Westbrook Lowgrounds Mitigation Project
Johnston County, North Carolina

Year 4 Monitoring Report

Prepared for
Environmental Banc and Exchange, LLC
909 Capability Drive, Suite 3100
Raleigh, NC 27606

Prepared by
WK Dickson and Co., Inc.
3101 John Humphries Wynd
Raleigh, NC 27612
(919) 782-0495

And

Ecosystem & Land Trust Monitoring
Sparta, NC

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1.0 SUMMARY

This Annual Report details the monitoring activities during the 2006 growing season on the Westbrook Lowgrounds Mitigation Site. Construction of the site, including planting of trees, was completed in February 2003. The 2006 data represents results from the fourth year of hydrology and vegetation monitoring for both wetlands and streams.

The design for the Westbrook Lowlands property involved the restoration of a Coastal Plain, small stream swamp and associated wet flats as described by Schafale and Weakley (1990). After construction, it was determined that 5,414 feet of stream and 66.2 acres of wetland hydrology were restored. The As-Built survey is included as Appendix A.

This Annual Report presents the data from seven hydrologic monitoring stations, vegetation monitoring stations, and stream monitoring, as specified by the approved Mitigation Plan for the site. Two of the hydrologic stations are equipped with manual groundwater gauges and five stations are equipped with automated gauges and a manual calibration gauge. Additionally, the gauges are used as points from which photographs are taken over time.

Weather station data from the Smithfield Weather Station were used in conjunction with a manual rain gauge located on the site to document precipitation amounts. The manual gauge is used to validate observations made at the automated station. On-site rainfall measurements were generally within normal limits for the growing season. January through March and August rainfall totals fell below normal. April, July, September, and October rainfall was within normal limits. And, May, June, and November rainfall exceeded normal limits.

In 2006, five of seven hydrology monitoring gauges have met the hydrologic success criteria. The gauges that did not meet success criteria exhibited a hydroperiods of 4 percent and 6 percent of the growing season. However, the gauges correlate with data collected from gauges located on the reference site that also experienced dry conditions during the 2006 growing season. Based on these results, it was concluded that the site is performing as designed.

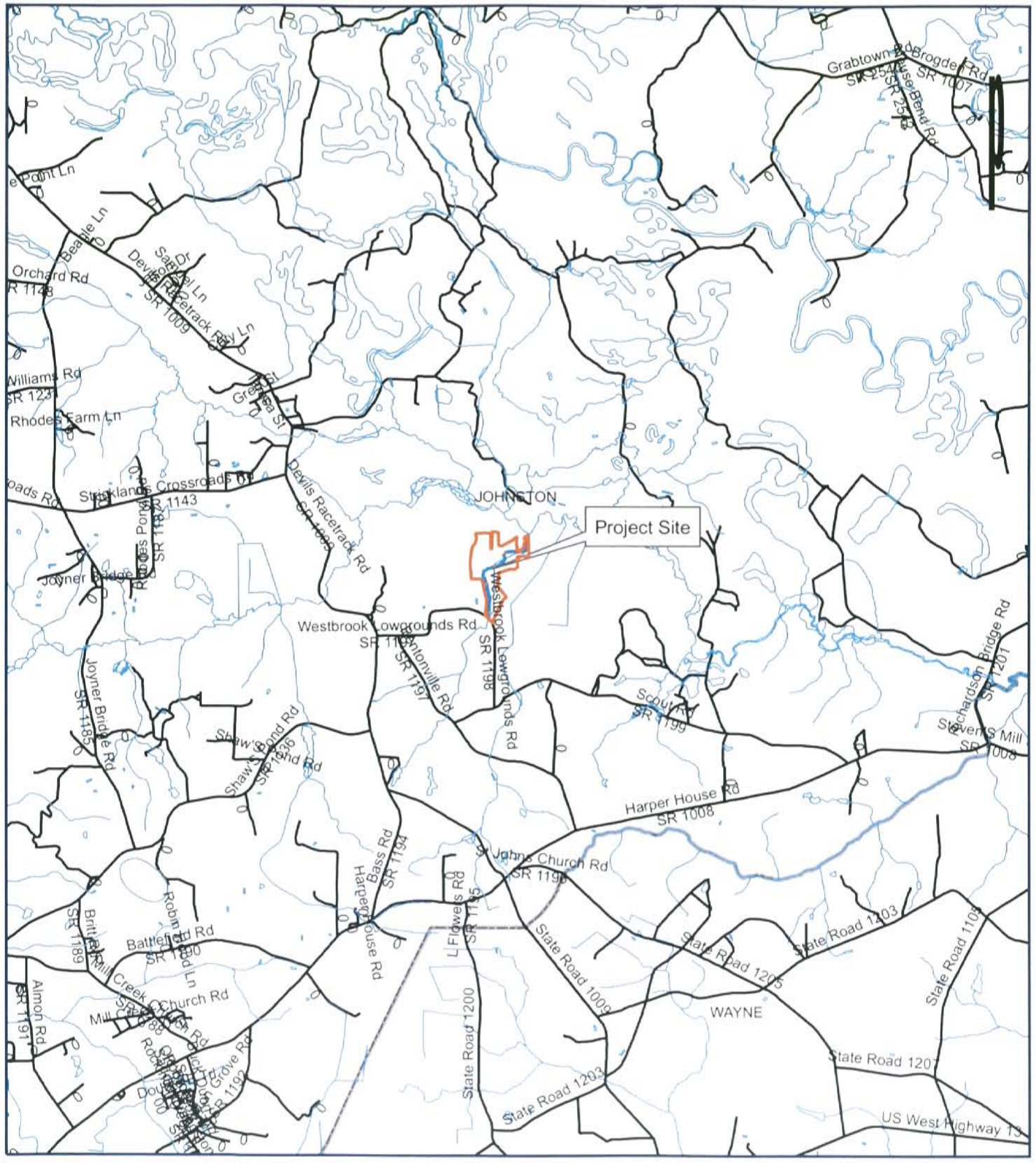
This Annual Report documents vegetation survival on thirteen vegetation monitoring plots, as specified in the approved mitigation plan for this site. The vegetation monitoring indicated survival rates between 390 and 630 stems per acre, which puts the site on track to meet the 260 5-year old planted trees at the end of year five.

The restored stream channel has remained stable and is providing the intended habitat and hydrologic functions. All monitored cross-sections for 2006 show very little adjustment in stream dimension.

2.0 INTRODUCTION

2.1 Project Description

Located in Johnston County, the entire Westbrook Lowlands Mitigation Site covers approximately 140 acres and is located approximately one mile east of the town of Bentonville, North Carolina (Figure 1 and Figure 2). The Westbrook Lowlands site is designed to restore a Coastal Plain, small stream swamp and associated wet flats as described by Schafale and Weakley (1990). The Coastal Plain, small stream swamp communities exist as the floodplains of small, blackwater streams in which separate fluvial features and associated vegetation are too small or poorly developed to distinguish. Construction was completed in January 2003, and 66.2 acres were planted in February 2003. Groundwater, surface water, and rain gauges were functional beginning March 7, 2003. The 2006 monitoring season represents the fourth year of monitoring for the site.



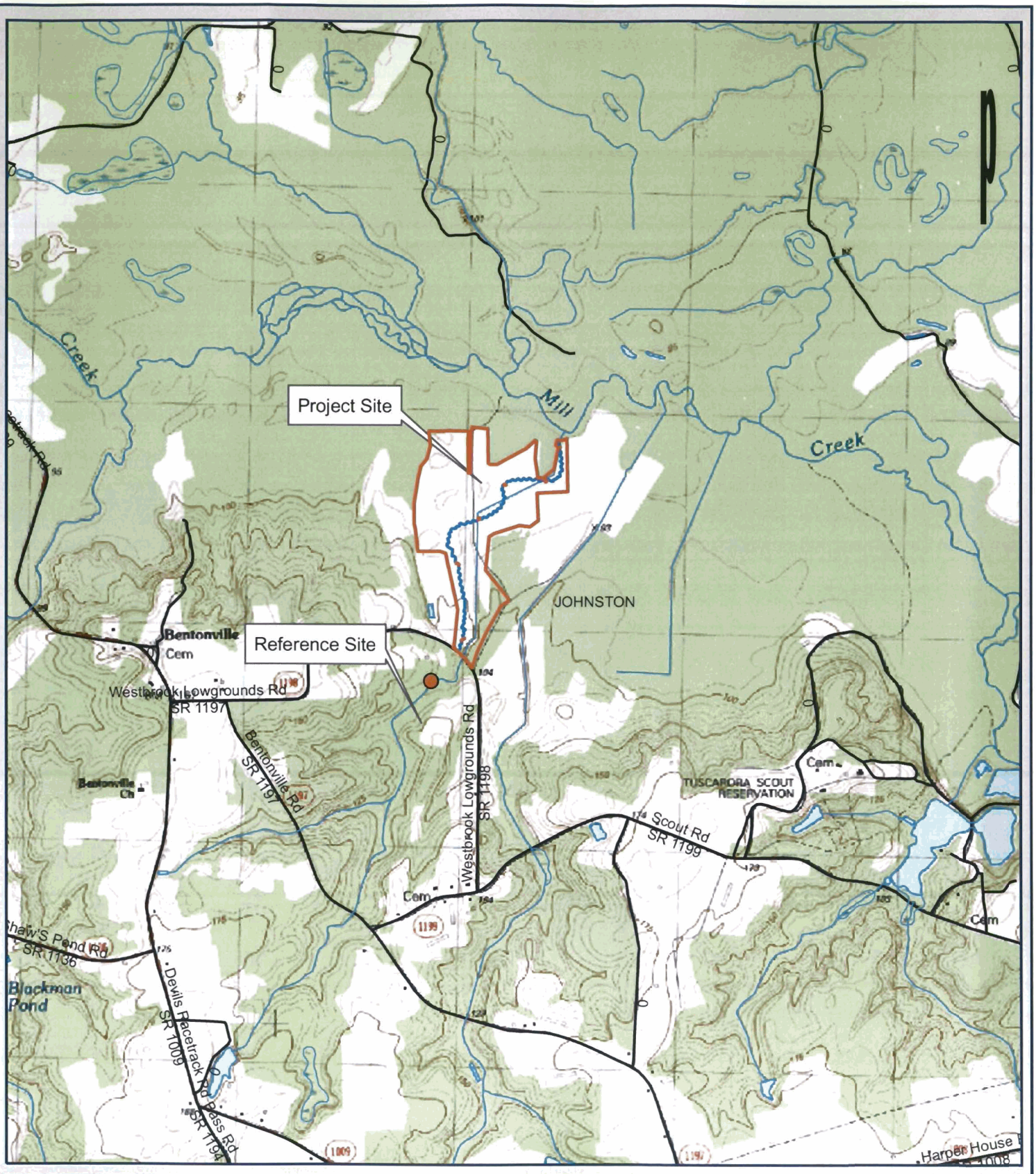
EBX

Westbrook
Johnston County
Vicinity Map

0 0.5 1 2 Miles

Legend

- Streams
- Roads
- Westbrook Site



EBX

Figure 2
Westbrook
Johnston County
USGS Map

0 500 1,000 2,000 3,000 4,000
Feet

Streams
Roads
Westbrook Site

2.2 Project Purpose

Monitoring of the Westbrook Lowgrounds Site is required to demonstrate successful mitigation based on the criteria found in the Mitigation Plan, the Neu-Con Umbrella Stream and Wetland Mitigation Bank Instrument, and through a comparison to reference site conditions. Hydrologic, vegetation, and stream monitoring are conducted on an annual basis. Success criteria must be met for five consecutive years. This Annual Report details the results of the monitoring efforts for 2006 (Year 4) at the Westbrook Lowgounds Mitigation Site.

2.3 Project History

Table 1. Project History

Project History	
Fall	Approved Mitigation Plan
January 2003	Construction Completed
February 2003	Post-restoration Monitoring Begins
November 2003	1st Annual Monitoring Report
November 2004	2nd Annual Monitoring Report
November 2005	3rd Annual Monitoring Report
November 2006	4th Annual Monitoring Report
November 2007 (scheduled)	5th Annual Monitoring Report

3.0 HYDROLOGY

3.1 Hydrology Success Criteria

As stated in the approved Mitigation Plan, the hydrologic success criteria for the site are to restore the water table so that it will remain within 12 inches of the soil surface for at least 9 percent of the growing season continuously (approximately 21 days). The day counts are based on the growing season for Johnston County, which is 232 days long, beginning on March 17 and ending November 5, as calculated from National Weather Service Wetlands Determination Tables (WETS) for Johnston County. Data are collected from five automated and two manual groundwater gauges.

The Mitigation Plan further specified that in order for the hydrologic data to be considered successful it must demonstrate wetland conditions are present in normal or dryer than normal conditions.

3.2 Description of Hydrology Monitoring Efforts

Two manual groundwater gauges, two automated Remote Data Systems (RDS) WL 40 groundwater gauges, three automated Infinities groundwater gauges, and one rain gauge were installed prior to the beginning of the 2006 growing season (Figure 3). Groundwater gauges, both manual and automated, were installed to a minimum depth of at least 32 inches below the ground surface. The monitoring protocol for the site specifies that automated monitoring stations will be downloaded and checked for malfunctions on a monthly basis. During monthly site visits, manual groundwater gauges are read and rainfall totals are collected from the on-site rain gauge.

Automatic groundwater gauges record water table elevations twice daily at 08:00 and 20:00. Infinities gauges employ pressure sensors that record water elevation above the bottom of the sensor (with atmospheric pressure compensation). Remote Data Systems gauges use a capacitive probe to directly measure depth of the water from a "zero" point (ground surface). Immediately adjacent to each automatic gauge is a manual calibration gauge. The calibration water table depth is recorded at monthly downloads. To determine wetland hydroperiods the automatically recorded data are compared to the calibration data to determine a standard correction factor between the calibration

Wetland Hydroperiod
- >9 percent
- 5-9 percent
- <5 percent

Vegetation Plots

Wetland Restoration Limits

Westbrook Lowgrounds Rd
SR 1198

MW-1
VP #3
LCE
MW-2
VP #4
LCE
VP #2 Access Road
VP #5
AW-2
VP #10
XSEC3
XSEC4
XSEC5
XSEC6
XSEC7
VP #6
LCE
AW-4
VP#9
VP #1
AW-1
AW-5
VP #8
VP #11
CS-1
AW-3
RG1
VP #12
XSEC11
VP #7
XSEC2
VP #13
Access Road
Access Road
Westbrook Lowgrounds Rd
SR 1198

Figure 3
Westbrook-Lowgrounds

Feet
0 125 250 500
1 inch equals 250 feet

gauge and the automatic gauge for each location. The standard correction factor is applied to correct daily readings. The corrected daily readings are used to determine wetland hydroperiods.

Water table depths are recorded monthly in manual groundwater gauges. To calculate wetland hydroperiods interpolations are made between monthly readings by correlating twice daily automatic gauge readings. Each manual gauge is correlated to an automatic gauge based on proximity, landscape position, and the relationship of their groundwater depth readings (i.e. if their readings are separated by a consistent value). Once the appropriate automatic gauge has been selected a correction factor is calculated for each monthly gauge reading. A daily rate of change between monthly correction factors is calculated to determine the daily correction factor. The daily correction factor is then applied to the automatic gauge readings to calculate an estimated daily water table depth for the manual gauge. These daily readings are used to determine wetland hydroperiods.

Wetland hydroperiods are calculated from twice daily water table depth elevations. A hydroperiod is calculated if the water table is equal to or less than -12 inches below ground surface for at least 24 hours. If a gauge falls below -12 inches for two consecutive readings (24 hours) then the hydroperiod ends at the last reading within -12 inches. If a gauge falls below -12 inches for only one reading then maintains a reading above -12 inches for a minimum of 24 hours then the hydroperiod is calculated continuously. This methodology accounts for minor technical malfunctions experienced by the automatic gauges.

3.3 Results of Hydrology Monitoring

Site Data

The following hydroperiod statistics were calculated for each monitoring station during the growing season: 1) most consecutive days that the water table was within twelve inches of the soil surface; 2) cumulative number of days that the water table was within twelve inches of the soil surface; and 3) number of times that the water table rose to within twelve inches of the soil surface. The results of these calculations are presented in Table 2. Figure 4 provides a chart of the water depth for each of the monitoring gauges on the site. The figure demonstrates the reaction at each monitoring location of the groundwater level to specific rainfall events. Raw gauge data collected from the monitoring gauges are provided in Appendix C.

Table 2. Hydrologic Monitoring Results for 2006 (Year 2).

2006 Max Hydroperiod (Growing Season 17-Mar through 5-Nov, 232 days)					
	Consecutive		Cumulative		
Gauge	Days	Percent of growing Season	Days	Percent of growing Season	Occurrences
AW1	15	6	34	15	5
AW2	9	4	57	25	13
AW3	31	13	96	41	13
AW4	31	13	40	17	7
AW5	57	25	159	69	6
MW1	27	12	---	---	4
MW2	27	12	---	---	4

The site was designed to function as a riparian wetland system with associated wet flats. Hydrology in the riparian areas is driven primarily by groundwater discharge and overbank flooding, whereas precipitation is the primary hydrologic influence in the wet flat areas. Monitoring has thus far

Figure 4A
Westbrook Groundwater Gauges
2006

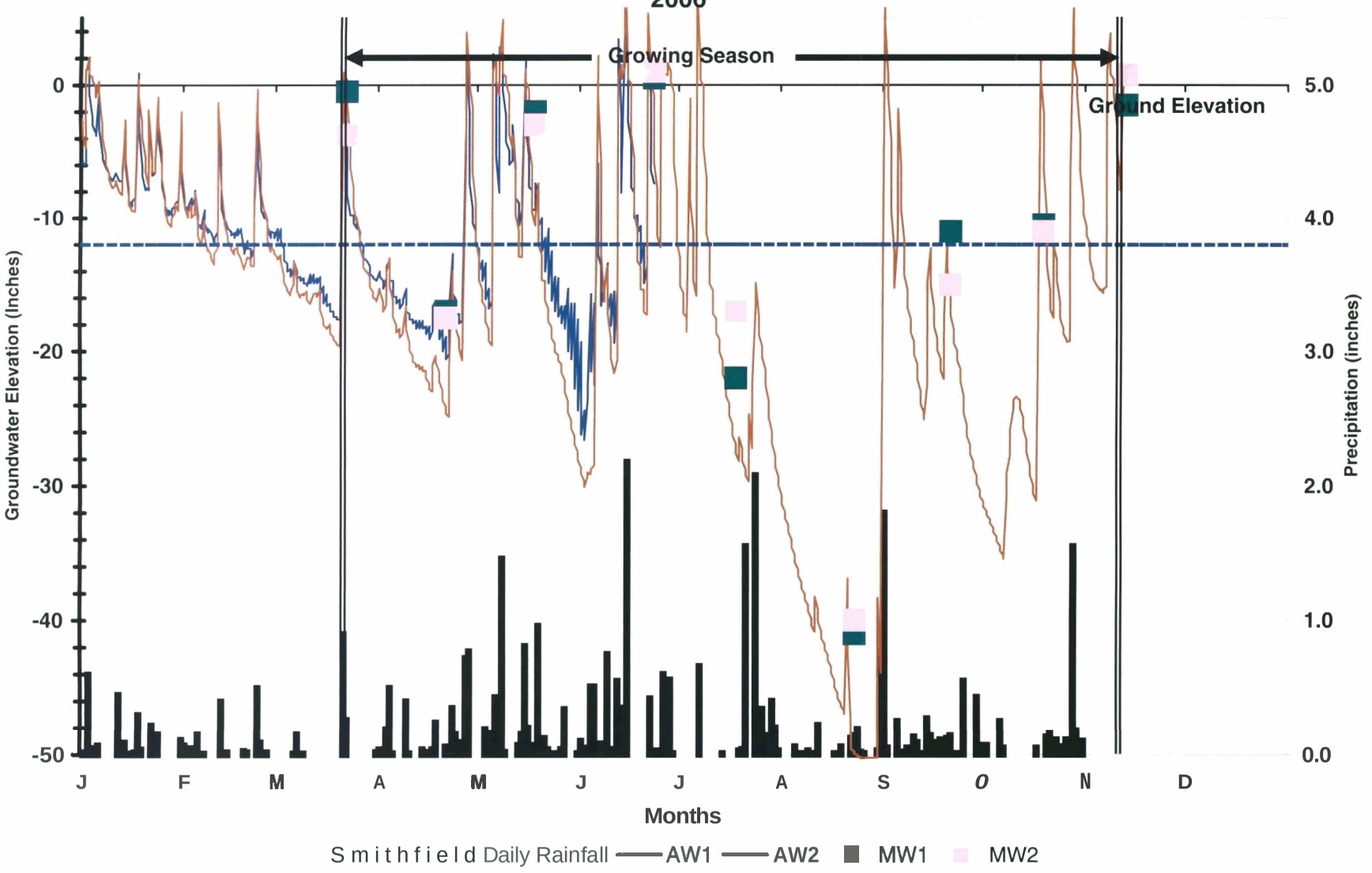
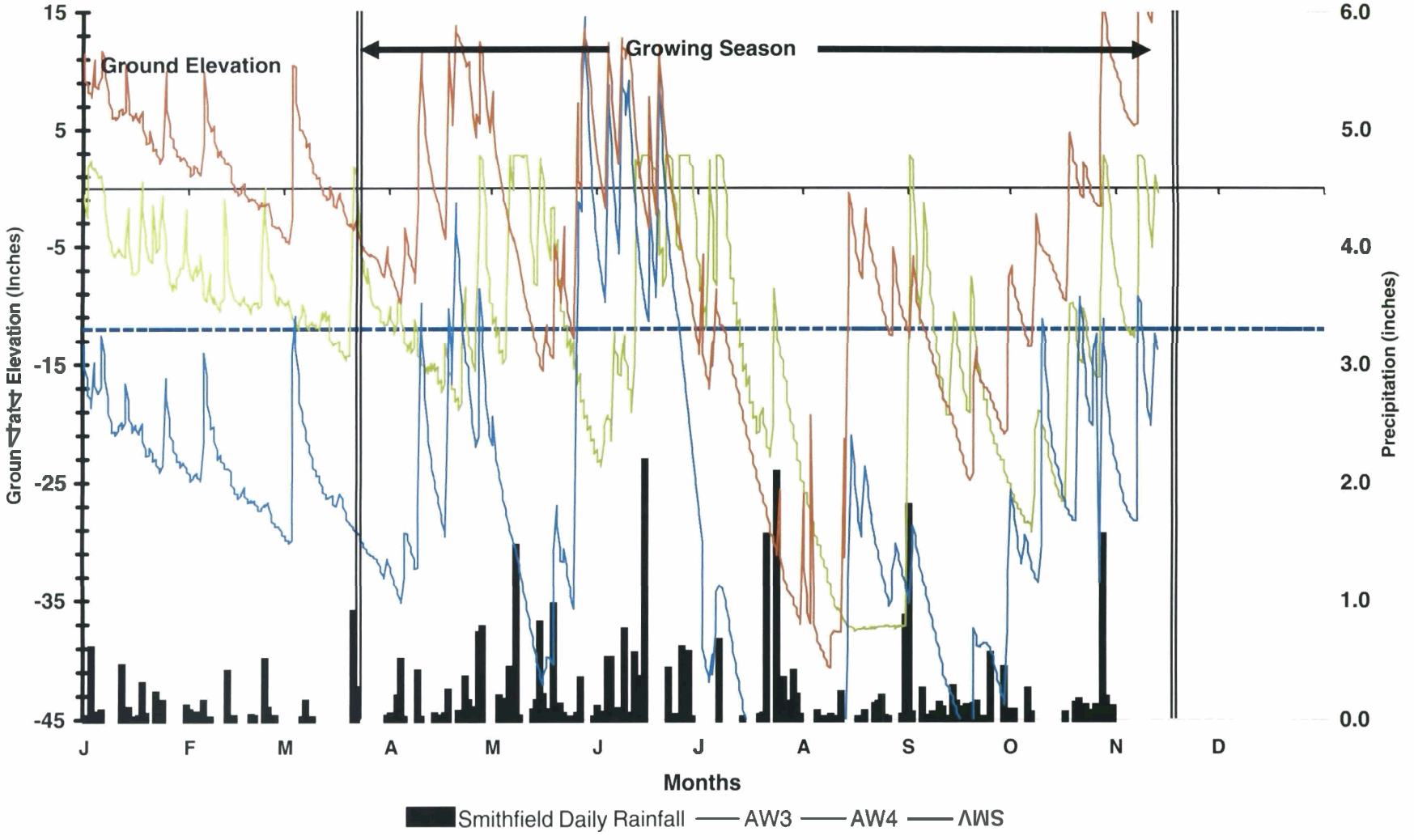


