

STATE	CONTRACT NUMBER	SHEET NO.	TOTAL SHEETS
N.C.	003983	1	10

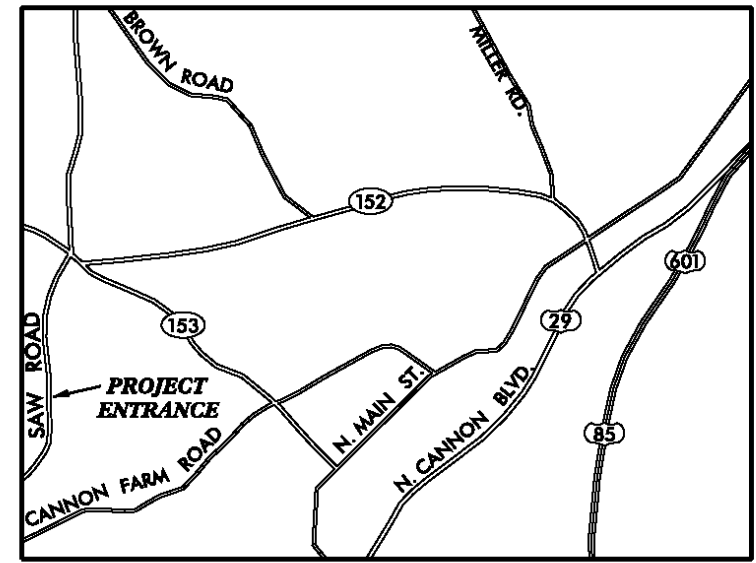
DATE	DESCRIPTION	DATE
REVISIONS		

STATE OF NORTH CAROLINA  
ECOSYSTEM ENHANCEMENT PROGRAM

**ROWAN COUNTY**

LOCATION: JACOB'S LADDER  
CHINA GROVE, NORTH CAROLINA

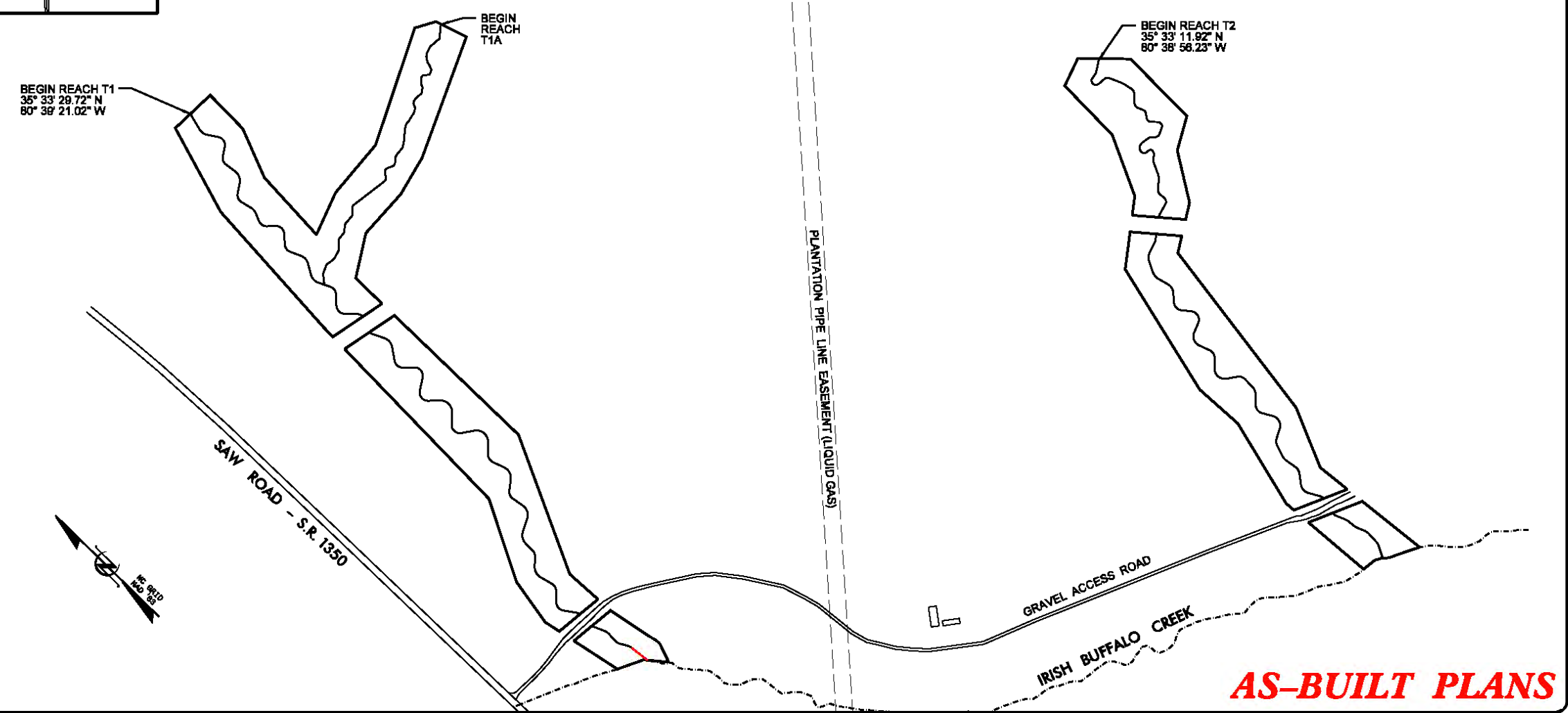
TYPE OF WORK: STREAM MITIGATION



VICINITY MAP  
NOT TO SCALE

**DIRECTIONS TO SITE**  
FROM RALEIGH, TAKE I-40 WEST.  
SLIGHT LEFT ONTO I-85 BUS SWS-29  
SWS-70 W (signs for High Point/Charlotte).  
FOLLOW I-85 SOUTH TO EXIT 68.  
MERGE ONTO US-29 CONNECTOR  
SOUTH TURN RIGHT ONTO NORTH  
CAROLINA 152 W/CHURCH STREET.  
TURN LEFT ONTO SAW ROAD. THE  
SITE WILL BE ON THE LEFT IN  
APPROX 1.5 MILES, JUST BEFORE  
THE IRISH BUFFALO CREEK BRIDGE.

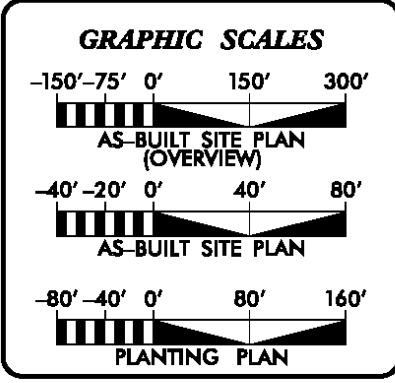
- INDEX OF SHEETS**
