# FRAZIER FARM PARK

11624 LOUISBURG ROAD ROLESVILLE, NORTH CAROLINA, 27282

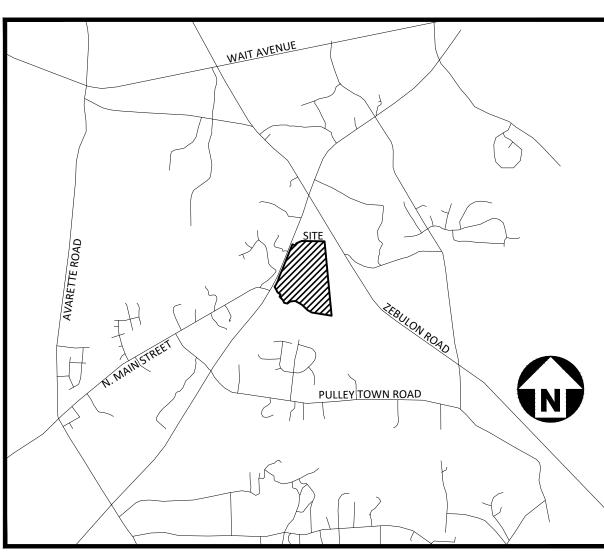
# **CONSTRUCTION DRAWINGS** PHASE 1A

PROJECT NUMBER: 2020110039

DATE: DECEMBER 1, 2023

# SITE DATA

502 SO	TOWN OF ROLESVILLE 502 SOUTHTOWN CIRCLE ROLESVILLE, NORTH CAROLINA 27571		
2905 M DURHAM, N 9:	DAMS COMPANY ERIDIAN PARKWAY IORTH CAROLINA 27713 19. 361. 5000 @MCADAMSCO.COM		
PARCEL ID NUMBER: 1779076610			
TOTAL SITE ACREAGE:	±116.56 AC		
LAND AREA OF PARCEL	±105.00 AC		
SITE ACREAGE AS PART OF THIS DEVELOPMENT:	±8.00 AC		
CURRENT ZONING:	RL		
PROPOSED PARKING:	69 SPACES		
CURRENT LAND USE:	VACANT		
PROPOSED LAND USE:	PUBLIC RECREATION FACILITY		
ADJOINING PROPERTY OWNERS:	PIN: 1779083669, 1779263965, 1779190357		
DISTURBED AREA:	±8.50 AC		
FEMA REGULATIONS:			
PRE-DEVELOPMENT IMPERVIOUS AREA	0.14 AC		
POST-DEVELOPMENT IMPERVIOUS AREA	1.92 AC		
WATERSHED(S):	NEUSE		



**VICINITY MAP** 

Know what's below.

Call before you dig.

OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NC811". REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY

# SHEET INDEX

C1.00 C1.01 C1.10	EXISTING CONDITIONS EXISTING CONDITIONS DEMOLITION PLAN
C2.00 C2.01 C2.02 C2.03	OVERALL SITE PLAN SITE PLAN 'AREA A' SITE PLAN 'AREA B' SITE PLAN 'AREA C'
C3.00 C3.01 C3.02 C3.03	OVERALL GRADING & DRAINAGE PLAN GRADING & DRAINAGE PLAN: 'AREA A' GRADING & DRAINAGE PLAN: 'AREA B' GRADING & DRAINAGE PLAN: 'AREA C'
C5.00 C5.01	PLAN AND PROFILE STREET "A", STA. 10+00 THRU STA. 22+95 PLAN AND PROFILE STREET "B", STA. 10+00 THRU STA. 16+35
C6.00 C6.01 C6.02 C6.10 C6.11 C6.12 C6.13	EROSION CONTROL NOTES OVERALL EROSION CONTROL PLAN - STAGE 1 OVERALL EROSION CONTROL PLAN - STAGE 2 EROSION CONTROL DETAILS EROSION CONTROL DETAILS EROSION CONTROL DETAILS EROSION CONTROL DETAILS
C7.00 C7.01 C7.02 C7.03	LOUISBURG RD WIDENING PLAN LOUISBURG RD WIDENING CROSS SECTIONS LOUISBURG RD WIDENING CROSS SECTIONS LOUISBURG RD WIDENING CROSS SECTIONS
C8.00 C8.01 C8.02 C8.03	SITE DETAILS SITE DETAILS STORM DRAINAGE & UTILITY DETAILS STORM DRAINAGE & UTILITY DETAILS

**GENERAL NOTES:** 

ANY STRUCTURE TO BE REMOVED SHALL REQUIRE ADEMOLITION PERMIT FROM BUILDING INSPECTIONS.

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION



The John R. McAdams Company, Inc. 2905 Meridian Parkway Durham, NC 27713

phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293, C-187

www.mcadamsco.com

# CONTACT

**ERIC DOMONELL** domonell@mcadamsco.com PHONE: 919. 287. 0765

# **CLIENT**

TOWN OF ROLESVILLE **502 SOUTHTOWN CIRCLE** ROLESVILLE, NORTH CAROLINA 27571 PHONE: 919. 554. 6582

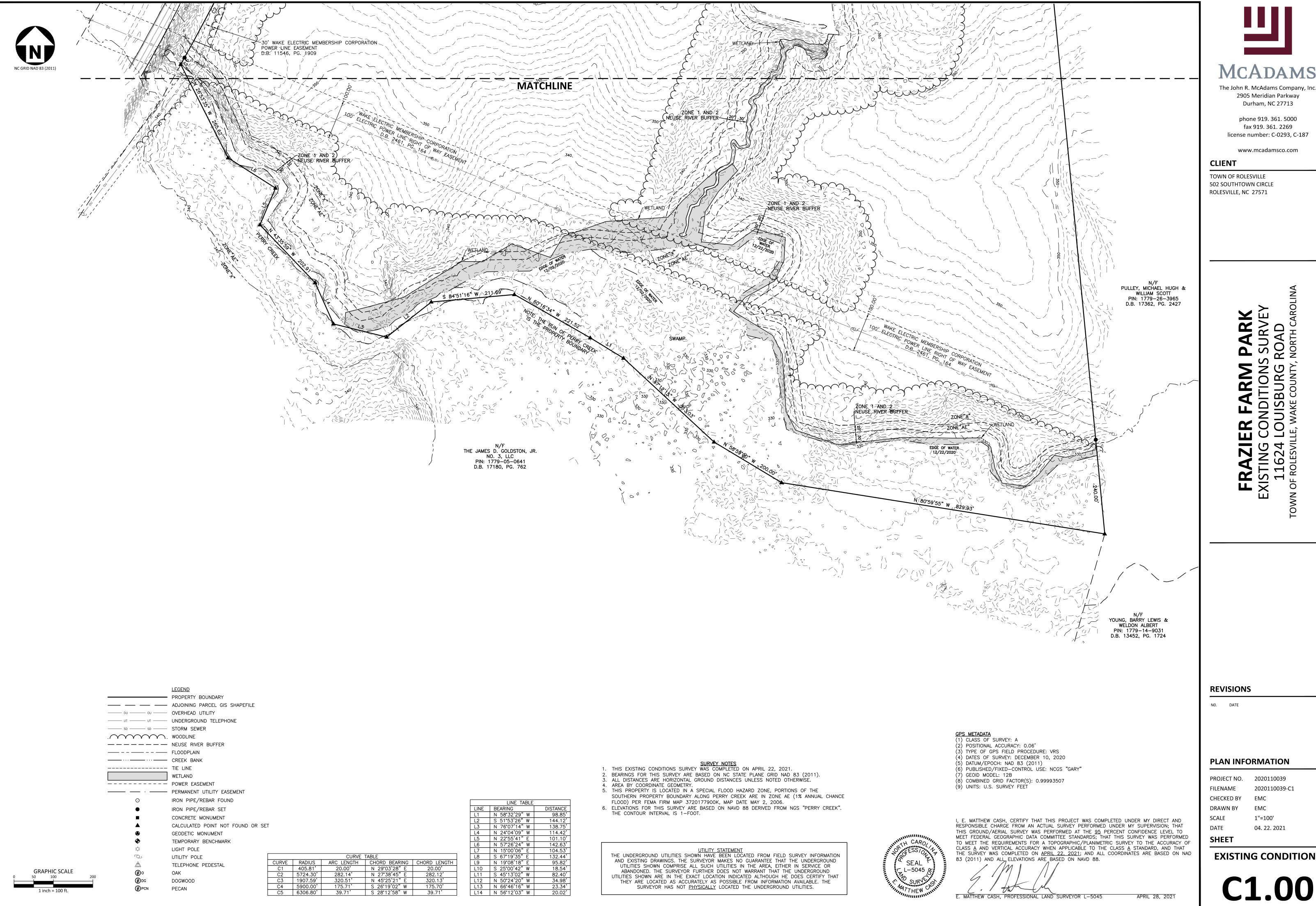
# PROJECT DIRECTORY



**REVISIONS** 

# **CONSTRUCTION DRAWINGS FOR:**

FRAZIER FARM PARK PHASE 1A 11624 LOUISBURG ROAD ROLESVILLE, NC 27282 PROJECT NUMBER: 2020110039



Durham, NC 27713 phone 919. 361. 5000

2905 Meridian Parkway

fax 919. 361. 2269 license number: C-0293, C-187

www.mcadamsco.com

# **CLIENT**

TOWN OF ROLESVILLE **502 SOUTHTOWN CIRCLE** ROLESVILLE, NC 27571

NO. DATE

# PLAN INFORMATION

PROJECT NO. 2020110039 FILENAME 2020110039-C1 CHECKED BY

DRAWN BY 1"=100' 04. 22. 2021

**EXISTING CONDITIONS** 





McAdams

2905 Meridian Parkway Durham, NC 27713 phone 919. 361. 5000

fax 919. 361. 2269

www.mcadamsco.com

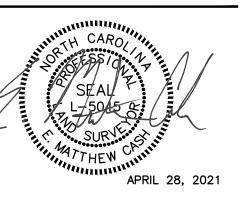
The John R. McAdams Company, Inc.

license number: C-0293, C-187

# CLIENT

TOWN OF ROLESVILLE 502 SOUTHTOWN CIRCLE ROLESVILLE, NC 27571

# KAZIEK FAKIVI FAKK STING CONDITIONS SURVEY 11624 LOUISBURG ROAD



# REVISIONS

). DATE

# PLAN INFORMATION

PROJECT NO. 2020110039

FILENAME 2020110039-C1

CHECKED BY EMC

DRAWN BY EMC

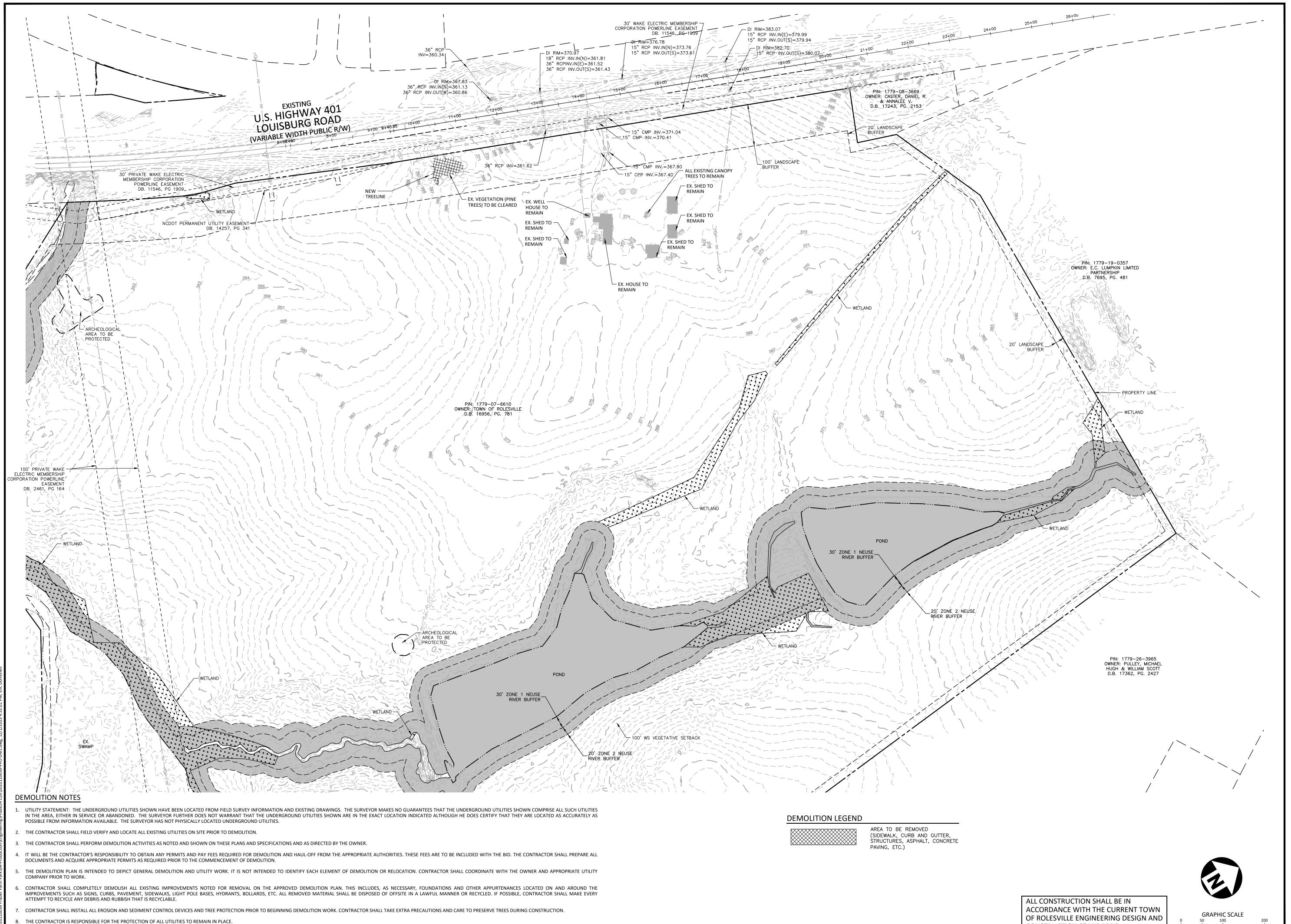
SCALE 1"=100'

DATE 04. 22. 2021

SHEET

**EXISTING CONDITIONS** 

C1.01



9. ALL EXISTING ITEMS TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE SOLE EXPENSE OF THE CONTRACTOR.

10. CONTRACTOR TO FLAG ALL TREES SLATED FOR REMOVAL AND SEEK APPROVAL FROM LANDSCAPE ARCHITECT PRIOR TO DEMOLISHING.

# McAdam

The John R. McAdams Company, Inc. 2905 Meridian Parkway Durham, NC 27713

license number: C-0293

phone 919. 361. 5000

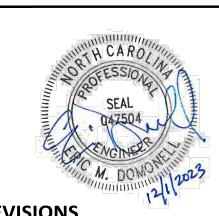
fax 919. 361. 2269

www.mcadamsco.com

# CLIENT

NAME: TOWN OF ROLESVILLE
ADDRESS: 502 SOUTHTOWN CIRCLE
ADDRESS: ROLESVILLE NC 27571
PHONE: 919.554.6582

# FRAZIER FARM PARK CONSTRUCTION DRAWINGS



REVISIONS

# PLAN INFORMATION

PROJECT NO. 202011039

FILENAME 2020110039-PH1-DM1

CHECKED BY EMD

DRAWN BY SME

SCALE 1"=100'

DATE 12.01.2023

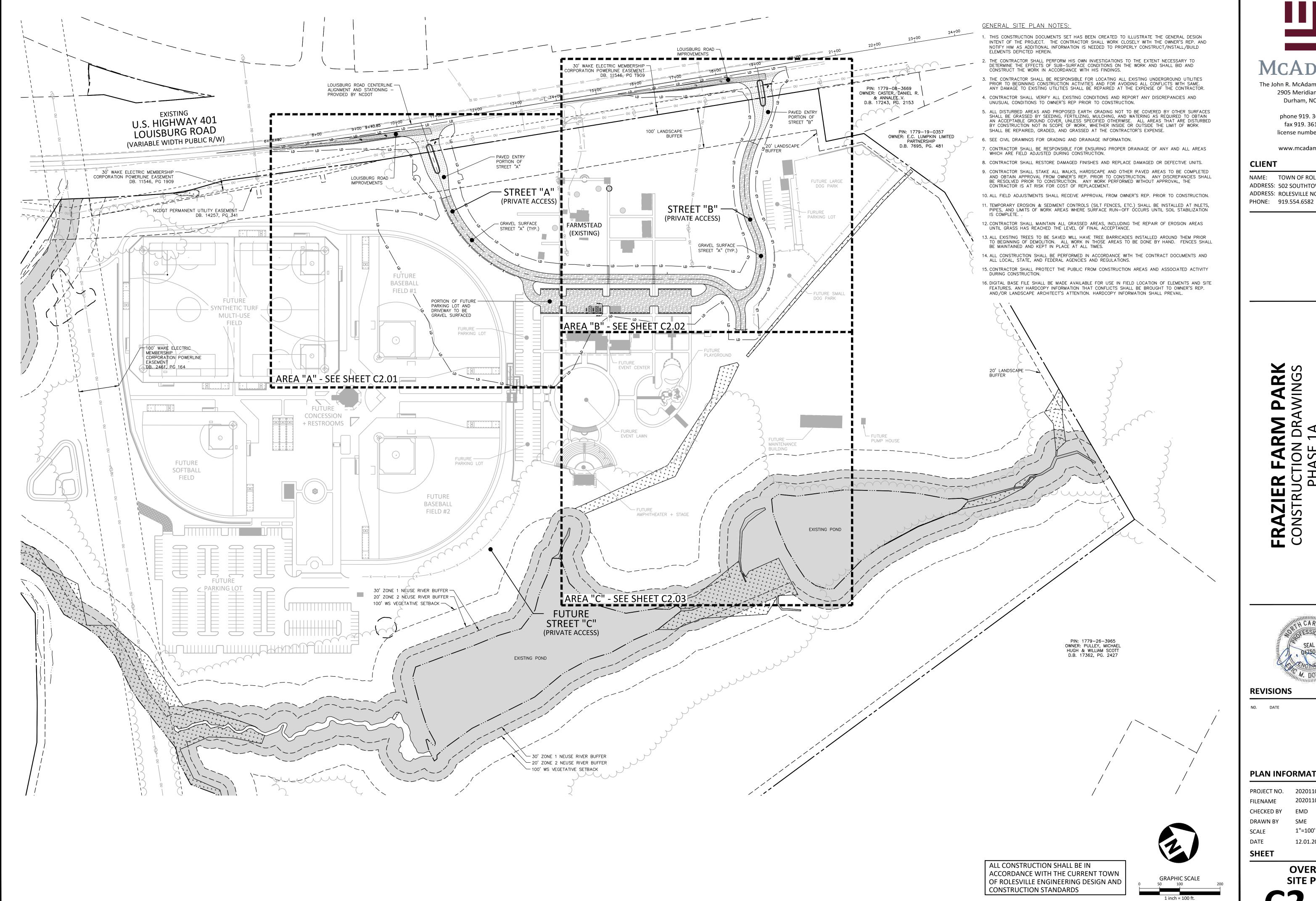
SHEET

CONSTRUCTION STANDARDS

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

OVERALL DEMOLITION PLAN

C1.10



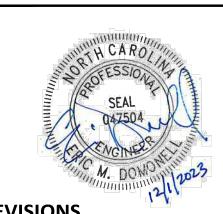


> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

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# CLIENT

NAME: TOWN OF ROLESVILLE ADDRESS: 502 SOUTHTOWN CIRCLE ADDRESS: ROLESVILLE NC 27571



**REVISIONS** 

NO. DATE

# PLAN INFORMATION

PROJECT NO. 202011039 2020110039-PH1-OAS1 FILENAME CHECKED BY DRAWN BY

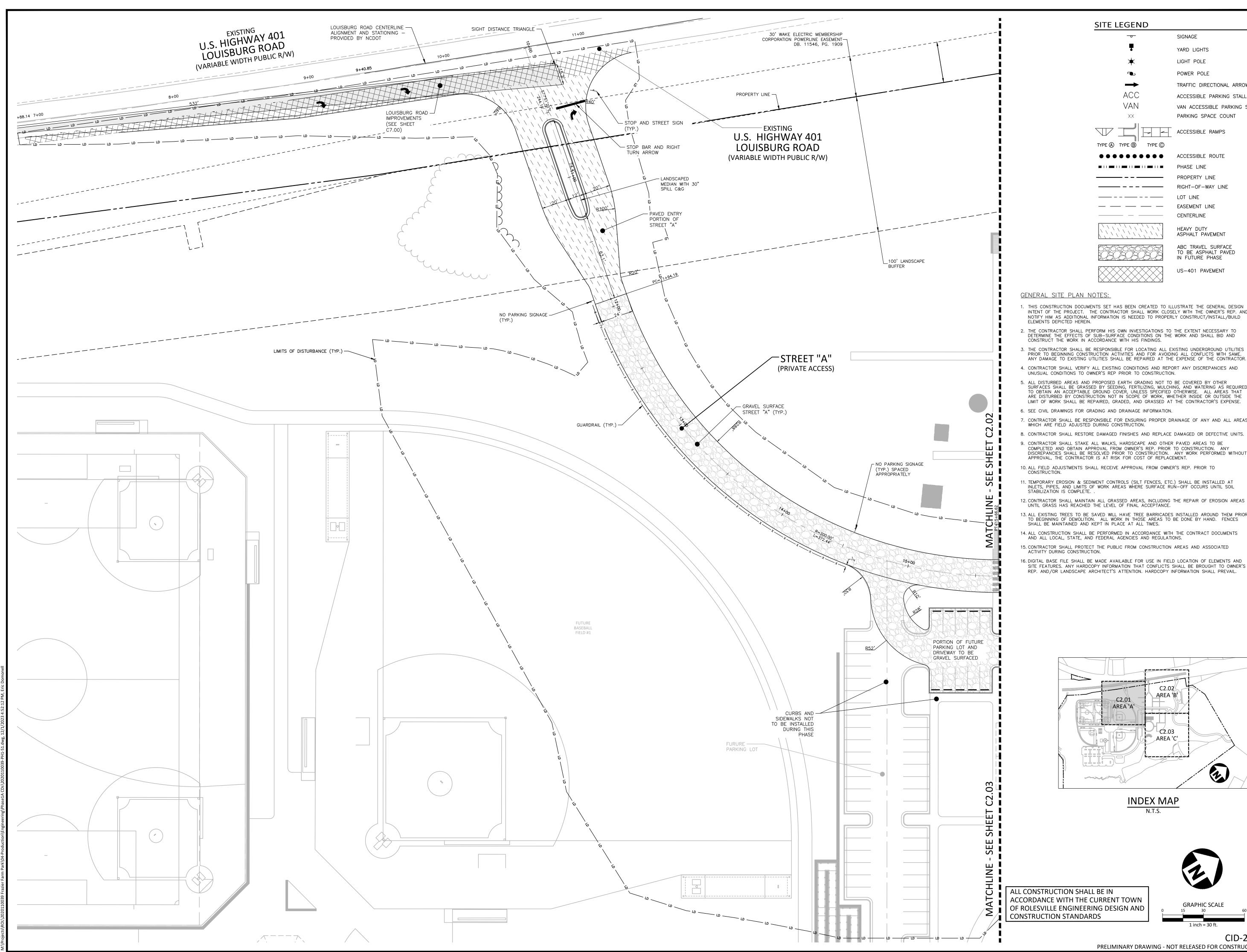
1"=100' SCALE DATE 12.01.2023

CID-23-5

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

SHEET **OVERALL** 

**SITE PLAN** 





> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

www.mcadamsco.com

# CLIENT

PHONE: 919.554.6582

PARI WING

NAME: TOWN OF ROLESVILLE ADDRESS: 502 SOUTHTOWN CIRCLE ADDRESS: ROLESVILLE NC 27571

# GENERAL SITE PLAN NOTES:

1. THIS CONSTRUCTION DOCUMENTS SET HAS BEEN CREATED TO ILLUSTRATE THE GENERAL DESIGN INTENT OF THE PROJECT. THE CONTRACTOR SHALL WORK CLOSELY WITH THE OWNER'S REP. AND NOTIFY HIM AS ADDITIONAL INFORMATION IS NEEDED TO PROPERLY CONSTRUCT/INSTALL/BUILD ELEMENTS DEPICTED HEREIN.