Figure 4B
Westbrook Groundwater Gauges
2006



demonstrated that the site is functioning as designed, with varying degrees of wetness and saturation across the site. Gauges AW3, AW4, AW5, MW1, and MW2 have met or exceeded the 9 percent hydrologic success criteria. The two remaining gauges exhibited varying wetland hydroperiods and were within the range of conditions in the reference wetland.

The approved mitigation plan for the Westbrook Lowgrounds Site states in Section 3.5:

> "... [model] simulations indicate that, on average, the water table will be less than 30 cm [12 inches] deep continuously for approximately 9 percent of the growing season. This scenario can be assumed to represent average conditions across the site, with the majority of the restored acreage on the site being represented by this hydrologic scenario. It is probable that there will be areas slightly drier or slightly wetter than the modeled scenario within the restoration area. The modeled scenario provides a basis for estimating the average hydrologic condition over the restored site, based on the proposed restoration practices. However, it is important to note that the hydrology of the targeted restored wetland system (Coastal Plain, small stream swamp) is highly variable across a given site, supporting the ecological and functional diversity that makes these systems so valuable."

The model simulations performed during the design phase of the project indicated that the entire site would range from slightly higher than the minimum wetland criteria of 5 percent to more saturated areas that would exceed 12.5 percent. While most of the site is performing as described in the Mitigation Plan, the upper west portion of the site (represented by gauges AW1 and AW2) displayed drier conditions during the 2006 growing season.

Reference Data

The same hydroperiod statistics were calculated for each reference monitoring station during the growing season as were calculated for the site monitoring stations. The results of these calculations are presented in Table 3. Figure 5 shows the reference monitoring station data. Only two of five reference wells exceeds the 9 percent hydroperiod established as success criteria for the restoration site. The reference wells exhibit a range of hydroperiods similar to the site data, including one well location (Ref MW5) with a minimal wetland hydroperiod. The reference wells are located within a wetland adjacent to the stream reach upstream of the Westbrook mitigation site.

Table 3. Reference Hydrologic Monitoring Results for 200.

2006 Max Hydroperiod (Growing Season 17-Mar through 5-Nov, 232 days)					
	Consecutive		Cumulative		
Gauge	Days	Percent of growing Season	Days	Percent of growing Season	Occurrences
Ref MW1	19	8	---	---	2
Ref MW2	19	8	---	---	2
Ref AW3	67	29	131	56	8
Ref MW4	20	9	---	---	4
Ref MW5	1	0	---	---	0

Climate Data

Table 4 and Figure 6 is a comparison of the 2006 monthly rainfall to historical precipitation for Johnston County (NRCS WETS Tables). Observed precipitation data were collected from an automated weather station in Smithfield and an on-site manual rain gauge. On-site rainfall measurements were

Figure 5
Westbrook Reference Groundwater Gauges
2006

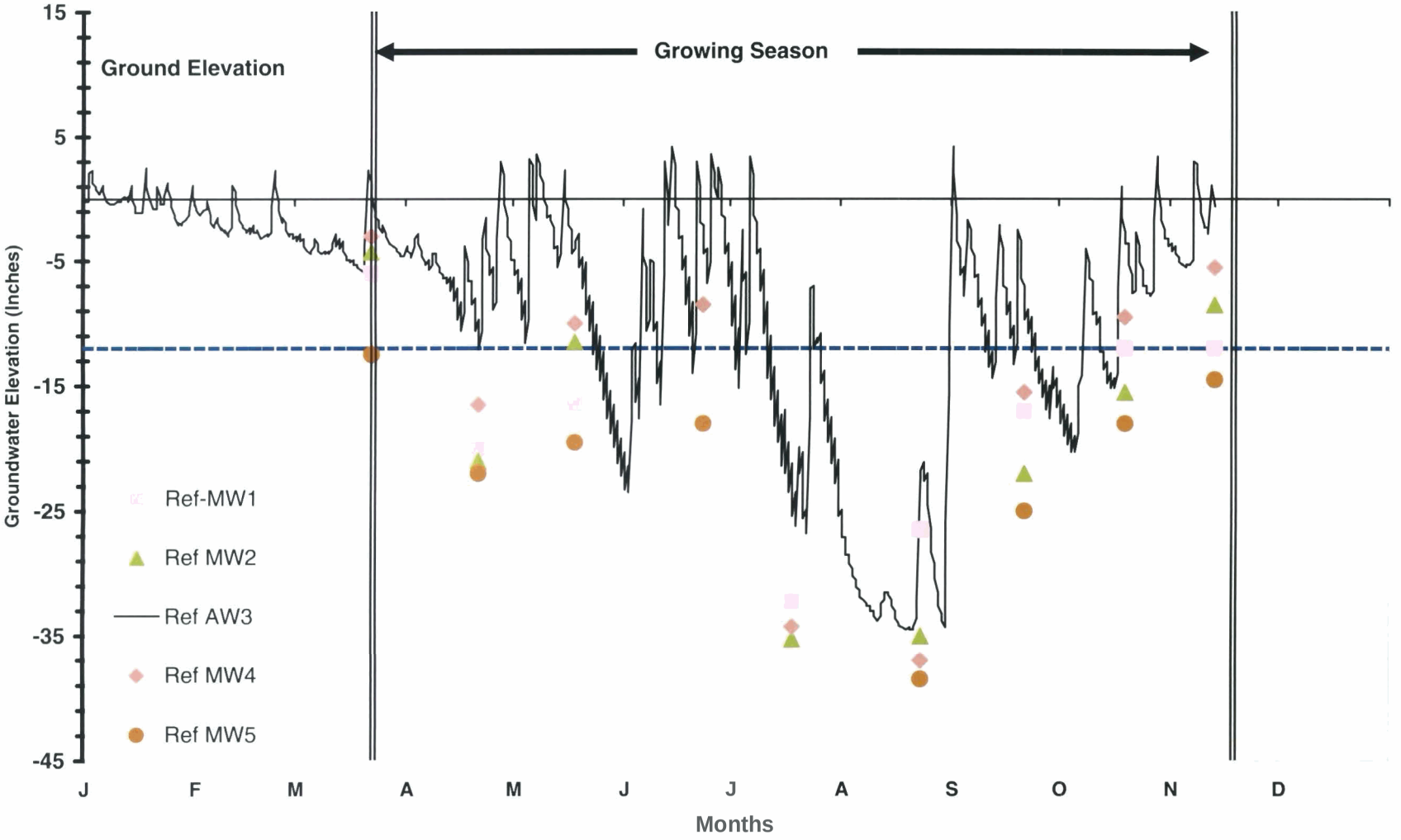
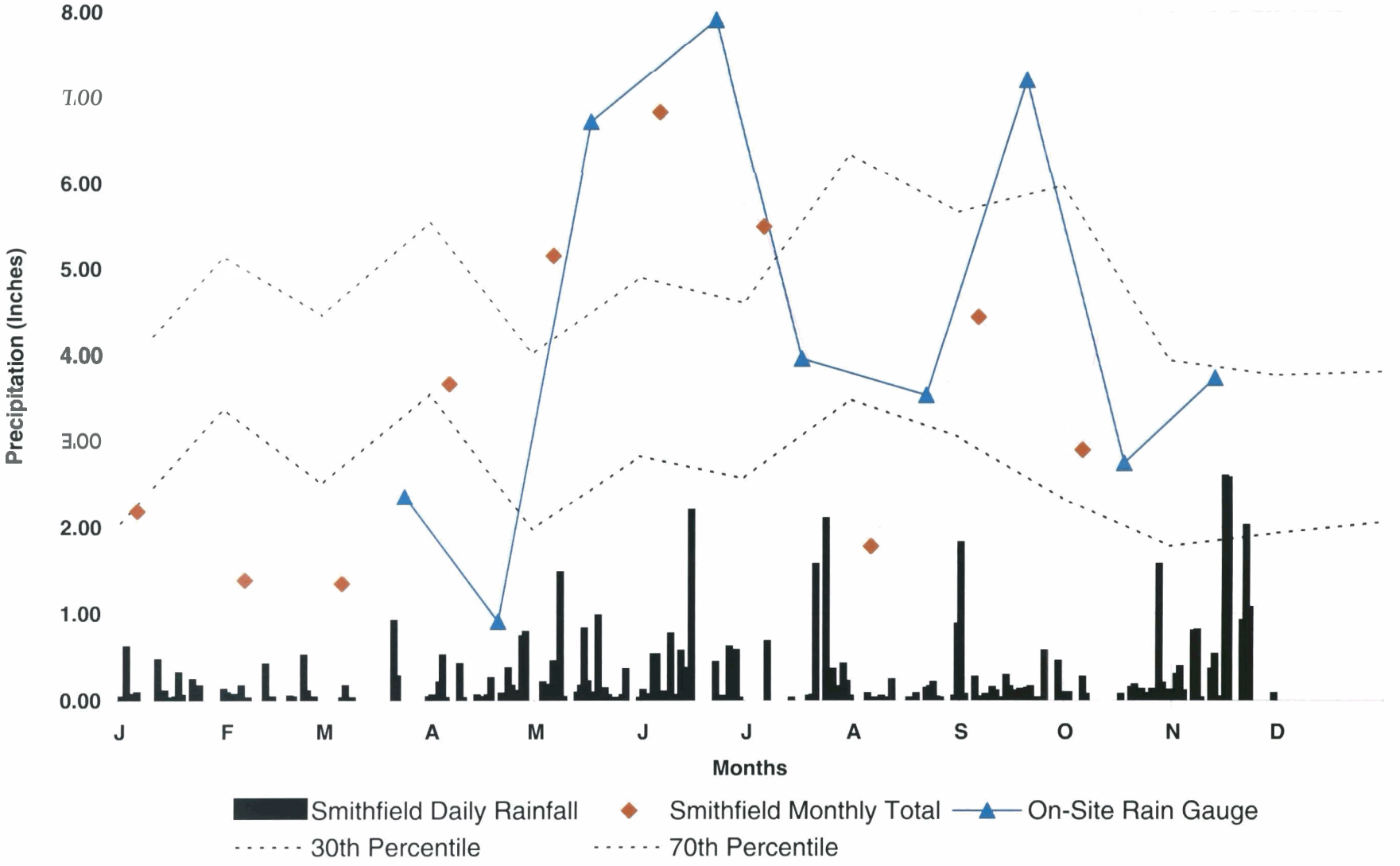


Figure 6
2006 Precipitation for Westbrook Site



generally within normal limits for the growing season. January through March and August rainfall totals fell below normal. April, July, September, and October rainfall was within normal limits. And, May, June, and November rainfall exceeded normal limits.

Table 4. Johnston County Normal and 2006 Observed Rainfall

Month	Historic Average	Normal Limits		Smithfield Precipitation
		30 Percent	70 Percent	
January	4.24	3.37	5.14	2.19
February	3.66	2.51	4.46	1.39
March	4.57	3.54	5.54	1.35
April	3.24	1.98	4.01	3.66
May	4.16	2.83	4.9	5.15
June	4.14	2.57	4.6	6.83
July	5.13	3.48	6.34	5.49
August	4.58	3.05	5.66	1.78
September	4.54	2.34	5.97	4.44
October	3.16	1.78	3.93	2.90
November	2.95	1.93	3.76	12.40
December	3.05	2.06	3.8	NA
Annual Total	47.42	43.1	50.67	47.58

3.4 Hydrology Conclusions

Data collected from all the groundwater monitoring gauges on the Westbrook Lowgrounds Mitigation Site indicate that approved hydrologic success criteria have been met during the 2006 growing season for four out of the seven stations.

Based on prior monitoring results the site is performing as designed, with varying degrees of saturation across the site. The site exhibits flashy hydrographs that appear to be indicative of the soils and hydrology of the targeted wetland system, since similar trends have been documented on the adjacent reference site.

Gauge AW2 exhibited the shortest hydroperiod in 2006 (4 percent). This gauge is a Remote Data Systems WL-40 unit. Previous experience with these units indicated susceptibility to malfunction and misleading data. EBX will replace all RDS gauges with Infinities gauges to ensure accurate data collection.

4.0 VEGETATION

4.1 Vegetation Success Criteria

The interim measure of vegetative success for the Westbrook Mitigation Plan was the survival of at least 320 3-year old planted trees per acre at the end of year 3 of the monitoring period. The final vegetative success criteria will be the survival of 260 5-year old planted trees per acre at the end of year five of the monitoring period.

Up to 20 percent of the site species composition may be comprised of woody volunteers. Remedial action may be required should these (i.e. loblolly pine, red maple, sweet gum, etc.) present a problem and exceed 20 percent composition.

4.2 Description of Species and Vegetation Monitoring

The following tree species were planted in the Wetland Restoration Area:

Table 5. Planted Tree Species

ID	Scientific Name	Common Name	FAC Status
1	*Celtis laevigata*	Sugarberry	FACW
2	*Nyssa biflora*	Swamp Tupelo	OBL
3	*Nyssa sylvatica*	Blackgum	FAC
4	*Quercus laurifolia*	Laurel Oak	FACW
5	*Quercus* lyrata	Overcup Oak	OBL
6	*Quercus michauxii*	Swamp Chestnut Oak	FACW-
7	*Quercus nigra*	Water Oak	FAC
8	*Quercus pagoda*	Cherrybark Oak	FAC+
9	*Quercus phellos*	Coastal Willow Oak	FACW-
10	*Quercus shumardii*	Shumard Oak	FACW-
11	*Taxodium distichum*	Bald Cypress	OBL

All of the planted stems inside the plot were flagged with orange flagging to mark them as the planted stems (vs. volunteers) and to help locate them in the future. Each stem was then tagged with a numbered aluminum tag.

4.3 Results of Vegetation Monitoring

The following tables present stem counts for each of the monitoring stations. The numbers on the top row correlate to the ID column of the above table. Trees are flagged in the field on a quarterly basis before the flags degrade. Volunteers are also flagged during this process.

Table 6. 2006 Vegetation Monitoring Plot Species Composition

Plot	1	2	3	4	5	6	7	8	9	10	11	Total	2006 Stem/ac	Planted Stem/ac
W1	1	5	5	6	5	0	5	4	5	3	13	52	520	570
W2	4	4	6	10	0	0	2	6	0	22	4	58	580	590
W3	6	2	5	7	1	0	2	12	3	6	12	56	560	630
W4	0	0	3	4	1	18	12	1	6	18	0	63	630	650
W5	0	1	0	1	1	9	3	4	4	35	2	60	600	660
W6	5	0	0	16	0	9	4	2	2	8	2	48	480	550
W7	2	4	7	5	3	8	3	0	10	4	7	53	530	610
W8	0	7	10	4	1	1	4	3	1	5	15	51	510	570
W9	0	3	4	1	1	10	7	10	5	5	5	51	510	560
W10	3	0	3	5	1	4	7	3	17	1	2	46	460	550
W11	1	2	11	3	0	2	12	11	3	2	0	47	470	560
W12	5	0	0	2	0	0	0	1	0	37	13	58	580	610
W13	0	1	3	4	5	3	13	2	2	1	5	39	390	560

Average Stems/Acre: 525
Range of Stems/Acre: 390-630

Volunteer species will also be monitored throughout the five year monitoring period. Below is a table of the most commonly found woody volunteer species.

Table 7. Volunteer Tree Species

ID	Species	Common Name	FAC Status
A	*Liquidambar styraciflua*	Sweetgum	FAC+
B	*Acer rubrum*	Red Maple	FAC
C	*Pinus taeda*	Loblolly Pine	FAC

Due to the presence of multiple volunteer woody species in most of the vegetation plots, the site was mowed between rows of planted trees. Volunteer woody species in the space between the planted stems that were not mowed were sprayed with herbicide. It is expected that the volunteer trees will not persist into next growing season. Sweetgum (*Liquidambar styraciflua*) is the most common volunteer, though Red Maple (*Acer rubrum*) and Loblolly pine (*Pinue taeda*) were also observed.

4.4 General Vegetation Observations

After construction of the mitigation site, a permanent ground cover seed mixture of Virginia wild rye (*Elymus virginicus*), switch grass (*Panicum virgatum*), and fox sedge (*Carex vulpinoidea*) was broadcast on the site at a rate of 10 pounds per acre. These species are dominant on the site, though they pose no threat to the survival or health of the planted or naturally occurring hydrophytic vegetation. Hydrophytic herbaceous vegetation including rush (*Juncus effusus*), spike-rush (*Eleocharis obtusa*), giant cane (*Arundinaria gigantea*), tearthumb (*Polygonum sagittatum*), Boxseed (*Ludwigia* sp.), and sedge (*Carex* sp.) are frequently observed across the site particularly in areas of inundation. The presence of these herbaceous wetland plants helps to confirm the presence of wetland hydrology on the site.

There are zones of weedy species occurring on the site, though none seem to be posing any survivability issues for the woody or herbaceous hydrophytic vegetation. The majorities of the weedy species are annuals and seem to pose very little threat to survivability in site. Commonly seen weedy vegetation includes ragweed (*Ambrosia artemisiifolia*), dill (*Foeniclum vulgare*), and morning glory (*Ipomoea* sp.). Any threatening weedy vegetation found in the future will be documented and discussed.

4.5 Vegetation Conclusions

This site was planted in nonriverine hardwoods and coastal plain swamp species in March 2003. There were thirteen 1/10th acre vegetation monitoring plots established throughout the planting areas. The 2006 vegetation monitoring revealed tree density greater than the required 320 stems per acre. With the successful treatment of the woody volunteers this site is on trajectory for meeting the final success criteria of 260 trees per acre by the end of year five (2007).

5.0 STREAM MONITORING

5.1 Success Criteria

As stated in the approved Mitigation Plan, the stream restoration success criteria for the site include the following:

- Bankfull Events: Two bankfull flow events must be documented within the five-year monitoring period.

- Cross-sections: There should be little change in as-built cross-sections. Cross-sections shall be classified using the Rosgen stream classification method and all monitored cross-sections should fall within the quantitative parameters defined for "E" or "C" type channels.
- Longitudinal Profiles: The longitudinal profiles should show that the bedform features are remaining stable, e.g. they are not aggrading or degrading. Bedforms observed should be consistent with those observed in "E" and "C" type channels.
- Photo Reference Stations: Photographs will be used to subjectively evaluate channel aggradation or degradation, bank erosion, success of riparian vegetation and effectiveness of erosion control measures.
- Benthic Macroinvertebrate and Fish Sampling: Sampling of benthic macroinvertebrates and fish within the restored stream channel shall be conducted for the first three years of post-restoration monitoring.

5.2 Description of Stream Monitoring

To document the stated success criteria, the following monitoring program was instituted following construction completion on the Westbrook Site:

Bankfull Events: A crest gauge was installed on the site to document bankfull events. The gauge is checked each month, and records the highest out-of-bank flow event that occurred during the past month. The gauge is located near stream station 43+50 (Figure 3).

