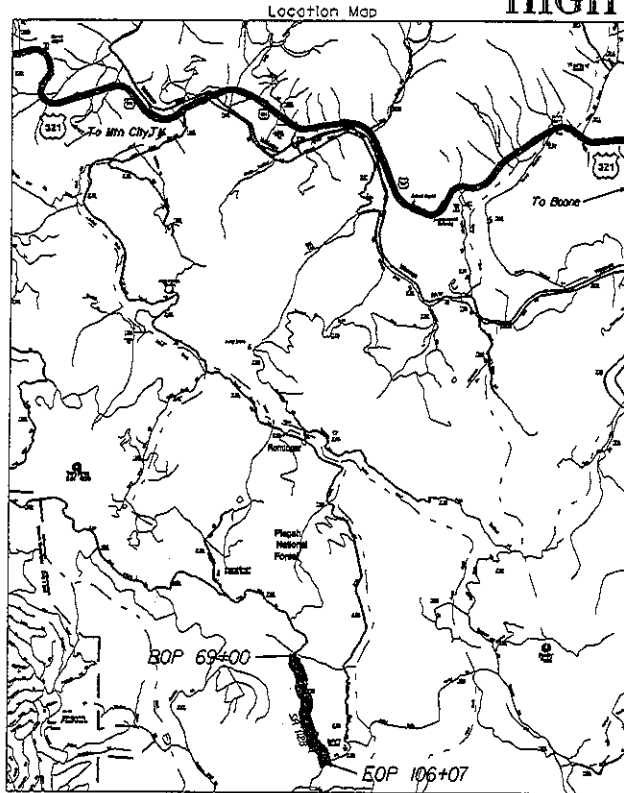


PROJECT#: SR-1128C

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL

Remove Before Opening
 *Not to be used as drainage
 inlets and all other temporary
 and permanent structures
 -Block length-10' or less
 -Block length-15' or more
 -Block length-20' or more
 -Block length-25' or more
 -Block length-30' or more

NO. DRAWING	STATE PROJECT REFERENCE NO.	DATE	TITLE
N.C.	11C09004	EC-1	9
DESIGNER	DATE	BY	CHKD



PLANS GENERATED FROM 2010 ORTHO
 IMAGERY AND LIDAR

EROSION AND SEDIMENT CONTROL MEASURES

Code	Description	Symbol
1630.05	Temporary Silt Fence	-----
1630.06	Temporary Diversions	-----
1606.01	Temporary Silt Fence	-----
1606.01	Special Sediment Control Fence	-----
1632.01	Temporary Barms and Slope Drains	-----
1630.02	Silt Basin Type B	-----
1630.01	Temporary Rock Silt Check Type A	-----
	Temporary Rock Silt Check Type A with Matting and Polyacrylamide (PAM)	-----
1630.03	Temporary Rock Silt Check Type B	-----
	Wattle/Coir Fiber Wattle	-----
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	-----
1634.01	Temporary Rock Sediment Dam Type A	-----
1634.02	Temporary Rock Sediment Dam Type B	-----
1635.01	Rock Pipe Inlet Sediment Trap Type A	-----
1635.02	Rock Pipe Inlet Sediment Trap Type B	-----
1630.04	Stilling Basin	-----
1630.06	Special Stilling Basin	-----
	Rock Inlet Sediment Trap	-----
1632.01	Type A	-----
1632.02	Type B	-----
1632.03	Type C	-----
	Skimmer Basin	-----
	Tiered Skimmer Basin	-----
	Infiltration Basin	-----

THIS PROJECT CONTAINS
 EROSION CONTROL PLANS
 FOR CLEARING AND
 GRUBBING PHASE OF
 CONSTRUCTION.

ENVIRONMENTALLY
 SENSITIVE AREA(S) EXIST
 ON THIS PROJECT
 Refer To H. C. Special Provisions
 for Special Considerations.

GRAPHIC SCALE



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
 DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

Prepared in the Office of:

DIVISION OF HIGHWAYS
 DIVISION II, DISTRICT 7 BOONE
 P. O. BOX 1469, BOONE, NC 28607

2006 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway English standards as appear in "Roadway Standard Drawings" - Roadway Design Code - N. C. Department of Transportation - Raleigh, N. C., dated July 28, 2006 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

- | | |
|--|--|
| 1604.01 Retention Erosion Control Detail | 1630.06 Special Stilling Basin |
| 1606.01 Temporary Silt Fence | 1632.01 Rock Inlet Sediment Trap Type A |
| 1606.01 Special Sediment Control Fence | 1632.02 Rock Inlet Sediment Trap Type B |
| 1607.01 Gravel Construction Entrance | 1632.03 Rock Inlet Sediment Trap Type C |
| 1632.01 Temporary Barms and Slope Drains | 1633.01 Temporary Rock Silt Check Type A |
| 1630.01 Silt Basin | 1634.01 Temporary Rock Sediment Dam Type A |
| 1630.02 Silt Basin Type B | 1634.02 Temporary Rock Sediment Dam Type B |
| 1630.03 Temporary Silt Check | 1635.01 Rock Pipe Inlet Sediment Trap Type A |
| 1630.04 Stilling Basin | 1635.02 Rock Pipe Inlet Sediment Trap Type B |
| 1630.05 Temporary Diversion | |

EROSION CONTROL & PIPE INSTALLATION SCHEDULE

TROUT BUFFER ZONE SEQUENCE

GENERAL E&SC NOTES

GROUND STABILIZATION CHART

Erosion Control Schedule and Notes

1. Generally, the order of installation of the erosion control measures will be as follows:
 - A. Temporary silt basins shall be installed before clearing and grubbing begins.
 - B. Silt fences and temporary silt ditches shall be installed after clearing and before grading.
 - C. Temporary stone ditch checks with PAM or wattles with PAM shall be installed in all disturbed areas as soon as the disturbance begins.
 - D. Final stone ditch checks or wattles shall be installed as soon as ditch line is established.
 - E. Pipe outlet and inlet protection will be done as soon as the pipe is installed.
 - F. Other permanent erosion control measures are to be implemented as soon as practical.
2. Temporary rock silt checks, type B will be spaced by percent grade as shown in the erosion control plan.
3. No. 5 stone, or equivalent, will be used in conjunction with the temporary rock silt checks in locations where water is leaving the project or entering a pipe.
4. All devices are to be cleaned out when half full.
5. Establish permanent vegetation per ground stabilization chart.

Notes:

For silt basin size see the attached erosion control plans.

PAM is to be placed on all Type A checks and wattles in the erosion control chain except for the final device in HWQ and Trout projects.

Wet Pipe Installation Schedule and Notes

1. Prior to installing any E&SC measures identify permit conditions and impact area limits.
2. Install erosion control devices.
3. Manage the water course. The pipe must be placed in the dry. Install dewatering measures.
4. Remove material and existing pipe while limiting material and sediment from entering stream and escaping the project.
5. Excavation of stream channel shall not exceed 10' on either side of new pipe or culvert unless indicated on permit.
6. Per permit conditions for Corps of Engineers and the Wildlife Resources Commission, all pipes in streams 48" or greater must be buried 12" below streambed elevation. Pipes less than 48" must be buried with 20% of the diameter below streambed elevation.
7. Place the new pipe and compact backfill.
8. Install slope protection on the outlet and inlet ends of the pipe. Also complete installation of erosion control measures and perform maintenance as needed on existing measures.
9. Establish permanent vegetation per ground stabilization chart.
10. More information on wet pipe installation can be found in the BMP manual section 4.2 "Pipe & Culvert installation"

General Erosion Control Sequence & Notes for NC DOT Projects in Trout Buffer Zones

1. Prior to installing any E&SC measures identify permit conditions and impact area limits. Review trout buffer variance approval conditions for any special provisions.
2. All materials should be on the hand before work is commenced.
3. Install EC devices
4. Work within the buffer zone should be sequenced to minimize the length of time that disturbed areas are exposed. Stream bank stabilization, which includes the area from the edge of water to the top of bank, should be phased so that each day's work is a completed work, including provision of adequate ground cover.
5. Graded slopes and fills within the trout buffer zone will within 7 calendar days of completion of any phase of grading be planted or otherwise provided with temporary or permanent ground cover, devices, or structures sufficient to restrain erosion.
6. Graded slopes and fills within the trout buffer zone (excluding road shoulders) shall be protected with rolled erosion control product, bonded fiber matrix, or flexible growth medium after seeding.

Notes:

Silt fence backed by woven wire, with a post spacing of 6 feet, shall be used instead of standard silt fence in trout buffer zone. Special sediment control fence shall be used in areas where bedrock is encountered which prohibits the proper anchoring of fabric, and in low points of the silt fence in 3-foot sections to allow for concentrated flows.

The disturbed areas within the stream buffer shall be restored to native vegetation characteristic of an undisturbed buffer to the extent practical upon completion of construction.

