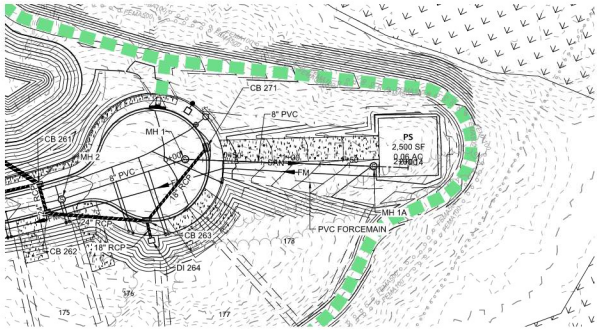
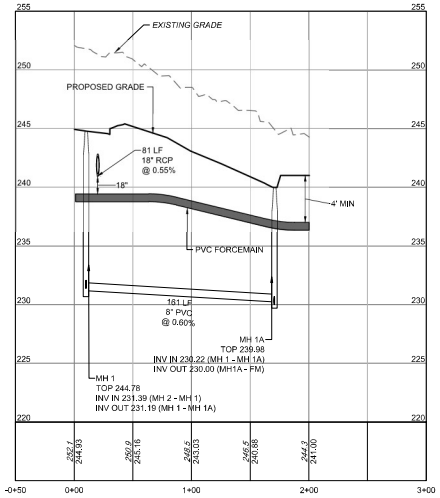


MH 1 - MH 1A PLAN VIEW (STA 9+50 TO 20+00)
SCALE 1" = 50'

SCALE 1"=50'
0 50' 100'



MH 1 - MH 1A PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'

PROFILE SCALE

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL: 919.866.4951 FAX: 919.833.8124 www.timmons.com

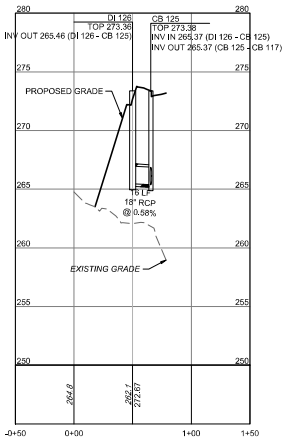
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

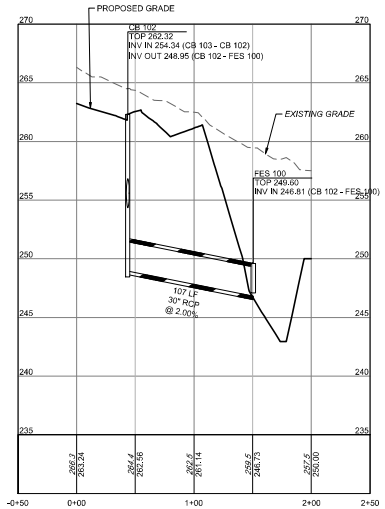
FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
SEWER OUTFALL PROFILE (SHEET 2 OF 2)

REVISION DESCRIPTION	DATE

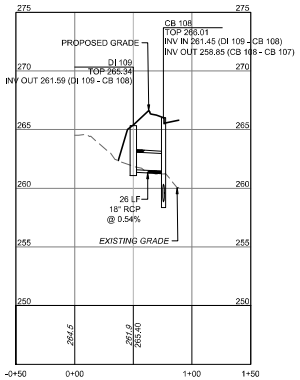
DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	H: 1" = 50' V: 1" = 5'
JOB NO.	49473
SHEET NO.	C7.1



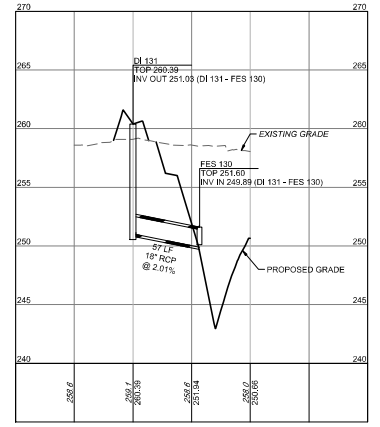
DI 126 - CB 125 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



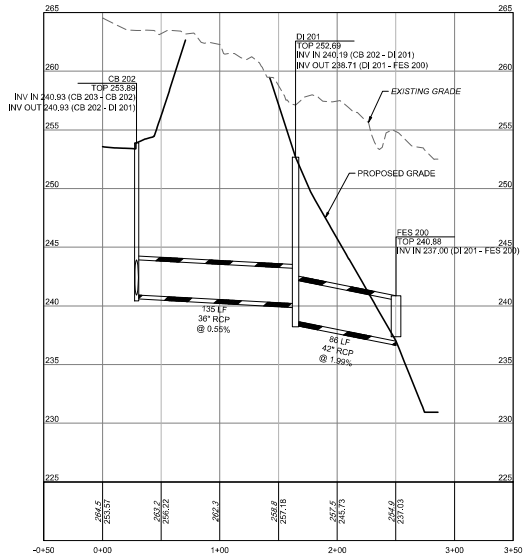
CB 102 - FES 100 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



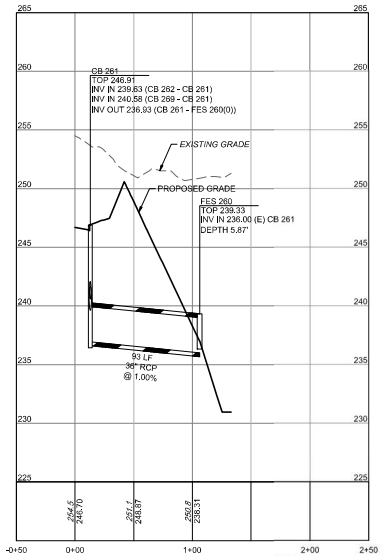
DI 109 - CB 108 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



DI 131 - FES 130 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



CB 202 - FES 200 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



CB 261 - FES 260 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL: 919.866.4951 FAX: 919.833.8124 www.timmons.com

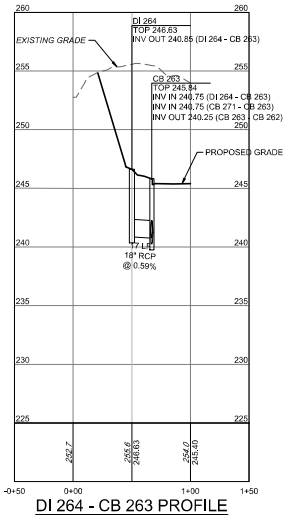
YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

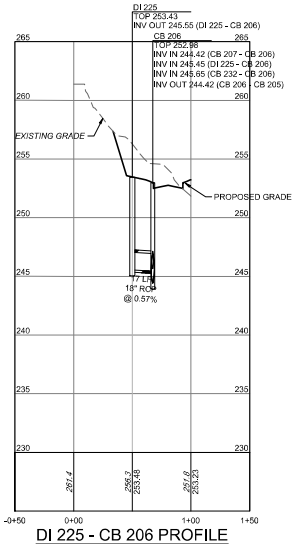
FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
STORM OUTFALL PROFILES

DATE: 10/24/2025
DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: T. CROSS
SCALE: H: 1" = 50' V: 1" = 5'
JOB NO.: 49473
SHEET NO.: C8.0



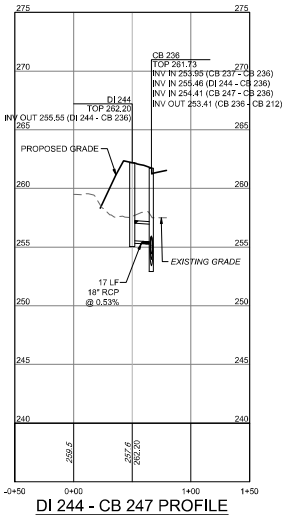
DI 264 - CB 263 PROFILE

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



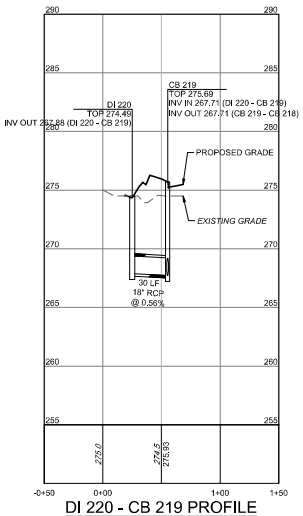
DI 225 - CB 206 PROFILE

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



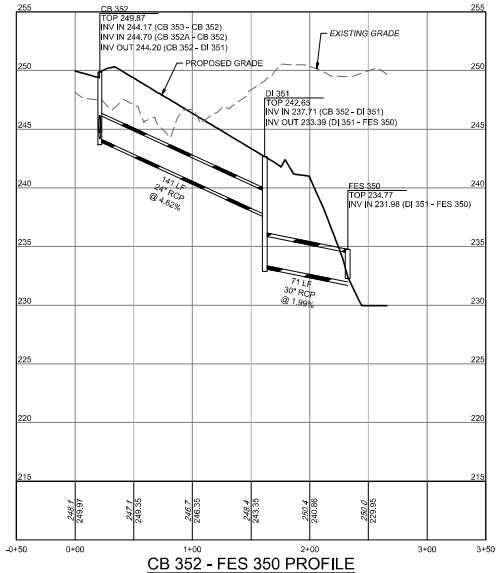
DI 244 - CB 247 PROFILE

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



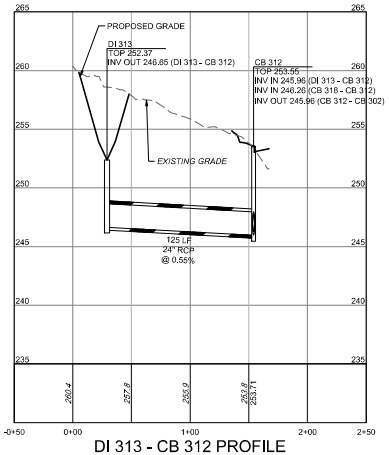
DI 220 - CB 219 PROFILE

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



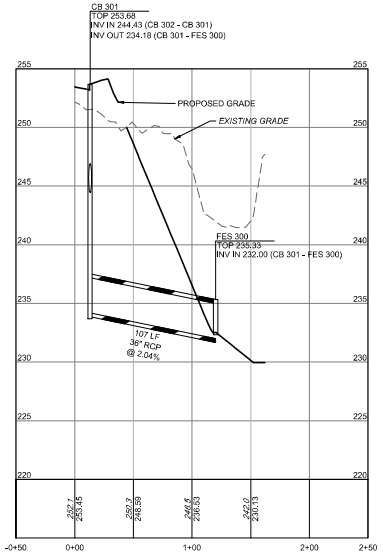
CB 352 - FES 350 PROFILE

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



DI 313 - CB 312 PROFILE

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



CB 301 - FES 300 PROFILE

HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'

Public
Water Distribution / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

Public
Sewer Collection / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	H: 1" = 50' V: 1" = 5'

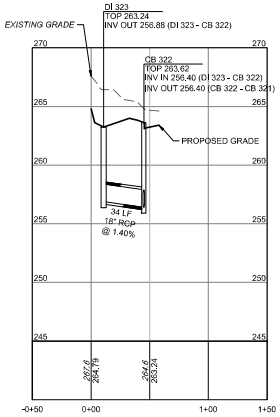
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
STORM OUTFALL PROFILES

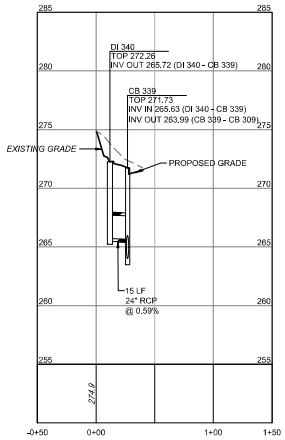
JOB NO. 49473

SHEET NO. C8.1

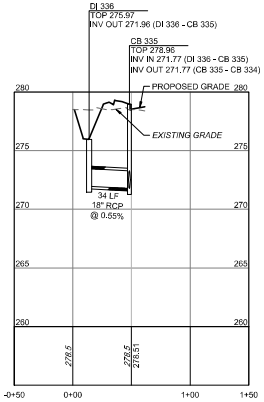
S:\331\49473-Faison_Tract\DWG\Sheet\CD\49473-331-C8.5-STPR.dwg | Plotted by Matthew Remringer



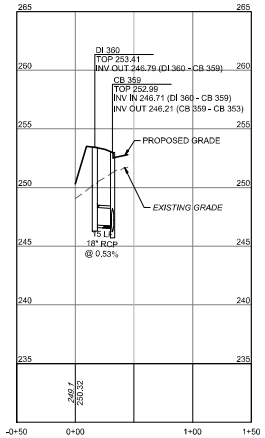
DI 323 - CB 322 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



DI 340 - CB 339 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



DI 336 - CB 335 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



DI 360 - CB 359 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE AT
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL: 919.866.4951 FAX: 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

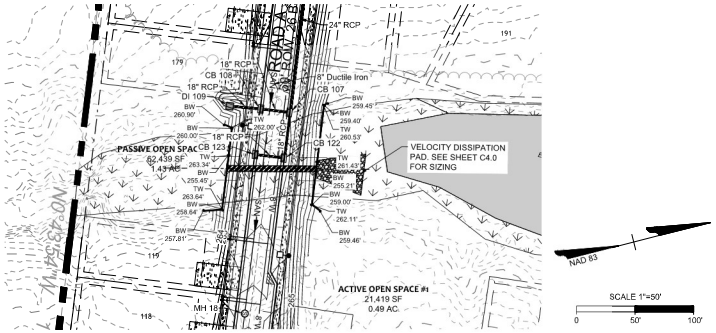
REVISION DESCRIPTION | DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	H: 1" = 50' V: 1" = 5'

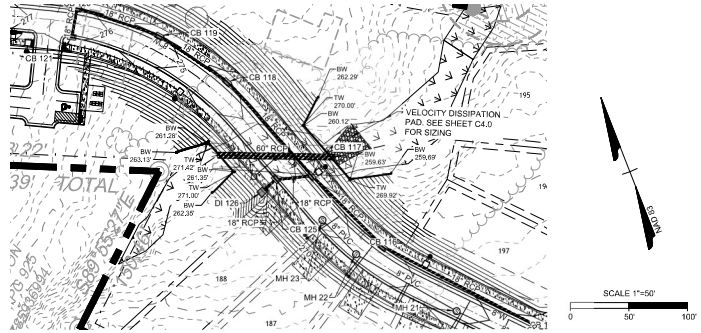
FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
STORM OUTFALL PROFILES

JOB NO. 49473
SHEET NO. C8.2

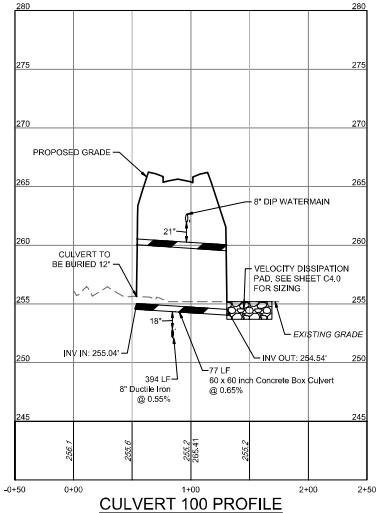
S:\331\49473\Survey_Tech\DWG\Sewer\CD\HRT\-331-CD-XS-STRC.dwg | Plotted by Matthew Remringer



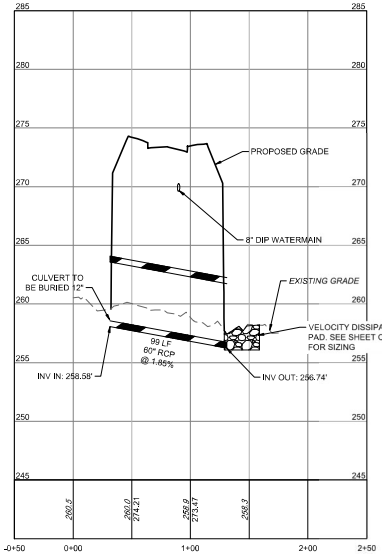
CULVERT 100 PLAN VIEW
SCALE 1" = 50'



CULVERT 200 PLAN VIEW
SCALE 1" = 50'



CULVERT 100 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'



CULVERT 200 PROFILE
HORIZ SCALE: 1"=50'
VERT SCALE: 1"=5'

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL: 919.866.4951 FAX: 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

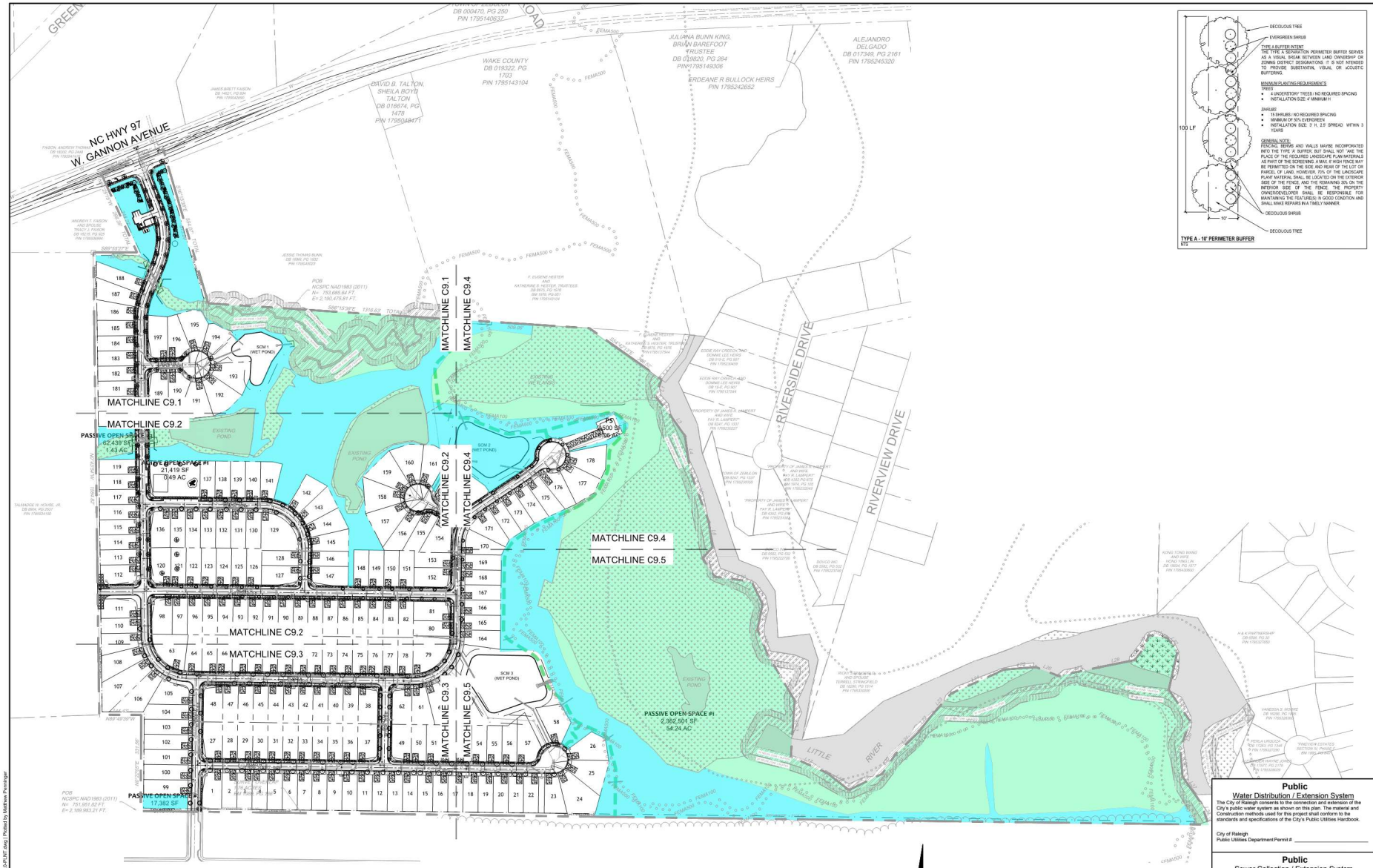
TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
CULVERTS PLAN AND PROFILE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	H: 1" = 50' V: 1" = 5'
JOB NO.	49473
SHEET NO.	C8.3

S:\331\49473\Survey_Tech\DWG\Sheet\CD\HRT-237-CD-SCSTPR.dwg | Plotted by Matthew Pennington



TYPE A - 10' PERIMETER BUFFER
NTS

ALLOWABLE STREET TREE PLANT LIST

PLANT NAME	SIZE
LACEBARK ELM ULMUS PARVIFOLIA	2.5" CAL 8 - 12' HT
JAPANESE ZELKOVA ZELKOVA SERRATA	2.5" CAL 8 - 12' HT
SUGAR MAPLE ACER SACCHARUM	2.5" CAL 8 - 12' HT
SCHNEIDER ZELKOVA ZELKOVA SCHEIDERIANA	2.5" CAL 8 - 12' HT

PLANT LIST (100' SEC"ION)

BOTANICAL NAME	COMMON NAME	SIZE	ROOT	QUAN.
Cercis canadensis	Eastern Redbud	10' Ht.	B&B or Cont	2
Quercus Georgiana	Georgia Oak	10' Ht.	B&B or Cont	2
Itea virginica	Virginia Sweetspire	6' Ht.	B&B or Cont	7
Raphiolepis umbellata	Indian Hawthorn	6' Ht.	B&B or Cont	8

EXISTING VEGETATION TO BE UTILIZED WHERE POSSIBLE.

NAD 83

SCALE 1"=150'
0 150' 300'

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

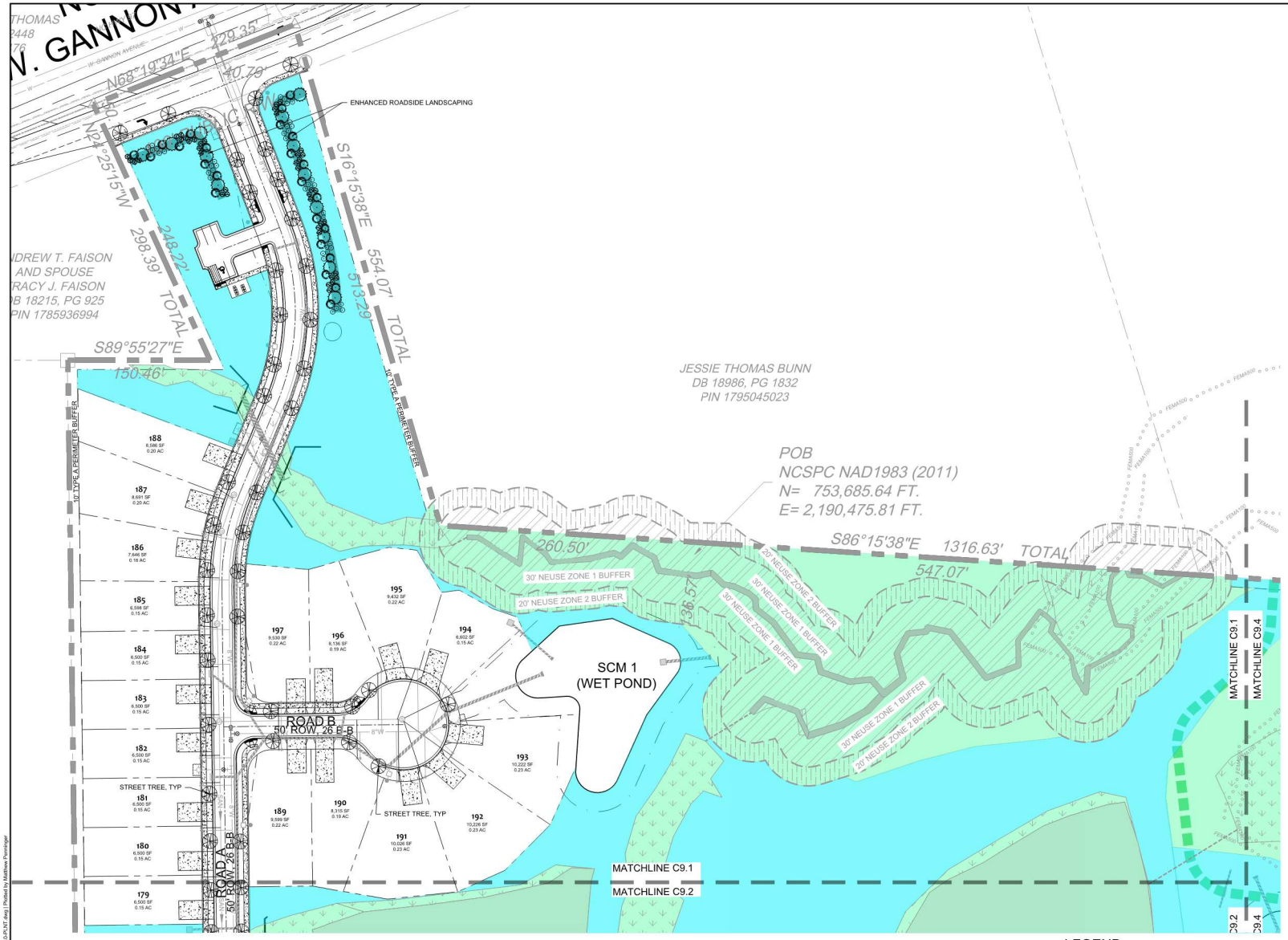
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
OVERALL LANDSCAPE PLAN

REVISION DESCRIPTION	DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 150'
JOB NO.	49473
SHEET NO.	C9.0

S:\331\49473-Faison_Tract\DWG\Sheet\CD\49473-331-C9.0-PLNT.dwg | Plotted by Mathew Renninger



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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

NAD 83
SCALE 1"=50'
0 50' 100'