- 1 TITLE SHEET
  - 2 GENERAL NOTES & PROJECT LEGEND
  - 3-8 AS-BUILT SITE PLAN
  - 9-10 PLANTING PLAN



**AS-BUILT PLANS**

**CONTRACT #: 003983**

KCI JOB# : 20110669



**PROJECT DATA**

STREAM RESTORATION LENGTH =	4,971 FEET
STREAM ENHANCEMENT I LENGTH =	306 FEET
STREAM ENHANCEMENT II LENGTH =	140 FEET

Prepared In the Office of:

**KCI Associates of North Carolina, P.A.**  
SUITE 220 LANDMARK CENTER II, 4601 SIX FORKS RD., RALEIGH, NC  
ENGINEERS • PLANNERS • ECOLOGISTS

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ALEX FRENCH  
NATURAL CHANNEL DESIGN

**PROJECT ENGINEER**  
GARY M. MRYNCA, P.E.

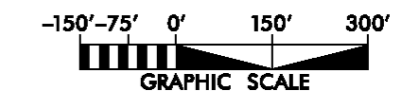
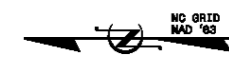
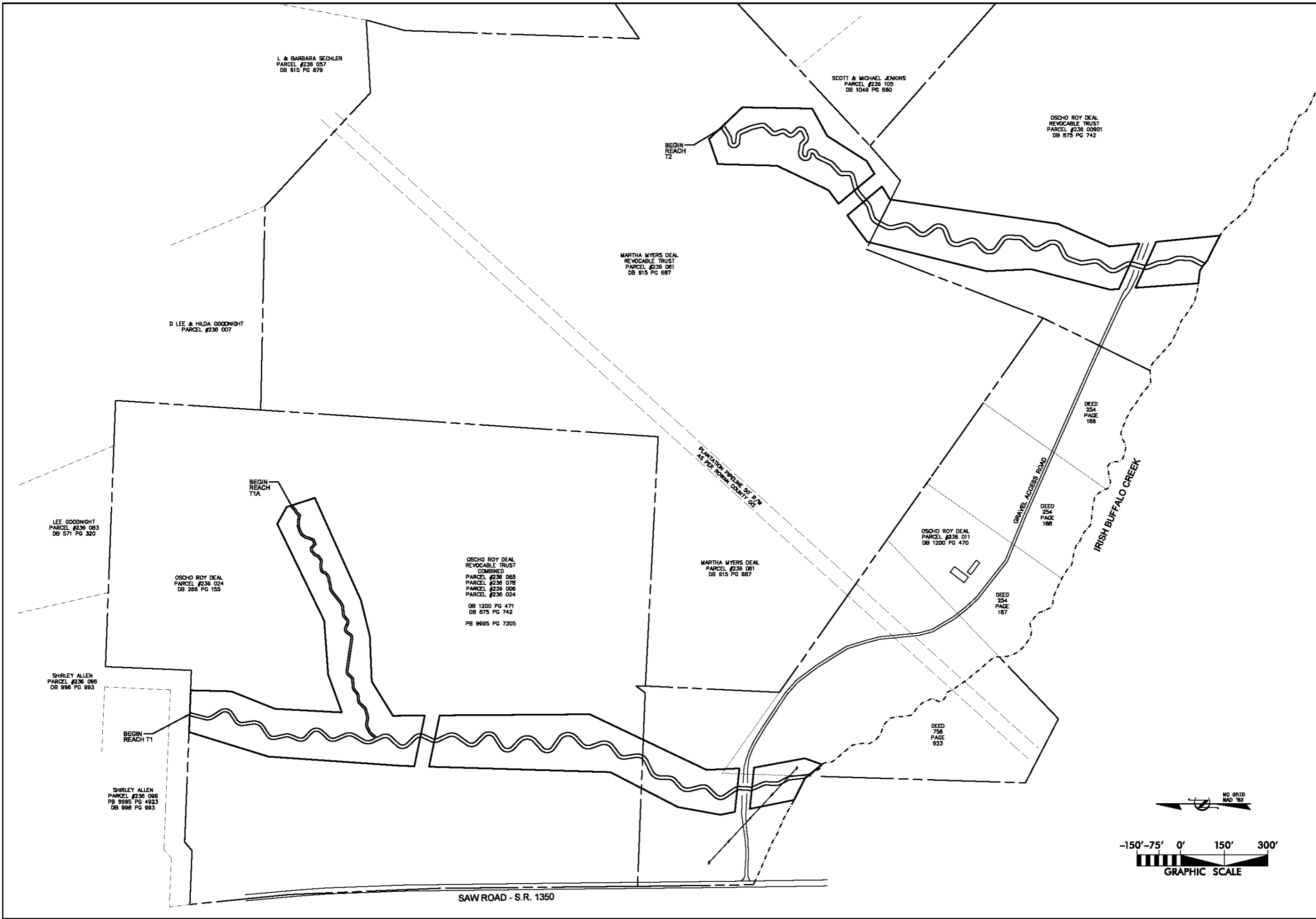
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SIGNATURE: \_\_\_\_\_ P.E.

