PROJECT: BISHOP SITE STREAM AND WETLAND RESTORATION

BISHOP SITE STREAM AND WETLAND RESTORATION

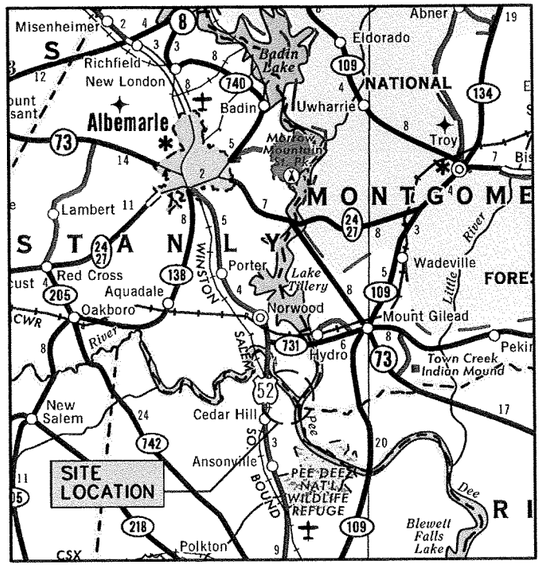
ANSON COUNTY, NORTH CAROLINA

LOCATION:

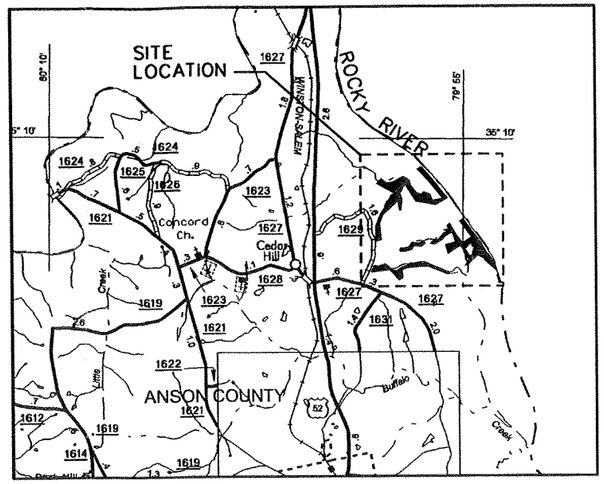
SITE IS LOCATED IN NORTHERN ANSON COUNTY, APPROXIMATELY 3 MILES NORTH OF THE TOWN OF ANSONVILLE AND APPROXIMATELY 1.5 MILES EAST OF THE TOWN OF CEDAR HILL NEAR THE CONFLUENCE OF THE ROCKY RIVER AND THE PEE DEE RIVER.

TYPE OF WORK: STREAM AND WETLAND RESTORATION / ENHANCEMENT

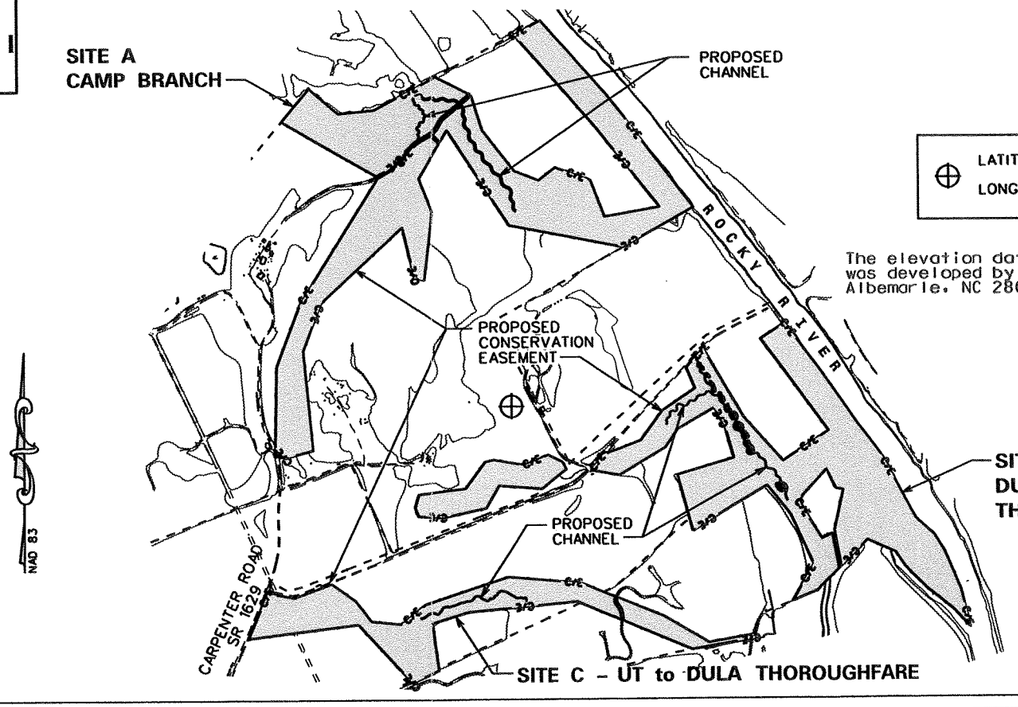
- STREAM RESTORATION / ENHANCEMENT
- WETLAND RESTORATION / ENHANCEMENT
- IN-STREAM STRUCTURES
- FLOODPLAIN GRADING
- NEW CHANNEL CONSTRUCTION
- SITE PLANTING



LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE



LATITUTE: 35° 09' 13.82"
LONGITUDE: 80° 06' 12.46"

The elevation data utilized in the Bishop As-Built Plans was developed by Barry D Davis Surveying, 1503 Old Charlotte Rd., Albemarle, NC 28001 under the supervision of Barry D. Davis, PLS L-4384

CAMP BRANCH:

CONSERVATION EASEMENT AREA: 94.9± ACRES
AREA OF DISTURBANCE: 22.4± ACRES

DULA THOROUGHFARE:

CONSERVATION EASEMENT AREA: 70.8± ACRES
AREA OF DISTURBANCE: 24.6± ACRES

UT to DULA THOROUGHFARE:

CONSERVATION EASEMENT AREA: 33.7± ACRES
AREA OF DISTURBANCE: 11.3± ACRES

Prepared in the office of:

EcoScience Corporation
1101 Haynes St., Suite 101
Raleigh, North Carolina 27604
Ph: 919 828-3433
Fax: 919 828-3518

ENGINEER: DAVID G. MODLIN

PROJECT MANAGER: JAMES D. COOPER

SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 026951 ENGINEER DAVID G. MODLIN
22Oct07

Prepared for:

ECOSYSTEM ENHANCEMENT PROGRAM
Raleigh, North Carolina

No.	Revisions	Date
1	REV'D SHEETS A-2B, A-3, B-2B, B-3, C-2B, C-3	09/29/05 JDG
2	AS-BUILT	JULY 2007

Dsn. By:	Dwn. By:	Ckd. By:
JDC	MAF	EBB

Date: JUL 2007

ESC Project No: 04-212

SHEET 1

INDEX OF SHEETS

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

   A) NORTH CAROLINA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, ENGLISH" DATED JANUARY 2002, AND ANY SUPPLEMENTS THERETO ISSUED PRIOR TO THE DATE OF RECEIPT OF BIDS.

   B) NORTH CAROLINA DEPARTMENT OF TRANSPORTATION "ROADWAY STANDARD DRAWINGS, ENGLISH" DATED JANUARY 2002 AND ANY SUPPLEMENTS ISSUED THERETO PRIOR TO THE DATE OF RECEIPT OF BIDS.

   C) REQUIREMENTS OF THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES.

2. ALL CONSERVATION EASEMENT CORNER MARKERS HAVE BEEN PLACED BY OTHERS. THE CONTRACTOR SHOULD CONFIRM THE CONSERVATION EASEMENT BOUNDARIES BEFORE COMMENCING WORK.

3. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS WHICH AFFECT NEW WORK PRIOR TO ANY CONSTRUCTION.

4. THE CONTRACTOR IS SOLEY RESPONSIBLE FOR ALL SAFETY ACCORDING TO CURRENT OSHA REGULATIONS.

5. THE CONTRACTOR IS RESPONSIBLE FOR AVOIDING ANY DISTURBANCE OR DAMAGE TO UTILITIES AND SHALL BE RESPONSIBLE FOR IMMEDIATELY REPARING ANY DAMAGES AT A COST INCIDENT TO THIS CONTRACT. CALL BEFORE YOU DIG — 1-800-632-4949.

6. THE EXISTING CHANNELS TO BE FILLED SHALL BE FILLED TO THE MAXIMUM EXTENT FEASIBLE WITH MATERIAL EXCAVATED FROM ON-SITE AND STOCKPILED ADJACENT TO REACHES OF THE OLD CHANNEL. DISTURBANCES SHALL BE PROTECTED IN ACCORDANCE WITH THE APPROVED SEDIMENT AND EROSION CONTROL PLAN.

7. SILT FENCE SHALL BE PLACED BETWEEN STOCKPILE AREAS AND THE EXISTING CHANNEL AND SHALL BE INSTALLED ACCORDING TO THE APPROVED SEDIMENT AND EROSION CONTROL PLAN.

8. THE CONTRACTOR MAY UTILIZE THE DESIGNATED STAGING AREA AND THE AREA INSIDE THE PROPOSED CONSERVATION EASEMENT FOR STAGING AND STOCKPILING EQUIPMENT AND MATERIALS.

9. THE COORDINATE SYSTEM IS THE NAD 83 STATE PLANE GRID. THE VERTICAL DATUM IS BASED ON NVD 1929.

10. EXISTING GRAVEL ACCESS ROADS WILL BE LEFT IN "AS IS OR BETTER" CONDITION. STONE, CLASS ABC, HAS BEEN ESTIMATED AND INCLUDED IN THE QUANTITY ESTIMATES SHOULD EXISTING GRAVEL ROADS NEED REPAIR AT THE PROJECT CONCLUSION. AN ALLOWANCE OF 3 INCHES OF CLASS ABC STONE AND 16-FOOT WIDTH OF EXISTING ROAD WERE ESTIMATED FOR THE ENTIRE LENGTH OF EXISTING ACCESS ROADS. FINAL PAY QUANTITIES WILL BE ON ACTUAL QUANTITIES USED FOR IMPROVED EXISTING ACCESS ROADS.

11. SHOULD ACCESS ROADS AS SHOWN ON THE PLAN SHEETS REQUIRE IMPROVEMENT, CLASS A STONE AND FILTER FABRIC HAVE BEEN ESTIMATED AND INCLUDED IN THE QUANTITY ESTIMATE. AN ALLOWANCE OF 480 TONS OF CLASS A STONE AND 1333 SQUARE YARDS OF FILTER FABRIC WERE ESTIMATED PER 1000 FEET OF 12-FOOT WIDE IMPROVED ACCESS ROAD. QUANTITIES ESTIMATED ALLOW FOR IMPROVING THE ENTIRE LENGTH OF EACH ACCESS ROAD SHOWN ASSUMING WORST CASE WEATHER CONDITIONS. FINAL PAY QUANTITIES WILL BE ON ACTUAL QUANTITIES USED FOR IMPROVED ACCESS ROADS. THE PROPOSED ACCESS ROADS WILL BE REMOVED OR REMAIN AS INDICATED ON PLAN SHEET 2.

12. THE BISHOP SITE STREAM / WETLAND RESTORATION PROJECT DRAINAGE IS SHOWN ON FIRM MAP NO. 3702840050B. THE PROJECT IS IN FLOOD ZONE A. NO DETAILED FLOOD STUDY HAS BEEN PERFORMED FOR THIS AREA OF ANSON COUNTY.

13. ALL ELEVATIONS AND GRADING POINTS WERE DERIVED FROM TOPOGRAPHIC MAPPING PROVIDED TO ECOSCIENCE CORPORATION BY THE OWNER. SUPPLEMENTAL SURVEYING WAS PROVIDED BY K2 DESIGN, GOLDSBORO, NC. THE GRADING PLAN AND SPECIFIED ELEVATIONS, AS SHOWN, ARE RELATIVE TO THIS TOPOGRAPHIC MAPPING. TOPOGRAPHIC DISCREPANCIES IDENTIFIED AS A RESULT OF FIELD SURVEYS DURING CONSTRUCTION MAY BE ADJUSTED AT THE DISCRETION OF THE PROJECT MANAGER. ALSO, EARTHWORK QUANTITY ESTIMATES WERE DERIVED FROM ELEVATION CONTOURS SHOWN ON THESE PLANS.

EcoScience Corporation
Raleigh, North Carolina

REVISIONS	
1	AS-BUILT - JULY 2007

NORTH CAROLINA PROFESSIONAL SEAL 026061 ENGINEER
22Oct07

Client: Ecosystem Enhancement PROGRAM

Project: BISHOP SITE STREAM / WETLAND RESTORATION PLAN

ANSON COUNTY, NORTH CAROLINA

Title: INDEX OF SHEETS / GENERAL NOTES

Dsn. By: JDC	Dwn. By: MAF
Ckd. By: EBB	Date: JUL 2007
Scale: NO SCALE	
ESC Project No.: 04-212	

SHEET

1A

ECOSCIENCE CORPORATION
ELEMENT SYMBOLOGY

TOPOGRAPHY & HYDROGRAPHY

- MAJOR CONTOUR 650
- MINOR CONTOUR .....
- GRAVEL / DIRT ROAD .....
- PAVED ROAD .....
- WETLAND / SWAMP .....
- DIRECTION OF FLOW .....
- EXISTING STREAM .....
- EXISTING WETLAND BOUNDARY ..... -WLB-
- HIGH QUALITY WETLAND BOUNDARY ..... -HQ WLB-
- MEDIUM QUALITY WETLAND BOUNDARY ..... -MQ WLB-
- LOW QUALITY WETLAND BOUNDARY ..... -LQ WLB-
- PROPOSED WETLAND BOUNDARY ..... -WLB-
- EXISTING SPOT ELEVATION 648
- PROPOSED SPOT ELEVATION 648

BOUNDARIES, PROPERTIES, AND EASEMENTS

- COUNTY LINE .....
- CITY LINE .....
- PROPERTY LINE ..... PL
- EXISTING IRON PIN ..... EIP
- RIGHT OF WAY ..... R/W
- PROPERTY MONUMENT ..... ECM
- PARCEL NUMBER 6
- ESC BENCHMARK ESC-BM1
- NCDOT MONUMENT NCDOT-BM5
- UTILITY EASEMENT ..... E
- POWER LINE ..... P
- EXISTING EASEMENT ..... E
- PROPOSED CONSERVATION EASEMENT ..... C/E

BUILDINGS & OTHER STRUCTURES

- BUILDINGS .....
- WELL ..... W
- BRIDGE .....
- BOX CULVERT OR TUNNEL .....
- CULVERT .....
- BRIDGE WING WALL, HEAD WALL, AND END WALL ..... CONC WW
- HEAD AND END WALL ..... CONC HW
- PIPE CULVERT .....
- FOOTBRIDGE .....
- DRAINAGE BOXES ..... CB
- EXISTING FENCE .....
- POWER POLE .....
- TELEPHONE POLE .....
- LIGHT POLE .....
- POWER LINE TOWER .....
- SANITARY SEWER MANHOLE .....
- STORM SEWER MANHOLE .....
- SANITARY SEWER ..... SS SS
- STORM SEWER ..... S S
- FOOTBRIDGE .....
- TRAIL, FOOTPATH .....
- RAIL ROAD ..... CSX TRANSPORTATION

VEGETATION

- SINGLE TREE .....
- SINGLE SHRUB .....
- EXISTING WOODS LINE .....

PROPOSED FEATURES AND STRUCTURES

- PROPOSED CONSTRUCTION ENTRANCE .....
- PROPOSED ROCK SILL .....

PROPOSED FEATURES AND STRUCTURES

- RADIUS OF CURVATURE CENTER MARK ..... +R2
- CHANNEL FORD .....
- CROSS-VANE .....
- MODIFIED CROSS-VANE .....
- J-HOOK VANE .....
- STEP CROSS-VANE .....
- LOG VANE .....
- ROOT WAD .....
- TEMPORARY STAGING AREA, SOIL STOCKPILING .....
- NEW CHANNEL .....
- BORROW AREA .....
- CHANNEL BACKFILL .....
- MEANDER REVETMENT .....
- RIPRAP APRON .....
- IMPERVIOUS CHANNEL BLOCK .....
- TOP OF RIFFLE TR1
- BOTTOM OF RIFFLE BR1
- CONSTRUCTED BERM .....
- PROPOSED WOVEN WIRE FENCE .....
- PROPOSED BARBED WIRE FENCE .....
- PROPOSED SAFETY FENCE ..... SF
- PROPOSED SILT FENCE .....
- PROPOSED MAJOR CONTOURS 755
- PROPOSED MINOR CONTOURS .....
- PROPOSED DIVERSION DITCH .....
- LIMITS OF DISTURBANCE .....
- PROPOSED ACCESS ROAD .....
- PROPOSED CLEARING LIMITS .....
- PROPOSED STONE OUTLET .....

EcoScience Corporation
Raleigh, North Carolina

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G. MODLIN, JR.