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

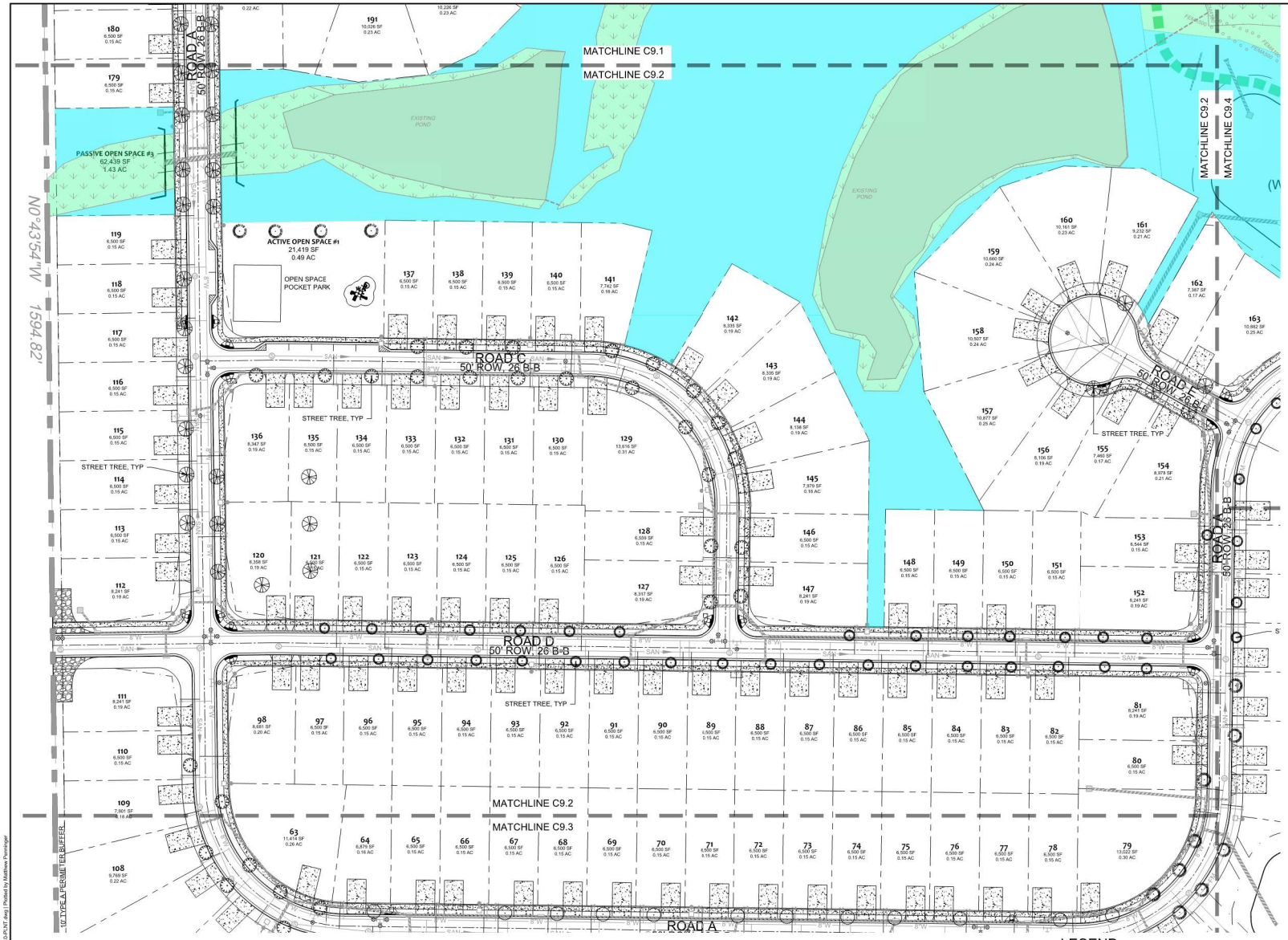
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
DETAILED LANDSCAPE PLAN (1 OF 5)

REVISION DESCRIPTION	DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	C9.1

S:\331\49473-Faison_Tract\DWG\Sheet\CD\49473-331-C9.0-PLNT.dwg | Plotted by Mathew Renninger



LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

NAD 83

SCALE 1"=50'

0 50' 100'

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
NORTH CAROLINA OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

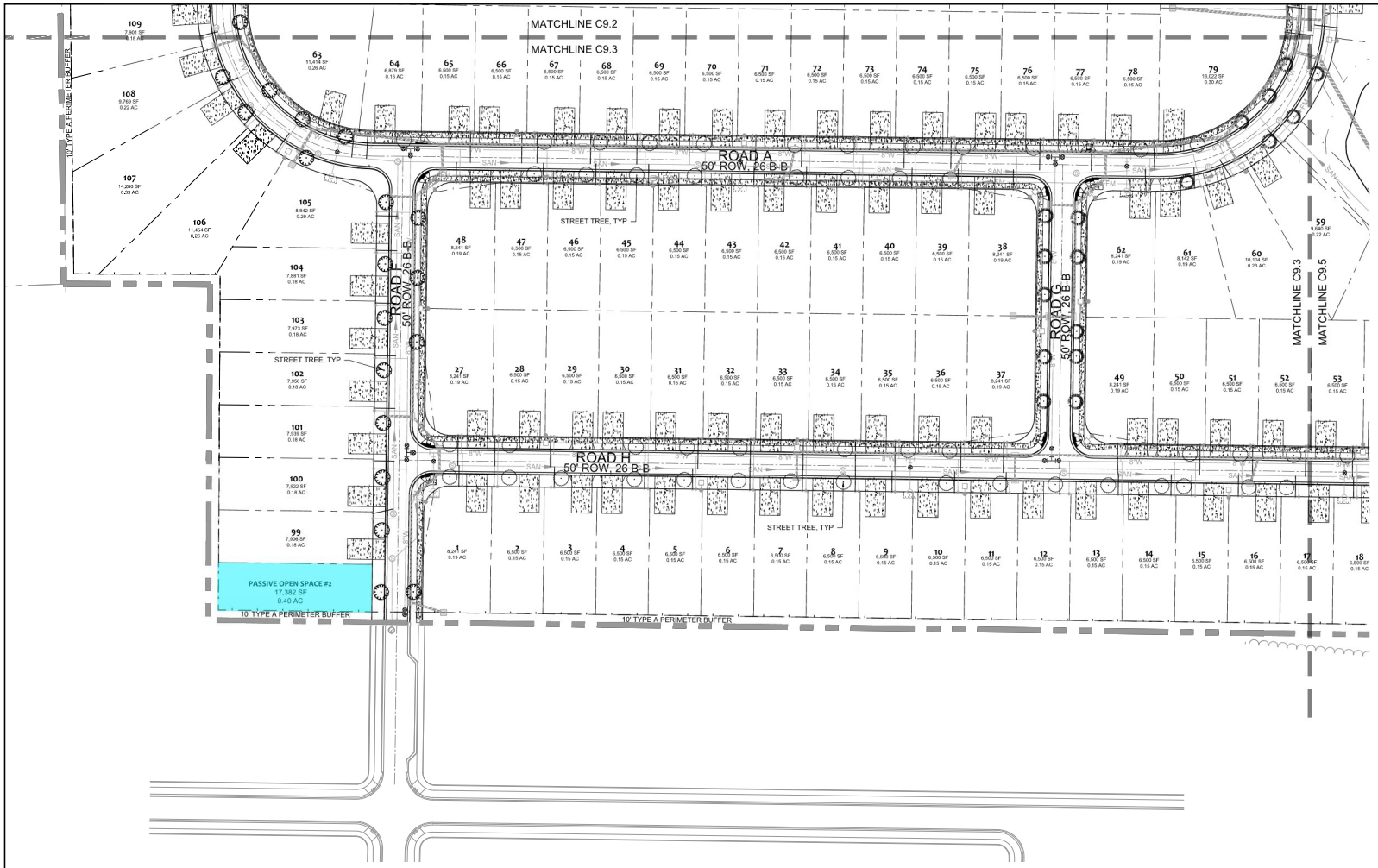
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
DETAILED LANDSCAPE PLAN (2 OF 5)

REVISION DESCRIPTION	DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	C9.2



LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

NAD 83

SCALE 1"=50'

0 50' 100'

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL: 919-866-4951 FAX: 919-833-8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT

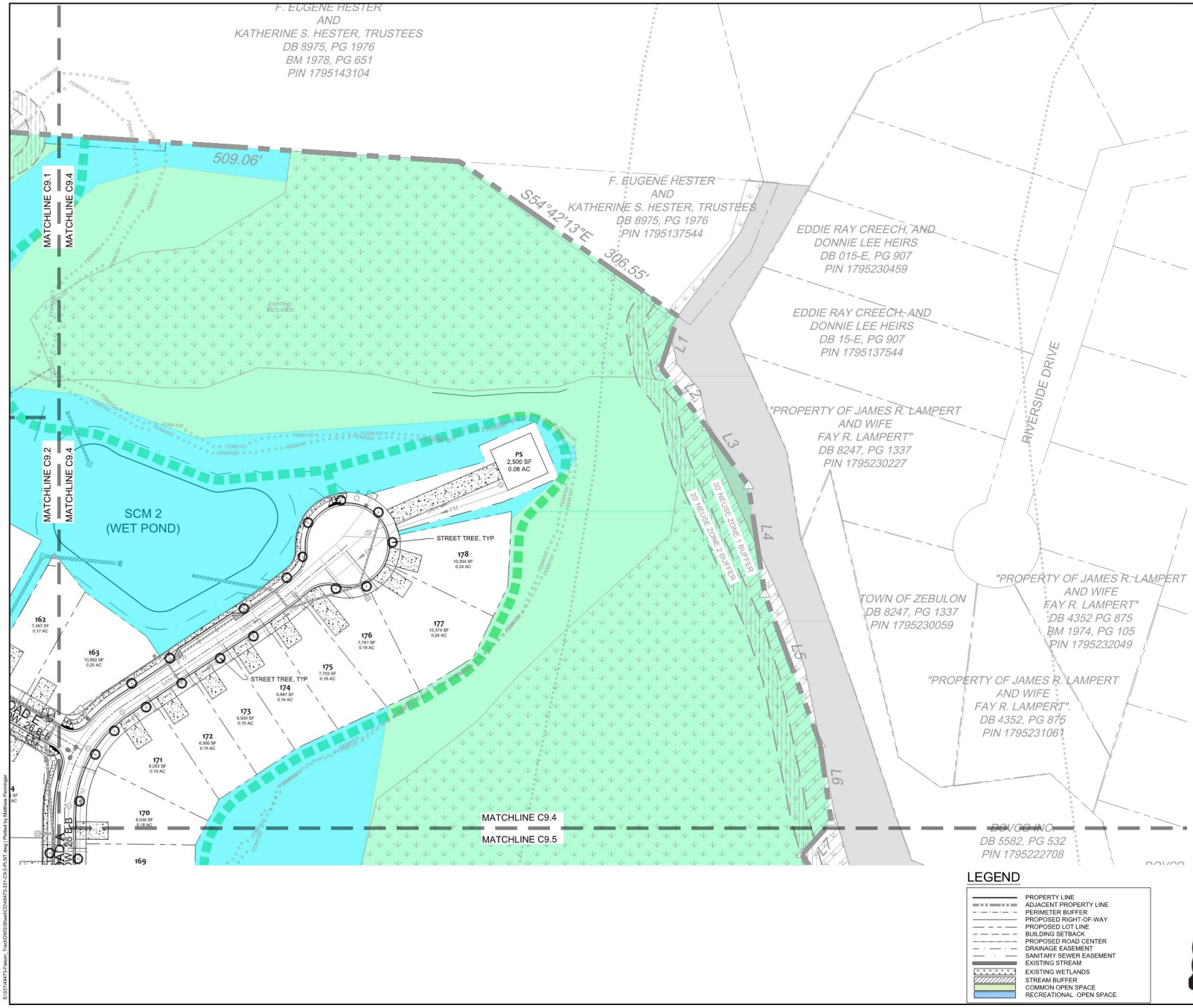
ZEBULON, WAKE COUNTY, NORTH CAROLINA

DETAILED LANDSCAPE PLAN (3 OF 5)

JOB NO. 49473

SHEET NO. C9.3

S:\331-69472-Faison_Tract\DWG\Dwer\CD\HRT-331-CD-PLN-LYT.dwg | Plotted by Matthew Pennington



LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE OF
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
DETAILED LANDSCAPE PLAN (4 OF 5)

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	C9.4

S:\331\49473-Faison_Trail\DWG\Sheet\CD\49473-331-C9.0-PLNT.dwg | Plotted by Mathew Pennington

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

NAD 83

SCALE 1"=50'

0 50' 100'

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

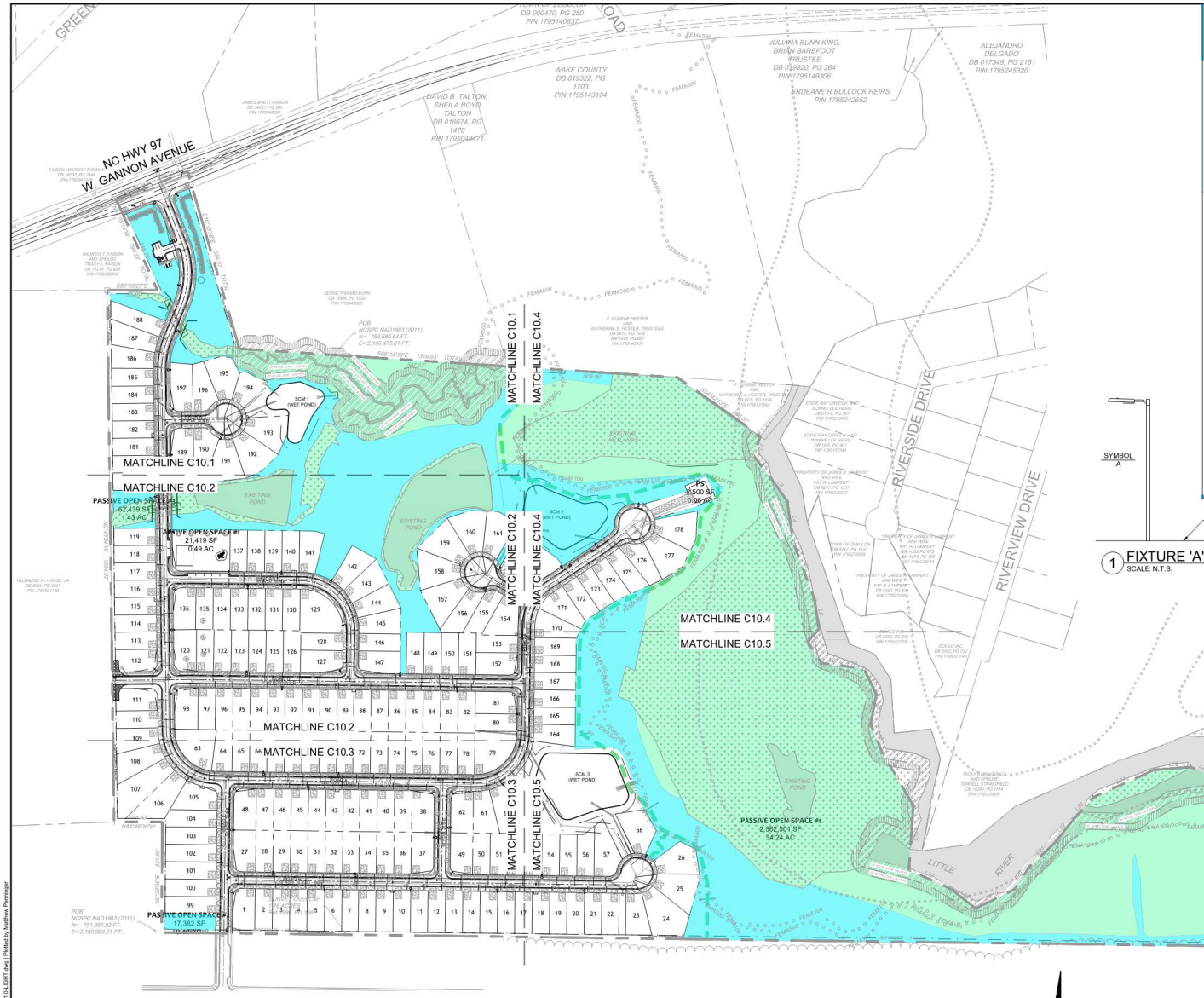
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
DETAILED LANDSCAPE PLAN (5 OF 5)

REVISION DESCRIPTION	DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	C9.5

S:\331\49473-Faison_Tract\DWG\Sheet\C04\49473-331-C9.0-PLNT.dwg | Plotted by Matthew Ferreriger



Outdoor Lighting

MITCHELL TOP HAT LED

LED (Light-emitting diode)	50 watts
Mounting height	12'
Color	Black
Pole	Aluminum Colonial concrete Victorian concrete Washington concrete
Applications	Neighborhoods Parks Shopping centers Streets

Light source: LED *(white)*
Wattage: 50 watts
Lumens: 5,463
Light pattern: IESNA Type III | Type V
IESNA cutoff classification: Semi-cutoff
BUG rating: Type III B2U3G3 | Type V B3U3G3
Color temperature: 3,000K | 4,000K

light distribution patterns

POLE AVAILABLE	MOUNTING HEIGHT	COLOR
Aluminum	12'	Black
Colonial concrete	12'	Black
Victorian concrete	12'	Black, Gray-green
Washington concrete	12'	Black, Gray

FEATURES	BENEFITS
Turnkey operation	Provides hassle-free installation and service
Little or no installation cost	Frees up capital for other projects
Design services by lighting professionals included	Meets industry standards and lighting ordinances
Maintenance, electricity & warranty included	Eliminates high and unexpected repair bills
One low monthly cost on your electric bill	Convenience and savings for you

For additional information, contact us at **ODLPlanSite@duke-energy.com**.

©2021 Duke Energy Corporation 210842-2 DEF 15021

DUKE ENERGY.
BUILDING A SMARTER ENERGY FUTURE®

SYMBOL A

GRADE

1 FIXTURE 'A' DETAIL
SCALE: N.T.S.

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

NAD 83

SCALE 1"=150'
0 150' 300'

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 150'

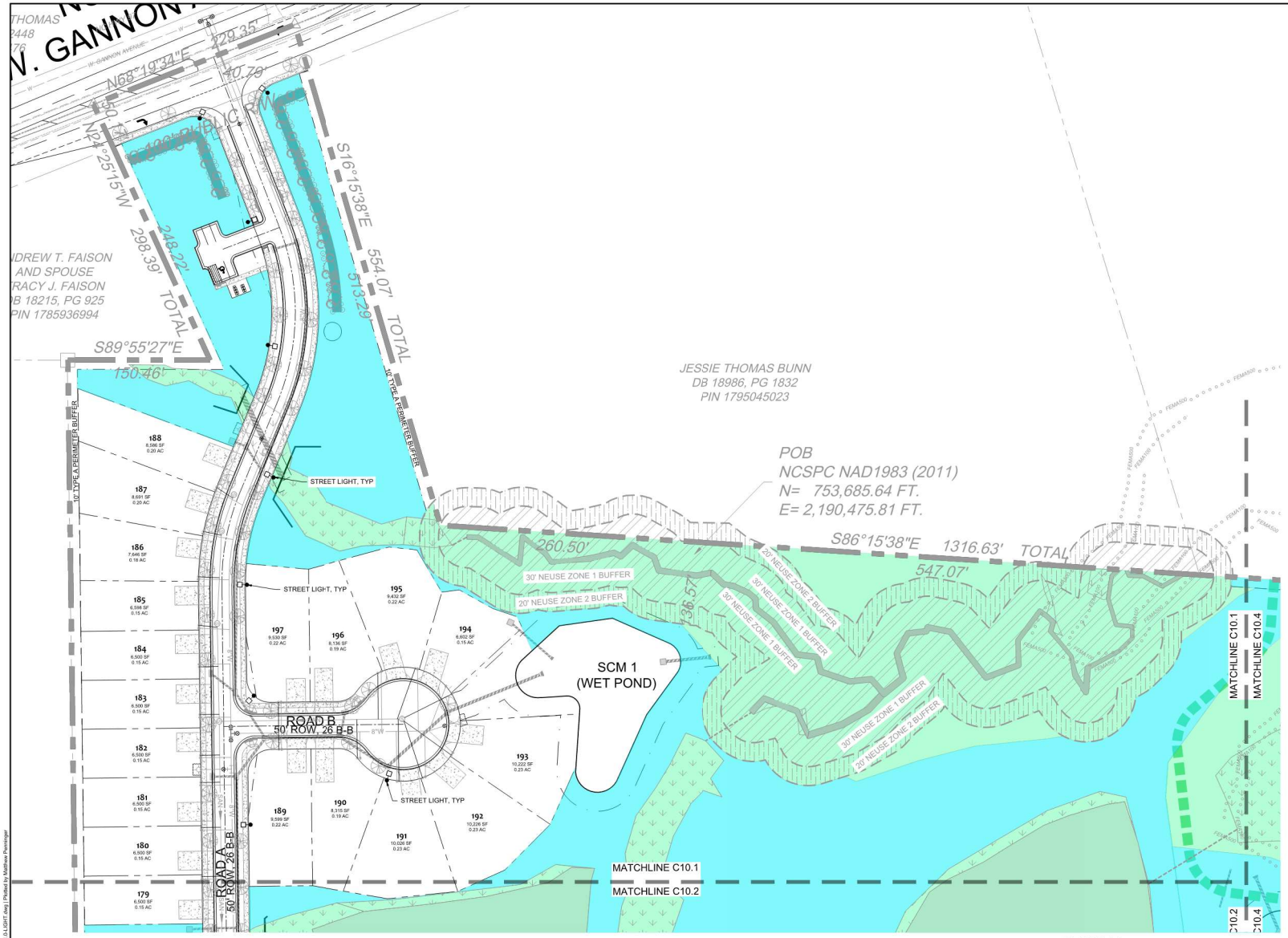
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

OVERALL LIGHTING PLAN

JOB NO.	49473
SHEET NO.	C10.0

S:\331\49473-Faison_Tract\DWG\Brian\C01\49473-331-C11-LLIGHT.dwg | Plotted by Matthew Pennington



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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

NAD 83
SCALE 1"=50'
0 50' 100'

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

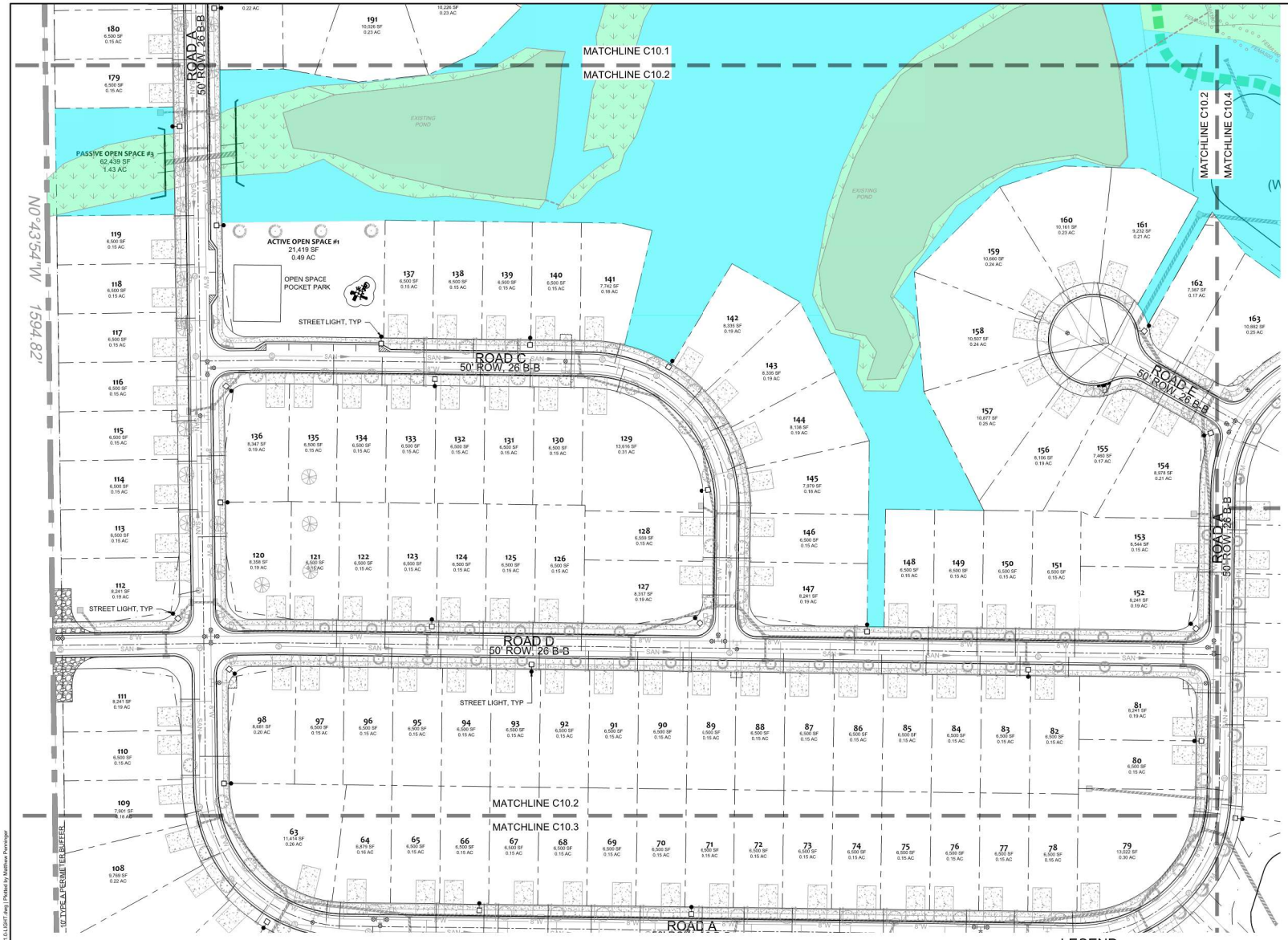
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
DETAILED LIGHTING PLAN (1 OF 5)