SITE LEGEND

TYPE (A) TYPE (B) TYPE (C)

● ● ● ● ● ● ● ● ACCESSIBLE ROUTE

SIGNAGE

YARD LIGHTS

LIGHT POLE

POWER POLE

TRAFFIC DIRECTIONAL ARROW

ACCESSIBLE PARKING STALL

PARKING SPACE COUNT

ACCESSIBLE RAMPS

RIGHT-OF-WAY LINE

ABC TRAVEL SURFACE TO BE ASPHALT PAVED IN FUTURE PHASE

US-401 PAVEMENT

EASEMENT LINE

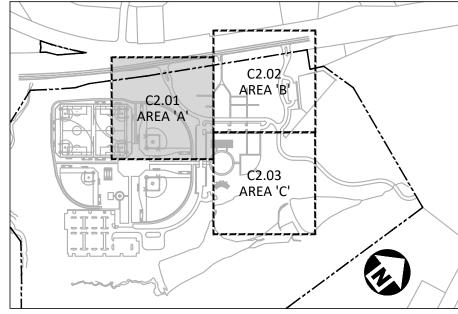
CENTERLINE

HEAVY DUTY ASPHALT PAVEMENT

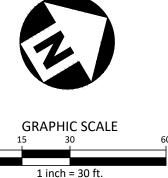
PHASE LINE PROPERTY LINE

VAN ACCESSIBLE PARKING STALL

- THE CONTRACTOR SHALL PERFORM HIS OWN INVESTIGATIONS TO THE EXTENT NECESSARY TO DETERMINE THE EFFECTS OF SUB-SURFACE CONDITIONS ON THE WORK AND SHALL BID AND CONSTRUCT THE WORK IN ACCORDANCE WITH HIS FINDINGS.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES AND FOR AVOIDING ALL CONFLICTS WITH SAME. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
- 4. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES AND UNUSUAL CONDITIONS TO OWNER'S REP PRIOR TO CONSTRUCTION.
- 5. ALL DISTURBED AREAS AND PROPOSED EARTH GRADING NOT TO BE COVERED BY OTHER SURFACES SHALL BE GRASSED BY SEEDING, FERTILIZING, MULCHING, AND WATERING AS REQUIRED TO OBTAIN AN ACCEPTABLE GROUND COVER, UNLESS SPECIFIED OTHERWISE. ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION NOT IN SCOPE OF WORK, WHETHER INSIDE OR OUTSIDE THE LIMIT OF WORK SHALL BE REPAIRED, GRADED, AND GRASSED AT THE CONTRACTOR'S EXPENSE.
- 6. SEE CIVIL DRAWINGS FOR GRADING AND DRAINAGE INFORMATION.
- 7. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING PROPER DRAINAGE OF ANY AND ALL AREAS WHICH ARE FIELD ADJUSTED DURING CONSTRUCTION.
- 8. CONTRACTOR SHALL RESTORE DAMAGED FINISHES AND REPLACE DAMAGED OR DEFECTIVE UNITS. 9. CONTRACTOR SHALL STAKE ALL WALKS, HARDSCAPE AND OTHER PAVED AREAS TO BE
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- 10. ALL FIELD ADJUSTMENTS SHALL RECEIVE APPROVAL FROM OWNER'S REP. PRIOR TO CONSTRUCTION.
- 11. TEMPORARY EROSION & SEDIMENT CONTROLS (SILT FENCES, ETC.) SHALL BE INSTALLED AT INLETS, PIPES, AND LIMITS OF WORK AREAS WHERE SURFACE RUN-OFF OCCURS UNTIL SOIL STABILIZATION IS COMPLETE. .
- 12. CONTRACTOR SHALL MAINTAIN ALL GRASSED AREAS, INCLUDING THE REPAIR OF EROSION AREAS UNTIL GRASS HAS REACHED THE LEVEL OF FINAL ACCEPTANCE. 13. ALL EXISTING TREES TO BE SAVED WILL HAVE TREE BARRICADES INSTALLED AROUND THEM PRIOR TO BEGINNING OF DEMOLITION. ALL WORK IN THOSE AREAS TO BE DONE BY HAND. FENCES
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- 15. CONTRACTOR SHALL PROTECT THE PUBLIC FROM CONSTRUCTION AREAS AND ASSOCIATED ACTIVITY DURING CONSTRUCTION. 16. DIGITAL BASE FILE SHALL BE MADE AVAILABLE FOR USE IN FIELD LOCATION OF ELEMENTS AND



INDEX MAP



PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT TOWN OF ROLESVILLE ENGINEERING DESIGN AND

1"=30'

12.01.2023

SITE PLAN: AREA 'A'

2020110039-PH1-S1

PLAN INFORMATION

PROJECT NO. 202011039

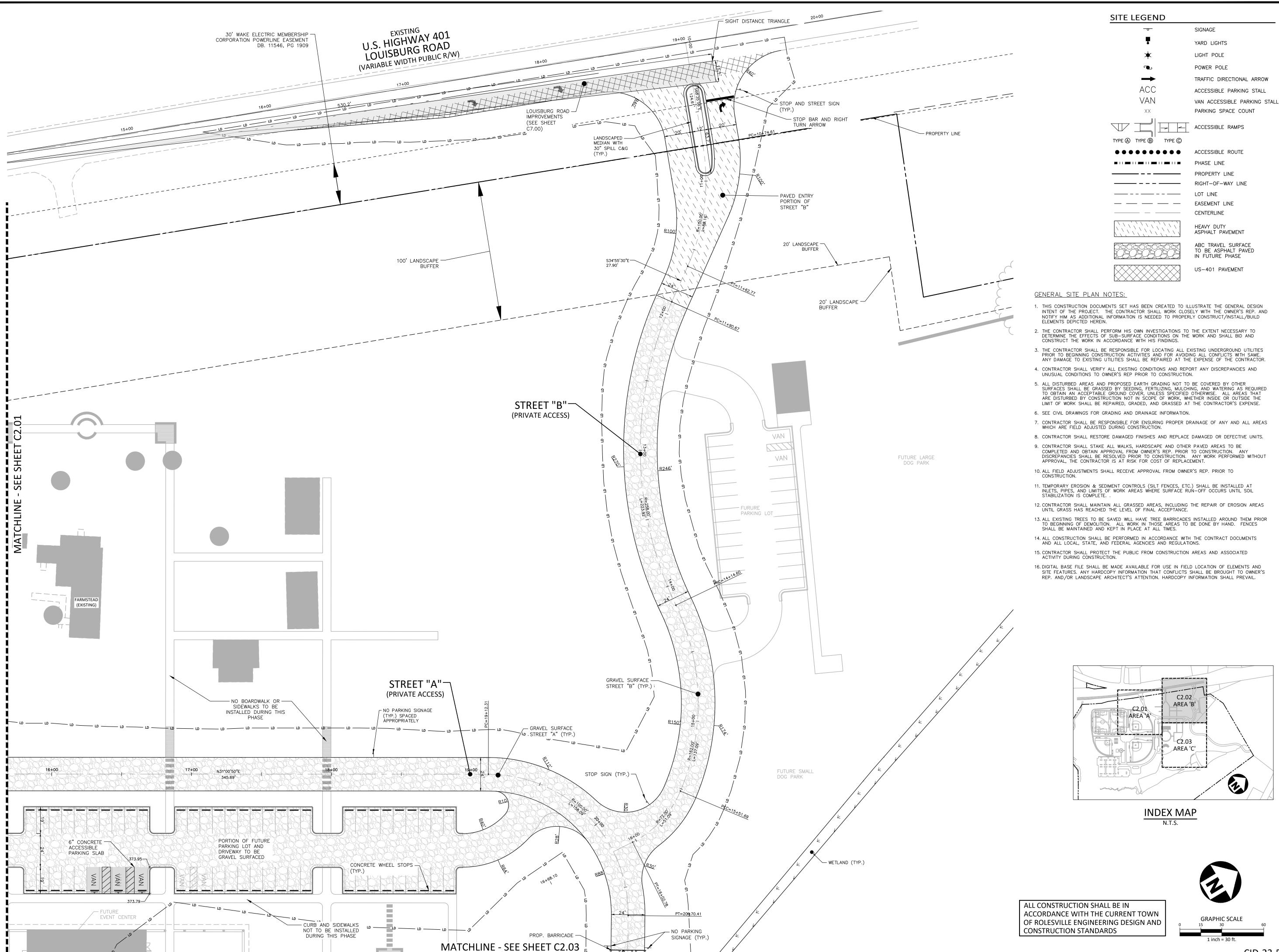
**REVISIONS** 

NO. DATE

FILENAME CHECKED BY DRAWN BY

SCALE DATE

**SHEET** 





phone 919. 361. 5000

fax 919. 361. 2269 license number: C-0293

www.mcadamsco.com

# CLIENT

PHONE: 919.554.6582

PARI WING

**FRAZIEF**CONSTRUC

**REVISIONS** 

NO. DATE

FILENAME

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DRAWN BY

SCALE DATE

**SHEET** 

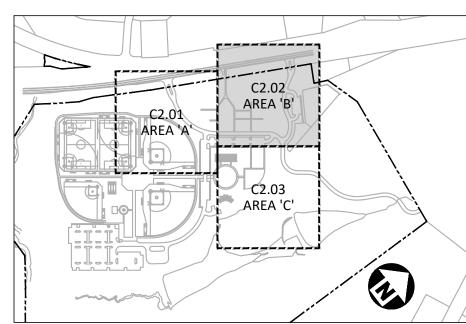
NAME: TOWN OF ROLESVILLE ADDRESS: 502 SOUTHTOWN CIRCLE ADDRESS: ROLESVILLE NC 27571

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- TO BEGINNING OF DEMOLITION. ALL WORK IN THOSE AREAS TO BE DONE BY HAND. FENCES

- SITE FEATURES. ANY HARDCOPY INFORMATION THAT CONFLICTS SHALL BE BROUGHT TO OWNER'S REP. AND/OR LANDSCAPE ARCHITECT'S ATTENTION. HARDCOPY INFORMATION SHALL PREVAIL.



GRAPHIC SCALE

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

CID-23-

SITE PLAN: AREA 'B'

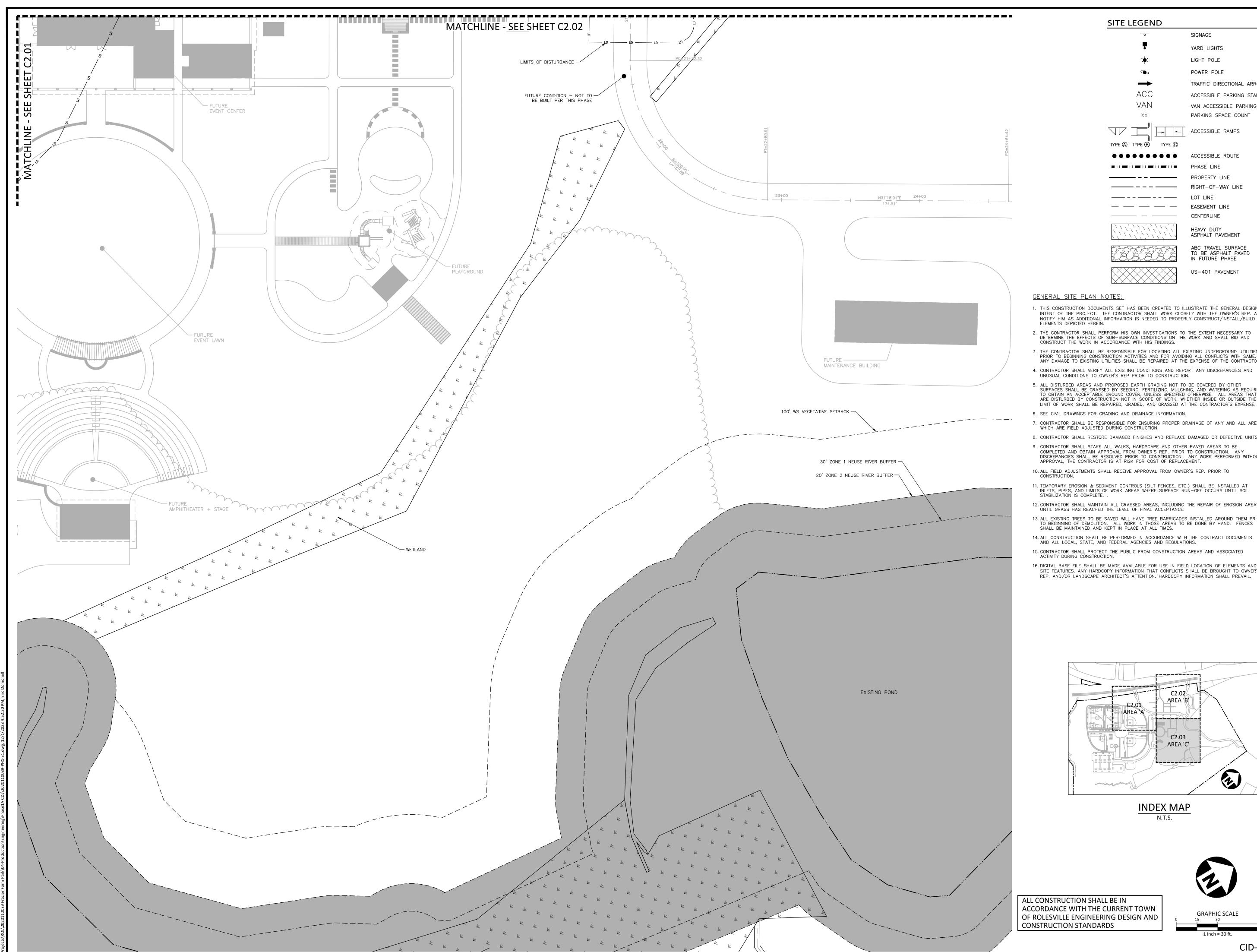
1"=30'

12.01.2023

2020110039-PH1-S1

PLAN INFORMATION

PROJECT NO. 202011039





> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

www.mcadamsco.com

# CLIENT

PHONE: 919.554.6582

NAME: TOWN OF ROLESVILLE ADDRESS: 502 SOUTHTOWN CIRCLE ADDRESS: ROLESVILLE NC 27571

RM PARK N DRAWINGS E 1A

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SITE LEGEND

TYPE A TYPE B TYPE C

● ● ● ● ● ● ● ● ■ ACCESSIBLE ROUTE

PROPERTY LINE

PHASE LINE

SIGNAGE

YARD LIGHTS

LIGHT POLE

POWER POLE

TRAFFIC DIRECTIONAL ARROW

ACCESSIBLE PARKING STALL

PARKING SPACE COUNT

ACCESSIBLE RAMPS

RIGHT-OF-WAY LINE

ABC TRAVEL SURFACE TO BE ASPHALT PAVED IN FUTURE PHASE

US-401 PAVEMENT

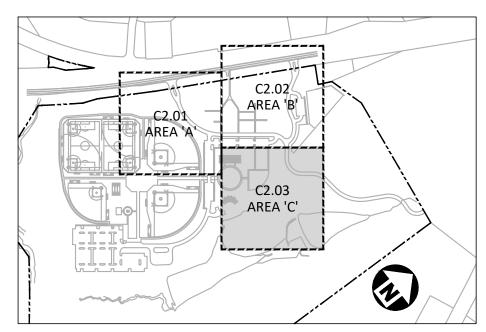
EASEMENT LINE

CENTERLINE

HEAVY DUTY ASPHALT PAVEMENT

VAN ACCESSIBLE PARKING STALL

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**INDEX MAP** N.T.S.

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT TOWN OF ROLESVILLE ENGINEERING DESIGN AND CONSTRUCTION STANDARDS

**GRAPHIC SCALE** 

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

SITE PLAN: AREA 'C'

**PLAN INFORMATION** 

PROJECT NO. 202011039

2020110039-PH1-S1

**REVISIONS** 

NO. DATE

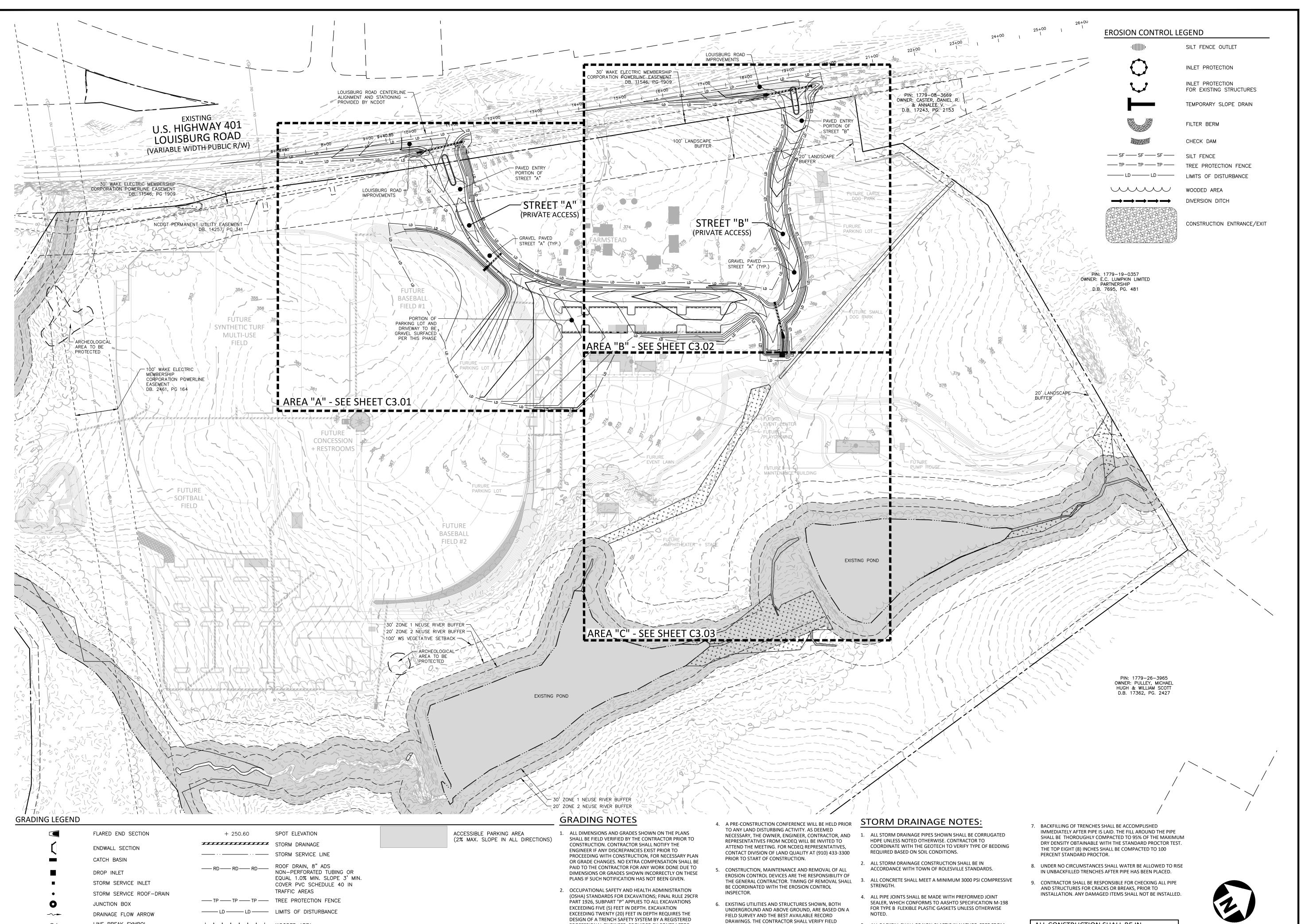
FILENAME CHECKED BY DRAWN BY

SCALE DATE

SHEET

1"=30'

12.01.2023



PROFESSIONAL ENGINEER, PROVIDED BY CONTRACTOR

(1-800-632-4949) AT LEAST 3 FULL BUSINESS DAYS PRIOR

EXISTING UTILITIES LOCATED. CONTRACTOR SHALL

TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE

CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN

LOCATOR SERVICES INDEPENDENT OF "NC811". REPORT

ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

RESPONSIBLE FOR EXCAVATION.

3. CONTRACTOR SHALL NOTIFY "NC811" (811) OR

CONDITIONS PRIOR TO BEGINNING RELATED

. SOIL UNDER BUILDINGS, PAVED AREAS AND WITHIN

AND COMPACTED AS RECOMMENDED BY THE

TO THE ENGINEER IMMEDIATELY.

GEOTECHNICAL ENGINEER.

CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED

SLOPES LESS THAN 4:1 (H:V) SHALL BE APPROVED, PLACED

LINE BREAK SYMBOL

TW=223.00 TOP OF WALL ELEVATION
BW=213.00 BOTTOM OF WALL FI FVATION

TOP & BOTTOM CURB ELEVATIONS

(NOTE: BOTTOM OF WALL IS GROUND

ELEVATION NOT WALL FOUNDATION)

WOODED AREA

— — — EASEMENT LINE

\_\_\_\_\_ MAJOR CONTOUR

\_\_252\_\_\_\_ EXISTING MINOR CONTOUR

\_\_\_\_\_250\_\_\_\_ EXISTING MAJOR CONTOUR

\_\_\_ MINOR CONTOUR



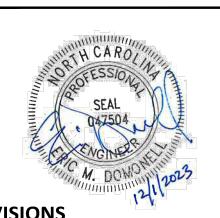
The John R. McAdams Company, Inc 2905 Meridian Parkway Durham, NC 27713

> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

> www.mcadamsco.com

# CLIENT

NAME: TOWN OF ROLESVILLE ADDRESS: 502 SOUTHTOWN CIRCLE ADDRESS: ROLESVILLE NC 27571 PHONE: 919.554.6582



**REVISIONS** 

NO. DATE

# **PLAN INFORMATION**

PROJECT NO. 202011039 2020110039-PH1-OAG1 FILENAME CHECKED BY

DRAWN BY 1"=100'

SCALE DATE 12.01.2023

**SHEET** 

**OVERALL GRADING & DRAINAGE PLAN** 

CID-23-5 PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

GRAPHIC SCALE

ALL CONSTRUCTION SHALL BE IN

CONSTRUCTION STANDARDS

ACCORDANCE WITH THE CURRENT TOWN

OF ROLESVILLE ENGINEERING DESIGN AND

ALL BACKFILL SHALL BE NON-PLASTIC IN NATURE, FREE FROM

ROOTS, VEGETATION MATTER, WASTE CONSTRUCTION MATERIAL

OR OTHER OBJECTIONABLE MATERIAL SAID MATERIAL SHALL BE

CAPABLE OF BEING COMPACTED BY MECHANICAL MEANS AND

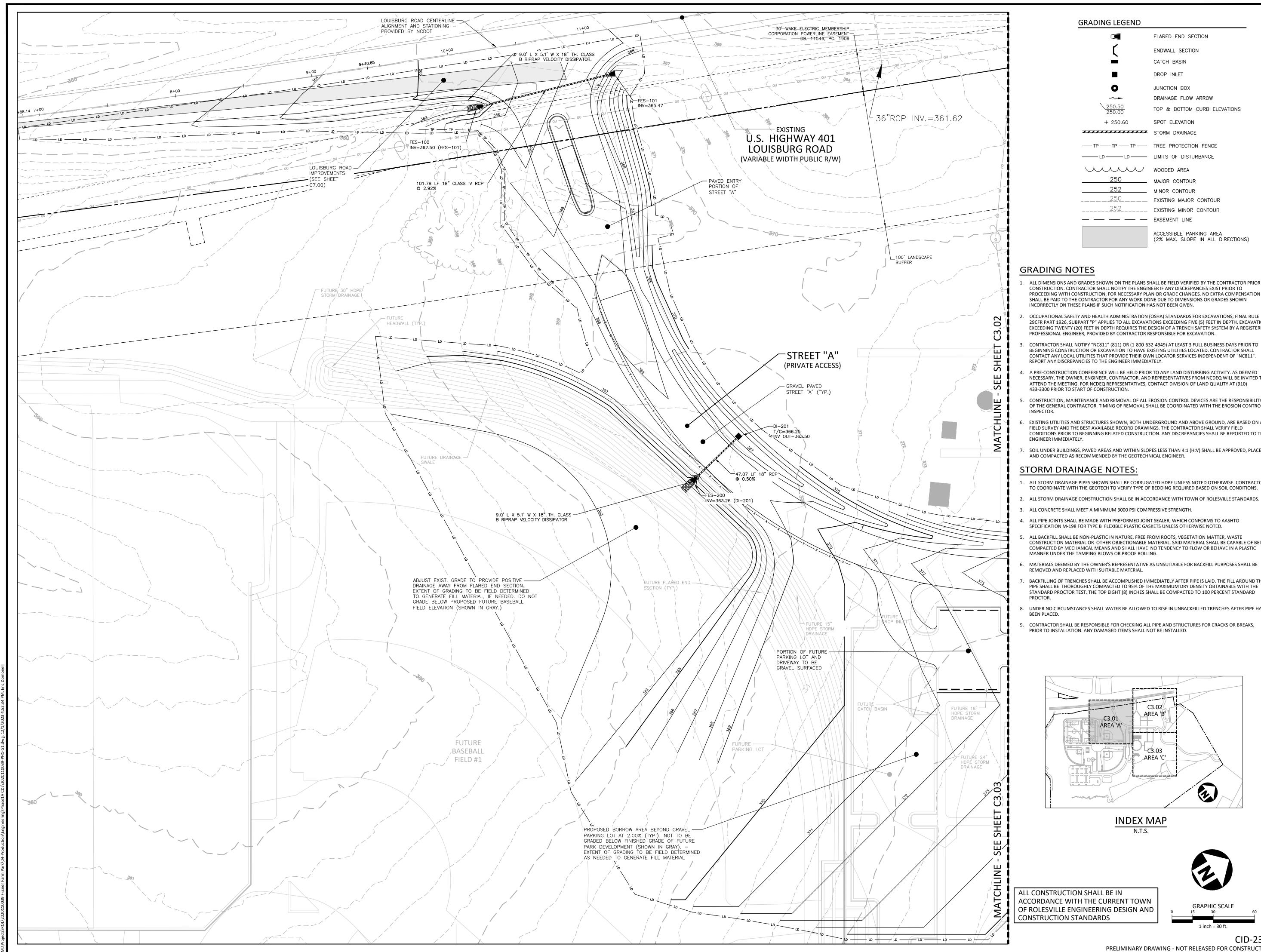
SHALL HAVE NO TENDENCY TO FLOW OR BEHAVE IN A PLASTIC

UNSUITABLE FOR BACKFILL PURPOSES SHALL BE REMOVED AND

MANNER UNDER THE TAMPING BLOWS OR PROOF ROLLING.

MATERIALS DEEMED BY THE OWNER'S REPRESENTATIVE AS

REPLACED WITH SUITABLE MATERIAL.



# **GRADING LEGEND**

FLARED END SECTION ENDWALL SECTION CATCH BASIN DROP INLET

JUNCTION BOX DRAINAGE FLOW ARROW

TOP & BOTTOM CURB ELEVATIONS + 250.60 SPOT ELEVATION

STORM DRAINAGE — TP — TP — TP — TREE PROTECTION FENCE

-----LD ------ LIMITS OF DISTURBANCE

WOODED AREA \_\_\_\_ MINOR CONTOUR EXISTING MAJOR CONTOUR \_\_252\_\_\_\_ EXISTING MINOR CONTOUR

— — — EASEMENT LINE

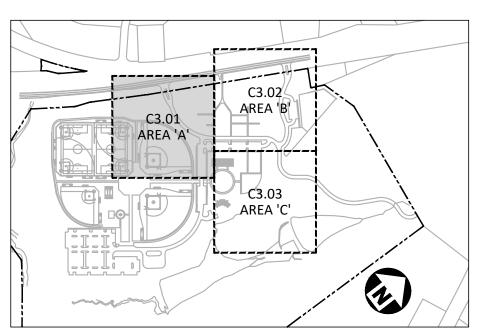
ACCESSIBLE PARKING AREA (2% MAX. SLOPE IN ALL DIRECTIONS)

# **GRADING NOTES**

- ALL DIMENSIONS AND GRADES SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION, FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR ANY WORK DONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
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- CONTRACTOR SHALL NOTIFY "NC811" (811) OR (1-800-632-4949) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NC811".
- NECESSARY, THE OWNER, ENGINEER, CONTRACTOR, AND REPRESENTATIVES FROM NCDEQ WILL BE INVITED TO ATTEND THE MEETING. FOR NCDEQ REPRESENTATIVES, CONTACT DIVISION OF LAND QUALITY AT (910) 433-3300 PRIOR TO START OF CONSTRUCTION.
- CONSTRUCTION, MAINTENANCE AND REMOVAL OF ALL EROSION CONTROL DEVICES ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. TIMING OF REMOVAL SHALL BE COORDINATED WITH THE EROSION CONTROL
- EXISTING UTILITIES AND STRUCTURES SHOWN, BOTH UNDERGROUND AND ABOVE GROUND, ARE BASED ON A FIELD SURVEY AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE
- SOIL UNDER BUILDINGS, PAVED AREAS AND WITHIN SLOPES LESS THAN 4:1 (H:V) SHALL BE APPROVED, PLACED AND COMPACTED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

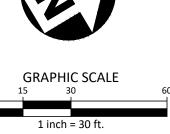
# STORM DRAINAGE NOTES:

- 1. ALL STORM DRAINAGE PIPES SHOWN SHALL BE CORRUGATED HDPE UNLESS NOTED OTHERWISE. CONTRACTOR TO COORDINATE WITH THE GEOTECH TO VERIFY TYPE OF BEDDING REQUIRED BASED ON SOIL CONDITIONS.
  - ALL STORM DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF ROLESVILLE STANDARDS.
- ALL CONCRETE SHALL MEET A MINIMUM 3000 PSI COMPRESSIVE STRENGTH.
- ALL PIPE JOINTS SHALL BE MADE WITH PREFORMED JOINT SEALER, WHICH CONFORMS TO AASHTO SPECIFICATION M-198 FOR TYPE B FLEXIBLE PLASTIC GASKETS UNLESS OTHERWISE NOTED.
- CONSTRUCTION MATERIAL OR OTHER OBJECTIONABLE MATERIAL. SAID MATERIAL SHALL BÉ CAPABLE OF BEING COMPACTED BY MECHANICAL MEANS AND SHALL HAVE NO TENDENCY TO FLOW OR BEHAVE IN A PLASTIC MANNER UNDER THE TAMPING BLOWS OR PROOF ROLLING.
- MATERIALS DEEMED BY THE OWNER'S REPRESENTATIVE AS UNSUITABLE FOR BACKFILL PURPOSES SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.
- BACKFILLING OF TRENCHES SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PIPE IS LAID. THE FILL AROUND THE PIPE SHALL BE THOROUGHLY COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY OBTAINABLE WITH THE STANDARD PROCTOR TEST. THE TOP EIGHT (8) INCHES SHALL BE COMPACTED TO 100 PERCENT STANDARD
- UNDER NO CIRCUMSTANCES SHALL WATER BE ALLOWED TO RISE IN UNBACKFILLED TRENCHES AFTER PIPE HAS
- CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL PIPE AND STRUCTURES FOR CRACKS OR BREAKS, PRIOR TO INSTALLATION. ANY DAMAGED ITEMS SHALL NOT BE INSTALLED.