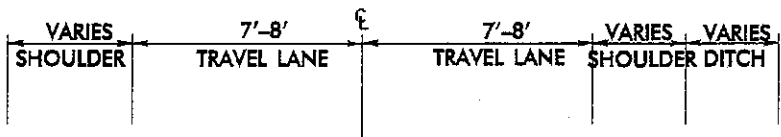
Flyrock protection such as blast mats should be provided for blasting in close proximity to streams.

PAM is to be placed on all Type A checks and wattles in the erosion control chain except for the final device in HWQ and Trout projects.

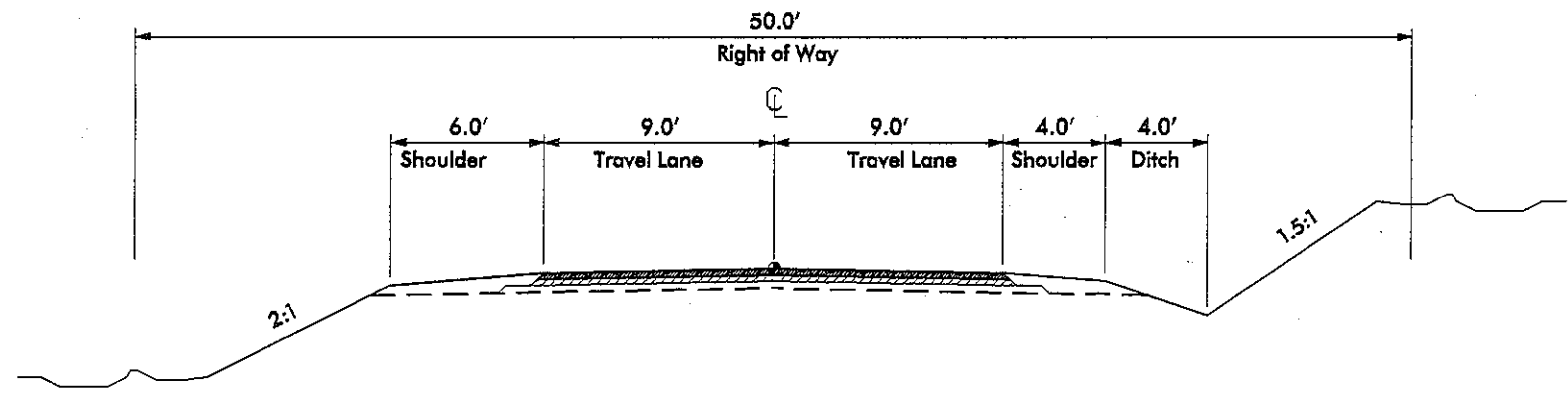
GROUND STABILIZATION CHART

Site Area Description	Stabilization Time Frame	Stabilization Time Frame Exceptions
Perimeter dikes, swales, ditches and slopes	7 days	None
High Quality Water Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10 ft. or less in length and are not steeper than 2:1, 14 days are allowed
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length
All other areas flatter than 4:1	14 days	- None (except for perimeters and HQW zones)

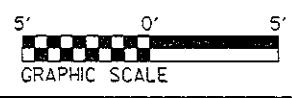
PROJECT REFERENCE NO. 11C095094	SHEET NO. 2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER
INCOMPLETE PLANS DO NOT USE FOR CONSTRUCTION	
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



14'-16' EXISTING TYPICAL SECTION

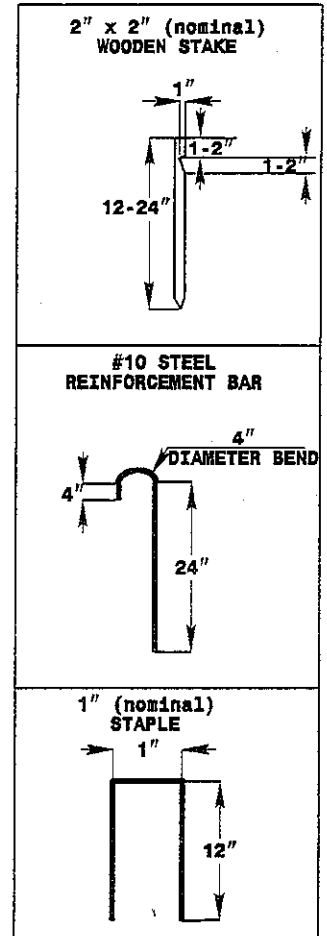
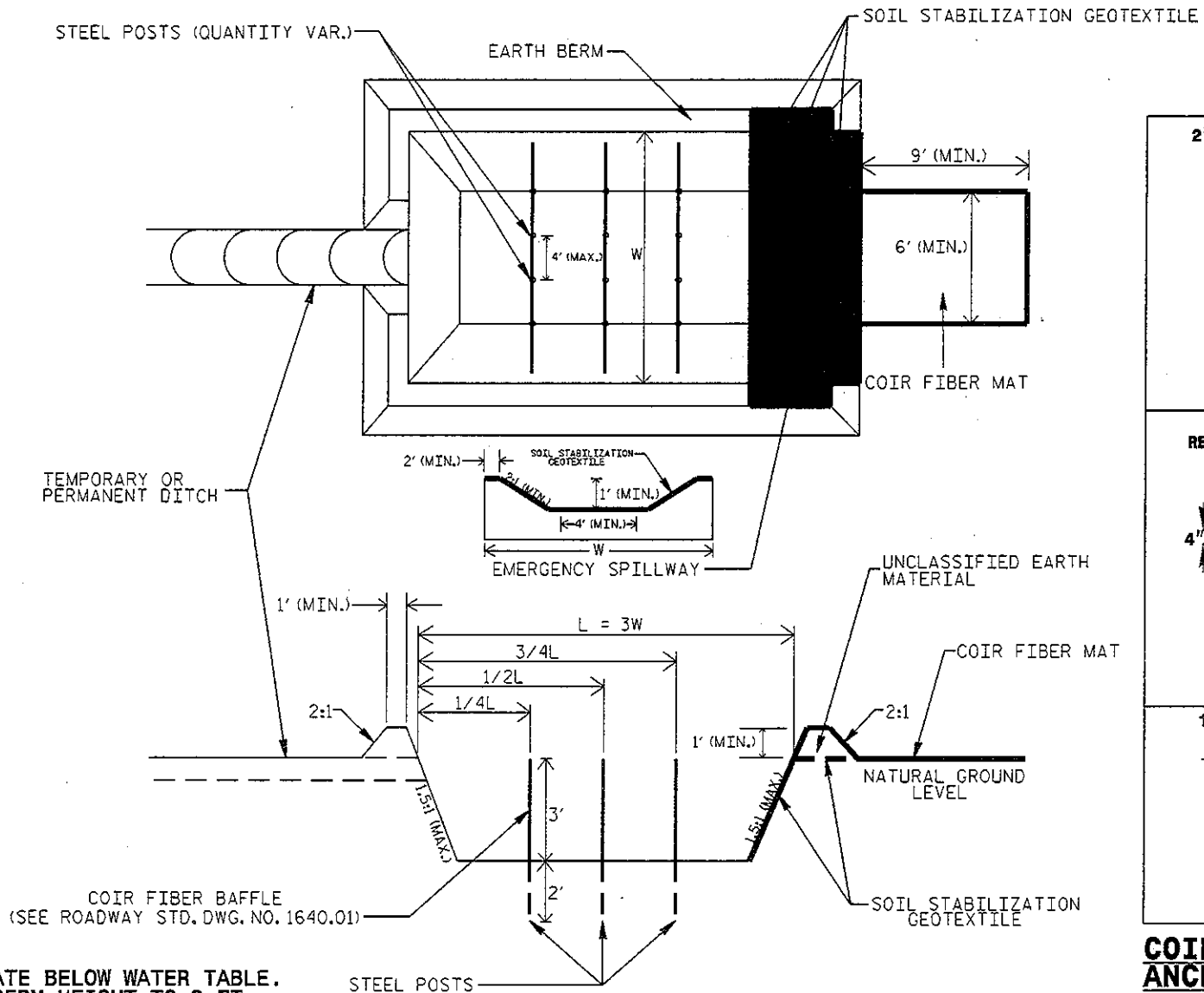


PROPOSED TYPICAL SECTION



INFILTRATION BASIN WITH BAFFLES DETAIL

PROJECT REFERENCE NO. X-XXXX	SHEET NO. EC-2E
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



**COIR FIBER MAT
ANCHOR OPTIONS**

NOTES

1. DO NOT EXCAVATE BELOW WATER TABLE.
2. LIMIT EARTH BERM HEIGHT TO 3 FT.
3. AVOID COMPACTING BOTTOM OF BASIN.
4. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
5. DETERMINE EMERGENCY SPILLWAY LENGTH (FT.) USING $Q/0.8$, WHERE Q IS FLOW RATE (CFS) INTO BASIN.

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
WA-1128C	EC-3B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES.

