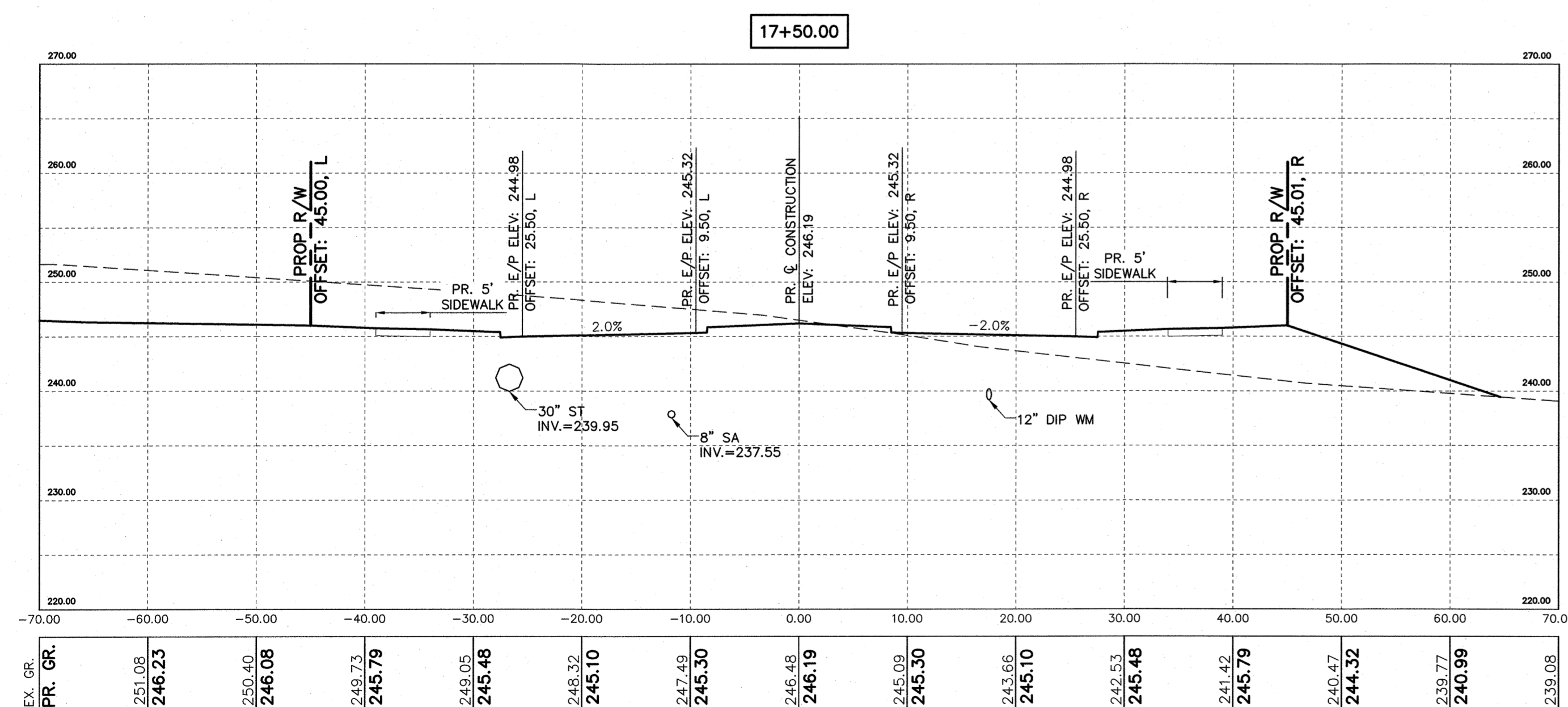
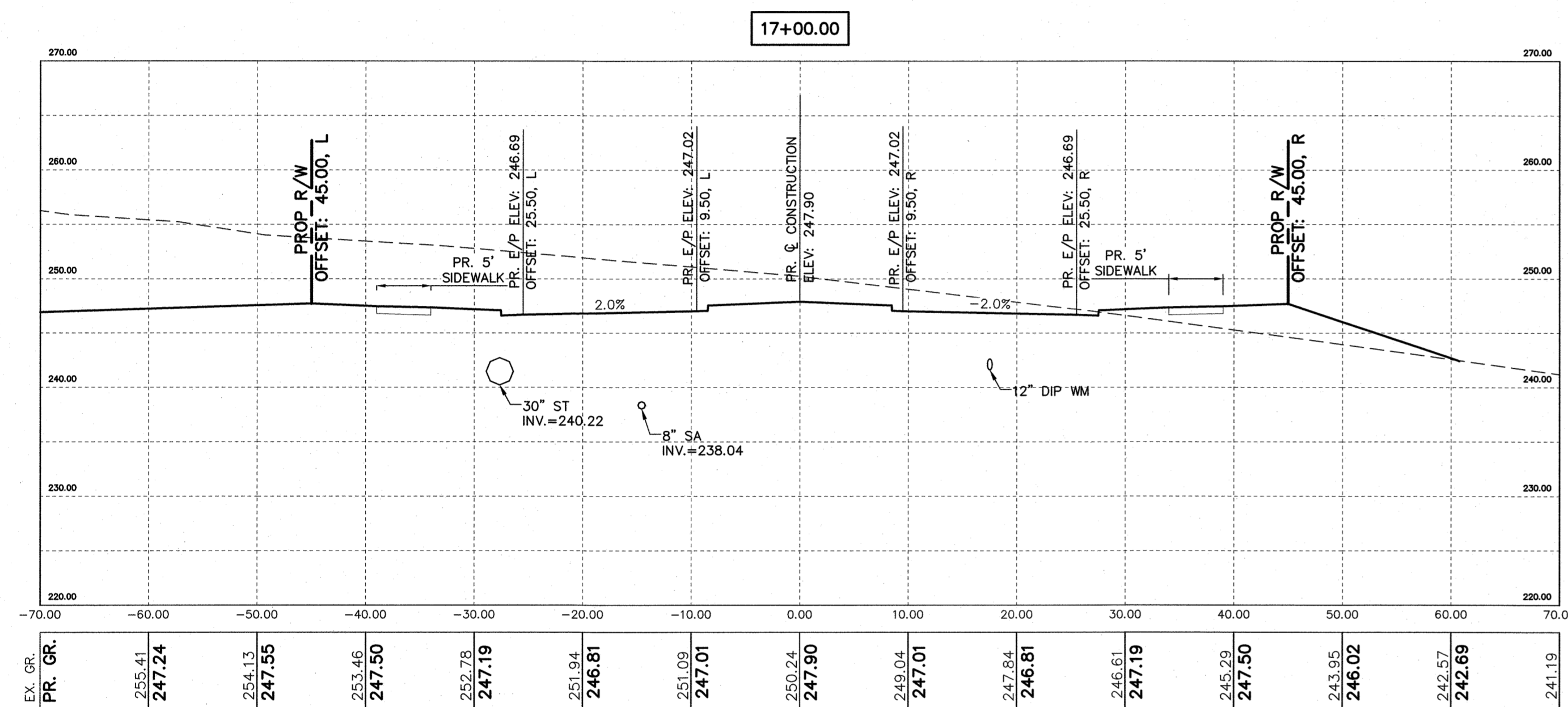
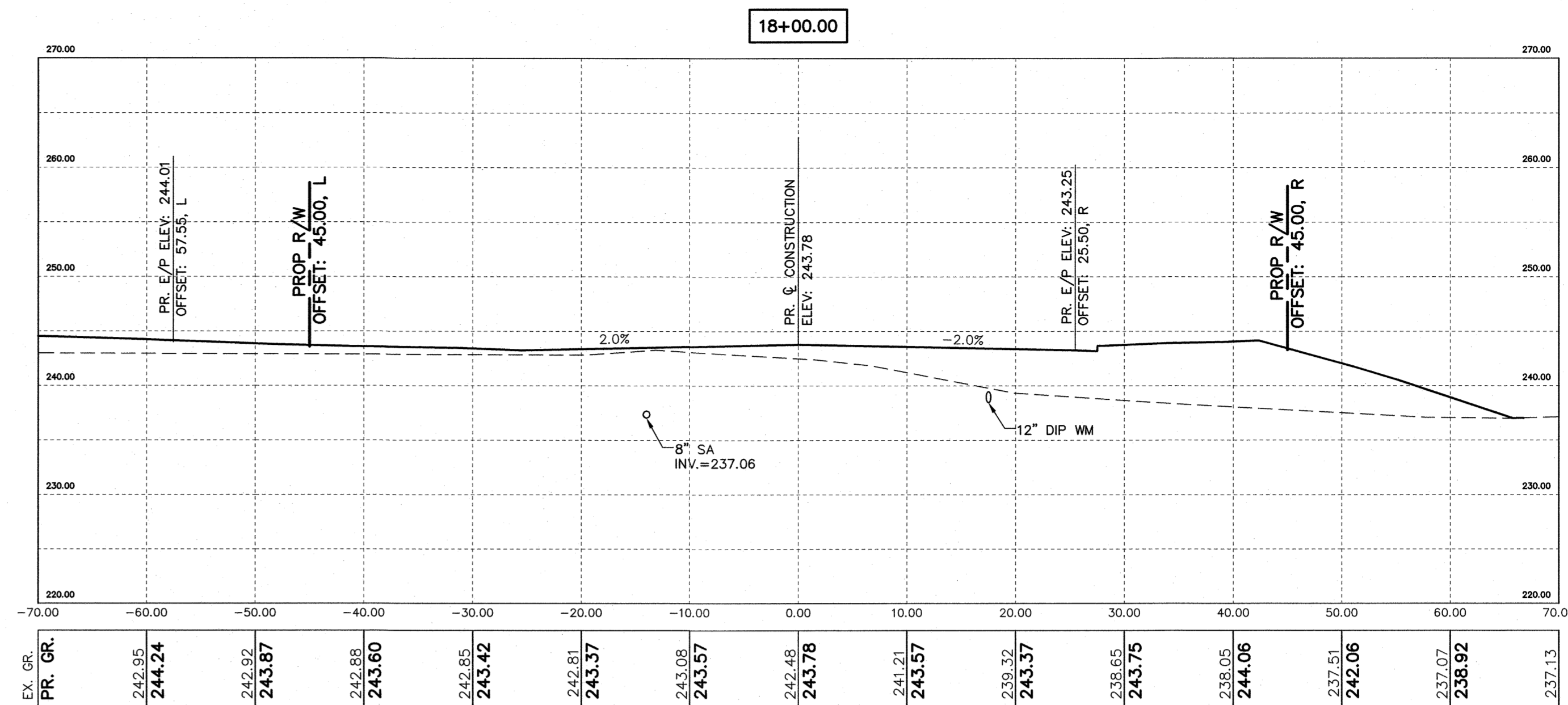
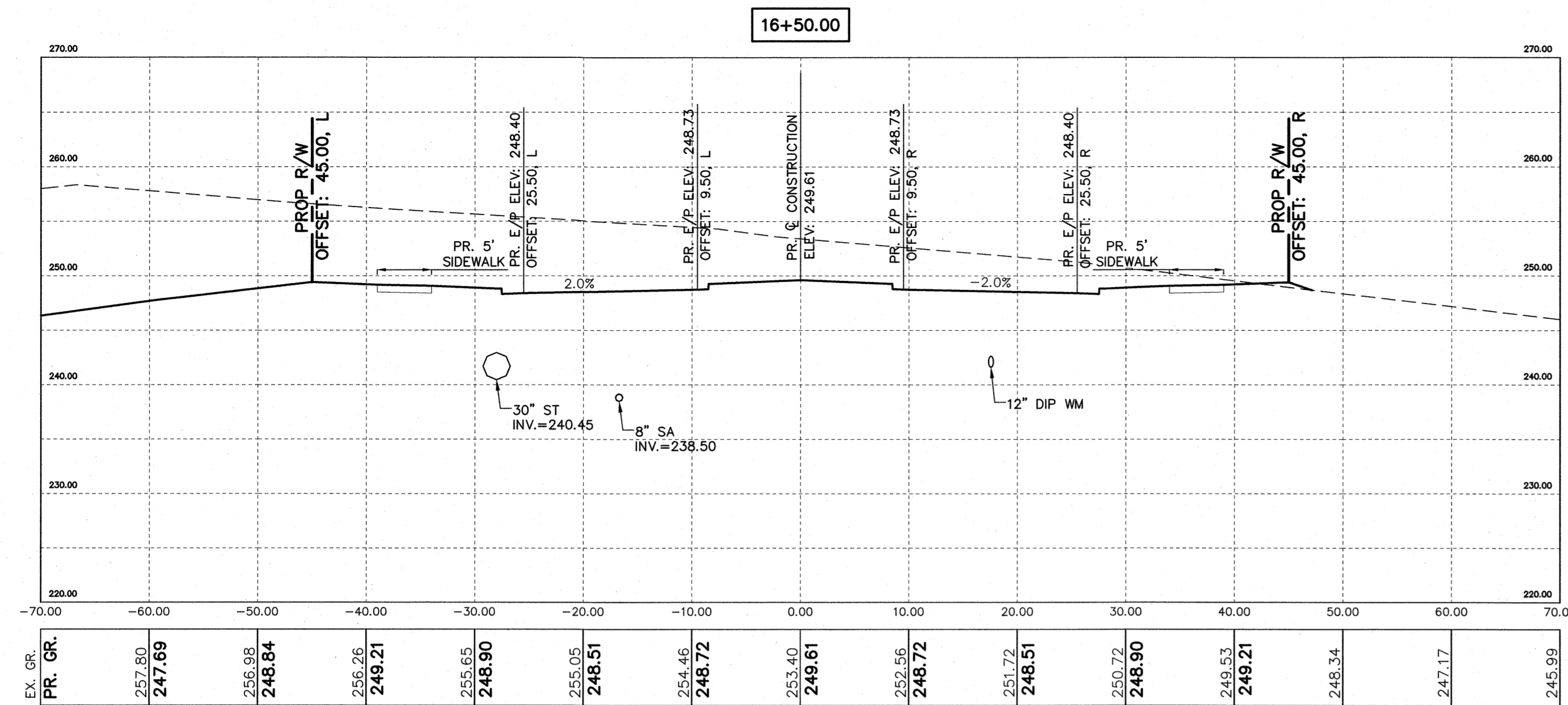
03/20/2023

Issue Dates:

09/20/2022	-	Construction Plan Submittal #1
11/11/2022	-	Construction Plan Submittal #2
12/22/2022	-	Construction Plan Submittal #3
02/10/2023	-	Construction Plan Submittal #4
03/03/2023	-	Construction Plan Submittal #5
03/20/2023	-	Construction Plan Signature Set

ZMA-16-21
 Date: 03/20/2023
 Scale: 1" = 10'
 Drawn By: AMK
 Checked By: JRR
 Project Number: 21-0011-504
 Drawing Number: **C.3.6**

O:\21-0011-50ANC\DWG\Production Drawings\SITE CONSTRUCTION\0011-50ANC CROSS SECTIONS.dwg CROSS SECTION 3 Mar 20, 2023 - 10:35:09am Jfoyl



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

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

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

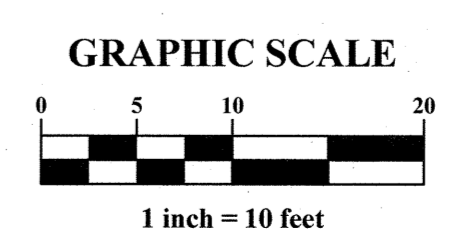
City of Raleigh Public Utilities Department Permit # **S-5131**

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-3983**

LEGEND

	EXISTING GROUND
	PROPOSED GRADE



Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

By: _____ Date: _____
 Administrator

PLAN PREPARED BY:

51 Kilmorye Drive, Suite 102
 Cary, North Carolina 27511
 ph 919.484.6990
 fax 919.336.5127

PLAN PREPARED FOR:

500 East Main Street #2
 Charlotte, North Carolina 28219
 tel. 704.597.7717
 fax 704.598.6335

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY

CONSTRUCTION PLAN

FOR

BEACON PARTNERS

MILBURNIE LAKE DRIVE CROSS SECTIONS



03/20/2023

Issue Dates:

09/20/2022	- Construction Plan Submittal #1
11/11/2022	- Construction Plan Submittal #2
12/22/2022	- Construction Plan Submittal #3
02/10/2023	- Construction Plan Submittal #4
03/03/2023	- Construction Plan Submittal #5
03/20/2023	- Construction Plan Signature Set

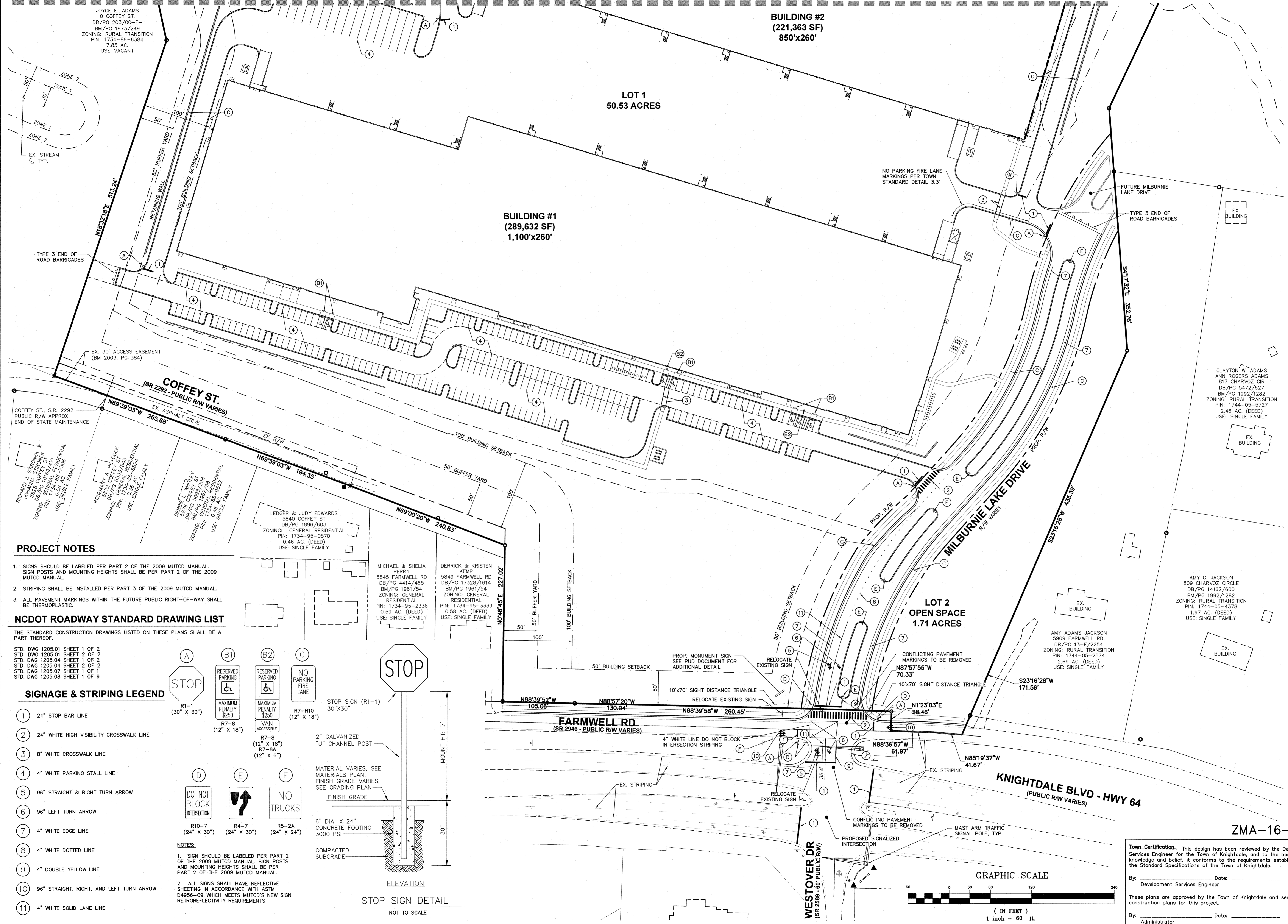
Date: 03/20/2023
 Scale: 1" = 10'

Drawn By: AMK
 Checked By: JRR

Project Number:
21-0011-504

Drawing Number:
C.3.7

MATCHLINE - SEE SHEET C.3.9



JOYCE E. ADAMS
0 COFFEY ST.
DB/PG 203/00-E
BM/PG 1973/249
ZONING: RURAL TRANSITION
PIN: 1734-86-6384
7.83 AC.
USE: VACANT

BUILDING #2
(221,363 SF)
850'x260'

LOT 1
50.53 ACRES

BUILDING #1
(289,632 SF)
1,100'x260'

COFFEY ST.
(SR 2292 - PUBLIC R/W VARIES)

FARMWELL RD
(SR 2946 - PUBLIC R/W VARIES)

LOT 2
OPEN SPACE
1.71 ACRES

KNIGHTDALE BLVD - HWY 64
(PUBLIC R/W VARIES)

PROJECT NOTES

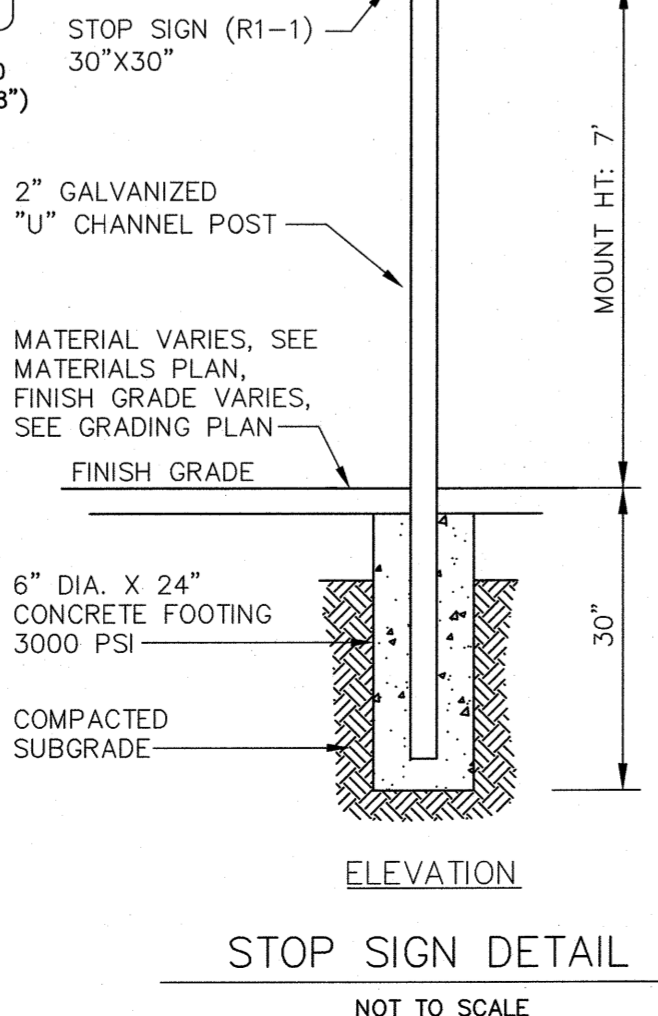
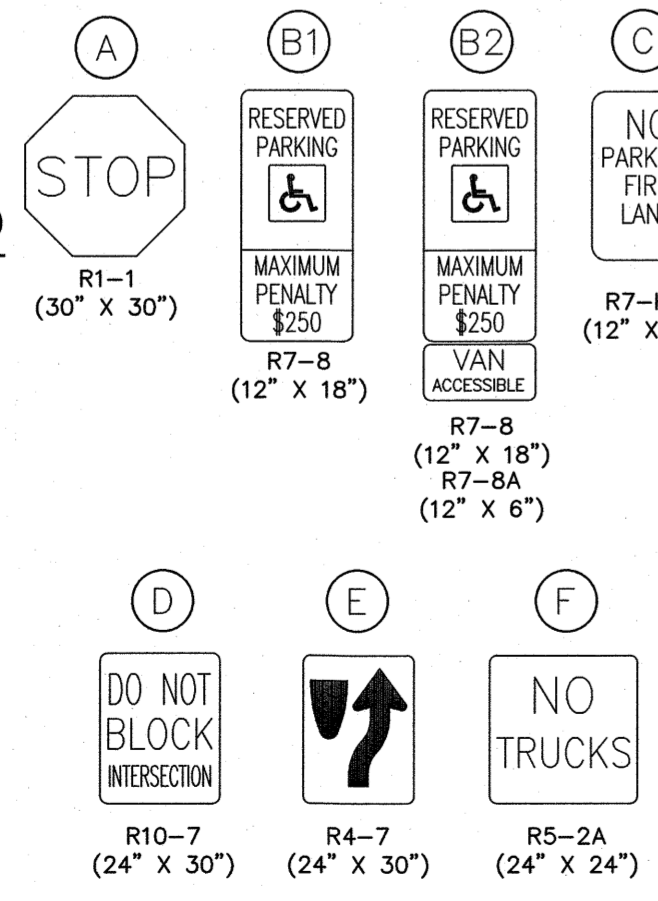
- 1. SIGNS SHOULD BE LABELED PER PART 2 OF THE 2009 MUTCD MANUAL. SIGN POSTS AND MOUNTING HEIGHTS SHALL BE PER PART 2 OF THE 2009 MUTCD MANUAL.
2. STRIPING SHALL BE INSTALLED PER PART 3 OF THE 2009 MUTCD MANUAL.
3. ALL PAVEMENT MARKINGS WITHIN THE FUTURE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC.

NCDOT ROADWAY STANDARD DRAWING LIST

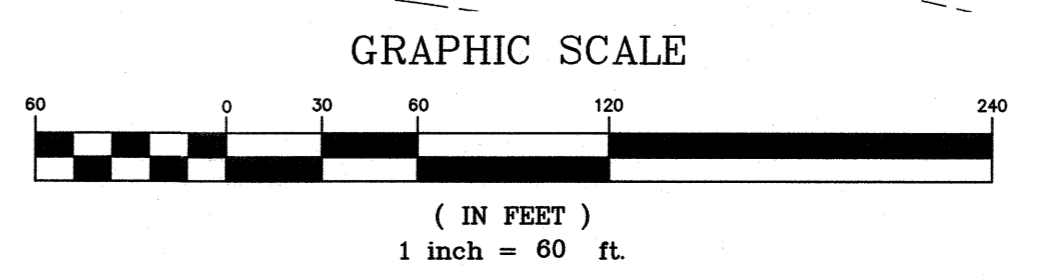
THE STANDARD CONSTRUCTION DRAWINGS LISTED ON THESE PLANS SHALL BE A PART THEREOF.
STD. DWG 1205.01 SHEET 1 OF 2
STD. DWG 1205.01 SHEET 2 OF 2
STD. DWG 1205.04 SHEET 1 OF 2
STD. DWG 1205.04 SHEET 2 OF 2
STD. DWG 1205.07 SHEET 1 OF 1
STD. DWG 1205.08 SHEET 1 OF 9

SIGNAGE & STRIPING LEGEND

- 1 24" STOP BAR LINE
2 24" WHITE HIGH VISIBILITY CROSSWALK LINE
3 8" WHITE CROSSWALK LINE
4 4" WHITE PARKING STALL LINE
5 96" STRAIGHT & RIGHT TURN ARROW
6 96" LEFT TURN ARROW
7 4" WHITE EDGE LINE
8 4" WHITE DOTTED LINE
9 4" DOUBLE YELLOW LINE
10 96" STRAIGHT, RIGHT, AND LEFT TURN ARROW
11 4" WHITE SOLID LANE LINE



NOTES:
1. SIGN SHOULD BE LABELED PER PART 2 OF THE 2009 MUTCD MANUAL. SIGN POSTS AND MOUNTING HEIGHTS SHALL BE PER PART 2 OF THE 2009 MUTCD MANUAL.
2. ALL SIGNS SHALL HAVE REFLECTIVE SHEETING IN ACCORDANCE WITH ASTM D4956-09 WHICH MEETS MUTCD'S NEW SIGN RETROREFLECTIVITY REQUIREMENTS



Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: [Signature] Date:
Development Services Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: [Signature] Date:
Administrator

PLAN PREPARED BY:
ADVANCED CIVIL DESIGN
ENGINEERS SURVEYORS
51 Kimgene Drive, Suite 102
Cary, North Carolina 27511
ph 919.481.6590
for 919.336.5127

PLAN PREPARED FOR:
BEACON PARTNERS
500 East Morehead St.
Suite 200
Charlotte, North Carolina 28249
tel. 704.597.7757
fax 704.598.6315

KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
SIGNAGE AND MARKING PLAN
5901 Farmwell Road, Knightdale, NC 27610 - Wake County

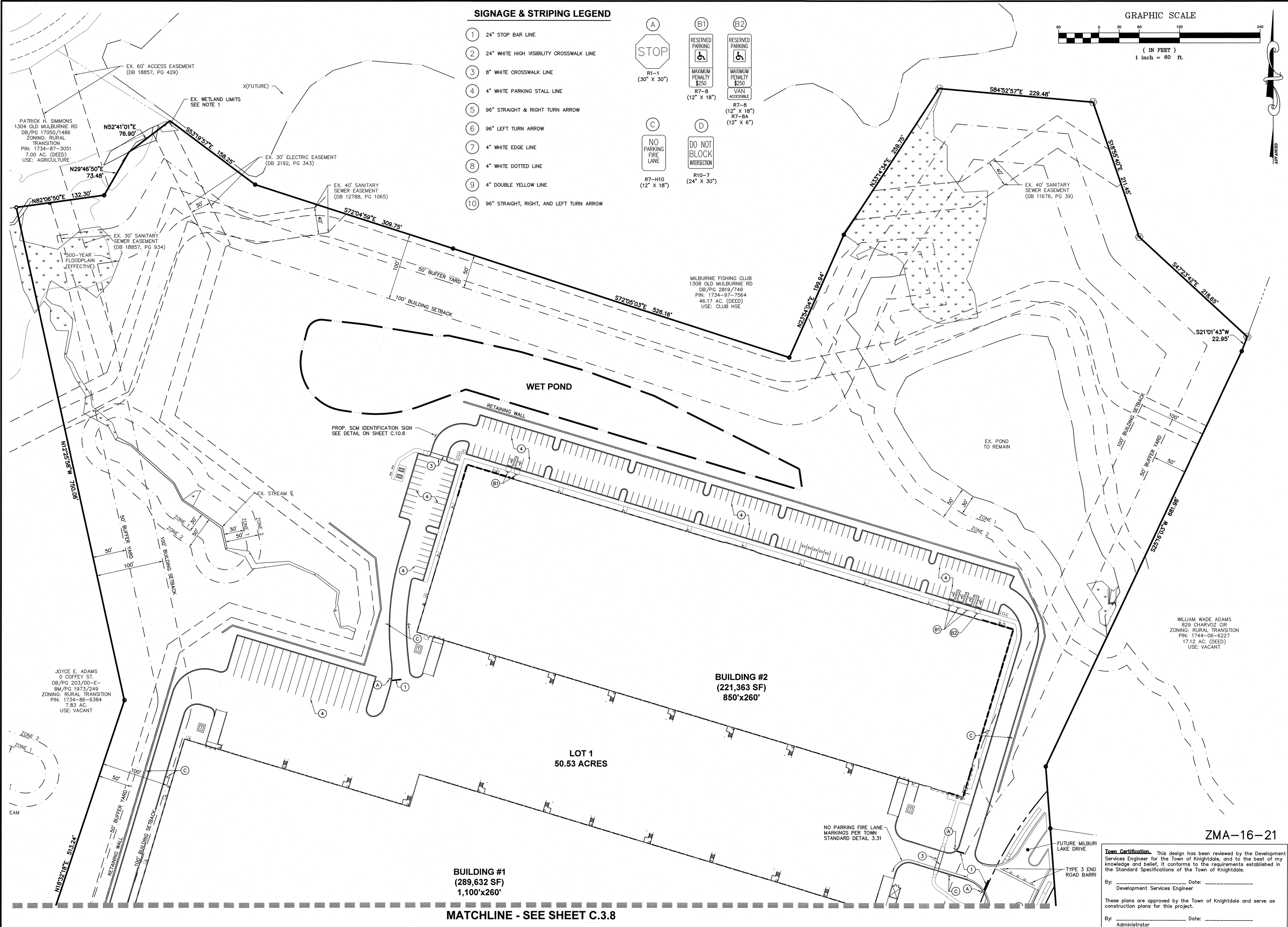
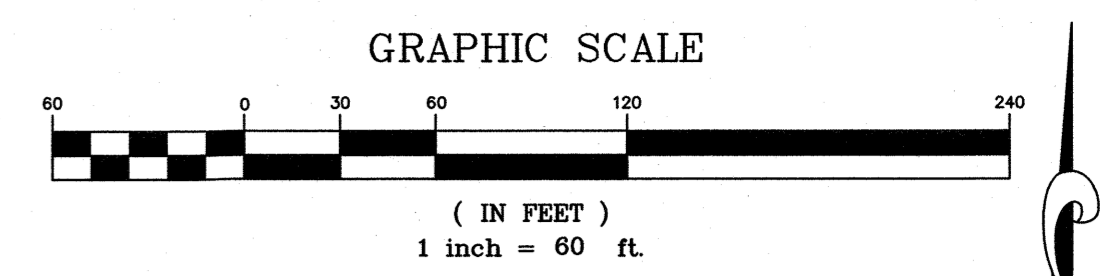
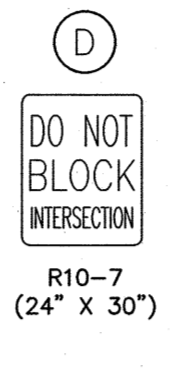
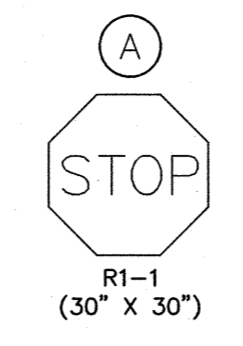


Table with columns for Issue Dates, Date, Scale, Drawn By, Checked By, Project Number, and Drawing Number. Includes dates from 09/20/2022 to 03/20/2023 and project number 21-0011-504.

C:\21-0011-504\NCDOT\Production Drawings\SITE CONSTRUCTION\0011-504\NCDOT SIGNAGE AND MARKING PLAN.dwg SIGNAGE 1 Mar 20, 2023 10:33:24am froyl

SIGNAGE & STRIPING LEGEND

- ① 24" STOP BAR LINE
- ② 24" WHITE HIGH VISIBILITY CROSSWALK LINE
- ③ 8" WHITE CROSSWALK LINE
- ④ 4" WHITE PARKING STALL LINE
- ⑤ 96" STRAIGHT & RIGHT TURN ARROW
- ⑥ 96" LEFT TURN ARROW
- ⑦ 4" WHITE EDGE LINE
- ⑧ 4" WHITE DOTTED LINE
- ⑨ 4" DOUBLE YELLOW LINE
- ⑩ 96" STRAIGHT, RIGHT, AND LEFT TURN ARROW



C:\V21-0011-504NC\Production Drawings\SITE CONSTRUCTION\0011-504NC SIGNAGE AND MARKING PLAN.dwg SIGNAGE 2 Mar 20, 2023 - 10:33:34am Froyl

PLAN PREPARED BY:
ADVANCED CIVIL DESIGN
ENGINEERS SURVEYORS
51 Kilmorye Drive, Suite 102
Cary, North Carolina 27511
ph 919-481-6290
fax 919-336-9127

PLAN PREPARED FOR:
BEACON PARTNERS
500 East Morehead St.
Suite 203
Charlotte, North Carolina 28269
Tel: 704-597-7757
Fax: 704-598-8175

5901 Farmwell Road, Knightdale, NC 27610 - Wake County
KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
SIGNAGE AND MARKING PLAN

WILLIAM WADE ADAMS
829 CHARVOZ CIR
ZONING: RURAL TRANSITION
PIN: 1744-06-6227
17.12 AC. (DEED)
USE: VACANT

Issue Dates:	09/20/2022 - Construction Plan Submittal #1	Date:	03/20/2023
	11/11/2022 - Construction Plan Submittal #2	Scale:	1" = 60'
	12/22/2022 - Construction Plan Submittal #3	Drawn By:	AMK
	02/10/2023 - Construction Plan Submittal #4	Checked By:	JRR
	03/03/2023 - Construction Plan Submittal #5	Project Number:	21-0011-504
	03/20/2023 - Construction Plan Signature Set	Drawing Number:	C.3.9

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

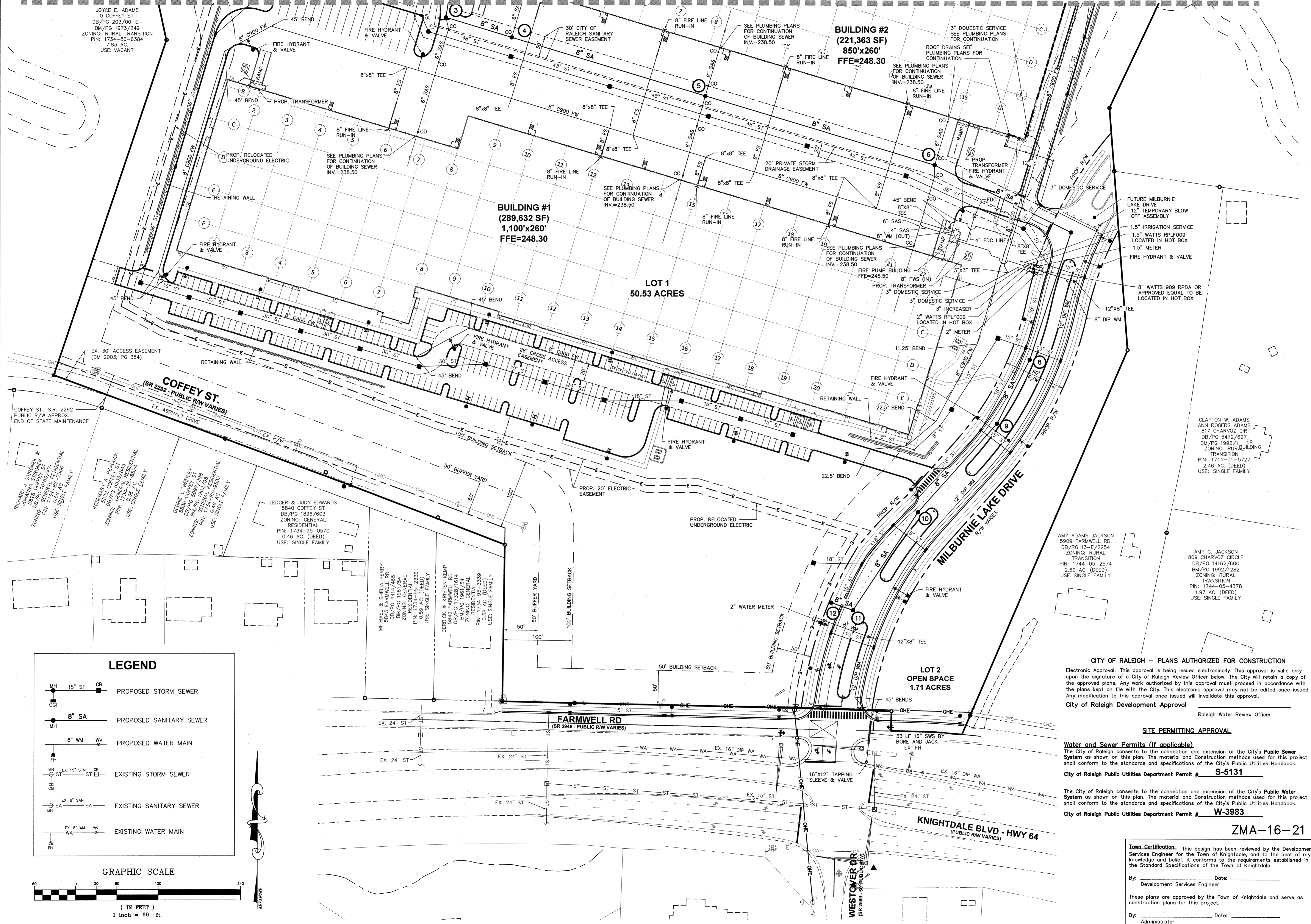
By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

MATCHLINE - SEE SHEET C.3.8

MATCHLINE - SEE SHEET C.4.2



JOYCE E. ADAMS
0 COFFEY ST.
DB/PG 203/00-E
BM/PG 1973/249
ZONING: RURAL TRANSITION
PIN: 1734-86-6384
7.83 AC.
USE: VACANT

BUILDING #1
(289,632 SF)
FFE=248.30

BUILDING #2
(221,363 SF)
FFE=248.30

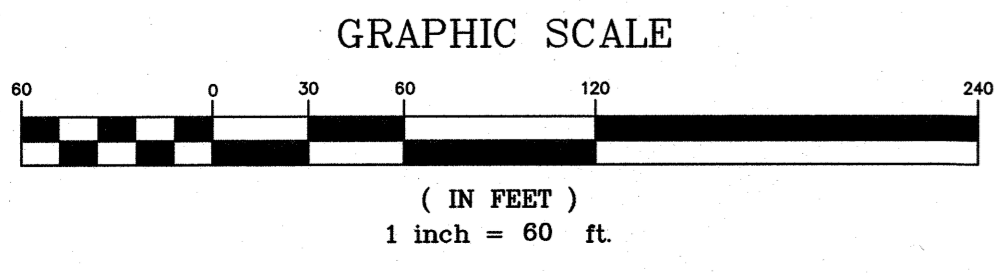
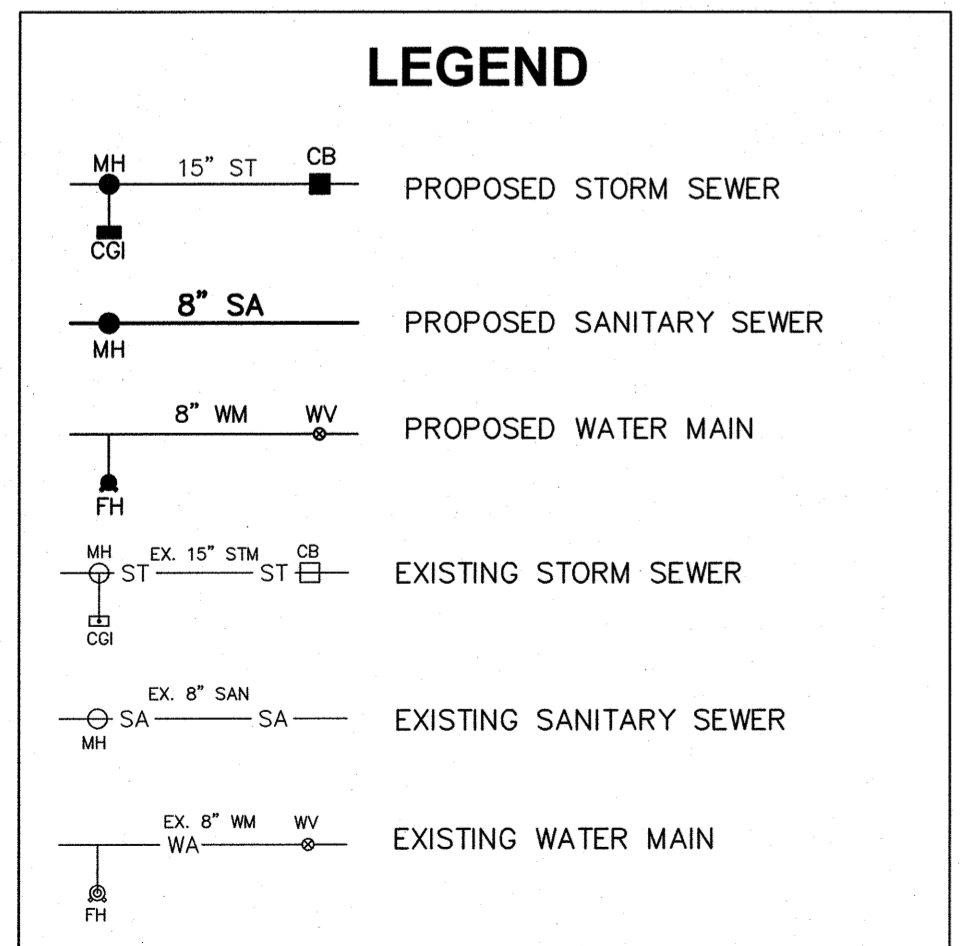
LOT 1
50.53 ACRES

LOT 2
OPEN SPACE
1.71 ACRES

COFFEY ST.
(SR 2292 - PUBLIC R/W VARIES)

FARMWELL RD
(SR 2946 - PUBLIC R/W VARIES)

KNIGHTDALE BLVD - HWY 64
(PUBLIC R/W VARIES)



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

SITE PERMITTING APPROVAL
Water and Sewer Permits (if applicable)
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # **S-5131**
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-3983**

ZMA-16-21
Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: _____ Date: _____
Development Services Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Administrator

PLAN PREPARED BY:
ADVANCED CIVIL DESIGN
ENGINEERS SURVEYORS
51 Kimmage Drive, Suite 102
Cary, North Carolina 27511
ph 919.461.6990
for 919.336.9127

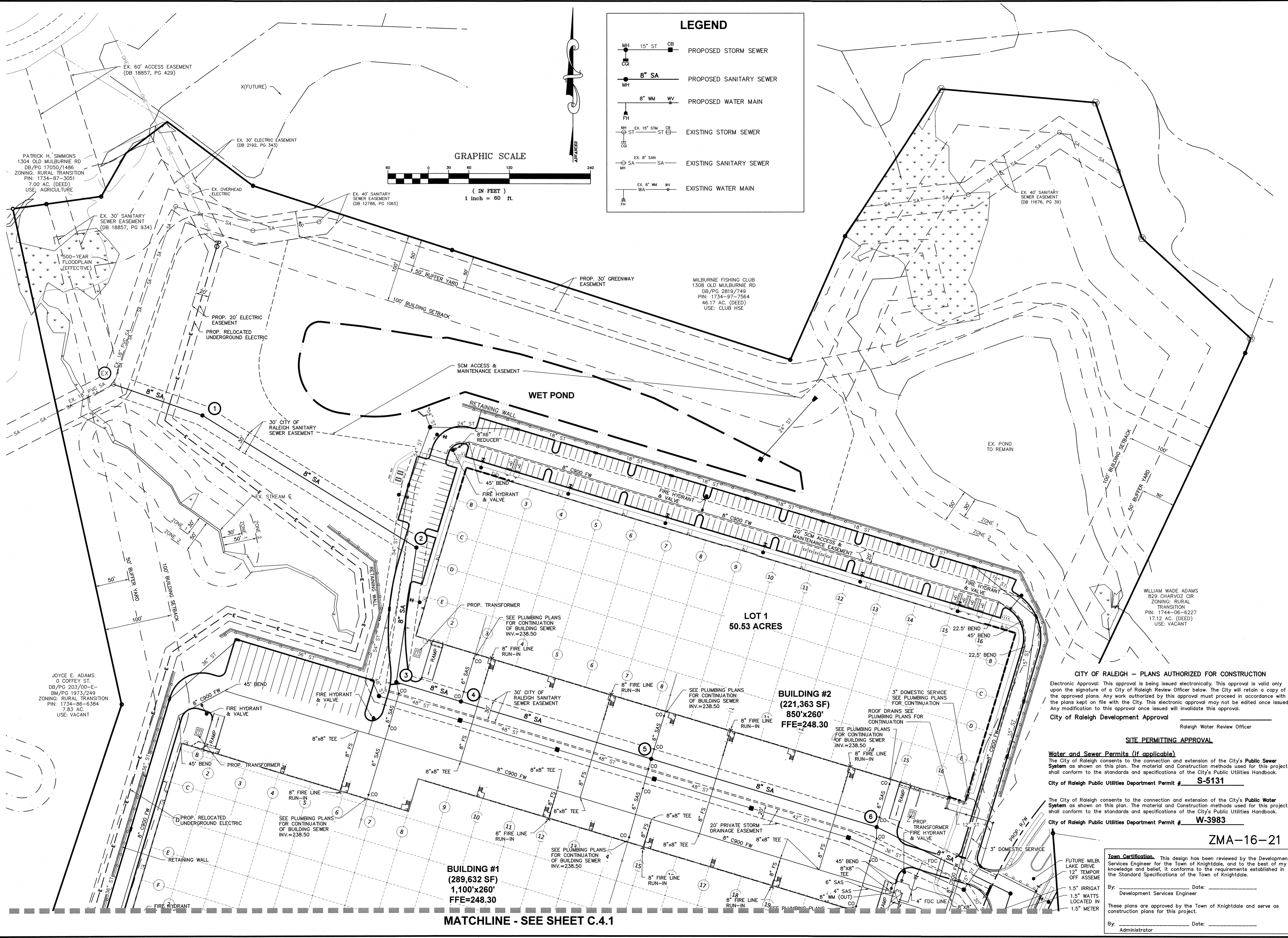
PLAN PREPARED FOR:
BEACON PARTNERS
500 East Main Road
Suite 200
Charlotte, North Carolina 28259
tel. 704.597.7777
fax 704.568.6335

5901 Farmwell Road, Knightdale, NC 27610 - Wake County
KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
UTILITY PLAN

SEAL
045155
NORTH CAROLINA PROFESSIONAL ENGINEER
WALTER R. ROYAL, JR.
03/20/2023

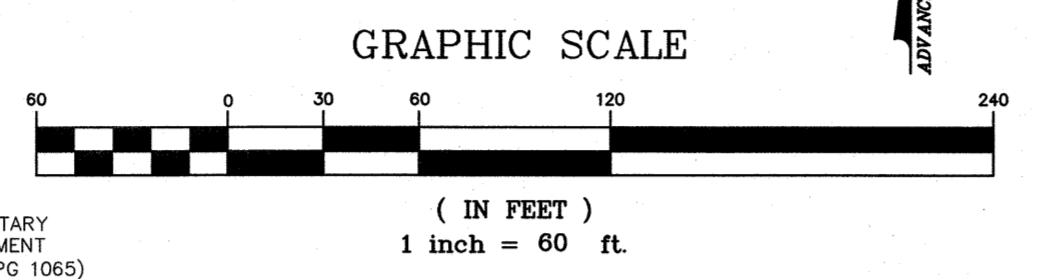
Issue Dates:	09/20/2022 - Construction Plan Submittal #1	Date: 03/20/2023
	11/11/2022 - Construction Plan Submittal #2	Scale: 1" = 60'
	12/22/2022 - Construction Plan Submittal #3	Drawn By: AMK
	02/10/2023 - Construction Plan Submittal #4	Checked By: JRR
	03/03/2023 - Construction Plan Submittal #5	Project Number: 21-0011-504
	03/20/2023 - Construction Plan Signature Set	Drawing Number: C.4.1

C:\21-0011-504NC\DWG\Production Drawings\SITE CONSTRUCTION\0011-504NC UTILITY PLAN.dwg UTILITY 2 Mar 20, 2023 - 10:50:03am Pjpal



LEGEND

- MH 15" ST CB PROPOSED STORM SEWER
- 8" SA PROPOSED SANITARY SEWER
- 8" WM WV PROPOSED WATER MAIN
- MH EX. 15" ST CB EXISTING STORM SEWER
- MH SA EX. 8" SA EXISTING SANITARY SEWER
- MH WA EX. 8" WM EXISTING WATER MAIN



PLAN PREPARED BY:

ADVANCED CIVIL DESIGN

51 Kilmorye Drive, Suite 102
Cary, North Carolina 27513
PH: 919.484.6900
Fax: 919.336.9127

PLAN PREPARED FOR:

BEACON PARTNERS

500 East Morehead St.
Rm 200
Charlotte, North Carolina 28269
Tel: 704.597.7757
Fax: 704.596.6335

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

**KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
UTILITY PLAN**

WILLIAM WADE ADAMS
829 CHARVOZ CIR
ZONING: RURAL
TRANSITION
PIN: 1744-06-6227
17.12 AC. (DEED)
USE: VACANT

SEAL 045155
NORTH CAROLINA PROFESSIONAL ENGINEER
W. Wade Adams
No. 000000000

03/20/2023

Issue Dates:	09/20/2022 - Construction Plan Submittal #1
	11/11/2022 - Construction Plan Submittal #2
	12/22/2022 - Construction Plan Submittal #3
	02/10/2023 - Construction Plan Submittal #4
	03/03/2023 - Construction Plan Submittal #5
	03/20/2023 - Construction Plan Signature Set

City of Raleigh Development Approval _____
Raleigh Water Review Officer

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh Public Utilities Department Permit # **S-5131**

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-3983**

ZMA-16-21

Date: 03/20/2023
Scale: 1" = 60'

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

By: _____ Date: _____
Administrator

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

Drawn By: AMK
Checked By: JRR

Project Number:
21-0011-504

Drawing Number:
C.4.2

BUILDING #1
(289,632 SF)
1,100'x260'
FFE=248.30

BUILDING #2
(221,363 SF)
850'x260'
FFE=248.30

LOT 1
50.53 ACRES

MATCHLINE - SEE SHEET C.4.1

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

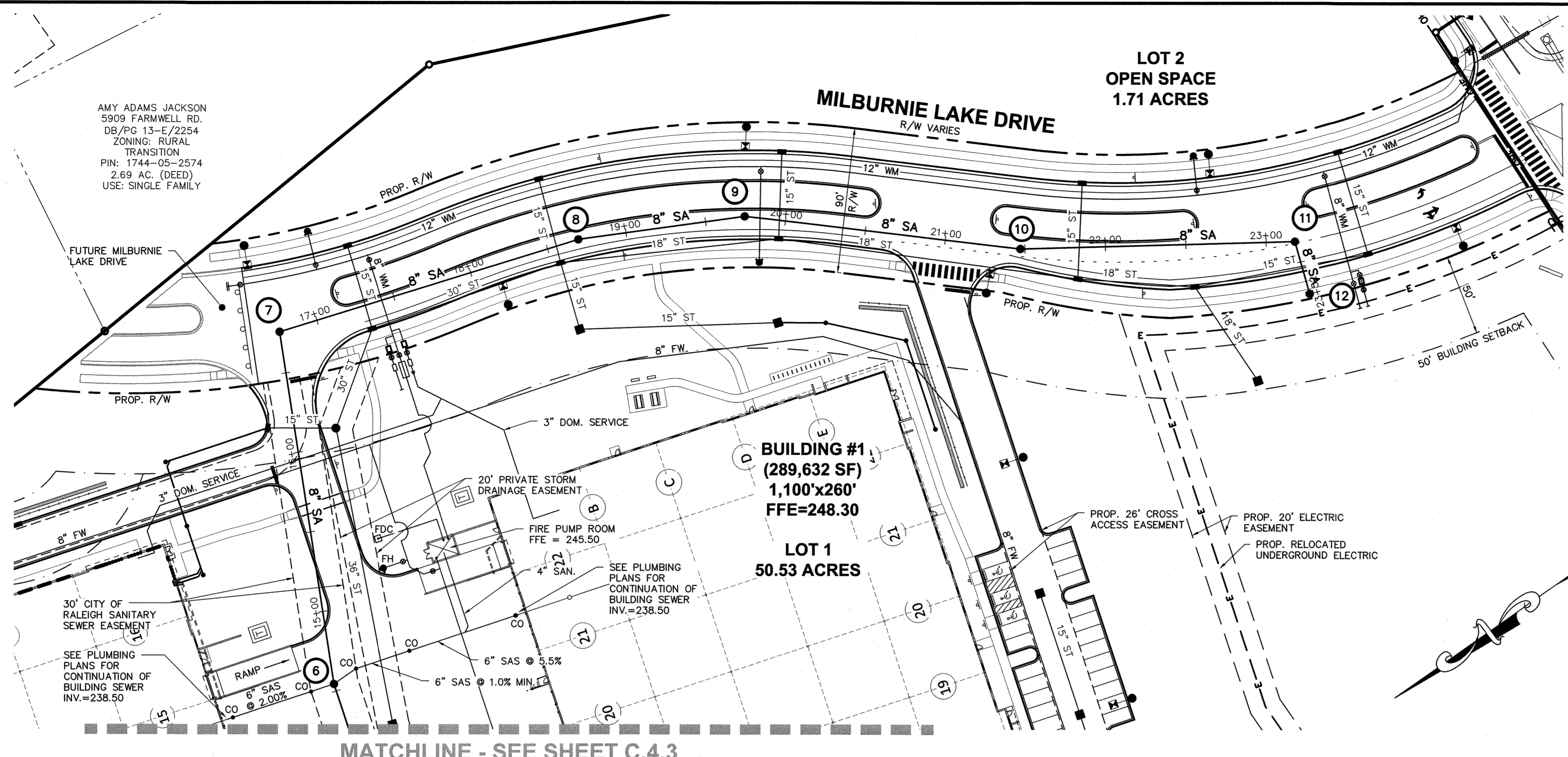
Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with 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

SITE PERMITTING APPROVAL

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City of Raleigh Public Utilities Department Permit # **W-3983**



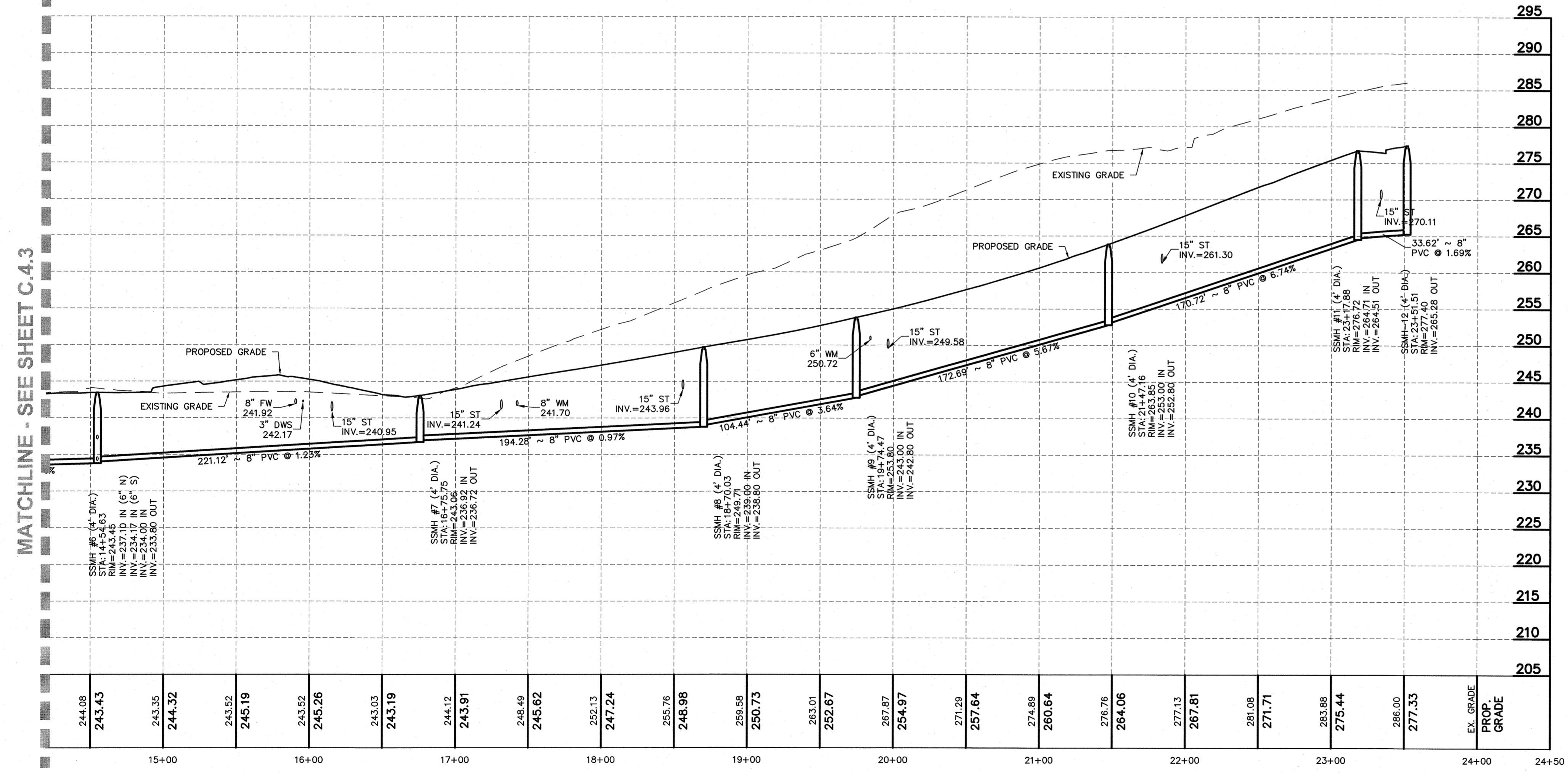
AMY ADAMS JACKSON
5909 FARMWELL RD.
DB/PG 13-E/2254
ZONING: RURAL
TRANSITION
PIN: 1744-05-2574
2.69 AC. (DEED)
USE: SINGLE FAMILY

FUTURE MILBURNIE LAKE DRIVE

BUILDING #1
(289,632 SF)
1,100'x260'
FFE=248.30

LOT 1
50.53 ACRES

MATCHLINE - SEE SHEET C.4.3



MATCHLINE - SEE SHEET C.4.3

LEGEND

● Iron Pipe Found	--- X --- Ex. Fence Line	--- Right of Way
● Calculated Point	--- WA --- Ex. Water Line	--- Property Line
▲ Railroad Spike	--- GAS --- Ex. Gas Line	--- Ex. Pavement Removal
⊕ Ex. Electric Power Pole	--- OHE --- Ex. Overhead Electric Line	--- Prop. Water Line
⊕ Fire Hydrant	--- --- Ex. Property Line	--- 8" WA --- Prop. Storm Sewer
⊕ Prop. Power Pole	--- --- Ex. Right of Way	--- 8" SAN --- Prop. Sanitary Sewer

WATER & SEWER

- CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS, AND SIZES OF EXISTING PUBLIC UTILITIES PRIOR TO ANY EXCAVATIONS, GRADING, OR INSTALLATION OF UNDERGROUND UTILITIES ON OR ADJACENT TO THE PROJECT.
- BUILDING WILL BE CONNECTED TO THE CITY OF RALEIGH WATER AND SANITARY SEWER SYSTEMS.
- ALL SANITARY SEWER AND WATER LOCATED OUTSIDE THE PROPOSED STREET RIGHT-OF-WAY SHALL BE PROVIDED WITH STANDARD EASEMENT WIDTHS AS PER CITY OF RALEIGH REQUIREMENTS AND SHALL BE DEDICATED TO THE CITY OF RALEIGH ON THE FINAL PLAT.
- NO SERVICES SHALL BE BENT OR INSTALLED IN SUCH A WAY THAT DOES NOT COMPLY WITH CITY STANDARDS.

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

SITE PERMITTING APPROVAL

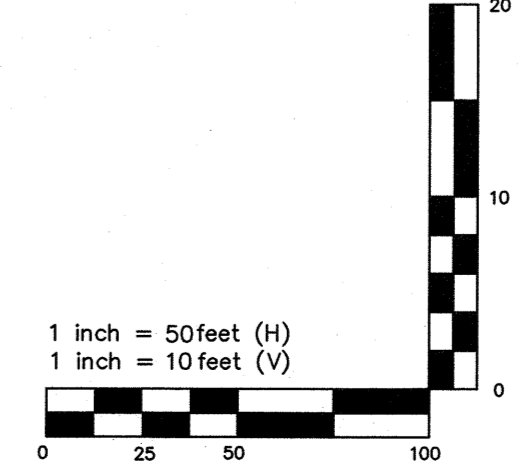
Water and Sewer Permits (if applicable)

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

City of Raleigh Public Utilities Department Permit # **S-5131**

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-3983**



ZMA-16-21

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

PLAN PREPARED BY:
51 Kilmore Drive, Suite 102
Cary, North Carolina 27511
ph 919.481.0290
fax 919.336.5127

ADVANCED CIVIL DESIGN

PLAN PREPARED FOR:
BEACON PARTNERS
500 East Meadow St.
Suite 200
Charlotte, North Carolina 28269
tel. 704.397.7277
fax 704.398.6335

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY CONSTRUCTION PLAN
FOR
BEACON PARTNERS

SANITARY PLAN AND PROFILE

NORTH CAROLINA PROFESSIONAL SEAL
045155
R. ROY

03/20/2023

Issue Dates:	09/20/2022 - Construction Plan Submittal #1
	11/11/2022 - Construction Plan Submittal #2
	12/22/2022 - Construction Plan Submittal #3
	02/10/2023 - Construction Plan Submittal #4
	03/03/2023 - Construction Plan Submittal #5
	03/20/2023 - Construction Plan Signature Set

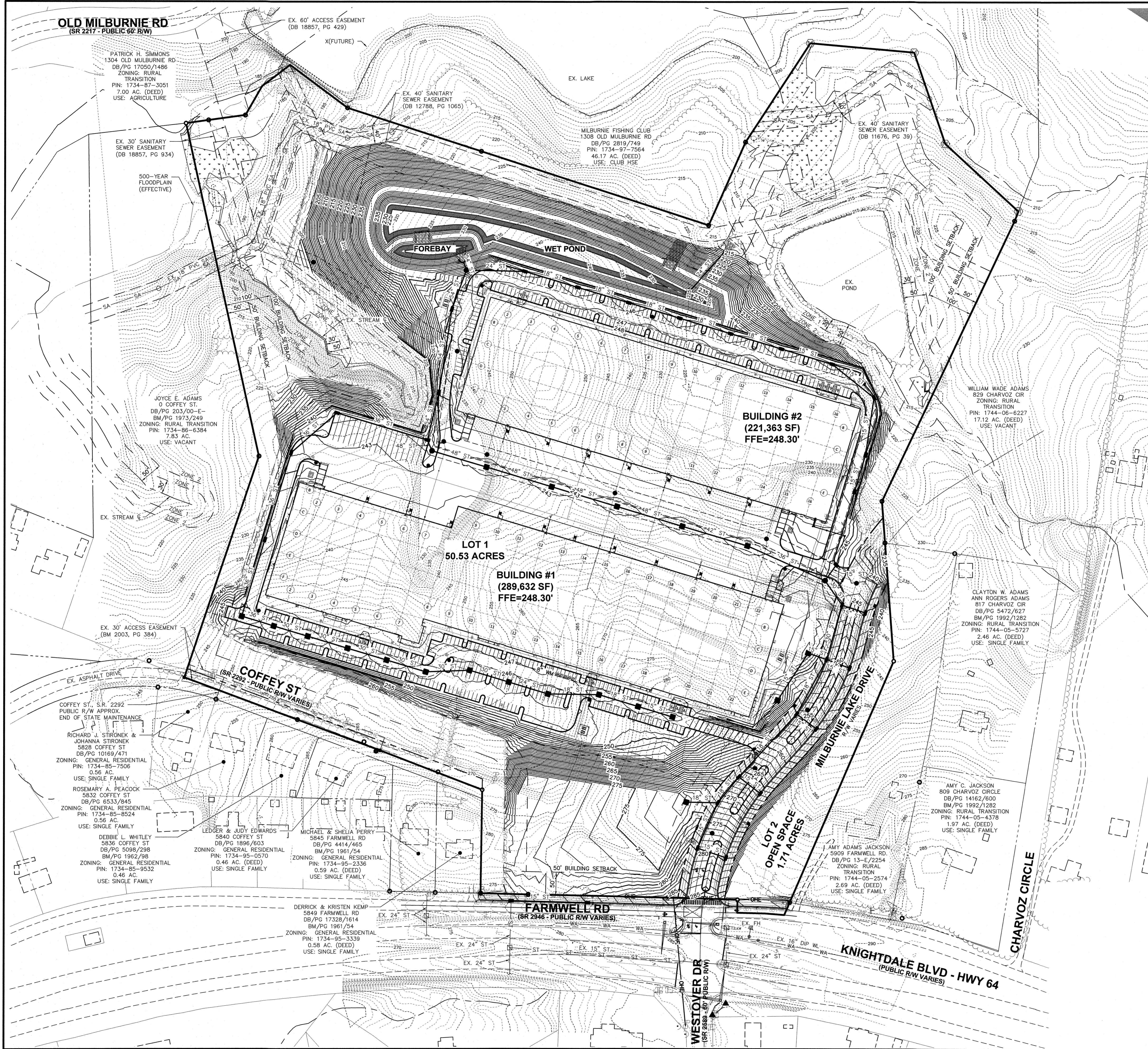
Date: 03/20/2023
Scale: 1" = 50'
1" = 10'

Drawn By: AMK
Checked By: JRR

Project Number: 21-0011-504

Drawing Number: C.4.4

C:_21-0011-504NC\DWG\Production Drawings\SITE CONSTRUCTION\0011-504NC OVERALL GRADING PLAN.dwg OVERALL GRADING PLAN Mar 20, 2023 - 10:56:04am Froyl



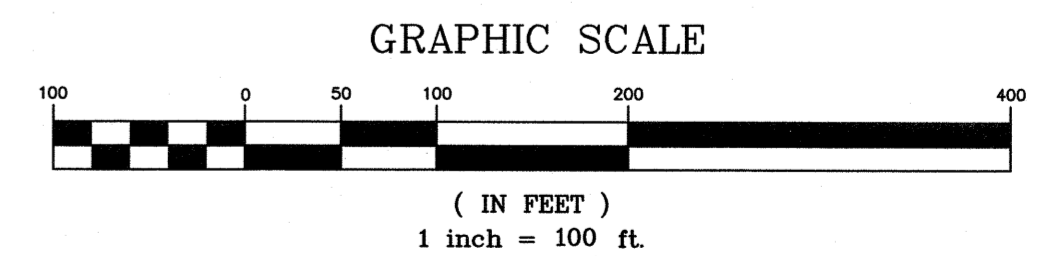
- GENERAL NOTES**
1. PRELIMINARY WETLAND LOCATIONS, STREAMS, AND PRELIMINARY BUFFER DETERMINATIONS PROVIDED BY ATLAS ENVIRONMENTAL.
 2. NO HISTORIC BUILDING OBSERVED ON THE SITE.
 3. NO FREE STANDING OR OPEN-GROWN OR FIELD GROWN TREES OBSERVED.
 4. BASED ON FIELD OBSERVATIONS AND THE REVIEW OF AVAILABLE DATA, PROTECTED SPECIES WERE NOT IDENTIFIED TO LIKELY OCCUR ON THE SITE.
 5. SITE IS HEAVILY WOODED WITH A MIXTURE OF PINES, HARDWOODS, AND UNDERSTORY VEGETATION.
 6. ON-SITE PRIVATE STORM PIPE MATERIAL TO BE APPROVED BY OWNER.

FLOOD NOTE

THE PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA ZONE AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY ON FLOOD INSURANCE PANEL NO. 3720173400J AND PANEL NO. 3720174400J, EFFECTIVE ON JULY 19, 2022, IN WAKE COUNTY NORTH CAROLINA. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE.