INDEX MAP

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT TOWN OF ROLESVILLE ENGINEERING DESIGN AND CONSTRUCTION STANDARDS



CID-23-

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

The John R. McAdams Company, Inc

2905 Meridian Parkway

Durham, NC 27713

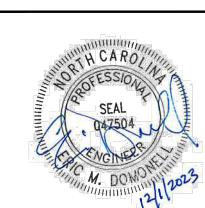
phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

www.mcadamsco.com

CLIENT

PHONE: 919.554.6582

NAME: TOWN OF ROLESVILLE ADDRESS: 502 SOUTHTOWN CIRCLE ADDRESS: ROLESVILLE NC 27571



**REVISIONS** 

NO. DATE

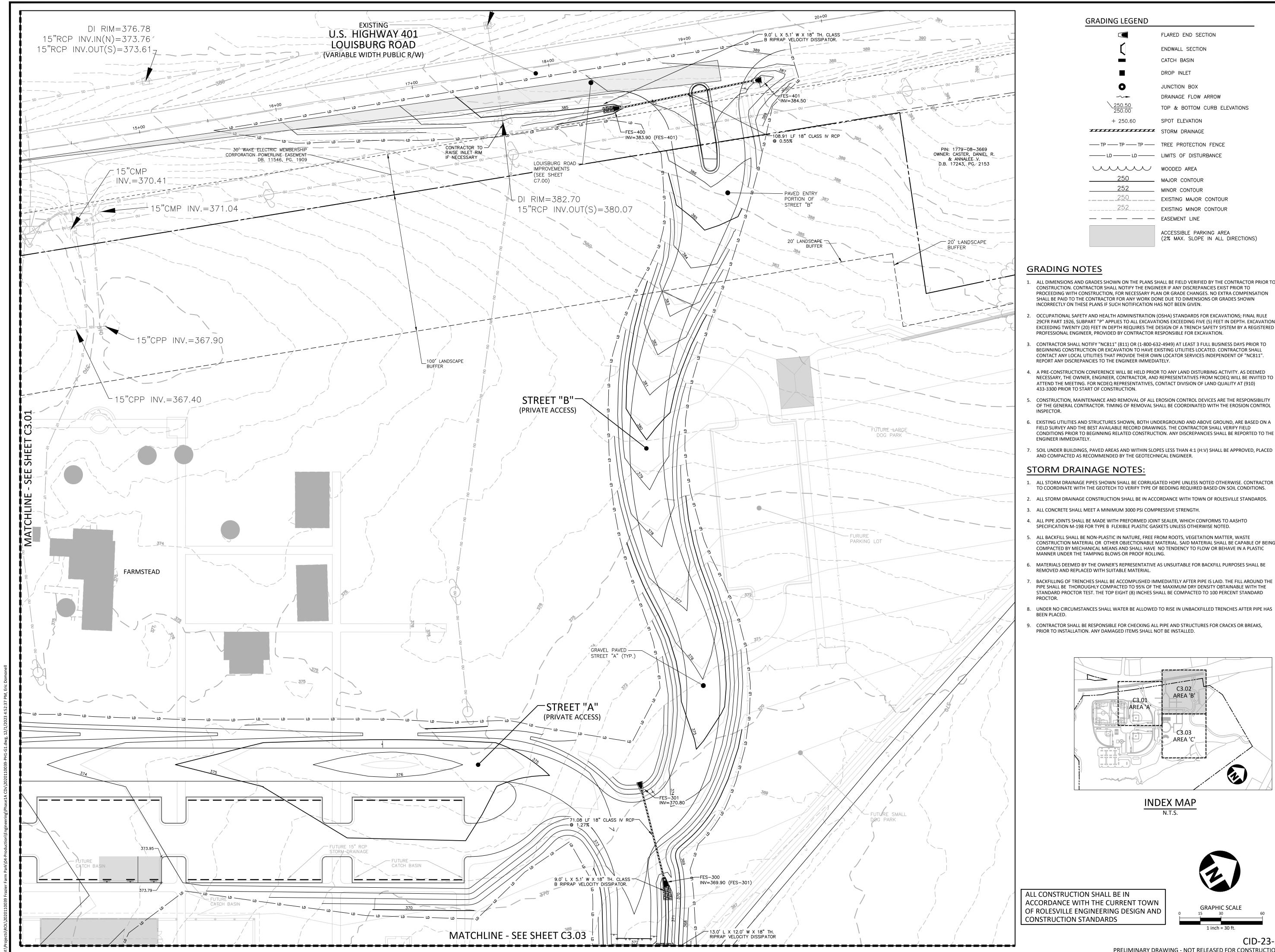
PLAN INFORMATION

PROJECT NO. 202011039 2020110039-PH1-G1 FILENAME

CHECKED BY DRAWN BY 1"=30' SCALE 12.01.2023

DATE **SHEET** 

**GRADING & DRAINAGE PLAN: AREA 'A'** 



# **GRADING LEGEND**

FLARED END SECTION ENDWALL SECTION CATCH BASIN

DROP INLET JUNCTION BOX

DRAINAGE FLOW ARROW TOP & BOTTOM CURB ELEVATIONS

SPOT ELEVATION + 250.60 STORM DRAINAGE

WOODED AREA \_\_\_\_ MAJOR CONTOUR \_\_\_\_ MINOR CONTOUR \_\_\_250\_\_\_\_\_ EXISTING MAJOR CONTOUR EXISTING MINOR CONTOUR

— — — EASEMENT LINE

— TP — TP — TP — TREE PROTECTION FENCE

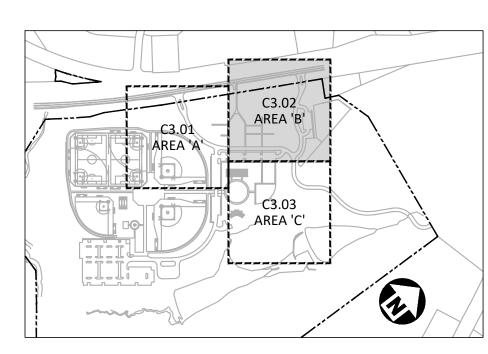
ACCESSIBLE PARKING AREA (2% MAX. SLOPE IN ALL DIRECTIONS)

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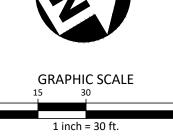
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- ALL BACKFILL SHALL BE NON-PLASTIC IN NATURE, FREE FROM ROOTS, VEGETATION MATTER, WASTE CONSTRUCTION MATERIAL OR OTHER OBJECTIONABLE MATERIAL. SAID MATERIAL SHALL BE CAPABLE OF BEING COMPACTED BY MECHANICAL MEANS AND SHALL HAVE NO TENDENCY TO FLOW OR BEHAVE IN A PLASTIC MANNER UNDER THE TAMPING BLOWS OR PROOF ROLLING.
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CID-23-PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION



The John R. McAdams Company, Inc 2905 Meridian Parkway

> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

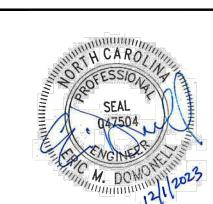
Durham, NC 27713

www.mcadamsco.com

CLIENT

NAME: TOWN OF ROLESVILLE

ADDRESS: 502 SOUTHTOWN CIRCLE ADDRESS: ROLESVILLE NC 27571 PHONE: 919.554.6582



**REVISIONS** 

NO. DATE

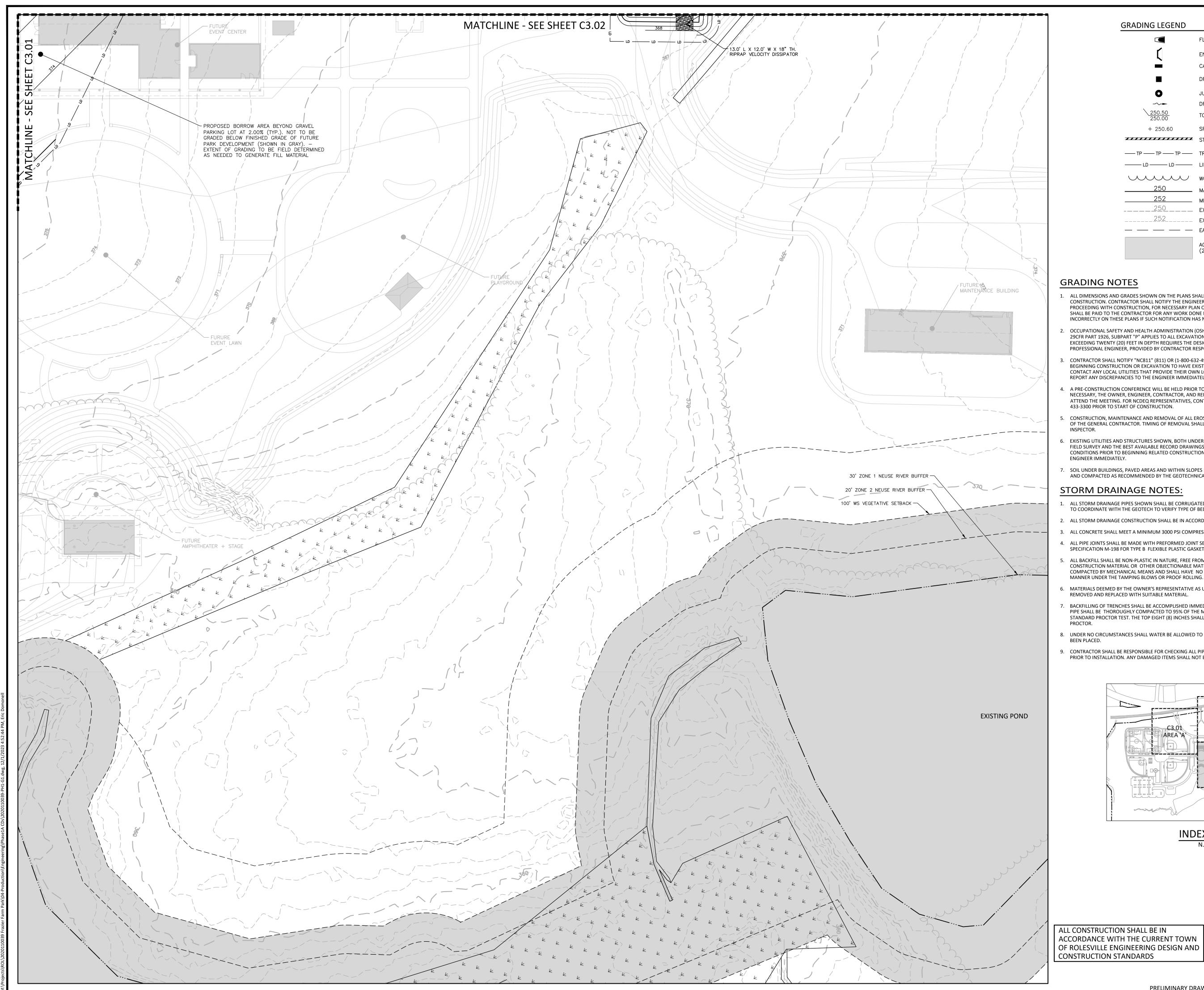
PLAN INFORMATION

PROJECT NO. 202011039 2020110039-PH1-G1 FILENAME

CHECKED BY DRAWN BY 1"=30' SCALE DATE 12.01.2023

**SHEET** 

**GRADING & DRAINAGE** PLAN: AREA 'B'



# **GRADING LEGEND**

FLARED END SECTION ENDWALL SECTION CATCH BASIN

DROP INLET

JUNCTION BOX DRAINAGE FLOW ARROW TOP & BOTTOM CURB ELEVATIONS

+ 250.60 SPOT ELEVATION STORM DRAINAGE

— TP — TP — TP — TREE PROTECTION FENCE -----LD ------ LIMITS OF DISTURBANCE WOODED AREA

252 MINOR CONTOUR EXISTING MAJOR CONTOUR -252 EXISTING MINOR CONTOUR — — — EASEMENT LINE

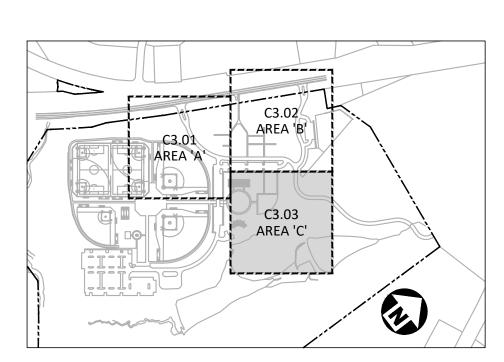
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- A PRE-CONSTRUCTION CONFERENCE WILL BE HELD PRIOR TO ANY LAND DISTURBING ACTIVITY. AS DEEMED NECESSARY, THE OWNER, ENGINEER, CONTRACTOR, AND REPRESENTATIVES FROM NCDEQ WILL BE INVITED TO ATTEND THE MEETING. FOR NCDEQ REPRESENTATIVES, CONTACT DIVISION OF LAND QUALITY AT (910) 433-3300 PRIOR TO START OF CONSTRUCTION.
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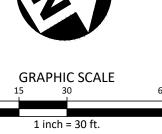
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**INDEX MAP** 

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PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

The John R. McAdams Company, Inc. 2905 Meridian Parkway Durham, NC 27713

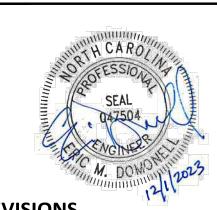
> fax 919. 361. 2269 license number: C-0293

www.mcadamsco.com

phone 919. 361. 5000

# CLIENT

NAME: TOWN OF ROLESVILLE ADDRESS: 502 SOUTHTOWN CIRCLE ADDRESS: ROLESVILLE NC 27571 PHONE: 919.554.6582



**REVISIONS** 

NO. DATE

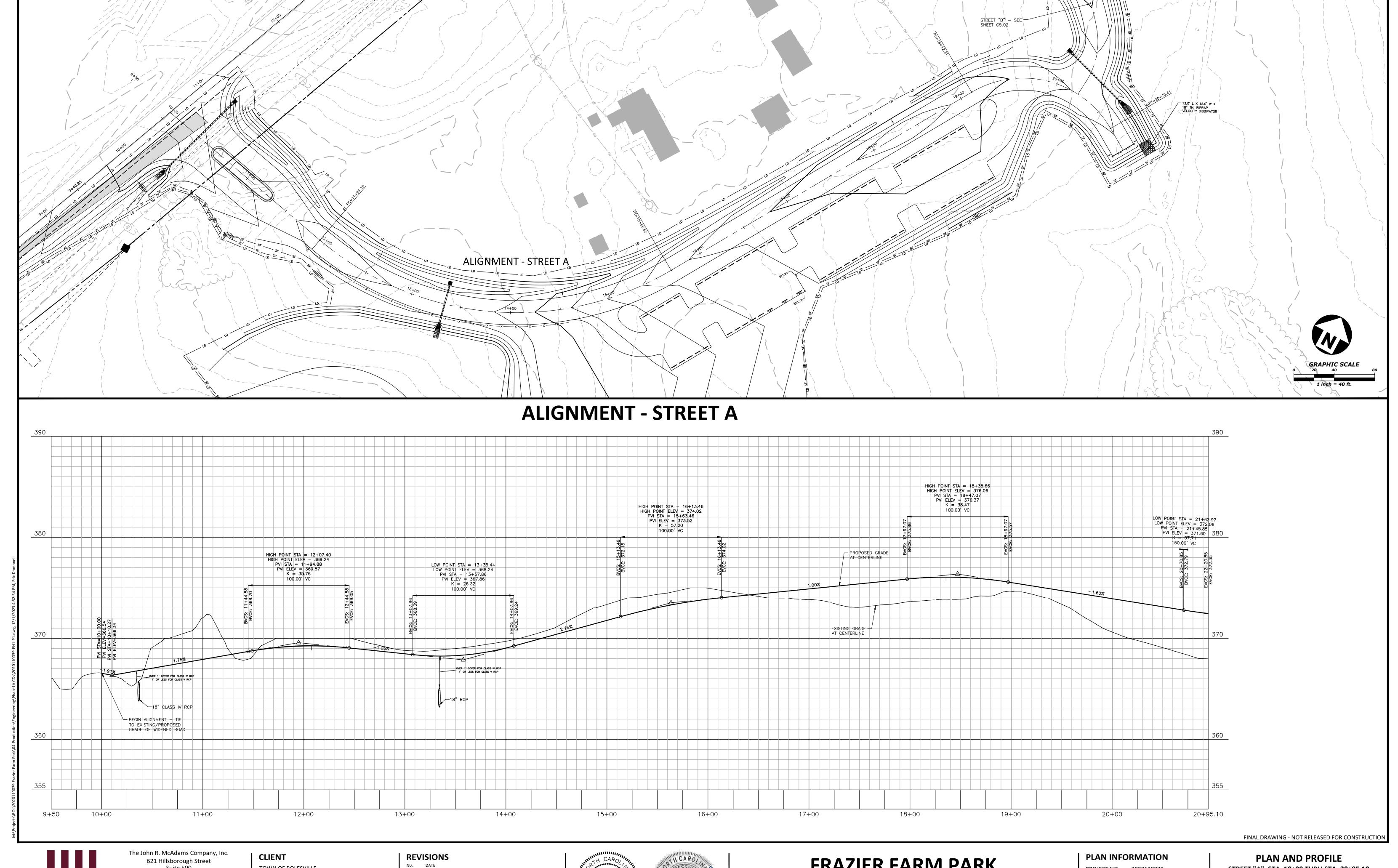
# PLAN INFORMATION

PROJECT NO. 202011039 2020110039-PH1-G1 FILENAME

CHECKED BY DRAWN BY 1"=30' SCALE DATE 12.01.2023

SHEET

**GRADING & DRAINAGE** PLAN: AREA 'C'



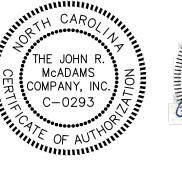
McAdams

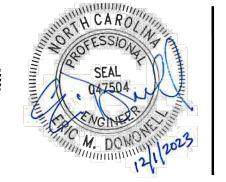
Suite 500 Raleigh, NC 27603 phone 919. 361. 5000 fax 919. 361. 2269

license number: C-0293, C-187

www.mcadamsco.com

TOWN OF ROLESVILLE **502 SOUTHTOWN CIRCLE** ROLESVILLE, NC 27571 PHONE: 919. 554. 6582





# FRAZIER FARM PARK

**CONSTRUCTION DRAWINGS - PHASE 1A** 11624 LOUISBURG ROAD ROLESVILLE, NORTH CAROLINA

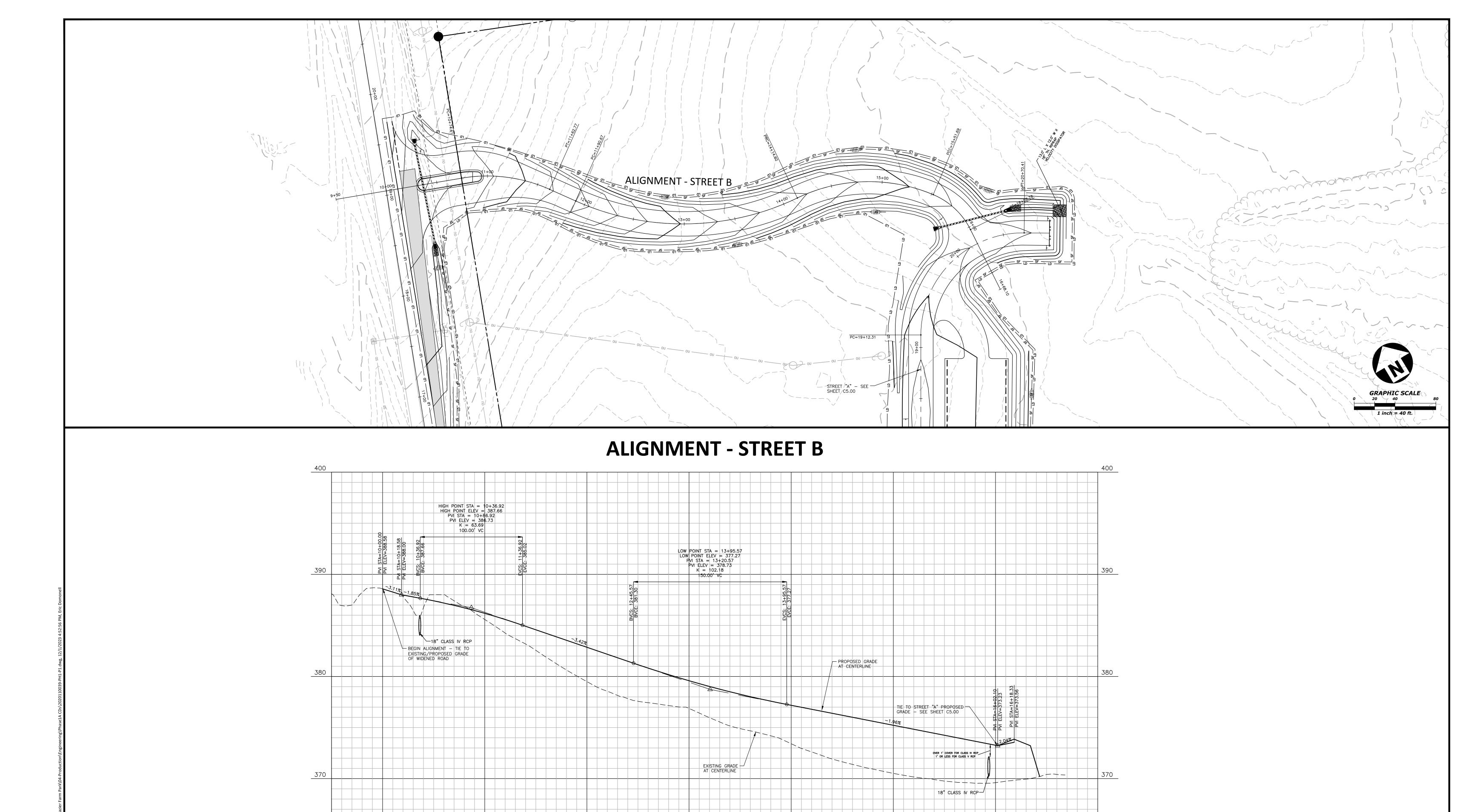
PROJECT NO. 2020110039 FILENAME 2020110039-PH1-P1 CHECKED BY DRAWN BY SCALE H:1"=40' / V:1"=4'

12.01.2023

DATE

STREET "A", STA. 10+00 THRU STA. 20+95.10

C5.00





The John R. McAdams Company, Inc. 621 Hillsborough Street Suite 500 Raleigh, NC 27603

phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293, C-187

www.mcadamsco.com

**CLIENT** TOWN OF ROLESVILLE **502 SOUTHTOWN CIRCLE** ROLESVILLE, NC 27571

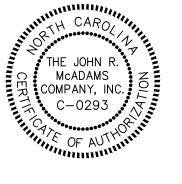
PHONE: 919. 554. 6582

9+50

10+00

**REVISIONS** NO. DATE

11+00



13+00

12+00



14+00

# FRAZIER FARM PARK

16+00

17+00

15+00

**CONSTRUCTION DRAWINGS - PHASE 1A** 11624 LOUISBURG ROAD ROLESVILLE, NORTH CAROLINA

**PLAN INFORMATION** 

PROJECT NO. 2020110039

2020110039-PH1-P1 FILENAME CHECKED BY DRAWN BY SCALE H:1"=40' / V:1"=4' DATE 12.01.2023

PLAN AND PROFILE STREET "B", STA. 10+00 THRU STA. 16+35

FINAL DRAWING - NOT RELEASED FOR CONSTRUCTION

C5.01

# CITY OF RALEIGH PUBLIC UTILITIES STANDARD UTILITY NOTES (AS APPLICABLE)

- 1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION)
- 2. UTILITY SEPARATION REQUIREMENTS:
- a. A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED. FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
- b. WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO
- c. Where it is impossible to obtain proper separation, or anytime a sanitary sewer passes over a WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS
- d. 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
- e. MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 &
- f. ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION
- ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION.
- 4. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
- 5. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
- IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS
- INSTALL 3/4" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE.

INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE

- 8. INSTALL 4" PVC SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM.
- PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE.
- 10. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
- 11. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS
- & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION 12. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY
- THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT TIM BEASLEY AT (919) 996-2334 OR TIMOTHY.BEASLEY@RALEIGHNC.GOV FOR MORE INFORMATION.
- 13. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM WHICHEVER IS MORE STRINGENT, CONTACT, IOANIE HARTLEY AT (919) 996-5923 OR JOANIE.HARTLEY@RALEIGHNC.GOV FOR MORE INFORMATION.

# **NOTES:**

DEEDS OF EASEMENT FOR SANITARY SEWER PURPOSES TO CITY OF RALEIGH RECORDED IN BOOK 12249, PAGE 864 AND BOOK 12466, PAGE 1149 AND AS SHOWN ON RECORDED PLAT IN BOOK OF MAPS 2006, PAGES 2216 AND 2217. WAKE COUNTY REGISTRY.

(DEED OF EASEMENT SUPERSEDED BY BM 2008 PG 480 & 481

RIGHT OF WAY AND UTILITY EASEMENTS RECORDED IN BOOK 13736, PAGES 1287 AND 1294 AND AS SHOWN ON RECORDED PLAT IN BOOK OF MAPS 2009, PAGE 1091, WAKE COUNTY REGISTRY.

(AS SHOWN ON SURVEY)

DEEDS OF EASEMENT FOR SANITARY SEWER PURPOSES TO CITY OF RALEIGH RECORDED IN BOOK 12249, PAGE 860 AND BOOK 12466, PAGE 1171 AND AS SHOWN ON RECORDED PLAT IN BOOK OF MAPS 2006, PAGES 2216 AND 2217, WAKE COUNTY REGISTRY.