WATAUGA
ANDY HICKS RD

COUNTY

SR1128C

REVISED: 8/26/2009

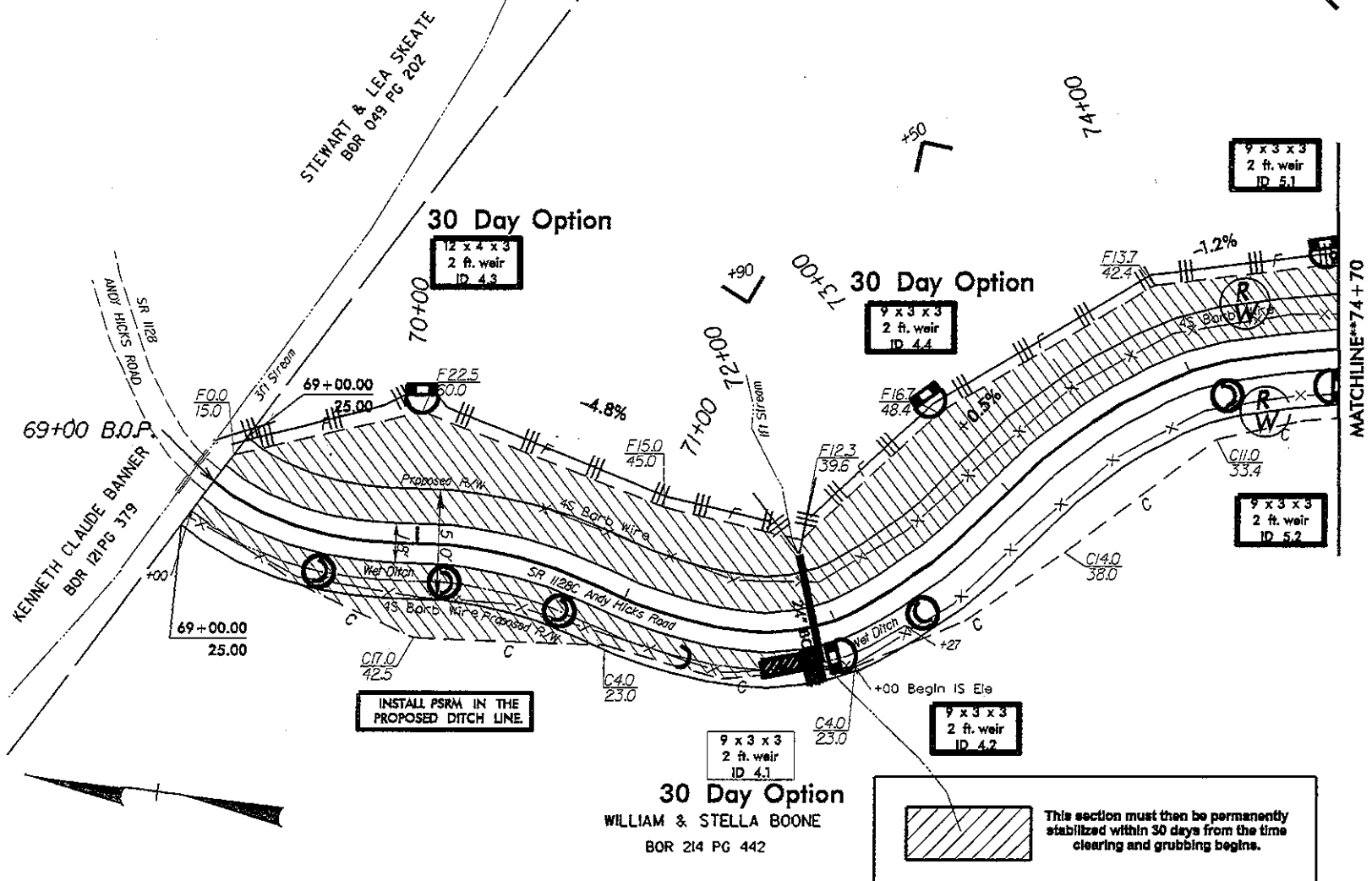
STATION	NEW PIPE SIZE	EXISTING PIPE	WET PIPE	CREEK SIZE
4+45	70' X 18"	60' X 18"	YES	6"
9+25	50' X 18"	ADD	NO	
13+90	40' X 18"	40' X 18"	NO	
18+00	50' X 18"	ADD	NO	
25+00	50' X 24"	30' X 18"	YES	SEEP
29+30	50' X 36"	30' X 24"	YES	4'
34+35	50' X 24"	30' X 18"	YES	6"
43+75	40' X 18"	ADD	NO	
54+75	50' X 24"	ADD	YES	6"
57+55	60' X 36"	40' X 24"	YES	4'
59+75	40' X 18"	ADD	NO	
62+60	50' X 18"	30' X 18"	NO	
68+90	50' X 42"	30' X 24"	YES	3'
71+90	50' X 24"	30' X 18"	YES	1'
74+75	50' X 18"	30' X 18"	NO	
79+75	50' X 24"	30' X 18"	YES	1'
81+20	50' X 24"	ADD	NO	
88+00	50' X 36"	30' X 24"	YES	2'
91+90	60' X 36"	30' X 24"	YES	2'
97+00	50' X 24"	30' X 18"	NO	
105+50	40' X 24"	30' X 24"	NO	
DOES NOT INCLUDE DRY DRIVEWAY PIPE				
WET DRIVEWAY PIPE				
29+00	40' X 18"	40' X 15"	YES	6"
51+45	30' X 15"	30' X 15"	YES	6"
91+82	20' X 15"	ADD	YES	SEEP

* Gapped Section is strike thru format

PLANS GENERATED FROM 2010 ORTHO
IMAGERY AND LIDAR

PROJECT REFERENCE NO. #11C.095094	SHEET NO. EC-4
HW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICE ENGINEER

HENRY & ANNE MARIE YATES
BOR 991PG 052



30 Day Option

12 x 4 x 3
2 ft. weir
ID 4.3

30 Day Option

9 x 3 x 3
2 ft. weir
ID 4.4


30 Day Option
WILLIAM & STELLA BOONE
BOR 214 PG 442

INSTALL PSRM IN THE
PROPOSED DITCH LINE.

9 x 3 x 3
2 ft. weir
ID 4.2

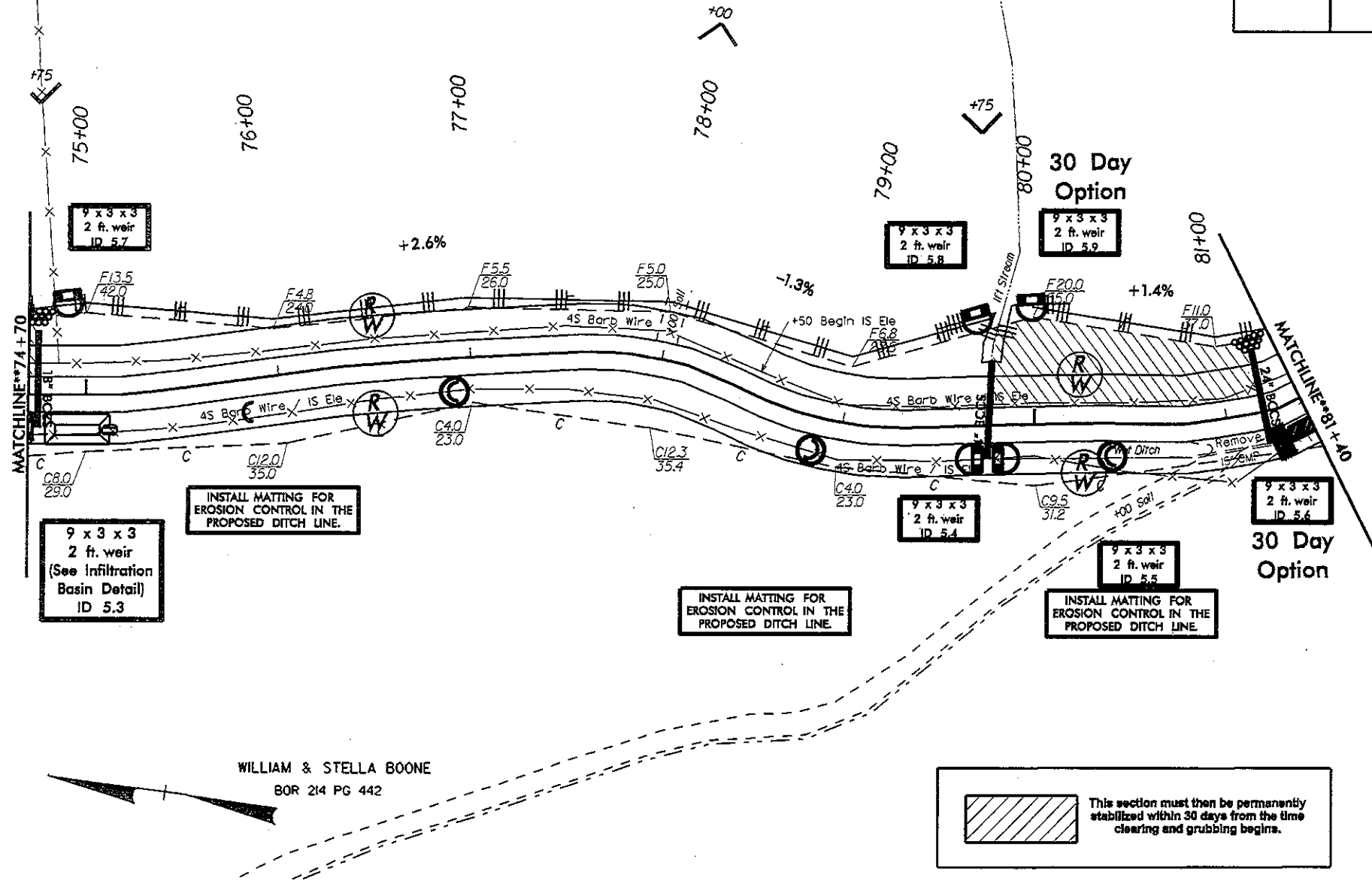
9 x 3 x 3
2 ft. weir
ID 5.1

9 x 3 x 3
2 ft. weir
ID 5.2

 This section must then be permanently stabilized within 30 days from the time clearing and grubbing begins.