LEGEND

● Iron Pipe Found	— WA — WA — Ex. Water Line
● Calculated Point	— ST — ST — Ex. Storm Sewer
▲ Railroad Spike	— SA — SA — Ex. Sanitary Sewer
⊕ Electric Power Pole	— X — X — Ex. Fence Line
⊕ Fire Hydrant	— OHE — Ex. Overhead Electric Line
⊕ Ex. Wetlands	— — — Ex. Property Line
⊕ Dense Vegetation	— — — Right of Way
	— — — Property Line
	— LOD — Limits of Disturbance



PLAN PREPARED BY:

ADVANCED CIVIL DESIGN ENGINEERS
 85 Klinegate Drive, Suite 102
 Cary, North Carolina 27511
 PH: 919.481.6290
 FX: 919.336.5127

PLAN PREPARED FOR:

BEACON PARTNERS
 500 East Main Street, Suite 200
 Charlotte, North Carolina 28202
 TEL: 704.587.7277
 FAX: 704.586.6319

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY CONSTRUCTION PLAN
 FOR
BEACON PARTNERS

OVERALL GRADING & DRAINAGE PLAN

03/20/2023

Issue Dates:

09/20/2022	Construction Plan Submittal #1
11/11/2022	Construction Plan Submittal #2
12/22/2022	Construction Plan Submittal #3
02/10/2023	Construction Plan Submittal #4
03/03/2023	Construction Plan Submittal #5
03/20/2023	Construction Plan Signature Set

ZMA-16-21

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

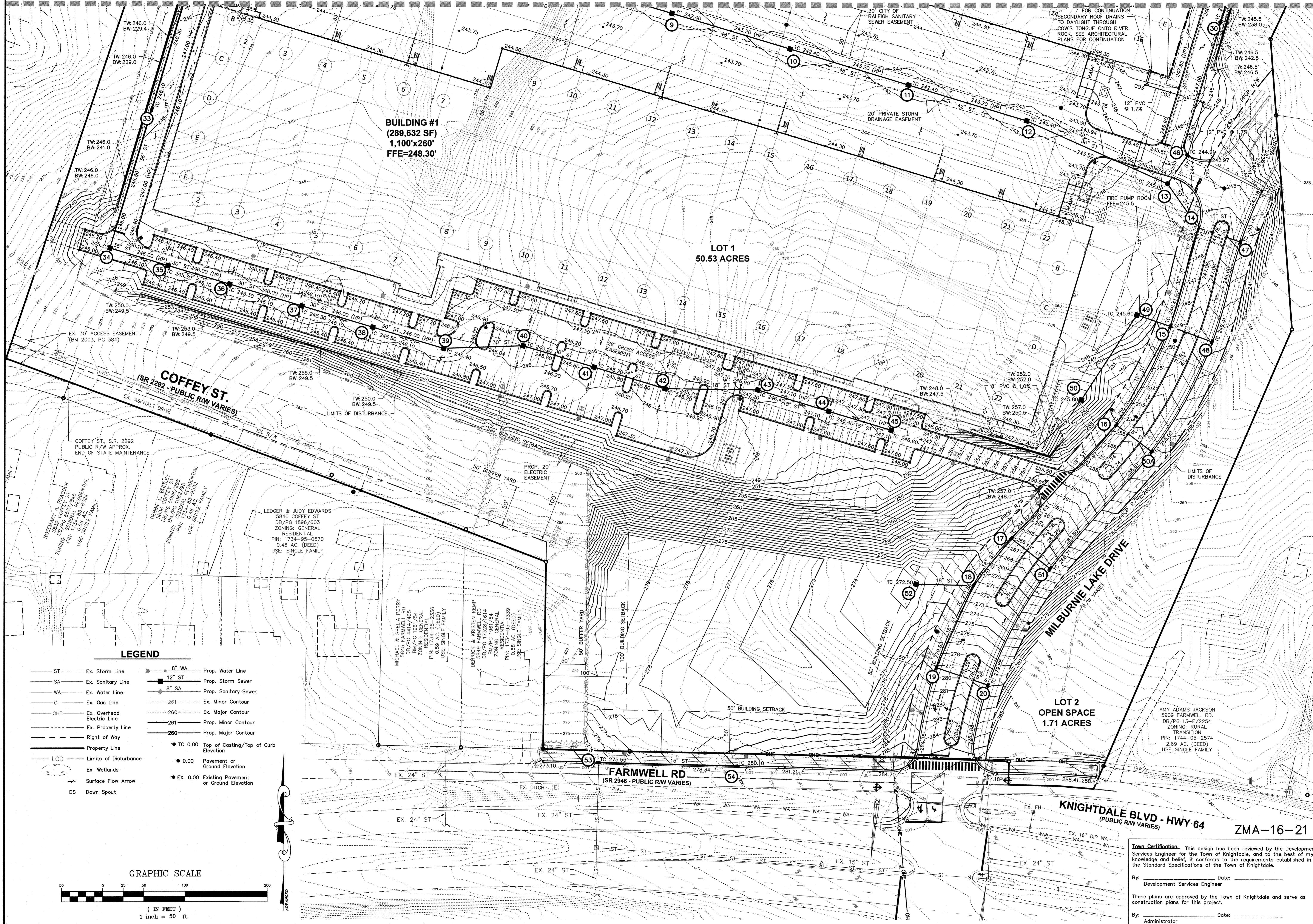
By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator

Drawn By:	Checked By:
AMK	JRR
Project Number:	
21-0011-504	
Drawing Number:	
C.5.0	

MATCHLINE - SEE SHEET C.5.2



BUILDING #1
(289,632 SF)
1,100'x260'
FFE=248.30'

LOT 1
50.53 ACRES

LOT 2
OPEN SPACE
1.71 ACRES

COFFEY ST.
(SR 2292 - PUBLIC R/W VARIES)

FARMWELL RD.
(SR 2946 - PUBLIC R/W VARIES)

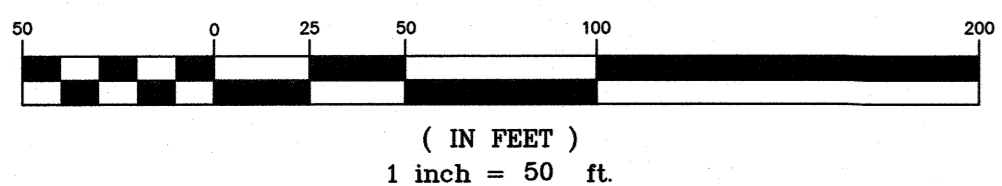
KNIGHTDALE BLVD - HWY 64
(PUBLIC R/W VARIES)

ZMA-16-21

LEGEND

- ST — Ex. Storm Line
- SA — Ex. Sanitary Line
- WA — Ex. Water Line
- G — Ex. Gas Line
- OHE — Ex. Overhead Electric Line
- Ex. Property Line
- Right of Way
- Property Line
- LOD — Limits of Disturbance
- Ex. Wetlands
- Surface Flow Arrow
- DS — Down Spout
- 8" WA — Prop. Water Line
- 12" ST — Prop. Storm Sewer
- 8" SA — Prop. Sanitary Sewer
- 261 — Ex. Minor Contour
- 260 — Ex. Major Contour
- 261 — Prop. Minor Contour
- 260 — Prop. Major Contour
- TC 0.00 — Top of Casting/Top of Curb Elevation
- 0.00 — Pavement or Ground Elevation
- EX. 0.00 — Existing Pavement or Ground Elevation

GRAPHIC SCALE



PLAN PREPARED BY:

ADVANCED CIVIL DESIGN ENGINEERS

51 Kinyone Drive, Suite 102
 Cary, North Carolina 27511
 PH 919.481.6290
 FAX 919.336.5127

PLAN PREPARED FOR:

BEACON PARTNERS

500 East Mainhead St.
 Suite 200
 Charlotte, North Carolina 28202
 PH 704.587.7737
 FAX 704.586.0335

5901 Farmwell Road, Knightdale, NC 27610 — Wake County

KNIGHTDALE GATEWAY CONSTRUCTION PLAN

FOR

BEACON PARTNERS

GRADING AND DRAINAGE PLAN

03/20/2023

Issue Dates:

09/20/2022	Construction Plan Submittal #1
11/17/2022	Construction Plan Submittal #2
12/22/2022	Construction Plan Submittal #3
02/10/2023	Construction Plan Submittal #4
03/03/2023	Construction Plan Submittal #5
03/20/2023	Construction Plan Signature Set

Date: 03/20/2023
 Scale: 1" = 50'

Drawn By: AMK
 Checked By: JRR

Project Number:
21-0011-504

Drawing Number:
C.5.1

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

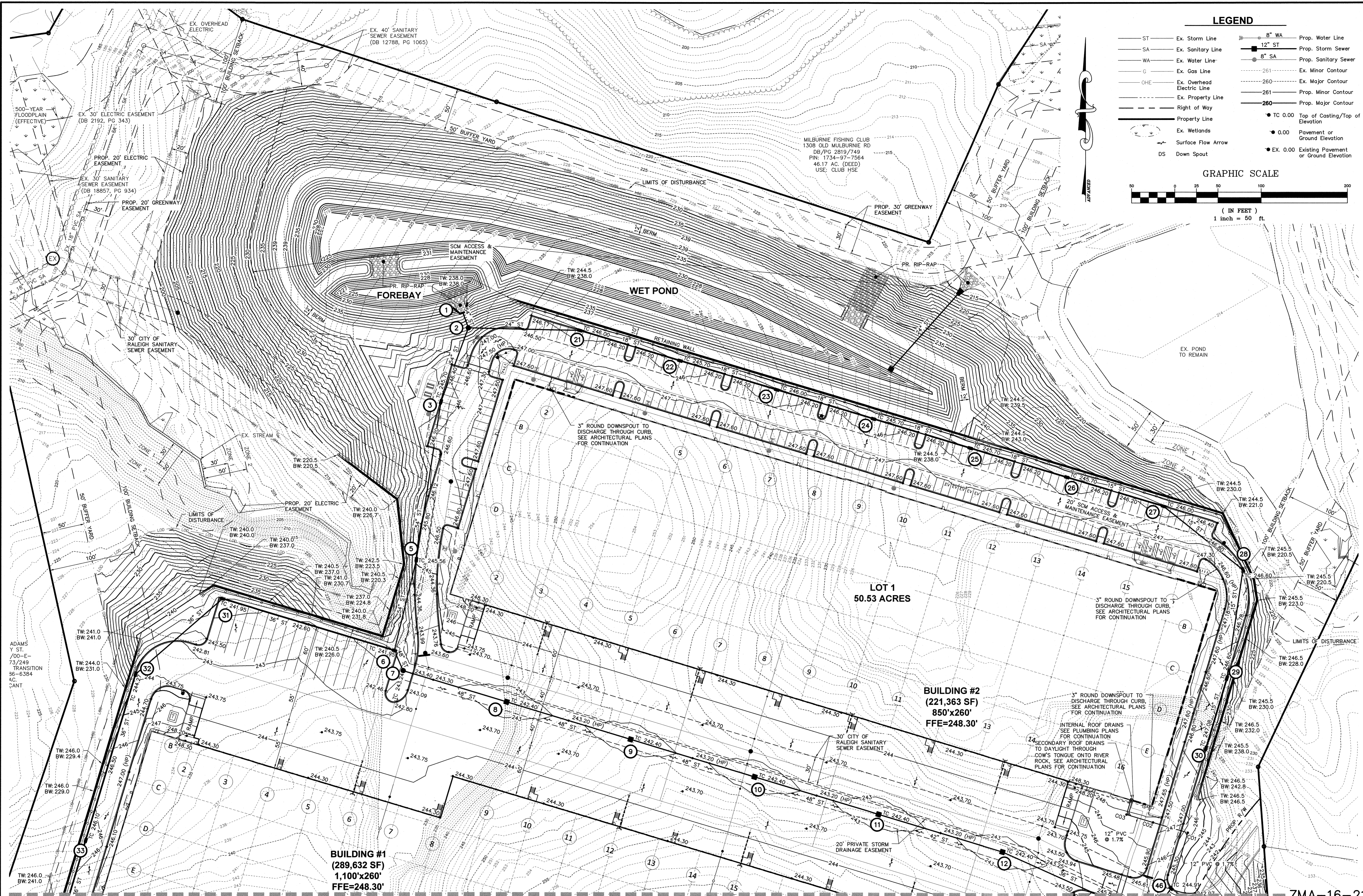
By: _____ Date: _____
 Development Services Engineer

By: _____ Date: _____
 Administrator

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

C:\21-0011-504\CD\Production Drawings\SITE CONSTRUCTION\0011-504\NC GRADING AND DRAINAGE PLAN.dwg GRADING 1 Mar 20, 2023 - 10:57:35am Froyd

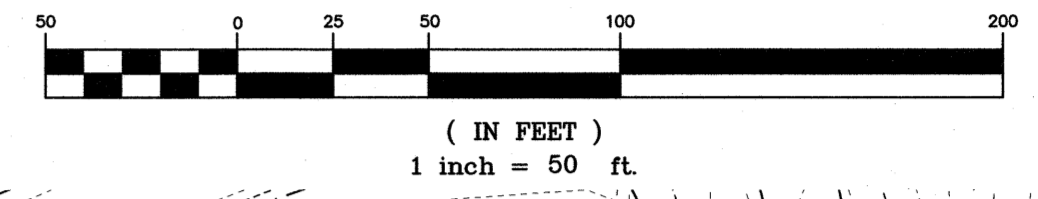
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LEGEND

- ST Ex. Storm Line
- SA Ex. Sanitary Line
- WA Ex. Water Line
- G Ex. Gas Line
- OHE Ex. Overhead Electric Line
- Ex. Property Line
- Property Line
- Ex. Wetlands
- DS Down Spout
- 8" WA Prop. Water Line
- 12" ST Prop. Storm Sewer
- 8" SA Prop. Sanitary Sewer
- 261 Ex. Minor Contour
- 260 Ex. Major Contour
- 261 Prop. Minor Contour
- 260 Prop. Major Contour
- TC 0.00 Top of Casting/Top of Curb Elevation
- 0.00 Pavement or Ground Elevation
- EX 0.00 Existing Pavement or Ground Elevation

GRAPHIC SCALE



PLAN PREPARED BY:

51 Kilmayne Drive, Suite 102
Cary, North Carolina 27511
PH 919.481.6990
FAX 919.336.5327

PLAN PREPARED FOR:

500 East Morehead St.
Suite 205
Charlotte, North Carolina 28209
Tel: 704.597.7759
Fax: 704.298.0335

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

**KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
GRADING AND DRAINAGE PLAN**

Issue Dates:	09/29/2022 - Construction Plan Submittal #1	11/17/2022 - Construction Plan Submittal #2	12/22/2022 - Construction Plan Submittal #3	02/10/2023 - Construction Plan Submittal #4	03/03/2023 - Construction Plan Submittal #5	03/20/2023 - Construction Plan Signature Set
Date:	03/20/2023					
Scale:	1" = 50'					
Drawn By:	AMK	Checked By:	JRR	Project Number:		
				21-001-504		
				Drawing Number:		
				C.5.2		

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

MATCHLINE - SEE SHEET C.5.1

ZMA-16-21

BUILDING #1
(289,632 SF)
1,100'x260'
FFE=248.30'

BUILDING #2
(221,363 SF)
850'x260'
FFE=248.30'

LOT 1
50.53 ACRES

3" ROUND DOWNSPOUT TO DISCHARGE THROUGH CURB. SEE ARCHITECTURAL PLANS FOR CONTINUATION

3" ROUND DOWNSPOUT TO DISCHARGE THROUGH CURB. SEE ARCHITECTURAL PLANS FOR CONTINUATION

INTERNAL ROOF DRAINS SEE PLUMBING PLANS FOR CONTINUATION

SECONDARY ROOF DRAINS TO DAYLIGHT THROUGH COW'S TONGUE ONTO RIVER ROCK. SEE ARCHITECTURAL PLANS FOR CONTINUATION

500-YEAR FLOODPLAIN (EFFECTIVE)

MILBURNIE FISHING CLUB
1308 OLD MULBURNIE RD
DB/PG 2819/749
PIN: 1734-97-7564
46.17 AC. (DEED)
USE: CLUB HSE

FOREBAY

WET POND

EX. POND TO REMAIN

EX. STREAM

ZONE 1

ZONE 2

ZONE 3

ZONE 4

ZONE 5

ZONE 6

ZONE 7

ZONE 8

ZONE 9

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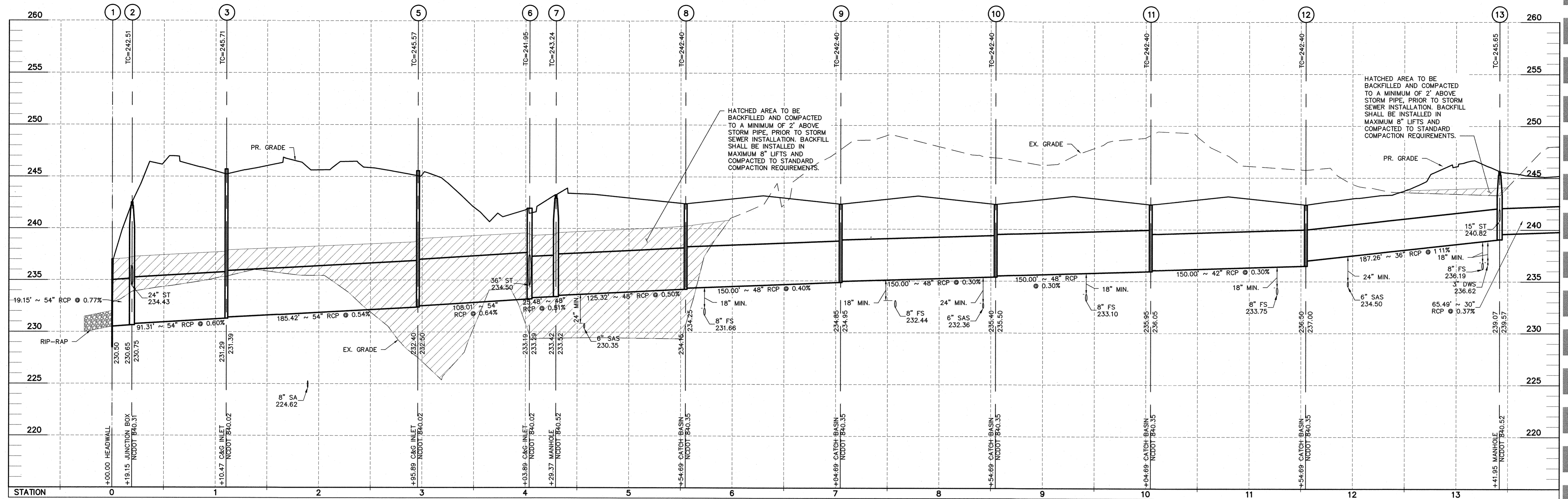
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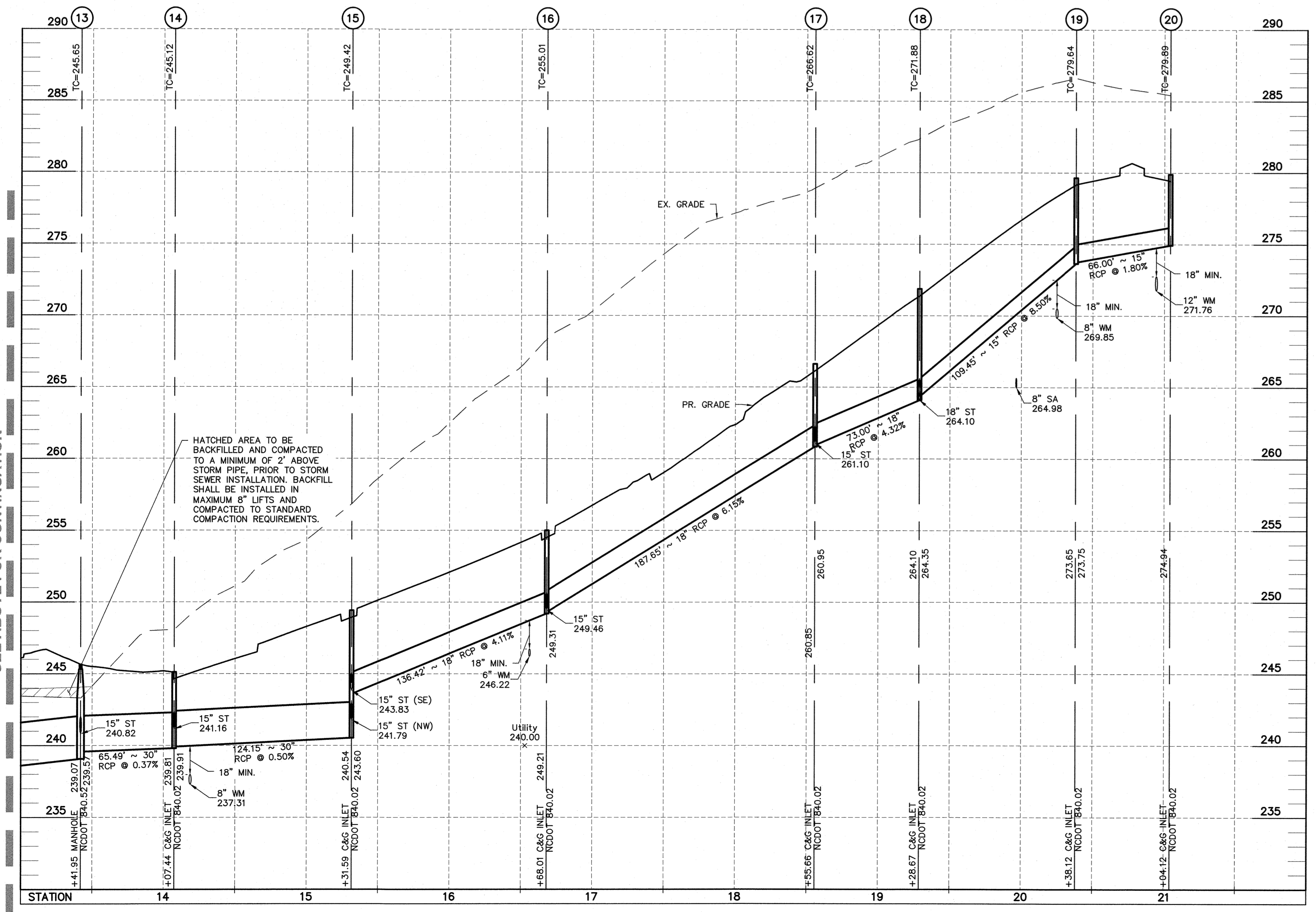
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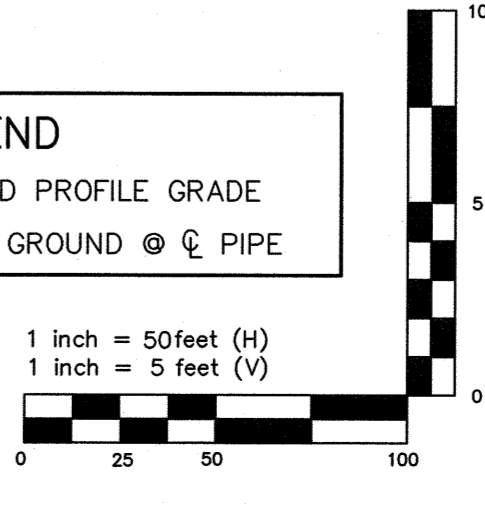
SEE BELOW FOR CONTINUATION



SEE ABOVE FOR CONTINUATION

- NOTES:
1. CONTRACTOR SHALL FIELD VERIFY INVERT ELEVATIONS IN EXISTING STRUCTURES.
 2. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE LADDER STEPS WITHIN THE EXISTING STRUCTURES IF THE FIELD VERIFIED LOCATION IS IN CONFLICT WITH THE WORK TO BE PERFORMED, THE LADDER STEPS SHALL BE MOVED. PRICE TO BE INCLUDED IN THE UNIT PRICE BID FOR VARIOUS SEWER ITEMS.
 3. CONSTRUCTION AND MATERIALS TO MEET ALL TOWN OF KNIGHTDALE AND/OR NCDOT STANDARDS AND SPECIFICATIONS
 4. ALL TRENCH BACKFILL SHALL BE IN ACCORDANCE WITH TOWN OF KNIGHTDALE AND/OR NCDOT STANDARDS AND SPECIFICATIONS.

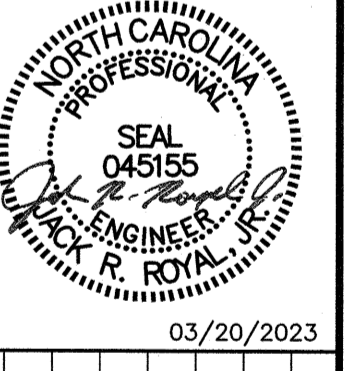
LEGEND
 — PROPOSED PROFILE GRADE
 - - - EXISTING GROUND @ C. PIPE



PLAN PREPARED BY:
ADVANCED CIVIL DESIGN
 ENGINEERS SURVEYORS
 51 Klineville Drive, Suite 102
 Cary, North Carolina 27511
 ph 919.481.6290
 fax 919.336.5127

PLAN PREPARED FOR:
BEACON PARTNERS
 500 East Main Street
 Suite 200
 Charlotte, North Carolina 28202
 tel. 704.597.7777
 fax 704.596.6335

5901 Farmwell Road, Knightdale, NC 27610 - Wake County
KNIGHTDALE GATEWAY CONSTRUCTION PLAN
 FOR
BEACON PARTNERS
STORM SEWER PROFILES



03/20/2023

Issue Dates:	09/20/2022 - Construction Plan Submittal #1
	11/11/2022 - Construction Plan Submittal #2
	12/22/2022 - Construction Plan Submittal #3
	02/10/2023 - Construction Plan Submittal #4
	03/03/2023 - Construction Plan Submittal #5
	03/20/2023 - Construction Plan Signature Set

Date: 03/20/2023
 Scale: 1" = 50'

Drawn By:	Checked By:
AMK	JRR

Project Number:
21-0011-504

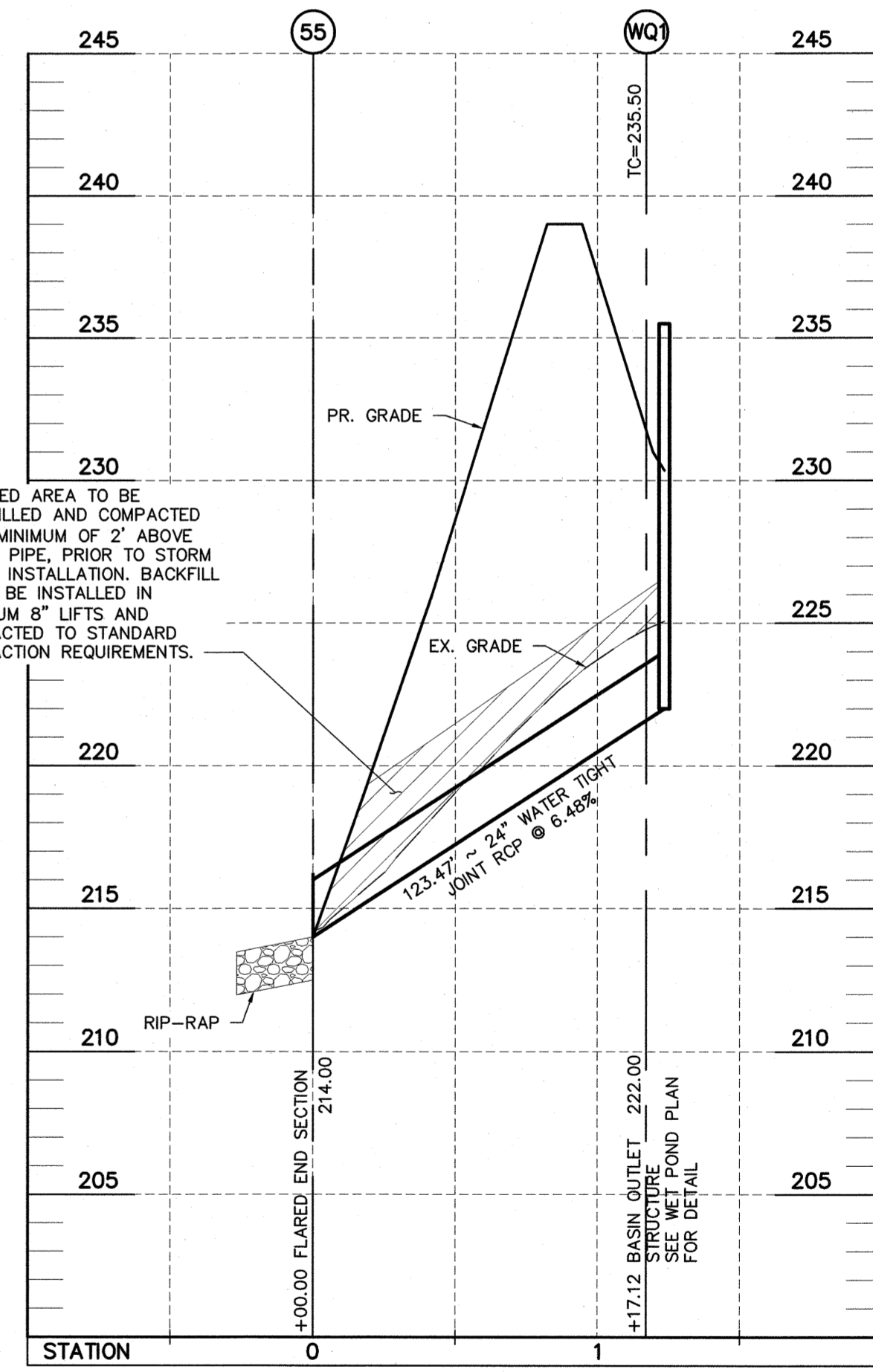
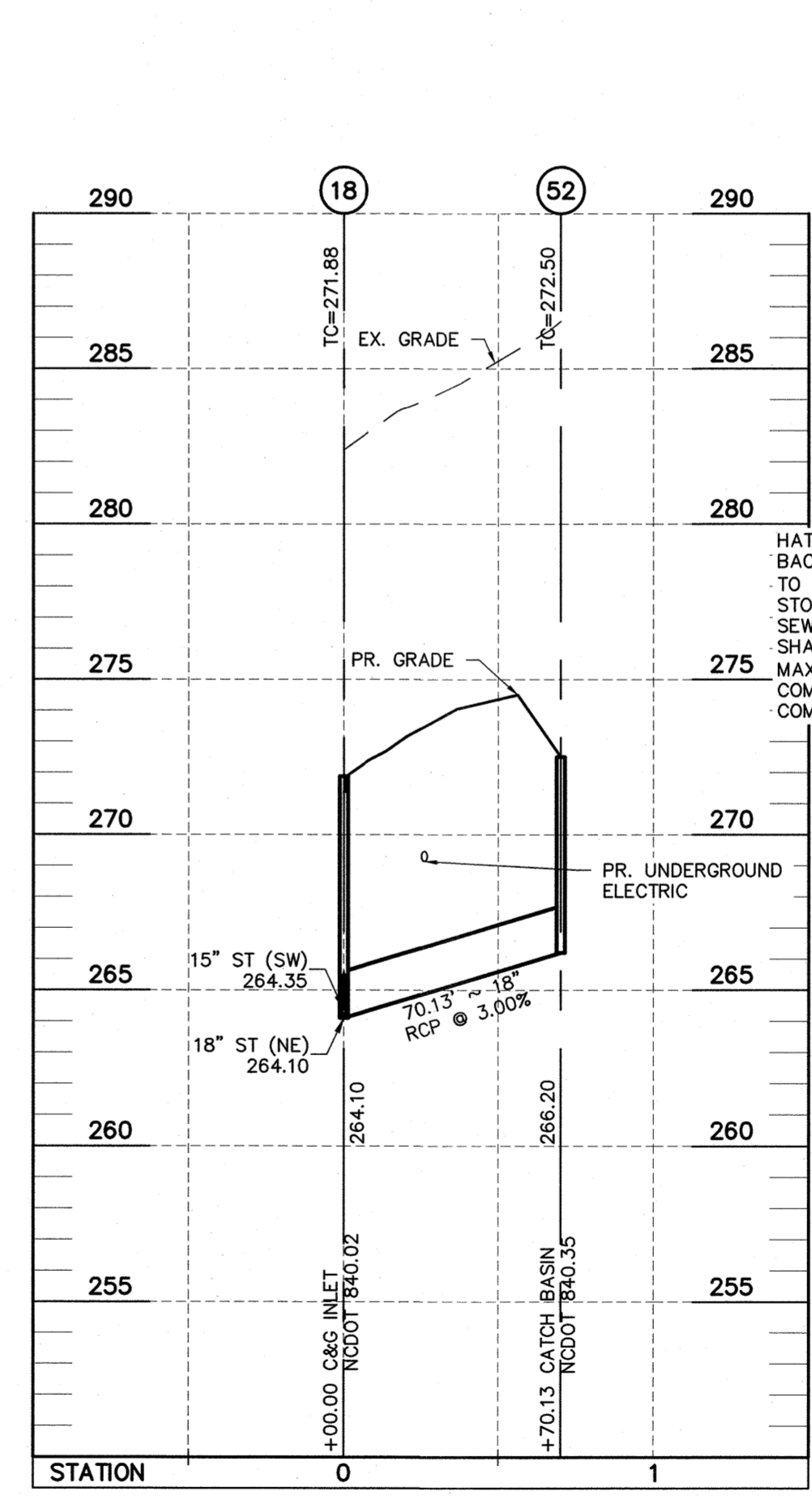
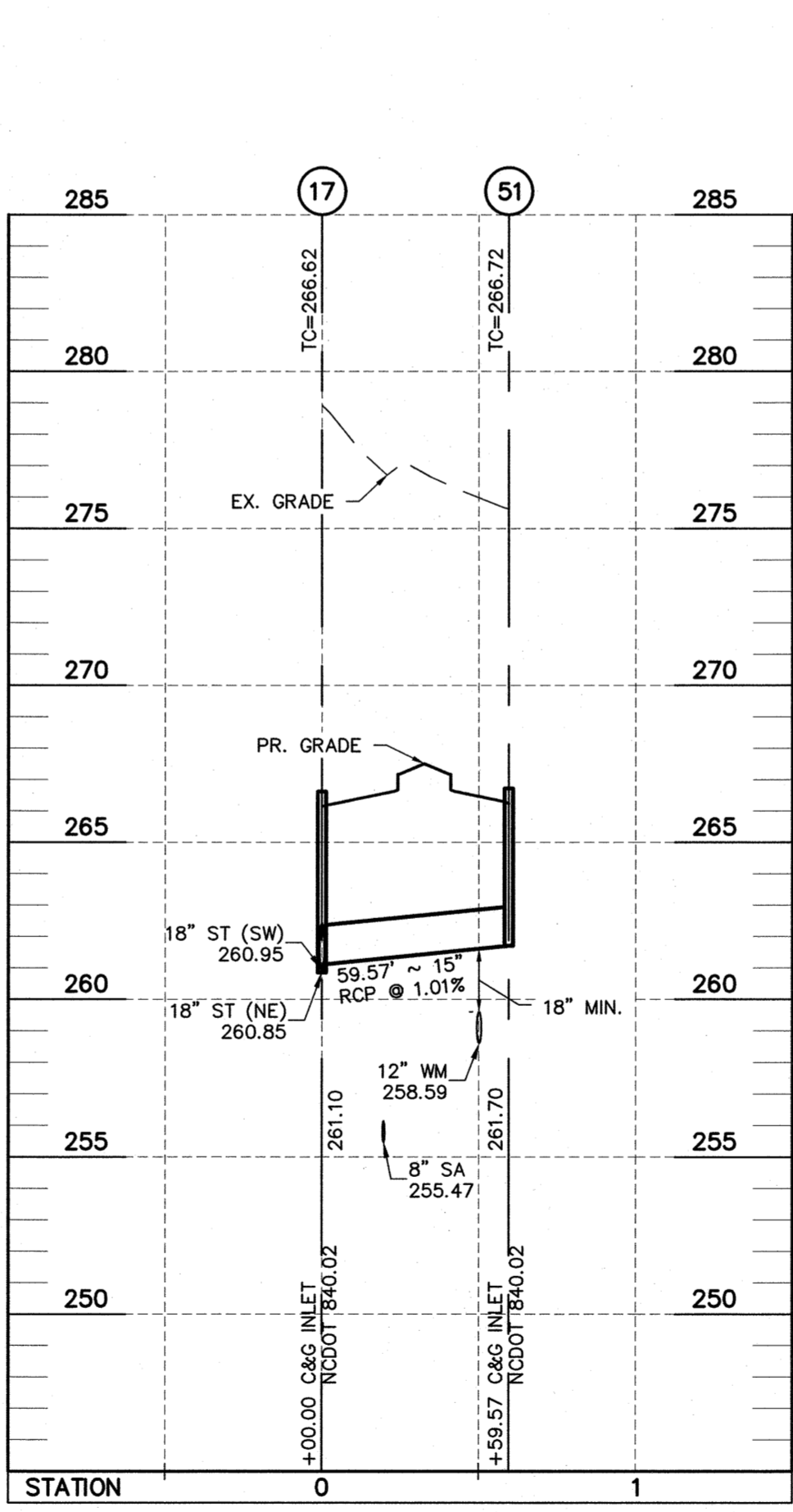
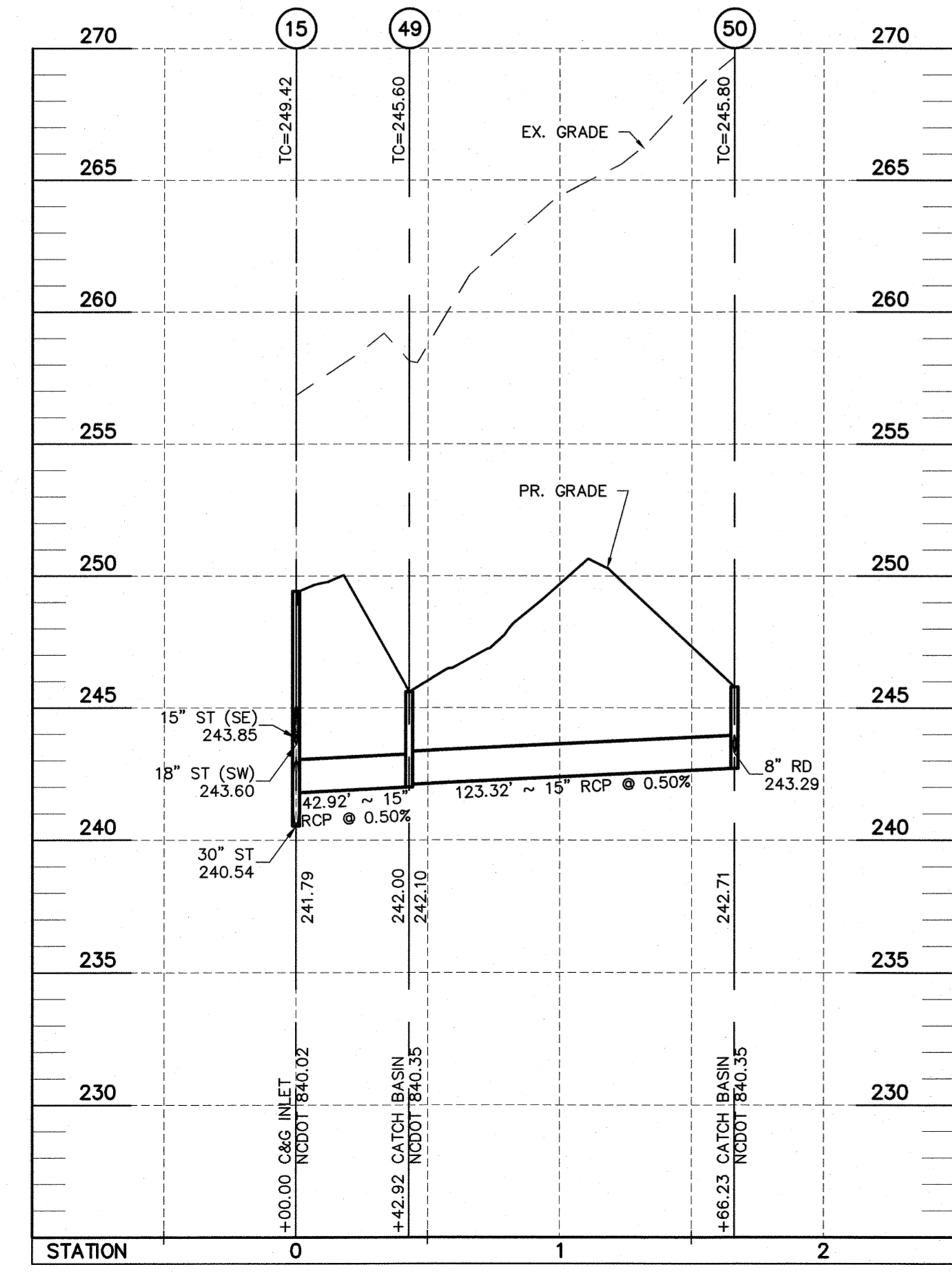
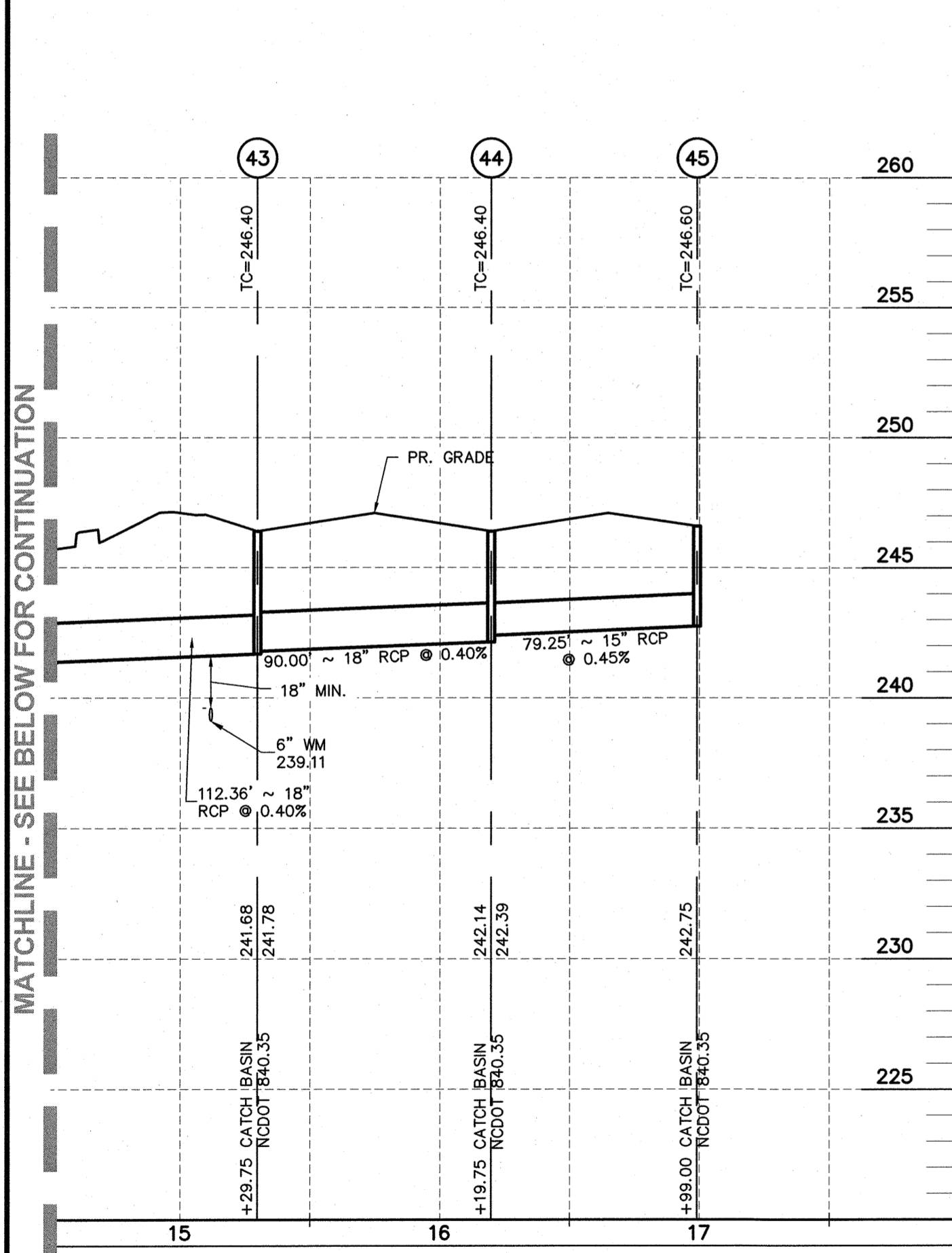
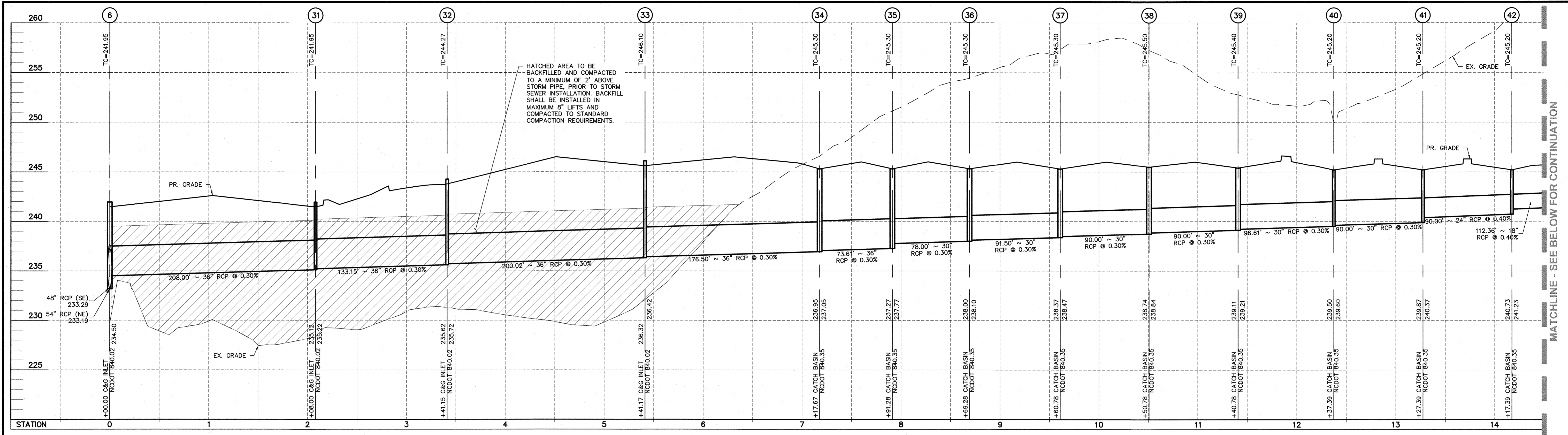
Drawing Number:
C.5.3

Town Certification: This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator



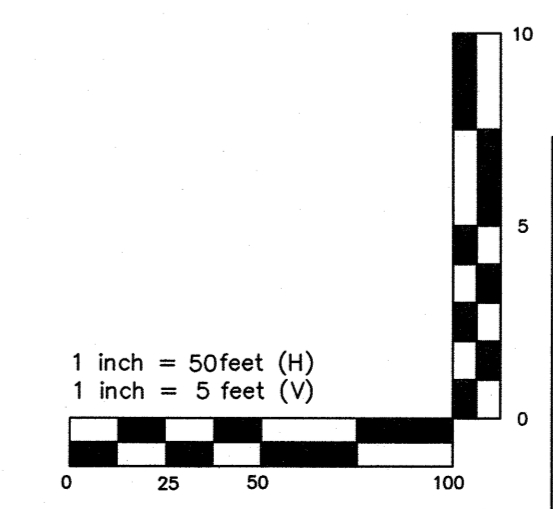
HATCHED AREA TO BE BACKFILLED AND COMPACTED TO A MINIMUM OF 2" ABOVE STORM PIPE. PRIOR TO STORM SEWER INSTALLATION, BACKFILL SHALL BE INSTALLED IN MAXIMUM 8" LIFTS AND COMPACTED TO STANDARD COMPACTION REQUIREMENTS.

HATCHED AREA TO BE BACKFILLED AND COMPACTED TO A MINIMUM OF 2" ABOVE STORM PIPE. PRIOR TO STORM SEWER INSTALLATION, BACKFILL SHALL BE INSTALLED IN MAXIMUM 8" LIFTS AND COMPACTED TO STANDARD COMPACTION REQUIREMENTS.

- NOTES:
- CONTRACTOR SHALL FIELD VERIFY INVERT ELEVATIONS IN EXISTING STRUCTURES.
 - THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE LADDER STEPS WITHIN THE EXISTING STRUCTURES. IF THE FIELD VERIFIED LOCATION IS IN CONFLICT WITH THE WORK TO BE PERFORMED, THE LADDER STEPS SHALL BE MOVED. PRICE TO BE INCLUDED IN THE UNIT PRICE BID FOR VARIOUS SEWER ITEMS.
 - CONSTRUCTION AND MATERIALS TO MEET ALL TOWN OF KNIGHTDALE AND/OR NCDOT STANDARDS AND SPECIFICATIONS.
 - ALL TRENCH BACKFILL SHALL BE IN ACCORDANCE WITH TOWN OF KNIGHTDALE AND/OR NCDOT STANDARDS AND SPECIFICATIONS.

LEGEND

	PROPOSED PROFILE GRADE
	EXISTING GROUND @ 1/4" PIPE



Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

By: _____ Date: _____
Administrator

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

PLAN PREPARED BY: **ADVANCED CIVIL DESIGN ENGINEERS SURVEYORS**
51 Kilmegon Drive, Suite 102
Cory, North Carolina 27504
PH 919.356.9272
FX 919.356.9272

PLAN PREPARED FOR: **BEACON PARTNERS**
500 East Main Street
Chapel Hill, North Carolina 27514
PH 704.597.7757
FX 704.596.6315

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY CONSTRUCTION PLAN FOR BEACON PARTNERS STORM SEWER PROFILES

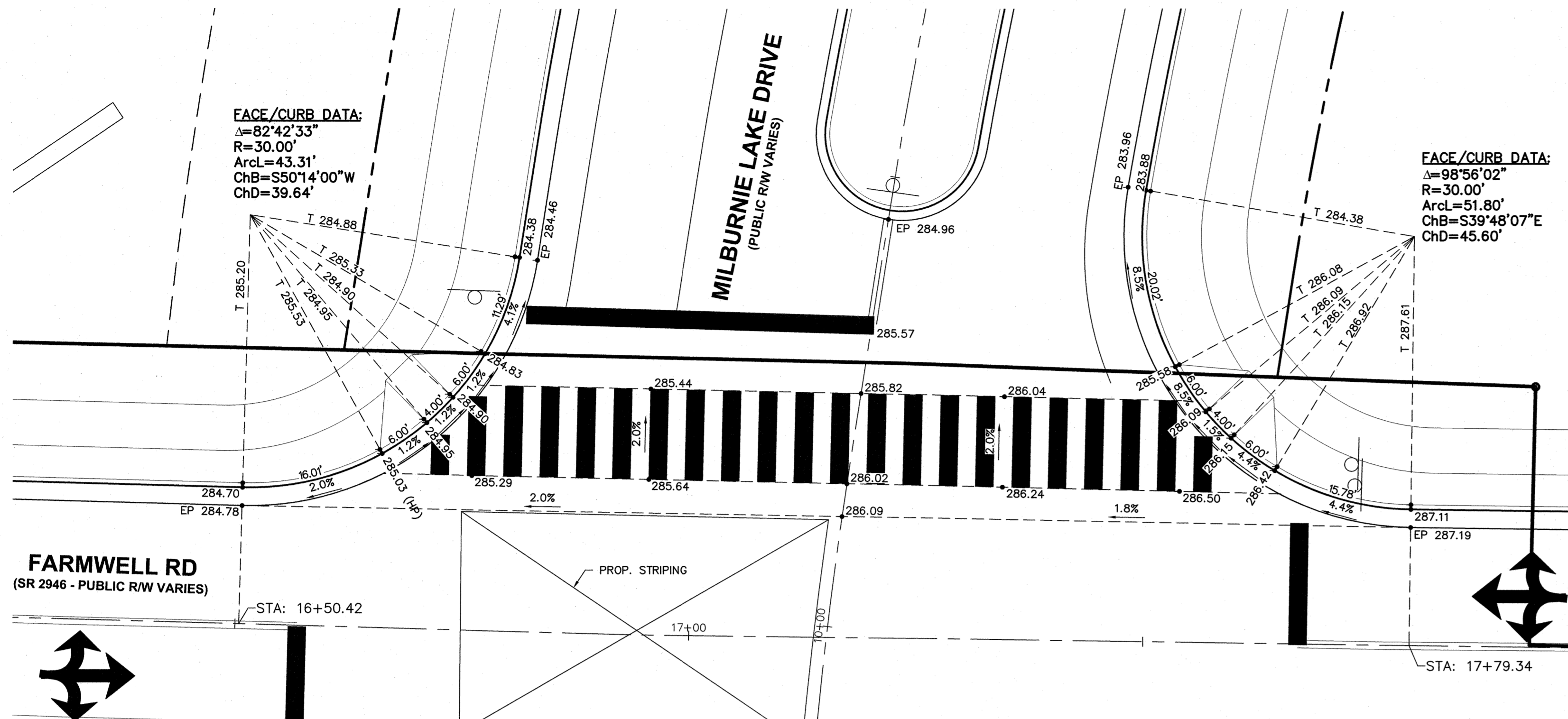
03/20/2023

Issue Dates:
09/20/2022 - Construction Plan Submittal #1
11/11/2022 - Construction Plan Submittal #2
12/22/2022 - Construction Plan Submittal #3
02/10/2023 - Construction Plan Submittal #4
03/03/2023 - Construction Plan Submittal #5
03/20/2023 - Construction Plan Signature Set

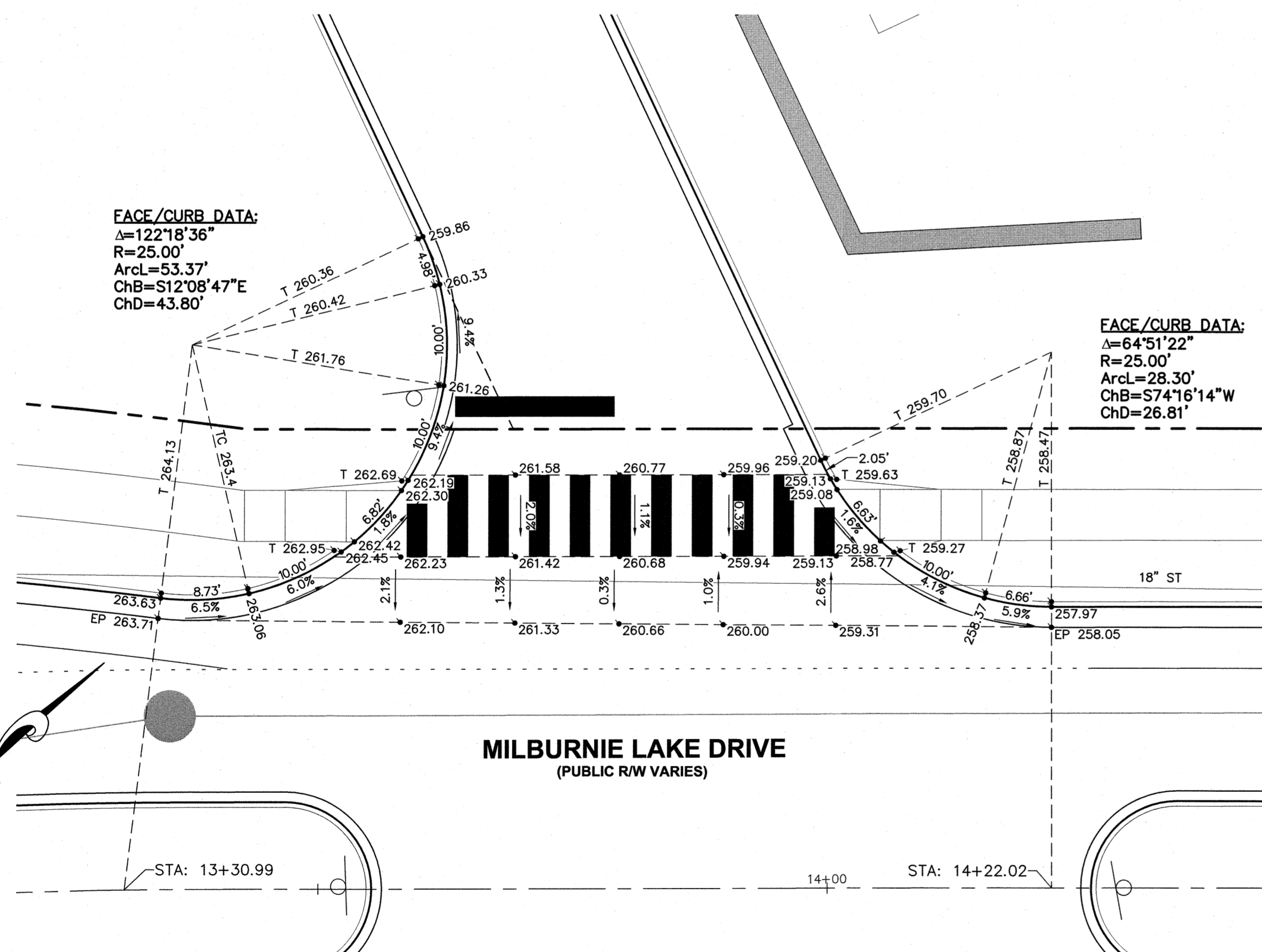
Date: 03/20/2023
Scale: H: 1" = 50'
V: 1" = 5'

Drawn By: AMK
Checked By: JRR

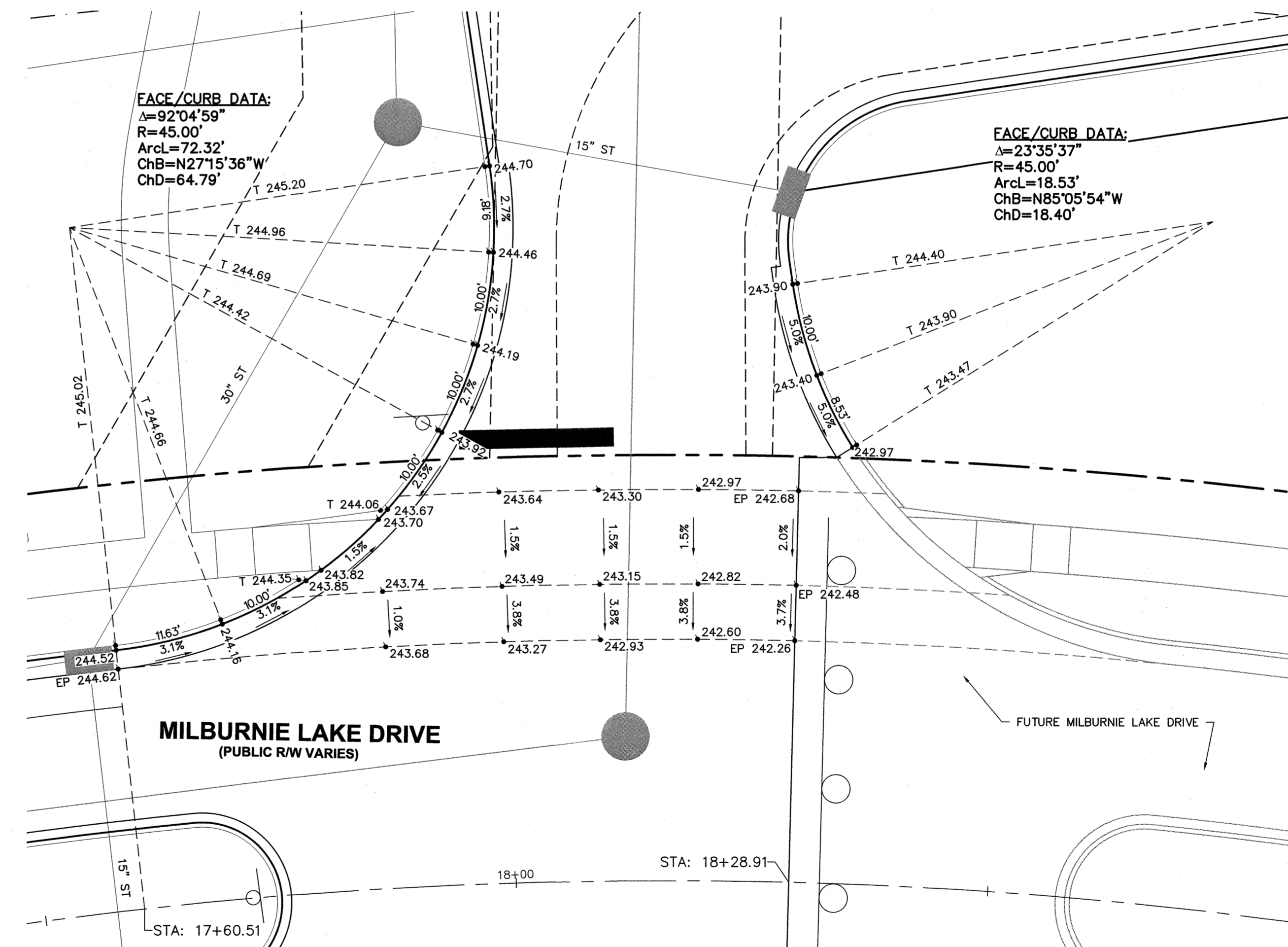
Project Number: 21-0011-504
Drawing Number: C.5.5



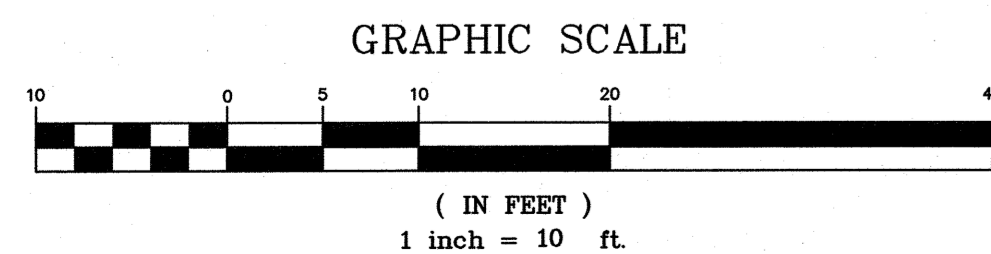
FARMWELL ROAD AND MILBURNIE LAKE DRIVE



MILBURNIE LAKE DRIVE AND BUILDING #1 PARKING LOT



MILBURNIE LAKE DRIVE AND BUILDING #2 PARKING LOT



ZMA-16-21

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator

PLAN PREPARED BY:

ADVANCED
CIVIL DESIGN
ENGINEERS SURVEYORS

51 Kilmagne Drive, Suite 102
 Cary, North Carolina 27511
 ph 919.461.6990
 fax 919.336.5127

PLAN PREPARED FOR:

BEACON PARTNERS

500 East Main Street
 Raleigh, NC 27601
 Charlotte, North Carolina 28269
 tel. 704.597.7757
 fax 704.596.6315

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
 FOR
BEACON PARTNERS
INTERSECTION DETAILS

03/20/2023

Issue Dates:

09/20/2022	Construction Plan Submittal #1
11/11/2022	Construction Plan Submittal #2
12/22/2022	Construction Plan Submittal #3
02/10/2023	Construction Plan Submittal #4
03/03/2023	Construction Plan Submittal #5
03/20/2023	Construction Plan Signature Set

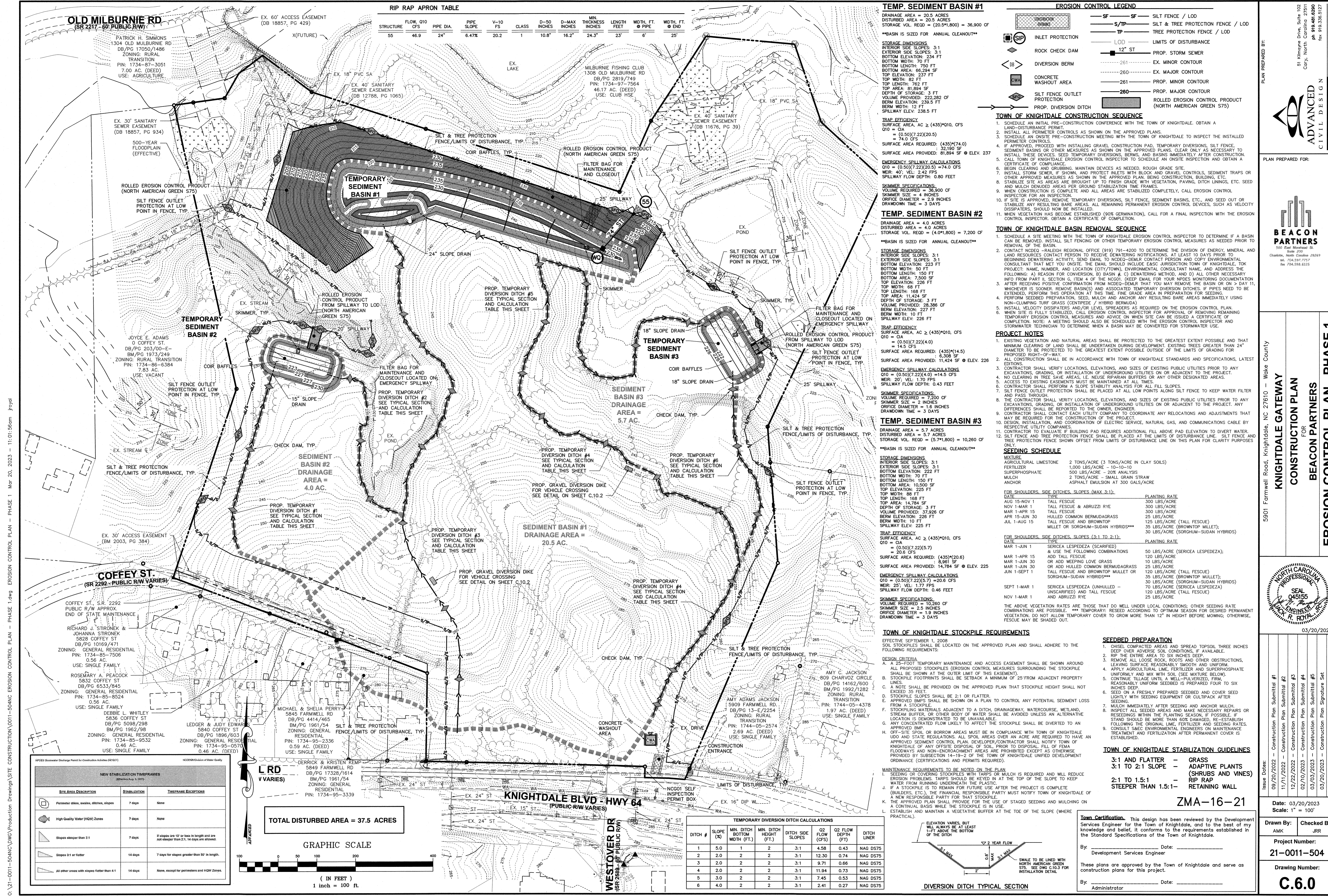
Date: 03/20/2023
 Scale: 1" = 10'

Drawn By: AMK
 Checked By: JRR

Project Number:
21-0011-504

Drawing Number:
C.5.6

C:\21-0011-504\NC\DWG\Production Drawings\SITE CONSTRUCTION\0011-504\NC\INTERSECTION DETAILS.dwg Mar 20, 2023 - 10:37:14am Jroyal



RIP RAP APRON TABLE

STRUCTURE	FLOW, Q10 CFS	PIPE DIA.	PIPE SLOPE	V-10 FS	CLASS	D-50 INCHES	D-MAX INCHES	MIN THICKNESS INCHES	LENGTH FEET	WIDTH, FT. OF PIPE	WIDTH, FT. @ END
55	46.9	24"	6.47%	20.2	1	10.8"	16.2"	24.3"	23'	6'	25'

TEMP. SEDIMENT BASIN #1
 DISTURBED AREA = 20.5 ACRES
 STORAGE VOL. REQ'D = (20.5)(1,800) = 36,900 CF
 BASIN IS SIZED FOR ANNUAL CLEANOUT

EROSION CONTROL LEGEND

- SF - SILT FENCE / LOD
- S/TP - SILT & TREE PROTECTION FENCE / LOD
- TP - TREE PROTECTION FENCE / LOD
- LOD - LIMITS OF DISTURBANCE
- 12" ST - PROP. STORM SEWER
- 261 - EX. MINOR CONTOUR
- 260 - EX. MAJOR CONTOUR
- 261 - PROP. MINOR CONTOUR
- 260 - PROP. MAJOR CONTOUR
- ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)

STORAGE DIMENSIONS
 INTERIOR SIDE SLOPES: 3:1
 EXTERIOR SIDE SLOPES: 3:1
 BOTTOM ELEVATION: 234 FT
 BOTTOM LENGTH: 237 FT
 BOTTOM WIDTH: 750 FT
 TOP AREA: 81,894 SF
 DEPTH OF STORAGE: 3 FT
 VOLUME PROVIDED: 232,882 CF
 BERM ELEVATION: 239.5 FT
 BERM WIDTH: 12 FT
 SPILLWAY ELEV: 238.5 FT

TOWN OF KNIGHTDALE CONSTRUCTION SEQUENCE

- SCHEDULE AN INITIAL PRE-CONSTRUCTION CONFERENCE WITH THE TOWN OF KNIGHTDALE. OBTAIN A LAND-DISTURBANCE PERMIT.
- INSTALL ALL PERIMETER CONTROLS AS SHOWN ON THE APPROVED PLANS.
- SCHEDULE AN ON-SITE PRE-CONSTRUCTION MEETING WITH THE TOWN OF KNIGHTDALE TO INSPECT THE INSTALLED PERIMETER CONTROLS.
- IF APPROVED, PROCEED WITH INSTALLING GRAVEL CONSTRUCTION PAD, TEMPORARY DIVERSIONS, SILT FENCE, SEDIMENT BASINS OR OTHER MEASURES AS SHOWN ON THE APPROVED PLANS. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEDIMENT DIVERSIONS, BERMS, AND SILT FENCES SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION.
- CALL TOWN OF KNIGHTDALE EROSION CONTROL INSPECTOR TO SCHEDULE AN ON-SITE INSPECTION AND OBTAIN A CERTIFICATE OF COMPLIANCE.
- BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED, ROUGH GRADE SITE.
- INSTALL STORM SEWER, IF SHOWN, AND PROTECT INLETS WITH BLOCK AND GRAVEL CONTROLS, SEDIMENT TRAPS OR OTHER APPROVED MEASURES AS SHOWN IN THE APPROVED PLAN, BEING CONSTRUCTION, BUILDING, ETC.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH BENEVOLENT AREAS PER GROUND STABILIZATION TIME FRAMES AS SHOWN IN THE APPROVED PLAN.
- WHEN CONSTRUCTION IS COMPLETE, AND ALL AREAS ARE STABILIZED COMPLETELY, CALL EROSION CONTROL INSPECTOR FOR AN INSPECTION.
- IF 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 (90% GERMINATION), CALL FOR A FINAL INSPECTION WITH THE EROSION CONTROL INSPECTOR. OBTAIN A CERTIFICATE OF COMPLETION.

TRAP EFFICIENCY
 SURFACE AREA, A_c ≥ (435)(Q10, CFS)
 Q10 = CIA
 = (0.50)(7.22)(20.5)
 = 74.0 CFS
 SURFACE AREA REQUIRED: (435)(74.0)
 = 32,115 SF
 SURFACE AREA PROVIDED: 81,894 SF @ ELEV. 237

TOWN OF KNIGHTDALE BASIN REMOVAL SEQUENCE

- SCHEDULE A SITE MEETING WITH THE TOWN OF KNIGHTDALE EROSION CONTROL INSPECTOR TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
- CONTACT NCDWR - RALEIGH REGIONAL OFFICE (919) 791-4200 TO DETERMINE THE DIVISION OF ENERGY, MINERAL AND LAND RESOURCES CONTACT PERSON TO RECEIVE DOWNGRADING NOTIFICATIONS. AT LEAST 10 DAYS PRIOR TO BEGINNING DOWNGRADING ACTIVITY, SEND EMAIL TO NCDWR-DEMR CONTACT PERSON AND COPY ENVIRONMENTAL CONSULTANT THAT YOU OBTAIN. THE EMAIL SHOULD INCLUDE: EROSION CONTROL MEASURES, PROJECT NAME, LOCATION (CITY/TOWN), ENVIRONMENTAL CONSULTANT NAME, AND ADDRESS THE FOLLOWING: A) REASON FOR CONVERSION, B) BASIN #, C) DOWNGRADING METHOD, AND D) ALL OTHER NECESSARY INFO FROM PART II, SECTION G, ITEM 4 OF THE NCDWR (KEEP RECORD FOR YOUR RECORD MONITORING DOCUMENTATION).
- AFTER RECEIVING POSITIVE CONFIRMATION FROM NCDWR-DEMR THAT YOU MAY REMOVE THE BASIN OR > DAY 11, WHICHEVER IS SOONER, REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF PIPES NEED TO BE EXTENDED TO EXISTING OPERATIONS AT THIS TIME, PERFORM THIS OPERATION FIRST.
- PERFORM SEEDBED PREPARATION, SEED, MULCH AND ANCHOR ANY RESULTING BARE AREAS IMMEDIATELY USING NON-CUMULATING TURF GRASS (CENTRIPEDE HYBRID BERMUDA).
- INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
- WHEN SITE IS FULLY STABILIZED, CALL EROSION CONTROL INSPECTOR 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 EROSION CONTROL INSPECTOR AND STORMWATER TECHNICIAN TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE.

TEMP. SEDIMENT BASIN #2
 DISTURBED AREA = 4.0 ACRES
 STORAGE VOL. REQ'D = (4.0)(1,800) = 7,200 CF
 BASIN IS SIZED FOR ANNUAL CLEANOUT

PROJECT NOTES

- EXISTING VEGETATION AND NATURAL AREAS SHALL BE PROTECTED TO THE GREATEST EXTENT POSSIBLE AND THAT MINIMAL CLEARING OF LAND SHALL BE UNDERTAKEN DURING DEVELOPMENT. EXISTING TREES GREATER THAN 24" DIAMETER TO BE PROTECTED TO THE GREATEST EXTENT POSSIBLE OUTSIDE OF THE LIMITS OF GRADING FOR PROPOSED RIGHT-OF-WAY.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS, LATEST EDITIONS.
- CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS, AND SIZES OF EXISTING PUBLIC UTILITIES PRIOR TO ANY EXCAVATIONS, GRADING, OR INSTALLATION OF UNDERGROUND UTILITIES ON OR ADJACENT TO THE PROJECT.
- NO CLEARING IN TREE SAVE AREAS, I.E. NEUSE RIPARIAN BUFFERS OR ANY OTHER DESIGNATED AREAS.
- CONTRACTOR SHALL PERFORM A SLOPE STABILITY ANALYSIS FOR ALL FILL SLOPES.
- SILT FENCE OUTLET PROTECTION SHALL BE PLACED AT ALL LOW POINTS ALONG SILT FENCE TO KEEP WATER FILTER AND PASS THROUGH.
- THE CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS, AND SIZES OF EXISTING PUBLIC UTILITIES PRIOR TO ANY EXCAVATIONS, GRADING, OR INSTALLATION OF UNDERGROUND UTILITIES ON OR ADJACENT TO THE PROJECT. ANY DIFFERENCES SHALL BE REPORTED TO THE OWNER, ENGINEER.
- CONTRACTOR SHALL CONTACT EACH UTILITY COMPANY TO COORDINATE ANY RELOCATIONS AND ADJUSTMENTS THAT MAY BE REQUIRED DURING THE CONSTRUCTION OF THE PROJECT.
- DESIGN, INSTALLATION, AND COORDINATION OF ELECTRIC SERVICE, NATURAL GAS, AND COMMUNICATIONS CABLE BY RESPECTIVE UTILITY COMPANIES.
- CONTRACTOR SHALL EVALUATE BUILDING PAD REQUIRES ADDITIONAL FILL ABOVE PAD ELEVATION TO DIVERT WATER.
- SILT FENCE AND TREE PROTECTION FENCE SHALL BE PLACED AT THE LIMITS OF DISTURBANCE LINE. SILT FENCE AND TREE PROTECTION FENCE SHALL BE OFFSET FROM LIMITS OF DISTURBANCE LINE ON THIS PLAN FOR CLARITY PURPOSES ONLY.

TEMP. SEDIMENT BASIN #3
 DISTURBED AREA = 5.7 ACRES
 STORAGE VOL. REQ'D = (5.7)(1,800) = 10,260 CF
 BASIN IS SIZED FOR ANNUAL CLEANOUT

SEEDING SCHEDULE

FOR SHOULDERS, SIDE DITCHES, SLOPES (MAX 3:1):

DATE	TREATMENT	PLANTING RATE
AUG 15-NOV 1	TALL FESCUE	300 LBS/ACRE
NOV 1-MAR 1	TALL FESCUE & ABRUZZI RYE	300 LBS/ACRE
MAR 1-APR 15	TALL FESCUE	300 LBS/ACRE
APR 15-JUN 30	HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
JUL 1-AUG 15	TALL FESCUE AND BROWNTOP MULET	125 LBS/ACRE (TALL FESCUE) 35 LBS/ACRE (BROWNTOP MULET)
	MULET OR SORGHUM-SUDAN HYBRIDS***	30 LBS/ACRE (SORGHUM-SUDAN HYBRIDS)

TEMP. SEDIMENT BASIN #4
 DISTURBED AREA = 4.0 ACRES
 STORAGE VOL. REQ'D = (4.0)(1,800) = 7,200 CF
 BASIN IS SIZED FOR ANNUAL CLEANOUT

FOR SHOULDERS, SIDE DITCHES, SLOPES (3:1 TO 2:1):

DATE	TREATMENT	PLANTING RATE
MAR 1-JUN 1	SERICEA LESPEDEZA (SCARIFIED) & USE THE FOLLOWING COMBINATIONS	50 LBS/ACRE (SERICEA LESPEDEZA); 120 LBS/ACRE (TALL FESCUE)
MAR 1-APR 15	ADD TALL FESCUE	10 LBS/ACRE
MAR 1-JUN 30	OR ADD WEeping LOVE GRASS	10 LBS/ACRE
MAR 1-JUN 30	OR ADD HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
JUN 1-SEPT 1	TALL FESCUE AND BROWNTOP MULET OR SORGHUM-SUDAN HYBRIDS***	120 LBS/ACRE (TALL FESCUE) 35 LBS/ACRE (BROWNTOP MULET); 30 LBS/ACRE (SORGHUM-SUDAN HYBRIDS)
SEPT 1-MAR 1	SERICEA LESPEDEZA (UNHULLED - UNSCARIFIED) AND TALL FESCUE	70 LBS/ACRE (SERICEA LESPEDEZA) 120 LBS/ACRE (TALL FESCUE)
NOV 1-MAR 1	AND ABRUZZI RYE	25 LBS/ACRE

TEMP. SEDIMENT BASIN #5
 DISTURBED AREA = 4.0 ACRES
 STORAGE VOL. REQ'D = (4.0)(1,800) = 7,200 CF
 BASIN IS SIZED FOR ANNUAL CLEANOUT

THE ABOVE VEGETATION RATES ARE THOSE THAT DO UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE. * TEMPORARY: RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW MORE THAN 12" IN HEIGHT BEFORE MOWING; OTHERWISE, FESCUE MAY BE SHADED OUT.**

TOWN OF KNIGHTDALE STOCKPILE REQUIREMENTS

EFFECTIVE SEPTEMBER 1, 2008
 SOIL STOCKPILES SHALL BE LOCATED ON THE APPROVED PLAN AND SHALL ADHERE TO THE FOLLOWING REQUIREMENTS:

SEEDBED PREPARATION

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- RIP THE ENTIRE AREA TO SIX INCHES DEEP.
- REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIME, FERTILIZER AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL. (SEE MIXTURE BELOW).
- CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.
- SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDING AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL FERTILIZER AND SEEDING RATES.
- CONSULT SAEC ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

TOWN OF KNIGHTDALE STABILIZATION GUIDELINES

3:1 AND FLATTER - GRASS
3:1 TO 2:1 SLOPE - ADAPTIVE PLANTS (SHRUBS AND VINES)
2:1 TO 1.5:1 - RIP RAP
STEEPER THAN 1.5:1 - RETAINING WALL

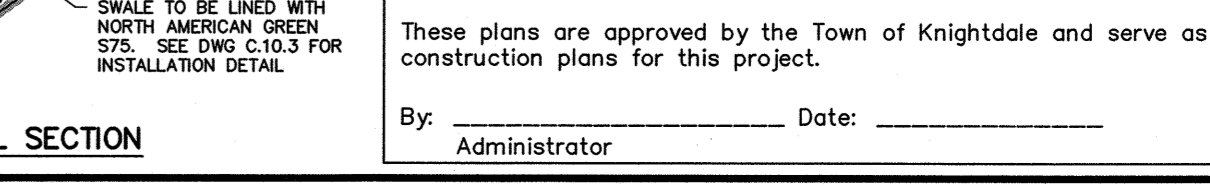
Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

By: _____ Date: _____
 Administrator

TEMPORARY DIVERSION DITCH CALCULATIONS

DITCH #	SLOPE (%)	MIN. DITCH WIDTH (FT.)	MIN. DITCH DEPTH (FT.)	DITCH SIDE SLOPES	Q2 FLOW (CFS)	Q2 FLOW DEPTH (FT.)	DITCH LINER
1	5.0	1	2	3:1	4.58	0.43	NAG D575
2	2.0	2	2	3:1	12.30	0.74	NAG D575
3	2.0	2	2	3:1	9.71	0.66	NAG D575
4	2.0	2	2	3:1	11.94	0.73	NAG D575
5	3.0	2	2	3:1	7.45	0.53	NAG D575
6	4.0	2	2	3:1	2.41	0.27	NAG D575



OLD MILBURNIE RD
 (SR 2217 - 60' PUBLIC R/W)
 PATRICK H. SIMMONS
 1304 OLD MILBURNIE RD
 DB/PG 17050/1486
 ZONING: RURAL TRANSITION
 PIN: 1734-87-3051
 7.00 AC. (DEED)
 USE: AGRICULTURE

EX. 60' ACCESS EASEMENT (DB 18857, PG 429)
 EX. 40' SANITARY SEWER EASEMENT (DB 12788, PG 1065)
 EX. 18" PVC SA
 EX. 40' SANITARY SEWER EASEMENT (DB 11676, PG 39)
 EX. LAKE
 MILBURNIE FISHING CLUB
 1308 OLD MILBURNIE RD
 DB/PG 2819/749
 PIN: 1734-97-7564
 46.17 AC. (DEED)
 USE: CLUB HSE

EX. 30' SANITARY SEWER EASEMENT (DB 18857, PG 934)
 500-YEAR FLOODPLAIN (EFFECTIVE)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

EX. 30' SANITARY SEWER EASEMENT (DB 18857, PG 934)
 500-YEAR FLOODPLAIN (EFFECTIVE)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

JOYCE E. ADAMS O'COFFEY ST.
 DB/PG 203/00-E
 BM/PG 1973/249
 ZONING: RURAL TRANSITION
 PIN: 1734-86-6384
 7.83 AC.
 USE: VACANT

EX. 30' ACCESS EASEMENT (BM 2003, PG 384)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

COFFEY ST.
 (SR 2292 - PUBLIC R/W VARIES)
 PUBLIC R/W APPROX.
 END OF STATE MAINTENANCE
 RICHARD J. STIRONK & JOHANNA STIRONK
 5828 COFFEY ST
 DB/PG 10169/471
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-7506
 0.56 AC.
 USE: SINGLE FAMILY

ROSEMARY A. PEACOCK
 5832 COFFEY ST
 DB/PG 6533/845
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-8524
 0.56 AC.
 USE: SINGLE FAMILY

DEBBIE L. WHITLEY
 5836 COFFEY ST
 DB/PG 5098/238
 BM/PG 1962/98
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-9532
 0.46 AC.
 USE: SINGLE FAMILY

LEDGER & JUDY EDWARDS
 5840 COFFEY ST
 DB/PG 1896/603
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-9532
 0.46 AC. (DEED)
 USE: SINGLE FAMILY

EX. 40' SANITARY SEWER EASEMENT (DB 12788, PG 1065)
 EX. 18" PVC SA
 EX. 40' SANITARY SEWER EASEMENT (DB 11676, PG 39)
 EX. LAKE
 MILBURNIE FISHING CLUB
 1308 OLD MILBURNIE RD
 DB/PG 2819/749
 PIN: 1734-97-7564
 46.17 AC. (DEED)
 USE: CLUB HSE

EX. 30' SANITARY SEWER EASEMENT (DB 18857, PG 934)
 500-YEAR FLOODPLAIN (EFFECTIVE)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

EX. 30' SANITARY SEWER EASEMENT (DB 18857, PG 934)
 500-YEAR FLOODPLAIN (EFFECTIVE)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

JOYCE E. ADAMS O'COFFEY ST.
 DB/PG 203/00-E
 BM/PG 1973/249
 ZONING: RURAL TRANSITION
 PIN: 1734-86-6384
 7.83 AC.
 USE: VACANT

EX. 30' ACCESS EASEMENT (BM 2003, PG 384)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

COFFEY ST., S.R. 2292
 PUBLIC R/W APPROX.
 END OF STATE MAINTENANCE
 RICHARD J. STIRONK & JOHANNA STIRONK
 5828 COFFEY ST
 DB/PG 10169/471
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-7506
 0.56 AC.
 USE: SINGLE FAMILY

ROSEMARY A. PEACOCK
 5832 COFFEY ST
 DB/PG 6533/845
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-8524
 0.56 AC.
 USE: SINGLE FAMILY

DEBBIE L. WHITLEY
 5836 COFFEY ST
 DB/PG 5098/238
 BM/PG 1962/98
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-9532
 0.46 AC.
 USE: SINGLE FAMILY

LEDGER & JUDY EDWARDS
 5840 COFFEY ST
 DB/PG 1896/603
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-9532
 0.46 AC. (DEED)
 USE: SINGLE FAMILY

DERICK & KRISTEN REMP
 5849 FARMWELL RD
 DB/PG 17328/1614
 BM/PG 1961/54
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-95-3339
 0.53 AC. (DEED)
 USE: SINGLE FAMILY

EX. 40' SANITARY SEWER EASEMENT (DB 12788, PG 1065)
 EX. 18" PVC SA
 EX. 40' SANITARY SEWER EASEMENT (DB 11676, PG 39)
 EX. LAKE
 MILBURNIE FISHING CLUB
 1308 OLD MILBURNIE RD
 DB/PG 2819/749
 PIN: 1734-97-7564
 46.17 AC. (DEED)
 USE: CLUB HSE

EX. 30' SANITARY SEWER EASEMENT (DB 18857, PG 934)
 500-YEAR FLOODPLAIN (EFFECTIVE)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

EX. 30' SANITARY SEWER EASEMENT (DB 18857, PG 934)
 500-YEAR FLOODPLAIN (EFFECTIVE)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

JOYCE E. ADAMS O'COFFEY ST.
 DB/PG 203/00-E
 BM/PG 1973/249
 ZONING: RURAL TRANSITION
 PIN: 1734-86-6384
 7.83 AC.
 USE: VACANT

EX. 30' ACCESS EASEMENT (BM 2003, PG 384)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

COFFEY ST., S.R. 2292
 PUBLIC R/W APPROX.
 END OF STATE MAINTENANCE
 RICHARD J. STIRONK & JOHANNA STIRONK
 5828 COFFEY ST
 DB/PG 10169/471
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-7506
 0.56 AC.
 USE: SINGLE FAMILY

ROSEMARY A. PEACOCK
 5832 COFFEY ST
 DB/PG 6533/845
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-8524
 0.56 AC.
 USE: SINGLE FAMILY

DEBBIE L. WHITLEY
 5836 COFFEY ST
 DB/PG 5098/238
 BM/PG 1962/98
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-9532
 0.46 AC.
 USE: SINGLE FAMILY

LEDGER & JUDY EDWARDS
 5840 COFFEY ST
 DB/PG 1896/603
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-9532
 0.46 AC. (DEED)
 USE: SINGLE FAMILY

DERICK & KRISTEN REMP
 5849 FARMWELL RD
 DB/PG 17328/1614
 BM/PG 1961/54
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-95-3339
 0.53 AC. (DEED)
 USE: SINGLE FAMILY

EX. 40' SANITARY SEWER EASEMENT (DB 12788, PG 1065)
 EX. 18" PVC SA
 EX. 40' SANITARY SEWER EASEMENT (DB 11676, PG 39)
 EX. LAKE
 MILBURNIE FISHING CLUB
 1308 OLD MILBURNIE RD
 DB/PG 2819/749
 PIN: 1734-97-7564
 46.17 AC. (DEED)
 USE: CLUB HSE

EX. 30' SANITARY SEWER EASEMENT (DB 18857, PG 934)
 500-YEAR FLOODPLAIN (EFFECTIVE)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

EX. 30' SANITARY SEWER EASEMENT (DB 18857, PG 934)
 500-YEAR FLOODPLAIN (EFFECTIVE)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

JOYCE E. ADAMS O'COFFEY ST.
 DB/PG 203/00-E
 BM/PG 1973/249
 ZONING: RURAL TRANSITION
 PIN: 1734-86-6384
 7.83 AC.
 USE: VACANT

EX. 30' ACCESS EASEMENT (BM 2003, PG 384)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

COFFEY ST., S.R. 2292
 PUBLIC R/W APPROX.
 END OF STATE MAINTENANCE
 RICHARD J. STIRONK & JOHANNA STIRONK
 5828 COFFEY ST
 DB/PG 10169/471
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-7506
 0.56 AC.
 USE: SINGLE FAMILY

ROSEMARY A. PEACOCK
 5832 COFFEY ST
 DB/PG 6533/845
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-8524
 0.56 AC.
 USE: SINGLE FAMILY

DEBBIE L. WHITLEY
 5836 COFFEY ST
 DB/PG 5098/238
 BM/PG 1962/98
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-9532
 0.46 AC.
 USE: SINGLE FAMILY

LEDGER & JUDY EDWARDS
 5840 COFFEY ST
 DB/PG 1896/603
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-85-9532
 0.46 AC. (DEED)
 USE: SINGLE FAMILY

DERICK & KRISTEN REMP
 5849 FARMWELL RD
 DB/PG 17328/1614
 BM/PG 1961/54
 ZONING: GENERAL RESIDENTIAL
 PIN: 1734-95-3339
 0.53 AC. (DEED)
 USE: SINGLE FAMILY

EX. 40' SANITARY SEWER EASEMENT (DB 12788, PG 1065)
 EX. 18" PVC SA
 EX. 40' SANITARY SEWER EASEMENT (DB 11676, PG 39)
 EX. LAKE
 MILBURNIE FISHING CLUB
 1308 OLD MILBURNIE RD
 DB/PG 2819/749
 PIN: 1734-97-7564
 46.17 AC. (DEED)
 USE: CLUB HSE

EX. 30' SANITARY SEWER EASEMENT (DB 18857, PG 934)
 500-YEAR FLOODPLAIN (EFFECTIVE)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

EX. 30' SANITARY SEWER EASEMENT (DB 18857, PG 934)
 500-YEAR FLOODPLAIN (EFFECTIVE)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

JOYCE E. ADAMS O'COFFEY ST.
 DB/PG 203/00-E
 BM/PG 1973/249
 ZONING: RURAL TRANSITION
 PIN: 1734-86-6384
 7.83 AC.
 USE: VACANT

EX. 30' ACCESS EASEMENT (BM 2003, PG 384)
 ROLLED EROSION CONTROL PRODUCT (NORTH AMERICAN GREEN S75)
 SILT FENCE OUTLET PROTECTION AT LOW POINT IN FENCE, TYP.