# **BY-PASS PUMPING NOTES:**

- 1. DEVELOPER SHALL PROVIDE 30 DAYS ADVANCE WRITTEN NOTICE TO PROPERTY OWNER FOR ANY WORK REQUIRED WITHIN AN EXISTING CITY OF RAI FIGH LITH ITY FASEMENT TRAVERSING PRIVATE PROPERTY
- 2. A BYPASS PLAN SEALED BY A NC PROFESSIONAL ENGINEER MUST BE SUBMITTED TO CITY OF RALEIGH PUBLIC UTILITIES PRIOR TO PUMPING OPERATIONS TO COORDINATE WITH ENGINEERING STAFF, PUMPS SHOULD BE SIZED TO HANDLE THE PEAK FLOW(2.5 TIMES THE AVERAGE DAILY FLOW) FOR THE LINE OR AREA OF WORK, THE CONTRACTOR SHALL SECURE THE PUMPS FROM A PUMP SUPPLIER ACCORDING TO THE PROVIDED FLOW INFORMATION, PUMPING OPERATIONS MUST BE MONITORED 24 HOURS A DAY FOR EACH OF THE PUMPING OPERATION BY QUALIFIED PERSONNEL IN ORDER TO RESPONSE TO PROBLEMS OR FAILURES. 100% REDUNDANCY IS REQUIRED FOR PUMPING OPERATIONS. IN ADDITION, BACK UP PUMPS ARE TO BE CONNECTED TO THE BYPASS FORCE MAIN TO FACILITATE IMMEDIATE USE UPON FAILURE OF THE PRIMARY PUMPS.

# TRAFFIC CONTROL:

1. ALL EXISTING DRIVES, ROADS, SIDEWALKS, PAVED AREAS IMPACTED BY CONSTRUCTION OPERATIONS, SHALL BE REPLACED TO EXISTING CONDITION OR BETTER.

# TEMPORARY SKIMMER BASIN SPECIFICATIONS:

- L. CLEAR, GRUB, AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOIL CONTAINING HIGH AMOUNTS OF ORGANIC MATTER AND STOCKPILE OR DISPOSE OF IT PROPERLY. HAUL ALL OBJECTIONABLE MATERIAL TO THE DESIGNATED DISPOSAL AREA. PLACE TEMPORARY SEDIMENT CONTROL MEASURES BELOW BASIN AS NEEDED.
- . ENSURE THAT FILL MATERIAL FOR THE EMBANKMENT IS FREE OF ROOTS, WOODY VEGETATION, ORGANIC MATTER, AND OTHER OBJECTIONABLE MATERIAL. PLACE THE FILL IN LIFTS NOT THE EXCEED 9 INCHES, AND MACHINE COMPACT IT. OVER FILL THE EMBANKMENT 6 INCHES TO ALLOW FOR SETTLEMENT.

3. SHAPE THE BASIN TO THE SPECIFIED DIMENSIONS. PREVENT THE SKIMMING DEVICE FROM SETTLING INTO THE MUD BY EXCAVATING A SHALLOW PIT UNDER

- THE SKIMMER OR PROVIDING A LOW SUPPORT UNDER THE SKIMMER OF STONE OR TIMBER. 4. PLACE THE BARREL (TYPICALLY 4-INCH SCHEDULE 40 PVC PIPE) ON A FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL. DO NOT USE PERVIOUS MATERIAL
- SUCH AS SAND, GRAVEL, OR CRUSHED STONE AS BACKFILL AROUND THE PIPE. PLACE THE FILL MATERIAL AROUND THE PIPE SPILLWAY IN 4-INCH LAYERS AND COMPACT IT UNDER AND AROUND THE PIPE TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. CARE MUST BE TAKEN NOT THE RAISE THE PIPE FROM THE FIRM CONTACT WITH ITS FOUNDATION WHEN COMPACTING UNDER THE PIPE HAUNCHES.
- 5. PLACE A MINIMUM DEPTH OF 2 FEET OF COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT. IN NO CASE SHOULD THE PIPE CONDUIT BE INSTALLED BY CUTTING A TRENCH THROUGH THE DAM AFTER THE EMBANKMENT IS COMPLETE. 6. ASSEMBLE THE SKIMMER FOLLOWING THE MANUFACTURER'S INSTRUCTIONS, OR AS DESIGNED.
- 7. LAY THE ASSEMBLED SKIMMER ON THE BOTTOM OF THE BASIN WITH THE FLEXIBLE JOINT AT THE INLET OF THE BARREL PIPE. ATTACH THE FLEXIBLE JOINT TO THE BARREL PIPE AND POSITION THE SKIMMER OVER THE EXCAVATED PIT OR SUPPORT. BE SURE TO ATTACH A ROPE TO THE SKIMMER AND ANCHOR IT TO THE SIDE OF THE BASIN. THIS WILL BE USED TO PULL THE SKIMMER TO THE SIDE FOR MAINTENANCE.
- 8. EARTHEN SPILLWAYS INSTALL THE SPILLWAY IN UNDISTURBED SOIL TO THE GREATEST EXTENT POSSIBLE. THE ACHIEVEMENT OF PLANNED ELEVATIONS, GRADE, DESIGN WIDTH, AND ENTRANCE AND EXIT CHANNEL SLOPES ARE CRITICAL TO THE SUCCESSFUL OPERATION OF THE SPILLWAY. THE SPILLWAY SHOULD BE LINED WITH LAMINATED PLASTIC OR IMPERMEABLE GEOTEXTILE FABRIC. THE FABRIC MUST BE WIDE AND LONG ENOUGH TO COVER THE BOTTOM AND SIDES AND EXTEND ONTO THE TOP OF THE DAM FOR ANCHORING IN A TRENCH. THE EDGES MAY BE SECURED WITH 8-INCH STAPLES OR PINS THE FABRIC MUST BE LONG ENOUGH TO EXTEND DOWN THE SLOPE AND EXIT ONTO STABLE GROUND. THE WIDTH OF THE FABRIC MUST BE ONE PIECE. NOT JOINED OR SPLICED; OTHERWISE WATER CAN GET UNDER THE FABRIC. IF THE LENGTH OF THE FABRIC IS INSUFFICIENT FOR THE ENTIRE LENGTH OF THE SPILLWAY, MULTIPLE SECTIONS, SPANNING THE COMPLETE WIDTH, MAY BE USED, THE UPPER SECTION (S) SHOULD OVERLAP THE LOWER SECTION(S) SO THAT WATER CANNOT FLOW UNDER THE FABRIC. SECURE THE UPPER EDGE AND SIDES OF THE FABRIC IN A TRENCH WITH STAPLES OR PINS. (ADAPTED FROM "A MANUAL FOR DESIGNING, INSTALLING, AND MAINTAINING SKIMMER SEDIMENT BASINS." FEBRUARY, 1999. J. W. FAIRCLOTH & SON.).
- 9. INLETS DISCHARGE WATER INTO THE BASIN IN A MANNER TO PREVENT EROSION. USE TEMPORARY SLOPE DRAINS OR DIVERSIONS WITH OUTLET PROTECTION TO DIVERT SEDIMENT-LADEN WATER TO THE UPPER END OF THE POOL AREA TO IMPROVE BASIN TRAP EFFICIENCY (REFERENCES: RUNOFF CONTROL MEASURES AND OUTLET PROTECTION).
- 10. EROSION CONTROL CONSTRUCT THE STRUCTURE SO THAT THE DISTURBED AREA IS MINIMIZED. DIVERT SURFACE WATER AWAY FROM BARE AREAS. COMPLETE THE EMBANKMENT BEFORE THE AREA IS CLEARED. STABILIZE THE EMERGENCY SPILLWAY EMBANKMENT AND ALL OTHER DISTURBED AREAS ABOVE THE CREST OF THE PRINICIPAL SPILLWAY IMMEDIATELY AFTER CONSTRUCTION (REFERENCES: SURFACE STABILIZATION).
- 11. INSTALL POROUS BAFFLES AS SPECIFIED IN PRACTICE 6.65, POROUS BAFFLES. 12. AFTER ALL THE SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, FOLLOW THE BASIN REMOVAL SEQUENCE. SMOOTH THE AREA TO

BLEND WITH THE ADJOINING AREAS AND STABILIZE PROPERLY (REFERENCES: SURFACE STABILIZATION)

# **CONSTRUCTION SEQUENCE - STAGE 1**

- 1. REQUEST PRE-CONSTRUCTION MEETING WITH DEMLR RALEIGH REGIONAL OFFICE AT LEAST 72 HOURS PRIOR TO COMMENCING THE PROJECT. CONTACT THE OFFICE AT LEAST 48 HOURS PRIOR TO COMMENCING THE LAND-DISTURBING ACTIVITY
- 2. EROSION AND SEDIMENT CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES (INCLUDING TIMBERING AND DEMOLITION) OCCUR. A COPY OF THE E&SC PERMIT, THE COC, AND A HARD COPY OF THE PLANS MUST BE KEPT ON SITE, PREFERABLY IN A PERMITS BOX, AND ACCESSIBLE DURING INSPECTION
- 3. INSTALL TREE PROTECTION FENCE AT FINAL LOCATIONS SHOWN. CALL NCDEQ TO INSPECT TREE PROTECTION FENCE. TREE PROTECTION FENCING MUST BE INSTALLED AND INSPECTED BY NCDEQ SITE INSPECTOR PRIOR TO A GRADING PERMIT BEING ISSUED.
- ATTEND PRE-CONSTRUCTION MEETING WITH NCDEQ EROSION CONTROL INSPECTOR.
- OBTAIN GRADING PERMIT.
- 6. INSTALL CONSTRUCTION ENTRANCE, SILT FENCE WITH OUTLETS, AND TEMPORARY STREAM CROSSING AS SHOWN ON THIS EROSION CONTROL PLAN STAGE 1. CONTRACTOR SHALL CLEAR ONLY AS NECESSARY FOR CONSTRUCTION EQUIPMENT TO ACCESS AND INSTALL THE TEMPORARY EROSION CONTROL DEVICES. INSTALL THE REQUIRED LINER FOR ALL DIVERSION DITCHES WHEN INSTALLING THE DITCHES. NO CLEARING SHALL OCCUR OUTSIDE OF THE LIMITS OF CONSTRUCTION SHOWN UNLESS PRIOR APPROVAL IS OBTAINED FROM NCDEO EROSION CONTROL INSPECTOR. ENSURE EXISTING SEDIMENT BASIN IS FUNCTIONING PROPERLY. IF SEDIMENT BASIN WAS CONVERTED TO AN SCM, REINSTALL THE SKIMMER AND BAFFLES AS SHOWN UNDER THE PHASE 1C INFRASTRUCTURE PLANS (22-DP-1332).
- 7. INSTALL ALL REMAINING PERIMETER EROSION CONTROL MEASURES AS SHOWN TO PREVENT EROSION AND SEDIMENTATION FROM OCCURRING WHEN GENERAL GRADING
- 8. OBTAIN CERTIFICATE OF COMPLIANCE THROUGH ON-SITE INSPECTION BY NCDEQ EROSION CONTROL INSPECTOR.
- 9. PROCEED WITH CLEARING OF SITE.
- 10. ALL FROSION AND SEDIMENTATION CONTROL PRACTICES SHALL BE CHECKED BY
- CONTRACTOR FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
- 11. CLEAN SEDIMENT BASINS WHEN ONE-HALF FULL
- 12. ALL AREAS AND SLOPES DISTURBED DURING CONSTRUCTION AND EXPOSED SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING OR PERIOD OF INACTIVITY. PERMANENT GROUNDCOVER IS TO BE ESTABLISHED FOR ALL DISTURBED AREAS WITHIN 14 WORKING DAYS OR 90 CALENDAR DAYS, WHICHEVER IS SHORTER, FOLLOWING COMPLETION OF CONSTRUCTION, COMPLETION OF GRADING OR PERIOD OF INACTIVITY. PFRMANFNT SFFDING. MULCHING AND GROUND COVER SHALL BE APPLIED TO THE SITE FOLLOWING COMPLETION OF CONSTRUCTION. HIGH QUALITY WATER (HWQ) ZONES AND PERIMETER DIKES, SWALES, DITCHES, AND SLOPES SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING WITHIN 7 CALENDAR DAYS..
- 13. MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
- 14. WITH APPROVAL FROM NCDEQ EROSION CONTROL INSPECTOR MOVE TO EROSION CONTROL PLAN STAGE 2.

# CONSTRUCTION SEQUENCE - STAGE 2

- 1. PROCEED WITH GRADING/BUILDING CONSTRUCTION.
- 2. INSTALL STORM DRAINAGE SYSTEM AND DIVERT FLOW TO INLETS WITH EXCAVATED INLET PROTECTION. INSTALL RETAINING WALLS AS NECESSARY WHILE MAINTAINING EROSION CONTROL MEASURES.
- 3. DRAIN AND REDUCE THE SEDIMENT BASIN UTILIZING THE SEDIMENT FILTER BAG WHICH WILL BE CONTINUOUSLY MONITORED DURING OPERATION, IN COORDINATION WITH NCDEQ EROSION CONTROL INSPECTOR
- 4. CLEAN SEDIMENT BASIN WHEN ONE-HALF FULL
- 5. ALL EROSION AND SEDIMENTATION CONTROL PRACTICES SHALL BE CHECKED BY CONTRACTOR FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
- 6. ALL AREAS AND SLOPES DISTURBED DURING CONSTRUCTION AND EXPOSED SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING WITHIN 14 CALENDAR DAYS, FOLLOWING COMPLETION OF ANY PHASE OF GRADING OR PERIOD OF INACTIVITY. PERMANENT GROUNDCOVER IS TO BE ESTABLISHED FOR ALL DISTURBED AREAS WITHIN 14 WORKING DAYS OR 90CALENDAR DAYS. WHICHEVER IS SHORTER. FOLLOWING COMPLETION OF CONSTRUCTION. COMPLETION OF GRADING OR PERIOD OF INACTIVITY. PERMANENT SEEDING, MULCHING AND GROUND COVER SHALL BE APPLIED TO THE SITE FOLLOWING COMPLETION OF CONSTRUCTION. HIGH QUALITY WATER (HWQ) ZONES AND PERIMETER DIKES, SWALES, DITCHES, AND SLOPES SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING WITHIN 7 CALENDAR DAYS..
- 7. CONTINUE INSTALLATION OF PAVEMENT. CURB AND GUTTER.
- 8. ALL EROSION AND SEDIMENTATION CONTROL PRACTICES SHALL BE CHECKED BY CONTRACTOR FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
- 9 ALL AREAS AND SLOPES DISTURBED DURING CONSTRUCTION AND EXPOSED SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING OR PERIOD OF INACTIVITY. PERMANENT GROUNDCOVER IS TO BE ESTABLISHED FOR ALL DISTURBED AREAS WITHIN 14 WORKING DAYS OR 90 CALENDAR DAYS, WHICHEVER IS SHORTER, FOLLOWING COMPLETION OF CONSTRUCTION, COMPLETION OF GRADING OR PERIOD OF INACTIVITY. PERMANENT SEEDING, MULCHING AND GROUND COVER SHALL BE APPLIED TO THE SITE FOLLOWING COMPLETION OF CONSTRUCTION. HIGH QUALITY WATER (HWQ) ZONES AND PERIMETER DIKES, SWALES, DITCHES, AND SLOPES SHALL BE STABILIZED WITH TEMPORARY SEEDING AND MULCHING WITHIN 7 CALENDAR DAYS
- 10. PERIMETER MEASURES MUST BE LEFT IN PLACE UNTIL ALL UPLAND AREAS ARE PERMANENTLY STABILIZED. AFTER SITE IS PERMANENTLY STABILIZED. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND PROVIDE PERMANENT SEEDING WHERE TEMPORARY MEASURES HAVE BEEN REMOVED AND GROUND COVER IS NOT ADEQUATE. SEDIMENTS BASINS MAY NOT BE REMOVED OR CONVERTED TO PERMANENT SCMS UNTIL ALL UPLAND AREAS ARE PERMANENTLY STABILIZED. NCDEQ SHOULD BE NOTIFIED 10-DAYS PRIOR TO REMOVAL OF A BASIN.
- 12. FILL IN EXCAVATED STORAGE AREAS AND DEWATER USING SEDIMENT FILTER BAGS, REMOVE FROSION CONTROL MEASURES FROM ALL AREAS THAT HAVE BEEN PERMANENTLY STABILIZED AND STABILIZE THE AREAS OF THE DEVICE REMOVAL WITH APPROVAL FROM EROSION CONTROL INSPECTOR.
- 13. WHEN THE PROJECT IS COMPLETE, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN.

# **EROSION CONTROL NOTES:**

- 1. EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY GRADING ON SITE. THE CONTRACTOR SHALL CALL FOR A INSPECTION BY NCDEQ SEDIMENTATION AND EROSION CONTROL (SEC) ONCE
- 2. REQUIRED TREE PROTECTION FENCING SHALL BE INSTALLED AND INSPECTED AND A PRE-CONSTRUCTION CONFERENCE SCHEDULED WITH THE TOWN'S URBAN FORESTER PRIOR TO BEGINNING LAND DISTURBANCE.
- 3. GRADING PERMIT WILL NOT BE ISSUED UNTIL NCDEQ HAS RECEIVED NOTIFICATION FROM THE ECOSYSTEM ENHANCEMENT PROGRAM OR AN APPROVED NUTRIENT OFFSET BANK THAT A RECEIPT HAS BEEN ISSUED TO THE DEVELOPER AND THE LOCAL GOVERNMENT STATING THE NITROGEN BUY DOWN HAS BEEN COMPLETED.
- 4. SEDIMENT/EROSION CONTROL DEVICES MUST BE CHECKED AFTER EACH STORM EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE.
- 5. IN ADDITION TO THE REQUIREMENT DURING CONSTRUCTION FOR THE INSPECTION OF EROSION CONTROL DEVICES AFTER EVERY RAINFALL, THE CONTRACTOR SHALL INSPECT THE EROSION AND SEDIMENT CONTROL DEVICES AND OFFSITE ROADWAYS DAILY, MAKE ANY NECESSARY REPAIRS OR ADJUSTMENTS TO THE DEVICES. REMOVE DEPOSITION OF WET OR DRY SILT ON ADJACENT ROADWAYS AND MAINTAIN INSPECTION LOGS DOCUMENTING THE DAILY INSPECTIONS AND ANY NECESSARY REPAIRS.
- 6. A COPY OF THE APPROVED EROSION CONTROL PLAN MUST BE ON FILE AT THE JOB SITE AT ALL TIMES.
- 7. CONSTRUCTION, MAINTENANCE, AND REMOVAL OF ALL EROSION CONTROL DEVICES ARE THE RESPONSIBILITY OF THE GRADING CONTRACTOR UNLESS OTHERWISE NOTED.
- 8. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.
- 9. NO DEBRIS SHALL BE TRACKED ONTO ANY EXISTING PAVED AREAS OR PUBLIC RIGHT OF WAY. IF THE SITUATION OCCURS WHERE MUD, ROCK AND DEBRIS IS TRACKED ONTO PAVEMENT, THE CONTRACTOR SHALL CLEAN THE PAVEMENT AND INSTALL ADDITIONAL MEASURES TO PREVENT THE FUTURE OCCURRENCE.
- 10. DURING THE CONSTRUCTION PHASE, ADDITIONAL EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED IF THE PROPOSED MEASURES DO NOT CONTAIN THE SEDIMENT ON SITE. THE EROSION CONTROL INSPECTOR MAY REQUIRE ADDITIONAL FIELD MEASURES AS NECESSARY TO PROVIDE ADEQUATE PROTECTION FROM RECEIVING WATER COURSES.
- 11. PROTECTION OF EXISTING VEGETATION: AT THE START OF GRADING INVOLVING THE STRIPPING OF TOPSOIL OR LOWERING OF EXISTING GRADE AROUND A TREE, A CLEAN, SHARP, VERTICAL CUT SHALL BE MADE AT THE EDGE OF THE TREE SAVE AREA AT THE SAME TIME AS OTHER EROSION CONTROL MEASURES ARE INSTALLED. THE TREE PROTECTION FENCING SHALL BE INSTALLED ON THE SIDE OF THE CUT FARTHEST AWAY FROM THE TREE TRUNK AND SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREES IS COMPLETE. NO STORAGE OF MATERIALS, FILL, OR EQUIPMENT AND NO TRESPASSING SHALL BE ALLOWED WITHIN THE BOUNDARY OF THE PROTECTED AREA AND SHALL BE POSTED ON THE PROTECTION FENCE. A PROTECTION FENCE CONSTRUCTED OF MATERIAL RESISTANT TO DEGRADATION BY SUN, WIND, AND MOISTURE FOR THE DURATION OF THE CONSTRUCTION, SHALL BE INSTALLED AT THE SAME TIME AS THE EROSION CONTROL MEASURES AND SHALL BE IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREES IS COMPLETE
- 12. A CONSTRUCTION SEQUENCE HAS BEEN PROVIDED. INSTALLATION OF ALL PROPOSED SEDIMENTATION & EROSION CONTROL MEASURES IN THE SEQUENCE(S) PROVIDED AND MAINTENANCE OF THOSE DEVICES IS REQUIRED. THE CONTRACTOR MAY BE ALLOWED, WITH PRIOR APPROVAL FROM THE OWNER, TO COORDINATE CHANGES TO THE PLAN WITH THE ON-SITE SEDIMENTATION & EROSION CONTROL INSPECTOR AND THE ENGINEER.
- 13. CUT AND FILL SLOPE THAT IS TWO TO ONE (2:1) OR GREATER SHALL BE STABILIZED WITH PERMANENT SLOPE RETENTION DEVICES OR A SUITABLE COMBINATION OF PLANTINGS AND RETENTION DEVICES. SLOPES GREATER THAN THREE TO ONE (3:1) SHALL NOT BE STABILIZED WITH TURF GRASS BUT MUST BE STABILIZED WITH VEGETATION THAT REQUIRES MINIMAL MAINTENANCE. WEEPING LOVE GRASS, RED FESCUE OR OTHER APPROVED VARIETY. (CHAPTER 7. PART 2. SECTION 4. (G) LDO).
- 14. PROVIDE INLET PROTECTION AROUND ALL SITE STORM INLETS. PROTECT OPEN PIPES UNDER CONSTRUCTION WITH EITHER PLYWOOD OR WITH MESH AND GRAVEL WEIRS. RUNOFF SHALL NOT BE ALLOWED IN ANY OPEN TRENCH.
- 15. CONTRACTOR TO VERIFY SILT FENCE OUTLET PLACEMENT AT LOW POINTS AS THEY EXIST OR DEVELOP. ADDITIONAL SILT FENCE OUTLETS MAY BE REQUIRED TO PREVENT EROSION DURING AND AFTER CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES. IF ADDITIONAL SILT FENCE OUTLETS ARE NECESSARY, CONTRACTOR TO ADD ADDITIONAL SILT FENCE OUTLETS PER ENGINEER, NCDEQ EROSION CONTROL INSPECTOR, OR OWNER DIRECTION. IF PONDING OF WATER OR SEDIMENT OCCURS ALONG SILT FENCE, CONTRACTOR SHALL INSTALL AN ADDITIONAL SILT FENCE OUTLET.
- 16. TEMPORARY DIVERSIONS SHALL BE MAINTAINED DAILY BY CONTRACTOR SO THAT THEY ARE FUNCTIONAL AT THE END OF EACH WORKDAY AND WHEN STOPPING WORK FOR RAIN.
- 17. THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION IS SCHEDULED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY (CO). THE FENCING SHALL BE REMOVED IMMEDIATELY PRIOR TO THE FINAL SITE INSPECTION FOR THE SITE.
- 18. TREE PROTECTION FENCING SHALL NOT BE MOVED AND THERE SHALL BE NO ENCROACHMENT INTO SUCH PROTECTED AREA(S) WITHOUT WRITTEN AUTHORIZATION OF THE TOWN'S ZONING COMPLIANCE STAFF. ANY ACTIVITY (LANDSCAPING FENCING, OR UTILITY INSTALLATION) SHOWN ON THE APPROVED PLANS IN A TREE PROTECTION AREA SHALL ALSO NOT OCCUR WITHOUT WRITTEN AUTHORIZATION FROM THE TOWN'S ZONING COMPLIANCE STAFF. ANY UNAUTHORIZED ENCROACHMENT OR DISTURBANCE WITHIN THE BOUNDARIES OF A TREE PROTECTION AREA SHALL AUTOMATICALLY RESULT IN FINES AND THE REPLACEMENT OF ANY DAMAGED VEGETATION IN ACCORDANCE WITH THE LAND DEVELOPMENT ORDINANCE.
- 19. CONSTRUCTION ENTRANCES MUST BE MODIFIED TO ACHIEVE ADA COMPLIANCE WHERE APPLICABLE.
- 20. THE STREETS IN FRONT OF THE PROJECT AREA WILL BE KEPT CLEAN AT ALL TIMES OR A WASH STATION WILL BE REQUIRED.
- 21. THE PROJECT MAY REQUIRE A PRE-CONSTRUCTION CONFERENCE BEFORE THE GRADING PERMIT IS ISSUED.
- 22. THE SKIMMER AND SEDIMENT BASIN OUTLET PIPE MUST BE ON SITE BEFORE THE GRADING PERMIT IS ISSUED.
- 23. THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION IS SCHEDULED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY (CO). THE FENCING SHALL BE REMOVED IMMEDIATELY PRIOR TO THE FINAL SITE INSPECTION FOR THE SITE.
- 24. TREE PROTECTION FENCING SHALL NOT BE MOVED AND THERE SHALL BE NO ENCROACHMENT INTO SUCH PROTECTED AREA(S) WITHOUT WRITTEN AUTHORIZATION OF THE TOWN'S ZONING COMPLIANCE STAFF. ANY ACTIVITY (LANDSCAPING, FENCING, OR UTILITY INSTALLATION) SHOWN ON THE APPROVED PLANS IN A TREE PROTECTION AREA, SHALL ALSO NOT OCCUR WITHOUT WRITTEN AUTHORIZATION FROM THE TOWN'S ZONING COMPLIANCE STAFF. ANY UNAUTHORIZED ENCROACHMENT OR DISTURBANCE WITHIN THE BOUNDARIES OF A TREE PROTECTION AREA SHALL AUTOMATICALLY RESULT IN FINES AND THE REPLACEMENT OF ANY DAMAGED VEGETATION IN ACCORDANCE WITH THE LAND DEVELOPMENT ORDINANCE

# STOCKPILE NOTES

A. STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.

- B. STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.
- C. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
- D. OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY UDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY NCDEQ OF ANY OFFSITE DISPOSAL OF SOIL, PRIOR TO DISPOSAL. FILL OF FEMA FLOODWAYS AND NON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).
- E. SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEYED IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
- F. IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
- G. THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE IS
- H. ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).
- I. STOCKPILE MUST HAVE SILT FENCE WRAPPED AROUND THE LOW SIDE(S) AND A SILT FENCE OUTLET AT ALL LOW POINTS.

# TEMPORARY SEEDING SCHEDULE

SEEDING DATE	SEEDING MIXTURE	APPLICATION RATE
JAN 1 - MAY 1	RYE (GRAIN)	120 LBS/AC
	KOBE LESPEDEZA	50 LBS/AC
MAY 1 - AUG 15	GERMAN MILLET	40 LBS/AC
AUG 15 - DEC 30	RYE (GRAIN)	120 LBS/AC

# FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 750 LB/AC 10-10-10 FERTILIZER (FROM AUG 15 - DEC 30, INCREASE 10-10-10 FERTILIZER TO 1000 LB/AC).

IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE, AND MULCH

REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOP DRESS WITH 50 LB/AC OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/AC KOBE LESPEDEZA IN

LATE FEBRUARY OR EARLY MARCH.

