

**EROSION AND SEDIMENT CONTROL, STORMWATER AND FLOODPLAIN MANAGEMENT APPROVED**

EROSION CONTROL  SEC-050979-2020

STORMWATER MGMT.  SWF-050980-2020

FLOOD STUDY  \_\_\_\_\_

DATE xx/xx/21 \_\_\_\_\_

*Buty Space* 02/01/202  
 ENVIRONMENTAL CONSULTANT SIGNATURE



# CONSTRUCTION PHASE 2 FOR KALAS FALLS SITUATED AT

ROLESVILLE ROAD, ROLESVILLE

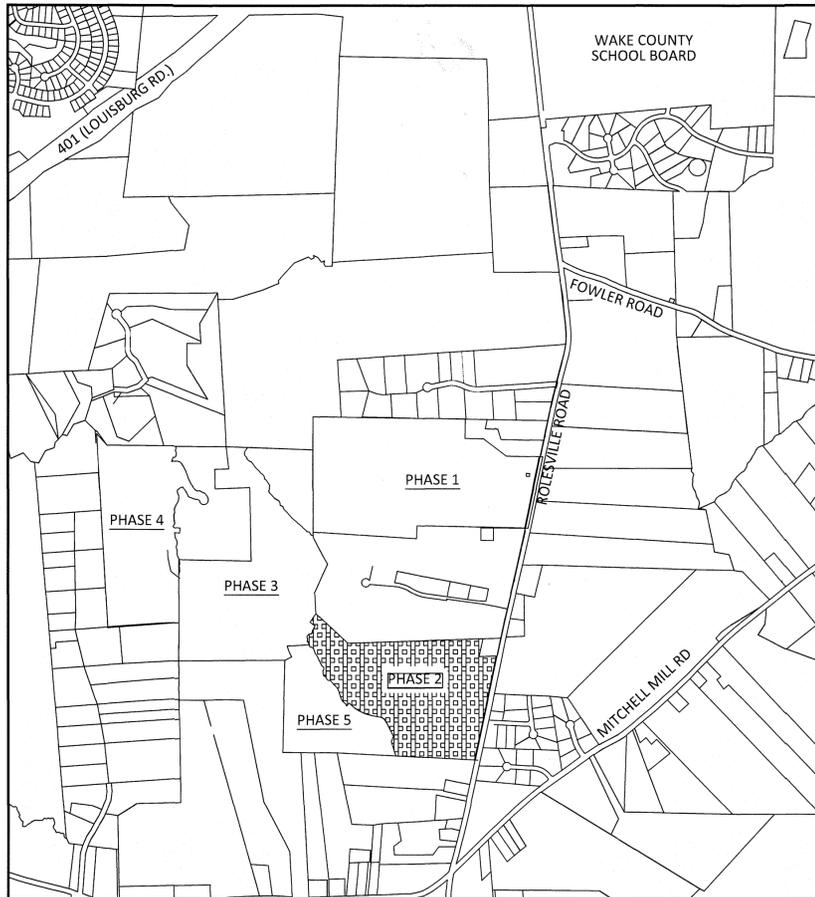
WAKE COUNTY, NORTH CAROLINA

PROPERTY OWNER:	MITCHELL MILL ROAD INVESTORS LLC CONTACT: KARL BLACKLEY 105 WESTON ESTATES WAY CARY, NC 27513 919-481-3000
DEVELOPER:	MITCHELL MILL ROAD INVESTORS LLC CONTACT: KARL BLACKLEY 105 WESTON ESTATES WAY CARY, NC 27513 919-481-3000
SURVEYOR:	WITHERS RAVENEL CONTACT: MATT TIMLIN 115 MACKENAN DRIVE CARY, NC 27511 919-469-3340
BUFFER/WETLAND:	WITHERS RAVENEL CONTACT: TROY BEASLEY 115 MACKENAN DRIVE CARY, NC 27511 919-469-3340

SHEET INDEX	
CVR	COVER SHEET
1.0	OVERALL EXISTING CONDITIONS
1.1	EXISTING CONDITIONS PHASE 2
2.0	EROSION CONTROL STAGE 2
2.1-2.5	EROSION CONTROL(50 SCALE)
3.0	GENERAL NOTES AND LEGENDS
3.1	SCHEDULE PLAN
4.0	DRAINAGE PLAN OVERALL
4.1-4.3	GRADING & DRAINAGE PHASE 2 (50 SCALE)
4.4	SCM 7A DETAIL
4.5	SCM 3A DETAIL
5.0	SITE PLAN OVERALL
5.1	SITE PLAN PHASE 2 OVERALL
5.2-5.4	SITE PLAN PHASE 2 (50 SCALE)
6.0	OVERALL UTILITIES PLAN
6.1-6.3	UTILITY SHEET (50 SCALE)
7.0	KALAS FALLS DR PLAN AND PROFILE
8.0	KIRBY HILL CT PLAN AND PROFILE
9.0-9.1	GRAYMONT OAKS DR PLAN AND PROFILE
10.0	ROUND-ABOUT PLAN AND PROFILE
11.0	PEBBLE GARDEN PL PLAN AND PROFILE
12.0-12.1	WOODLYN PARK PLAN AND PROFILE
13.0	LAUREL KNOLL WAY PLAN AND PROFILE
14.0	IRONGATE TRACE COURT PLAN AND PROFILE
15.0-15.1	ALLEY WAYS PLAN AND PROFILE
16.0	SANITARY SEWER OUTFALL PLAN AND PROFILE
17.0	TRANSPORTATION PLAN
L1-L3	LANDSCAPE PLAN
CD1-CD19	CIVIL DETAILS



*John R. Herman*  
 2/23/21



VICINITY MAP  
SCALE: 1"=1000'

PHASE 2 PUBLIC IMPROVEMENTS	
PUBLIC WATER (12")	2,947.85 LF
PUBLIC WATER (8")	2,081.67 LF
PUBLIC WATER (6")	1511.47 LF
PUBLIC SEWER (8")	5,872.30 LF
PUBLIC STREETS	9,506.25 LF
TOTAL NO. OF LOTS	110
LIMITS OF DISTURBANCE	29.08 AC

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

**PROJECT NARRATIVE**

THIS PROJECT IS LOCATED IN ROLESVILLE, NORTH CAROLINA AT ROLESVILLE ROAD. IT INVOLVES THE COMBINING OF SEPARATELY PROPOSED PROJECTS KNOWN AS KALAS FALLS, ROGERS FARM AND ONE OTHER TRACT KNOWN AS THE WATKINS PROPERTY. IT DRAINS TO TRIBUTARIES OF HARRIS BRANCH WHICH IS PART OF THE NEUSE RIVER BASIN. IT IS ALSO BOUNDED ON ALL SIDES BY MOSTLY UNDEVELOPED LAND. IT IS APPROXIMATELY 0.5 MILES NORTHWEST OF THE INTERSECTION OF MITCHELL MILL ROAD AND ROLESVILLE ROAD IN WAKE COUNTY, NORTH CAROLINA. THE TOTAL AREA OF THE PROJECT IS 282.726AC(EXCLUDES EXISTING ROW AND CEMETERY). THE CURRENT PHASE IS 51.28 ACRES.

**ATTENTION CONTRACTORS:**

THE CONTRACTOR RESPONSIBLE FOR THE EXTENSION OF WATER, SEWER, AND / OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR CONTACTING THE PUBLIC UTILITIES DEPARTMENT AT (919) 996-4540 AT LEAST TWENTY FOUR HOURS PRIOR TO BEGINNING ANY OF THEIR CONSTRUCTION.

FAILURE TO NOTIFY BOTH CITY DEPARTMENTS IN ADVANCE OF BEGINNING CONSTRUCTION, WILL RESULT IN THE ISSUANCE OF MONETARY FINES, AND REQUIRE REINSTALLATION OF ANY WATER AND SEWER FACILITIES NOT INSPECTED AT THE TIME OF THE NOTIFICATION FAILURE.

FAILURE TO CALL FOR INSPECTION, INSTALL A DOWNSTREAM PLUG, HAVE PERMITTED PLANS ON THE JOB SITE, OR ANY OTHER VIOLATION OF THE CITY OF RALEIGH STANDARDS WILL RESULT IN A FINE AND POSSIBLE EXCLUSION FROM FUTURE WORK IN THE CITY OF RALEIGH.

**GENERAL NOTES:**

- ALL PUBLIC WATER AND SEWER MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
- CONTRACTOR SHALL CONTACT NORTH CAROLINA ONE CALL (1-800-632-4949) TO LOCATE ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF THE EXISTING UTILITIES AND NOTIFY THE PROJECT ENGINEER (919-469-1101) OF ANY CONFLICTS.
- ALL BOUNDARY AND FIELD TOPOGRAPHY PROVIDED BY WITHERS & RAVENEL.
- ALL CONDITIONS OF SUP 19-01 AND MA 19-02 R&PUD ARE APPLICABLE AND WILL BE MET.
- SIGNS REQUIRE A SEPARATE SIGN PACKAGE TO BE APPROVED BY THE TOWN.

**Rolesville**

**APPROVED FOR COMPLIANCE**

Case # CD 21-03 Project: Kalas Falls Phase 2 CDs

By: Meredith Juber Date: 3/25/2022

These plans have been approved for compliance with the Town Code of Ordinance, UDO, and Standard Specifications & Construction Details, subject to statements & conditions hereby incorporated by reference.

**SITE PERMITTING APPROVAL**

**Water and Sewer Permits (if applicable)**

The City of Raleigh consents to the connection and extension of the City's **Public Sewer System** as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. **City of Raleigh Public Utilities Department Permit # 5-4825**

The City of Raleigh consents to the connection and extension of the City's **Public Water System** as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. **City of Raleigh Public Utilities Department Permit # W-3785**

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

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

**CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION**

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

City of Raleigh Development Approval \_\_\_\_\_

Raleigh Water Review Officer



**STIPULATION FOR REUSE**

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

**KALAS FALLS  
 PHASE 2  
 1832 ROLESVILLE ROAD  
 WAKE COUNTY, NC**

JOB NUMBER: 9900  
 CHECKED BY:  
 DRAWN BY:  
 DATE: DECEMBER 21, 2020

COVER SHEET

SHEET NO.:  
 CVR



EXISTING LEGEND	
[Symbol]	EXISTING ADJACENT PROPERTY
[Symbol]	EXISTING TREE LINE
[Symbol]	EXISTING TOPOGRAPHY
[Symbol]	EXISTING BOUNDARY
[Symbol]	EXISTING WETLANDS
[Symbol]	EXISTING WETLANDS AREA
[Symbol]	EXISTING 50' NEUSE RIPERIAN BUFFER
[Symbol]	EXISTING BUFFER ZONES
[Symbol]	EXISTING TOP OF BANK
[Symbol]	EXISTING OVERHEAD ELECTRIC
[Symbol]	EXISTING FENCE TO BE REMOVED
[Symbol]	EXISTING CENTERLINE
[Symbol]	EXISTING EOP TO BE REMOVED
[Symbol]	EXISTING ROW TO BE REMOVED
[Symbol]	EXISTING CHANNEL TO BE REMOVED
[Symbol]	EXISTING GRAVEL DRIVE TO BE REMOVED
[Symbol]	EXISTING STREAM CENTERLINE
[Symbol]	EXISTING GRAVEL PATHWAY
[Symbol]	EXISTING WATERLINE
[Symbol]	PHASE LINE

NO.	DATE	REVISION
1	7/21/2021	1ST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH

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**KALAS FALLS PHASE 2**  
 1832 ROLESVILLE ROAD  
 WAKE COUNTY, NC

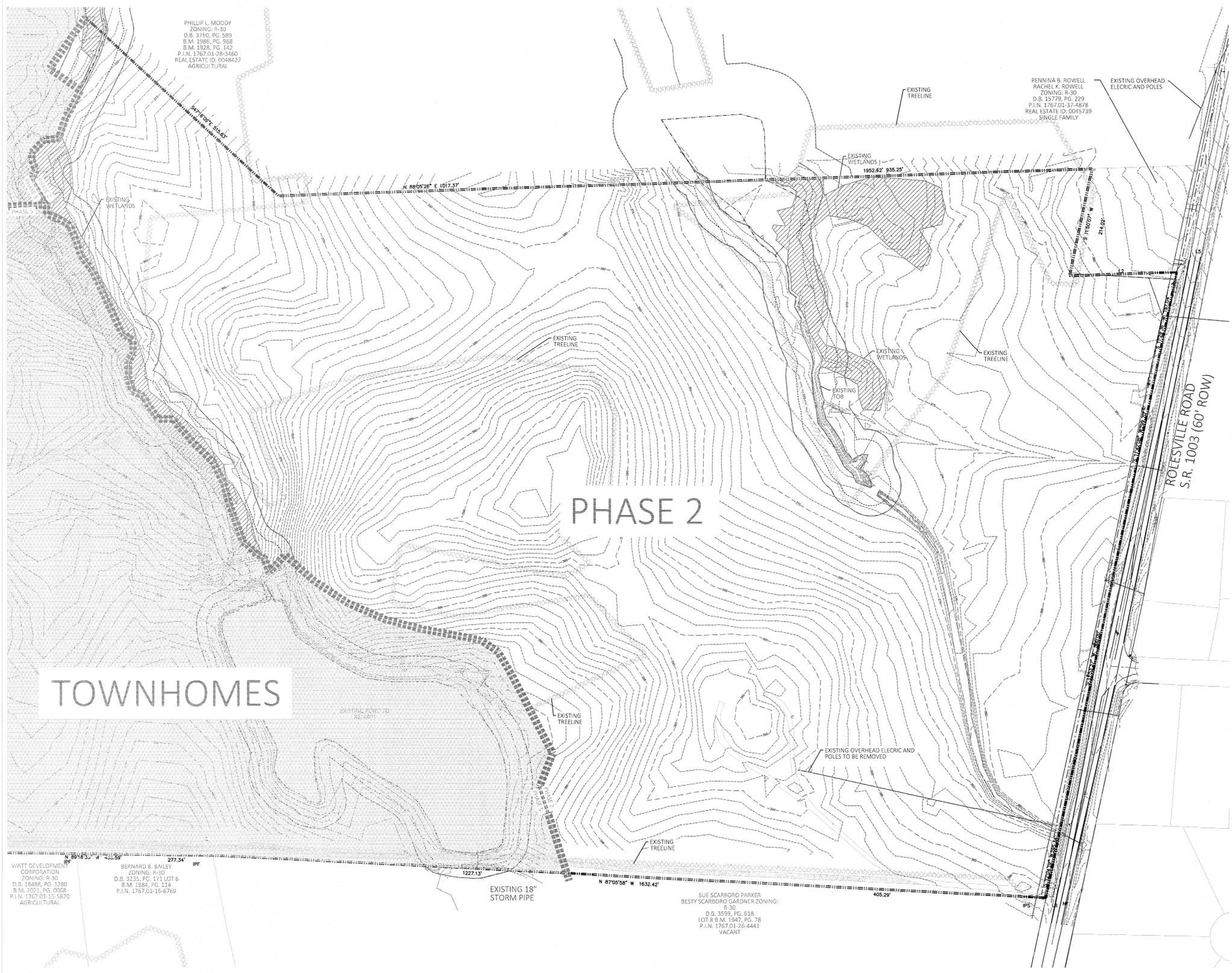
JOB NUMBER:	9900
CHECKED BY:	
DRAWN BY:	
DATE:	DECEMBER 21, 2020
SHEET TITLE:	<b>OVERALL EXISTING CONDITIONS</b>
SHEET NO.:	1.0

**GENERAL NOTES:**  
 1. TOPO SHOWN ON THIS SHEET IS 1' CONTOURS AND IS FIELD TOPOGRAPHY.  
 2. SURVEY DATA PROVIDED BY WITHERSRIVENEL WITH THE LATEST SURVEY DATA RECEIVED ON 9-28-18.  
 3. ALL PROPERTIES WITHIN THE PROJECT BOUNDARY ARE OWNED BY MITCHELL MILL ROAD INVESTORS, LLC.

**GRAPHIC SCALE**  
 1 inch = 200'



**PROPERTY INFORMATION:**  
 KALAS PROPERTY: 144.20 ACRES (EXCLUDING R/W)  
 ROGERS FARM: 72.70 ACRES (EXCLUDING R/W & CF-METERY)  
 WATKINS PROPERTY: 64,856 ACRES  
 GILLIS PROPERTY: 0.97 ACRES  
 TOTAL ACREAGE: 282.726 ACRES



PHILLIP L. MOODY  
ZONING: R-30  
D.B. 3750, PG. 589  
B.M. 13086, PG. 388  
B.M. 1928, PG. 142  
P.I.N. 1767.01-26-3460  
REAL ESTATE ID: 0048422  
AGRICULTURAL

PENNINA B. ROWELL  
RACHEL K. ROWELL  
ZONING: R-30  
D.B. 13779, PG. 229  
P.I.N. 1767.01-37-4878  
REAL ESTATE ID: 0045739  
SINGLE FAMILY

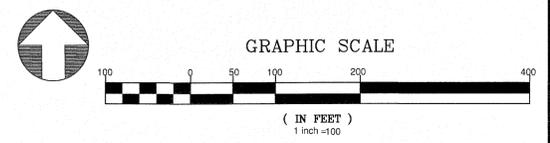
WATT DEVELOPMENT  
CORPORATION  
ZONING: R-30  
D.B. 18488, PG. 1280  
B.M. 2021, PG. 0628  
P.I.N. 1767.01-15-5870  
AGRICULTURAL

BERNARD B. BAILEY  
ZONING: R-30  
D.B. 3233, PG. 171 LOT 6  
B.M. 1984, PG. 134  
P.I.N. 1767.01-15-6769

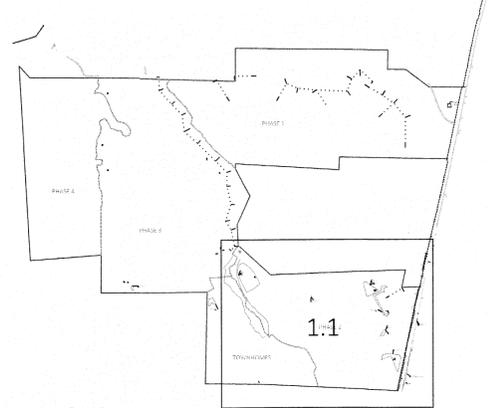
SUE SCARBORO PARKER  
BESTY SCARBORO GARDNER ZONING:  
R-30  
D.B. 3599, PG. 618  
LOT 8 B.M. 1947, PG. 78  
P.I.N. 1767.01-26-4441  
VACANT

EXISTING LEGEND	
	EXISTING ADJACENT PROPERTY
	EXISTING TREE LINE
	EXISTING TOPOGRAPHY
	EXISTING BOUNDARY
	EXISTING WETLANDS
	EXISTING WETLANDS AREA
	EXISTING 50' NEUSE RIPARIAN BUFFER
	EXISTING BUFFER ZONES
	EXISTING TOP OF BANK
	EXISTING OVERHEAD ELECTRIC
	EXISTING FENCE TO BE REMOVED
	EXISTING CENTERLINE
	EXISTING EOP TO BE REMOVED
	EXISTING ROW TO BE REMOVED
	EXISTING CHANNEL TO BE REMOVED
	EXISTING GRAVEL DRIVE TO BE REMOVED
	EXISTING STREAM CENTERLINE
	EXISTING GRAVEL PATHWAY
	EXISTING WATERLINE

GENERAL NOTES:  
1. TOPO SHOWN ON THIS SHEET IS 1' CONTOURS AND IS FIELD TOPOGRAPHY.  
2. ROLESVILLE ROAD IMPROVEMENTS AND GRADING FOR IMPROVEMENT WERE INCLUDED WITH PHASE 1



GRAPHIC SCALE 1"=1000'



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



LOGAN R. HERMAN  
1/7/2021

NO.	DATE	REVISION:
1	7/21/2021	EST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH

STIPULATION FOR REUSE  
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KALAS FALLS  
PHASE 2  
1832 ROLESVILLE ROAD  
WAKE COUNTY, NC

JOB NUMBER:	9900
CHECKED BY:	
DRAWN BY:	
DATE:	DECEMBER 21, 2020
SHEET TITLE:	PHASE 2 EXISTING CONDITIONS
SHEET NO.:	1.1





PHILLIP L. MOODY  
 ZONING: R-30  
 D.B. 3750, PG. 589  
 B.M. 1986, PG. 988  
 S.M. 1936, PG. 142  
 P.I.N. 1767/01-28-3460  
 REAL ESTATE ID: 0048422  
 AGRICULTURAL

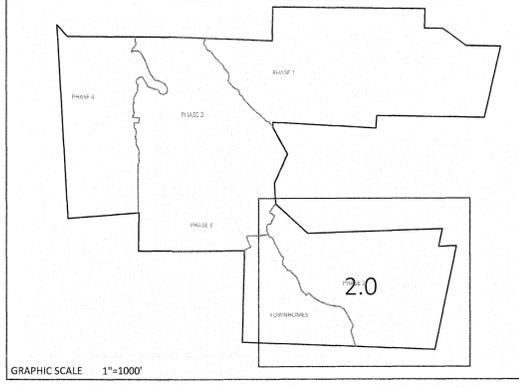
PENNINGTON B. ROWELL  
 RACHEL K. ROWELL  
 ZONING: R-30  
 D.B. 15779, PG. 229  
 P.I.N. 1767/01-37-4898  
 REAL ESTATE ID: 0045739  
 SINGLE FAMILY

WATT DEVELOPMENT CORPORATION  
 ZONING: R-30  
 D.B. 38458, PG. 1280  
 B.M. 2021, PG. 0068  
 P.I.N. 1767/01-15-5870  
 AGRICULTURAL

BERNARD B. BAILEY  
 ZONING: R-30  
 D.B. 3235, PG. 171 LOT 6  
 S.M. 1394, PG. 114  
 P.I.N. 1767/01-15-6769

SUE SCARBORO PARKER  
 BESTY SCARBORO GARDNER ZONING:  
 R-30  
 D.B. 3599, PG. 618  
 LOT 8 B.M. 1947, PG. 78  
 P.I.N. 1767/01-26-4441  
 VACANT

- GENERAL NOTES:
1. ALL SEDIMENT TRAPS/PONDS SHALL BE STABILIZED WITHIN 7 DAYS OF INSTALLATION.
  2. A SEWER OUTFALL IS TO BE CONSTRUCTED IN THE FUTURE PHASE 3 AREA TO SERVICE THIS PORTION OF THE PROJECT. NO ADDITIONAL IMPROVEMENTS ARE TO BE DONE IN THE FUTURE PHASE 3 AREA.
  3. WATTLES/CHECK DAM ARE TO BE PLACED EVERY 3 TO 4 FT VERTICALLY.
  4. WHERE SILT FENCE IS LOCATED OUTSIDE OF TEMPORARY SILT DITCHES THE SILT FENCE WILL BE THE LIMITS OF DISTURBANCE.
  5. SEE SHEET 3.1 FOR SEDIMENT BASIN CHART SHOWING THE SKIMMER/ORIFICE SIZES.
  6. DIVERSION SWALE DESIGN, SEE SHEET 3.1 FOR DETAILS AND REFERENCE TABLE.
  7. SEE SHEETS 2.1 TO 2.4 FOR SLOPE DRAIN PIPE SIZES.
  8. SEE SHEET 3.1 FOR RIP RAP PAD SIZES.



EROSION CONTROL LEGEND	
	100 YEAR FLOOD EASEMENT
	EXISTING TOPOGRAPHY
	EXISTING BOUNDARY
	EXISTING WETLANDS AREA
	EXISTING 50' NEUSE RIPARIAN BUFFER
	EXISTING BUFFER ZONES
	PROPOSED LOT LINE
	BUILDING RESTRICTION LINE
	PROPOSED ROW
	PROPOSED SIDEWALK
	PROPOSED BOC
	PROPOSED EOP
	PROPOSED CENTERLINE
	PROPOSED GRADING
	PROPOSED EASEMENT
	PROPOSED 25' x 50' GRAVEL CONSTRUCTION ENTRANCE
	PROPOSED RIP RAP
	BASIN WEIR
	PROPOSED SEDIMENT BASIN
	PROPOSED INLET PROTECTION
	PROPOSED CHECK DAM
	PROPOSED SF LOW POINT
	PROPOSED AREAS FOR 7 DAY STABILIZATION
	PROPOSED EROSION CONTROL BLANKET
	PROPOSED BASIN MAINTENANCE PAD
	PROPOSED WATTLE
	PROPOSED SILT FENCE
	PROPOSED TREE PROTECTION FENCE/LIMITS OF DISTURBANCE
	PROPOSED SILT FENCE/LIMITS OF DISTURBANCE
	PROPOSED DIVERSION DITCH
	PROPOSED JUNCTION BOX
	PROPOSED CATCH BASIN
	PROPOSED YARD INLET
	PROPOSED DROP INLET
	PROPOSED STORM WATER

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



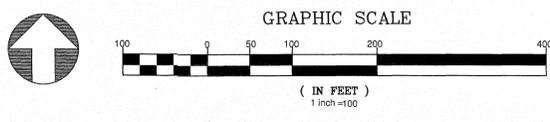
1/14/22

NO.	DATE	REVISION
1	7/21/2021	LIST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH
2	11/05/2022	MODIFICATION AREA AT TANSLEY ROAD AND FUTURE EXTENSION TO MOODY FARMS

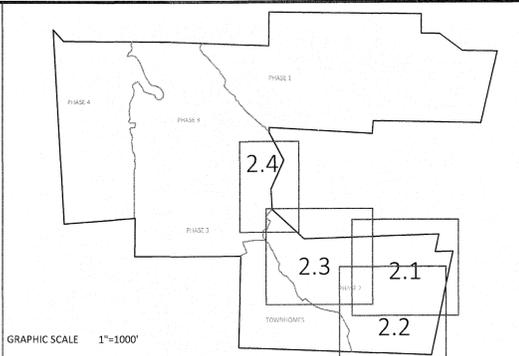
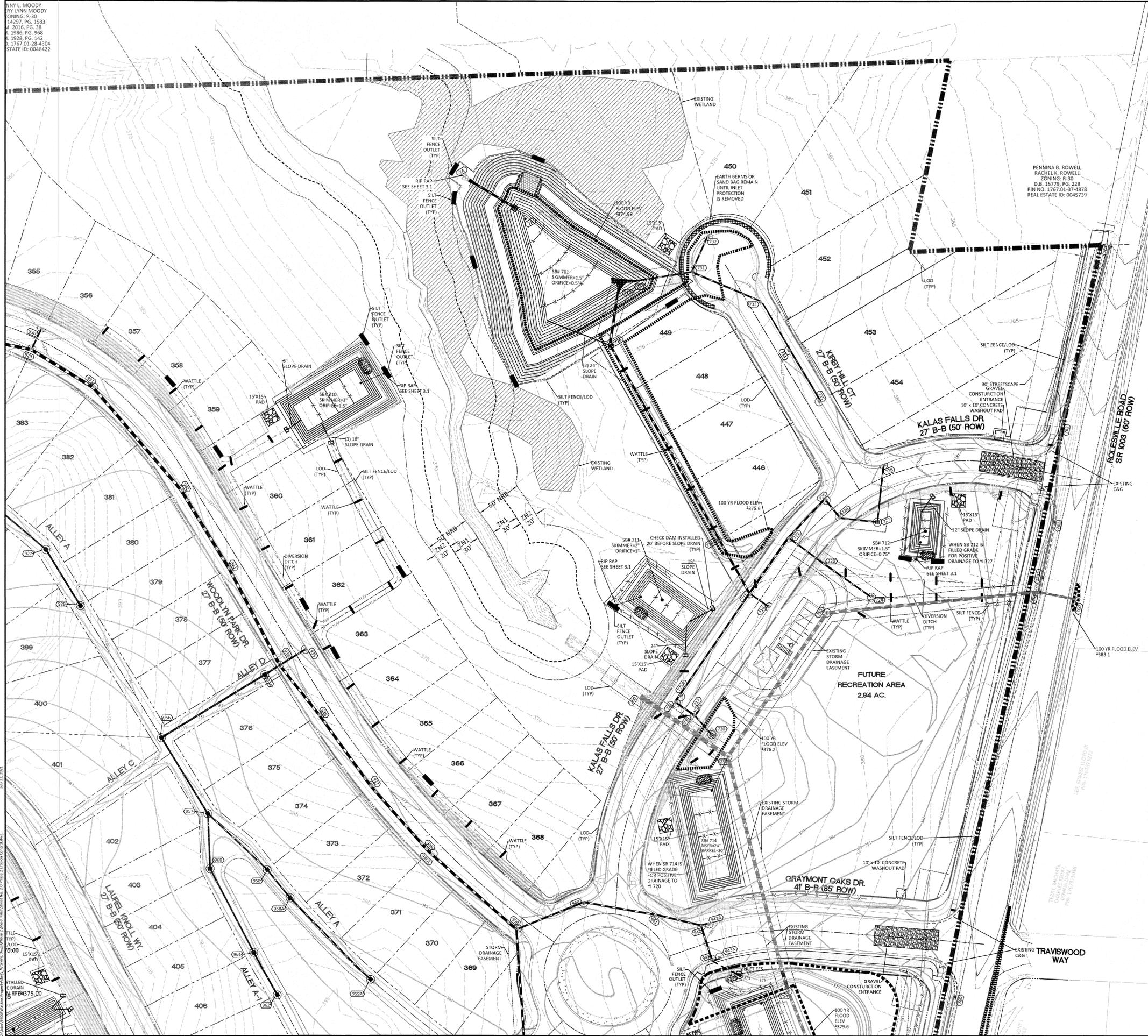
STIPULATION FOR REUSE  
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**KALAS FALLS PHASE 2**  
 1832 ROLESVILLE ROAD  
 WAKE COUNTY, NC

JOB NUMBER: 9900  
 CHECKED BY:  
 DRAWN BY:  
 DATE: DECEMBER 21, 2020  
 SHEET TITLE:  
**PHASE 2 EROSION CONTROL STAGE 1**  
 SHEET NO.: 2.0

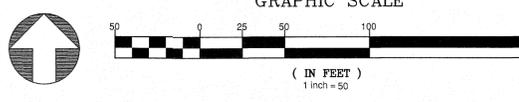


ROY L. MOODY  
 221 LYNWOOD  
 CONING, R-30  
 14297, PG. 1583  
 M. 2016, PG. 38  
 F. 1986, PG. 968  
 K. 1928, PG. 142  
 D. 1767.01, 28-4304  
 STATE ID: 0048422



EROSION CONTROL LEGEND	
	100 YEAR FLOOD EASEMENT
	EXISTING TOPOGRAPHY
	EXISTING BOUNDARY
	EXISTING WETLANDS AREA
	EXISTING 50' NEUSE RIPARIAN BUFFER
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	PROPOSED BOC
	PROPOSED EOP
	PROPOSED CENTERLINE
	PROPOSED GRADING
	PROPOSED EASEMENT
	PROPOSED 25 x 50 GRAVEL CONSTRUCTION ENTRANCE
	PROPOSED RIP RAP
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	PROPOSED SEDIMENT BASIN
	PROPOSED INLET PROTECTION
	PROPOSED CHECK DAM
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	PROPOSED AREAS FOR 7 DAY STABILIZATION
	PROPOSED EROSION CONTROL BLANKET
	PROPOSED BASIN MAINTENANCE PAD
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	PROPOSED SILT FENCE
	PROPOSED TREE PROTECTION FENCE/LIMITS OF DISTURBANCE
	PROPOSED SILT FENCE/LIMITS OF DISTURBANCE
	PROPOSED DIVERSION DITCH
	PROPOSED JUNCTION BOX
	PROPOSED CATCH BASIN
	PROPOSED YARD INLET
	PROPOSED DROP INLET
	PROPOSED STORM WATER

GENERAL NOTES:  
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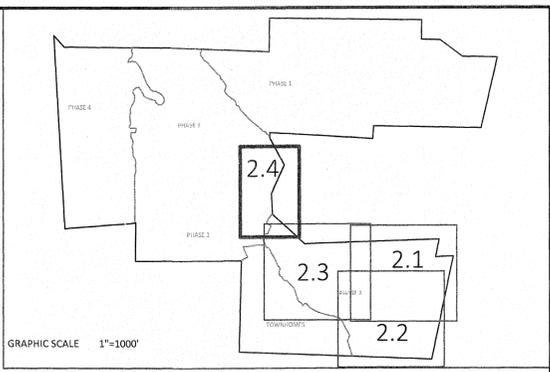
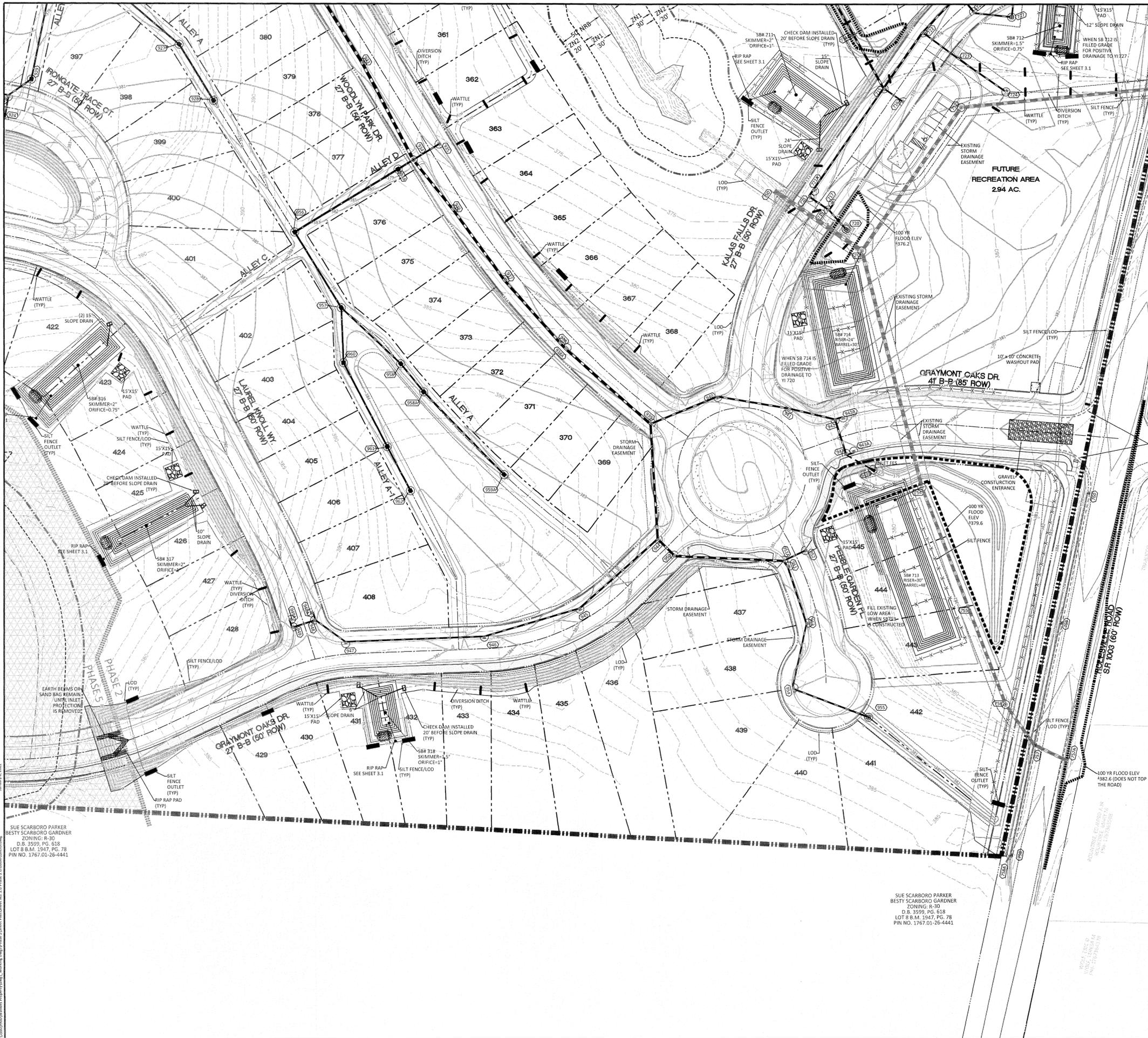
NO.	DATE	REVISION
1	7/21/2021	1ST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH

**STIPULATION FOR REUSE**  
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**KALAS FALLS PHASE 2**  
 1832 ROLESVILLE ROAD  
 WAKE COUNTY, NC

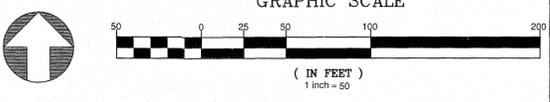
JOB NUMBER:	9900
CHECKED BY:	
DRAWN BY:	
DATE:	DECEMBER 21, 2020
SHEET TITLE:	PHASE 2 EROSION CONTROL (50 SCALE) STAGE 2
SHEET NO.:	2.1





EROSION CONTROL LEGEND	
	100 YEAR FLOOD EASEMENT
	EXISTING TOPOGRAPHY
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	PROPOSED SF LOW POINT
	PROPOSED AREAS FOR 7 DAY STABILIZATION
	PROPOSED EROSION CONTROL BLANKET
	PROPOSED BASIN MAINTENANCE PAD
	PROPOSED WATTLE
	PROPOSED TREE PROTECTION FENCE/LIMITS OF DISTURBANCE
	PROPOSED SILT FENCE/LIMITS OF DISTURBANCE
	PROPOSED DIVERSION DITCH
	PROPOSED JUNCTION BOX
	PROPOSED CATCH BASIN
	PROPOSED YARD INLET
	PROPOSED DROP INLET
	PROPOSED STORM WATER

GENERAL NOTES:  
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 4. WHERE SILT FENCE IS LOCATED OUTSIDE OF TEMPORARY SILT DITCHES THE SILT FENCE WILL BE THE LIMITS OF DISTURBANCE.  
 5. SEE SHEET 3.1 FOR SEDIMENT BASIN CHART SHOWING THE SKIMMER/ORIFICE SIZES.  
 6. DIVERSION SWALE DESIGN, SEE SHEET 3.1 FOR DETAILS AND REFERENCE TABLE.  
 7. SEE SHEET 3.1 FOR RIP RAP PAD SIZES.  
 8. WHEN SB713 IS APPROVED TO BE REMOVED, THE AREA SHALL BE FILLED IN WITH SILT FENCE STILL IN PLACE



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



REVISION:  
 FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH  
 LIST REVISION FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH  
 DATE: 7/21/2021  
 DATE: 17/05/2022  
 NO. 1  
 NO. 2

NO.	DATE	REVISION
1	7/21/2021	LIST REVISION FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH
2	17/05/2022	RIP RAP RELOCATION AT ROAD ENDING TO FUTURE PHASE