Cross-sections: Two permanent cross-sections were installed per 1,000 linear feet of stream restoration work, with one of the locations being a riffle cross-section and one location being a pool cross-section. A total of 11 permanent cross-sections were established across the mitigation site. Each cross-section was marked on both banks with permanent pins to establish the exact transect used. Permanent cross-section pins were surveyed and located relative to a common benchmark to facilitate easy comparison of year-to-year data. The annual cross-section surveys include points measured at all breaks in slope, including top of bank, bankfull, inner berm, edge of water, and thalweg. Riffle cross-sections are classified using the Rosgen stream classification system. Permanent cross sections for 2006 (Year 4) were surveyed in August 2006.

Longitudinal Profiles: A complete longitudinal profile will be completed in Years one, three, and five. The profile will be conducted for a length of restored channel at least 3,000 feet in length. Measurements will include thalweg, water surface, inner berm, bankfull, and top of low bank. Each of these measurements will be taken at the head of each feature, e.g. riffle, run, pool, and glide, and the max pool depth. A common benchmark will be used each year to facilitate comparison of year-to-year data. No longitudinal survey was performed in 2006 (Year 4).

Photo Reference Stations: Photographs are used to visually document restoration success. Nine reference photo stations have been established across the Westbrook Site. Reference stations are marked with wooden stakes and Global Positioning Satellite (GPS) coordinates have been determined for each location. Reference photos are taken at least once per year. Reference photos are taken at each permanent cross-section from both streambanks. The survey tape is centered in the photographs of the bank, and the water line is located in the lower edge of the frame with as much of the bank as possible included in each photo. Structure photos of each grade control structure are also taken.

Benthic Macroinvertebrates and Fish Sampling: Benthic macroinvertebrate and fish sampling data were collected from the reference reach (upstream of project reach) and within the project reach. Pre-restoration data were collected on January 17, 2002, prior to initiation of stream restoration practices. Post-restoration sampling began one year after construction activities were completed, and annually thereafter for a total of three years.

5.3 Results of Stream Monitoring

During 2006, bankfull events on the site were documented during at least one site visit through the use of the onsite crest gauge and visual evidence of out-of-bank flow. The largest stream flow documented by the crest gauge on the site was a flow that occurred during June and was approximately 0.50 feet above the bankfull stage at the crest gauge.

Year 4 cross-section monitoring data were collected during August 2006, and compared to baseline data collected in April of 2003. Permanent cross-sections document the stream dimension at eleven locations (six riffles and five pools). Cross section data is presented in Appendix A. The cross-sections show that there has been very little adjustment to stream dimension since construction. All monitored cross-sections fell within the quantitative parameters defined for "E" or "C" type channels.

In-stream structures installed within the restored stream included rock cross-vanes, log vanes, log weirs, and root wads. Visual observations of structures throughout the past growing season have indicated that nearly all structures are functioning as designed. Two log vanes have been undercut by channel erosion, a beaver dam is present toward the central portion of the channel, and several boulders have shifted in the cross vanes at the downstream end of the site.

During January 2006, eight log weirs were raised by a few tenths of a foot, and two new log weirs were installed between stations 0+00 and 10+00. This was done to improve the hydrology on the northwestern area of the site. All work was done with minimal disturbance to the site and stream. Table 7 provides a summary of potential problem areas observed.

Table 8. Stream Problem Areas

Station	Feature	Problem
20+40	Log Vane	Undercut approximately 12 inches
43+80	Log Vane	Undercut approximately eight inches
48+40	Beaver Dam	Potential vegetation damage and flow restriction
52+00	Rock Cross Vane	Shifted rocks in vane arm and invert, possible head cut

All potential problem areas are minor and localized. No corrective actions are recommended at this time as the channel appears to be moving toward stability. The rock vane failure at station 52+00 is located between two other functional rock vanes at the downstream end of the project. Additionally, this portion of stream rarely experiences high flows due to its frequent inundation from the downstream Mill Creek.

Photographs have been taken throughout the monitored season to document the evolution of the restored stream channel (Appendix B). Herbaceous vegetation is dense along the restored stream, making it difficult to take photographs of the stream channel itself.

5.4 Stream Benthic Macroinvertebrates

No biological sampling was conducted as part of Year 4 monitoring.

6.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS

- Hydrology monitoring has shown that suitable wetland hydrology has been achieved on much of the site. Four of the seven hydrology monitoring gauges recorded consecutive hydroperiods for at least 9 percent of the growing season. Three of the remaining gauges exhibited a hydroperiod greater than five percent of the growing season. The remaining gauges exhibited conditions drier than expected, but within the range found in the reference wetland.

- The restored stream channel has remained stable and is providing the intended habitat and hydrologic functions. All monitored cross-sections for 2006 show very little adjustment in stream dimension.

- Vegetation monitoring efforts indicate the average number of stems per acre on site to be 525; which is a survival rate of greater than 85 percent based on the initial planting count of 590 stems per acre.

- The great effort made to mow in between the planted rows of trees is an improvement to the undesirable woody volunteers. There still remains a problem with the amount of volunteer woody species, mostly red maple, sweet gum, and pine, that are growing in-between each planted tree within the preserved planted tree row. In many cases, if left untreated, these plants will exceed the 20 percent limit that is set as the acceptable amount of volunteer woody species.

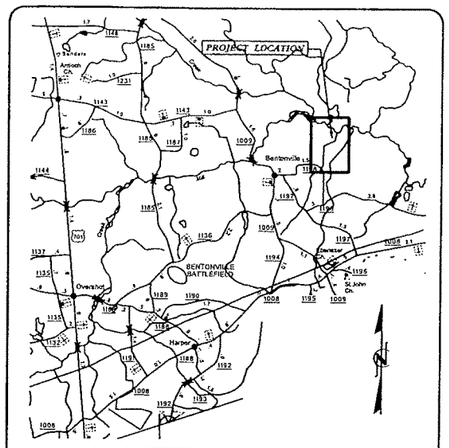
- Herbicide dispersed by back pack or hand cutting in-between planted trees may be necessary to bring the volunteers with in the acceptable limit. Other than this problem, the vegetation survival should remain excellent on site and vegetative success criteria will easily be met.

- Monitoring of vegetation, stream stability, and hydrology will continue through 2007.

APPENDIX A

As-Built Survey

PROJECT: 043 WESTBROOK LOWGROUNDS



VICINITY MAP

INDEX OF SHEETS:

1 TITLE SHEET
2-8 AS-BUILT PLAN SHEETS

STREAM AND WETLAND RESTORATION PROJECT
ENVIRONMENTAL BANC AND EXCHANGE, LLC
WESTBROOK LOWGROUNDS SITE

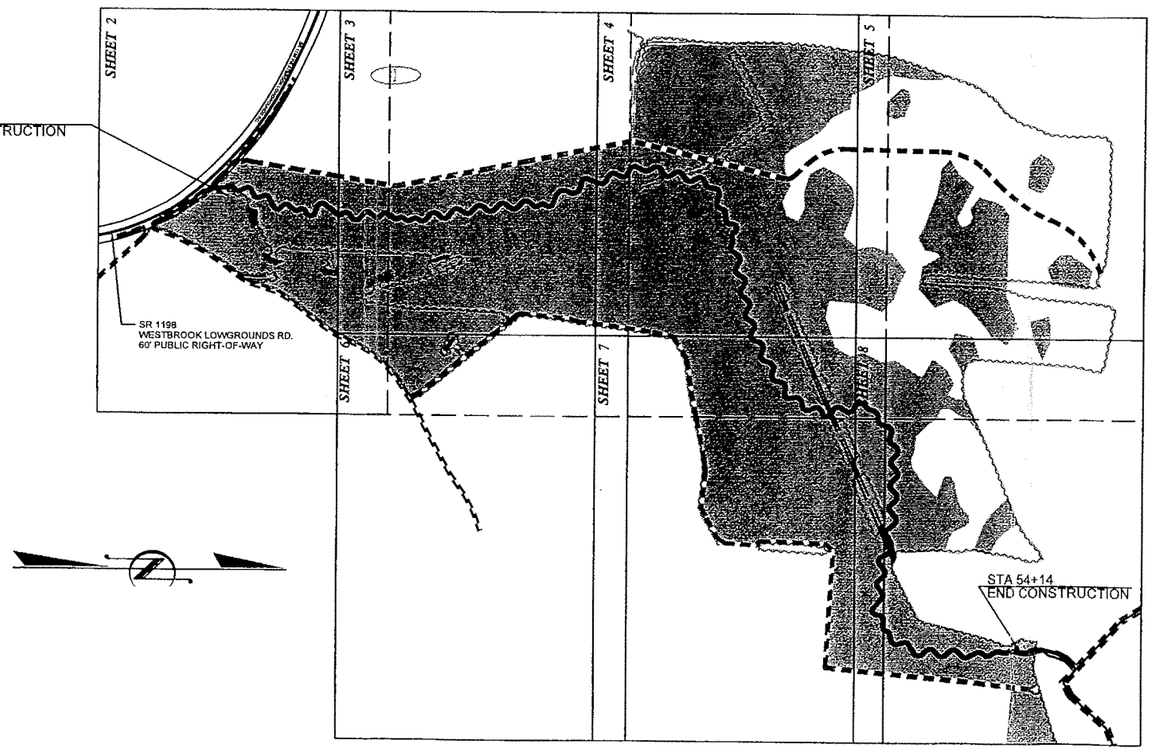
JOHNSTON COUNTY

LOCATION: WESTBROOK LOWGROUNDS ROAD (SR 1198) NEAR BENTONVILLE, NC

TYPE OF WORK: AS-BUILT DRAWING FOR WETLAND AND STREAM MITIGATION

STATE	BUCK PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	043	1	8

NO.	DATE	CHECKED BY	APPROVED BY
1	28 JAN 2005	KEVIN TWEEDY	KEVIN TWEEDY



GRAPHIC SCALES

50 25 0 50 100
PLANS

PROJECT SUMMARY

RESTORED STREAM LENGTH = 5414 FEET
RESTORED WETLAND ACREAGE = 66.2 ACRES

PREPARED FOR THE OFFFICE OF:
ENVIRONMENTAL BANC AND EXCHANGE, LLC

EBX

10055 RED RUN BOULEVARD, SUITE 130
OWING MILLS, MD 21117

8000 REGENCY PARKWAY SUITE 200A
CARY, NORTH CAROLINA 27511

EBX CONTACT:
GEORGE KELLY
PROJECT MANAGER

PREPARED IN THE OFFICE OF:

BUCK ENGINEERING

8000 Regency Parkway Suite 200
Cary, North Carolina 27511
Phone: 919-463-5488
Fax: 919-463-5490

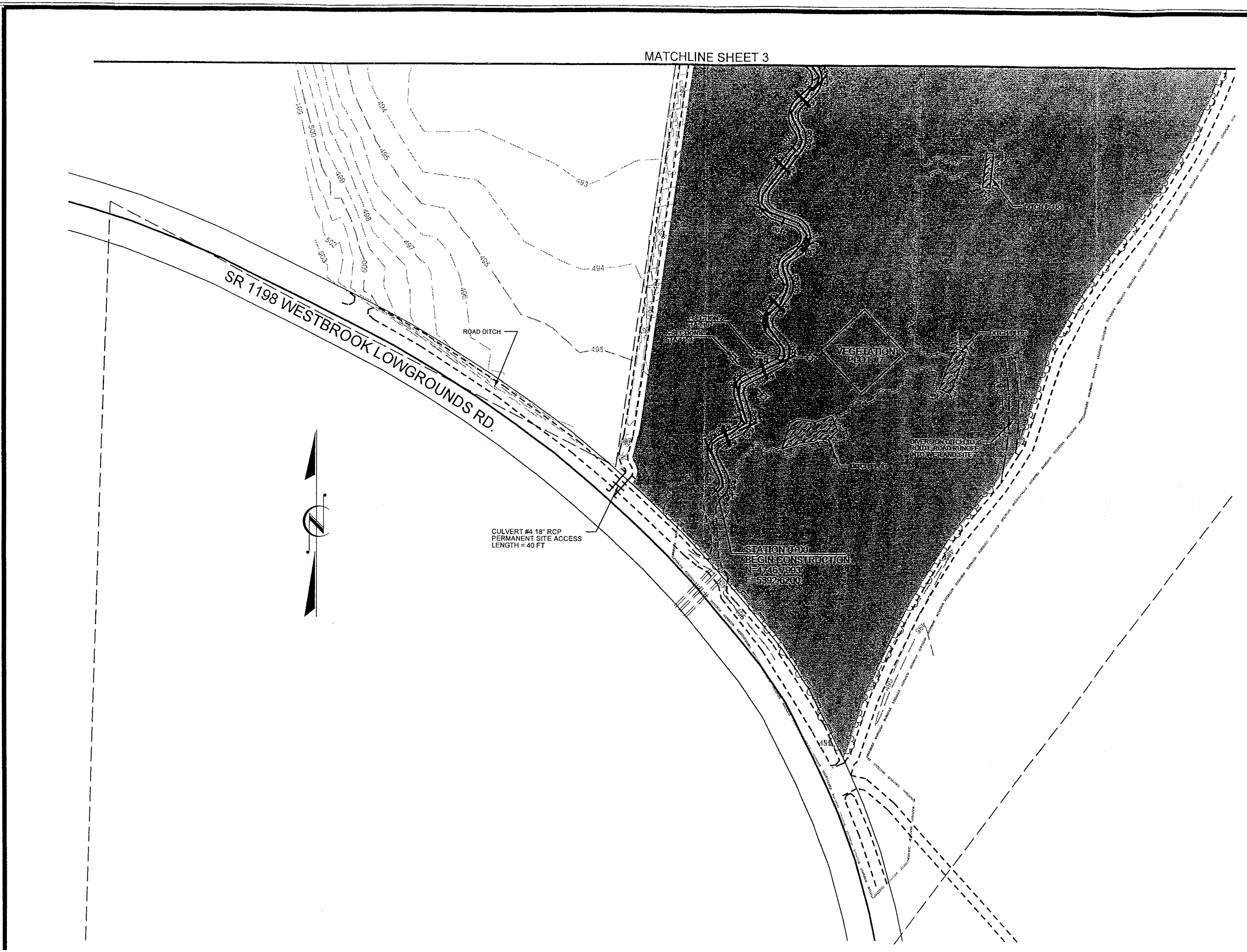
APRIL 11, 2003
DATE PREPARED:

KEVIN L. TWEEDY, PE
PROJECT ENGINEER

PROJECT ENGINEER

Figure 2a.
As-Built Drawing
for the Westbrook
Mitigation Site

SIGNATURE: *P.E.*



PROJECT REFERENCE NO.	SHEET NO.
043	2

EBX WESTBROOK LOWGROUNDS

PLAN VIEW OF EXISTING ASBUILT CONDITIONS

PROJECT ENGINEER

Figure 2b. As-Built Drawing for the Westbrook Mitigation Site

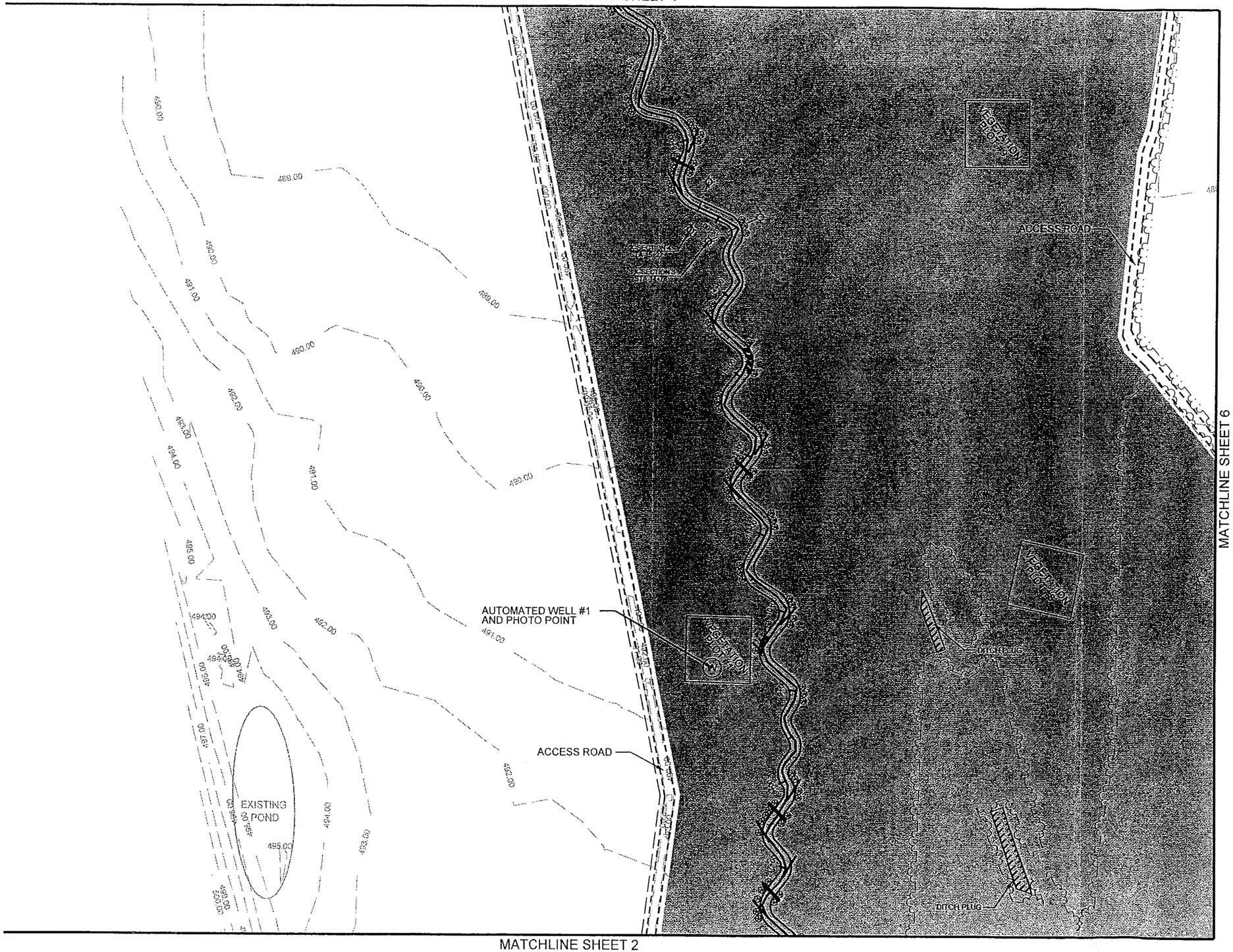
BUCK ENGINEERING
8000 Regency Parkway, Suite 200
Cary, North Carolina 27511
Phone: 919-463-5488
Fax: 919-463-5490

LEGEND

- ACCESS ROAD
- OLD STREAM TOP OF BANK
- TREELINE
- RIGHT-OF-WAY
- RECONSTRUCTED CHANNEL
- CENTERLINE OF ROADWAY/STREAM
- 495.00 CONTOUR LINE
- PROPERTY LINE
- CE CONSERVATION EASEMENT
- TRANSPLANTS
- LOG VANE (LOCATED IN BENDS)
- LOG WEIR (LOCATED IN STRAIGHT REACHES)
- ROOT WAD
- PROPOSED RESTORED WETLAND
- XSEC PIN
- W WELL
- R RAIN GAUGE
- C CREST GAUGE
- P PHOTO POINT

50 25 0 50 100

MATCHLINE SHEET 4



MATCHLINE SHEET 2

MATCHLINE SHEET 6

PROJECT REFERENCE NO.	SHEET NO.
043	3
EBX WESTBROOK LOWGROUNDS	
PLAN VIEW OF EXISTING ASBUILT CONDITIONS	
PROJECT ENGINEER	

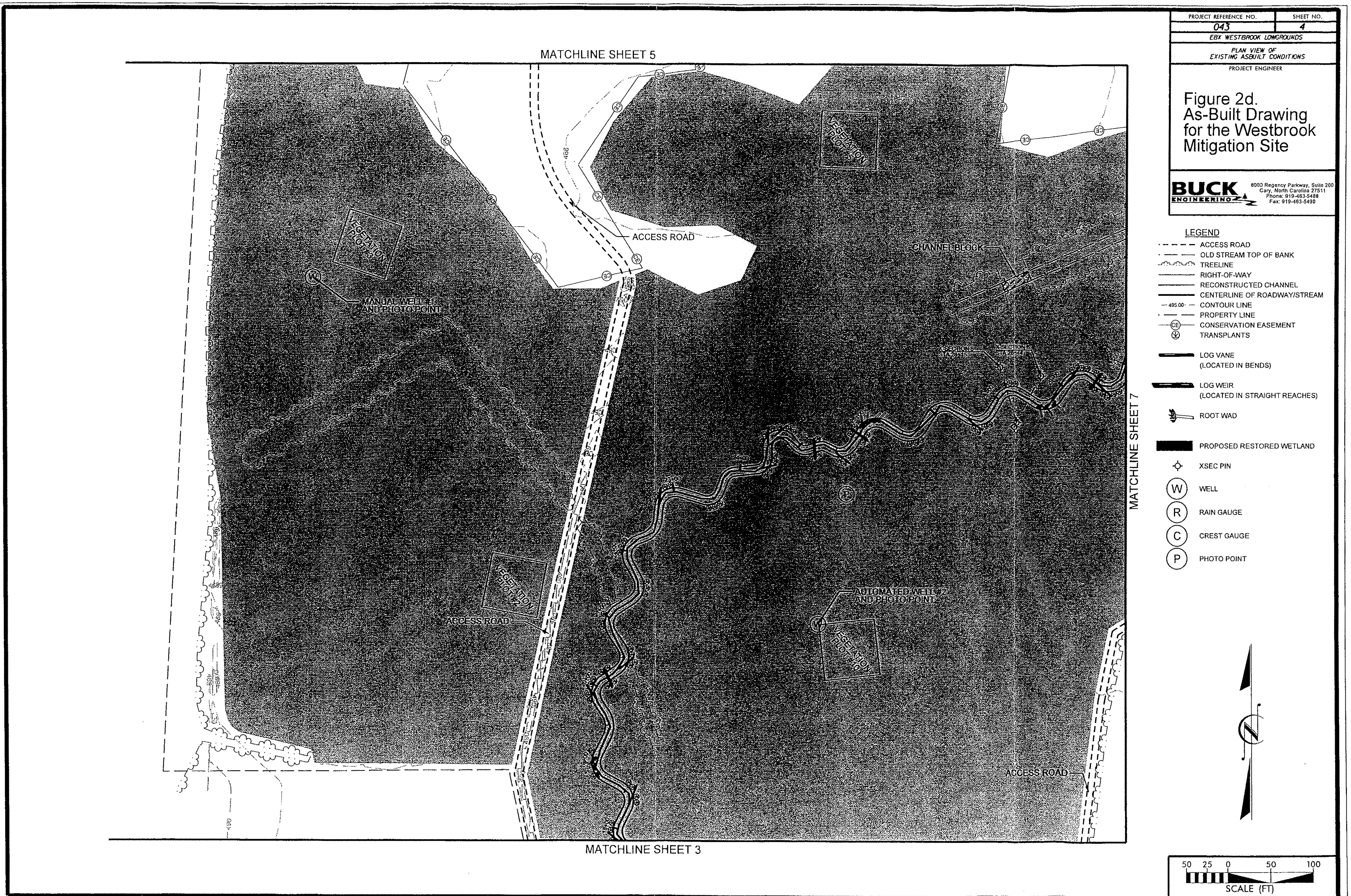
Figure 2c. As-Built Drawing for the Westbrook Mitigation Site