OLD MILBURNIE RD
(SR 2217 - PUBLIC 60' RW)

PATRICK H. SIMMONS
1304 OLD MILBURNIE RD
DB/PG 17050/1486
ZONING: RURAL
TRANSITION
PIN: 1734-87-3051
7.00 AC. (DEED)
USE: AGRICULTURE

EX. 60' ACCESS EASEMENT
(DB 18857, PG 429)

X(FUTURE)

EX. LAKE

MILBURNIE FISHING CLUB
1308 OLD MILBURNIE RD
DB/PG 2819/749
PIN: 1734-97-7564
46.17 AC. (DEED)
USE: CLUB HSE

EX. 40' SANITARY
SEWER EASEMENT
(DB 11676, PG 39)

EX. 30' SANITARY
SEWER EASEMENT
(DB 18857, PG 934)

500-YEAR
FLOODPLAIN
(EFFECTIVE)

JOYCE E. ADAMS
0 COFFEY ST.
DB/PG 203/00-E-
BM/PG 1973/249
ZONING: RURAL TRANSITION
PIN: 1734-86-6384
7.83 AC.
USE: VACANT

EX. STREAM

EX. 30' ACCESS EASEMENT
(BM 2003, PG 384)

COFFEY ST., S.R. 2292
PUBLIC R/W APPROX.
END OF STATE MAINTENANCE

RICHARD J. STRONEK &
JOHANNA STRONEK
5828 COFFEY ST
DB/PG 10169/471
ZONING: GENERAL RESIDENTIAL
PIN: 1734-85-7506
0.56 AC.
USE: SINGLE FAMILY

ROSEMARY A. PEACOCK
5832 COFFEY ST
DB/PG 6533/845
ZONING: GENERAL RESIDENTIAL
PIN: 1734-85-8524
0.56 AC.
USE: SINGLE FAMILY

DEBBIE L. WHITLEY
5838 COFFEY ST
DB/PG 5098/208
BM/PG 1962/98
ZONING: GENERAL RESIDENTIAL
PIN: 1734-85-9532
0.46 AC.
USE: SINGLE FAMILY

LEDGER & JUDY EDWARDS
5840 COFFEY ST
DB/PG 1896/603
ZONING: GENERAL RESIDENTIAL
PIN: 1734-95-0570
0.46 AC. (DEED)
USE: SINGLE FAMILY

MICHAEL & SHEILA PERRY
5845 FARMWELL RD
DB/PG 4414/465
BM/PG 1961/54
ZONING: GENERAL RESIDENTIAL
PIN: 1734-95-2336
0.59 AC. (DEED)
USE: SINGLE FAMILY

DERRICK & KRISTEN KEMP
5849 FARMWELL RD
DB/PG 17328/1614
BM/PG 1961/54
ZONING: GENERAL RESIDENTIAL
PIN: 1734-95-3339
0.58 AC. (DEED)
USE: SINGLE FAMILY

COFFEY ST
(SR 2292 - PUBLIC R/W VARIES)

EX. R/W

FARMWELL RD
(SR 2946 - PUBLIC R/W VARIES)

WESTOVER DR
(SR 2688 - 60' PUBLIC R/W)

KNIGHTDALE BLVD - HWY 64
(PUBLIC R/W VARIES)

CHARVOZ CIRCLE

BUILDING #2
(221,363 SF)

LOT 1
50.53 ACRES

BUILDING #1
(289,632 SF)

LOT 2
OPEN SPACE
1.71 ACRES

WET POND

EX. POND

WILLIAM WADE ADAMS
829 CHARVOZ CIR
ZONING: RURAL
TRANSITION
PIN: 1744-06-6227
17.12 AC. (DEED)
USE: VACANT

CLAYTON W. ADAMS
ANN ROGERS ADAMS
817 CHARVOZ CIR
DB/PG 5472/627
BM/PG 1992/1282
ZONING: RURAL TRANSITION
PIN: 1744-05-5727
2.46 AC. (DEED)
USE: SINGLE FAMILY

AMY C. JACKSON
809 CHARVOZ CIRCLE
DB/PG 14162/600
BM/PG 1992/1282
ZONING: RURAL TRANSITION
PIN: 1744-05-4378
1.97 AC. (DEED)
USE: SINGLE FAMILY

AMY ADAMS JACKSON
5909 FARMWELL RD.
DB/PG 13-472254
ZONING: RURAL
TRANSITION
PIN: 1744-05-2574
2.69 AC. (DEED)
USE: SINGLE FAMILY

TREE LEGEND

- ALLEE CHINESE ELM (UP)
- RED MAPLE (AR)
- SUGAR MAPLE (AS)
- SAWTOOTH OAK (QA)
- AMERICAN HORNBEAM (AH)

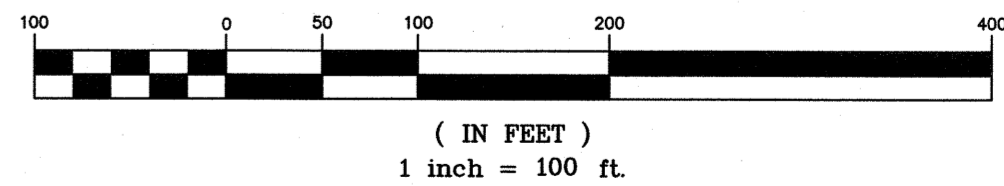
LANDSCAPE NOTES

- AT TIME OF INSTALLATION, CANOPY TREES SHALL BE A MINIMUM OF 2" CALIPER AND 8' IN HEIGHT; UNDERSTORY TREES SHALL BE A MINIMUM OF 1 1/4" CALIPER AND 6' IN HEIGHT, AND SHRUBS SHALL BE AT LEAST 18" IN HEIGHT AND A 3 GALLON CONTAINER SIZE.
- ANY ABOVE GROUND UTILITIES HAVE TO BE SCREENED IN ACCORDANCE WITH UDO SECTION 8.7.
- 40-60% OF CANOPY TREES AND 40-60% OF UNDERSTORY TREES HAVE TO BE EVERGREEN PER UDO SECTION 8.8.

LEGEND

- Iron Pipe Found
- Calculated Point
- Railroad Spike
- Buffer Yard 'D' Replanted Area
- Existing Tree Cover Area
- Type A Buffer Yard (UDO 8.7.A.1)
- Pollinator Garden
- Tree Replacement Area
- Ex. Fence Line
- Ex. Property Line
- Property Line
- Tree Protection Fence
- Ex. Wetlands

GRAPHIC SCALE



ZMA-16-21

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

By: _____ Date: _____
Administrator

PLAN PREPARED BY:

ADVANCED CIVIL DESIGN
ENGINEERS SURVEYORS

51 Kinsinger Drive, Suite 105
Cary, North Carolina 27511
PH: 919.481.6899
FX: 919.336.5327

PLAN PREPARED FOR:

BEACON PARTNERS
500 East Morehead St.
Charlotte, North Carolina 28269
Tel: 704.597.7717
Fax: 704.598.6312

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

**KNIGHTDALE GATEWAY
CONSTRUCTION PLAN**
FOR
BEACON PARTNERS

OVERALL LANDSCAPE PLAN

03/20/2023

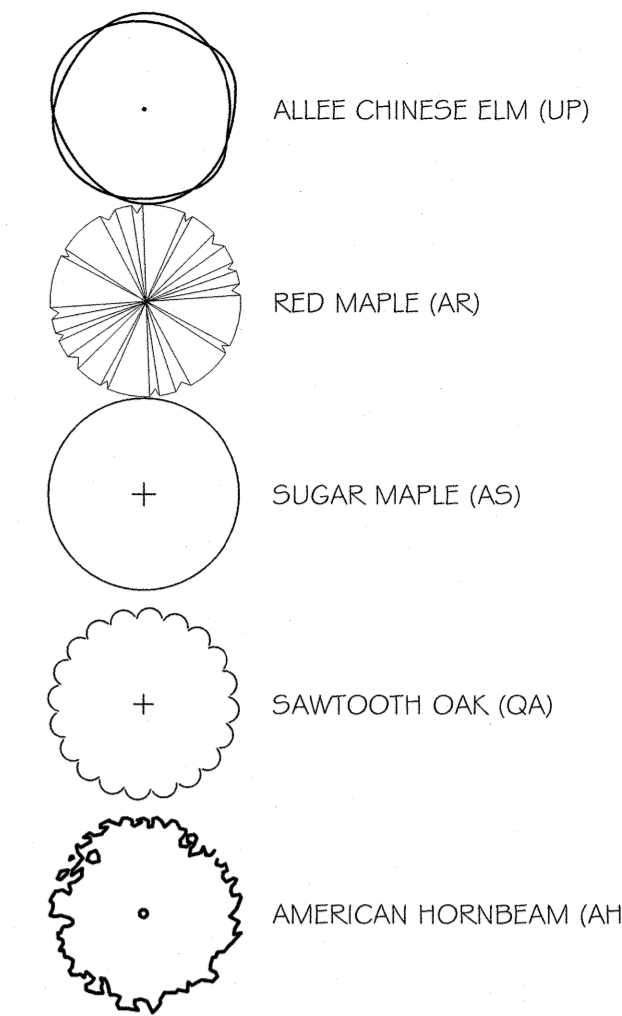
Issue Dates:	09/20/2022 - Construction Plan Submittal #1	Date:	03/20/2023
	11/11/2022 - Construction Plan Submittal #2	Scale:	1" = 100'
	12/22/2022 - Construction Plan Submittal #3	Drawn By:	AMK
	02/10/2023 - Construction Plan Submittal #4	Checked By:	JRR
	03/03/2023 - Construction Plan Submittal #5	Project Number:	21-0011-504
	03/20/2023 - Construction Plan Signature Set	Drawing Number:	C.7.0

MATCHLINE - SEE SHEET C.7.2

LOT 1
50.53 ACRES

BUILDING #1
(289,632 SF)
1,100'x260'

TREE LEGEND



MEDIAN PLANTING REQUIREMENTS

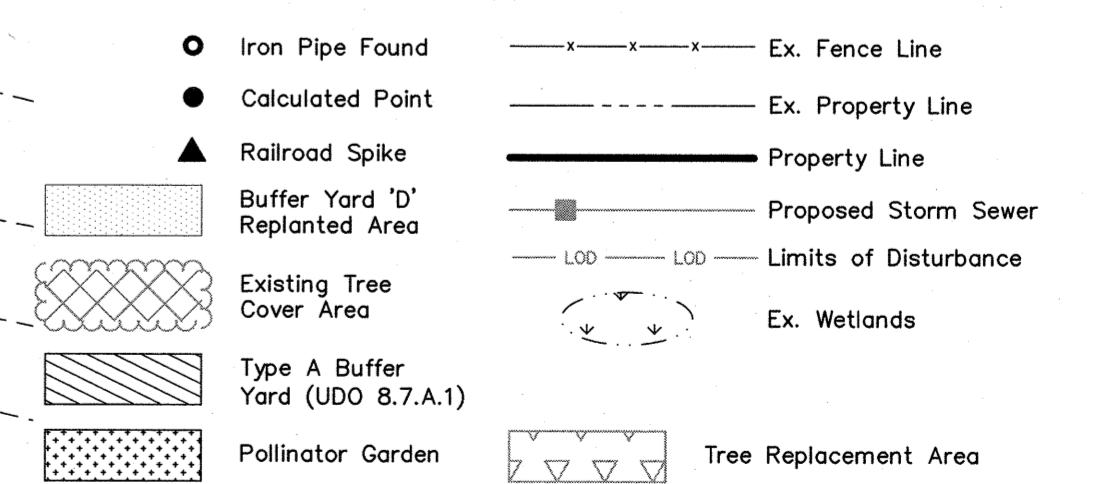
Table with 3 columns: 16' LANDSCAPE MEDIAN, 16 FEET MINIMUM WIDTH, 588 TOTAL LF IN MEDIAN LANDSCAPE AREA. Includes requirements for understory trees, shrubs, and canopy trees.

BUFFER YARD REQUIREMENTS

Table with 2 columns: BUFFER YARD TYPE 'A', BUFFER YARD TYPE 'D'. Includes requirements for canopy trees, understory trees, shrubs, and total LF.

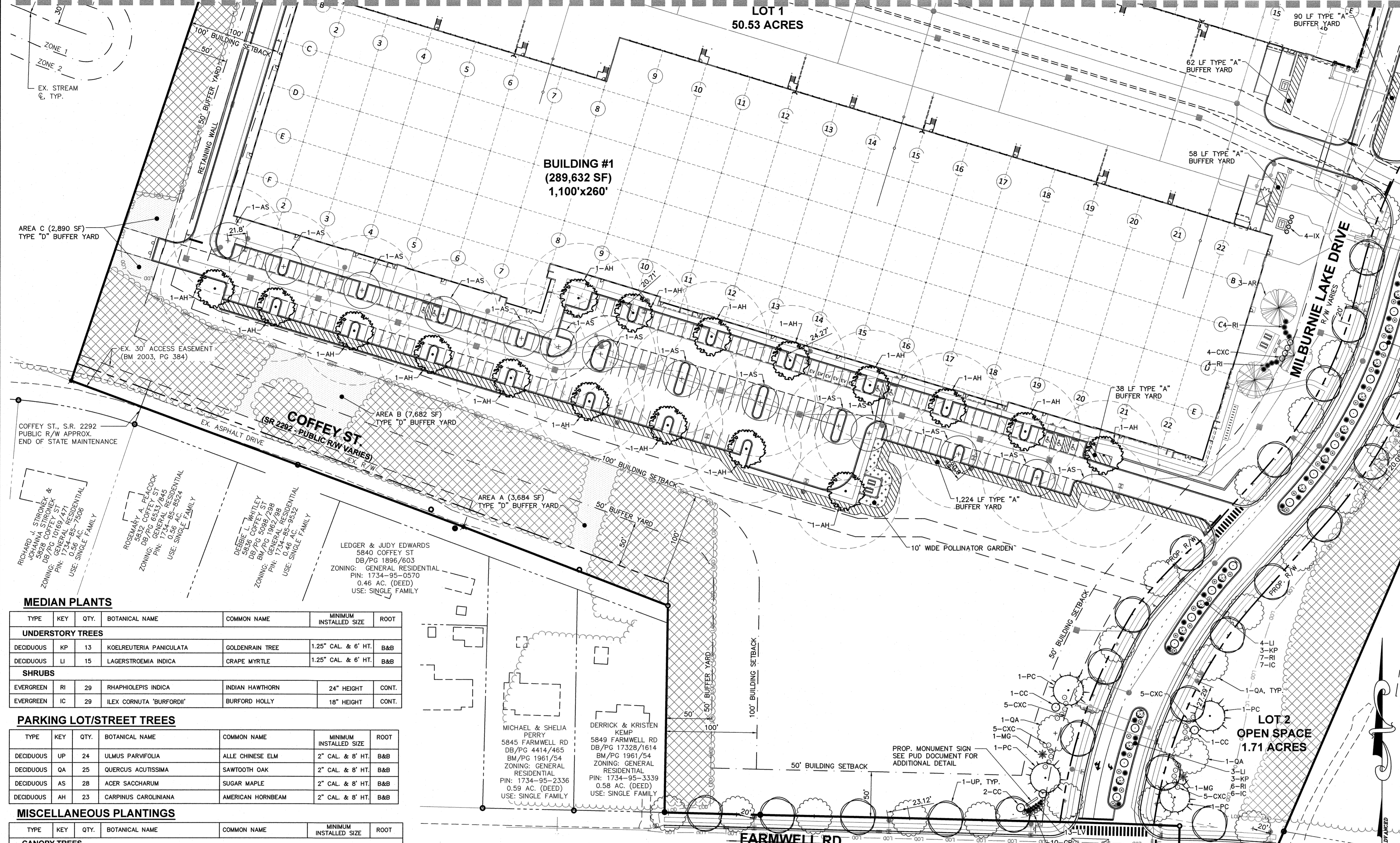
NOTE: THE ABOVE TYPE 'D' BUFFER CALCULATIONS ASSUME EXISTING TREE SAVE AREAS MEET THE MINIMUM PLANTING REQUIREMENTS. IF EXISTING TREE SAVE AREAS SIGNIFICANTLY EXCEED MINIMUM PLANTING REQUIREMENTS IT IS POSSIBLE THE ADDITIONAL PLANTINGS WOULD NOT BE REQUIRED. PLEASE SCHEDULE AN INSPECTION WITH THE TOWN PLANNER TO CONFIRM PRIOR TO PLANTING.

LEGEND



LANDSCAPE NOTES

- 1. AT TIME OF INSTALLATION, CANOPY TREES SHALL BE A MINIMUM OF 2" CALIPER AND 8' IN HEIGHT; UNDERSTORY TREES SHALL BE A MINIMUM OF 1 1/4" CALIPER AND 6' IN HEIGHT; AND SHRUBS SHALL BE AT LEAST 18" IN HEIGHT AND A 3 GALLON CONTAINER SIZE.
2. ANY ABOVE GROUND UTILITIES HAVE TO BE SCREENED IN ACCORDANCE WITH UDO SECTION 8.7.
3. 40-60% OF CANOPY TREES AND 40-60% OF UNDERSTORY TREES HAVE TO BE EVERGREEN PER UDO SECTION 8.6.



MEDIAN PLANTS

Table with 6 columns: TYPE, KEY, QTY., BOTANICAL NAME, COMMON NAME, MINIMUM INSTALLED SIZE, ROOT. Lists understory trees and shrubs.

PARKING LOT/STREET TREES

Table with 6 columns: TYPE, KEY, QTY., BOTANICAL NAME, COMMON NAME, MINIMUM INSTALLED SIZE, ROOT. Lists various tree species for parking and street use.

MISCELLANEOUS PLANTINGS

Table with 6 columns: TYPE, KEY, QTY., BOTANICAL NAME, COMMON NAME, MINIMUM INSTALLED SIZE, ROOT. Lists canopy trees, understory trees, and shrubs.

TREE COVER AREA CALCULATIONS

PERIMETER OF SITE: 6,950 FEET
REQUIRED TREE COVER AREA: 6,950 FT X 20 FT = 139,000 SF
REQUIRED AREA % OF TOTAL LOT AREA: 139,000 SF / 2,358,143 SF = 5.89%
EXISTING TREE COVER AREA TO BE UTILIZED: 521,245 SF
ADDITIONAL SPACE REQUIRED: 0 SF
RE-PLANTED AREA REQUIRED: 0 SF
RE-PLANTED AREA PROVIDED: 25,086 SF

TREE REPLACEMENT AREA CALCULATIONS

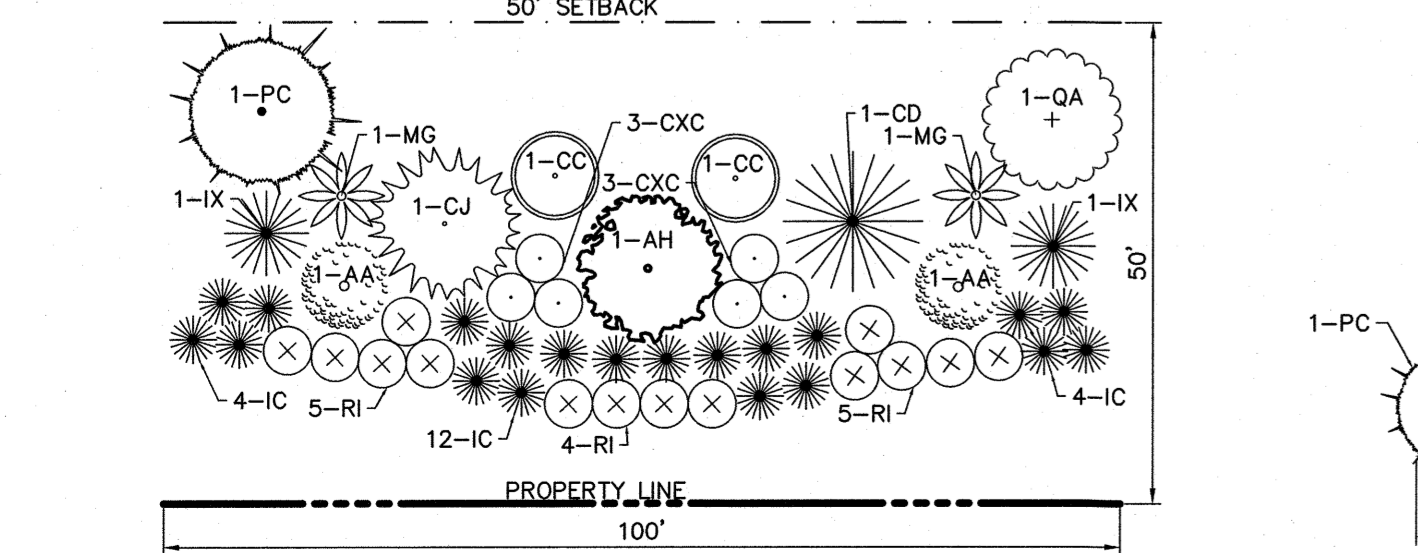
TOTAL TREES TO BE REPLACED (SEE SHEET C.2.1 FOR TREE PROTECTION TABLE): 418
TOTAL TREE REPLACEMENT AREA: 68,749 SF (1.58 AC.)
TREE REPLACEMENT DENSITY: 68,749 SF/418 TREES = 165 SF/TREE
TREE REPLACEMENT AREA #1: 153 TREES
TREE REPLACEMENT AREA #2: 156 TREES
TREE REPLACEMENT AREA #3: 109 TREES
SEE REPLACEMENT TREE TABLE FOR SPECIES OF TREES TO BE PLANTED. SPLIT REPLACEMENT TREES EVENLY BETWEEN EACH TREE REPLACEMENT AREA.

REPLACEMENT TREES

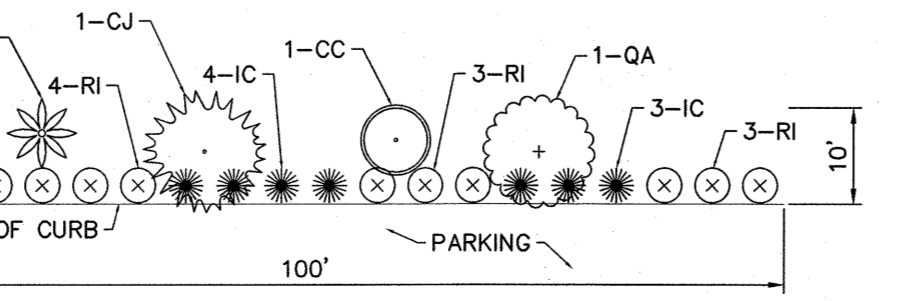
Table with 6 columns: TYPE, KEY, QTY., BOTANICAL NAME, COMMON NAME, MINIMUM INSTALLED SIZE, ROOT. Lists replacement trees like Chinese Pistachio, Laurel Oak, Japanese Cryptomeria, and Southern Magnolia.

BUFFER YARD PLANTS

Table with 6 columns: TYPE, KEY, QTY., BOTANICAL NAME, COMMON NAME, MINIMUM INSTALLED SIZE, ROOT. Lists buffer yard plants including American Hornbeam, Sawtooth Oak, Chinese Pistachio, Decodur Cedar, Japanese Cryptomeria, Downey Serviceberry, Redbud, Southern Magnolia, and Nellie R Stevens Holly.



TYPE "D" BUFFER YARD TYPICAL DETAIL
SCALE: 1" = 20'



10' TYPE "A" BUFFER YARD TYPICAL DETAIL
SCALE: 1" = 20'

PLAN PREPARED BY: ADVANCED CIVIL DESIGN ENGINEERS SURVEYORS

PLAN PREPARED FOR: BEACON PARTNERS

KNIGHTDALE GATEWAY CONSTRUCTION PLAN FOR BEACON PARTNERS LANDSCAPE PLAN

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

Professional Engineer Seal for North Carolina, License No. 045155

03/20/2023

Table with 2 columns: Issue Dates, Construction Plan Submittal #1 through #5.

Date: 03/20/2023

Scale: 1" = 60'

Drawn By: AMK Checked By: JRR

Project Number: 21-0011-504

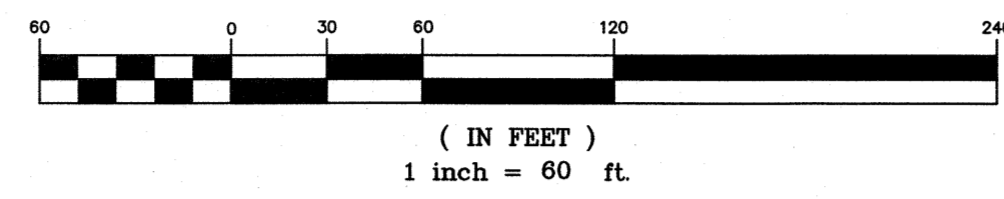
Drawing Number: C.7.1

0_21-0011-504NC\Drawings\Site Construction\001-504NC LANDSCAPE PLAN.dwg LANDSCAPE 1 Mar 20, 2023 11:11:22am Pjwal

LANDSCAPE NOTES

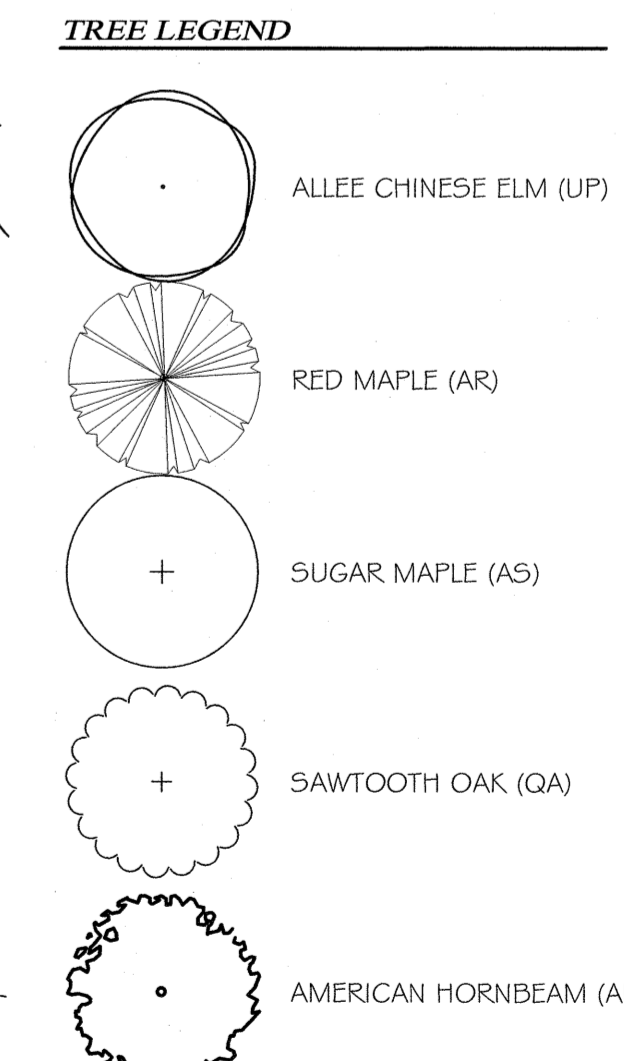
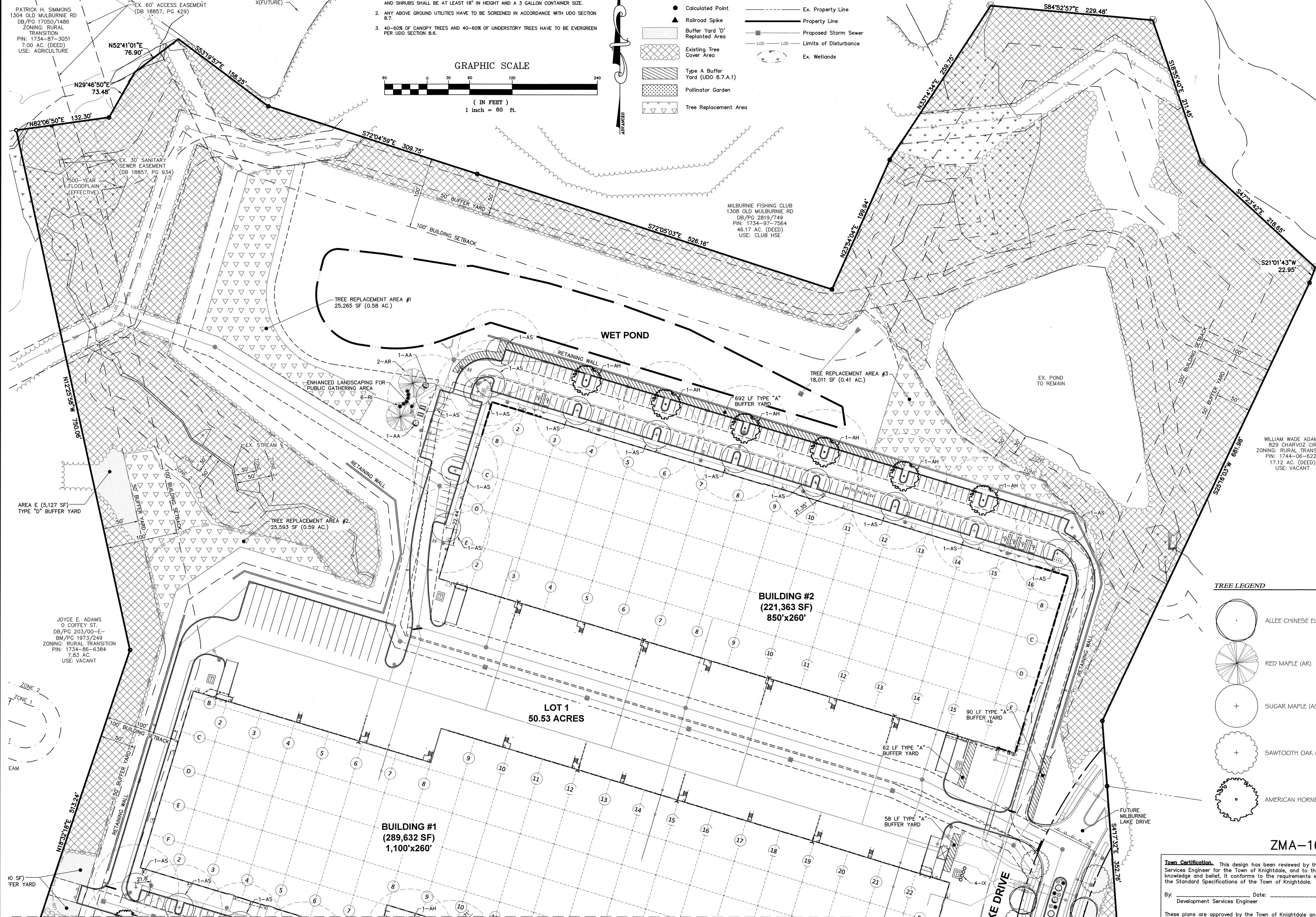
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GRAPHIC SCALE



LEGEND

- Iron Pipe Found
- Calculated Point
- ▲ Railroad Spike
- ▨ Buffer Yard 'D' Replanted Area
- ▩ Existing Tree Cover Area
- ▧ Type A Buffer Yard (UDO 8.7.A.1)
- ▤ Pollinator Garden
- ▥ Tree Replacement Area
- Ex. Fence Line
- - - Ex. Property Line
- Property Line
- Proposed Storm Sewer
- Limits of Disturbance
- Ex. Wetlands



MATCHLINE - SEE SHEET C.7.1

PATRICK H. SIMMONS
1304 OLD MULBURNIE RD
DB/PG 17050/1486
ZONING: RURAL TRANSITION
PIN: 1734-87-3051
7.00 AC. (DEED)
USE: AGRICULTURE

EX. 60' ACCESS EASEMENT
(DB 18857, PG 429)

N52°41'01"E 76.90'

N29°46'50"E 73.48'

N82°06'50"E 132.30'

EX. 30' SANITARY SEWER EASEMENT
(DB 18857, PG 934)

500-YEAR FLOODPLAIN (EFFECTIVE)

EX. STREAM

AREA E (5,127 SF)
TYPE "D" BUFFER YARD

JOYCE E. ADAMS
0 COFFEY ST.
DB/PG 203/00-E
BM/PG 1973/249
ZONING: RURAL TRANSITION
PIN: 1734-86-6384
7.83 AC.
USE: VACANT

ZONE 2
ZONE 1

10 SF FER YARD

N18°30'18"E 513.24'

100' BUILDING SETBACK

50' BUFFER YARD

100' BUILDING SETBACK

50' BUFFER YARD

100' BUILDING SETBACK

50' BUFFER YARD

100' BUILDING SETBACK

50' BUFFER YARD

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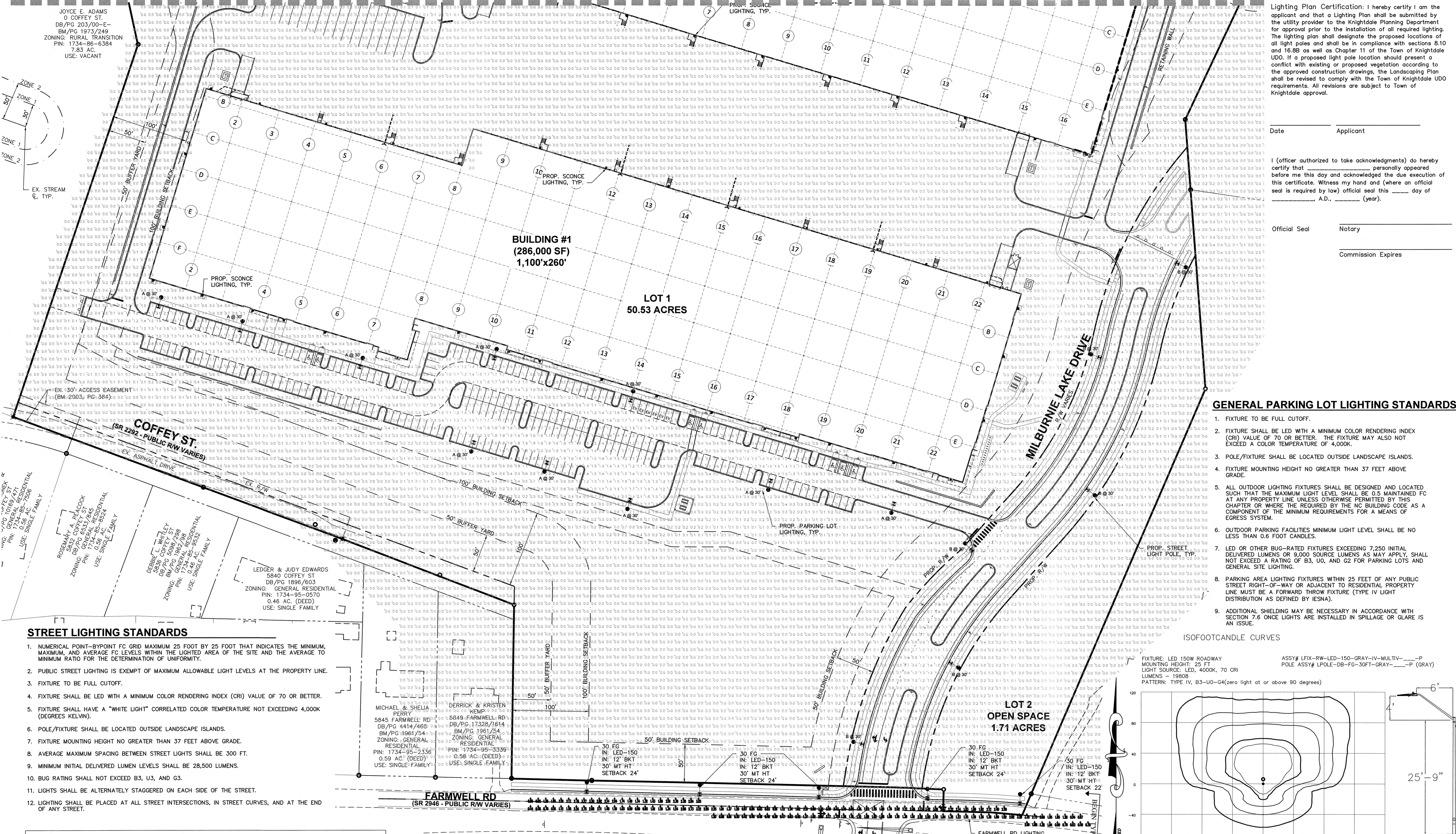
100' BUILDING SETBACK

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50' BUFFER YARD

MATCHLINE - SEE SHEET C.8.1



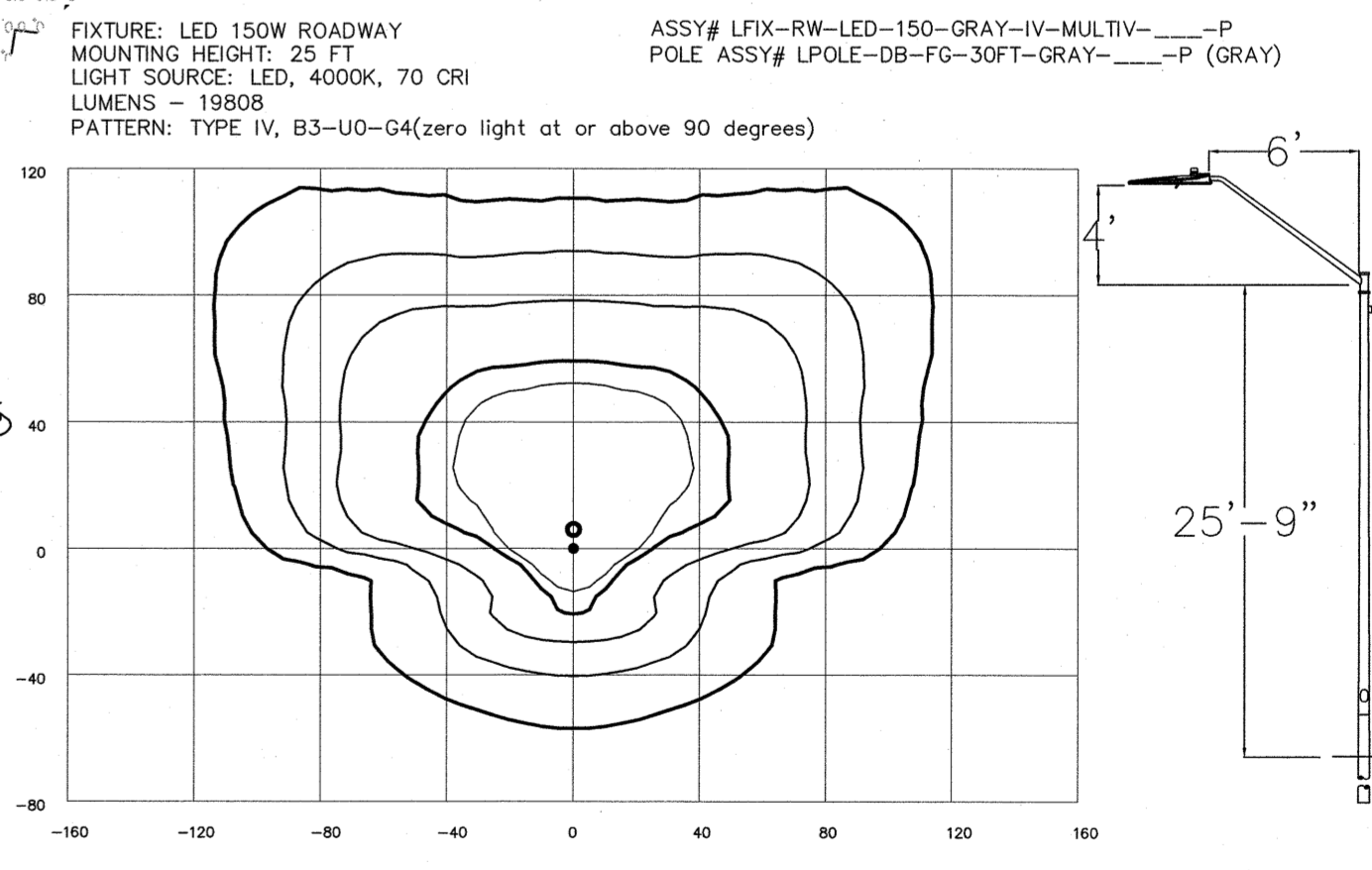
Lighting Plan Certification: I hereby certify I am the applicant and that a Lighting Plan shall be submitted by the utility provider to the Knightdale Planning Department for approval prior to the installation of all required lighting. The lighting plan shall designate the proposed locations of all light poles and shall be in compliance with sections 8.10 and 16.8B as well as Chapter 11 of the Town of Knightdale UDD. If a proposed light pole location should present a conflict with existing or proposed vegetation according to the approved construction drawings, the Landscaping Plan shall be revised to comply with the Town of Knightdale UDD requirements. All revisions are subject to Town of Knightdale approval.

Date: _____ Applicant: _____
 I (officer authorized to take acknowledgments) do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of this certificate. Witness my hand and (where an official seal is required by law) official seal this ____ day of _____ A.D., _____ (year).
 Official Seal: _____ Notary: _____
 Commission Expires: _____

GENERAL PARKING LOT LIGHTING STANDARDS

1. FIXTURE TO BE FULL CUTOFF.
2. FIXTURE SHALL BE LED WITH A MINIMUM COLOR RENDERING INDEX (CRI) VALUE OF 70 OR BETTER. THE FIXTURE MAY ALSO NOT EXCEED A COLOR TEMPERATURE OF 4,000K.
3. POLE/FIXTURE SHALL BE LOCATED OUTSIDE LANDSCAPE ISLANDS.
4. FIXTURE MOUNTING HEIGHT NO GREATER THAN 37 FEET ABOVE GRADE.
5. ALL OUTDOOR LIGHTING FIXTURES SHALL BE DESIGNED AND LOCATED SUCH THAT THE MAXIMUM LIGHT LEVEL SHALL BE 0.5 MAINTAINED FC AT ANY PROPERTY LINE UNLESS OTHERWISE PERMITTED BY THIS CHAPTER OR WHERE THE REQUIRED BY THE NC BUILDING CODE AS A COMPONENT OF THE MINIMUM REQUIREMENTS FOR A MEANS OF EGRESS SYSTEM.
6. OUTDOOR PARKING FACILITIES MINIMUM LIGHT LEVEL SHALL BE NO LESS THAN 0.6 FOOT CANDLES.
7. LED OR OTHER BUG-RATED FIXTURES EXCEEDING 7,250 INITIAL DELIVERED LUMENS OR 9,000 SOURCE LUMENS AS MAY APPLY, SHALL NOT EXCEED A RATING OF B3, U0, AND G2 FOR PARKING LOTS AND GENERAL SITE LIGHTING.
8. PARKING AREA LIGHTING FIXTURES WITHIN 25 FEET OF ANY PUBLIC STREET RIGHT-OF-WAY OR ADJACENT TO RESIDENTIAL PROPERTY LINE MUST BE A FORWARD THROU FIXTURE (TYPE IV LIGHT DISTRIBUTION AS DEFINED BY IESNA).
9. ADDITIONAL SHIELDING MAY BE NECESSARY IN ACCORDANCE WITH SECTION 7.6 ONCE LIGHTS ARE INSTALLED IN SPILLAGE OR GLARE IS AN ISSUE.

ISOFOOTCANDLE CURVES



STREET LIGHTING STANDARDS

1. NUMERICAL POINT-BY-POINT FC GRID MAXIMUM 25 FOOT THAT INDICATES THE MINIMUM, MAXIMUM, AND AVERAGE FC LEVELS WITHIN THE LIGHTED AREA OF THE SITE AND THE AVERAGE TO MINIMUM RATIO FOR THE DETERMINATION OF UNIFORMITY.
2. PUBLIC STREET LIGHTING IS EXEMPT OF MAXIMUM ALLOWABLE LIGHT LEVELS AT THE PROPERTY LINE.
3. FIXTURE TO BE FULL CUTOFF.
4. FIXTURE SHALL BE LED WITH A MINIMUM COLOR RENDERING INDEX (CRI) VALUE OF 70 OR BETTER.
5. FIXTURE SHALL HAVE A "WHITE LIGHT" CORRELATED COLOR TEMPERATURE NOT EXCEEDING 4,000K (DEGREES KELVIN).
6. POLE/FIXTURE SHALL BE LOCATED OUTSIDE LANDSCAPE ISLANDS.
7. FIXTURE MOUNTING HEIGHT NO GREATER THAN 37 FEET ABOVE GRADE.
8. AVERAGE MAXIMUM SPACING BETWEEN STREET LIGHTS SHALL BE 300 FT.
9. MINIMUM INITIAL DELIVERED LUMEN LEVELS SHALL BE 28,500 LUMENS.
10. BUG RATING SHALL NOT EXCEED B3, U3, AND G3.
11. LIGHTS SHALL BE ALTERNATELY STAGGERED ON EACH SIDE OF THE STREET.
12. LIGHTING SHALL BE PLACED AT ALL STREET INTERSECTIONS, IN STREET CURVES, AND AT THE END OF ANY STREET.

Statistics

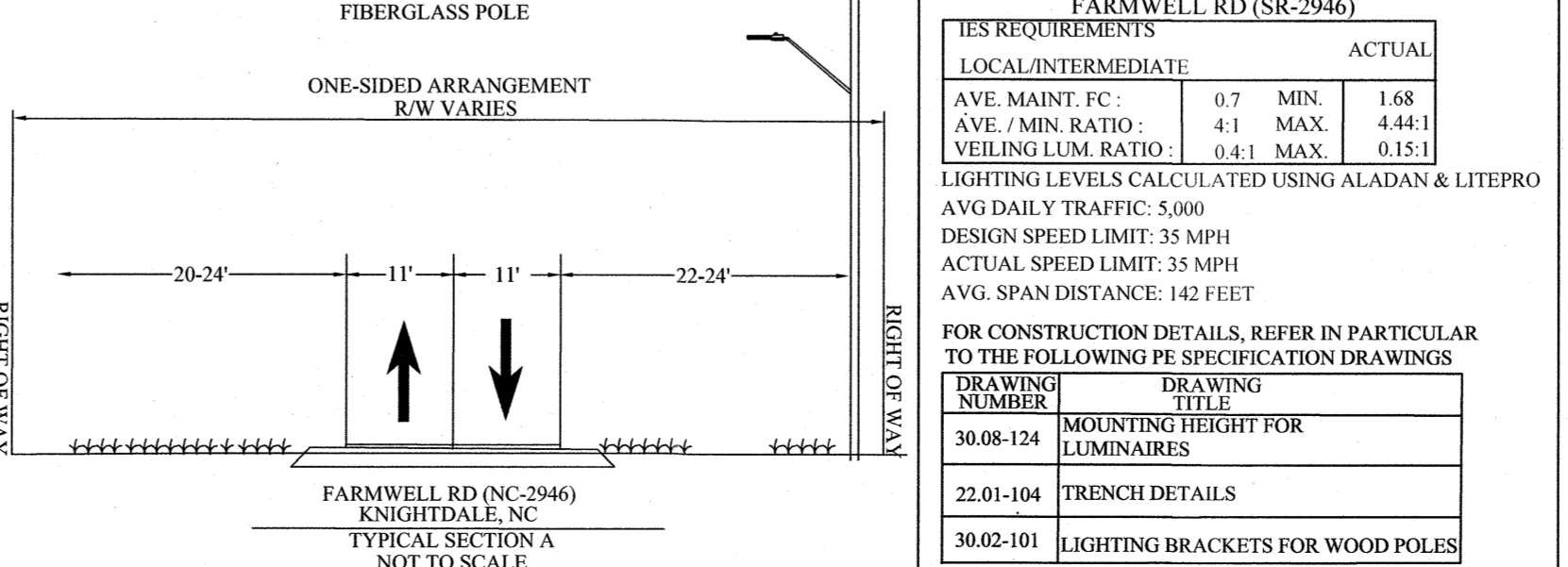
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
North Parking	✕	1.2 fc	3.3 fc	0.5 fc	6.6:1	2.4:1
Road	✕	1.0 fc	2.5 fc	0.3 fc	8.3:1	3.3:1
South Parking	✕	1.2 fc	2.7 fc	0.3 fc	9.0:1	4.0:1

Schedule	Symbol	Label	Quantity	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor
A	✕	A	19	LED 150w Roadway - Type IV - 4000K - Parking	1	19809	0.85
B	✕	B	6	LED 150w Roadway - Type IV - 4000K - Drive	1	19809	0.85

KNIGHTDALE BLVD - HWY 64 (PUBLIC R/W VARIES)

GENERAL NOTES FOR FARMWELL RD LIGHTING

1. LIGHT LEVELS ARE BASED ON A ONE-SIDED ARRANGEMENT ALONG FARMWELL RD (NC-2946).
2. LUMINAIRES WILL BE 1100MM TO TYPE H, 4000K, RECTANGLE PATTERN WITH PHOTOCELLS AND BALLAST, RATED: 20,270 LUMENS 240V.
3. ALL LIGHTING WITH OVERHEAD SERVICE WILL BE INSTALLED ON NEW WOOD POLES LOCATED INSIDE AND OUTSIDE OF ROAD R/W.
4. MOUNTING HEIGHT FOR LIGHTING FIXTURES: 30' WITH 12' BRACKETS ON EXISTING WOOD POLES.
5. ALL POWER SOURCES WILL BE FROM DUKE ENERGY-PROGRESS FACILITIES.
6. ALL CONSTRUCTION WILL COMPLY WITH NESC REQUIREMENTS AND DUKE ENERGY-PROGRESS SPECIFICATIONS. REFER TO THE DUKE ENERGY-PROGRESS DRAWINGS LISTED.
7. THIS IS AN NCDOT ROADWAY. APPROVED NCDOT ENCROACHMENT MUST BE ON-SITE DURING CONSTRUCTION.



DESIGN REQUIREMENTS	LOCAL/INTERMEDIATE	ACTUAL
AVE. MAINT. FC:	0.7 MIN.	1.68
AVE. /MIN. RATIO:	4.1 MAX.	4.44:1
VEILING LUM. RATIO:	0.41 MAX.	0.15:1
LIGHTING LEVELS CALCULATED USING ALADAN & LITEPRO		
AVE. DAILY TRAFFIC: 4,000		
DESIGN SPEED LIMIT: 35 MPH		
ACTUAL SPEED LIMIT: 35 MPH		
AVE. SPAN DISTANCE: 142 FEET		

PLAN PREPARED BY:

 ADVANCED CIVIL DESIGN
 ENGINEERS & ARCHITECTS
 51 Wilshire Drive, Suite 103
 Cary, North Carolina 27511
 PH: 919.484.6590
 FX: 919.336.9127

PLAN PREPARED FOR:

 BEACON PARTNERS
 500 East Morehead St.
 Charlotte, North Carolina 28269
 PH: 704.597.7277
 FX: 704.598.4333

5901 Farmwell Road, Knightdale, NC 27610 - Wake County
KNIGHTDALE GATEWAY CONSTRUCTION PLAN
 FOR
BEACON PARTNERS LIGHTING PLAN

SEAL
 045155

 R. ROY
 PROFESSIONAL ENGINEER
 NORTH CAROLINA

Issue Dates:
 09/20/2022 - Construction Plan Submittal #1
 11/11/2022 - Construction Plan Submittal #2
 12/22/2022 - Construction Plan Submittal #3
 02/10/2023 - Construction Plan Submittal #4
 03/03/2023 - Construction Plan Submittal #5
 03/20/2023 - Construction Plan Signature Set

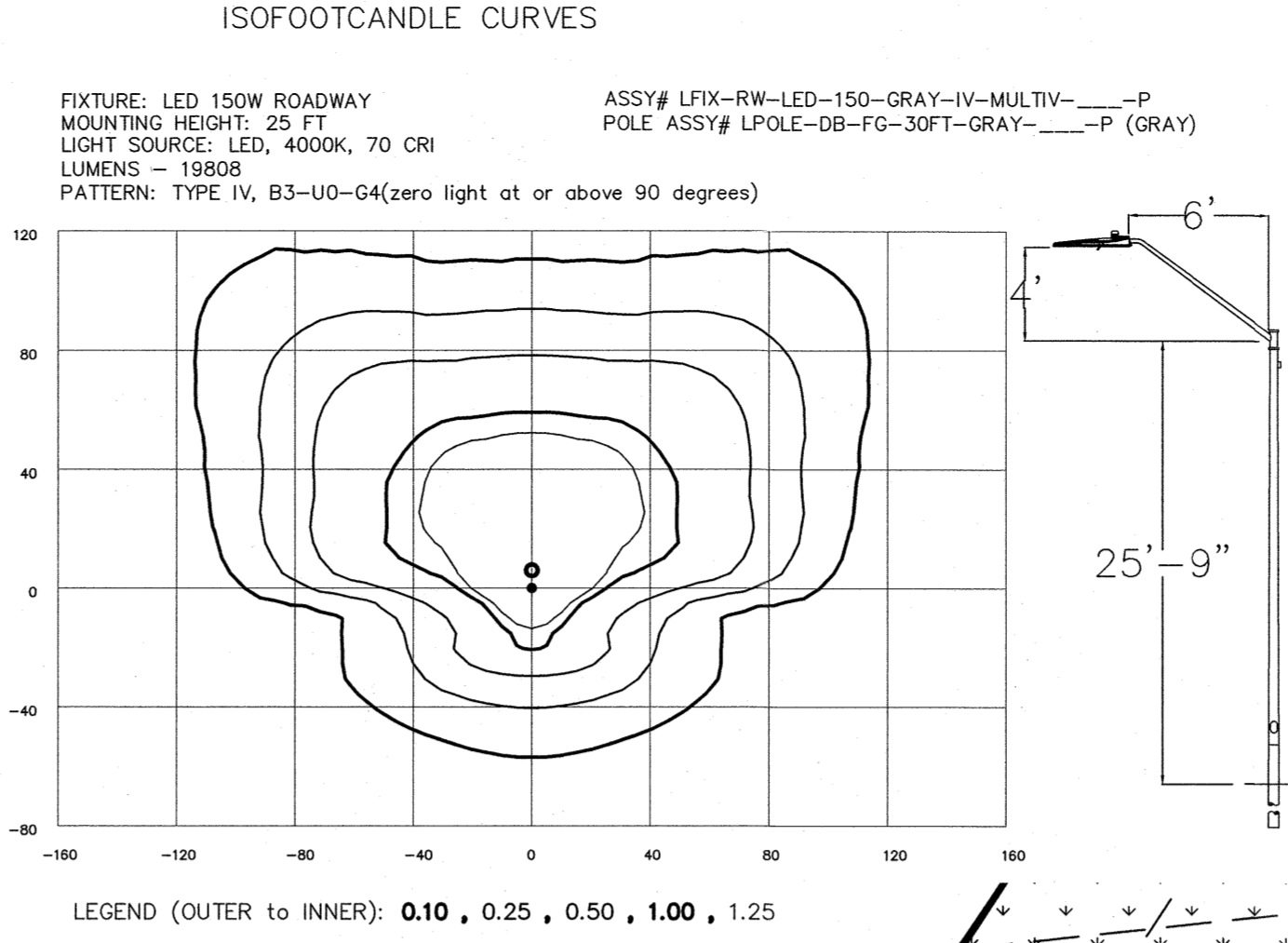
Date: 03/20/2023
 Scale: 1" = 60'

Drawn By: AMK
 Checked By: JRR

Project Number: 21-0011-504
 Drawing Number: C.8.0

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
North Parking	✕	1.2 fc	3.3 fc	0.5 fc	6.6:1	2.4:1
Road	✕	1.0 fc	2.5 fc	0.3 fc	8.3:1	3.3:1
South Parking	✕	1.2 fc	2.7 fc	0.3 fc	9.0:1	4.0:1

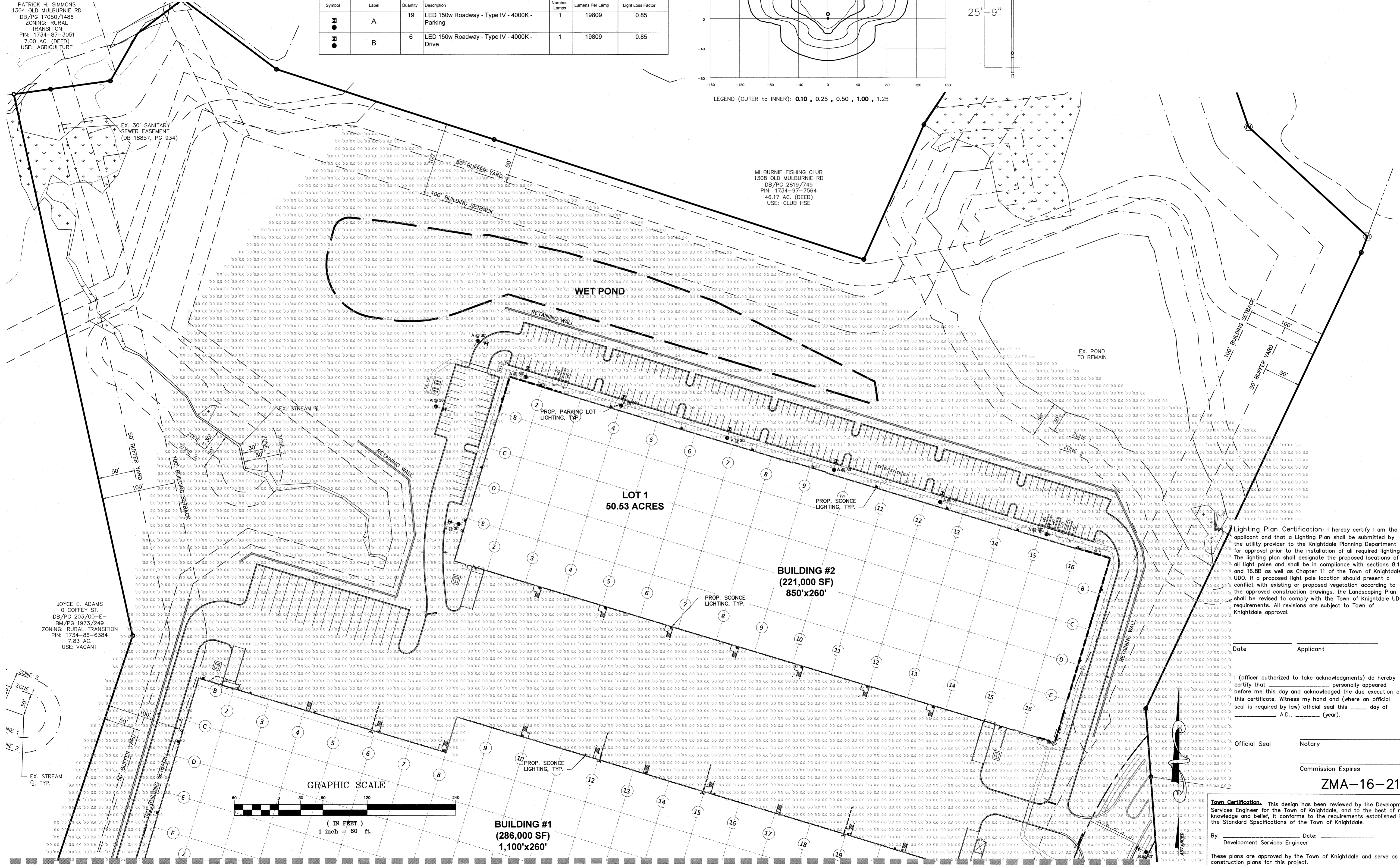
Schedule						
Symbol	Label	Quantity	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor
✕	A	19	LED 150w Roadway - Type IV - 4000K - Parking	1	19809	0.85
✕	B	6	LED 150w Roadway - Type IV - 4000K - Drive	1	19809	0.85



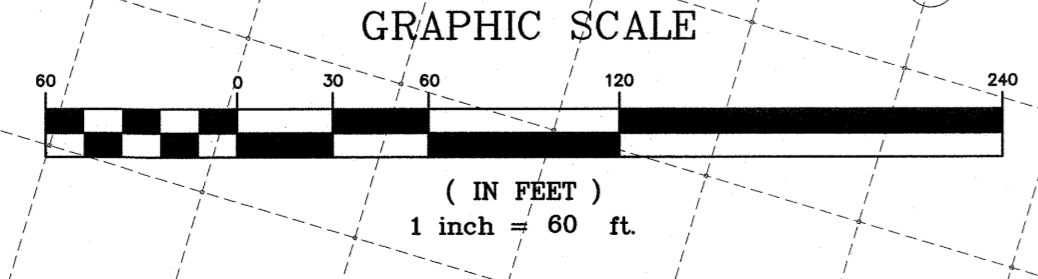
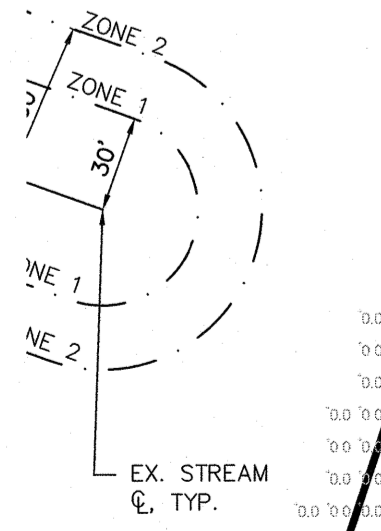
PATRICK H. SIMMONS
1304 OLD MULBURNIE RD
DB/PG 17050/1486
ZONING: RURAL TRANSITION
PIN: 1734-87-3051
7.00 AC. (DEED)
USE: AGRICULTURE

EX. 30' SANITARY SEWER EASEMENT
(DB 18857, PG 934)

MILBURNIE FISHING CLUB
1308 OLD MULBURNIE RD
DB/PG 2819/749
PIN: 1734-97-7564
46.17 AC. (DEED)
USE: CLUB HSE



JOYCE E. ADAMS
O COFFEY ST.
DB/PG 203/00-E
BM/PG 1973/249
ZONING: RURAL TRANSITION
PIN: 1734-86-6384
7.83 AC.
USE: VACANT



BUILDING #1
(286,000 SF)
1,100'x260'

BUILDING #2
(221,000 SF)
850'x260'

MATCHLINE - SEE SHEET C.8.0

Lighting Plan Certification: I hereby certify I am the applicant and that a Lighting Plan shall be submitted by the utility provider to the Knightdale Planning Department for approval prior to the installation of all required lighting. The lighting plan shall designate the proposed locations of all light poles and shall be in compliance with sections 8.10 and 16.8B as well as Chapter 11 of the Town of Knightdale UDO. If a proposed light pole location should present a conflict with existing or proposed vegetation according to the approved construction drawings, the Landscaping Plan shall be revised to comply with the Town of Knightdale UDO requirements. All revisions are subject to Town of Knightdale approval.

Date: _____ Applicant: _____

I, (officer authorized to take acknowledgments) do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of this certificate. Witness my hand and (where an official seal is required by law) official seal this _____ day of _____ A.D., _____ (year).

Official Seal: _____ Notary: _____

Commission Expires: _____

ZMA-16-21

Town Certification: This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

By: _____ Date: _____
Administrator

PLAN PREPARED BY:

51 Kilmeyer Drive, Suite 102
Cary, North Carolina 27511
PH: 919.484.6990
Fax: 919.336.9377

PLAN PREPARED FOR:

500 East Morehead St.
Charlotte, North Carolina 28269
Tel: 704.597.7777
Fax: 704.598.4315

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

**KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
LIGHTING PLAN**

Issue Dates:	09/20/2022 - Construction Plan Submittal #1	11/11/2022 - Construction Plan Submittal #2	12/22/2022 - Construction Plan Submittal #3	02/10/2023 - Construction Plan Submittal #4	03/03/2023 - Construction Plan Submittal #5	03/20/2023 - Construction Plan Signature Set
Date:	03/20/2023					
Scale:	1" = 60'					
Drawn By:	AMK	Checked By:	JRR			
Project Number:	21-0011-504					
Drawing Number:	C.8.1					

savr

E-WPS SERIES
LED Slim Wall Sconce
Replaces Up To 250W MH



Security In An Affordable Box

An affordable option for increasing security at building entrances and around perimeters, our savr E-WPS Series LED Slim Wall Sconce delivers up to 8900 lumens. It features a cULus listing, >80 CRI, and a 5-year warranty. Available in 4000K and 5000K.

Features & Benefits

- Sealed, die-cast aluminum housing is weather-proof to prevent the intrusion of dust and water
- Knockouts provided on both sides and bottom for ease of installation
- Slim design offers a sleek and architectural look

Recommended Use

- Security
- Building Entrances
- Perimeter Lighting

Input Voltage

- Universal (120V through 277V Operation)

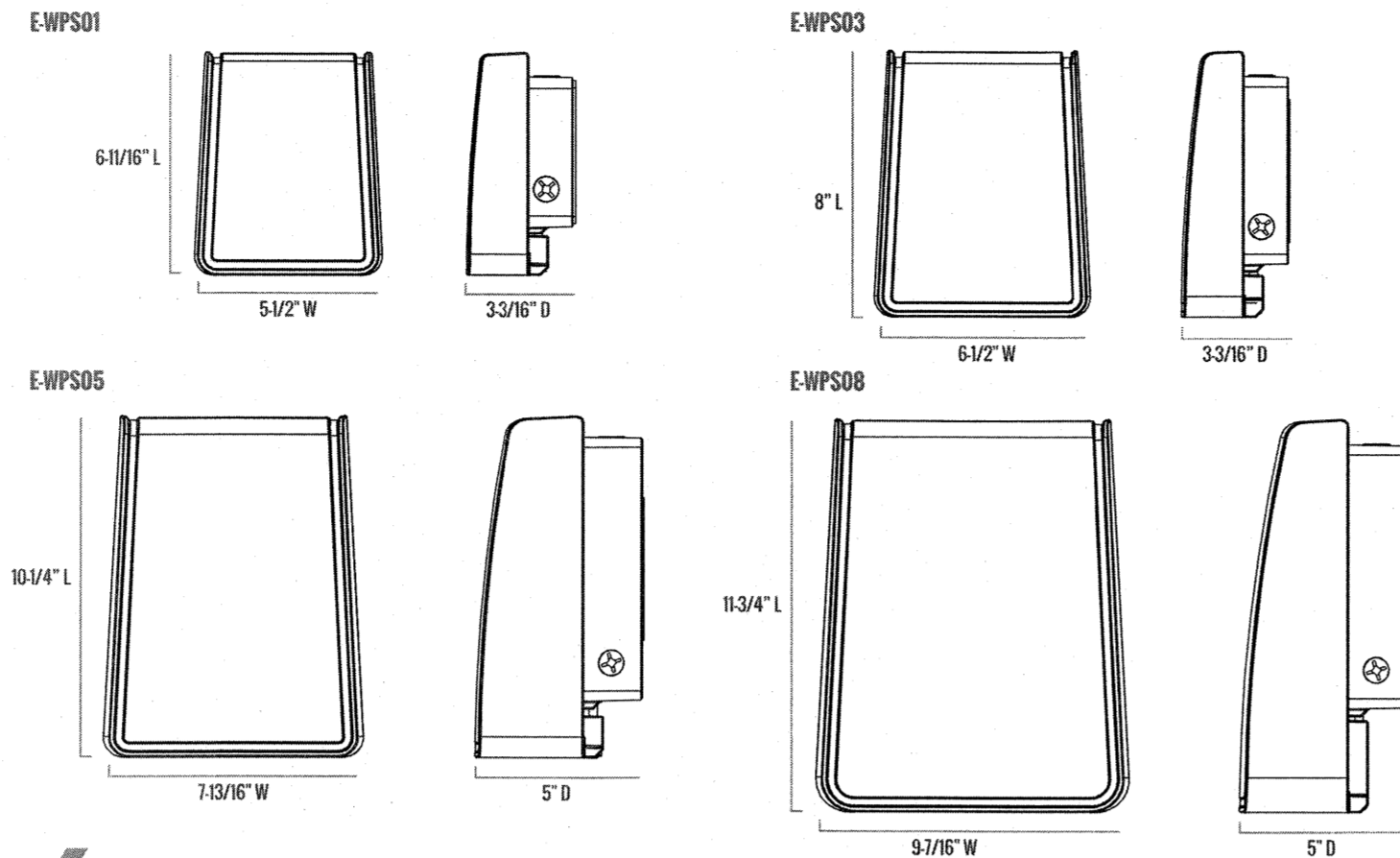
Certifications



WARNING: Consult and Replicate Parts - www.creeled.com

savr

E-WPS SERIES



SERIES OVERVIEW

DIMENSIONS	PRODUCT WEIGHT	MOUNTING HEIGHT	SPACING
EWPS01: 6 1/8" L x 5 1/2" W x 3 3/8" D	2.11 lbs.	8.20 Feet	4 to 5 times the mounting height
EWPS03: 8" L x 6 1/2" W x 3 3/8" D	2.91 lbs.	8.20 Feet	4 to 5 times the mounting height
EWPS05: 10 1/4" L x 7 1/8" W x 5" D	5.25 lbs.	8.20 Feet	4 to 5 times the mounting height
EWPS08: 11 3/4" L x 9 7/8" W x 5" D	8.25 lbs.	8.25 Feet	4 to 5 times the mounting height

FIXTURE SPECIFICATIONS

HOUSING	Durable, die-cast aluminum
LENS ASSEMBLY	UV-stabilized polycarbonate lens
MOUNTING	Mounts to standard 4-inch junction box. Knockouts provided on both sides and bottom for surface conduit wiring.

WARRANTY & CERTIFICATIONS

WARRANTY	5 Year Limited
cULus LISTED	cULus Listed
DLC	Standard

e-conlight/savr/C-Lite:
e-conlight.com | Customer Service: 888-243-9445 | Fax: 262-504-5409
1501 96th Street, Startevant, WI 53117

Cree Lighting US / C-Lite Distribution Sales:
creeighting.com | Distribution/Sales: 855-611-2733
9201 Washington Avenue, Racine, WI 53406

April 26, 2023 For informational purposes only. Content is subject to change.

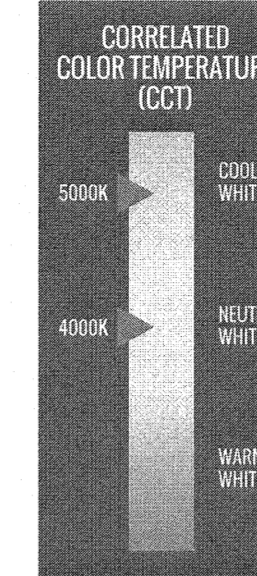
savr

E-WPS SERIES

ELECTRICAL PERFORMANCE

OPERATING RANGE	LIFESPAN (L70 at 25°C Tc)	POWER FACTOR	TOTAL HARMONIC DISTORTION	DIMMABLE
400 to 277V (L400 to 400°C)	Estimated 50,000 Hours	>0.9	<20%	No

INPUT VOLTAGE (Current Scale (mA))	120V	208V	240V	277V
EWPS01	0.13A	0.08A	0.07A	0.06A
EWPS03	0.25A	0.14A	0.12A	0.11A
EWPS05	0.44A	0.25A	0.22A	0.2A
EWPS08	0.68A	0.39A	0.33A	0.31A



OUTPUT SPECIFICATIONS

SKU	REPLACES	LIGHT OUTPUT	COLOR TEMP	POWER CONSUMPTION	COLOR ACCURACY
EWPS01A-M40B	50W MH	100 Lumens	4000K	15W	> 80
EWPS01A-N50B	50W MH	100 Lumens	5000K	15W	> 80
EWPS03A-M40B	100W PSMH	330 Lumens	4000K	28W	> 80
EWPS03A-N50B	100W PSMH	330 Lumens	5000K	28W	> 80
EWPS05A-M40B	150W PSMH	550 Lumens	4000K	50W	> 80
EWPS05A-N50B	150W PSMH	550 Lumens	5000K	50W	> 80
EWPS08A-M40B	250W MH	890 Lumens	4000K	60W	> 80
EWPS08A-N50B	250W MH	890 Lumens	5000K	60W	> 80

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e-conlight/savr/C-Lite:
e-conlight.com | Customer Service: 888-243-9445 | Fax: 262-504-5409
1501 96th Street, Startevant, WI 53117

Cree Lighting US / C-Lite Distribution Sales:
creeighting.com | Distribution/Sales: 855-611-2733
9201 Washington Avenue, Racine, WI 53406

April 26, 2023 For informational purposes only. Content is subject to change.

savr

PLAN PREPARED BY:
51 Kilmayne Drive, Suite 102
Cary, North Carolina 27511
919.484.6990
919.338.5127
ADVANCED CIVIL DESIGN
ENGINEERS SURVEYORS

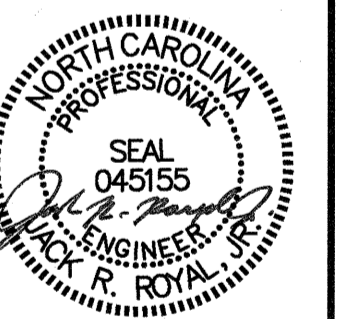
PLAN PREPARED FOR:



500 East Morehead St.
Suite 200
Charlotte, North Carolina 28269
Tel: 704.547.7717
Fax: 704.548.6115

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

**KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
LIGHTING DETAILS**



03/20/2023

Lighting Plan Certification: I hereby certify I am the applicant and that a Lighting Plan shall be submitted by the utility provider to the Knightdale Planning Department for approval prior to the installation of all required lighting. The lighting plan shall designate the proposed locations of all light poles and shall be in compliance with sections 8.10 and 16.8B as well as Chapter 11 of the Town of Knightdale UDO. If a proposed light pole location should present a conflict with existing or proposed vegetation according to the approved construction drawings, the Landscaping Plan shall be revised to comply with the Town of Knightdale UDO requirements. All revisions are subject to Town of Knightdale approval.

Date: _____ Applicant: _____

I (officer authorized to take acknowledgments) do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of this certificate. Witness my hand and (where an official seal is required by law) official seal this _____ day of _____, A.D., _____ (year).