Client: Ecosystem Enhancement Program

Project:
BISHOP SITE STREAM / WETLAND RESTORATION PLAN
ANSON COUNTY, NORTH CAROLINA

Title:
ELEMENT SYMBOLOGY

Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005

Scale: NO SCALE

ESC Project No.: 04-212

SHEET
1B

BENCHMARKS

LOCATION	TYPE	EASTING	NORTHING	REVISED ELEVATION
ESC BM 1	CEMENT W/ LAG BOLT	1672518.796	515161.114	206.01
ESC BM 2	CEMENT W/ LAG BOLT	1672852.724	514653.341	202.27
ESC BM 3	CEMENT W/ LAG BOLT	1673187.346	514144.998	201.47
ESC BM 4	CEMENT W/ LAG BOLT	1673813.981	513828.702	202.78
ESC BM 5	CEMENT W/ LAG BOLT	1672463.892	514762.773	206.94
NCDOT BM 1	RR SPIKE IN TREE	1671382.477	509938.956	301.35
NCDOT BM 2	RR SPIKE IN TREE	1672682.638	514987.957	206.48
NCDOT BM 3	RR SPIKE IN TREE	1675041.642	513968.682	207.56
NCDOT BM 4	RR SPIKE IN TREE	1674222.110	509949.013	254.46
NCDOT BM 5	RR SPIKE IN TREE	1675694.438	511289.397	203.47
NCDOT BM 6	RR SPIKE IN TREE	1676655.908	510132.466	203.90

CAMP BRANCH PROPOSED ACCESS ROAD TO BE REMOVED AFTER CONSTRUCTION

ESC-BM1 ▲ 206.01
NCDOT-BM2 206.48
ESC-BM5 206.94
ESC-BM2 ▲ 202.27
ESC-BM3 ▲ 201.47
ESC-BM4 ▲ 202.78
NCDOT-BM3 207.56

CAMP BRANCH EXISTING GRAVEL ACCESS ROAD

CONSERVATION EASEMENT

DULA THOROUGHFARE PROPOSED ACCESS ROAD TO REMAIN AFTER CONSTRUCTION

DULA THOROUGHFARE PROPOSED ACCESS ROAD TO BE REMOVED AFTER CONSTRUCTION

CAMP BRANCH PROPOSED SITE ENTRANCE

TO NC 52

SR 1629

CARPENTER ROAD

UT TO DULA THOROUGHFARE PROPOSED SITE ACCESS

PIN: 6571-00-23-2220.00
N/F ROCKY PEE DEE, LLC
D.B. 601, PG. 0332
459.90 ACRES

NCDOT-BM5 203.47

DULA THOROUGHFARE AND UT EXISTING GRAVEL ACCESS ROAD

PIN: 6570-00-49-3589.00
N/F ROCKY PEE DEE, LLC
D.B. 668, PG. 0120
131.79 ACRES

NCDOT-BM6 203.90

DULA THOROUGHFARE AND UT PROPOSED SITE ENTRANCE

NCDOT-BM1 301.35

NCDOT-BM4 254.46

CONSERVATION EASEMENT

EXISTING SILO

PIN: 6571-00-30-8584.00
N/F ROCKY PEE DEE, LLC
D.B. 678, PG. 0284
207.69 ACRES

PINKSTON RIVER ROAD

SR 1627

UT to DULA THOROUGHFARE PROPOSED ACCESS ROAD TO REMAIN AFTER CONSTRUCTION

400 0 400
SCALE IN FEET

EcoScience Corporation
Raleigh, North Carolina

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G. MODLIN, P.E.

Client:
Ecosystem Enhancement PROGRAM

Project:

BISHOP SITE STREAM / WETLAND RESTORATION PLAN

ANSON COUNTY, NORTH CAROLINA

Title:

SITE ACCESS

Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005

Scale: AS SHOWN

ESC Project No.: 04-212

SHEET 2

PROJECT: BISHOP SITE STREAM AND WETLAND RESTORATION

CONSTRUCTION SEQUENCE

1. MOBILIZE EQUIPMENT AND MATERIALS TO CAMP BRANCH SITE.

2. ESTABLISH ACCESS ROADS AND STAGING AREAS AS DEPICTED ON THE PLANS OR AS DIRECTED BY THE PROJECT MANAGER AND MARK CONSTRUCTION EQUIPMENT ACCESS LOCATIONS WITH VISIBLE MARKERS. CONSTRUCTION EQUIPMENT SHALL BE MAINTAINED AND SERVICED WITHIN THE LIMITS OF THE ESTABLISHED STAGING AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL STAGING AREAS IN AN ENVIRONMENTALLY SENSITIVE MANNER.

3. INSTALL IMPROVEMENTS TO SITE ACCESS ROAD IF REQUIRED AND INSTALL TEMPORARY EROSION CONTROL MEASURES (I.E., SILT FENCE, STONE OUTLETS, ETC.) AS REQUIRED.

4. AT THE END OF EACH DAY OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE TEMPORARY SEED AND MULCH AND APPLY COIR FIBER MATTING, AS APPROPRIATE, TO ALL DISTURBED AREAS. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY EROSION CONTROL MEASURES ON A DAILY BASIS THROUGHOUT THE CONSTRUCTION PERIOD.

5. THE UT TO CAMP BRANCH SHALL BE DUG IN THE DRY EASTWARD FROM THE EXISTING ACCESS ROAD AND CONNECTED TO CAMP BRANCH. THE EXISTING LOW AREA PARALLEL TO THE UT SHALL BE FILLED WITH MATERIAL FROM THE UT EXCAVATION.

6. CAMP BRANCH AND THE ASSOCIATED FLOODPLAIN WORK SHALL BE DUG IN THE DRY WITH THE WASTE MATERIAL TEMPORARILY STOCKPILED BETWEEN THE PROPOSED CHANNEL AND THE EXISTING CHANNEL. THE PROPOSED PERMANENT FORD SHALL BE CONSTRUCTED AT THIS TIME, ALSO IN THE DRY. IT IS ASSUMED THE CONNECTION AT THE BOTTOM END OF THE PROJECT CAN BE MADE AT THIS TIME WITHOUT CONSEQUENCES.

7. A PUMP-AROUND OPERATION SHALL BE PROVIDED JUST ABOVE THE DIVERGENCE OF EXISTING CAMP BRANCH AND THE PROPOSED CAMP BRANCH TO FACILITATE THE CONSTRUCTION OF THE PROPOSED CHANNEL BLOCK AND CONNECTION OF EXISTING CAMP BRANCH TO THE NEW CHANNEL.

8. THE EXISTING CAMP BRANCH SHALL BE BACKFILLED WITH THE STOCKPILED MATERIAL FROM THE EXCAVATION OF THE NEW CHANNEL. THE EXISTING DITCH SECTION PARALLELING THE EXISTING ACCESS ROAD SHALL BE EXTENDED TO TIE TO THE NEW LOCATION CAMP BRANCH. NO WORK IS ANTICIPATED AT THE PIPE AT THE BREAK IN THE CONSERVATION EASEMENT.

9. THE PROPOSED FORD ACROSS THE EXISTING ACCESS ROAD AT THE UT TO CAMP BRANCH SHALL BE CONSTRUCTED FOLLOWED BY THE PROPOSED CHANNEL BLOCK. THE PURPOSE OF THE BLOCK IS TO DIRECT FLOW FROM THE UT HEADWATER ALONG THE NEW UT CHANNEL TO CAMP BRANCH.

10. THE CONTRACTOR SHALL COMPACT THE PROPOSED FILL IN THE FILLED CHANNELS TO 90 PERCENT PROCTOR. THE PROPOSED CHANNEL BLOCKS SHALL HAVE A CORE OF IMPERVIOUS SELECT MATERIAL AS SPECIFIED IN THE PROJECT DETAIL AND SPECIAL PROVISIONS.

11. THE CONTRACTOR SHALL PLACE FINAL WASTE MATERIAL IN AREAS DESIGNATED ON THE PLANS AND AT THE DIRECTION OF THE PROJECT MANAGER. STOCKPILE AREAS SHALL BE PROTECTED BY SILT FENCING AS APPROPRIATE.

12. ONCE CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION MATERIALS FROM THE CONSERVATION EASEMENT, DISPOSE OF THEM IN AN APPROVED DUMP SITE AND SCARIFY ANY COMPACTED AREAS AS DIRECTED BY THE PROJECT MANAGER. TO COMPLETE SEEDING AND MULCHING, ALL DISTURBED AREAS SHALL BE DISKED OR PLOWED TO CREATE MICRO TOPOGRAPHY TO THE SATISFACTION OF THE PROJECT MANAGER AND PERMANENTLY SEEDED AND MULCHED. STONE APPLIED TO ACCESS ROADS, IF ANY, SHALL REMAIN OR BE REMOVED AS INDICATED ON PLAN SHEET 2.

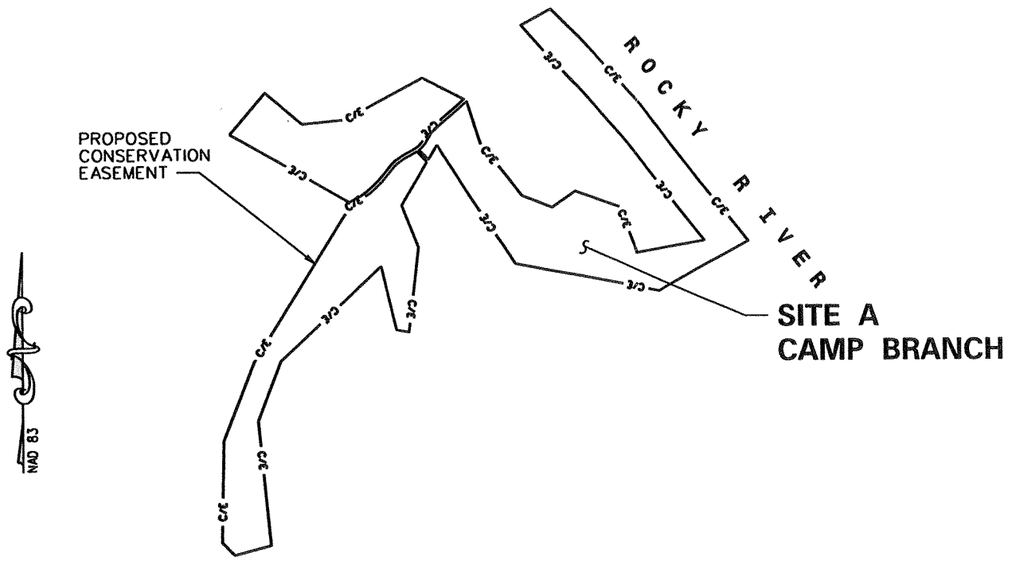
INDEX OF SHEETS

CAMP BRANCH

SITE A
CAMP BRANCH

TYPE OF WORK: *STREAM AND WETLAND RESTORATION / ENHANCEMENT*

- STREAM RESTORATION / ENHANCEMENT
- NEW CHANNEL CONSTRUCTION
- FLOODPLAIN GRADING
- SITE PLANTING



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Ph: 919 828-3433
Fax: 919 828-3518

ENGINEER: DAVID G. MODLIN

PROJECT MANAGER: JAMES D. COOPER

SEAL:

SEAL 026451 NORTH CAROLINA PROFESSIONAL ENGINEER DAVID GUERRY MODLIN

22Oct07

Prepared for:

Ecosystem Enhancement Program

ECOSYSTEM ENHANCEMENT PROGRAM
Raleigh, North Carolina

No.	Revisions	Date
1	REV'D SHEETS A-2B, A-3,	09/29/05 JDG
2	AS-BUILT	JULY 2007

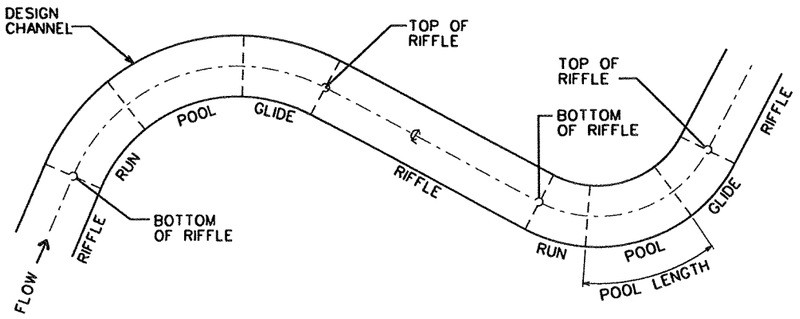
Dsn. By:	Dwn. By:	Ckd. By:
JDC	MAF	EBB

Date: JUL 2007

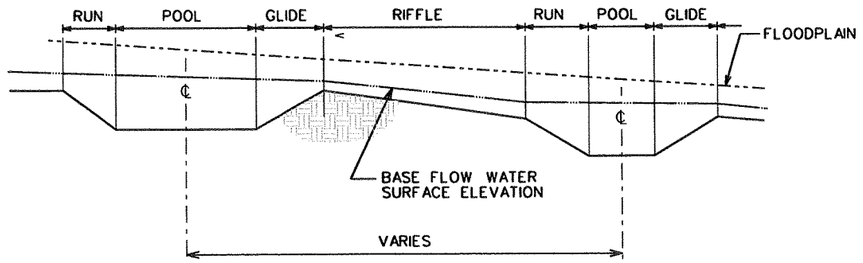
ESC Project No: 04-212

SHEET

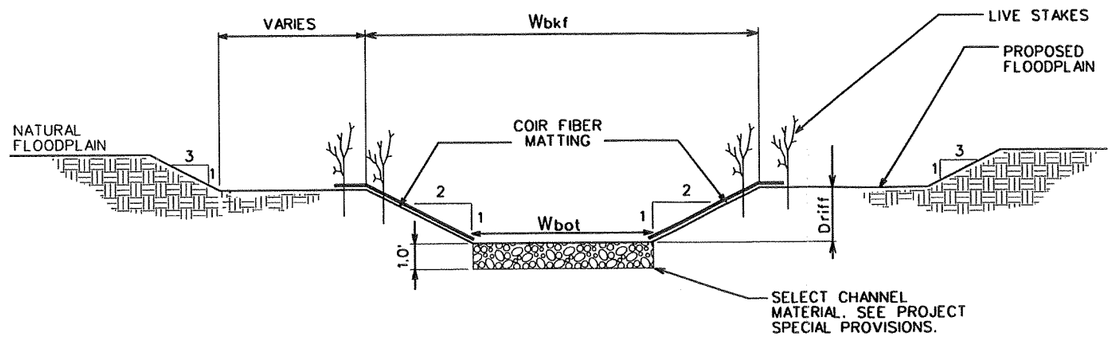
A



TYPICAL CHANNEL PLAN VIEW

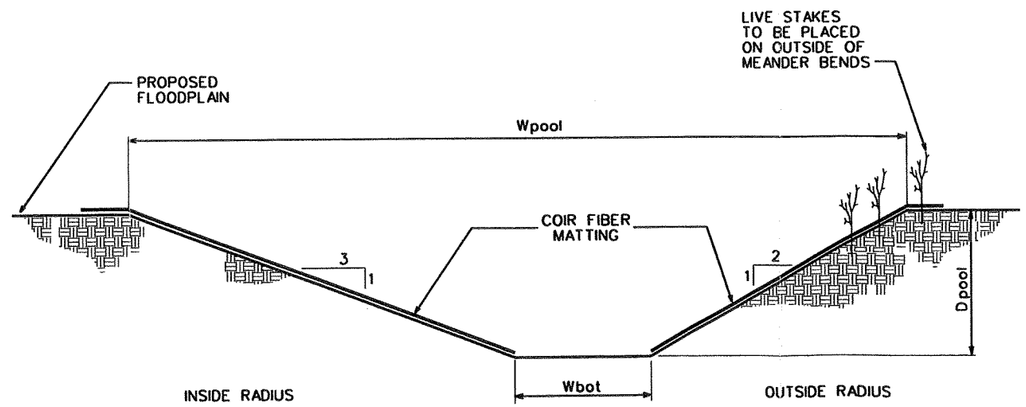


TYPICAL CHANNEL PROFILE



TYPICAL RIFFLE CROSS-SECTION

CROSS-SECTION DIMENSIONS							
REACH	Wbkf (ft.)	Wbot (ft.) Riffle	Driff (ft.)	Wpool (ft.)	Wbot (ft.) Pool	Dpool (ft.)	Width/Depth Ratio
CAMP BRANCH	19	11	2	25	10	3	11.9
UT TO CAMP BRANCH	6	2.8	0.8	8	2.5	1.1	10



TYPICAL POOL CROSS-SECTION

EcoScience Corporation
Raleigh, North Carolina

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G. MODLIN, JR.

Client: Ecosystem Enhancement Program

Project:

BISHOP SITE STREAM / WETLAND RESTORATION PLAN

ANSON COUNTY, NORTH CAROLINA

Title:

TYPICAL SECTIONS

CAMP BRANCH

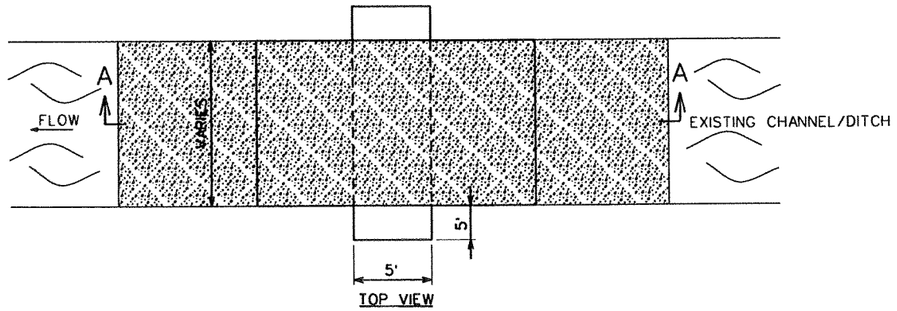
Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005

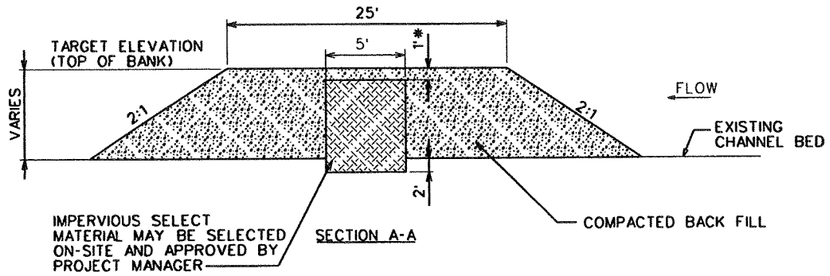
Scale: NO SCALE

ESC Project No.: 04-212

SHEET

A-2





NOTES:

1. CHANNEL PLUG WILL BE INITIALLY FILLED WITH AVAILABLE WASTE AND COMPACTED TO NINETY-FIVE PERCENT STANDARD PROCTOR.
2. THEN A CENTRAL PORTION FIVE FEET WIDE WILL BE REMOVED AND REPLACED WITH IMPERVIOUS SELECT MATERIAL (SEE SPECIAL PROVISIONS).
3. THE IMPERVIOUS SELECT MATERIAL WILL BE KEYED INTO THE ORIGINAL BANK A MINIMUM OF FIVE FEET AND INTO THE ORIGINAL BED A MINIMUM OF TWO FEET.