Prepared for:

**Ecosystem PROGRAM**  
GUY PEARCE  
CONTRACT ADMINISTRATOR





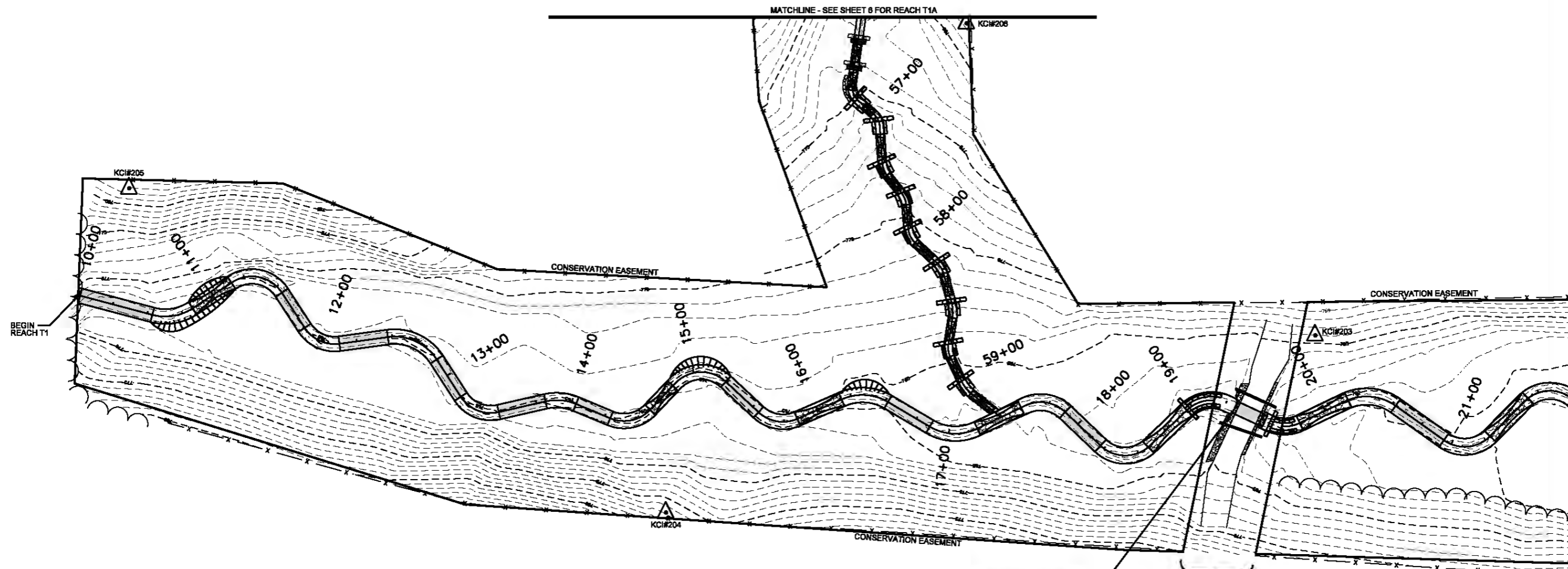
NO.	DATE	REVISIONS



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RALEIGH, NORTH CAROLINA 27609

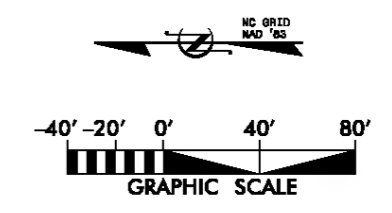
**JACOB'S LADDER  
STREAM MITIGATION PROJECT**  
CHINA GROVE, ROWAN COUNTY, NORTH CAROLINA  
REACHES T1, T1A AND T2