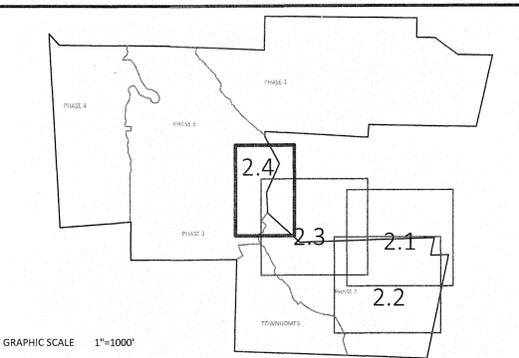
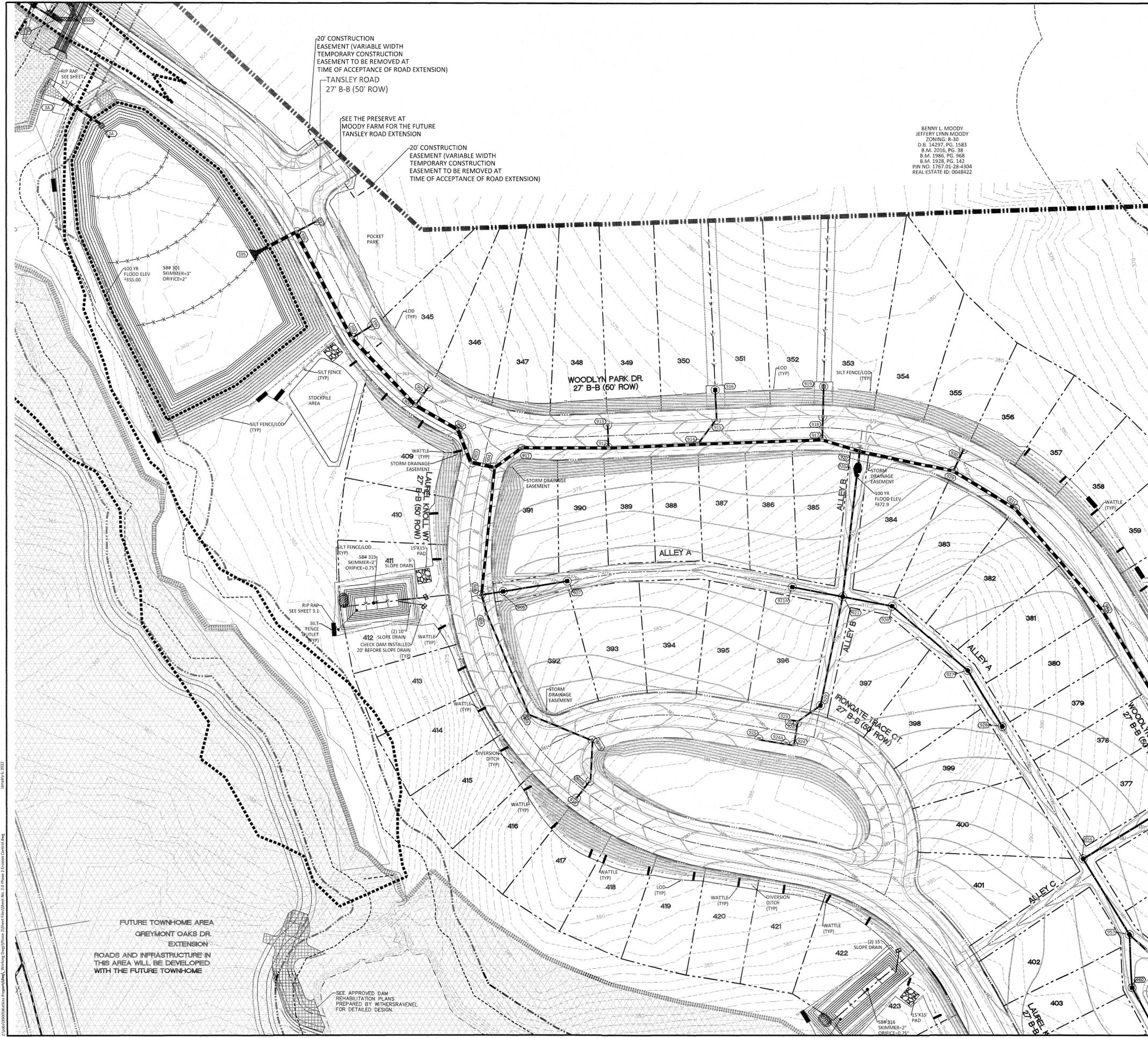
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**KALAS FALLS PHASE 2**  
 1832 ROLESVILLE ROAD  
 WAKE COUNTY, NC

JOB NUMBER: 9900  
 CHECKED BY:  
 DRAWN BY:  
 DATE: DECEMBER 21, 2020  
 SHEET TITLE: PHASE 2 EROSION CONTROL (50 SCALE) STAGE 2  
 SHEET NO.: 2.2



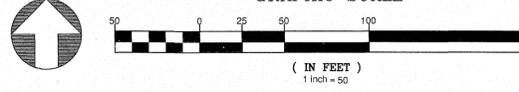
SUE SCARBORO PARKER BESTY SCARBORO GARDNER ZONING: R-30 D.B. 3509, PG. 618 LOT 8 B.M. 1947, PG. 78 PIN NO. 1767.01-26-4441  
 2020/05/05 10:00 AM (Project/Phase/Sheet) Working Drawing/Phase 2/Sheet No. 2.2 Phase 2 Erosion Control/Map



BENNY L. MOODY  
JEFFERY LYNN MOODY  
ZONING: R-30  
D.B. 14297, PG. 1583  
B.M. 2016, PG. 38  
B.M. 1986, PG. 968  
B.M. 1928, PG. 142  
PIN NO. 1767-01-28-4304  
REAL ESTATE ID: 0048422

EROSION CONTROL LEGEND	
	100 YEAR FLOOD EASEMENT
	EXISTING TOPOGRAPHY
	EXISTING BOUNDARY
	EXISTING WETLANDS AREA
	EXISTING 50' NEUSE RIPERIAN BUFFER
	EXISTING BUFFER ZONES
	PROPOSED LOT LINE
	BUILDING RESTRICTION LINE
	PROPOSED ROW
	PROPOSED SIDEWALK
	PROPOSED BOC
	PROPOSED EOP
	PROPOSED CENTERLINE
	PROPOSED GRADING
	PROPOSED EASEMENT
	PROPOSED 25 x 50 GRAVEL CONSTRUCTION ENTRANCE
	PROPOSED RIP RAP
	BASIN WEIR
	PROPOSED SEDIMENT BASIN
	PROPOSED INLET PROTECTION
	PROPOSED CHECK DAM
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 7. SEE SHEET 3.1 FOR RIP RAP PAD SIZES.



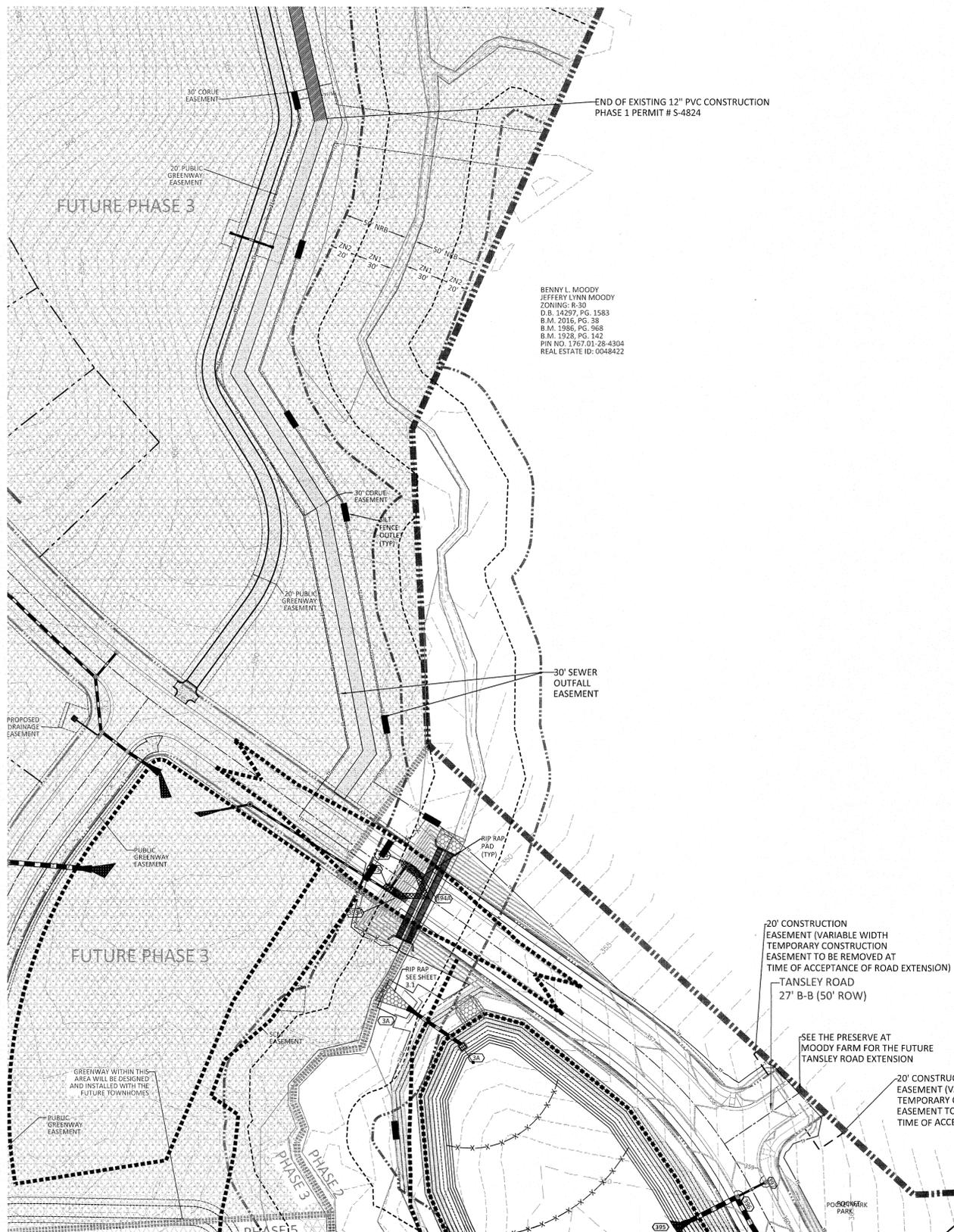
NO.	DATE	REVISION
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2	1/05/2022	RIP RAP RELOCATION AT ROAD ENDING TO FUTURE PHASE AND TANSLEY EXTENSION

STIPULATION FOR REUSE  
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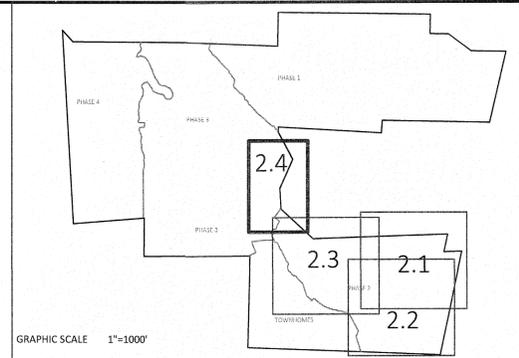
**KALAS FALLS  
 PHASE 2  
 1832 ROLESVILLE ROAD  
 WAKE COUNTY, NC**

JOB NUMBER: 9900  
 CHECKED BY:  
 DRAWN BY:  
 DATE: DECEMBER 21, 2020  
 SHEET TITLE:  
**PHASE 2  
 EROSION CONTROL  
 (50 SCALE)  
 STAGE 2**  
 SHEET NO.:  
**2.3**





BENNY L. MOODY  
JEFFERY LYNN MOODY  
ZONING: R-30  
D.B. 14297, PG. 1583  
B.M. 2016, PG. 89  
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EROSION CONTROL LEGEND	
	100 YEAR FLOOD EASEMENT
	EXISTING TOPOGRAPHY
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	EXISTING 50' NEUSE RIPARIAN BUFFER
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**AMERICAN Engineering**  
American Engineering Associates - Southeast, P.A.  
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1/14/22

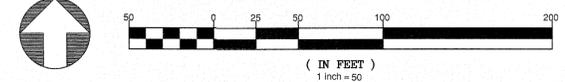
NO.	DATE	REVISION
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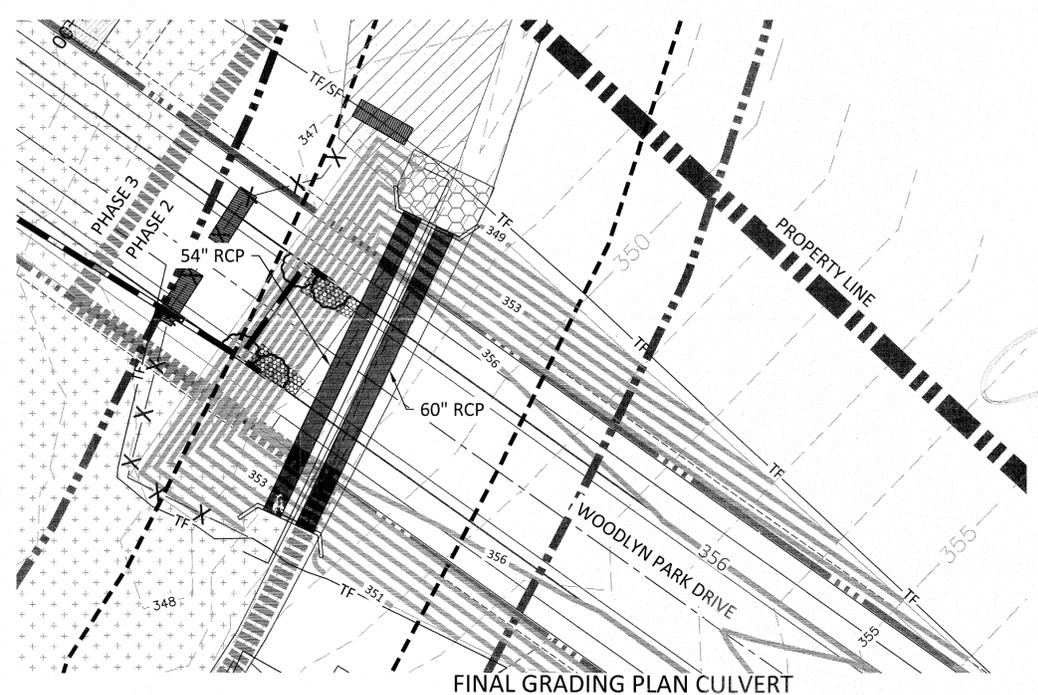
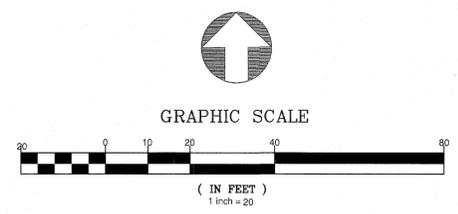
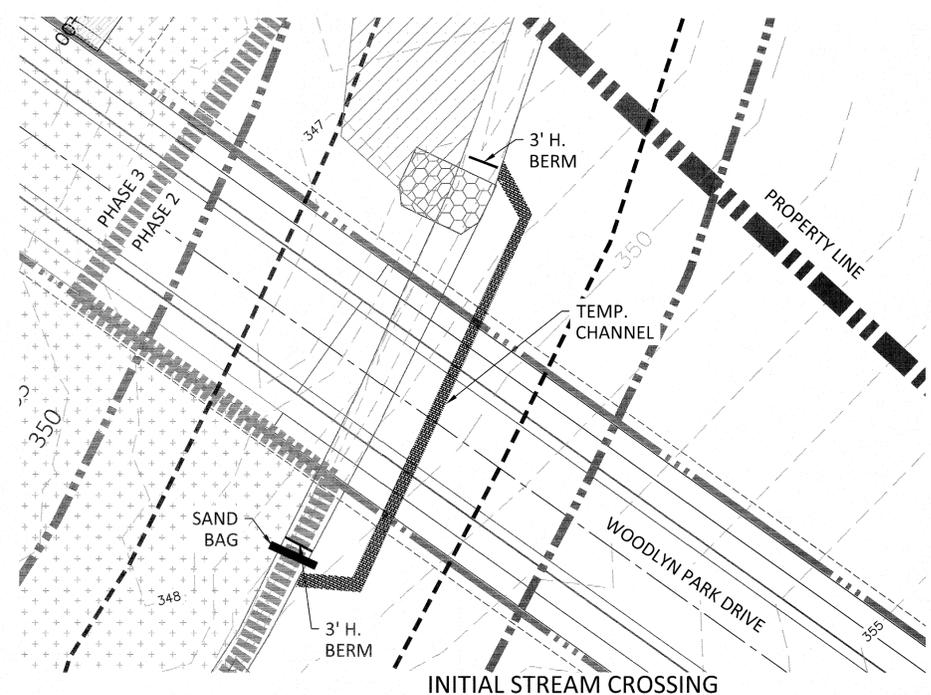
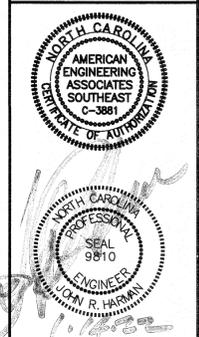
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**KALAS FALLS  
PHASE 2  
1832 ROLESVILLE ROAD  
WAKE COUNTY, NC**

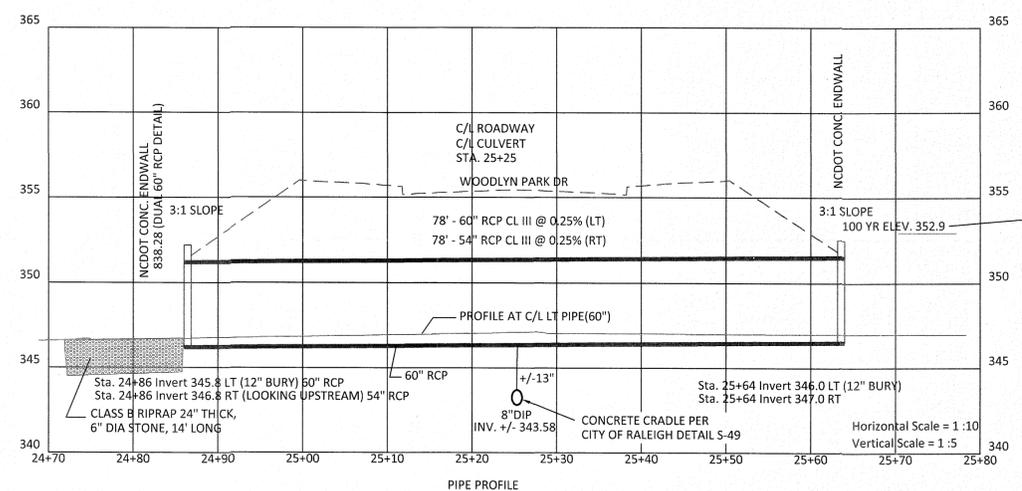
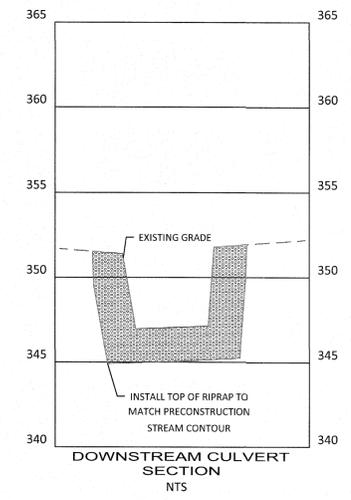
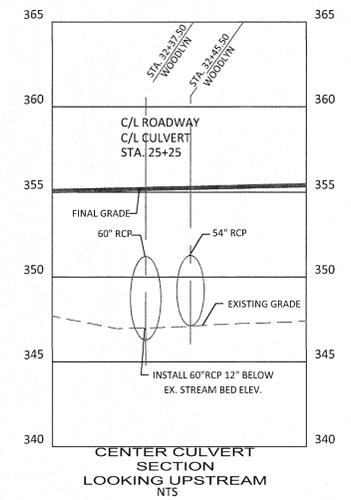
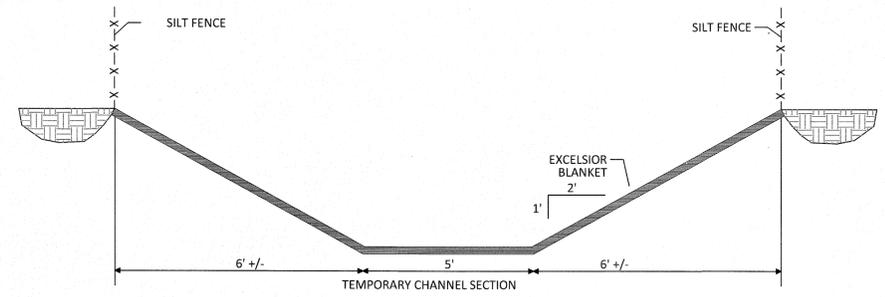
JOB NUMBER: 9900  
CHECKED BY:  
DRAWN BY:  
DATE: DECEMBER 21, 2020  
SHEET TITLE:  
**PHASE 2  
EROSION CONTROL  
(50 SCALE)  
SEWER OUTFALL**  
SHEET NO.:  
**2.4**

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7. SEE SHEET 3.1 FOR RIP RAP PAD SIZES.