NOTE: USE THE TEMPORARY SEEDING SCHEDULE ONLY WHEN DATE IS NOT CORRECT TO USE THE PERMANENT SEEDING SCHEDULE.

# PERMANENT SEEDING SCHEDULE

SEEDING MIXTURE	APPLICATION RATE
TALL FESCUE	200 LBS/AC
RYE (GRAIN)	50 LBS/AC
GERMAN MILLET	50 LBS/AC
TALL FESCUE	200 LBS/AC
RYE (GRAIN)	50 LBS/AC
GERMAN MILLET	50 LBS/AC
	TALL FESCUE RYE (GRAIN) GERMAN MILLET  TALL FESCUE RYE (GRAIN)

FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 4,000 LB/AC GROUND AGRICULTURE LIMESTONE AND 1000 LB/AC 10-10-10 FERTILIZER.

APPLY 4000 LB/AC STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

INSPECT AND REPAIR MULCH FREQUENTLY. REFERTILIZE IN LATE WINTER OF THE FOLLOWING YEAR; USE SOIL TESTS OR APPLY 150 LB/AC 10-10-10 FERTLIZER. MOW REGULARLY TO A HEIGHT OF 2-4 INCHES.

# CONTRACTOR'S MAINTENANCE PLAN

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN ALL MEASURES AS

**TEMPORARY DIVERSION SPECIFICATIONS:** 

REMOVE AND PROPERLY DISPOSE OF ALL TREES, BRUSH, STUMPS, AND OTHER

OBJECTIONABLE MATERIAL IN THE LOCATIONS OF TEMPORARY DIVERSIONS

2. ENSURE THAT THE MINIMUM CONSTRUCTED CROSS SECTION MEETS ALL DESIGN

REQUIREMENTS. SEE TEMPORARY DIVERSION SWALE DESIGN SUMMARY TABLE.

PRIOR TO CONSTRUCTION OF DIVERSION CHANNELS AND/OR RIDGES.

3. ENSURE THAT THE TOP OF THE DIKE IS NOT LOWER AT ANY POINT THAN THE

PROVIDE SUFFICIENT ROOM AROUND DIVERSIONS TO PERMIT MACHINE

VEGETATE THE RIDGE IMMEDIATELY AFTER CONSTRUCTION, UNLESS IT WILL

MAINTENANCE - INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AND AFTER

EVERY RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND

REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PERMANENTLY STABILIZED.

REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND

AREAS TO BE SEEDED TO BE SCARIFIED 4" DEEP. A FIRM, WELL PULVERIZED, UNIFORM

SEEDBED SHOULD BE PROVIDED. FERTILIZER SHALL BE PLACED DURING SCARIFICATION AS

REQUIRED GROUND STABILIZATION TIMEFRAMES

TIMEFRAME VARIATIONS

NONE

NONE

IF SLOPES ARE 10' OR

NOT STEEPER THAN 2:1,

14-DAYS ARE ALLOWED

7-DAYS FOR SLOPES

STEEPER THAN 4:1

LESS IN LENGTH AND ARE

GREATER THAN 50 FEET IN

I FNGTH AND WITH SLOPES

7-DAYS FOR PERIMETER

DIKES, SWALS, DITCHES,

HQW ZONES

WATERSHED

HQW ZONES

PERIMETER SLOPES AND

7-DAYS FOR PERIMETER

DIKES, SWALES, DITCHES,

PERIMETER SLOPES AND

WATERSHED UNLESS

THERE IS ZERO SLOPE

10-DAYS FOR FALLS LAKE

10-DAYS FOR FALLS LAKE

STABILIZE WITHIN

CALENDAR DAYS AFTER CEASING

LAND DISTURBANCE

REPAIR THE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY

DESIGN ELEVATION PLUS THE SPECIFIED SETTLEMENT.

REMAIN IN PLACE LESS THAN 30 WORKING DAYS

LEVEL AND APPROPRIATELY STABILIZE IT.

REGRADING AND CLEANOUT.

**SEEDBED PREPARATION** 

LIME: 45 LBS / 1.000 SF

PHOSPHOROUS: 20 LBS / 1,000 SF

FERTILIZER: 17 LBS / 1,000 SF

SITE AREA

PERIMETER DIKES,

SWALES, DITCHES

HIGH QUALITY WATER

AND SLOPES

(HQW) ZONES

SLOPES STEEPER

SLOPES 3:1 TO 4:1

AREAS WITH SLOPES

BUILDING WASTES HANDLING

ALTERNATIVES AVAILABLE

NO PAINT OR LIQUID WASTES IN STREAM OR STORM

OTHER WASTES MUST BE LOCATED 50' FROM STORM

EARTHEN-MATERIAL STOCKPILES MUST BE LOCATED 50'

CONCRETE MATERIALS MUST BE CONTROLLED TO AVOID CONTACT WITH SURFACE WATER, WETLANDS, OR BUFFERS.

DRAINS AND STREAMS UNLESS NO REASONABLE

FROM STORM DRAINS AND STREAMS UNLESS NO

REASONABLE ALTERNATIVES AVAILABLE

DEDICATED AREAS FOR DEMOLITION, CONSTRUCTION AND

FOLLOWS:

- 2. SEDIMENT BASINS SHALL BE INSPECTED REGULARLY DURING LAND DISTURBING ACTIVITIES AND AFTER EACH RUNOFF-PRODUCING RAINFALL. SEDIMENT SHALL BE REMOVED AND THE BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF EACH BASIN. PORTIONS OF THE BASIN'S GRAVEL FACING THAT ARE CONTAMINATED BY SEDIMENT SHALL BE REPLACED WITH FRESH GRAVEL DURING EACH SEDIMENT REMOVAL EPISODE.
- 3. SEDIMENT FENCES SHALL BE INSPECTED AT LEAST ONCE A WEEK AND AFTER EACH RUNOFF PRODUCING RAINFALL. REPAIRS SHALL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE REMOVED AS NEEDED TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAINFALL EVENT, AND TO REDUCE PRESSURE ON THE FENCE. FENCING MATERIALS AND SEDIMENT DEPOSITS SHALL BE REMOVED, AND THE AREA BROUGHT TO GRADE FOLLOWING STABILIZATION OF UPGRADIENT DISTURBED AREAS.
- 4. DIVERSION DITCHES MUST REMAIN IN PLACE UNTIL PROJECT IS STABILIZED.

EMPTIED WHEN SEDIMENT ACCUMULATION HAS REACHED 6" DEPTH.

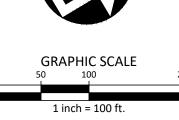
5. EROSION CONTROL DURING SITE CONSTRUCTION WILL BE ACCOMPLISHED BY USE OF SILT FENCING AND SILT FENCE OUTLETS. DEVICES MUST BE

# **BASIN REMOVAL SEQUENCE**

ALSO REQUIRE THIS

- SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT 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 NCDEQ 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 NCDEQ-DEMLR CONTACT PERSON AND COPY ENVIRONMENTAL CONSULTANT THAT MET YOU ONSITE. THE EMAIL SHOULD INCLUDE: E&SC 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 G, ITEM 4 OF THE NCG01. (KEEP EMAIL FOR YOUR NPDES MONITORING DOCUMENTATION)
- 3. AFTER RECEIVING POSITIVE CONFIRMATION FROM NCDEQ-DEMLR 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.
- 5. INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN. 6. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVICE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION. NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT TOWN OF ROLESVILLE ENGINEERING DESIGN AND **CONSTRUCTION STANDARDS** 



CID-23-PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

The John R. McAdams Company, 2905 Meridian Parkway Durham, NC 27713

> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

www.mcadamsco.com

# CLIENT

NAME: TOWN OF ROLESVILLE ADDRESS: 502 SOUTHTOWN CIRCLE ADDRESS: ROLESVILLE NC 27571 PHONE: 919.554.6582

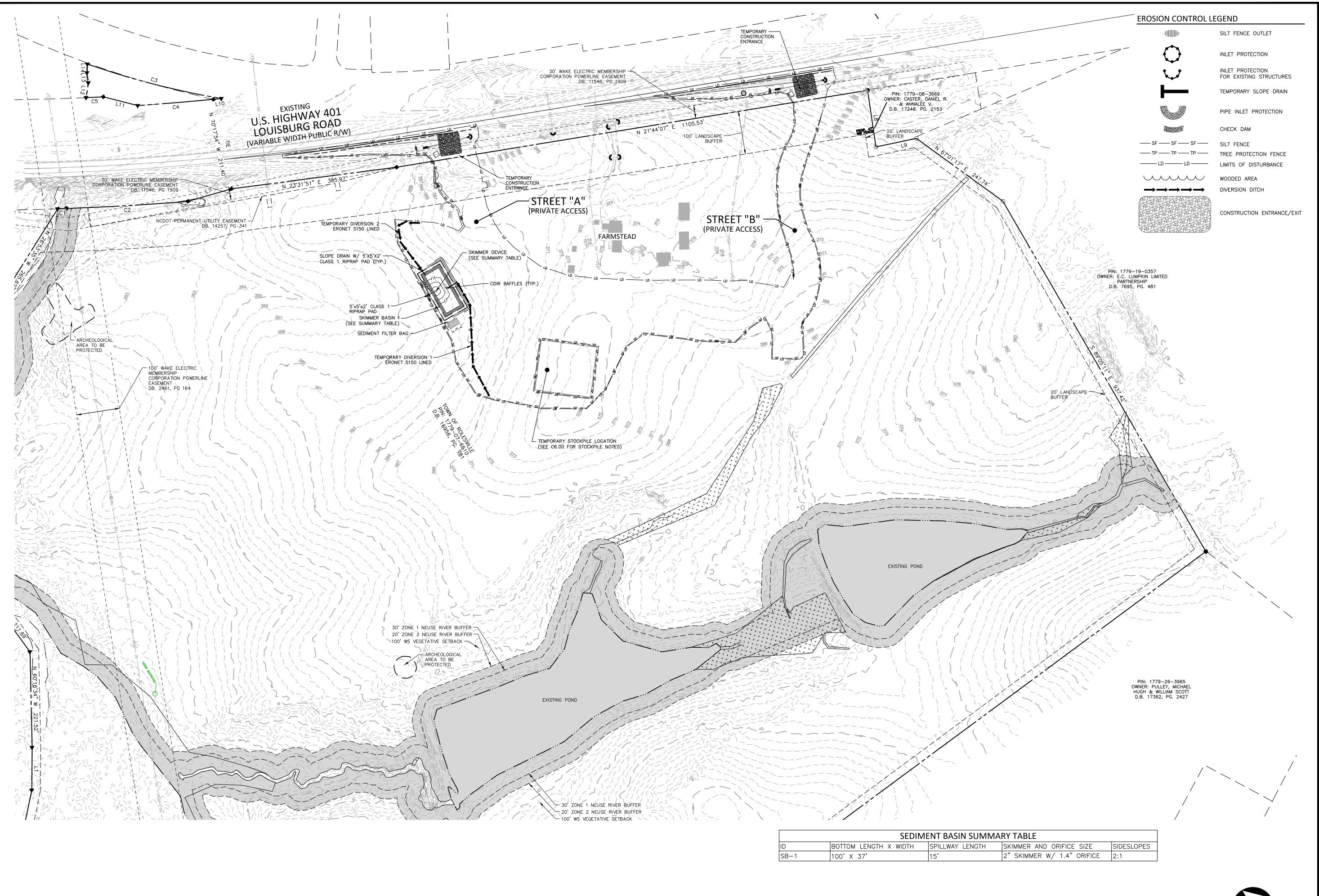


# PLAN INFORMATION

PROJECT NO. 202011039 2020110039-PH1-ECN1 FILENAME

CHECKED BY DRAWN BY SCALE DATE 12.01.2023

**SHEET** 



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CONSTRUCTION STANDARDS

GRAPHIC SCALE
50 100
50 100

1 inch = 100 ft.

CID-23-5

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MCADAI

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Durham, NC 27713

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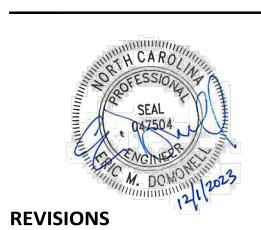
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CLIENT

PHONE: 919.554.6582

NAME: TOWN OF ROLESVILLE
ADDRESS: 502 SOUTHTOWN CIRCLE
ADDRESS: ROLESVILLE NC 27571

FRAZIER FARM PARK
CONSTRUCTION DRAWINGS
PHASE 1A



NO. DATE

PLAN INFORMATION

PROJECT NO. 202011039

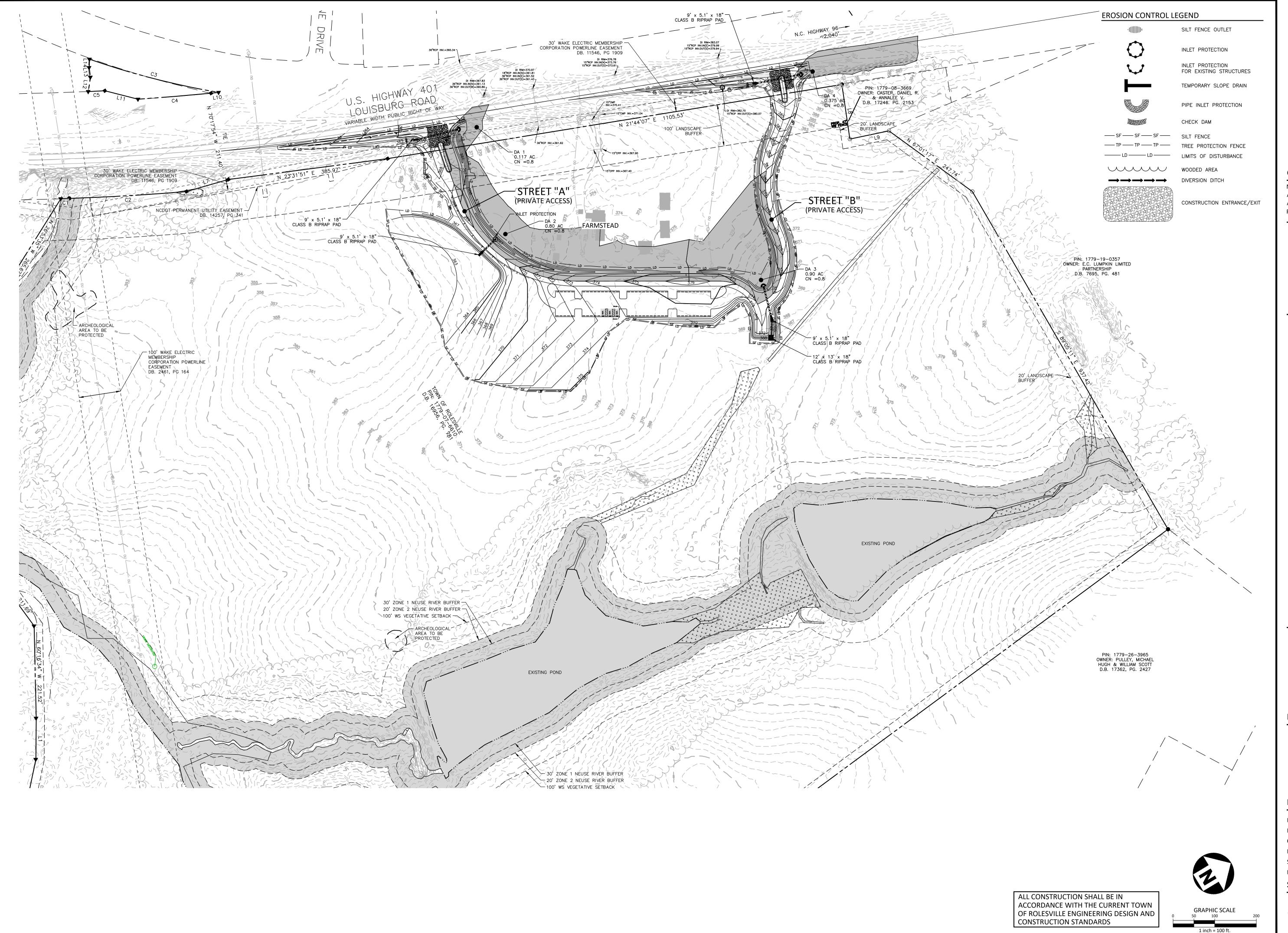
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SCALE 1"=100'
DATE 12.01.2023

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OVERALL EROSION CONTROL PLAN-STAGE I





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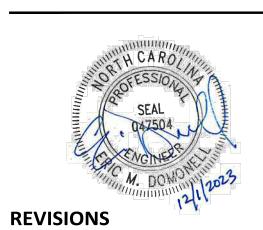
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**PLAN INFORMATION** 

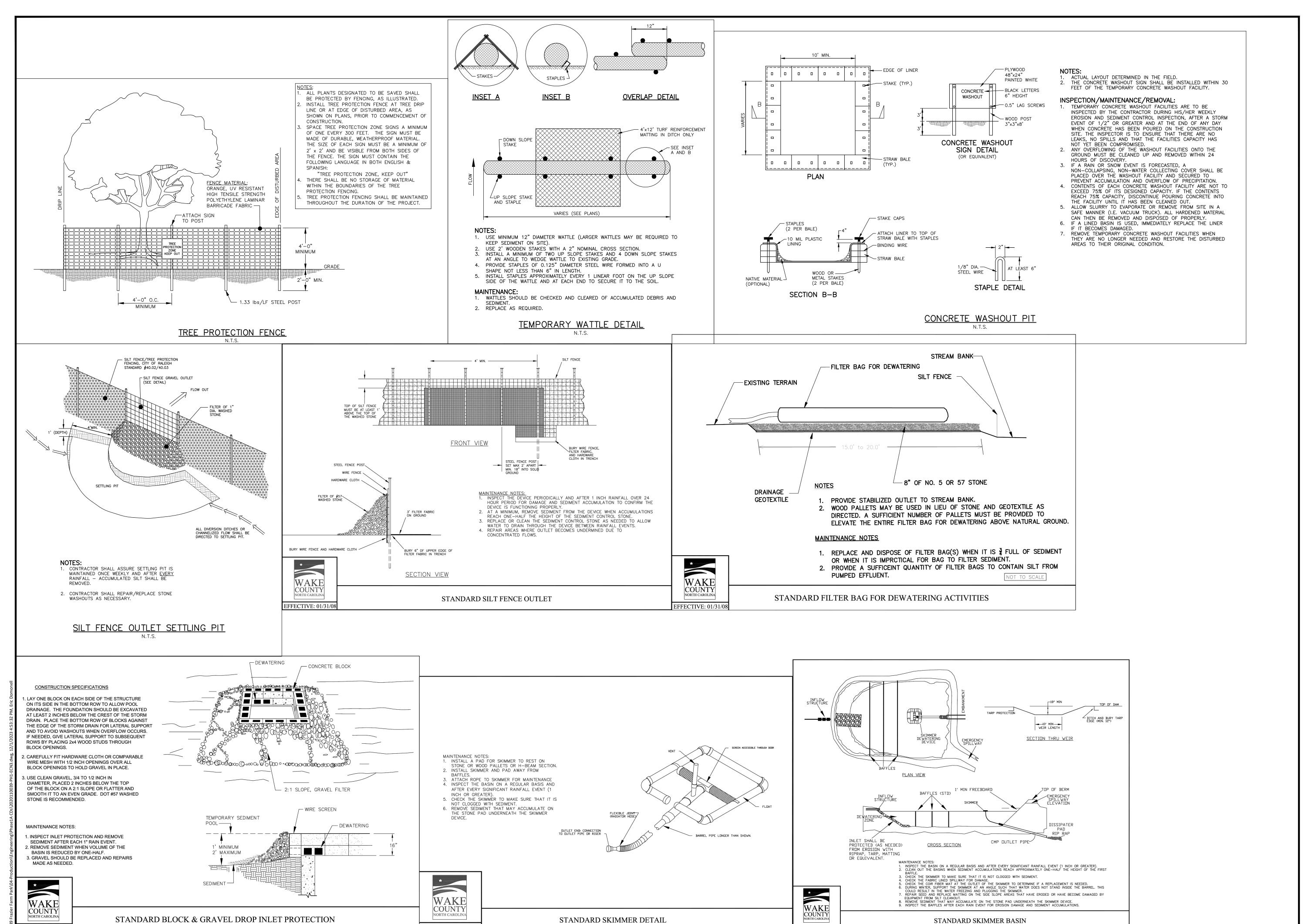
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DRAWN BY 1"=100' SCALE DATE 12.01.2023

SHEET

CID-23-5
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**OVERALL EROSION CONTROL PLAN-STAGE II** 



**EFFECTIVE: 01/31/08** 

FFECTIVE: 01/31/0

# McAdams

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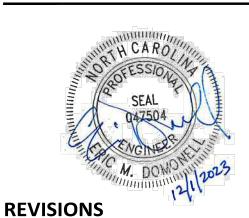
> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

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# CLIENT

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# FRAZIER FARM PARK CONSTRUCTION DRAWINGS PHASE 1A



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NO. DATE

# PLAN INFORMATION

PROJECT NO. 202011039

FILENAME 2020110039-PH1-ECN3

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DATE 12.01.2023

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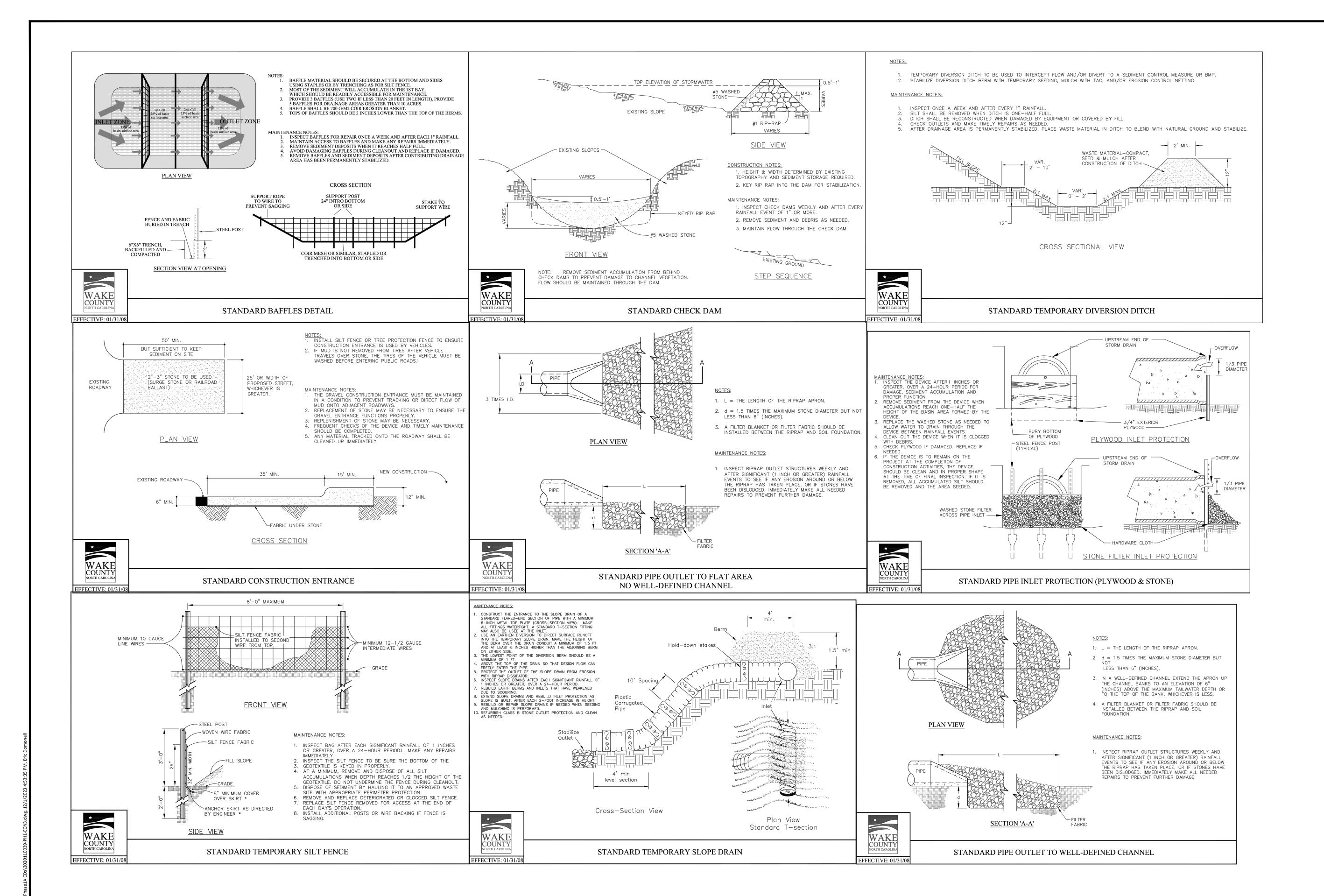
ALL CONSTRUCTION SHALL BE IN

CONSTRUCTION STANDARDS

ACCORDANCE WITH THE CURRENT TOWN OF ROLESVILLE ENGINEERING DESIGN AND

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

EROSION CONTROL DETAILS



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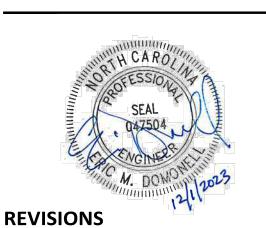
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# FRAZIER FARM PARK CONSTRUCTION DRAWINGS



NO. DATE

# PLAN INFORMATION

PROJECT NO. 202011039

FILENAME 2020110039-PH1-ECN3

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SCALE N/A
DATE 12.01.2023

SHEET

EROSION CONTROL DETAILS

# 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.

# Temporary and Permanent Groundcover\*

		ZATION TIMEFRA ffective Aug. 3, 2011)	AMES
	SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
9	Perimeter dikes, swales, ditches, slopes	7 days	None
	High Quality Water (HQW) Zones	7 days	None
	Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
	Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.
	All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.

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

# **GROUND STABILIZATION SPECIFICATION**

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

Temporary Stabilization	Permanent Stabilization
<ul> <li>Temporary grass seed covered with straw or other mulches and tackifiers</li> <li>Hydroseeding</li> <li>Rolled erosion control products with or without temporary grass seed</li> <li>Appropriately applied straw or other mulch</li> <li>Plastic sheeting</li> </ul>	<ul> <li>Permanent grass seed covered with straw or other mulches and tackifiers</li> <li>Geotextile fabrics such as permanent soil reinforcement matting</li> <li>Hydroseeding</li> <li>Shrubs or other permanent plantings covered with mulch</li> <li>Uniform and evenly distributed ground cover sufficient to restrain erosion</li> <li>Structural methods such as concrete, asphalt or retaining walls</li> </ul>

# 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.
- 2. 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.
- 4. 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.
- 2. Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- 4. 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.
- 6. 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 of waste containers on site to manage the quantity of waste produced.
- 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.
- 5. Cover waste containers at the end of each workday and before storm events. Repair or replace damaged waste containers.
- 6. Anchor all lightweight items in waste containers during times of high winds.
- 7. Empty waste containers as needed to prevent overflow.
- 8. Dispose waste off-site at an approved disposal facility.