REVISION DESCRIPTION	DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	C10.1



LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

NAD 83

SCALE 1"=50'

0 50' 100'

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

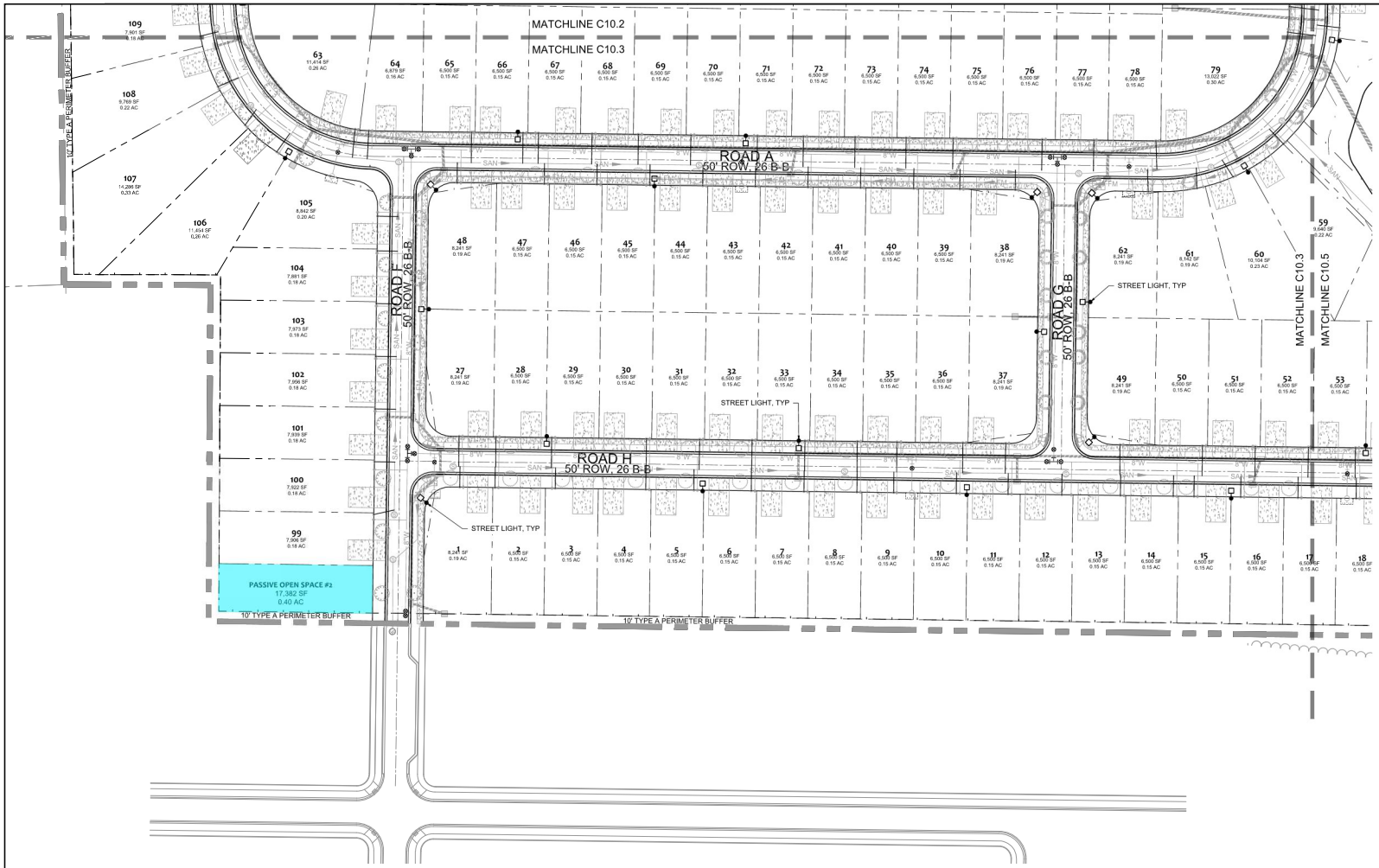
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
DETAILED LIGHTING PLAN (2 OF 5)

REVISION DESCRIPTION	DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	C10.2



LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

NAD 83

SCALE 1"=50'

0 50' 100'

Public
Sewer Collection / Extension System

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL: 919-866-4951 FAX: 919-833-8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

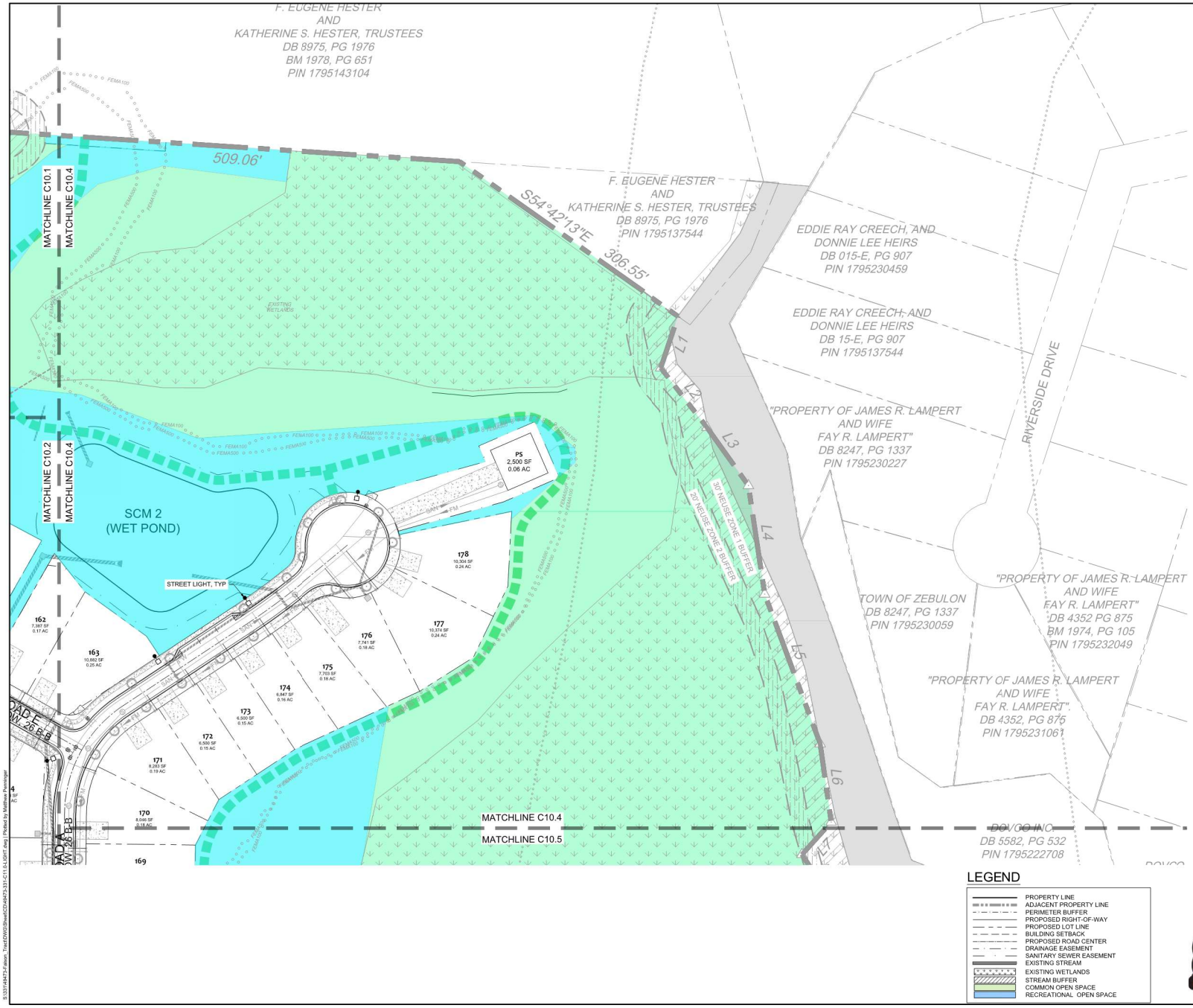
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
DETAILED LIGHTING PLAN (3 OF 5)

REVISION DESCRIPTION	DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	C10.3

S:\331\49473\Survey_Trees\DWG\Dover\CD\HRT-225-C13-3-LIGHT.dwg | Plotted by Matthew Pennoger



LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE OF
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
DETAILED LIGHTING PLAN (4 OF 5)

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	C10.4

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- PERIMETER BUFFER
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BUILDING SETBACK
- PROPOSED ROAD CENTER
- DRAINAGE EASEMENT
- SANITARY SEWER EASEMENT
- EXISTING STREAM
- EXISTING WETLANDS
- STREAM BUFFER
- COMMON OPEN SPACE
- RECREATIONAL OPEN SPACE

NAD 83

SCALE 1"=50'

0 50' 100'

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT

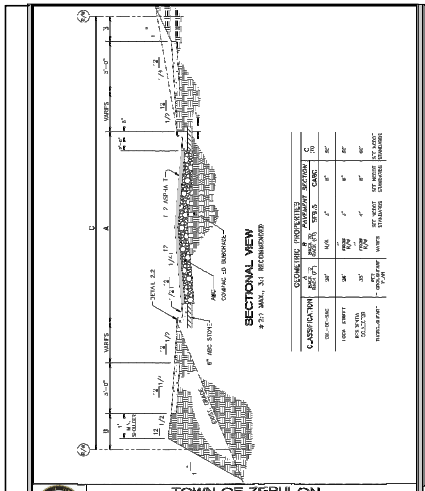
ZEBULON, WAKE COUNTY, NORTH CAROLINA

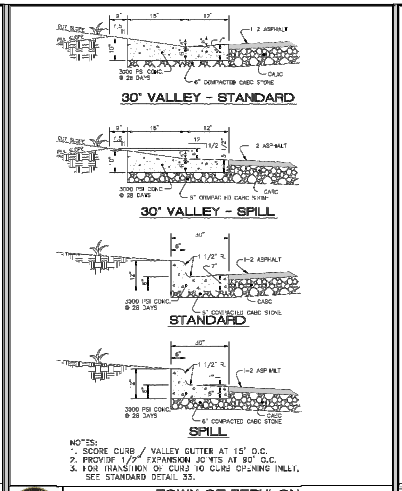
DETAILED LIGHTING PLAN (5 OF 5)

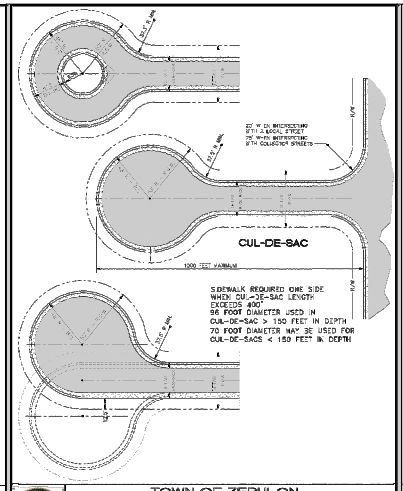
JOB NO. 49473

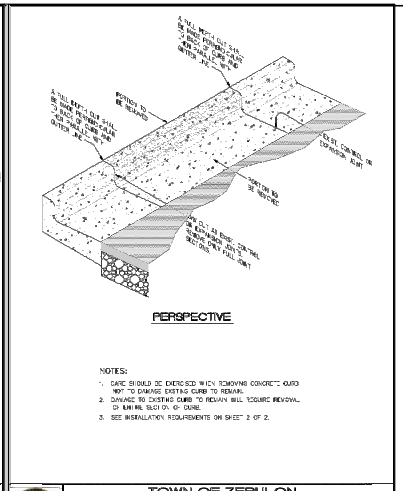
SHEET NO. C10.5

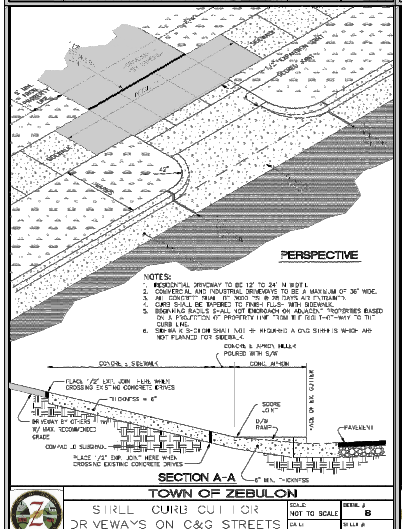
S:\331\49473-Faison_Tract\DWG\Drawing\C04\49473-331-C10.5-LIGHT.dwg | Plotted by Matthew Pennington

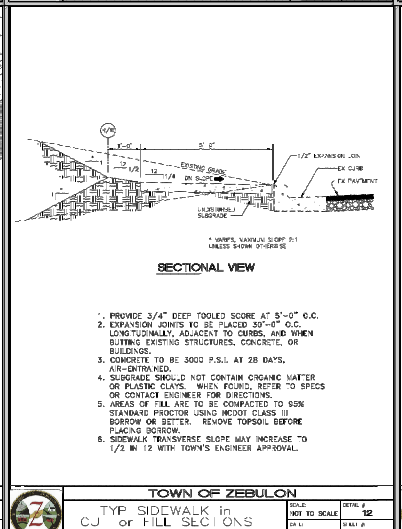


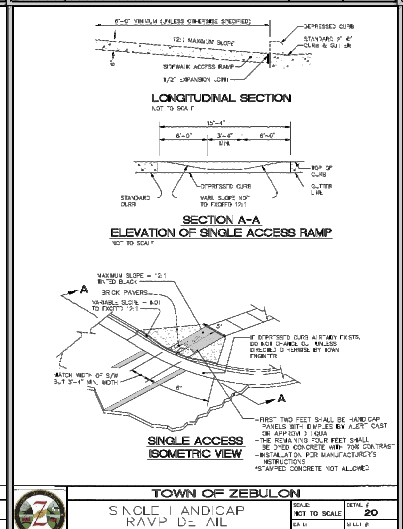


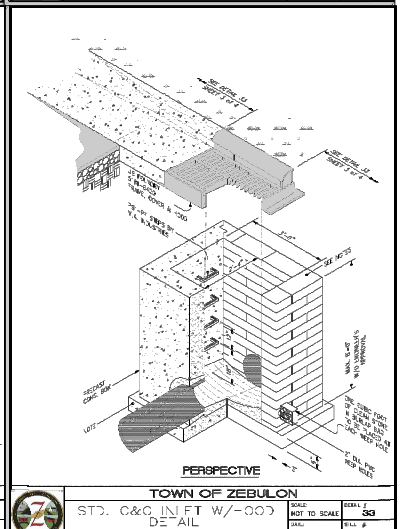












Public
Water Distribution / Extension System
The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919-866-4951 FAX 919-833-8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

DATE: 10/24/2025
DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: T. CROSS
SCALE

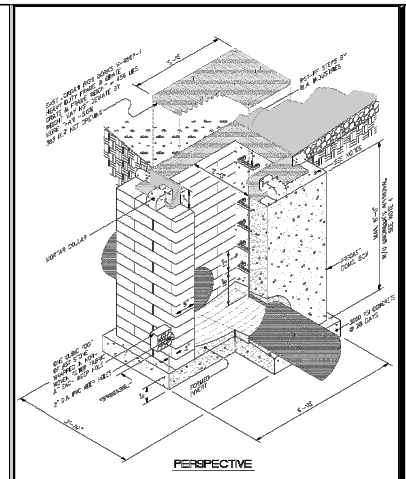
TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
NOTES AND DETAILS

JOB NO. 49473
SHEET NO. C12.0

S:\331\49473\Drawing_Files\CIVIL\Sheet\CD\49473-C12.0-NOTES.dwg | Plotted by Matthew Pennington

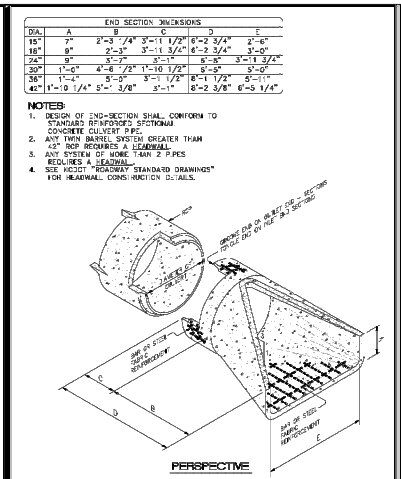


TOWN OF ZEBULON
2x3 DROP INLET
SCALE: NOT TO SCALE | DETAIL # 34 | DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY

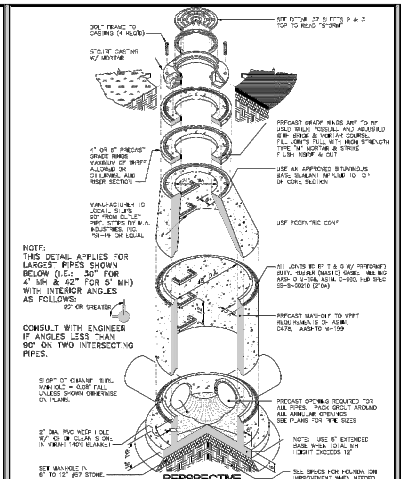
END SECTION DIMENSIONS

DIA.	A	B	C	D	E
15"	7"	2'-3 7/4"	3'-11 1/2"	6'-2 3/4"	2'-6"
18"	9"	2'-3"	3'-11 3/4"	6'-2 3/4"	3'-0"
24"	9"	2'-7"	3'-1"	5'-8"	3'-11 3/4"
30"	1'-6"	4'-6 1/2"	1'-10 1/2"	8'-5"	5'-0"
36"	1'-4"	5'-0"	3'-1 1/2"	8'-1 1/2"	5'-11"
42"	1'-10 1/4"	5'-4 3/8"	3'-1"	8'-2 3/8"	6'-5 1/4"

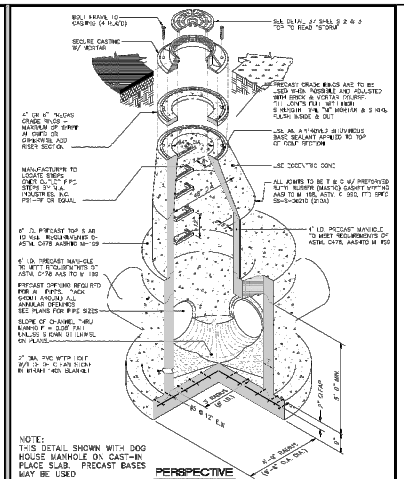
NOTES:
1. DESIGN OF END-SECTION SHALL CONFORM TO STANDARD REINFORCED SECTIONAL CONCRETE CULVERT PIPE.
2. ANY TWIN BARREL SYSTEM GREATER THAN 42" RCP REQUIRES A HEADWALL.
3. ANY SYSTEM OF MORE THAN 2 PIPES REQUIRES A HEADWALL.
4. SEE NCDOT "HEADWALL STANDARD DRAWINGS" FOR HEADWALL CONSTRUCTION DETAILS.



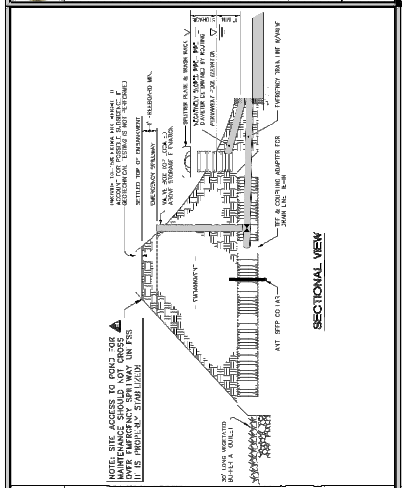
TOWN OF ZEBULON
STD. FLARED END SECTIONS DESIGN AID DETAIL
SCALE: NOT TO SCALE | DETAIL # 36 | DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY



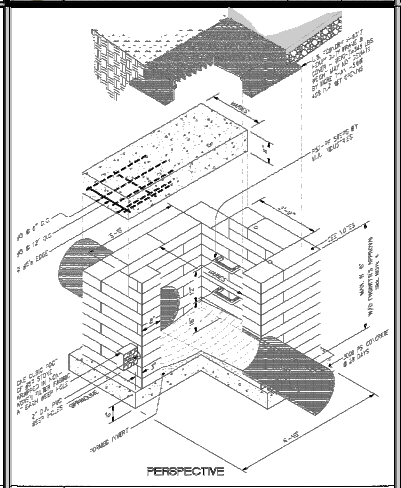
TOWN OF ZEBULON
PRECAST CONCRETE 4' DIA. MH JB
SCALE: NOT TO SCALE | DETAIL # 40 | DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY



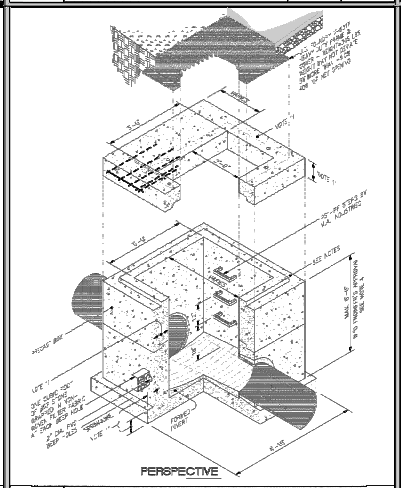
TOWN OF ZEBULON
PRECAST CONCRETE 6' TO 4' DIA. MH JB
SCALE: NOT TO SCALE | DETAIL # 41 | DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY



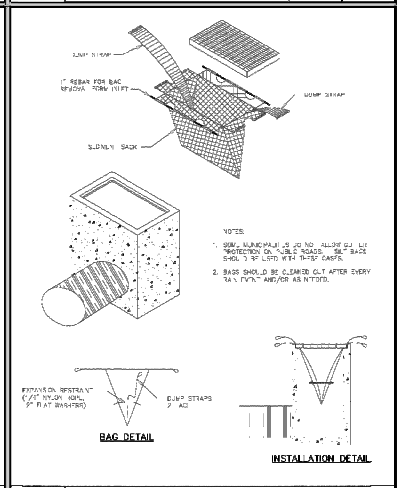
TOWN OF ZEBULON
TYPICAL SPILLWAY DETAIL
SCALE: NOT TO SCALE | DETAIL # 42 | DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY



TOWN OF ZEBULON
STD. 3' x VARIABLE LENGTH BOX WITH 2' x 3' C.B.
SCALE: NOT TO SCALE | DETAIL # 39 | DATE: JULY 2010 | SHEET # 1 OF 2
USE WITH STANDARD SPECIFICATIONS ONLY



TOWN OF ZEBULON
STD. 3' x VARIABLE LENGTH PRECAST BOX WITH 2' x 3' C.B.
SCALE: NOT TO SCALE | DETAIL # 39 | DATE: JULY 2010 | SHEET # 2 OF 2
USE WITH STANDARD SPECIFICATIONS ONLY



TOWN OF ZEBULON
CATCH BASIN - SEDIMENT CONTROL DEVICES
SCALE: NOT TO SCALE | DETAIL # 50 | DATE: JULY 2010 | SHEET # 1 OF 1
USE WITH STANDARD SPECIFICATIONS ONLY

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE TIMMONS GROUP OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

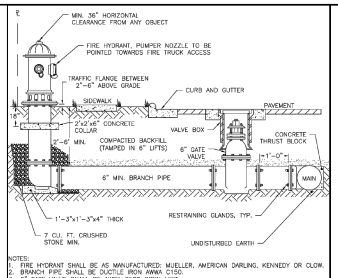
REVISION DESCRIPTION	DATE

DATE: 10/24/2025
DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: T. CROSS
SCALE:

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

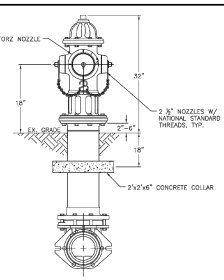
FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
NOTES AND DETAILS

JOB NO. 49473
SHEET NO. C12.1



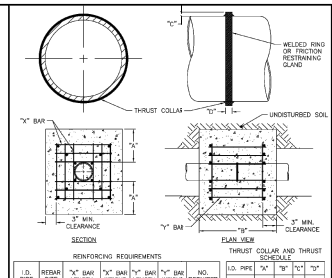
NOTES:
1. FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY OR CLOW.
2. BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150.
3. 6" GATE VALVE SHALL BE AWWA C500 OPEN LEFT.
4. RODS AND BOLTS SHALL BE ¾" 316 STAINLESS STEEL.
5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION.
6. RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE.
7. FIRE HYDRANTS TO BE LOCATED IN ROW OR 2.5 FOOT EASEMENT (ON ALL SIDES OF HYDRANT) FOOT EASEMENT ADJACENT TO ROW.
8. ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE PERSON RESPONSIBLE FOR THE WORK IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

CITY OF RALEIGH
STANDARD DETAIL
STANDARD FIRE HYDRANT INSTALLATION (RESTRAINT GLANDS)
W-4



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

CITY OF RALEIGH
STANDARD DETAIL
5" STORZ PUMPER NOZZLE
W-5



REINFORCING REQUIREMENTS

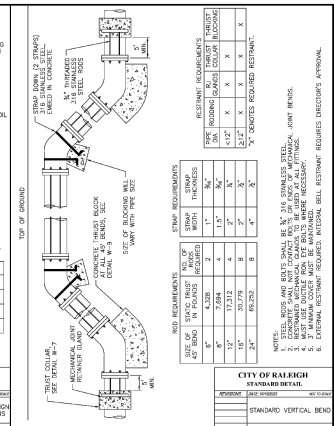
I.D. PIPE	REBAR SIZE	"X" BAR LENGTH	"X" BAR WEIGHT	"Y" BAR LENGTH	"Y" BAR WEIGHT	NO. REQUIRED
6"-36"	#5	3'-0"+ O.D. PIPE	1.043 LBS/FT	1'-1"	1.1 LBS EACH	X=24 Y=12
48"	#6	3'-0"+ O.D. PIPE	1.502 LBS/FT	1'-3"	1.9 LBS EACH	X=24 Y=12

THRUST COLLAR AND THRUST SCHEDULE

I.D. PIPE	"X"	"B"	"C"	"Y"
6"-18"	1'-4"	1'-7"	2"	⅝"
20"-24"	1'-4"	1'-7"	3"	⅞"
30"-36"	1'-4"	1'-7"	4"	⅞"
48"	1'-8"	1'-8"	6"	⅞"

NOTES:
1. SEE DETAIL W-9 FOR THRUST BLOCK LOCATIONS.
2. CONCRETE SHALL BE 3,000 PSI AND TRANSIT MIXED.
3. REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER.
4. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON DETAIL W-3.
5. BACKFILL TAMPED IN 6" LIFTS, SEE DETAIL W-3.
6. THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AROUND CIRCUMFERENCE.