BUCK ENGINEERING
8000 Regency Parkway, Suite 200
Cary, North Carolina 27511
Phone: 919-463-5488
Fax: 919-463-5490

LEGEND

- ACCESS ROAD
- OLD STREAM TOP OF BANK
- TREELINE
- RIGHT-OF-WAY
- RECONSTRUCTED CHANNEL
- CENTERLINE OF ROADWAY/STREAM
- 495.00 CONTOUR LINE
- PROPERTY LINE
- CE CONSERVATION EASEMENT
- V TRANSPLANTS
- LOG VANE (LOCATED IN BENDS)
- LOG WEIR (LOCATED IN STRAIGHT REACHES)
- ROOT WAD
- PROPOSED RESTORED WETLAND
- XSEC PIN
- W WELL
- R RAIN GAUGE
- C CREST GAUGE
- P PHOTO POINT

50 25 0 50 100
SCALE (FT)



PROJECT REFERENCE NO.
SHEET NO.
043
4
EBX WESTBROOK LOWGROUNDS
PLAN VIEW OF EXISTING ASBUILT CONDITIONS
PROJECT ENGINEER
Figure 2d. As-Built Drawing for the Westbrook Mitigation Site
BUCK ENGINEERING
8000 Regency Parkway, Suite 200 Cary, North Carolina 27511 Phone: 919-463-5488 Fax: 919-463-5490
MATCHLINE SHEET 5
MATCHLINE SHEET 3
MATCHLINE SHEET 7
ACCESS ROAD
CHANNEL BLOCK
MANUAL WELL #1 AND PHOTO POINT
AUTOMATED WELL #2 AND PHOTO POINT
VEGETATION PLOT
LEGEND
ACCESS ROAD
OLD STREAM TOP OF BANK
TREELINE
RIGHT-OF-WAY
RECONSTRUCTED CHANNEL
CENTERLINE OF ROADWAY/STREAM
495.00 CONTOUR LINE
PROPERTY LINE
CONSERVATION EASEMENT
TRANSPLANTS
LOG VANE (LOCATED IN BENDS)
LOG WEIR (LOCATED IN STRAIGHT REACHES)
ROOT WAD
PROPOSED RESTORED WETLAND
XSEC PIN
WELL
RAIN GAUGE
CREST GAUGE
PHOTO POINT
50 25 0 50 100
SCALE (FT)

PROJECT REFERENCE NO.	SHEET NO.
043	5

EBX WESTBROOK LOWGROUNDS

PLAN VIEW OF
EXISTING ASBUILT CONDITIONS

PROJECT ENGINEER

Figure 2e. As-Built Drawing for the Westbrook Mitigation Site

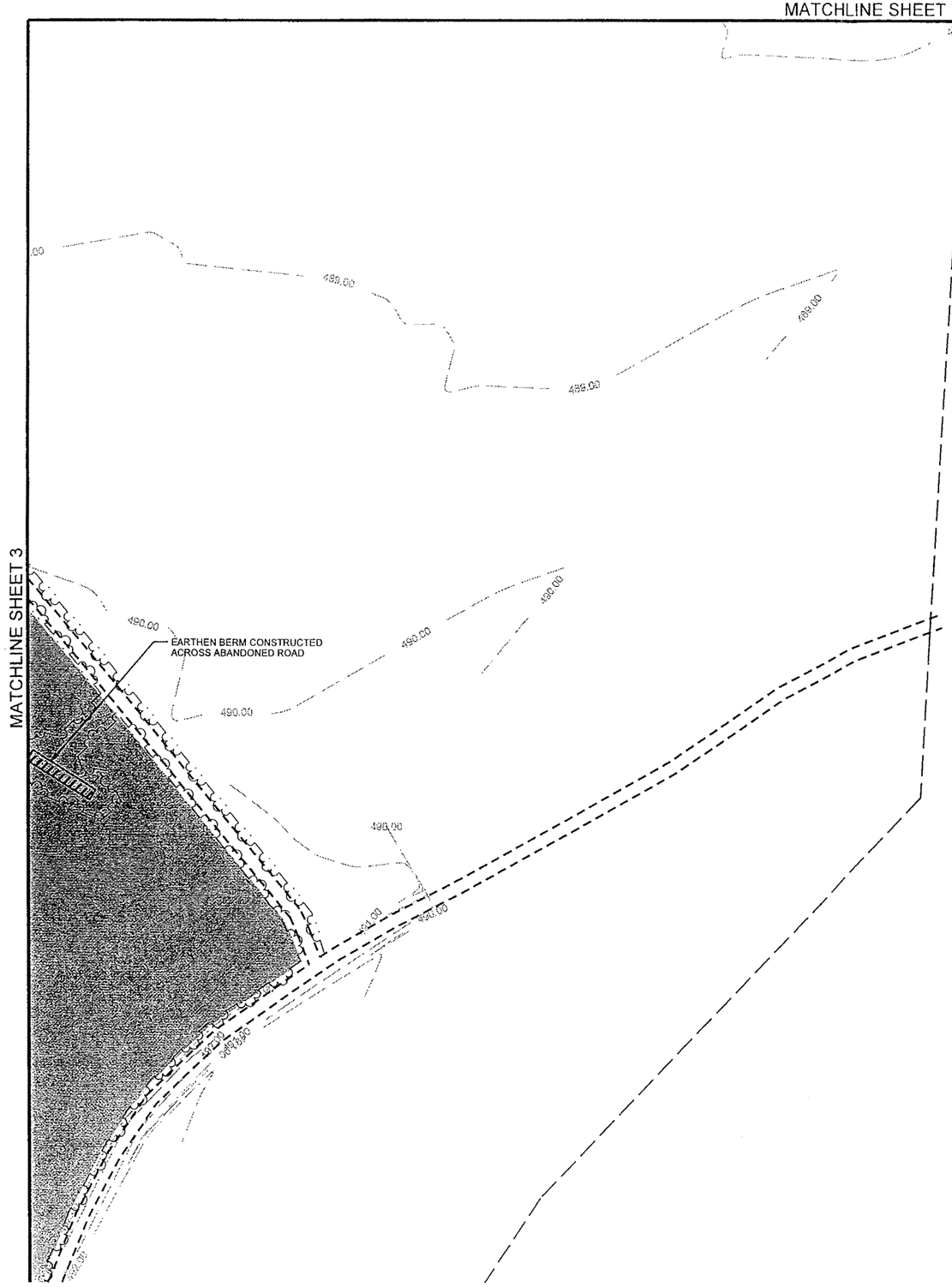
BUCK ENGINEERING
8000 Regency Parkway, Suite 200
Cary, North Carolina 27511
Phone: 919-463-5488
Fax: 919-463-5490

LEGEND

- ACCESS ROAD
- OLD STREAM TOP OF BANK
- TREELINE
- RIGHT-OF-WAY
- RECONSTRUCTED CHANNEL
- CENTERLINE OF ROADWAY/STREAM
- 495.00 CONTOUR LINE
- PROPERTY LINE
- CE CONSERVATION EASEMENT
- TRANSPLANTS
- LOG VANE (LOCATED IN BENDS)
- LOG WEIR (LOCATED IN STRAIGHT REACHES)
- ROOT WAD
- PROPOSED RESTORED WETLAND
- XSEC PIN
- W WELL
- R RAIN GAUGE
- C CREST GAUGE
- P PHOTO POINT

50 25 0 50 100
SCALE (FT)

MATCHLINE SHEET 7



PROJECT REFERENCE NO.	SHEET NO.
043	6

EBX WESTBROOK LOWGROUNDS

PLAN VIEW OF EXISTING ASBUILT CONDITIONS

PROJECT ENGINEER

Figure 2f. As-Built Drawing for the Westbrook Mitigation Site

BUCK ENGINEERING
8000 Regency Parkway, Suite 200
Cary, North Carolina 27511
Phone: 919-463-5488
Fax: 919-463-5490

LEGEND

- ACCESS ROAD
- OLD STREAM TOP OF BANK
- TREELINE
- RIGHT-OF-WAY
- RECONSTRUCTED CHANNEL
- CENTERLINE OF ROADWAY/STREAM
- 495.00 CONTOUR LINE
- PROPERTY LINE
- CE CONSERVATION EASEMENT
- TRANSPLANTS
- LOG VANE (LOCATED IN BENDS)
- LOG WEIR (LOCATED IN STRAIGHT REACHES)
- ROOT WAD
- PROPOSED RESTORED WETLAND
- XSEC PIN
- W WELL
- R RAIN GAUGE
- C CREST GAUGE
- P PHOTO POINT

N

50 25 0 50 100
SCALE (FT)

PROJECT REFERENCE NO.	SHEET NO.
043	7
EBX WESTBROOK LOWGROUNDS	
PLAN VIEW OF EXISTING ASBUILT CONDITIONS	
PROJECT ENGINEER	

Figure 2g. As-Built Drawing for the Westbrook Mitigation Site

BUCK ENGINEERING
8000 Regency Parkway, Suite 200
Cary, North Carolina 27511
Phone: 919-463-5488
Fax: 919-463-5490

MATCHLINE SHEET 8

MATCHLINE SHEET 4

MATCHLINE SHEET 6

CHANNEL BLOCK

CHANNEL BLOCK

VEGETATION PLOT #12

AUTOMATED WELL #3 AND PHOTO POINT

ACCESS ROAD

VEGETATION PLOT #11

ACCESS ROAD

489.00

486.00

487.00

487.00

485.00

483.00

482.00

LEGEND

- ACCESS ROAD
- OLD STREAM TOP OF BANK
- TREELINE
- RIGHT-OF-WAY
- RECONSTRUCTED CHANNEL
- CENTERLINE OF ROADWAY/STREAM
- 495.00 CONTOUR LINE
- PROPERTY LINE
- CE CONSERVATION EASEMENT
- TRANSPLANTS
- LOG VANE (LOCATED IN BENDS)
- LOG WEIR (LOCATED IN STRAIGHT REACHES)
- ROOT WAD
- PROPOSED RESTORED WETLAND
- XSEC PIN
- W WELL
- R RAIN GAUGE
- C CREST GAUGE
- P PHOTO POINT

50 25 0 50 100
SCALE (FT)

PROJECT REFERENCE NO.	SHEET NO.
043	8

EBX WESTBROOK LOWGROUNDS

PLAN VIEW OF EXISTING ASBUILT CONDITIONS

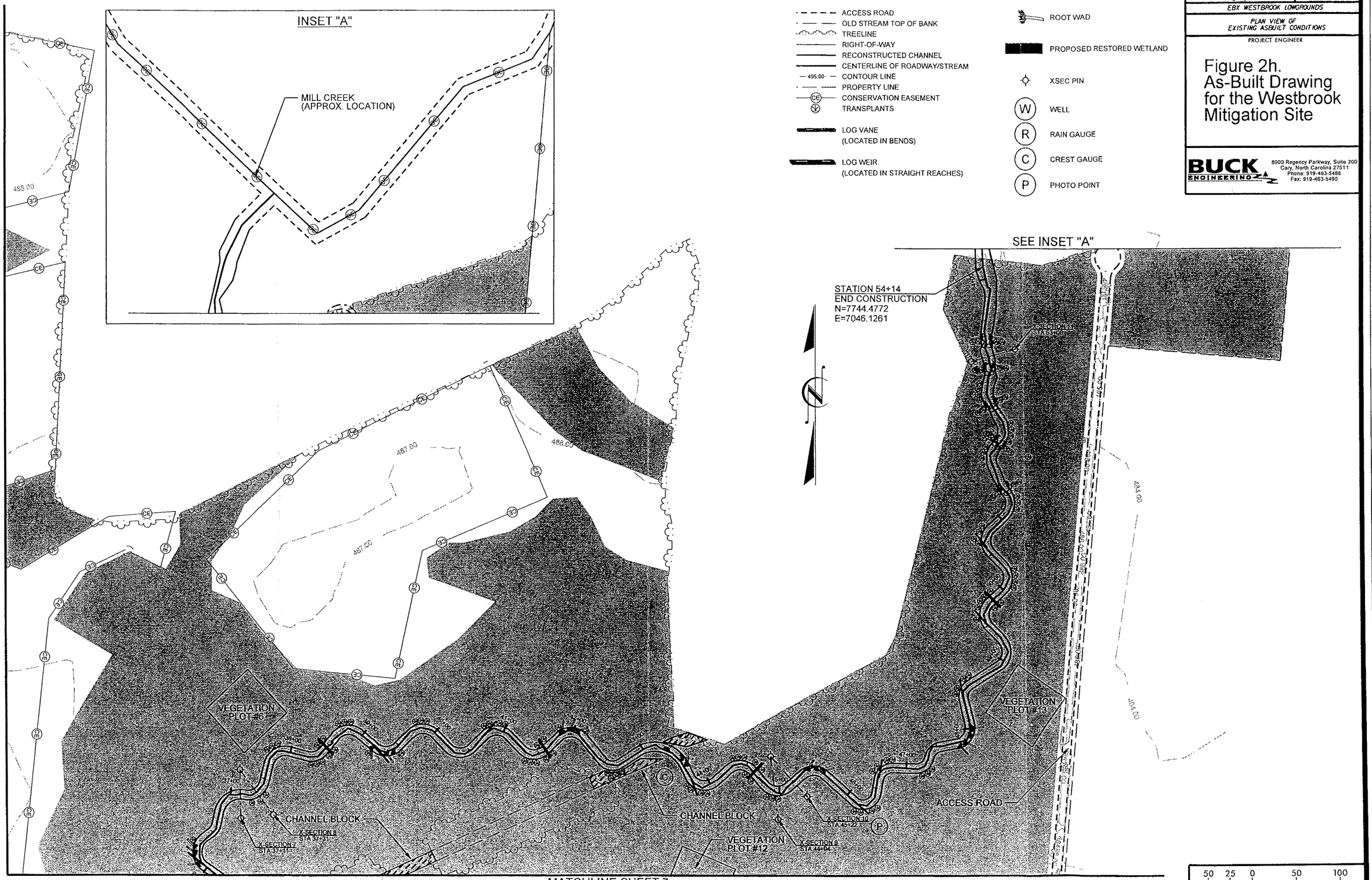
PROJECT ENGINEER

Figure 2h. As-Built Drawing for the Westbrook Mitigation Site

BUCK ENGINEERING
8000 Regency Parkway, Suite 200
Cary, North Carolina 27511
Phone: 919-463-5488
Fax: 919-463-5490

LEGEND

- ACCESS ROAD
- OLD STREAM TOP OF BANK
- TREELINE
- RIGHT-OF-WAY
- RECONSTRUCTED CHANNEL
- CENTERLINE OF ROADWAY/STREAM
- 495.00 CONTOUR LINE
- PROPERTY LINE
- CONSERVATION EASEMENT
- TRANSPLANTS
- LOG VANE (LOCATED IN BENDS)
- LOG WEIR (LOCATED IN STRAIGHT REACHES)
- ROOT WAD
- PROPOSED RESTORED WETLAND
- XSEC PIN
- W WELL
- R RAIN GAUGE
- C CREST GAUGE
- P PHOTO POINT



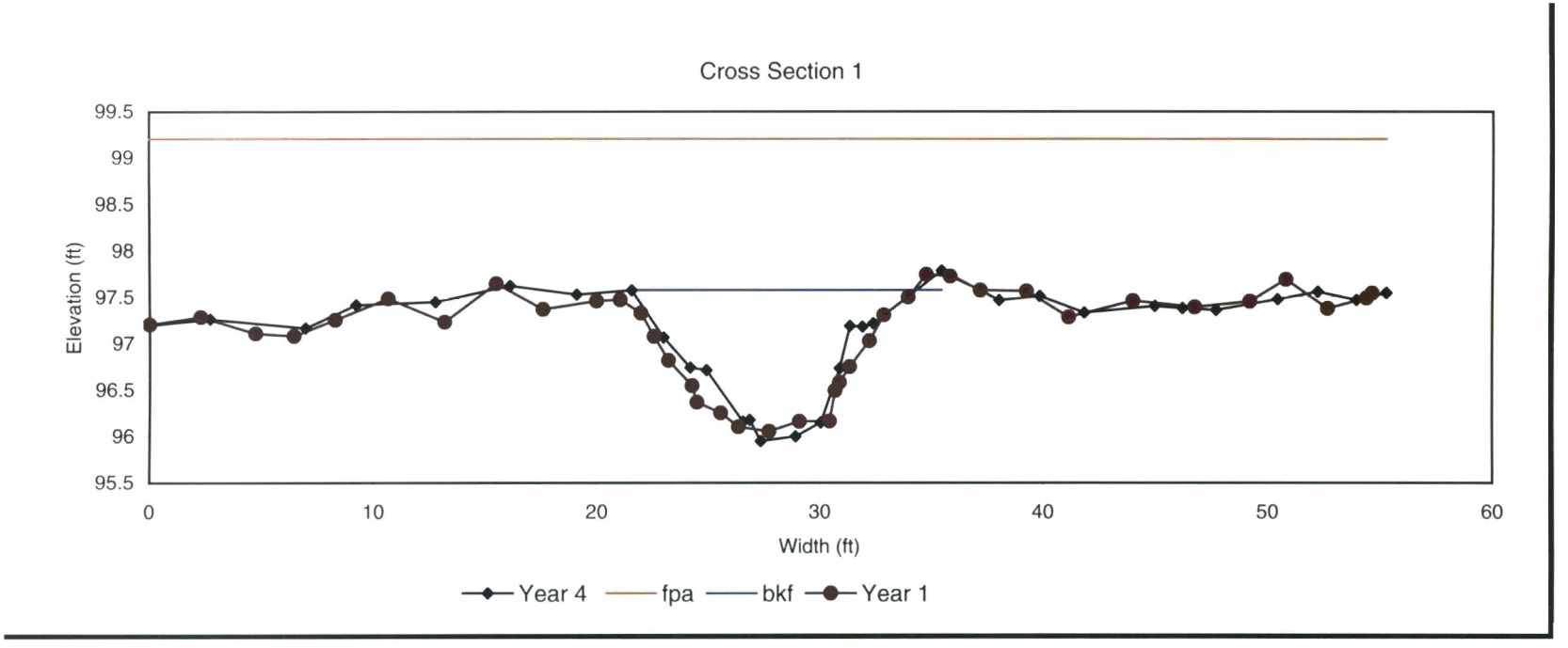
50 25 0 50 100
SCALE (FT)

APPENDIX B

Cross Section Data

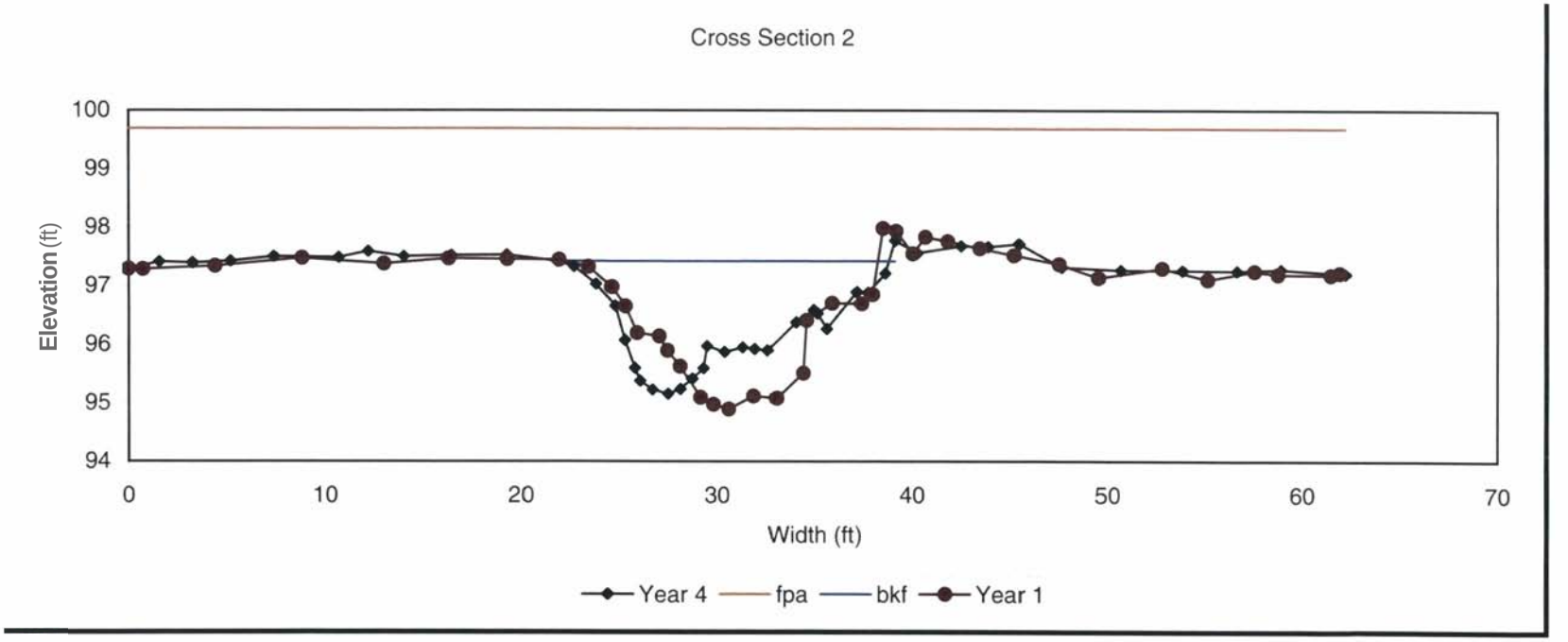
Looking at Left Bank.