# PAINT AND OTHER LIQUID WASTE

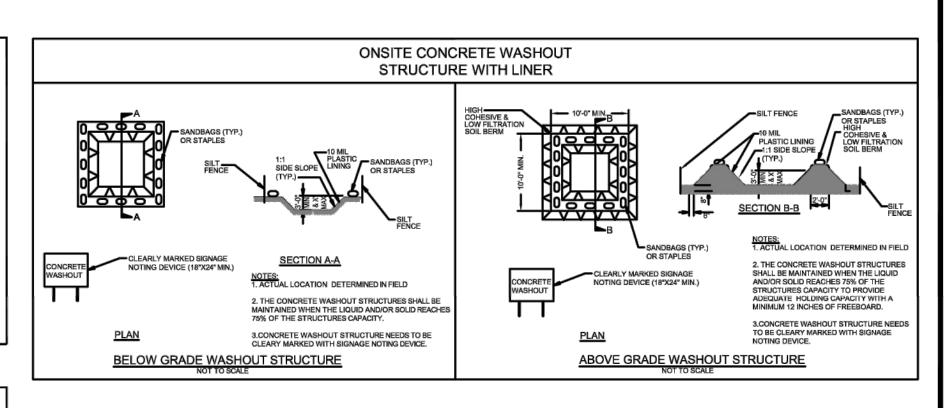
- 1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- 4. Containment must be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

# PORTABLE TOILETS

- 1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- 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.
- 3. Provide stable stone access point when feasible.
- 4. 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

- 1. 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.
- 4. 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.
- 5. 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.
- 6. 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.
- 7. 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.
- 10. 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.
- 2. 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 drains, ground water
  or surface water. If a spill occurs, clean area immediately.
- 4. Do not stockpile these materials onsite.

# HAZARDOUS AND TOXIC WASTE

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

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 03/01/19

ALL CONSTRUCTION SHALL BE IN
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CID-23

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phone 919. 361. 5000

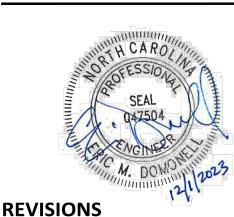
fax 919. 361. 2269 license number: C-0293

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# CLIENT

NAME: TOWN OF ROLESVILLE
ADDRESS: 502 SOUTHTOWN CIRCLE
ADDRESS: ROLESVILLE NC 27571
PHONE: 919.554.6582

FRAZIER FARM PARK
CONSTRUCTION DRAWINGS
PHASE 1A
11624 LOUISBURG ROAD
ROLESVILLE, NORTH CAROLINA



- KEVISION

NO. DATE

# PLAN INFORMATION

PROJECT NO. 202011039

FILENAME 2020110039-PH1-ECN3

CHECKED BY EMD

DRAWN BY SME
SCALE N/A

DATE 12.01.2023

SHEET

DETAILS

# 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 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 [40 CFR 122.41]:
(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 un-attended days (and this will determine if a site inspection 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&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	<ol> <li>Identification of the measures inspected,</li> <li>Date and time of the inspection,</li> <li>Name of the person performing the inspection,</li> <li>Indication of whether the measures were operating properly,</li> <li>Description of maintenance needs for the measure,</li> <li>Corrective actions taken, and</li> <li>Date of actions taken.</li> </ol>
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	<ol> <li>Identification of the discharge outfalls inspected,</li> <li>Date and time of the inspection,</li> <li>Name of the person performing the inspection,</li> <li>Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration,</li> <li>Indication of visible sediment leaving the site,</li> <li>Actions taken to correct/prevent sedimentation, and</li> <li>Date of actions taken.</li> </ol>
(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	<ul> <li>If visible sedimentation is found outside site limits, then a record of the following shall be made:</li> <li>1. Actions taken to clean up or stabilize the sediment that has left the site limits,</li> <li>2. Date of actions taken, and</li> <li>3. An explanation as to the actions taken to control future releases.</li> </ul>
(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. Evidence and actions taken to reduce sediment contributions, and  2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit of this permit.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

# PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

# SECTION B: RECORDKEEPING

# 1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

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

# 2. Additional Documentation

In addition to the E&SC Plan documents above, the following items shall be kept on the site and available for agency 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:

- (a) This general permit as well as the certificate of coverage, after it is received.
- (b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all 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.
- (c) All data used to complete the Notice of Intent and older 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

# 1. Occurrences that must be reported

Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.
- (b) Oil spills if:
  - They are 25 gallons or more,
  - They are less than 25 gallons but cannot be cleaned up within 24 hours,
  - They cause sheen on surface waters (regardless of volume), or
  - They are within 100 feet of surface waters (regardless of volume).
- (a) 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.
- (b) Anticipated bypasses and unanticipated bypasses.
- (c) Noncompliance with the conditions of this permit that may endanger health or the environment.

# 2. 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 Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible	Within 24 hours, an oral or electronic notification.
sediment	Within 7 calendar days, a report that contains a description of the
deposition in a	sediment and actions taken to address the cause of the deposition.
stream or wetland	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	Within 24 hours, an oral or electronic notification. The
release of	notification shall include information about the date, time, nature,
hazardous	volume and location of the spill or release.
substances per	
Item 1(b)-(c)	
above	
(c) Anticipated	A report at least ten days before the date of the bypass, if
bypasses [40 CFR	possible. The report shall include an evaluation of the anticipated
122.41(m)(3)]	quality and effect of the bypass.
(d) Unanticipated	Within 24 hours, an oral or electronic notification.
bypasses [40 CFR	Within 7 calendar days, a report that includes an evaluation of
122.41(m)(3)]	the quality and effect of the bypass.
(e) Noncompliance	Within 24 hours, an oral or electronic notification.
with the	Within 7 calendar days, a report that contains a description of the
conditions of this	noncompliance, and its causes; the period of noncompliance,
permit that may	including exact dates and times, and if the noncompliance has not
endanger health or	been corrected, the anticipated time noncompliance is expected to
the	continue; and steps taken or planned to reduce, eliminate, and
environment[40	prevent reoccurrence of the noncompliance. [40 CFR 122.41(I)(6).
CFR 122.41(l)(7)]	Division staff may waive the requirement for a written report on a
	case-by-case basis.



NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 03/01/19

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT TOWN OF ROLESVILLE ENGINEERING DESIGN AND CONSTRUCTION STANDARDS CID-23-

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION

The John R. McAdams Company, Inc 2905 Meridian Parkway Durham, NC 27713

> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

www.mcadamsco.com

# CLIENT

NAME: TOWN OF ROLESVILLE
ADDRESS: 502 SOUTHTOWN CIRCLE
ADDRESS: ROLESVILLE NC 27571
PHONE: 919.554.6582

# **AZIER FARM PARK**NSTRUCTION DRAWINGS PHASE 1A



- KEVISIO

NO. DAT

# PLAN INFORMATION

PROJECT NO. 202011039

FILENAME 2020110039-PH1-ECN3

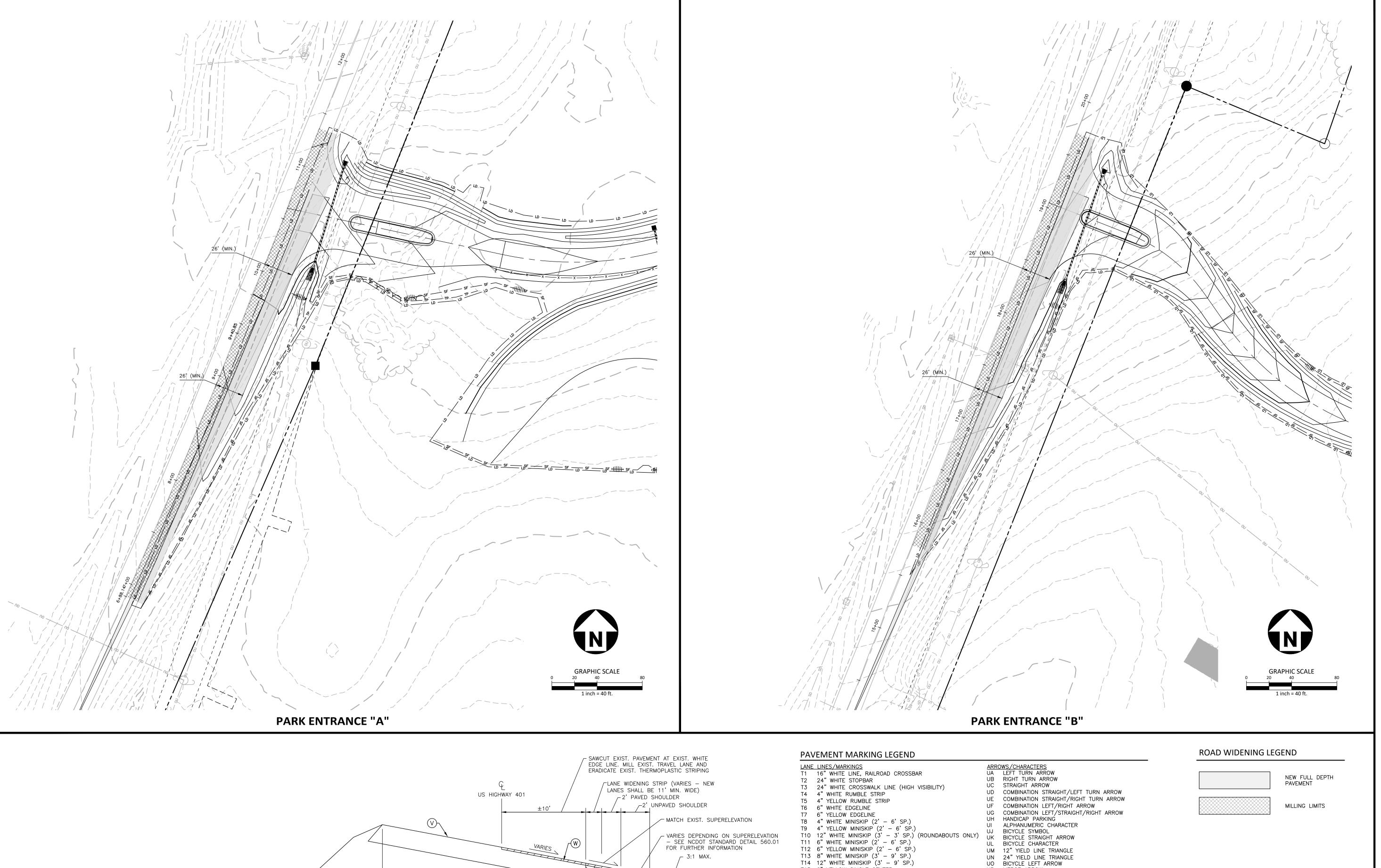
CHECKED BY EMD

DRAWN BY SME

DRAWN BY SME
SCALE N/A
DATE 12.01

DATE 12.01.2023 **SHEET** 

DETAILS



EXISTING GROUND

EXISTING PAVEMENT (VARIES)

TYPICAL SECTION NO. 1

US HIGHWAY 401 / LOUISBURG RD

STA. 6+88 TO 11+36

STA. 15+78 TO 19+71

©4) SEE SHEET C8.00 T COMPACTED EARTH
FOR PAVEMENT W WEDGING (OVERLAY (

W WEDGING/OVERLAY (MIN. 1 1/2" S9.5C)

V EXISTING ROADWAY — SUPERELEVATION GRADE AND DIRECTION VARY



The John R. McAdams Company, Inc. 2905 Meridian Parkway Durham, NC 27713

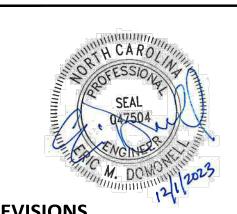
phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

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# **CLIENT**

NAME: TOWN OF ROLESVILLE ADDRESS: 502 SOUTHTOWN CIRCLE ADDRESS: ROLESVILLE NC 27571 PHONE: 919.554.6582

# **FRAZIER**CONSTRUC



**REVISIONS** 

NO. DATE

# PLAN INFORMATION

PROJECT NO. 202011039 FILENAME 2020110039-PH1-RW1 CHECKED BY

DRAWN BY 1"=40' SCALE DATE 12.01.2023

SHEET

**LOUISBURG RD WIDENING PLAN** 

T14 12" WHITE MINISKIP (3' - 9' SP.)

T15 6" YELLOW SINGLE CENTER T16 6" YELLOW DOUBLE CENTER T17 8" WHITE MINISKIP (3' - 3' SP.) (ROUNDABOUTS ONLY)

TA 4" WHITE EDGELINE TB 4" YELLOW EDGELINE TC 4" WHITE SKIP (10' - 30' SP.)
TD 4" WHITE MINISKIP (3' - 9' SP.) TE 4" WHITE SOLID LANE LINE TF 4" YELLOW SKIP (10' - 30' SP.)

TH 4" YELLOW SINGLE CENTER 4" YELLOW DOUBLE CENTER TJ 6" WHITE SKIP (10' - 30' SP.) TK 6" WHITE MINISKIP (3' - 9' SP.) TL 6" WHITE SOLID LANE LINE
TM 6" YELLOW SKIP (10' - 30' SP.) TN 8" WHITE GORELINE

TO 8" WHITE DIAGONAL TP 8" YELLOW DIAGONAL TQ 8" WHITE CROSSWALK LINE TR 8" WHITE SOLID LANE LINE TS 12" WHITE GORELINE TT 12" WHITE SOLID LANE LINE TU 12" WHITE DIAGONAL (45MPH OR GREATER) TV 12" YELLOW DIAGONAL (45MPH OR GREATER)

WC FISH-HOOK W/CIRCLE LEFT/STRAIGHT/RIGHT ARROW

UP MERGE ARROW

UT U-TURN ARROW

UQ RAMP ARROW SYMBOL
UR SHARROW
US BICYCLE LOOP DETECTOR

UU FISH-HOOK STRAIGHT ARROW

UV FISH-HOOK STRAIGHT/LEFT ARROW

UX FISH-HOOK LEFT/RIGHT ARROW

UW FISH-HOOK STRAIGHT/RIGHT ARROW

WA FISH-HOOK W/CIRCLE LEFT ARROW

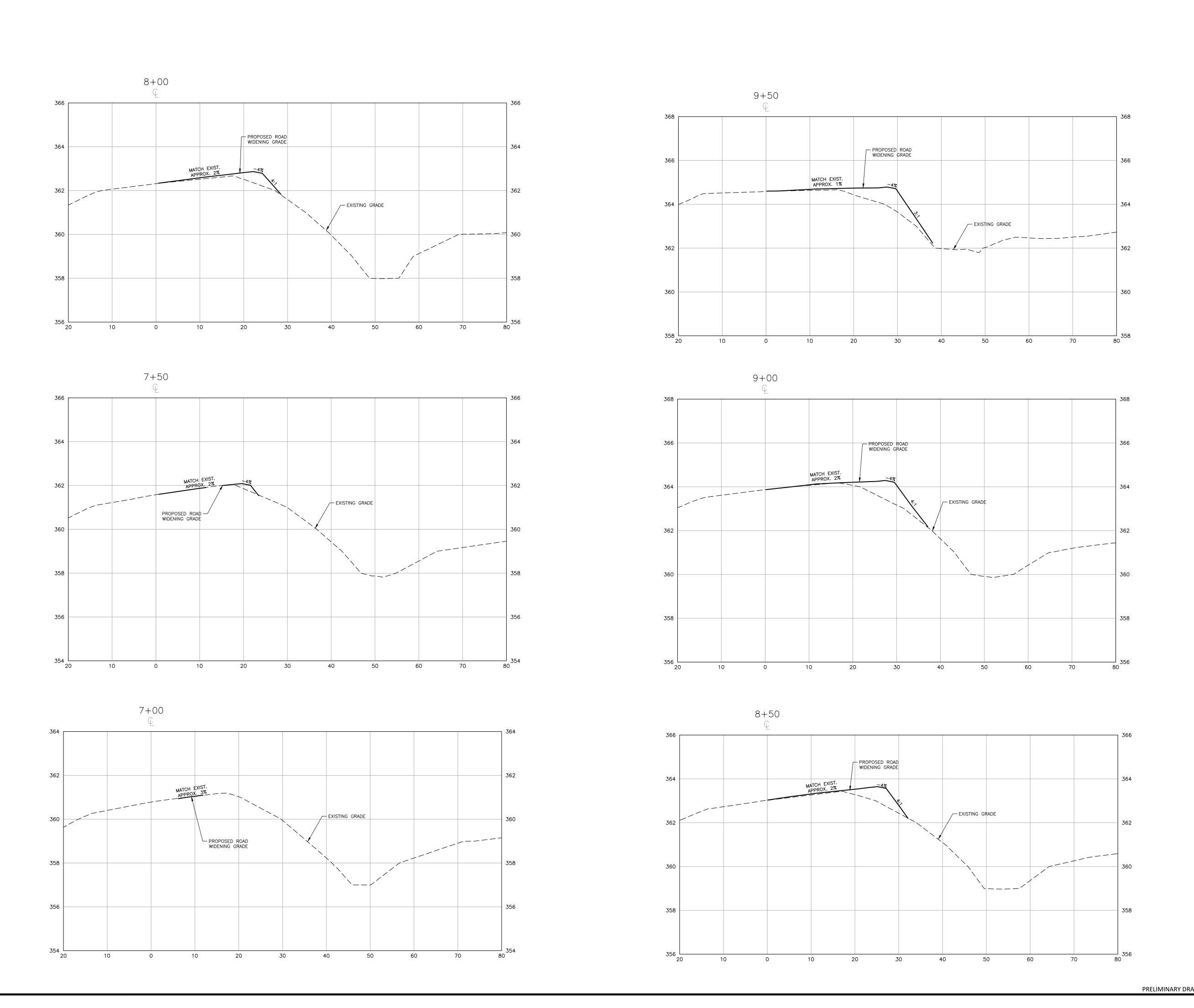
UY FISH-HOOK LEFT/STRAIGHT/RIGHT ARROW

WB FISH-HOOK W/CIRCLE STRAIGHT/LEFT ARROW

UZ FISH-HOOK W/CIRCLE STRAIGHT ARROW

ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AND ARE TO BE PLACED PER NCDOT STANDARDS (REFERENCE NCDOT DETAILS (1205.01-1205.12)

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION





> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

> www.mcadamsco.com

# CLIENT

NAME: TOWN OF ROLESVILLE
ADDRESS: 502 SOUTHTOWN CIRCLE
ADDRESS: ROLESVILLE NC 27571
PHONE: 919.554.6582

# FRAZIER FARM PARK CONSTRUCTION DRAWINGS



NEVISION.

NO. DATE

# PLAN INFORMATION

PROJECT NO. 202011039

FILENAME 2020110039-PH1-RW2

CHECKED BY EMD

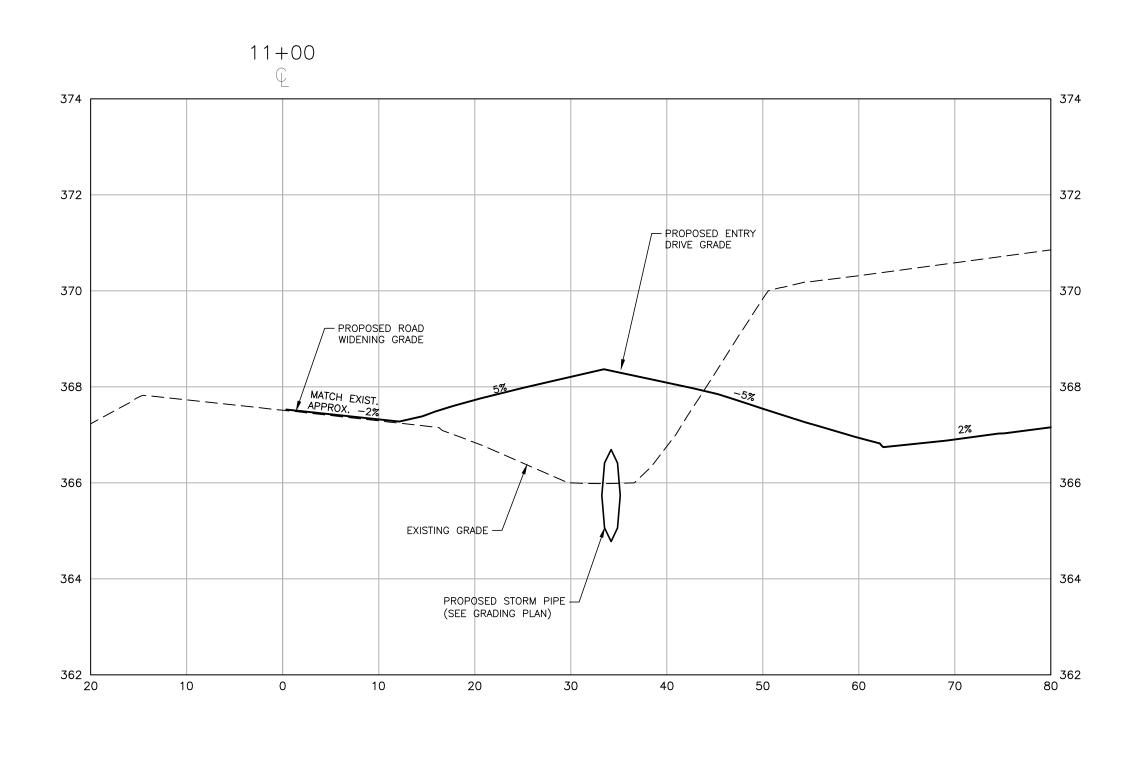
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SCALE H:1"=10

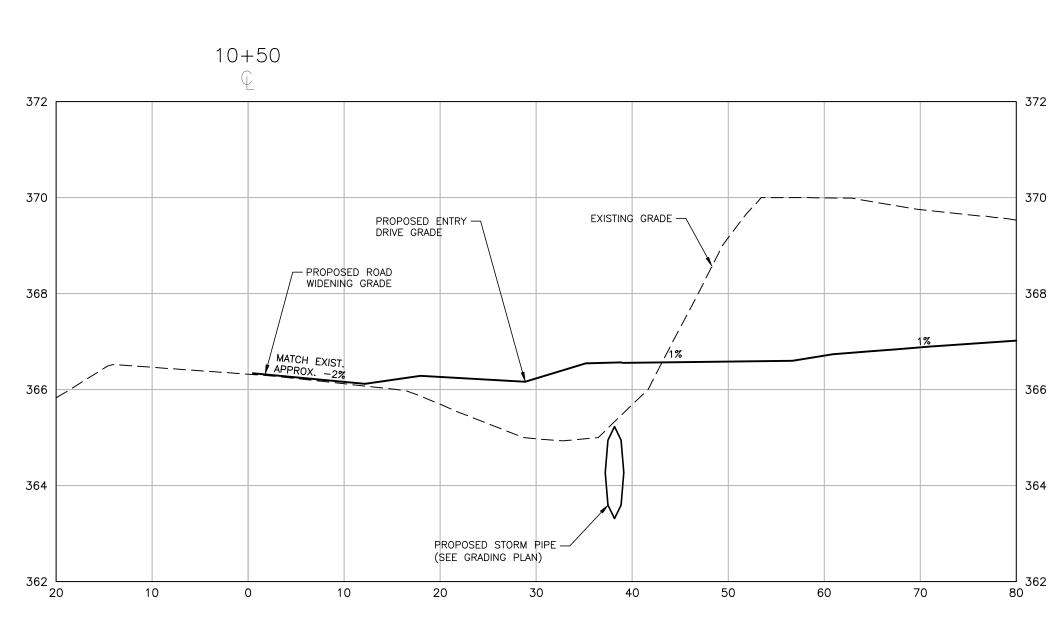
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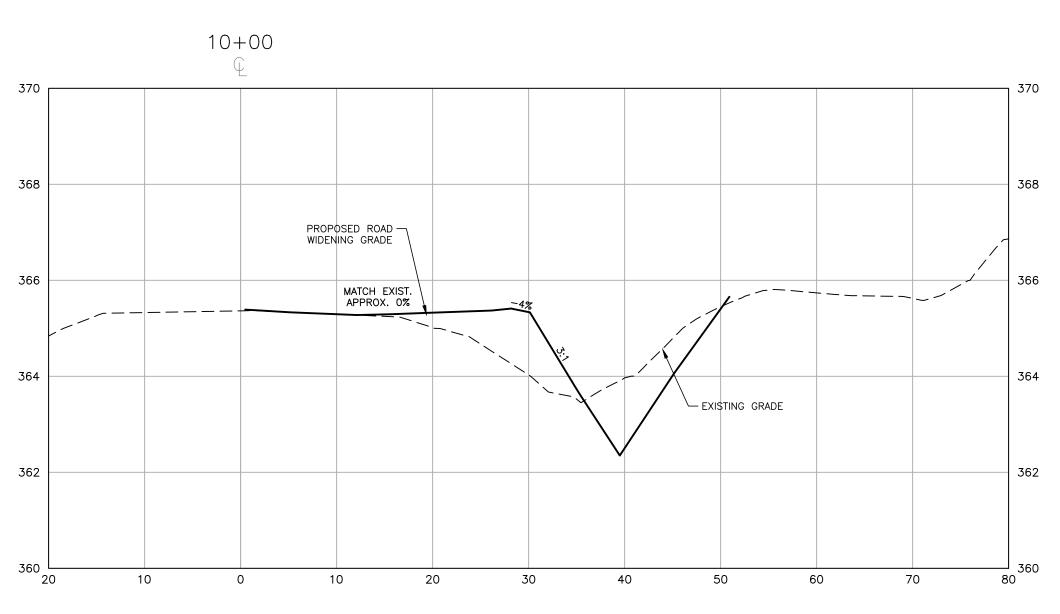
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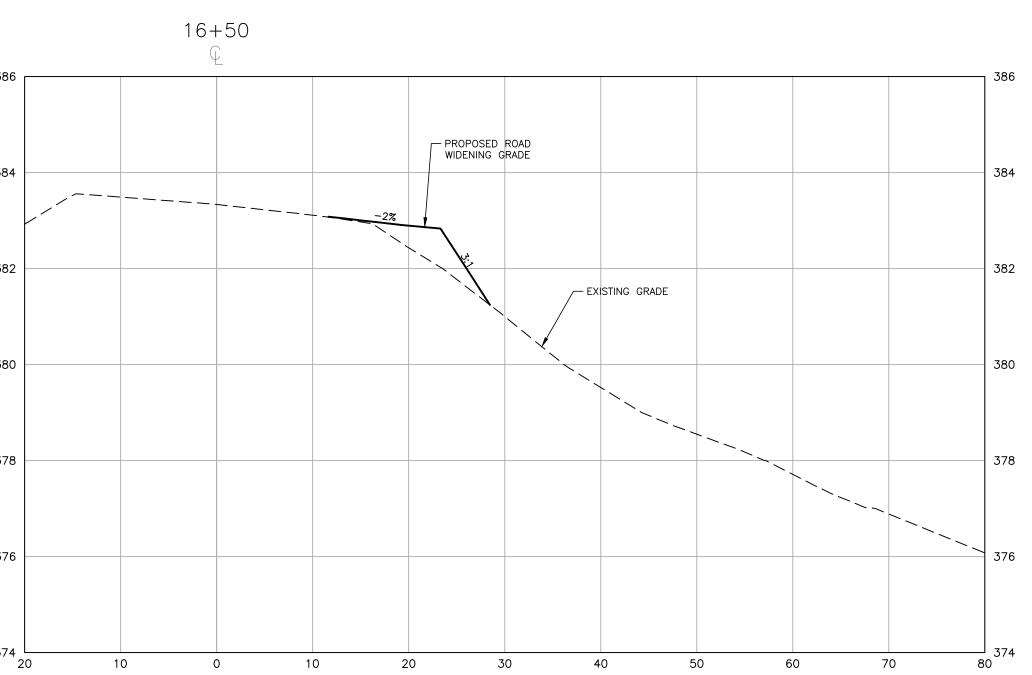
LOUISBURG RD
WIDENING
CROSS SECTIONS