CITY OF RALEIGH
STANDARD DETAIL
THRUST BLOCKING DESIGN DATA FOR WATER MAINS
W-7



SIZE OF 45° BEND	NO. OF RODS REQUIRED	SIX-OX THRUST IN POUNDS
6"	2	4,328
8"	2	7,694
12"	4	17,312
16"	4	30,779
24"	8	69,252

ROD REQUIREMENTS

STRAP WIDTH	STRAP THICKNESS
1"	⅝"
1.5"	¾"
2"	⅞"
3"	1"
4"	1"

STRAP REQUIREMENTS

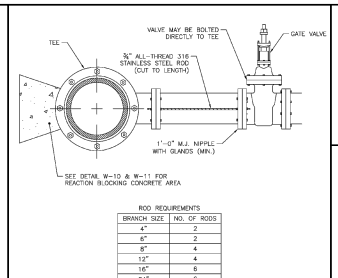
PIPE	RODDING (Ø.)	STRAP (Ø.)	THRUST BLOCK (SURFACE)
<12"	X	X	X
≥12"	X	X	X

"X" DENOTES REQUIRED RESTRAINT.

RESTRAINT REQUIREMENTS

NOTES:
1. THRUST RODS AND BOLTS SHALL BE ¾" 316 STAINLESS STEEL.
2. CONCRETE SHALL NOT CONTACT RODS OR ENDS OF MECHANICAL JOINT RENOS.
3. MUST USE DUCTILE IRON FITTINGS.
4. MUST USE DUCTILE IRON RODS OR BOLTS WHERE NECESSARY.
5. ALL RODS SHALL BE ENCASED IN CONCRETE.
6. EXTERNAL RESTRAINT REQUIRED. INTERNAL BELL RESTRAINT REQUIRES DIRECTOR'S APPROVAL.

CITY OF RALEIGH
STANDARD DETAIL
STANDARD VERTICAL BEND
W-12

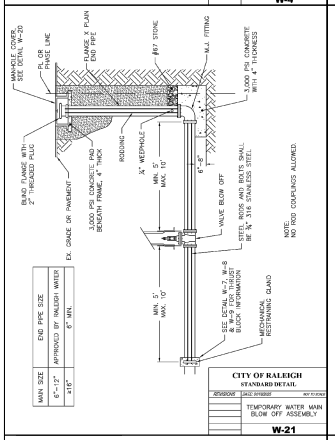


ROD REQUIREMENTS

BRANCH SIZE	NO. OF RODS
4"	2
6"	2
8"	4
12"	4
16"	6
24"	6
30"	8
36"	8

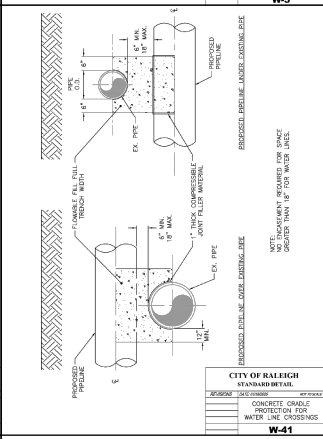
NOTES:
1. STEEL RODS AND BOLTS SHALL BE ¾" 316 STAINLESS STEEL.
2. SEE DETAIL W-10 AND W-11 (THRUST BLOCK TABLES) FOR CONCRETE.
3. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL FITTINGS.
4. THIS RODDING REQUIREMENT DOES NOT APPLY TO FIRE HYDRANTS.

CITY OF RALEIGH
STANDARD DETAIL
VALVE RESTRAINT AT TEES AND CROSSES FOR LINES (4"-24")
W-15

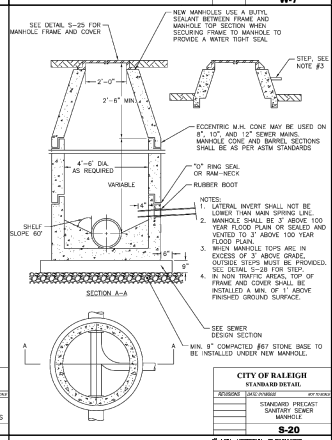


MAIN SIZE	END PIPE SIZE APPROVED BY RALEIGH WATER
6"-12"	6" MIN.
≥16"	

CITY OF RALEIGH
STANDARD DETAIL
TEMPORARY WATER MAIN BLOW OFF ASSEMBLY
W-21

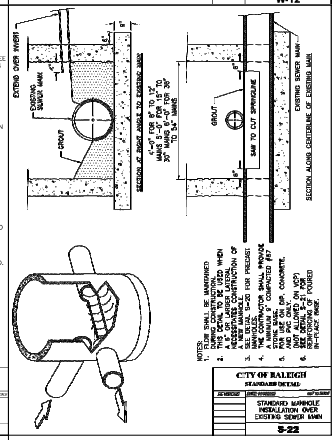


CITY OF RALEIGH
STANDARD DETAIL
CONCRETE CRADLE PROTECTION FOR WATER LINE CROSSINGS
W-41



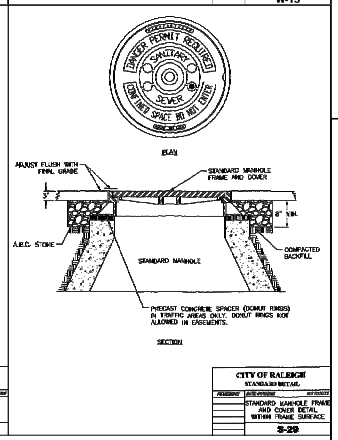
NOTES:
1. LATERAL INVERT SHALL NOT BE LOWER THAN MAIN SPRING LINE.
2. MANHOLE SHALL BE 3' ABOVE 100 YEAR FLOOD PLAIN OR SEALED AND VENTED TO 3' ABOVE 100 YEAR FLOOD PLAIN.
3. WHEN MANHOLE TOPS ARE IN EXCESS OF 3' ABOVE GRADE, OUTSIDE STEPS MUST BE PROVIDED. SEE DETAIL S-28 FOR STEP.
4. IN NON TRAFFIC AREAS, TOP OF FRAME AND COVER SHALL BE INSTALLED A MIN. OF 1' ABOVE FINISHED GROUND SURFACE.

CITY OF RALEIGH
STANDARD DETAIL
STANDARD PRECAST SANITARY SEWER MANHOLE
S-20

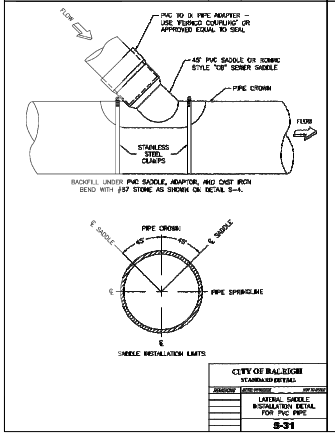


NOTES:
1. FLOW SHALL BE MAINTAINED.
2. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY CONSTRUCTION OF SEE DETAIL S-25 FOR PRESSED FRAME.
3. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY CONSTRUCTION OF SEE DETAIL S-26 FOR CONCRETE FRAME.
4. FRAME MUST BE FOR CONCRETE AND ADJUSTABLE.
5. SEE DETAIL S-27 FOR PRESSED FRAME.
6. SEE DETAIL S-28 FOR IN-PLACE FRAME.

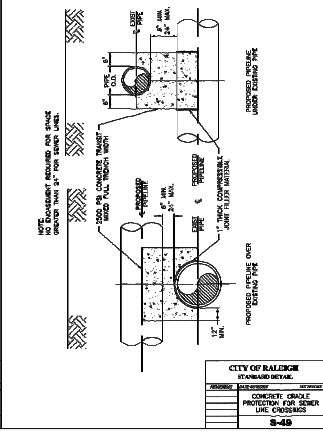
CITY OF RALEIGH
STANDARD DETAIL
STANDARD MANHOLE INSTALLATION OVER EXISTING SEWER MAIN
S-22



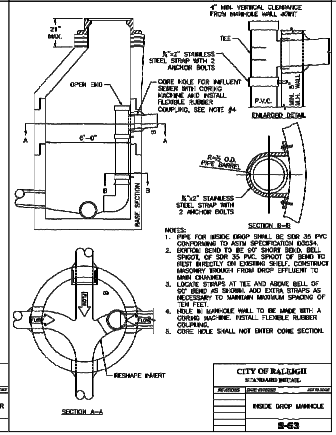
CITY OF RALEIGH
STANDARD DETAIL
STANDARD MANHOLE FRAME AND COVER DETAIL WITHIN FRAME SURFACE
S-29



CITY OF RALEIGH
STANDARD DETAIL
LATERAL SADDLE INSTALLATION DETAIL FOR PVC PIPE
S-31



CITY OF RALEIGH
STANDARD DETAIL
CONCRETE CRADLE PROTECTION FOR SEWER LINE CROSSINGS
S-49



NOTES:
1. PIPE FOR INSIDE DROP SHALL BE SDR 35 PVC CONFORMING TO ASTM SPECIFICATION D3034.
2. VERTICAL BEND TO BE 90° SHORT BELL BELL SPIGOT OF SDR 35 PVC. SPIGOT OF BEND TO REST DIRECTLY ON EXISTING SHELF. CONSTRUCT MASONRY BRACKET FROM DROP EFFLUENT TO MAIN CHANNEL.
3. LOCATE STRAPS AT TEE AND ABOVE BELL OF 90° BEND AS SHOWN. ADD EXTRA STRAPS AS NECESSARY TO MAINTAIN MAXIMUM SPACING OF TEN FEET.
4. HOLE IN MANHOLE WALL TO BE MADE WITH A CORING MACHINE. INSTALL FLEXIBLE RUBBER COUPLING.
5. CORE HOLE SHALL NOT ENTER CONE SECTION.

CITY OF RALEIGH
STANDARD DETAIL
INSIDE DROP MANHOLE
S-63

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE SCALE AND FOR PLOTTING ON 24" X 36" PAPER

5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919-866-4951 FAX 919-833-8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

DATE 10/24/2025
DRAWN BY 331
DESIGNED BY 331
CHECKED BY T. CROSS
SCALE

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
NOTES AND DETAILS

JOB NO. 49473
SHEET NO. C12.2

S:\331-19\P3-Faison_Tract\DWG\Sheet\CD\HRT\H-20-C12.2A.TEST.dwg | Plotted by Matthew Pennington

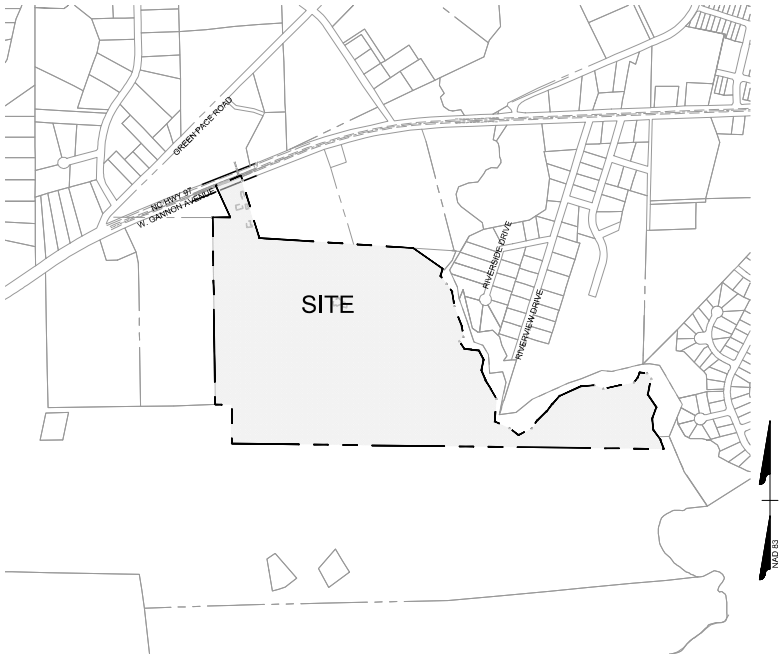
FAISON TRACT

EROSION & SEDIMENT CONTROL PLAN

TOWN OF ZEBULON, WAKE COUNTY, NORTH CAROLINA

SITE DATA

PROJECT:	FAISON TRACT
ENGINEER:	TIMMONS GROUP 5410 TRINITY ROAD, SUITE 102 RALEIGH, NC 27607 PHONE: 919-532-3271 FAX: 919-859-5663 TYLER CROSS, PE EMAIL: TYLER.CROSS@TIMMONS.COM
DEVELOPER:	KB HOME RALEIGH DURHAM INC. 2626 GLENWOOD AVENUE, SUITE 550 RALEIGH, NC 27608 ROMAN ACOSTA PHONE: 919-768-7976 EMAIL.: RACOSTA@KBHOME.COM
PROPERTY LOCATION:	WEST GANNON AVENUE
PIN:	1795038323, 1795123608
PROPERTY OWNER:	ANDREW THOMAS FAISON P.O. BOX 927 MIDDLESEX, NC 27557
EXISTING ZONING:	R2
PROPOSED USE:	SINGLE FAMILY RESIDENTIAL
TOTAL DEVELOPED TRACT AREA:	100.41 AC
TOTAL DISTURBED AREA:	27.39 AC



VICINITY MAP
1"=500'

Sheet List Table

Sheet Number	Sheet Title
EC0.0	COVER SHEET
EC2.0	OVERALL EROSION CONTROL PLAN - STAGE 1
EC2.1	EROSION CONTROL PLAN - STAGE 1 (SHEET 1 OF 5)
EC2.2	EROSION CONTROL PLAN - STAGE 1 (SHEET 2 OF 5)
EC2.3	EROSION CONTROL PLAN - STAGE 1 (SHEET 3 OF 5)
EC2.4	EROSION CONTROL PLAN - STAGE 1 (SHEET 4 OF 5)
EC2.5	EROSION CONTROL PLAN - STAGE 1 (SHEET 5 OF 5)
EC3.0	OVERALL EROSION CONTROL PLAN - STAGE 2
EC3.1	EROSION CONTROL PLAN - STAGE 2 (SHEET 1 OF 5)
EC3.2	EROSION CONTROL PLAN - STAGE 2 (SHEET 2 OF 5)
EC3.3	EROSION CONTROL PLAN - STAGE 2 (SHEET 3 OF 5)
EC3.4	EROSION CONTROL PLAN - STAGE 2 (SHEET 4 OF 5)
EC3.5	EROSION CONTROL PLAN - STAGE 2 (SHEET 5 OF 5)
EC4.0	NCG01 NOTES & DETAILS
EC4.1	EROSION CONTROL NOTES & DETAILS
EC4.2	EROSION CONTROL NOTES & DETAILS
EC4.3	CULVERT CROSSING NOTES & DETAILS
EC4.4	EROSION CONTROL NOTES & DETAILS

SURFACE ROUGHENING NOTES:

CUT SLOPE ROUGHENING FOR AREAS NOT TO BE MOWED

1. STAIR-STEP GRADE OR GROOVE CUT SLOPES WITH A GRADIENT STEEPER THAN 3:1 (FIGURES 6.03B AND 6.03C).
2. USE STAIR-STEP GRADING ON ANY ERODIBLE MATERIAL SOFT ENOUGH TO BE RIPPED WITH A BULLDOZER. SLOPES CONSISTING OF SOFT ROCK WITH SOME SUBSOIL ARE PARTICULARLY SUITED TO STAIR-STEP GRADING.
3. MAKE THE VERTICAL CUT DISTANCE LESS THAN THE HORIZONTAL DISTANCE, AND SLIGHTLY SLOPE THE HORIZONTAL POSITION OF THE 'STEP' IN TOWARD THE VERTICAL WALL.
4. DO NOT MAKE INDIVIDUAL VERTICAL CUTS MORE THAN 2 FEET IN SOFT MATERIALS OR MORE THAN 3 FEET IN ROCKY MATERIALS.
5. GROOVING USES MACHINERY TO CREATE A SERIES OF RIDGES AND DEPRESSIONS THAT RUN ACROSS THE SLOPE (ON THE CONTOUR).
6. GROOVE USING ANY APPROPRIATE IMPLEMENT THAT CAN BE SAFELY OPERATED ON THE SLOPE, SUCH AS DISKS, TILLERS, SPRING HARROWS, OR THE TEETH ON A FRONT-END LOADER. DO NOT MAKE SUCH GROOVES LESS THAN 3 INCHES DEEP NOR MORE THAN 15 INCHES APART.

FILL SLOPE ROUGHENING FOR AREAS NOT TO BE MOWED

7. PLACE FILL SLOPES WITH A GRADIENT STEEPER THAN 3:1 IN LIFTS NOT TO EXCEED 9 INCHES, AND MAKE SURE EACH LIFT IS PROPERLY COMPACTED. ENSURE THAT THE FACE OF THE SLOPE CONSISTS OF LOOSE, UNCOMPACTED FILL 4 TO 6 INCHES DEEP. USE GROOVING, AS DESCRIBED ABOVE, TO ROUGHEN THE FACE OF THE SLOPES, IF NECESSARY.
8. DO NOT BLADE OR SCRAPE THE FINAL SLOPE FACE.

CUTS, FILLS, AND GRADED AREAS THAT WILL BE MOWED

9. MAKE MOWED SLOPES NO STEEPER THAN 3:1.
10. ROUGHEN THESE AREAS TO SHALLOW GROOVES BY NORMAL TILLING, DISKING, HARROWING, OR USE OF CULTIPACKER-SEEDER. MAKE THE FINAL PASS OF ANY SUCH TILLAGE IMPLEMENT ON THE CONTOUR.
11. MAKE GROOVES, FORMED BY SUCH IMPLEMENTS, CLOSE TOGETHER (LESS THAN 10 INCHES) AND NOT LESS THAN 1 INCH DEEP.
12. EXCESSIVE ROUGHNESS IS UNDESIRABLE WHERE MOWING IS PLANNED.

ROUGHENING WITH TRACKED MACHINERY

13. LIMIT ROUGHENING WITH TRACKED MACHINERY TO SANDY SOILS TO AVOID UNDUE COMPACTION OF THE SOIL SURFACE. TRACKING IS GENERALLY NOT AS EFFECTIVE AS THE OTHER ROUGHENING METHODS DESCRIBED.
14. OPERATE TRACKED MACHINERY UP AND DOWN THE SLOPE TO LEAVE HORIZONTAL DEPRESSIONS IN THE SOIL. DO NOT BACK-BLADE DURING THE FINAL GRADING OPERATION.

Required Wake County Basin Removal Sequence

1. **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 also require this.**

Required Wake County Construction Sequence*

1. Schedule a preconstruction conference with Jeffrey N. Gunter (919-397-8670). Obtain a land- disturbing permit.
2. Install gravel construction pad, temporary diversions, silt fence, sediment basins or other measures as shown on the approved plan. Clear only as necessary to install these devices. Seed temporary diversions, borms and basins immediately after construction.
3. Call Jeffrey N. Gunter (919-397-8670) for an onsite inspection by the Environmental Consultant to obtain a Certificate of Compliance.
4. Begin clearing and grubbing. Maintain devices as needed. Rough grade site.
5. Install storm sewer, if shown, and protect inlets with block and gravel inlet controls, sediment traps or other approved measures as shown on the plan. Begin construction, building, etc.
6. Stabilize site as areas are brought up to finish grade with vegetation, paving, ditch linings, etc. Seed and mulch denuded areas per Ground Stabilization Time Frames.
7. When construction is complete and all areas are stabilized completely, call Jeffrey N. Gunter (919-397-8670) for an inspection.
8. If site is approved, remove temporary diversions, silt fence, sediment basins, etc., and seed out or stabilize any resulting bare areas. All remaining permanent erosion control devices, such as velocity dissipators, should now be installed.
9. When vegetation has become established, call for a final site inspection by Jeffrey N. Gunter. Obtain a Certificate of Completion.

ATTENTION CONTRACTORS

The Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Infrastructure Inspections Division and schedule a Pre-construction meeting on the Development Portal prior to beginning any construction.
Raleigh Water must be contacted at (919) 996-4540 at least twenty-four hours prior to beginning any work activity around critical water and sewer infrastructure.

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

Failure to call for Inspection, install a downstream plug, have permitted plans on the jobsite, or any other violation of City of Raleigh Standards will result in a fine and possible exclusion from future work in the City of Raleigh.

EROSION CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT

APPROVED

EROSION CONTROL ☐ S-_____

STORMWATER MGMT. ☐ S-_____

FLOOD STUDY ☐ S-_____

DATE_____

WAKE COUNTY NORTH CAROLINA

ENVIRONMENTAL CONSULTANT SIGNATURE

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

A HOMEOWNER'S ASSOCIATION (HOA) WILL OWN AND MAINTAIN ALL OPEN SPACE PARCELS AND WILL BE RESPONSIBLE FOR MAINTAINING ALL LANDSCAPING REQUIRED BY TOWN OF ZEBULON UNITED DEVELOPMENT ORDINANCE (UDO).

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ZEBULON AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS. THE SITE SHALL BE DEVELOPMENT IN CONFORMANCE WITH THE TOWN OF ZEBULON UDO, INCLUDING SECTION 4.3.3.P.