PROJECT REFERENCE NO. #11C.095094	SHEET NO. EC-6
BY SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HENRY & ANNE MARIE YATES
BOR 991 PG 052



WILLIAM & STELLA BOONE
BOR 214 PG 442

PROJECT REFERENCE NO. #11C.095094	SHEET NO. EC-6
BY SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULIC ENGINEER

HENRY & ANNE MARIE YATES
BOR 991 PG 052

DAVID EARL YATES
DB 080 PG 587

+4.1% No Embankment Construction
Sta 82+00 to 86+00 LI

-5.2%


9 x 3 x 3
2 ft. weir
ID 62

9 x 3 x 3
2 ft. weir
ID 63

INSTALL PSRM IN THE
PROPOSED DITCH LINE.

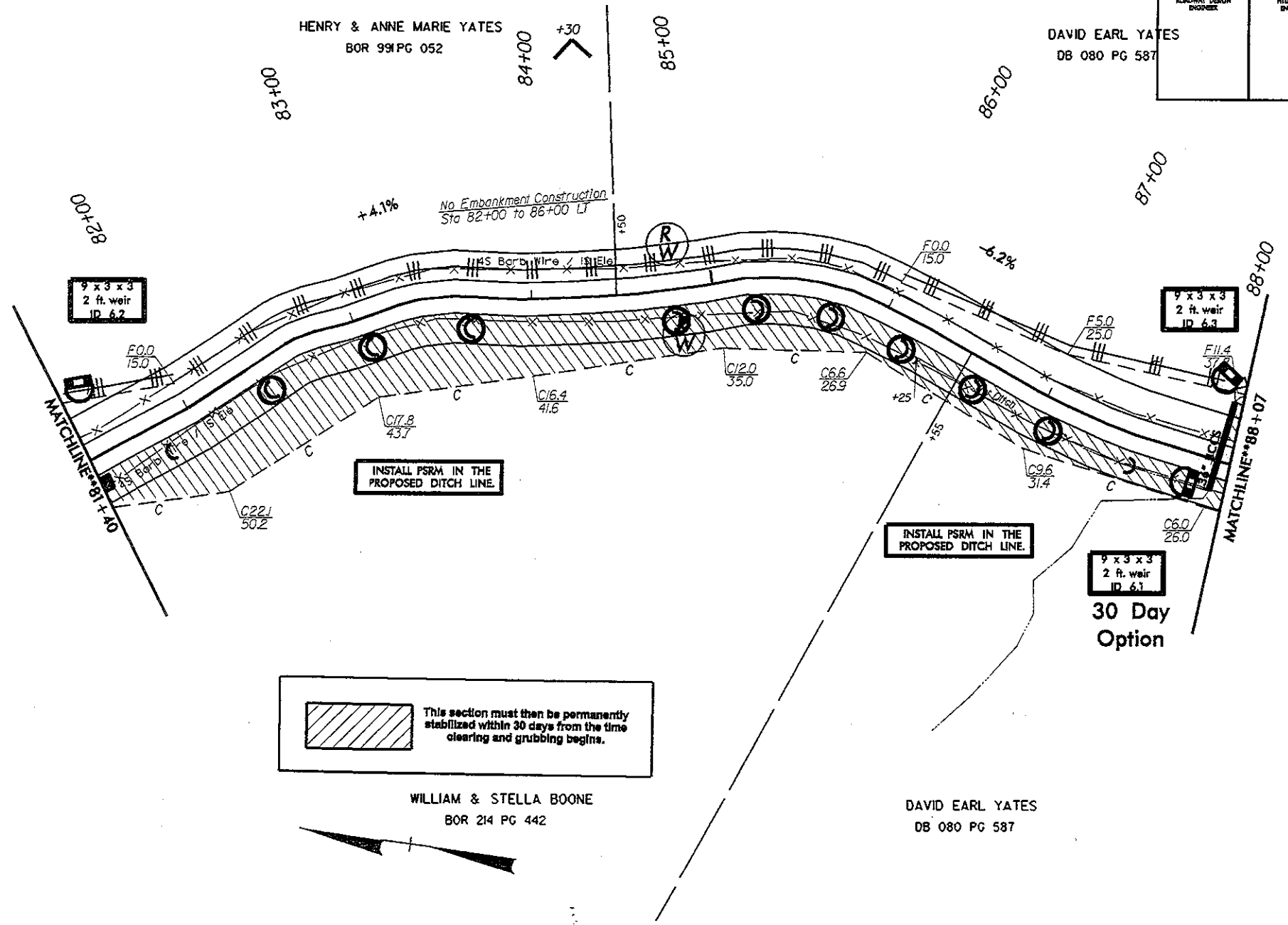
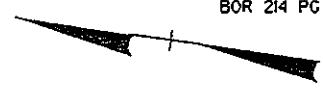
INSTALL PSRM IN THE
PROPOSED DITCH LINE.

9 x 3 x 3
2 ft. weir
ID 61
30 Day
Option

 This section must then be permanently stabilized within 30 days from the time clearing and grubbing begins.

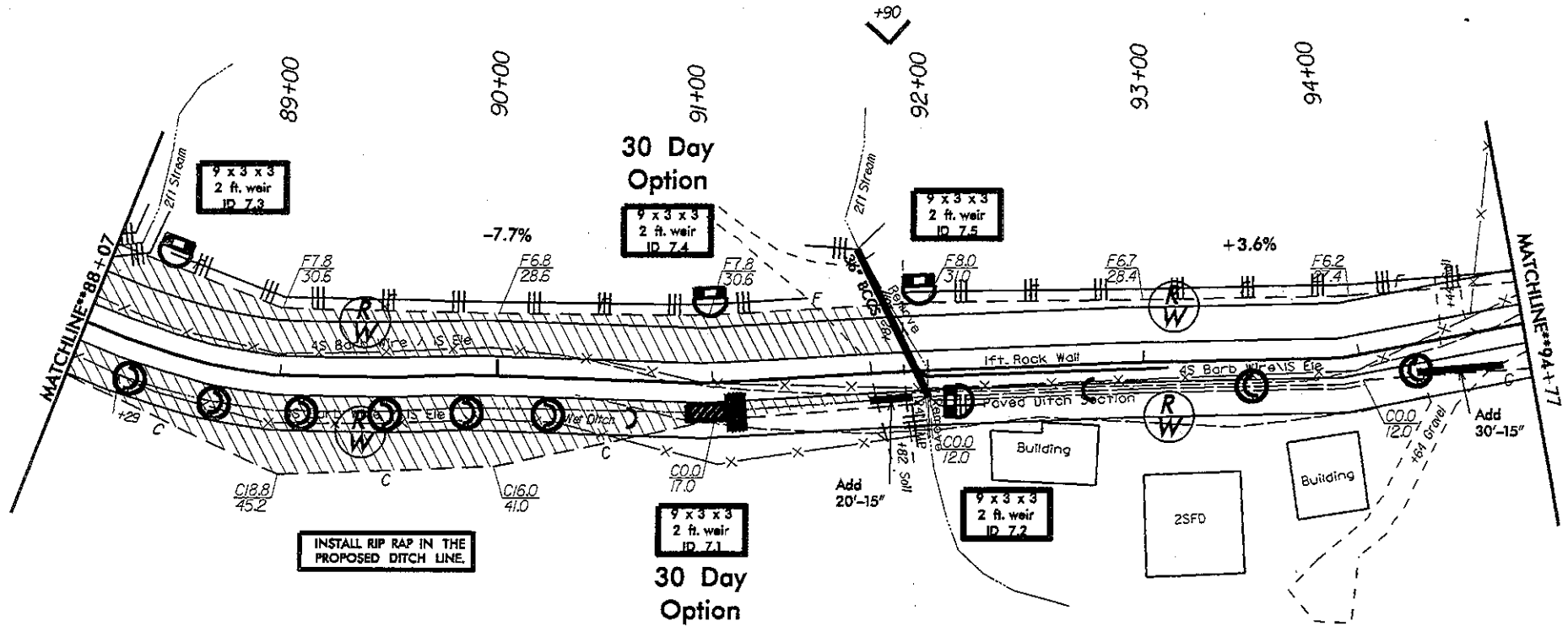
WILLIAM & STELLA BOONE
BOR 214 PG 442

DAVID EARL YATES
DB 080 PG 587




PROJECT REFERENCE NO. #11C.095094	SHEET NO. EC-7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DAVID EARL YATES
DB 080 PG 587



INSTALL RIP RAP IN THE PROPOSED DITCH LINE.