Official Seal: _____ Notary: _____

Commission Expires

ZMA-16-21

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

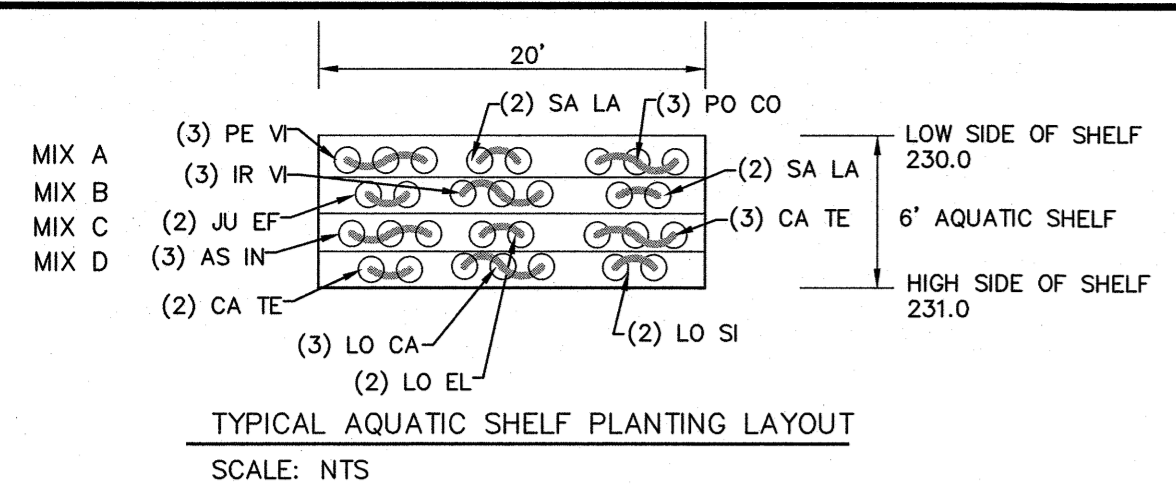
Issue Dates:	Construction Plan Submittal #1	Construction Plan Submittal #2	Construction Plan Submittal #3	Construction Plan Submittal #4	Construction Plan Submittal #5
09/20/2022					
11/11/2022					
12/22/2022					
02/10/2023					
03/03/2023					
03/20/2023					

Date: 03/20/2023
Scale: NOT TO SCALE

Drawn By: AMK
Checked By: JRR

Project Number:
21-0011-504

Drawing Number:
C.8.2



CODE	QTY.	BOT. NAME / COMMON NAME	SIZE	COND	SPACING
MIX A EMERGENT DEEP (6"-3" BELOW WATER LEVEL)					
PE VI	210	Peltandra virginica	18"	plug	24" o.c.
		Arrow Arum			Field Locate
SA LA	140	Sagittaria latifolia	9"	plug	24" o.c.
		Broad-Leaf Arrowhead			Field Locate
PO CO	210	Pontederia cordata	9"	plug	24" o.c.
		Pickeral Weed			Field Locate
MIX B EMERGENT SHALLOW (3"-0" BELOW WATER LEVEL)					
IR VI	210	Iris virginica	18"	plug	24" o.c.
		Blue Flag Iris			Field Locate
JU EF	140	Juncus effusus	9"	plug	24" o.c.
		Common Rush			Field Locate
SA LA	140	Sagittaria latifolia	9"	plug	24" o.c.
		Broad-Leaf Arrowhead			Field Locate
MIX C EDGE (0"-3" ABOVE WATER LEVEL)					
AS IN	210	Asclepias incarnata	24"	plug	24" o.c.
		Swamp Milkweed			Field Locate
CA TE	210	Carex Tenora	18"	plug	24" o.c.
		Quill Sedge			Field Locate
LO EL	140	Lobelia elongata	18"	plug	24" o.c.
		Longleaf Lobelia			Field Locate
MIX D SATURATED (3"-6" ABOVE WATER LEVEL)					
CA TE	140	Carex Tenora	18"	plug	24" o.c.
		Quill Sedge			Field Locate
LO CA	210	Lobelia cardinalis	18"	plug	24" o.c.
		Cardinal Flower			Field Locate
LO SI	140	Lobelia siphilitica	24"	plug	24" o.c.
		Great Blue Lobelia			Field Locate

NOTE: SIZE INDICATED AT TIME OF PLANTING.

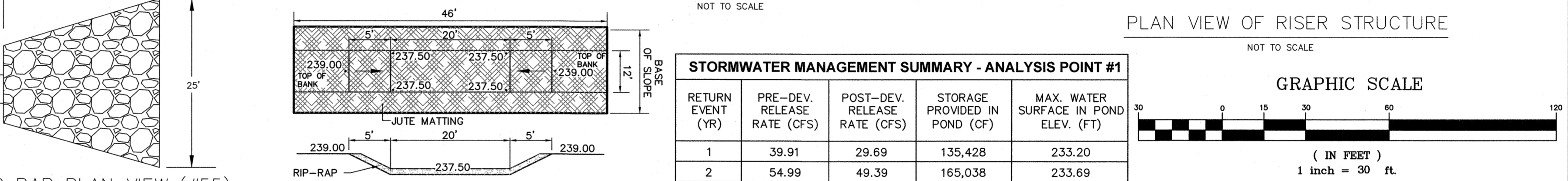
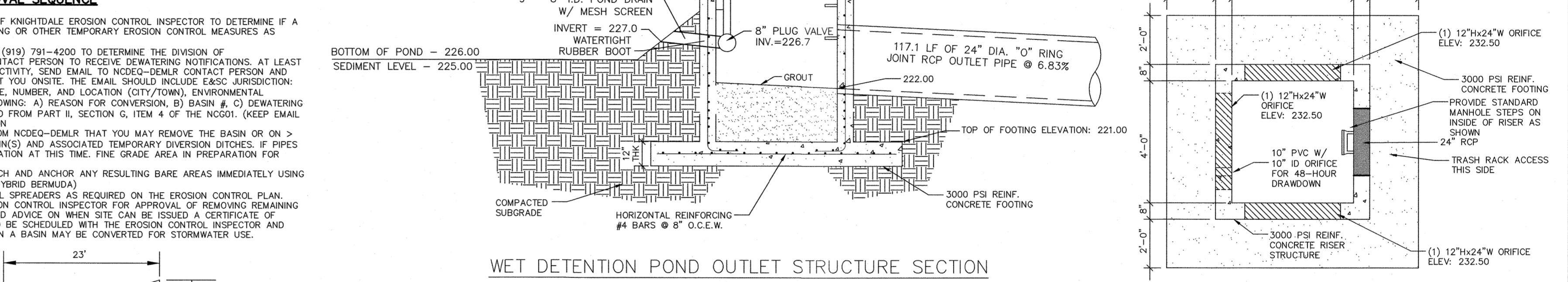
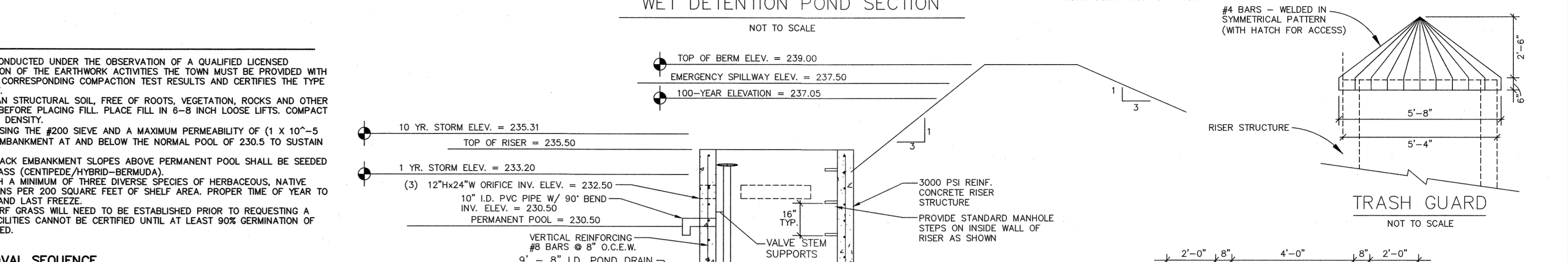
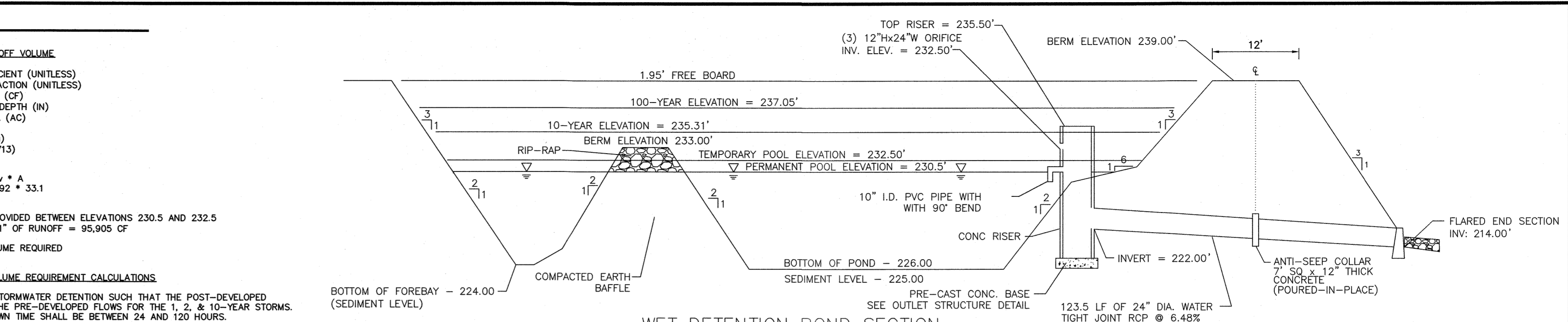
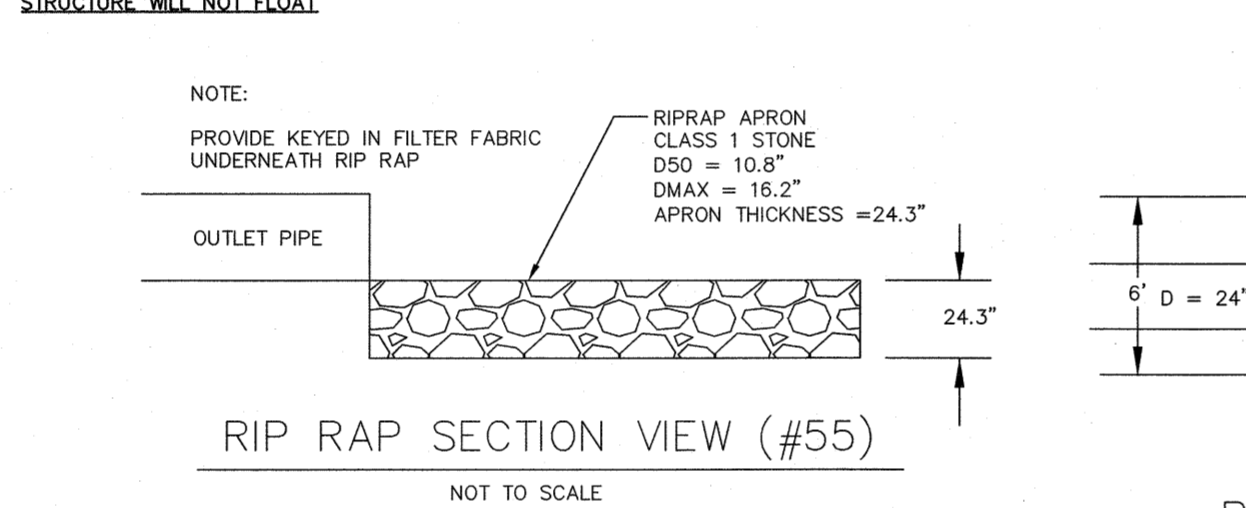
WET DETENTION POND: BASIN SIZING, CALCULATIONS, AND REQUIREMENTS

REQUIRED SURFACE AREA FOR PERMANENT POOL
 TOTAL DRAINAGE AREA TO BASIN: 33.1 AC
 IMPERVIOUS AREA DRAINING TO BASIN: 23.6 AC
 PERCENT IMPERVIOUS COVER: 71.3%
 MAIN POOL AVG. DEPTH (SUBMERGED - TABLE 1): 4.0 FT
 SURFACE AREA/RAINAGE AREA RATIO (SA/DA): 2.13
 REQUIRED SURFACE AREA: SA = (21.3/100)(33.1 AC)(4.0 SF/AC)
 = 30,711 SF
 PROVIDED SURFACE AREA: SA = 34,320 SF
 MAIN POOL SURFACE AREA ELEV: 230.5'
 SURFACE AREA PROVIDED > SURFACE AREA REQUIRED
 34,320 SF > 30,711 SF

SIMPLE METHOD FOR RUNOFF VOLUME
 Rv = RUNOFF COEFFICIENT (UNITLESS)
 I = IMPERVIOUS FRACTION (UNITLESS)
 Dv = DESIGN VOLUME (CF)
 Rd = DESIGN STORM DEPTH (IN)
 A = DRAINAGE AREA (AC)
 Rv = 0.05 + 0.9 * (I)
 I = 0.05 + 0.9 * (0.713)
 Rv = 0.692
 Dv = 3630 * Rd * Rv * A
 Dv = 3630 * 1" * 0.692 * 33.1
 Dv = 83,109 CF

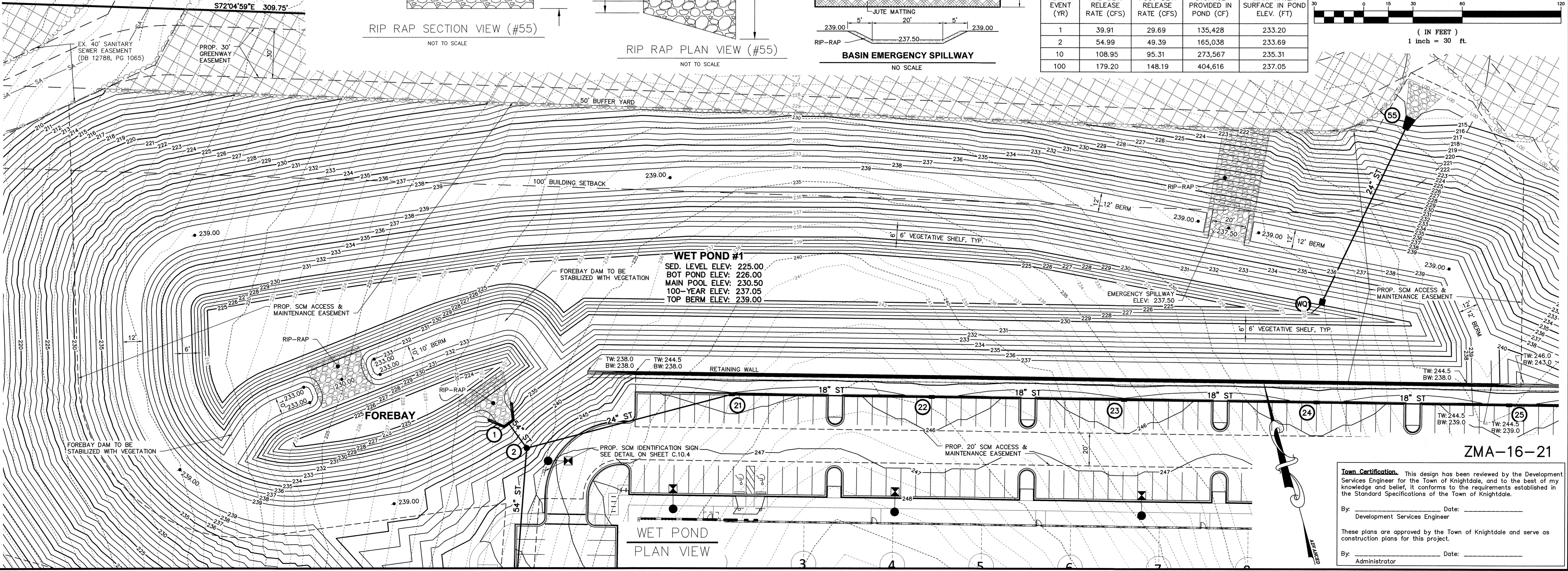
AVG. DEPTH WHEN SHELF PARTIALLY/FULLY SUBMERGED (EQUATION #3)
 Dm = MAXIMUM WATER DEPTH FROM MAIN POOL TO BOTTOM SHELF (FT)
 Pp = PERCENT OF MAIN POOL (FT)
 Ws = WIDTH OF SUBMERGED PORTION OF SHELF (FT)
 Da = AVERAGE DEPTH (FT)
 Vp = MAIN POOL VOLUME (CF)
 Vs = SUBMERGED SHELF VOLUME (CF)
 Ab = SUBMERGED SHELF AREA (SF)
 Va = 0.5 * Dm * Pp * Ws
 Va = 0.5 * 0.5 * 1.614 * 3
 Va = 1.211 CF
 Da = (Vp - Va) / Ab
 Da = (111,485 - 1,211) / 29,321
 Da = 3.8'

TOWN OF KNIGHTDALE BASIN REMOVAL SEQUENCE
 1. SCHEDULE A SITE MEETING WITH THE TOWN OF KNIGHTDALE EROSION CONTROL INSPECTOR TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
 2. CONTACT NCEM - RALEIGH REGIONAL OFFICE (919) 791-4200 TO DETERMINE THE DIVISION OF ENERGY, MINERAL AND LAND RESOURCES CONTACT PERSON TO RECEIVE DEWATERING NOTIFICATIONS. AT LEAST 10 DAYS PRIOR TO BEGINNING DEWATERING ACTIVITY, SEND EMAIL TO NCEM-DEMUR CONTACT PERSON AND COPY ENVIRONMENTAL CONSULTANT THAT MET YOU ON SITE. THE EMAIL SHOULD INCLUDE EASC JURISDICTION; WAKE COUNTY, WAKE COUNTY PROJECT NAME, NUMBER, AND LOCATION (CITY/TOWN), ENVIRONMENTAL CONSULTANT NAME, AND ADDRESS THE FOLLOWING: A) REASON FOR CONVERSION, B) BASIN #, C) DEWATERING METHOD, AND D) ALL OTHER NECESSARY INFO FROM PART II, SECTION 5, ITEM 4 OF THE NCEM. (KEEP EMAIL FOR YOUR NPDES MONITORING DOCUMENTATION)
 3. AFTER RECEIVING POSITIVE CONFIRMATION FROM NCEM-DEMUR THAT YOU MAY REMOVE THE BASIN OR ON > DAY 11, WHICHEVER IS SOONER, REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES, IF PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
 4. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ANCHOR ANY RESULTING BARE AREAS IMMEDIATELY USING NON-CLUMPING TURF GRASS (CENTIPEDE / HYBRID BERMUDA).
 5. INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
 6. WHEN SITE IS FULLY STABILIZED, CALL EROSION CONTROL INSPECTOR 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 EROSION CONTROL INSPECTOR AND STORMWATER TECHNICIAN TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE.



STORMWATER MANAGEMENT SUMMARY - ANALYSIS POINT #1

RETURN EVENT (YR)	PRE-DEV. RELEASE RATE (CFS)	POST-DEV. RELEASE RATE (CFS)	STORAGE PROVIDED IN POND (CF)	MAX. WATER SURFACE IN POND ELEV. (FT)
1	39.91	29.69	135,428	233.20
2	54.99	49.39	165,038	233.69
10	108.95	95.31	273,567	235.31
100	179.20	148.19	404,616	237.05



PLAN PREPARED BY:
ADVANCED CIVIL DESIGN ENGINEERS SURVEYORS
 51 Kimmage Drive, Suite 102
 Cary, North Carolina 27511
 ph 919.481.6990
 fax 919.336.5127

PLAN PREPARED FOR:
BEACON PARTNERS
 500 East Marshall St.
 Charlotte, North Carolina 28202
 ph 704.547.7717
 fax 704.538.6115

5901 Farmwell Road, Knightdale, NC 27610 - Wake County
KNIGHTDALE GATEWAY CONSTRUCTION PLAN
 FOR
BEACON PARTNERS WET POND #1

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 045155
 R. ROYAL JR.
 03/20/2023

Issue Dates:
 09/20/2022 - Construction Plan Submittal #1
 11/11/2022 - Construction Plan Submittal #2
 12/22/2022 - Construction Plan Submittal #3
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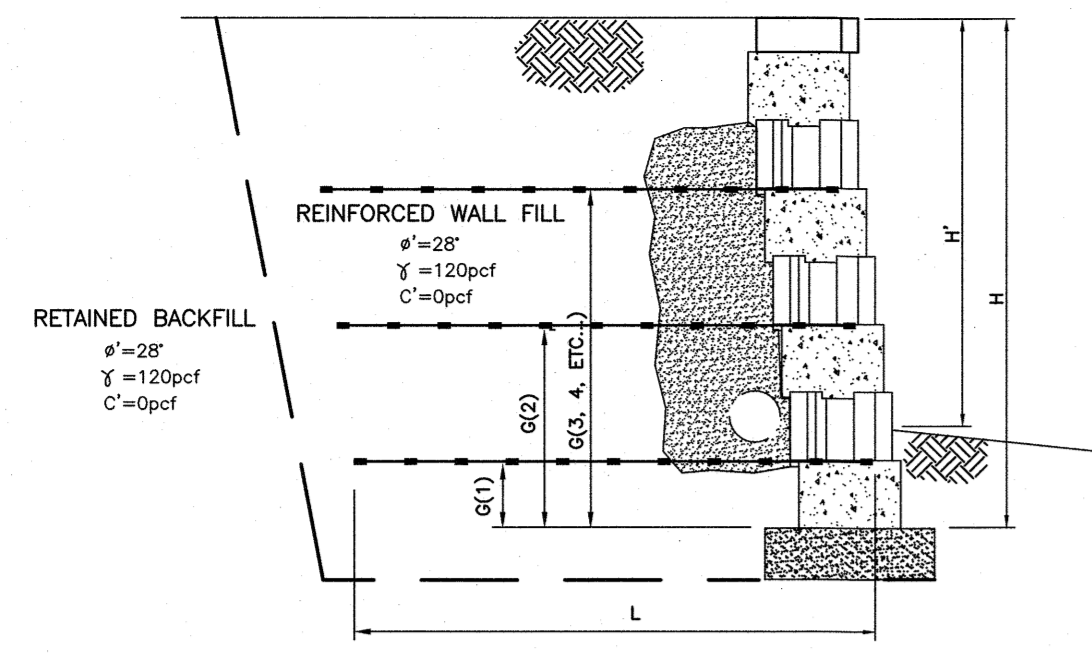
Date: 03/20/2023
 Scale: 1" = 30'

Drawn By: AMK
 Checked By: JRR

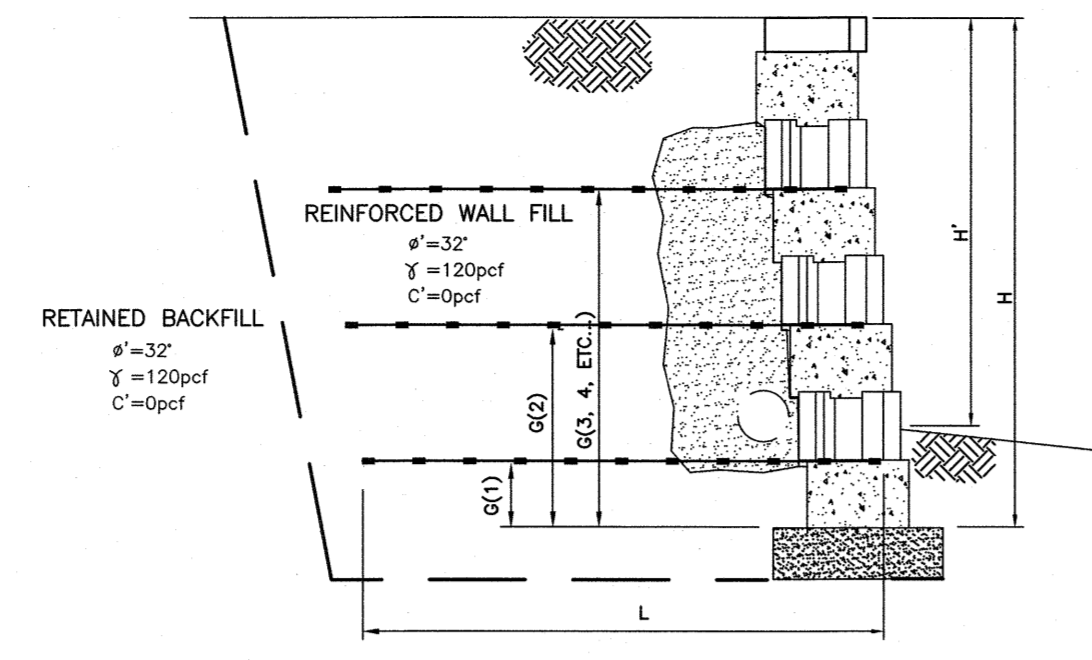
Project Number:
21-0011-504

Drawing Number:
C.9.0

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SOIL TYPE A/CASE 1



SOIL TYPE B/CASE 1

TOTAL HEIGHT		EXPOSED HEIGHT		GEOGRID		GEOGRID LEVEL-PLACEMENT HEIGHT ABOVE LEVELING PAD												
H	H'	NO. LAYERS	L	TYPE	1	2	3	4	5	6	7	8	9	10	11	12	13	
2'-0"	1'-6"	0	N/A	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
2'-6"	2'-0"	0	N/A	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
4'-6"	4'-0"	1	4'-0"	A	2'-0"	-	-	-	-	-	-	-	-	-	-	-	-	
7'-0"	6'-0"	4	4'-0"	A	1'-0"	2'-0"	4'-0"	6'-0"	-	-	-	-	-	-	-	-	-	
9'-0"	8'-0"	4	5'-0"	B	1'-0"	3'-0"	5'-0"	7'-0"	-	-	-	-	-	-	-	-	-	
11'-0"	10'-0"	5	6'-0"	B	1'-0"	3'-0"	5'-0"	7'-0"	9'-0"	-	-	-	-	-	-	-	-	
13'-0"	12'-0"	7	7'-6"	B	0'-6"	2'-0"	3'-6"	5'-0"	7'-6"	9'-6"	11'-6"	-	-	-	-	-	-	
15'-0"	14'-0"	8	8'-6"	B	0'-6"	2'-0"	3'-6"	5'-0"	7'-0"	9'-0"	11'-0"	13'-0"	-	-	-	-	-	
17'-6"	16'-0"	11	10'-0"	C	0'-6"	1'-6"	2'-6"	3'-6"	5'-0"	6'-6"	8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	-	-	
19'-6"	18'-0"	10	11'-0"	C	0'-6"	2'-6"	4'-6"	6'-6"	8'-6"	10'-6"	12'-6"	14'-6"	16'-6"	18'-6"	-	-	-	
21'-6"	20'-0"	11	12'-0"	C	0'-6"	2'-6"	4'-6"	6'-6"	8'-6"	10'-6"	12'-6"	14'-6"	16'-6"	18'-6"	20'-6"	-	-	

- GENERAL NOTES
- ACTUAL SITE CONDITIONS MAY VARY THE QUANTITY OF GEOGRID REQUIRED.
 - COMPACTION SHALL BE TO 95% STANDARD PROCTOR DENSITY.
 - COMPACTION TESTS SHALL BE TAKEN.
 - GEOGRID SHALL EXTEND TO THE FRONT OF THE UNITS.
 - FOR SPECIFIC INSTALLATION DETAILS SEE TYPICAL SECTION SHEET 005.
 - MINIMUM EMBEDMENT OF BASE SHALL BE 8" FOR WALLS UNDER 4' HIGH AND 16" FOR LARGER WALLS.
 - DETERMINATION OF FINAL DESIGN SHALL BE MADE BY A QUALIFIED ENGINEER.
 - PROVIDE LATERAL DRAINAGE. TURF SHALL BE ESTABLISHED IMMEDIATELY AFTER COMPLETION OF THE RETAINING WALL.
 - CONTRACTOR MAY OPT FOR AN UNREINFORCED CONCRETE LEVELING PAD. 2" THICK OVER 4" COMPACTED GRANULAR BASE.
 - FOLLOW APPLICABLE STATE AND LOCAL BUILDING CODES FOR FINAL WALL INSTALLATION.

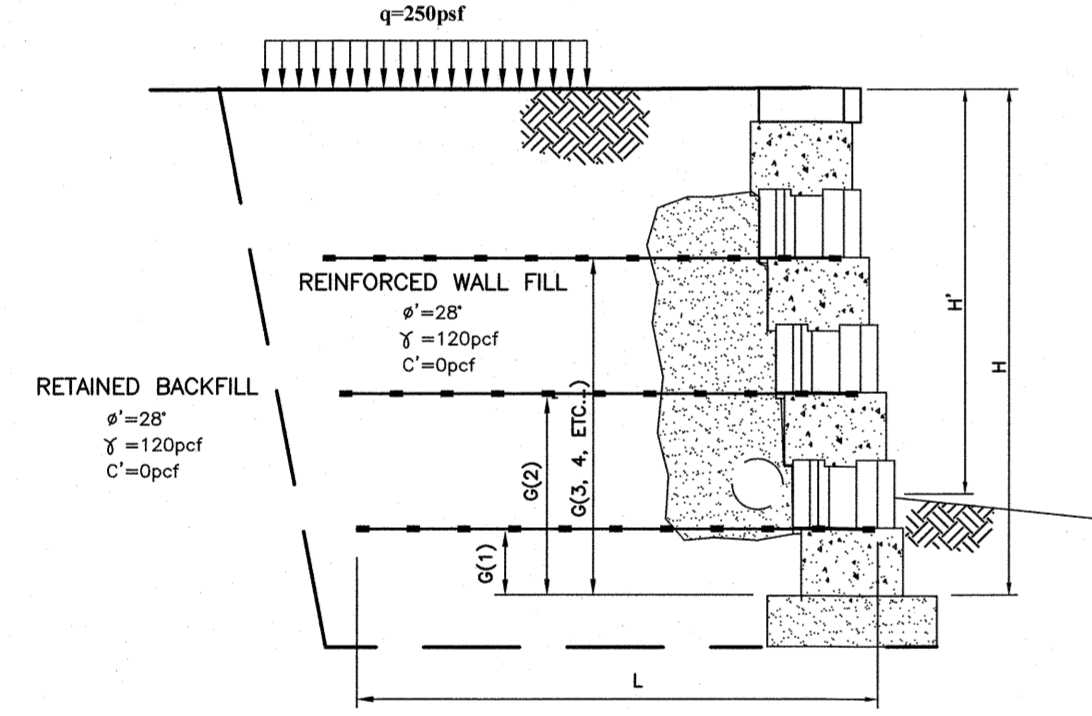
- DESIGN PARAMETERS
- PS FOR SOILING IS 1.5
 - PS FOR OVERTURNING IS 2.0
 - ALLOWABLE SOIL BEARING PRESSURE IS 3000 PSF

GRID	LONG TERM ALLOWABLE DESIGN STRENGTH	TYPE	LB PER FOOT
A	750		
B	1200		
C	2200		

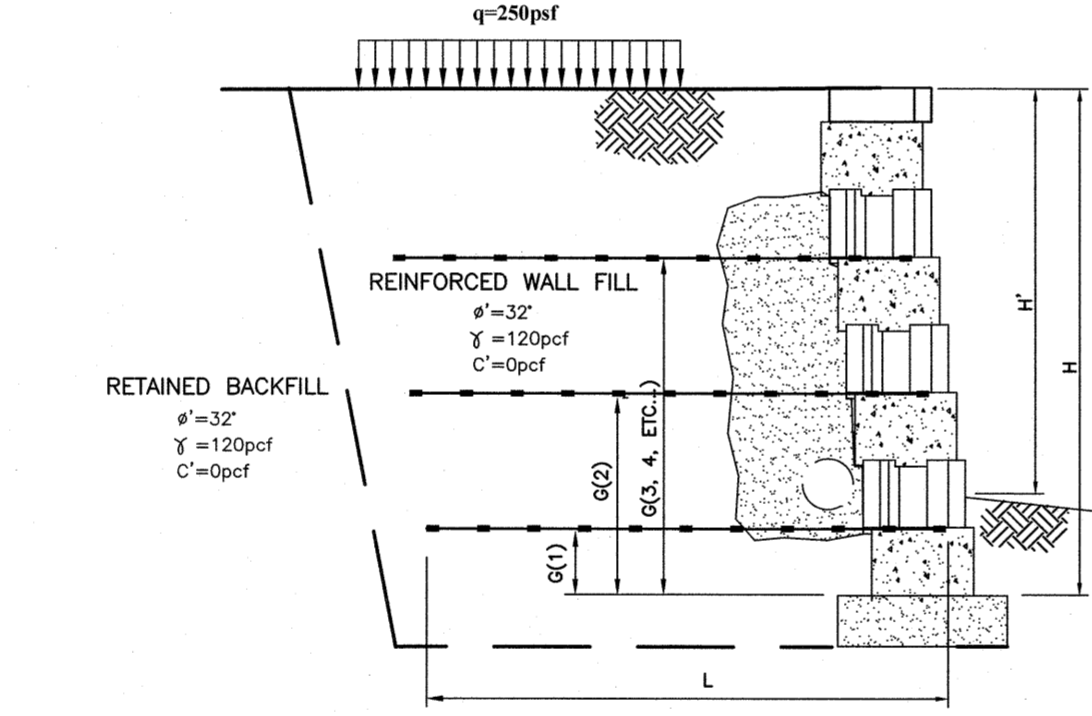
FOR WALL HEIGHTS GREATER THAN SHOWN OR DIFFERENT SOIL CONDITIONS CONTACT YOUR ROCKWOOD DISTRIBUTOR.

SOIL TYPE B/CASE 1

TOTAL HEIGHT		EXPOSED HEIGHT		GEOGRID		GEOGRID LEVEL-PLACEMENT HEIGHT ABOVE LEVELING PAD												
H	H'	NO. LAYERS	L	TYPE	1	2	3	4	5	6	7	8	9	10	11	12	13	
2'-0"	1'-6"	0	N/A	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
2'-6"	2'-0"	0	N/A	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
4'-6"	4'-0"	1	4'-0"	A	2'-6"	-	-	-	-	-	-	-	-	-	-	-	-	
7'-0"	6'-0"	3	4'-0"	A	0'-6"	4'-0"	6'-0"	-	-	-	-	-	-	-	-	-	-	
9'-0"	8'-0"	4	4'-6"	A	0'-6"	2'-6"	4'-6"	6'-6"	-	-	-	-	-	-	-	-	-	
11'-0"	10'-0"	6	5'-6"	A	0'-6"	2'-0"	3'-6"	5'-6"	7'-6"	9'-6"	-	-	-	-	-	-	-	
13'-0"	12'-0"	7	6'-6"	B	0'-6"	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"	-	-	-	-	-	-	
15'-0"	14'-0"	8	7'-6"	B	0'-6"	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"	14'-0"	-	-	-	-	-	
17'-6"	16'-0"	9	9'-6"	B	0'-6"	2'-0"	3'-6"	5'-0"	7'-0"	9'-0"	11'-0"	13'-0"	15'-0"	-	-	-	-	
19'-6"	18'-0"	9	10'-0"	C	0'-6"	2'-6"	4'-6"	6'-6"	8'-6"	10'-6"	12'-6"	14'-6"	16'-6"	18'-6"	-	-	-	
21'-6"	20'-0"	10	11'-0"	C	0'-6"	2'-6"	4'-6"	6'-6"	8'-6"	10'-6"	12'-6"	14'-6"	16'-6"	18'-6"	20'-6"	-	-	



SOIL TYPE A/CASE 3



SOIL TYPE B/CASE 3

SOIL TYPE A/CASE 3

TOTAL HEIGHT		EXPOSED HEIGHT		GEOGRID		GEOGRID LEVEL-PLACEMENT HEIGHT ABOVE LEVELING PAD												
H	H'	NO. LAYERS	L	TYPE	1	2	3	4	5	6	7	8	9	10	11	12	13	
2'-0"	1'-6"	0	N/A	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
2'-6"	2'-0"	0	N/A	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
4'-6"	4'-0"	2	4'-0"	B	0'-6"	2'-6"	-	-	-	-	-	-	-	-	-	-	-	
7'-0"	6'-0"	3	4'-0"	B	1'-6"	3'-6"	5'-6"	-	-	-	-	-	-	-	-	-	-	
9'-0"	8'-0"	5	6'-0"	B	0'-6"	1'-6"	3'-6"	5'-6"	7'-6"	-	-	-	-	-	-	-	-	
11'-0"	10'-0"	6	7'-0"	B	0'-6"	2'-0"	3'-6"	5'-6"	7'-6"	9'-6"	-	-	-	-	-	-	-	
13'-0"	12'-0"	7	8'-0"	B	0'-6"	2'-0"	3'-6"	5'-0"	7'-0"	9'-0"	11'-0"	-	-	-	-	-	-	
15'-0"	14'-0"	7	9'-0"	C	1'-0"	3'-0"	5'-0"	7'-0"	9'-0"	11'-0"	13'-0"	-	-	-	-	-	-	
17'-6"	16'-0"	8	10'-0"	C	1'-0"	3'-0"	5'-0"	7'-0"	9'-0"	11'-0"	13'-0"	15'-0"	-	-	-	-	-	
19'-6"	18'-0"	10	12'-0"	C	0'-6"	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"	-	-	-	
21'-6"	20'-0"	11	13'-0"	C	0'-6"	2'-0"	3'-6"	5'-0"	7'-0"	9'-0"	11'-0"	13'-0"	15'-0"	17'-0"	19'-0"	-	-	

- GENERAL NOTES
- ACTUAL SITE CONDITIONS MAY VARY THE QUANTITY OF GEOGRID REQUIRED.
 - COMPACTION SHALL BE TO 95% STANDARD PROCTOR DENSITY.
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 - CONTRACTOR MAY OPT FOR AN UNREINFORCED CONCRETE LEVELING PAD. 2" THICK OVER 4" COMPACTED GRANULAR BASE.
 - FOLLOW APPLICABLE STATE AND LOCAL BUILDING CODES FOR FINAL WALL INSTALLATION.

- DESIGN PARAMETERS
- PS FOR SOILING IS 1.5
 - PS FOR OVERTURNING IS 2.0
 - ALLOWABLE SOIL BEARING PRESSURE IS 3000 PSF

GRID	LONG TERM ALLOWABLE DESIGN STRENGTH	TYPE	LB PER FOOT
A	750		
B	1200		
C	2200		

FOR WALL HEIGHTS GREATER THAN SHOWN OR DIFFERENT SOIL CONDITIONS CONTACT YOUR ROCKWOOD DISTRIBUTOR.

SOIL TYPE B/CASE 3

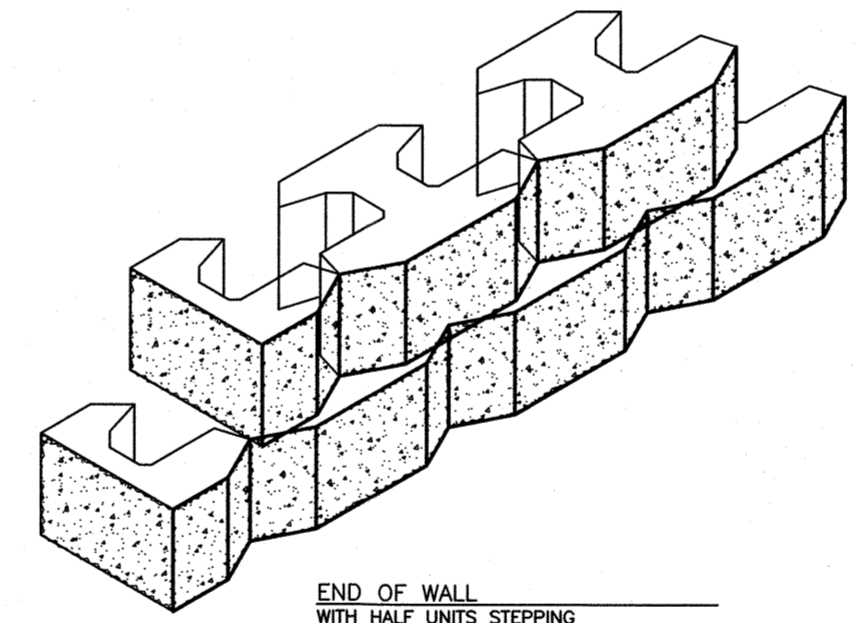
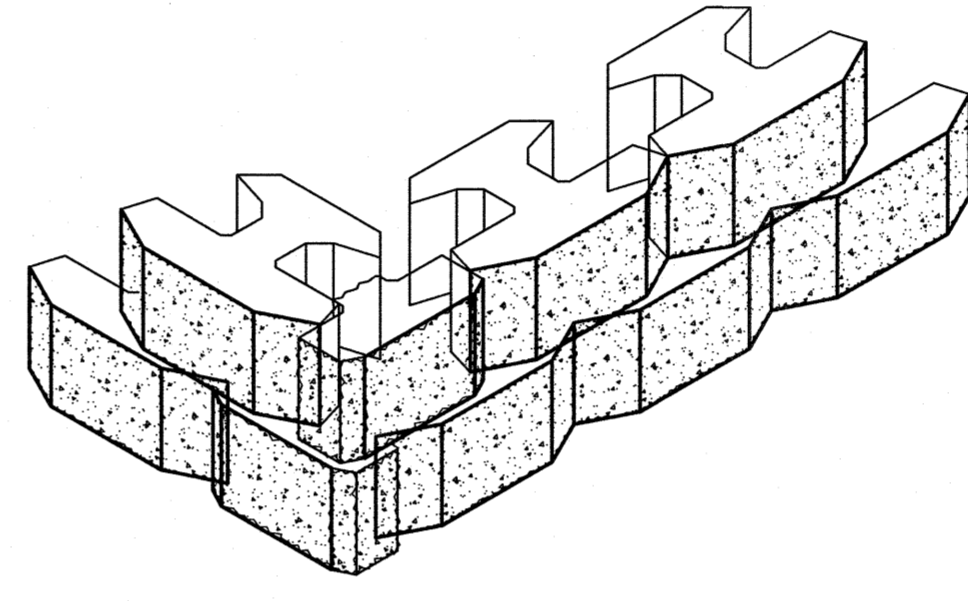
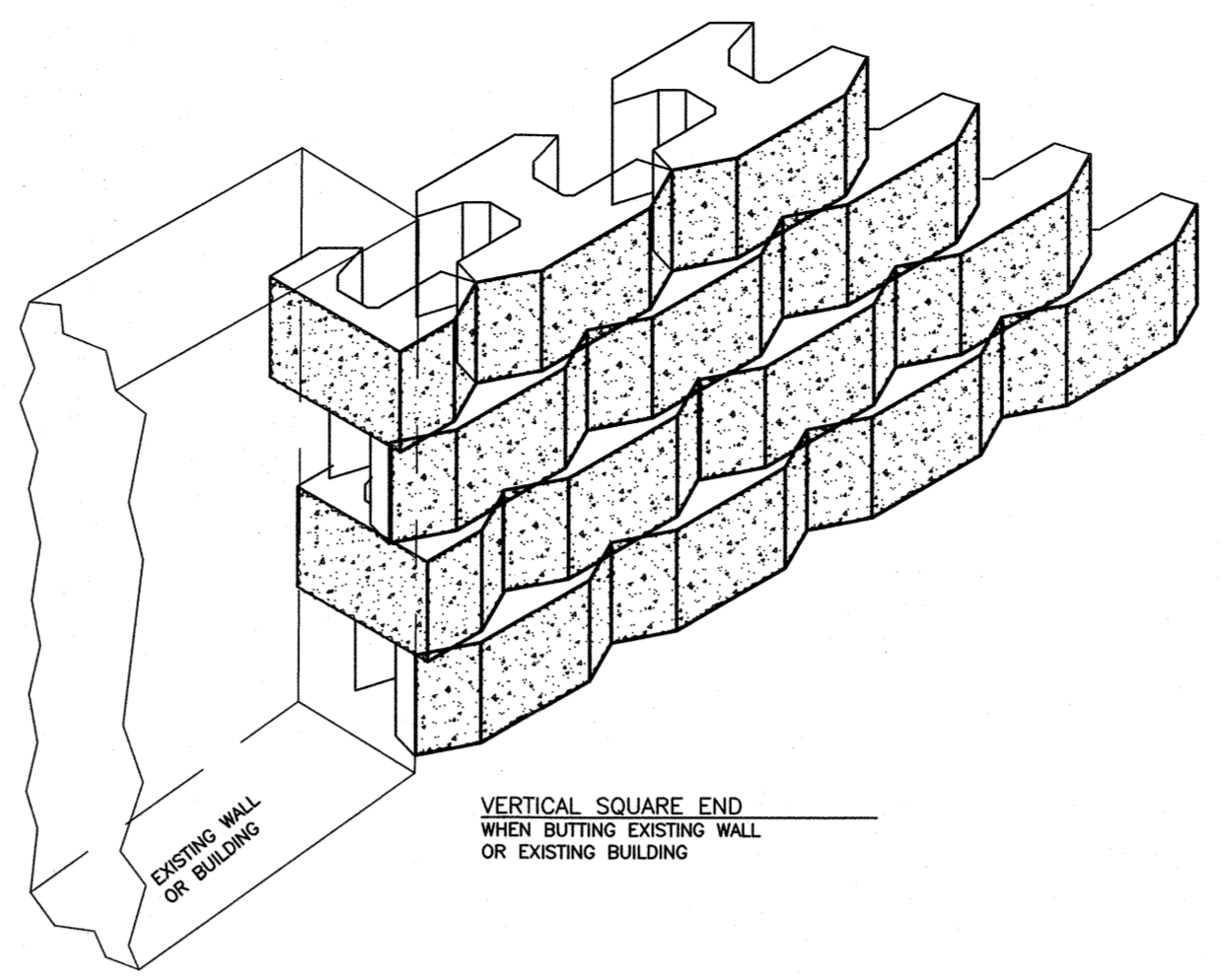
TOTAL HEIGHT		EXPOSED HEIGHT		GEOGRID		GEOGRID LEVEL-PLACEMENT HEIGHT ABOVE LEVELING PAD												
H	H'	NO. LAYERS	L	TYPE	1	2	3	4	5	6	7	8	9	10	11	12	13	
2'-0"	1'-6"	0	N/A	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
2'-6"	2'-0"	0	N/A	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	
4'-6"	4'-0"	2	4'-0"	A	1'-0"	2'-0"	-	-	-	-	-	-	-	-	-	-	-	
7'-0"	6'-0"	4	4'-0"	A	0'-6"	2'-0"	4'-0"	6'-0"	-	-	-	-	-	-	-	-	-	
9'-0"	8'-0"	5	4'-6"	A	0'-6"	2'-0"	3'-6"	5'-6"	7'-6"	-	-	-	-	-	-	-	-	
11'-0"	10'-0"	6	5'-6"	B	0'-6"	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	-	-	-	-	-	-	-	
13'-0"	12'-0"	7	6'-6"	B	0'-6"	2'-0"	3'-6"	5'-6"	7'-6"	9'-6"	11'-6"	-	-	-	-	-	-	
15'-0"	14'-0"	8	7'-6"	B	0'-6"	2'-0"	3'-6"	5'-0"	7'-0"	9'-0"	11'-0"	13'-0"	-	-	-	-	-	
17'-6"	16'-0"	8	9'-0"	C	1'-0"	3'-0"	5'-0"	7'-0"	9'-0"	11'-0"	13'-0"	15'-0"	-	-	-	-	-	
19'-6"	18'-0"	9	10'-0"	C	1'-0"	3'-0"	5'-0"	7'-0"	9'-0"	11'-0"	13'-0"	15'-0"	17'-0"	-	-	-	-	
21'-6"	20'-0"	10	11'-0"	C	1'-0"	3'-0"	5'-0"	7'-0"	9'-0"	11'-0"	13'-0"	15'-0"	17'-0"	19'-0"	-	-	-	

DETAILS SHOWN ON THIS DRAWING ARE FOR GENERAL INFORMATION ONLY FINAL DESIGN PER SOILS REPORT & WALL SUPPLIER ENGINEER

RETAINING WALL DETAILS
NOT TO SCALE

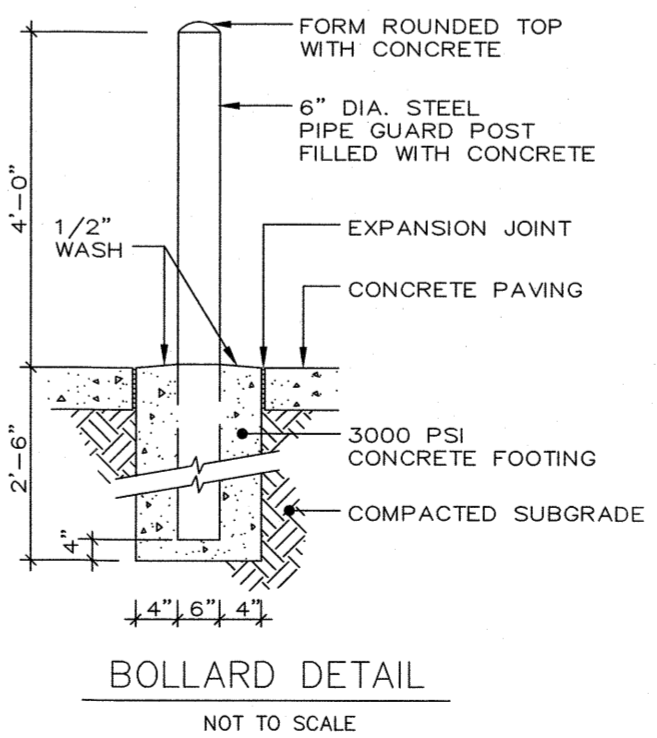
HEIGHT CONVERSION

NO. OF BLOCKS ABOVE LEVELING PAD	GEOGRID LEVEL
1	0'-6"
2	1'-0"
3	1'-6"
4	2'-0"
5	2'-6"
6	3'-0"
7	3'-6"
8	4'-0"
9	4'-6"
10	5'-0"
11	5'-6"
12	6'-0"
13	6'-6"
14	7'-0"
15	7'-6"
16	8'-0"
17	8'-6"
18	9'-0"
19	9'-6"
20	10'-0"
21	10'-6"
22	11'-0"
23	11'-6"
24	12'-0"
25	12'-6"
26	13'-0"
27	13'-6"
28	14'-0"
29	14'-6"
30	15'-0"
31	15'-6"
32	16'-0"
33	16'-6"
34	17'-0"
35	17'-6"
36	18'-0"
37	18'-6"
38	19'-0"
39	19'-6"

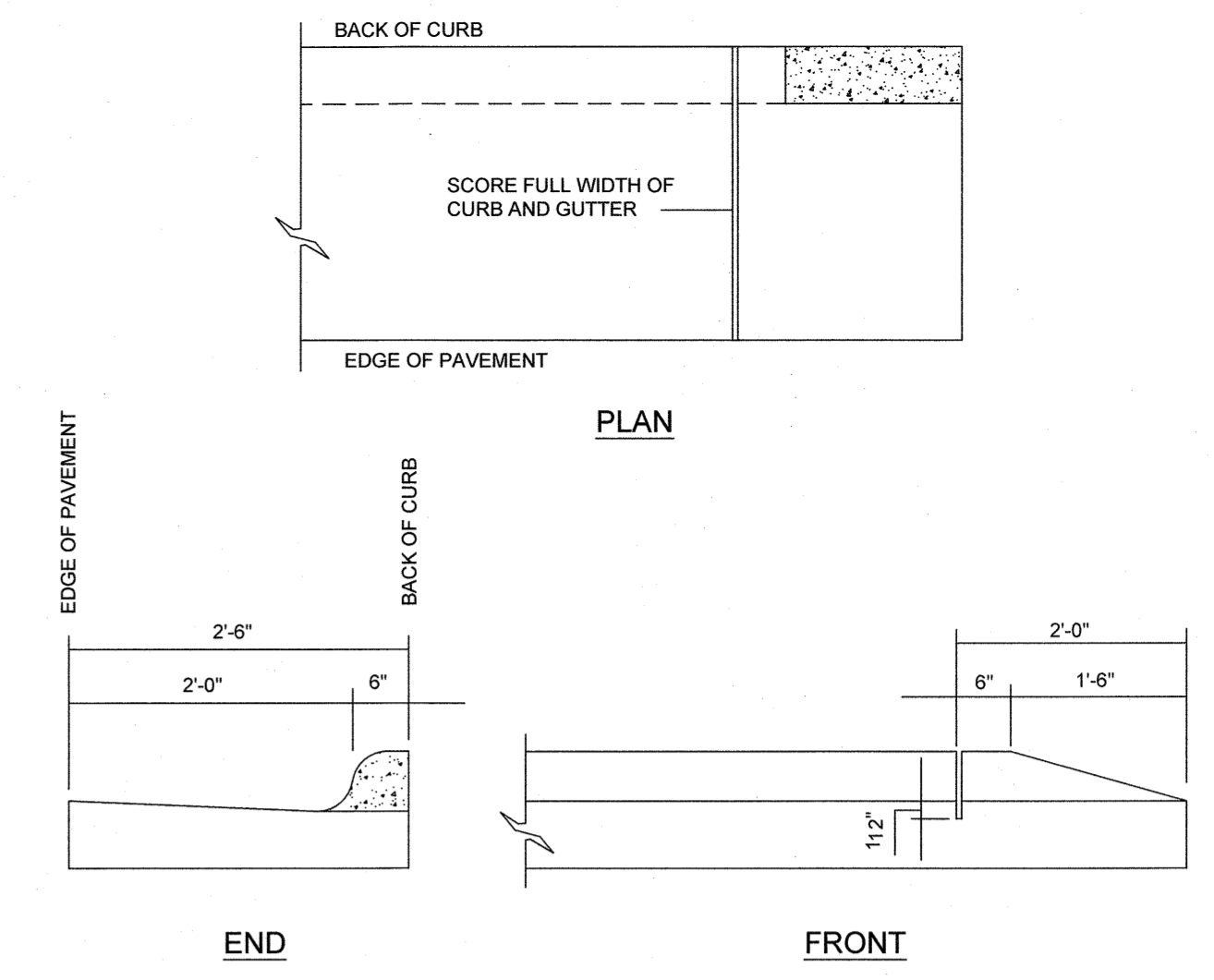


HEIGHT CONVERSION

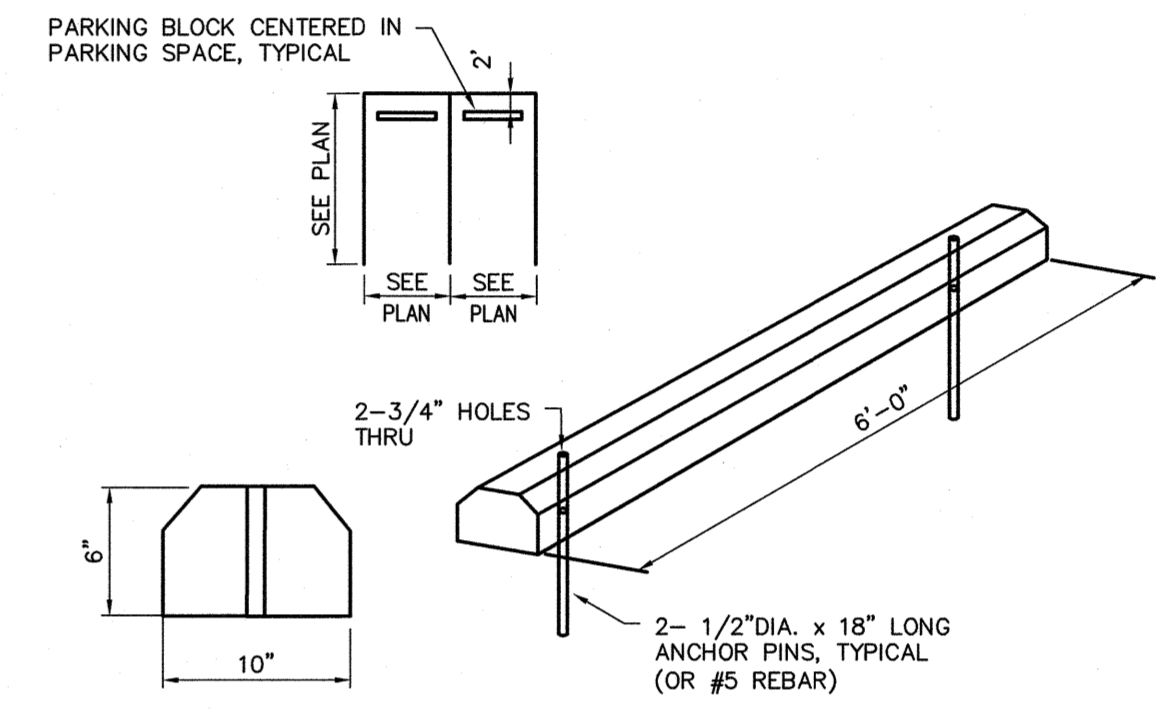
NO. OF BLOCKS ABOVE LEVELING PAD	GEOGRID LEVEL
1	0'-6"
2	1'-0"
3	1'-6"
4	2'-0"
5	2'-6"
6	3'-0"
7	3'-6"
8	4'-0"
9	4'-6"
10	5'-0"
11	5'-6"
12	6'-0"
13	6'-6"
14	7'-0"
15	7'-6"
16	8'-0"
17	8'-6"
18	9'-0"
19	9'-6"
20	10'-0"
21	10'-6"
22	11'-0"
23	11'-6"
24	12'-0"
25	12'-6"
26	13'-0"
27	13'-6"
28	14'-0"
29	14'-6"
30	15'-0"
31	15'-6"
32	16'-0"
33	16'-6"
34	17'-0"
35	17'-6"
36	18'-0"
37	18'-6"
38	19'-0"
39	19'-6"



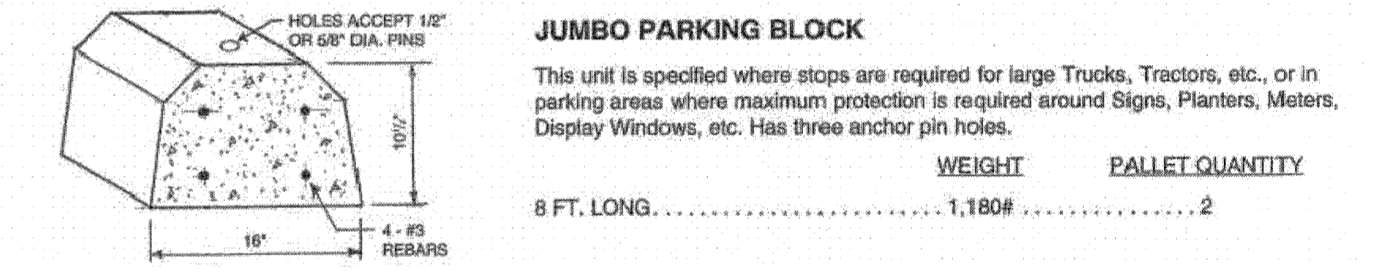
BOLLARD DETAIL
NOT TO SCALE



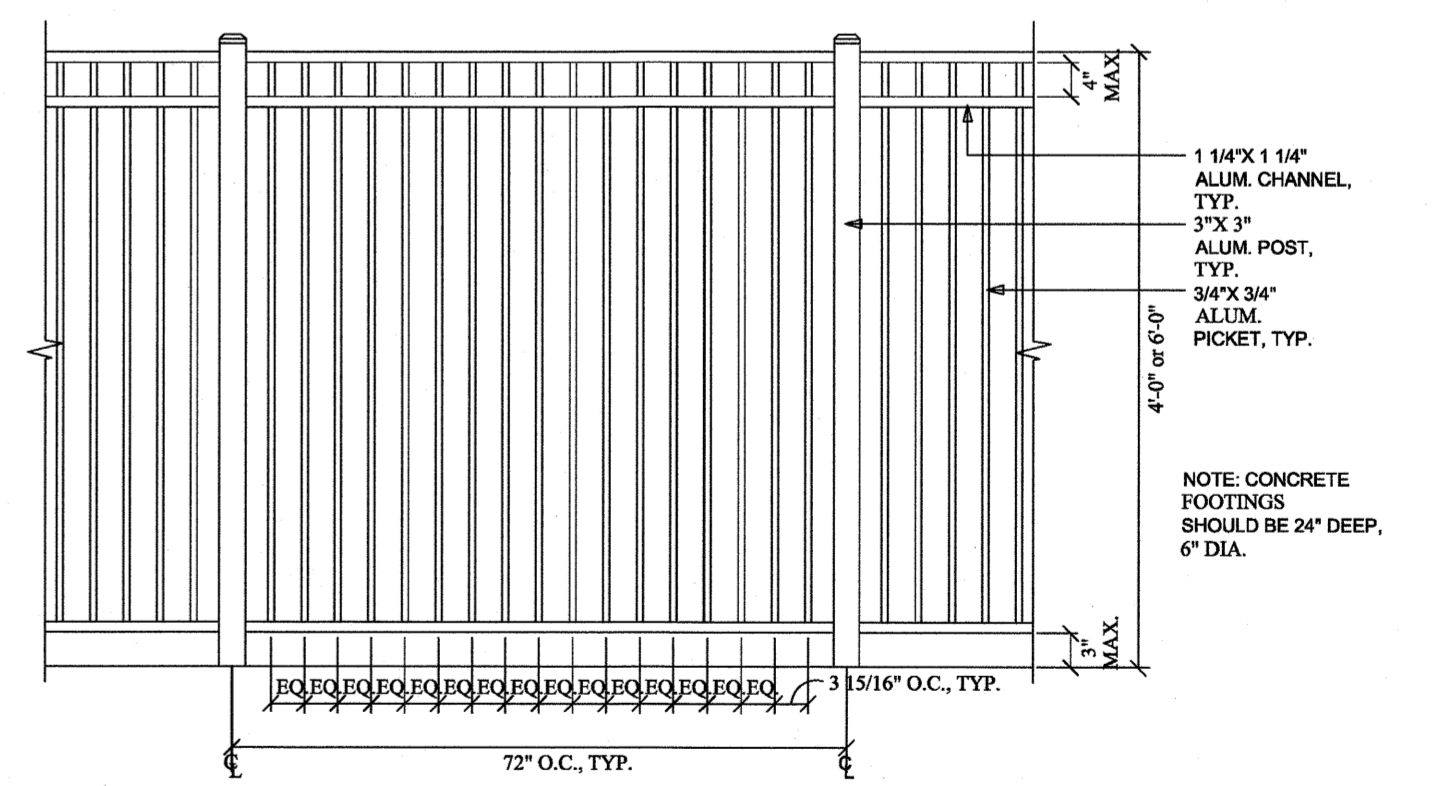
END CURB & GUTTER DETAIL
(NO SCALE)



CONCRETE WHEEL STOP DETAIL
(NO SCALE)



JUMBO PARKING BLOCK DETAIL
(NO SCALE)



FENCING
SCALE: NONE

RETAINING WALL FENCE DETAIL
(NO SCALE)

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

ZMA-16-21

PLAN PREPARED BY:

51 Vineyard Drive, Suite 102
Cary, North Carolina 27511
ph 919.481.6590
fax 919.336.9127

PLAN PREPARED FOR:

500 East Main Street
Suite 300
Charlotte, North Carolina 28269
tel. 704.557.7777
fax 704.584.8335

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS
DETAILS

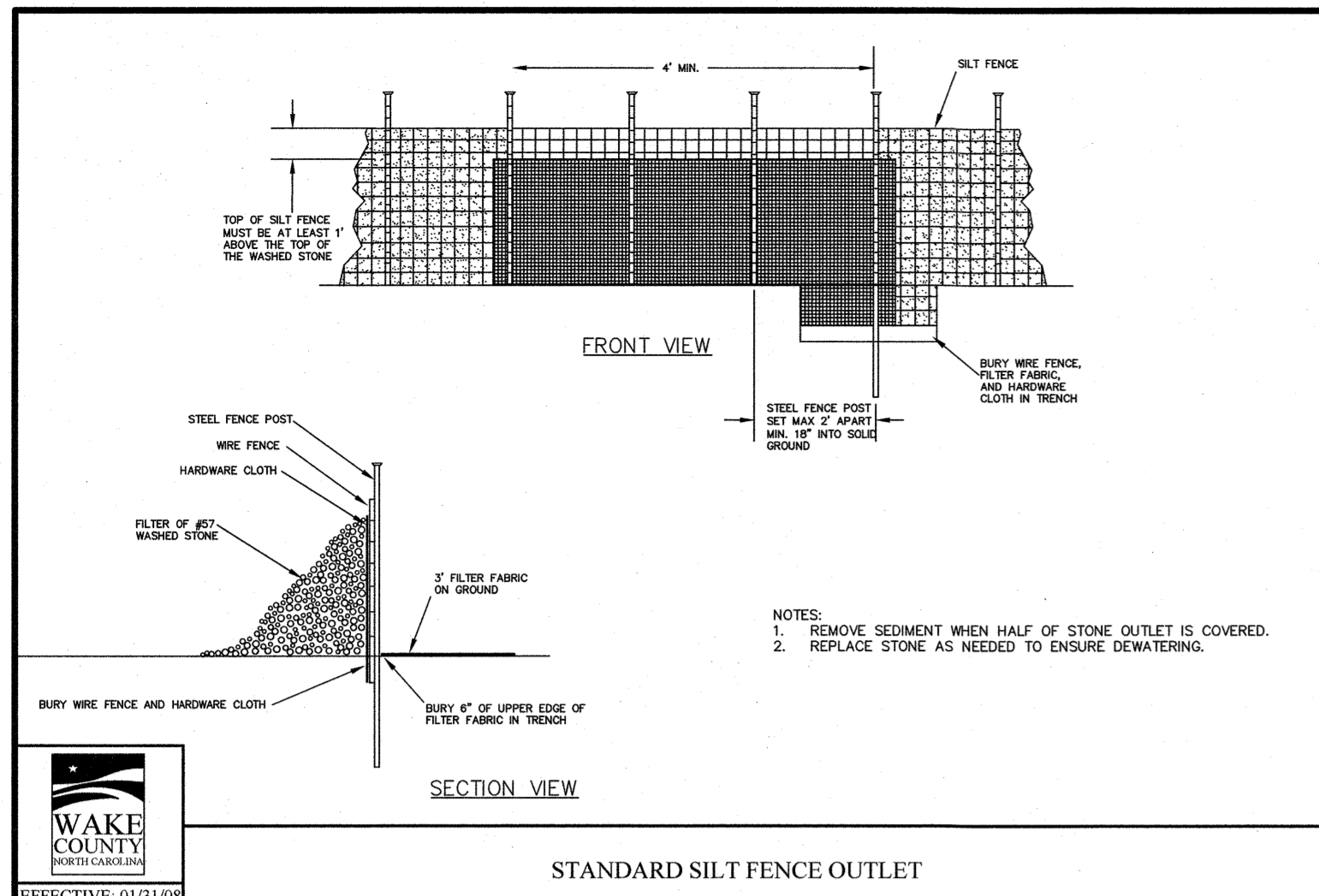
Issue Dates:	Construction Plan Submittal #1	Construction Plan Submittal #2	Construction Plan Submittal #3	Construction Plan Submittal #4	Construction Plan Submittal #5
09/20/2022	11/11/2022	12/22/2022	02/10/2023	03/03/2023	03/20/2023

Date: 03/20/2023
Scale: NOT TO SCALE

Drawn By: AMK
Checked By: JRR

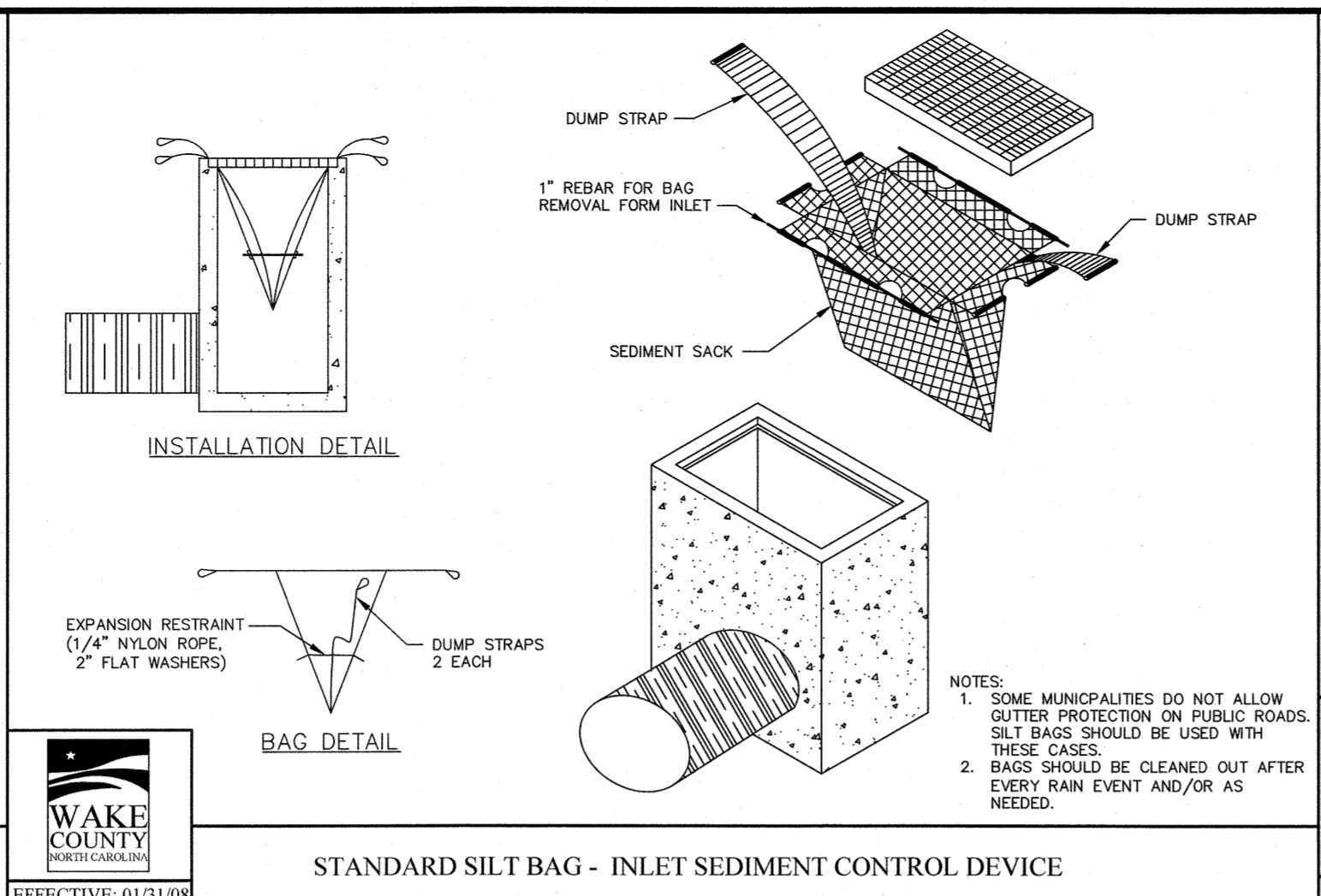
Project Number:
21-0011-504

Drawn Number:
C.10.1



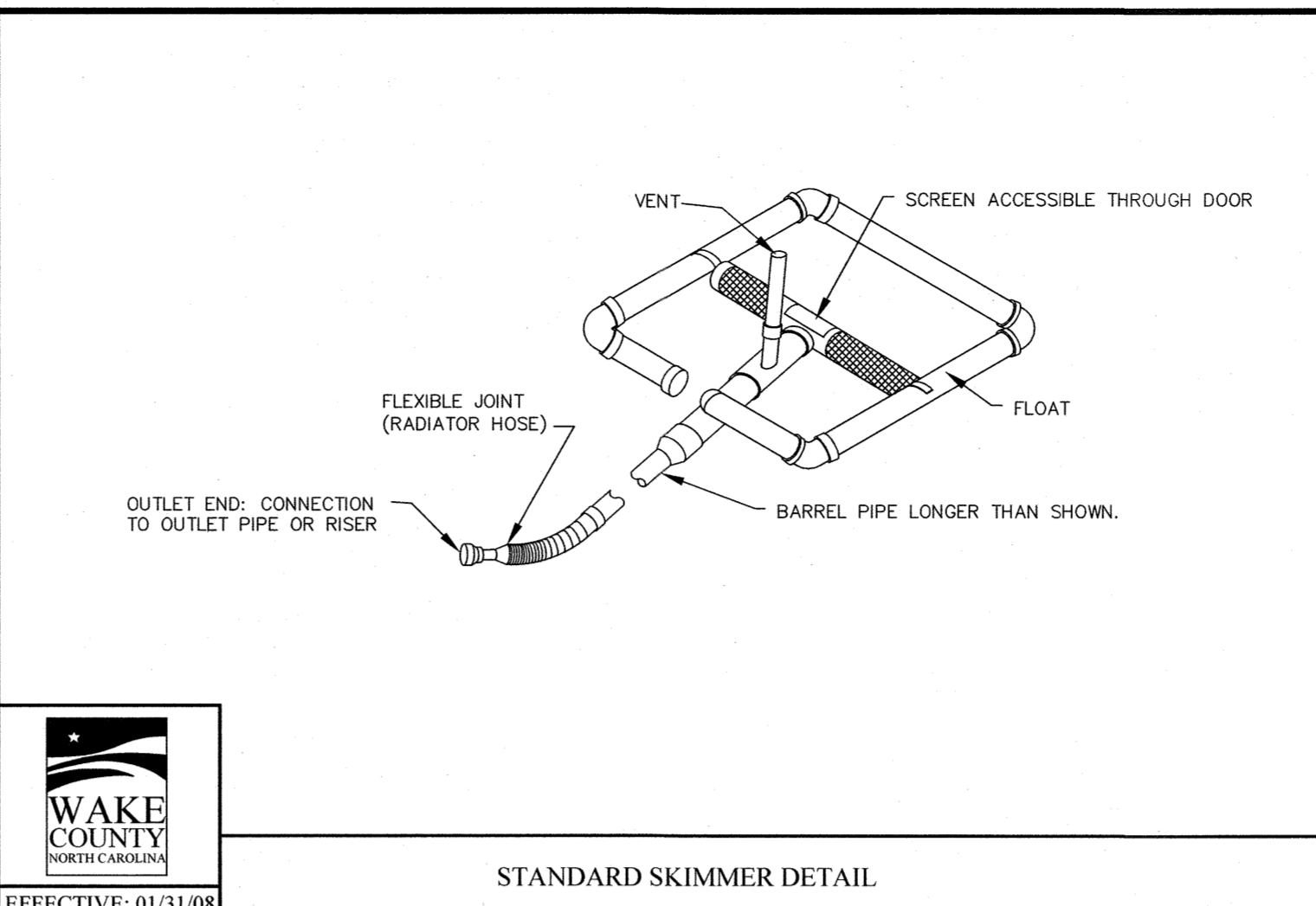
STANDARD SILT FENCE OUTLET

EFFECTIVE: 01/31/08



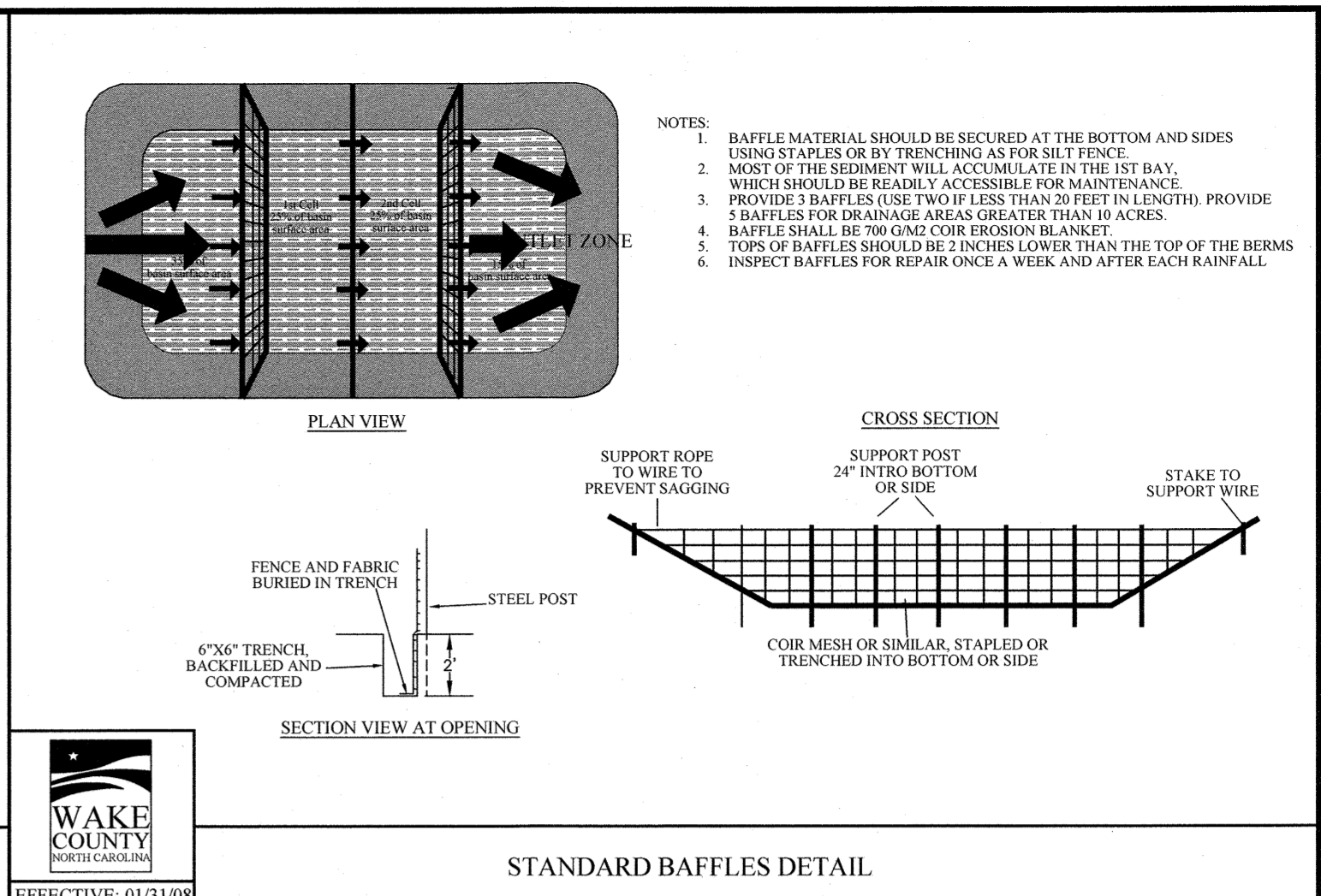
STANDARD SILT BAG - INLET SEDIMENT CONTROL DEVICE

EFFECTIVE: 01/31/08



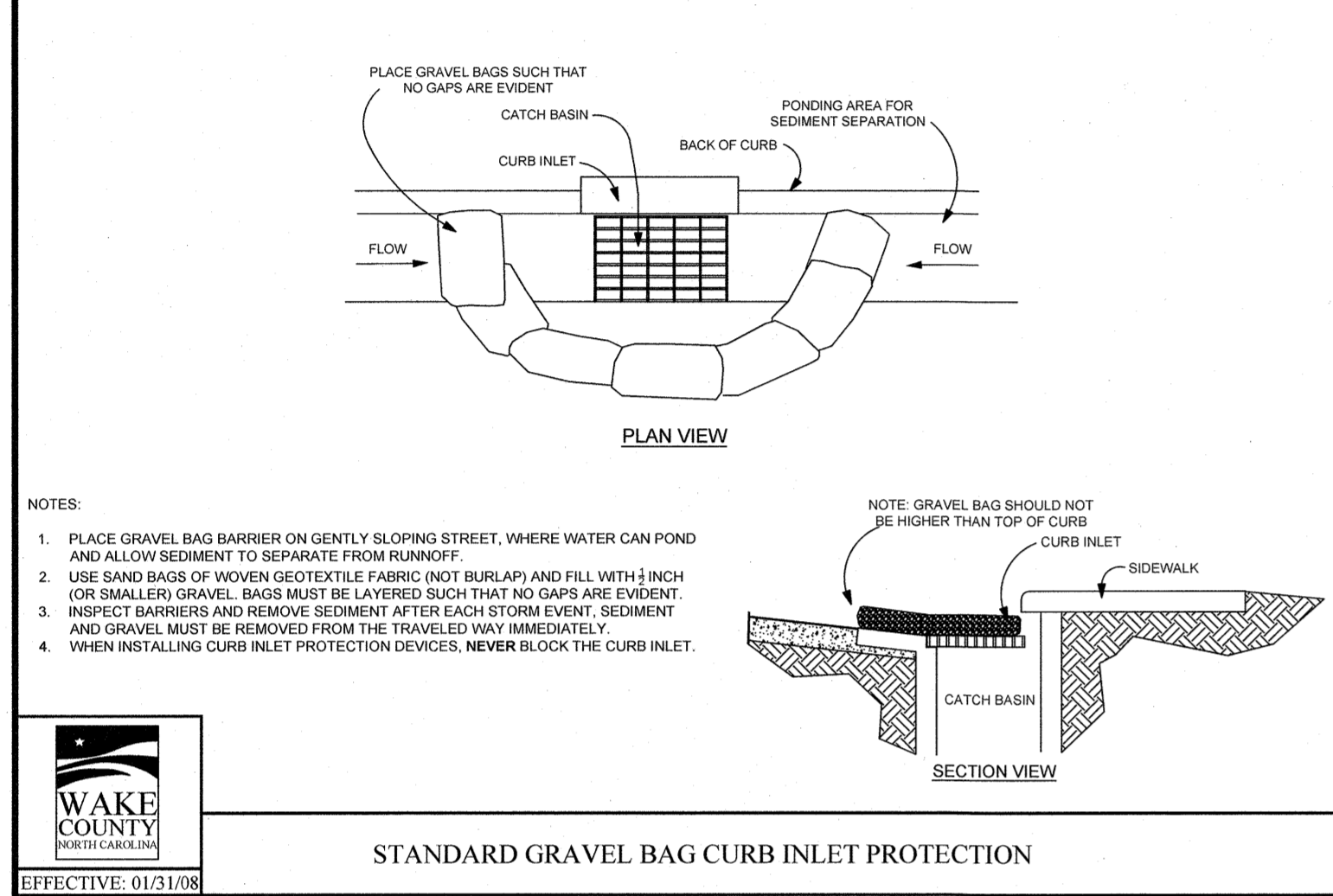
STANDARD SKIMMER DETAIL

EFFECTIVE: 01/31/08



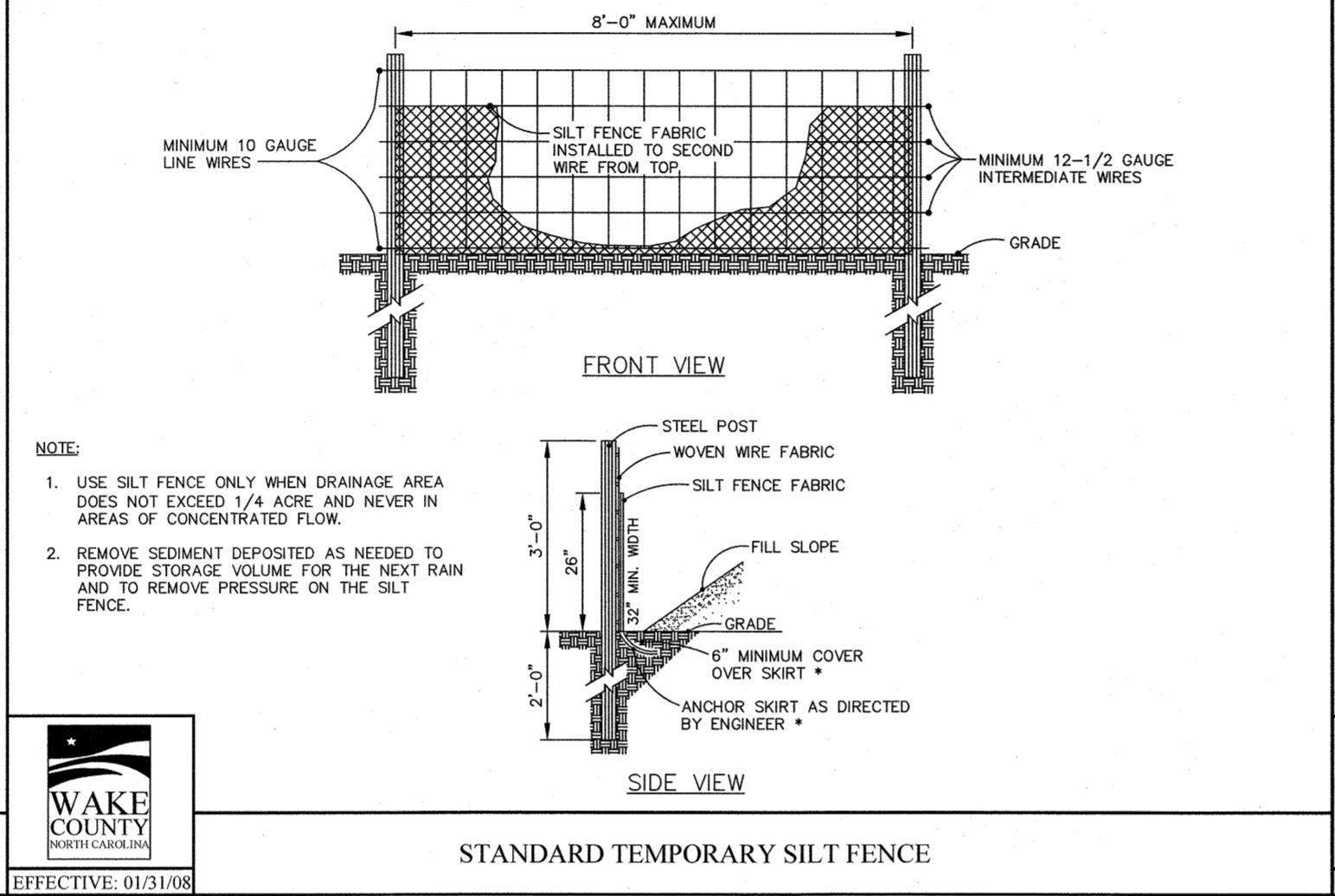
STANDARD BAFFLES DETAIL

EFFECTIVE: 01/31/08



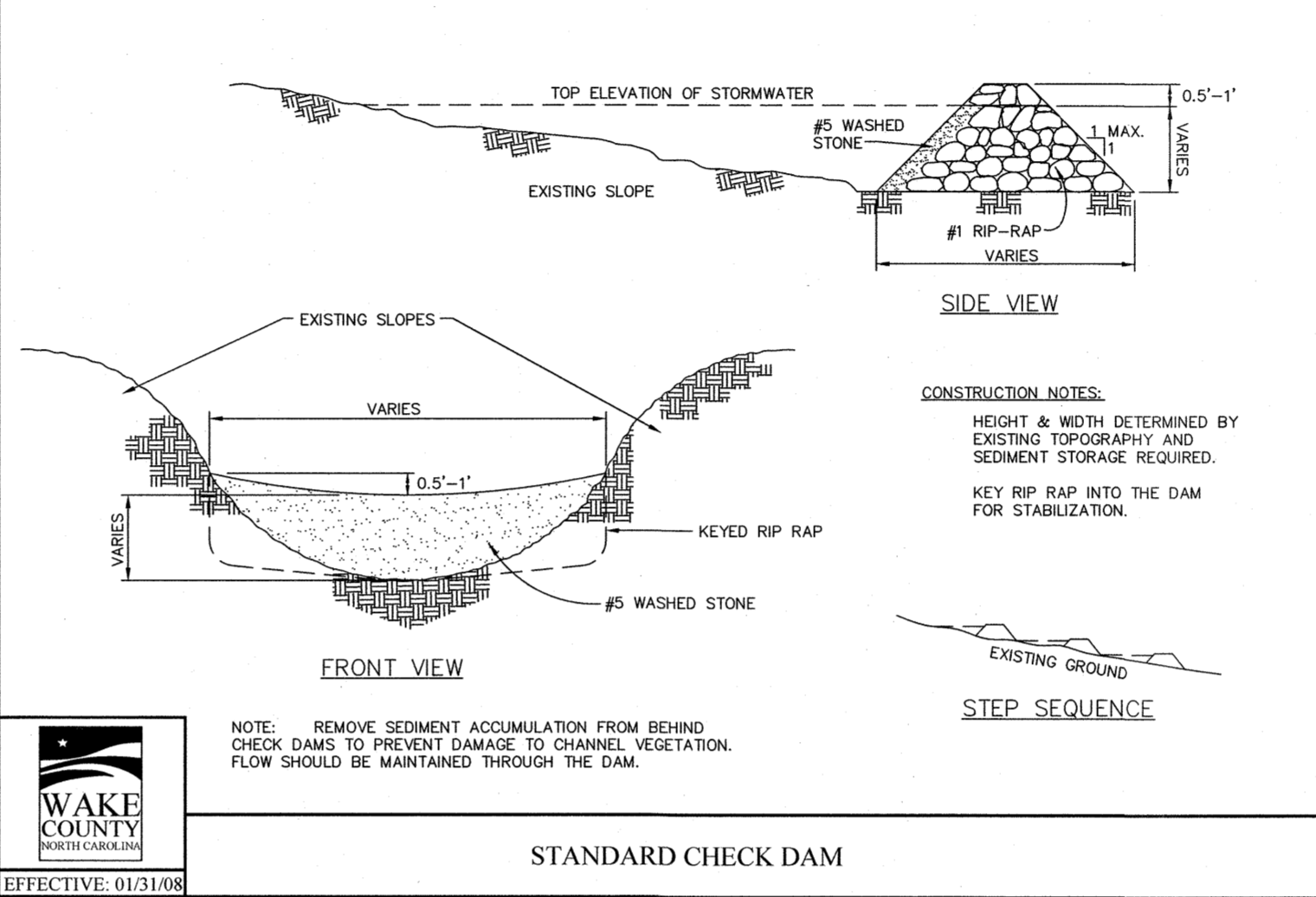
STANDARD GRAVEL BAG CURB INLET PROTECTION