- SEQUENCE FOR 60" AND 54" RCP CULVERT CROSSING
1. INSTALL TREE PROTECTION FENCING AND SILT FENCE AS SHOWN ON THE PLANS. WORK OUTSIDE THE FENCED AREA IS IN VIOLATION OF THE NCDEQ PERMIT.
  2. INSTALL TEMPORARY CHANNEL CROSSING AND BYPASS CHANNEL. SEE DETAIL.
  3. UNDERCUT THE PROPOSED CULVERT AREA TO FIRM MATERIAL AS DIRECTED BY GEOTECH. UNDERCUT AREA OF ROADWAY FILL WEST OF CULVERT CONCURRENTLY. INSTALL 60" AND 54" PIPE AS PER PLAN.
  4. INSTALL ENDWALLS AND BACKFILL THE PIPE AS PER NCDOT SPECIFICATIONS. ENDWALLS SHALL BE NCDOT DETAIL 838.28 (USE 60" DETAIL).
  5. REMOVE TEMPORARY STREAM CROSSING AND UNDERCUT ROADWAY FILL AREA EAST OF THE CULVERT CROSSING.
  6. GRADE THE SLOPES AS SHOWN ON THE PLAN. SILT FENCE SHALL BE INSTALLED AT THE TOE OF THE SLOPE AND A SECOND ROW AT 7' VERTICAL HEIGHT. INSTALL MATTING BETWEEN SILT FENCE ROWS. PROVIDE SILT FENCE OUTLETS AT 150' MAXIMUM SPACING. STAGGER SILT FENCE OUTLETS 25' WHERE NECESSARY.
  7. STABILIZE THE SLOPES AS PER THE PLANS WITHIN 7 DAYS AFTER CONSTRUCTION.



100 YR ELEV TAKEN FROM SURVEY PERFORMED BY HUGH GILLEECE AND ASSOCIATES REF 6/26/17 "FLOOD STUDY-KALAS FALLS"

NO.	DATE	REVISION
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**KALAS FALLS  
 PHASE 2  
 1832 ROLESVILLE ROAD  
 WAKE COUNTY, NC**

JOB NUMBER: 9900  
 CHECKED BY:  
 DRAWN BY:  
 DATE: DECEMBER 21, 2020  
 SHEET TITLE:  
**CULVERT  
 CROSSING ON  
 WOODLYN  
 PARK DR**  
 SHEET NO.:  
**2.5**



CONSTRUCTION SEQUENCE FOR PHASE 2 SHALL BE AS FOLLOWS:

- 1. OWNER SHALL OBTAIN NCG01 PERMIT. THERE MAY BE A FEE FOR THIS.
2. SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE WATERSHED MANAGER, OBTAIN LAND DISTURBING PERMIT. CONTACT JEEVAN NEUPANE, P. E. (919-819-8907).
3. TREE PROTECTION FENCES, SILT FENCES AND CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SHOWN ON THE EROSION CONTROL SHEETS. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED ALL RESULTING BARE AREAS IMMEDIATELY AFTER CONSTRUCTION. ALL MAINTENANCE PADS SHALL BE CLEARED BUT THE STONE REQUIRED SHOULD NOT BE INSTALLED UNTIL JUST BEFORE THE PAD IS NEEDED.
4. EACH SEDIMENT BASIN THAT IS TO BE CONVERTED TO A WET POND SHALL BE GRADED AS SHOWN ON THE SCM SHEETS. THE FOREBAY DIVIDER IS NOT TO BE CONSTRUCTED AT THIS TIME. THE RISER AND OUTLET PIPE IS TO BE PLACED AND THE DRAIN VALVE IS TO BE LEFT OPEN. THE SKIMMER SHALL BE ATTACHED TO THE DRAIN PIPE.
5. CONSTRUCT EROSION CONTROL MEASURES INCLUDING SILT DITCHES LEADING TO THEM AS SHOWN ON THE EROSION CONTROL SHEETS. CONSTRUCT DIVERSION DITCHES AS SHOWN. EACH DIVERSION DITCH SHALL HAVE THE LINING INSTALLED THE SAME DAY AS THE SECTION IS CONSTRUCTED. DO NOT CONSTRUCT SB#713 AND SB#714 AT THIS TIME.
6. OBTAIN CERTIFICATE OF COMPLIANCE THROUGH INSPECTION BY WATERSHED MANAGER.
7. CONSTRUCT PIPE SYSTEM 750-751-752-753-760 AND PIPE SYSTEM 751-754-755-756-757-757A AT THIS TIME USING SILT FENCES ON THE DOWNHILL SIDES TO CONTROL EROSION.
8. AFTER THE PIPE SYSTEMS ABOVE ARE FUNCTIONAL CONSTRUCT SB#713 AND SB#714.
9. GENERAL GRADING MAY BEGIN.
10. CLEAN SEDIMENT BASINS WHEN ONE-HALF FULL.
11. SEED AND MULCH DENUDED AREA INCLUDING ANY CUT/FILL SLOPES WITHIN FOURTEEN (14) DAYS AFTER FINISHED GRADES ARE ESTABLISHED.
12. MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND IS ESTABLISHED.
13. AS EACH CATCH BASIN OR YARD INLET IS INSTALLED, IT SHALL HAVE INLET PROTECTION INSTALLED. THIS IS TO REMAIN IN PLACE UNTIL ALL AREAS WHICH DRAIN TO IT ARE STABILIZED OR PAVED.
14. WHEN ALL CONTRIBUTORY AREAS ARE STABILIZED, OBTAIN APPROVAL FROM THE WATERSHED MANAGER TO CLOSE EACH SEDIMENT BASIN.
15. CLEAN SEDIMENT FROM SEDIMENT BASIN WHICH IS TO BE CONVERTED TO A WET POND AND REMOVE THE SKIMMER. INSTALL THE FOREBAY DIVIDER. INSTALL PLANTINGS AS REQUIRED. CLOSE THE DRAIN VALVE.
16. REQUEST FINAL APPROVAL BY WATERSHED MANAGER AFTER VEGETATION IS ESTABLISHED..
17. REMOVE SOIL EROSION CONTROL MEASURES AND STABILIZE THESE AREAS.
18. THE OWNER IS TO FINALIZE THE NCG01 PERMIT.

NOTES FOR CONSTRUCTION:

- 1. PLANS FOR INFRASTRUCTURE ONLY.
2. ALL CONSTRUCTION MUST BE PERFORMED IN ACCORDANCE WITH CURRENT CITY OF RALEIGH STANDARD SPECS AND DETAILS, WAKE COUNTY SPECIFICATIONS, NCDOT SPECIFICATIONS AND TOWN OF ROLESVILLE SPECIFICATIONS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING CONDITIONS. CONTRACTOR SHALL NOTIFY ENGINEER OF DISCREPANCIES BETWEEN FIELD CONDITIONS AND THESE DRAWINGS.
4. THERE ARE NO 100 YEAR FLOOD PLAINS PER FEMA MAP WITHIN PROPERTY.
5. CONTRACTOR WILL KEEP STREETS CLEAN AT ALL TIMES, OR A WASH STATION WILL BE REQUIRED.
6. ALL CATCH BASINS SHALL HAVE INLET PROTECTION.
7. ALL CUT AND FILL SLOPES MUST BE STABILIZED WITHIN 14 DAYS OF ANY PHASE OF GRADING, WITH SOME SLOPES TO BE STABILIZED WITHIN 7 DAYS AS SHOWN ON CHART TO THE LEFT AND ON THE EC SHEETS..
8. TREE PROTECTION FENCING ON THIS PROJECT WILL BE INSTALLED AND INSPECTED BEFORE THE GRADING PERMIT IS ISSUED.
9. A PRE-CONSTRUCTION CONFERENCE MAY BE REQUIRED BEFORE GRADING PERMIT IS ISSUED.
10. PERMANENT GROUND COVER WILL BE ESTABLISHED IN 15 WORKING DAYS OR 90 CALENDAR DAYS WHICHEVER IS SHORTER.
11. THE AREA DESIGNATED SHALL BE USED FOR TOPSOIL STOCKPILE.
12. THIS PROJECT IS IN THE NEUSE RIVER WATERSHED. PROJECT AREA = 283 ACRES.
13. WETLANDS ON THIS PROJECT ARE AS SHOWN.
14. MINIMUM CORNER CLEARANCE FROM THE CURB LINE OF INTERSECTING STREETS SHALL BE AT LEAST TWENTY (20) FEET FROM THE POINT OF TANGENCY.

GENERAL NOTES:

- A. ALL TREE PROTECTION FENCING SHALL BE MAINTAINED UNTIL ALL SITE WORK IS COMPLETED. THE FENCING SHALL BE REMOVED PRIOR TO THE FINAL SITE INSPECTION FOR THE CERTIFICATE OF OCCUPANCY (CO).
B. ALL TREE PROTECTION FENCING SHALL BE MAINTAINED UNTIL ALL SITE WORK IS COMPLETED. THE FENCING SHALL REMAIN UNTIL ISSUANCE OF CERTIFICATE OF OCCUPANCY (CO).
C. WITHIN THE SIGHT TRIANGLES SHOWN ON ALL SITE PLAN AND LANDSCAPE PLAN SHEETS, NO OBSTRUCTION BETWEEN 2 FEET AND 8 FEET IN HEIGHT ABOVE THE CURB LINE ELEVATION SHALL BE LOCATED IN WHOLE OR PART. OBSTRUCTIONS INCLUDE, BUT ARE NOT LIMITED TO, ANY BERM, FOLIAGE, FENCE, WALL SIGN, PARKED CAR, OR OTHER OBJECT. ALL STREET TREES FALLING WITHIN THE SIGHT TRIANGLES SHOWN ON THIS PLAN SHALL BE LIMBED UP BETWEEN 2 FEET AND 8 FEET IN HEIGHT ABOVE THE CURB LINE ELEVATION.
D. MINIMUM CORNER CLEARANCE FROM THE CURB LINE OF INTERSECTING STREETS SHALL BE AT LEAST 20 FEET FROM THE POINT OF TANGENCY OF THE CURB. NO DRIVEWAYS SHALL ENCR OACH ON THIS MINIMUM CORNER CLEARANCE.
E. ALL STREETS SHOWN ON THESE PLANS HAVE FULL WIDTH OF RIGHT-OF-WAY CLEARED AND GRADED WITHIN 50 FEET OF ALL STREET INTERSECTIONS. THE FULL WIDTH OF RIGHT-OF-WAY SHALL BE CLEARED AND GRADED ALONG ALL MAJOR, MINOR AND SENSITIVE AREA THOROUGHFARES.
F. WHEEL CHAIR ACCESS RAMPS WILL BE PROVIDED IN ACCORDANCE WITH STANDARD DRAWING SHOWN ON SHEET CD19. WHERE SIDEWALK IS NOT REQUIRED ALONG THE PUBLIC RIGHT-OF-WAY, CURB IS TO BE DEPRESSED AT ALL RAMP LOCATIONS SHOWN ON THE STANDARD DETAIL.
G. ALL INDIVIDUAL LOTS SHALL HAVE AN EROSION CONTROL PLAN SUBMITTED PRIOR TO CONSTRUCTION OF HOUSES THERE UPON. IF MULTIPLE LOTS WITH A TOTAL DISTURBED AREA OF MOTRE THAN 12,000 SF ARE TO BE BUILT UPON AT ONE TIME, A COORDINATED EROSION CONTROL PLAN SHALL BE SUBMITTED.

MAINTENANCE OF EROSION CONTROL MEASURES

SILT FENCE MAINTENANCE - ANY DAMAGE IS TO BE REPAIRED AS SOON AS POSSIBLE AFTER IT IS DISCOVERED. FENCE POSTS ARE TO BE STRAIGHTENED OR REPLACED AS NECESSARY. WIRE FENCING SUPPORTING THE FILTER FABRIC SHALL BE REPLACED AS NECESSARY. ANY TORN FILTER FABRIC SHALL BE PATCHED OR REPLACED. WHEN STONE IS CONTAMINATED IT SHALL BE REMOVED AND REPLACED WITH CLEAN STONE.

SILT FENCE OUTLETS - SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY SIGNIFICANT RAINFALL. IF DAMAGED, THEY SHALL HAVE FABRIC, POSTS OR WIRE BACKING REPLACED TO RESTORE TO ORIGINAL CONDITION.

TREE PROTECTION FENCE MAINTENANCE - ANY SEGMENTS THAT ARE DAMAGED ARE TO BE REPLACED AS SOON AS POSSIBLE FOLLOWING DISCOVERY.

CONSTRUCTION ENTRANCE - IF ANY OF THE STONE SHALL BE LOST, IT SHALL BE REPLACED. IF THE FILTER FABRIC UNDER THE STONE IS DAMAGED, THAT PORTION SHALL BE REPLACED. IF THE STONE BECOMES COMPLETELY CLOGGED WITH SOIL, IT SHALL BE REMOVED AND REPLACED.

SOIL STOCKPILE AREAS/OTHER GRASSED AREAS MAINTENANCE - GRASS AREAS SHALL BE RESEEDD AS NECESSARY. SOIL STOCKPILE AREAS SHALL BE SEEDD WHEN THEIR USE IS COMPLETE.

TEMPORARY SEDIMENT TRAP - THESE BASINS SHALL BE INSPECTED AT LEAST ONCE PER WEEK AND AFTER EVERY STORM OF 1" OR MORE OF RAIN. DEBRIS SHALL BE REMOVED IMMEDIATELY. ANY DAMAGE TO THE TRAP SHALL BE REPAIRED TO THE STANDARD FOR INITIAL CONSTRUCTION. SEDIMENT IS TO BE REMOVED WHEN IT REACHES 6" DEEP OR AT LEAST ONCE EVERY SIX MONTHS.

SEDIMENT BASINS - ALL REQUIREMENTS FOR SEDIMENT TRAPS SHALL APPLY.

CONCRETE WASHOUT - IT SHALL BE CLEANED PERIODICALLY AS NEEDED. IF THE PLASTIC LINER IS DAMAGED, IT SHALL BE REPLACED.

BARRIERS - SHALL BE INSPECTED AFTER EACH SIGNIFICANT RAINFALL AND AT LEAST ONCE A WEEK. IF NECESSARY, THEY SHALL BE REPAIRED TO THE ORIGINAL PERFORMANCE LEVEL USING MATERIALS SPECIFIED IN THE DETAIL.

DITCH LINER - SHALL BE INSPECTED AT LEAST ONCE A WEEK AND FOLLOWING SIGNIFICANT RAINFALL. IF NECESSARY, THE LINER SHALL BE REPLACED WITH THE ORIGINAL TYPE MATERIAL AND ANCHORED ACCORDING TO THE METHODS SHOWN ON SHEET CD3.

SKIMMERS - SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY SIGNIFICANT RAINFALL. THEY SHALL BE CLEANED OF DEBRIS AND ANY REPAIRS MADE TO THE ORIGINAL QUALITY OR THE ITEM REPLACED.

RIP-RAP CHANNEL - SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY SIGNIFICANT RAINFALL. IF STONE IS MISSING IT SHALL BE REPLACED TO THE ORIGINAL SPECIFICATIONS. DEBRIS AND SEDIMENT SHALL BE REMOVED AS NECESSARY.

RIP-RAP APRONS - SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY SIGNIFICANT RAINFALL. IF STONE IS MISSING, IT SHALL BE REPLACED TO THE ORIGINAL SPECIFICATIONS. DEBRIS AND SEDIMENT SHALL BE REMOVED AS NECESSARY.

TEMPORARY SILT DITCH - SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY SIGNIFICANT RAINFALL. IF SIGNIFICANT EROSION OF THE DITCH IS HAPPENING IT SHALL BE REGRADED. ANY BREACH OF THE DOWNHILL SIDE BERM SHALL BE FIXED IMMEDIATELY.

WATTLES - SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY SIGNIFICANT RAINFALL. ACCUMULATED SEDIMENT SHALL BE REMOVED. IF THE WATTLE ANCHORS ARE DISPLACED OR DAMAGED THEY SHALL BE REINSTALLED OR REPLACED. IF THE WATTLE IS DAMAGED SUCH THAT IT NO LONGERS FUNCTIONS, IT SHALL BE REPLACED.

INLET PROTECTION - SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY SIGNIFICANT RAINFALL. SEDIMENT SHALL BE REMOVED. IF STONE IS SIGNIFICANTLY CLOGGED, IT SHALL BE REMOVED AND REPLACED WITH CLEAN STONE. ANY DAMAGE TO SILT FENCE TYPE PROTECTION SHALL BE REPAIRED BY PATCHING OR REPLACEMENT.

SEEDBED PREPARATION

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

RIP THE ENTIRE AREA TO 6-INCH DEPTH.

- 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 BELOW \*).
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED 4 TO 6 INCHES DEEP.
6. SEED ON 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 SEEDD AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF WATER SHOULD BE OVER 60% DAMAGED, RE-ESTABLISHED FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
9. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

\*APPLY: AGRICULTURAL LIMESTONE - 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS)
FERTILIZER - 1,000 LB/ACRE - 10-10-10
SUPERPHOSPHATE - 500 LB/ACRE - 20% ANALYSIS
MULCH - 2 TONS/ACRE - SMALL GRAIN STRAW
ANCHOR - ASPHALT EMULSION @ 300 GALS/ACRE

SEEDING SCHEDULE

Table with columns: Date, Type\*, Planting Rate. Rows include Aug 15 - Nov 1 (Tall Fescue or Hard Fescue), Nov 1 - Mar 1 (Tall Fescue and Abruzzi Rye or Annual Rye), Mar 1 - Apr 15 (Tall Fescue or Hard Fescue), Apr 15 - June 30 (Hulled common Bermuda grass, Weeping Love Grass), July 15 - Aug 15 (Tall Fescue and \*\*\*Browntop Millet, \*\*or Sorghum-Sudan Hybrids).

Consult Erosion Control Officer or NRCS for additional alternatives for vegetating denuded areas. The above vegetation rates are those which 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 over 12 inches in height before mowing to keep fescue from being shaded out.
\*Bahia grass shall not be used in City maintained areas.

Table with columns: Date, Type\*, Planting Rate. Rows include Mar 1 - June 1 (Sericea Lespedeza (scarified)), Mar 1 - Apr 15 (Add Tall Fescue and Weeping Love Grass), Mar 1 - June 30 (Add Hulled Common Bermuda grass), June 1 - Sept 1 (\*\*\*Tall Fescue and \*\*\*Browntop Millet, \*\*or Sorghum-Sudan Hybrids), Sept 1 - Mar 1 (Sericea Lespedeza (unhulled/unscarified) and Tall Fescue, Add Abruzzi Rye or Annual Rye).

Consult Erosion Control Officer or NRCS for additional alternatives for vegetating denuded areas. The above vegetation rates are those which 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 over 12 inches in height before mowing to keep fescue from being shaded out.
\*Bahia grass shall not be used in City maintained areas.