Looking at Right Bank.



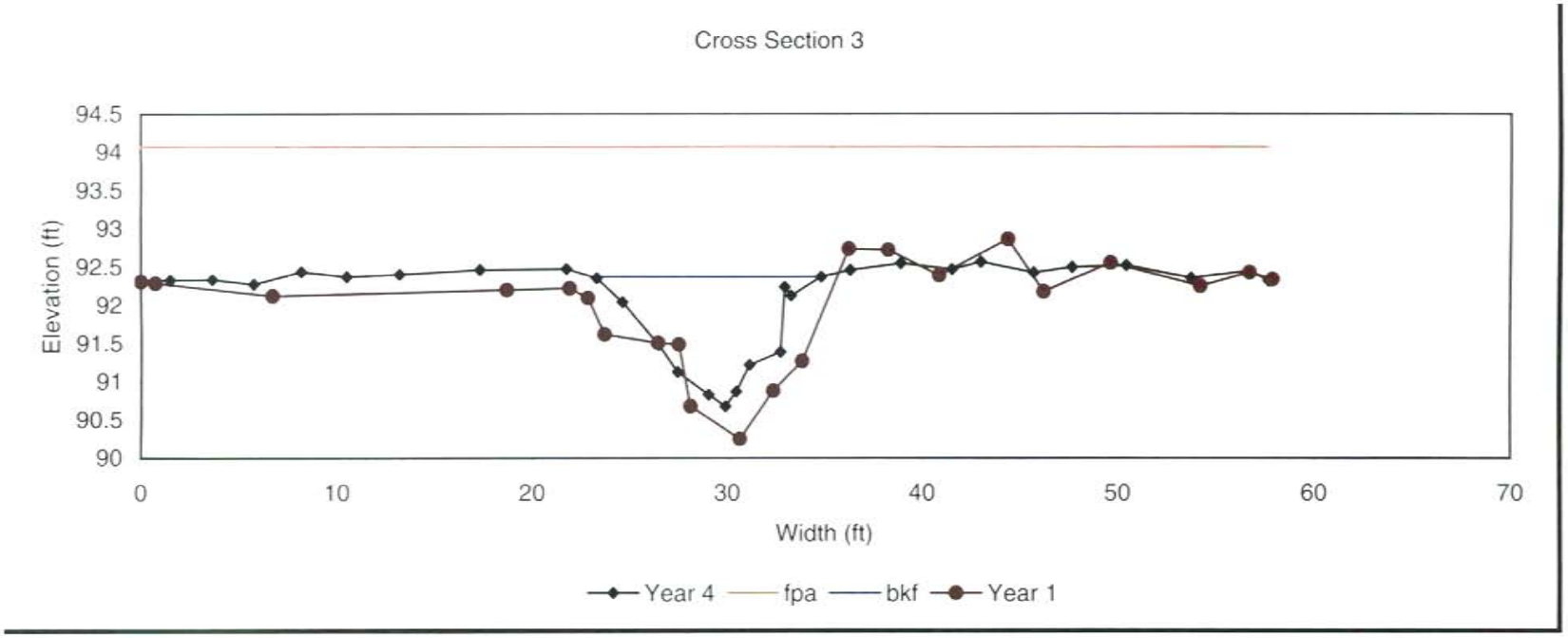
Looking at Left Bank.

Looking at Right Bank.



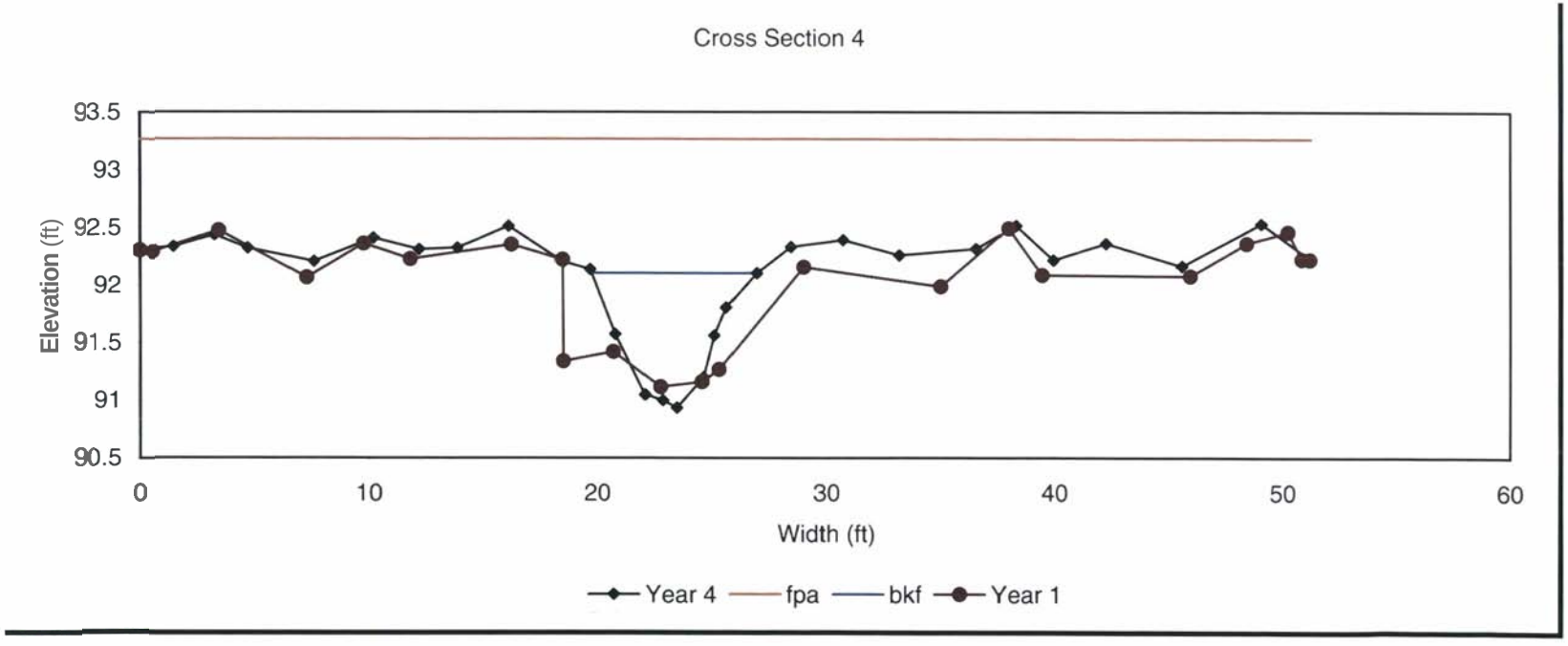
Looking at Left Bank.

Looking at Right Bank.



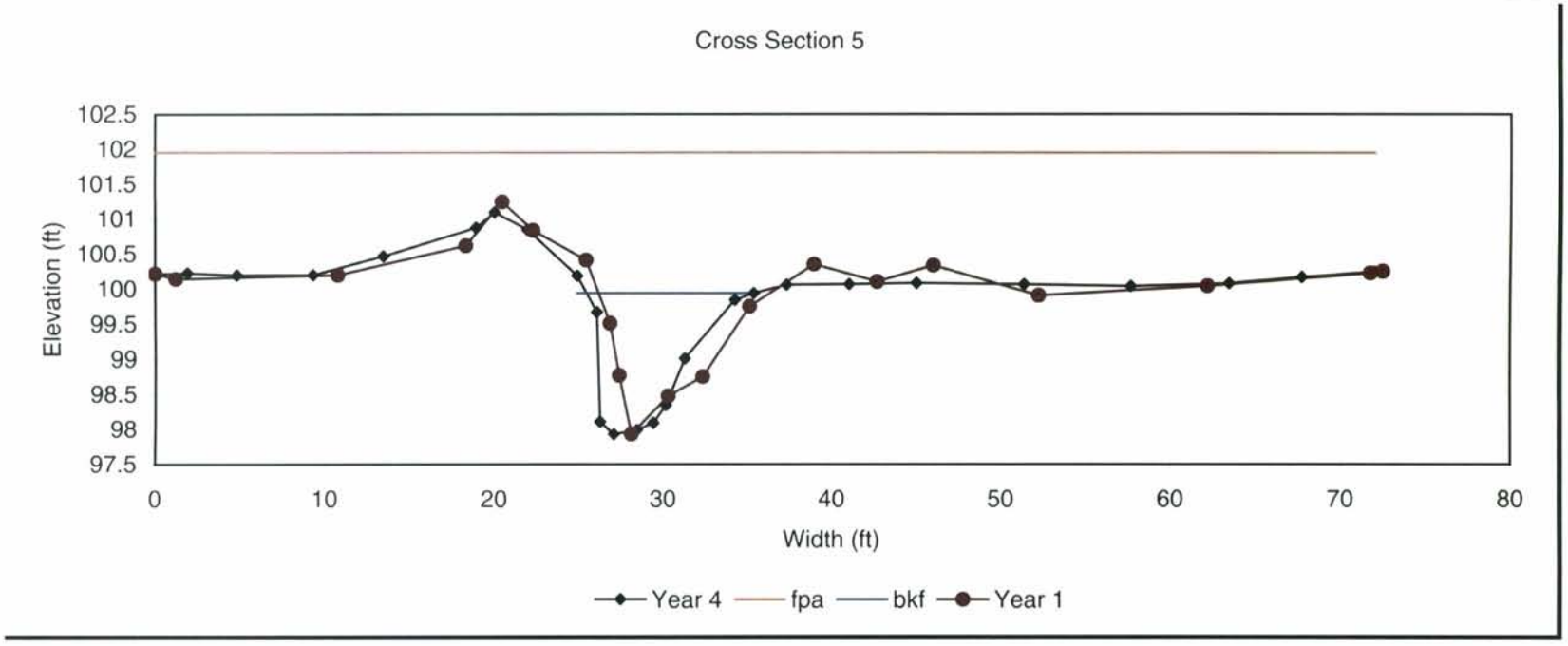
Looking at Left Bank.

Looking at Right Bank.



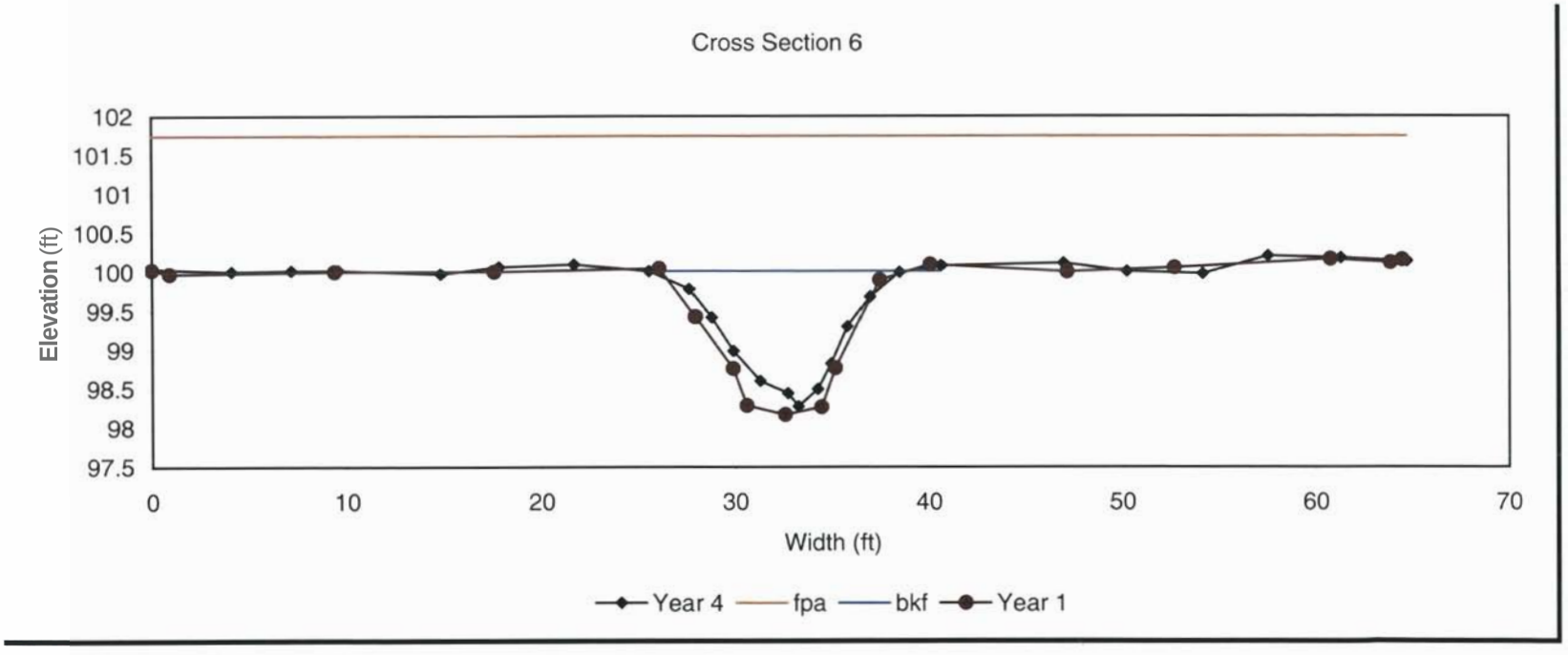
Looking at Left Bank.

Looking at Right Bank.



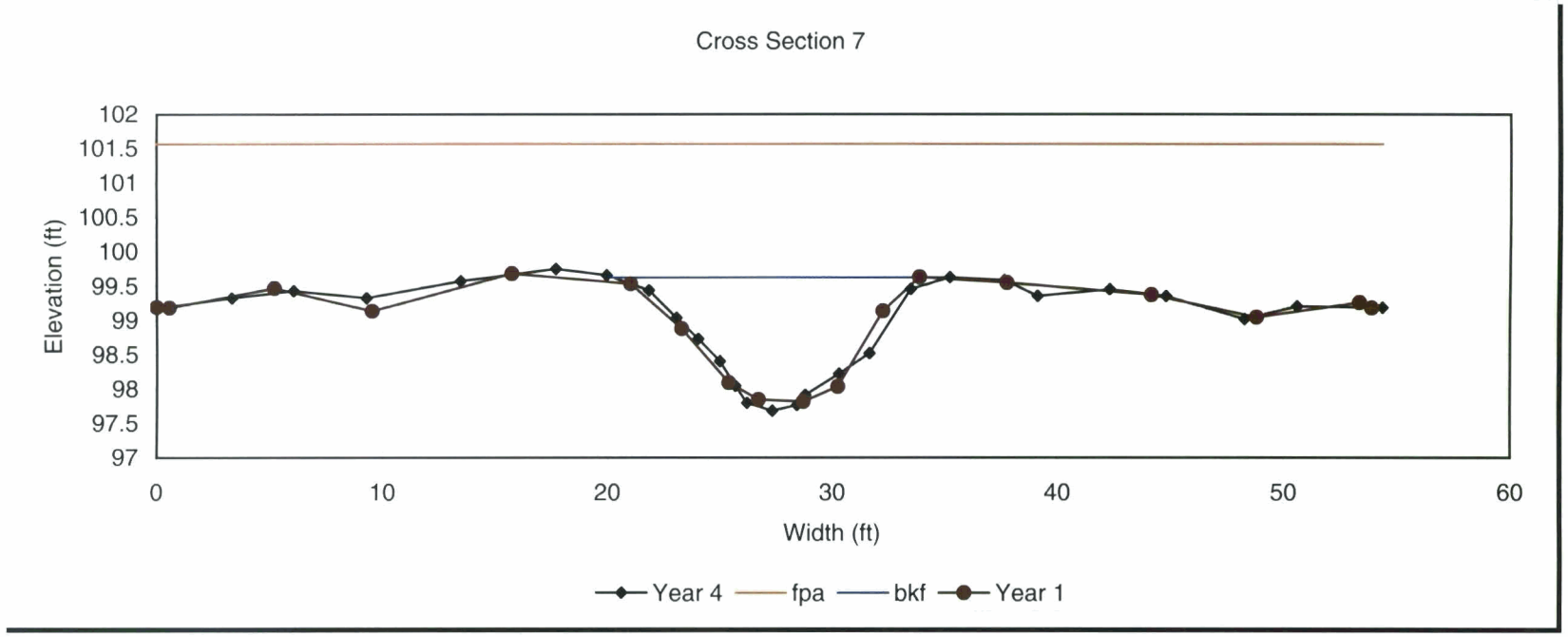
Looking at Left Bank.

Looking at Right Bank.



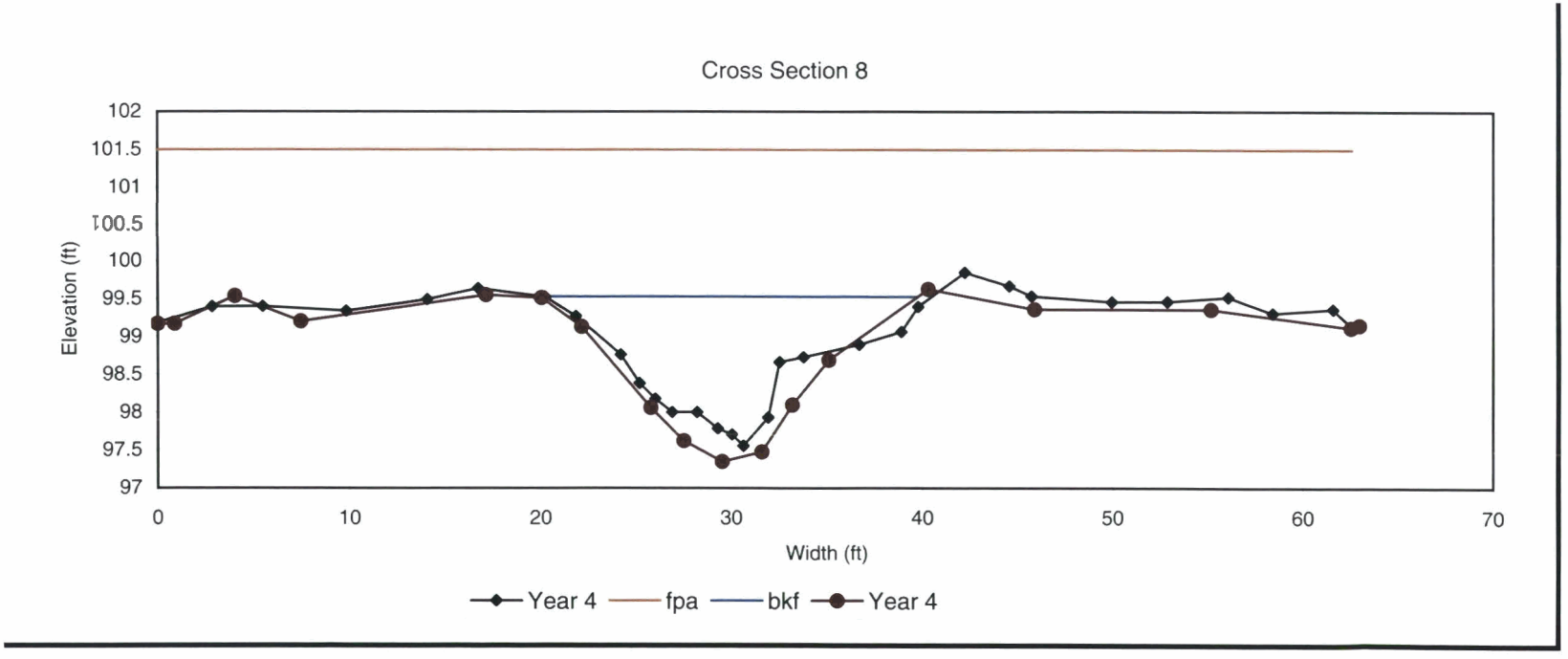
Looking at Left Bank.

Looking at Right Bank.