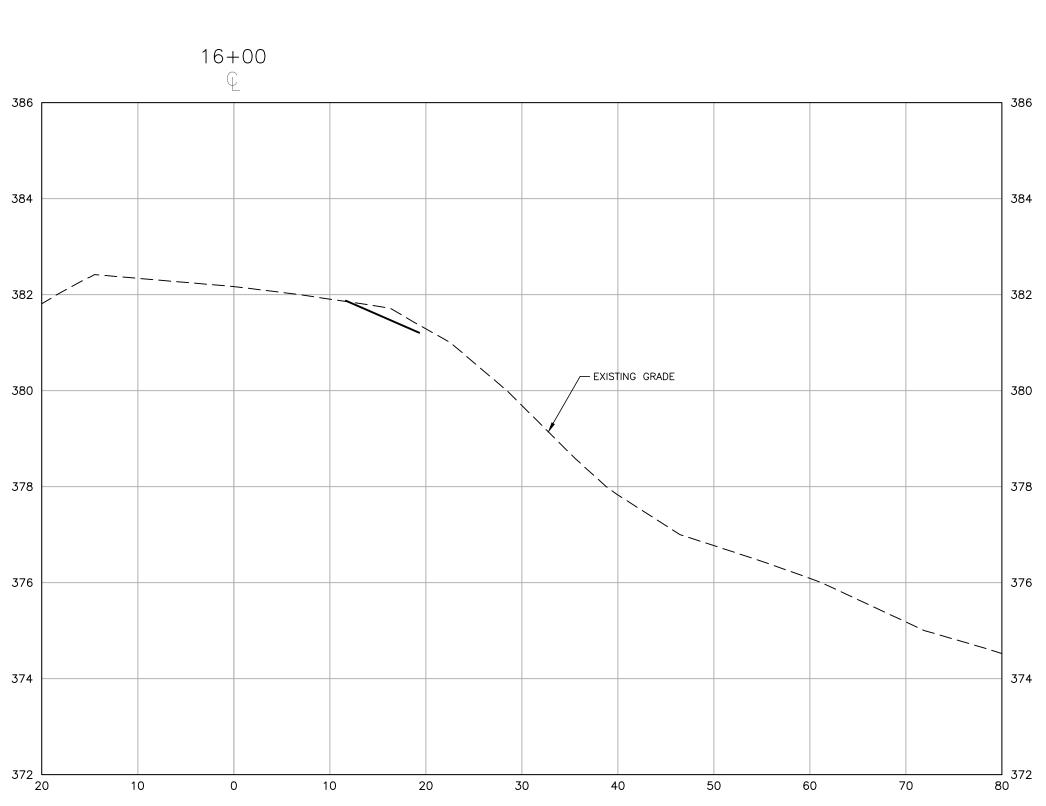
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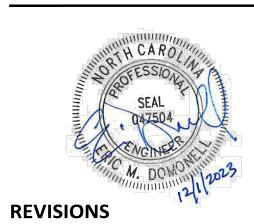


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NO. DATE

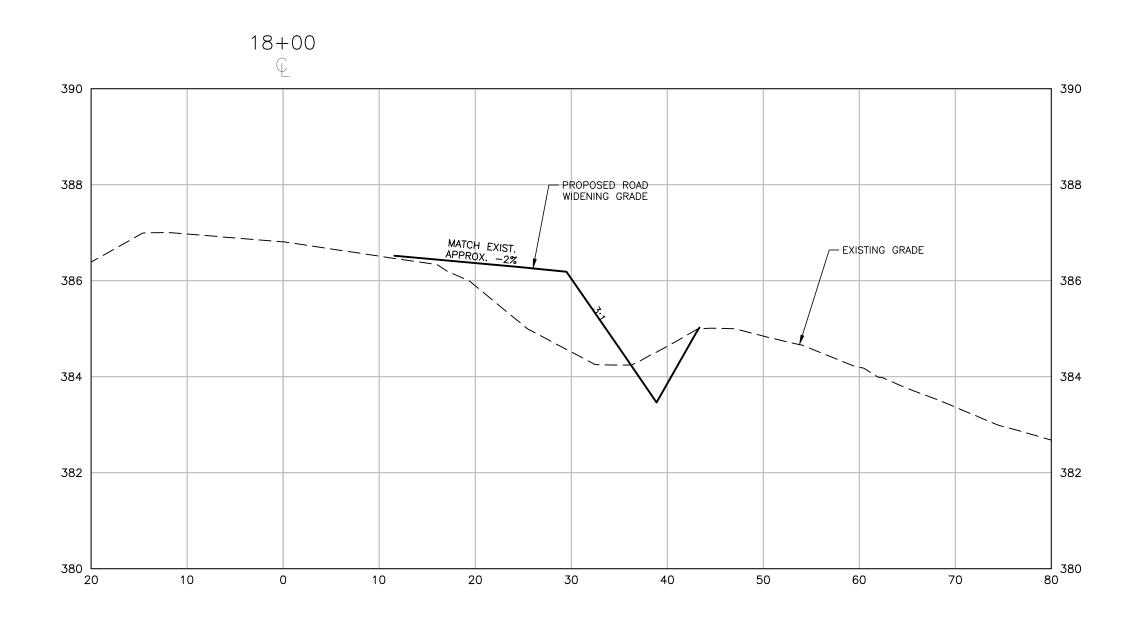
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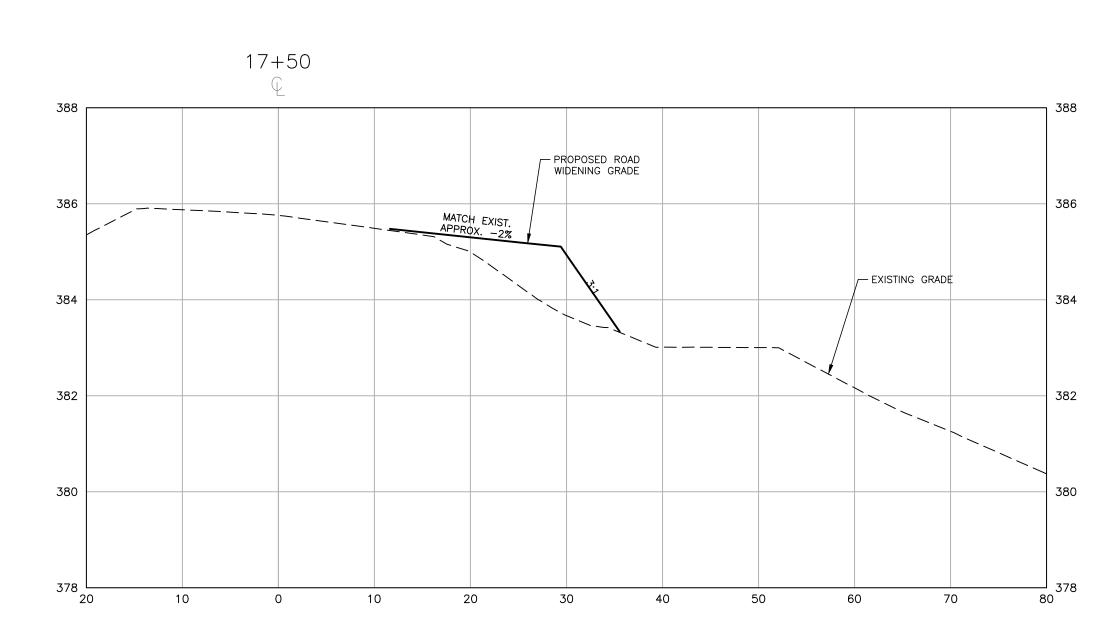
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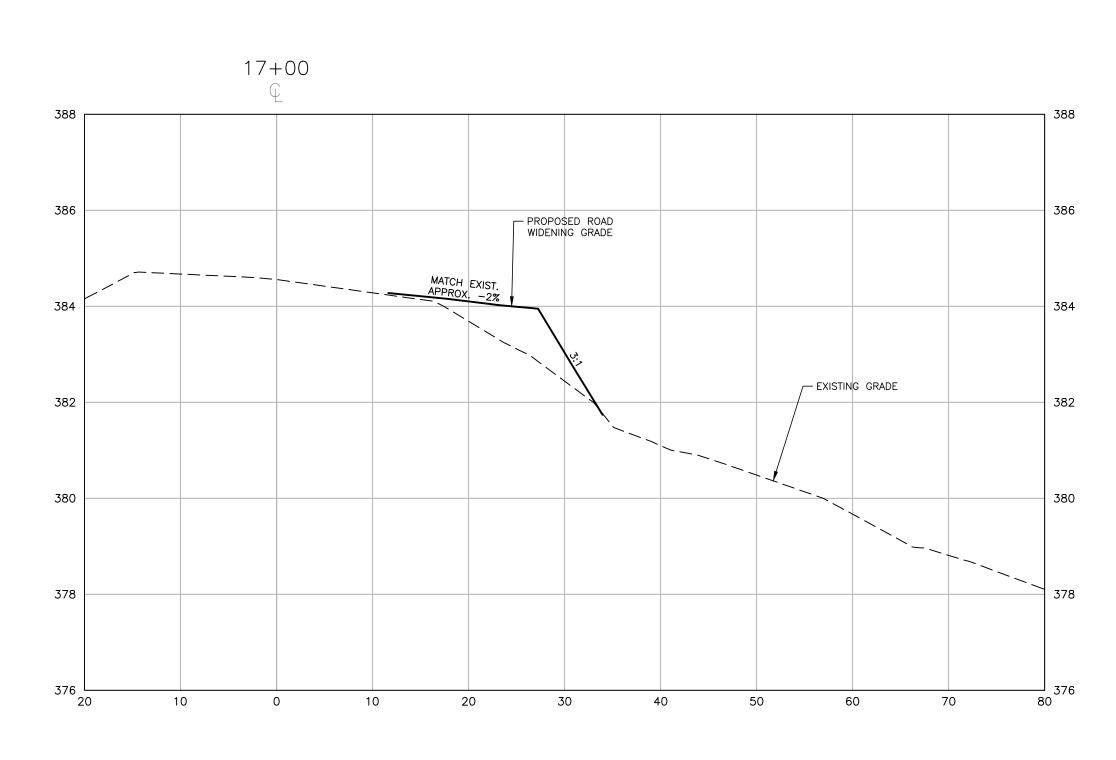
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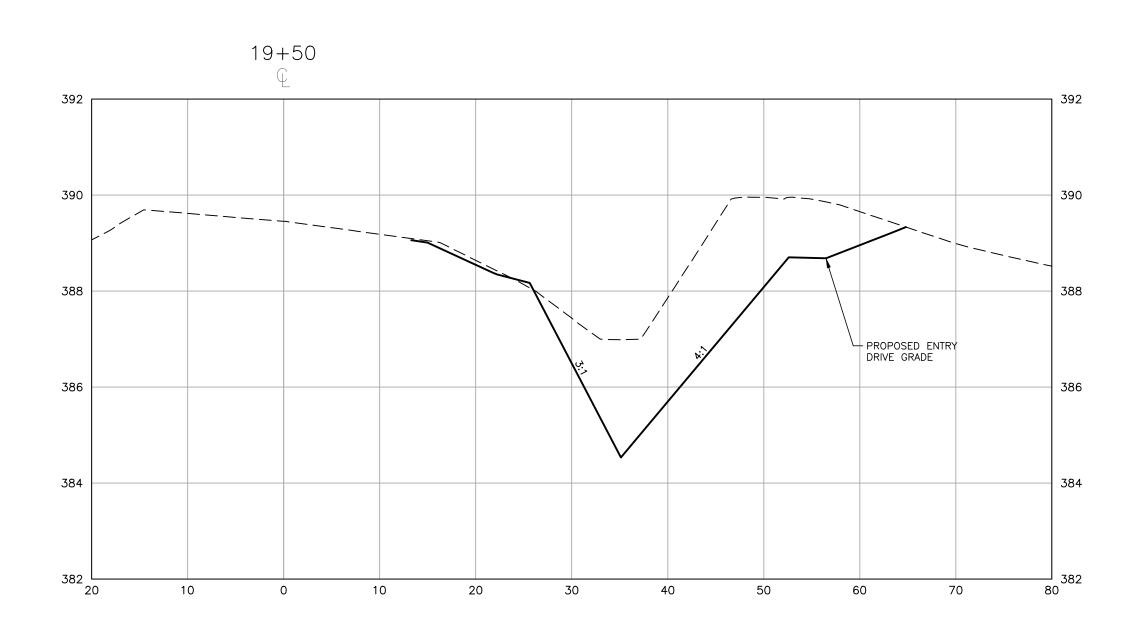
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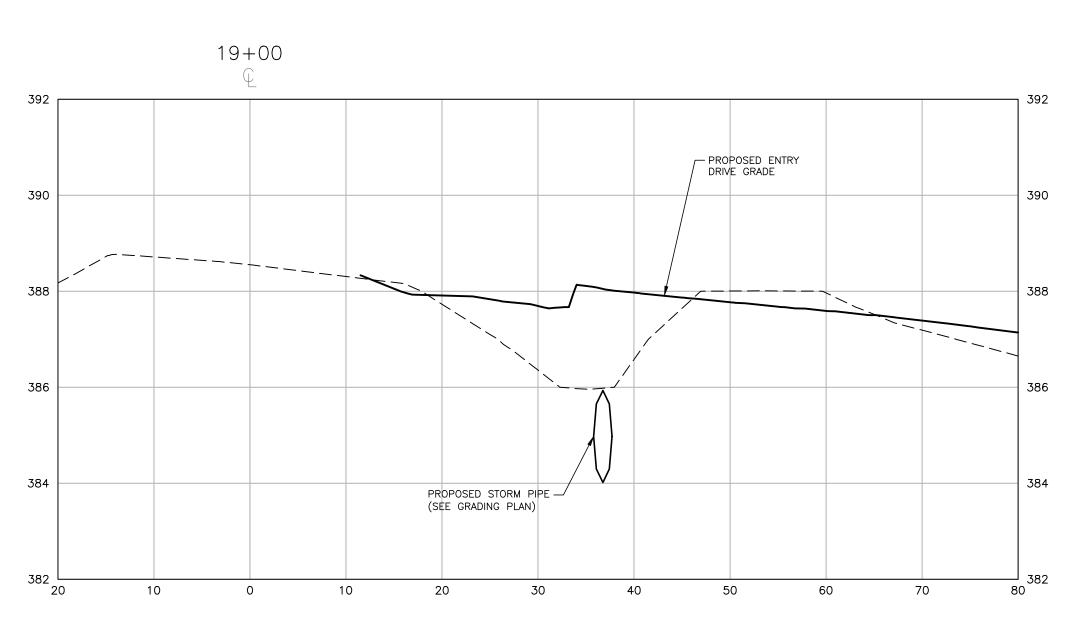
**LOUISBURG RD WIDENING CROSS SECTIONS** 

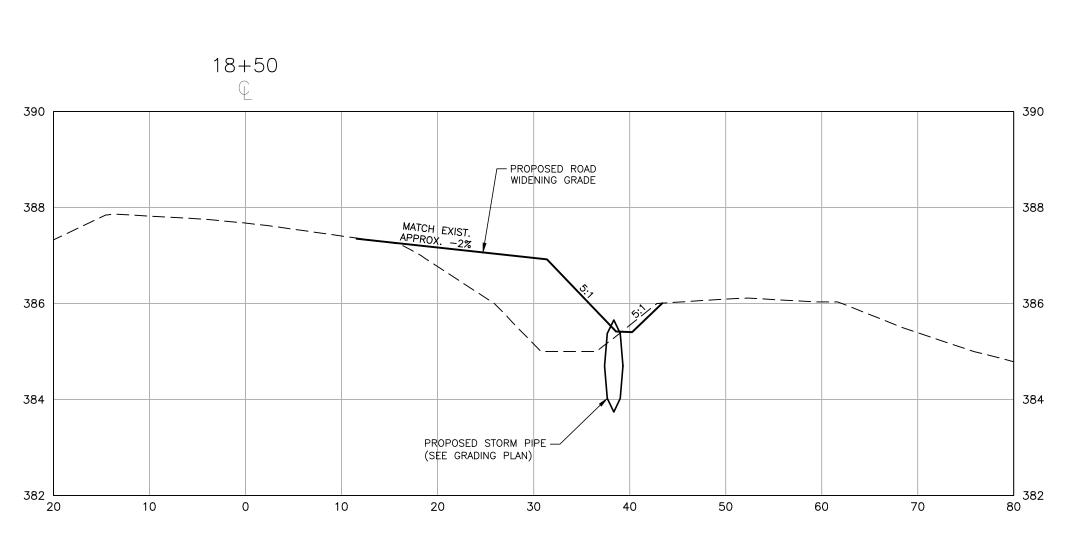












CID-23-5
PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION



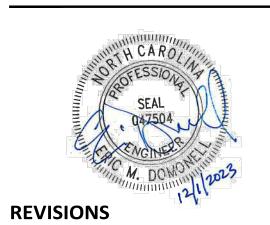
The John R. McAdams Company, Inc. 2905 Meridian Parkway Durham, NC 27713

> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

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# CLIENT

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# PLAN INFORMATION

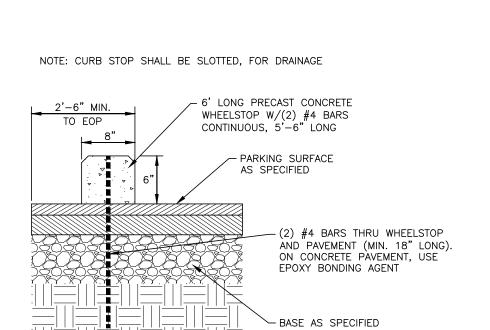
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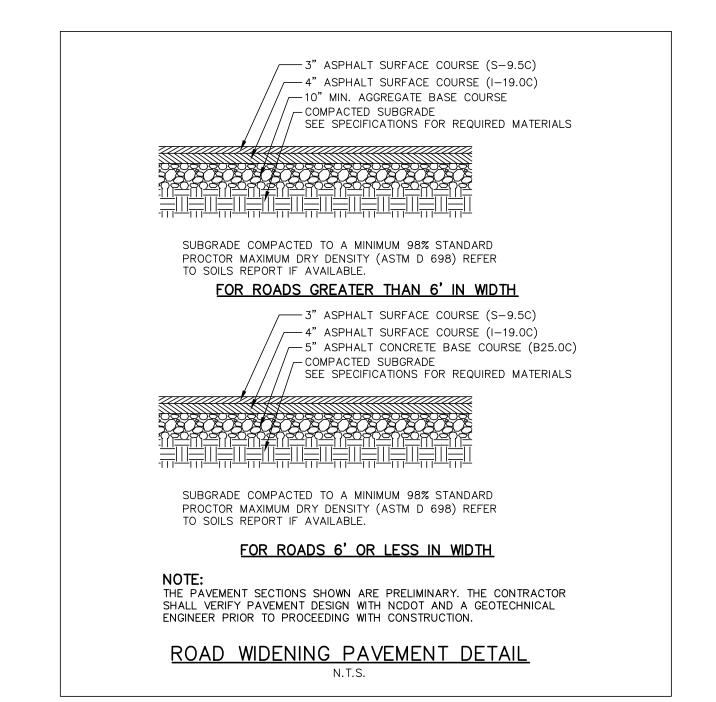
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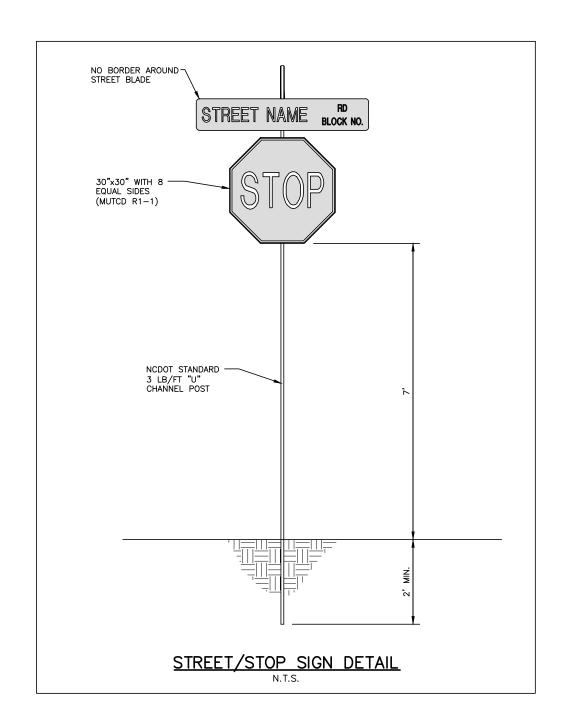
12.01.2023 SHEET

> **LOUISBURG RD** WIDENING

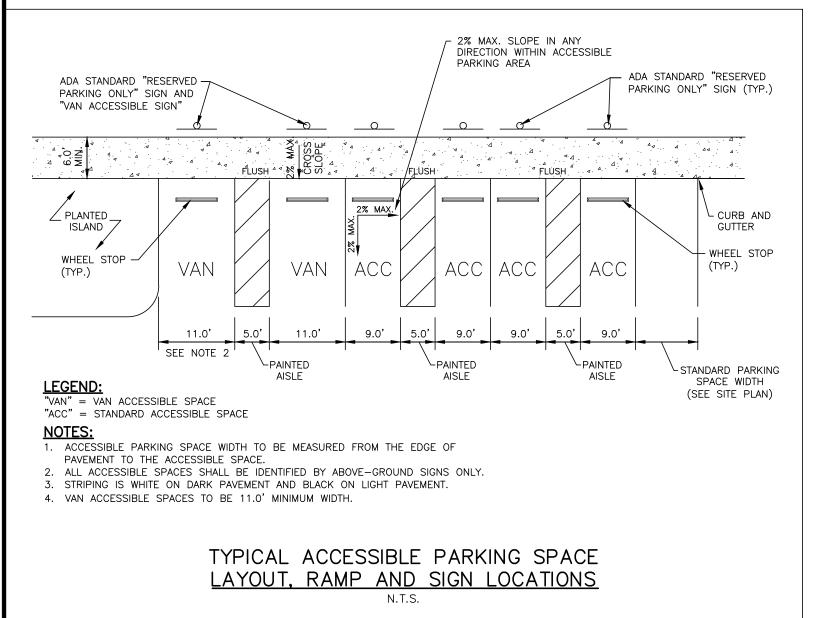
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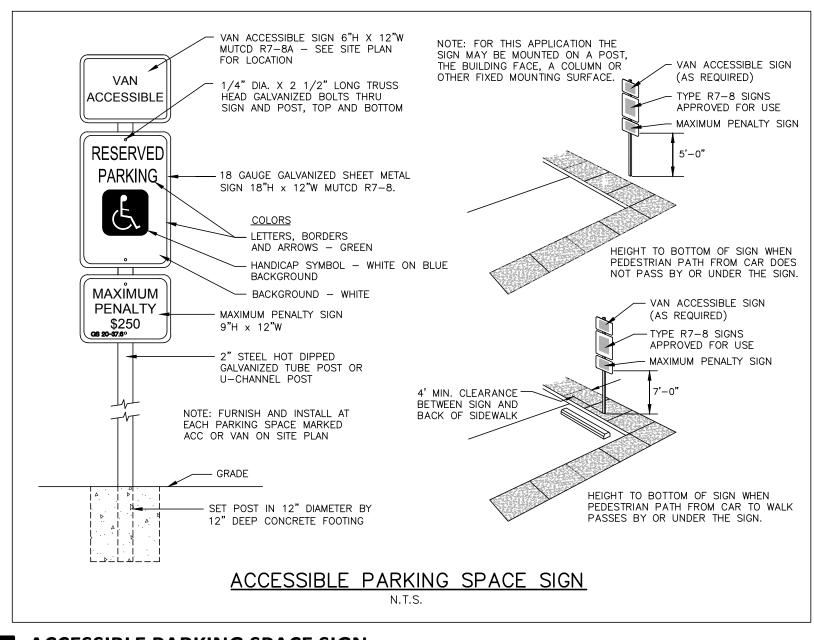




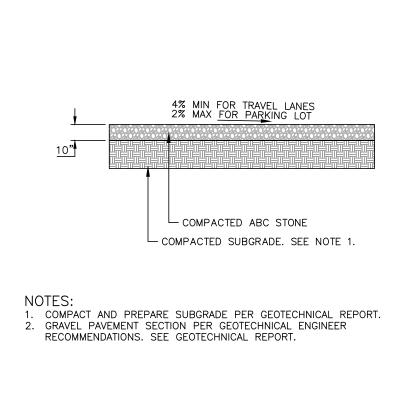




02 US-401 PAVEMENT SECTION SCALE: N.T.S.

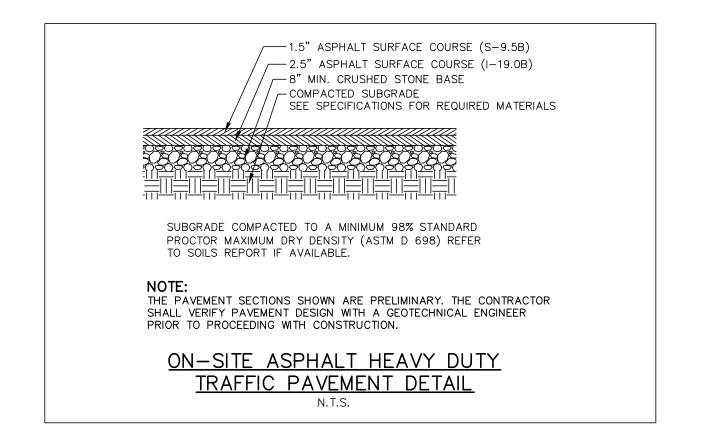


SCALE: N.T.S.

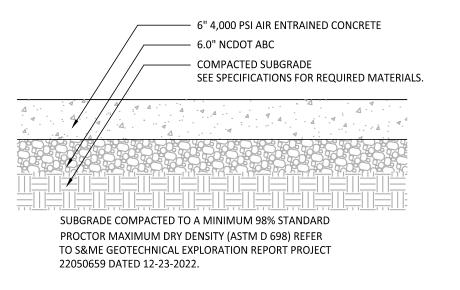


O4 ACCESSIBLE PARKING AND STRIPING DETAIL SCALE: N.T.S.

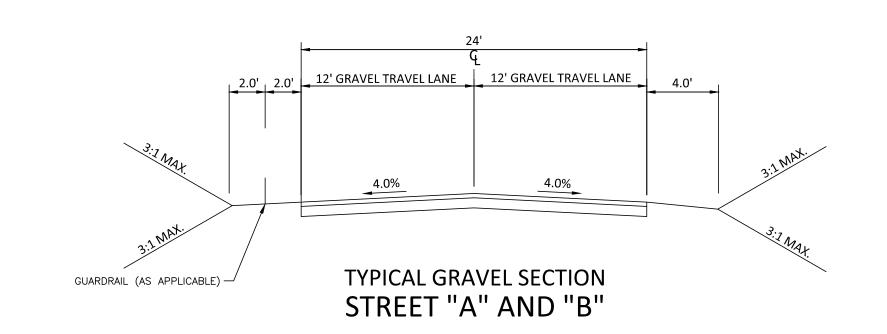
O7 ON-SITE HEAVY-DUTY ASPHALT PAVEMENT DETAIL SCALE: N.T.S.