STANDARD UTILITY NOTES (AS APPLICABLE):

- 1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: CORPUD HANDBOOK, CURRENT EDITION)
2. UTILITY SEPARATION REQUIREMENTS:
A) A DISTANCE OF 100' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL
B) WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10' IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS. THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER
C) WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL ENCASEMENT EXTENDED 10" ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS
D) 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER
E) MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATERMAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE (PER CORPUD DETAILS W-41 & S-49)
F) ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED
3. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION
4. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT
5. 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCEMAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS
6. IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT PER CORPUD HANDBOOK PROCEDURE
7. INSTALL 3/4" COPPER\* WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'X2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE
8. INSTALL 4" PVC\* SEWER SERVICES @ 1.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75 LINEAR FEET MAXIMUM
9. PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE
10. ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
11. NCDOT / RAILROAD ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE OR RAILROAD ROW PRIOR TO CONSTRUCTION
12. GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS & INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT TIM BEASLEY AT (919) 996-2334 OR TIMOTHY.BEASLEY@RALEIGHNC.GOV FOR MORE INFORMATION
13. CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT. CONTACT JOANIE HARTLEY AT (919) 996-5923 OR JOANIE.HARTLEY@RALEIGHNC.GOV FOR MORE INFORMATION

- 1. ALL PUBLIC WATER AND SEWER MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT NORTH CAROLINA ONE CALL (1-800-632-4949) TO LOCATE ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF THE EXISTING UTILITIES AND NOTIFY THE PROJECT ENGINEER (919-469-1101) OF ANY CONFLICTS.
4. ALL BOUNDARY AND FIELD TOPOGRAPHY PROVIDED BY WITHERS & RAVENEL.

- 1. SCHEDULING A PRE-CONSTRUCTION CONFERENCE WITH THE WATERSHED MANGER, JEEVAN NEUPANE, PE (919)819-8907. 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 JEEVAN NEUPANE, PE (919)819-8907 FOR AN ONSITE INSPECTION BY THE WATERSHED MANAGER 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 JEEVAN NEUPANE, PE (919)819-8907 FOR AN INSPECTION BY THE WATERSHED MANAGER.
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 THE WATERSHED MANAGER, JEEVAN NEUPANE, PE (919)819-8907. OBTAIN A CERTIFICATE OF COMPLETION.

REQUIRED WAKE COUNTY BASIN 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. 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 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 PRE-CONSTRUCTION CONFERENCE WITH THE WATERSHED MANGER, JEEVAN NEUPANE, PE (919)819-8907. 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 JEEVAN NEUPANE, PE (919)819-8907 FOR AN ONSITE INSPECTION BY THE WATERSHED MANAGER 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 JEEVAN NEUPANE, PE (919)819-8907 FOR AN INSPECTION BY THE WATERSHED MANAGER.
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 THE WATERSHED MANAGER, JEEVAN NEUPANE, PE (919)819-8907. OBTAIN A CERTIFICATE OF COMPLETION.

SCM CONVERSION SEQUENCE

- 1. WHEN ALL CONTRIBUTORY AREAS TO THE STORMWATER CONTROL MEASURE (SCM) HAVE BEEN STABILIZED CONTACT THE EROSION CONTROL OFFICER FOR PERMISSION TO CONVERT THE SEDIMENT BASIN TO A SCM.
2. REMOVE ALL SEDIMENT FROM THE BASIN AND RESTORE GRADES TO DESIGNED CONFIGURATION, IF NEEDED.
3. CONSTRUCT FOREBAY DIVIDERS AS SHOWN.
4. MAKE ANY REPAIRS, ETC. NECESSARY TO THE OUTLET STRUCTURE, OUTLET PIPE, EMERGENCY OVERFLOW, ETC. EXAMINE RIP-RAP TO SEE IF REFRESHING OR CLEANING OF ROCK IS NECESSARY.
5. REMOVE SKIMMER AND CLOSE OUTLET VALVE.
6. CONTACT EROSION CONTROL OFFICER FOR APPROVAL.
7. CONTACT A LICENSED SURVEYOR FOR SURVEY OF AS-BUILT CONDITIONS. NOTIFY ENGINEER-OF-RECORD FOR PREPARATION OF AS-BUILT DRAWINGS.

Y:\Jobs\9900\Watkins Property\Documents\Reports\SCM Conversion Sequence.docx 2/15/21

Y:\Jobs\18-107 Powell Property\Documents\Reports\Erosion Control Maintenance.docx

12/26/19, rev. 1/9/20, rev. 2/5/20, rev. 1/6/21

Table with columns: SITE AREA DESCRIPTION, STABILIZATION, TIMEFRAME EXCEPTIONS. Rows include Perimeter ditches, swales, ditches, slopes (7 days), High Quality Water (HQW) Zones (7 days), Slopes steeper than 2:1 (7 days), Slopes 3:1 or flatter (14 days), All other areas with slopes flatter than 4:1 (14 days).

MAINTENANCE REQUIREMENTS FOR STOCKPILE AREAS

- 1. SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEPT 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).

STOCKPILE DESIGN CRITERIA

- A. A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT). STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.
B. A NOTE SHALL BE PROVIDED ON THE APPROVED PLAN THAT STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.
C. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
D. APPROVED BMPs SHALL BE SHOWN ON A PLAN TO CONTROL ANY POTENTIAL SEDIMENT LOSS FROM A STOCKPILE.
E. STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
F. ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.
G. OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY UDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE DISPOSAL OF SOIL. PRIOR TO DISPOSAL, FILL OF FEMA FLOODWAYS AND NON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).
H. MAINTENANCE REQUIREMENTS TO BE NOTED ON THE PLAN
I. SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEPT IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
J. 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.
K. THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
L. ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).



Handwritten signature and date 7-20-21

Table with columns: NO., DATE, REVISION. Row 1: 1, 7/21/2021, 1ST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH

STIPULATION FOR REUSE

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

KALAS FALLS PHASE 2 1832 ROLESVILLE ROAD WAKE COUNTY, NC

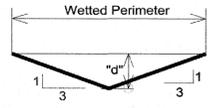
JOB NUMBER: 9900
CHECKED BY:
DRAWN BY:
DATE: DECEMBER 21, 2020

SHEET TITLE: GENERAL NOTES

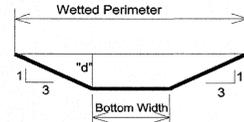
SHEET NO.: 3.0



3 Days Before Digging
North Carolina 811 or 1-800-632-4949
Remote Ticket Entry
http://nc811.org/remoteticketentry.htm



Ditch Section (For Bottom Width = 0)  
(Not To Scale)



Trapezoidal Ditch / Swale Section  
(Not To Scale)

**TRAPEZOIDAL SWALE DRAINAGE CHART-PHASE TWO**

Ditch I.D.	D.A., Ac.	C	iso, in/hr	Q <sub>10</sub> , cfs	Left Side Slope, Z:1	Right Side Slope, Z:1	Avg. Ditch Slope, %	Bottom Width	Ditch Lining	Manning, n*	Q <sub>10</sub> Flow Depth, ft	Flow Velocity V <sub>10</sub> , fps	Calc. Sh. Stress,
DS 12	2.33	0.31	7.22	5.22	3.00	3.00	1.0	3.00	Reinforced Mesh(Grass)	0.022	0.41	3.07	0.26
DS 12 A	0.80	0.4	7.22	2.31	3.00	3.00	1.0	2.00	Reinforced Mesh(Grass)	0.022	0.31	2.51	0.20
DS 32	1.35	0.4	7.22	3.90	3.00	3.00	2.2	2.00	Reinforced Mesh(Grass)	0.022	0.34	3.87	0.46

Shear Stress=62.4(d)(Slope)  
 American Green Product (SC150BN): 70% Agri Straw & 30% Coconut Fiber with net; n=.022; Allowable Shear = 1.8 lb/s.f.  
 \*Grass-Fescue Lined; n=0.030; Good for V10 <4.0 fps  
 \*Class B Riprap, 6" size; flow d < 2"; n=.037  
 \*Coconut Fiber with net, n=0.02 (Mesh)  
 Ref. Chow, V.T., Open Channel Hydraulics

\* Reinforced mesh linings where required per schedule above shall be North American Green model SC150BN or engineer approved equal and stabilized per manufacturers

**Phase 2 Lot Areas**

LOT NUMBER	SQUARE FOOTAGE(SF)
345	8,718
346	9,205
347	10,243
348	11,069
349	12,458
350	12,446
351	12,394
352	13,440
353	14,960
354	12,471
355	8,674
356	7,585
357	7,596
358	7,617
359	7,663
360	7,800
361	7,800
362	7,800
363	7,774
364	7,533
365	7,543
366	7,535
367	7,526
368	7,526
369	6,439
370	6,479
371	6,479
372	6,479
373	6,479
374	6,540
375	7,147
376	8,501
377	8,330
378	6,943
379	6,946
380	6,949
381	8,160

LOT NUMBER	SQUARE FOOTAGE(SF)
382	8,984
383	8,893
384	10,123
385	7,625
386	7,002
387	6,373
388	6,041
389	6,024
390	6,402
391	8,803
392	10,174
393	8,211
394	8,192
395	7,520
396	8,802
397	9,130
398	8,029
399	7,981
400	10,325
401	10,900
402	9,838
403	6,713
404	6,250
405	6,250
406	6,509
407	6,973
408	10,077
409	9,862
410	7,161
411	7,705
412	7,705
413	7,705
414	7,705
415	7,705
416	7,705
417	7,705
418	7,686

LOT NUMBER	SQUARE FOOTAGE(SF)
419	7,676
420	7,200
421	8,053
422	10,405
423	8,748
424	7,200
425	7,200
426	7,200
427	7,271
428	7,593
429	7,085
430	7,840
431	9,127
432	9,633
433	8,867
434	10,897
435	12,250
436	13,716
437	10,234
438	9,869
439	16,146
440	12,542
441	15,526
442	12,376
443	9,923
444	9,452
445	8,105
446	9,245
447	7,800
448	7,800
449	7,797
450	21,230
451	24,267
452	11,054
453	16,858
454	16,831

PIPING & STRUCTURES SUMMARY-PHASE TWO										
Downstream Structure	Upstream Structure	Pipe Size (in)	Length (ft)	Slope (%)	Downstream Rim Elev (ft)	Upstream Rim Elev (ft)	Downstream Invert (ft)	Upstream Invert (ft)	Q(10) Downstream Velocity (fps)	
CB 396	CB 398	42	131.72	0.50	359.65	362.08	352.10	352.76	7.82	
CB 396	CB 397	15	27.00	1.00	359.65	359.65	355.65	355.92	3.61	
CB 398	CB 900	42	101.82	1.95	362.08	363.89	352.96	354.94	7.04	
CB 398	CB 399	15	27.00	1.02	362.08	362.08	358.01	358.28	4.25	
CB 715	CB 722	24	74.82	1.67	377.81	378.19	371.68	372.93	2.87	
CB 715	CB 721 A	24	135.45	0.50	377.81	377.18	371.68	372.36	2.71	
CB 715	CB 716	15	27.00	1.56	377.81	377.81	372.27	372.69	0.69	
CB 719	FES INLET 720	18	28.35	0.99	377.17	NA	372.87	373.15	2.81	
CB 719	CB 717	15	8.98	0.50	377.17	377.18	373.24	373.28	1.36	
CB 721	CB 719	18	27.00	0.53	377.17	377.17	372.61	372.75	3.28	
CB 721 A	CB 721	24	9.01	0.56	377.18	377.17	372.46	372.51	3.60	
CB 722	CB 725	18	58.28	0.50	378.19	378.55	373.43	373.72	4.08	
CB 722	CB 723	15	49.39	0.51	378.19	375.68	373.68	373.93	3.74	
CB 723	DI 724	15	63.14	0.51	375.68	377.72	374.03	374.35	2.39	
CB 725	CB 726	18	27.00	1.24	378.55	378.55	373.62	373.96	2.11	
CB 726	YI 727	15	40.82	0.49	378.55	377.54	374.21	374.41	3.05	
CB 731	CB 733	18	83.16	0.49	375.43	376.47	371.69	372.10	3.63	
CB 731	CB 732	15	43.91	0.60	375.43	375.67	371.74	372.00	0.74	
CB 733	CB 734	15	61.47	1.32	376.47	376.99	372.35	373.16	3.50	
CB 734	CB 735	15	65.00	1.06	376.99	377.55	373.36	374.05	2.02	
CB 900	CB 902	42	53.81	1.51	363.89	364.86	355.14	355.95	7.26	
CB 900	CB 901	15	27.00	1.00	363.89	363.89	357.19	357.46	2.80	
CB 902	CB 903	42	38.55	1.72	364.86	364.67	356.15	356.81	6.76	
CB 903	CB 904	42	27.00	2.52	364.67	364.67	357.01	357.69	6.50	
CB 904	JB 905	30	141.15	4.19	364.67	371.50	358.69	364.60	1.11	
CB 904	CB 911	36	36.87	1.11	364.67	366.13	358.22	358.63	7.80	
CB 908	CB 909	15	119.91	6.32	373.04	380.17	366.88	374.46	2.07	
CB 909	CB 909 A	15	75.44	2.70	380.17	381.69	374.66	376.70	6.59	
CB 909 A	CB 909 B	15	43.07	3.85	381.69	384.30	376.90	378.56	2.46	
CB 909 B	CB 910	15	27.00	0.98	384.30	384.30	378.76	379.03	2.08	
CB 911	CB 912	36	95.40	1.70	366.13	367.87	359.10	360.72	7.61	
CB 912	CB 914	36	98.02	1.86	367.87	369.69	360.92	362.75	7.56	
CB 912	CB 913	15	27.00	0.99	367.87	367.87	362.47	362.74	0.79	
CB 914	CB 917	36	137.20	1.13	369.69	372.27	362.95	364.50	7.38	
CB 914	CB 915	15	34.82	1.01	369.69	370.10	365.25	365.60	4.35	
CB 915	YI 916	15	32.00	8.00	370.10	374.50	365.80	368.36	1.14	
CB 917	JB 920	36	43.01	0.51	372.27	373.35	364.70	364.92	7.20	
CB 917	CB 918	15	27.00	1.00	372.27	372.27	367.50	367.77	4.89	
CB 918	YI 919	15	32.00	8.00	372.27	377.50	367.97	370.53	1.85	
CB 923	CB 926	15	8.99	0.44	380.04	380.05	375.86	375.90	0.89	
CB 923	CB 924	15	27.00	0.52	380.04	380.04	375.86	376.00	2.90	
CB 924	CB 924 A	15	9.01	0.56	380.04	380.05	376.20	376.25	2.66	
CB 924 A	CB 925	15	30.05	0.50	380.05	380.29	376.45	376.60	2.14	
CB 929	CB 931	36	79.70	0.50	375.10	376.20	365.84	366.24	5.52	
CB 929	CB 930	15	27.00	1.00	375.10	375.10	370.23	370.50	3.55	
CB 931	CB 932	36	148.35	0.50	376.20	377.19	366.44	367.18	5.57	
CB 932	CB 933	36	100.00	0.50	377.19	377.69	367.38	367.88	6.02	
CB 933	JB 934	36	120.27	0.50	377.69	378.55	368.08	368.68	5.96	
CB 936	CB 937	36	96.35	0.50	378.63	379.11	369.43	369.91	5.16	
CB 937	CB 938	36	91.84	0.50	379.11	379.56	370.11	370.57	5.44	
CB 938	CB 938 A	36	9.00	0.50	379.56	379.61	370.77	370.82	5.46	
CB 938 A	CB 939	36	123.72	0.51	379.61	380.26	371.02	371.64	5.13	
CB 939	CB 944	36	126.27	0.50	380.26	381.47	371.84	372.47	4.13	
CB 939	CB 940	30	79.26	0.50	380.26	380.33	372.14	372.54	2.91	
CB 940	CB 941	30	80.72	0.50	380.33	379.94	372.74	373.14	4.14	
CB 941	CB 942	24	50.56	0.49	379.94	380.12	373.64	373.89	4.84	
CB 942	CB 943	24	41.00	0.51	380.12	380.12	374.09	374.30	3.88	
CB 942	CB 942 A	15	8.95	0.45	380.12	380.26	374.80	374.84	2.84	
CB 943	FES 943 B	18	31.73	0.80	380.12	NA	374.80	375.05	4.85	
CB 943	CB 943 A	15	8.95	0.45	380.12	380.28	375.20	375.24	2.98	
CB 944	CB 950	30	27.00	0.52	381.47	381.47	372.98	373.12	5.54	
CB 944	CB 945	18	115.17	0.66	381.47	383.09	373.97	374.73	4.92	
CB 945	CB 946	15	108.62	1.85	383.09	384.68	374.98	376.99	3.96	
CB 946	CB 947	15	152.01	2.02	384.68	385.82	377.19	380.26	3.47	
CB 947	CB 948	15	40.69	0.95	385.82	385.68	380.46	380.85	3.48	
CB 948	CB 949	15	27.00	1.00	384.93	384.93	381.05	381.32	2.12	
CB 948	CB 948 A	15	9.00	0.56	384.93	384.75	381.05	381.10	1.04	
CB 949	CB 949 A	15	9.01	0.50	384.93	384.75	381.52	381.57	2.24	
CB 950	CB 951	24	118.79	0.49	381.47	380.37	373.62	374.20	5.37	
CB 951	CB 952	15	28.44	0.97	380.37	380.34	375.23	375.51	3.23	
CB 951	CB 951 A	24	7.98	0.45	380.37	380.46	374.40	374.44	3.55	
CB 951 A	CB 953	18	66.05	0.50	380.46	381.38	374.94	375.27	5.06	
CB 953	CB 954	18	72.79	0.49	381.38	382.40	375.47	375.83	3.27	
CB 954	YI 955	18	89.34	0.50	382.40	381.00	376.03	376.48	3.21	
DI 906	DI 907	15	71.51	4.29	372.08	375.47	369.06	372.13	2.89	
DI 920 A	DI 921	18	142.12	2.27	372.79	376.24	367.10	370.32	5.51	
DI 921	DI 929	15	122.16	2.50	376.24	380.00	370.52	373.57	3.08	
DI 921	DI 926	15	55.41	1.50	376.24	377.3				



**PROPERTY INFORMATION:**

KALAS PROPERTY: 144.20 ACRES (EXCLUDING R/W)  
 ROGERS FARM: 72.70 ACRES (EXCLUDING R/W & CEMETERY)  
 WATKINS PROPERTY: 64.856 ACRES  
 GILLIS PROPERTY: 0.97 ACRES  
 TOTAL ACREAGE: 282.726 ACRES

NOTE: THE 100 YEAR FLOOD-LINE AS ON THESE PLANS WERE TAKEN FROM THE FLOOD STUDY PREPARED BY DONLAD A SEVER, PE (024627) OF HUGH J. GILLECE, III AND ASSOCIATES, P.A.