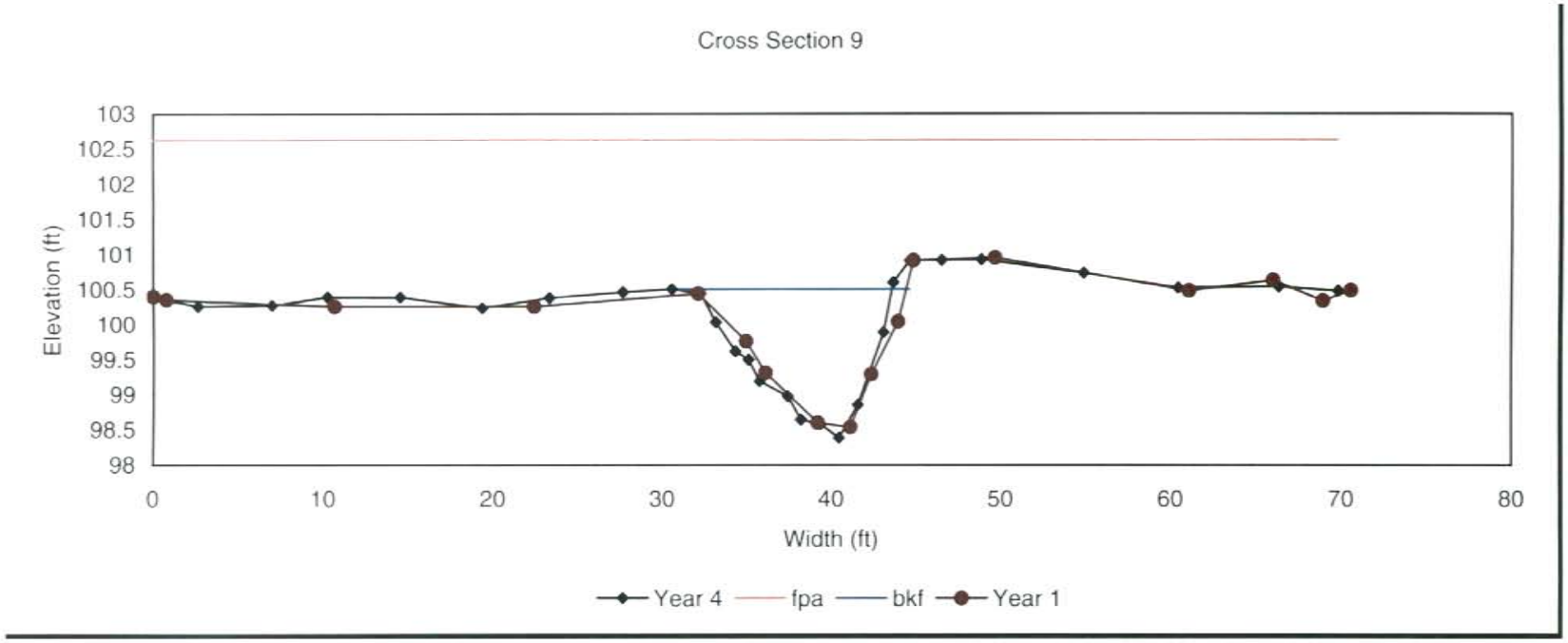
Looking at Left Bank.

Looking at Right Bank.



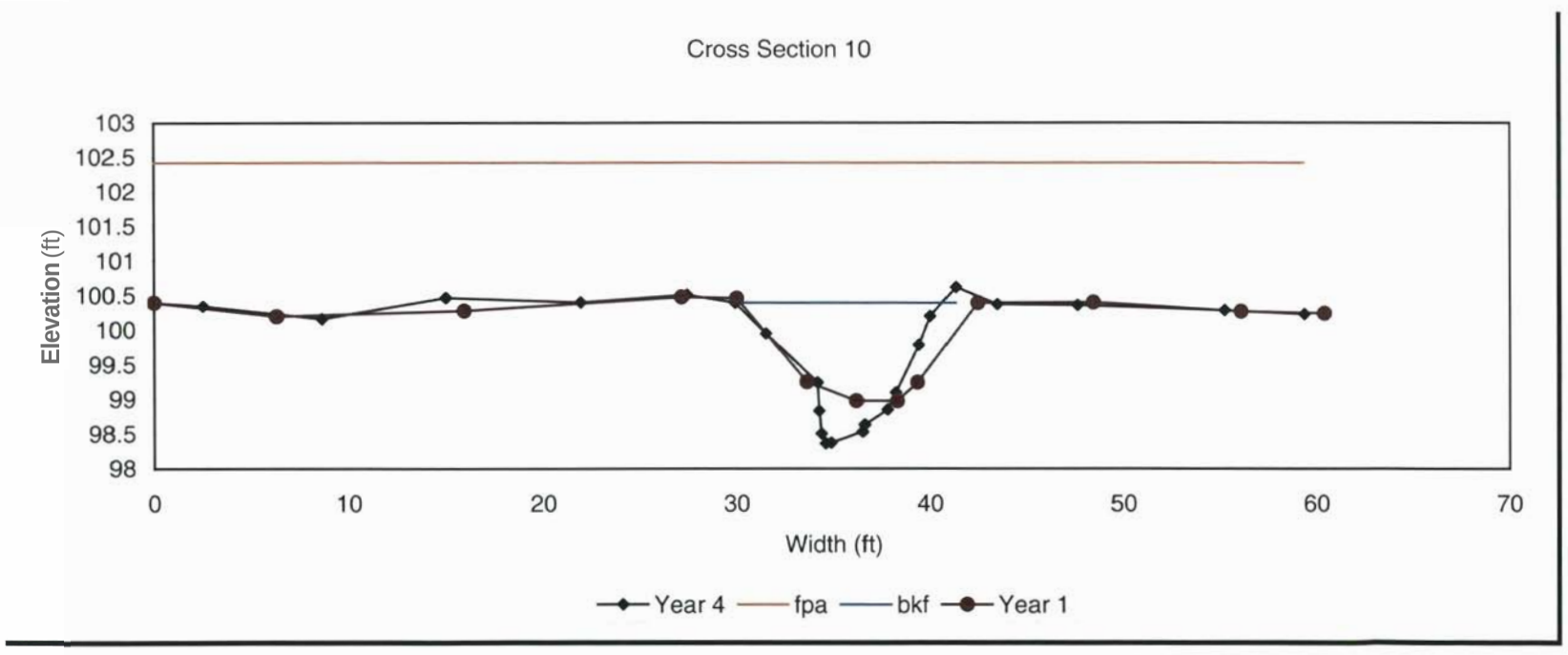
Looking at Left Bank.

Looking at Right Bank.



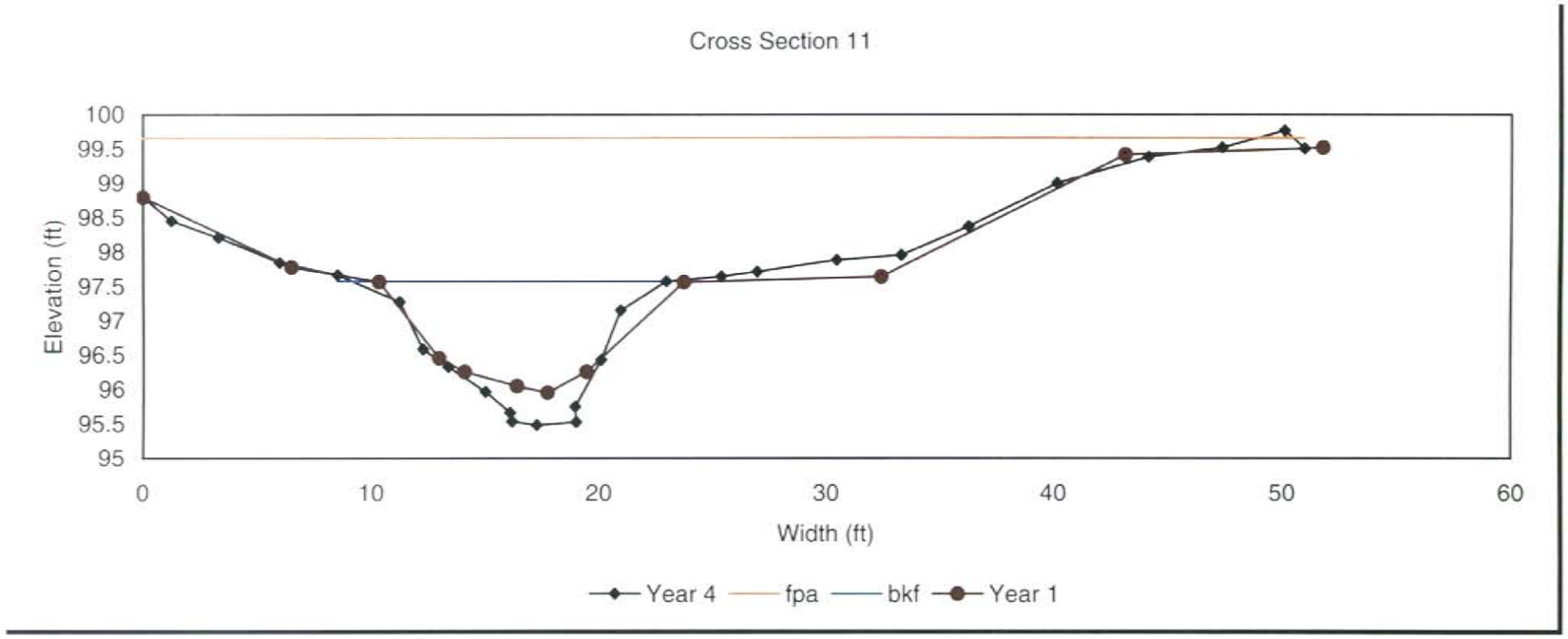
Looking at Left Bank.

Looking at Right Bank.



Looking at Left Bank.

Looking at Right Bank.



APPENDIX C

Hydrology Data

Westbrook 2006 Monitoring Data

		Water Lev						
Date	Time	AW1	AW2	AW3	AW4	AW5	MW1	MW2
01-Jan-2006	08:00:00	-5.7	-2.54	-0.6	-13.36	11.47		
01-Jan-2006	20:00:00	-5.9	-3.88	-1.3	-15.27	9.17		
02-Jan-2006	08:00:00	-5.9	-4.71	-2.6	-16.18	8.8		
02-Jan-2006	20:00:00	1.1	0.94	1.8	-17.57	8.18		
03-Jan-2006	08:00:00	1.5	2.12	2.4	-17.94	8.07		
03-Jan-2006	20:00:00	-0.6	0.81	1.8	-18.67	7.75		
04-Jan-2006	08:00:00	-2.3	0.59	1.5	-14.83	10.97		
04-Jan-2006	20:00:00	-3	0.36	1.7	-16.76	8.72		
05-Jan-2006	08:00:00	-3.6	-0.11	1.1	-17.44	8.49		
05-Jan-2006	20:00:00	-3.8	-0.89	0.9	-17.48	8.83		
06-Jan-2006	08:00:00	-0.8	0.29	1.1	-16.94	9.52		
06-Jan-2006	20:00:00	-3.4	-0.56	0.7	-12.5	11.7		
07-Jan-2006	08:00:00	-5.3	-2.81	-0.7	-14.11	11.06		
07-Jan-2006	20:00:00	-5.5	-3.93	-1.7	-16.17	9.58		
08-Jan-2006	08:00:00	-6.2	-5.27	-3.7	-17.83	8.18		
08-Jan-2006	20:00:00	-6.2	-5.95	-4	-19.11	7.39		
09-Jan-2006	08:00:00	-6.6	-6.63	-4.8	-19.91	6.68		
09-Jan-2006	20:00:00	-6.8	-7.08	-5.3	-20.76	5.97		
10-Jan-2006	08:00:00	-7.2	-7.74	-5.9	-20.69	6.09		
10-Jan-2006	20:00:00	-7.2	-7.75	-5.7	-21.02	5.82		
11-Jan-2006	08:00:00	-6.6	-7.48	-5.3	-20.6	6.15		
11-Jan-2006	20:00:00	-6.6	-7.19	-5.1	-20.24	6.63		
12-Jan-2006	08:00:00	-7.2	-7.99	-5.7	-19.88	6.82		
12-Jan-2006	20:00:00	-7.2	-8	-5.7	-20.46	6.3		
13-Jan-2006	08:00:00	-7.2	-8.26	-5.9	-19.92	6.55		
13-Jan-2006	20:00:00	-6.4	-6.88	-4.8	-16.62	10.61		
14-Jan-2006	08:00:00	-3.2	-2.59	-1.7	-18.05	7.34		
14-Jan-2006	20:00:00	-6.2	-5.6	-4.8	-19.6	6.37		
15-Jan-2006	08:00:00	-8.3	-7.76	-6.8	-20.07	6.17		
15-Jan-2006	20:00:00	-8.7	-8.99	-7.3	-20.76	5.8		
16-Jan-2006	08:00:00	-9.1	-9.4	-7.3	-20.1	6.45		
16-Jan-2006	20:00:00	-8.7	-9.46	-7.3	-20.42	6.16		
17-Jan-2006	08:00:00	-8.5	-9.52	-7	-20.91	5.63		
17-Jan-2006	20:00:00	-8.3	-8.71	-6.8	-20.65	6.02		
18-Jan-2006	08:00:00	0.9	0.36	0.6	-19.97	6.61		
18-Jan-2006	20:00:00	-3.4	-0.84	-2	-21.49	5.07		
19-Jan-2006	08:00:00	-6.2	-2.66	-4	-22.14	4.34		
19-Jan-2006	20:00:00	-6.8	-3.88	-4.8	-22.77	3.78		
20-Jan-2006	08:00:00	-7.9	-5.41	-6.1	-22.68	3.91		
20-Jan-2006	20:00:00	-7.7	-6.51	-6.1	-22.05	4.93		
21-Jan-2006	08:00:00	-7.9	-7.58	-6.4	-22.5	3.76		
21-Jan-2006	20:00:00	-2.1	-1.84	-1.5	-23.2	3.21		
22-Jan-2006	08:00:00	-5.7	-5.33	-4.4	-22.99	3.39		
22-Jan-2006	20:00:00	-6.8	-6.51	-5.5	-23.5	2.91		
23-Jan-2006	08:00:00	-6.6	-6.64	-5.1	-23.76	2.56		
23-Jan-2006	20:00:00	-5.5	-5.59	-4	-24.18	2.07		
24-Jan-2006	08:00:00	-1.9	-0.89	-0.6	-23.54	2.76		
24-Jan-2006	20:00:00	-4.2	-2.9	-2.4	-23.24	3.39		
25-Jan-2006	08:00:00	-6	-5.01	-4.4	-16.17	9.98		
25-Jan-2006	20:00:00	-7.6	-7.02	-6.2	-17.81	6.73		
26-Jan-2006	08:00:00	-8.7	-8.49	-7.3	-19.56	5.45		
26-Jan-2006	20:00:00	-9.1	-9.46	-7.9	-21.04	4.42		
27-Jan-2006	08:00:00	-9.8	-10.41	-8.8	-21.46	4.21		
27-Jan-2006	20:00:00	-9.4	-10.35	-8.1	-22.33	3.52		
28-Jan-2006	08:00:00	-9.8	-10.67	-8.6	-22.61	3.27		
28-Jan-2006	20:00:00	-9.3	-10.05	-7.7	-23.21	2.77		
29-Jan-2006	08:00:00	-9.1	-9.64	-7.2	-23.2	2.71		
29-Jan-2006	20:00:00	-8.9	-8.95	-6.8	-23.7	2.33		
30-Jan-2006	08:00:00	-8.7	-9.46	-6.8	-23.29	2.66		
30-Jan-2006	20:00:00	-8.7	-9.14	-6.8	-23.46	2.67		
31-Jan-2006	08:00:00	-2.8	-1.97	-1.8	-23.73	2.21		

Westbrook 2006 Monitoring Data

		Water Lev						
Date	Time	AW1	AW2	AW3	AW4	AW5	MW1	MW2
31-Jan-2006	20:00:00	-7.4	-6.32	-5.5	-24.1	1.91		
01-Feb-2006	08:00:00	-9.1	-8.46	-7.2	-24.28	1.77		
01-Feb-2006	20:00:00	-9.1	-9.23	-7.3	-24.9	1		
02-Feb-2006	08:00:00	-9.4	-9.98	-7.9	-24.62	1.22		
02-Feb-2006	20:00:00	-9.1	-9.55	-7.3	-24.44	1.88		
03-Feb-2006	08:00:00	-8.5	-9.06	-6.6	-24.19	1.69		
03-Feb-2006	20:00:00	-9.1	-9.97	-7.5	-24.56	1.45		
04-Feb-2006	08:00:00	-8.5	-9.72	-6.8	-24.71	1.06		
04-Feb-2006	20:00:00	-7.9	-8.07	-5.7	-24.87	1.12		
05-Feb-2006	08:00:00	-9.8	-10.42	-8.3	-21.63	3.64		
05-Feb-2006	20:00:00	-10.4	-11.31	-9.2	-14.01	9.89		
06-Feb-2006	08:00:00	-10.8	-12.1	-9.7	-15.97	7.13		
06-Feb-2006	20:00:00	-10.6	-12.07	-9.4	-18.35	5.81		
07-Feb-2006	08:00:00	-9.4	-10.16	-7.2	-19.53	5.1		
07-Feb-2006	20:00:00	-10.4	-11.34	-9	-20.47	4.85		
08-Feb-2006	08:00:00	-11.1	-12.48	-9.9	-20.26	5.34		
08-Feb-2006	20:00:00	-10.8	-12.25	-9.2	-21.44	4.05		
09-Feb-2006	08:00:00	-11.1	-12.75	-10.1	-22.23	3.3		
09-Feb-2006	20:00:00	-11.1	-12.99	-10.1	-23.07	2.67		
10-Feb-2006	08:00:00	-11.9	-13.54	-10.6	-22.64	3.24		
10-Feb-2006	20:00:00	-11.5	-12.68	-9.7	-23.2	2.77		
11-Feb-2006	08:00:00	-11	-12.27	-9.4	-23.33	2.55		
11-Feb-2006	20:00:00	-2.8	-1.29	-0.9	-23.79	2.19		
12-Feb-2006	08:00:00	-7.6	-5.23	-4.4	-23.86	2.01		
12-Feb-2006	20:00:00	-9.3	-7.73	-6.8	-23.79	2.21		
13-Feb-2006	08:00:00	-10.2	-9.8	-8.6	-24.02	1.8		
13-Feb-2006	20:00:00	-10	-10.41	-8.4	-25.2	0.52		
14-Feb-2006	08:00:00	-10.8	-11.38	-9.4	-25.45	0.21		
14-Feb-2006	20:00:00	-10.8	-11.67	-9.4	-25.92	-0.24		
15-Feb-2006	08:00:00	-11	-12.18	-9.7	-25.95	-0.27		
15-Feb-2006	20:00:00	-11.3	-12.31	-9.7	-26.38	-0.67		
16-Feb-2006	08:00:00	-11.1	-12.76	-10.1	-26.13	-0.42		
16-Feb-2006	20:00:00	-11.5	-12.34	-9.7	-25.98	0.1		
17-Feb-2006	08:00:00	-10.8	-12.25	-9.2	-25.38	0.43		
17-Feb-2006	20:00:00	-11.3	-12.53	-9.7	-26.17	-0.53		
18-Feb-2006	08:00:00	-10.8	-13.02	-10.1	-26.39	-0.88		
18-Feb-2006	20:00:00	-11	-13.07	-9.9	-26.75	-1.21		
19-Feb-2006	08:00:00	-12.5	-13.88	-10.8	-26.48	-0.89		
19-Feb-2006	20:00:00	-12.7	-13.76	-10.3	-26.69	-1		
20-Feb-2006	08:00:00	-11.7	-12.93	-9.7	-26.53	-0.99		
20-Feb-2006	20:00:00	-12.3	-12.93	-9.9	-26.81	-1.18		
21-Feb-2006	08:00:00	-12.3	-13.1	-9.7	-26.99	-1.5		
21-Feb-2006	20:00:00	-13	-13.57	-10.3	-27.38	-1.89		
22-Feb-2006	08:00:00	-12.3	-13.62	-10.1	-27.39	-1.23		
22-Feb-2006	20:00:00	-9.4	-8.24	-6.2	-27.19	-1.58		
23-Feb-2006	08:00:00	-1.3	-0.3	0	-26.86	-1.5		
23-Feb-2006	20:00:00	-5.9	-2.82	-2.6	-27.04	-1.56		
24-Feb-2006	08:00:00	-8.9	-5.97	-5.3	-26.67	-1.33		
24-Feb-2006	20:00:00	-9.4	-8.06	-6.8	-26.85	-1.35		
25-Feb-2006	08:00:00	-10	-9.44	-7.7	-27.73	-2.75		
25-Feb-2006	20:00:00	-9.4	-9.5	-7.3	-28.32	-3.21		
26-Feb-2006	08:00:00	-10.2	-10.34	-8.4	-28.46	-3.32		
26-Feb-2006	20:00:00	-10.6	-11.61	-9.4	-28.75	-3.39		
27-Feb-2006	08:00:00	-11.5	-12.55	-10.1	-28.71	-3.42		
27-Feb-2006	20:00:00	-11	-12.12	-9.2	-28.77	-3.31		
28-Feb-2006	08:00:00	-11.1	-12.44	-9.5	-29.12	-3.88		
28-Feb-2006	20:00:00	-11.5	-12.64	-9.7	-29.46	-4.18		
01-Mar-2006	08:00:00	-10.8	-12.92	-9.9	-29.51	-4.24		
01-Mar-2006	20:00:00	-11.7	-13.13	-10.1	-29.88	-4.59		
02-Mar-2006	08:00:00	-10.8	-12.77	-9.5	-29.9	-4.55		
02-Mar-2006	20:00:00	-11.7	-13.16	-9.9	-30.14	-4.79		