O5 ACCESSIBLE PARKING SPACE SIGN SCALE: N.T.S.



06 GRAVEL DRIVE AND PARKING LOT SCALE: N.T.S.



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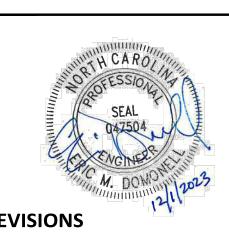
> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

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CLIENT

NAME: TOWN OF ROLESVILLE ADDRESS: 502 SOUTHTOWN CIRCLE ADDRESS: ROLESVILLE NC 27571 PHONE: 919.554.6582

# RM PARK N DRAWINGS



**REVISIONS** NO. DATE

# **PLAN INFORMATION**

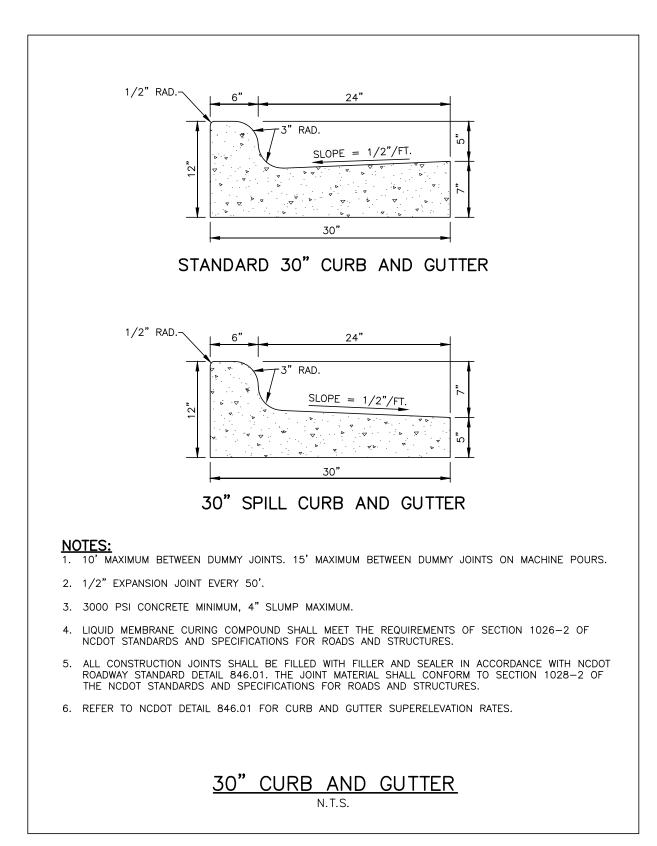
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N/A SCALE DATE 12.01.2023 SHEET

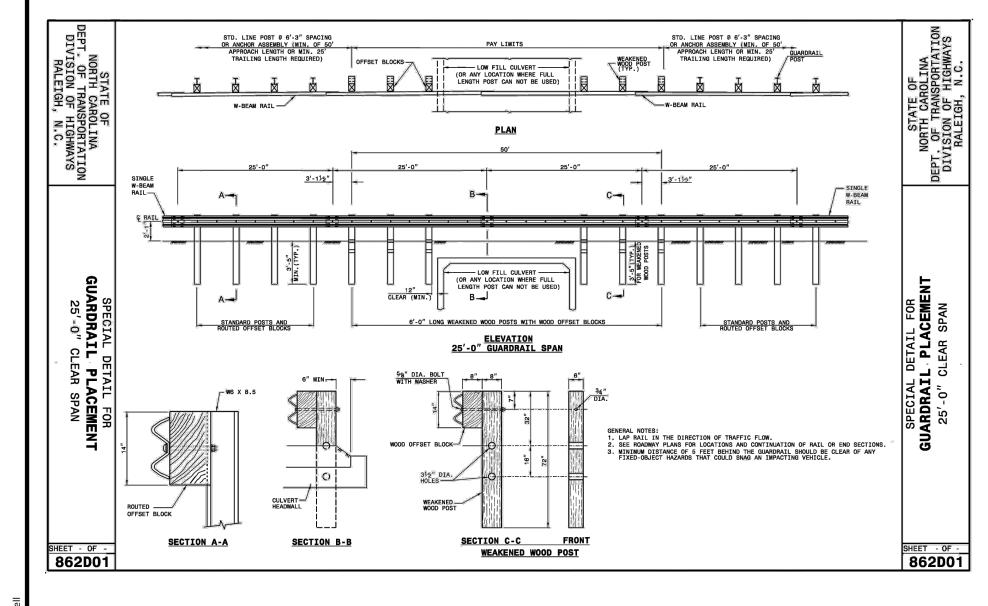
**SITE DETAILS** 

08 ON-SITE HEAVY-DUTY CONCRETE PAVEMENT DETAIL SCALE: N.T.S.

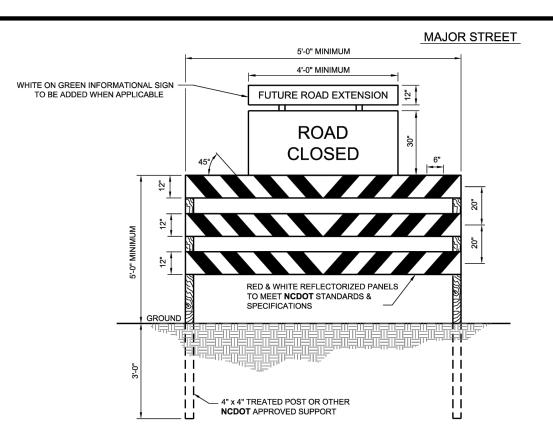
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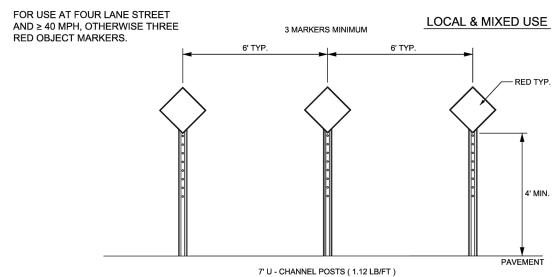


# 9 STANDARD 30" CURB AND GUTTER DETAILS SCALE: N.T.S.



12 NCDOT GUARDRAIL SCALE: N.T.S.





1. BARRICADE(S) TO BE ERECTED ACROSS ENTIRE ROADWAY INCLUDING CURB & GUTTER. 2. ADVANCE WARNING SIGN W14-1 (DEAD END) SHALL BE

PLACED JUST AFTER LAST INTERSECTING STREET.

3. MARKINGS FOR BARRICADE RAILS SHALL BE REFLECTIVE AND ALTERNATE RED & WHITE STRIPS.

4. "ROAD CLOSED" SIGN SHALL MEET SPECIFICATIONS OF M.U.T.C.D. R11-2 AND BE REQUIRED ATOP EACH BARRICADE USED.

5. CALL 811 FOR UNDERGROUND UTILITY LOCATE PRIOR TO INSTALLATION.

10 TEMPORARY BARRICADE FOR DEAD END ROAD SCALE: N.T.S.



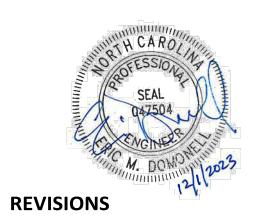
The John R. McAdams Company, Inc. 2905 Meridian Parkway Durham, NC 27713

> phone 919. 361. 5000 fax 919. 361. 2269 license number: C-0293

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CLIENT

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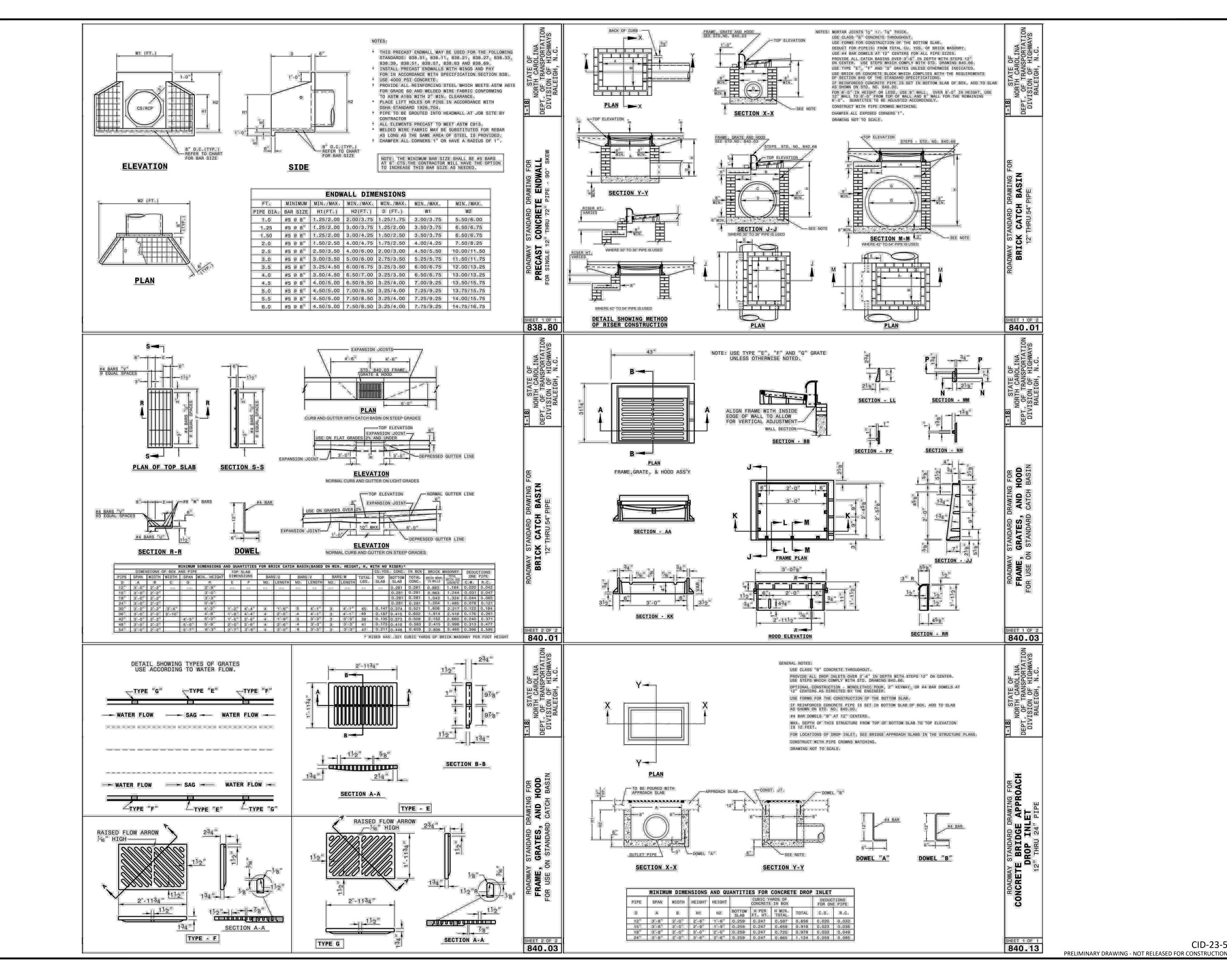
PLAN INFORMATION

2020110039-PH1-D1 CHECKED BY

SCALE 12.01.2023 DATE

SHEET

SITE DETAILS





# MCADAMS The John R. McAdams Company, Inc.

2905 Meridian Parkway

Durham, NC 27713

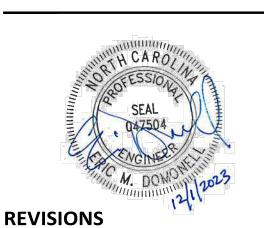
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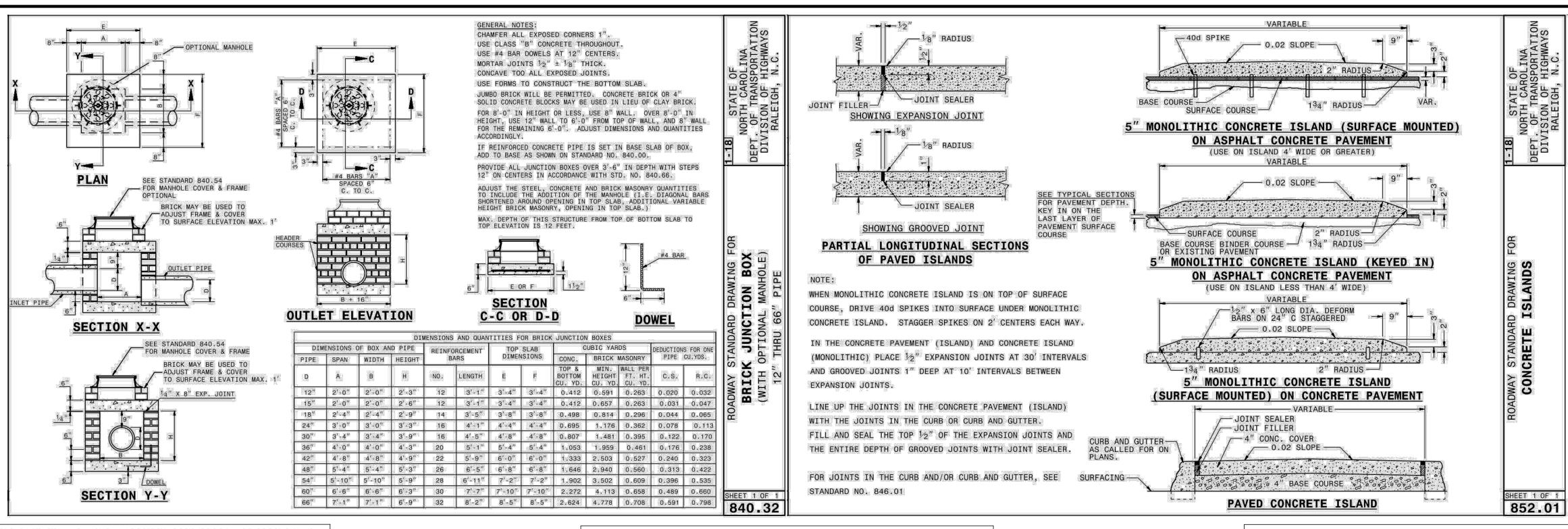
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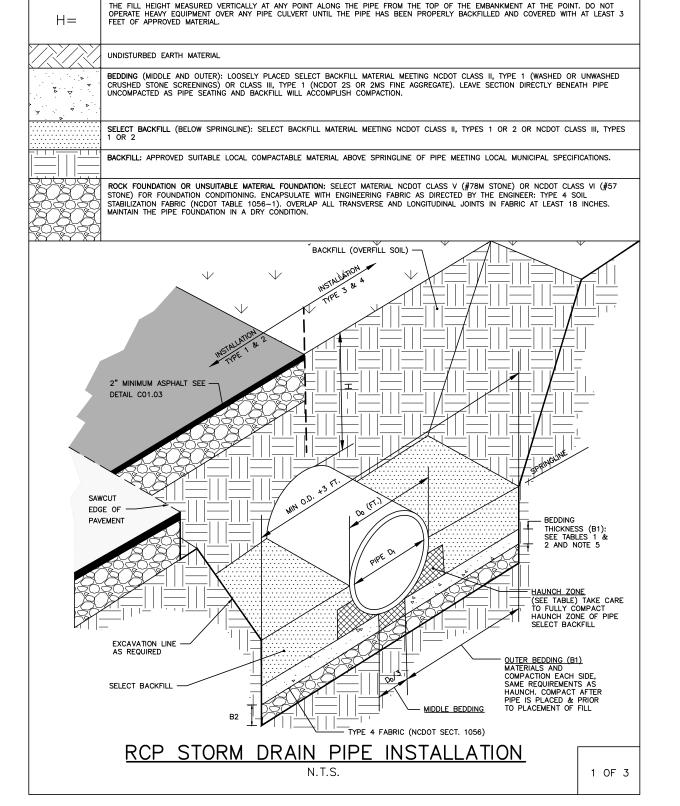
PROJECT NO. 202011039 2020110039-PH1-D1 FILENAME CHECKED BY

DRAWN BY SCALE DATE 12.01.2023

SHEET **STORM DRAINAGE &** 

**UTILITY DETAILS** 





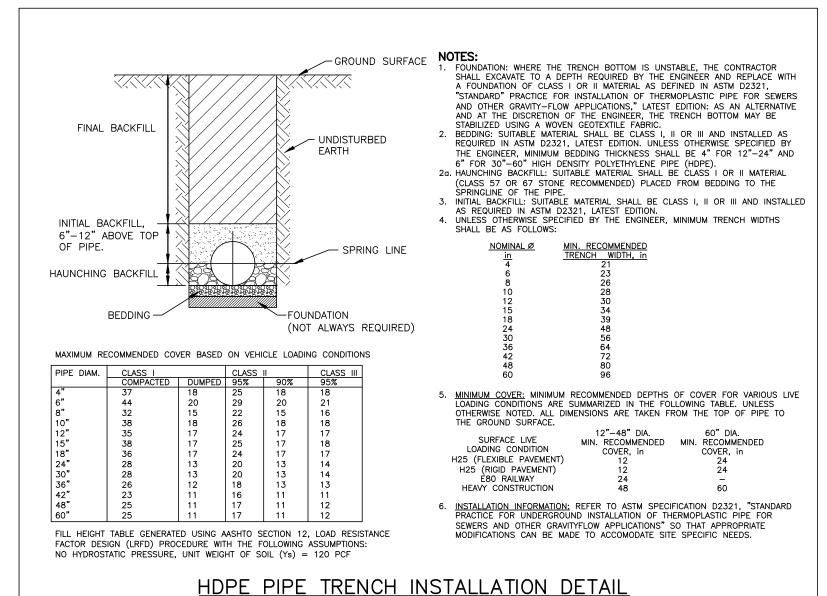


TABLE 1 EQUIVALENT USCS AND AASHTO SOIL CLASSIFICATION FOR SIDD SOIL DESIGNATIONS			
SIDD USCS NCDOT/AASHTO			
GRAVELLY SAND (CATEGORY I)	SW, SP, GW, GP	-NCDOT CLASS II-TYPE I (CRUSHED STONE SCREEENINGS), LL<30; PI≤6 -NCDOT CLASS III, TYPE I (2S OR 2MS), LL<30; PI≤6	
SANDY SILT (CATEGORY II)	GM, SM, ALSO GC, SC WITH LESS THAN 20% PASSING #200 SIEVE	-NCDOT CLASS II TYPE I (CRUSHED STONE SCREENINGS) AND CLASS II, TYPE 2 (AASHTO M145 FOR A-2-4 WITH MAX PI OF 6, A-4 W/ MAX 45% PASSING #200 SIEVE AND A MAX PI OF 6) -NCDOT CLASS III, TYPE 1 (2S OR 2MS) OR CLASS III, TYPE 2 (AASHTO M145 FOR SOIL CLASSIFICATION A-1 OR A-3)	
SILTY CLAY (CATEGORY III)	CL, MH, GC, SC	A5, A6	

TABLE 2 STANDARD INSTALLATIONS SOILS AND MINIMUM COMPACTION REQUIREMENTS				
INSTALLATION TYPE	BEDDING THICKNESS	OUTER BEDDING (B1) NOTE 5 (% COMPACTION/CATEGORY)	HAUNCH ZONE & SELECT BACKFILL AREA (% COMPACTION/CATEGORY)	LOCATION
TYPE 1	B1 = Di/6 (6" MIN) B2=IF ROCK FOUNDATION OR OVER UNSUITABLE FOUNDATION, ½" /FT OF 'H', 12" MIN/24" MAX	95% CATEGORY 1	90% CATEGORY 1 95% CATEGORY II	PAVED AREAS WITH 2' OR LESS BURY
TYPE 2	B1 = Di/6 (6" MIN) B2=IF ROCK FOUNDATION OR OVER UNSUITABLE FOUNDATION, ½" /FT OF 'H', 12" MIN/24" MAX	90% CATEGORY 1	85% CATEGORY 1 90% CATEGORY II	PAVED AREAS WITH GREATER THAN 2' OF BURY
TYPE 3	B1 = Di/6 (6" MIN) B2=IF ROCK FOUNDATION OR OVER UNSUITABLE FOUNDATION, ½" /FT OF 'H', 12" MIN/24" MAX	85% CATEGORY 1 90% CATEGORY II	85% CATEGORY 1 90% CATEGORY II OR 95% CATEGORY III	IN R/W OUTSIDE OF PAVEMENT
TYPE 4	B1 = Di/6 (6" MIN) B2=IF ROCK FOUNDATION OR OVER UNSUITABLE FOUNDATION, ½" /FT OF 'H', 12" MIN/24" MAX	NO COMPACTION REQUIRED, EXCEPT IF CATEGORY III, USE 85% CATEGORY III	NO COMPACTION REQUIRED, EXCEPT IF CATEGORY III, USE 85% CATEGORY III	NATURAL AREAS

1. COMPACTION AND SOIL SYMBOLS - I.E. "95% CATEGORY I" - REFERS TO CATEGORY I SOIL MATERIAL WITH MINIMUM STANDARD PROCTOR COMPACTION OF 95%. 2. SOIL IN THE OUTER BEDDING, HAUNCH, AND LOWER SIDE ZONES, EXCEPT UNDER THE MIDDLE \$\frac{1}{2}\$ OF THE PIPE, SHALL BE COMPACTED TO AT LEAST THE SAME COMPACTION AS THE MAJORITY OF THE SOIL IN THE OVERFILL (BACKFILL) ZONE.

3. FOR TRENCHES. THE TOP ELEVATION SHALL BE NO LOWER THAN 0.1H BELOW FINISHED GRADE OR, FOR ROADWAYS, ITS TOP SHALL BE NO LOWER THAN AN ELEVATION OF 1-FOOT BELOW THE BOTTOM OF THE PAVEMENT BASE MATERIAL.

4. FOR TRENCHES, THE WIDTH SHALL BE WIDER THAN SHOWN IF REQUIRED FOR ADEQUATE SPACE TO ATTAIN THE SPECIFIED COMPACTION IN THE HAUNCH AND BEDDING ZONES.

5. COMPACT OUTER BEDDING AFTER PIPE IS PLACED AND PRIOR TO PLACEMENT OF SELECT FILL. MIDDLE BEDDING IS UNCOMPACTED. 6. OVERFILL (BACKFILL) SOILS TO BE PLACED PER STANDARD SPECIFICATION 02700 STORM DRAINAGE FOR THE APPLICABLE BACKFILL TYPE AND BURY LIMITATIONS.
7. THESE TWO TABLES WERE MODIFIED TO GENERALLY CONFORM TO THE NCDOT STANDARDS AS SHOWN IN DETAIL 300.01 RIGID PIPE IN TRENCH CONDITION.

REFERENCE SOURCES: 1. AMERICAN CONCRETE PIPE ASSOCIATION DESIGN STANDARDS
2. 2012 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES AND NCDOT STANDARD DETAILS 300.01 FOR RIGID PIPE, TRENCH CONDITIONS."

STORM DRAIN PIPE INSTALLATION

2 OF 3

FILL HEIGHT TABLE *				
	TYPE 3 (BEDDING) INSTALLATION (0.01 INCH CRACK)			NG) INSTALLATION CH CRACK)
INSIDE PIPE DIAMETER DI (INCHES)	CLASS III PIPE MAXIMUM BURY H (FEET)	CLASS IV PIPE MAXIMUM BURY H (FEET)	CLASS III PIPE MAXIMUM BURY H (FEET)	CLASS IV PIPE MAXIMUM BURY H (FEET)
15	2 MIN, 12 MAX	1 MIN, 20 MAX	3 MIN, 7 MAX	2 MIN, 12 MAX
18	2 MIN, 12 MAX	1 MIN, 20 MAX	3 MIN, 7 MAX	1 MIN, 13 MAX
24	1 MIN, 12 MAX	1 MIN, 20 MAX	2 MIN, 8 MAX	1 MIN, 13 MAX
30	1 MIN, 12 MAX	1 MIN, 20 MAX	1 MIN, 8 MAX	1 MIN, 13 MAX
36	1 MIN, 12 MAX	1 MIN, 20 MAX	1 MIN, 8 MAX	1 MIN, 13 MAX
42	1 MIN, 12 MAX	1 MIN, 20 MAX	1 MIN, 8 MAX	1 MIN, 13 MAX
48	1 MIN, 12 MAX	1 MIN, 19 MAX	1 MIN, 8 MAX	1 MIN, 13 MAX
54	1 MIN, 12 MAX	1 MIN, 19 MAX	1 MIN, 8 MAX	1 MIN, 13 MAX
60	1 MIN, 12 MAX	1 MIN, 19 MAX	1 MIN, 8 MAX	1 MIN, 13 MAX
72	1 MIN, 11 MAX	1 MIN, 19 MAX	1 MIN, 7 MAX	1 MIN, 13 MAX

# FILL HEIGHT TABLE BASE ON: 1. Ys = 120 PCF (BACKFILL LOAD)

- 3. POSITIVE PROJECTING EMBANKMENT CONDITION (THIS GIVES CONSERVATIVE RESULTS IN COMPARISON TO 4. PIPE = REINFORCED CONCRETE PIPE MEETING ASTM C76 (AASHTO M170), WALL C THICKNESS
- 5. CONCRETE PIPE SHOULD BE INSTALLED IN ACCORDANCE WITH AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS SECTION 27 OR ASTM C1479.

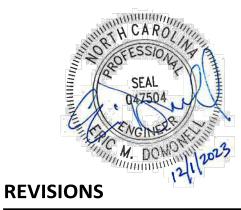
9 FILL HEIGHT TABLES, THE PORTION EXCERPTED HERE. WAS DEVELOPED BY THE AMERICAN CONCRETE PIPE ASSOCIATION (ACPA) USING THE INDIRECT DESIGN METHOD IN ACCORDANCE WITH SECTION 12.10.4.3 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATION, 4TH, 2007 WITH 2008 INTERIM.

1. GREATER BURY DEPTHS THAN THOSE SHOWN ABOVE ARE ACHIEVABLE BY EITHER USING TYPE 1 OR 2 INSTALLATION, USING CLASS V PIPE, CONTROLLING BACKFILL TYPE, CALCULATING DEPTH USING A TRENCH CONDITION, OR BY SPECIAL DESIGN. SEE ALSO DESIGN DATA 9 PUBLISHED BY THE ACPA FOR DESIGN METHODOLOGY 2. IN LIEU OF CALCULATING BURY DEPTH FOR OTHER CONDITIONS, FIRST SEE "LRFD FILL HEIGHT TABLES FOR CONCRETE PIPE", LAST REVISED JULY 2009 OR LATER), PREPARED BY THE ACPA FOR OTHER BURY DEPTH POSSIBILITIES

3. SEE NCDOT PIPE SELECTION TABLE

STORM DRAIN PIPE INSTALLATION

3 OF 3



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DRAWING

CLIENT

NO. DATE

PLAN INFORMATION

PROJECT NO. 202011039 2020110039-PH1-D1 FILENAME

CHECKED BY DRAWN BY SCALE DATE 12.01.2023

**SHEET** 

STORM DRAINAGE & **UTILITY DETAILS** 

PRELIMINARY DRAWING - NOT RELEASED FOR CONSTRUCTION