GRADING LEGEND	
	EXISTING TOPOGRAPHY
	EXISTING BOUNDARY
	EXISTING WETLANDS AREA
	EXISTING 50' NEUSE RIPARIAN BUFFER
	EXISTING BUFFER ZONES
	PROPOSED LOT LINE
	100 YEAR FLOOD EASEMENT
	BUILDING RESTRICTION LINE
	PROPOSED GREENWAY HATCHING
	PROPOSED ROW
	PROPOSED SIDEWALK
	PROPOSED BOC
	PROPOSED EOP
	PROPOSED CENTERLINE
	PROPOSED GRADING
	PROPOSED EASEMENT
	PHASELINE
	RIP RAP
	BASIN WEIR
	JUNCTION BOX
	PROPOSED CATCH BASIN
	PROPOSED YARD INLET
	PROPOSED DROP INLET
	PROPOSED FLARED END SECTION
	PROPOSED STORM WATER
	EXISTING PHASING
	FUTURE PHASING
	PROPOSED SWALE (AT TIME OF LOT GRADING)



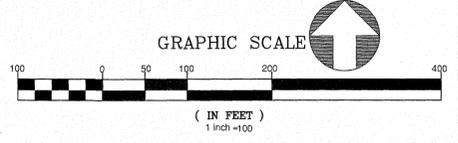
REVISIONS:

NO.	DATE	REVISION
1	7/21/2021	1ST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH
2	1/05/2022	MODIFICATION AREA AT TANSLEY ROAD AND FUTURE EXTENSION TO MOODY FARMS

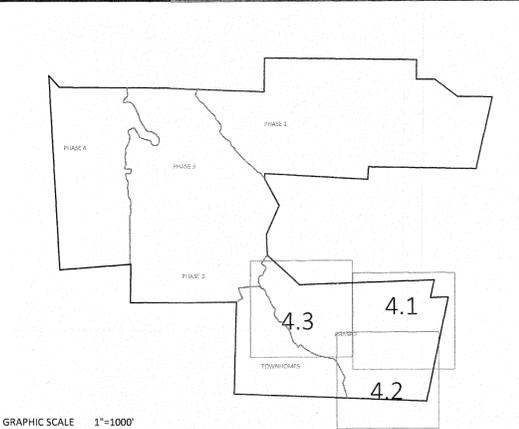
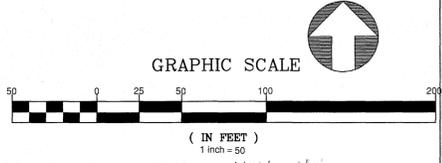
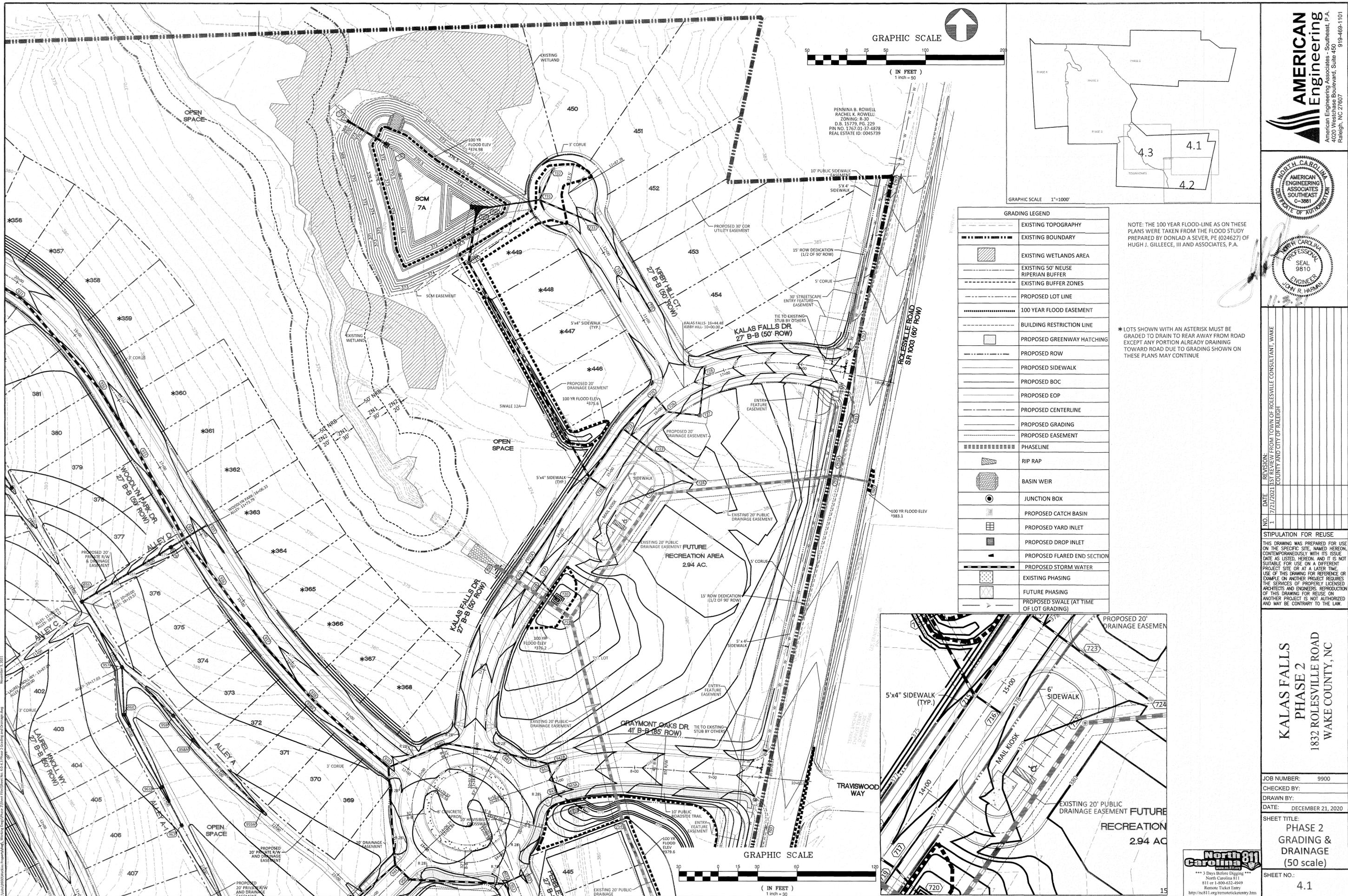
STIPULATION FOR REUSE	
THIS DRAWING WAS PREPARED FOR USE ON THE SPECIFIC SITE, NAMED HEREON, CONTEMPORANEOUSLY WITH ITS ISSUE DATE AS LISTED, HEREON, AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES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

**KALAS FALLS PHASE 2**  
 1832 ROLESVILLE ROAD  
 WAKE COUNTY, NC

JOB NUMBER: 9900  
 CHECKED BY:  
 DRAWN BY:  
 DATE: DECEMBER 21, 2020  
 SHEET TITLE:  
**OVERALL GRADING & DRAINAGE**  
 SHEET NO.: 4.0



ANNE H. MOODY ZONING: R-30 D.B. 3750, PG. 587 B.M. 1986, PG. 862 P.I.N. 1767.01-05-9438 AGRICULTURAL  
 WATT DEVELOPMENT CORPORATION ZONING: R-30 D.B. 18488, PG. 1280 B.M. 2021, PG. 0068 P.I.N. 1767.01-15-5870 AGRICULTURAL  
 BERNARD B. BAILEY ZONING: R-30 D.B. 3235, PG. 171 LOT 6 B.M. 1986, PG. 114 P.I.N. 1767.01-15-6769  
 January 6, 2022



GRAPHIC SCALE 1"=1000'

GRADING LEGEND	
	EXISTING TOPOGRAPHY
	EXISTING BOUNDARY
	EXISTING WETLANDS AREA
	EXISTING 50' RIPIARIAN BUFFER
	EXISTING BUFFER ZONES
	PROPOSED LOT LINE
	100 YEAR FLOOD EASEMENT
	BUILDING RESTRICTION LINE
	PROPOSED GREENWAY HATCHING
	PROPOSED ROW
	PROPOSED SIDEWALK
	PROPOSED BOC
	PROPOSED EOP
	PROPOSED CENTERLINE
	PROPOSED GRADING
	PROPOSED EASEMENT
	PHASELINE
	RIP RAP
	BASIN WEIR
	JUNCTION BOX
	PROPOSED CATCH BASIN
	PROPOSED YARD INLET
	PROPOSED DROP INLET
	PROPOSED FLARED END SECTION
	PROPOSED STORM WATER
	EXISTING PHASING
	FUTURE PHASING
	PROPOSED SWALE (AT TIME OF LOT GRADING)

NOTE: THE 100 YEAR FLOOD-LINE AS ON THESE PLANS WERE TAKEN FROM THE FLOOD STUDY PREPARED BY DONLAD A SEVER, PE (024627) OF HUGH J. GILLECE, III AND ASSOCIATES, P.A.

\* LOTS SHOWN WITH AN ASTERISK MUST BE GRADED TO DRAIN TO REAR AWAY FROM ROAD EXCEPT ANY PORTION ALREADY DRAINING TOWARD ROAD DUE TO GRADING SHOWN ON THESE PLANS MAY CONTINUE

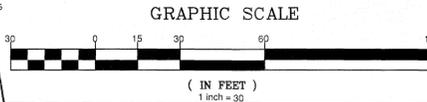
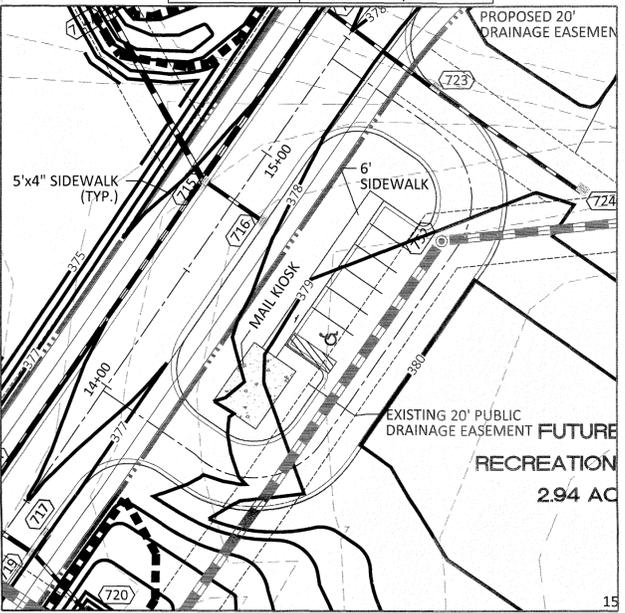


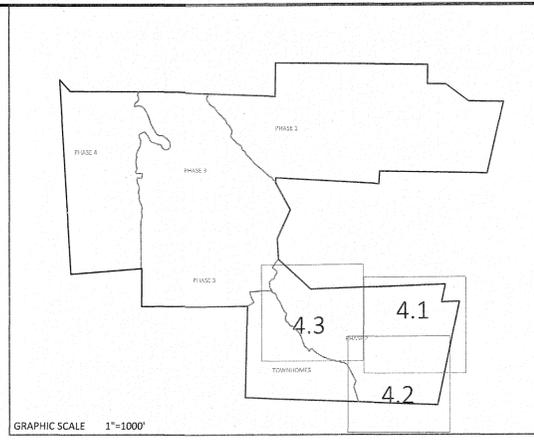
NO.	DATE	REVISION
1	12/21/2020	LIST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH

**STIPULATION FOR REUSE**  
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**KALAS FALLS PHASE 2**  
 1832 ROLESVILLE ROAD  
 WAKE COUNTY, NC

JOB NUMBER:	9900
CHECKED BY:	
DRAWN BY:	
DATE:	DECEMBER 21, 2020
SHEET TITLE:	PHASE 2 GRADING & DRAINAGE (50 scale)
SHEET NO.:	4.1





**AMERICAN Engineering**  
 American Engineering Associates - Southeast, P.A.  
 10000 Boulevard, Suite 400  
 Raleigh, NC 27607



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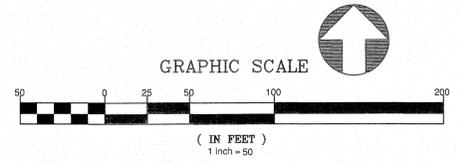
GRADING LEGEND	
	EXISTING TOPOGRAPHY
	EXISTING BOUNDARY
	EXISTING WETLANDS AREA
	EXISTING 50' NEUSE RIPARIAN BUFFER
	EXISTING BUFFER ZONES
	PROPOSED LOT LINE
	100 YEAR FLOOD EASEMENT
	BUILDING RESTRICTION LINE
	PROPOSED GREENWAY HATCHING
	PROPOSED ROW
	PROPOSED SIDEWALK
	PROPOSED BOC
	PROPOSED EOP
	PROPOSED CENTERLINE
	PROPOSED GRADING
	PROPOSED EASEMENT
	PHASELINE
	RIP RAP
	BASIN WEIR
	JUNCTION BOX
	PROPOSED CATCH BASIN
	PROPOSED YARD INLET
	PROPOSED DROP INLET
	PROPOSED FLARED END SECTION
	PROPOSED STORM WATER
	EXISTING PHASING
	FUTURE PHASING
	PROPOSED SWALE (AT TIME OF LOT GRADING)

NO.	DATE	REVISION
1	7/21/2021	LIST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH
2	1/05/2022	RIP RAP RELOCATION AT ROAD ENDING TO FUTURE PHASE AND TANSLEY EXTENSION

**STIPULATION FOR REUSE**  
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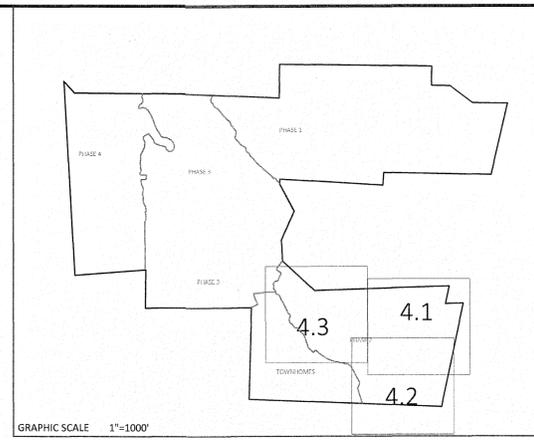
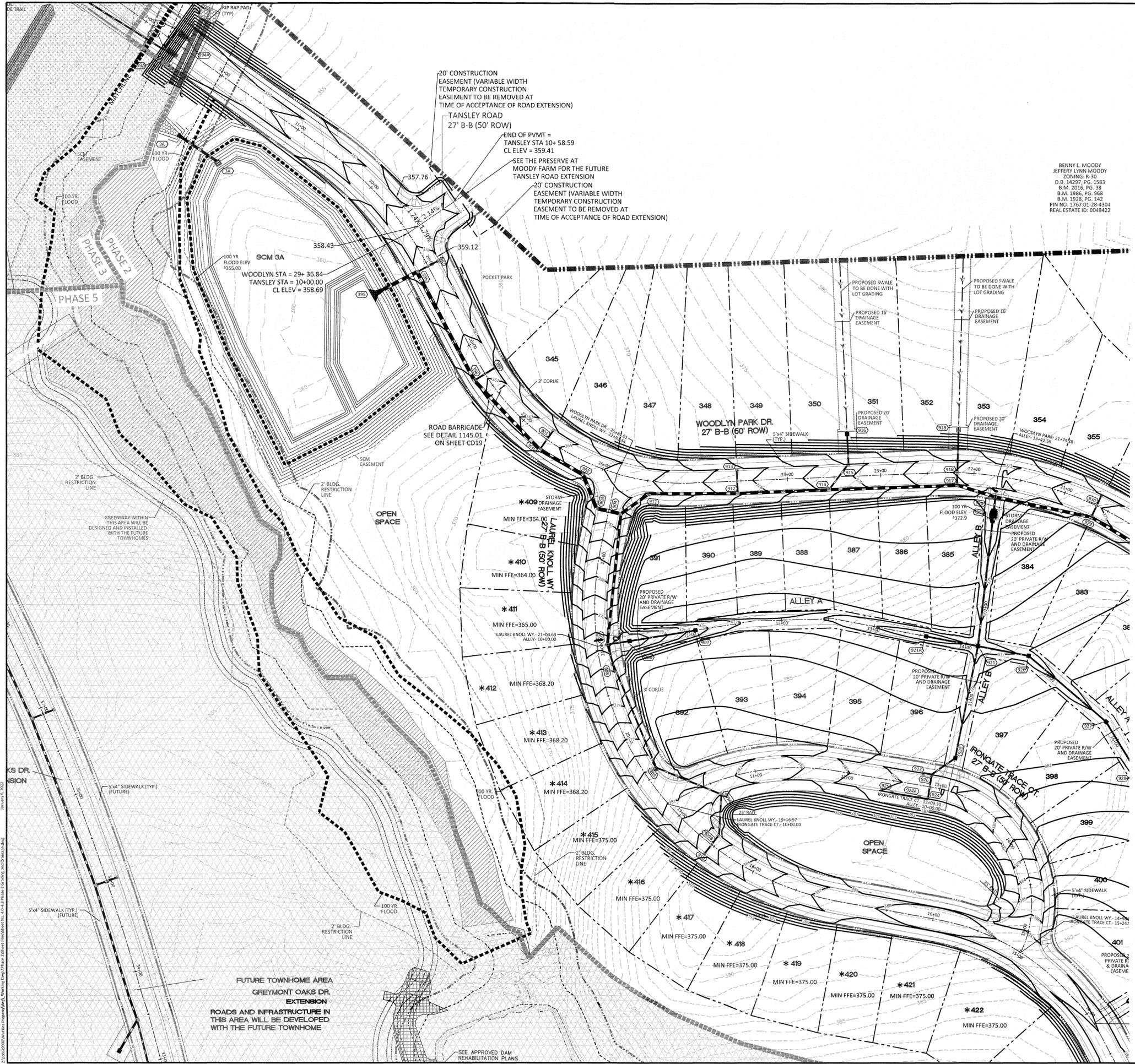
**KALAS FALLS PHASE 2**  
 1832 ROLESVILLE ROAD  
 WAKE COUNTY, NC

JOB NUMBER: 9900  
 CHECKED BY:  
 DRAWN BY:  
 DATE: DECEMBER 21, 2020  
 SHEET TITLE:  
**PHASE 2 GRADING & DRAINAGE (50 scale)**  
 SHEET NO.: 4.2



January 6, 2022  
 BORO PARKER  
 BESTY SCARBORO GARDNER  
 ZONING: R-30  
 D.B. 2599, PG. 618  
 LOT 8 B.M. 1947, PG. 78  
 PIN NO. 1767.01-26-4441

SUE SCARBORO PARKER  
 BESTY SCARBORO GARDNER  
 ZONING: R-30  
 D.B. 2599, PG. 618  
 LOT 8 B.M. 1947, PG. 78  
 PIN NO. 1767.01-26-4441



BENNY L. MOODY  
JEFFERY L. W. MOODY  
CONJ. R-30  
D.B. 14297, PG. 1583  
B.M. 2016, PG. 38  
B.M. 1986, PG. 968  
B.M. 1928, PG. 142  
PIN NO. 1797-01-28-4304  
REAL ESTATE ID: 0048422

GRADING LEGEND	
	EXISTING TOPOGRAPHY
	EXISTING BOUNDARY
	EXISTING WETLANDS AREA
	EXISTING 50' NEUSE RIVERIAN BUFFER
	EXISTING BUFFER ZONES
	PROPOSED LOT LINE
	100 YEAR FLOOD EASEMENT
	BUILDING RESTRICTION LINE
	PROPOSED GREENWAY HATCHING
	PROPOSED ROW
	PROPOSED SIDEWALK
	PROPOSED BOC
	PROPOSED EOP
	PROPOSED CENTERLINE
	PROPOSED GRADING
	PROPOSED EASEMENT
	PHASELINE
	RIP RAP
	BASIN WEIR
	JUNCTION BOX
	PROPOSED CATCH BASIN
	PROPOSED YARD INLET
	PROPOSED DROP INLET
	PROPOSED FLARED END SECTION
	PROPOSED STORM WATER
	EXISTING PHASING
	FUTURE PHASING
	PROPOSED SWALE (AT TIME OF LOT GRADING)

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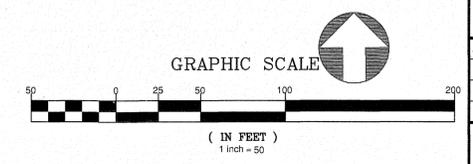


NO.	DATE	REVISION
1	7/21/2021	LAST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH
2	1/05/2022	RIP RAP RELOCATION AT ROAD ENDING TO FUTURE PHASE AND TANSLEY EXTENSION

**STIPULATION FOR REUSE**  
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**KALAS FALLS  
PHASE 2  
1832 ROLESVILLE ROAD  
WAKE COUNTY, NC**

JOB NUMBER: 9900  
CHECKED BY:  
DRAWN BY:  
DATE: DECEMBER 21, 2020  
SHEET TITLE:  
**PHASE 2  
GRADING &  
DRAINAGE  
(50 scale)**  
SHEET NO.:  
**4.3**