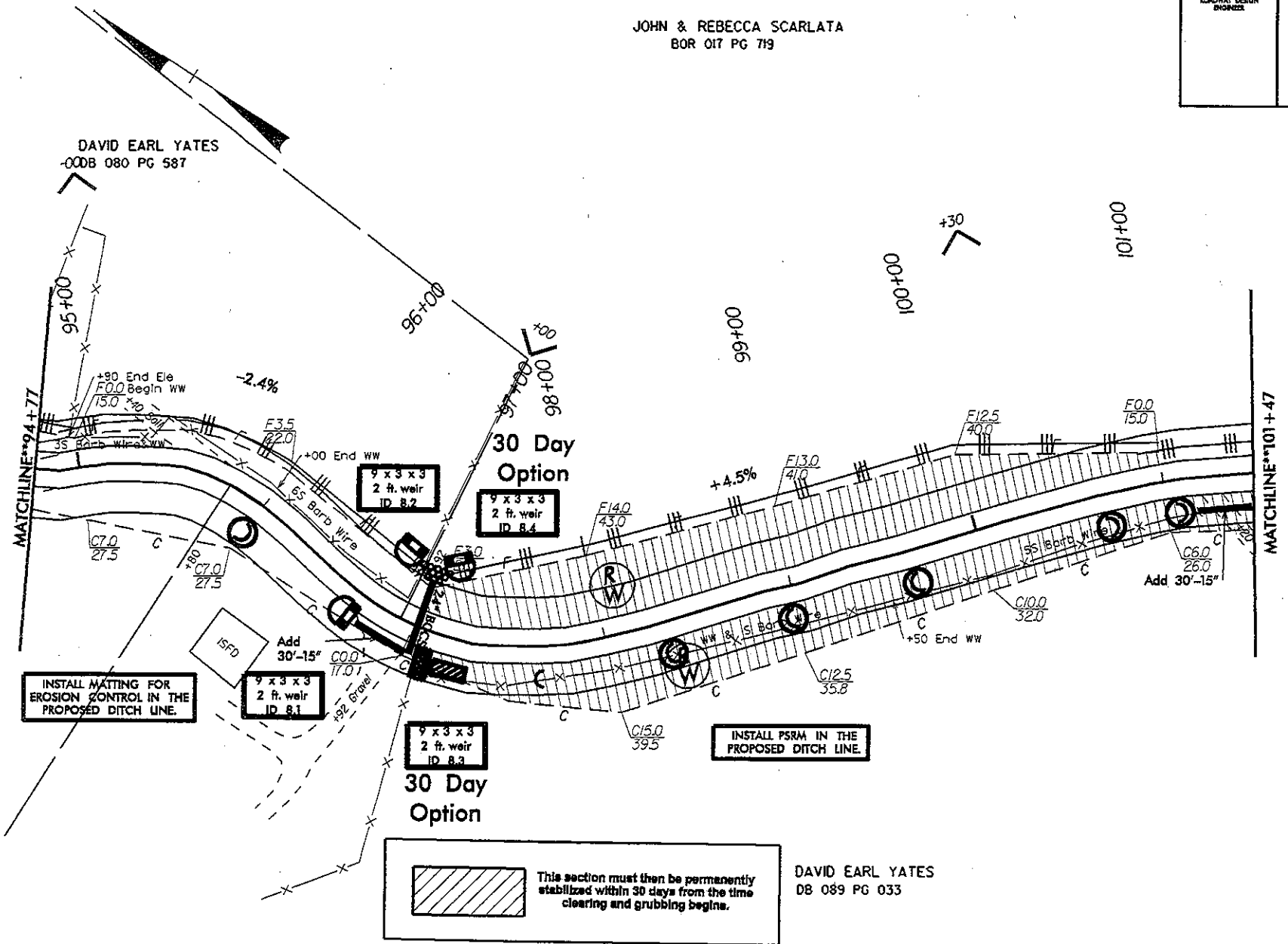
 This section must then be permanently stabilized within 30 days from the time clearing and grubbing begins.

DAVID EARL YATES
DB 080 PG 587

PROJECT REFERENCE NO. #11C.095094	SHEET NO. EC-8
BY SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

JOHN & REBECCA SCARLATA
BOR OIT PG 719

DAVID EARL YATES
-00DB 080 PG 587



INSTALL MATTING FOR
EROSION CONTROL IN THE
PROPOSED DITCH LINE.

9 x 3 x 3
2 ft. weir
ID 8.1

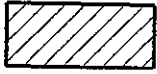
9 x 3 x 3
2 ft. weir
ID 8.3

30 Day
Option

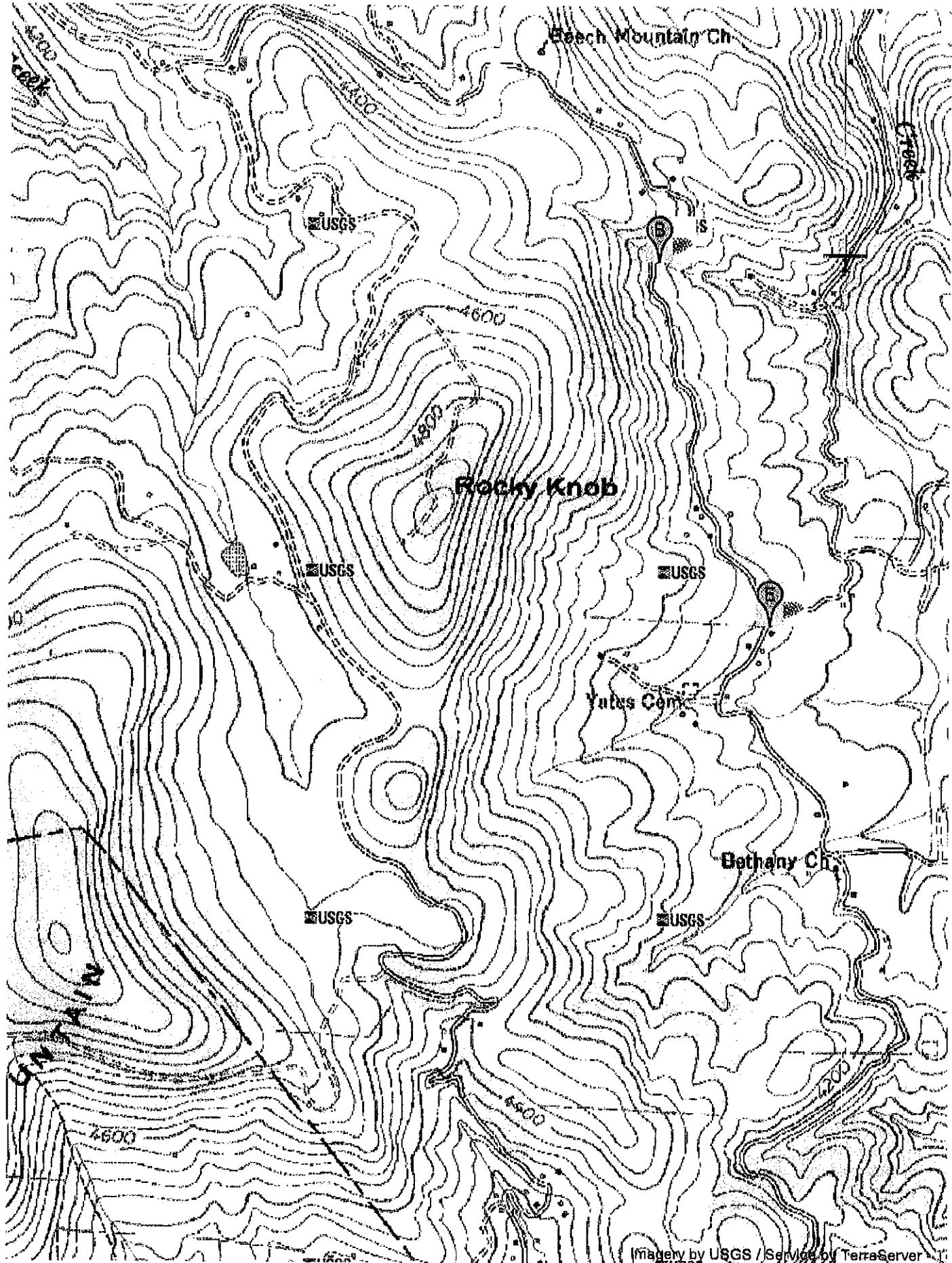
30 Day
Option

9 x 3 x 3
2 ft. weir
ID 8.4

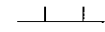
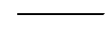
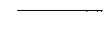
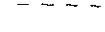
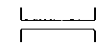
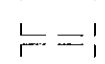
INSTALL PFRM IN THE
PROPOSED DITCH LINE.