DATE: MARCH 2014  
SCALE: GRAPHIC  
AS-BUILT SITE PLAN (OVERVIEW)  
SHEET 3 OF 10



(1) 4.0' H X 7.5' W X 20' LONG  
CULVERT (CONCRETE BOX)  
(2) 12" DIA. FLOODPLAIN  
CULVERT (PEP)

50' WIDE EASEMENT  
EXCEPTION WITH A  
GRAVEL CROSSING



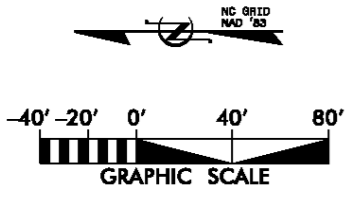
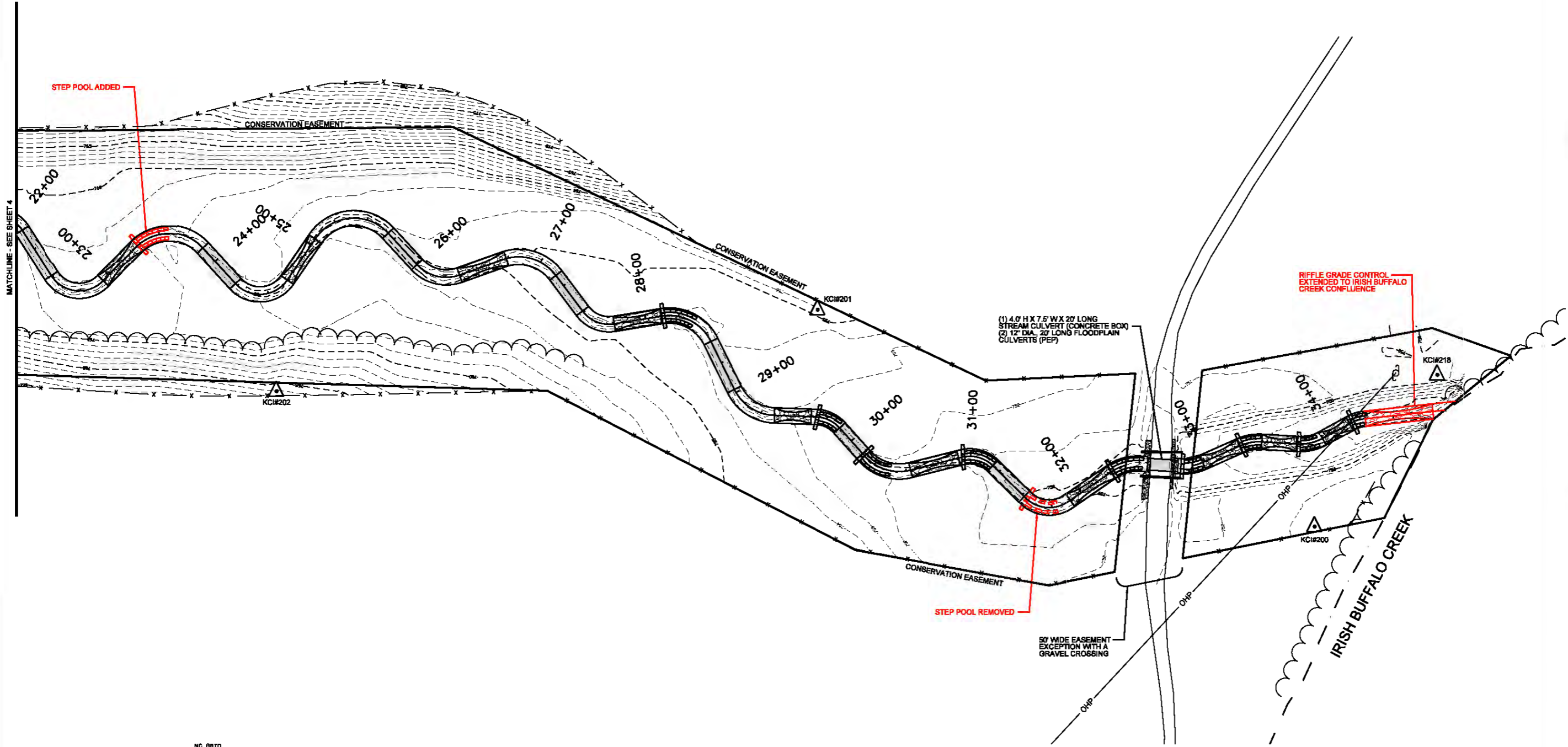
NO.	DATE	REVISIONS



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**JACOB'S LADDER  
STREAM MITIGATION PROJECT**  
CHINA GROVE, ROWAN COUNTY, NORTH CAROLINA  
REACH T1