IMPERVIOUS CHANNEL BLOCK
CAMP BRANCH

IMPERVIOUS CHANNEL BLOCK
UT to CAMP BRANCH

NOTES:

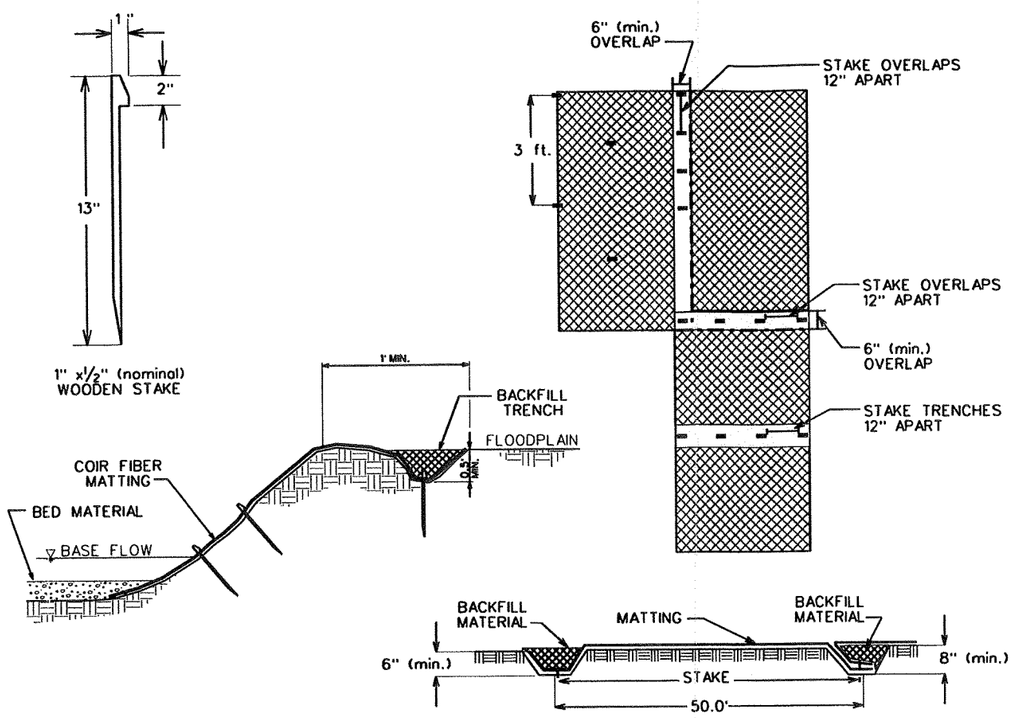
1. THE IMPERVIOUS SELECT MATERIAL WILL BE KEYED INTO THE ORIGINAL BANK A MINIMUM OF TWO FEET AND INTO THE ORIGINAL BED A MINIMUM OF ONE FOOT.

* 2. IN THE UT TO CAMP BRANCH CHANNEL ONLY, THE IMPERVIOUS SELECT MATERIAL SHALL EXTEND TO THE TOP OF THE IMPERVIOUS CHANNEL BLOCK AND HAVE NO BACKFILL LAYER ON TOP.

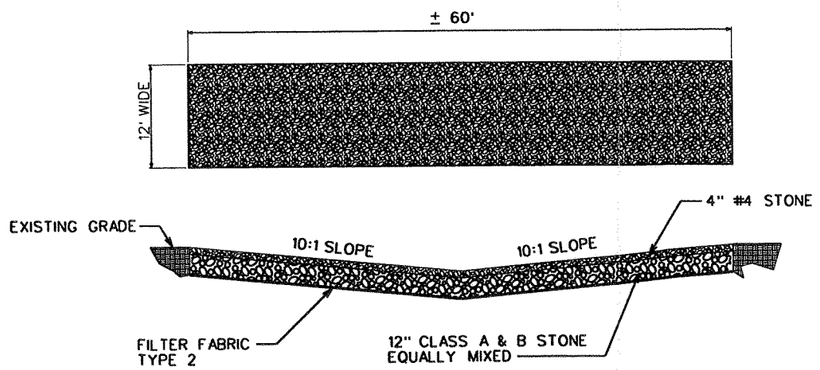
NOTES:

1. CONTRACTOR TO EXCAVATE APPROXIMATELY ONE FOOT DEEP CHANNEL FOR PERMANENT STREAM CROSSING.
2. LAY FILTER FABRIC ALONG ENTIRE LENGTH OF BED.
3. FILL WITH EIGHT INCHES OF "CLASS A" STONE, FOLLOWED BY FOUR INCHES OF #4 STONE TO BRING FINISHED GRADE UP TO LEVEL OF PROPOSED STREAM BED.

PERMANENT CHANNEL FORD
UT to CAMP BRANCH



COIR FIBER MATTING DETAIL



NOTES:

1. CONTRACTOR TO EXCAVATE APPROXIMATELY SIXTEEN INCHES DEEP CHANNEL FOR PERMANENT STREAM CROSSING.
2. LAY FILTER FABRIC ALONG ENTIRE LENGTH OF BED.
3. FILL WITH TWELVE INCHES OF "CLASS A" AND "CLASS B" STONE, EQUALLY MIXED, FOLLOWED BY FOUR INCHES OF #4 STONE TO BRING FINISHED GRADE UP TO LEVEL OF PROPOSED STREAM BED.

PERMANENT CHANNEL FORD
CAMP BRANCH

EcoScience Corporation
Raleigh, North Carolina

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G. MODLIN, JR.

Client: Ecosystem Enhancement Program

Project:

BISHOP SITE STREAM / WETLAND RESTORATION PLAN

ANSON COUNTY, NORTH CAROLINA

Title:

GENERAL DETAILS

CAMP BRANCH

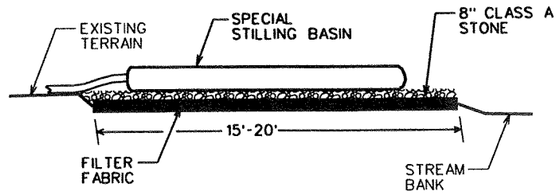
Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005

Scale: NO SCALE

ESC Project No.: 04-212

SHEET

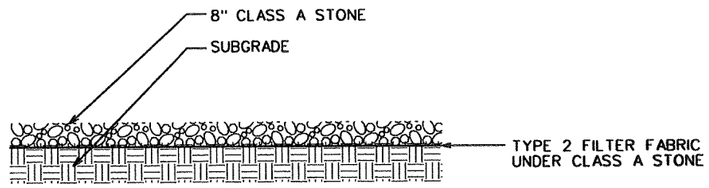
A-2A



⚠1 NOTE:

1. WHEN PUMPING CLEAN WATER, THE CONTRACTOR MAY PROVIDE A STABILIZED OUTLET BY OMITTING THE SPECIAL STILLING BASIN AND PROVIDING THE ROCK PAD AS SHOWN WITH MINIMUM DIMENSIONS 10 FEET WIDE BY 15 FEET LONG.

SPECIAL STILLING BASIN WITH ROCK PAD



NOTES:

1. THIS IS THE MINIMUM ACCEPTABLE SECTION.

ACCESS ROAD SECTION DETAIL

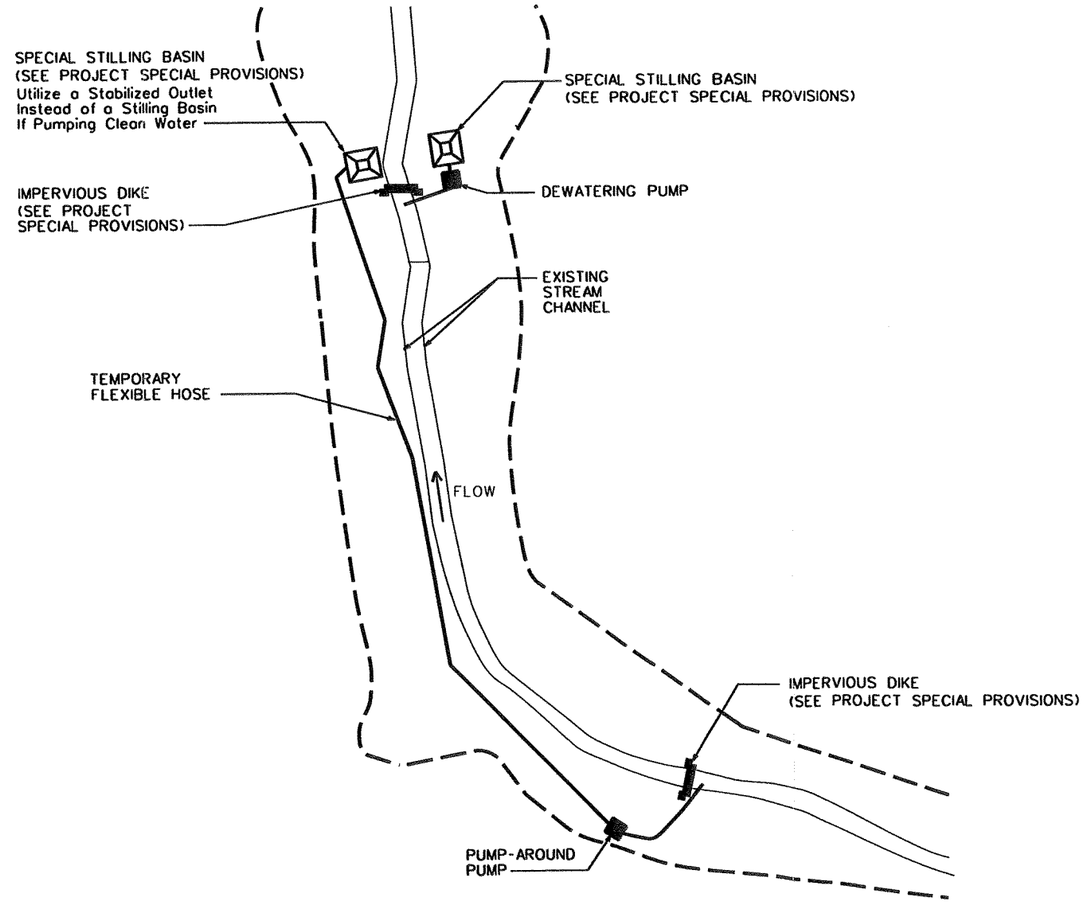
SUGGESTED OR EQUIVALENT

NOTES:

1. ALL EXCAVATION SHALL BE PERFORMED IN ONLY DRY OR ISOLATED SECTIONS OF CHANNEL.
2. IMPERVIOUS DIKES ARE TO BE USED TO ISOLATE WORK FROM STREAM FLOW WHEN NECESSARY.
3. ALL GRADED AREAS SHALL BE STABILIZED WITHIN 24 HOURS.
4. MAINTENANCE OF STREAM FLOW OPERATIONS SHALL BE INCIDENTAL TO THE WORK. THIS INCLUDES POLYETHYLENE SHEETING, DIVERSION PIPES, PUMPS AND HOSES.
5. PUMPS AND HOSES SHALL BE OF SUFFICICIENT SIZE TO DEWATER THE WORK AREA.

SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA

1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. PERFORM STREAM RESTORATION WORK IN ACCORDANCE WITH THE PLANS.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
7. ALL GRADING AND STABILIZATION MUST BE COMPLETED AT THE END OF EASCH DAY WITHIN THE PUMP AROUND AREAS BETWEEN THE IMPERVIOUS DIKES. THE IMPERVIOUS DIKE LOCATIONS AS SHOWN ON THIS SHEET ONLY SHOW THE UPPER AND LOWER EXTENT OF WORK FOR EACH STREAM SEGMENT. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF THE IMPERVIOUS DIKE(S) FOR EACH DAY'S WORK.
8. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.



TYPICAL PUMP-AROUND OPERATION

EcoScience Corporation
Raleigh, North Carolina

REVISIONS

1 LAND QUALITY COMMENTS

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G MODLIN JR.

Client: Ecosystem Enhancement Program

Project:

BISHOP SITE STREAM / WETLAND RESTORATION PLAN

ANSON COUNTY, NORTH CAROLINA

Title:

GENERAL DETAILS

CAMP BRANCH

Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005

Scale: NO SCALE

ESC Project No.: 04-212

SHEET

A-2B

-A- CHANNEL CURVE DATA

UT to CAMP BRANCH

1
P.I. Sta. 0+38.01
D = 7°4' 16" 25.56" (RT)
T = 12.12
L = 20.74
R = 16.00
P.C. Sta. 0+25.90
P.T. Sta. 0+46.64
Back = N 32° 49' 26.38" W
Ahead = N 41° 26' 59.18" E

2
P.I. Sta. 0+68.07
D = 78° 08' 07.12" (LT)
T = 13.80
L = 23.18
R = 17.00
P.C. Sta. 0+54.27
P.T. Sta. 0+77.45
Back = N 41° 26' 59.18" E
Ahead = N 36° 41' 07.94" W

3
P.I. Sta. 0+97.92
D = 79° 07' 21.88" (RT)
T = 14.87
L = 24.86
R = 18.00
P.C. Sta. 0+83.05
P.T. Sta. 1+07.90
Back = N 36° 41' 07.94" W
Ahead = N 42° 26' 13.94" E

4
P.I. Sta. 1+40.33
D = 110° 29' 10.11" (LT)
T = 21.62
L = 28.93
R = 15.00
P.C. Sta. 1+18.72
P.T. Sta. 1+47.64
Back = N 42° 26' 13.94" E
Ahead = N 68° 02' 56.17" W

5
P.I. Sta. 1+94.54
D = 132° 36' 28.74" (RT)
T = 38.73
L = 39.35
R = 17.00
P.C. Sta. 1+55.81
P.T. Sta. 1+95.15
Back = N 68° 02' 56.17" W
Ahead = N 64° 33' 32.57" E

6
P.I. Sta. 2+18.05
D = 68° 01' 30.30" (LT)
T = 12.82
L = 22.56
R = 19.00
P.C. Sta. 2+05.23
P.T. Sta. 2+27.79
Back = N 64° 33' 32.57" E
Ahead = N 03° 27' 57.74" W

7
P.I. Sta. 2+56.22
D = 98° 30' 42.01" (RT)
T = 18.57
L = 27.51
R = 16.00
P.C. Sta. 2+37.64
P.T. Sta. 2+65.15
Back = N 03° 27' 57.74" W
Ahead = S 84° 57' 15.73" E

8
P.I. Sta. 2+98.33
D = 106° 02' 32.52" (LT)
T = 22.58
L = 31.46
R = 17.00
P.C. Sta. 2+75.75
P.T. Sta. 3+07.21
Back = S 84° 57' 15.73" E
Ahead = N 10° 59' 48.25" W

9
P.I. Sta. 3+29.71
D = 55° 58' 42.87" (RT)
T = 10.63
L = 19.54
R = 20.00
P.C. Sta. 3+19.09
P.T. Sta. 3+38.63
Back = N 10° 59' 48.25" W
Ahead = N 44° 58' 54.61" E

10
P.I. Sta. 3+73.48
D = 111° 46' 12.33" (LT)
T = 20.67
L = 27.31
R = 14.00
P.C. Sta. 3+52.81
P.T. Sta. 3+80.12
Back = N 44° 58' 54.61" E
Ahead = N 66° 47' 17.71" W

11
P.I. Sta. 4+02.54
D = 76° 33' 52.49" (RT)
T = 12.63
L = 21.38
R = 16.00
P.C. Sta. 3+89.91
P.T. Sta. 4+11.29
Back = N 66° 47' 17.71" W
Ahead = N 09° 46' 34.78" E

12
P.I. Sta. 4+39.19
D = 89° 27' 54.33" (LT)
T = 16.84
L = 26.54
R = 17.00
P.C. Sta. 4+22.35
P.T. Sta. 4+48.89
Back = N 09° 46' 34.78" E
Ahead = N 79° 41' 19.55" W

13
P.I. Sta. 4+76.92
D = 89° 36' 31.86" (RT)
T = 14.90
L = 23.46
R = 15.00
P.C. Sta. 4+62.03
P.T. Sta. 4+85.49
Back = N 79° 41' 19.55" W
Ahead = N 09° 55' 12.31" E

14
P.I. Sta. 5+16.43
D = 109° 44' 43.75" (LT)
T = 28.43
L = 38.31
R = 20.00
P.C. Sta. 4+88.00
P.T. Sta. 5+26.31
Back = N 09° 55' 12.31" E
Ahead = S 80° 10' 28.56" W

15
P.I. Sta. 5+48.99
D = 96° 30' 34.77" (RT)
T = 20.17
L = 30.32
R = 18.00
P.C. Sta. 5+28.82
P.T. Sta. 5+59.14
Back = S 80° 10' 28.56" W
Ahead = N 03° 18' 56.67" W

16
P.I. Sta. 5+72.19
D = 40° 25' 16.56" (LT)
T = 6.99
L = 13.40
R = 19.00
P.C. Sta. 5+65.19
P.T. Sta. 5+78.60
Back = N 03° 18' 56.67" W
Ahead = N 43° 44' 13.22" W

17
P.I. Sta. 6+05.94
D = 72° 37' 10.89" (RT)
T = 22.05
L = 36.02
R = 30.00
P.C. Sta. 5+83.90
P.T. Sta. 6+21.92
Back = N 43° 44' 13.22" W
Ahead = N 28° 52' 57.67" E

PI Sta.- center of pool

D- deflection angle (Δ) between tangent lines T2 and T measured along direction of travel

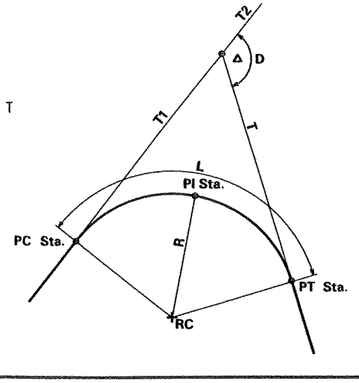
L- arc/pool length

T/T1- tangent length

R- radius of curvature

PC Sta.- point of curvature (where arc/pool begins)