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE RALEIGH OFFICE AT
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL: 919-866-4951 FAX: 919-833-8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

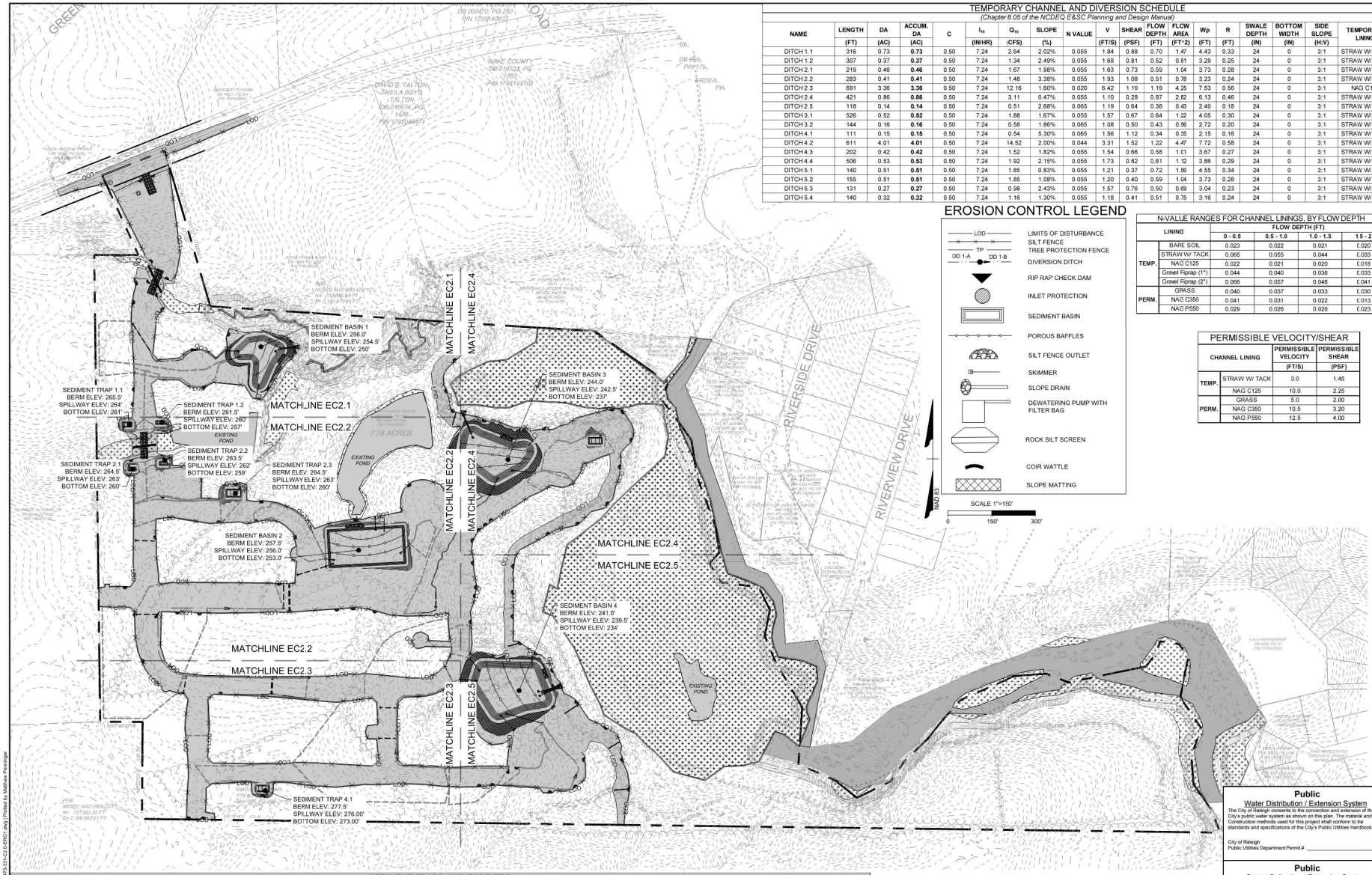
DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 500'

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
COVER SHEET

JOB NO. 49473
SHEET NO. EC0.0

S:\331-0947\Drawing_Files\CIVil\Sheet\Erosion Control\47-33-CD-EC01RC.dwg | Plotted by Matthew Pennington



TEMPORARY CHANNEL AND DIVERSION SCHEDULE

(Chapter 8.05 of the NCDEQ E&SC Planning and Design Manual)

NAME	LENGTH	DA	ACCUM. DA	C	I_{10}	Q_{10}	SLOPE	N VALUE	V	SHEAR	FLOW DEPTH	FLOW AREA	Wp	R	SWALE DEPTH	BOTTOM WIDTH	SIDE SLOPE	TEMPORARY LINING
	(FT)	(AC)	(AC)		(IN/HR)	(CFS)	(%)		(FT/S)	(PSF)	(FT)	(FT^2)	(FT)	(FT)	(IN)	(IN)	(H:V)	
DITCH 1.1	316	0.73	**0.73**	0.50	7.24	2.64	2.02%	0.055	1.84	0.88	0.70	1.47	4.43	0.33	24	0	3:1	STRAW W/ TACK
DITCH 1.2	307	0.37	**0.37**	0.50	7.24	1.34	2.49%	0.055	1.68	0.81	0.52	0.81	3.29	0.25	24	0	3:1	STRAW W/ TACK
DITCH 2.1	219	0.46	**0.46**	0.50	7.24	1.67	1.98%	0.055	1.63	0.73	0.59	1.04	3.73	0.28	24	0	3:1	STRAW W/ TACK
DITCH 2.2	283	0.41	**0.41**	0.50	7.24	1.48	3.38%	0.055	1.93	1.08	0.51	0.78	3.23	0.24	24	0	3:1	STRAW W/ TACK
DITCH 2.3	691	3.36	**3.36**	0.50	7.24	12.16	1.60%	0.020	6.42	1.19	1.19	4.25	7.53	0.56	24	0	3:1	NAG C125
DITCH 2.4	421	0.86	**0.86**	0.50	7.24	3.11	0.47%	0.055	1.10	0.28	0.97	2.82	6.13	0.46	24	0	3:1	STRAW W/ TACK
DITCH 2.5	118	0.14	**0.14**	0.50	7.24	0.51	2.68%	0.065	1.19	0.64	0.38	0.43	2.40	0.18	24	0	3:1	STRAW W/ TACK
DITCH 3.1	526	0.52	**0.52**	0.50	7.24	1.88	1.67%	0.055	1.57	0.67	0.64	1.22	4.05	0.30	24	0	3:1	STRAW W/ TACK
DITCH 3.2	144	0.16	**0.16**	0.50	7.24	0.58	1.86%	0.065	1.08	0.50	0.43	0.56	2.72	0.20	24	0	3:1	STRAW W/ TACK
DITCH 4.1	111	0.15	**0.15**	0.50	7.24	0.54	5.30%	0.065	1.56	1.12	0.34	0.35	2.15	0.16	24	0	3:1	STRAW W/ TACK
DITCH 4.2	611	4.01	**4.01**	0.50	7.24	14.52	2.00%	0.044	3.31	1.52	1.22	4.47	7.72	0.58	24	0	3:1	STRAW W/ TACK
DITCH 4.3	202	0.42	**0.42**	0.50	7.24	1.52	1.82%	0.055	1.54	0.66	0.58	1.01	3.67	0.27	24	0	3:1	STRAW W/ TACK
DITCH 4.4	506	0.53	**0.53**	0.50	7.24	1.92	2.15%	0.055	1.73	0.82	0.61	1.12	3.86	0.29	24	0	3:1	STRAW W/ TACK
DITCH 5.1	140	0.51	**0.51**	0.50	7.24	1.85	0.83%	0.055	1.21	0.37	0.72	1.56	4.55	0.34	24	0	3:1	STRAW W/ TACK
DITCH 5.2	155	0.51	**0.51**	0.50	7.24	1.85	1.08%	0.055	1.20	0.40	0.59	1.04	3.73	0.28	24	0	3:1	STRAW W/ TACK
DITCH 5.3	131	0.27	**0.27**	0.50	7.24	0.98	2.43%	0.055	1.57	0.76	0.50	0.69	3.04	0.23	24	0	3:1	STRAW W/ TACK
DITCH 5.4	140	0.32	**0.32**	0.50	7.24	1.16	1.30%	0.055	1.18	0.41	0.51	0.75	3.16	0.24	24	0	3:1	STRAW W/ TACK

EROSION CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SF — SILT FENCE
- TP — TREE PROTECTION FENCE
- DD 1-A / DD 1-B — DIVERSION DITCH
- RIP RAP CHECK DAM
- INLET PROTECTION
- SEDIMENT BASIN
- POROUS BAFFLES
- SILT FENCE OUTLET
- SKIMMER
- SLOPE DRAIN
- DEWATERING PUMP WITH FILTER BAG
- ROCK SILT SCREEN
- COIR WATTLE
- SLOPE MATTING

N-VALUE RANGES FOR CHANNEL LININGS, BY FLOW DEPTH

LINING		FLOW DEPTH (FT) 0 - 0.5	0.5 - 1.0	1.0 - 1.5	1.5 - 2
TEMP.	BARE SOIL	0.023	0.022	0.021	0.020
	STRAW W/ TACK	0.065	0.055	0.044	0.033
	NAG C125	0.022	0.021	0.020	0.018
	Gravel Riprap (1")	0.044	0.040	0.036	0.033
	Gravel Riprap (2")	0.066	0.057	0.048	0.041
PERM.	GRASS	0.040	0.037	0.033	0.030
	NAG C350	0.041	0.031	0.022	0.013
	NAG P550	0.029	0.026	0.026	0.023

PERMISSIBLE VELOCITY/SHEAR

CHANNEL LINING		PERMISSIBLE VELOCITY (FT/S)	PERMISSIBLE SHEAR (PSF)
TEMP.	STRAW W/ TACK	3.0	1.45
	NAG C125	10.0	2.25
PERM.	GRASS	5.0	2.00
	NAG C350	10.5	3.20
	NAG P550	12.5	4.00

SEDIMENT TRAPS AND BARRIERS

(Chapter 6-VII of the NCDEQ E&SC Planning and Design Manual)

BASIN ID	BASIN TYPE	DRAINAGE AREA (AC)	DISTURBED AREA (AC)	i(10)	C	Q10 (CFS)	REQUIRED VOLUME (CF)	PROVIDED VOLUME (CF)	BASIN LENGTH (FT)	BASIN WIDTH (FT)	BASIN DEPTH (FT)	SURFACE AREA REQ' (SF)	SURFACE AREA PROV'D (SF)	BOTTOM ELEV (FT)	WEIR ELEV (FT)	WEIR LENGTH (FT)	Q10 TOTAL DA (CFS)	FLOW DEPTH (FT)	DEWATER DEVICE	SKIMMER SIZE (IN)	SKIMMER ORIFICE DIA (IN)	DEWATER TIME (DAYS)
1	SEDIMENT BASIN	5.29	5.29	7.22	0.50	19.10	9,522	202,800	260	130	6.0	8,307	33,800	250.00	254.50	34	19.10	0.33	SKIMMER	3.0	2	2.06
2	SEDIMENT BASIN	21.19	21.19	7.22	0.50	76.50	38,142	67,600	260	130	2.0	33,276	33,800	253.00	256.00	55	76.50	0.60	SKIMMER	4.0	2.5	4.58
3	SEDIMENT BASIN	7.36	7.36	7.22	0.50	26.57	13,248	245,000	250	140	7.0	11,558	35,000	237.00	242.50	40	26.57	0.36	SKIMMER	4.0	2	2.48
4	SEDIMENT BASIN	15.89	15.89	7.22	0.50	57.36	28,602	321,300	255	180	7.0	24,953	45,900	234.00	239.50	30	57.36	0.74	SKIMMER	4.0	2.5	3.43
1.1	SEDIMENT TRAP	0.21	0.21	7.22	0.50	0.76	756	1,350	30	15	3.0	330	450	261.00	264.00	10	0.76	0.09	STONE SPILLWAY	N/A	N/A	#VALUE!
1.2	SEDIMENT TRAP	0.18	0.18	7.22	0.50	0.65	648	900	30	10	3.0	283	300	257.00	260.00	20	0.65	0.05	STONE SPILLWAY	N/A	N/A	#VALUE!
2.1	SEDIMENT TRAP	0.15	0.15	7.22	0.50	0.54	540	750	25	10	3.0	236	250	260.00	263.00	20	0.54	0.04	STONE SPILLWAY	N/A	N/A	#VALUE!
2.2	SEDIMENT TRAP	0.16	0.16	7.22	0.50	0.58	576	750	25	10	3.0	251	250	259.00	262.00	5	0.58	0.11	STONE SPILLWAY	N/A	N/A	#VALUE!
2.3	SEDIMENT TRAP	0.64	0.64	7.22	0.50	2.31	2,304	3,750	50	25	3.0	1,005	1,250	260.00	263.00	5	2.31	0.29	STONE SPILLWAY	N/A	N/A	#VALUE!
3.1	SEDIMENT TRAP	0.52	0.52	7.22	0.50	1.88	1,872	2,700	45	20	3.0	817	900	242.00	245.00	5	1.88	0.25	STONE SPILLWAY	N/A	N/A	#VALUE!
4.1	SEDIMENT TRAP	0.52	0.52	7.22	0.50	1.88	1,872	2,700	45	20	3.0	817	900	273.00	276.00	5	1.88	0.25	STONE SPILLWAY	N/A	N/A	#VALUE!

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION

DATE

DATE 10/24/2025
DRAWN BY 331
DESIGNED BY 331
CHECKED BY T. CROSS
SCALE 1" = 150'

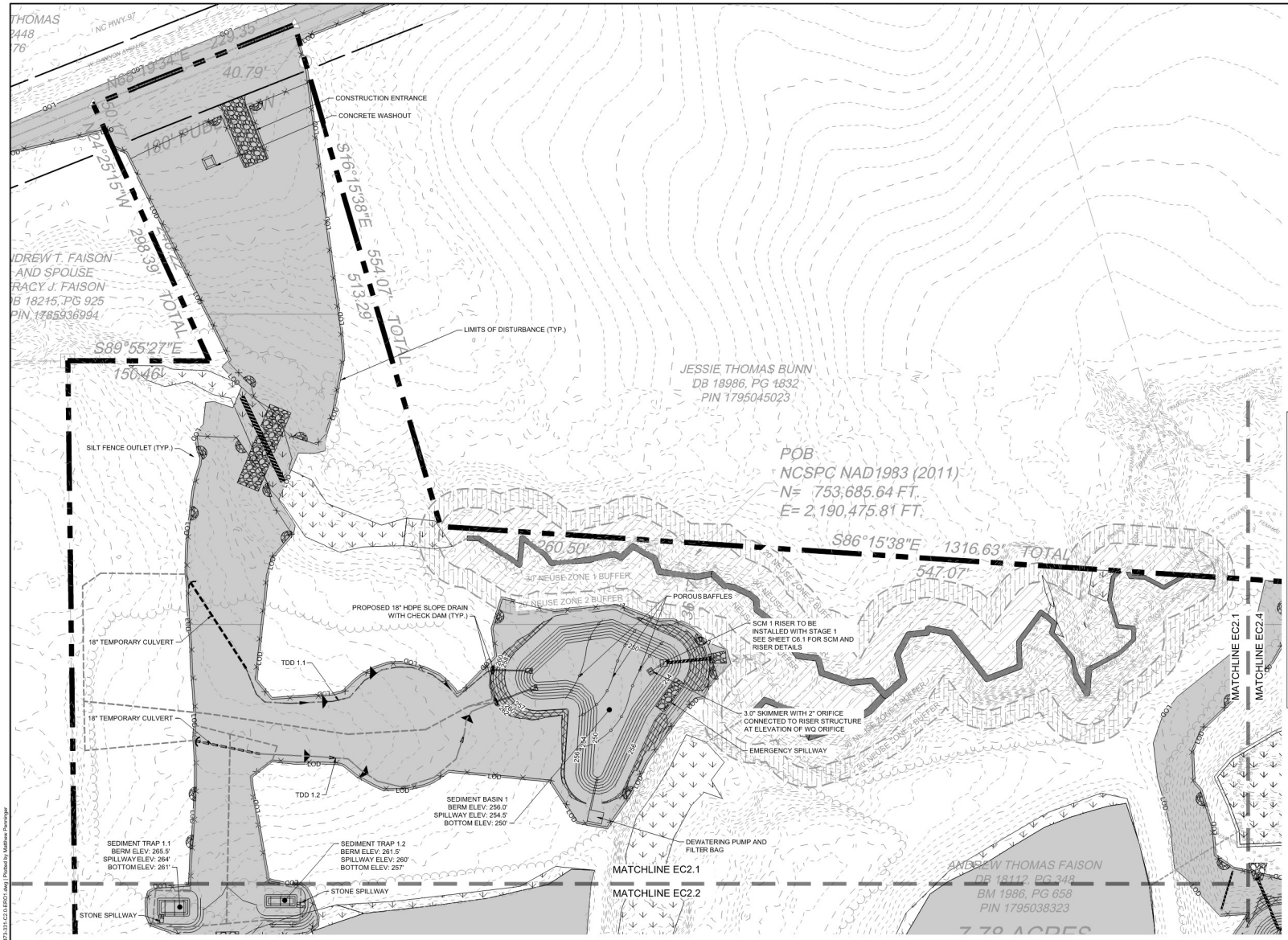
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

OVERALL EROSION CONTROL PLAN - STAGE 1

JOB NO. 49473
SHEET NO. EC2.0

S:\331\49473-Faison_Tract\DWG\Plans\Erosion Control\49473-331-C2.0-EROI.dwg | Plotted by Matthew Pennringer



EROSION CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SILT FENCE
- TP — TREE PROTECTION FENCE
- DD 1-A / DD 1-B — DIVERSION DITCH
- RIP RAP CHECK DAM
- INLET PROTECTION
- SEDIMENT BASIN
- POROUS BAFFLES
- SILT FENCE OUTLET
- SKIMMER
- SLOPE DRAIN
- DEWATERING PUMP WITH FILTER BAG
- ROCK SILT SCREEN
- COIR WATTLE
- SLOPE MATTING

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

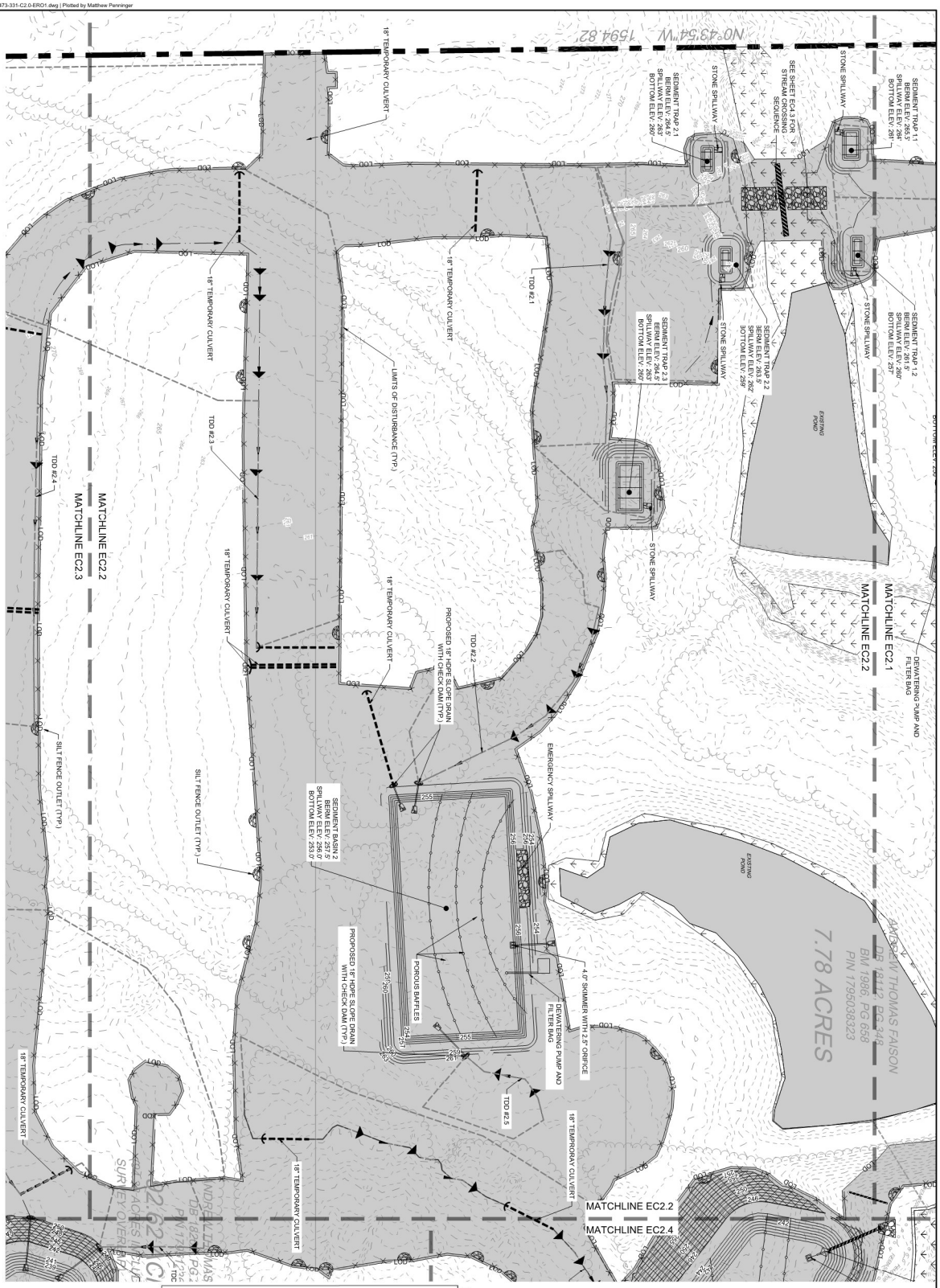
YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
EROSION CONTROL PLAN - STAGE 1 (SHEET 1 OF 5)

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	EC2.1



811 Know what's below. Call before you dig.

Public Water Distribution/Transmission System
The City of Raleigh consents to the connection and extension of the Public Water Distribution/Transmission System to serve this project. Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh
Public Utilities Department/Permit # _____

Public Sewer Collection/Transmission System
The City of Raleigh consents to the connection and extension of the Public Sewer Collection/Transmission System to serve this project. Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh
Public Utilities Department/Permit # _____

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

YOUR VISION ACHIEVED THROUGH OURS.

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

FOR REVIEW ONLY

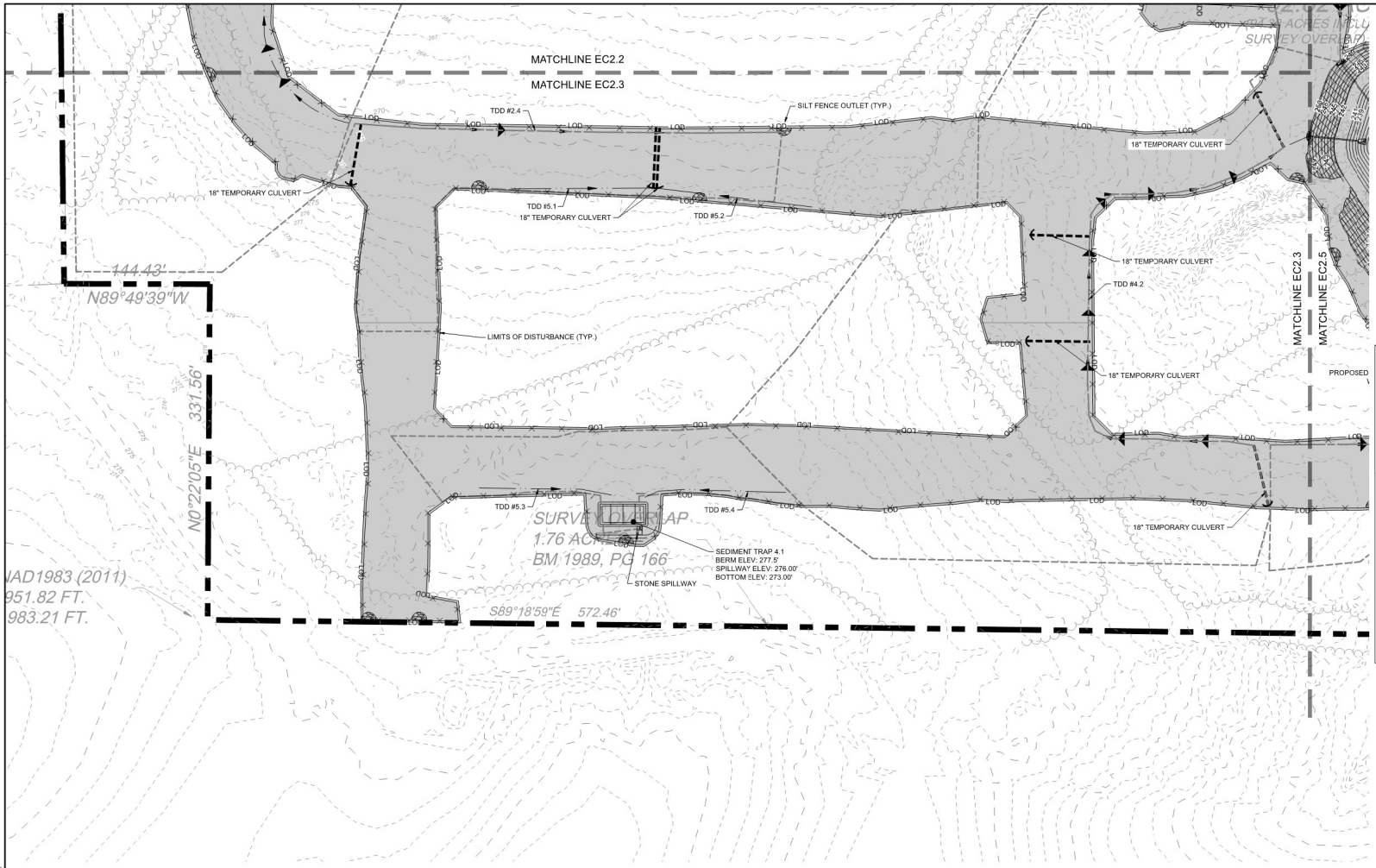
DATE	REVISION DESCRIPTION

FAISON TRACT

ZEBULON, WAKE COUNTY, NORTH CAROLINA

EROSION CONTROL PLAN - STAGE 1 (SHEET 2 OF 5)

JOB NO.	SHEET NO.	SCALE	CHECKED BY	DESIGNED BY	DRAWN BY	DATE
49473	EC2.2	1" = 50'	T. CROSS	331	331	10/24/2025



EROSION CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SILT FENCE
- TP — TREE PROTECTION FENCE
- DD 1-A / DD 1-B — DIVERSION DITCH
- RIP RAP CHECK DAM
- INLET PROTECTION
- SEDIMENT BASIN
- POROUS BAFFLES
- SILT FENCE OUTLET
- SKIMMER
- SLOPE DRAIN
- DEWATERING PUMP WITH FILTER BAG
- ROCK SILT SCREEN
- COIR WATTLE
- SLOPE MATTING

NAD 83

SCALE 1"=50'
0 50' 100'

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

TIMMONS GROUP

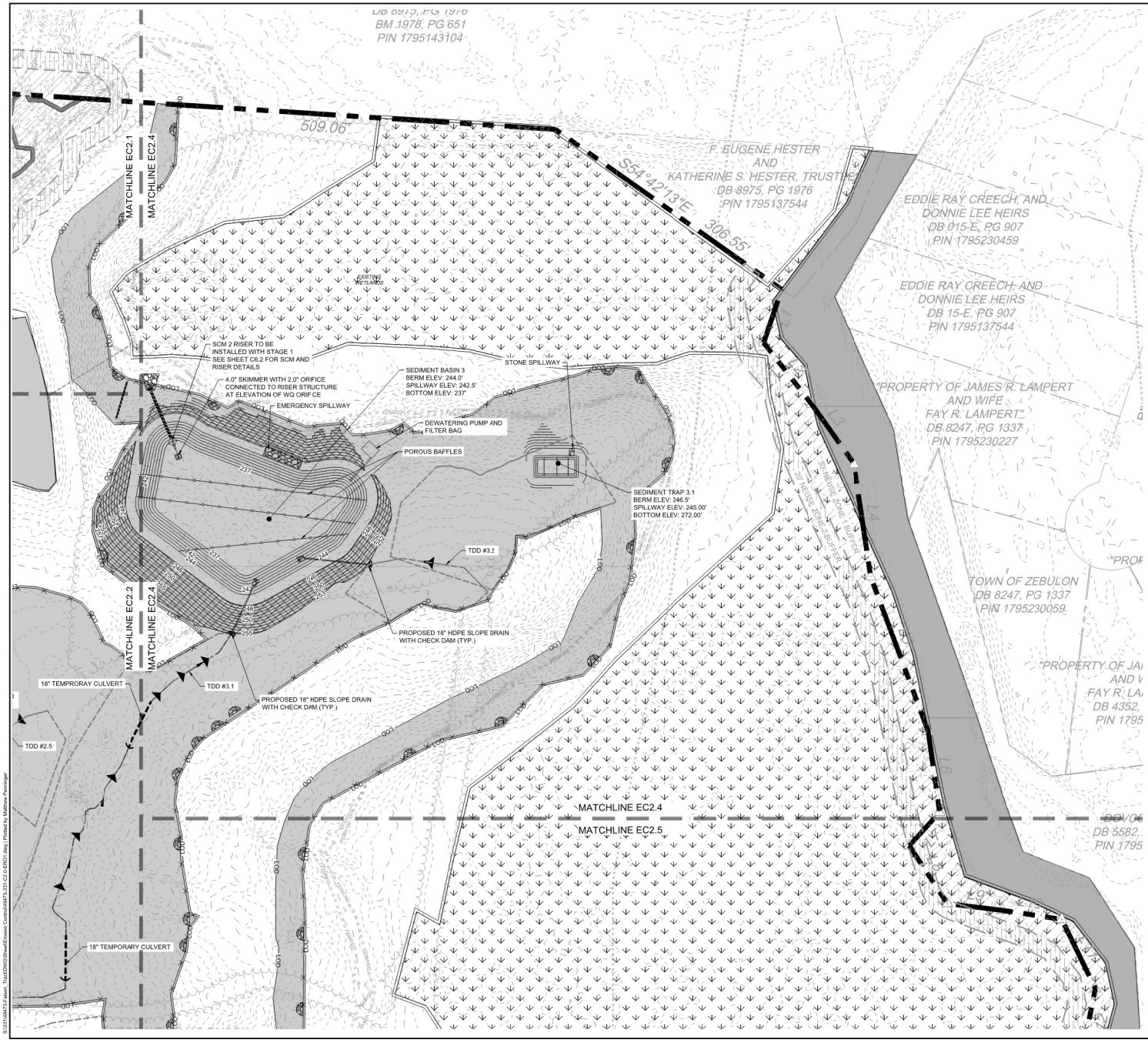
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT

ZEBULON, WAKE COUNTY, NORTH CAROLINA

EROSION CONTROL PLAN - STAGE 1 (SHEET 3 OF 5)

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	EC2.3



EROSION CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SILT FENCE
- TP — TREE PROTECTION FENCE
- DD 1-A / DD 1-B — DIVERSION DITCH
- RIP RAP CHECK DAM
- INLET PROTECTION
- SEDIMENT BASIN
- POROUS BAFFLES
- SILT FENCE OUTLET
- SKIMMER
- SLOPE DRAIN
- DEWATERING PUMP WITH FILTER BAG
- ROCK SILT SCREEN
- COIR WATTLE
- SLOPE MATTING

NAD 83

SCALE 1"=50'

0 50' 100'

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
NORTH CAROLINA OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

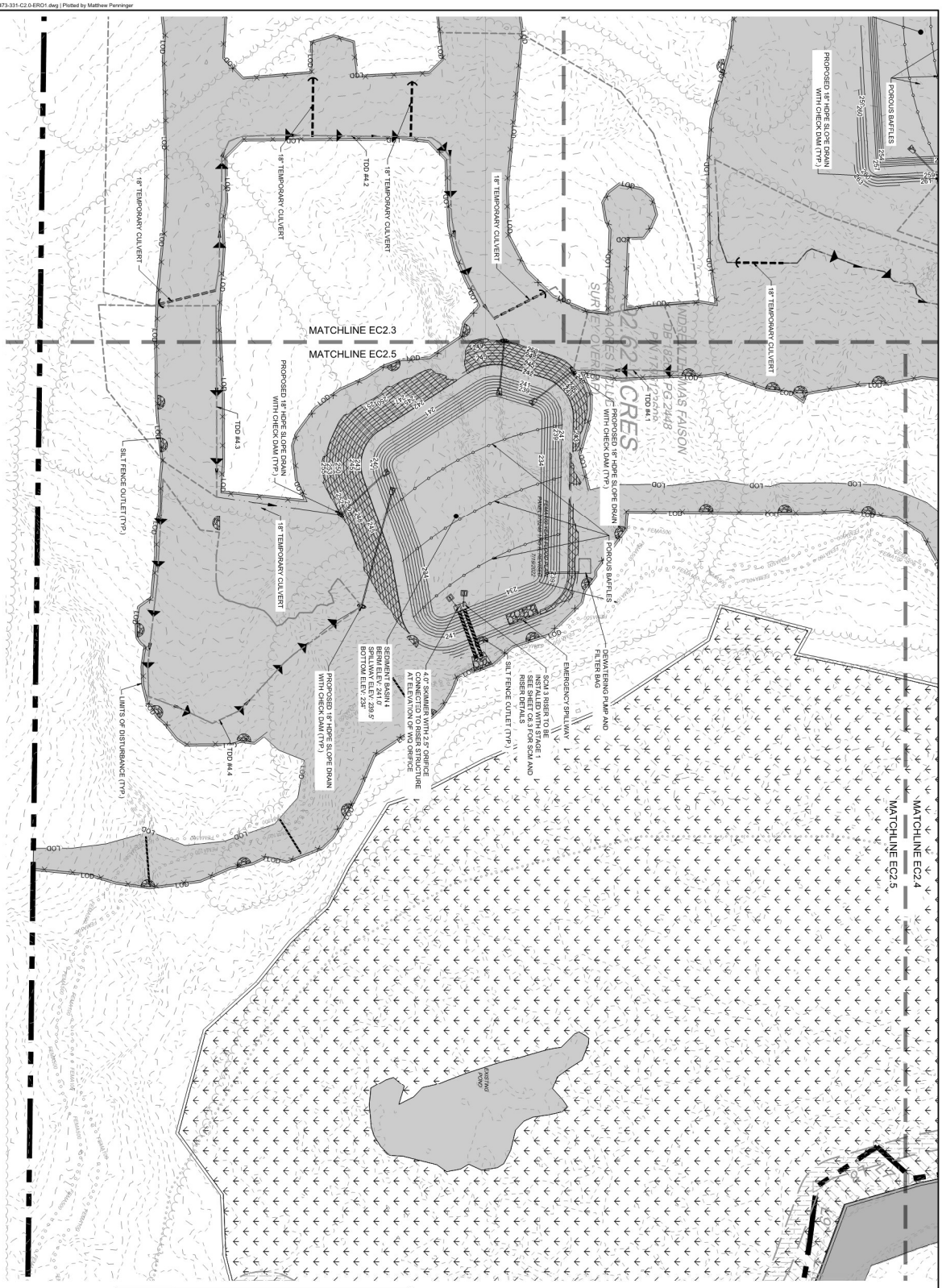
FAISON TRACT

ZEBULON, WAKE COUNTY, NORTH CAROLINA

EROSION CONTROL PLAN - STAGE 1 (SHEET 4 OF 5)

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	EC2.4

S:\331\49473-Faison_Tract\DWG\Build\Erosion Control\49473-331-C2.0-EROS1.dwg | Plotted by Matthew Penninger



EROSION CONTROL LEGEND

- LIMITS OF DISTURBANCE
- SILT FENCE
- TREE PROTECTION FENCE
- DIVERSION DITCH
- RIP RAP CHECK DAM
- INLET PROTECTION
- SEDIMENT BASIN
- POROUS BAFFLES
- SILT FENCE OUTLET
- SKIMMER
- SLOPE DRAIN
- DEWATERING PUMP WITH FILTER BAG
- ROCK SILT SCREEN
- COIR WATTLE
- SLOPE MATTING

SCALE 1"=50'
0 50' 100'
NAD 83

811 Know what's below. Call before you dig.

Public Water Distribution/Transmission System
The City of Raleigh systems to be connected and extension of the Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh
Public Utilities Department/Permit #

Public Sewer Collection/Transmission System
The City of Raleigh systems to be connected and extension of the Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh
Public Utilities Department/Permit # _____

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

YOUR VISION ACHIEVED THROUGH OURS.

THIS DRAWING PREPARED AT THE
RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

FOR REVIEW ONLY

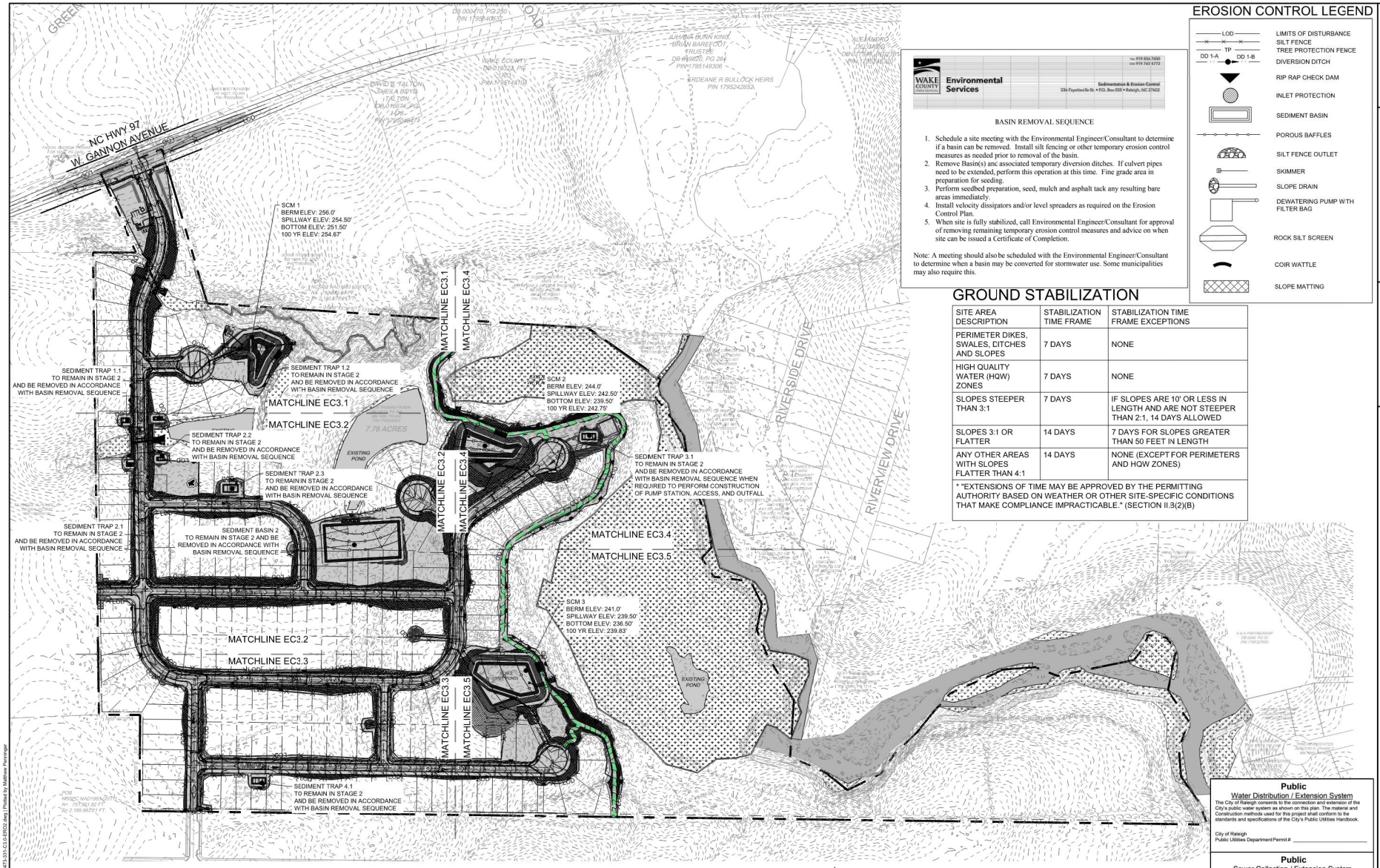
DATE	REVISION DESCRIPTION

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

EROSION CONTROL PLAN - STAGE 1 (SHEET 5 OF 5)

JOB NO.	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY	DATE
49473	1" = 50'	331	331	T. CROSS	10/24/2025

SHEET NO. EC2.5



EROSION CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SF — SILT FENCE
- TP — TREE PROTECTION FENCE
- DD 1-A / DD 1-B — DIVERSION DITCH
- RIP RAP CHECK DAM
- INLET PROTECTION
- SEDIMENT BASIN
- POROUS BAFFLES
- SILT FENCE OUTLET
- SKIMMER
- SLOPE DRAIN
- DEWATERING PUMP WITH FILTER BAG
- ROCK SILT SCREEN
- COIR WATTLE
- SLOPE MATTING

WAKE COUNTY NORTH CAROLINA **Environmental Services**

tel: 919 856 7600
fax: 919 792 6772

Sedimentation & Erosion Control
336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602

BASIN REMOVAL SEQUENCE

1. Schedule a site meeting with the Environmental Engineer/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. Remove Basin(s) and associated temporary diversion ditches. If culvert pipes need to be extended, perform this operation at this time. Fine grade area in preparation for seeding.
3. Perform seedbed preparation, seed, mulch and asphalt tack any resulting bare areas immediately.
4. Install velocity dissipators and/or level spreaders as required on the Erosion Control Plan.
5. When site is fully stabilized, call Environmental Engineer/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 Engineer/Consultant to determine when a basin may be converted for stormwater use. Some municipalities may also require this.

GROUND STABILIZATION

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND 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 ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ANY OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)

* "EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE." (SECTION II.3(2)(B)

NAG STRAW BLANKET MATTING TYPES

SLOPES	NAG MATTING TYPE
>1:1	C125
2:1 - 1:1	SC150
3:1 - 2:1	S150
4:1 - 3:1	S75

NOTE

TEMP SLOPE DRAIN TO BE RELOCATED TO TOP OF SLOPE AS NECESSARY WHEN SITE IS BROUGHT TO FINISHED GRADE IN STAGE 2

NAD 83

SCALE 1"=150'
0 150' 300'

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

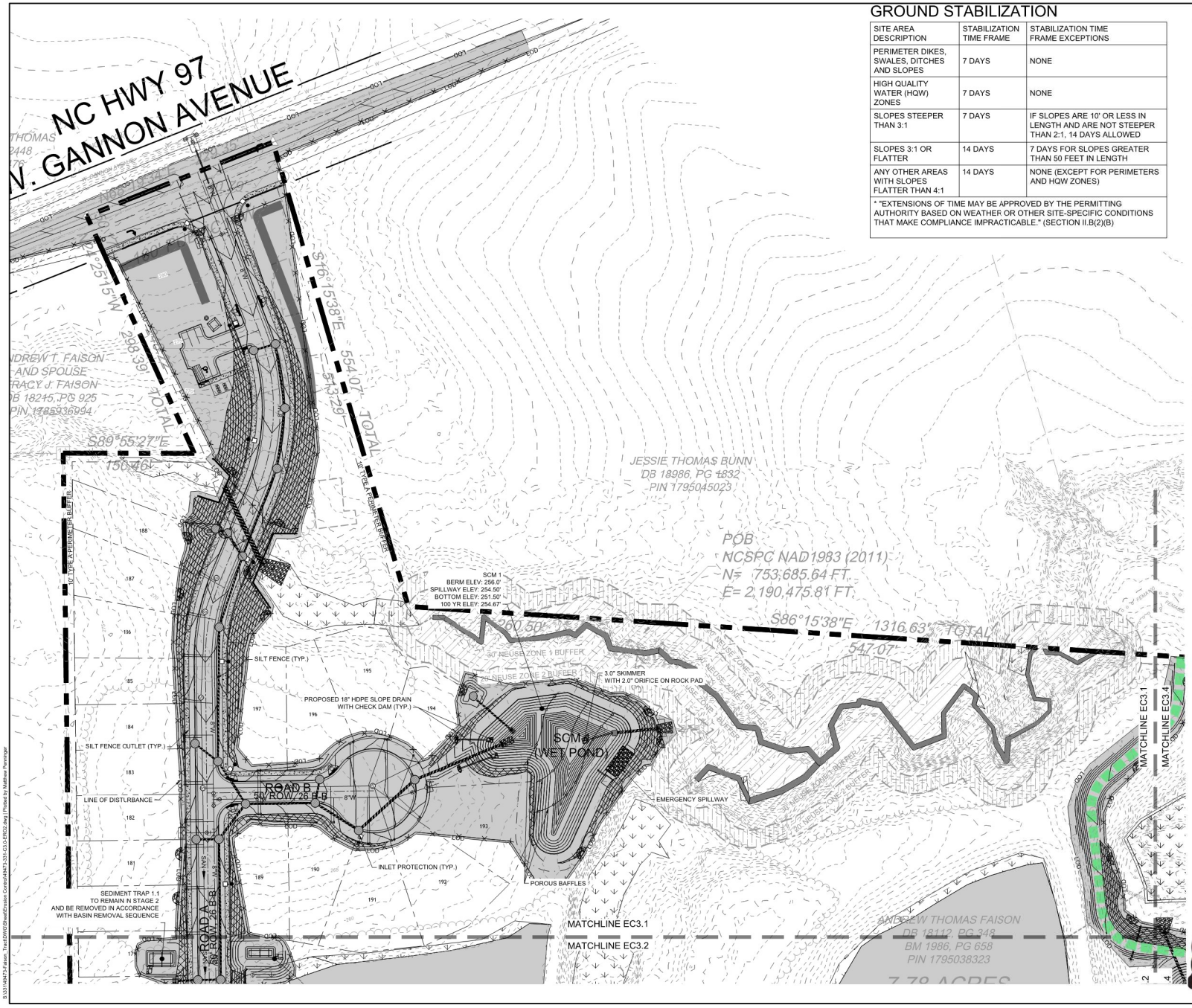
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

OVERALL EROSION CONTROL PLAN - STAGE 2

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 150'
JOB NO.	49473
SHEET NO.	EC3.0

S:\331\49473-Faison_Tract\DWG\Sheet\Erosion Control\49473-331-C3.0-EROD.dwg | Plotted by Matthew Pennigar



GROUND STABILIZATION

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND 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 ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ANY OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)

* "EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE." (SECTION II.B(2)(B)

EROSION CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SF — SILT FENCE
- TP — TREE PROTECTION FENCE
- DD 1-A / DD 1-B — DIVERSION DITCH
- RIP RAP CHECK DAM
- INLET PROTECTION
- SEDIMENT BASIN
- POROUS BAFFLES
- SILT FENCE OUTLET
- SKIMMER
- SLOPE DRAIN
- DEWATERING PUMP WITH FILTER BAG
- ROCK SILT SCREEN
- COIR WATTLE
- SLOPE MATTING

NAG STRAW BLANKET MATTING TYPES

SLOPES	NAG MATTING TYPE
>1:1	C125
2:1 - 1:1	SC150
3:1 - 2:1	S150
4:1 - 3:1	S75

NOTE

TEMP SLOPE DRAIN TO BE RELOCATED TO TOP OF SLOPE AS NECESSARY WHEN SITE IS BROUGHT TO FINISHED GRADE IN STAGE 2

NAD 83

SCALE 1"=50'

0 50' 100'

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

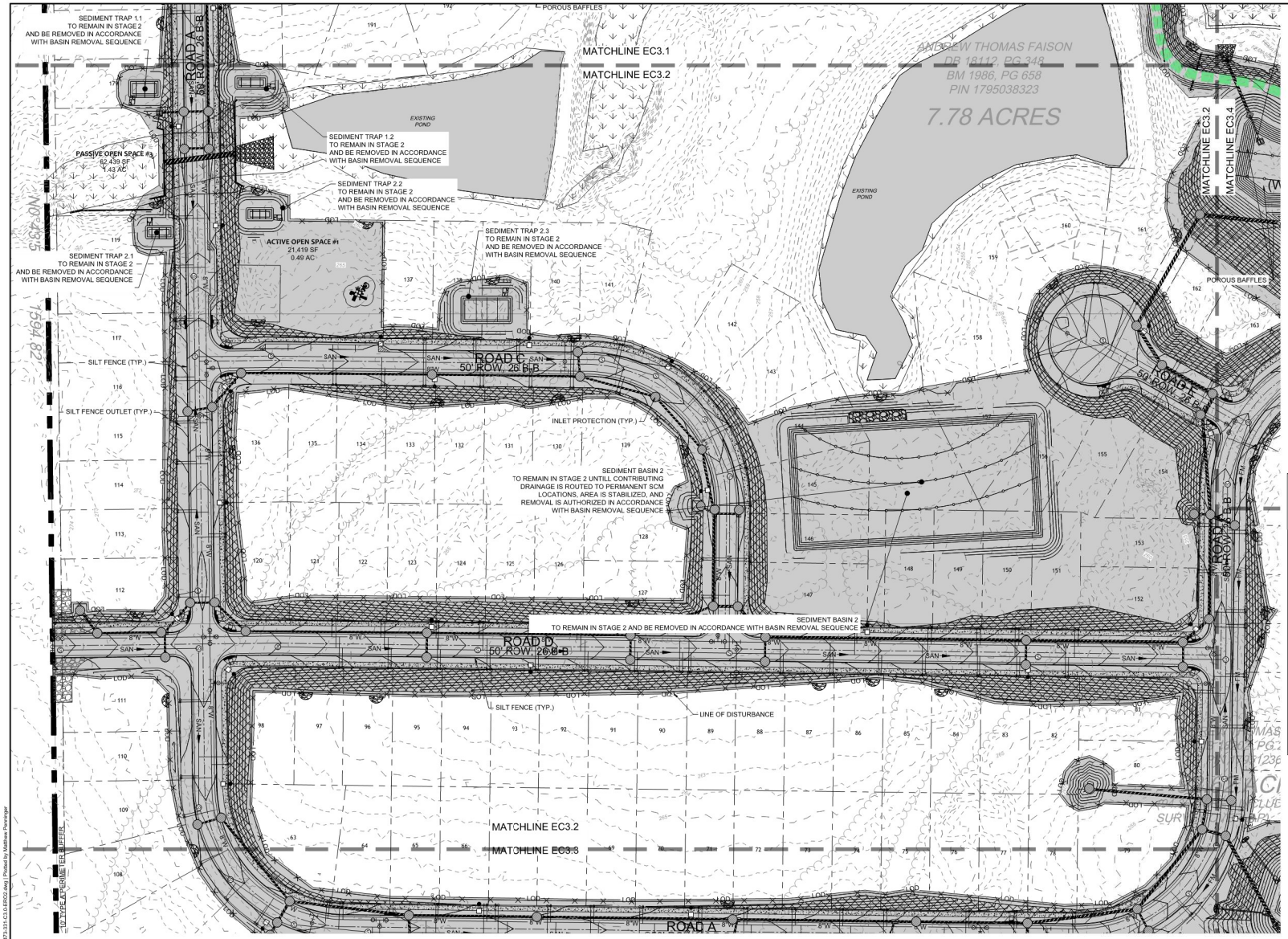
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

EROSION CONTROL PLAN - STAGE 2 (SHEET 1 OF 5)

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	EC3.1

S:\3214947\Faison_Trac\DWG\Sheet\Erosion Control\49473-331-C3-5-EROC.dwg | Plotted by Matthew Penninger



EROSION CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SILT FENCE
- TP — TREE PROTECTION FENCE
- DD 1-A / DD 1-B — DIVERSION DITCH
- RIP RAP CHECK DAM
- INLET PROTECTION
- SEDIMENT BASIN
- POROUS BAFFLES
- SILT FENCE OUTLET
- SKIMMER
- SLOPE DRAIN
- DEWATERING PUMP WITH FILTER BAG
- ROCK SILT SCREEN
- COIR WATTLE

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

NAG STRAW BLANKET MATTING TYPES

SLOPES	NAG MATTING TYPE
>1:1	C125
2:1 - 1:1	SC150
3:1 - 2:1	S150
4:1 - 3:1	S75

NOTE

TEMP SLOPE DRAIN TO BE RELOCATED TO TOP OF SLOPE AS NECESSARY WHEN SITE IS BROUGHT TO FINISHED GRADE IN STAGE 2

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'

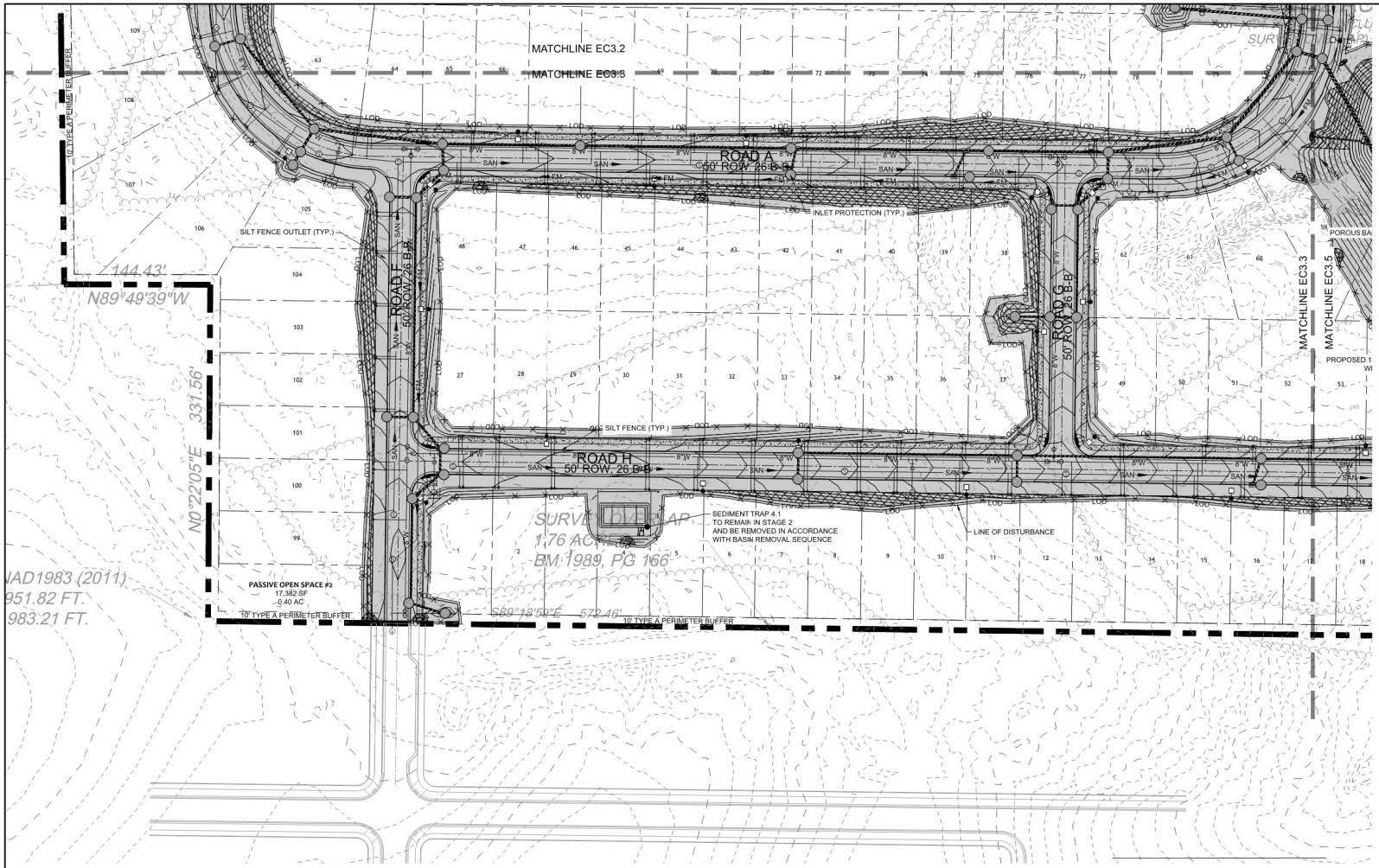
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