DATE: MARCH 2014  
SCALE: GRAPHIC  
**AS-BUILT  
SITE PLAN**  
SHEET 4 OF 10



NO.	DATE	REVISIONS

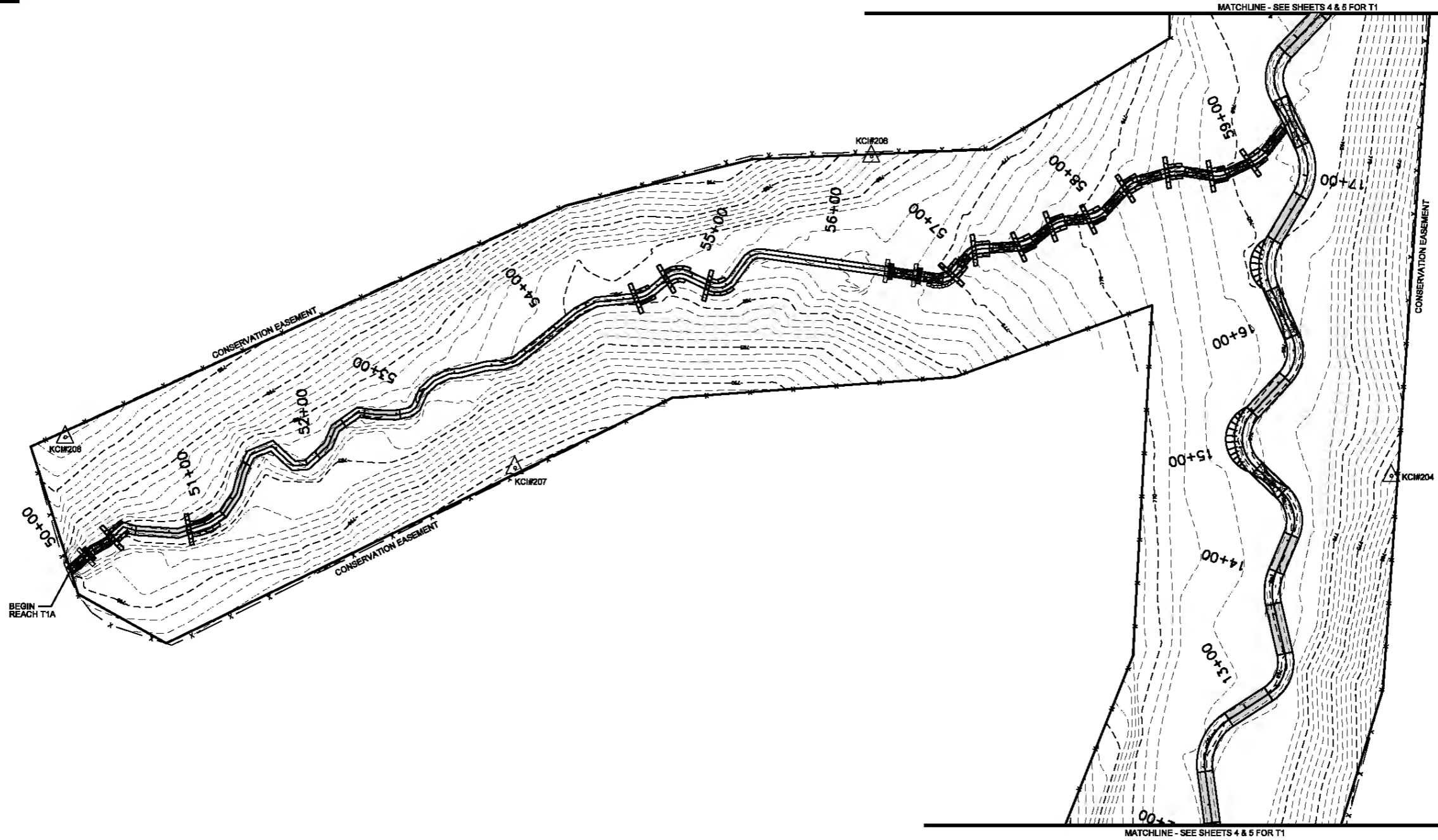
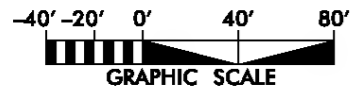


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**JACOB'S LADDER  
STREAM MITIGATION PROJECT**  
CHINA GROVE, ROWAN COUNTY, NORTH CAROLINA  
REACH T1