PT Sta.- point of terminus (where arc/pool ends)



-C- CHANNEL CURVE DATA

CAMP BRANCH

1
P.I. Sta. 0+36.53
D = 60° 16' 42.22" (LT)
T = 34.84
L = 63.12
R = 60.00
P.C. Sta. 0+01.69
P.T. Sta. 0+64.82
Back = S 49° 04' 03.77" E
Ahead = N 70° 39' 14.00" E

2
P.I. Sta. 1+12.69
D = 60° 49' 54.34" (RT)
T = 24.66
L = 44.59
R = 42.00
P.C. Sta. 0+88.03
P.T. Sta. 1+32.62
Back = N 70° 39' 14.00" E
Ahead = S 48° 30' 51.66" E

3
P.I. Sta. 1+67.58
D = 67° 24' 22.94" (LT)
T = 28.01
L = 49.41
R = 42.00
P.C. Sta. 1+39.57
P.T. Sta. 1+88.98
Back = S 48° 30' 51.66" E
Ahead = N 64° 04' 45.40" E

4
P.I. Sta. 2+35.99
D = 56° 54' 01.41" (RT)
T = 27.09
L = 49.66
R = 50.00
P.C. Sta. 2+08.90
P.T. Sta. 2+58.56
Back = N 64° 04' 45.40" E
Ahead = S 59° 01' 13.19" E

5
P.I. Sta. 2+95.41
D = 40° 20' 31.79" (LT)
T = 16.90
L = 32.39
R = 46.00
P.C. Sta. 2+78.51
P.T. Sta. 3+10.90
Back = S 59° 01' 13.19" E
Ahead = N 80° 38' 15.02" E

6
P.I. Sta. 3+72.28
D = 55° 40' 21.65" (RT)
T = 30.10
L = 55.39
R = 57.00
P.C. Sta. 3+42.18
P.T. Sta. 3+97.57
Back = N 80° 38' 15.02" E
Ahead = S 43° 41' 23.33" E

7
P.I. Sta. 4+98.65
D = 60° 58' 29.93" (RT)
T = 34.74
L = 62.79
R = 59.00
P.C. Sta. 4+63.92
P.T. Sta. 5+26.70
Back = S 43° 41' 23.33" E
Ahead = S 17° 17' 06.60" W

8
P.I. Sta. 5+57.00
D = 57° 04' 22.74" (LT)
T = 32.30
L = 40.84
R = 41.00
P.C. Sta. 5+34.70
P.T. Sta. 5+75.54
Back = S 17° 17' 06.60" W
Ahead = S 39° 47' 16.14" E

9
P.I. Sta. 6+04.53
D = 64° 08' 12.21" (RT)
T = 25.06
L = 44.78
R = 40.00
P.C. Sta. 5+79.47
P.T. Sta. 6+24.25
Back = S 39° 47' 16.14" E
Ahead = S 24° 20' 56.07" W

10
P.I. Sta. 6+72.41
D = 72° 45' 17.51" (LT)
T = 42.73
L = 73.65
R = 58.00
P.C. Sta. 6+29.68
P.T. Sta. 7+03.33
Back = S 24° 20' 56.07" W
Ahead = S 48° 24' 21.44" E

11
P.I. Sta. 7+58.99
D = 64° 20' 30.56" (RT)
T = 25.16
L = 44.92
R = 40.00
P.C. Sta. 7+33.83
P.T. Sta. 7+78.75
Back = S 48° 24' 21.44" E
Ahead = S 15° 56' 09.12" W

12
P.I. Sta. 8+34.31
D = 73° 40' 37.61" (LT)
T = 46.45
L = 79.73
R = 62.00
P.C. Sta. 7+87.86
P.T. Sta. 8+67.59
Back = S 15° 56' 09.12" W
Ahead = S 01° 44' 28.49" E

13
P.I. Sta. 9+07.54
D = 55° 30' 41.31" (RT)
T = 24.21
L = 44.57
R = 46.00
P.C. Sta. 8+83.34
P.T. Sta. 9+27.90
Back = S 01° 44' 28.49" E
Ahead = S 02° 13' 47.17" E

14
P.I. Sta. 9+78.87
D = 68° 42' 44.90" (LT)
T = 27.34
L = 47.97
R = 40.00
P.C. Sta. 9+51.53
P.T. Sta. 9+99.50
Back = S 02° 13' 47.17" E
Ahead = S 70° 56' 32.07" E

15
P.I. Sta. 10+50.09
D = 70° 56' 32.07" (RT)
T = 29.21
L = 50.77
R = 41.00
P.C. Sta. 10+20.87
P.T. Sta. 10+71.64
Back = S 70° 56' 32.07" E
Ahead = Due South

16
P.I. Sta. 11+22.86
D = 61° 14' 41.94" (LT)
T = 37.88
L = 68.41
R = 64.00
P.C. Sta. 10+84.98
P.T. Sta. 11+53.39
Back = Due South
Ahead = S 61° 14' 41.94" E

17
P.I. Sta. 12+12.29
D = 46° 23' 08.26" (RT)
T = 32.56
L = 61.53
R = 76.00
P.C. Sta. 11+79.73
P.T. Sta. 12+41.26
Back = S 61° 14' 41.94" E
Ahead = S 14° 51' 33.69" E

18
P.I. Sta. 12+85.22
D = 50° 09' 50.65" (LT)
T = 23.87
L = 44.65
R = 51.00
P.C. Sta. 12+61.35
P.T. Sta. 13+06.00
Back = S 14° 51' 33.69" E
Ahead = S 65° 01' 24.33" E

19
P.I. Sta. 13+73.31
D = 57° 01' 16.21" (RT)
T = 28.85
L = 52.84
R = 53.00
P.C. Sta. 13+44.47
P.T. Sta. 13+97.30
Back = S 65° 01' 24.33" E
Ahead = S 07° 54' 08.12" E

20
P.I. Sta. 14+67.39
D = 61° 05' 34.23" (LT)
T = 37.77
L = 68.24
R = 64.00
P.C. Sta. 14+29.62
P.T. Sta. 14+97.86
Back = S 07° 54' 08.12" E
Ahead = S 68° 59' 42.35" E

21
P.I. Sta. 15+75.23
D = 85° 33' 33.31" (RT)
T = 53.67
L = 86.61
R = 58.00
P.C. Sta. 15+21.55
P.T. Sta. 16+08.17
Back = S 68° 59' 42.35" E
Ahead = S 16° 33' 50.97" W

22
P.I. Sta. 16+54.66
D = 59° 35' 37.24" (LT)
T = 25.77
L = 46.81
R = 45.00
P.C. Sta. 16+28.89
P.T. Sta. 16+75.70
Back = S 16° 33' 50.97" W
Ahead = S 43° 01' 46.27" E

23
P.I. Sta. 17+11.39
D = 55° 38' 51.63" (RT)
T = 23.75
L = 43.71
R = 45.00
P.C. Sta. 16+87.64
P.T. Sta. 17+31.34
Back = S 43° 01' 46.27" E
Ahead = S 12° 37' 05.36" W

24
P.I. Sta. 17+73.61
D = 71° 17' 34.89" (LT)
T = 33.71
L = 58.48
R = 47.00
P.C. Sta. 17+39.90
P.T. Sta. 17+98.38
Back = S 12° 37' 05.36" W
Ahead = S 58° 40' 29.53" E

NOTE:
FOR NEW CHANNEL LAYOUT, SEE SHEET A-5.

EcoScience Corporation
Raleigh, North Carolina

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G. MODLIN, JR.

Client:
Ecosystem Enhancement Program

Project:
BISHOP SITE STREAM / WETLAND RESTORATION PLAN

ANSON COUNTY, NORTH CAROLINA

Title:
NEW CHANNEL CENTERLINE DATA

CAMP BRANCH

Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005

Scale: NO SCALE

ESC Project No.: 04-212

SHEET
A-2C

⚠1 SUMMARY OF QUANTITIES

CAMP BRANCH –C– CHANNEL
AND UT TO CAMP BRANCH –A– CHANNEL

SUMMARY OF QUANTITIES
Bishop Site Stream/Wetland Restoration - Camp Branch

ITEM	SPEC	ITEM DESCRIPTION	QUANTITIES	UNIT
1	SP1	Mobilization	1	LS
2	SP2	Construction Surveying	1	LS
3	SP3	Grading	1	LS
4	1056	Filter Fabric, Type 2	1850	SY
5	1605	Temporary Silt Fence	3520	LF
6	1610	Stone for Erosion Control, Class A	675	TON
7	1610	Stone for Erosion Control, Class B	90	TON
8	1610	Stone for Erosion Control, No. 4	30	TON
9	1610	Stone for Erosion Control, ABC	925	TON
10	1610	Stone for Erosion Control, No. 57	40	TON
11	1615	Temporary Mulching	15	ACR
12	1620	Seed for Temporary Seeding	975	LB
13	1620	Fertilizer for Temporary Seeding	2.25	TON
14	1630	Silt Excavation	300	CY
15	1660	Permanent Seeding and Mulching	15	ACR
16	1661	Seed for Repair Seeding	325	LB
17	1661	Fertilizer for Repair Seeding	0.75	TON
18	1662	Supplemental Seeding	325	LB
19	SP6	Coir Fiber Matting, 900 gm	4000	SY
20	SP8	Impervious Select Material	150	CY
21	SP9	Pump Around Operation	1	LS
22	SP10	Special Stilling Basin	2	EA
23	SP12	Bare Root Seedlings	30450	EA
24	SP13	Live Staking	4700	EA
25	SP14	Invasive Plant Removal	1	LS
26	SP5	Safety Fence	400	LF
27	SP16	Channel Substrate	350	TON
28	SP17	Disking/Scarification	10	ACR

Estimates do include quantities for Class A stone and filter fabric for improved on-site access roads if required by weather conditions. The quantities are approximately 480 T of Class A Stone and 1333 SY filter fabric per 1000 linear feet of 12-foot wide improved access road as shown on the plans. ABC Stone is estimated to leave existing farm road in "AS IS or BETTER" condition. Note that all quantities are estimates for infomation and bid comparison purposes only.

SUMMARY OF EARTHWORK

QUANTITIES IN CUBIC YARDS

UT to CAMP BRANCH –A– CHANNEL

Xsection	Total Cut		EXCAVATION	Total Fill			FILL	BORROW	WASTE
	sq ft	cu ft		sq ft	cu ft	cu ft + %			
0	3.3	0		0	0				
80	5.3	344.0	13	1.3	52.0	62	2	0	10
133	8.7	371.0	14	5.9	190.8	229	8	0	5
228	5.7	684.0	25	4.5	494.0	593	22	0	3
320	5.7	524.4	19	2.8	335.8	403	15	0	4
436	5.7	661.2	24	3.1	342.2	411	15	0	9
600	5.7	934.8	35	0.0	254.2	305	11	0	23
		3519	130		1669		74	0	56
									56
Project Total			130						56

APPROXIMATE QUANTITIES ONLY, UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING AND CLEARING AND GRUBBING WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING." A SHRINKAGE FACTOR OF 1.2 WAS ASSUMED.

CAMP BRANCH –C– CHANNEL

Xsection	Total Cut		EXCAVATION	Total Fill			FILL	BORROW	WASTE
	sq ft	cu ft		sq ft	cu ft	cu ft + %			
0	250.4	0		0	0				
120	136.6	23220.0	860	15.8	948.0	1138	42	0	818
260	157.2	20566.0	762	23.3	2737.0	3284	122	0	640
420	222.8	30400.0	1126	55.7	6320.0	7584	281	0	845
560	211.7	30415.0	1126	33.0	6209.0	7451	276	0	851
680	134.0	20742.0	768	81.8	6888.0	8266	306	0	462
760	163.2	11888.0	440	83.9	6628.0	7954	295	0	146
820	208.2	11142.0	413	80.9	4944.0	5933	220	0	193
900	259.2	18696.0	692	44.6	5020.0	6024	223	0	469
1060	192.3	36120.0	1338	94.8	11152.0	13382	496	0	842
1120	200.1	11772.0	436	112.4	6216.0	7459	276	0	160
1280	205.2	32424.0	1201	138.6	20080.0	24096	892	0	308
1360	291.5	19868.0	736	128.4	10680.0	12816	475	0	261
1460	307.1	29930.0	1109	178.6	15350.0	18420	682	0	426
1560	365.5	33630.0	1246	127.2	15290.0	18348	680	0	566
1700	517.9	61838.0	2290	108.8	16520.0	19824	734	0	1556
1800	512.3	51510.0	1908	0.0	5440.0	6528	242	0	1666
1810	0.0	2561.5	95	0.0	0.0	0	0	0	95
		446723	16545		140422		6241	0	10304
									10304
Project Total			16545						10304

APPROXIMATE QUANTITIES ONLY, UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING AND CLEARING AND GRUBBING WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING." A SHRINKAGE FACTOR OF 1.2 WAS ASSUMED.

EcoScience Corporation
Raleigh, North Carolina

REVISIONS
⚠1 QUANTITIES REVISED

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G. MODLIN, JR.

Client: Ecosystem Enhancement Program

Project:
BISHOP SITE STREAM / WETLAND RESTORATION PLAN
ANSON COUNTY, NORTH CAROLINA

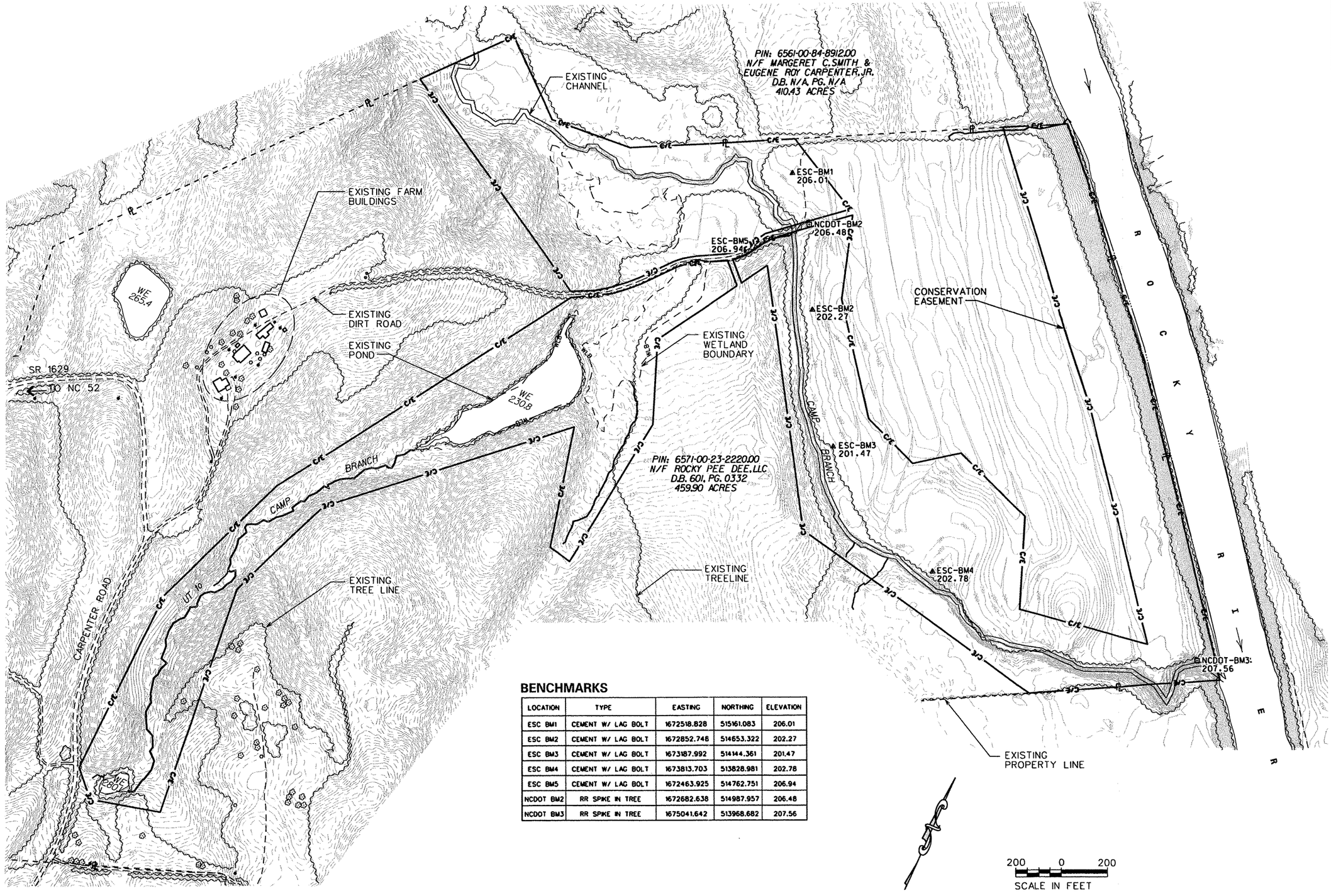
Title:
SUMMARY OF QUANTITIES / SUMMARY OF EARTHWORK
CAMP BRANCH

Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005

Scale: NO SCALE

ESC Project No.: 04-212

SHEET
A–3



BENCHMARKS

LOCATION	TYPE	EASTING	NORTHING	ELEVATION
ESC BM1	CEMENT W/ LAG BOLT	1672518.828	515161.083	206.01
ESC BM2	CEMENT W/ LAG BOLT	1672852.748	514653.322	202.27
ESC BM3	CEMENT W/ LAG BOLT	1673187.992	514144.361	201.47
ESC BM4	CEMENT W/ LAG BOLT	1673813.703	513828.981	202.78
ESC BM5	CEMENT W/ LAG BOLT	1672463.925	514762.751	206.94
NCDOT BM2	RR SPIKE IN TREE	1672682.638	514987.957	206.48
NCDOT BM3	RR SPIKE IN TREE	1675041.642	513968.682	207.56

EcoScience Corporation
Raleigh, North Carolina

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G. MODLIN, JR.