EFFECTIVE: 01/31/08



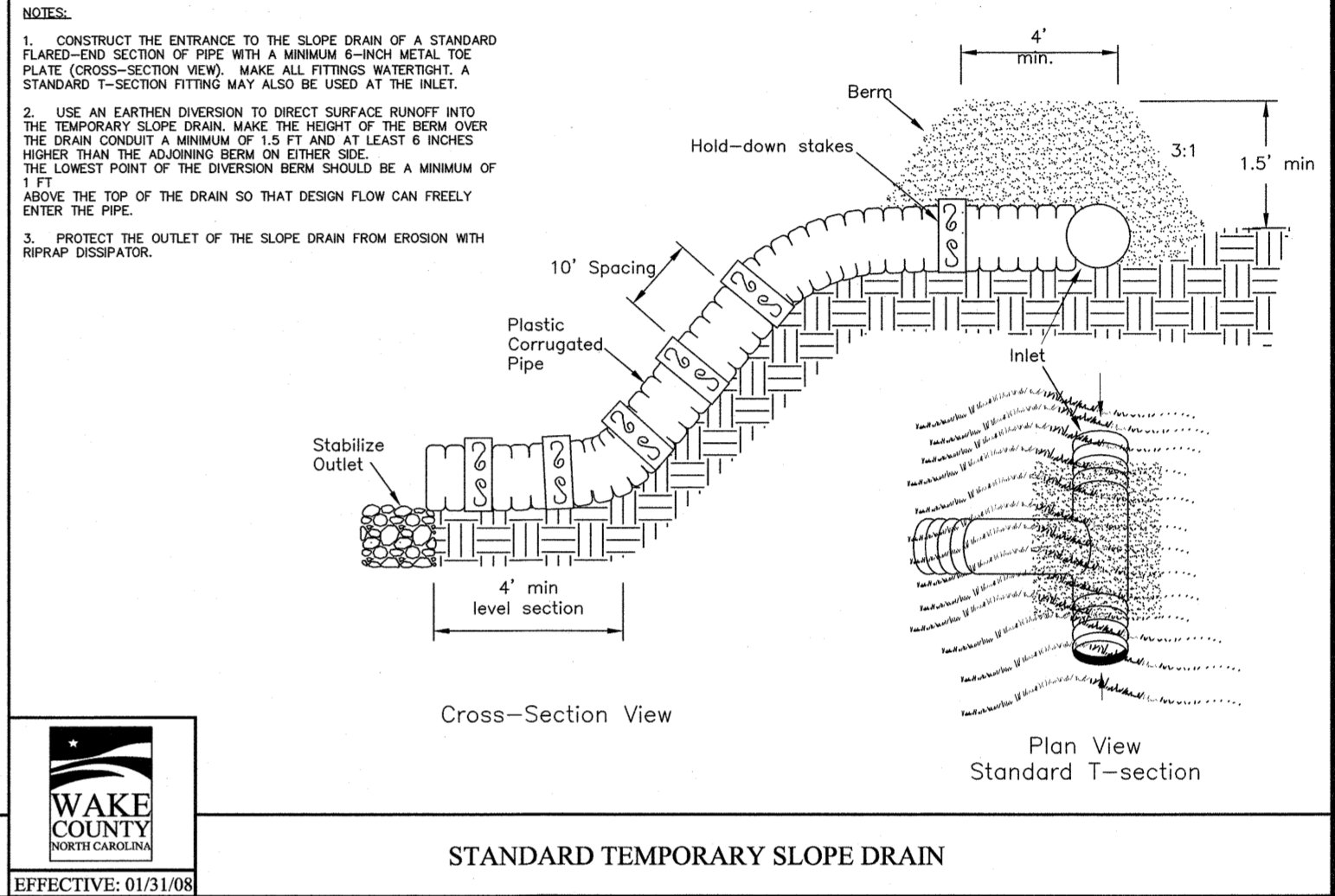
STANDARD TEMPORARY SILT FENCE

EFFECTIVE: 01/31/08



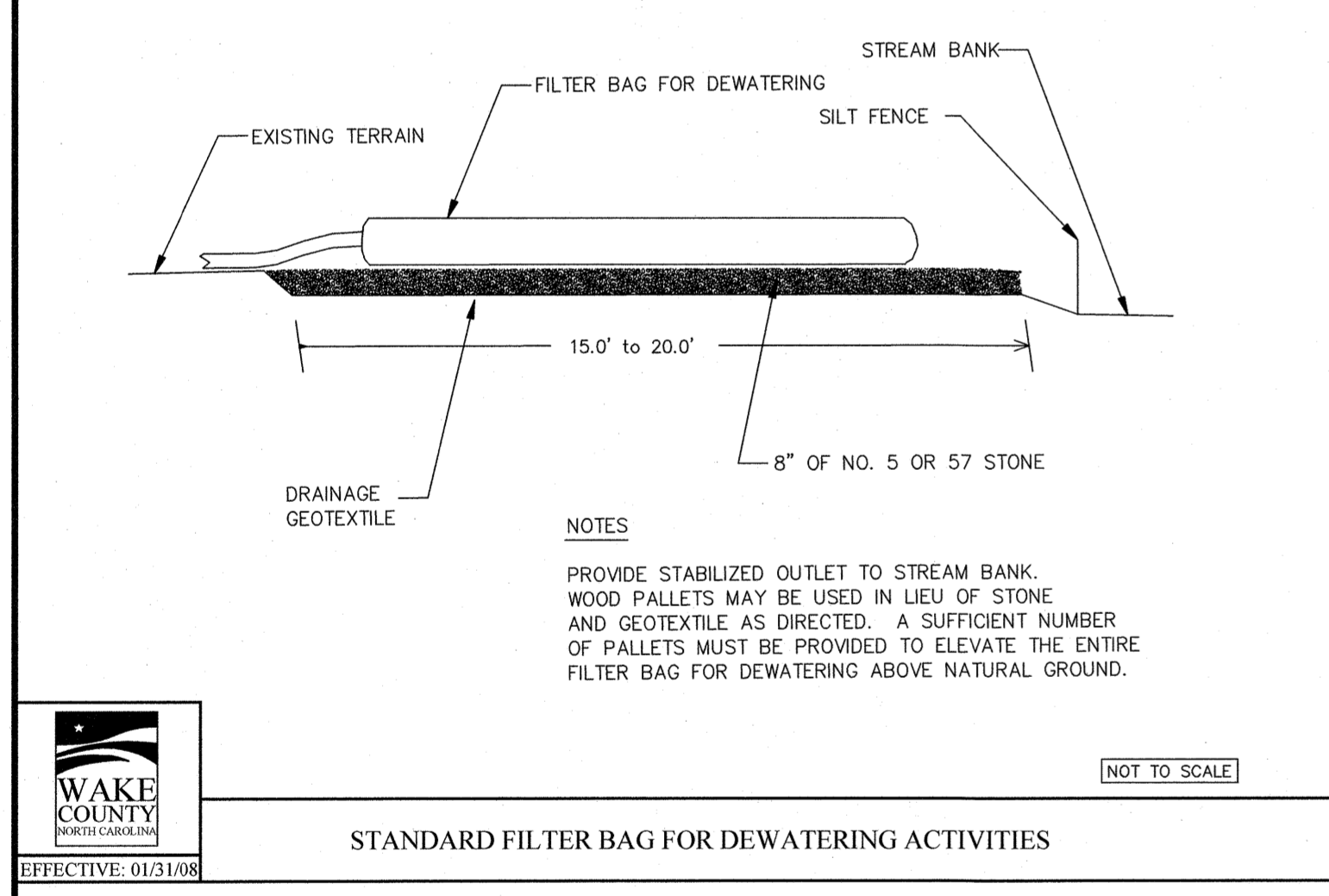
STANDARD CHECK DAM

EFFECTIVE: 01/31/08



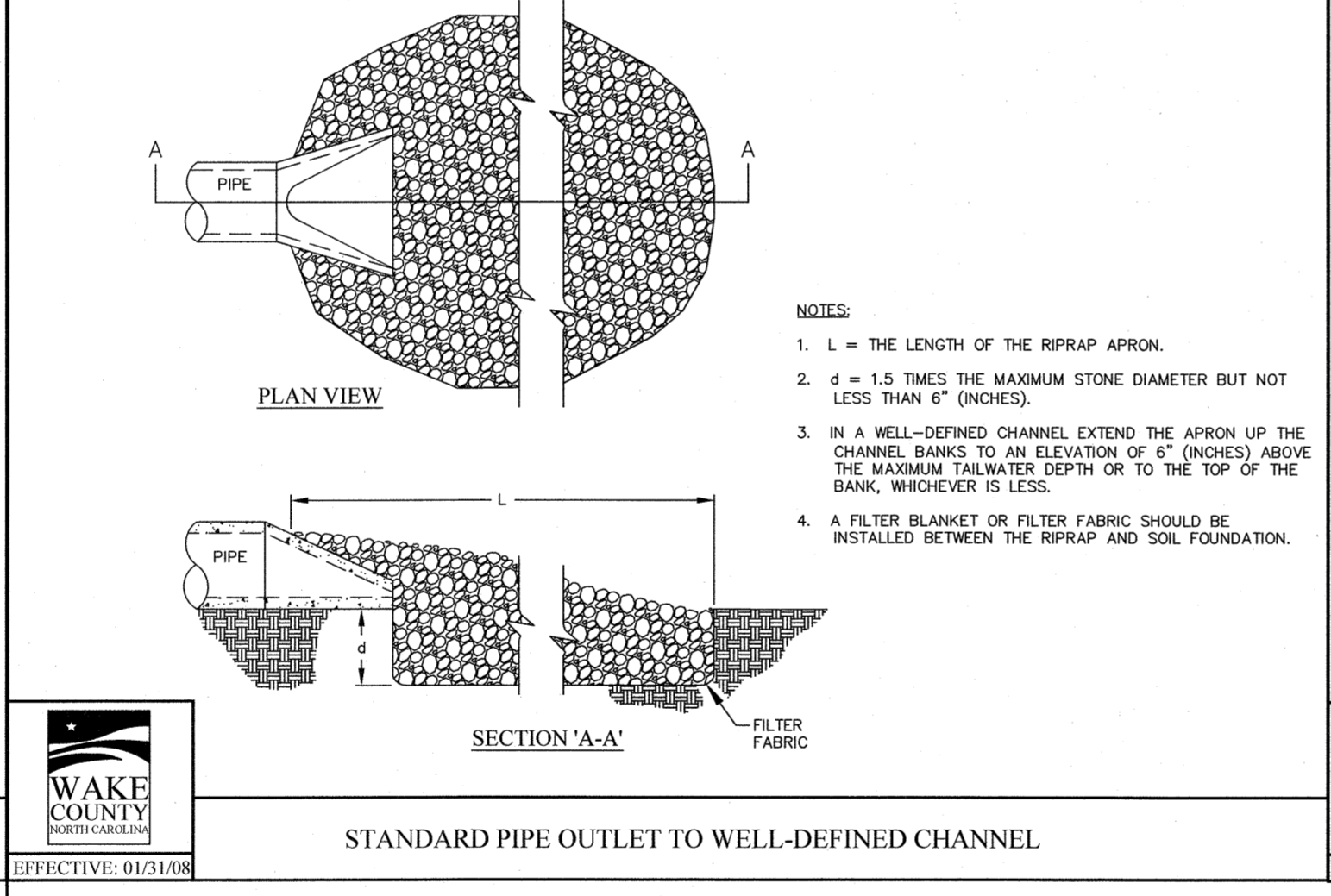
STANDARD TEMPORARY SLOPE DRAIN

EFFECTIVE: 01/31/08



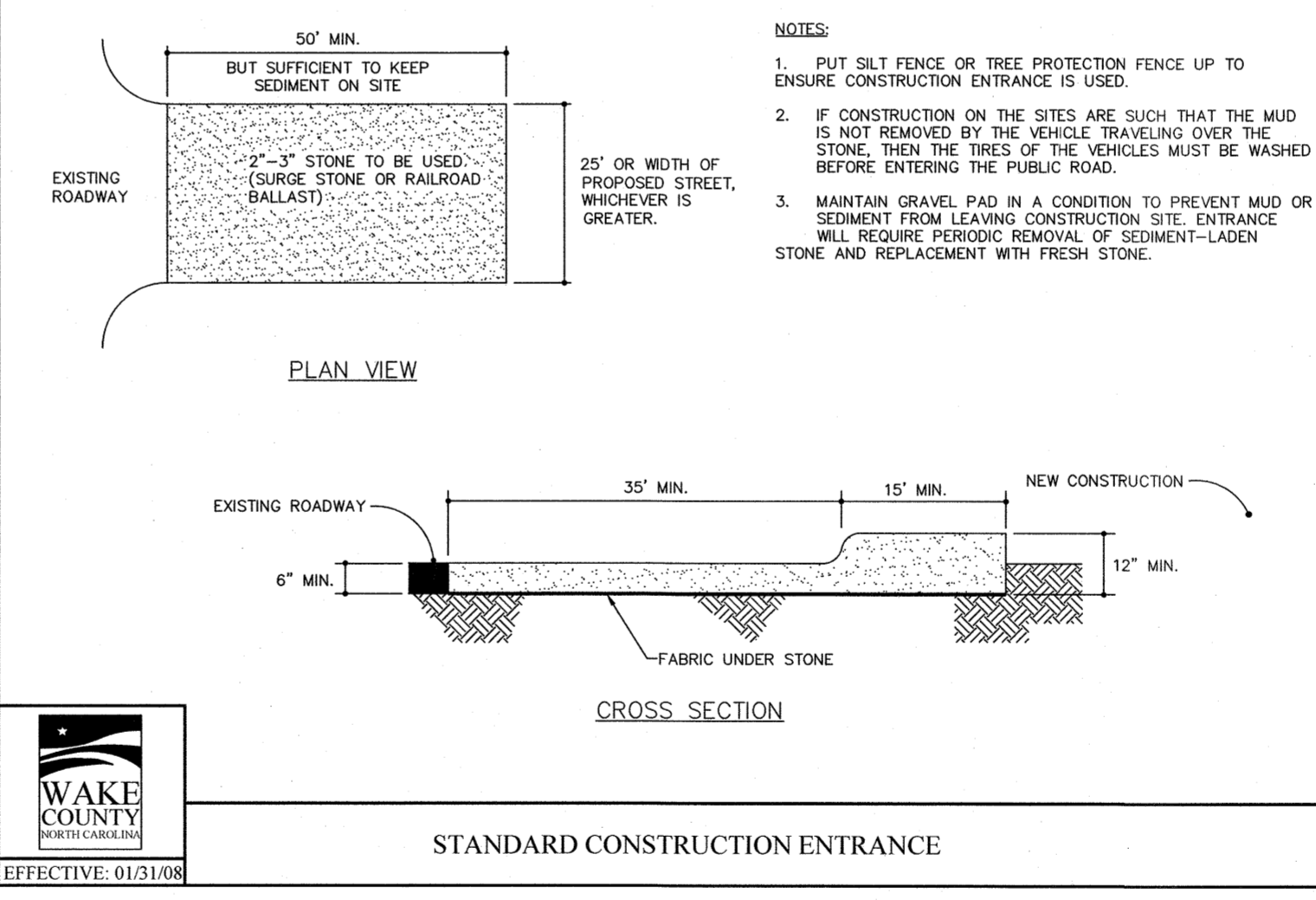
STANDARD FILTER BAG FOR DEWATERING ACTIVITIES

EFFECTIVE: 01/31/08



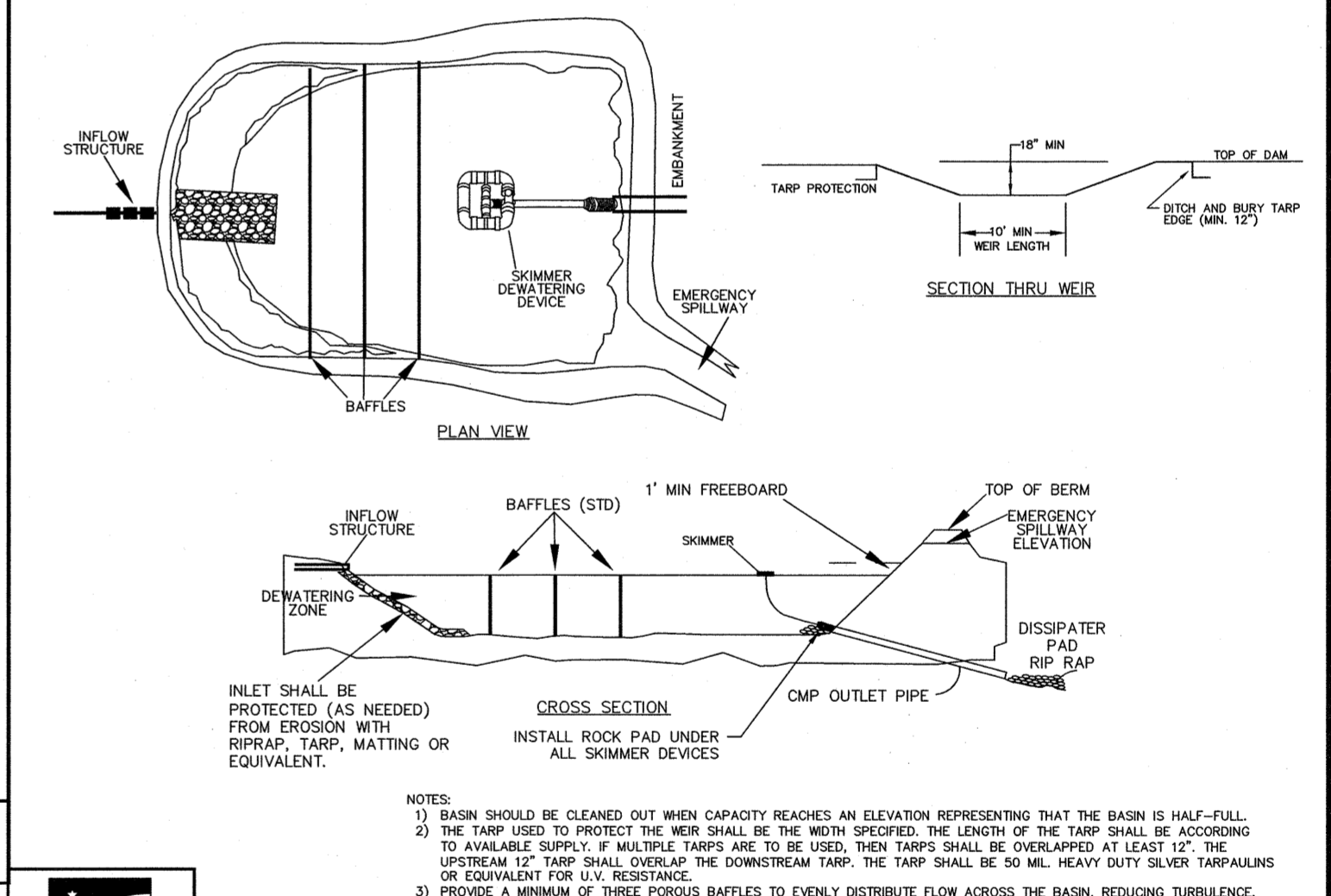
STANDARD PIPE OUTLET TO WELL-DEFINED CHANNEL

EFFECTIVE: 01/31/08



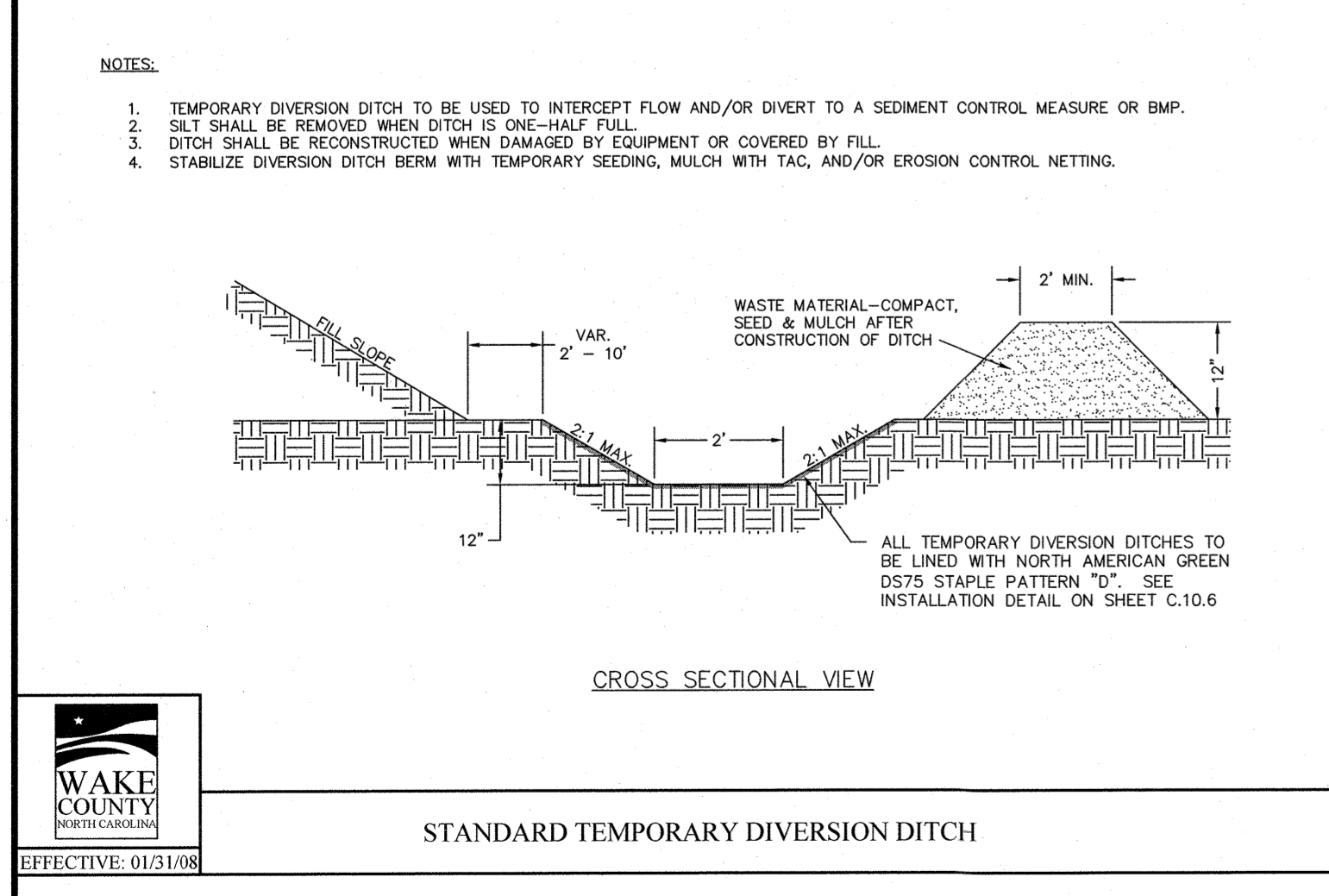
STANDARD CONSTRUCTION ENTRANCE

EFFECTIVE: 01/31/08



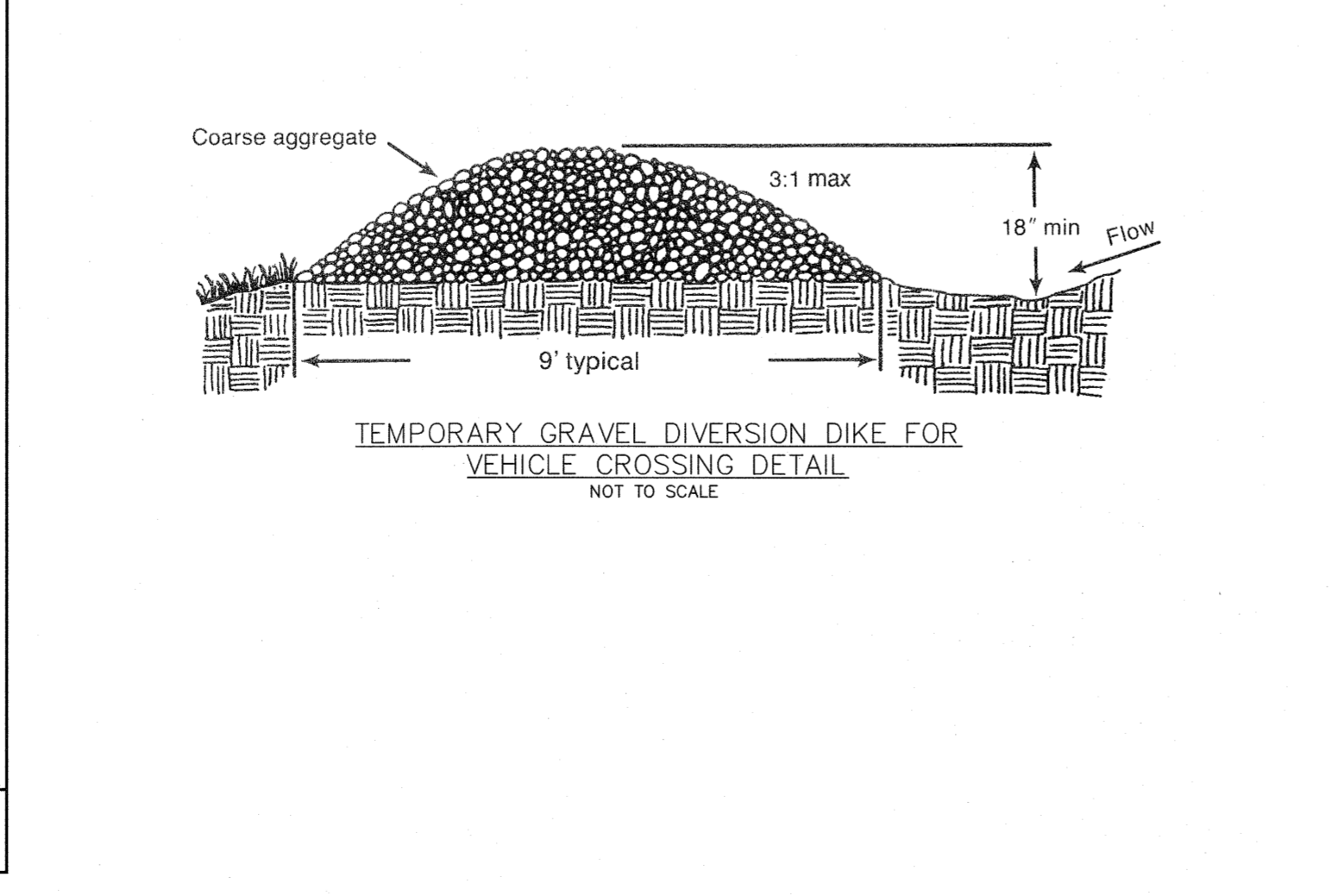
STANDARD SKIMMER BASIN

EFFECTIVE: 01/31/08



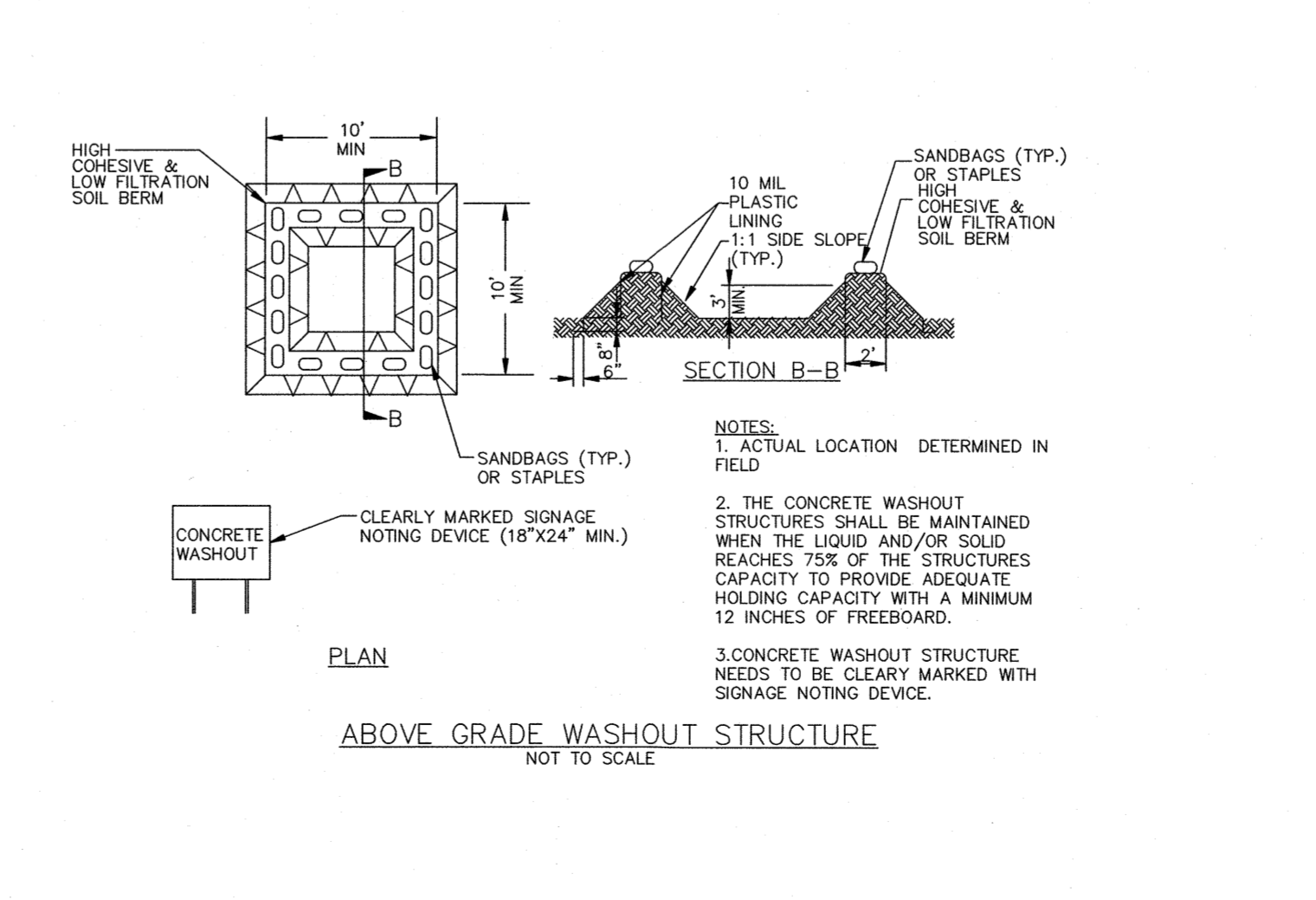
STANDARD TEMPORARY DIVERSION DITCH

EFFECTIVE: 01/31/08



TEMPORARY GRAVEL DIVERSION DIKE FOR VEHICLE CROSSING DETAIL

NOT TO SCALE



ABOVE GRADE WASHOUT STRUCTURE

NOT TO SCALE



STANDARD TEMPORARY DIVERSION DITCH

EFFECTIVE: 01/31/08

PLAN PREPARED BY: ADVANCED CIVIL DESIGN ENGINEERS SURVEYORS
 51 Kilmorye Drive, Suite 102
 Cary, North Carolina 27511
 PH 919.464.9990
 FAX 919.336.9127

PLAN PREPARED FOR: BEACON PARTNERS
 500 East Main Street
 Suite 200
 Charlotte, North Carolina 28202
 Tel. 704.367.7777
 Fax 704.366.6315

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY
 CONSTRUCTION PLAN
 FOR
 BEACON PARTNERS
 DETAILS

Issue Dates:
 09/20/2022 - Construction Plan Submittal #1
 11/17/2022 - Construction Plan Submittal #2
 12/22/2022 - Construction Plan Submittal #3
 02/10/2023 - Construction Plan Submittal #4
 03/03/2023 - Construction Plan Submittal #5
 03/20/2023 - Construction Plan Signature Set

Date: 03/20/2023
 Scale: NOT TO SCALE

Drawn By: AMK
 Checked By: JRR

Project Number:
 21-0011-504

Drawing Number:
C.10.2

North Carolina Professional Engineer Seal
 SEAL 045155
 W. RAYMOND WALKER, P.E.
 WAKE COUNTY, NORTH CAROLINA

C:\21-0011-504\NC\DWG\Production Drawings\SITE CONSTRUCTION\0011-504\NC\DETAILS.dwg EC DETAILS Mar 20, 2023 10:41:10am Jroyal

ZMA-16-21

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator

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). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION		
Site Area Description	Required Ground Stabilization Timeframes	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	Stabilize within this many calendar days after ceasing land disturbance	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed - 7 days for slopes greater than 50' in length and with slopes steeper than 4:1 - 7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones
(d) Slopes 3:1 to 4:1	14	- 10 days for Falls Lake Watershed - 7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones unless there is zero slope
(e) Areas with slopes flatter than 4:1	14	- 7 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

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

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Roller erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Roller erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items to waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

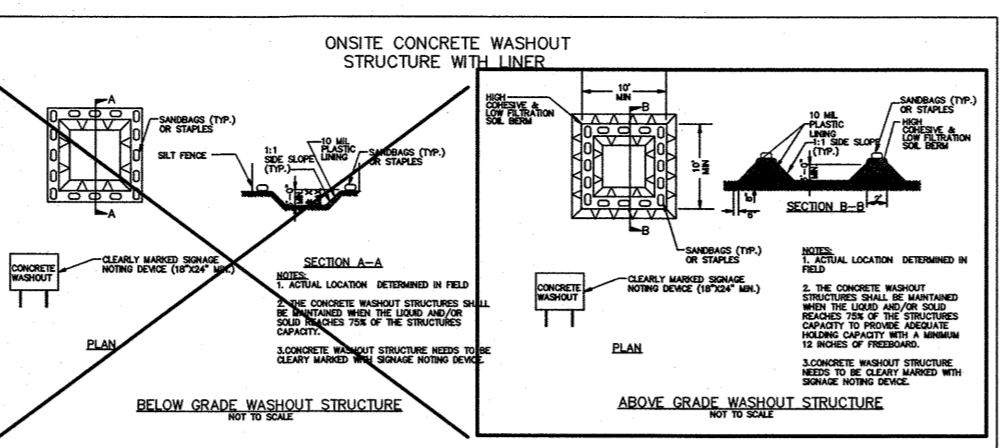
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Provide the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- 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 site fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- 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.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection area on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

Specification Sheet
EroNet™ 575" Erosion Control Blanket

The short term single net erosion control blanket shall be a machine produced mat of 100% agricultural straw with a functional longevity of up to 12 months. (NOTE: Functional longevity may vary depending upon climate conditions, soil, geographical location, and elevation) The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top side with a lightweight photodegradable polypropylene netting having an approximate 0.50 x 0.50 ft. (15.2 x 15.2 cm) mesh. The blanket shall be woven together on 1.50 inch (3.81 cm) centers with degradable thread. The blanket shall be manufactured with a coated thread stitched along both outer edges (approximately 2.5 inches (6.35 cm) from the edge) on a concrete guide for adjacent mats.

The 575 shall meet Type 2 specification requirements established by the Erosion Control Technology Council (ETC) and Federal Highway Administration's (FHWA) PP-03 Section 751.3

Material Property	Test Method	Typical
Thickness	ASTM D6625	0.28 in. (7 mm)
Resiliency	ETC Guidelines	70.0%
Water Absorbency	ASTM D1917	30%
Mass/Unit Area	ASTM D6645	3.76 lb/yd ² (33.2 g/m ²)
Swirl	ETC Guidelines	10%
Stainability	ETC Guidelines	1%
Softness	ASTM D1918	4.31 lb/in
Light Penetration	ASTM D6647	6.0%
Tensile Strength - MD	ASTM D6618	102.43 lb/ft (14.81 kN/m)
Elongation - MD	ASTM D6618	36.1%
Tensile Strength - TD	ASTM D6618	79.3 lb/ft (10.81 kN/m)
Elongation - TD	ASTM D6618	26.4%
Biomass Improvement	ASTM D7322	30%

Design Permissible Shear Stress	
Unvegetated Shear Stress	1.55 psf (24 Pa)
Unvegetated Velocity	5.00 fms (1.52 m/s)

Slope Design Data: C Factors	
Slope Length (L)	1-33' 31'-23' 2-33'
2-33' (9-m)	0.025 N/A N/A
30-50 ft	0.1 N/A N/A
1-50 ft (15.2 m)	0.2 N/A N/A

Roughness Coefficients - Unveg	
Flow Depth	Manning's n
1-0.50 ft (0.15 m)	0.055
0.50 - 2.0 ft	0.055-0.021
2.0 ft (0.60 m)	0.021

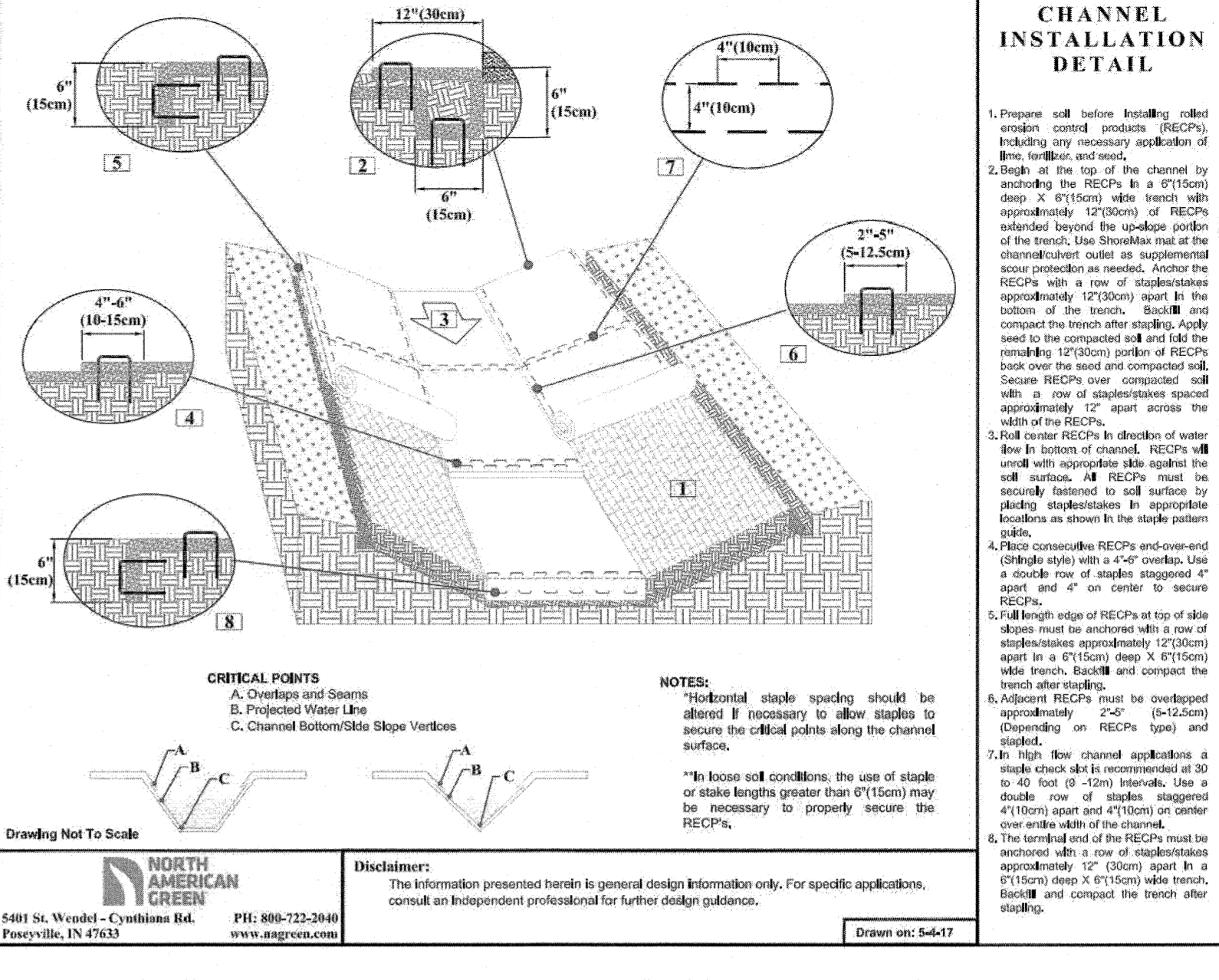
Standard Roll Sizes

Width	Length	Weight
6.67 ft (2.03 m)	80.0 ft (24.4 m)	16 lb (7.26 kg)
10.8 ft (3.29 m)	112 ft (34.1 m)	16 lb (7.26 kg)
16.2 ft (4.94 m)	162 ft (49.7 m)	16 lb (7.26 kg)
21.6 ft (6.58 m)	216 ft (66.0 m)	16 lb (7.26 kg)

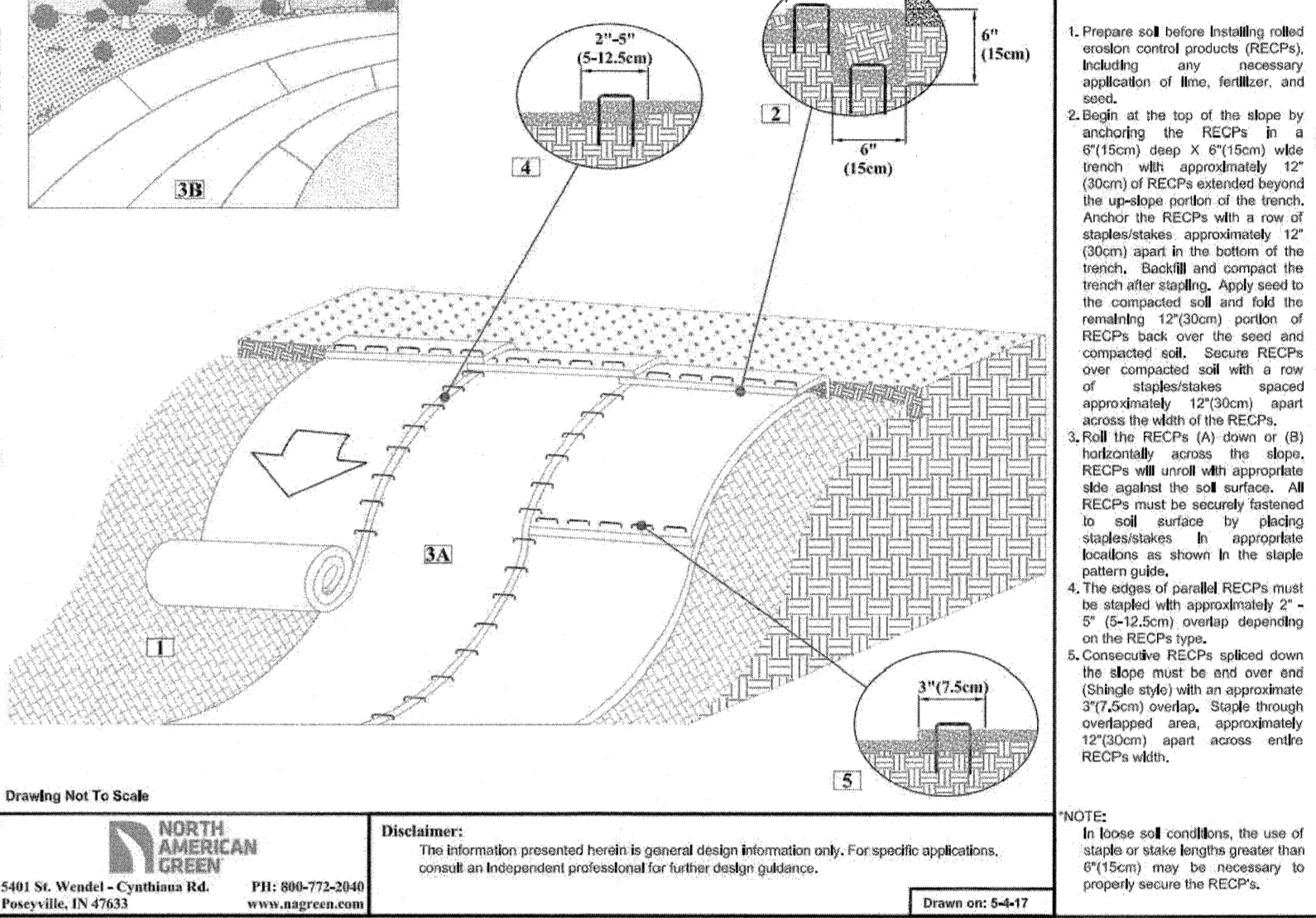
Area

Roll Size	Weight
80 sq yd (64.5 m ²)	100 sq yd (76.8 m ²)
160 sq yd (129 m ²)	200 sq yd (153.6 m ²)

North American Green logo and contact information.



SLOPE INSTALLATION DETAIL



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 on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspector is needed). Days on which no rainfall occurred shall be recorded as "zero". The permittee may use another rain-monitoring device approved by the Division.
(2) E&S Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Indication of whether the measures were operating in accordance with the approved E&S plan. 5. Description of maintenance needs for the measure. 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outlets (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outlets inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration. 5. Indicators of visible sediment leaving the site. 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits. 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite where accessible	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section E, Item 2(d) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The date of installation of perimeter E&S measures, cleaning and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

SECTION B: RECORDKEEPING

- 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. The following items pertaining to the E&S plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&S measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&S plan.	Initial and date each E&S measure on a copy of the approved E&S plan or complete, date and sign an inspection report that lists each E&S measure shown on the approved E&S plan. This documentation is required upon the initial installation of the E&S measures or if the E&S measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&S plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&S plan.	Initial and date a copy of the approved E&S plan or complete, date and sign an inspection report to indicate completion of the ground cover specifications.
(d) The maintenance and repair requirements for all E&S measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&S measures.	Initial and date a copy of the approved E&S plan or complete, date and sign an inspection report to indicate the completion of the corrective action.
- Additional Documentation to be Kept on Site

In addition to the E&S plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

 - This General Permit as well as the Certificate of Coverage, after it is received.
 - Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
- Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

- Occurrences that Must be Reported

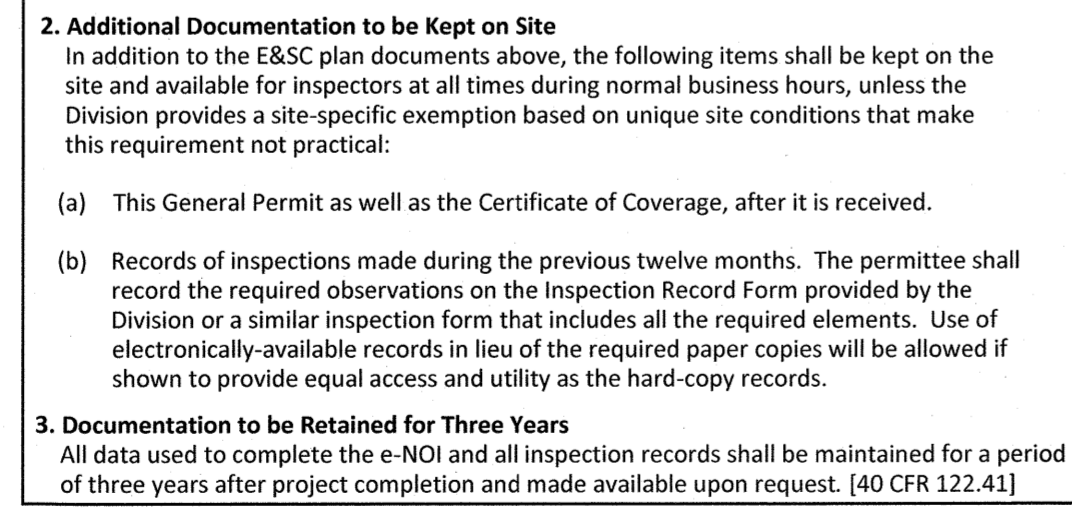
Permittees shall report the following occurrences:

 - Visible sediment deposition in a stream or wetland.
 - Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
 - Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
 - Anticipated bypasses and unanticipated bypasses.
 - Noncompliance with the conditions of this permit that may endanger health or the environment.
- Reporting Timeframes and Other Requirements

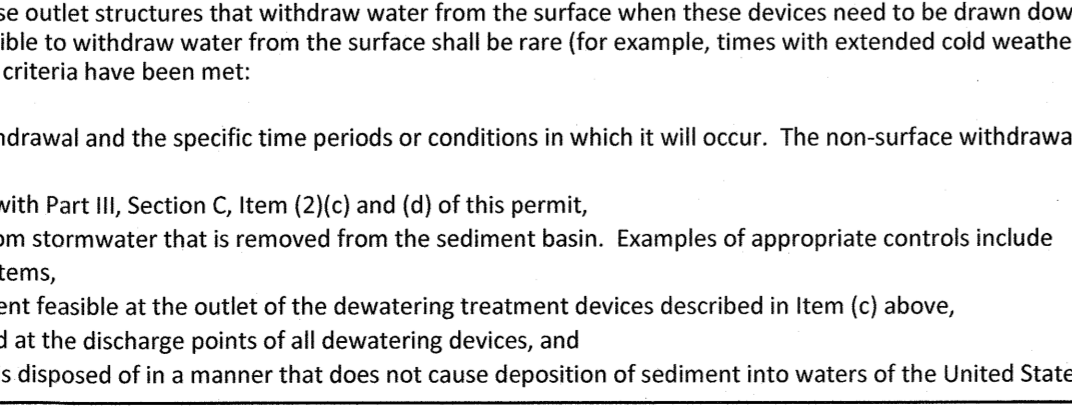
After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)(c) above	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release. A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass. Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass. Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.43(i)(6)]. Division staff may waive the requirement for a written report on a case-by-case basis.
(c) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass. Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass. Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.43(i)(6)]. Division staff may waive the requirement for a written report on a case-by-case basis.
(d) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(j)(7)]	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.43(i)(6)]. Division staff may waive the requirement for a written report on a case-by-case basis.

SECTION D: DRAWING DETAILS



SECTION E: DRAWING DETAILS



PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

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(2) E&S Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Indication of whether the measures were operating in accordance with the approved E&S plan. 5. Description of maintenance needs for the measure. 6. Description, evidence, and date of corrective actions taken.
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 - Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
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PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