EROSION CONTROL PLAN - STAGE 2 (SHEET 2 OF 5)

JOB NO. 49473
SHEET NO. EC3.2

S:\331\49473-Faison_Tract\DWG\Sheet\Erosion Control\49473-331-C3.0-EROD.dwg | Plotted by Matthew Pennington



EROSION CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SILT FENCE
- TP — TREE PROTECTION FENCE
- DD 1-A / DD 1-B — DIVERSION DITCH
- RIP RAP CHECK DAM
- INLET PROTECTION
- SEDIMENT BASIN
- POROUS BAFFLES
- SILT FENCE OUTLET
- SKIMMER
- SLOPE DRAIN
- DEWATERING PUMP WITH FILTER BAG
- ROCK SILT SCREEN
- COIR WATTLE
- SLOPE MATTING

NAD 83

SCALE 1"=50'
0 50' 100'

GROUND STABILIZATION

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND 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 ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ANY OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)

* "EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE." (SECTION II.B(2)(B)

NAG STRAW BLANKET MATTING TYPES

SLOPES	NAG MATTING TYPE
>1:1	C125
2:1 - 1:1	SC150
3:1 - 2:1	S150
4:1 - 3:1	S75

NOTE

TEMP SLOPE DRAIN TO BE RELOCATED TO TOP OF SLOPE AS NECESSARY WHEN SITE IS BROUGHT TO FINISHED GRADE IN STAGE 2

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

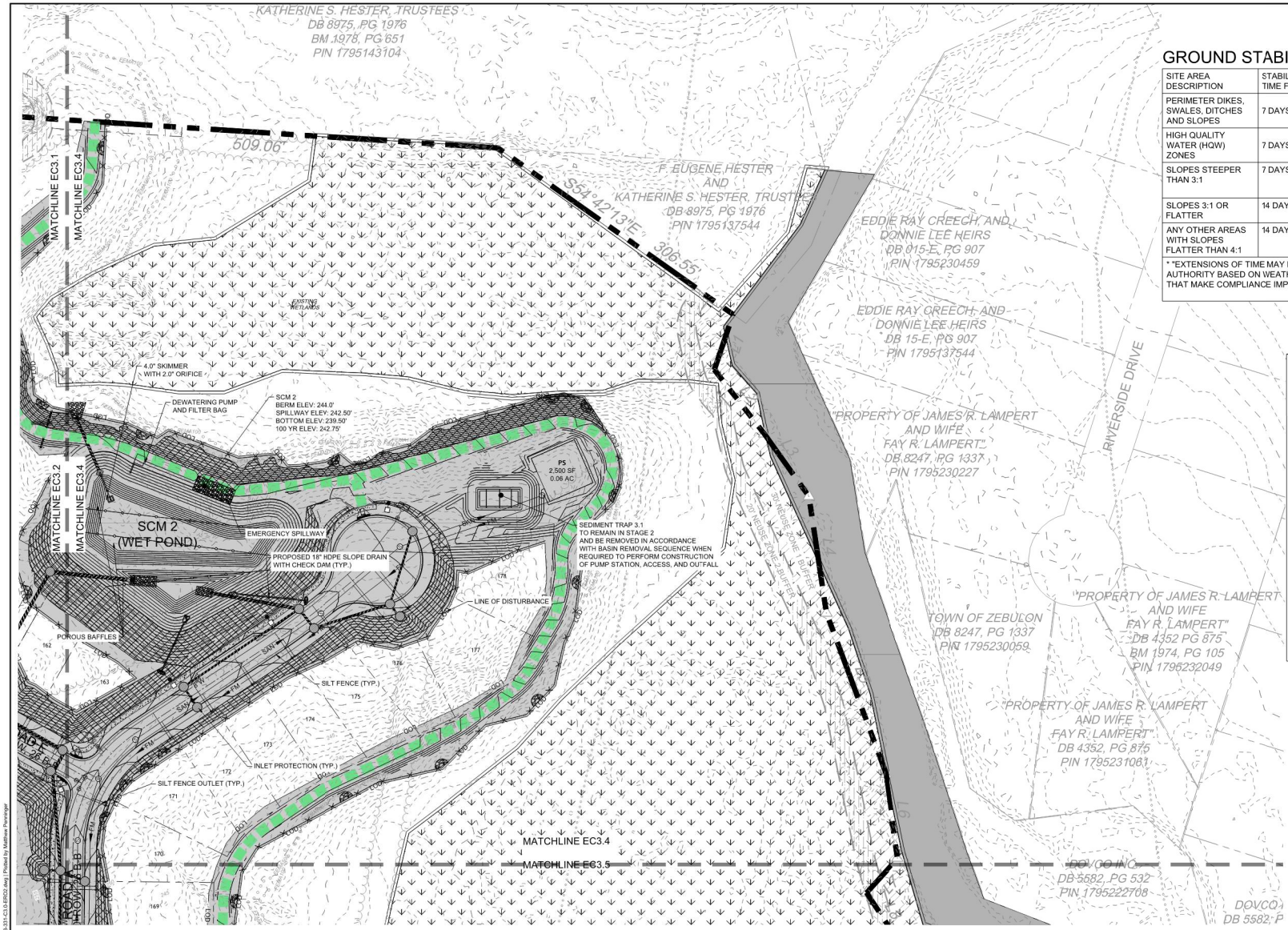
REVISION DESCRIPTION	DATE

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

EROSION CONTROL PLAN - STAGE 2 (SHEET 3 OF 5)

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	EC3.3



GROUND STABILIZATION

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND 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 ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH
ANY OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIME"ERS AND HQW ZONES)

* "EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE." (SECTION II.B(2)(B)

EROSION CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SF — SILT FENCE
- TP — TREE PROTECTION FENCE
- DD 1-A / DD 1-B — DIVERSION DITCH
- RIP RAP CHECK DAM
- INLET PROTECTION
- SEDIMENT BASIN
- POROUS BAFFLES
- SILT FENCE OUTLET
- SKIMMER
- SLOPE DRAIN
- DEWATERING PUMP WITH FILTER BAG
- ROCK SILT SCREEN
- COIR WATTLE
- SLOPE MATTING

NAG STRAW BLANKET MATTING TYPES

SLOPES	NAG MATTING TYPE
>1:1	C125
2:1 - 1:1	SC150
3:1 - 2:1	S150
4:1 - 3:1	S75

NOTE

TEMP SLOPE DRAIN TO BE RELOCATED TO TOP OF SLOPE AS NECESSARY WHEN SITE IS BROUGHT TO FINISHED GRADE IN STAGE 2

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

EROSION CONTROL PLAN - STAGE 2 (SHEET 4 OF 5)

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'
JOB NO.	49473
SHEET NO.	EC3.4

S:\331\49473-Faison_Tract\DWG\Sheet\Erosion Control\49473-331-C3.0-EROC3.dwg | Plotted by Matthew Renninger

EROSION CONTROL LEGEND

LOD	LIMITS OF DISTURBANCE
	SILT FENCE
TP	TREE PROTECTION FENCE
DD 1-A / DD 1-B	DIVERSION DITCH
	RIP RAP CHECK DAM
	INLET PROTECTION
	SEDIMENT BASIN
	POROUS BAFFLES
	SILT FENCE OUTLET
	SKIMMER
	SLOPE DRAIN
	DEWATERING PUMP WITH FILTER BAG
	ROCK SILT SCREEN
	COIR WATTLE
	SLOPE MATTING

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

NAG STRAW BLANKET MATTING TYPES

SLOPES	NAG MATTING TYPE
>1:1	C125
2:1 - 1:1	SC150
3:1 - 2:1	S150
4:1 - 3:1	S75

NOTE

TEMP SLOPE DRAIN TO BE RELOCATED TO TOP OF SLOPE AS NECESSARY WHEN SITE IS BROUGHT TO FINISHED GRADE IN STAGE 2

Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	1" = 50'

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

EROSION CONTROL PLAN - STAGE 2 (SHEET 5 OF 5)

JOB NO. 49473
SHEET NO. EC3.5

S:\331\49473-Faison_Tract\DWG\Sheet\Erosion Control\49473-331-C3-5-EROS.dwg | Plotted by Matthew Pennington

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

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

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 kept on site and available for inspection at all times during normal business hours.

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 of 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 to be Kept on Site

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

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

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).

(c) 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.

(d) Anticipated bypasses and unanticipated bypasses.

(e) 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 Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours,*** an oral or electronic notification. • ***Within 7 calendar days,*** a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours,*** an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible.*** The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours,*** an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	• ***Within 24 hours,*** an oral or electronic notification. • ***Within 7 calendar days,*** a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6)]. • Division staff may waive the requirement for a written report on a case-by-case basis.

NORTH CAROLINA Environmental Quality

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

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

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

GROUND STABILIZATION SPECIFICATION

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

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

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. 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.
3. 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.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, 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).
5. 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

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. 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 or provide secondary containment. 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. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. 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.

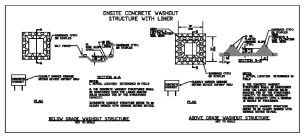
PORTABLE TOILETS

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.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. 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

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. 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.

NORTH CAROLINA Environmental Quality



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. 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 bermed 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.
8. 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.
9. 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

1. 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.
3. 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

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

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP OFFICE AT
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL: 919-866-4951 FAX: 919-833-8124 www.timmons.com

REVISION DESCRIPTION	DATE

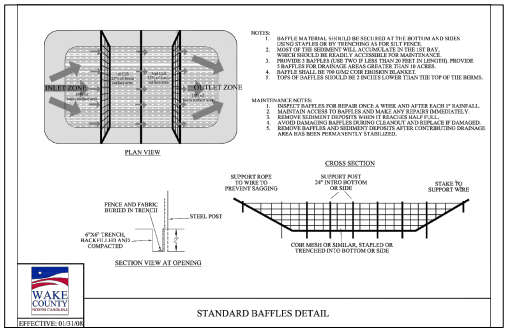
YOUR VISION ACHIEVED THROUGH OURS.

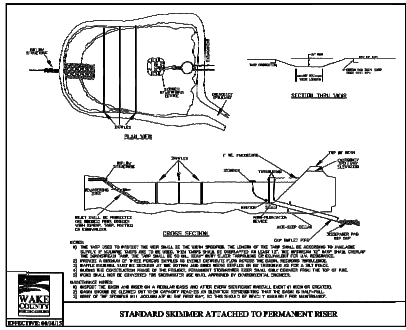
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

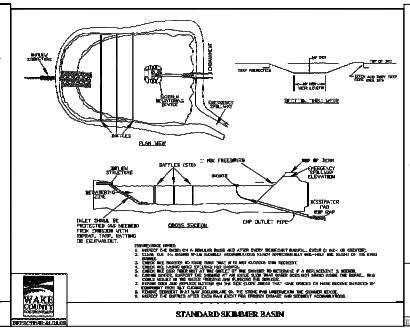
FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
NCG01 NOTES & DETAILS

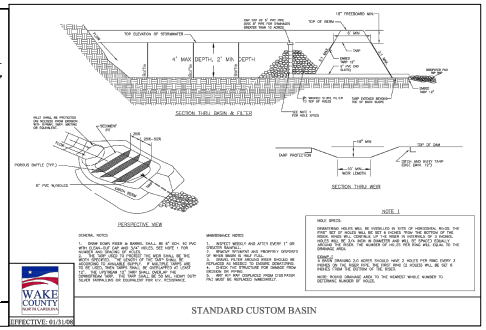
DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	NTS
JOB NO.	49473
SHEET NO.	EC4.0

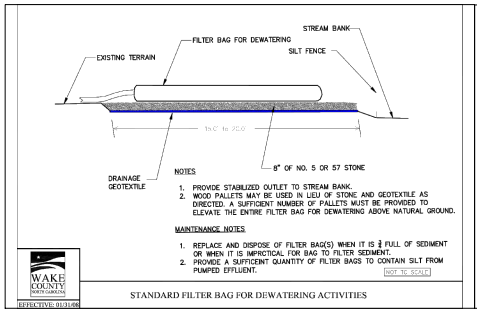
S:\331-1947\Plans_Test\DWG\Sheet\Sheet-Grand Hill\33-C1-LA-TITLE-BRDS.dwg | Plotted by Matthew Pennington

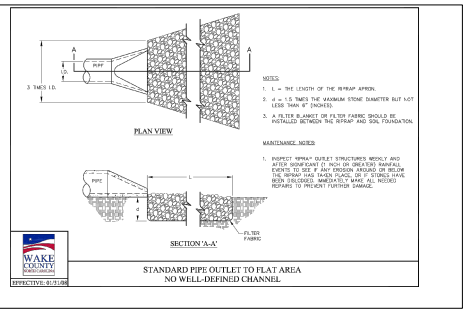


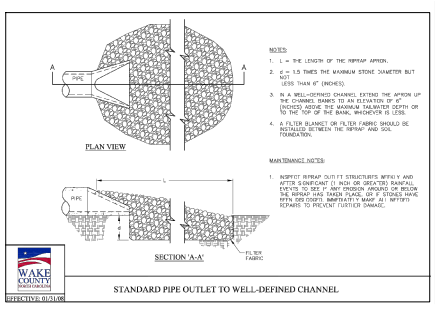


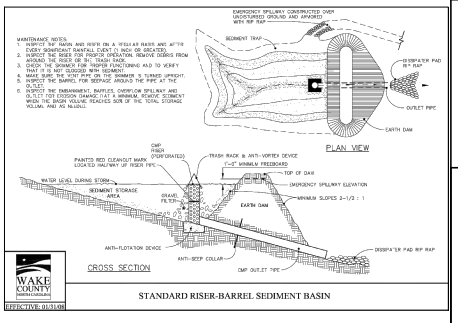


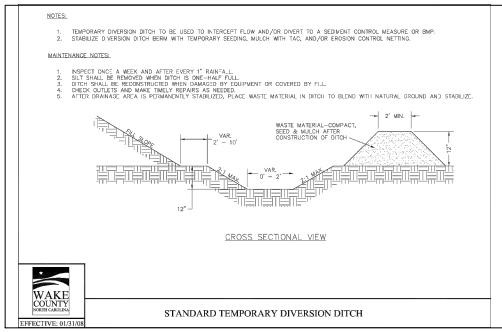


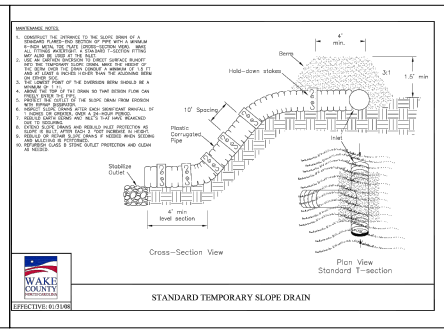


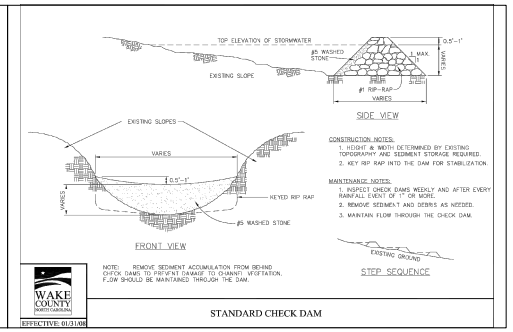












Public
Water Distribution / Extension System
The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919-866-4951 FAX: 919-833-8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

DATE 10/24/2025
DRAWN BY 331
DESIGNED BY 331
CHECKED BY T. CROSS
SCALE NTS

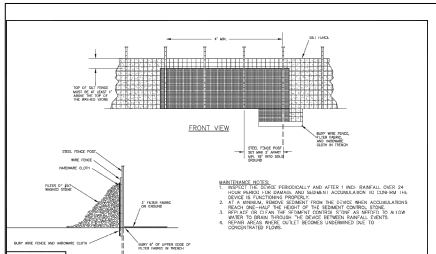
TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

EROSION CONTROL NOTES & DETAILS

JOB NO. 49473
SHEET NO. EC4.1

S:\331-49473-Faison_Tract\DWG\Sheet\Erosion Control\49473-331-C1-EC1-STDS-EROS.dwg | Plotted by Matthew Pennington

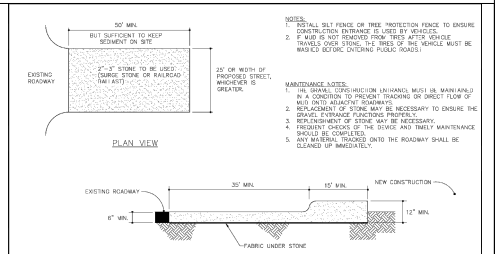


MAINTENANCE NOTES:
1. INSPECT AFTER EACH PERIODICALLY AND AFTER 1 INCH RAINFALL OVER 24 HOURS PERIOD. FOR DRAINAGE AND MAXIMUM ACCUMULATION IS 1/2IN AND THE DEVICE IS FUNCTIONING PROPERLY.
2. AT A MINIMUM, REMOVE SEDIMENT FROM THE DEVICE WHEN ACCUMULATIONS REACH 25IC-HALF THE HEIGHT OF THE SEDIMENT CONTROL DEVICE.
3. REPAIR THE SEDIMENT CONTROL DEVICE IMMEDIATELY IF IT FAILS TO ACCUMULATE WATER TO DRAIN THROUGH THE DEVICE BETWEEN RAINFALL EVENTS.
4. REPAIR AREAS WHERE OUTLET BECOMES UNDERMINED DUE TO CONCENTRATED FLOW.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD SILT FENCE OUTLET



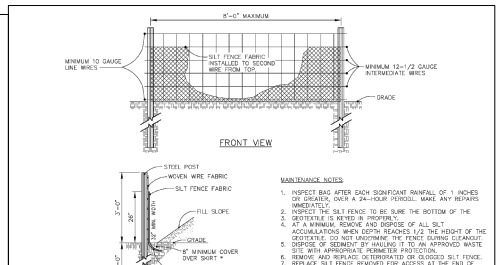
NOTES:
1. INSTALL SILT FENCE OR TREE PROTECTION FENCE TO ENSURE CONSTRUCTION ENTRANCE IS USED BY VEHICLES.
2. IF MUD IS NOT REMOVED FROM TIRES BEFORE VEHICLE TRAVELS OVER STONE, THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING PUBLIC ROADS.

MAINTENANCE NOTES:
1. THE GRAVEL CONSTRUCTION ENTRANCE MUST BE MAINTAINED IN A CONDITION TO PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO PUBLIC ROADS BY VEHICLES.
2. REPLACEMENT OF STONE MAY BE NECESSARY TO ENSURE THE GRAVEL ENTRANCE FUNCTIONS PROPERLY.
3. REPLENISHMENT OF STONE MAY BE NECESSARY.
4. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE SHOULD BE COMPLETED.
5. ANY MATERIAL TRACKED ONTO THE ROADWAY SHALL BE CLEANED UP IMMEDIATELY.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD CONSTRUCTION ENTRANCE



MAINTENANCE NOTES:
1. INSPECT BAG AFTER EACH SIGNIFICANT RAINFALL OF 1 INCHES OR GREATER, OVER A 24-HOUR PERIOD. MAKE ANY REPAIRS IMMEDIATELY.
2. INSPECT THE SILT FENCE TO BE SURE THE BOTTOM OF THE GEOTEXTILE IS KEYED IN PROPERLY.
3. AT A MINIMUM, REMOVE AND DISPOSE OF ALL SILT ACCUMULATIONS WHEN DEPTH REACHES 1/2 THE HEIGHT OF THE GEOTEXTILE. DO NOT UNDERMINE THE FENCE DURING CLEANOUT.
4. DISPOSE OF SEDIMENT BY HAULING IT TO AN APPROVED WASTE SITE WITH APPROPRIATE PERIMETER PROTECTION.
5. REMOVE AND REPLACE DETERIORATED OR CLOGGED SILT FENCE.
6. REPLACE SILT FENCE REMOVED FOR ACCESS AT THE END OF EACH DAY'S OPERATION.
7. INSTALL ADDITIONAL POSTS OR WIRE BACKING IF FENCE IS SAGGING.

WAKE COUNTY NORTH CAROLINA

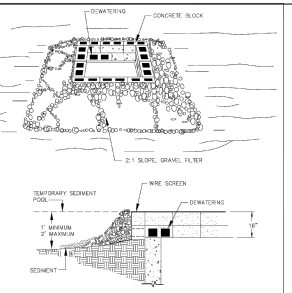
EFFECTIVE: 01/31/08

STANDARD TEMPORARY SILT FENCE

CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE IN THE BOTTOM ROW TO ALLOW POOL DRAINAGE. THE FOUNDATION SHOULD BE EXCAVATED AT LEAST 2 INCHES BELOW THE CREST OF THE STORM DRAIN. PLACE THE BOTTOM ROW OF BLOCKS AGAINST THE EDGE OF THE STORM DRAIN FOR LATERAL SUPPORT AND TO AVOID WASHOUTS WHEN OVERFLOW OCCURS. IF NEEDED, GIVE LATERAL SUPPORT TO SUBSEQUENT ROWS BY PLACING 2x4 WOOD STUDS THROUGH BLOCK OPENINGS.
2. CAREFULLY FIT HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2 INCH OPENINGS OVER ALL BLOCK OPENINGS TO HOLD GRAVEL IN PLACE.
3. USE CLEAN GRAVEL, 3/4 TO 1/2 INCH IN DIAMETER, PLACED 2 INCHES BELOW THE TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER AND SMOOTH IT TO AN EVEN GRADE. DO NOT BIP WASHED STONE IS RECOMMENDED.

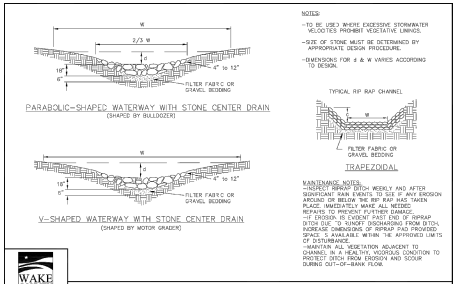
MAINTENANCE NOTES:
1. INSPECT INLET PROTECTION AND REMOVE SEDIMENT AFTER EACH 1" RAIN EVENT.
2. REMOVE SEDIMENT WHEN VOLUME OF THE BASIN IS REDUCED BY ONE-HALF.
3. GRAVEL SHOULD BE REPLACED AND REPAIRS MADE AS NEEDED.



WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD BLOCK & GRAVEL DROP INLET PROTECTION



NOTES:
- TO BE USED WHERE EXCESSIVE STORMWATER VELOCITIES PROHIBIT VEGETATIVE LININGS.
- SIZE OF STONE MUST BE DETERMINED BY APPROPRIATE DESIGN PROCEDURE.
- DIMENSIONS FOR d & w VARIES ACCORDING TO DESIGN.

MAINTENANCE NOTES:
- INSPECT RIPRAP DITCH WEEKLY AND AFTER MAJOR STORM EVENTS. IN SIZE IF ANY EROSION OCCURS AND REPLACE STONE AS NEEDED TO MAIN PLACE. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.
- IF EROSION IS EVIDENT PAST END OF RIPRAP DITCH DUE TO SUNOFF DISCHARGING FROM DITCH, INCREASE DIMENSIONS OF RIPRAP PAD PROVIDED TO ENSURE THAT IT WILL WITHIN THE APPROVED LIMITS OF DISTURBANCE.
- MAINTAIN ALL VEGETATION ADJACENT TO CHANNEL IN A HEALTHY, VIGOROUS CONDITION TO PROTECT DITCH FROM EROSION AND SCOUR DURING OUT-OF-BANK FLOW.

WAKE COUNTY NORTH CAROLINA

EFFECTIVE: 01/31/08

STANDARD RIP-RAP LINED CHANNELS

Date: Page:

TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

Seeding Mixture

Species	Rate (lb/acre)
Rye (grain)	120
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

Seeding Dates
Mountains—Above 2500 feet: Feb. 15 - May 15
Below 2500 feet: Feb. 1- May 1
Piedmont—Jan. 1 - May 1
Coastal Plain—Dec. 1 - Apr. 15

Mulch
Apply 4,000 lb/acre 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.

Maintenance
Referticize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER

Seeding Mixture

Species	Rate (lb/acre)
German millet	40

In the Piedmont and Mountains, a small-stemmed Sudangrass may be substituted at a rate of 50 lb/acre.

Seeding Dates
Mountains—May 15 - Aug. 15
Piedmont—May 1 - Aug. 15
Coastal Plain—Apr. 15 - Aug. 15.