Client:
Ecosystem Enhancement PROGRAM

Project:
BISHOP SITE STREAM / WETLAND RESTORATION PLAN
ANSON COUNTY, NORTH CAROLINA

Title:
EXISTING CONDITIONS
CAMP BRANCH

Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005

Scale: AS SHOWN

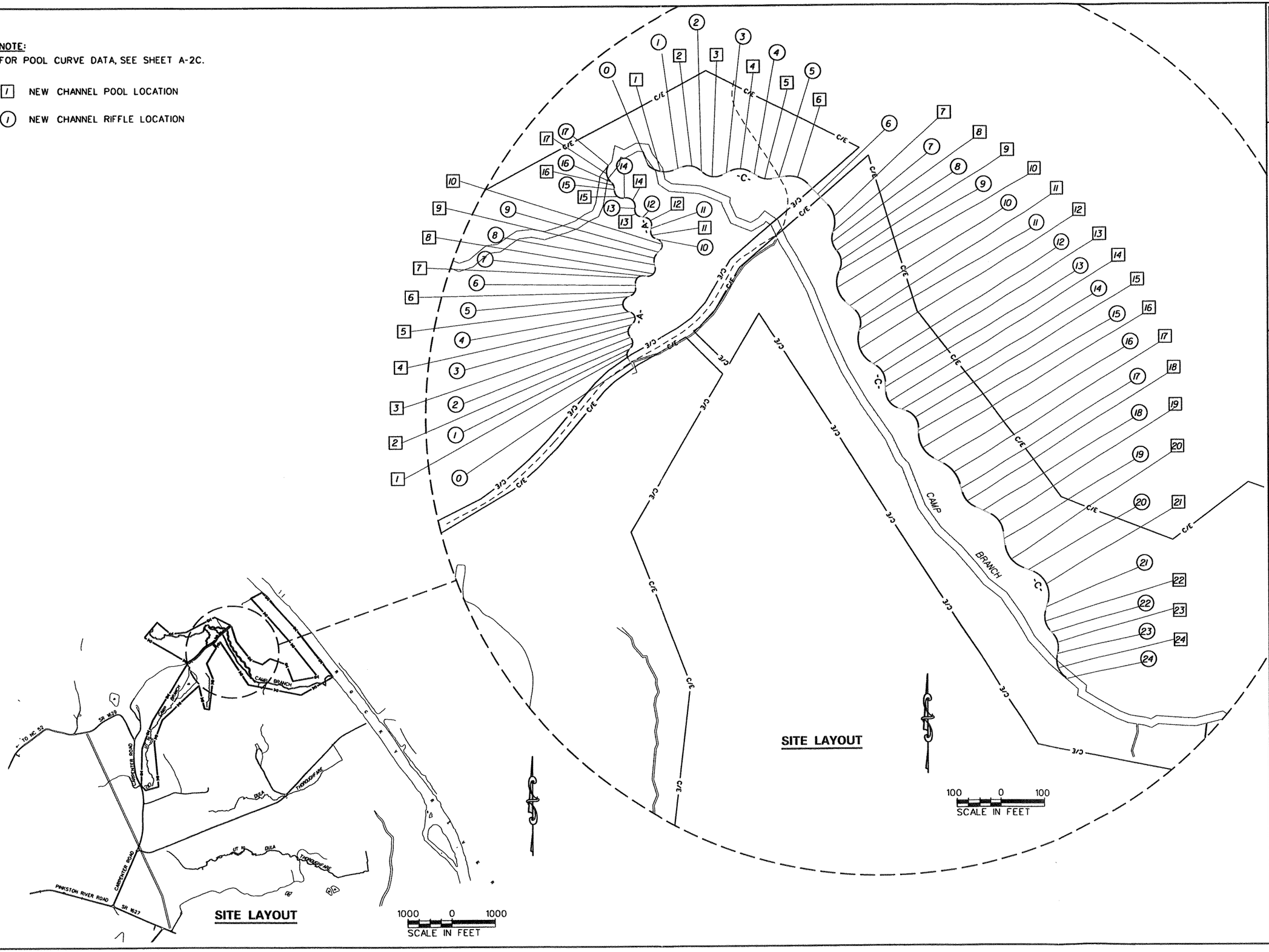
ESC Project No.: 04-212

SHEET
A-4

NOTE:
FOR POOL CURVE DATA, SEE SHEET A-2C.

[1] NEW CHANNEL POOL LOCATION

(1) NEW CHANNEL RIFFLE LOCATION



EcoScience Corporation
Raleigh, North Carolina

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G. MODLIN, JR.

Client:
Ecosystem Enhancement PROGRAM

Project:

BISHOP SITE STREAM / WETLAND RESTORATION PLAN

ANSON COUNTY, NORTH CAROLINA

Title:

NEW CHANNEL LAYOUT

CAMP BRANCH

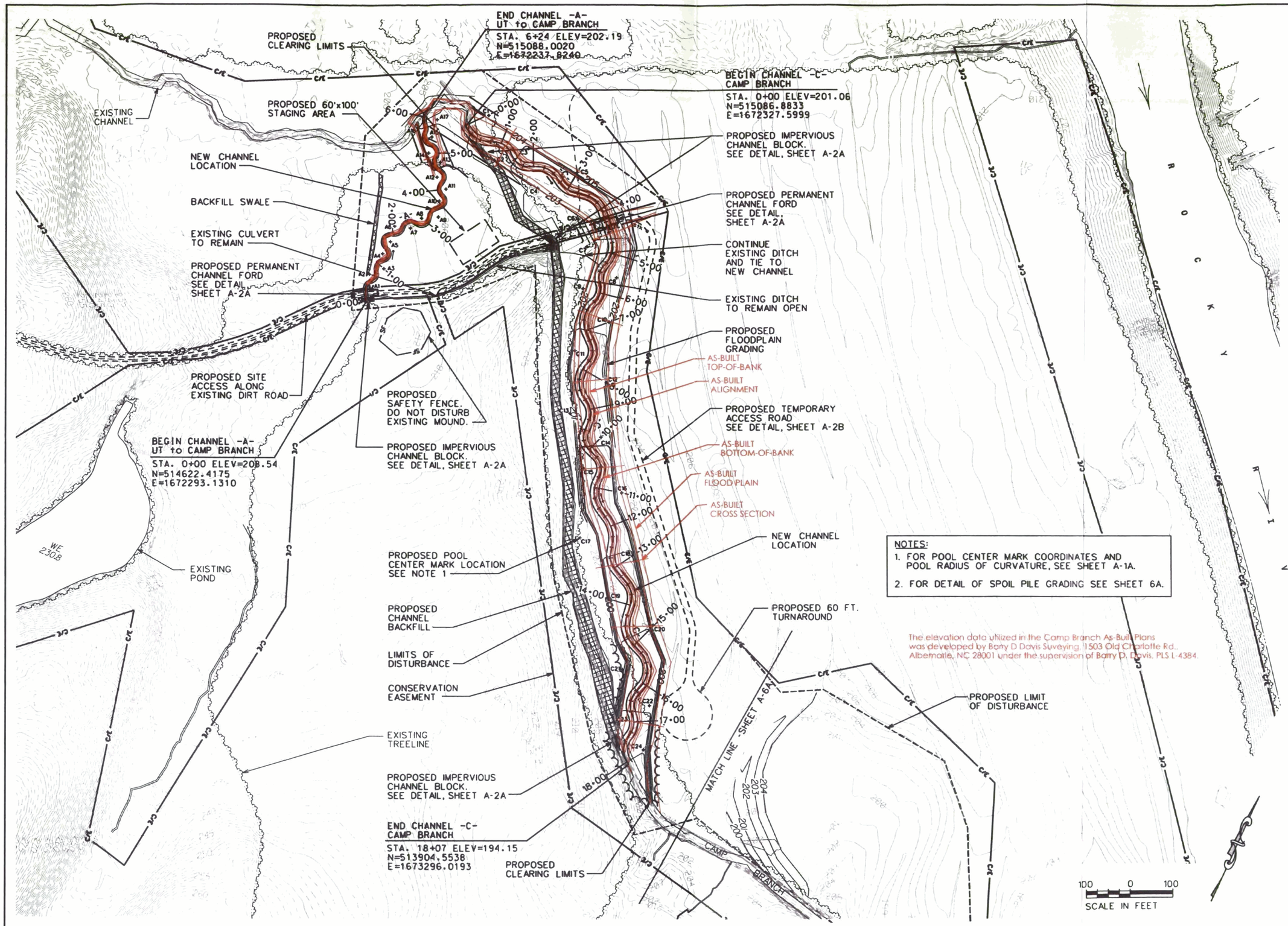
Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005

Scale: AS SHOWN

ESC Project No.: 04-212

SHEET

A-5



EcoScience Corporation
Raleigh, North Carolina

REVISIONS	
1	AS-BUILT - JULY 2007

NORTH CAROLINA PROFESSIONAL SEAL 009695 ENGINEER ERIC B. CHANCEY
22Oct07

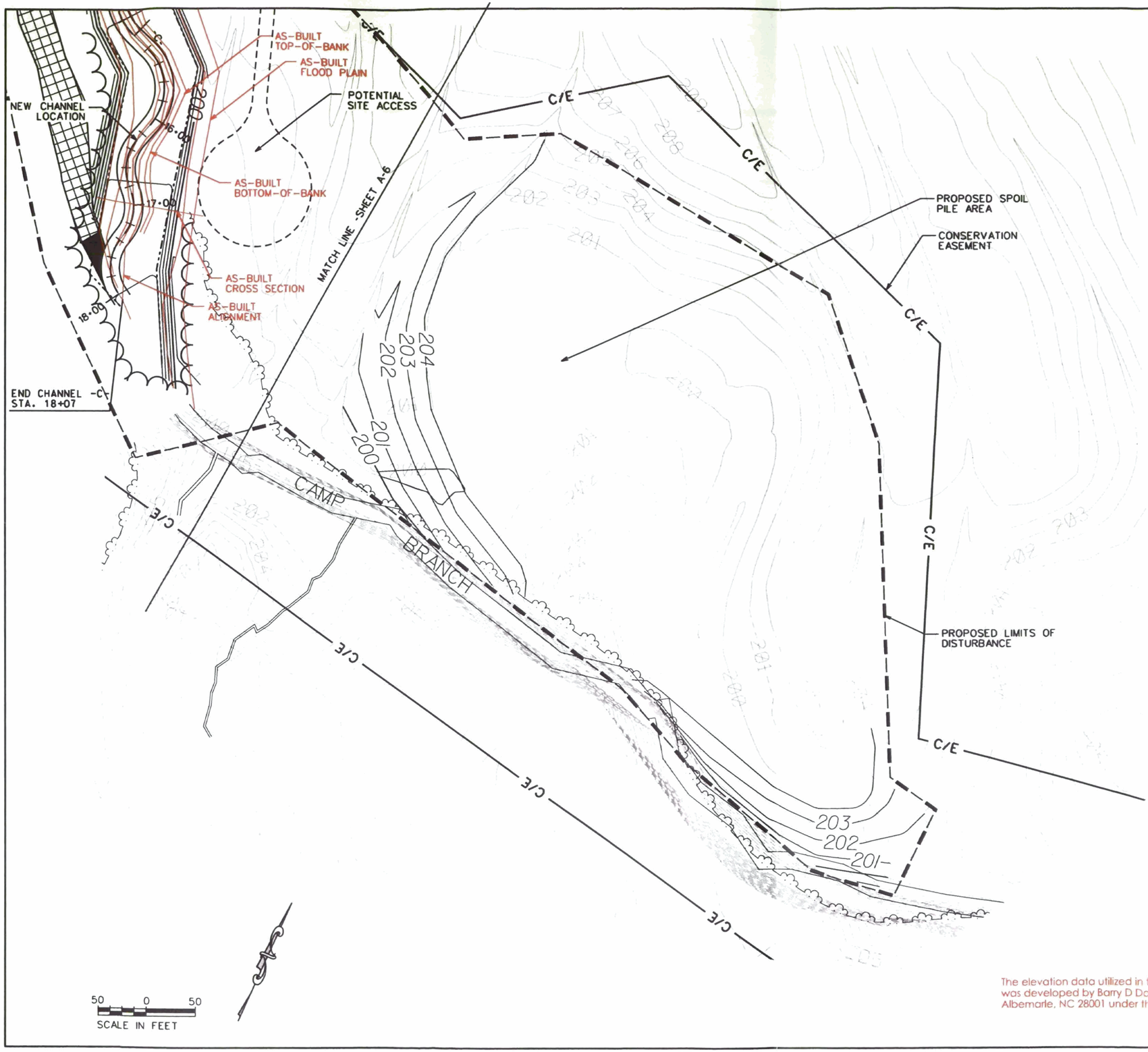
Client:
Ecosystem Enhancement PROGRAM

Project:
BISHOP SITE STREAM / WETLAND RESTORATION PLAN
ANSON COUNTY, NORTH CAROLINA

Title:
SITE PLAN
CAMP BRANCH

Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
EBB	JUL 2007
Scale:	AS SHOWN
ESC Project No.:	04-212

SHEET
A-6



The elevation data utilized in the Camp Branch As-Built Plans was developed by Barry D Davis Suveying, 1503 Old Charlotte Rd., Albemarle, NC 28001 under the supervision of Barry D. Davis, PLS L-4384.

EcoScience Corporation
Raleigh, North Carolina

REVISIONS	
1	AS-BUILT - JULY 2007

NORTH CAROLINA PROFESSIONAL SEAL 005951 ENGINEER BRIAN BORNHOFT
2207

Client:
Ecosystem Enhancement PROGRAM

Project:
BISHOP SITE STREAM / WETLAND RESTORATION PLAN
ANSON COUNTY, NORTH CAROLINA

Title:
SITE PLAN
CAMP BRANCH

Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
EBB	JUL 2007

Scale: AS SHOWN

ESC Project No.: 04-212

SHEET
A-6A

Project # 04-212	Date JUN 2005	Scale AS SHOWN	
Des. By: MAF	Dwn. By: JDC	Chk. By: DGM	

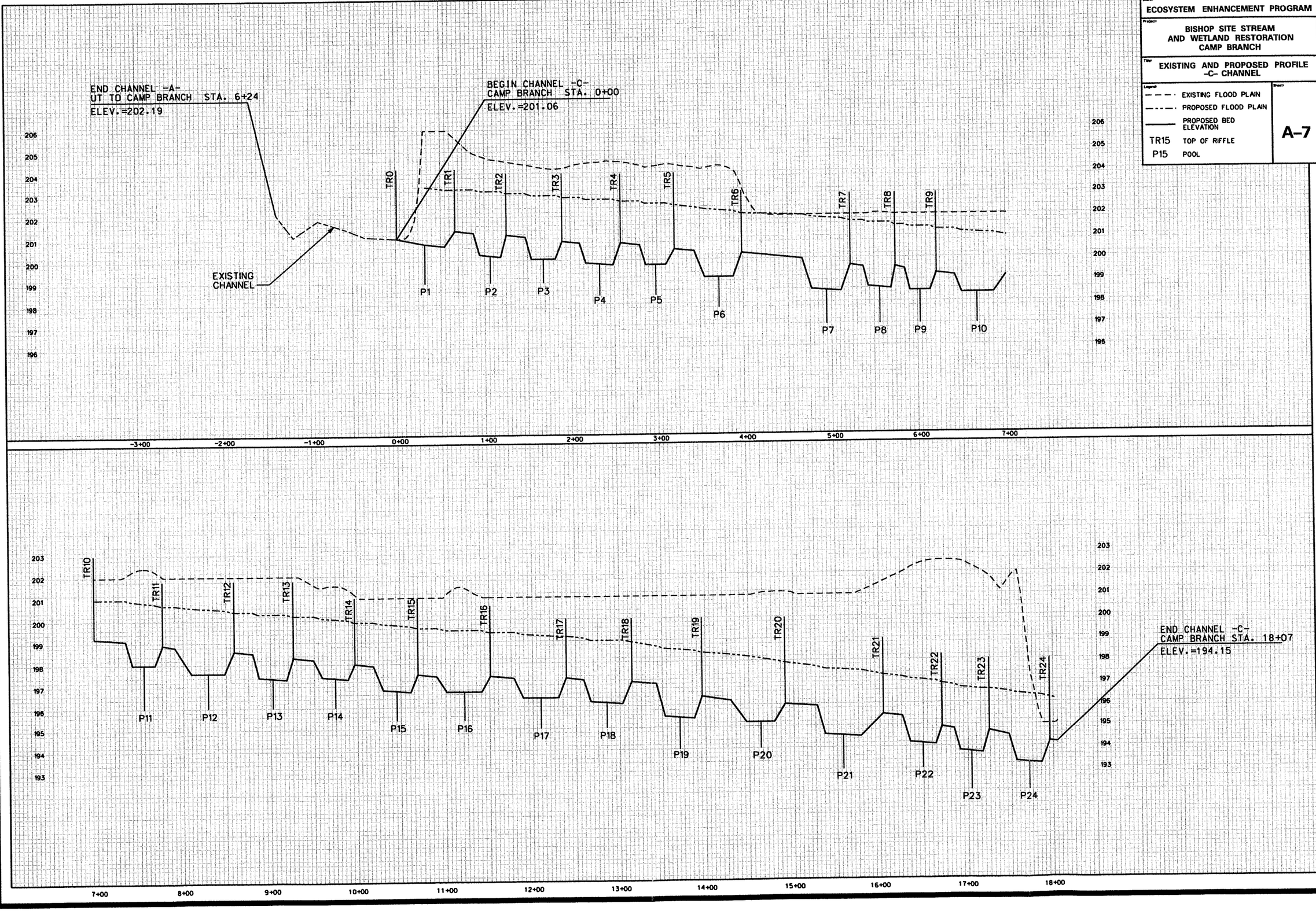
Client: ECOSYSTEM ENHANCEMENT PROGRAM

Project: BISHOP SITE STREAM AND WETLAND RESTORATION CAMP BRANCH

Title: EXISTING AND PROPOSED PROFILE -C- CHANNEL

Legend:
- EXISTING FLOOD PLAIN
- PROPOSED FLOOD PLAIN
- PROPOSED BED ELEVATION
- TR15 TOP OF RIFFLE
- P15 POOL

Sheet: A-7



Project no. 04-212	Date JULY 2007		Scale AS SHOWN
Dwn. By: JFH	Chk. By: JDC	Chk. By: EBB	