DATE: MARCH 2014  
SCALE: GRAPHIC

AS-BUILT  
SITE PLAN



NO.	DATE	DESCRIPTION	BY

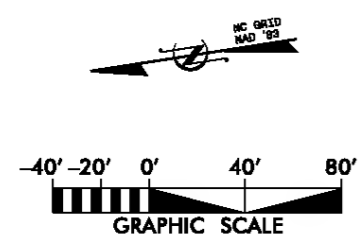
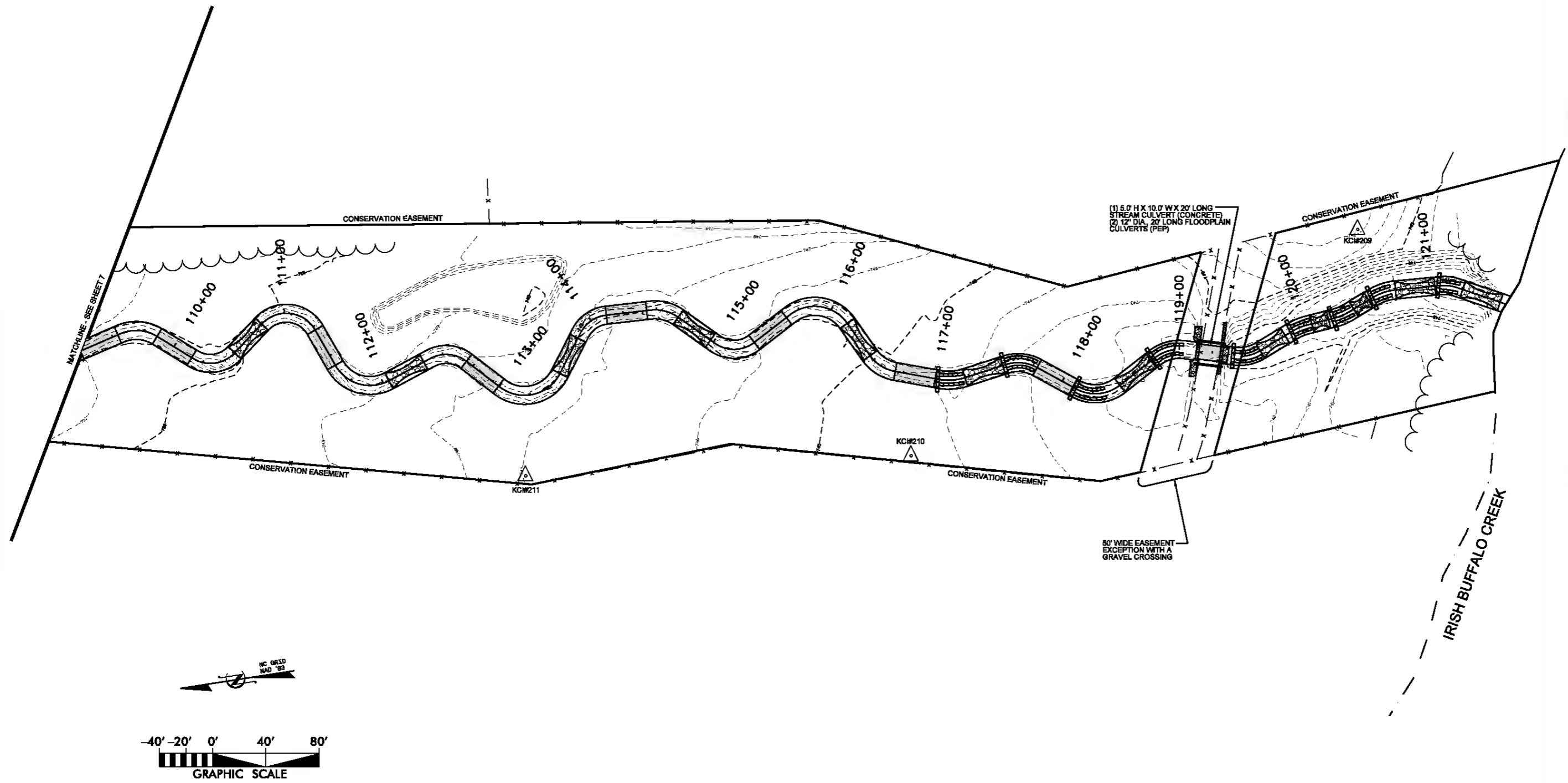


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**JACOB'S LADDER  
STREAM MITIGATION PROJECT**  
CHINA GROVE, ROWAN COUNTY, NORTH CAROLINA  
REACH T1A