 This section must then be permanently stabilized within 30 days from the time clearing and grubbing begins.

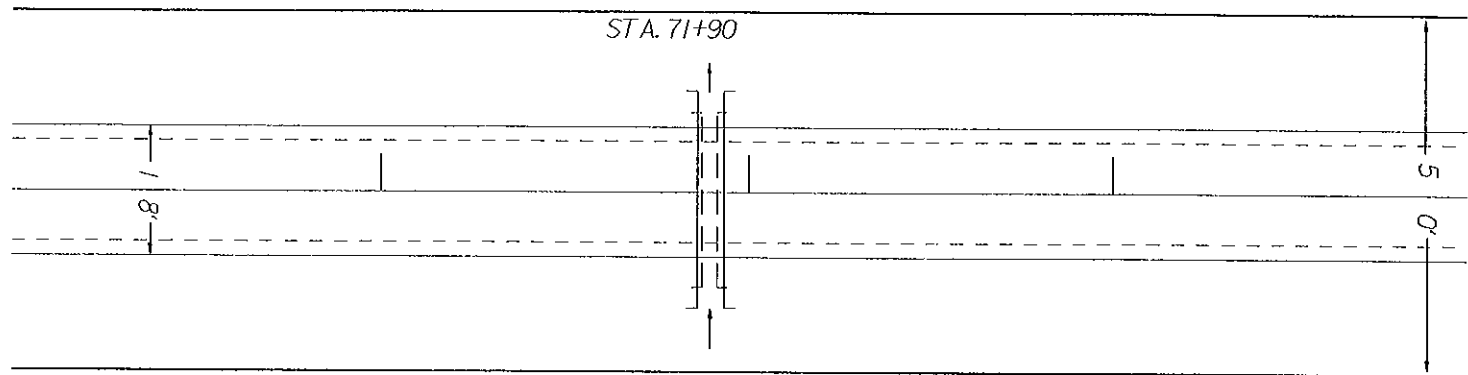
DAVID EARL YATES
DB 089 PG 033



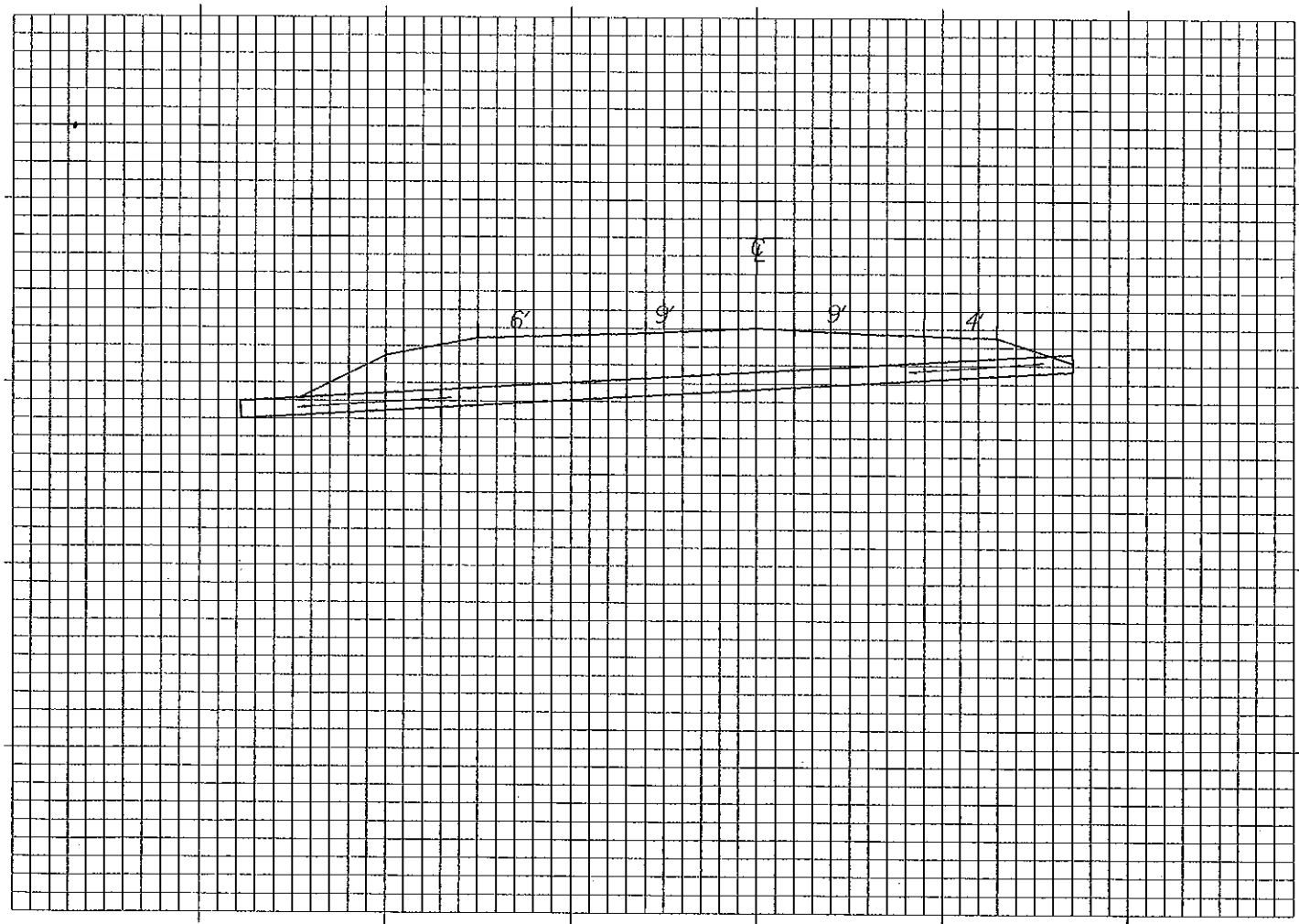
PROJECT:	IIC.095028 (R/W)	
	(CONST)	
ROAD:	SR 1128C ANDY HICKS RD.	
COUNTY:	WATUAGA	
TYPE:	WET PIPE SURVEY STA. 71+90	
SCALE: 1" = 10'	SHEET 8 OF 11	DATE: 4-08-05

-  CENTER LINE
-  PROPOSED R/W
-  NEW EDGE PAVEMENT
-  EXISTING EDGE ROADWAY
-  NEW PIPE
-  EXISTING PIPE

STREAM NAME: LAUREL CREEK (INDEX 8-17)
 RATING: C; TR
 12" STREAM




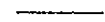
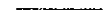

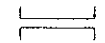
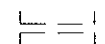
EXISTING PIPE SIZE: 30' x 18"
 NEW PIPE SIZE: 50' x 24" PIPE TO BE LAID ON A 90° SKEW WITH 5% FALL



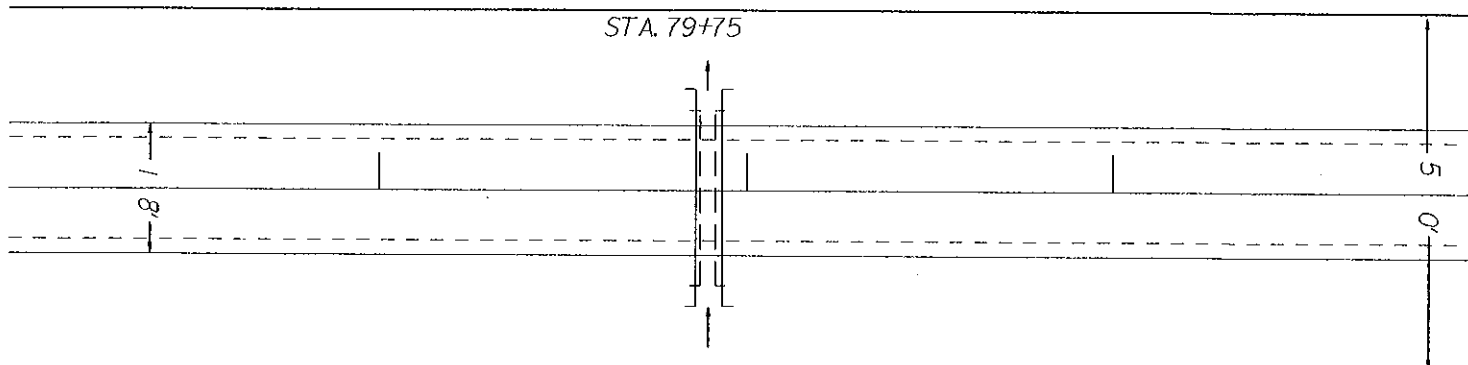
NOTE: TEMPORARY EROSION CONTROL DEVICES NOT SHOWN.