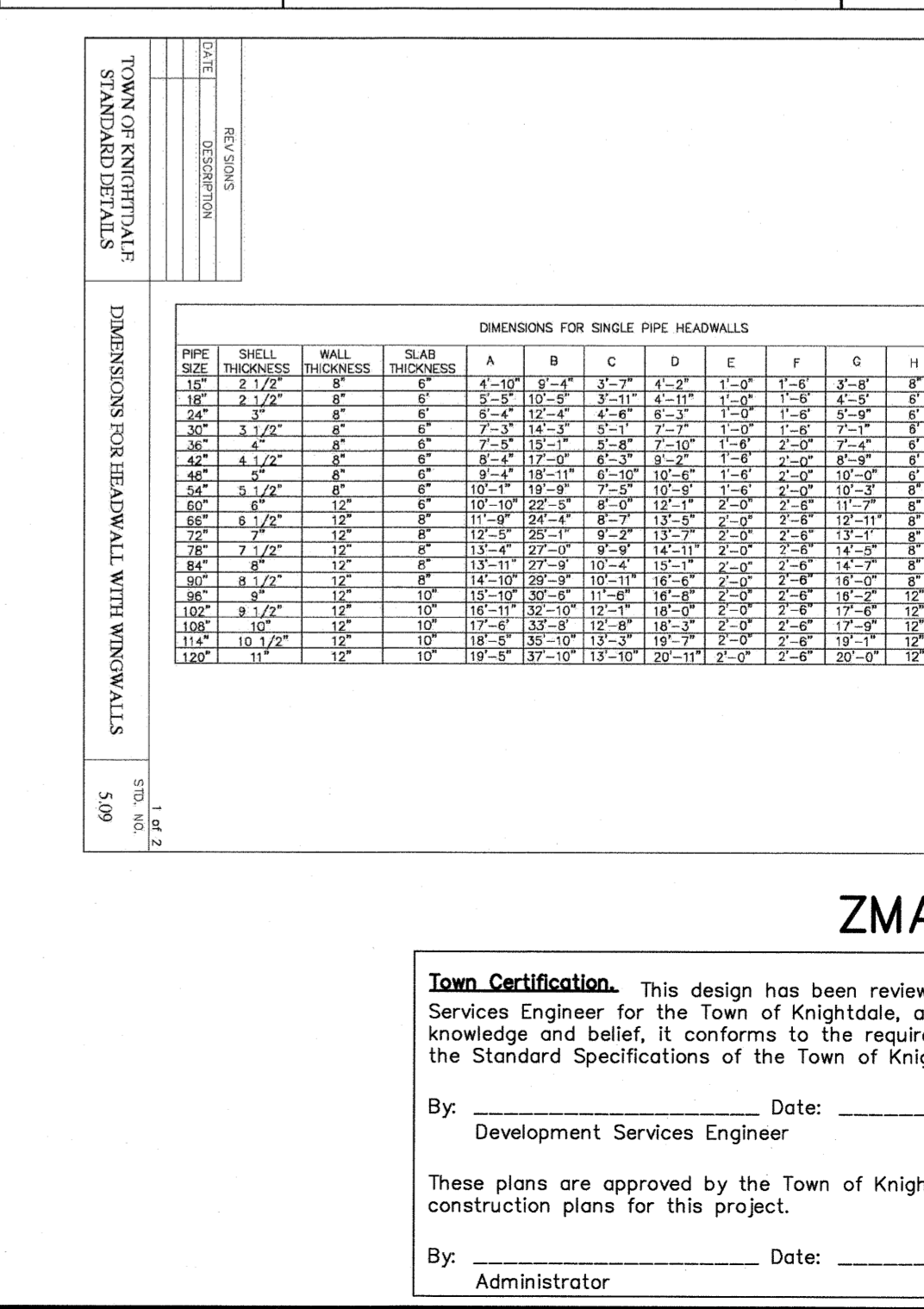
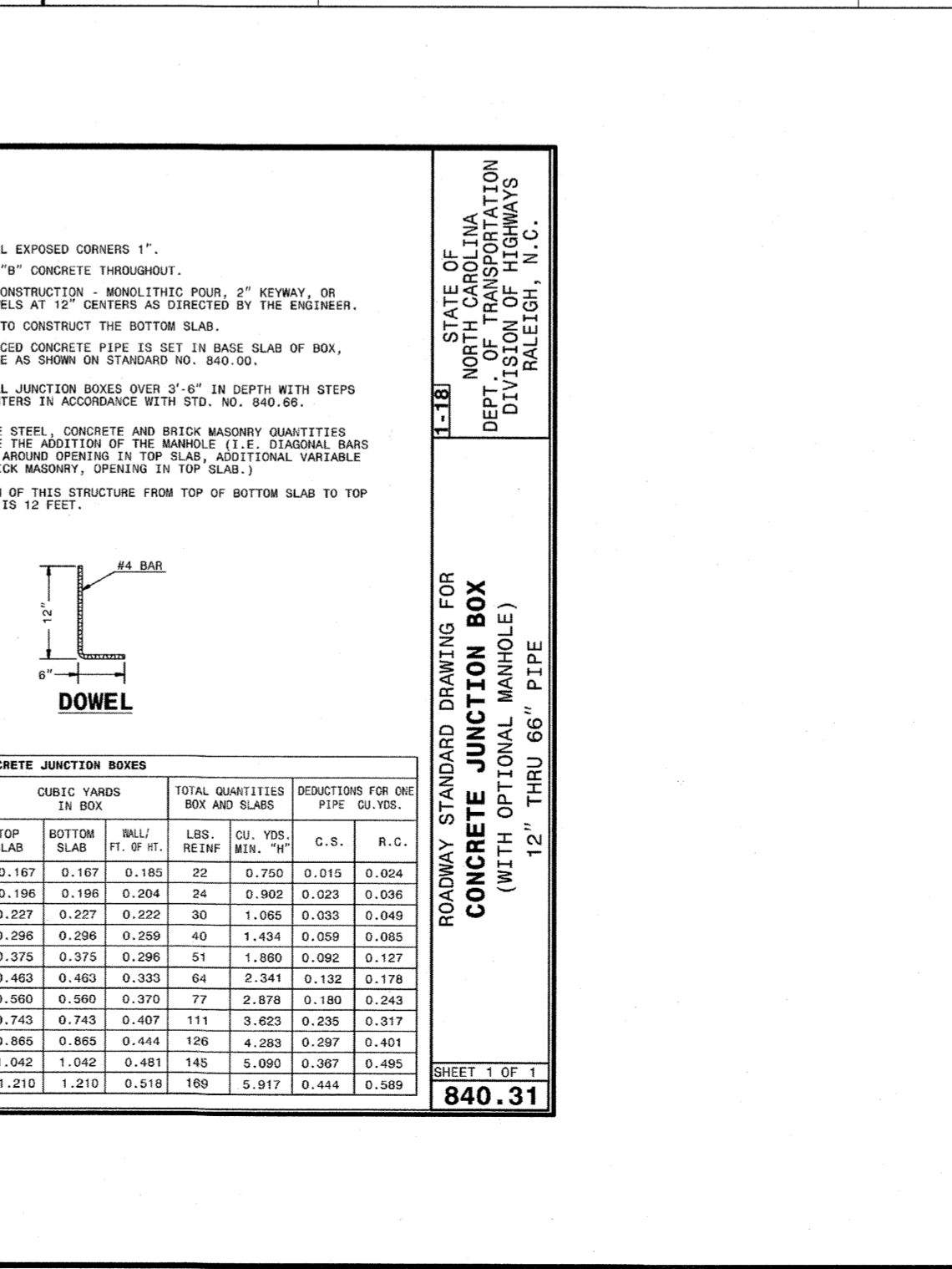
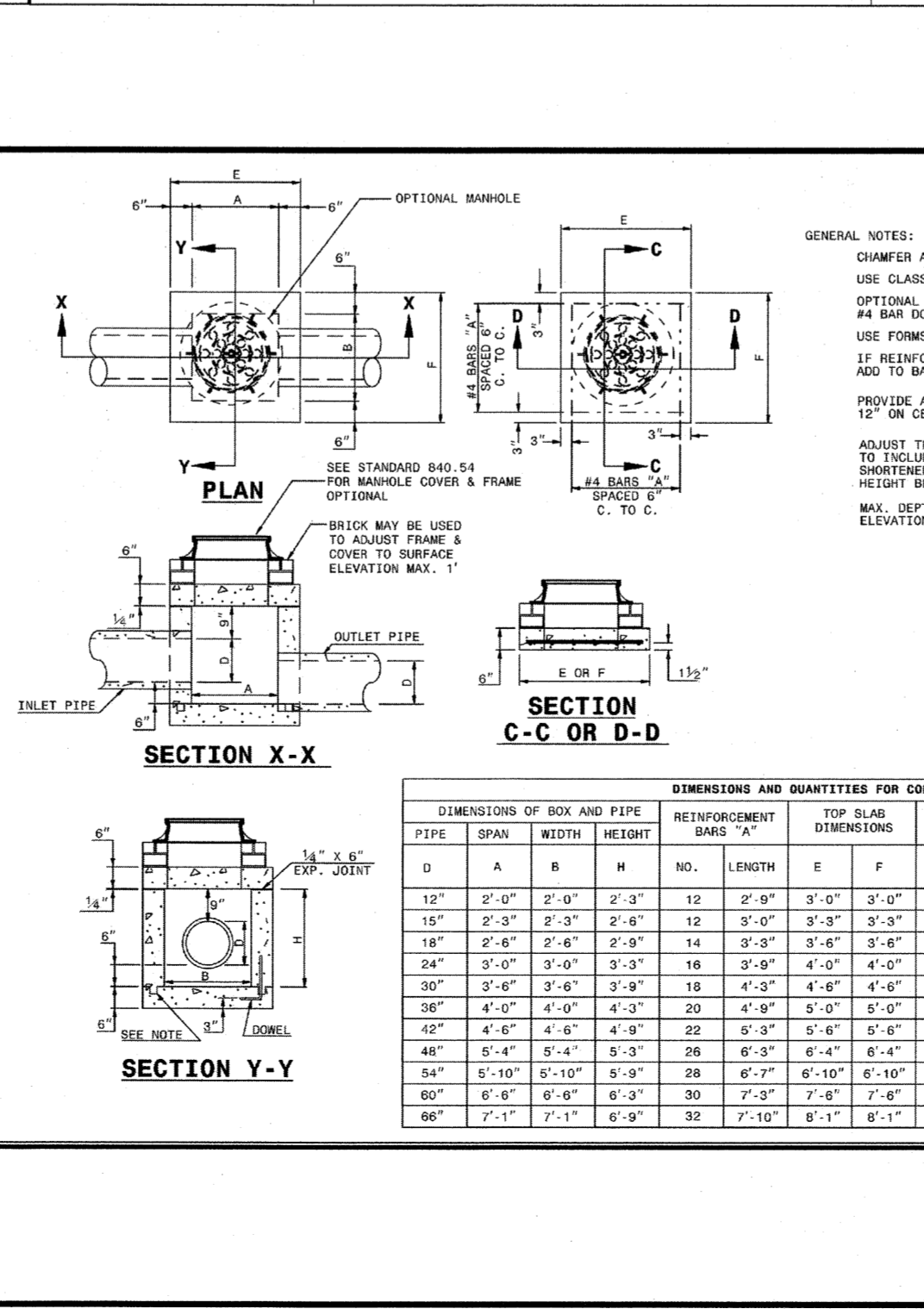
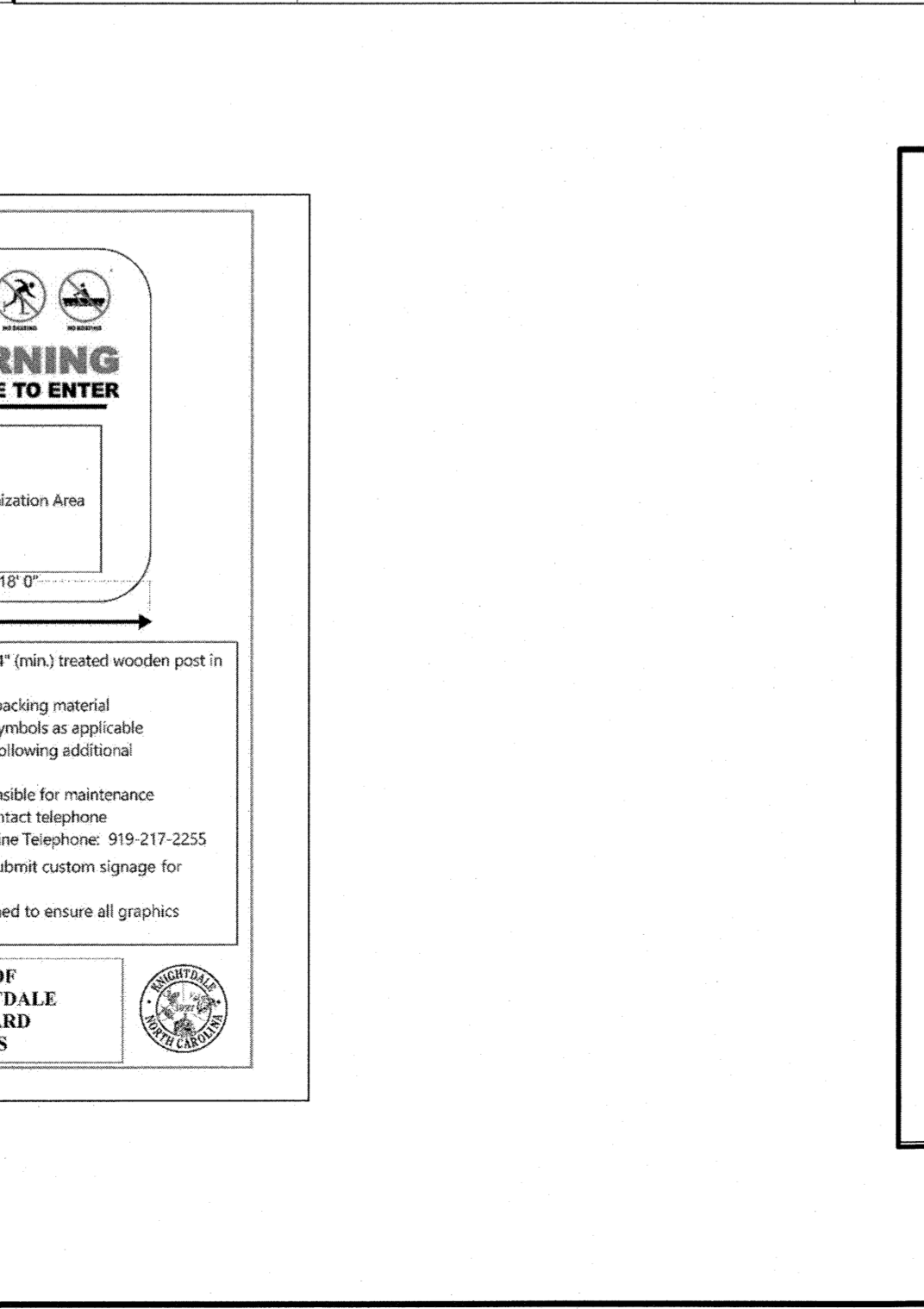
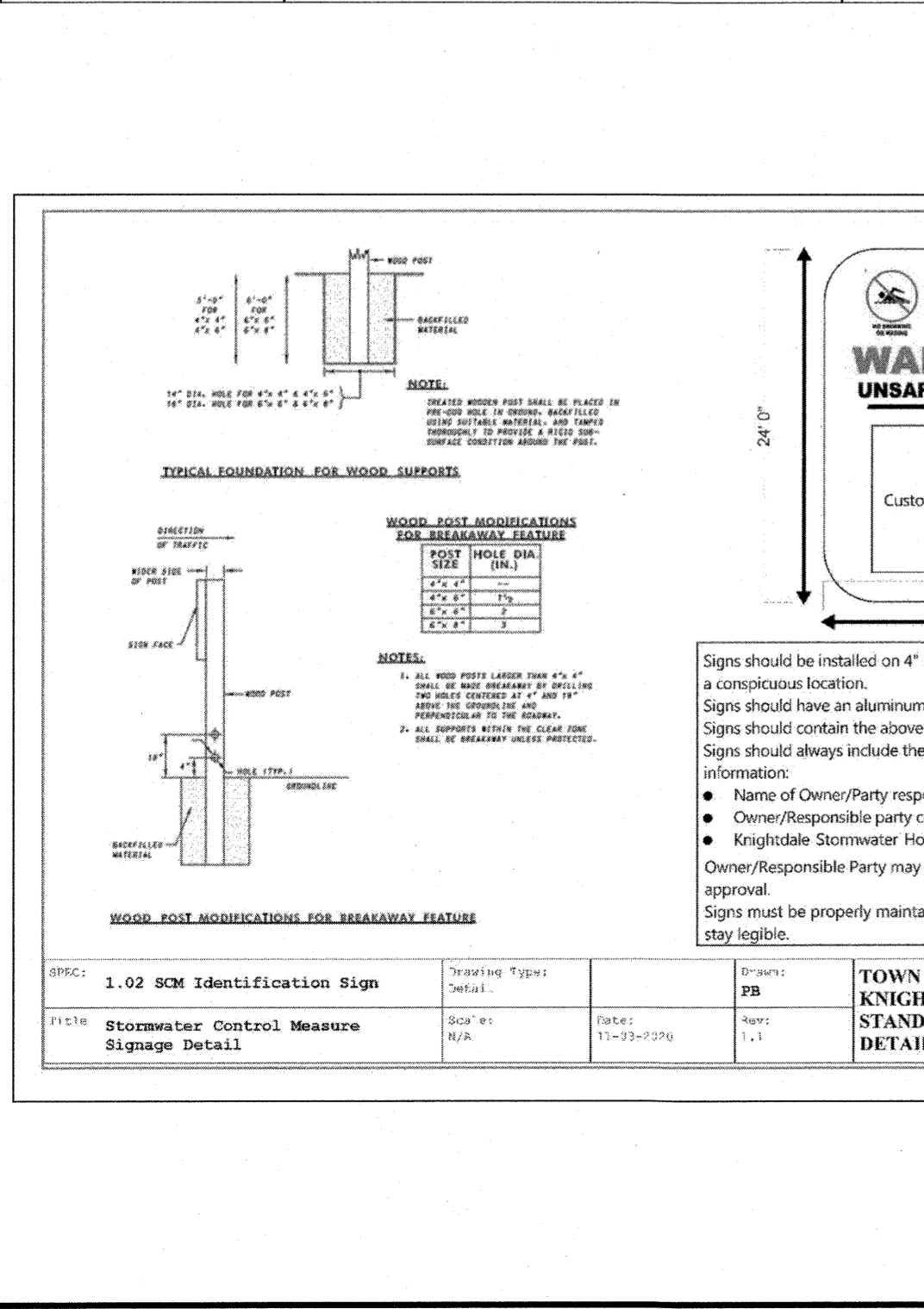
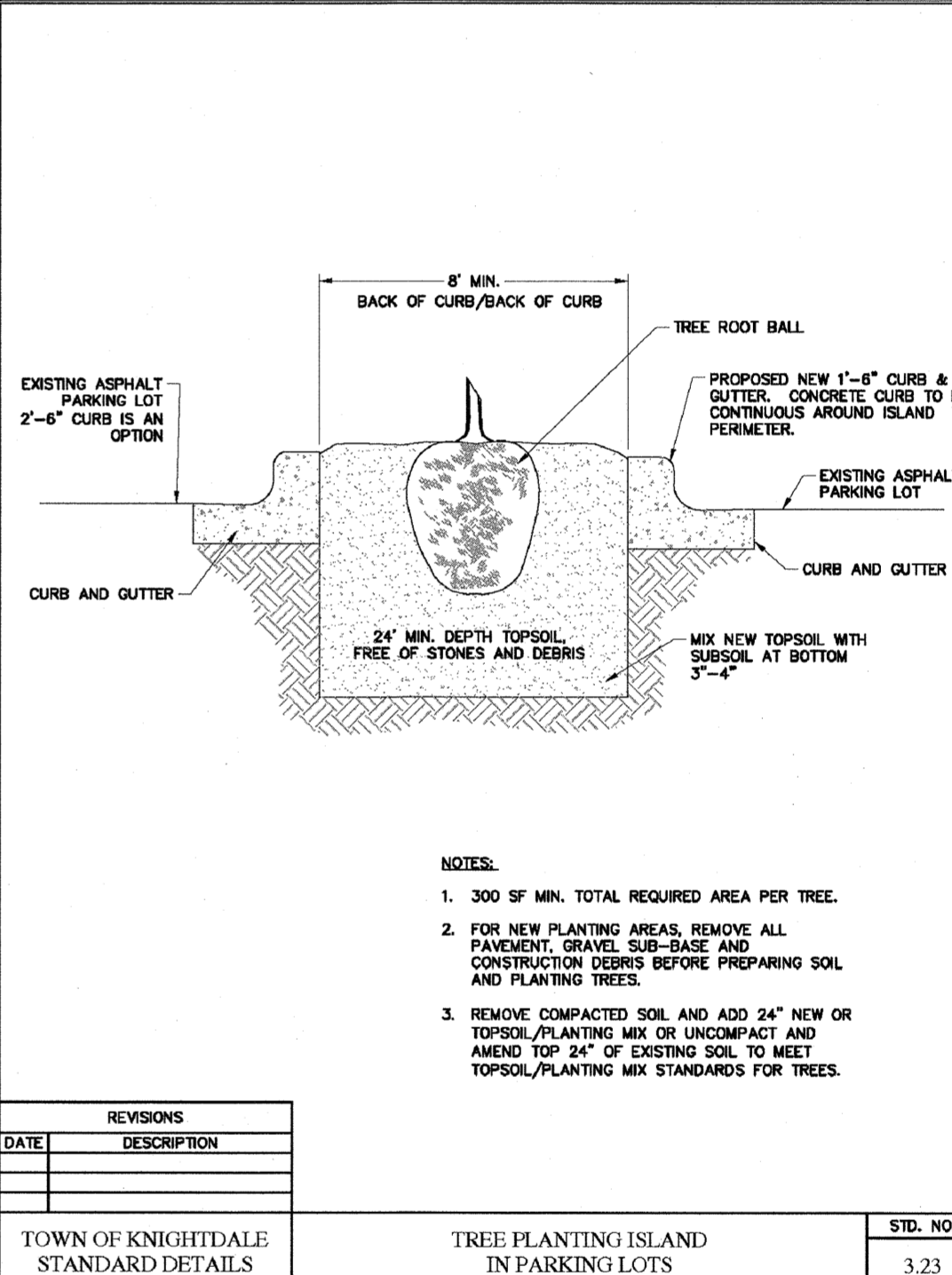
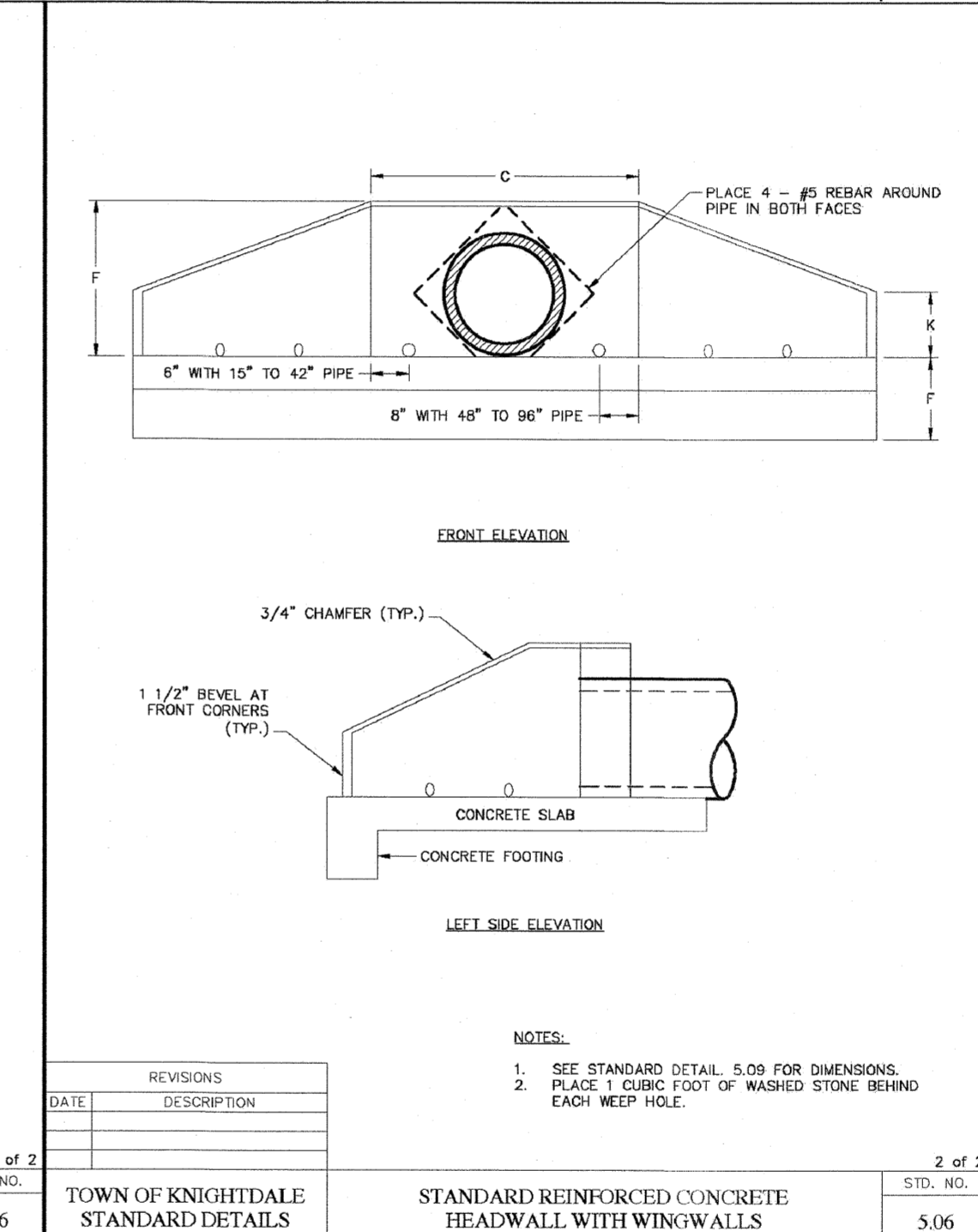
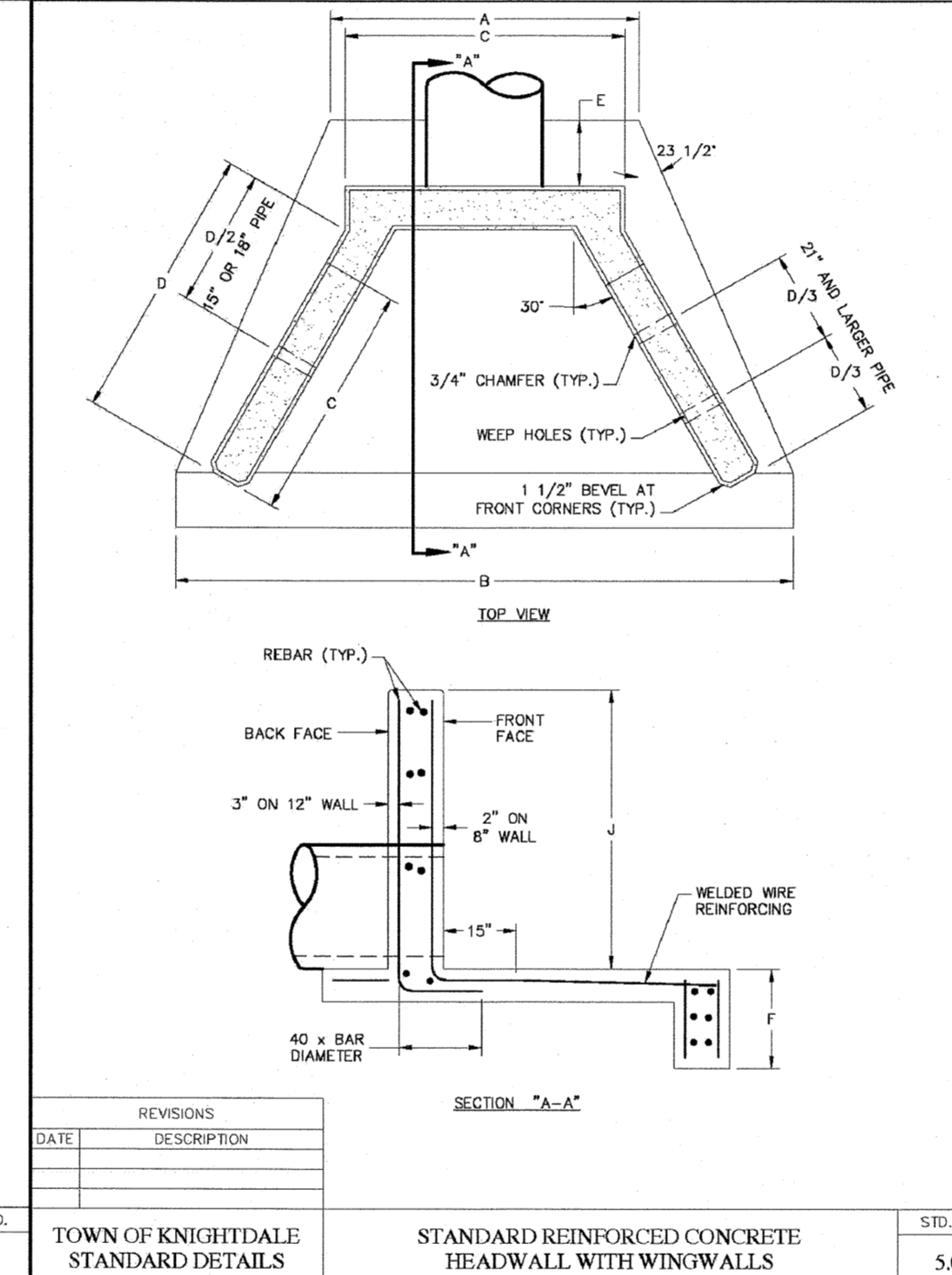
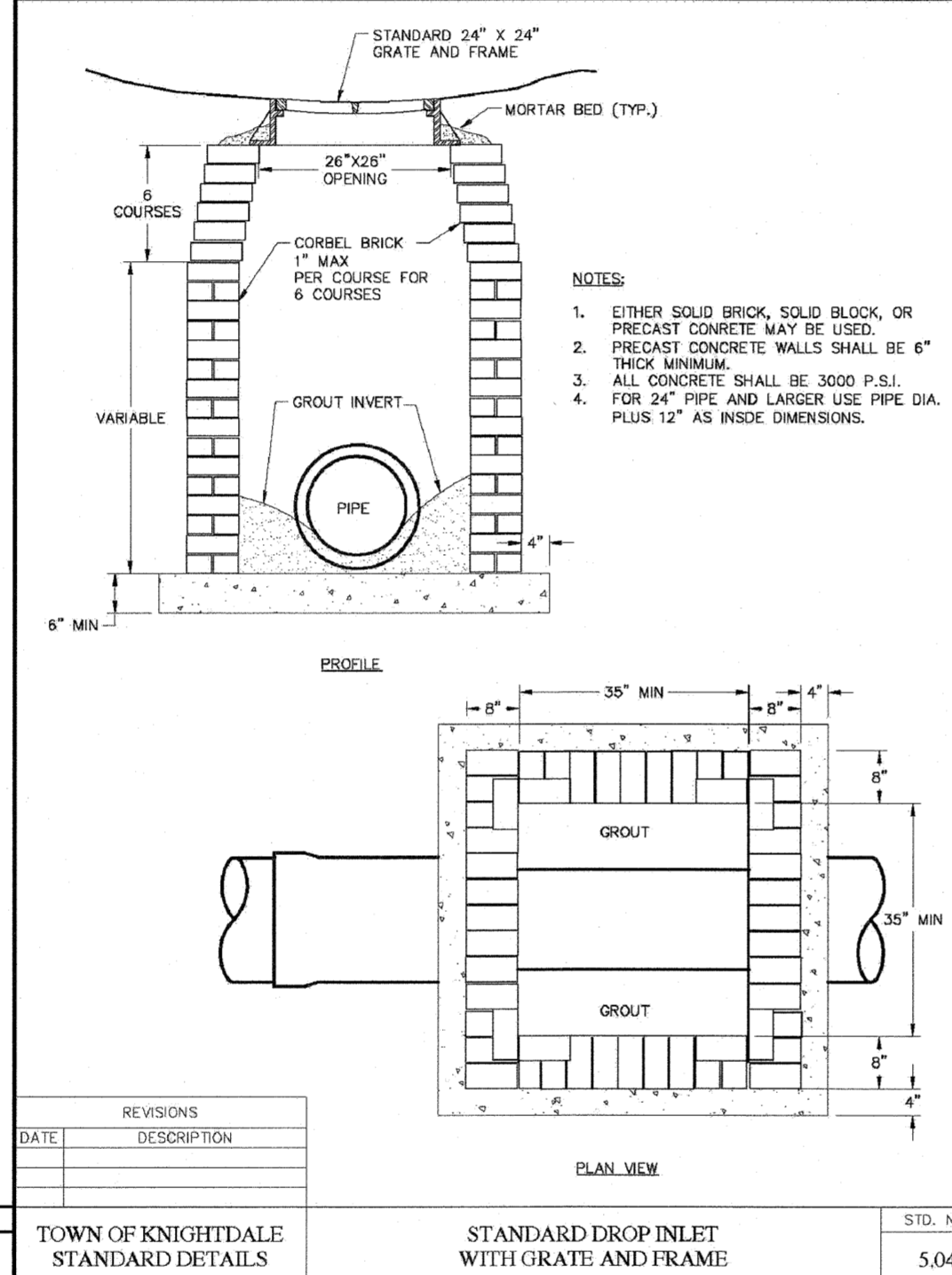
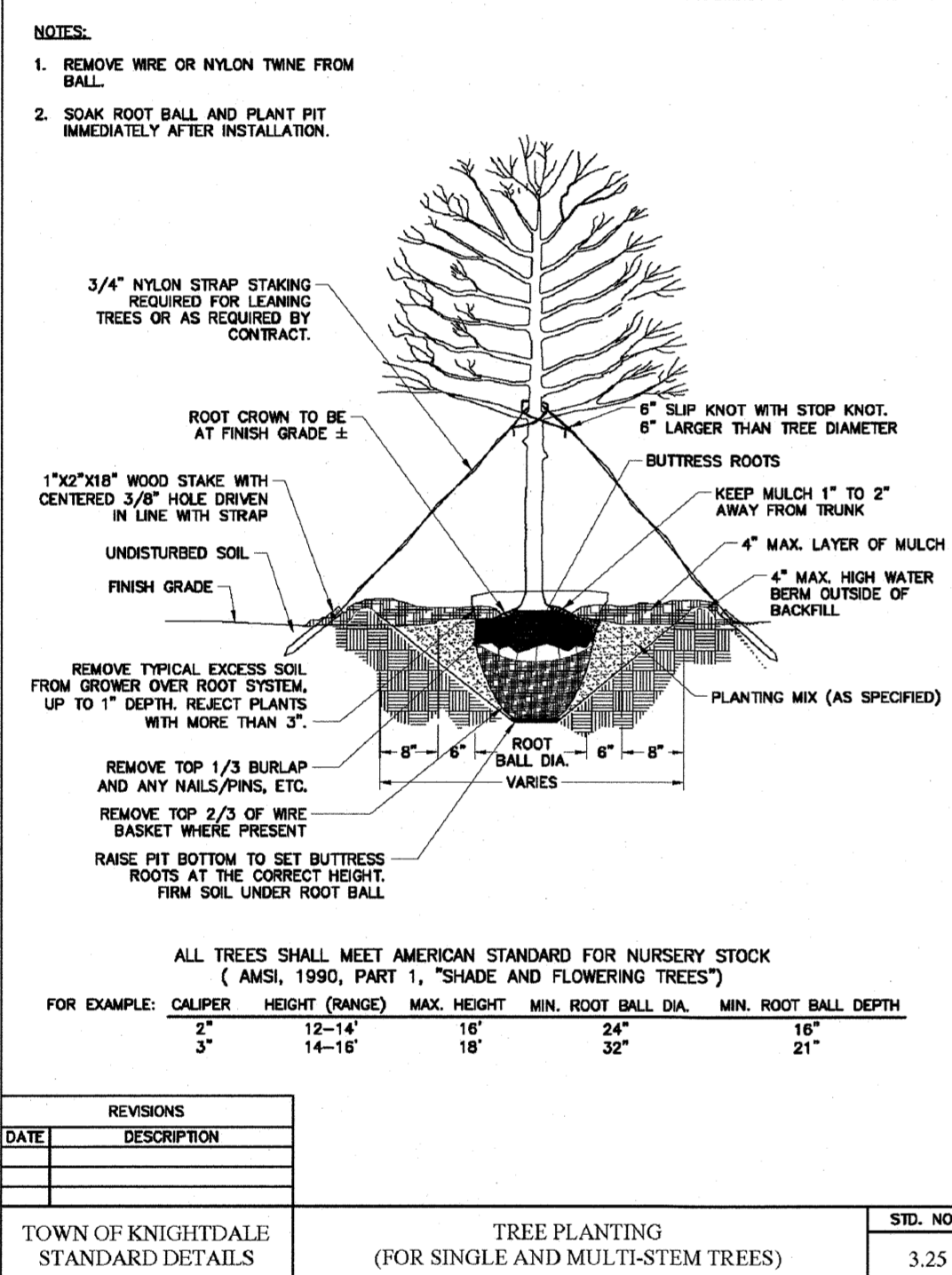
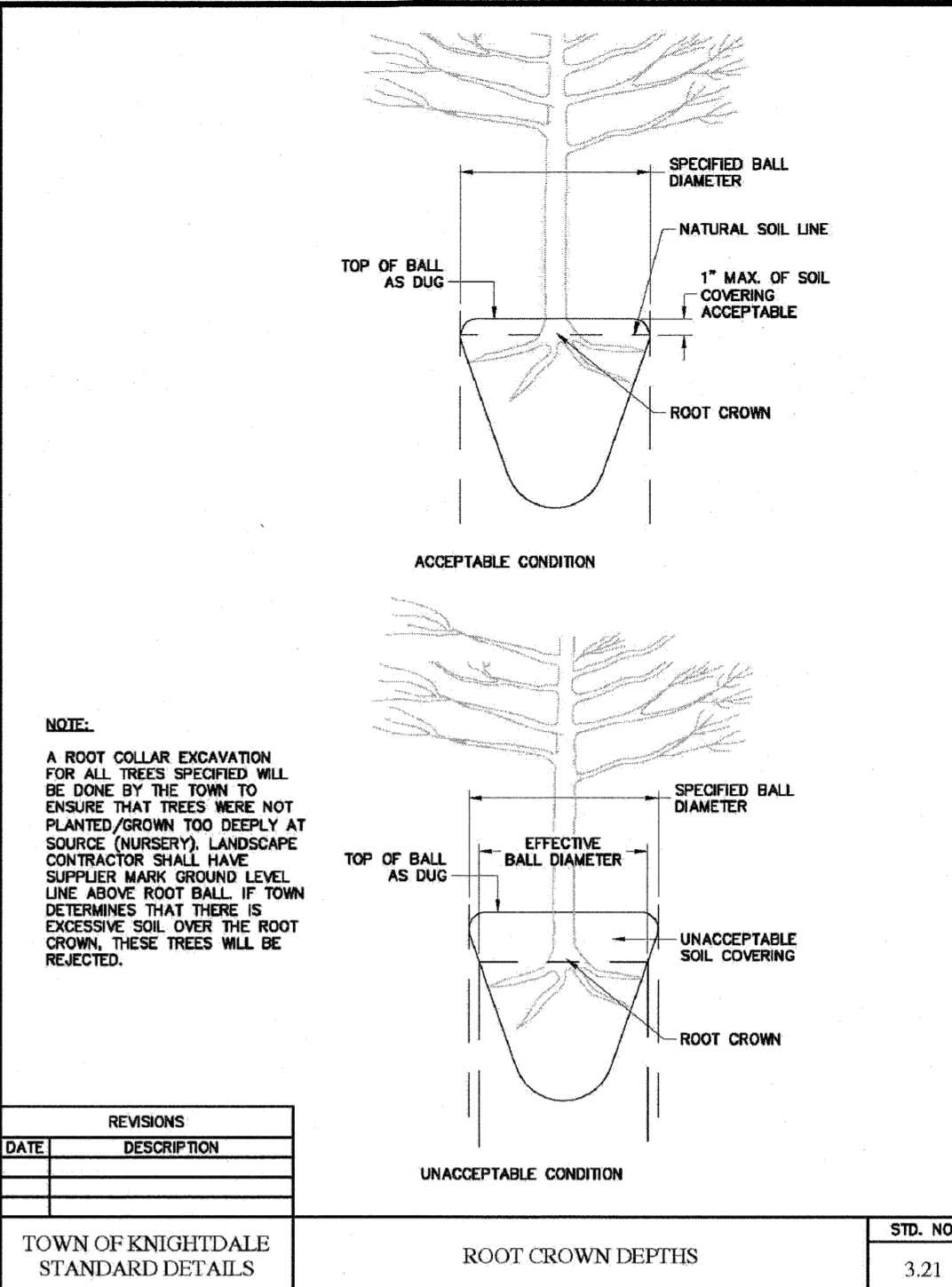
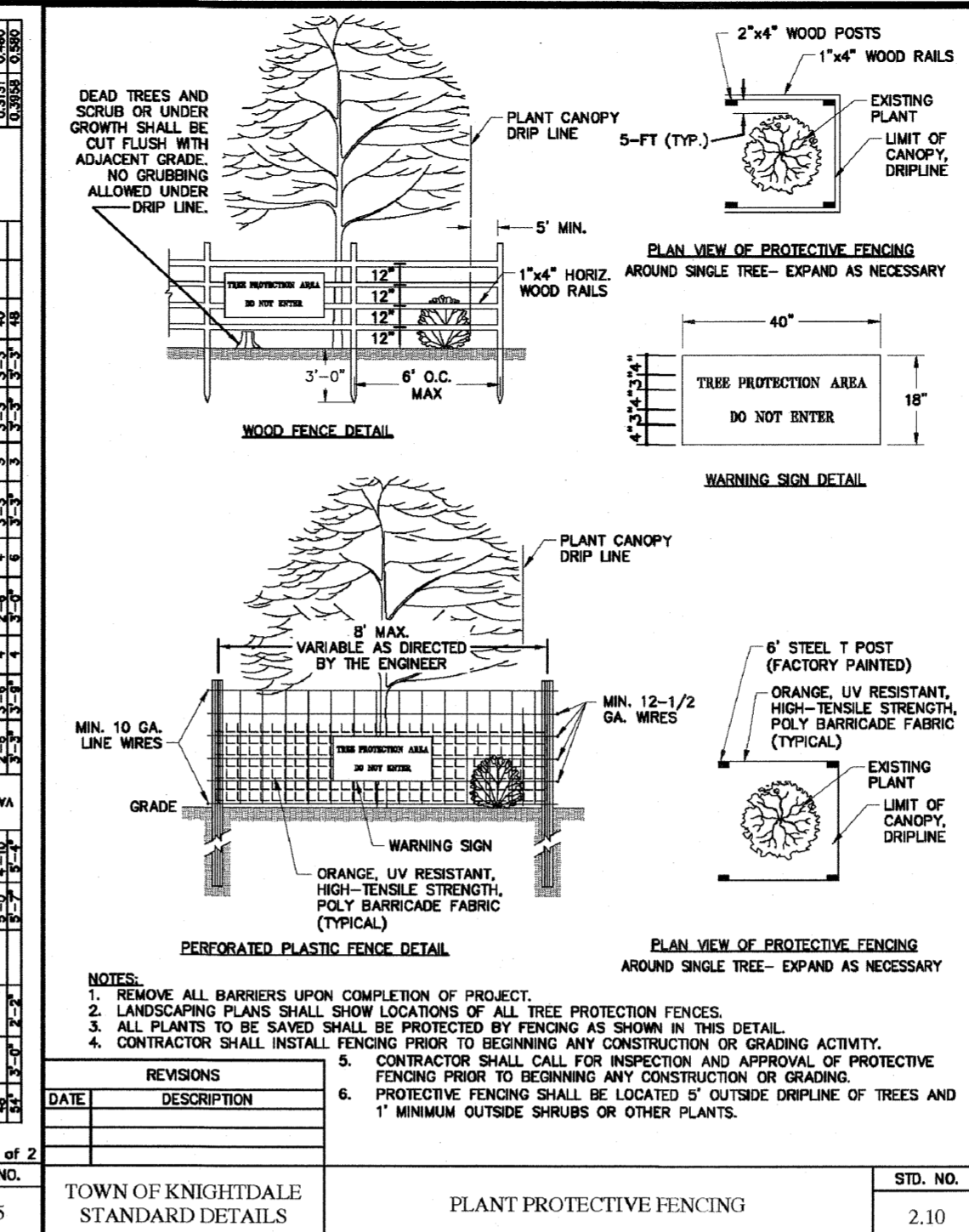
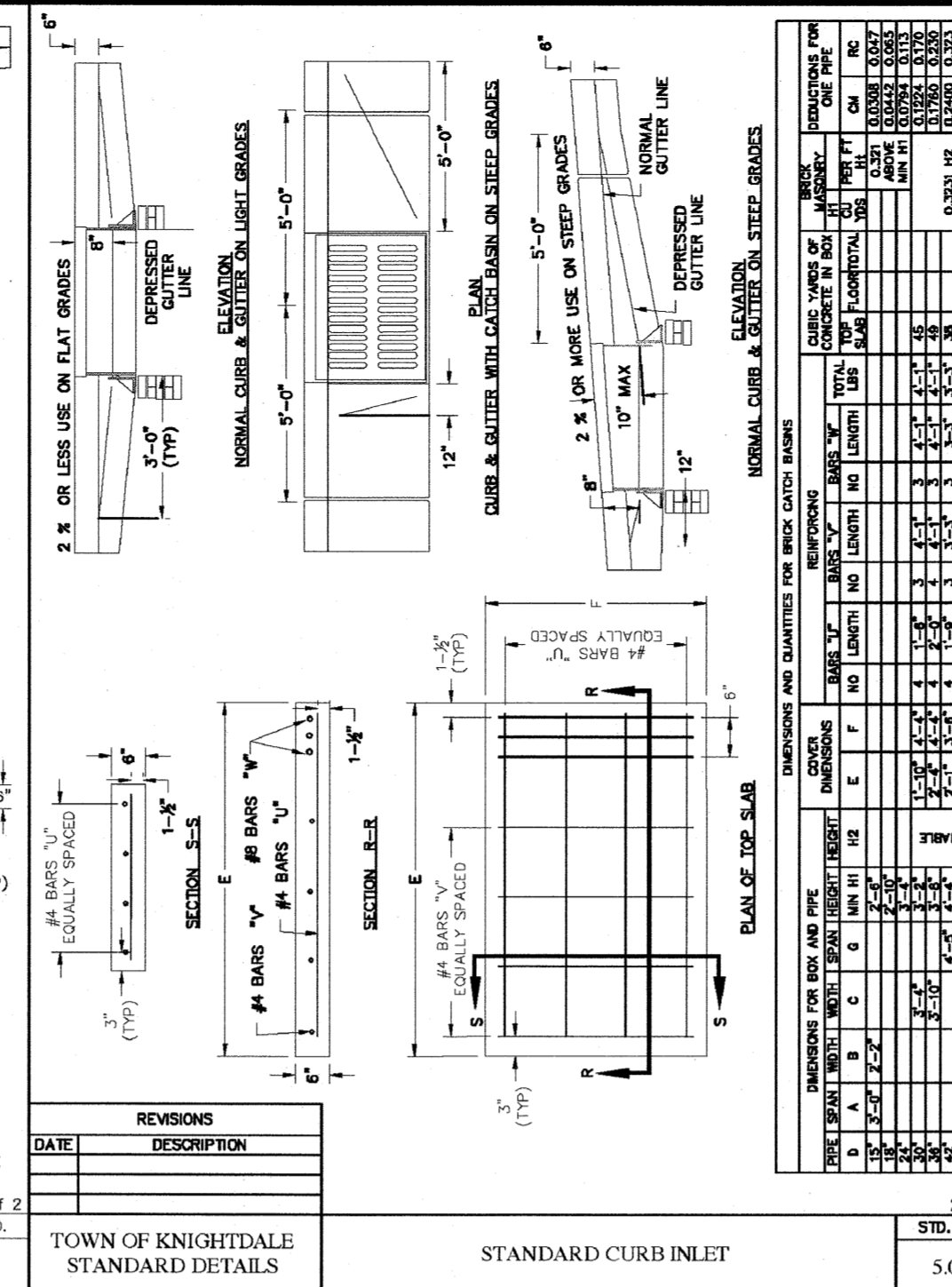
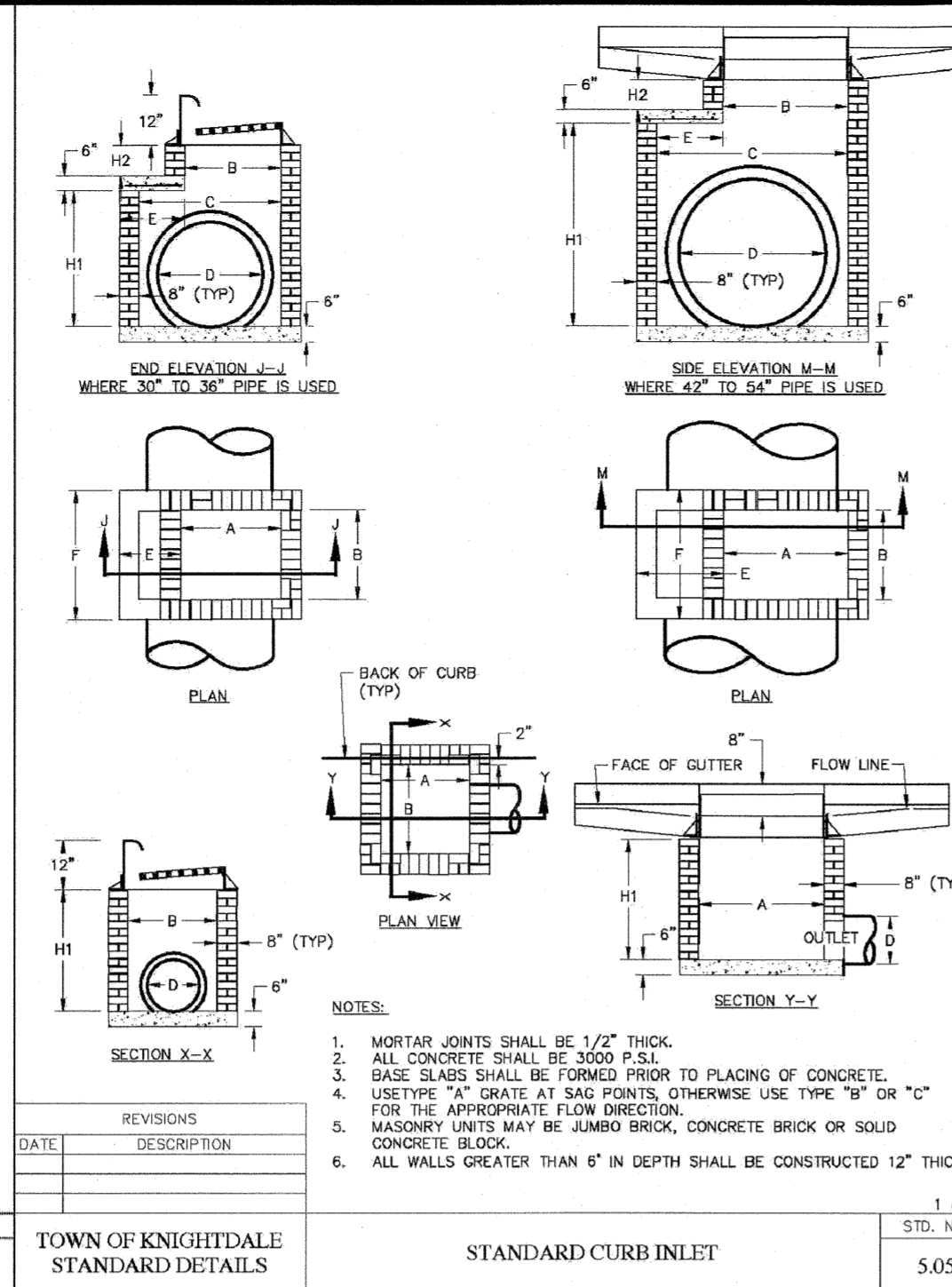
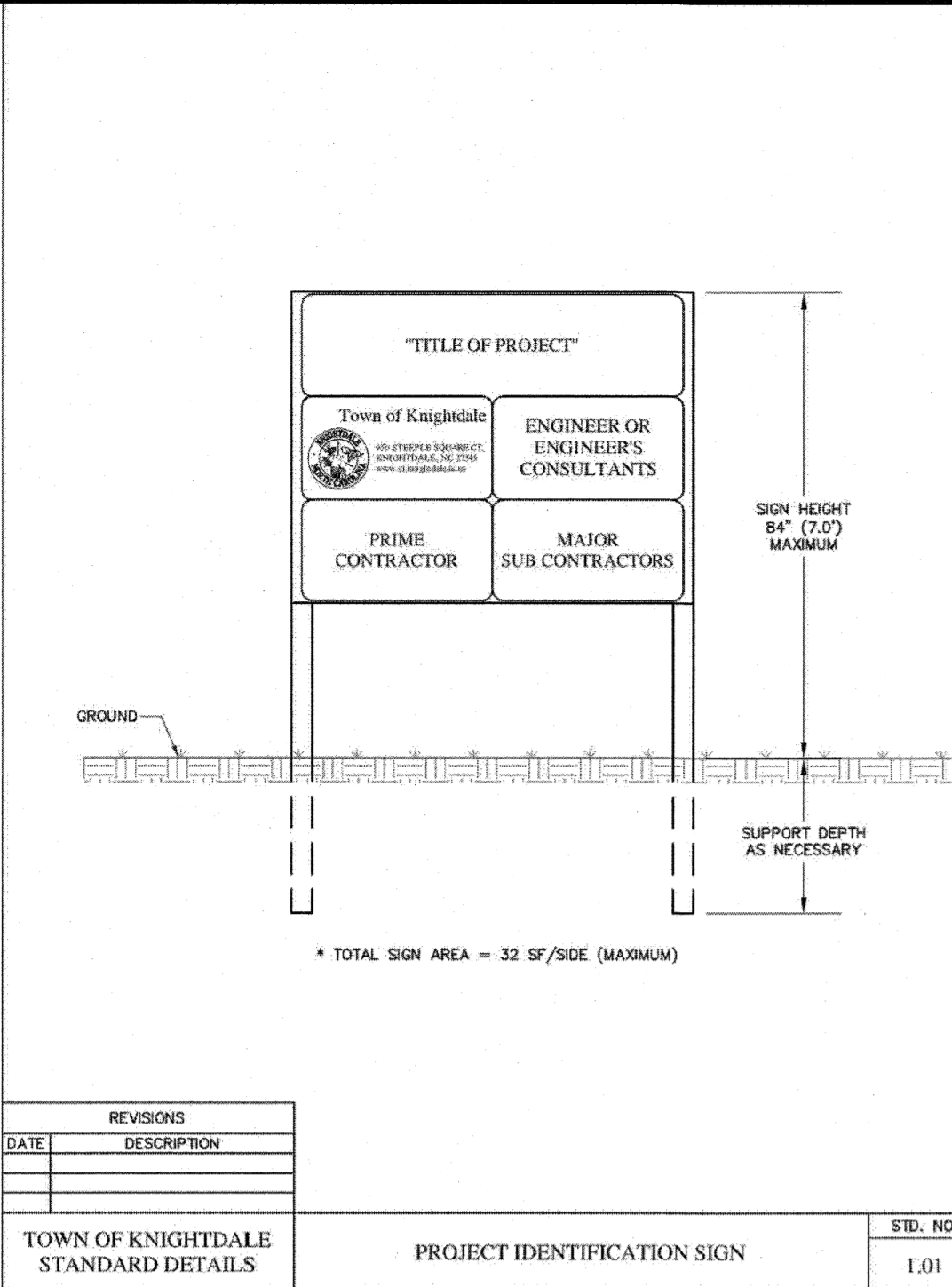
- Occurrences that Must be Reported

Permittees shall report the following occurrences:

 - Visible sediment deposition in a stream or wetland.
 - Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
 - Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
 - Anticipated bypasses and unanticipated bypasses.
 - Noncompliance with the conditions of this permit that may endanger health or the environment.
- Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)(c) above	<ul style="list-style-type: none"> Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release. A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass. Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass. Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.43(i)(6)]. Division staff may waive the requirement for a written report on a case-by-case basis.
(c) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass. Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass. Within 24 hours, an oral or electronic notification. Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to



PLAN PREPARED BY: ADVANCED CIVIL DESIGN ENGINEERS SURVEYORS

51 Kilmorie Drive, Suite 102 Cary, North Carolina 27511 PH 919.481.6990 FAX 919.338.5127

PLAN PREPARED FOR: BEACON PARTNERS

500 East Main Street, Suite 200 Charlotte, North Carolina 28202 PH 704.597.7757 FAX 704.588.6115

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY CONSTRUCTION PLAN FOR BEACON PARTNERS DETAILS

03/20/2023

STYLER:OBVGNVMS STYLER:OBVGNVMS

605 2/27/2023

STYLER:OBVGNVMS STYLER:OBVGNVMS

09/20/2022 - Construction Plan Submittal #1

11/11/2022 - Construction Plan Submittal #2

12/22/2022 - Construction Plan Submittal #3

02/10/2023 - Construction Plan Submittal #4

03/03/2023 - Construction Plan Submittal #5

03/20/2023 - Construction Plan Signature Set

Issue Dates:

Date: 03/20/2023

Scale: NOT TO SCALE

Drawn By: AMK

Checked By: JRR

Project Number: 21-0011-504

Drawing Number: C.10.4

By: _____ Date: _____

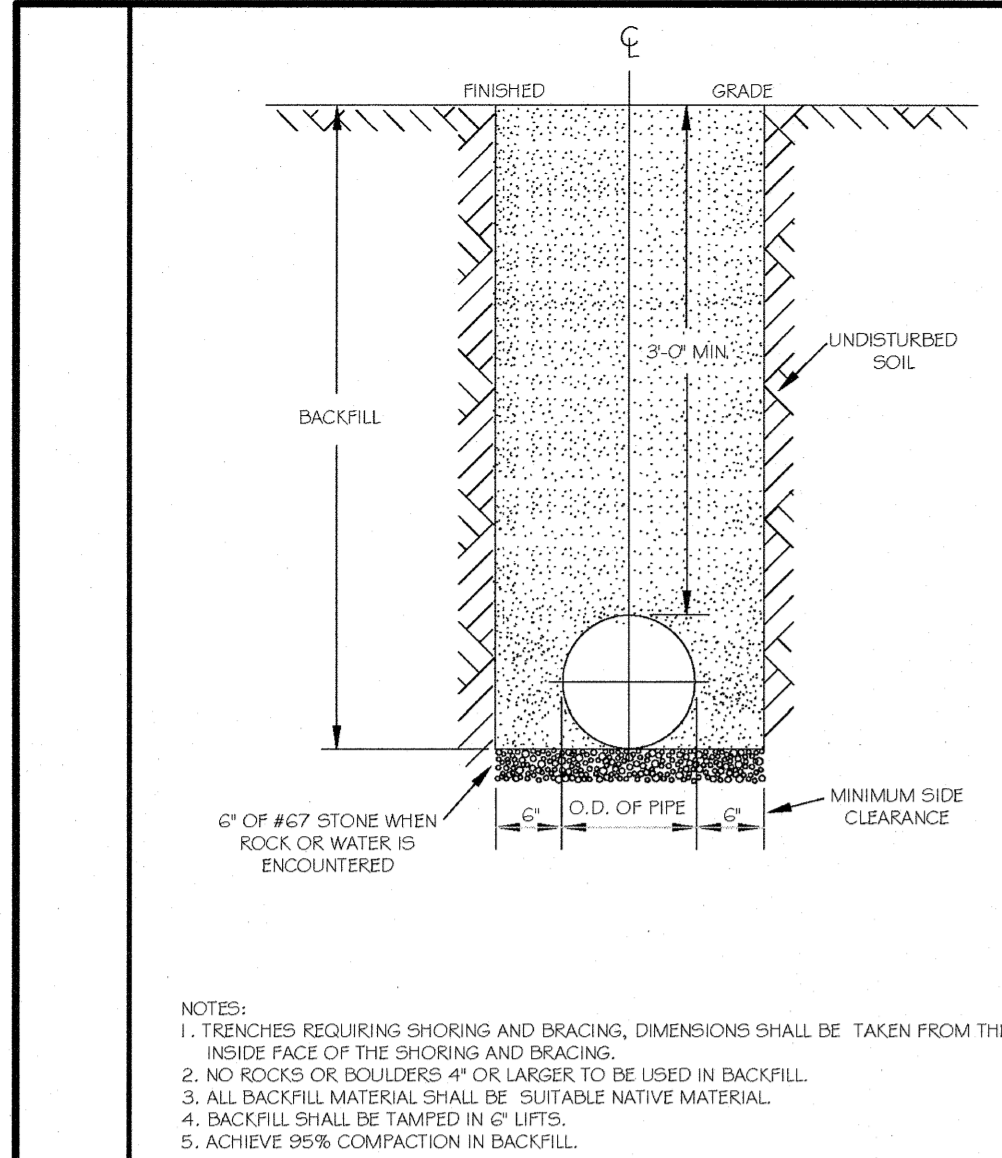
Development Services Engineer

By: _____ Date: _____

Administrator

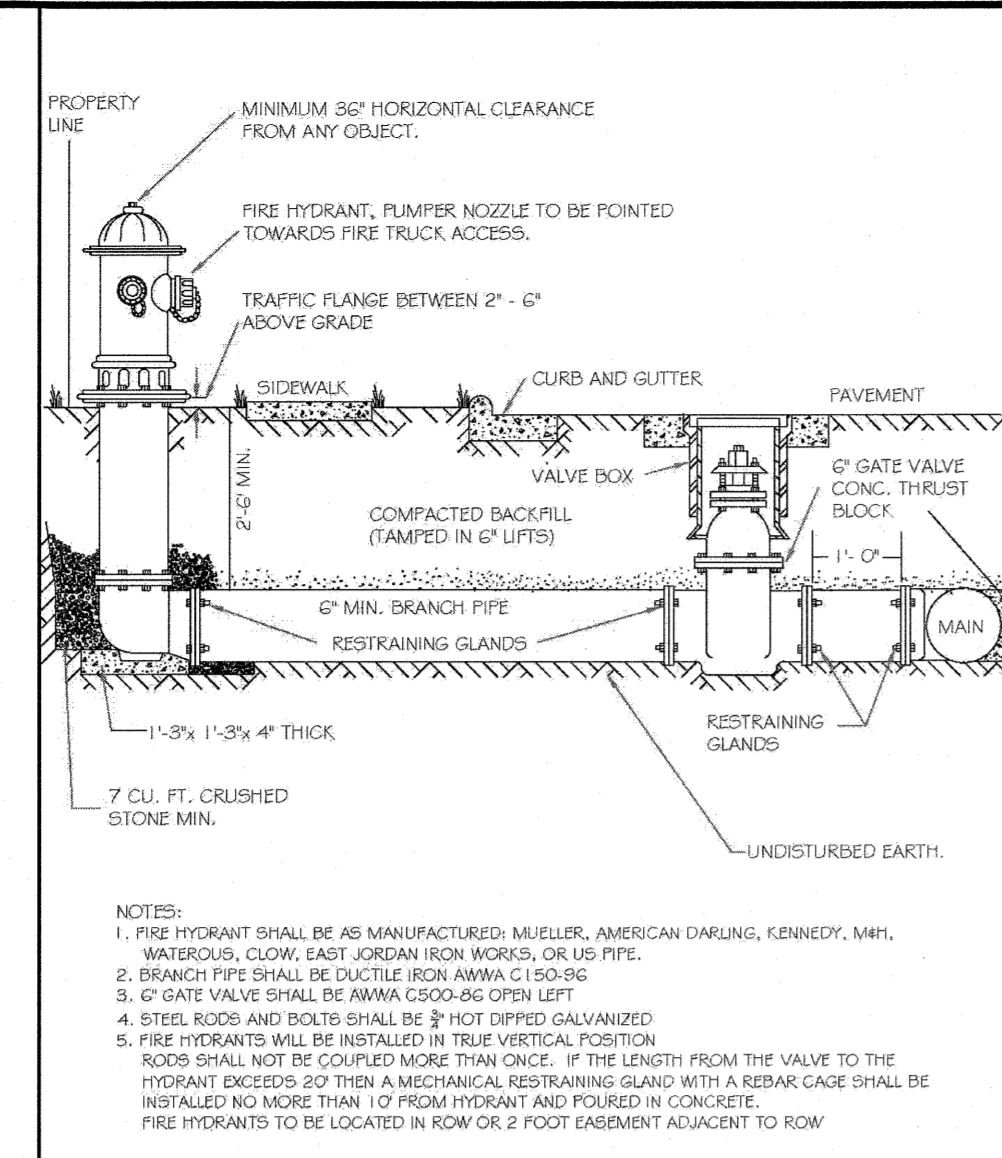
Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

These plans are approved by the Town of Knightdale and serve as construction plans for this project.



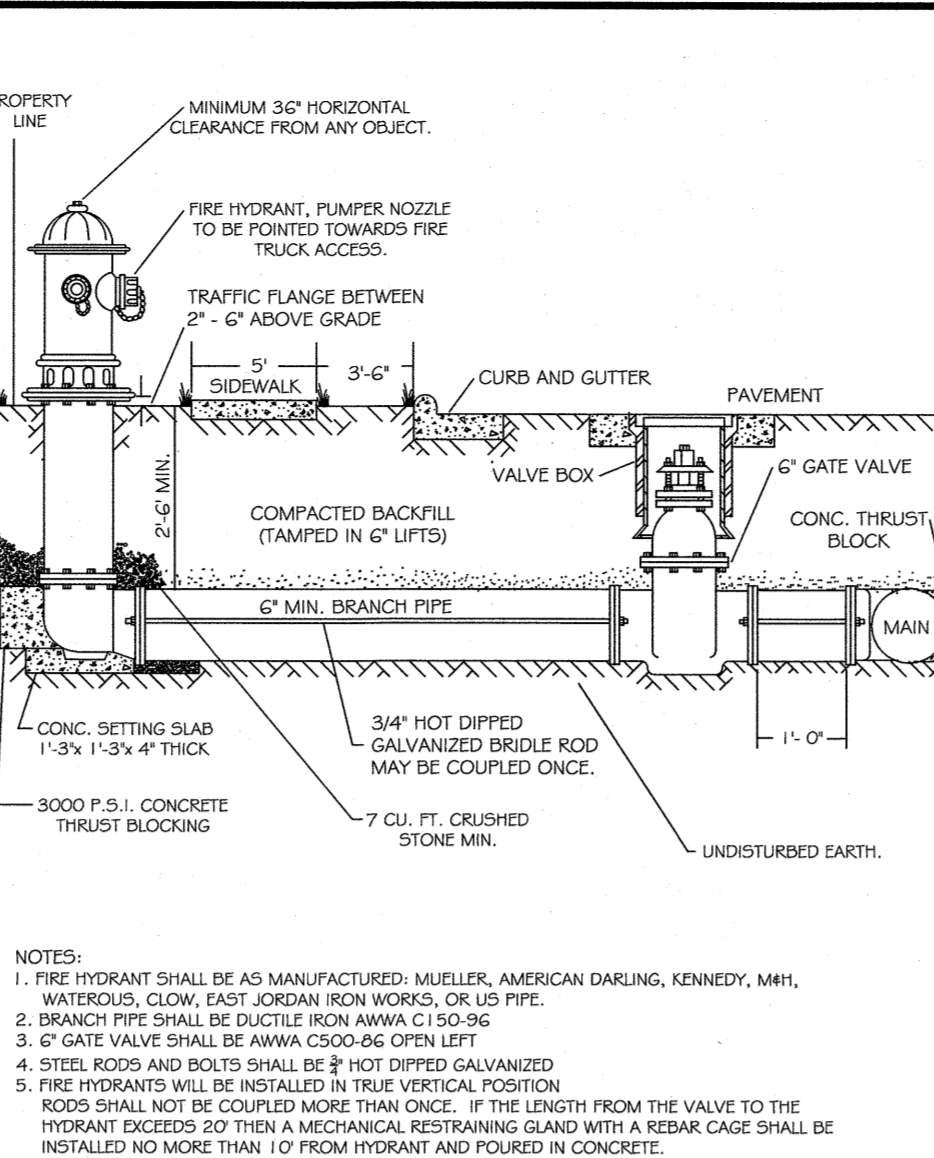
- NOTES: 1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING. 2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL. 3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL. 4. BACKFILL SHALL BE TAMPED IN 6" LIFTS. 5. ACHIEVE 95% COMPACTION IN BACKFILL.

Revision table for Standard Fire Hydrant Installation Detail (DWG. NO. W-3).



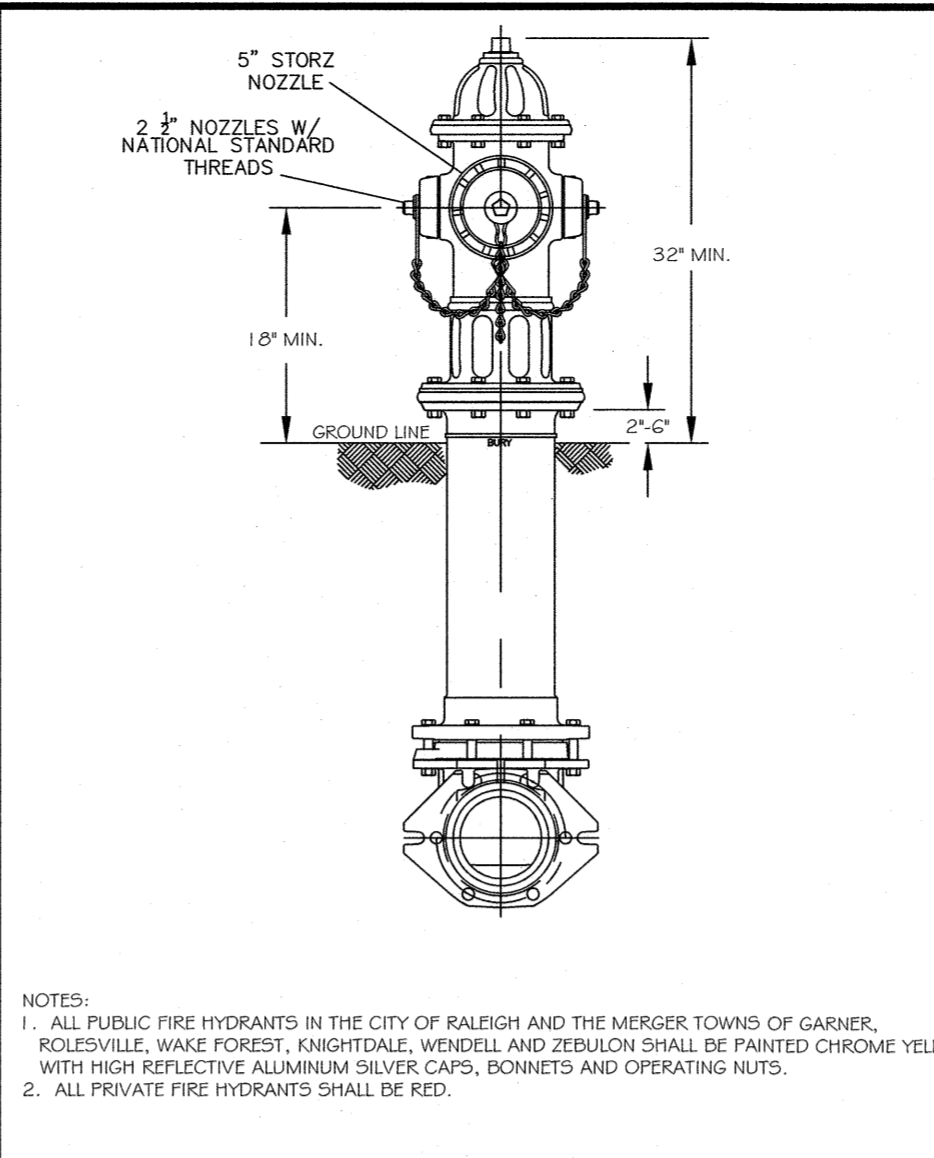
- NOTES: 1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, MHI, WATERBURY, CLOW, EAST JORDAN IRON WORKS, OR US PIPE. 2. BRANCH PIPE SHALL BE DUCTILE IRON ANWA C150-9G. 3. 6" GATE VALVE SHALL BE ANWA C200-0G OPEN LEFT. 4. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED. 5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION. 6. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED. 7. FIRE HYDRANTS SHALL BE INSTALLED IN TRUE VERTICAL POSITION. 8. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED. 9. FIRE HYDRANTS SHALL BE INSTALLED IN TRUE VERTICAL POSITION. 10. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.

Revision table for Standard Fire Hydrant Installation Detail (DWG. NO. W-4).



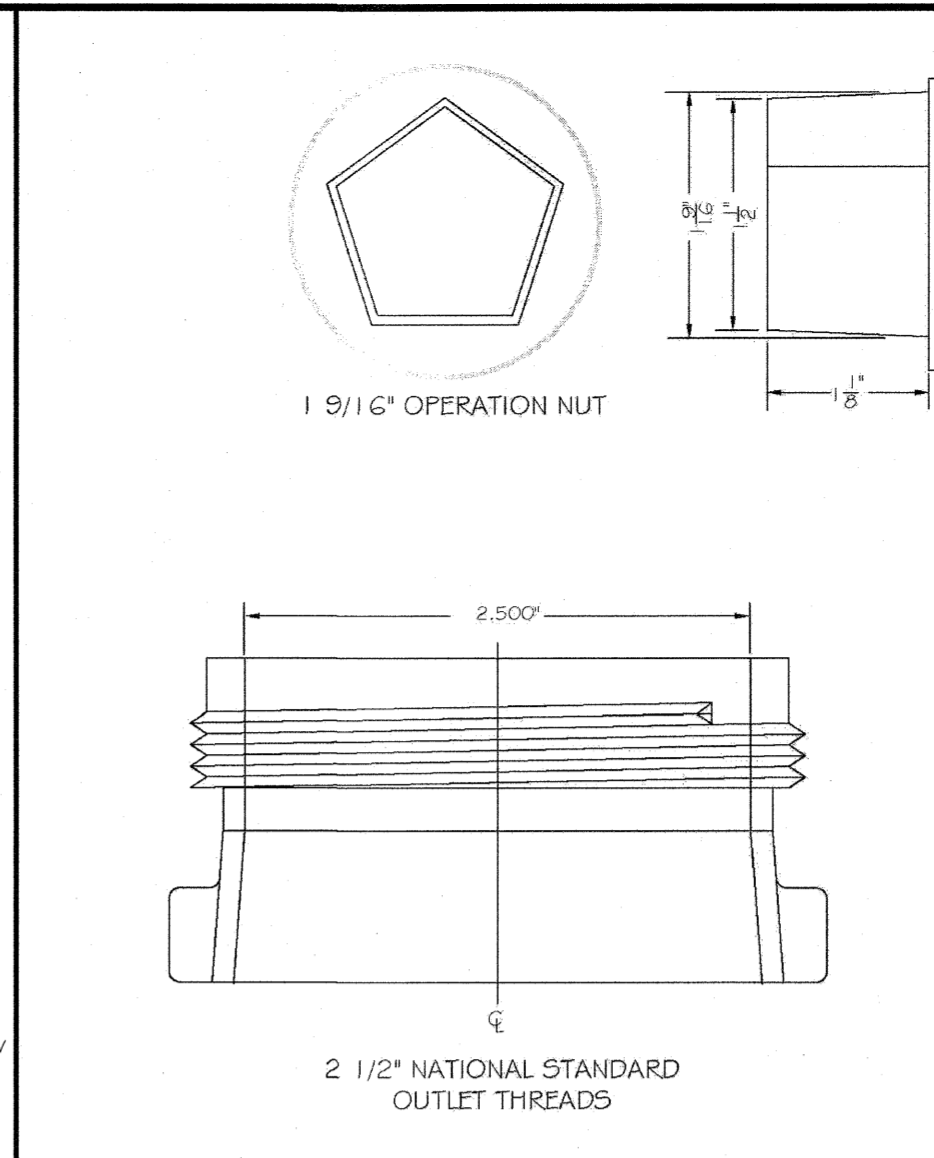
- NOTES: 1. ALL PUBLIC FIRE HYDRANTS IN THE CITY OF RALEIGH AND THE MERGER TOWNS OF GARNER, ROLESVILLE, WAKE FOREST, KNIGHTDALE, WENDELL AND ZEBULON SHALL BE PAINTED CHROME YELLOW WITH HIGH REFLECTIVE ALUMINUM SILVER CAPS, BONNETS AND OPERATING NUTS. 2. ALL PRIVATE FIRE HYDRANTS SHALL BE RED.

Revision table for Standard Fire Hydrant Installation Detail (DWG. NO. W-5).



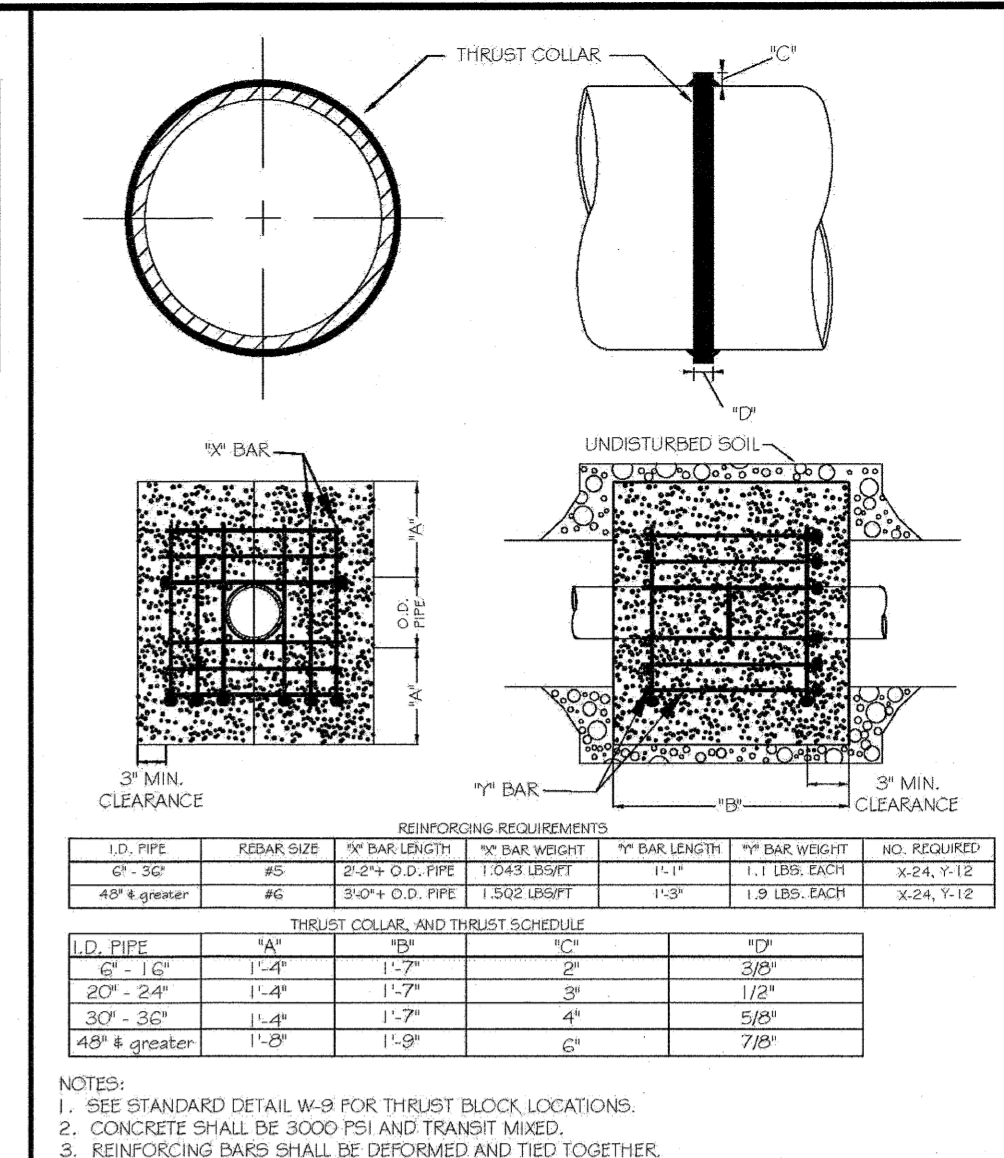
- NOTES: 1. ALL PUBLIC FIRE HYDRANTS IN THE CITY OF RALEIGH AND THE MERGER TOWNS OF GARNER, ROLESVILLE, WAKE FOREST, KNIGHTDALE, WENDELL AND ZEBULON SHALL BE PAINTED CHROME YELLOW WITH HIGH REFLECTIVE ALUMINUM SILVER CAPS, BONNETS AND OPERATING NUTS. 2. ALL PRIVATE FIRE HYDRANTS SHALL BE RED.

Revision table for Standard Fire Hydrant Installation Detail (DWG. NO. W-6).



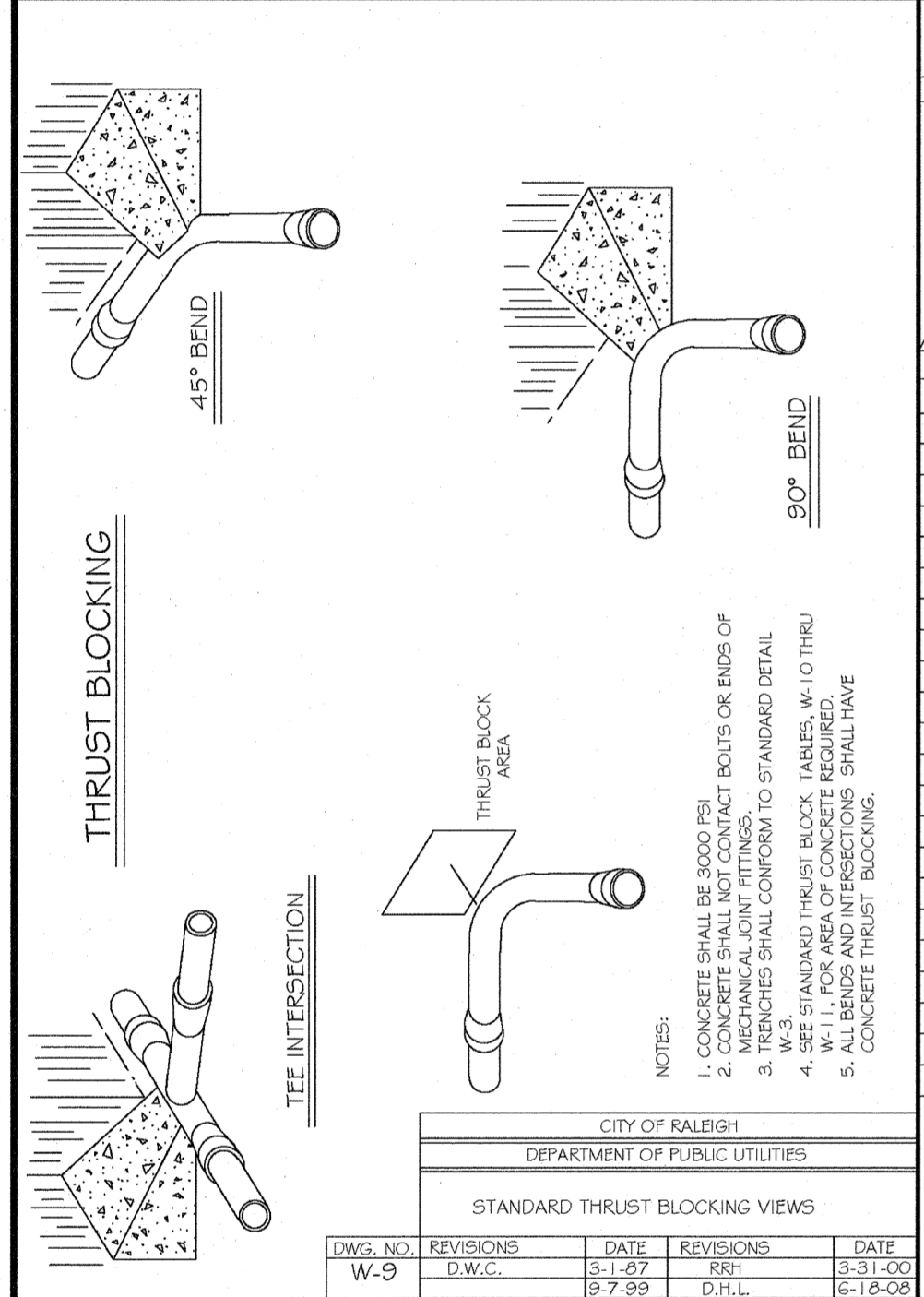
- NOTES: 1. SEE STANDARD DETAIL W-9 FOR THRUST BLOCK LOCATIONS. 2. CONCRETE SHALL BE 3000 PSI AND TRAFFIC MARKS. 3. REINFORCING BARS SHALL BE PERFORMED AND TIED TOGETHER. 4. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON STANDARD DETAIL W-3. 5. BACKFILL TAMPED IN 6" LIFTS PER STANDARD DETAIL W-3. 6. THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AND WOUND CIRCUMFERENTIALLY.

Revision table for Hydrant Operating Nut and 2 1/2 inch Outlet Threads (DWG. NO. W-7).



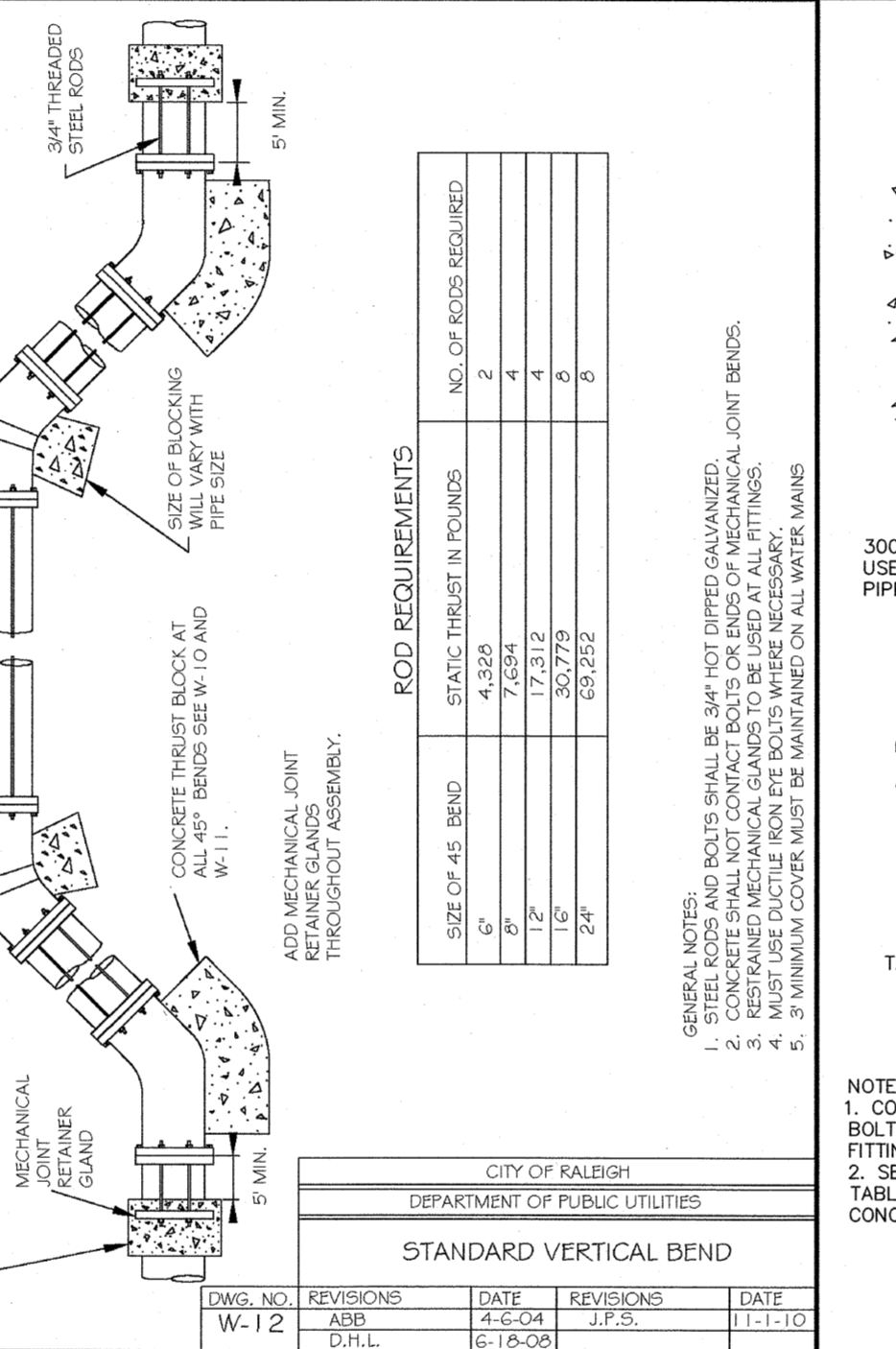
- NOTES: 1. SEE STANDARD DETAIL W-9 FOR THRUST BLOCK LOCATIONS. 2. CONCRETE SHALL BE 3000 PSI AND TRAFFIC MARKS. 3. REINFORCING BARS SHALL BE PERFORMED AND TIED TOGETHER. 4. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON STANDARD DETAIL W-3. 5. BACKFILL TAMPED IN 6" LIFTS PER STANDARD DETAIL W-3. 6. THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AND WOUND CIRCUMFERENTIALLY.

Revision table for Thrust Collar and Thrust Block Design Data (DWG. NO. W-8).

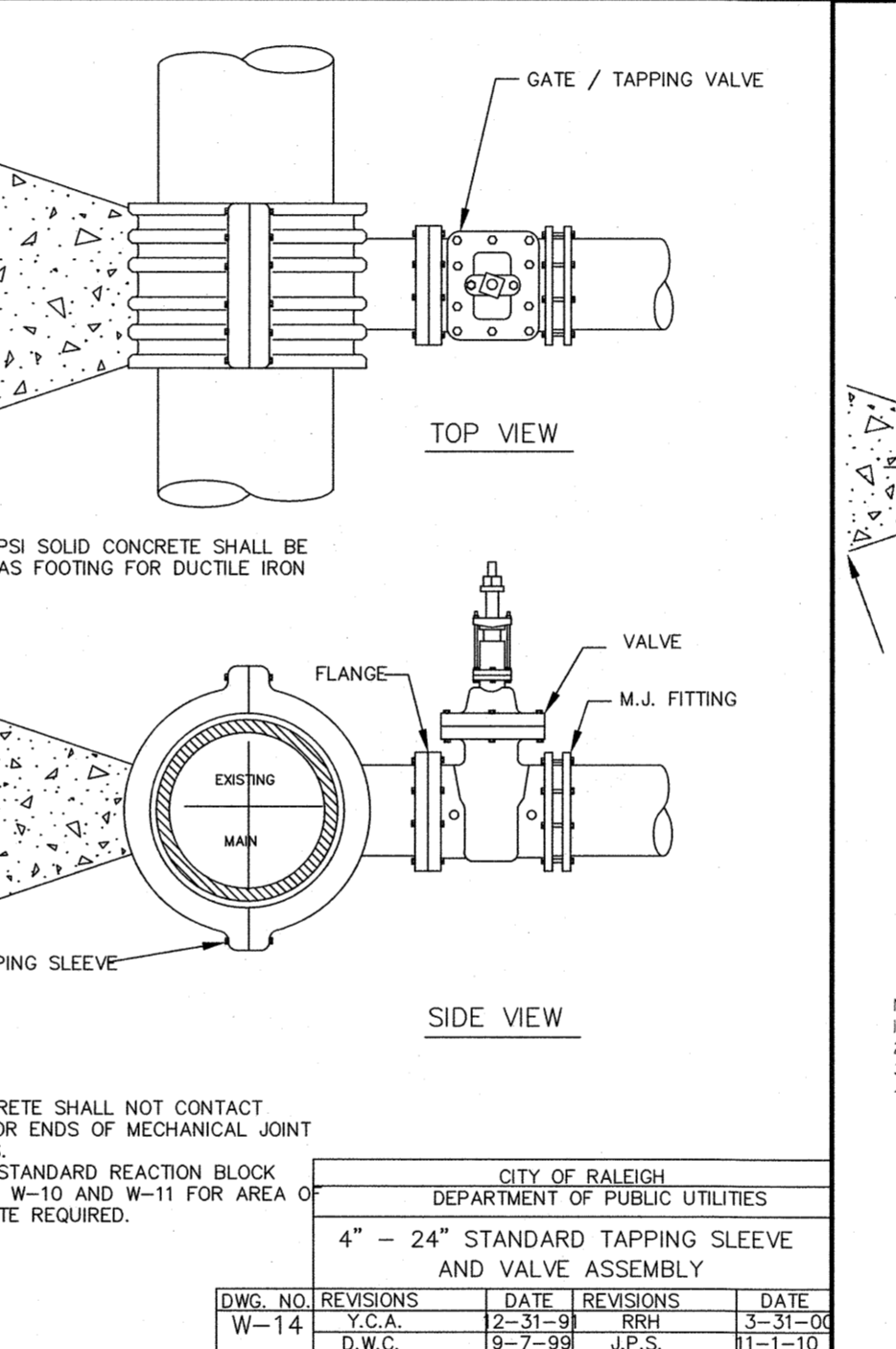


Revision table for Standard Thrust Blocking Views (DWG. NO. W-9).

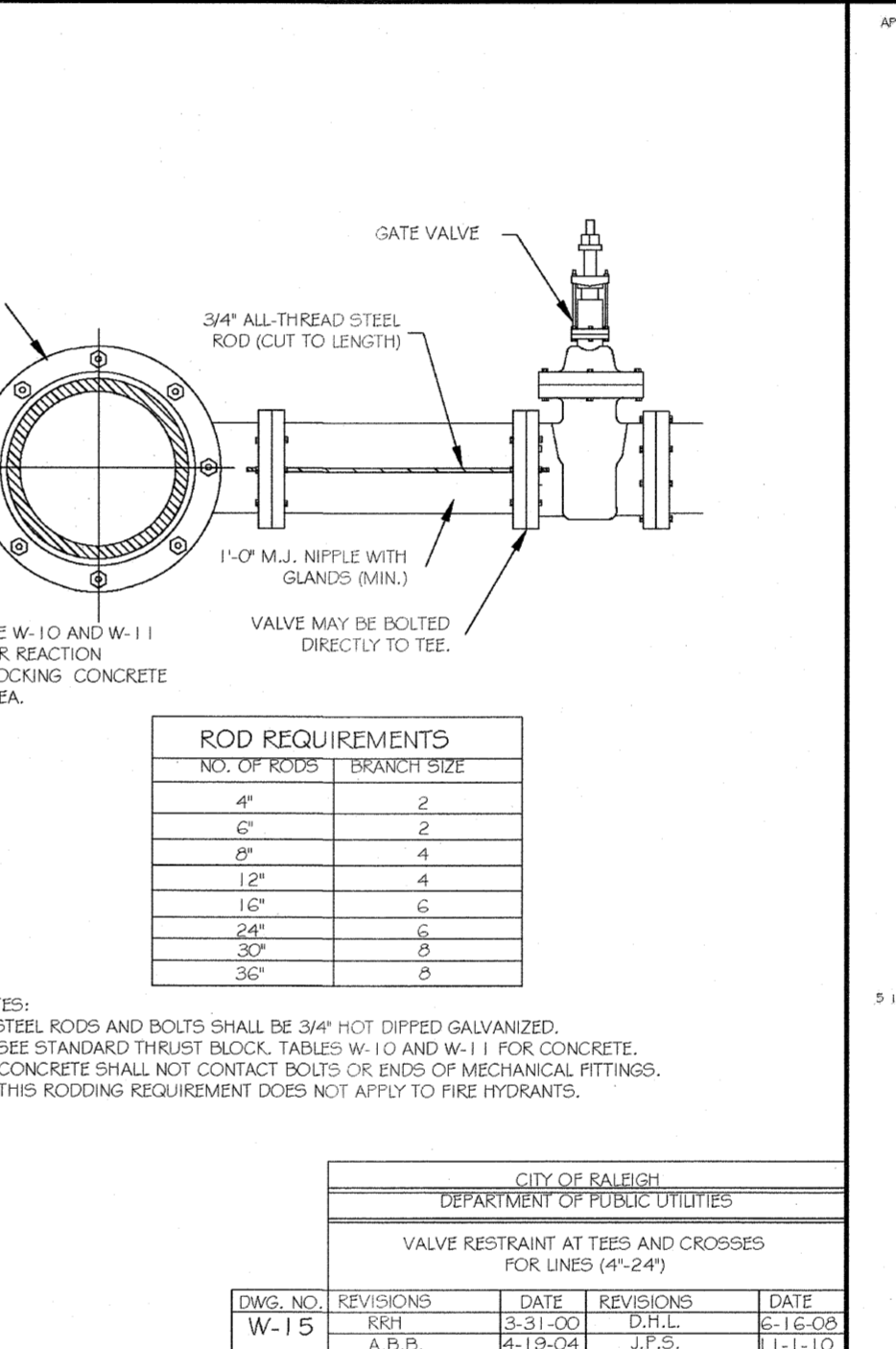
Reaction bearing areas for horizontal water pipe bends based on test pressure of 200 P.S.I. Table with columns for size and degree of bend.