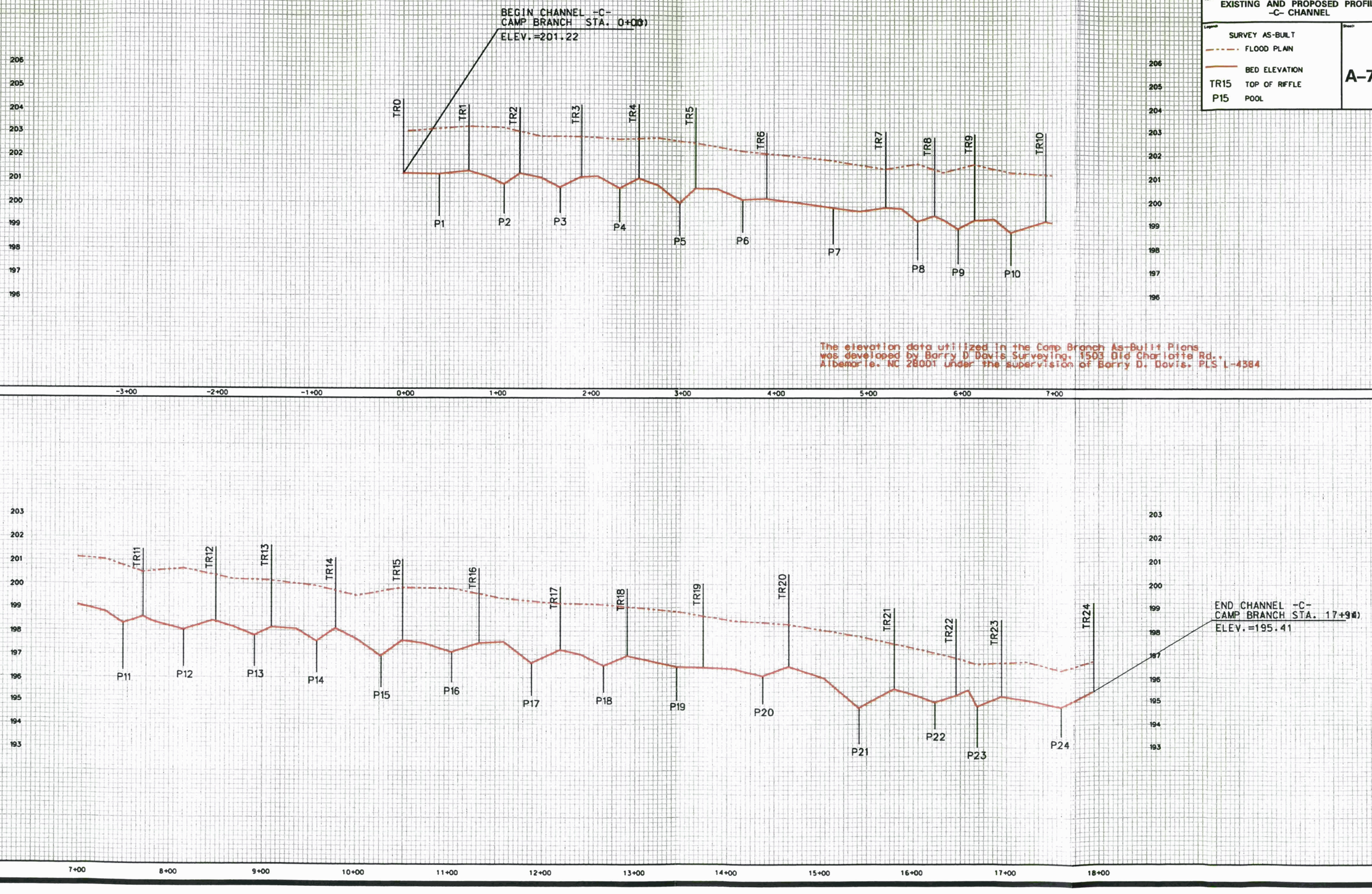
Client: ECOSYSTEM ENHANCEMENT PROGRAM

Project: BISHOP SITE STREAM AND WETLAND RESTORATION CAMP BRANCH

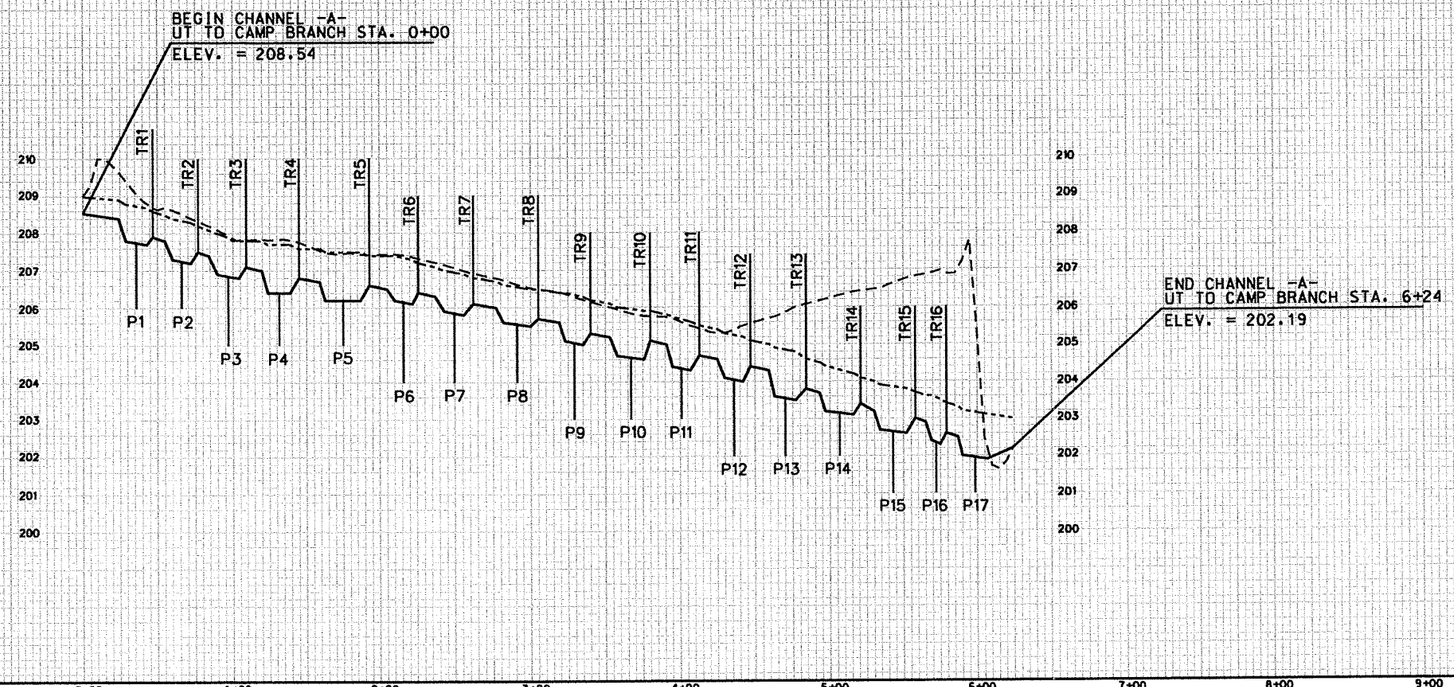
Title: EXISTING AND PROPOSED PROFILE -C- CHANNEL

Legend:
- SURVEY AS-BUILT
- FLOOD PLAIN
- BED ELEVATION
- TR15 TOP OF RIFFLE
- P15 POOL

Sheet: A-7A



The elevation data utilized in the Camp Branch As-Built Plans was developed by Barry D Davis Surveying, 1503 Old Charlotte Rd., Albemarle, NC 28001 under the supervision of Barry D. Davis, PLS L-4384



Project # 04-212 | Date: JUN 2005 | Scale: AS SHOWN
Des. By: MAF | Dwn. By: JDC | Chd. By: DGM

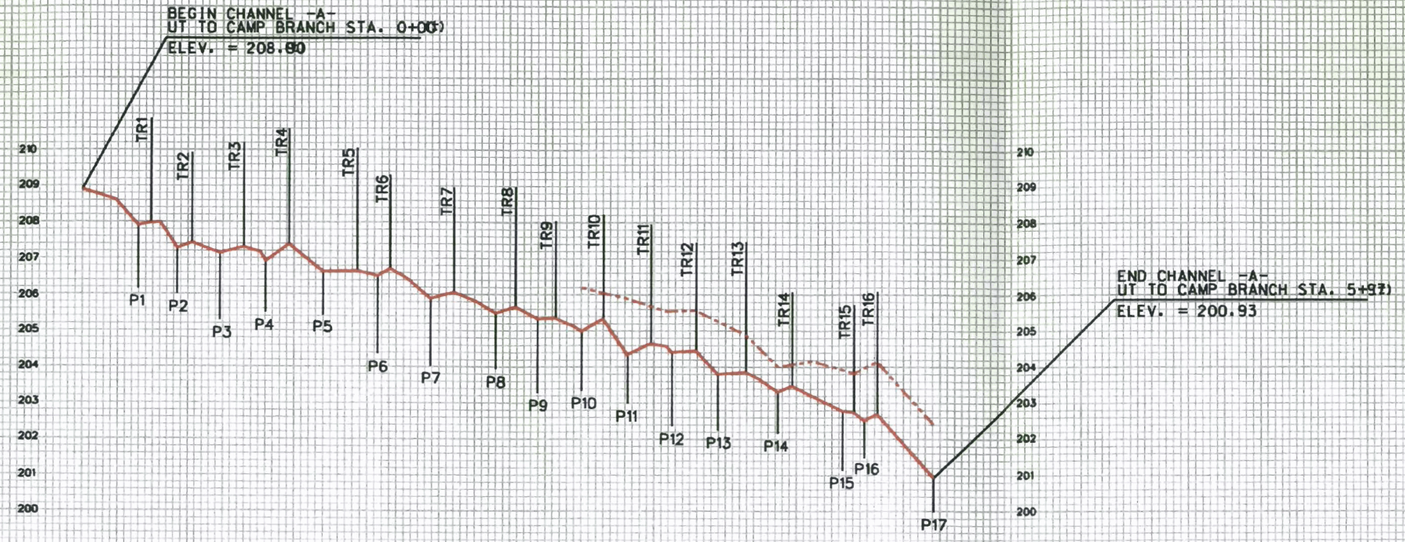
Client:
ECOSYSTEM ENHANCEMENT PROGRAM

Project:
BISHOP SITE STREAM
AND WETLAND RESTORATION
UT TO CAMP BRANCH

Title:
EXISTING AND PROPOSED PROFILE
-A- CHANNEL

Legend:
- - - - EXISTING FLOOD PLAIN
- - - - PROPOSED FLOOD PLAIN
——— PROPOSED BED ELEVATION
TR15 TOP OF RIFFLE
P15 POOL

Sheet:
A-8



The elevation data utilized in the Camp Branch As-Built Plans was developed by Barry D Davis Surveying, 1503 Old Charlotte Rd., Albemarle, NC 28001 under the supervision of Barry D. Davis, PLS L-4384

Project No.	04-212	Date	JULY 2007
Des. By:	JFH	Dwn. By: JDC	Chk. By: EBB
Scale	AS SHOWN		

Client: ECOSYSTEM ENHANCEMENT PROGRAM

Project: BISHOP SITE STREAM AND WETLAND RESTORATION UT TO CAMP BRANCH

Title: EXISTING AND PROPOSED PROFILE -A- CHANNEL

Legend:
- SURVEY AS-BUILT
- FLOOD PLAIN
- BED ELEVATION
- TR15 TOP OF RIFFLE
- P15 POOL

Sheet: A-8A

END CHANNEL -A-
UT to CAMP BRANCH
STA. 6+24 ELEV=202.19
N=515088.0020
E=1672237.8240

BEGIN CHANNEL -C-
CAMP BRANCH
STA. 0+00 ELEV=201.06
N=515086.8833
E=1672327.5999

EXISTING CHANNEL

PROPOSED 60'x100' STAGING AREA

NEW CHANNEL LOCATION

EXISTING DIRT ACCESS ROAD

CONTINUE EXISTING DITCH AND TIE TO NEW CHANNEL

PROPOSED STONE OUTLET
SEE DETAIL, SHEET A-EC2

PROPOSED SILT FENCE
SEE DETAIL, SHEET A-EC2

PROPOSED SITE ACCESS

BEGIN CHANNEL -A-
UT to CAMP BRANCH
STA. 0+00 ELEV=208.54
N=514622.4175
E=1672293.1310

PROPOSED SAFETY FENCE DO NOT DISTURB EXISTING MOUND

EXISTING POND

WE 2308

LIMITS OF DISTURBANCE

NEW CHANNEL LOCATION

CONSERVATION EASEMENT

MATCH LINE -SHEET A-EC1A

CAMP BRANCH

EXISTING TREELINE

END CHANNEL -C-
CAMP BRANCH
STA. 18+07 ELEV=194.15
N=513904.5538
E=1673296.0193

ROCKY

100 0 100
SCALE IN FEET

EcoScience Corporation
Raleigh, North Carolina

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G. MODLIN, JR.

Client:
Ecosystem Enhancement PROGRAM

Project:

BISHOP SITE STREAM / WETLAND RESTORATION PLAN

ANSON COUNTY, NORTH CAROLINA

Title:

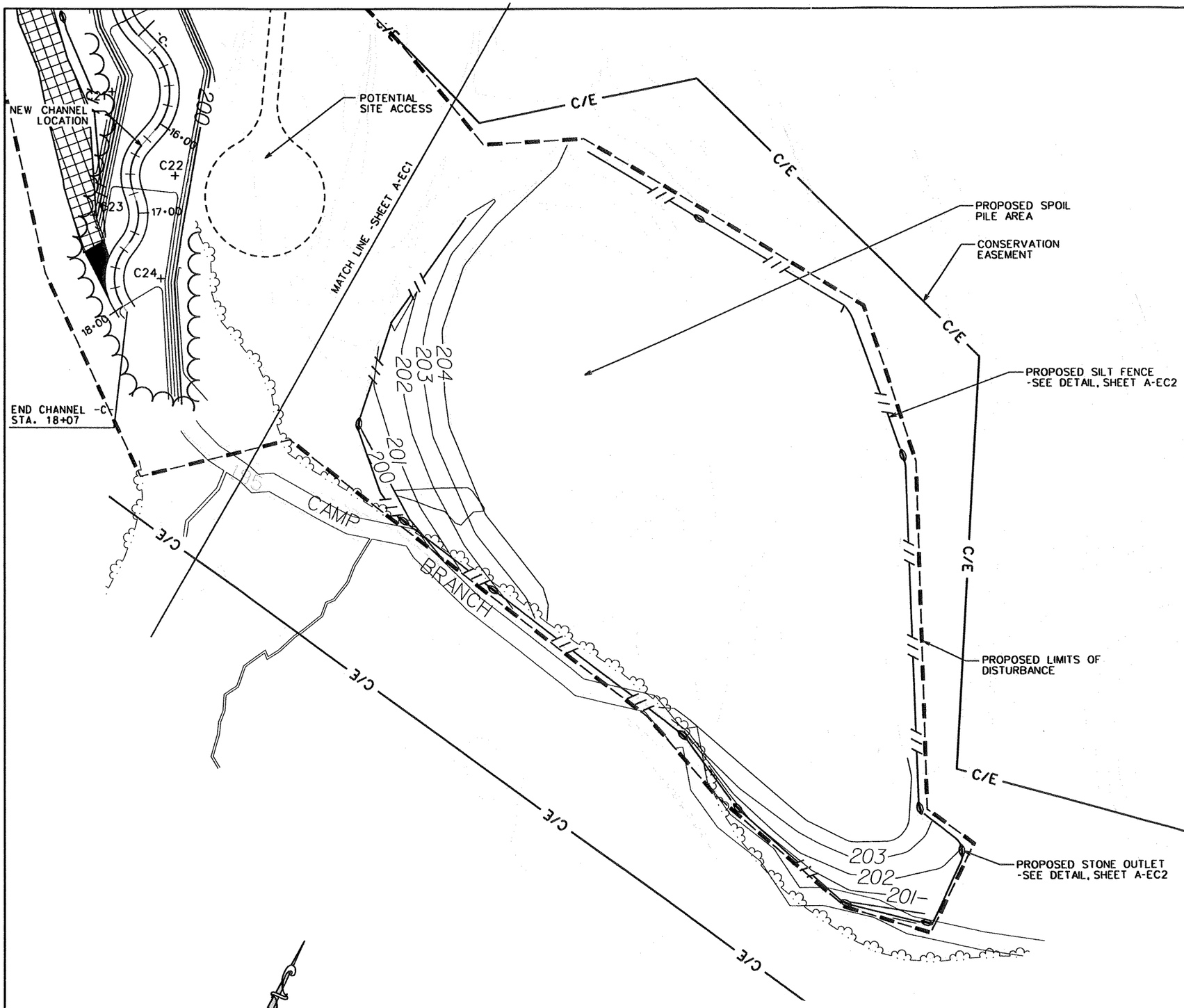
EROSION CONTROL PLAN

CAMP BRANCH

Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005
Scale:	AS SHOWN
ESC Project No.:	04-212

SHEET

A-EC1



EcoScience Corporation
Raleigh, North Carolina

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G. MODLIN, JR.