SURVEY DATE: 2/11/05
 CONDUCTED BY: AJ, DH, HR, BP
 DRAWN BY: GK

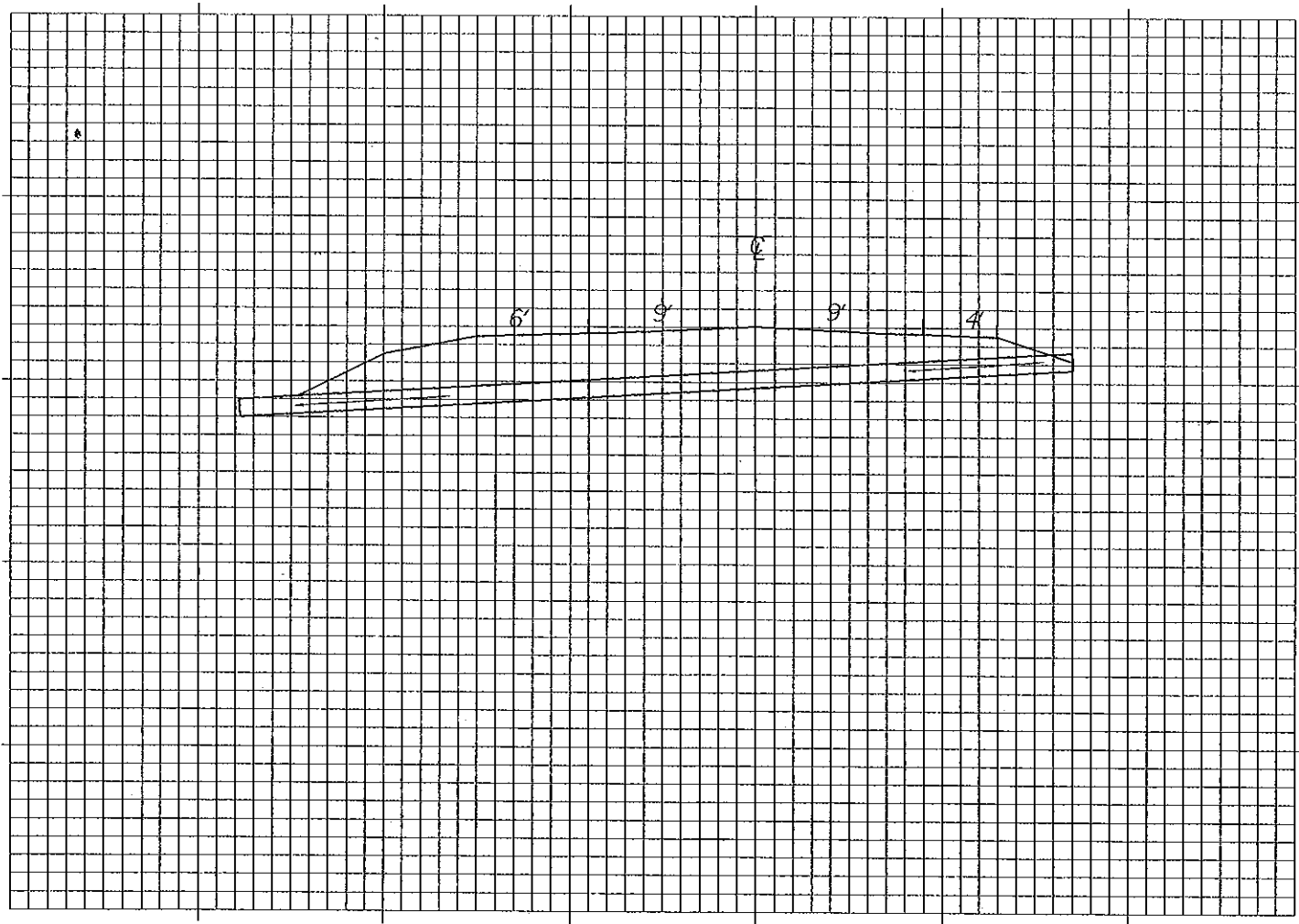
PROJECT:	IIC.095028 (R/W)	
	(CONST)	
ROAD:	SR 1128C ANDY HICKS RD.	
COUNTY:	WATUAGA	
TYPE:	WET PIPE SURVEY STA. 79+75	
SCALE: 1" = 10'	SHEET 9 OF 11	DATE: 4-08-05

-  CENTER LINE
-  PROPOSED R/W
-  NEW EDGE PAVEMENT
-  EXISTING EDGE ROADWAY
-  NEW PIPE
-  EXISTING PIPE

STREAM NAME: LAUREL CREEK TRIBUTARY (INDEX 8-17)
 RATING: C; TR
 12" STREAM









EXISTING PIPE SIZE: 30' x 18"
 NEW PIPE SIZE: 50' x 24" PIPE TO BE LAID ON A 90° SKEW WITH 5% FALL



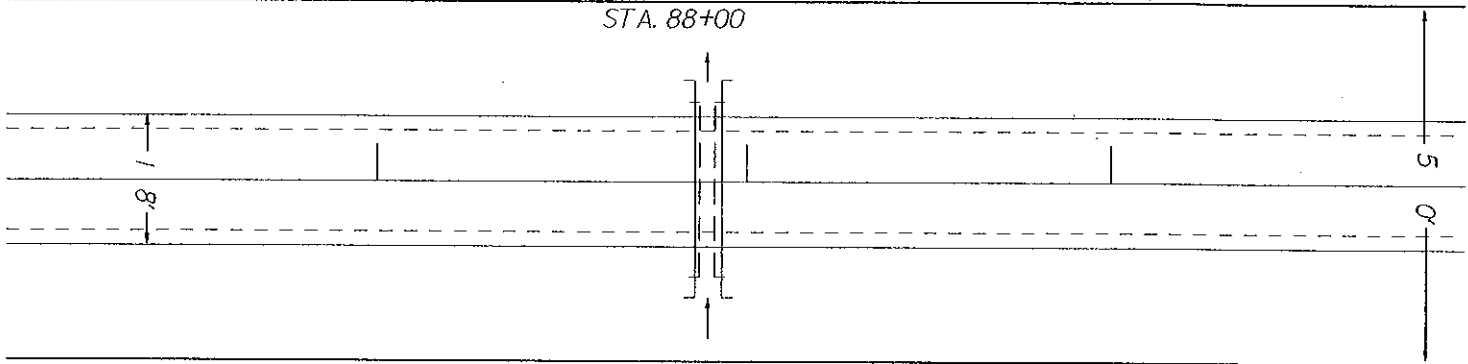
NOTE: TEMPORARY EROSION CONTROL DEVICES NOT SHOWN.

SURVEY DATE: 2/11/05
 CONDUCTED BY: AJ, DH, HR, BP
 DRAWN BY: GK

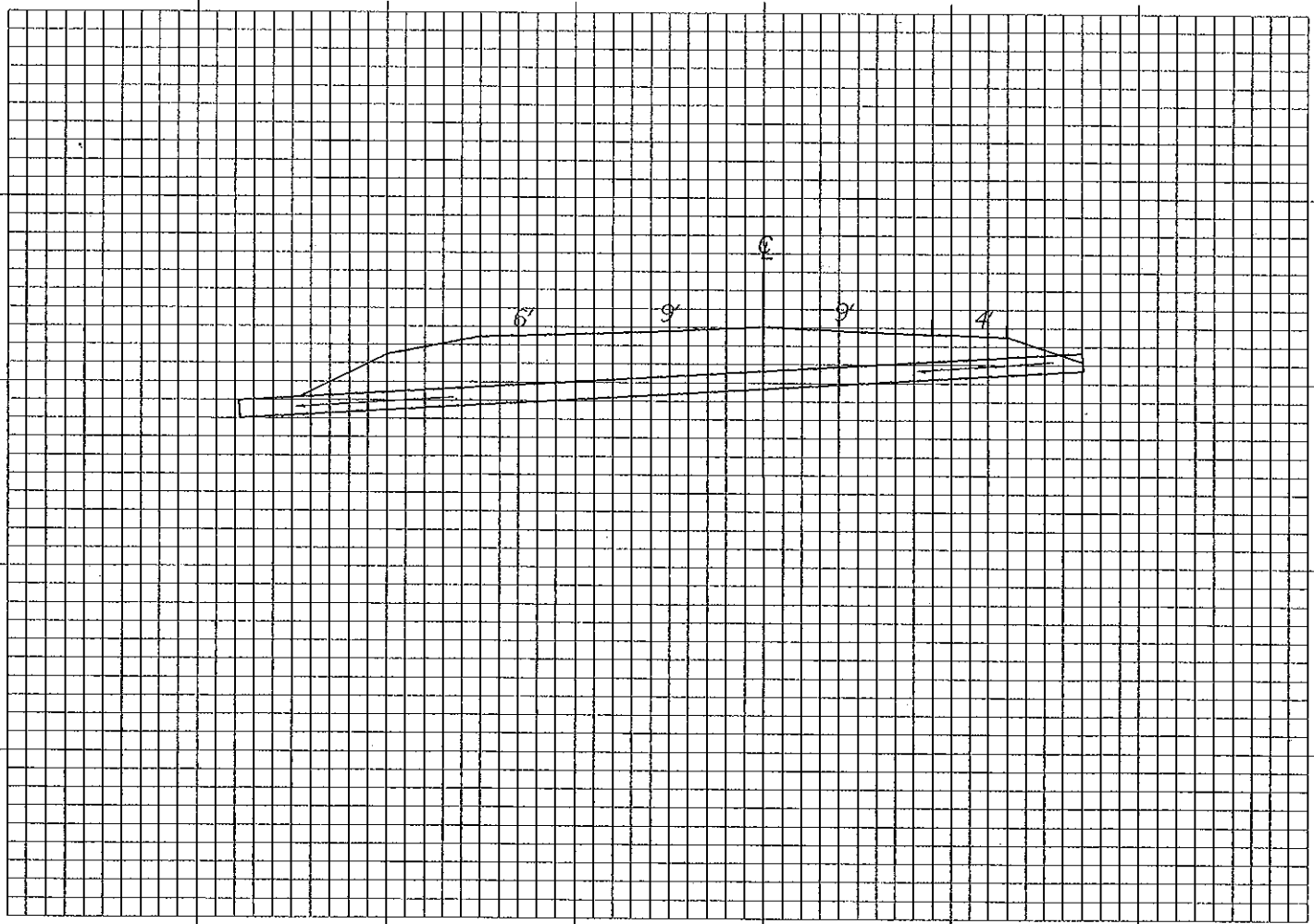
PROJECT:	IIC.095028 (R/W)	
	(CONST)	
ROAD:	SR 1128C ANDY HICKS RD.	
COUNTY:	WATUAGA	
TYPE:	WET PIPE SURVEY STA. 88+00	
SCALE: 1" = 10'	SHEET 10 OF 11	DATE: 4-08-05