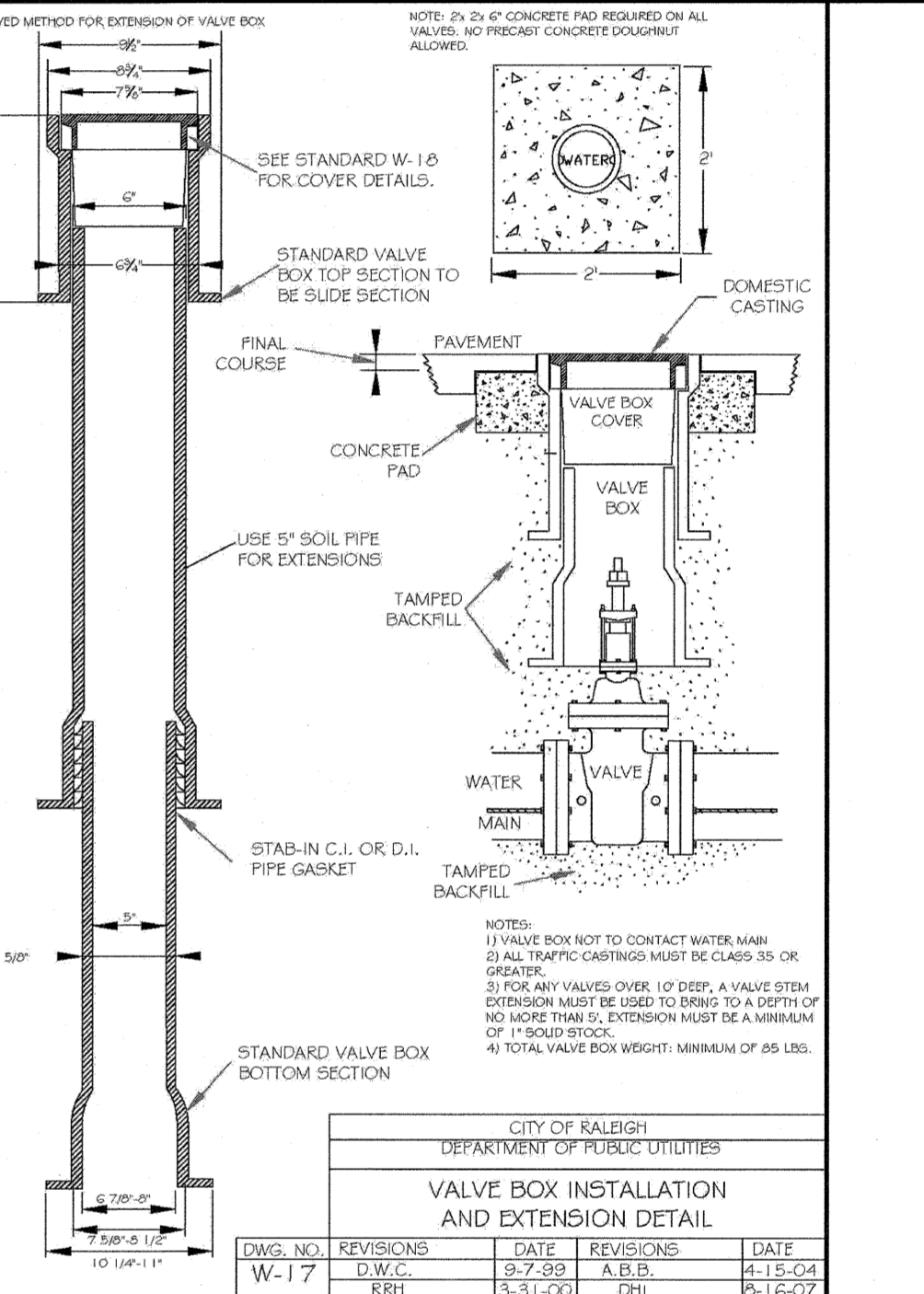
Revision table for Standard Vertical Bend (DWG. NO. W-10).



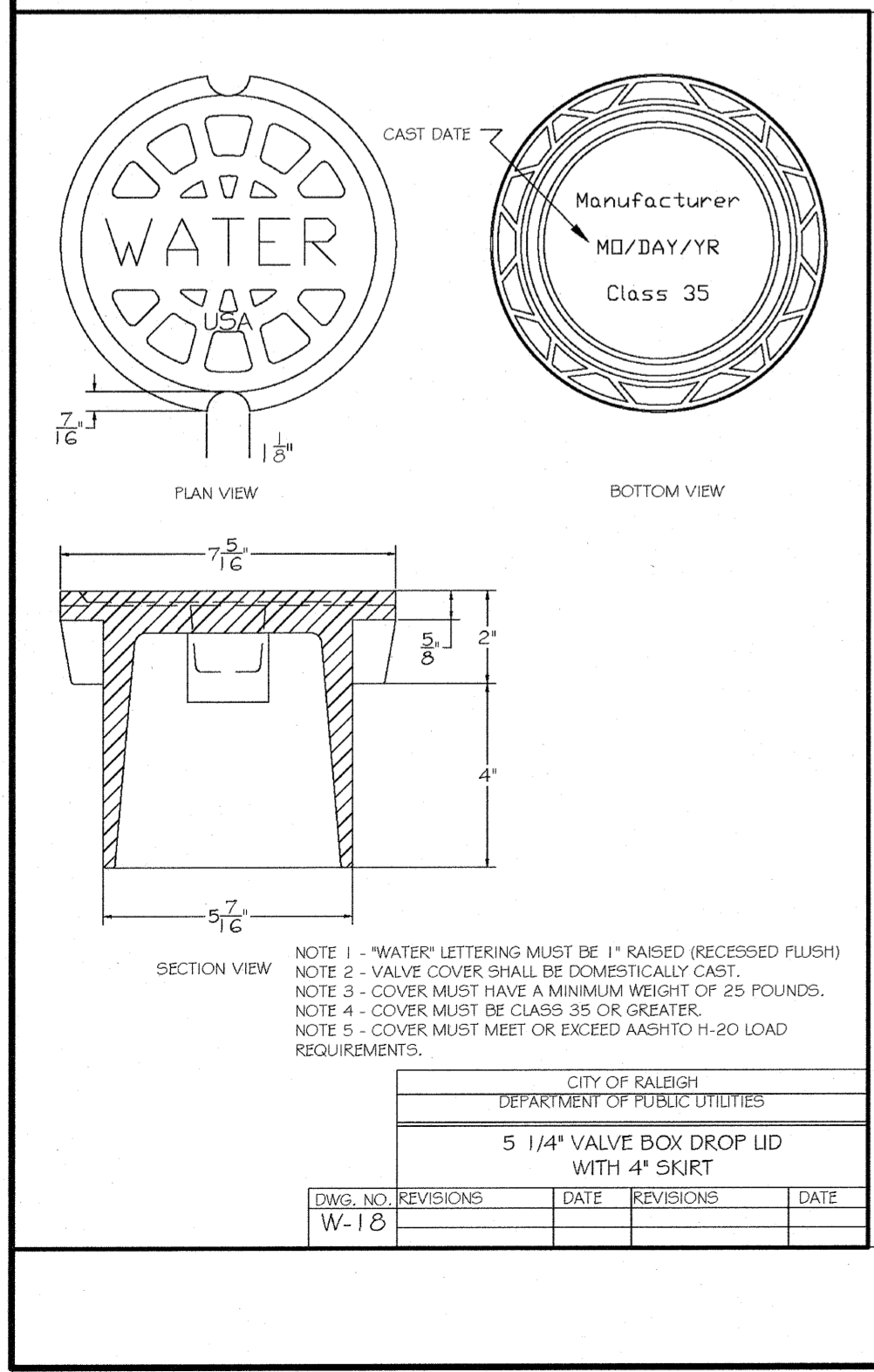
Revision table for 4 inch Standard Tapping Sleeve and Valve Assembly (DWG. NO. W-11).



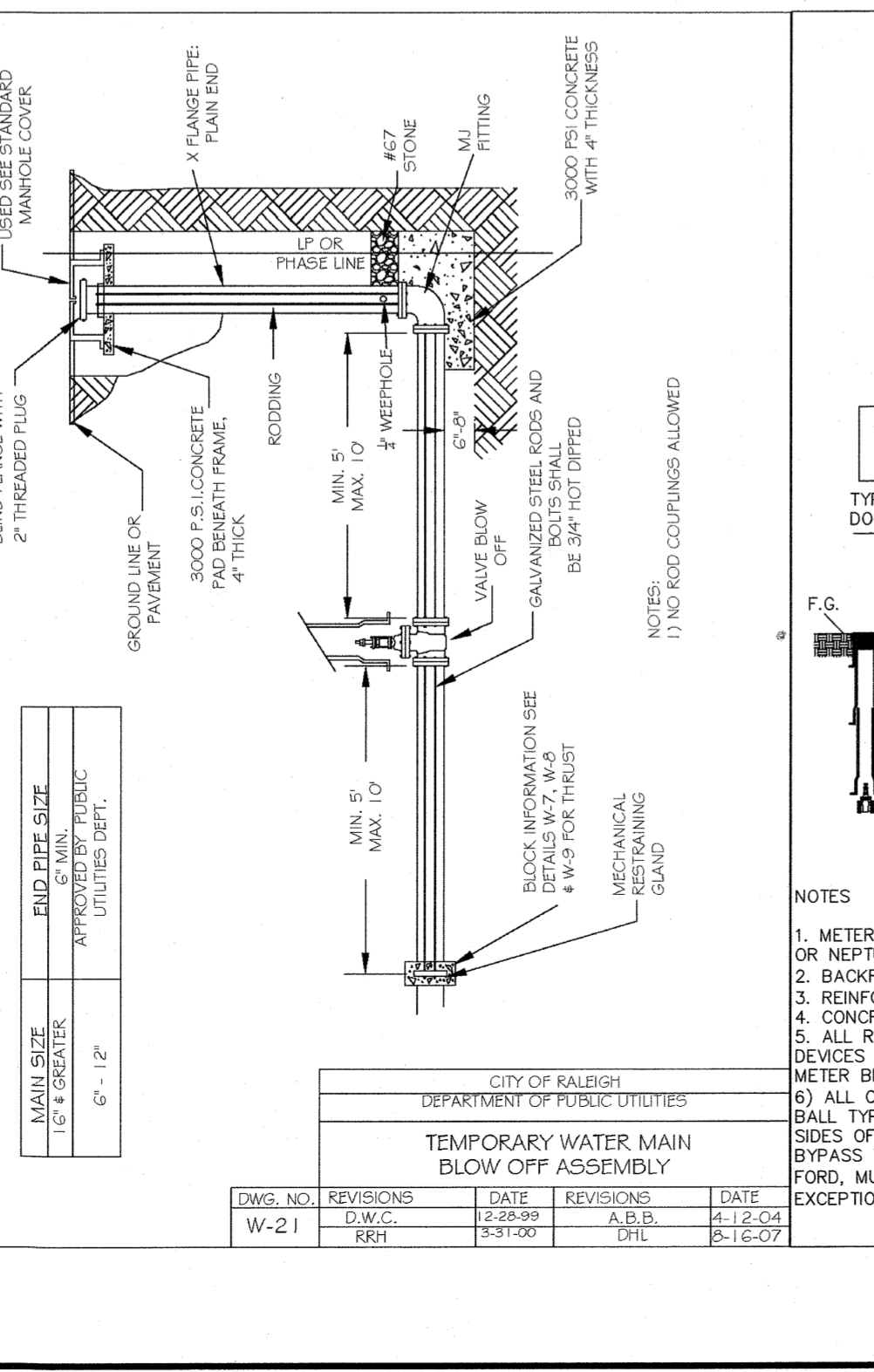
Revision table for Valve Box Installation and Extension Detail (DWG. NO. W-12).



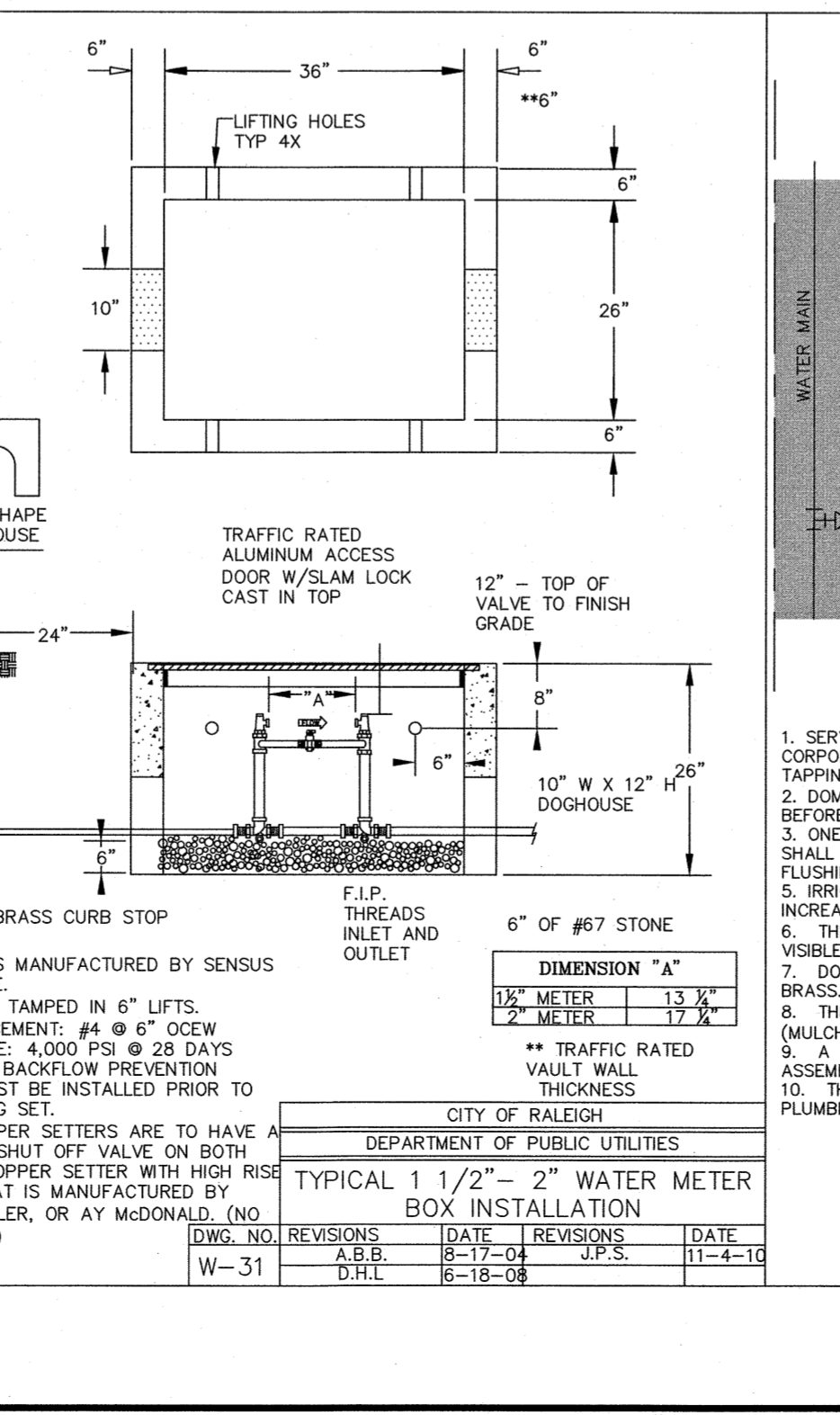
Revision table for Temporary Water Main Blow Off Assembly (DWG. NO. W-13).



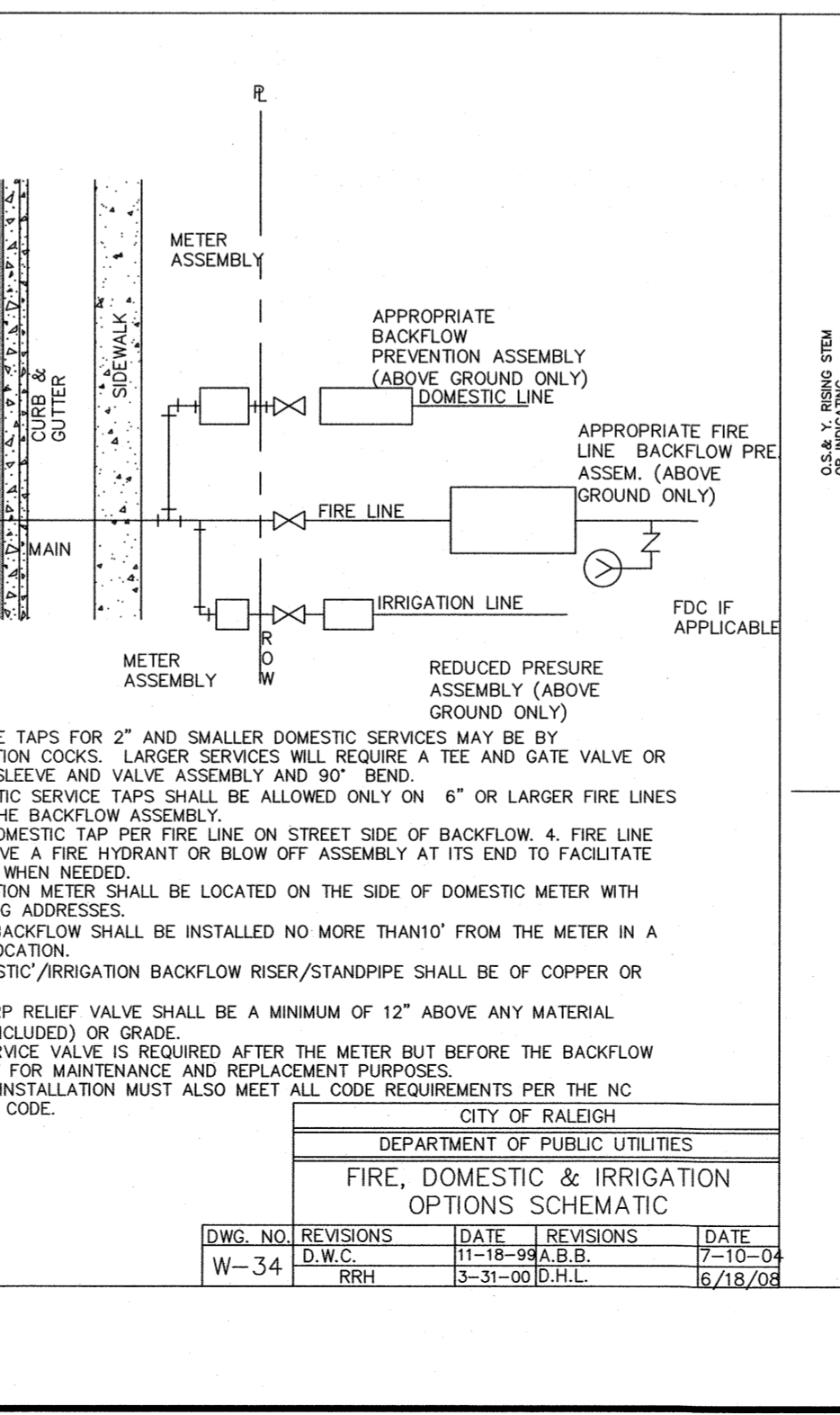
Revision table for 5 1/4 inch Valve Box Drop Lid with 4 inch Skirt (DWG. NO. W-14).



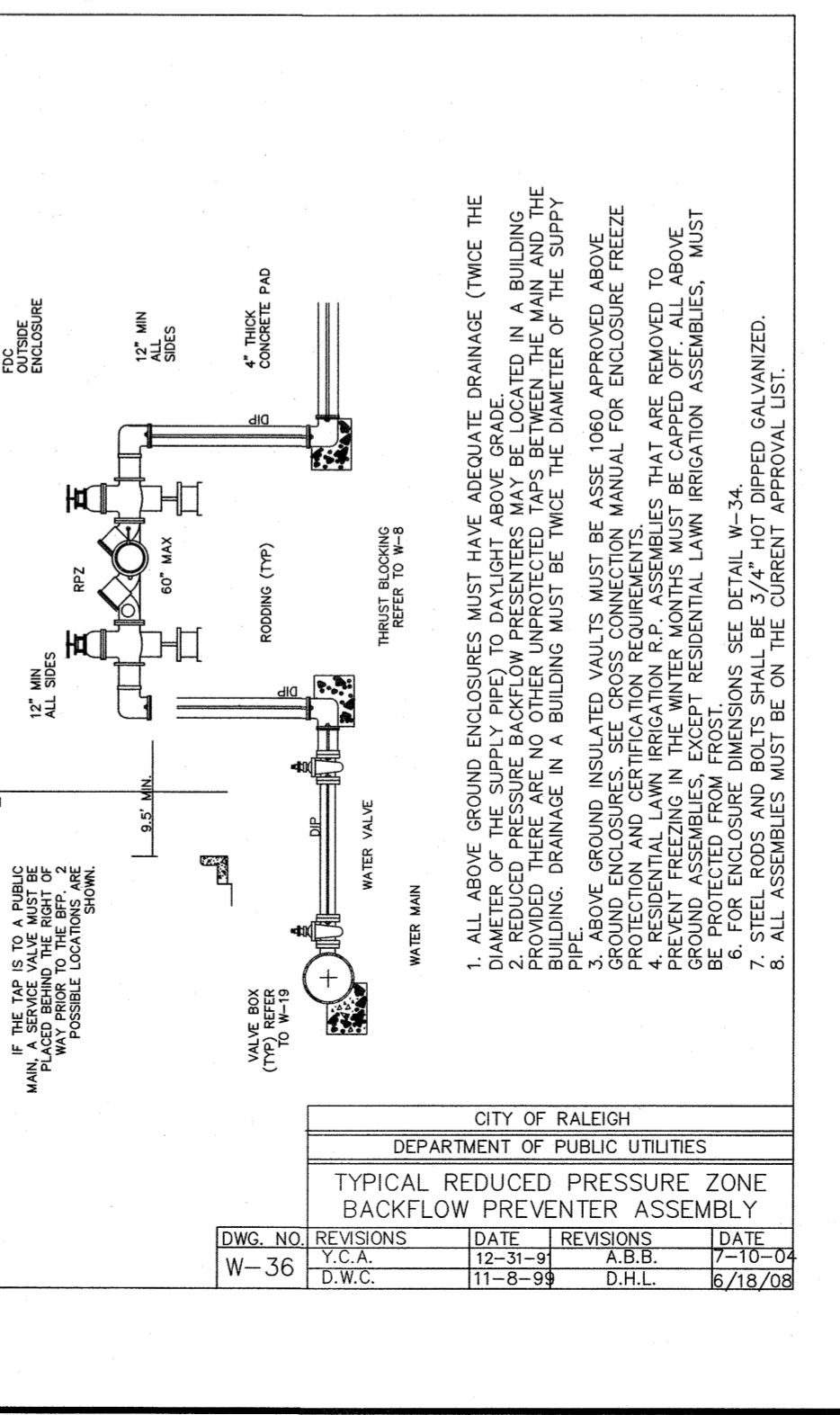
Revision table for Meter Assembly (DWG. NO. W-15).



Revision table for Fire, Domestic & Irrigation Options Schematic (DWG. NO. W-16).



Revision table for Typical Reduced Pressure Zone Backflow Preventer Assembly (DWG. NO. W-17).



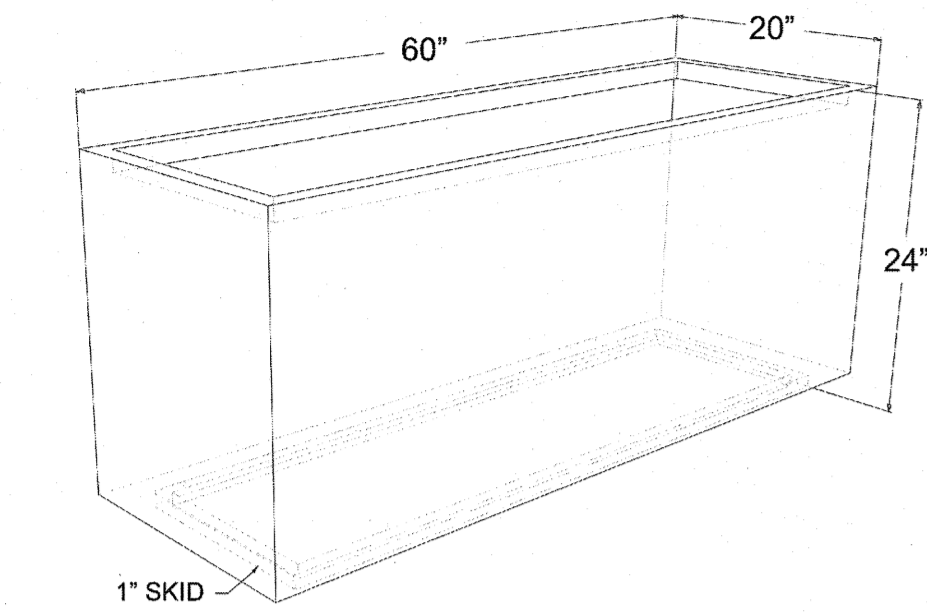
Revision table for Typical Reduced Pressure Zone Backflow Preventer Assembly (DWG. NO. W-18).

City of Raleigh - Plans Authorized for Construction. Includes electronic approval, date (03/20/2023), scale (NOT TO SCALE), and project number (21-0011-504).

Project information including issue dates, submission dates, and drawing number (C.10.5). Includes logos for Beacon Partners and Advanced Civil Design.

Tall Rectangular Planter - Large

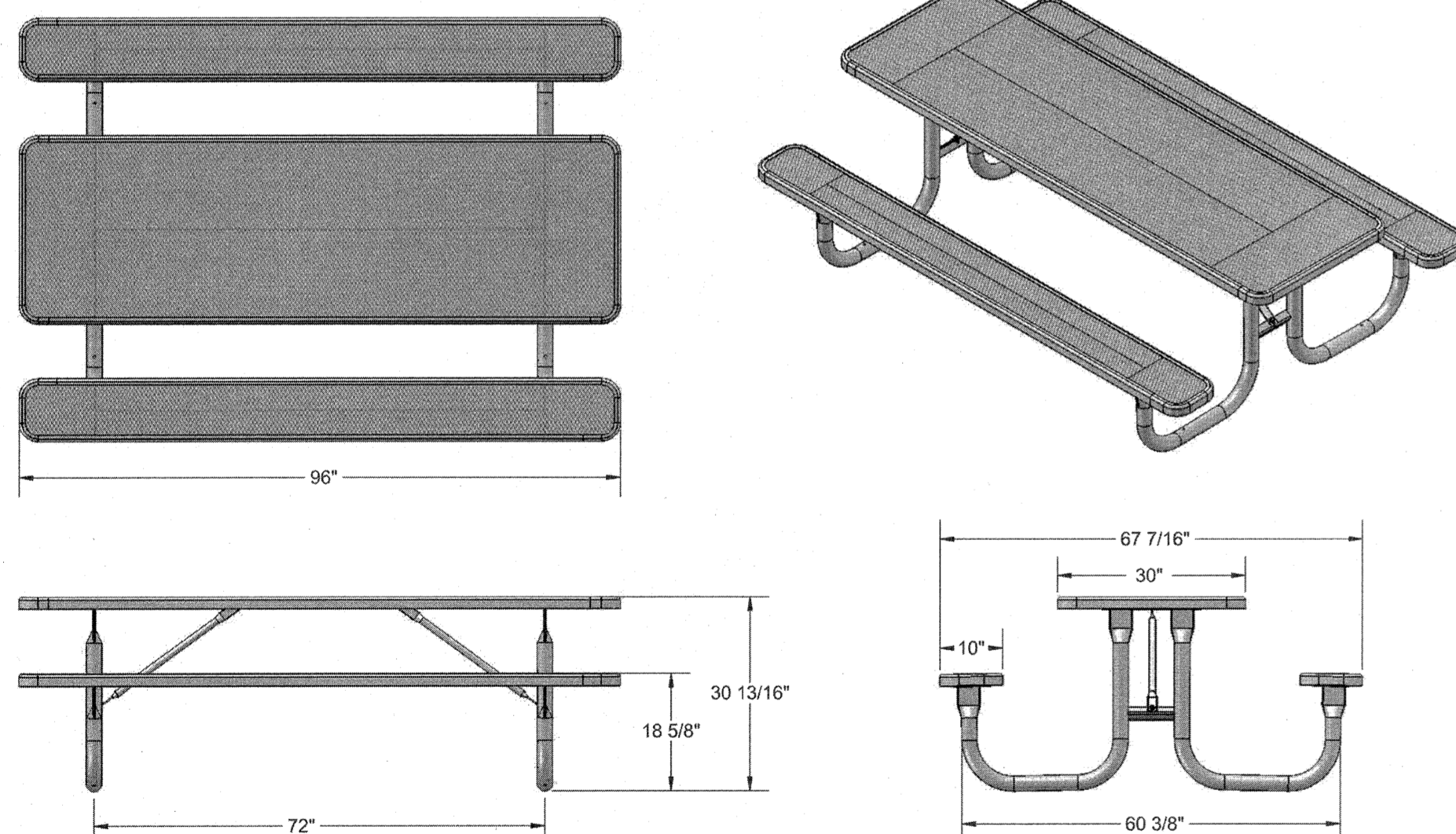
60"L X 20"W X 24"H
 Weight - Steel: 128 lbs. Aluminum: 56 lbs.
 Capacity: 15.5 cubic feet



YARDART
 uniquegardendecor.com
 (866) 382-8600

LANDSCAPE PLANTER DETAIL

NOT TO SCALE



Top & Seats: 12 gauge die formed angle frame 1"x1-7/8" with 3" radius corners. 3/4" #9 steel expanded metal. 10 gauge x 1-1/2" flat bar center support and mounting bracket understructure. Electrically MIG welded.

Coating: Oven fused functionalized polyethylene copolymer-based thermoplastic. Fluidized bed coating application with superior mechanical performance, impact resistance and UV-stability.

Frame: 2-3/8" O.D. x 12 gauge pre-galvanized structural steel tubing. Cross braces 1" O.D. x 16 gauge pre-galvanized structural steel tubing. Brace attachment points 1-1/2"x1-1/2"x3/16" steel angle. Seat and top mounting points 7 gauge x 1-1/2" die stamped steel flat bar. Legs are bent over a mandrel through the bend radius producing a wrinkle free bend. Holes are predrilled in legs for optional surface mounting. All electrically MIG welded.

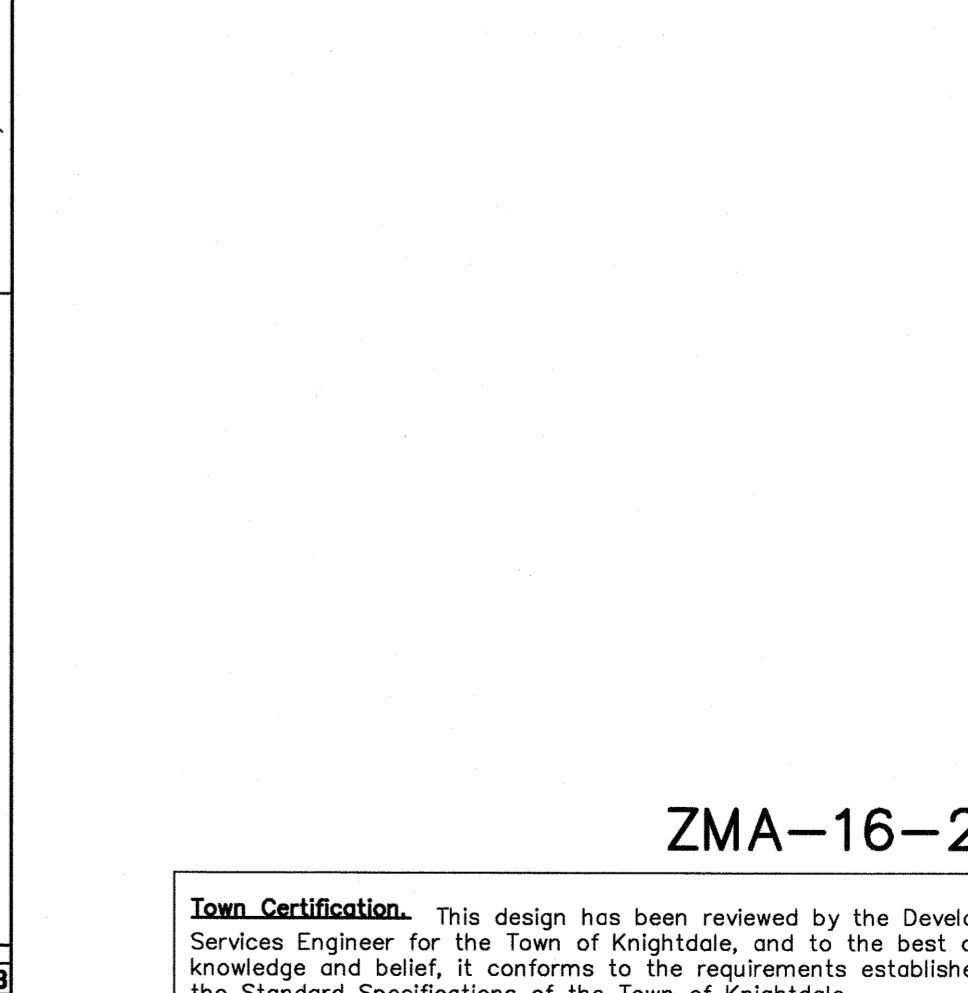
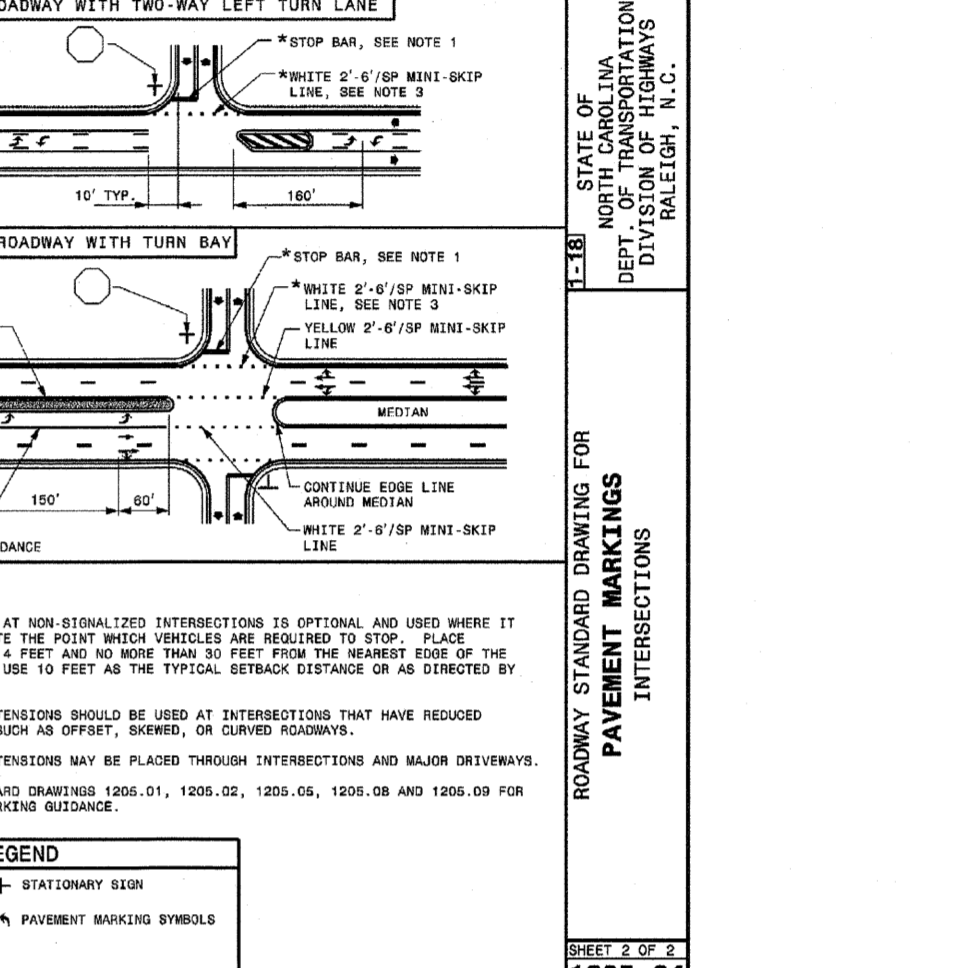
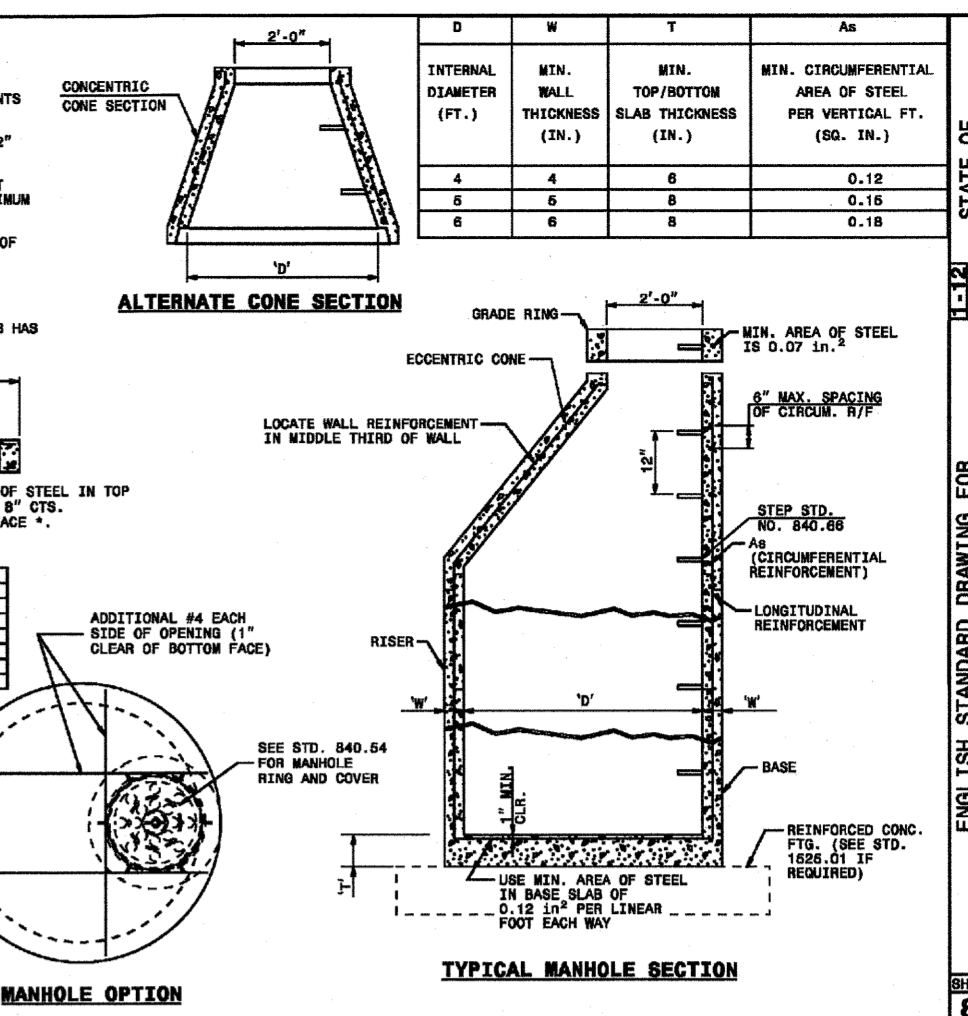
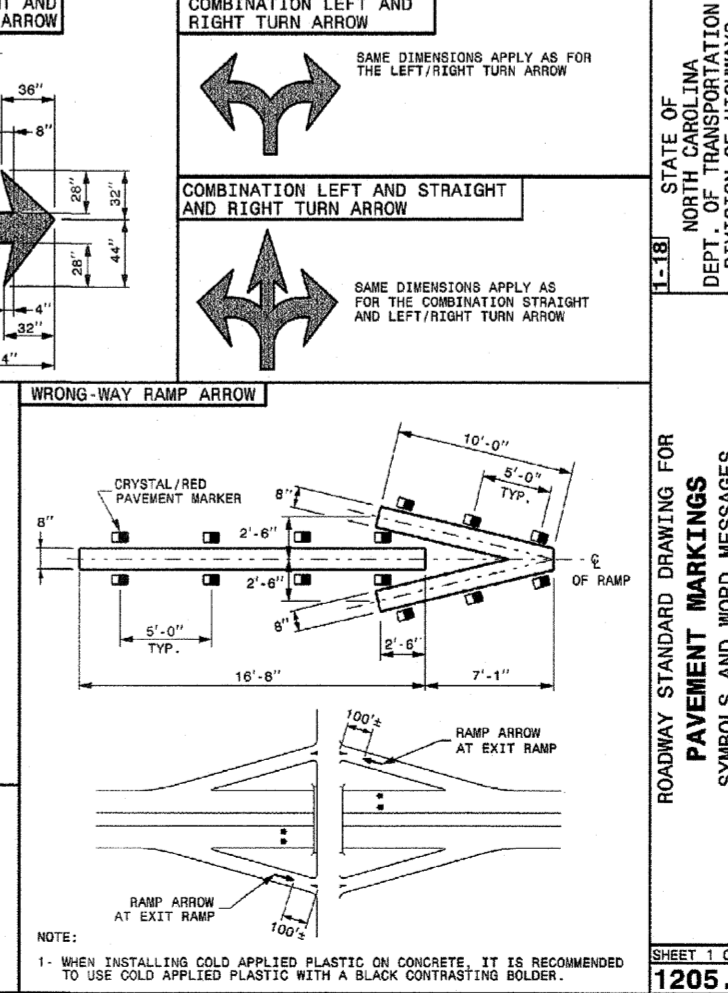
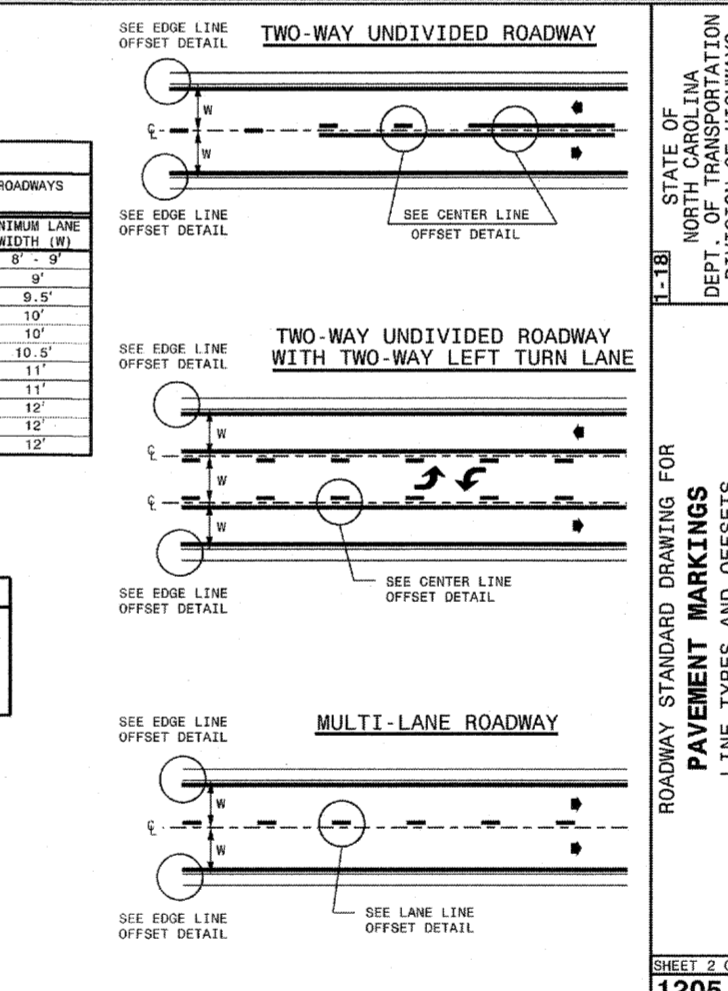
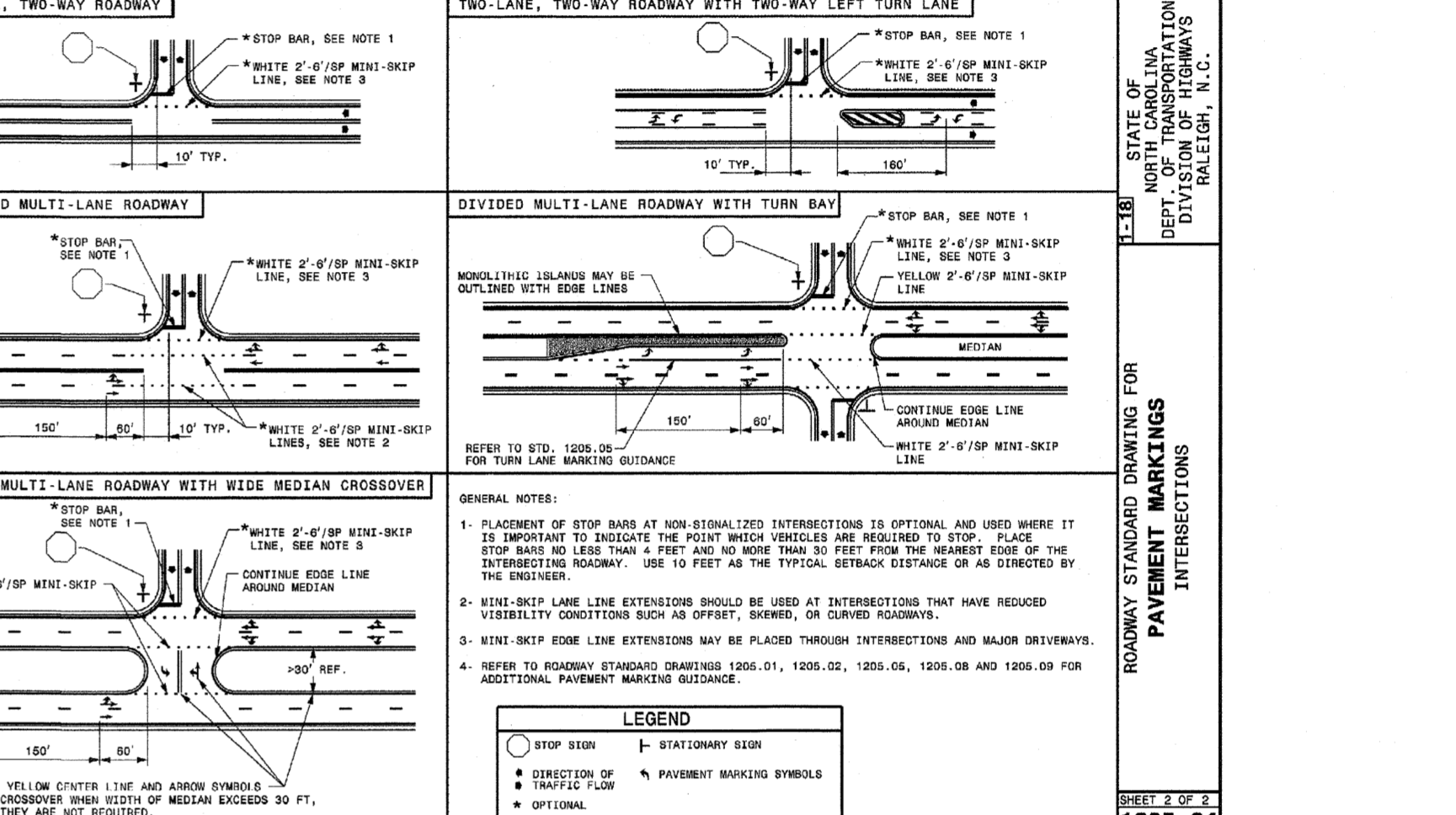
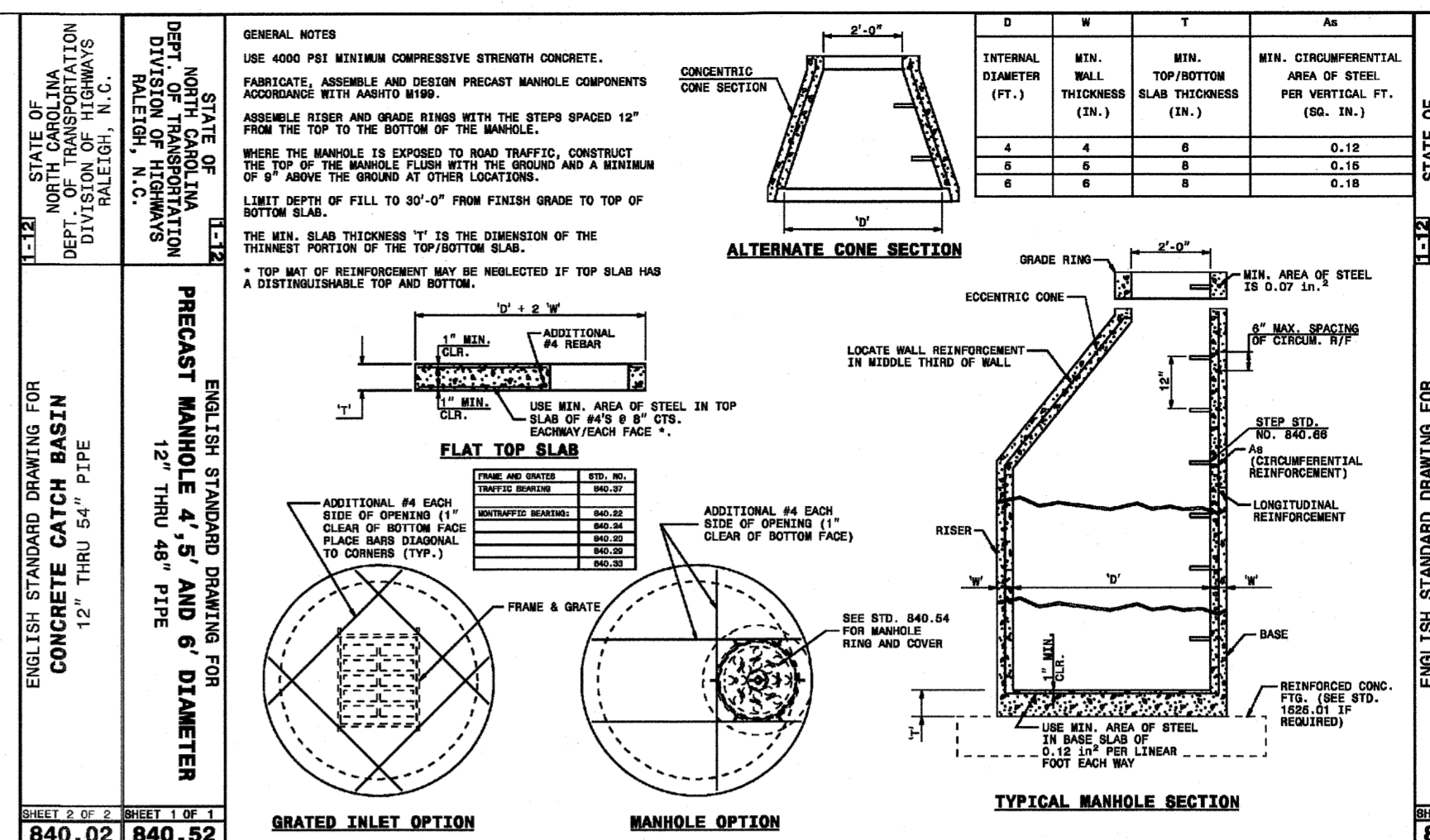
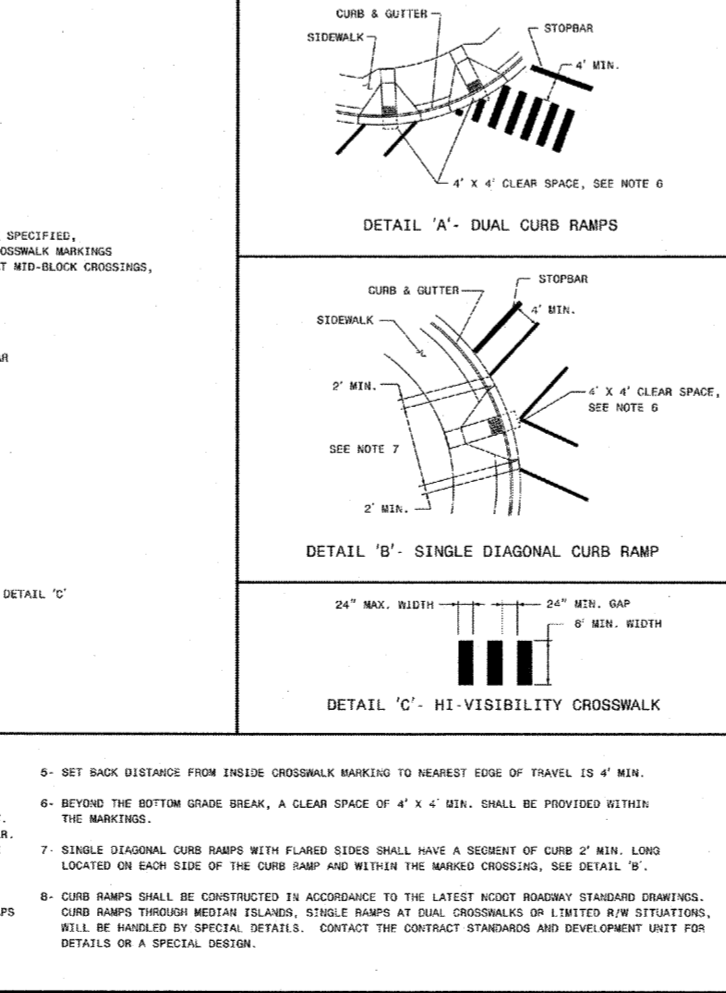
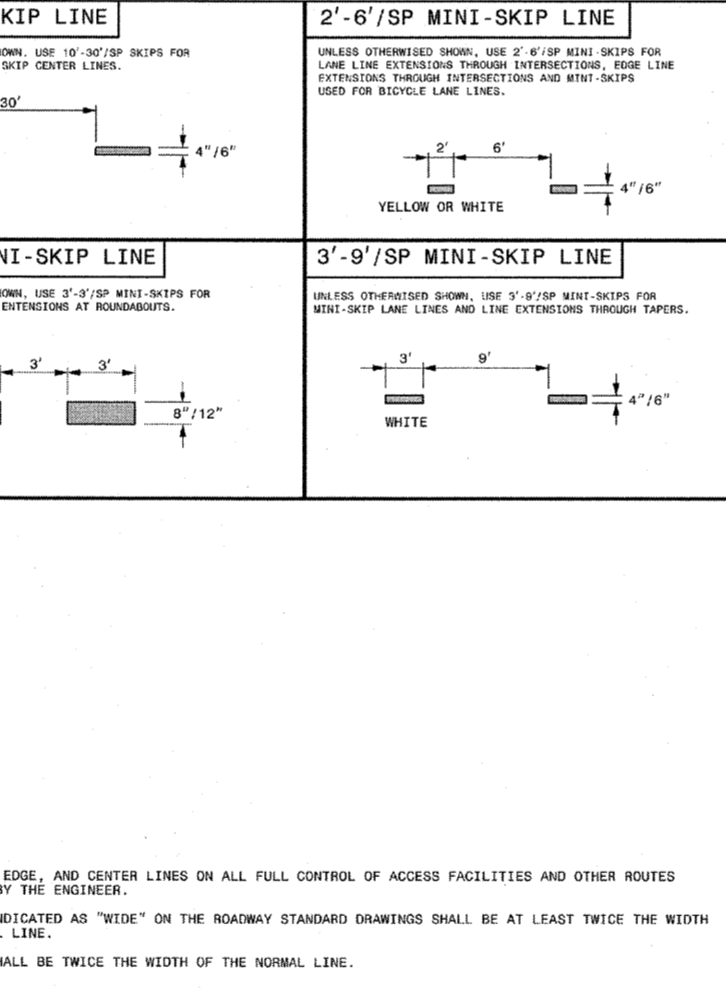
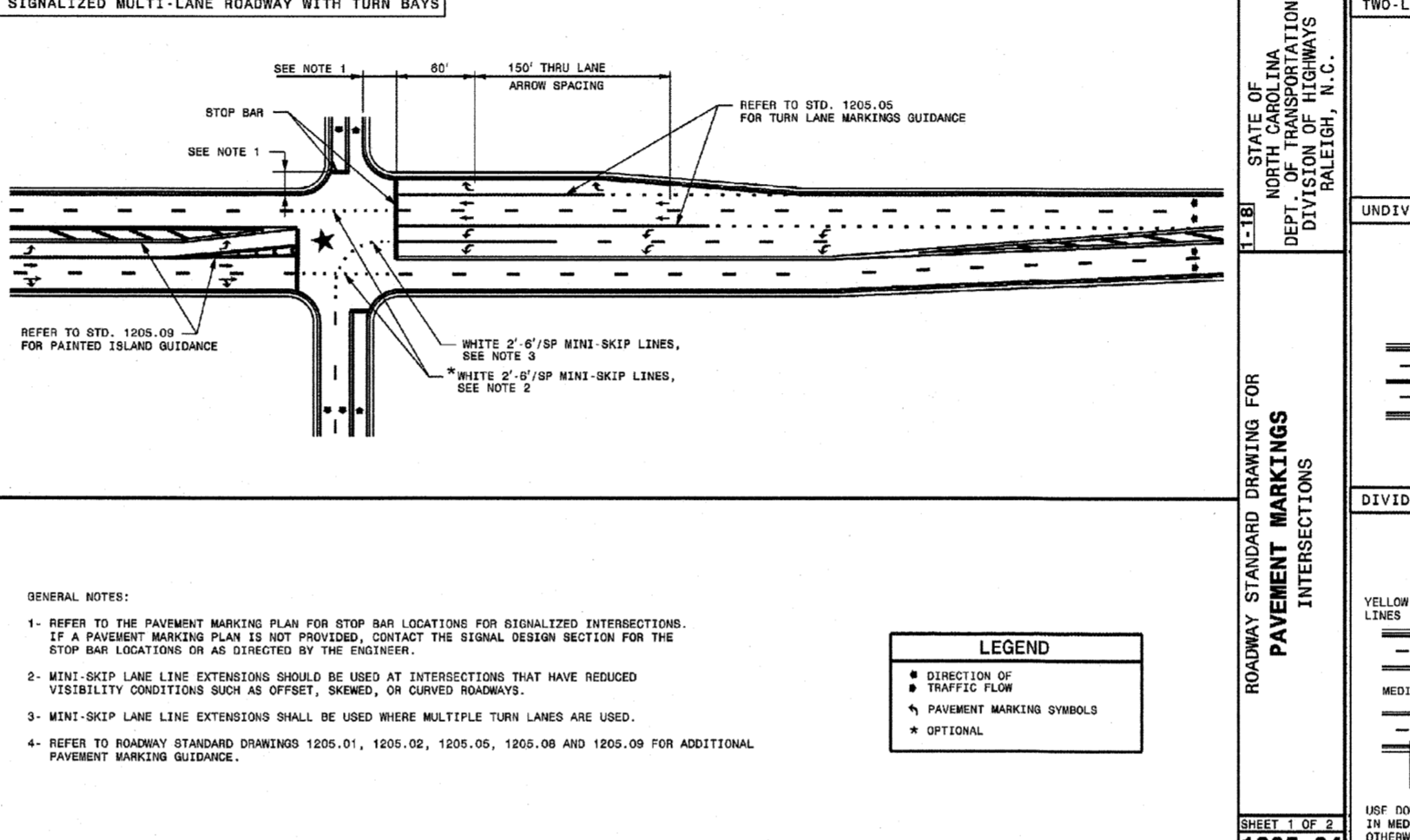
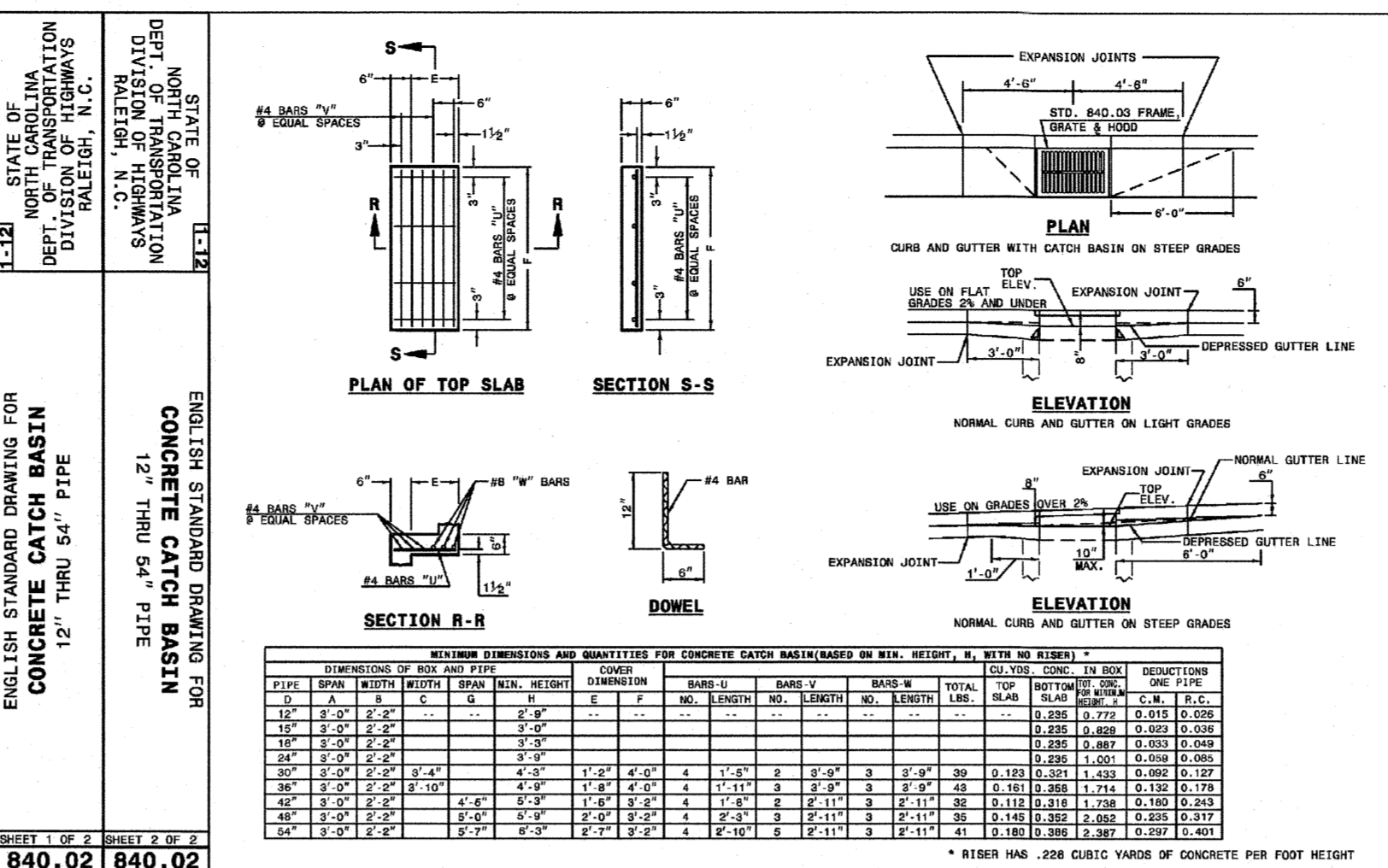
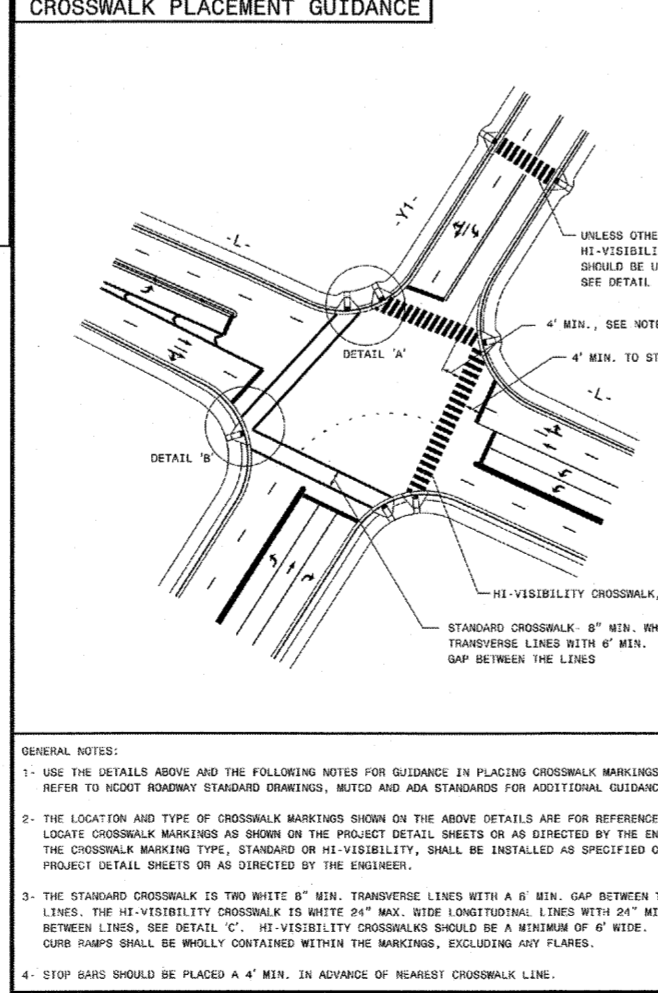
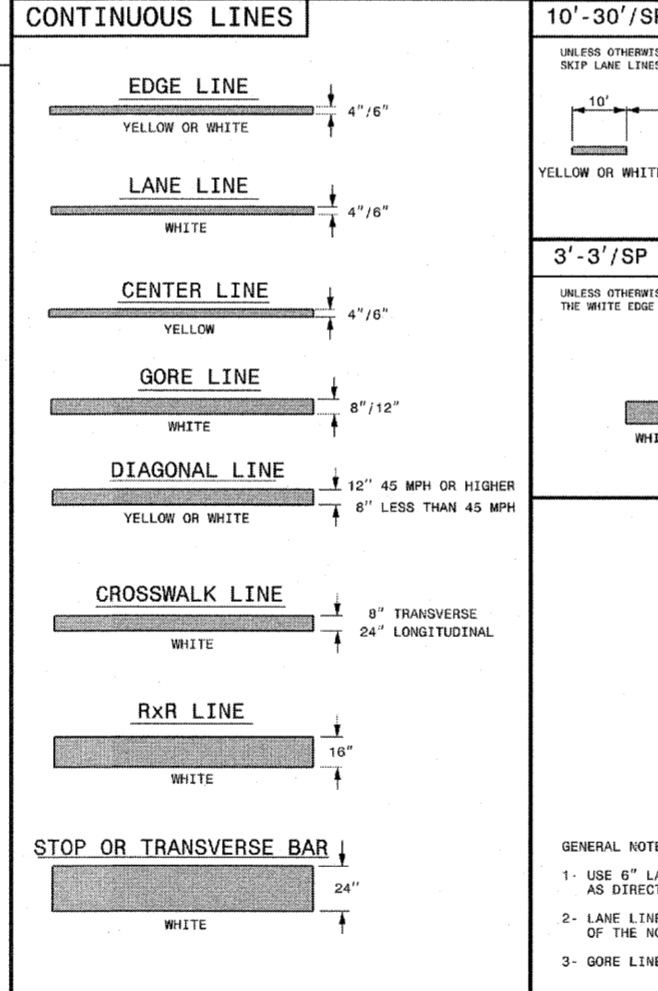
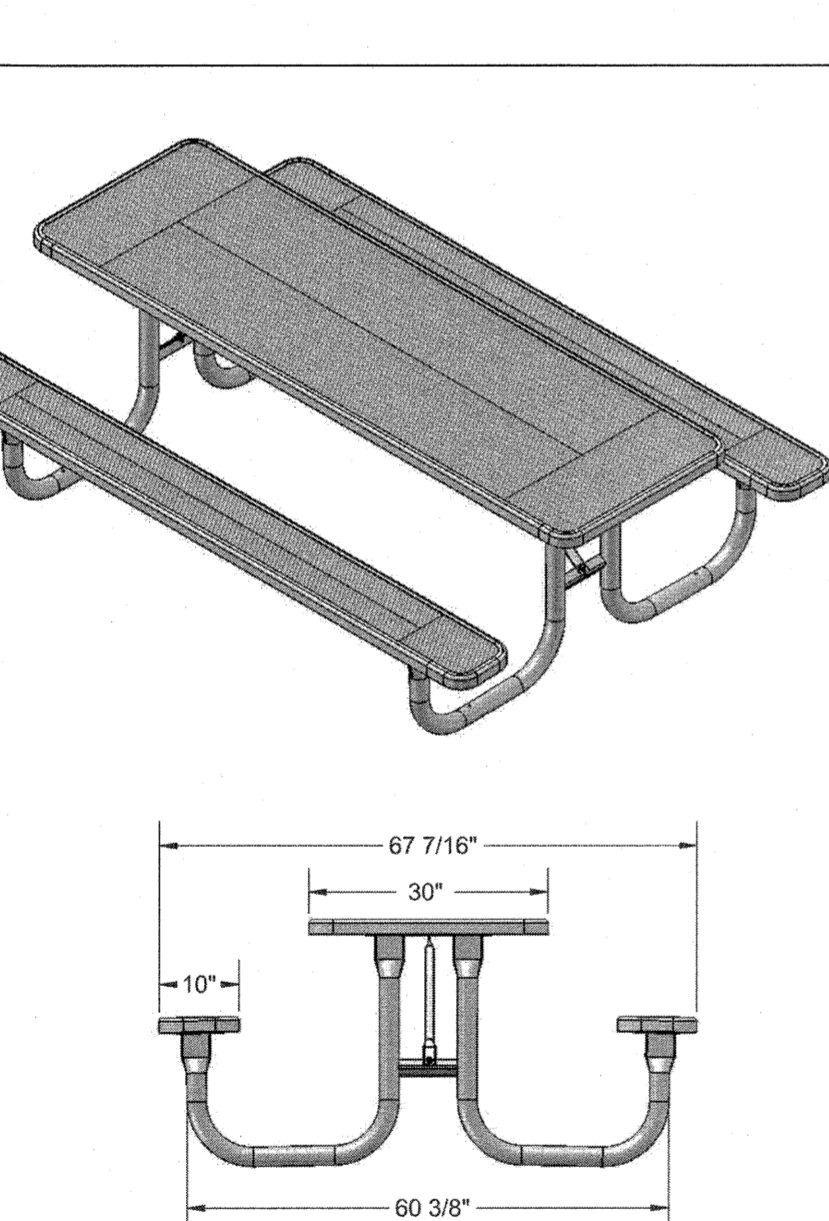
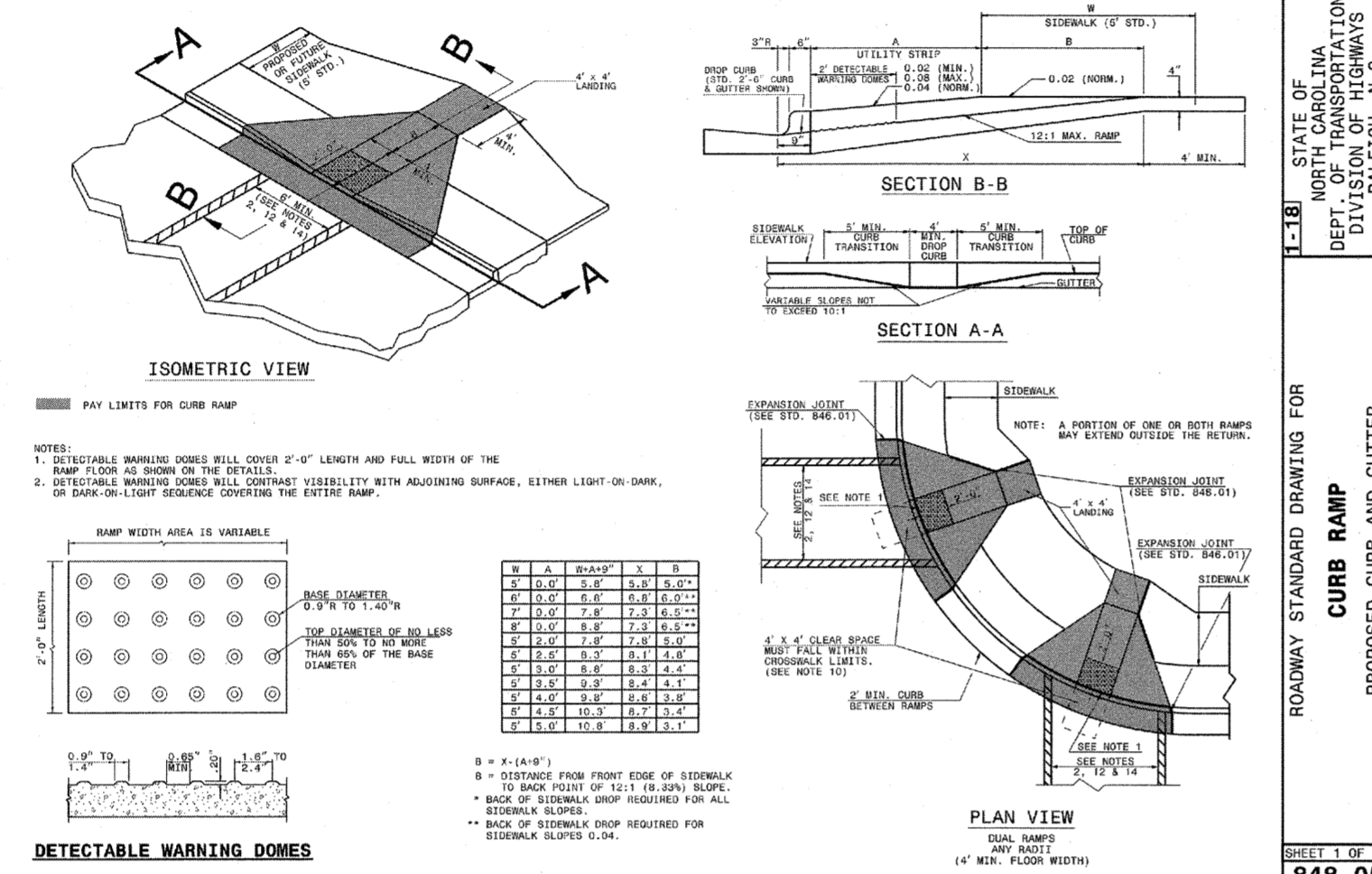
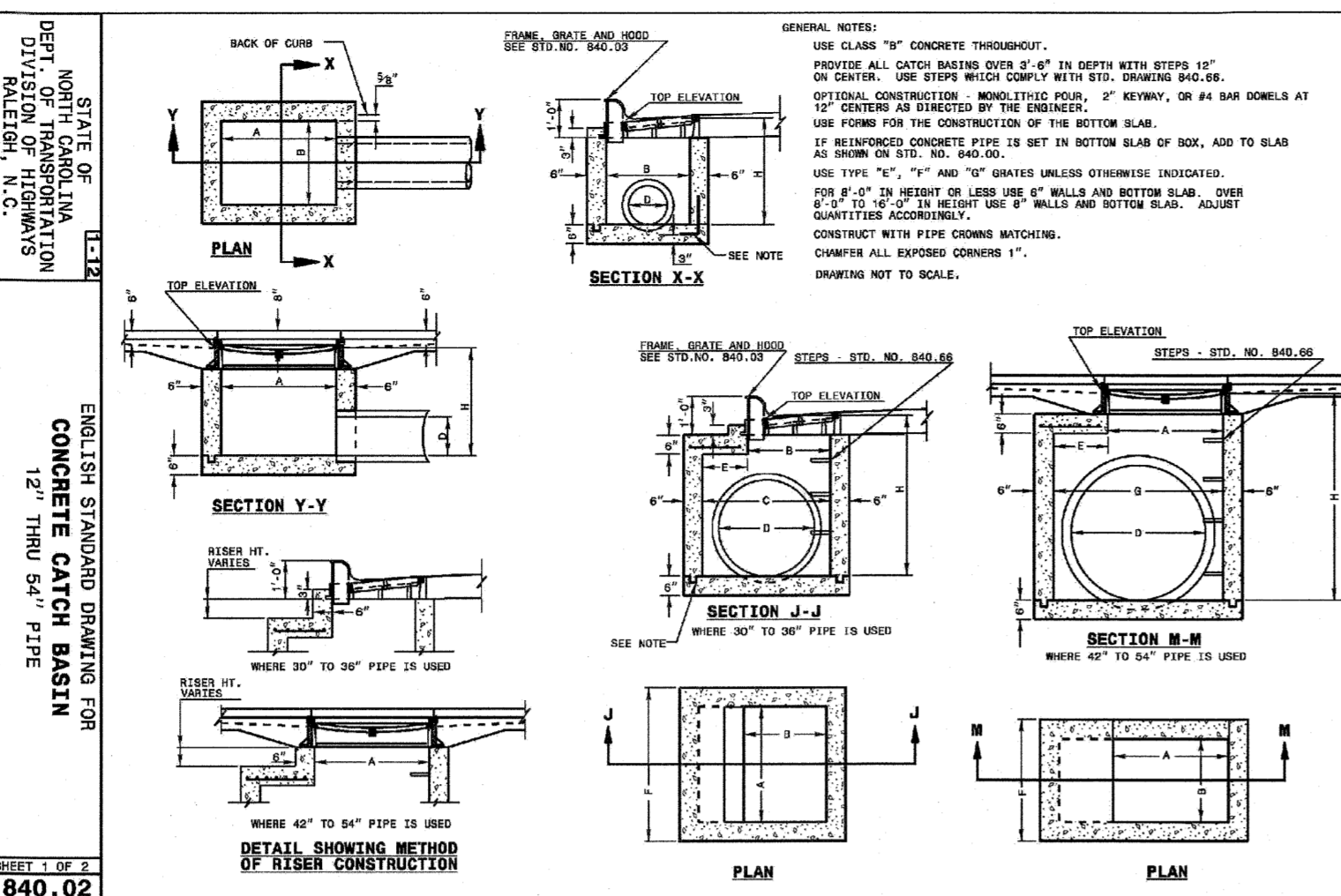
Frame Coating: Electrostatic powder coated application oven cured.

Hardware: All stainless steel hardware fasteners.

Dimensions: 8' portable picnic table walk-through design. Top is 30" wide x 96" long and is 30-1/4" high. Seats are 10" wide x 96" long and 18-1/2" high. Outside to outside dimension is 66-1/2" x 96".