DATE: MARCH 2014  
SCALE: GRAPHIC  
**AS-BUILT  
SITE PLAN**  
SHEET 6 OF 10





NO.	DATE	REVISIONS

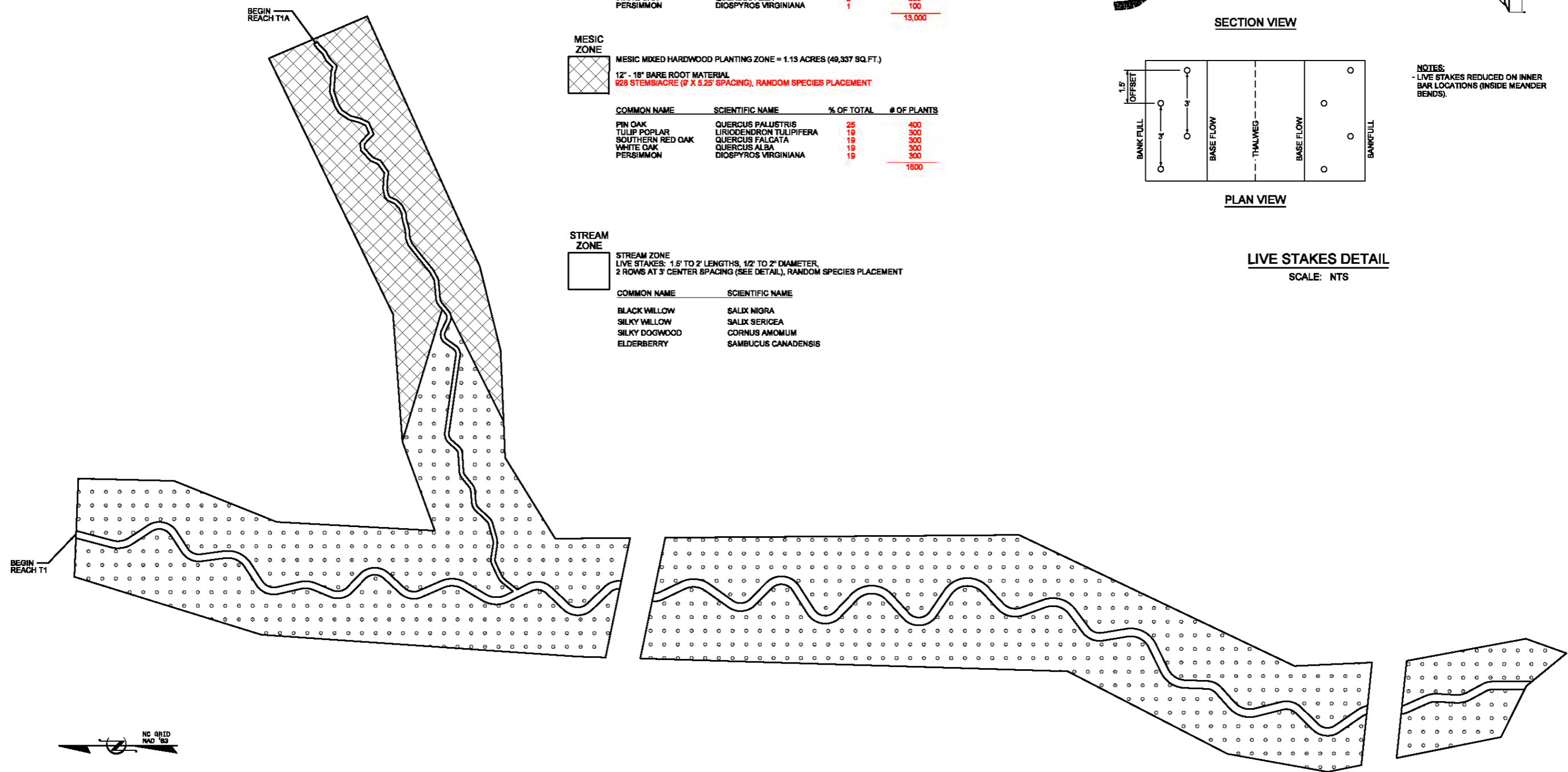


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**JACOB'S LADDER  
 STREAM MITIGATION PROJECT**  
 CHINA GROVE, ROWAN COUNTY, NORTH CAROLINA  
 REACH T2

DATE: MARCH 2014  
 SCALE: GRAPHIC  
**AS-BUILT  
 SITE PLAN**  
 SHEET 8 OF 10





**RIPARIAN ZONE**  
 12" - 18" BARE ROOT MATERIAL  
 928 STEMS/ACRE (9' X 5.25' SPACING), RANDOM SPECIES PLACEMENT

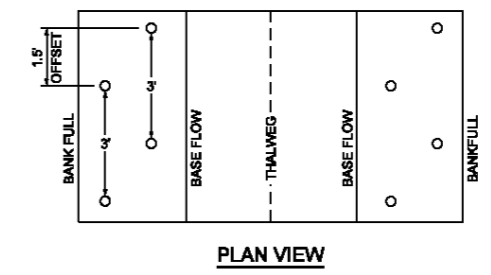
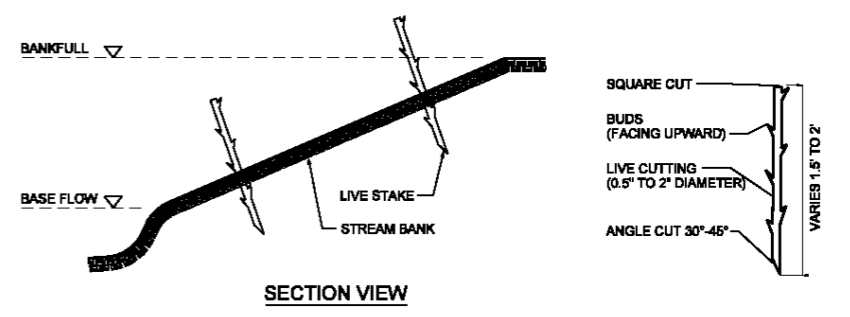
COMMON NAME	SCIENTIFIC NAME	% OF TOTAL	# OF PLANTS
RIVER BIRCH	BETULA NIGRA	17	2200
GREEN ASH	FRAXINUS PENNSYLVANICA	15	1900
TULIP POPLAR	LIRIODENDRON TULIPIFERA	12	1600
SYCAMORE	PLATANUS OCCIDENTALIS	13	1700
WILLOW OAK	QUERCUS PHELLOS	15	2000
BEAUTYBERRY	CALLICARPA AMERICANA	17	2200
TAG ALDER	ALNUS SERRULATA	8	1100
SOUTHERN RED OAK	QUERCUS FALCATA	1	100
WHITE OAK	QUERCUS ALBA	2	200
PERSIMMON	DIOSPYROS VIRGINIANA	1	100
			<b>13,000</b>

**MESIC ZONE**  
 12" - 18" BARE ROOT MATERIAL  
 928 STEMS/ACRE (9' X 5.25' SPACING), RANDOM SPECIES PLACEMENT

COMMON NAME	SCIENTIFIC NAME	% OF TOTAL	# OF PLANTS
PIN OAK	QUERCUS PALUSTRIS	25	400
TULIP POPLAR	LIRIODENDRON TULIPIFERA	19	300
SOUTHERN RED OAK	QUERCUS FALCATA	19	300
WHITE OAK	QUERCUS ALBA	19	300
PERSIMMON	DIOSPYROS VIRGINIANA	19	300
			<b>1600</b>