Mulch
Apply 4,000 lb/acre 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.

Maintenance
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

TEMPORARY SEEDING RECOMMENDATIONS FOR FALL

Seeding Mixture

Species	Rate (lb/acre)
Rye (grain)	120

Seeding Dates
Mountains—Aug. 15 - Dec. 15
Coastal Plain and Piedmont—Aug. 15 - Dec. 31

Mulch
Apply 4,000 lb/acre 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.

Maintenance
Repair and refertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extend temporary cover beyond June 15, overseed with 50 lb/acre Kobe (Piedmont and Coastal Plain) or Korean (Mountains) lespedeza in late February or early March.

SEED BED PREPARATION:

LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1-1 1/2 tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.

FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700-1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.

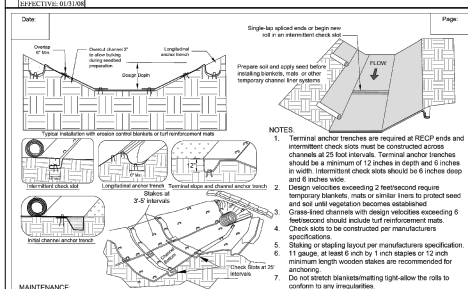
SURFACE ROUGHENING- If recent tillage operations have resulted in a loose surface additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by raking, harrowing, or other suitable methods for fine grading. The finished grade shall be a smooth even soil surface with a loosen uniformly fine texture. All ridges and depressions shall be removed and filled to provide the approved surface drainage. Planting is to be done immediately after finished grades are obtained and seedbed preparation is completed.

NORTH CAROLINA Environmental Quality

EFFECTIVE DATE: 12/2009

TEMPORARY SEEDING RECOMMENDATIONS

Date: Page:



NOTES:
1. Terminal anchor trenches are required at RECP ends and intermittent check slots must be constructed across channels at 25 foot intervals. Terminal anchor trenches should be a minimum of 12 inches in depth and 6 inches in width. Intermittent check slots should be 6 inches deep and 6 inches wide.
2. Design velocities exceeding 2 feet/second require temporary blankets, mats or similar liners to protect seed and soil until vegetation becomes established. Grass-lined channels with design velocities exceeding 6 feet/second should include turf reinforcement mats.
4. Check slots to be constructed per manufacturers specifications.
5. Staking or stapling layout per manufacturers specification.
6. 11 gauge, at least 6 inch by 1 inch staples or 12 inch minimum length wooden stakes are recommended for anchoring.
7. Do not stretch blankets/matting tight, allow the rolls to conform to any irregularities.

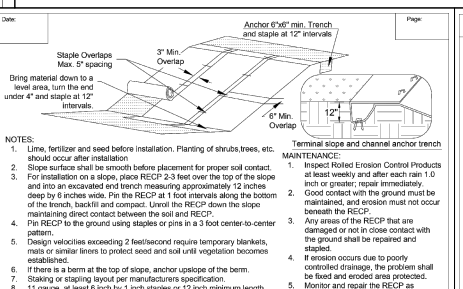
MAINTENANCE
1. Inspect Rolled Erosion Control Products at least weekly and after each significant (1 inch or greater) rainfall event; repair immediately.
2. Good contact with the ground must be maintained, and erosion must not occur beneath the RECP.
3. Any areas of the RECP that are damaged or not in close contact with the ground shall be repaired and stapled.
4. If erosion occurs due to poorly controlled drainage, the problem shall be fixed and the eroded area protected.
5. Monitor and repair the RECP as necessary until ground cover is established.

NORTH CAROLINA Environmental Quality

EFFECTIVE DATE: 19/3/2020

ROLLED EROSION CONTROL PRODUCTS (RECP) FOR CHANNELS

Date: Page:



NOTES:
1. Lime, fertilizer and seed before installation. Planting of shrubs,trees, etc. should occur after installation
2. Slope surface shall be smooth before placement for proper soil contact.
3. For installation on a slope, place RECP 2-3 feet over the top of the slope and into an excavated end trench measuring approximately 12 inches deep by 6 inches wide. Pin the RECP at 1 foot intervals along the bottom of the trench, backfill and compact. Unroll the RECP down the slope maintaining direct contact between the soil and RECP.
4. Pin RECP to the ground using staples or pins in a 3 foot center-to-center pattern.
5. Design velocities exceeding 2 feet/second require temporary blankets, mats or similar liners to protect seed and soil until vegetation becomes established.
6. If there is a berm at the top of slope, anchor upslope of the berm.
7. Staking or stapling layout per manufacturers specification.
8. 11 gauge, at least 6 inch by 1 inch staples or 12 inch minimum length wooden stakes are recommended for anchoring.
9. Do not stretch blankets/matting tight, allow the rolls to conform to any irregularities.
10. For slopes less than 3H:1V, rolls may be placed in horizontal strips.

MAINTENANCE:
1. Inspect Rolled Erosion Control Products at least weekly and after each rain 1.0 inch or greater; repair immediately.
2. Good contact with the ground must be maintained, and erosion must not occur beneath the RECP.
3. Any areas of the RECP that are damaged or not in close contact with the ground shall be repaired and stapled.
4. If erosion occurs due to poorly controlled drainage, the problem shall be fixed and eroded area protected.
5. Monitor and repair the RECP as necessary until ground cover is established.

NORTH CAROLINA Environmental Quality

EFFECTIVE DATE: 11/13/2009

ROLLED EROSION CONTROL PRODUCTS (RECP) FOR SLOPES

Date: Page:

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING

SEEDING MIXTURE

Species	Rate
Centipede	5 lbs/acre
Indian Woodoats	1.5-2.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates
Coastal or Eastern Piedmont for Centipede- Sept. 1 - May 1
Coastal and Piedmont for Indian Woodoats and Virginia Wild Rye- Feb 15 - April 1
Mountains for Indian Woodoats and Virginia Wild Rye- March 1 - May 15

Maintenance:
Significant maintenance may be required to obtain desired cover once centipede is planted. Acceptable for sodding.

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR SUMMER

SEEDING MIXTURE

Species	Rate
Indian Woodoats	1.5-2.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates
Mountains - July 15- Aug 15
Piedmont - Aug 15 - Oct 15

Maintenance:
Indian Woodoats and Virginia Wild Rye are both sun and shade tolerant.

NON-INVASIVE PERMANENT SEEDING RECOMMENDATIONS FOR FALL

SEEDING MIXTURE

Species	Rate
Hard Fescue	15 lbs/acre
Switchgrass	2.5-3.0 lbs/acre*
Indian Grass	5-7 lbs/acre*
Big Bluestem	5-7 lbs/acre*
Indian Woodoats	1.5-2.5 lbs/acre*
Virginia Wild Rye	4-6 lbs/acre*

*Depending upon mix with other species. See table 6.11.d from Chapter 6 of the NC Erosion and Sediment Control Planning and Design Manual.

Seeding Dates
Mountains - Hard Fescue- Aug 1 - June 1
Mountains- Switchgrass, Indian Grass, Big Bluestem- Dec 1 - April 15
Piedmont and Coastal- Switchgrass, Indian Grass, Big Bluestem- Dec 1 - April 1
Coastal- Indian Woodoats and Virginia Wild Rye- Sept 1 - Nov 1

Maintenance:
Hard Fescue is not recommended for slopes > 5%. Prefers shade.

SEED BED PREPARATION:

LIMING- Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1.5 tons/acre on coarse-textured soils and 2-3 tons/acre on fine-textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher need not be limed.

FERTILIZER- Base application rates on soil tests. When these are not possible, apply a 10-10-10 grade fertilizer at 700-1,000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before application.

SURFACE ROUGHENING- If recent tillage operations have resulted in a loose surface additional roughening may not be required, except to break up large clods. If rainfall causes the surface to become sealed or crusted, loosen it just prior to seeding by raking, harrowing, or other suitable methods for fine grading. The finished grade shall be a smooth even soil surface with a loosen uniformly fine texture. All ridges and depressions shall be removed and filled to provide the approved surface drainage. Planting is to be done immediately after finished grades are obtained and seedbed preparation is completed.

NOTES:
1. Permanent seeding, sodding or other means of stabilization are required when all construction work is completed according to the NPDES timeframe's table.
2. A North Carolina Department of Agriculture soils test (or equal) is highly recommended to be obtained for all areas to be seeded, sprigged, sodded or planted.
3. Use a seeding mix that will produce fast growing nurse crops and includes non-invasive species that will eventually provide a permanent groundcover. Soil blankets may be used in lieu of nurse crops. Mat, tack or crimp mulch, as needed to stabilize seeded areas until root establishment. Mulch must be applied uniformly over the soil with a cover density of at least 80%.
4. Ground cover shall be maintained until permanent vegetation is established and stable against accelerated erosion.

NORTH CAROLINA Environmental Quality

EFFECTIVE DATE: 12/2009

PERMANENT SEEDING RECOMMENDATIONS

Table 6.02a
Spacing Guide for Slope Breaks

	Slope	Spacing (ft)
Steep Slopes	2:1	20
	3:1	35
	4:1	45
Long Slopes	15-25%	50
	10-15%	80
	6-10%	125
	3-6%	200
	<3%	300

Public
Water Distribution / Extension System
The City of Raleigh consents to the construction and acceptance of the City's public water systems as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE MATURE OF THE GROUP
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL: 919-866-4951 FAX: 919-833-8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

REVISION DESCRIPTION	DATE

DATE: 10/24/2025
DRAWN BY: 331
DESIGNED BY: 331
CHECKED BY: T. CROSS
SCALE: NTS

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

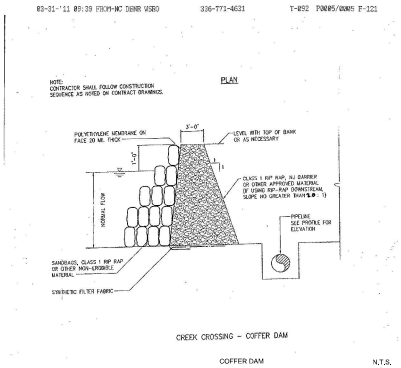
FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

EROSION CONTROL NOTES & DETAILS

JOB NO. 49473
SHEET NO. EC4.2

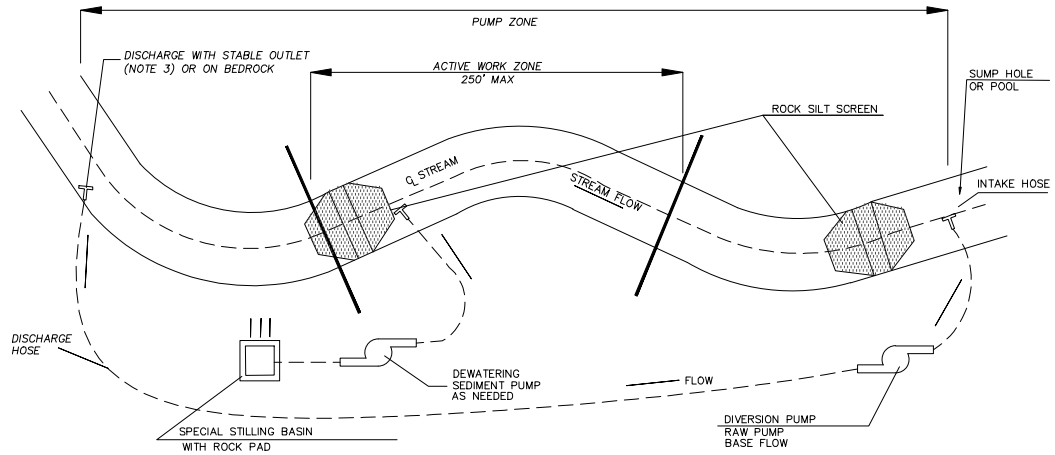
S:\331-19473-Faison_Tract\DWG\Sheet\Erosion Control\19-273-C1-DATED-EROS.dwg | Plotted by Matthew Pennington

03-31-'11 09:39 FROM-NC DENR WSRO 336-771-4631 T-952 P00005/00005 F-121



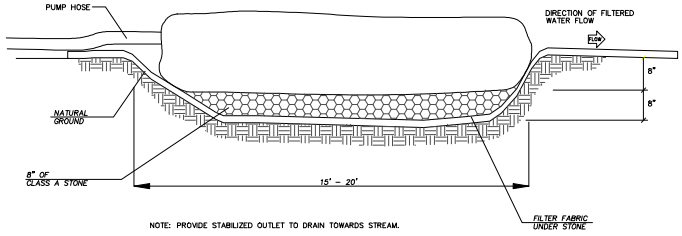
CREEK CROSSING – COFFER DAM

COFFER DAM N.T.S.



NOTES:
1. WORK AREA TO BE STABILIZED AT THE END OF EACH WORK DAY.
2. ROCK SILT SCREENS REQUIRED FOR PUMP AROUND OPERATIONS ARE CONSIDERED INCIDENTAL TO PUMPING.
3. STABLE OUTLET TO CONSIST OF ROCK PLACED IN CHANNEL FOR ENERGY DISSIPATION AND 45° ELBOW INSTALLATION AT THE END OF THE PIPING SO THAT THE WATER DISCHARGES VERTICALLY UP IN THE AIR. THE OUTLET WILL BE APPROVED BY THE DESIGNER PRIOR TO PUMPING.

TYPICAL PUMP AROUND



NOTE: PROVIDE STABILIZED OUTLET TO DRAIN TOWARDS STREAM.

CONSTRUCTION NOTE:
1. SPECIAL STILLING BASIN LOCATION TO BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
2. PROVIDE STABILIZED OUTLET TO DRAIN TOWARDS STREAM.
3. THE SILT BAG SHOULD BE REMOVED TO AN UPLAND AREA AND DISPOSED OF WITH OTHER WASTE MATERIAL IN AN AREA PROTECTED BY SEDIMENT AND EROSION CONTROL MEASURES. THE CONTENTS OF THE SILT BAG SHOULD BE DISPOSED OF IN THIS AREA AND THE BAG ITSELF TAKEN OFF-SITE FOR DISPOSAL.

MAINTENANCE NOTE:
1. THE SILT BAG SHOULD BE REPLACED AND DISPOSED OF WHEN IT IS 75% FULL OR WHEN IT IS IMPRACTICABLE TO MOVE OR OTHERWISE NOT FILTERING WATER AT A REASONABLE FLOW RATE.

SPECIAL STILLING BASIN

STREAM CROSSING CONSTRUCTION SEQUENCE

STEP 1 (PERIMETER CONTROLS)

1. PRIOR TO CLEARING TREES, GRUBBING, OR DISTURBING THE SITE, CLEAR A 15' WIDE STRIP OF TREES AND INSTALL DOUBLE ROW OF SILT FENCE AND A REINFORCED SILT FENCE OUTLET ALONG THE TOP OF NORTHERN STREAM BANK. DO NOT CROSS OR IMPACT THE STREAM.
2. ENTER THE SITE CLEAR A 15' WIDE STRIP OF TREES AND INSTALL DOUBLE ROW OF SILT FENCE AND A REINFORCED SILT FENCE OUTLET ALONG THE TOP OF SOUTHERN STREAM BANK. DO NOT CROSS OR IMPACT THE STREAM.
3. CONTACT THE CIVIL ENGINEER FOR AN INSPECTION OF THE INSTALLED SILT FENCE AND WHEN APPROVED, INSTALL THE REMAINING EROSION CONTROL MEASURES SHOWN IN CONSTRUCTION SEQUENCE STEP 2 AND 3.
4. STABILIZE DISTURBED GROUND WITH TEMPORARY SEEDING AND TEMPORARY SLOPE LININGS DAILY.
5. COORDINATE WITH CIVIL ENGINEER ONCE CENTERLINE OF STREAM AND ALIGNMENT OF CULVERTS ARE CONFIRMED PRIOR TO INSTALLATION.
6. INSTALL COFFER DAM AND PUMP WATER AROUND THE WORK AREA.
7. COORDINATE WITH NCDEQ TO INSPECT PUMP PASS-AROUND DEVICES.

STEP 2

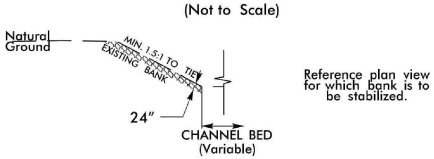
1. APPROACH STREAM AND REPLACE CULVERT BEDDING SOILS WITH STRUCTURAL FILL AND COMPACT SOIL TO 95%. COORDINATE WITH OWNER'S GEOTECHNICAL TESTING AGENCY.
2. INSTALL CULVERT PIPE 1 IN THE DRY. (DURING INSTALLATION OF THE CULVERT, EXPOSED AREAS NOT BEING WORKED SHOULD BE STABILIZED.)
3. FILL OVER PIPE TO ELEVATION AND INSTALL REPAIR, KEEP STREAM FLOWING.
4. SURVEY THE EXISTING NORMAL STREAMBED ELEVATIONS AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE PERMANENT CULVERT PIPE. RECORD THESE ELEVATIONS FOR FUTURE REFERENCE.
5. STABILIZE DISTURBED GROUND WITH TEMPORARY SEEDING AND TEMPORARY SLOPE LININGS DAILY.

STEP 3

1. GRADE STREAM CHANNEL SUCH THAT STREAM WATER IS DIVERTED INTO PIPE 1.
2. KEEP PORTION OF COFFER DAM IN PLACE FOR ADDITIONAL SUPPORT OF PIPE 1 IF NEEDED.
3. REPLACE CULVERT BEDDING SOILS WITH STRUCTURAL FILL AND COMPACT SOIL TO 95%. COORDINATE WITH OWNER'S GEOTECHNICAL TESTING AGENCY.
4. INSTALL PIPE 2 IN THE DRY. (DURING INSTALLATION OF THE CULVERT, EXPOSED AREAS NOT BEING WORKED SHOULD BE STABILIZED.)
5. DO NOT DISTURB BEYOND 5.0' OF THE RIPRAP PADS (STREAM BED IMPACTS SHALL ONLY BE WITHIN THE LIMITS AUTHORIZED BY THE NATIONWIDE PERMIT).
6. INSTALL ROAD AND REMAINING INFRASTRUCTURE.
7. INSTALL ADDITIONAL EROSION CONTROL DEVICES AS REQUIRED DURING CONSTRUCTION.
8. STABILIZE DISTURBED GROUND WITH TEMPORARY SEEDING AND TEMPORARY SLOPE LININGS DAILY.

DETAIL B16
BANK STABILIZATION

(Not to Scale)



Reference plan view for which bank is to be stabilized.

Type of Liner = Class II Riprap (KEYED IN)

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE RALEIGH OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919.866.4951 FAX 919.833.8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA

CULVERT CROSSING NOTES & DETAILS

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	NTS
JOB NO.	49473
SHEET NO.	EC4.3

S:\331\49473\Drawing_Files\CIVIL\Sheet\Erosion Control\EC-CULVERT-CROSS.dwg | Plotted by Matthew Pennington

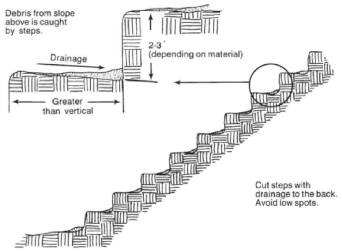


Figure 6.03b Stair stepping cut slopes (modified from Va SWCC).

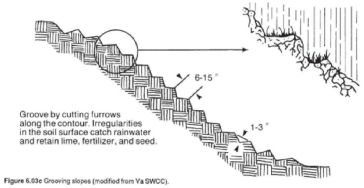


Figure 6.03c Grooving slopes (modified from Va SWCC).

Required Wake County Construction Sequence*

1. Schedule a preconstruction conference with Jeffrey N. Gunter (919-397-8670). Obtain a land- disturbing permit.
2. Install gravel construction pad, temporary diversions, silt fence, sediment basins or other measures as shown on the approved plan. Clear only as necessary to install these devices. Seed temporary diversions, berms and basins immediately after construction.
3. Call Jeffrey N. Gunter (919-397-8670) for an onsite inspection by the Environmental Consultant to obtain a Certificate of Compliance.
4. Begin clearing and grubbing. Maintain devices as needed. Rough grade site.
5. Install storm sewer, if shown, and protect inlets with block and gravel inlet controls, sediment traps or other approved measures as shown on the plan. Begin construction, building, etc.
6. Stabilize site as areas are brought up to finish grade with vegetation, paving, ditch linings, etc. Seed and mulch denuded areas per Ground Stabilization Time Frames.
7. When construction is complete and all areas are stabilized completely, call Jeffrey N. Gunter (919-397-8670) for an inspection.
8. If site is approved, remove temporary diversions, silt fence, sediment basins, etc., and seed out or stabilize any resulting bare areas. All remaining permanent erosion control devices, such as velocity dissipators, should now be installed.
9. When vegetation has become established, call for a final site inspection by Jeffrey N. Gunter. Obtain a Certificate of Completion.

Required Wake County Basin Removal Sequence

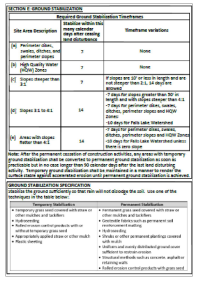
1. **Schedule a site meeting with the Environmental Consultant to determine if a basin can be removed. Install silt fencing or other temporary erosion control measures as needed prior to removal of the basin.**
2. **Contact NCDEQ – Raleigh Regional Office (919) 791-4200 to determine the Division of Energy, 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 also require this.**

STOCKPILE MAINTENANCE REQUIREMENTS

1. 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.
2. 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
3. The approved plan shall provide for the use of staged seeding and mulching on a continual basis while the stockpile is in use.
4. Establish and maintain a vegetative buffer at the toe of the slope (where practical).

Seeding Specifications

NPDES Stormwater Discharge Permit for Construction Activities (NCGO1 - 4/1/19)
NCDEQ/Division of Energy, Mineral and Land Resources



SECTION E. GROUND STABILIZATION

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

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

GROUND STABILIZATION SPECIFICATION

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

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and long lasting mulches sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

Seedbed Preparation:

1. Chisel compacted areas and spread topsoil three inches deep over adverse soil conditions, if available.
2. Rip the entire area to six inches deep.
3. Remove all loose rock, roots and other obstructions, leaving surface reasonably smooth and uniform.
4. Apply agricultural lime, fertilizer and superphosphate uniformly and mix with soil (see mixture below).
5. Continue tillage until a well-pulverized, firm, reasonably uniform seedbed is prepared four to six inches deep.
6. Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.
7. Mulch immediately after seeding and anchor mulch.
8. Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be more than 60% damaged, re-establish following the original lime, fertilizer and seeding rates.
9. Consult Wake County Soil & Water or NC State Cooperative Extension on maintenance treatment and fertilization after permanent cover is established.

Mixture

Agricultural Limestone	2 tons/acre (3 tons/acre in clay soils)
Fertilizer	1,000 lbs/acre – 10-10-10
Superphosphate	500 lbs/acre – 20% analysis
Mulch	2 tons/acre – small grain straw
Anchor	Asphalt emulsion at 400 gals/acre

Seeding Schedule

For Shoulders, Side Ditches, Slopes (Max 3:1):

Date	Type	Planting Rate
Aug 15– Nov 1	Tall Fescue	300 lbs/acre
Nov 1– Mar 1	Tall Fescue & Abruzzi Rye	300 lbs/acre
Mar 1– Apr 15	Tall Fescue	300 lbs/acre
Apr 15– Jun 30	Hulled Common Bermudagrass	25 lbs/acre
Jul 1– Aug 15	Tall Fescue AND Browntop Millet or Sorghum-Sudan Hybrids***	125 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Millet); 30 lbs/acre (Sorghum-Sudan Hybrids)

For Shoulders, Side Ditches, Slopes (3:1 to 2:1):

Date	Type	Planting Rate
Mar 1– Jun 1	Sericea Lespedeza (scarified) and use the following combinations:	50 lbs/acre (Sericea Lespedeza);
Mar 1– Apr 15	Add Tall Fescue	120 lbs/acre
Mar 1– Jun 30	Or add Weeping Love grass	10 lbs/acre
Mar 1– Jun 30	Or add Hulled Common Bermudagrass	25 lbs/acre
Jun 1– Sept 1	Tall Fescue AND Browntop Mullet or Sorghum-Sudan Hybrids***	120 lbs/acre (Tall Fescue); 35 lbs/acre (Browntop Mullet); 30 lbs/acre (Sorghum-Sudan Hybrids)
Sept 1– Mar 1	Sericea Lespedeza (unhulled – unscarified) AND Tall Fescue	70 lbs/acre (Sericea Lespedeza); 120 lbs/acre (Tall Fescue)
Nov 1– Mar 1	AND Abruzzi Rye	25 lbs/acre

Consult Wake County Soil & Water Conservation District or NC State Cooperative Extension for additional information concerning other alternatives for vegetation of denuded areas. The above vegetation rates are those that do well under local conditions; other seeding rate combinations are possible.

*** **TEMPORARY**: Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow more than 12" in height before mowing; otherwise, fescue may be shaded out.

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

City of Raleigh
Public Utilities Department Permit # _____

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

City of Raleigh
Public Utilities Department Permit # _____

811 Know what's below. Call before you dig.

FOR REVIEW ONLY

THIS DRAWING PREPARED AT THE
TIMMONS GROUP OFFICE
5410 Trinity Road, Suite 102 | Raleigh, NC 27607
TEL 919-866-4951 FAX 919-833-8124 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP
NORTH CAROLINA LICENSE NO. C-1652

FAISON TRACT
ZEBULON, WAKE COUNTY, NORTH CAROLINA
EROSION CONTROL NOTES & DETAILS

REVISION DESCRIPTION	DATE

DATE	10/24/2025
DRAWN BY	331
DESIGNED BY	331
CHECKED BY	T. CROSS
SCALE	NTS
JOB NO.	49473
SHEET NO.	EC4.4