Client:
Ecosystem Enhancement PROGRAM

Project:
BISHOP SITE STREAM / WETLAND RESTORATION PLAN

ANSON COUNTY, NORTH CAROLINA

Title:
EROSION CONTROL PLAN

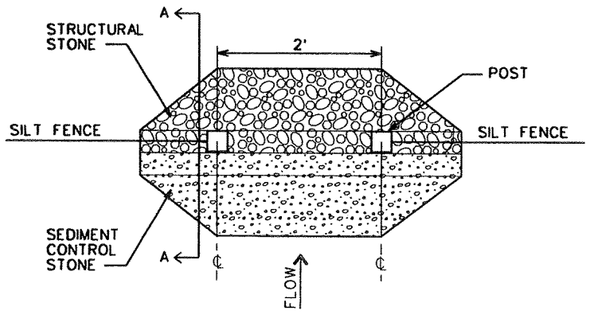
CAMP BRANCH

Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005

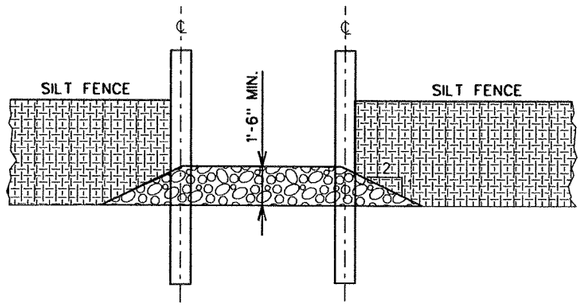
Scale: AS SHOWN

ESC Project No.: 04-212

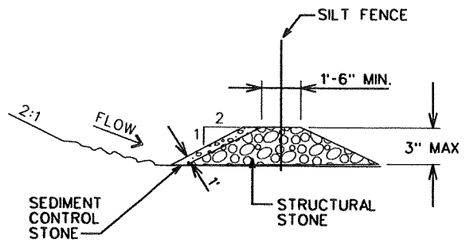
SHEET
A-EC1A



PLAN



ELEVATION

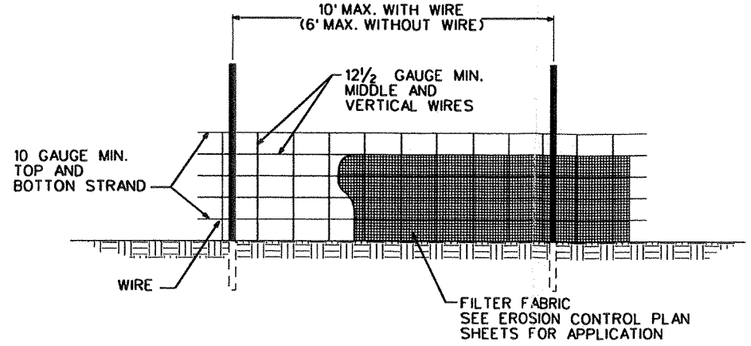


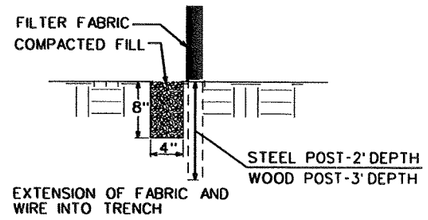
CROSS-SECTION A-A

NOTES:

1. STRUCTURAL STONE SHALL BE CLASS B STONE FOR EROSION CONTROL PURPOSES.
2. SEDIMENT CONTROL STONE SHALL BE NO. 5 OR NO. 57 STONE.

STONE OUTLET DETAIL





NOTES:

1. USE WIRE A MINIMUM OF 32 INCHES IN WIDTH AND WITH A MINIMUM OF 6 LINE WIRES WITH 12 INCH STAY SPACING.
2. USE FILTER FABRIC A MINIMUM OF 36 INCHES IN WIDTH AND FASTEN ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.
3. PROVIDE 5 FOOT STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.
4. USE 6 FOOT WOOD POST WITH 3 INCH DIAMETER.

NCDOT BMP'S FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES, 5.1.1, AUGUST 2003

TEMPORARY SILT FENCE

NCDOT STD. DWG. 1605.01

EcoScience Corporation
Raleigh, North Carolina

REVISIONS

NORTH CAROLINA PROFESSIONAL SEAL 8607 ENGINEER DAVID G. MODLIN, JR.

Client: Ecosystem Enhancement Program

Project:

BISHOP SITE STREAM / WETLAND RESTORATION PLAN

ANSON COUNTY, NORTH CAROLINA

Title:

EROSION CONTROL DETAILS

CAMP BRANCH

Dsn. By:	Dwn. By:
JDC	MAF
Ckd. By:	Date:
DGM	JUN 2005

Scale: NO SCALE

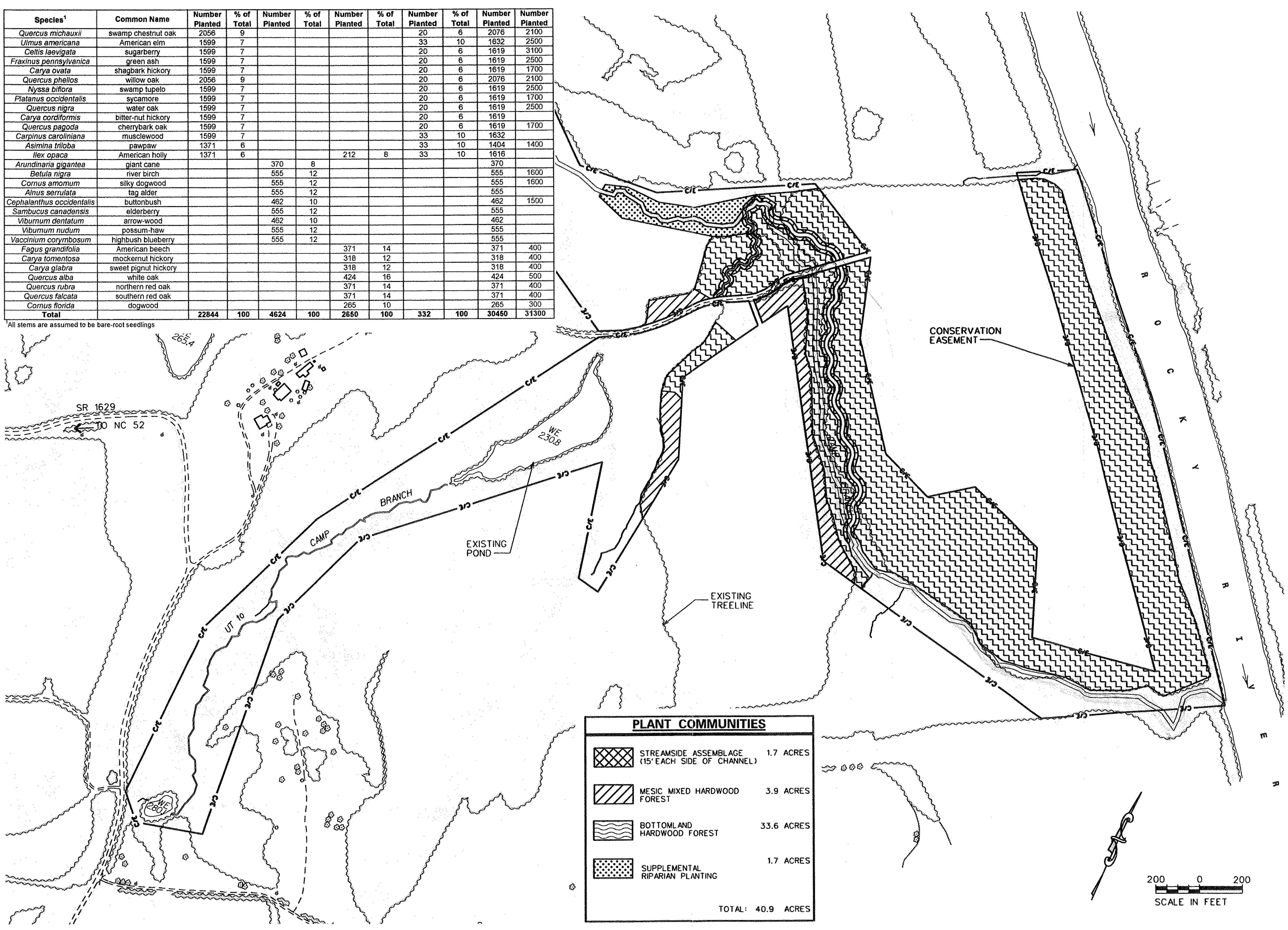
ESC Project No.: 04-212

SHEET

A-EC2

Species[1]	Common Name	Number Planted	% of Total	Number Planted	% of Total	Number Planted	% of Total	Number Planted	% of Total	Number Planted	Number Planted
Quercus michauxii	swamp chestnut oak	2056	9					20	6	2076	2100
Ulmus americana	American elm	1599	7					33	10	1632	2500
Celtis laevigata	sugarberry	1599	7					20	6	1619	3100
Fraxinus pennsylvanica	green ash	1599	7					20	6	1619	2500
Carya ovata	shagbark hickory	1599	7					20	6	1619	1700
Quercus phellos	willow oak	2056	9					20	6	2076	2100
Nyssa biflora	swamp tupelo	1599	7					20	6	1619	2500
Platanus occidentalis	sycamore	1599	7					20	6	1619	1700
Quercus nigra	water oak	1599	7					20	6	1619	2500
Carya cordiformis	bitter-nut hickory	1599	7					20	6	1619	
Quercus pagoda	cherrybark oak	1599	7					20	6	1619	1700
Carpinus caroliniana	musclewood	1599	7					33	10	1632	
Asimina triloba	pawpaw	1371	6					33	10	1404	1400
Ilex opaca	American holly	1371	6			212	8	33	10	1616	
Arundinaria gigantea	giant cane			370	8					370	
Betula nigra	river birch			555	12					555	1600
Cornus amomum	silky dogwood			555	12					555	1600
Alnus serrulata	tag alder			555	12					555	
Cephalanthus occidentalis	buttonbush			462	10					462	1500
Sambucus canadensis	elderberry			555	12					555	
Viburnum dentatum	arrow-wood			462	10					462	
Viburnum nudum	possum-haw			555	12					555	
Vaccinium corymbosum	highbush blueberry			555	12					555	
Fagus grandifolia	American beech					371	14			371	400
Carya tomentosa	mockernut hickory					318	12			318	400
Carya glabra	sweet pignut hickory					318	12			318	400
Quercus alba	white oak					424	16			424	500
Quercus rubra	northern red oak					371	14			371	400
Quercus falcata	southern red oak					371	14			371	400
Cornus florida	dogwood					265	10			265	300
Total		**22844**	**100**	**4624**	**100**	**2650**	**100**	**332**	**100**	**30450**	**31300**

[1]All stems are assumed to be bare-root seedlings



EcoScience Corporation
Raleigh, North Carolina

REVISIONS

1	AS-BUILT - JULY 2007

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026951 BRIAN BUNKAR 220407

Client: Ecosystem Enhancement PROGRAM

Project:

BISHOP SITE STREAM / WETLAND RESTORATION PLAN

ANSON COUNTY, NORTH CAROLINA

Title:

PLANTING PLAN

CAMP BRANCH

Dsn. By: JDC	Dwn. By: MAF
Ckd. By: EBB	Date: JUL 2007
Scale: AS SHOWN	
ESC Project No.: 04-212	

SHEET

A-L1

Project #	04-212
Date	JUN 2005
Des. By:	MAF
Dwn. By:	JDC
Chd. By:	DGM
Scale	AS SHOWN

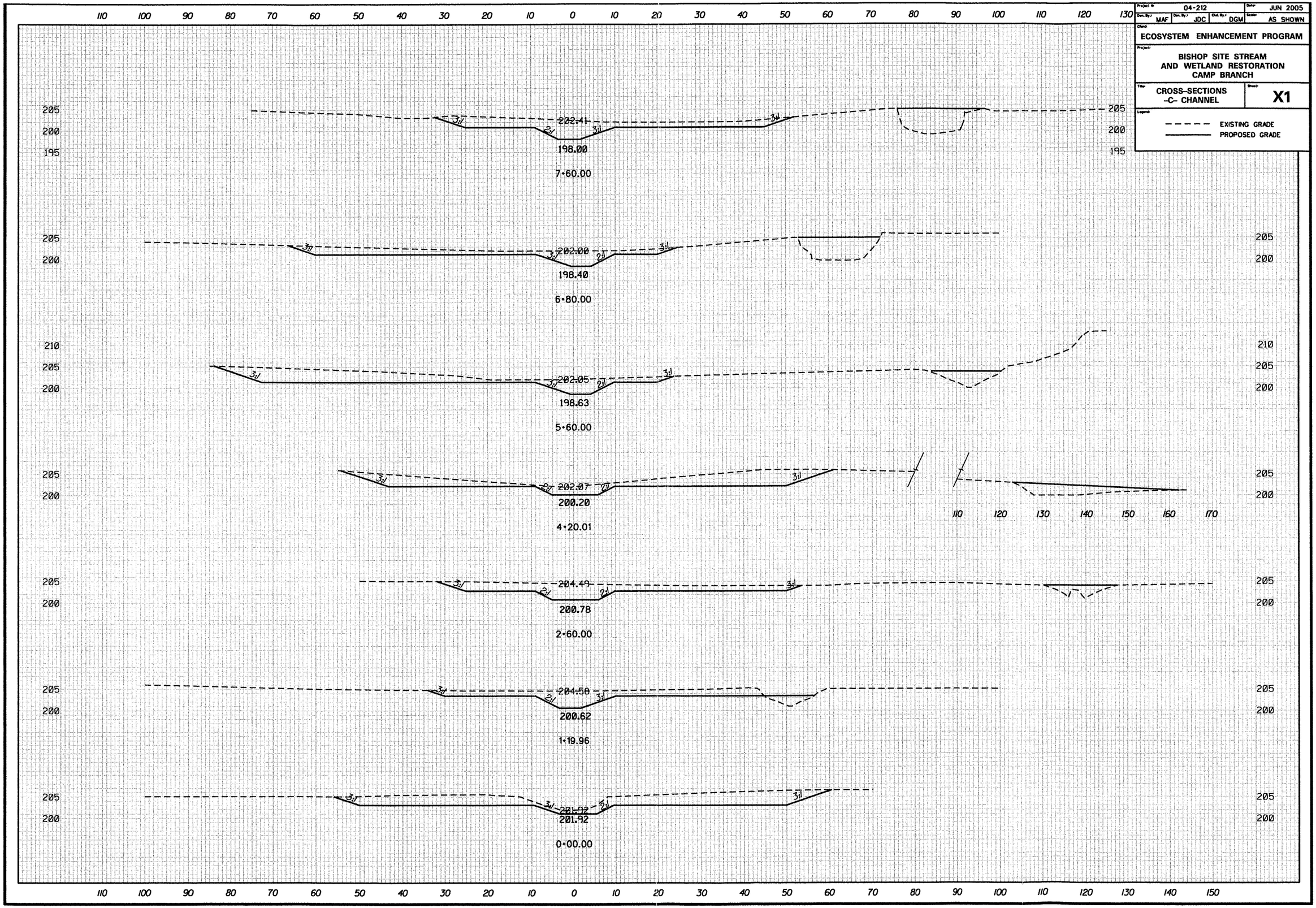
Client
ECOSYSTEM ENHANCEMENT PROGRAM

Project
BISHOP SITE STREAM
AND WETLAND RESTORATION
CAMP BRANCH

Title: CROSS-SECTIONS -C- CHANNEL

Sheet: X1

Legend
- - - - - EXISTING GRADE
——— PROPOSED GRADE



80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80

205
200
195

(±) 16+71

(±) 14+26

(±) 12+67

(±) 10+31

(±) 8+17

(±) 6+55

(±) 4+47

(±) 1+07

Project #	04-212			Date	JULY 2007
Des. By:	JFH	Dr. By:	JDC	Chd. By:	EBB	Scale	AS SHOWN

Client
ECOSYSTEM ENHANCEMENT PROGRAM

Project
BISHOP SITE STREAM
AND WETLAND RESTORATION
CAMP BRANCH

Title
CROSS-SECTIONS
-C- CHANNEL

Sheet
X1A

Legend
SURVEY AS-BUILT GRADE

The elevation data utilized in the Camp Branch As-Built Plans was developed by Barry D. Davis Surveying, 1503 Old Charlotte Rd., Albemarle, NC 28001 under the supervision of Barry D. Davis, PLS L-4384

Project #	04-212
Date	JUN 2005
Des. By:	MAF
Dwn. By:	JDC
Chk. By:	DGM
Scale	AS SHOWN