PICNIC TABLE DETAIL

NOT TO SCALE



51 Kimmage Drive, Suite 102
 Cary, North Carolina 27511
 Phone: 919.481.6990
 Fax: 919.358.5127

ADVANCED
 CIVIL DESIGN
 ENGINEERS SURVEYORS

PLAN PREPARED FOR:
 ENGLISH STANDARD DRAWING FOR
 PRECAST MANHOLE 4", 5" AND 6" DIAMETER
 12" THRU 48" PIPE
 SHEET 1 OF 2
 840.52

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY
 CONSTRUCTION PLAN
 FOR
BEACON PARTNERS
 DETAILS

PLAN PREPARED FOR:
 ENGLISH STANDARD DRAWING FOR
 ROADWAY STANDARD DRAWING FOR
 PAVEMENT MARKINGS INTERSECTIONS
 SHEET 3 OF 2
 1205.04

Issue Dates:
 09/20/2022 - Construction Plan Submittal #1
 11/11/2022 - Construction Plan Submittal #2
 12/22/2022 - Construction Plan Submittal #3
 02/10/2023 - Construction Plan Submittal #4
 03/03/2023 - Construction Plan Submittal #5
 03/20/2023 - Construction Plan Signature Set

Date: 03/20/2023
 Scale: NOT TO SCALE
 Drawn By: AMK
 Checked By: JRR
 Project Number: 21-0011-504
 Drawing Number: C.10.7

ZMA-16-21

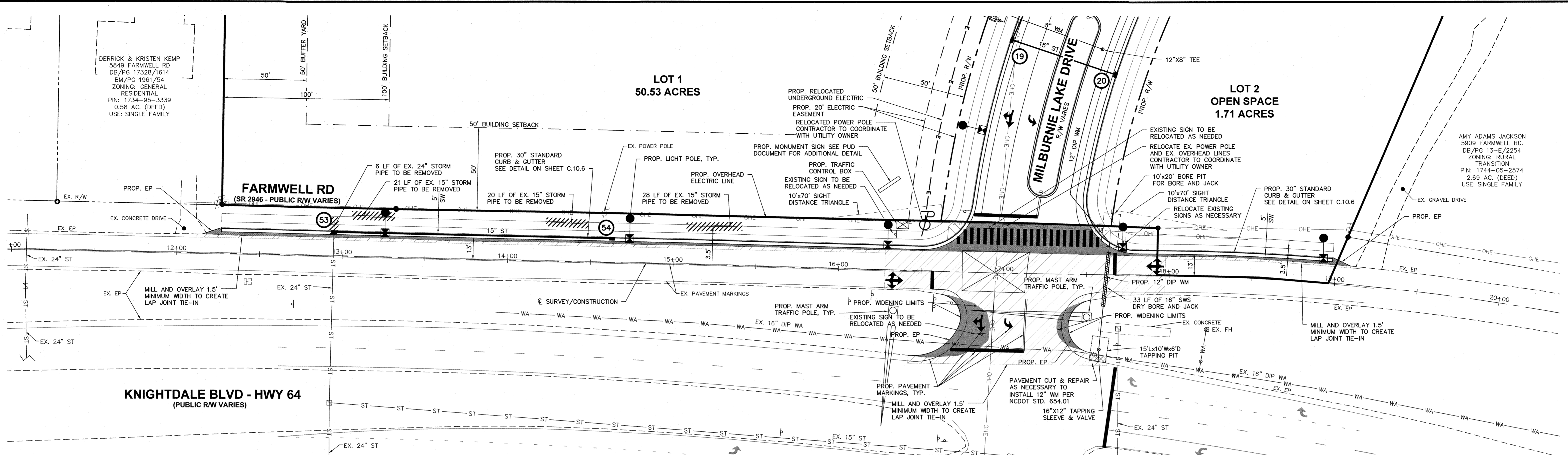
Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator

0:\21-0011-504NC\DWG\Production Drawings\SITE CONSTRUCTION\0011-504NC FARMWELL RD AND HWY 64 IMPROVEMENT PLANS.dwg FARMWELL ROAD IMPROVEMENT PLAN Mar 20, 2023 - 10:41:53am Jyoal



PROJECT NOTES

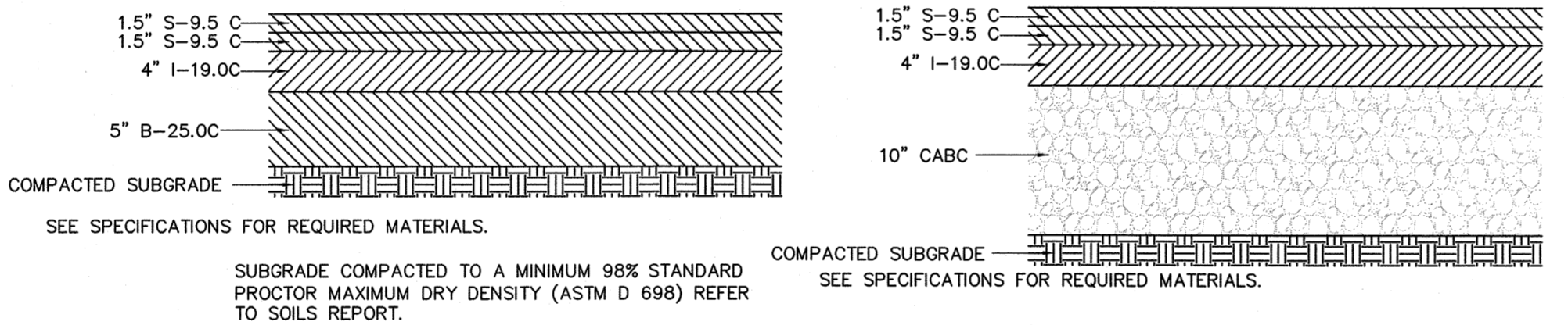
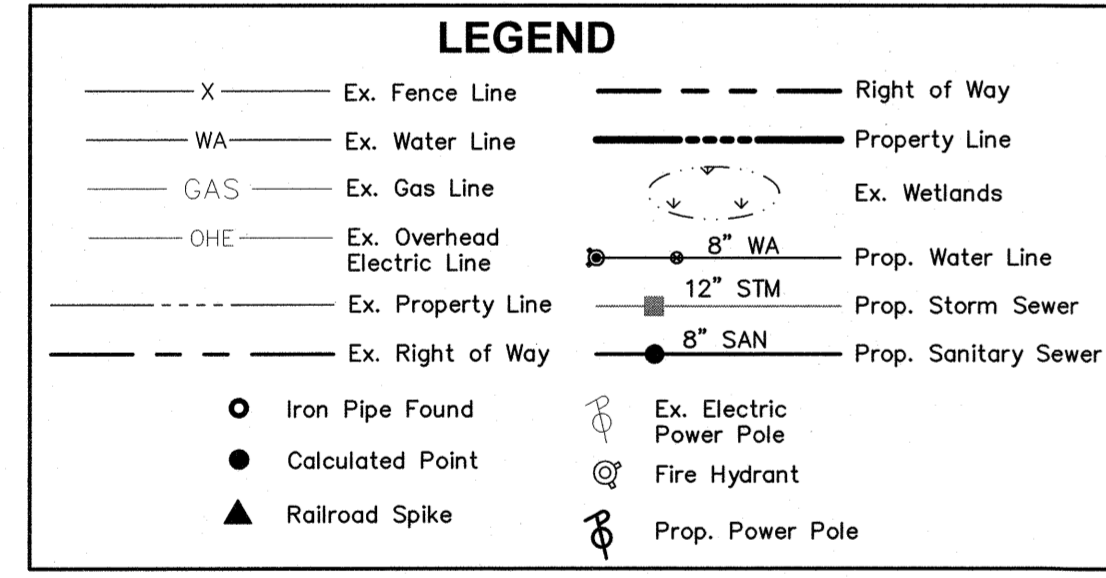
- 1. CONSTRUCTION OF ALL WATER, SEWER, AND STREETS SHALL BE IN ACCORDANCE WITH NCDOT AND THE TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS, INCLUDING THE N.C. BUILDING CODE, FIRE CODE, AND PLUMBING CODE, AND ACCESSIBILITY CODE, LATEST EDITIONS.
- 2. PAVEMENT DESIGN SHALL BE VERIFIED BY A GEOTECHNICAL ENGINEER'S REPORT.
- 3. EXISTING VEGETATION AND NATURAL AREAS WILL BE PROTECTED TO THE GREATEST EXTENT POSSIBLE AND MINIMUM CLEARING OF LAND SHALL BE UNDERTAKEN DURING DEVELOPMENT.
- 4. THE CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS, AND SIZES OF EXISTING PUBLIC UTILITIES PRIOR TO ANY EXCAVATIONS, GRADING, OR INSTALLATION OF UNDERGROUND UTILITIES ON OR ADJACENT TO THE PROJECT. ANY DIFFERENCES SHALL BE REPORTED TO THE OWNER, ENGINEER.
- 5. CONTRACTOR SHALL CONTACT EACH UTILITY COMPANY TO COORDINATE ANY RELOCATIONS AND ADJUSTMENTS THAT MAY BE REQUIRED FOR THE CONSTRUCTION OF THE PROJECT.
- 6. DESIGN, INSTALLATION, AND COORDINATION OF ELECTRIC SERVICE, NATURAL GAS, AND COMMUNICATIONS CABLE BY RESPECTIVE UTILITY COMPANIES.
- 7. EXISTING MAILBOXES, ROAD SIGNS, AND EXISTING UTILITIES MAY REQUIRE RELOCATION DUE TO THE ROAD WIDENING.

TRAFFIC CONTROL PLAN

- 1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO NCDOT STANDARDS.
1101.02 TEMP. LANE CLOSURE
1101.04 TEMP. SHOULDER CLOSURE (DRUMS)
1101.11 TRAFFIC CONTROL DESIGN TABLES
1110.01 STATIONARY WORK SIGNS
1110.02 PORTABLE WORK ZONE SIGNS
1130.01 DRUMS
1135.01 CONES
1150.01 FLAGGERS
- 2. ACCESS SHALL BE MAINTAINED TO ALL BUSINESSES AND RESIDENCES AFFECTED BY THE PROJECT.
- 3. ALL TRAFFIC CONTROL, GRADING, CONSTRUCTION, SIGNING, AND PAVEMENT MARKINGS SHALL CONFORM TO NCDOT AND THE TOWN OF KNIGHTDALE STANDARDS.
PHASE 1
CONTRACTOR SHALL PLACE ALL CONSTRUCTION APPROACH WARNING SIGNS PRIOR TO BEGINNING WORK. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED. CONTRACTOR SHALL SET UP AND MAINTAIN BARRELS OR CONES ALONG THE CONSTRUCTION AREA ACCORDING TO NCDOT STANDARDS FOR TRAFFIC CONTROL. CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS ACCORDING TO NCDOT STANDARD DRAWING NO. 1101.01. CONTRACTOR SHALL BEGIN GRADING ALONG SHOULDER, INSTALL EROSION CONTROL MEASURES, AND ASPHALT BASE.
PHASE 2
PLACE BINDER AND SURFACE COURSE.
PHASE 3
MILL 1.5" AND OVERLAY CONFLICTING PAVEMENT MARKINGS.
REMOVE TRAFFIC BARRELS AND INSTALL THERMOPLASTIC PAVEMENT MARKINGS. REMOVE EXISTING PAVEMENT MARKINGS IN CONFLICT WITH PROPOSED MARKINGS. INSTALL ALL PERMANENT SIGNAGE AS DETAILED ON PLANS AND AS REQUIRED BY NCDOT AND TOWN OF KNIGHTDALE.
4. NO LANE CLOSURES, DETOURS, REROUTING, OR IMPEDANCE OF TRAFFIC WILL OCCUR BETWEEN 7-9 AM OR 4-6 PM.

ATTENTION CONTRACTORS

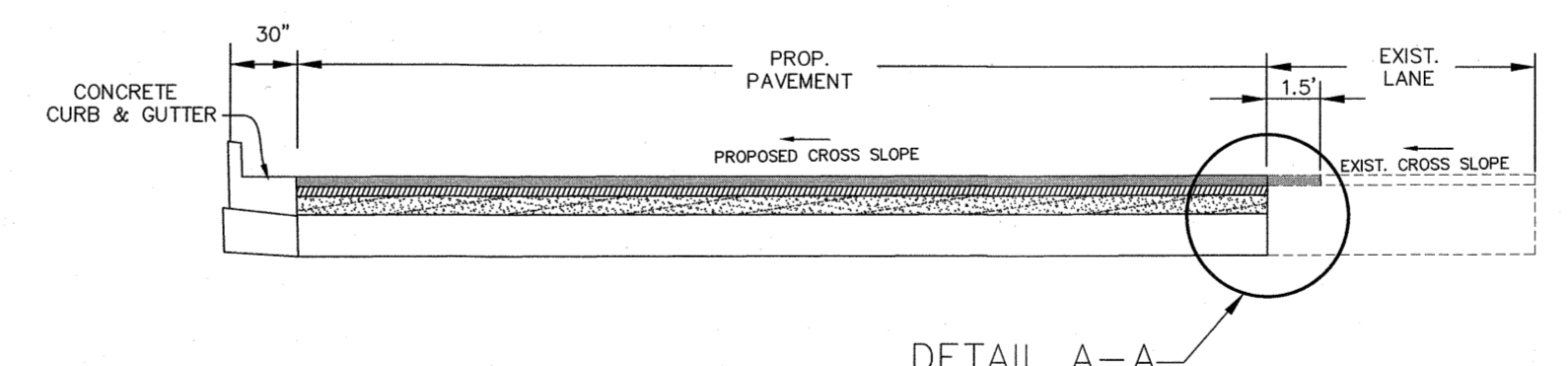
The Construction Contractor responsible for the extension of water and sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 998-5542 at least twenty-four hours prior to beginning any of their construction. Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstatement of any water or sewer facilities not inspected as a result of this notification failure. Failure to call for inspection, install a Downstream Plug, have Permitted Plans on the 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.



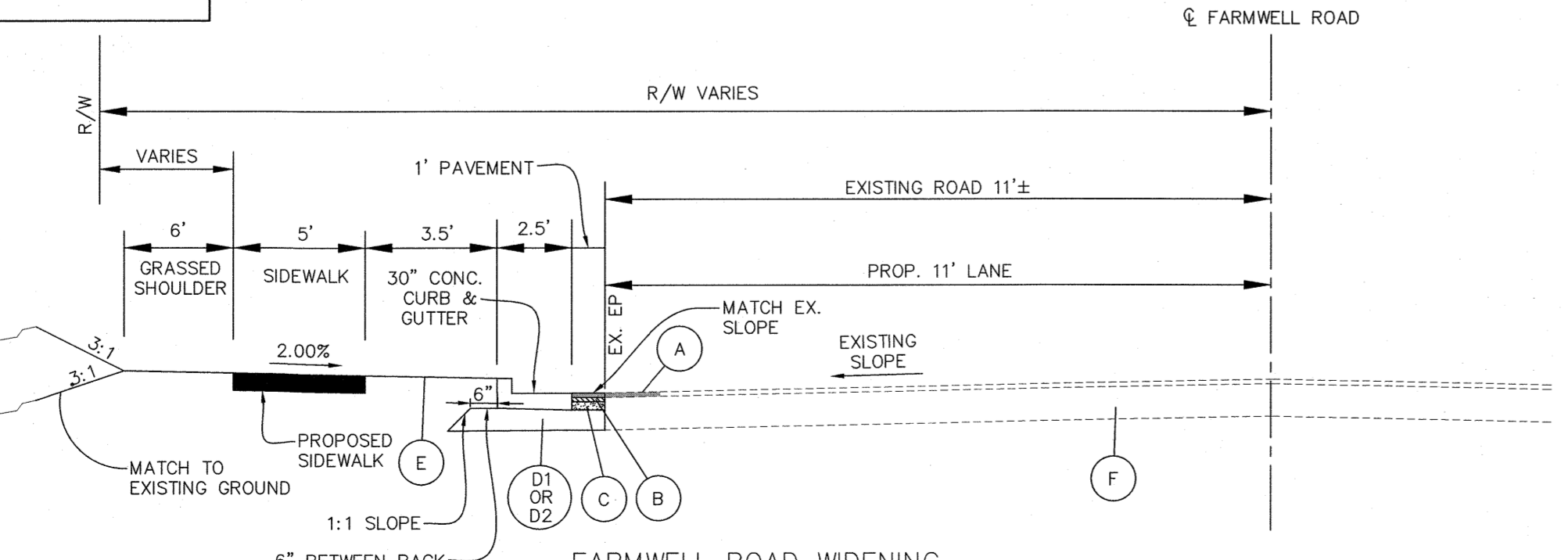
ASPHALT PAVEMENT FOR SECTIONS 6 FEET WIDE OR LESS
ASPHALT PAVEMENT FOR SECTIONS GREATER THAN 6 FEET WIDE

PAVEMENT SCHEDULE

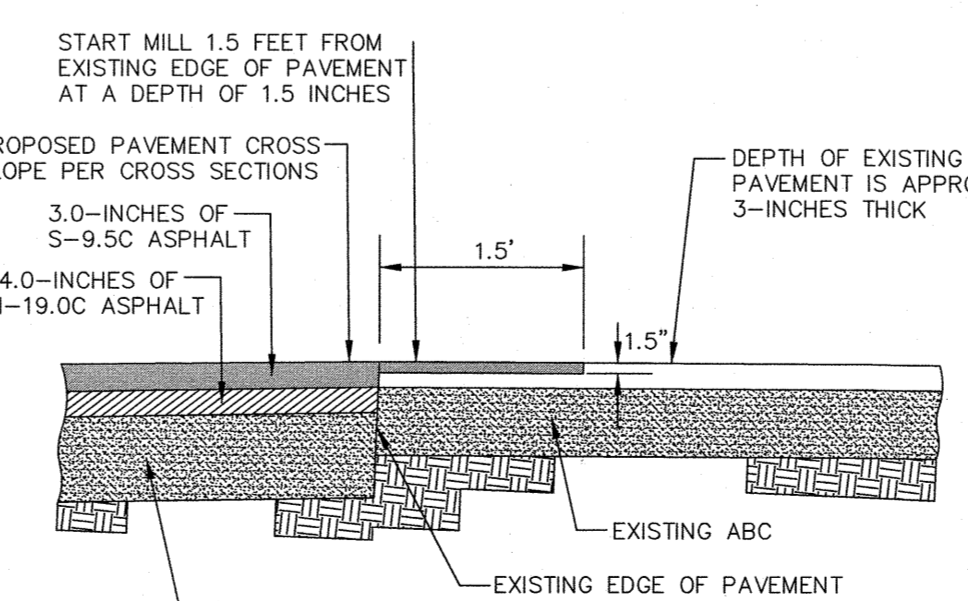
(A) 1.5" S-9.5 C (SEE PLAN FOR LIMITS)	(D2) 10.0" CABG FOR WIDENING SECTIONS GREATER THAN 6.0 FEET
(B) 1.5" S-9.5 C	(E) EARTH MATERIAL
(C) 4" I-19.0C	(F) EXISTING PAVEMENT
(D1) 5.0" B-25.0C FOR WIDENING SECTIONS LESS THAN 6.0 FEET	



WEDGING AND ROAD WIDENING DETAIL



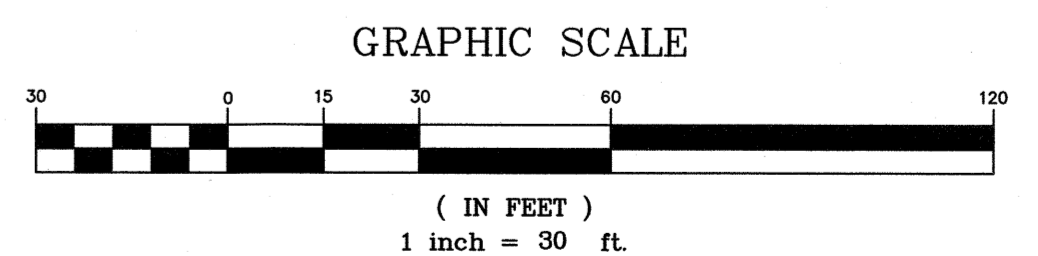
FARMWELL ROAD WIDENING TYPICAL SECTION
NOT TO SCALE



DETAIL A-A

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



ZMA-16-21

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: _____ Date: _____
Development Services Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Administrator

PLAN PREPARED BY:
ADVANCED CIVIL DESIGN
ENGINEERS SURVEYORS
51 Kilmorye Drive, Suite 102
Cory, North Carolina 27527
PH 919.336.5127
FO 919.336.5127

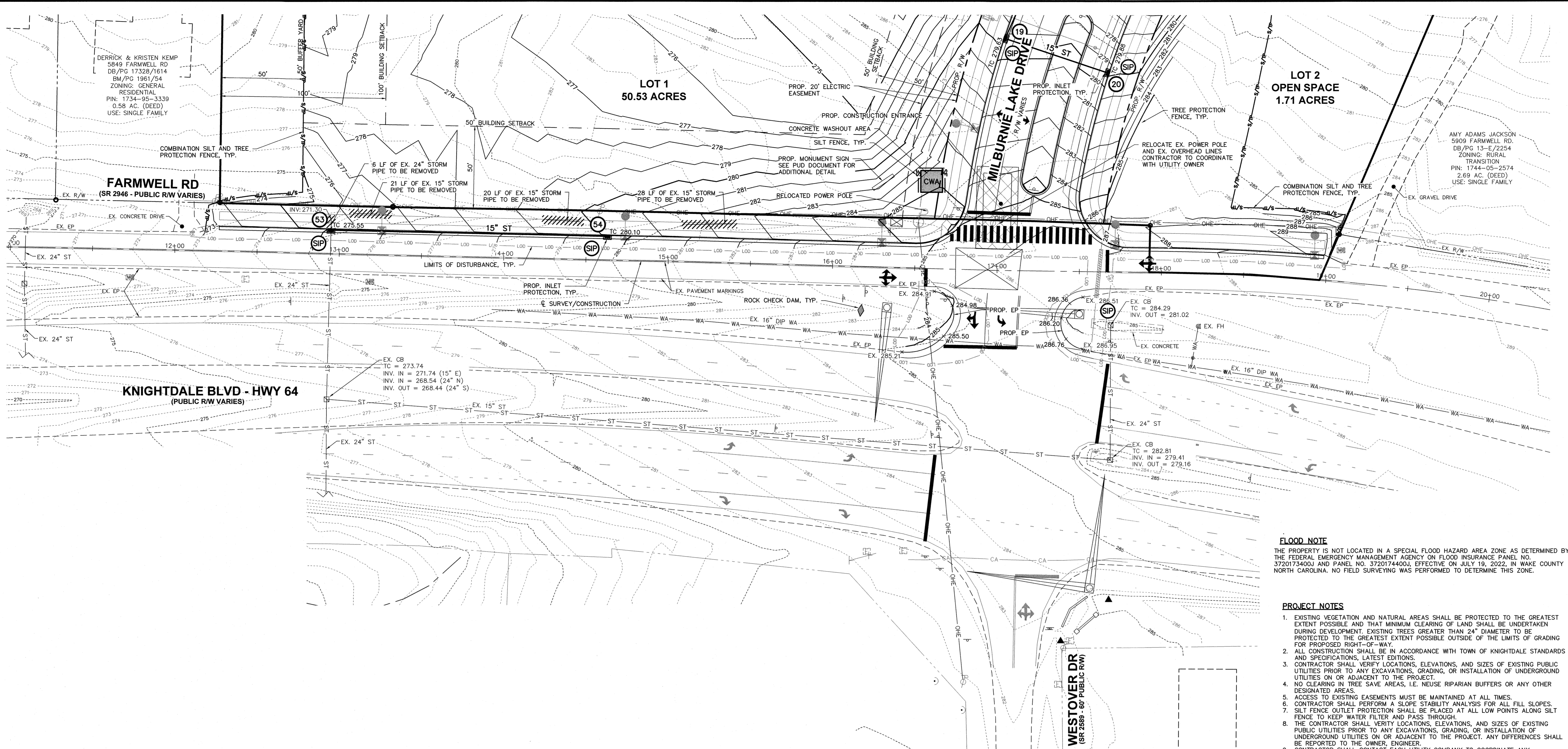
PLAN PREPARED FOR:
BEACON PARTNERS
500 East Morehead St
Charlotte, North Carolina 28269
PH 704.597.7757
FO 704.598.6335

5901 Farmwell Road, Knightdale, NC 27610 - Wake County
KNIGHTDALE GATEWAY CONSTRUCTION PLAN
FOR
BEACON PARTNERS
FARMWELL ROAD IMPROVEMENT PLAN

SEAL
045155
Professional Engineer
N.C. REG. NO. 10000
03/20/2023

Issue Dates:
09/20/2022 - Construction Plan Submittal #1
11/11/2022 - Construction Plan Submittal #2
12/22/2022 - Construction Plan Submittal #3
02/10/2023 - Construction Plan Submittal #4
03/03/2023 - Construction Plan Submittal #5
03/20/2023 - Construction Plan Signature Set
Date: 03/20/2023
Scale: 1" = 30'
Drawn By: AMK
Checked By: JRR
Project Number: 21-0011-504
Drawing Number: C.110

C:\21-0011-504NC\DWG\Production Drawings\SITE CONSTRUCTION\001-504NC FARMWELL RD GRADING & EROSION CONTROL PLAN.dwg ROAD GRADING & EROSION CONTROL PLAN.dwg Mar 20, 2023 - 10:42:17am Foyal

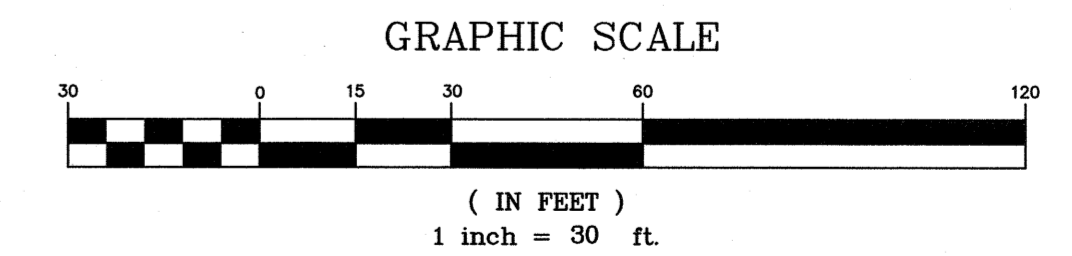


FLOOD NOTE
THE PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA ZONE AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY ON FLOOD INSURANCE PANEL NO. 3720173400J AND PANEL NO. 3720174400J, EFFECTIVE ON JULY 19, 2022, IN WAKE COUNTY NORTH CAROLINA. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE.

- PROJECT NOTES**
- EXISTING VEGETATION AND NATURAL AREAS SHALL BE PROTECTED TO THE GREATEST EXTENT POSSIBLE AND THAT MINIMUM CLEARING OF LAND SHALL BE UNDERTAKEN DURING DEVELOPMENT. EXISTING TREES GREATER THAN 24" DIAMETER TO BE PROTECTED TO THE GREATEST EXTENT POSSIBLE OUTSIDE OF THE LIMITS OF GRADING FOR PROPOSED RIGHT-OF-WAY.
 - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF KNIGHTDALE STANDARDS AND SPECIFICATIONS, LATEST EDITIONS.
 - CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS, AND SIZES OF EXISTING PUBLIC UTILITIES PRIOR TO ANY EXCAVATIONS, GRADING, OR INSTALLATION OF UNDERGROUND UTILITIES ON OR ADJACENT TO THE PROJECT.
 - NO CLEARING IN TREE SAVE AREAS, I.E. NEUSE RIPARIAN BUFFERS OR ANY OTHER DESIGNATED AREAS.
 - ACCESS TO EXISTING EASEMENTS MUST BE MAINTAINED AT ALL TIMES.
 - CONTRACTOR SHALL PERFORM A SLOPE STABILITY ANALYSIS FOR ALL FILL SLOPES.
 - SILT FENCE OUTLET PROTECTION SHALL BE PLACED AT ALL LOW POINTS ALONG SILT FENCE TO KEEP WATER FILTER AND PASS THROUGH.
 - THE CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS, AND SIZES OF EXISTING PUBLIC UTILITIES PRIOR TO ANY EXCAVATIONS, GRADING, OR INSTALLATION OF UNDERGROUND UTILITIES ON OR ADJACENT TO THE PROJECT. ANY DIFFERENCES SHALL BE REPORTED TO THE OWNER, ENGINEER.
 - CONTRACTOR SHALL CONTACT EACH UTILITY COMPANY TO COORDINATE ANY RELOCATIONS AND ADJUSTMENTS THAT MAY BE REQUIRED FOR THE CONSTRUCTION OF THE PROJECT.
 - DESIGN, INSTALLATION, AND COORDINATION OF ELECTRIC SERVICE, NATURAL GAS, AND COMMUNICATIONS CABLE BY RESPECTIVE UTILITY COMPANIES.
 - SILT FENCE AND TREE PROTECTION FENCE SHALL BE PLACED AT THE LIMITS OF DISTURBANCE LINE. SILT FENCE AND TREE PROTECTION FENCE SHOWN OFFSET FROM LIMITS OF DISTURBANCE LINE ON THIS PLAN FOR CLARITY PURPOSES ONLY.

EROSION CONTROL LEGEND

	SF	SILT FENCE / LOD
	S/TP	SILT & TREE PROTECTION FENCE / LOD
	TP	TREE PROTECTION FENCE / LOD
	LOD	LIMITS OF DISTURBANCE
		PROP. DIVERSION DITCH
		PROP. STORM SEWER
		EX. MINOR CONTOUR
		EX. MAJOR CONTOUR
		PROP. MINOR CONTOUR
		PROP. MAJOR CONTOUR



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City of Raleigh Development Approval _____
Raleigh Water Review Officer

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: _____ Date: _____
Development Services Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Administrator

PLAN PREPARED BY: AMK
51 Killip's Drive, Suite 102
Cary, North Carolina 27511
PH 919.481.6900
FAX 919.336.9127

ADVANCED CIVIL DESIGN ENGINEERS

PLAN PREPARED FOR: BEACON PARTNERS
500 East Morehead St.
Suite 200
Charlotte, North Carolina 28269
Tel: 704.597.7757
Fax: 704.598.6335

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY CONSTRUCTION PLAN FOR BEACON PARTNERS FARMWELL ROAD GRADING & EROSION CONTROL PLAN

03/20/2023

Issue Dates:
09/20/2022 - Construction Plan Submittal #1
11/11/2022 - Construction Plan Submittal #2
12/22/2022 - Construction Plan Submittal #3
02/10/2023 - Construction Plan Submittal #4
03/03/2023 - Construction Plan Submittal #5
03/20/2023 - Construction Plan Signature Set

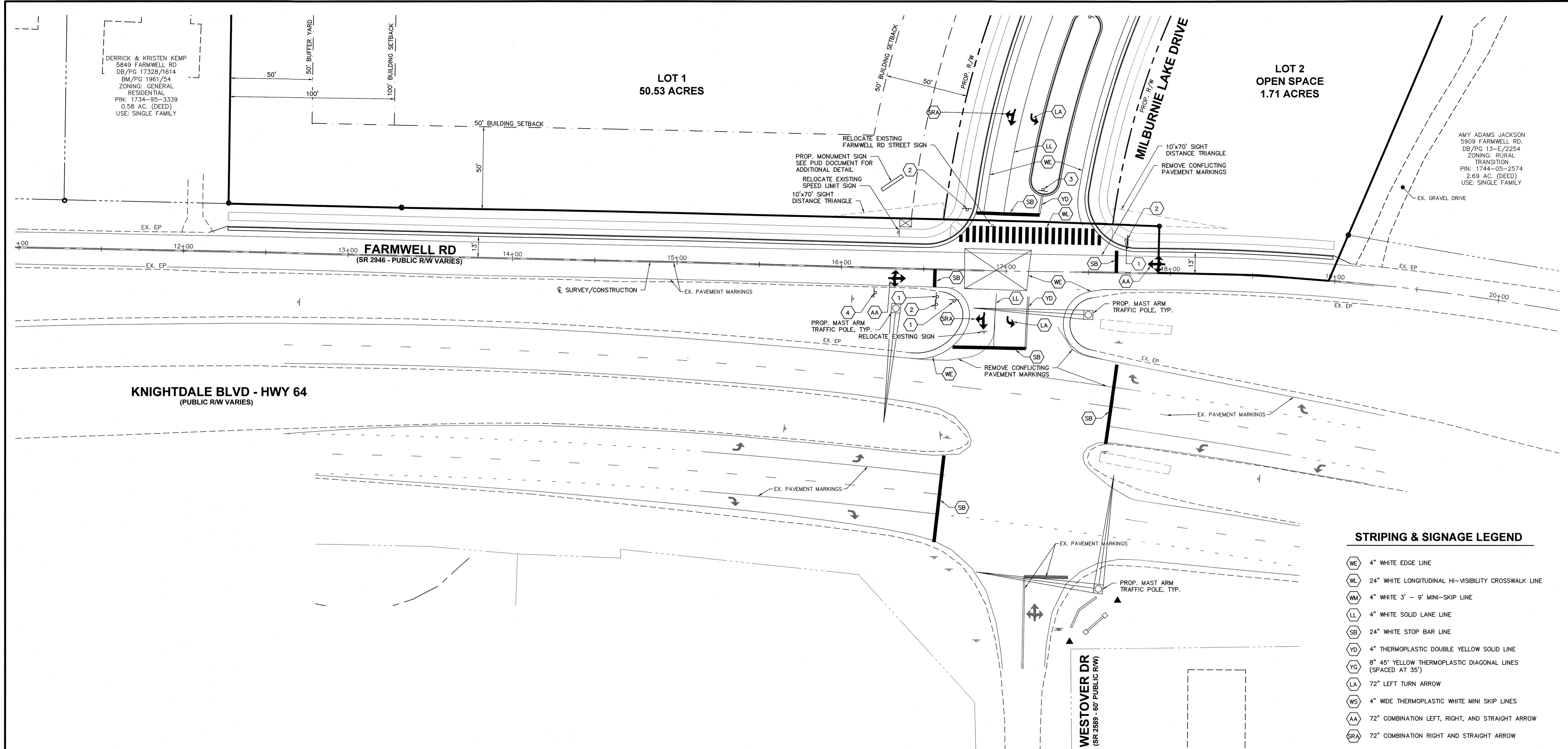
Date: 03/20/2023
Scale: 1" = 30'

Drawn By: AMK
Checked By: JRR

Project Number: 21-0011-504

Drawn Number: C.11.1

C:\21-0011-504NC\DWG\Production Drawings\SITE CONSTRUCTION\0011-504NC FARMWELL RD SIGNAGE & MARKING PLAN.dwg FARMWELL ROAD SIGNAGE & MARKING PLAN Mar 20, 2023 - 10:42:35am Jroyal



DERRICK & KRISTEN KEMP
5849 FARMWELL RD
DB/PG 17328/1614
BM/PG 1951/54
ZONING: GENERAL RESIDENTIAL
PIN: 1734-95-3339
0.58 AC. (DEED)
USE: SINGLE FAMILY

LOT 1
50.53 ACRES

LOT 2
OPEN SPACE
1.71 ACRES

AMY ADAMS JACKSON
5909 FARMWELL RD.
DB/PG 13-E/2254
ZONING: RURAL TRANSITION
PIN: 1744-05-2574
2.69 AC. (DEED)
USE: SINGLE FAMILY

KNIGHTDALE BLVD - HWY 64
(PUBLIC R/W VARIES)

FARMWELL RD
(SR 2946 - PUBLIC R/W VARIES)

WESTOVER DR
(SR 2689 - 80' PUBLIC R/W)

MILBURNIE LAKE DRIVE

STRIPING & SIGNAGE LEGEND

- 4" WHITE EDGE LINE
 - 24" WHITE LONGITUDINAL HI-VISIBILITY CROSSWALK LINE
 - 4" WHITE 3' - 9" MINI-SKIP LINE
 - 4" WHITE SOLID LANE LINE
 - 24" WHITE STOP BAR LINE
 - 4" THERMOPLASTIC DOUBLE YELLOW SOLID LINE
 - 8" 45' YELLOW THERMOPLASTIC DIAGONAL LINES (SPACED AT 35')
 - 72" LEFT TURN ARROW
 - 4" WDE THERMOPLASTIC WHITE MINI SKIP LINES
 - 72" COMBINATION LEFT, RIGHT, AND STRAIGHT ARROW
 - 72" COMBINATION RIGHT AND STRAIGHT ARROW
-
- 1-1 (30" X 30")
 - 2-7 (24" X 30")
 - 3-7 (24" X 30")
 - 4-24 (24" X 24")

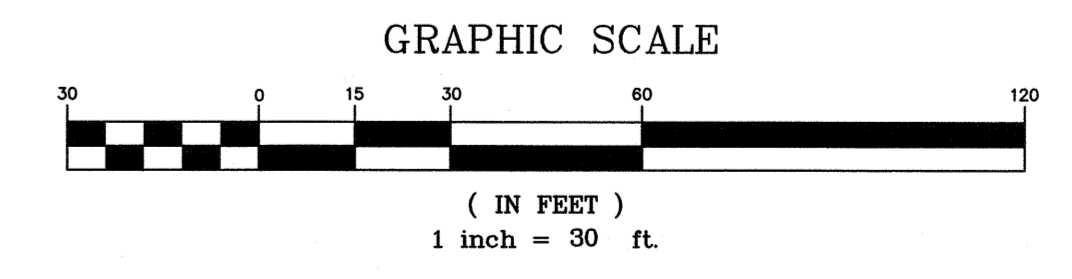
PROJECT NOTES

1. SIGNS SHOULD BE LABELED PER PART 2 OF THE 2009 MUTCD MANUAL. SIGN POSTS AND MOUNTING HEIGHTS SHALL BE PER PART 2 OF THE 2009 MUTCD MANUAL.
2. STRIPING SHALL BE INSTALLED PER PART 3 OF THE 2009 MUTCD MANUAL.
3. CONTRACTOR SHALL VERIFY LOCATIONS, ELEVATIONS AND SIZES OF ALL EXISTING UTILITIES PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES. LOCATIONS AND DEPTHS SHOWN AREA APPROXIMATE. ANY DIFFERENCES, AND/OR CONFLICTS SHALL BE REPORTED TO THE OWNER, ENGINEER, AND ARCHITECT.
4. PRIOR TO STARTING CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING EACH UTILITY COMPANY TO COORDINATE ANY REQUIRED UTILITY RELOCATIONS OR ADJUSTMENTS THAT MAY BE NECESSARY.
5. ALL PAVEMENT MARKINGS WITHIN NCDOT RIGHT OF WAY SHALL BE THERMOPLASTIC.

NCDOT ROADWAY STANDARD DRAWING LIST

THE STANDARD CONSTRUCTION DRAWINGS LISTED ON THESE PLANS SHALL BE A PART THEREOF.

STD. DWG 1205.01 SHEET 1 OF 2
 STD. DWG 1205.04 SHEET 2 OF 2
 STD. DWG 1205.04 SHEET 1 OF 2
 STD. DWG 1205.04 SHEET 2 OF 2
 STD. DWG 1205.07 SHEET 1 OF 1
 STD. DWG 1205.08 SHEET 1 OF 9



ZMA-16-21

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator

PLAN PREPARED BY:

51 Kinross Drive, Suite 102
 Cary, North Carolina 27611
 PH 919.481.6590
 FAX 919.336.5127

PLAN PREPARED FOR:

500 East Morehead St.
 Suite 200
 Charlotte, North Carolina 28269
 TEL 704.537.7757
 FAX 704.536.6335

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

**KNIGHTDALE GATEWAY
 CONSTRUCTION PLAN
 FOR
 BEACON PARTNERS
 FARMWELL ROAD SIGNAGE & MARKING PLAN**

03/20/2023

Issue Dates:

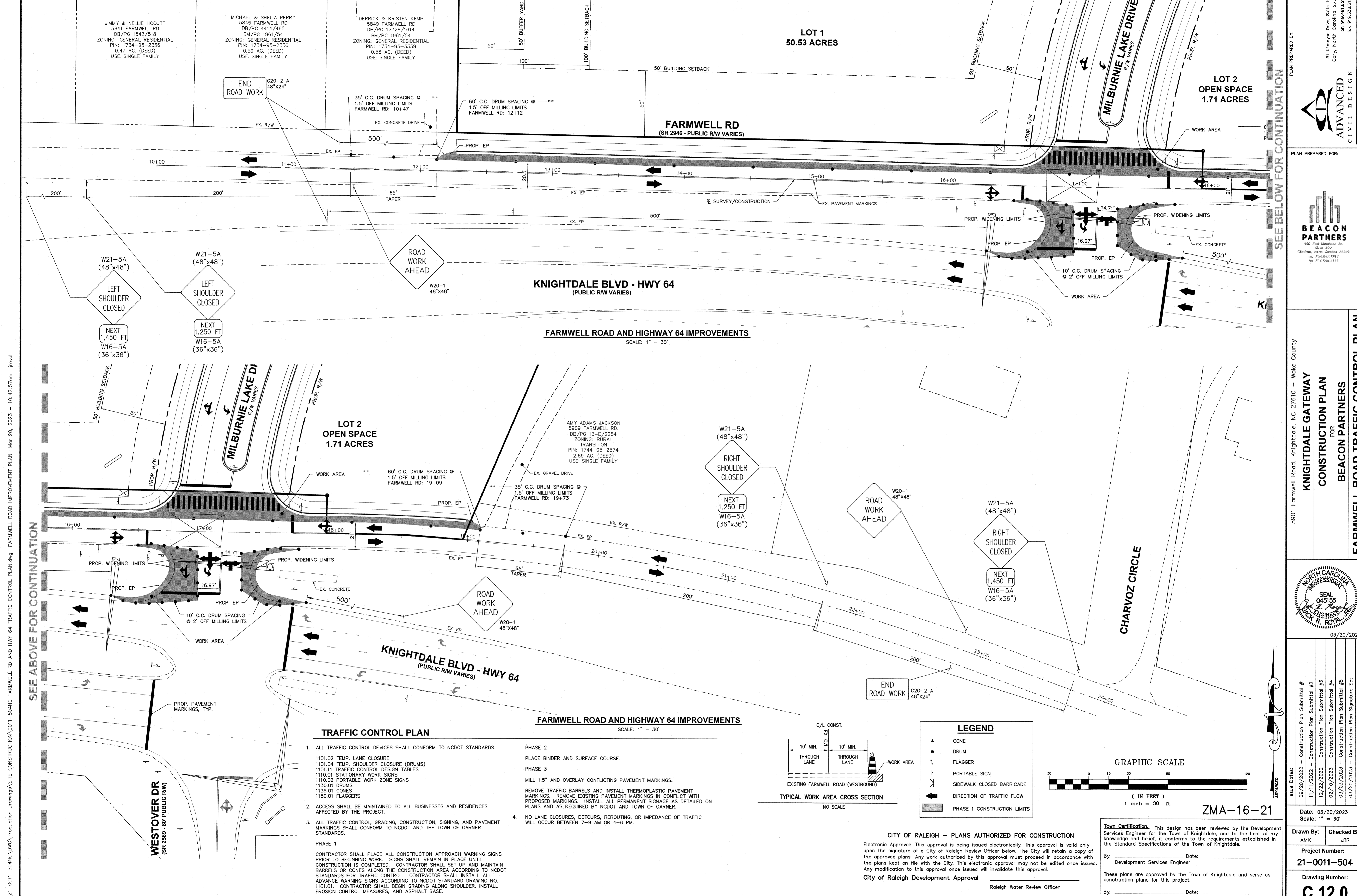
09/20/2022	- Construction Plan Submittal #1
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02/10/2023	- Construction Plan Submittal #4
03/03/2023	- Construction Plan Submittal #5
03/20/2023	- Construction Plan Signature Set

Date: 03/20/2023
 Scale: 1" = 30'

Drawn By: AMK
 Checked By: JRR

Project Number:
21-0011-504

Drawing Number:
C.11.2



FARMWELL ROAD AND HIGHWAY 64 IMPROVEMENTS
SCALE: 1" = 30'

FARMWELL ROAD AND HIGHWAY 64 IMPROVEMENTS
SCALE: 1" = 30'

TRAFFIC CONTROL PLAN

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO NCDOT STANDARDS.
 - 1101.02 TEMP. LANE CLOSURE
 - 1101.04 TEMP. SHOULDER CLOSURE (DRUMS)
 - 1101.11 TRAFFIC CONTROL DESIGN TABLES
 - 1101.01 STATIONARY WORK SIGNS
 - 1101.02 PORTABLE WORK ZONE SIGNS
 - 1130.01 DRUMS
 - 1135.01 CONES
 - 1150.01 FLAGGERS
- ACCESS SHALL BE MAINTAINED TO ALL BUSINESSES AND RESIDENCES AFFECTED BY THE PROJECT.
- ALL TRAFFIC CONTROL, GRADING, CONSTRUCTION, SIGNING, AND PAVEMENT MARKINGS SHALL CONFORM TO NCDOT AND THE TOWN OF GARNER STANDARDS.

PHASE 1

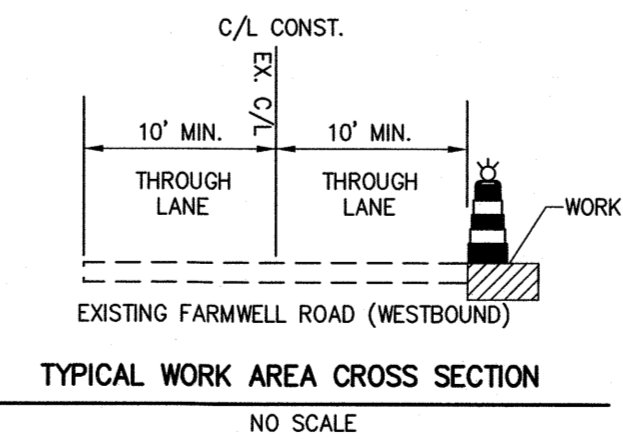
CONTRACTOR SHALL PLACE ALL CONSTRUCTION APPROACH WARNING SIGNS PRIOR TO BEGINNING WORK. SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED. CONTRACTOR SHALL SET UP AND MAINTAIN BARRELS OR CONES ALONG THE CONSTRUCTION AREA ACCORDING TO NCDOT STANDARDS FOR TRAFFIC CONTROL. CONTRACTOR SHALL INSTALL ALL ADVANCE WARNING SIGNS ACCORDING TO NCDOT STANDARD DRAWING NO. 1101.01. CONTRACTOR SHALL BEGIN GRADING ALONG SHOULDER, INSTALL EROSION CONTROL MEASURES, AND ASPHALT BASE.

PHASE 2

PLACE BINDER AND SURFACE COURSE.

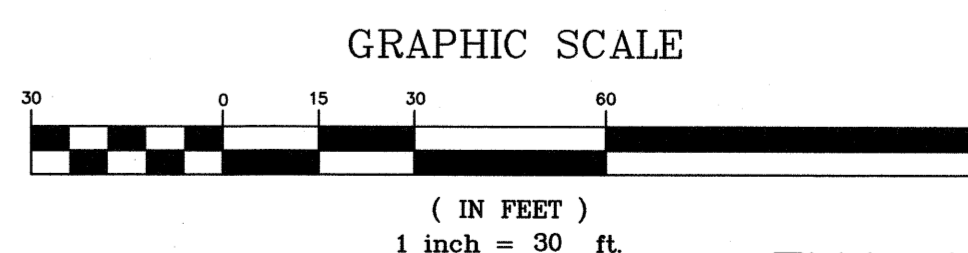
PHASE 3

MILL 1.5" AND OVERLAY CONFLICTING PAVEMENT MARKINGS. REMOVE TRAFFIC BARRELS AND INSTALL THERMOPLASTIC PAVEMENT MARKINGS. REMOVE EXISTING PAVEMENT MARKINGS IN CONFLICT WITH PROPOSED MARKINGS. INSTALL ALL PERMANENT SIGNAGE AS DETAILED ON PLANS AND AS REQUIRED BY NCDOT AND TOWN OF GARNER.
- NO LANE CLOSURES, DETOURS, REROUTING, OR IMPEDANCE OF TRAFFIC WILL OCCUR BETWEEN 7-9 AM OR 4-6 PM.



LEGEND

- ▲ CONE
- DRUM
- ⚑ FLAGGER
- ⊥ PORTABLE SIGN
- ⊥ SIDEWALK CLOSED BARRICADE
- ➔ DIRECTION OF TRAFFIC FLOW
- ▭ PHASE 1 CONSTRUCTION LIMITS



ZMA-16-21

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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Raleigh Water Review Officer

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By: _____ Date: _____
Development Services Engineer

By: _____ Date: _____
Administrator

PLAN PREPARED BY:

51 Kilmegon Drive, Suite 102
Cary, North Carolina 27511
ph 919.481.6990
fax 919.336.5127

PLAN PREPARED FOR:

500 East Morehead St.
Suite 200
Charlotte, North Carolina 28269
tel. 704.547.7757
fax 704.548.6155

5901 Farmwell Road, Knightdale, NC 27610 - Wake County

KNIGHTDALE GATEWAY
CONSTRUCTION PLAN
FOR
BEACON PARTNERS

FARMWELL ROAD TRAFFIC CONTROL PLAN

03/20/2023

Issue Dates:

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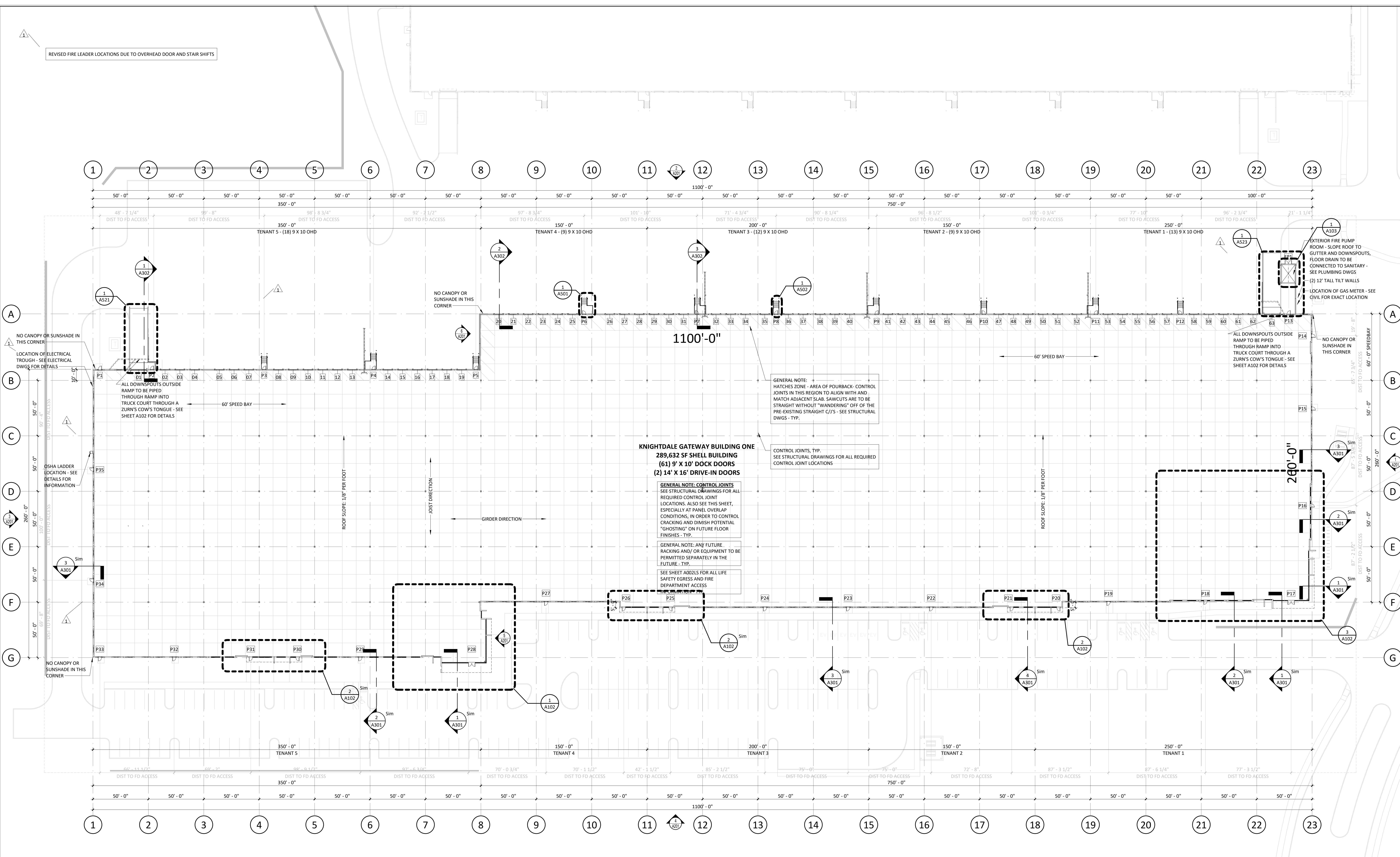
Date: 03/20/2023
Scale: 1" = 30'

Drawn By: AMK
Checked By: JRR

Project Number:
21-0011-504

Drawing Number:
C.12.0

O:\21-0011-504\CD\Production Drawings\SITE CONSTRUCTION\0011-504\NC FARMWELL RD AND HWY 64 TRAFFIC CONTROL PLAN.dwg FARMWELL ROAD IMPROVEMENT PLAN Mar 20, 2023 - 10:42:57am froyal



1 FIRST FLOOR PLAN
1/32" = 1'-0"

KNIGHTDALE GATEWAY BUILDING ONE
289,632 SF SHELL BUILDING ONE
(61) 9' X 10' DOCK DOORS
(2) 14' X 16' DRIVE-IN DOORS

GENERAL NOTE: CONTROL JOINTS
 SEE STRUCTURAL DRAWINGS FOR ALL REQUIRED CONTROL JOINT LOCATIONS. ALSO SEE THIS SHEET, ESPECIALLY AT PANEL OVERLAP CONDITIONS, IN ORDER TO CONTROL CRACKING AND DIMISH POTENTIAL "HOSTING" ON FUTURE FLOOR FINISHES - TYP.

GENERAL NOTE: ANY FUTURE RACKING AND/OR EQUIPMENT TO BE PERMITTED SEPARATELY IN THE FUTURE - TYP.

SEE SHEET A002S FOR ALL LIFE SAFETY EGRESS AND FIRE DEPARTMENT ACCESS

GENERAL NOTE: HATCHES ZONE - AREA OF POURBACK - CONTROL JOINTS IN THIS REGION TO ALIGN WITH AND MATCH ADJACENT SLAB. SAWCUTS ARE TO BE STRAIGHT WITHOUT "WANDERING" OFF OF THE PRE-EXISTING STRAIGHT C/J'S - SEE STRUCTURAL DWGS - TYP.

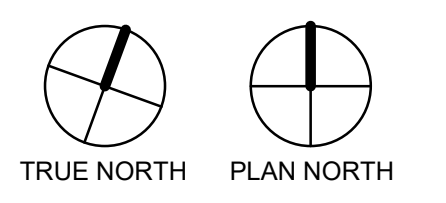
CONTROL JOINTS, TYP.
 SEE STRUCTURAL DRAWINGS FOR ALL REQUIRED CONTROL JOINT LOCATIONS

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

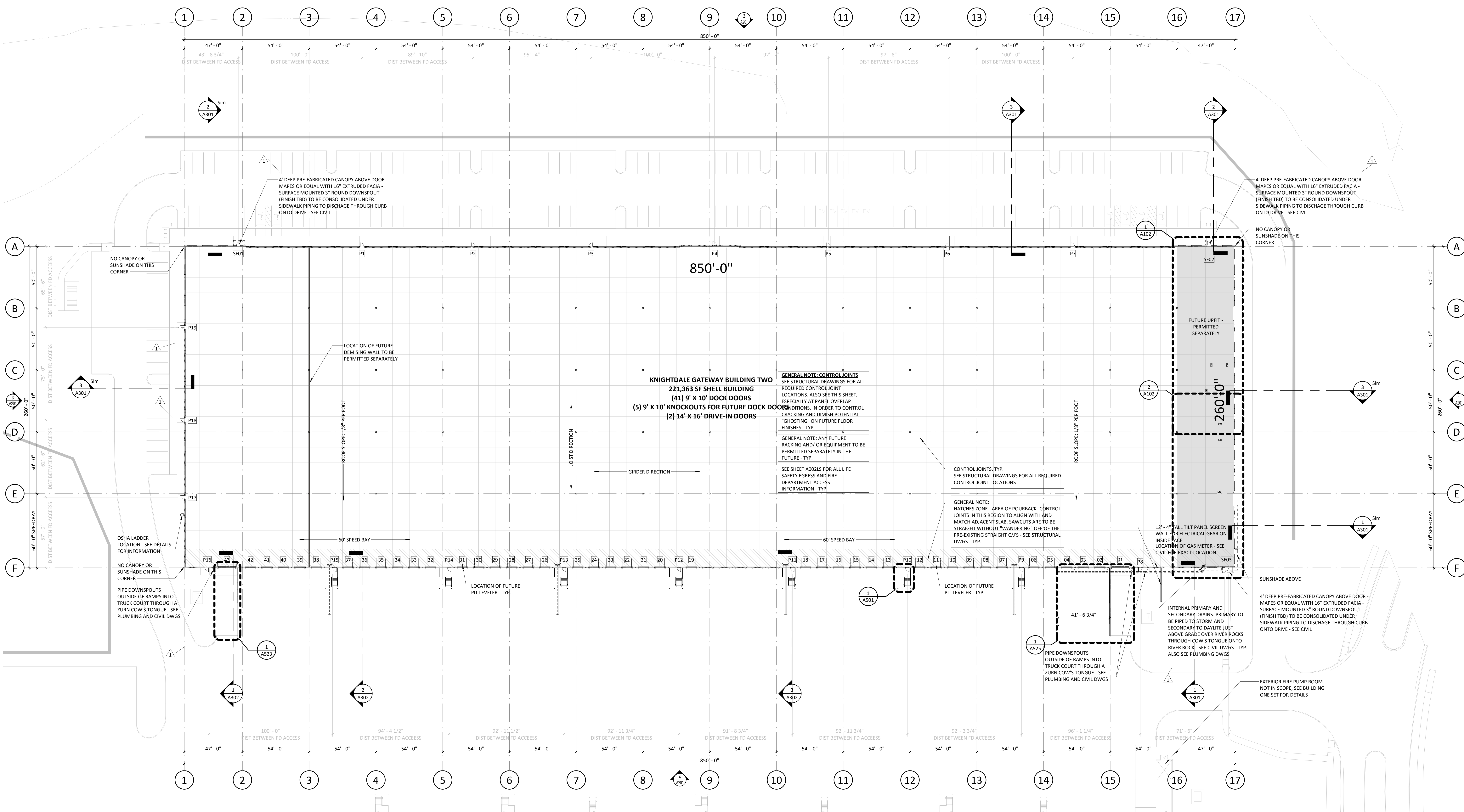
By: _____ Date: _____
 Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
 Administrator



2/27/2024 10:50 AM



1 FIRST FLOOR PLAN
1" = 30'-0"

GENERAL NOTE: CONTROL JOINTS
SEE STRUCTURAL DRAWINGS FOR ALL REQUIRED CONTROL JOINT LOCATIONS. ALSO SEE THIS SHEET, ESPECIALLY AT PANEL OVERLAP CONDITIONS, IN ORDER TO CONTROL CRACKING AND DIMISH POTENTIAL "GHOSTING" ON FUTURE FLOOR FINISHES - TYP.

GENERAL NOTE: ANY FUTURE RACKING AND/OR EQUIPMENT TO BE PERMITTED SEPARATELY IN THE FUTURE - TYP.

SEE SHEET A002LS FOR ALL LIFE SAFETY EGRESS AND FIRE DEPARTMENT ACCESS INFORMATION - TYP.

CONTROL JOINTS, TYP.
SEE STRUCTURAL DRAWINGS FOR ALL REQUIRED CONTROL JOINT LOCATIONS

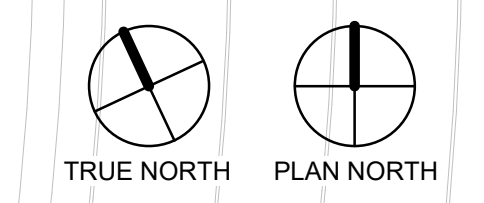
GENERAL NOTE: HATCHES ZONE - AREA OF POURBACK. CONTROL JOINTS IN THIS REGION TO ALIGN WITH AND MATCH ADJACENT SLAB. SAWCUTS ARE TO BE STRAIGHT WITHOUT "WANDERING" OFF OF THE PRE-EXISTING STRAIGHT C/J'S - SEE STRUCTURAL DWGS - TYP.

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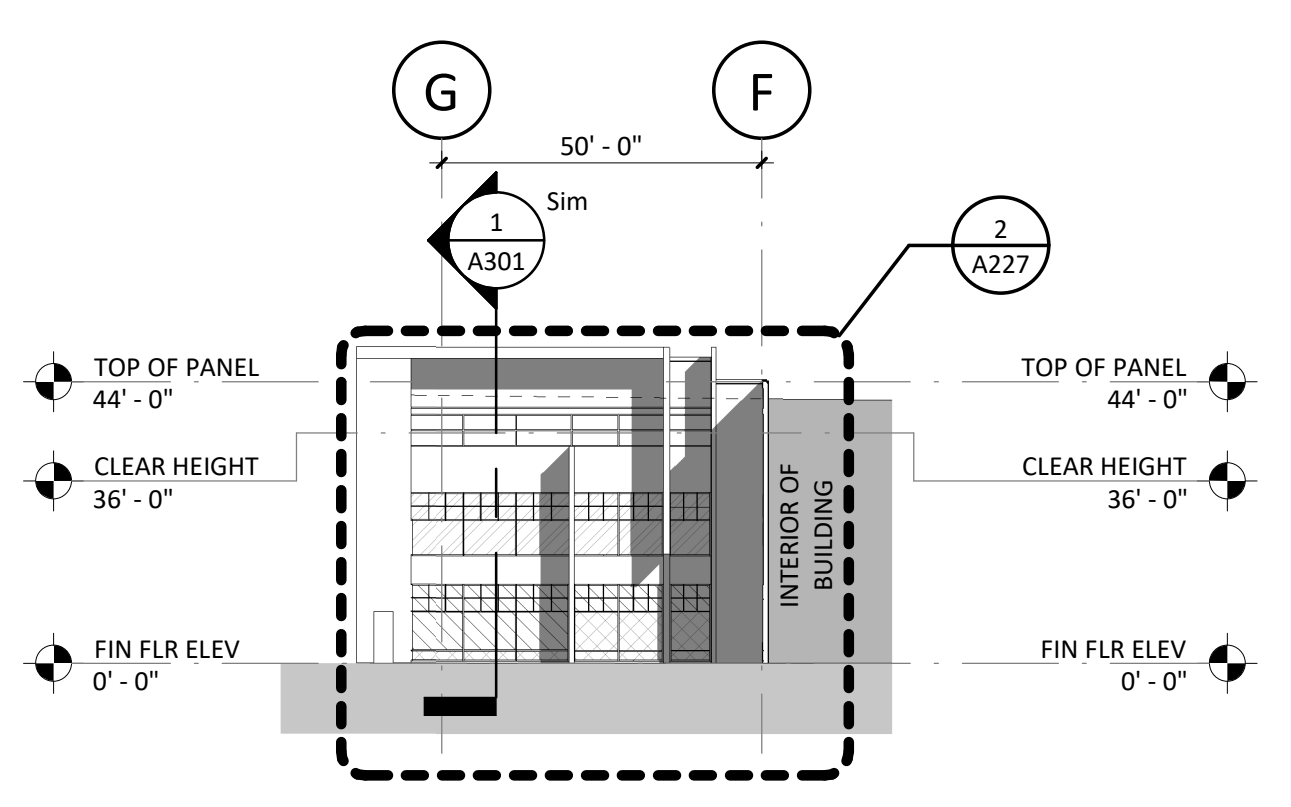


2/27/2023 10:49:29 AM

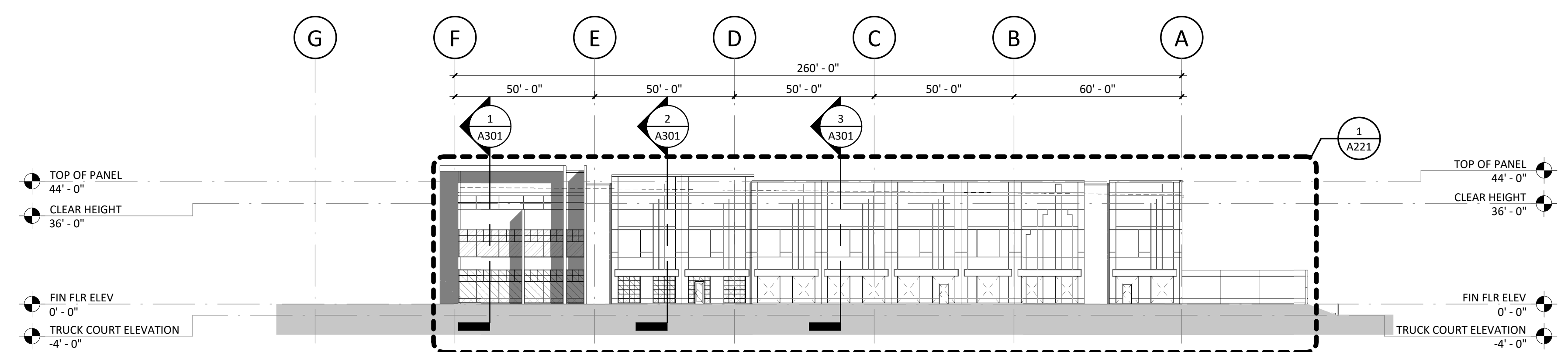
GENERAL NOTE:
ALL REVEALS TO WRAP EXPOSED
CORNERS OF PANEL - TYP.

GENERAL NOTE: FOR PAINT COLOR
SCHEMES, SEE SHEET A801

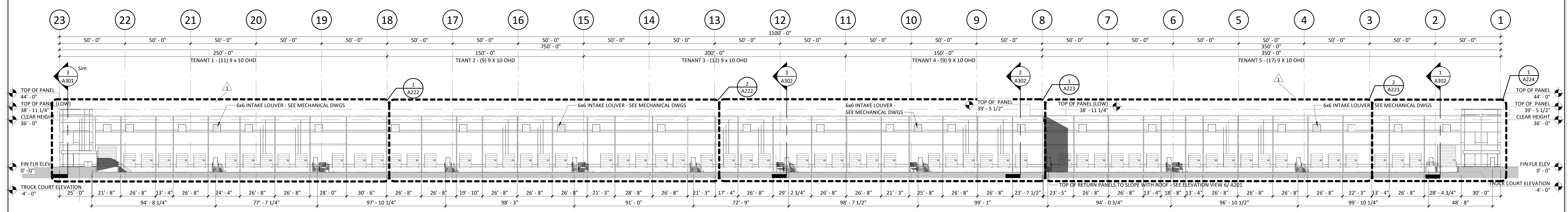
GENERAL NOTE: SEE SHEET A260
FOR PANEL REVEAL DETAILS - TYP.



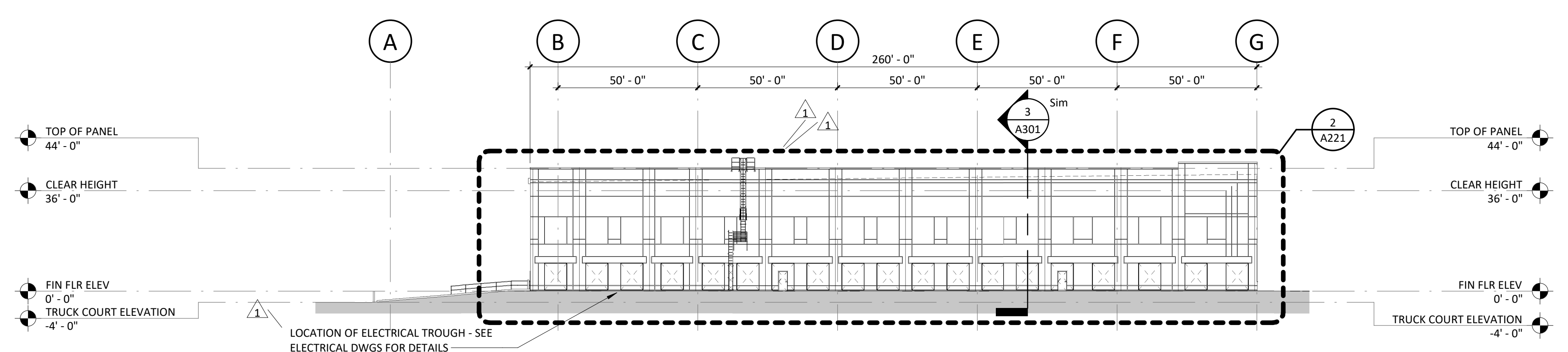
5 EAST ELEVATION - FRONT
1" = 30'-0"



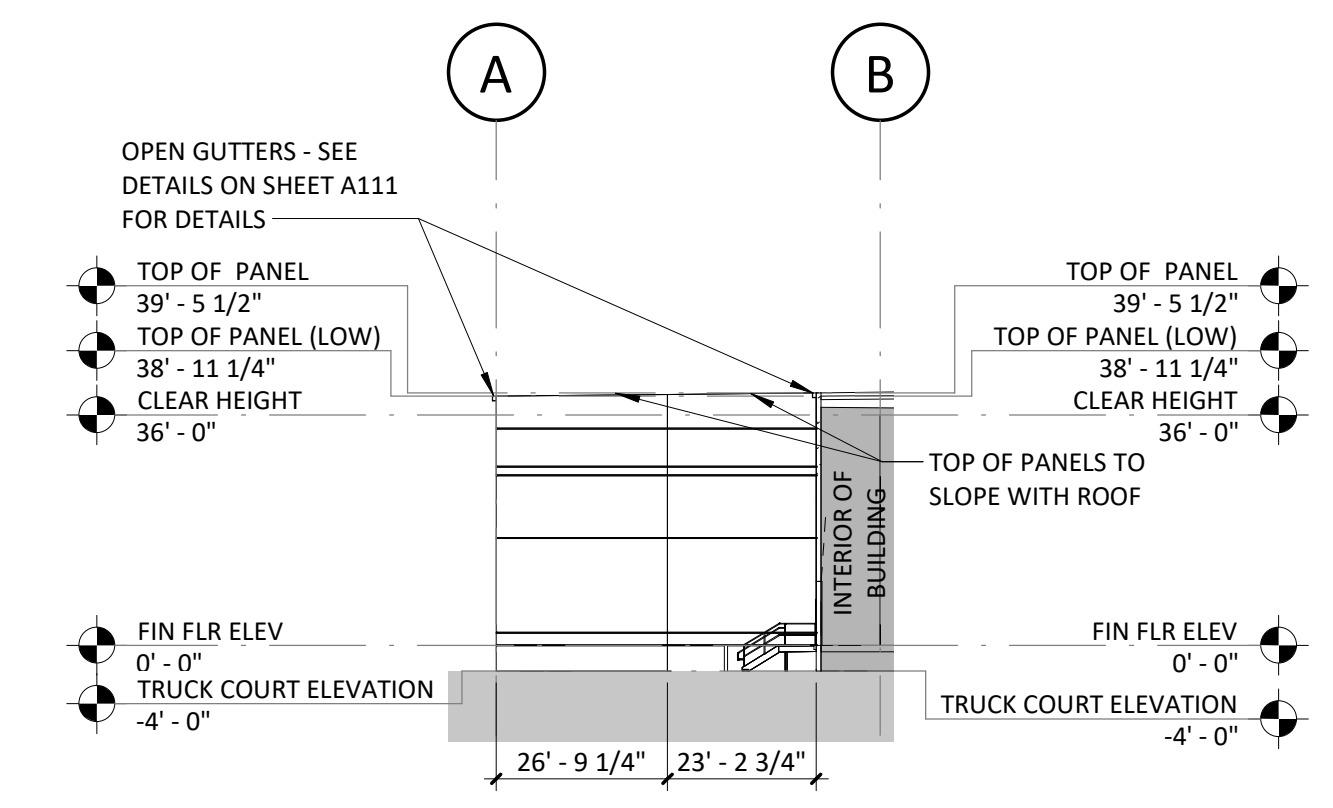
1 OVERALL EAST ELEVATION
1" = 30'-0"



2 OVERALL NORTH ELEVATION
1" = 30'-0"



3 OVERALL WEST ELEVATION
1" = 30'-0"



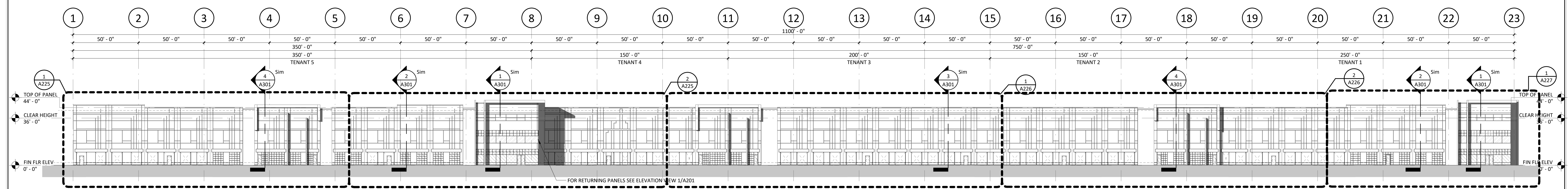
6 EAST ELEVATION - TRUCK COURT
1" = 30'-0"

Town Certification: This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.

By: _____ Date: _____
Development Services Engineer

These plans are approved by the Town of Knightdale and serve as construction plans for this project.

By: _____ Date: _____
Administrator

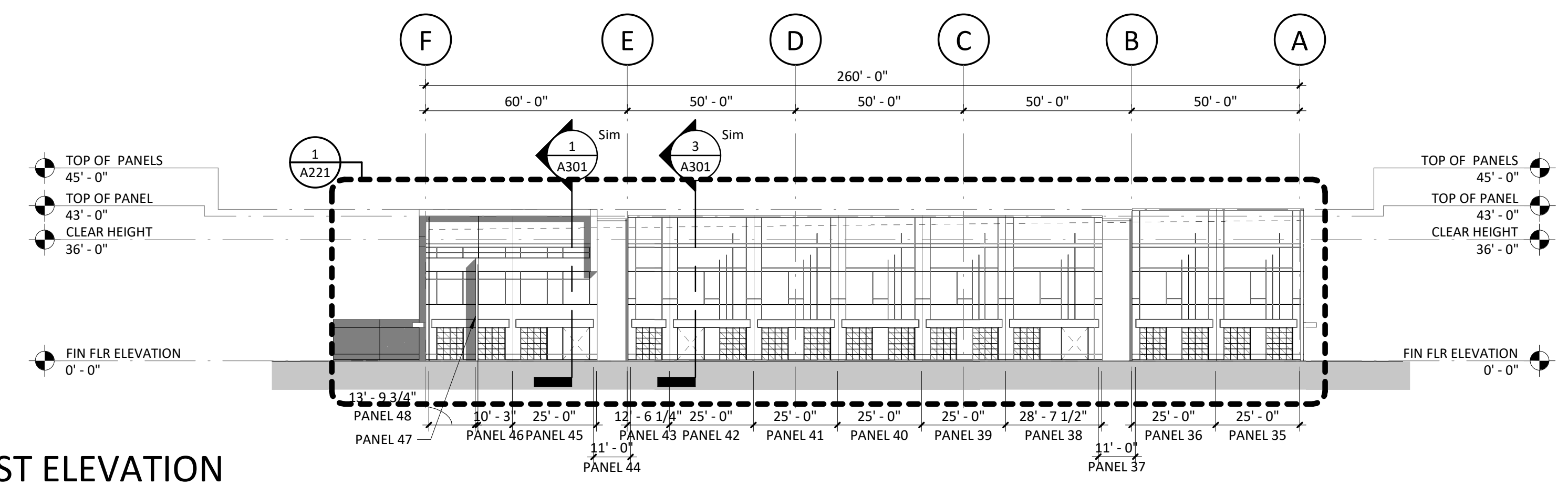


4 OVERALL SOUTH ELEVATION
1" = 30'-0"

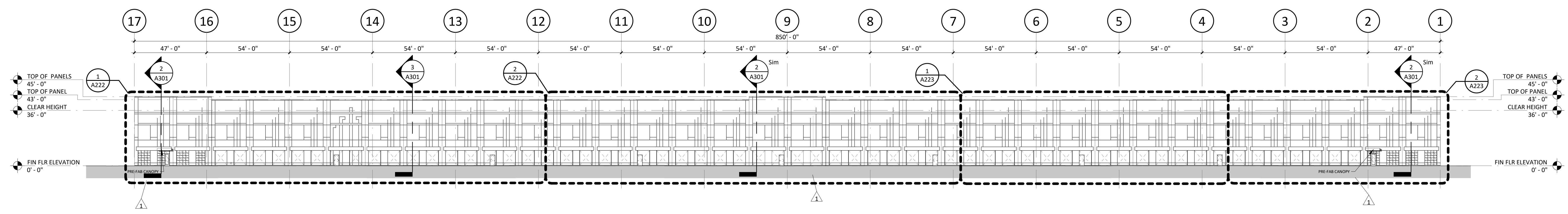
GENERAL NOTE:
ALL REVEALS TO WRAP EXPOSED
CORNERS OF PANEL - TYP.

GENERAL NOTE: FOR PAINT COLOR
SCHEMES, SEE SHEET A801

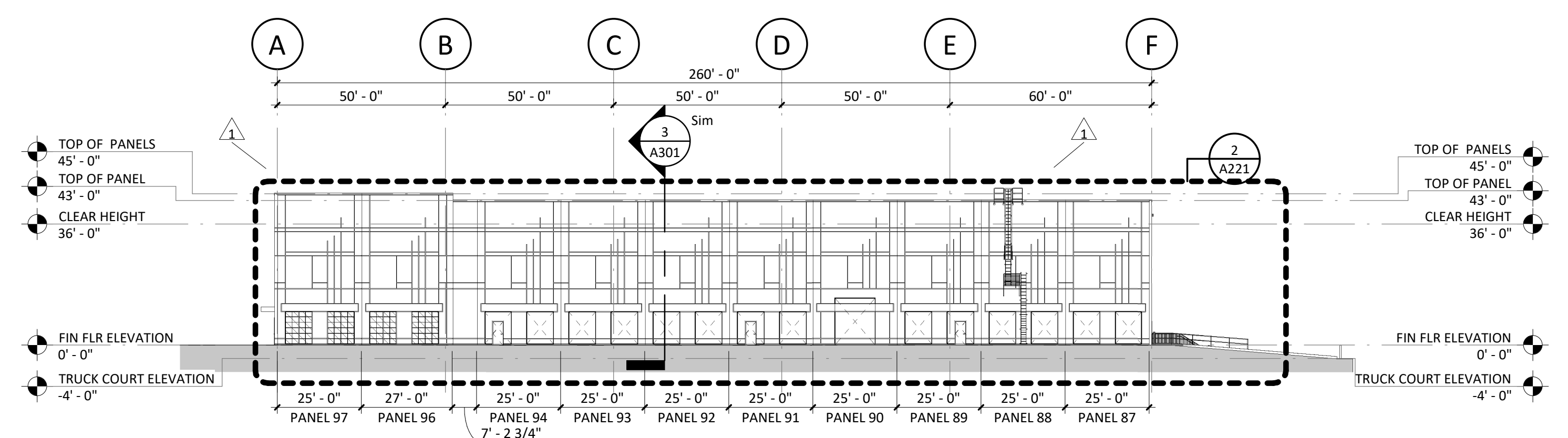
GENERAL NOTE: SEE SHEET A260
FOR PANEL REVEAL DETAILS - TYP.



1 OVERALL EAST ELEVATION
1" = 30'-0"

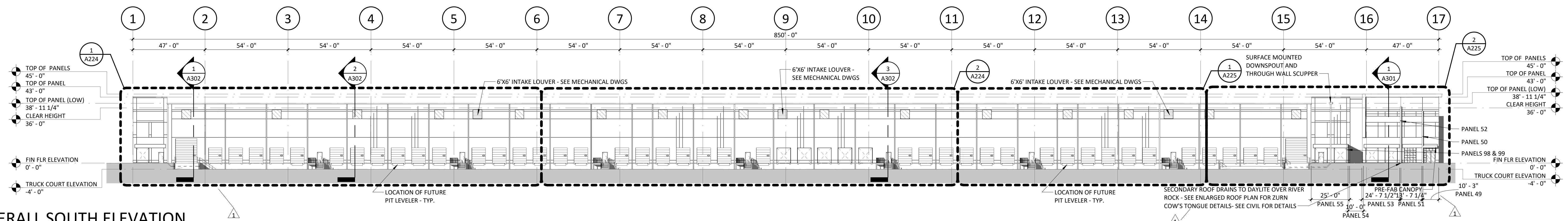


2 OVERALL NORTH ELEVATION
1" = 30'-0"



3 OVERALL WEST ELEVATION
1" = 30'-0"

Town Certification. This design has been reviewed by the Development Services Engineer for the Town of Knightdale, and to the best of my knowledge and belief, it conforms to the requirements established in the Standard Specifications of the Town of Knightdale.
By: _____ Date: _____
Development Services Engineer
These plans are approved by the Town of Knightdale and serve as construction plans for this project.
By: _____ Date: _____
Administrator



4 OVERALL SOUTH ELEVATION
1" = 30'-0"