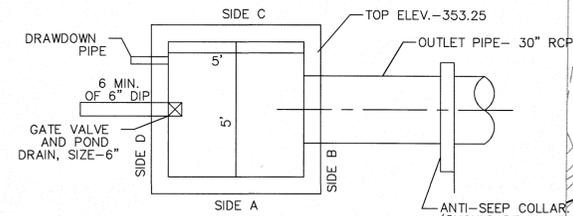
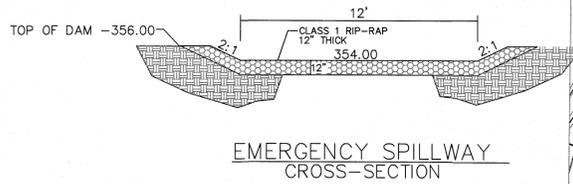


January 6, 2022  
Z:\Jobs\9900\Wakeup\Drawings\Phase 2\Sheet 4.3.dwg (Phase 2 Grading and Drainage.dwg)



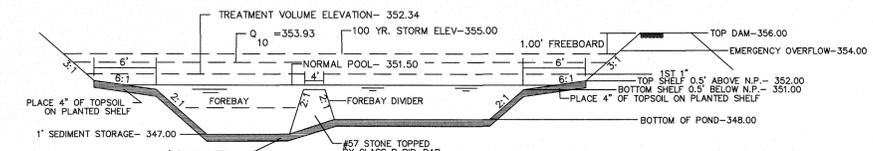
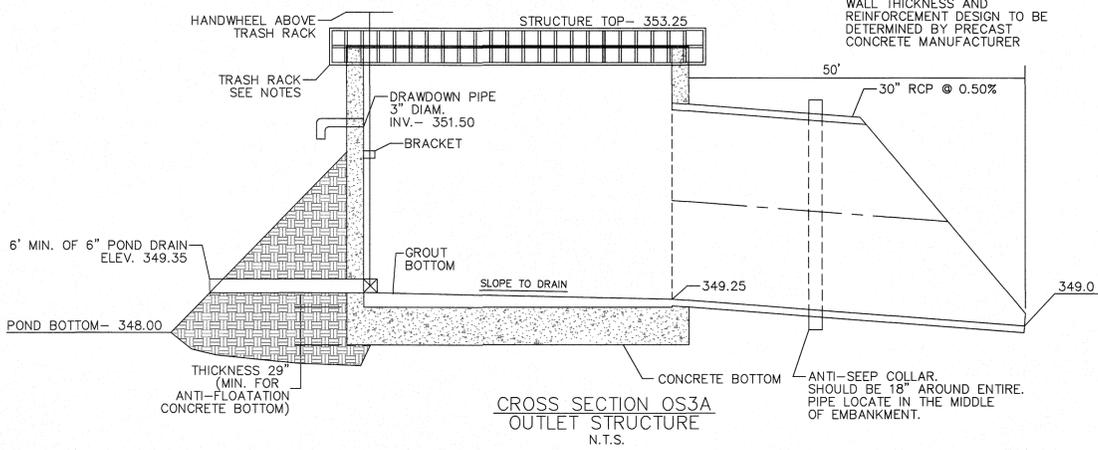
**TRASH RACK NOTES**

- TRASH RACK SHALL BE 6" CLEAR OF STRUCTURE TOP AND SIDES. THE TRASH RACK NEED NOT COVER THE TREATMENT OUTLET PIPE.
- IF STRUCTURE FEATURES ANY WEIR NOTCHES THE TRASH RACK WILL EXTEND 5" BELOW THE NOTCHES. (SEE CROSS-SECTION OF THE OUTLET STRUCTURE.)
- TRASH RACK SHALL BE FASTENED TO EACH SIDE OF THE STRUCTURE AT AT LEAST 2 POINTS. IT SHALL BE EASILY REMOVED FOR MAINTENANCE OR ENTRY INTO THE STRUCTURE.
- TRASH RACK SHALL ACCOMMODATE VALVE SHAFT THROUGH AN OPENING.
- TRASH RACK SHALL BE MADE OF DURABLE MATERIAL WHICH WILL NOT RUST OR DETERIORATE IN SUNLIGHT.
- MAX. OPENING IN TRASH RACK SHALL BE 5"x5".
- TOP OF TRASH RACK SHALL HAVE A GRID OF BARS (MAX. 6"x6").



**NOTE:**  
WALL THICKNESS AND REINFORCEMENT DESIGN TO BE DETERMINED BY PRECAST CONCRETE MANUFACTURER

**NOTE:**  
ANTI-SEEP COLLAR (SHOULD BE PLACED APPROX. IN THE MIDDLE OF EARTH DAM)



**PLANT LIST LITTORAL SHELF PLANT SCHEDULE:**

Symbol	Plant Name	Spacing
Star	SHALLOW LAND (HERB.)	
EF	EUPATORIUM FISTRULOSUM	4-6" POT @ 3' SPACING
HC	HIBISCUS COCCINEA	4-6" POT @ 3' SPACING
CG	CHELONE GLABRA	4-6" POT @ 3' SPACING
LC	LOBELIA CARDINALIS	4-6" POT @ 3' SPACING
Star	JOE PYE WEED	4-6" POT @ 3' SPACING
Star	SCARLET ROSE MALLOW	4-6" POT @ 3' SPACING
Star	WHITE TURTLEHEAD	4-6" POT @ 3' SPACING
Star	CARDINAL FLOWER	4-6" POT @ 3' SPACING
Star	SHALLOW WATER (HERB.)	
JE	JUNCUS EFFUSUS	4-6" POT @ 3' SPACING
AS	ACORUS SPP	4-6" POT @ 3' SPACING
IV	IRIS VERSICOLOR	4-6" POT @ 3' SPACING
PC	PONTEDERIA CORDATA	4-6" POT @ 3' SPACING
PV	PELTANDRA VIRGINICA	4-6" POT @ 3' SPACING
Star	SOFTRUSH	4-6" POT @ 3' SPACING
Star	SWEET FLAG	4-6" POT @ 3' SPACING
Star	BLUE FLAG IRIS	4-6" POT @ 3' SPACING
Star	PECKEREL WEED	4-6" POT @ 3' SPACING
Star	ARROW ARUM	4-6" POT @ 3' SPACING

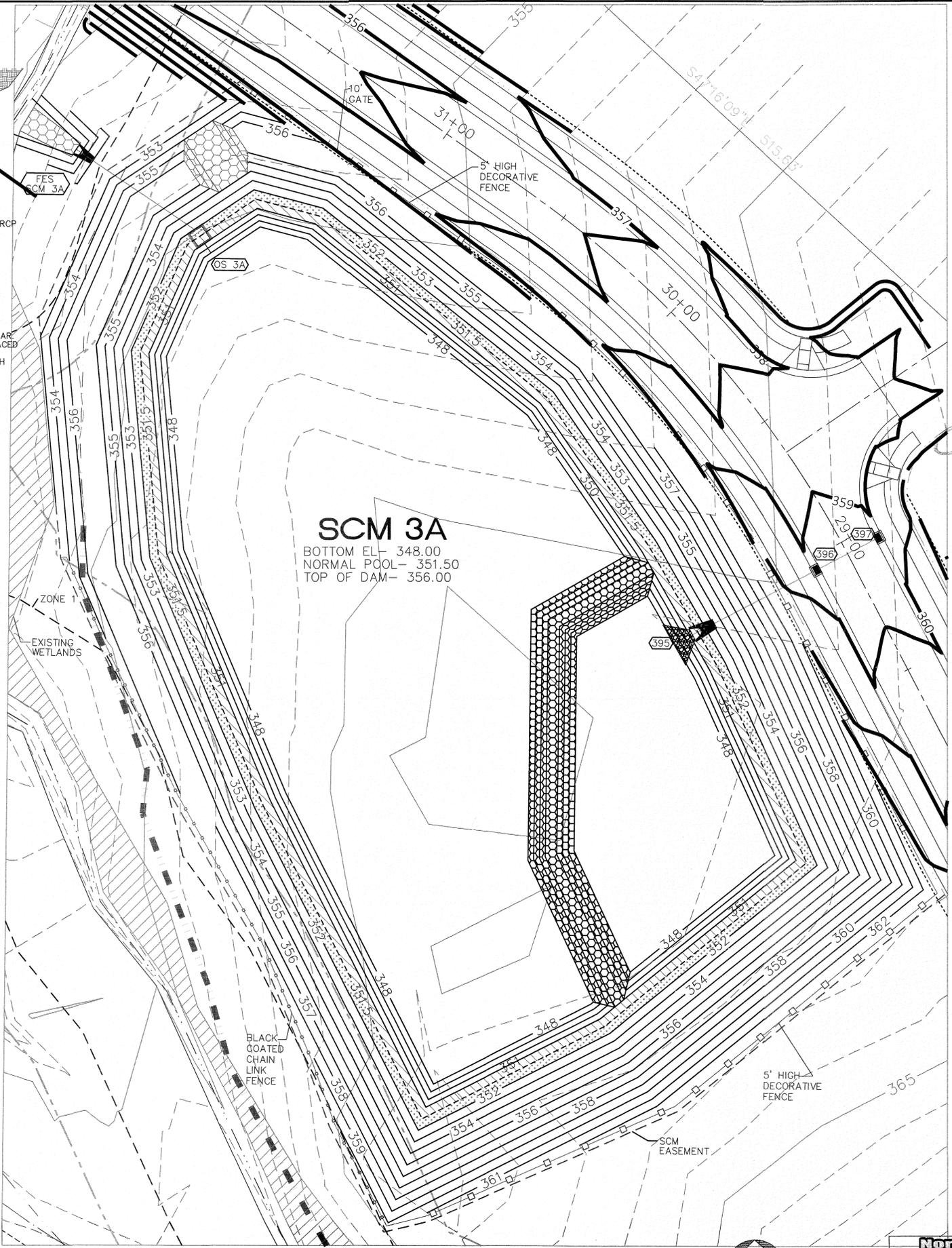
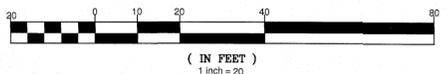
**LANDSCAPE PLAN:**  
SHALLOW LAND= 2,520 sf (USE 630 PLANTS FROM LIST ABOVE)  
SHALLOW WATER= 2,457 sf (USE 614 PLANTS FROM LIST ABOVE)  
USE EQUAL NUMBER OF PLANTS FROM LIST ABOVE  
CALCULATION: 50 PLANTS PER 200 SF

**OUTLET STRUCTURE GENERAL NOTES**

- OUTLET STRUCTURE ELEVATIONS SHOWN ON THE DETAILS ON THIS SHEET ARE CRITICAL AND MUST BE WITHIN 0.02' OF THAT SHOWN. IF OUTLET STRUCTURES ARE PRE-CAST OFF-SITE, THE HOLE FOR THE OUTLET PIPE SHALL BE ENLARGED TO ALLOW UP TO 0.3' OF VERTICAL MOVEMENT. WHEN INSTALLED, THE EXCESS OPENING SHALL BE FILLED WITH GROUT.
- THE OUTLET STRUCTURE SHALL HAVE A TRASH RACK COVERING THE OPENINGS. SUCH TRASH RACK SHALL BE 6" OUT FROM THE OPENING AND SHALL HAVE A MAXIMUM OPENING OF 6"x6". IT SHALL BE SECURELY FASTENED TO THE STRUCTURE BUT REMOVABLE FOR MAINTENANCE.
- OUTLET PIPES SHALL HAVE AN ANTI-SEEP COLLAR OF CONCRETE LOCATED APPROXIMATELY UNDER THE MIDDLE OF THE DAM IN WHICH IT IS LOCATED. IT SHALL CONSIST OF CONCRETE POURED AROUND THE PIPE IN A VERTICAL DIRECTION. THE COLLAR SHALL BE A SQUARE 8" THICK AND SHALL EXTEND 18" BEYOND THE OUTSIDE OF THE PIPE IN EACH DIRECTION.
- TREATMENT OUTLET PIPE SHALL NOT BE PVC BUT OTHER MATERIAL SUCH AS GSP WHICH IS NOT SUBJECT TO DETERIORATION IN SUNLIGHT.

**POND NOTES**

- SEE SHEET 3.0 FOR SCM CONVERSION SEQUENCE.
- FOREBAY DIVIDERS ARE TO BE INSTALLED WHILE CONVERTING FROM SEDIMENT BASIN TO WET POND.



DATE: 7/21/2021  
REVISION: 1ST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH  
NO. 1  
2 1/05/2021 GRADE MODIFICATION TO WOODLYN AND TANSLEY INTERSECTION

**STIPULATION FOR REUSE**

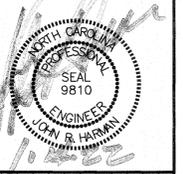
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**KALAS FALLS PHASE 2**  
1832 ROLESVILLE ROAD  
WAKE COUNTY, NC

JOB NUMBER:  
CHECKED BY:  
DRAWN BY:  
DATE:

**SCM 3A DETAILS**





NO.	DATE	REVISION:
1	1/7/21/2021	LIST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH
2	1/05/2022	MODIFICATION AREA AT TANSLEY ROAD AND FUTURE EXTENSION TO MOODY FARMS

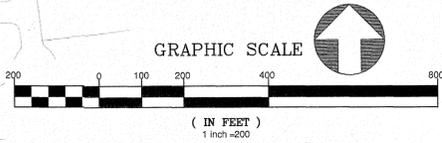
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**KALAS FALLS  
PHASE 2  
1822 ROLESVILLE ROAD  
WAKE COUNTY, NC**

JOB NUMBER: 9900  
CHECKED BY:  
DRAWN BY:  
DATE: DECEMBER 21, 2020  
SHEET TITLE:  
**SITE PLAN  
OVERALL**  
SHEET NO.:  
**5.0**



SITE LEGEND	
	PROPOSED LOT LINE
	100 YEAR FLOOD EASEMENT
	BUILDING RESTRICTION LINE
	PROPOSED LOT SETBACK
	PROPOSED ROW
	PROPOSED SIDEWALK
	PROPOSED BOC
	PROPOSED EOP
	PROPOSED CENTERLINE
	PROPOSED GRADING
	PROPOSED DRAINAGE EASEMENT
	PROPOSED UTILITY EASEMENT
	PROPOSED HANDICAP RAMPS
	PROPOSED SIGHT TRIANGLE
	TOT LOT
	POCKET PARK
	MAIL KIOSK LOCATION
	OPEN SPACE
	GREENWAY TRAIL HATCH
	GREENWAY/ROADSIDE TRAIL
	FUTURE PHASING
	EXISTING PHASING
	EXISTING WETLANDS
	PROPOSED SWALE (AT TIME OF LOT GRADING)
	PROPOSED PHASELINE



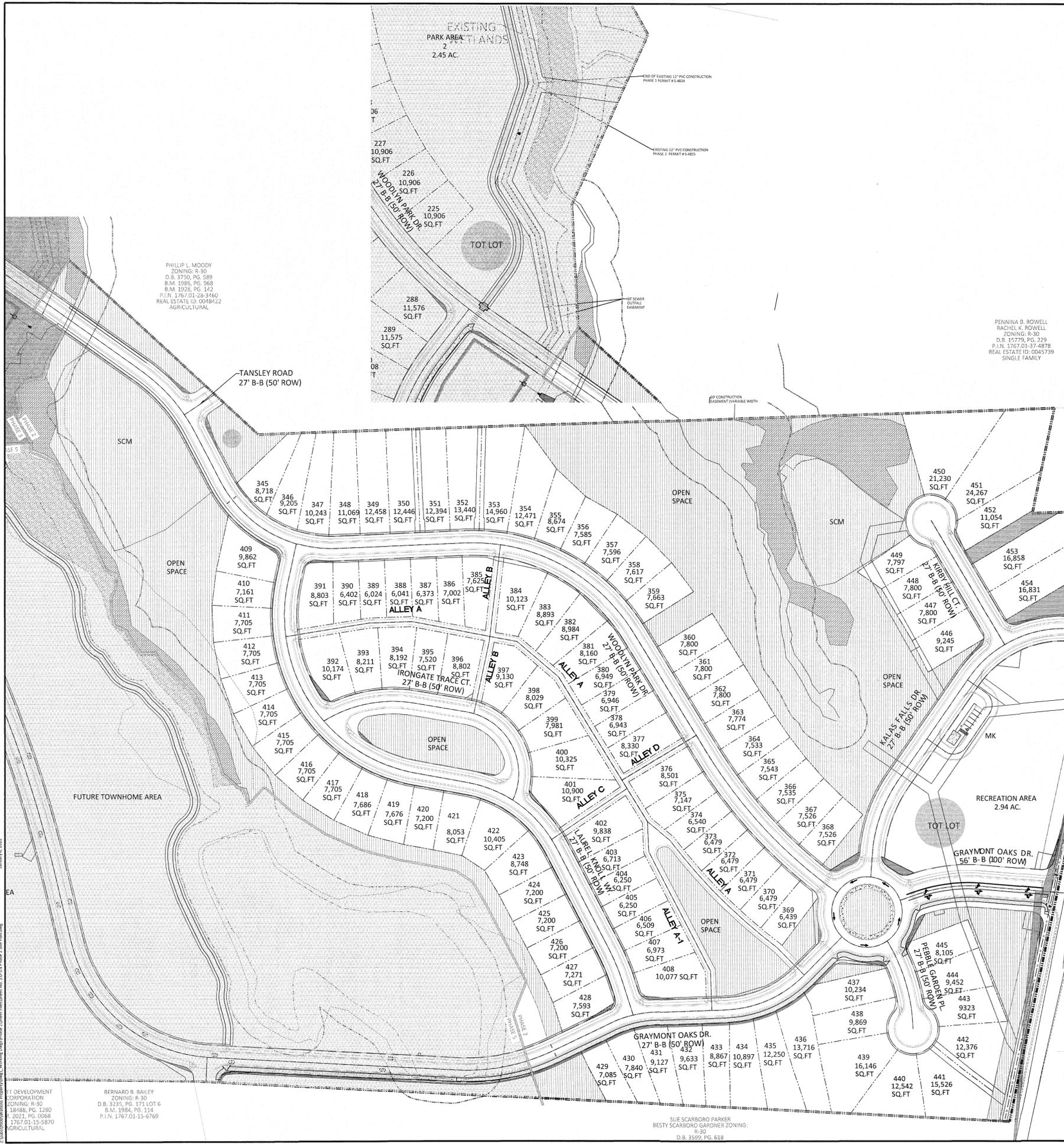
**OVERALL SITE DATA**

OWNER	MITCHELL MILL ROAD INVESTORS, LLC
PARCEL ADDRESS	105 WESTON ESTATES WAY CARY, NC 27519 1600 & 1832 ROLESVILLE ROAD ROLESVILLE NC
PIN NUMBER	1767-17-8299, 1767-08-3228, 1768-00-2153, 1767-29-5866
DEED BOOK	218 011940 PG 01155, DB 012007 PG 02228
DEEDED ACREAGE	284.44 AC
TOTAL PROJECT AREA	282.73 AC (MINUS ROW AREA TO RD CL)
GOVERNMENTAL USE	1.91 AC
TOTAL AREA IN FUTURE TOWNHOMES	17.03 AC
AREA IN ROW	38.57 AC
AREA IN LOTS	128.47 AC
EXISTING ZONING	R8 P.U.D.
MAX # OF LOTS	550 LOTS
SINGLE FAMILY LOTS PROPOSED	454 LOTS
MAX # OF TOWNHOMES	95 UNITS
MIN. LOT WIDTH	50'
MIN. LOT SIZE PROVIDED	6,024 SF
AVERAGE LOT SIZE	12,489 SF
LF OF PUBLIC STREETS	35,964 LF
IMPERVIOUS AREA	84.71 AC
PERCENT IMPERVIOUS	30%

**SETBACK TABLE SINGLE FAMILY**

	50'	50'-59'	60'-69'	70'-79'	80'-100'	101'+
FRONT	20'	15'	20'	25'	25'	25'
REAR	20'	15'	20'	25'	25'	30'
SIDE	**	**	**	*	10'	12'
CORNER SIDE	10'	10'	10'	10'	10'	15'
MIN. LOT SIZE	6,000	6,000	6,000	6,000	8,400	10,400
* AGGREGATE 12', MIN 5'						
** MIN. 3' AGGREGATE 10'						