Westbrook 2006 Monitoring Data

								Water Lev
Date	Time	AW1	AW2	AW3	AW4	AW5	MW1	MW2
03-Mar-2006	08:00:00	-12.3	-14.27	-10.8	-29.93	-2.7		
03-Mar-2006	20:00:00	-13.2	-14.77	-11	-14.17	10.49		
04-Mar-2006	08:00:00	-13.4	-15.28	-11.7	-10.95	10.32		
04-Mar-2006	20:00:00	-14	-15.4	-11.4	-13.74	7.31		
05-Mar-2006	08:00:00	-13.8	-15.8	-12.1	-15.81	6.02		
05-Mar-2006	20:00:00	-14.4	-15.58	-11.4	-18.18	5.01		
06-Mar-2006	08:00:00	-13.8	-14.96	-10.8	-18.98	4.91		
06-Mar-2006	20:00:00	-13.2	-13.25	-9.9	-19.78	4.76		
07-Mar-2006	08:00:00	-14	-14.62	-10.8	-20.5	4.18		
07-Mar-2006	20:00:00	-14.5	-15.42	-11.6	-21.39	3.52		
08-Mar-2006	08:00:00	-14.4	-15.98	-12.1	-21.8	3.88		
08-Mar-2006	20:00:00	-14.7	-15.81	-11.7	-22.4	2.7		
09-Mar-2006	08:00:00	-14.5	-15.65	-11.4	-22.94	2.06		
09-Mar-2006	20:00:00	-14.9	-15.8	-11.7	-23.77	1.29		
10-Mar-2006	08:00:00	-14.9	-15.47	-11.6	-23.95	1.11		
10-Mar-2006	20:00:00	-15.1	-16.1	-11.9	-24.44	0.82		
11-Mar-2006	08:00:00	-14.2	-16.44	-11.9	-24.42	0.92		
11-Mar-2006	20:00:00	-14.9	-16.43	-12.1	-24.93	0.38		
12-Mar-2006	08:00:00	-14.2	-15.75	-10.6	-25.35	-0.21		
12-Mar-2006	20:00:00	-14.9	-15.68	-11.2	-25.85	-0.59		
13-Mar-2006	08:00:00	-14.5	-15.6	-10.5	-25.99	-0.75		
13-Mar-2006	20:00:00	-14.9	-15.92	-11.4	-26.37	-1.02		
14-Mar-2006	08:00:00	-14.4	-15.41	-10.8	-26.27	-0.87		
14-Mar-2006	20:00:00	-15.7	-16.88	-12.8	-26.22	0.17		
15-Mar-2006	08:00:00	-15.1	-17.63	-13.2	-26.1	-0.82		
15-Mar-2006	20:00:00	-16.4	-18.02	-13.4	-26.86	-1.56		
16-Mar-2006	08:00:00	-15.7	-18.23	-13.2	-27.01	-1.74		
16-Mar-2006	20:00:00	-16.6	-18.31	-13.2	-27.02	-1.33		
17-Mar-2006	08:00:00	-16.4	-17.95	-13	-25.95	-0.37		
17-Mar-2006	20:00:00	-17	-18.64	-13.9	-26.01	-0.88		
18-Mar-2006	08:00:00	-17	-18.9	-13.9	-26.37	-1.65		
18-Mar-2006	20:00:00	-17.4	-19.09	-14.1	-27.03	-2		
19-Mar-2006	08:00:00	-17.4	-19.38	-14.7	-27.55	-2.69		
19-Mar-2006	20:00:00	-17.6	-19.49	-14.3	-28.17	-3.06		
20-Mar-2006	08:00:00	-17.6	-19.63	-14.3	-28.43	-3.31		
20-Mar-2006	20:00:00	-17	-18.7	-12.3	-28.54	-3.06		
21-Mar-2006	08:00:00	0.8	0.94	1.3	-28.75	-3.58		
21-Mar-2006	20:00:00	0.2	0.74	1.8	-28.95	-3.42		
22-Mar-2006	08:00:00	-4.9	0.35	1.1	-29.24	-2.61	-0.5	-3.75
22-Mar-2006	20:00:00	-8.3	-1.28	-0.4	-29.19	-3.6		
23-Mar-2006	08:00:00	-9.8	-4.15	-4.2	-29.47	-4.47		
23-Mar-2006	20:00:00	-9.8	-6.23	-5.7	-29.92	-4.82		
24-Mar-2006	08:00:00	-9.8	-7.7	-6.2	-30.12	-5.08		
24-Mar-2006	20:00:00	-10.4	-9.13	-7.2	-30.46	-5.27		
25-Mar-2006	08:00:00	-10.8	-10.31	-8.1	-30.67	-5.56		
25-Mar-2006	20:00:00	-10.2	-9.96	-6.8	-30.93	-5.62		
26-Mar-2006	08:00:00	-11.1	-11.44	-8.8	-31.08	-5.82		
26-Mar-2006	20:00:00	-11.7	-12.2	-9.2	-31.15	-5.64		
27-Mar-2006	08:00:00	-12.1	-13.12	-10.1	-31.23	-5.87		
27-Mar-2006	20:00:00	-13	-13.69	-10.1	-31.36	-5.81		
28-Mar-2006	08:00:00	-13.2	-14.05	-10.3	-31.47	-6.09		
28-Mar-2006	20:00:00	-13.2	-13.97	-10.1	-31.66	-6.13		
29-Mar-2006	08:00:00	-13.6	-14.39	-10.5	-32.1	-6.92		
29-Mar-2006	20:00:00	-14.2	-15.18	-11.4	-32.52	-7.13		
30-Mar-2006	08:00:00	-14.4	-15.53	-11.4	-32.89	-7.6		
30-Mar-2006	20:00:00	-14.5	-15.99	-11.7	-33.1	-7.59		
31-Mar-2006	08:00:00	-14.7	-16.08	-11.6	-31.45	-4.97		
31-Mar-2006	20:00:00	-14.7	-16.27	-11.7	-31.66	-6.27		
01-Apr-2006	08:00:00	-14	-15.28	-10.1	-32.22	-7.16		
01-Apr-2006	20:00:00	-14.4	-15.43	-11.2	-32.61	-7.39		
02-Apr-2006	08:00:00	-14.7	-16.27	-11.7	-33.21	-8.03		

Westbrook 2006 Monitoring Data

		Water Lev						
Date	Time	AW1	AW2	AW3	AW4	AW5	MW1	MW2
02-Apr-2006	20:00:00	-15.3	-17.04	-12.5	-33.58	-8.24		
03-Apr-2006	08:00:00	-14.5	-16.52	-11.4	-34.11	-8.9		
03-Apr-2006	20:00:00	-13.6	-14.01	-9.5	-34.44	-9.07		
04-Apr-2006	08:00:00	-13.2	-12.98	-9.9	-35	-9.77		
04-Apr-2006	20:00:00	-14.7	-15.2	-11.4	-35.22	-9.59		
05-Apr-2006	08:00:00	-14.7	-16.12	-12.1	-33.09	-5.63		
05-Apr-2006	20:00:00	-15.9	-17.42	-13.2	-29.27	-3.41		
06-Apr-2006	08:00:00	-15.9	-18.02	-13.4	-29.34	-4.92		
06-Apr-2006	20:00:00	-16.4	-18.6	-13.9	-29.88	-5.61		
07-Apr-2006	08:00:00	-16.1	-18.28	-13	-30.43	-6.2		
07-Apr-2006	20:00:00	-16.8	-18.97	-14.1	-30.88	-6.56		
08-Apr-2006	08:00:00	-16.4	-18.67	-13.6	-31.45	-7.24		
08-Apr-2006	20:00:00	-16.1	-18.39	-11.2	-32.3	-8.09		
09-Apr-2006	08:00:00	-15.3	-16.63	-12.3	-32.22	-1.18		
09-Apr-2006	20:00:00	-17	-18.35	-14.3	-25.57	5.28		
10-Apr-2006	08:00:00	-17.2	-19.32	-14.5	-9.8	11.48		
10-Apr-2006	20:00:00	-17.6	-19.95	-15	-12.28	9.33		
11-Apr-2006	08:00:00	-17.6	-20.31	-15.2	-15.25	5.82		
11-Apr-2006	20:00:00	-17.9	-20.76	-15.8	-17.77	4.63		
12-Apr-2006	08:00:00	-17.7	-20.92	-15.2	-20.34	2.69		
12-Apr-2006	20:00:00	-18.3	-21.18	-15.8	-21.58	2.37		
13-Apr-2006	08:00:00	-17.7	-21	-14.9	-23.02	0.94		
13-Apr-2006	20:00:00	-18.3	-21.36	-15.6	-23.77	0.75		
14-Apr-2006	08:00:00	-17.7	-21.13	-14.9	-24.96	-0.61		
14-Apr-2006	20:00:00	-18.3	-21.48	-15.6	-25.45	-0.61		
15-Apr-2006	08:00:00	-18.1	-21.42	-15.2	-26.19	-1.5		
15-Apr-2006	20:00:00	-18.7	-21.99	-16.7	-26.68	-1.67		
16-Apr-2006	08:00:00	-18.1	-22.4	-16.3	-27.74	-3.11		
16-Apr-2006	20:00:00	-19.1	-22.83	-17.4	-28.32	-3.28		
17-Apr-2006	08:00:00	-18.5	-23.02	-16.7	-29.17	-4.38		
17-Apr-2006	20:00:00	-16.6	-21.01	-13.2	-29.58	-4.39		
18-Apr-2006	08:00:00	-16.2	-20.3	-14.7	-15.9	11.91		
18-Apr-2006	20:00:00	-17.9	-20.83	-15.6	-10.35	10.94		
19-Apr-2006	08:00:00	-17.7	-21.51	-16	-14.15	6.65		
19-Apr-2006	20:00:00	-19.1	-22.25	-17.1	-16.68	5.35		
20-Apr-2006	08:00:00	-18.3	-22.92	-17.1	-1.34	13.83		
20-Apr-2006	20:00:00	-20	-23.65	-18.2	-3.79	13.25		
21-Apr-2006	08:00:00	-18.9	-24.09	-17.80	-6.04	12.79	-17	-17.5
21-Apr-2006	20:00:00	-20.6	-24.63	-18.9	-7.75	12.55		
22-Apr-2006	08:00:00	-20.2	-24.88	-18.3	-10.07	12.06		
22-Apr-2006	20:00:00	-16.6	-21.24	-11.9	-11.95	11.57		
23-Apr-2006	08:00:00	-12.7	-13.97	-8.4	-14.02	10.6		
23-Apr-2006	20:00:00	-15.7	-15.9	-11.4	-14.76	10.34		
24-Apr-2006	08:00:00	-16.1	-17.26	-12.5	-15.24	10.76		
24-Apr-2006	20:00:00	-17.2	-18.23	-13.4	-16.57	9.25		
25-Apr-2006	08:00:00	-17.2	-19.04	-13.8	-19.08	6.62		
25-Apr-2006	20:00:00	-17.9	-19.78	-14.7	-20.01	6.23		
26-Apr-2006	08:00:00	-17.7	-20.69	-15.6	-21.6	4.29		
26-Apr-2006	20:00:00	-16.1	-20.19	-11.9	-22.02	6.3		
27-Apr-2006	08:00:00	-3.4	-5.35	-1.7	-21.12	5.5		
27-Apr-2006	20:00:00	1.7	3.93	2.8	-8.64	12.47		
28-Apr-2006	08:00:00	-2.1	0.77	2.4	-11.42	11.25		
28-Apr-2006	20:00:00	-7.4	0.07	1.3	-13.45	10.03		
29-Apr-2006	08:00:00	-9.3	-1.69	-1.7	-16.8	7.45		
29-Apr-2006	20:00:00	-10.4	-6.62	-6.6	-18.08	7.02		
30-Apr-2006	08:00:00	-11	-8.88	-7.7	-20.2	5.02		
30-Apr-2006	20:00:00	-12.1	-11.65	-9.7	-21.06	4.74		
01-May-2006	08:00:00	-12.3	-13.01	-9.9	-21.88	8.27		
01-May-2006	20:00:00	-14	-14.66	-11.6	-19.41	5.49		
02-May-2006	08:00:00	-13.2	-15.34	-11	-22.46	2.53		
02-May-2006	20:00:00	-14.7	-16.25	-12.7	-23.03	2.8		

Westbrook 2006 Monitoring Data

		Water Lev						
Date	Time	AW1	AW2	AW3	AW4	AW5	MW1	MW2
03-May-2006	08:00:00	-13.4	-16.64	-11.9	-24.18	1.15		
03-May-2006	20:00:00	-16.1	-17.74	-14.1	-24.58	1.13		
04-May-2006	08:00:00	-15.3	-18.34	-13.8	-25.68	-0.49		
04-May-2006	20:00:00	-16.8	-19.2	-15	-26.47	-1		
05-May-2006	08:00:00	-16.2	-19.6	-14.5	-27.28	-2.03		
05-May-2006	20:00:00	2.3	1.04	-9.5	-27.76	-2.19		
06-May-2006	08:00:00	1.3	2.08	2.8	-28.69	-3.58		
06-May-2006	20:00:00	-5.3	0.27	2	-29.05	-3.53		
07-May-2006	08:00:00	-8.1	-0.82	-0.2	-29.78	-4.5		
07-May-2006	20:00:00	2.8	1.75	2.8	-29.96	-4.25		
08-May-2006	08:00:00	1.7	4.85	2.8	-30.66	-5.45		
08-May-2006	20:00:00	-0.4	0.81	2.8	-30.93	-5.36		
09-May-2006	08:00:00	-2.3	0.63	2.8	-31.9	-6.81		
09-May-2006	20:00:00	-4.3	0.11	2.8	-32.43	-6.95		
10-May-2006	08:00:00	-4.9	-0.73	2.6	-33.55	-8.46		
10-May-2006	20:00:00	-6	-3.67	2.8	-34.17	-8.76		
11-May-2006	08:00:00	-5.7	-4.69	2.8	-35.17	-9.89		
11-May-2006	20:00:00	-3	-3.75	2.4	-35.72	-10.22		
12-May-2006	08:00:00	-6.2	-6.49	-0.6	-36.58	-10.95		
12-May-2006	20:00:00	-8.5	-9.76	-4.2	-37.17	-11.3		
13-May-2006	08:00:00	-8.9	-10.92	-6.1	-38.09	-11.98		
13-May-2006	20:00:00	-10.6	-12.9	-8.1	-38.73	-12.62		
14-May-2006	08:00:00	-9.4	-12.95	-8.3	-39.56	-13.25		
14-May-2006	20:00:00	-7.9	-10.23	-5.1	-40.15	-13.9		
15-May-2006	08:00:00	1.7	1.22	2.6	-40.91	-14.47		
15-May-2006	20:00:00	-3.2	0.29	2.2	-41.43	-15.11		
16-May-2006	08:00:00	-5.3	-0.34	0.6	-42.1	-15.59		
16-May-2006	20:00:00	-7.7	-4.39	-2.9	-41.26	-14.24		
17-May-2006	08:00:00	-7.9	-6.04	-4.4	-40.59	-11.65		
17-May-2006	20:00:00	-9.4	-9.53	-4.6	-39.75	-13.03		
18-May-2006	08:00:00	-9.4	-10.58	-6.20	-39.81	-13.68	-2	-3
18-May-2006	20:00:00	-7.4	-10.15	-1.8	-39.89	-14.15		
19-May-2006	08:00:00	-8.1	-7.38	-1.7	-40.38	-14.53		
19-May-2006	20:00:00	-10.6	-12.04	-6.2	-30.75	-4.81		
20-May-2006	08:00:00	-10	-12.76	-4.4	-26.95	-6.3		
20-May-2006	20:00:00	-12.5	-14.65	-8.3	-28.6	-7.59		
21-May-2006	08:00:00	-11.5	-14.71	-7.7	-30.54	-9.01		
21-May-2006	20:00:00	-14	-16.17	-10.5	-31.65	-9.76		
22-May-2006	08:00:00	-10.8	-16.82	-10.6	-31.72	-3.32		
22-May-2006	20:00:00	-14.9	-17.75	-11.9	-30.61	-8.31		
23-May-2006	08:00:00	-12.5	-18.15	-11.7	-32.01	-9.84		
23-May-2006	20:00:00	-16.2	-18.99	-13.6	-32.81	-10.55		
24-May-2006	08:00:00	-14.4	-19.42	-12.8	-33.93	-11.5		
24-May-2006	20:00:00	-17	-20.06	-14.3	-34.64	-12.09		
25-May-2006	08:00:00	-14.5	-20.26	-13	-35.71	-12.79		
25-May-2006	20:00:00	-17.4	-20.67	-15.4	-34.6	-10.05		
26-May-2006	08:00:00	-16.6	-20.96	-14.3	-7.95	7.28		
26-May-2006	20:00:00	-17.9	-21.58	-16.7	-1.2	0.64		
27-May-2006	08:00:00	-16.6	-22.14	-15.8	-2.09	-0.02		
27-May-2006	20:00:00	-18.3	-22.99	-18.2	7.37	10.43		
28-May-2006	08:00:00	-15.3	-23.74	-18	14.55	13.59		
28-May-2006	20:00:00	-20	-24.54	-19.6	11.77	12.82		
29-May-2006	08:00:00	-16.4	-25.13	-19.3	8.19	11.72		
29-May-2006	20:00:00	-20.6	-25.72	-20.6	6.07	10.89		
30-May-2006	08:00:00	-16.4	-26.26	-20.2	1.67	8.38		
30-May-2006	20:00:00	-22.8	-26.85	-21.5	0.15	7.26		
31-May-2006	08:00:00	-17.6	-27.46	-21.3	-2.69	4.64		
31-May-2006	20:00:00	-24.4	-28.08	-22.6	-3.51	4.45		
01-Jun-2006	08:00:00	-19.3	-28.61	-22.2	-5.56	2.1		
01-Jun-2006	20:00:00	-26.2	-29.11	-23.3	-5.97	2.14		
02-Jun-2006	08:00:00	-24.4	-29.63	-23.1	-7.54	0.23		

Westbrook 2006 Monitoring Data

		Water Lev						
Date	Time	AW1	AW2	AW3	AW4	AW5	MW1	MW2
02-Jun-2006	20:00:00	-26.6	-30.11	-23.7	-7.87	0.31		
03-Jun-2006	08:00:00	-23.6	-29.32	-21.5	-9.42	-1.79		
03-Jun-2006	20:00:00	-22.5	-28.99	-20.2	-9.75	-1.68		
04-Jun-2006	08:00:00	-15.7	-29.15	-19.3	8.77	12.37		
04-Jun-2006	20:00:00	-21.5	-28.76	-19.6	7.18	11.31		
05-Jun-2006	08:00:00	-16.4	-28.49	-19.8	3.5	9.04		
05-Jun-2006	20:00:00	-22.5	-28.42	-21.5	1.71	7.48		
06-Jun-2006	08:00:00	-5.9	2.19	-12.3	-1.81	4.7		
06-Jun-2006	20:00:00	-12.7	-0.77	-13.8	-2.83	4.36		
07-Jun-2006	08:00:00	-13.6	-5.97	-14.3	-5.05	2.14		
07-Jun-2006	20:00:00	-16.6	-12.62	-15.8	-5.64	2.06		
08-Jun-2006	08:00:00	-15.1	-16.28	-16	11.09	12.78		
08-Jun-2006	20:00:00	-15.3	-15.32	-14.7	8.6	11.96		
09-Jun-2006	08:00:00	-13.4	-13.59	-12.5	7.93	11.77		
09-Jun-2006	20:00:00	-17	-17.1	-14.5	6.21	11		
10-Jun-2006	08:00:00	-15.7	-19.12	-15.2	9.15	12.44		
10-Jun-2006	20:00:00	-18.1	-20.52	-17.1	7.22	11.77		
11-Jun-2006	08:00:00	-15.5	-21.61	-17.2	3.39	9.6		
11-Jun-2006	20:00:00	-19.4	-21.67	-19.1	2.04	8.71		
12-Jun-2006	08:00:00	-15.3	-20.66	-14.9	-1.82	5.17		
12-Jun-2006	20:00:00	3.4	0.59	2.4	-2.96	4.72		
13-Jun-2006	08:00:00	-2.3	1.5	1.8	-5.49	2.16		
13-Jun-2006	20:00:00	-8.1	0.43	0.9	-6.16	1.84		
14-Jun-2006	08:00:00	3.6	1.3	2.8	-7.9	-0.22		
14-Jun-2006	20:00:00	4	9.19	2.8	-8.34	-0.26		
15-Jun-2006	08:00:00	1.9	1.67	2.8	-10	-2.22		
15-Jun-2006	20:00:00	-2.8	0.43	2.8	-10.24	-2.06		
16-Jun-2006	08:00:00	-4.2	0.08	2.8	-11.39	-3.54		
16-Jun-2006	20:00:00	-7.7	-3.6	2.8	-1.49	7.78		
17-Jun-2006	08:00:00	-8.1	-5.44	2.2	-4.81	1.42		
17-Jun-2006	20:00:00	-10	-9.63	1.8	-6.07	0.58		
18-Jun-2006	08:00:00	-9.8	-10.86	1.5	-8.44	-2.08		
18-Jun-2006	20:00:00	-11.1	-13.25	-1.7	-9.29	-2.35		
19-Jun-2006	08:00:00	-10.6	-13.61	-2	10.53	12.21		
19-Jun-2006	20:00:00	-13.4	-15.34	-5.7	8.33	10.89		
20-Jun-2006	08:00:00	-11.9	-15.37	-5.1	4.46	8.14		
20-Jun-2006	20:00:00	-14.9	-17.05	-8.4	2.61	7.04		
21-Jun-2006	08:00:00	-13.6	-17.28	-7.5	-1.25	4.15		
21-Jun-2006	20:00:00	3	5.33	2.8	-2.58	3.72		
22-Jun-2006	08:00:00	-0.9	0.93	2.8	-4.88	1.52		
22-Jun-2006	20:00:00	-6.4	0.07	2.8	-5.68	1.33		
23-Jun-2006	08:00:00	-7.4	-0.75	2.4	-7.66	-0.84	0.5	1
23-Jun-2006	20:00:00		-5.75	-0.2	-8.28	-0.96		
24-Jun-2006	08:00:00		-7.81	-1.5	-9.87	-2.85		
24-Jun-2006	20:00:00		-11.33	-4.8	-10.27	-2.82		
25-Jun-2006	08:00:00		-12.23	-5.3	-11.52	-4.33		
25-Jun-2006	20:00:00		1.54	2.8	-11.85	-4.26		
26-Jun-2006	08:00:00		2.1	2.8	-14.158	-5.69		
26-Jun-2006	20:00:00		0.86	2.8	-14.488	-5.92		
27-Jun-2006	08:00:00		0.72	2.8	-16.796	-7.23		
27-Jun-2006	20:00:00		1.63	2.8	-17.126	-7.56		
28-Jun-2006	08:00:00		1	2.8	-19.434	-8.67		
28-Jun-2006	20:00:00		0.22	2.2	-19.764	-8.91		
29-Jun-2006	08:00:00		-0.62	1.7	-22.072	-10.01		
29-Jun-2006	20:00:00		-5.82	-0.7	-22.402	-10.71		
30-Jun-2006	08:00:00		-8.03	-2.8	-24.71	-11.86		
30-Jun-2006	20:00:00		-11.81	-5.9	-25.04	-12.56		
01-Jul-2006	08:00:00		-12.98	-6.6	-27.348	-13.38		
01-Jul-2006	20:00:00		-15.09	-8.8	-27.678	-14.17		
02-Jul-2006	08:00:00		-15.64	-8.6	-29.986	-5.66		
02-Jul-2006	20:00:00		-17.16	-10.8	-39.03	-14.13		