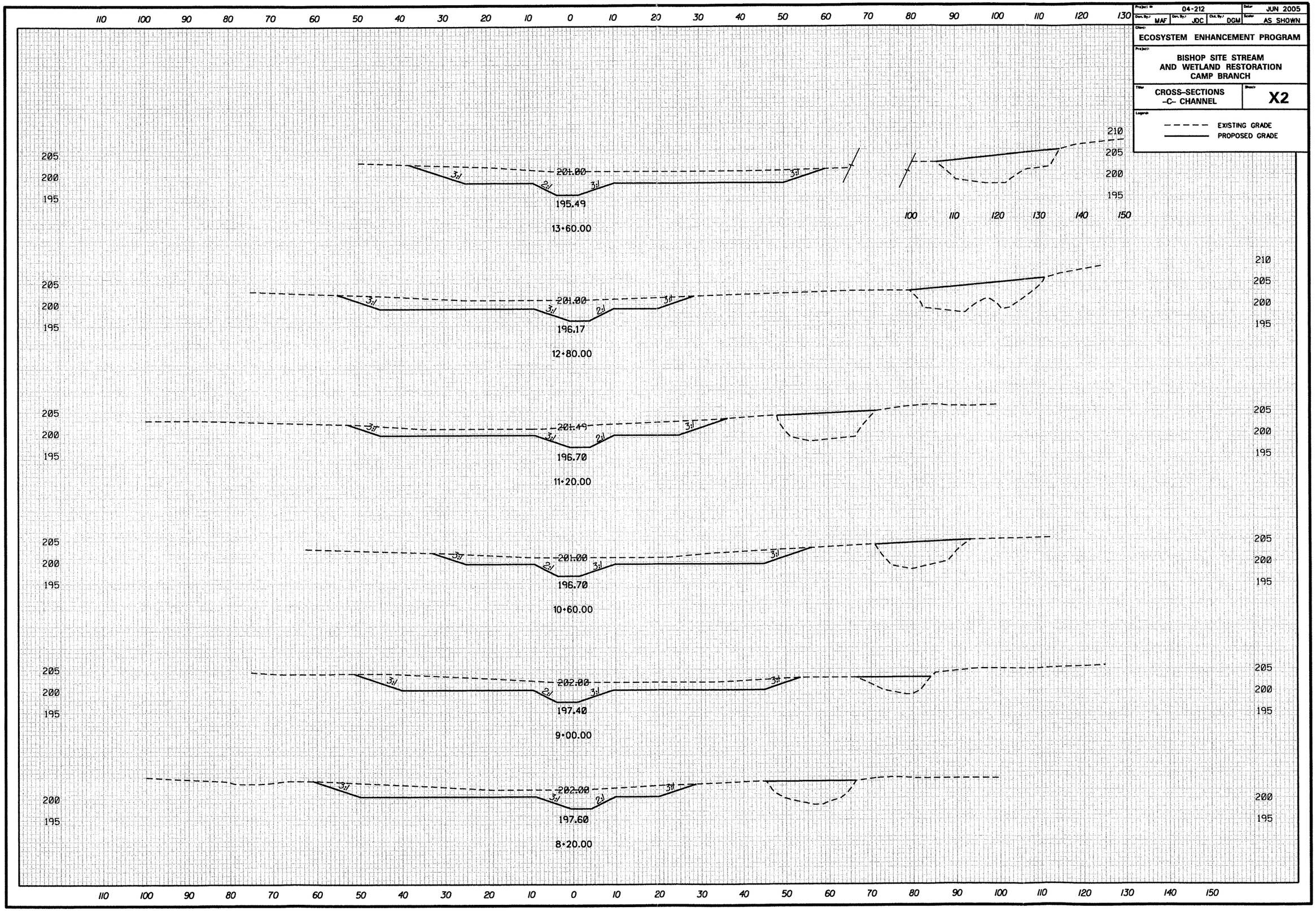
Client:
ECOSYSTEM ENHANCEMENT PROGRAM

Project:
BISHOP SITE STREAM
AND WETLAND RESTORATION
CAMP BRANCH

Title: CROSS-SECTIONS -C- CHANNEL

Sheet: X2

Legend:
- - - - - EXISTING GRADE
——— PROPOSED GRADE



Project #	04-212
Date	JUN 2005
Des. By:	MAF
Dwn. By:	JDC
Chd. By:	DGM
Scale	AS SHOWN

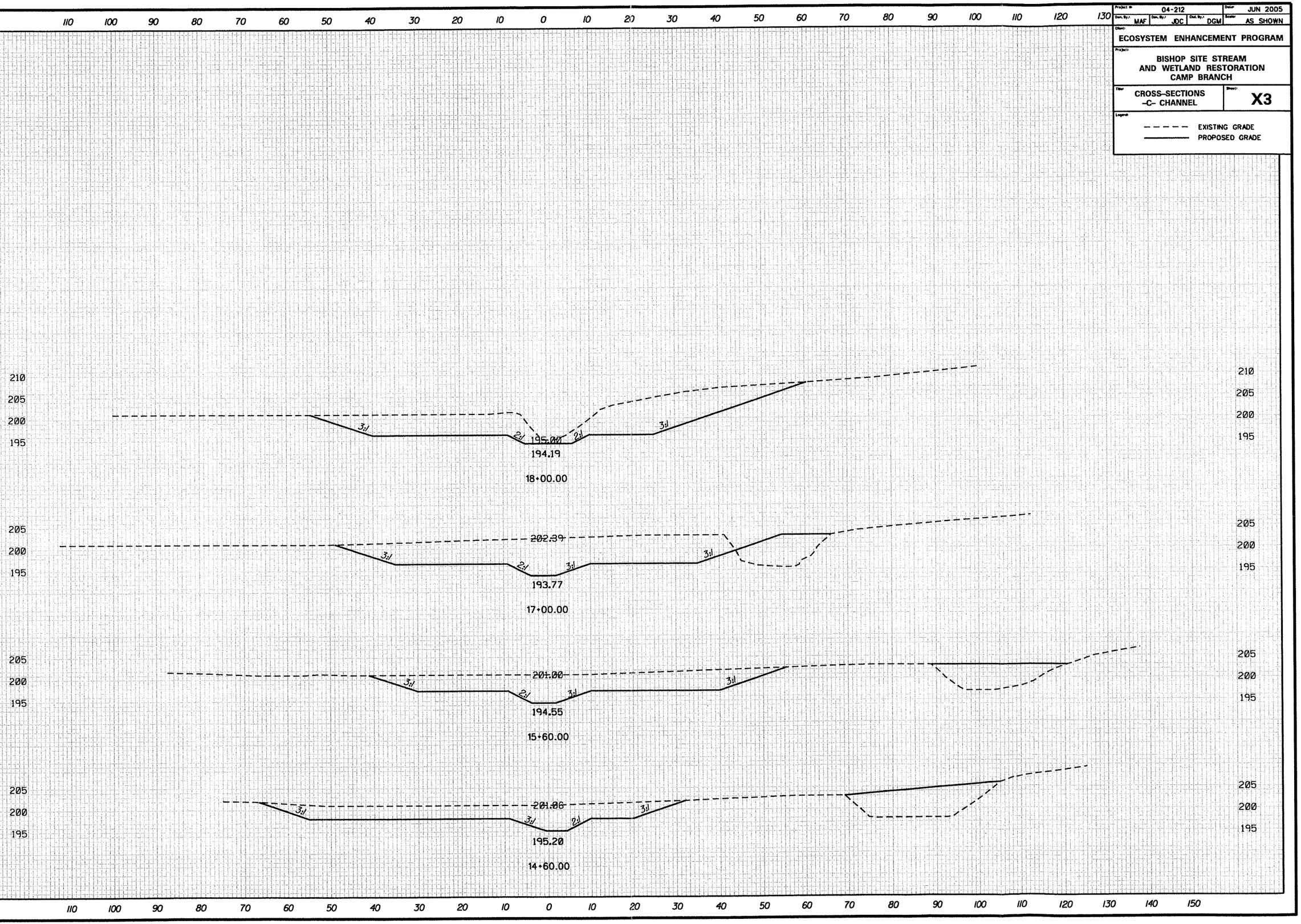
Client:
ECOSYSTEM ENHANCEMENT PROGRAM

Project:
BISHOP SITE STREAM
AND WETLAND RESTORATION
CAMP BRANCH

Title: CROSS-SECTIONS
-C- CHANNEL

Sheet: X3

Legend:
- - - - - EXISTING GRADE
——— PROPOSED GRADE



Project #	04-212
Date	JUN 2005
Des. By:	MAF
Dwn. By:	JDC
Chk. By:	DGM
Scale	AS SHOWN

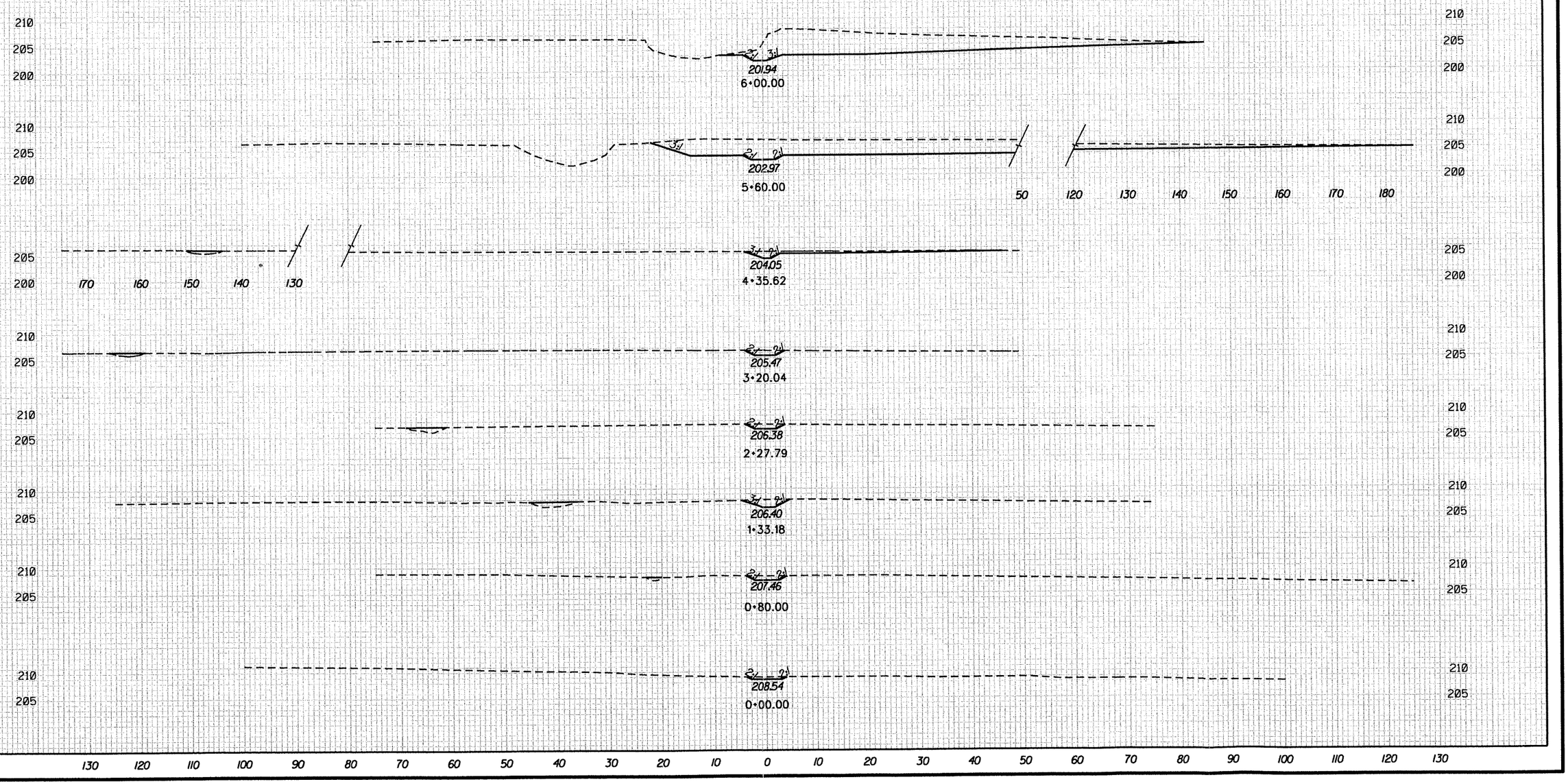
Client:
ECOSYSTEM ENHANCEMENT PROGRAM

Project:
BISHOP SITE STREAM
AND WETLAND RESTORATION
CAMP BRANCH

Title: CROSS-SECTIONS -A- CHANNEL

Sheet: X4

Legend:
- - - - - EXISTING GRADE
——— PROPOSED GRADE



Project #	04-212		Date: JULY 2007
Des. By: JFH	Dwn. By: JDC	Chd. By: EBB	Scale: AS SHOWN

Client:
ECOSYSTEM ENHANCEMENT PROGRAM

Project:
BISHOP SITE STREAM
AND WETLAND RESTORATION
CAMP BRANCH

Title: CROSS-SECTIONS
-A- CHANNEL

Sheet: X4A

Legend:
SURVEY AS-BUILT GRADE

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

205

200

(±) 4.71

205

200

The elevation data utilized in the Camp Branch As-Built Plans
was developed by Barry D. Davis Surveying, 1503 Old Charlotte Rd.,
Albemarle, NC 28001 under the supervision of Barry D. Davis, PLS L-4384

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

PROJECT: BISHOP SITE STREAM AND WETLAND RESTORATION

CONSTRUCTION SEQUENCE

1. MOBILIZE EQUIPMENT AND MATERIALS TO DULA SITE.
2. ESTABLISH ACCESS ROADS AND STAGING AREAS AS DEPICTED ON THE PLANS OR AS DIRECTED BY THE PROJECT MANAGER AND MARK CONSTRUCTION EQUIPMENT ACCESS LOCATIONS WITH VISIBLE MARKERS. CONSTRUCTION EQUIPMENT SHALL BE MAINTAINED AND SERVICED WITHIN THE LIMITS OF THE ESTABLISHED STAGING AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL STAGING AREAS IN AN ENVIRONMENTALLY SENSITIVE MANNER.
3. INSTALL IMPROVEMENTS TO SITE ACCESS ROAD IF REQUIRED AND INSTALL TEMPORARY EROSION CONTROL MEASURES (I.E., SILT FENCE, STONE OUTLETS, ETC.) AS REQUIRED.
4. AT THE END OF EACH DAY OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE TEMPORARY SEED AND MULCH AND APPLY COIR FIBER MATTING, AS APPROPRIATE, TO ALL DISTURBED AREAS. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY EROSION CONTROL MEASURES ON A DAILY BASIS THROUGHOUT THE CONSTRUCTION PERIOD.
5. INSTALL PUMP-AROUND OPERATION JUST BELOW THE CONFLUENCE OF THE WEST PORTION OF DULA THOROUGHFARE (-D-) WITH THE EASTERN PORTION (-T-). ALL WORK BELOW THIS POINT SHALL BE CONSTRUCTED IN THE "DRY". THIS INCLUDES THE FLOODPLAIN GRADING, THE DEVELOPMENT OF THE VERNAL POOLS AND THE EXCAVATION OF THE PROPOSED CHANNEL. THE CONTRACTOR SHALL INITIATE THE PUMP-AROUND OPERATION ON A SCHEDULE THAT EFFICIENTLY PROSECUTES PROJECT WORK.
6. THE CONTRACTOR SHALL COMPACT THE PROPOSED FILL IN THE FILLED CHANNELS TO 90 PERCENT PROCTOR. THE PROPOSED CHANNEL BLOCKS SHALL HAVE A CORE OF IMPERVIOUS SELECT MATERIAL AS SPECIFIED IN THE PROJECT DETAIL AND SPECIAL PROVISIONS. THE VERNAL POOL AT APPROXIMATE STATION 19+00 SHALL BE "NOTCHED" TO DIRECT OVERFLOW TOWARD THE NEW CHANNEL
7. INSTALL PUMP-AROUND OPERATIONS ABOVE STATION 0+00 ON THE WESTERN PORTION OF DULA THOROUGHFARE (-D-) AND ABOVE STATION 0+00 AT CULVERT AT THE BEGINNING OF THE EASTERN SECTION (-T-). THESE PUMP-AROUNDS MAY DIRECT PROPERLY TREATED WATER TO THE NEWLY CREATED STABILIZED CHANNEL AND THE PROPOSED WORK SHALL BE CONSTRUCTED IN THE "DRY".
8. THE CONTRACTOR SHALL PLACE BORROW MATERIAL IN AREAS DESIGNATED ON THE PLANS AND AT THE DIRECTION OF THE PROJECT MANAGER. STOCKPILE AREAS SHALL BE PROTECTED BY SILT FENCING AS APPROPRIATE.
9. ONCE CONSTRUCTION IS COMPLETE THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION MATERIALS FROM THE CONSERVATION EASEMENT, DISPOSE OF THEM IN AN APPROVED DUMP SITE, AND SCARIFY ANY COMPACTED AREAS AS DIRECTED BY THE PROJECT MANAGER. TO COMPLETE PERMANENT SEEDING AND MULCHING, ALL DISTURBED AREAS SHALL BE DISKED OR PLOWED TO CREATE MICRO TOPOGRAPHY TO THE SATISFACTION OF THE PROJECT MANAGER AND PERMANENTLY SEEDED AND MULCHED. STONE APPLIED TO ACCESS ROAD, IF ANY, SHALL REMAIN OR BE REMOVED AS INDICATED ON PLAN SHEET 2.

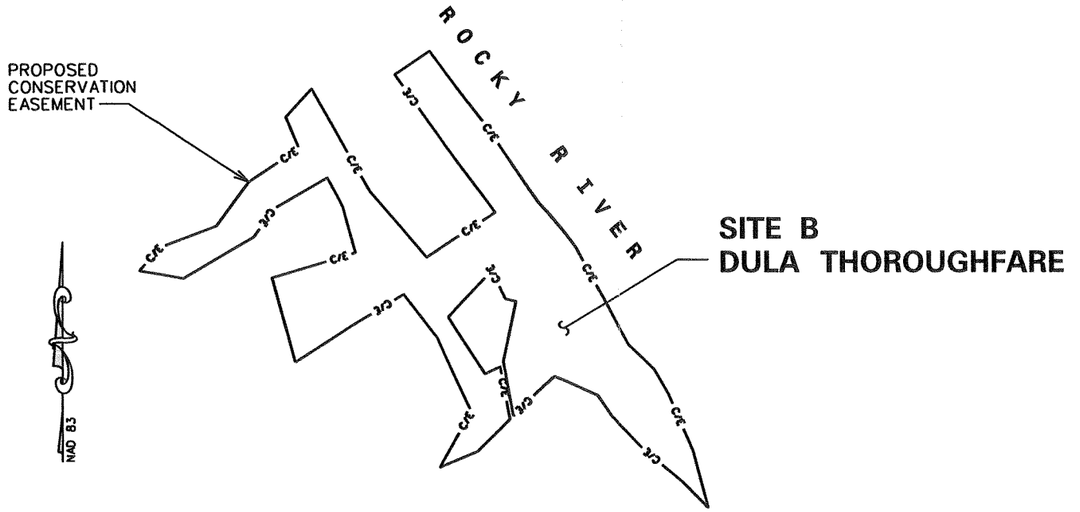
INDEX OF SHEETS

DULA THOROUGHFARE

SITE B
DULA
THOROUGHFARE

TYPE OF WORK: ***STREAM AND WETLAND RESTORATION / ENHANCEMENT***

- STREAM RESTORATION / ENHANCEMENT
- WETLAND RESTORATION / ENHANCEMENT
- FLOODPLAIN GRADING
- NEW CHANNEL CONSTRUCTION
- SITE PLANTING



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SHEET

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