**Impervious Area**  
(in acres)

Phase 2 - Proposed Impervious			
Type	DA#3	DA#7	Totals
Roadway/Walks in R/W	6.325	1.090	7.415
Single Family Residential	6.697	2.546	9.243
Other (Recreational Area)	0.637		0.637
Other (Mail Kiosk)	0.189		0.189
<b>Totals</b>	<b>13.822</b>	<b>4.462</b>	<b>17.484</b>

**PHASE 2 SITE DATA**

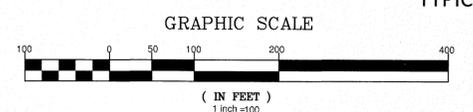
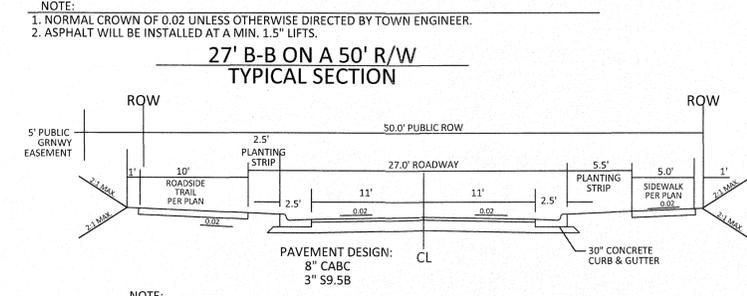
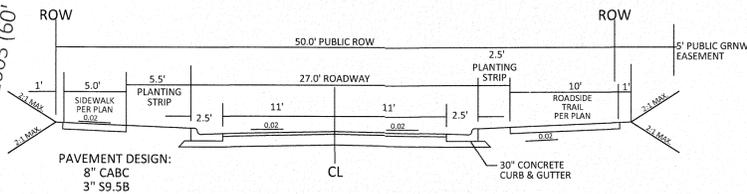
TOTAL AREA IN LOTS	998,451 SF/22.92 AC
TOTAL NUMBER OF LOTS	110
AVERAGE LOT SIZE	9,077 SF
MIN. LOT SIZE	6,024 SF
MAX. LOT SIZE	24,267 SF
PHASE 2 AREA IN OPEN SPACE PROVIDED	15.97 AC
PHASE 2 TOTAL DISTURBED AREA	29.08 AC

- GENERAL NOTE:**
- SIGHT DISTANCE TRIANGLES ARE 10'x70'. WHERE SIGHT LINES ENCRUSH ONTO A PRIVATE LOT A SIGHT EASEMENT IS REQUIRED.
  - BACK OF CURB RADIUS AT INTERSECTIONS- RESIDENTIAL-RESIDENTIAL- 28' RESIDENTIAL-COLLECTOR-30' COLLECTOR-COLLECTOR-30' ENTRANCE AT CUL-DE-SAC- 32.5' ENTRY ROADS-ROLESVILLE RD.- 35'

**SETBACK TABLE SINGLE FAMILY**

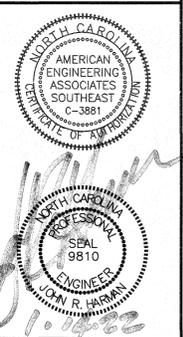
	50'	50' W ALLEY	50'-59'	60'-69'	70'-79'	80'-100'	101'+
FRONT	20'	15'	20'	25'	25'	25'	25'
REAR	20'	15'	20'	25'	25'	25'	30'
SIDE	**	**	**	*	*	10'	12'
CORNER SIDE	10'	10'	10'	10'	10'	15'	18'
MIN. LOT SIZE	6,000	6,000	6,000	6,600	8,400	10,400	14,000

\* AGGREGATE 12', MIN. 5'  
\*\* MIN. 3' AGGREGATE 10'



**SITE LEGEND**

-----	PROPOSED LOT LINE
-----	100 YEAR FLOOD EASEMENT
-----	BUILDING RESTRICTION LINE
-----	PROPOSED LOT SETBACK
-----	PROPOSED ROW
-----	PROPOSED SIDEWALK
-----	PROPOSED BOC
-----	PROPOSED EOP
-----	PROPOSED CENTERLINE
-----	PROPOSED GRADING
-----	PROPOSED DRAINAGE EASEMENT
-----	PROPOSED UTILITY EASEMENT
-----	PROPOSED HANDICAP RAMPS
-----	PROPOSED SIGHT TRIANGLE
●	TOT LOT
●	POCKET PARK
(MK)	MAIL KIOSK LOCATION
□	OPEN SPACE
□	GREENWAY TRAIL HATCH
□	GREENWAY/ROADSIDE TRAIL
□	FUTURE PHASING
□	EXISTING PHASING
□	EXISTING WETLANDS
-----	PROPOSED SWALE (AT TIME OF LOT GRADING)
-----	PROPOSED PHASELINE



**REVISION:**

NO.	DATE	DESCRIPTION
1	8/14/2021	SIGHT TRIANGLE CALLOUTS ADDED PER NC DOT REVIEW
2	7/21/2021	LIST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH
3	1/05/2022	MODIFICATION AREA AT TANSLEY ROAD AND FUTURE EXTENSION TO MOODY FARMS

**STIPULATION FOR REUSE**  
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**KALAS FALLS PHASE 2**  
1832 ROLESVILLE ROAD  
WAKE COUNTY, NC

JOB NUMBER: 9900  
CHECKED BY:  
DRAWN BY:  
DATE: DECEMBER 21, 2020  
SHEET TITLE:

**SITE PLAN PHASE 2 OVERALL**  
SHEET NO.: 5.1

PHILLIP L. MOODY  
ZONING: R-30  
D.B. 3750, PG. 589  
B.M. 1986, PG. 968  
B.M. 1928, PG. 142  
P.L.N. 1767-01-28-3460  
REAL ESTATE ID: 0048422  
AGRICULTURAL

BERNARD B. BAILEY  
ZONING: R-30  
D.B. 3235, PG. 171 LOT 6  
B.M. 1894, PG. 114  
P.L.N. 1767-01-15-6769

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

PENNINA B. ROWELL  
RACHEL K. ROWELL  
ZONING: R-30  
D.B. 15779, PG. 229  
P.L.N. 1767-01-37-4878  
REAL ESTATE ID: 0045739  
SINGLE FAMILY

PHILIP L. MOODY  
ZONING: R-30  
D.B. 3750, PG. 589  
B.M. 1986, PG. 968  
B.M. 1928, PG. 142  
P.L.N. 1767-01-28-3460  
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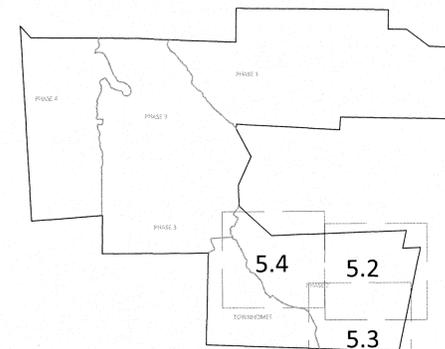
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REAL ESTATE ID: 0048422  
AGRICULTURAL

GRAPHIC SCALE



GRAPHIC SCALE 1"=300'



PHASE 2 SITE DATA

TOTAL AREA IN LOTS	998,451 SF/22.92 AC
TOTAL NUMBER OF LOTS	110
AVERAGE LOT SIZE	9,077 SF
MIN. LOT SIZE	6,024 SF
MAX. LOT SIZE	24,267 SF
PHASE 2 AREA IN OPEN SPACE PROVIDED	15.97 AC
PHASE 2 TOTAL DISTURBED AREA	29.08 AC

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\*\* MIN. 3' AGGREGATE 10'

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STIPULATION FOR REUSE

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**KALAS FALLS  
PHASE 2  
1832 ROLESVILLE ROAD  
WAKE COUNTY, NC**

JOB NUMBER: 9900  
CHECKED BY:  
DRAWN BY:  
DATE: DECEMBER 21, 2020  
SHEET TITLE:

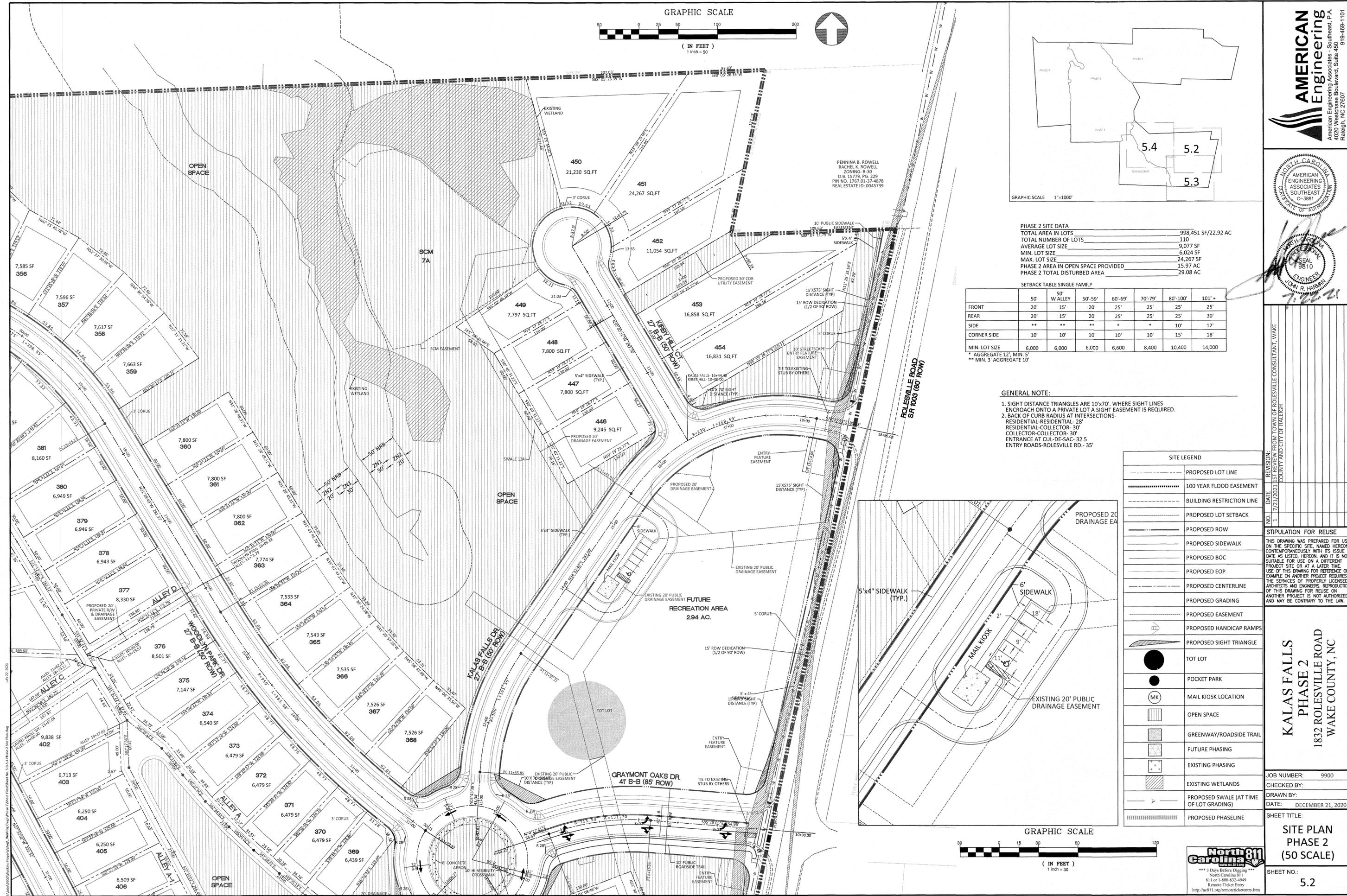
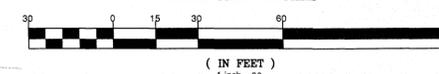
**SITE PLAN  
PHASE 2  
(50 SCALE)**

SHEET NO.: 5.2



\*\*\* 3 Days Before Digging \*\*\*  
North Carolina 811  
811 or 1-800-632-4969  
Remote Ticket Entry  
http://nc811.org/remoteticketentry.htm

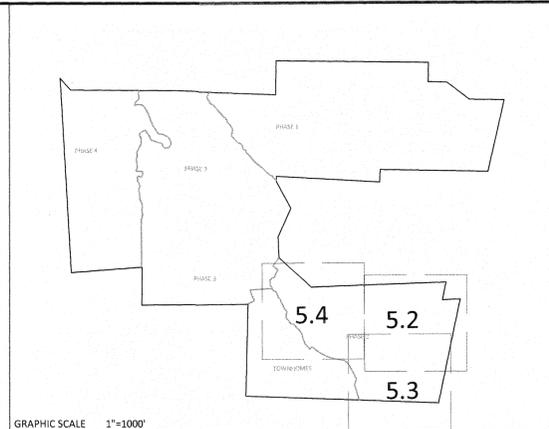
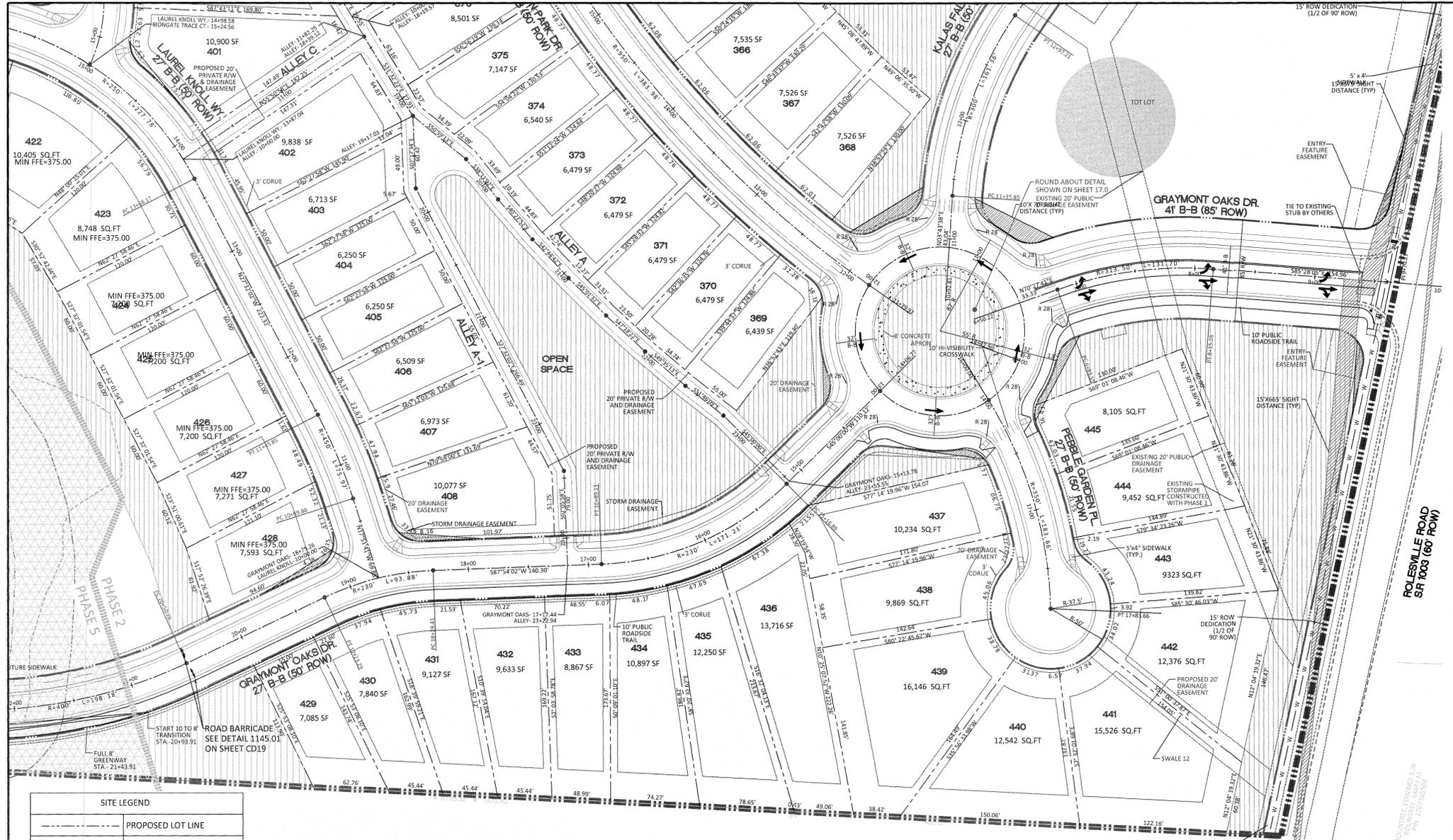
GRAPHIC SCALE



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



NO.	DATE	REVISION
1	7/21/2021	LIST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH



**AMERICAN Engineering**  
 American Engineering Associates - Southeast, P.A.  
 4020 Westcrosse Boulevard, Suite 450  
 Raleigh, NC 27607

**AMERICAN ENGINEERING ASSOCIATES SOUTHEAST**  
 LICENSED PROFESSIONAL ENGINEER  
 STATE OF NORTH CAROLINA  
 SEAL 9810  
 JOHN R. HARRMAN  
 7/22/2021

NO.	DATE	REVISION
1	7/27/2021	1ST REVIEW FROM TOWN OF ROLESVILLE CONSULTANT, WAKE COUNTY AND CITY OF RALEIGH

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---	PROPOSED EASEMENT
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---	PROPOSED SIGHT TRIANGLE
●	TOT LOT
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(MK)	MAIL KIOSK LOCATION
□	OPEN SPACE
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□	FUTURE PHASING
□	EXISTING PHASING
□	EXISTING WETLANDS
---	PROPOSED SWALE (AT TIME OF LOT GRADING)
---	PROPOSED PHASELINE

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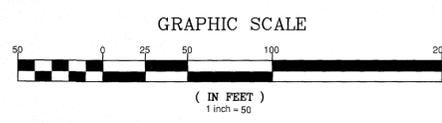
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	50'	50' W ALLEY	50'-59'	60'-69'	70'-79'	80'-100'	101' +
FRONT	20'	15'	20'	25'	25'	25'	25'
REAR	20'	15'	20'	25'	25'	25'	30'
SIDE	**	**	**	**	*	10'	12'
CORNER SIDE	10'	10'	10'	10'	10'	15'	18'
MIN. LOT SIZE	6,000	6,000	6,000	6,600	8,400	10,400	14,000

\* AGGREGATE 12', MIN. 5'  
 \*\* MIN. 3' AGGREGATE 10'

**GENERAL NOTE:**

- SIGHT DISTANCE TRIANGLES ARE 10'x70' WHERE SIGHT LINES ENCRUCH ONTO A PRIVATE LOT A SIGHT EASEMENT IS REQUIRED.
- BACK OF CURB RADIUS AT INTERSECTIONS:  
 RESIDENTIAL-RESIDENTIAL- 28'  
 RESIDENTIAL-COLLECTOR- 30'  
 COLLECTOR-COLLECTOR- 30'  
 ENTRANCE AT CUL-DE-SAC- 32.5'  
 ENTRY ROADS-ROLESVILLE RD.- 35'



SUE SCARBORO PARKER  
 BESTY SCARBORO GARDNER  
 ZONING: R-30  
 D.B. 2539, PG. 618  
 LOT 8 B.M. 1947, PG. 78  
 PIN NO. 1767.01-26-4441

**KALAS FALLS PHASE 2**  
 1832 ROLESVILLE ROAD  
 WAKE COUNTY, NC

JOB NUMBER: 9900  
 CHECKED BY:  
 DRAWN BY:  
 DATE: DECEMBER 21, 2020  
 SHEET TITLE:

**SITE PLAN PHASE 2 (50 SCALE)**

SHEET NO. **5.3**



7:\Users\jrh\OneDrive\Projects\Kallas Falls\Working Drawings\Phase 2\Drawings\Sheet No. 5.3 of 5 Phase 2 Site Plan.dwg  
 7/22/2021