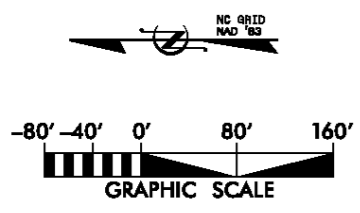
**STREAM ZONE**  
 LIVE STAKES: 1.5' TO 2' LENGTHS, 1/2" TO 2" DIAMETER,  
 2 ROWS AT 3' CENTER SPACING (SEE DETAIL), RANDOM SPECIES PLACEMENT

COMMON NAME	SCIENTIFIC NAME
BLACK WILLOW	SALIX NIGRA
SILKY WILLOW	SALIX SERICEA
SILKY DOGWOOD	CORNUS AMOMUM
ELDERBERRY	SAMBUCUS CANADENSIS



**LIVE STAKES DETAIL**  
 SCALE: NTS

**NOTES:**  
 - LIVE STAKES REDUCED ON INNER BANK LOCATIONS (INSIDE MEANDER BENDS).

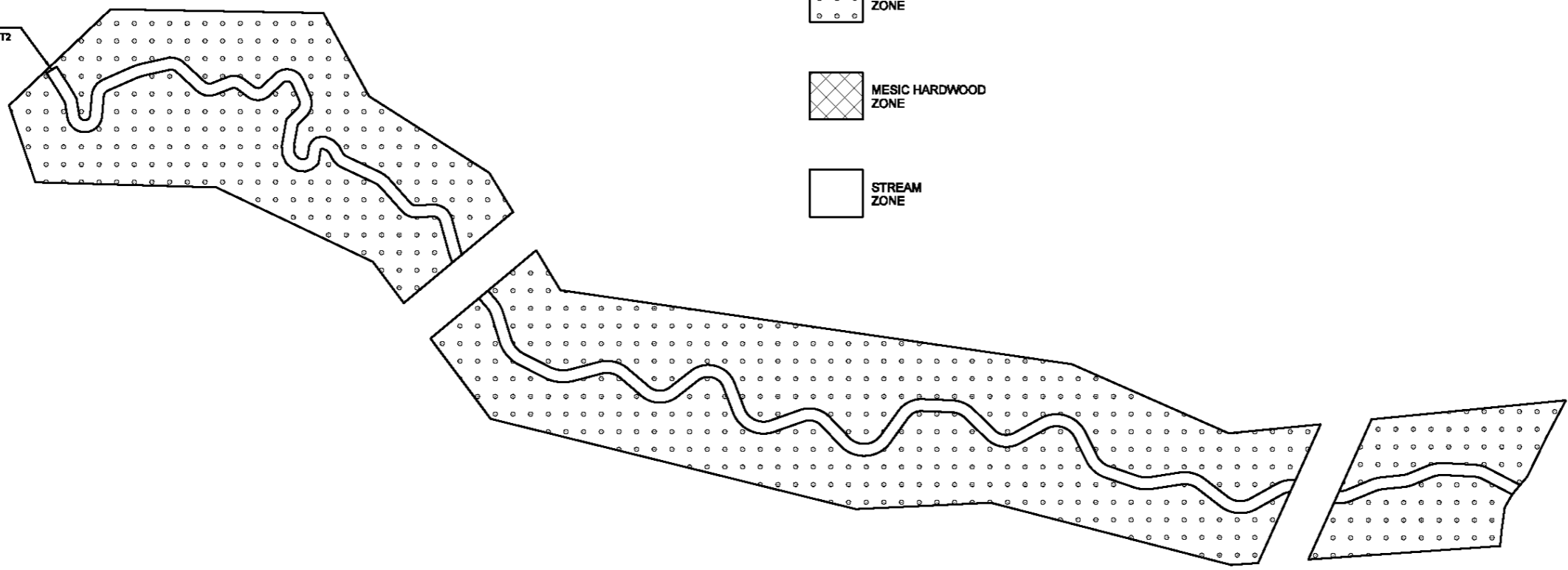


NO.	DATE	DESCRIPTION	BY



**JACOB'S LADDER  
 STREAM MITIGATION PROJECT**  
 CHINA GROVE, ROWAN COUNTY, NORTH CAROLINA  
 REACHES T1-1, T1-2, T1A-1, T1A-2, AND T1A-3

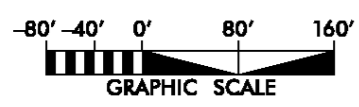
BEGIN REACH T2



PIEDMONT ALLUVIAL ZONE

MESIC HARDWOOD ZONE

STREAM ZONE



NO.	DATE	DESCRIPTION	BY



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**JACOB'S LADDER  
STREAM MITIGATION PROJECT**  
CHINA GROVE, ROWAN COUNTY, NORTH CAROLINA  
REACHES T2-1 AND 2-2

DATE: MARCH 2014  
SCALE: GRAPHIC

**PLANTING  
PLAN**

SHEET 10 OF 10