-  CENTER LINE
-  PROPOSED R/W
-  NEW EDGE PAVEMENT
-  EXISTING EDGE ROADWAY
-  NEW PIPE
-  EXISTING PIPE

STREAM NAME: LAUREL CREEK TRIBUTARY (INDEX 8-17)
 RATING: C; TR
 12" STREAM









EXISTING PIPE SIZE: 30' x 24"
 NEW PIPE SIZE: 50' x 36" PIPE TO BE LAID ON A 90° SKEW WITH 5% FALL



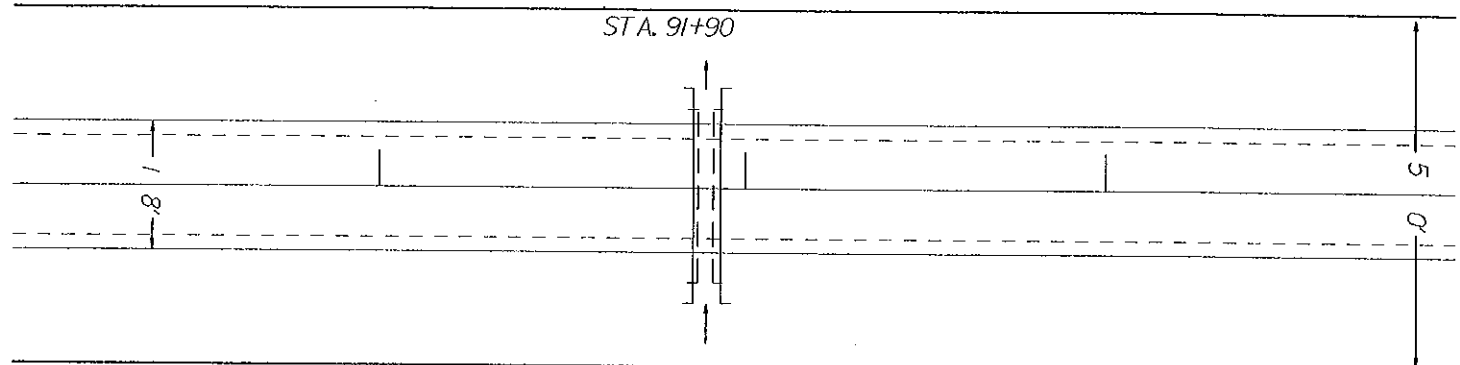
NOTE: TEMPORARY EROSION CONTROL DEVICES NOT SHOWN.

SURVEY DATE: 2/11/05
 CONDUCTED BY: AJ, DH, HR, BP
 DRAWN BY: GK

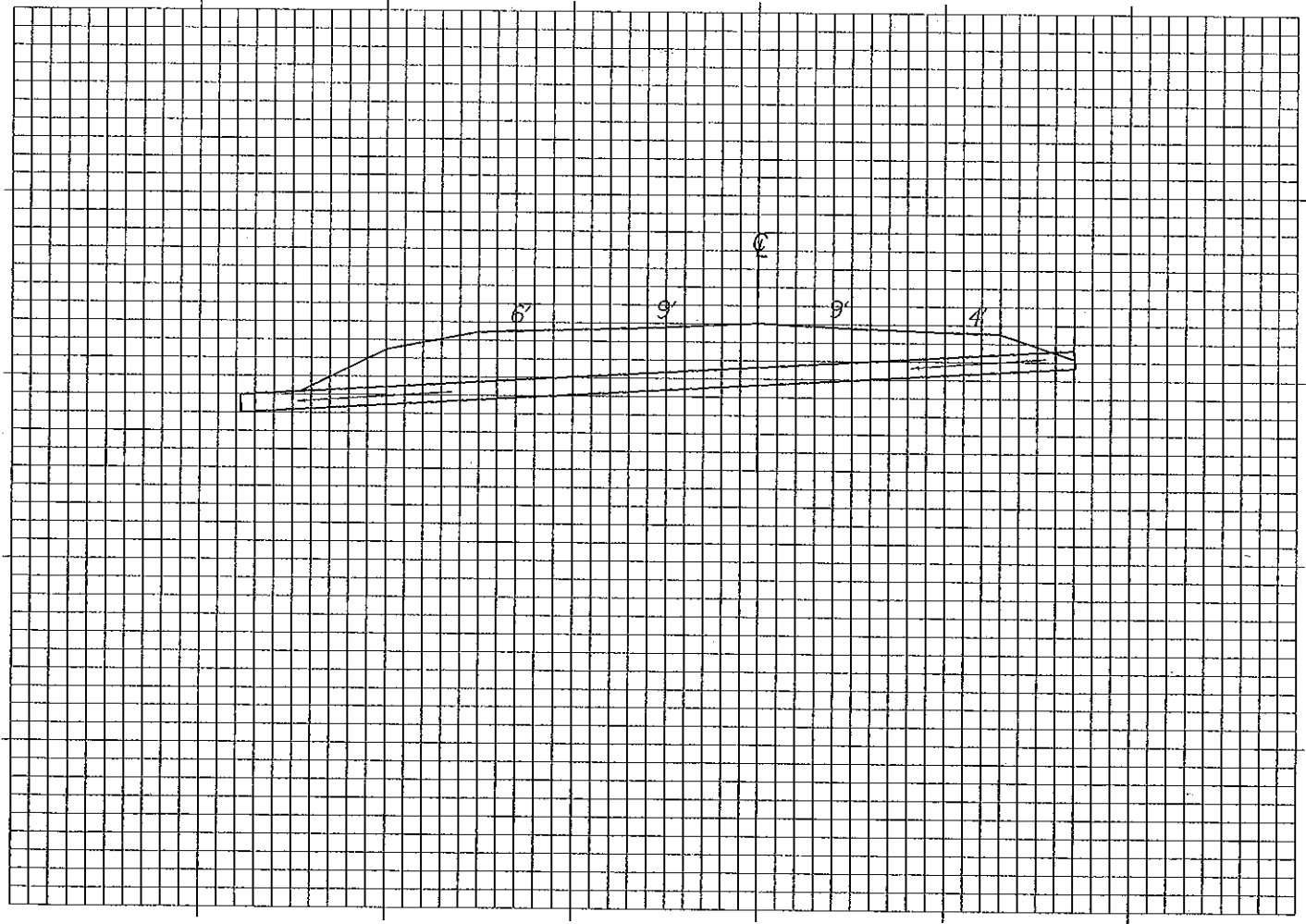
PROJECT:	IIC.095028 (R/W)	
	(CONST)	
ROAD:	SR 1128C ANDY HICKS RD.	
COUNTY:	WATUAGA	
TYPE:	WET PIPE SURVEY STA. 91+90	
SCALE: 1" = 10'	SHEET 11 OF 11	DATE: 4-08-05

-  CENTER LINE
-  PROPOSED R/W
-  NEW EDGE PAVEMENT
-  EXISTING EDGE ROADWAY
-  NEW PIPE
-  EXISTING PIPE

STREAM NAME: LAUREL CREEK TRIBUTARY (INDEX 8-17)
 RATING: C; TR
 12" STREAM



EXISTING PIPE SIZE: 30' x 24"
 NEW PIPE SIZE: 60' x 36" PIPE TO BE LAID ON A 90° SKEW WITH 5% FALL



NOTE: TEMPORARY EROSION CONTROL DEVICES NOT SHOWN.

SURVEY DATE: 2/11/05
 CONDUCTED BY: AJ,DH,HR,BP
 DRAWN BY: GK