Westbrook 2006 Monitoring Data

		Water Lev						
Date	Time	AW1	AW2	AW3	AW4	AW5	MW1	MW2
03-Jul-2006	08:00:00		-17.45	-10.1	-40.05	-15.2		
03-Jul-2006	20:00:00		-18.57	-11.9	-40.62	-15.87		
04-Jul-2006	08:00:00		-1	2.4	-41.31	-16.47		
04-Jul-2006	20:00:00		-8.63	0	-41.86	-17.11		
05-Jul-2006	08:00:00		-11.02	-2.9	-39.54	-13.05		
05-Jul-2006	20:00:00		-14.67	-7.7	-41.22	-15.19		
06-Jul-2006	08:00:00		-15.86	-8.3	-37.58	-8.65		
06-Jul-2006	20:00:00		6.81	2.8	-34.27	-10.4		
07-Jul-2006	08:00:00		1.85	2.8	-33.7	-11.14		
07-Jul-2006	20:00:00		0.4	2.8	-33.71	-11.64		
08-Jul-2006	08:00:00		-0.11	2.4	-33.99	-11.73		
08-Jul-2006	20:00:00		-4.66	0.9	-34.12	-11.93		
09-Jul-2006	08:00:00		-6.99	-0.6	-35.01	-12.43		
09-Jul-2006	20:00:00		-11.19	-4.2	-35.51	-13.03		
10-Jul-2006	08:00:00		-12.2	-5	-36.67	-13.74		
10-Jul-2006	20:00:00		-14.93	-7.7	-37.45	-14.56		
11-Jul-2006	08:00:00		-15.43	-7.7	-38.58	-15.14		
11-Jul-2006	20:00:00		-17.18	-9.9	-39.34	-15.85		
12-Jul-2006	08:00:00		-17.56	-9.7	-40.27	-16.31		
12-Jul-2006	20:00:00		-18.64	-11.7	-41.06	-16.88		
13-Jul-2006	08:00:00		-19.07	-11.2	-41.79	-17.54		
13-Jul-2006	20:00:00		-20.03	-13.6	-42.53	-18.28		
14-Jul-2006	08:00:00		-20.71	-13.2	-43.37	-18.97		
14-Jul-2006	20:00:00		-21.73	-15.6	-44.17	-19.64		
15-Jul-2006	08:00:00		-22.34	-15	-44.9	-20.26		
15-Jul-2006	20:00:00		-23.3	-16.9	-45.64	-20.93		
16-Jul-2006	08:00:00		-23.89	-16	-46.28	-21.54		
16-Jul-2006	20:00:00		-24.74	-18.3	-46.99	-22.15		
17-Jul-2006	08:00:00		-25.42	-18.2	-47.64	-22.73		
17-Jul-2006	20:00:00		-26.24	-19.6	-48.32	-23.41		
18-Jul-2006	08:00:00		-26.85	-19.40	-48.97	-23.97	-22	-17
18-Jul-2006	20:00:00		-27.58	-20.9	-49.75	-24.63		
19-Jul-2006	08:00:00		-28.14	-20.7	-50.4	-25.16		
19-Jul-2006	20:00:00		-26.39	-19.4	-50.82	-25.68		
20-Jul-2006	08:00:00		-27.23	-18.7	-50.69	-26.15		
20-Jul-2006	20:00:00		-28.17	-20	-50.71	-26.66		
21-Jul-2006	08:00:00		-28.74	-20.6	-50.71	-27.12		
21-Jul-2006	20:00:00		-29.24	-22	-50.71	-27.72		
22-Jul-2006	08:00:00		-29.67	-22.2	-50.71	-28.56		
22-Jul-2006	20:00:00		-24.67	-22.9	-50.72	-29.27		
23-Jul-2006	08:00:00		-27.21	-20.2	-50.71	-29.64		
23-Jul-2006	20:00:00		-22.37	-8.6	-50.72	-30.1		
24-Jul-2006	08:00:00		-16.49	-11.4	-50.71	-30.61		
24-Jul-2006	20:00:00		-14.83	-12.8	-50.71	-31.13		
25-Jul-2006	08:00:00		-17.36	-13.6	-50.71	-25.56		
25-Jul-2006	20:00:00		-18.76	-14.3	-50.73	-31.3		
26-Jul-2006	08:00:00		-19.65	-14.7	-50.72	-32.54		
26-Jul-2006	20:00:00		-20.46	-16	-50.72	-33.15		
27-Jul-2006	08:00:00		-21.35	-16.5	-50.74	-33.64		
27-Jul-2006	20:00:00		-22.53	-18.2	-50.74	-34.07		
28-Jul-2006	08:00:00		-23.68	-18.9	-50.73	-34.43		
28-Jul-2006	20:00:00		-24.9	-19.8	-50.73	-34.47		
29-Jul-2006	08:00:00		-25.95	-20.2	-50.72	-34.78		
29-Jul-2006	20:00:00		-26.85	-21.3	-50.73	-35.36		
30-Jul-2006	08:00:00		-27.72	-21.7	-50.73	-35.64		
30-Jul-2006	20:00:00		-28.58	-23.1	-50.71	-36.17		
31-Jul-2006	08:00:00		-29.32	-23.3	-50.72	-36.61		
31-Jul-2006	20:00:00		-29.99	-24.8	-50.72	-37.04		
01-Aug-2006	08:00:00		-30.69	-25	-50.72	-25.92		
01-Aug-2006	20:00:00		-31.39	-25.9	-50.72	-32.19		
02-Aug-2006	08:00:00		-31.93	-25.9	-50.72	-34.63		

Westbrook 2006 Monitoring Data

		Water Lev						
Date	Time	AW1	AW2	AW3	AW4	AW5	MW1	MW2
02-Aug-2006	20:00:00		-32.43	-26.8	-50.72	-35.99		
03-Aug-2006	08:00:00		-32.93	-27.3	-50.73	-36.95		
03-Aug-2006	20:00:00		-33.46	-28.1	-50.69	-19.28		
04-Aug-2006	08:00:00		-34.01	-28.4	-50.69	-34.38		
04-Aug-2006	20:00:00		-34.6	-29.4	-50.7	-36.98		
05-Aug-2006	08:00:00		-35.18	-29.7	-50.69	-37.88		
05-Aug-2006	20:00:00		-35.73	-30.3	-50.69	-38.43		
06-Aug-2006	08:00:00		-36.24	-30.3	-50.71	-38.78		
06-Aug-2006	20:00:00		-36.72	-31.2	-50.71	-39.06		
07-Aug-2006	08:00:00		-37.19	-31.6	-50.72	-39.33		
07-Aug-2006	20:00:00		-37.65	-32.1	-50.71	-39.7		
08-Aug-2006	08:00:00		-38.06	-32.3	-50.72	-40.1		
08-Aug-2006	20:00:00		-38.47	-33.4	-50.73	-40.47		
09-Aug-2006	08:00:00		-38.87	-33.6	-50.71	-40.67		
09-Aug-2006	20:00:00		-39.34	-34.5	-50.71	-37.97		
10-Aug-2006	08:00:00		-39.88	-34.9	-50.72	-37.54		
10-Aug-2006	20:00:00		-40.4	-35.4	-50.72	-37.58		
11-Aug-2006	08:00:00		-40.86	-35.8	-50.73	-37.62		
11-Aug-2006	20:00:00		-38.24	-35.6	-50.72	-37.63		
12-Aug-2006	08:00:00		-39.16	-36	-50.71	-37.63		
12-Aug-2006	20:00:00		-40.1	-36.1	-50.72	-37.65		
13-Aug-2006	08:00:00		-40.82	-36.7	-50.26	-21.32		
13-Aug-2006	20:00:00		-41.37	-36.7	-50.69	-31.34		
14-Aug-2006	08:00:00		-41.76	-37.2	-39.38	-10.22		
14-Aug-2006	20:00:00		-42.17	-37.2	-33.35	-0.38		
15-Aug-2006	08:00:00		-42.56	-37.2	-23.6	-1.95		
15-Aug-2006	20:00:00		-42.99	-37.2	-21.03	-2.98		
16-Aug-2006	08:00:00		-43.44	-37.4	-23.61	-4.49		
16-Aug-2006	20:00:00		-43.91	-37.6	-25.15	-5.46		
17-Aug-2006	08:00:00		-44.46	-37.4	-27.29	-6.4		
17-Aug-2006	20:00:00		-44.97	-37.4	-28.17	-7.04		
18-Aug-2006	08:00:00		-45.41	-37.4	-29.6	-7.71		
18-Aug-2006	20:00:00		-45.8	-37.4	-28.07	-6.11		
19-Aug-2006	08:00:00		-46.18	-37.2	-23.94	-1.81		
19-Aug-2006	20:00:00		-46.41	-37.4	-23.65	-2.88		
20-Aug-2006	08:00:00		-46.71	-37.4	-25.42	-4.21		
20-Aug-2006	20:00:00		-46.99	-37.4	-26.26	-4.86		
21-Aug-2006	08:00:00		-36.88	-37.2	-27.8	-5.7		
21-Aug-2006	20:00:00		-42.22	-37.4	-28.35	-6.17		
22-Aug-2006	08:00:00		-47.27	-37.2	-29.75	-6.84		
22-Aug-2006	20:00:00		-49.58	-37.4	-30.08	-7.58		
23-Aug-2006	08:00:00		-49.78	-37.2	-30.86	-8.37	-41	-40
23-Aug-2006	20:00:00		-49.92	-37.2	-31.36	-9.01		
24-Aug-2006	08:00:00		-50.04	-37.2	-32.18	-9.76		
24-Aug-2006	20:00:00		-50.13	-37.2	-32.81	-10.43		
25-Aug-2006	08:00:00		-50.19	-37.2	-33.58	-11.04		
25-Aug-2006	20:00:00		-50.27	-37.1	-34.25	-11.6		
26-Aug-2006	08:00:00		-50.33	-37.1	-34.88	-12.05		
26-Aug-2006	20:00:00		-50.24	-37.2	-35.51	-12.45		
27-Aug-2006	08:00:00		-50.23	-37.2	-34.94	-12.58		
27-Aug-2006	20:00:00		-50.22	-37.2	-32.48	-5.05		
28-Aug-2006	08:00:00		-50.22	-37.1	-31.12	-6.77		
28-Aug-2006	20:00:00		-50.22	-37.4	-30.16	-7.92		
29-Aug-2006	08:00:00		-50.23	-37.1	-31.05	-9.06		
29-Aug-2006	20:00:00		-50.23	-37.2	-31.54	-9.89		
30-Aug-2006	08:00:00		-50.22	-37.1	-32.31	-10.53		
30-Aug-2006	20:00:00		-38.34	-37.2	-32.81	-10.98		
31-Aug-2006	08:00:00		-43.91	-37.1	-33.42	-11.41		
31-Aug-2006	20:00:00		-37.84	-36.9	-33.95	-11.87		
01-Sep-2006	08:00:00		7.88	-8.4	-34.68	-12.33		
01-Sep-2006	20:00:00		4.61	2.8	-35.22	-12.73		

Westbrook 2006 Monitoring Data

		Water Lev						
Date	Time	AW1	AW2	AW3	AW4	AW5	MW1	MW2
02-Sep-2006	08:00:00		0.62	2.4	-30.87	-5.84		
02-Sep-2006	20:00:00		-0.84	-0.4	-28.69	-6.65		
03-Sep-2006	08:00:00		-4.25	-5	-29.52	-8.33		
03-Sep-2006	20:00:00		-9.41	-8.4	-30.34	-9.63		
04-Sep-2006	08:00:00		-12.55	-9.9	-31.38	-10.48		
04-Sep-2006	20:00:00		-15.25	-11.6	-32.04	-11.12		
05-Sep-2006	08:00:00		-11.52	-5.7	-32.86	-11.63		
05-Sep-2006	20:00:00		-1.78	-1.3	-33.27	-11.96		
06-Sep-2006	08:00:00		-6.05	-3.9	-33.92	-12.3		
06-Sep-2006	20:00:00		-9.35	-6.6	-34.56	-12.7		
07-Sep-2006	08:00:00		-11.68	-7.2	-35.28	-13.1		
07-Sep-2006	20:00:00		-14.26	-9	-35.94	-13.67		
08-Sep-2006	08:00:00		-15.35	-10.1	-36.6	-14.23		
08-Sep-2006	20:00:00		-16.72	-12.1	-37.22	-14.79		
09-Sep-2006	08:00:00		-17.57	-12.7	-37.76	-15.27		
09-Sep-2006	20:00:00		-18.59	-13.9	-38.36	-15.81		
10-Sep-2006	08:00:00		-19.24	-14.3	-38.95	-16.36		
10-Sep-2006	20:00:00		-20.22	-16	-39.59	-16.88		
11-Sep-2006	08:00:00		-20.96	-16.3	-40.33	-17.38		
11-Sep-2006	20:00:00		-22.09	-17.8	-41.24	-17.99		
12-Sep-2006	08:00:00		-22.95	-18.3	-41.67	-18.25		
12-Sep-2006	20:00:00		-23.9	-19.3	-42.04	-18.46		
13-Sep-2006	08:00:00		-24.51	-19.3	-42.36	-18.66		
13-Sep-2006	20:00:00		-25.07	-17.6	-42.66	-19.02		
14-Sep-2006	08:00:00		-22.49	-11.7	-43.07	-19.44		
14-Sep-2006	20:00:00		-14.84	-10.6	-43.59	-19.99		
15-Sep-2006	08:00:00		-12.27	-11.6	-44.02	-20.52		
15-Sep-2006	20:00:00		-15.04	-13.2	-44.48	-21.11		
16-Sep-2006	08:00:00		-16.68	-14.1	-44.89	-21.67		
16-Sep-2006	20:00:00		-18.11	-15.2	-45.35	-22.24		
17-Sep-2006	08:00:00		-19.01	-15.8	-45.76	-22.76		
17-Sep-2006	20:00:00		-19.89	-17.1	-46.15	-23.31		
18-Sep-2006	08:00:00		-20.55	-17.8	-46.56	-23.81		
18-Sep-2006	20:00:00		-21.41	-18.9	-46.97	-24.33		
19-Sep-2006	08:00:00		-22.09	-19.1	-47.38	-24.85		
19-Sep-2006	20:00:00		-17.68	-7.5	-47.68	-24.82		
20-Sep-2006	08:00:00		-11.55	-9.5	-47.82	-24.22		
20-Sep-2006	20:00:00		-13.69	-11.9	-37.33	-16.12		
21-Sep-2006	08:00:00		-15.55	-13.6	-37.99	-13.63	-11	-15
21-Sep-2006	20:00:00		-17.3	-14.7	-38.8	-15.36		
22-Sep-2006	08:00:00		-18.39	-15.6	-38.91	-16.12		
22-Sep-2006	20:00:00		-19.39	-16.3	-38.76	-16.47		
23-Sep-2006	08:00:00		-19.95	-16.7	-38.61	-16.69		
23-Sep-2006	20:00:00		-20.67	-18	-38.54	-16.92		
24-Sep-2006	08:00:00		-21.28	-18	-38.57	-17.01		
24-Sep-2006	20:00:00		-22.23	-19.3	-38.67	-17.15		
25-Sep-2006	08:00:00		-23.31	-19.8	-38.94	-17.5		
25-Sep-2006	20:00:00		-24.52	-20.6	-39.28	-17.95		
26-Sep-2006	08:00:00		-25.48	-21.1	-39.69	-18.33		
26-Sep-2006	20:00:00		-26.26	-21.7	-40.32	-18.71		
27-Sep-2006	08:00:00		-26.92	-21.8	-41.12	-19.05		
27-Sep-2006	20:00:00		-27.6	-22.6	-41.65	-19.53		
28-Sep-2006	08:00:00		-28.19	-22.8	-42.21	-19.9		
28-Sep-2006	20:00:00		-28.65	-23.1	-42.74	-20.42		
29-Sep-2006	08:00:00		-29.22	-23.1	-43.28	-20.71		
29-Sep-2006	20:00:00		-29.83	-24	-43.76	-20.92		
30-Sep-2006	08:00:00		-30.31	-24.6	-37.48	-20.55		
30-Sep-2006	20:00:00		-30.78	-25	-32.66	-7.52		
01-Oct-2006	08:00:00		-31.14	-25.1	-25.63	-6.59		
01-Oct-2006	20:00:00		-31.56	-25.7	-26.07	-8.09		
02-Oct-2006	08:00:00		-31.88	-26.1	-27.3	-8.64		

Westbrook 2006 Monitoring Data

		Water Lev						
Date	Time	AW1	AW2	AW3	AW4	AW5	MW1	MW2
02-Oct-2006	20:00:00		-32.19	-26.6	-28.04	-9.17		
03-Oct-2006	08:00:00		-32.48	-26.8	-29.64	-9.76		
03-Oct-2006	20:00:00		-32.79	-27.2	-30.62	-10.32		
04-Oct-2006	08:00:00		-33.13	-27.3	-31.48	-10.89		
04-Oct-2006	20:00:00		-33.45	-27.7	-31.89	-11.41		
05-Oct-2006	08:00:00		-33.78	-27.9	-30.1	-11.96		
05-Oct-2006	20:00:00		-34.13	-28.4	-29.43	-12.46		
06-Oct-2006	08:00:00		-34.48	-28.4	-30.09	-12.98		
06-Oct-2006	20:00:00		-34.84	-28.3	-30.87	-13.5		
07-Oct-2006	08:00:00		-35.17	-28.6	-31.75	-13.47		
07-Oct-2006	20:00:00		-35.46	-29.2	-32.29	-12.87		
08-Oct-2006	08:00:00		-30.99	-25.9	-32.71	-4.77		
08-Oct-2006	20:00:00		-29.05	-20.6	-33.06	-2.28		
09-Oct-2006	08:00:00		-27.76	-19.4	-33.36	-4.01		
09-Oct-2006	20:00:00		-25.79	-18.9	-33.45	-4.77		
10-Oct-2006	08:00:00		-24.33	-19.1	-30.35	-5.12		
10-Oct-2006	20:00:00		-23.59	-20	-11.17	-5.34		
11-Oct-2006	08:00:00		-23.33	-20.6	-13.03	-5.57		
11-Oct-2006	20:00:00		-23.43	-21.3	-15.11	-5.66		
12-Oct-2006	08:00:00		-23.62	-21.7	-17.52	-5.8		
12-Oct-2006	20:00:00		-24.22	-22.8	-19.5	-6.15		
13-Oct-2006	08:00:00		-24.89	-23.5	-20.84	-6.6		
13-Oct-2006	20:00:00		-25.7	-24	-21.9	-6.98		
14-Oct-2006	08:00:00		-26.57	-24.6	-22.63	-7.36		
14-Oct-2006	20:00:00		-27.49	-25.1	-23.33	-7.7		
15-Oct-2006	08:00:00		-28.41	-25.7	-23.85	-8.18		
15-Oct-2006	20:00:00		-29.16	-26.1	-24.34	-8.55		
16-Oct-2006	08:00:00		-29.89	-26.4	-25.22	-9.07		
16-Oct-2006	20:00:00		-30.56	-26.6	-26.05	-9.36		
17-Oct-2006	08:00:00		-31.09	-26.6	-26.6	-9.57		
17-Oct-2006	20:00:00		-30.64	-25.3	-27.1	-9.2		
18-Oct-2006	08:00:00		1.97	-10.6	-27.37	3.83		
18-Oct-2006	20:00:00		0.61	-9.9	-27.73	4.76		
19-Oct-2006	08:00:00		-2.07	-9.7	-27.91	3.26	-10.5	-11
19-Oct-2006	20:00:00		-6.4	-10.1	-28.2	2.34		
20-Oct-2006	08:00:00		-9.76	-10.5	-28.25	1.96		
20-Oct-2006	20:00:00		-13.55	-12.8	-28.24	0.89		
21-Oct-2006	08:00:00		-15.34	-14.1	-9.27	-0.08		
21-Oct-2006	20:00:00		-16.85	-14.5	-9.73	-0.58		
22-Oct-2006	08:00:00		-17.47	-14.9	-11.45	-0.87		
22-Oct-2006	20:00:00		-12.08	-10.3	-13.57	2.19		
23-Oct-2006	08:00:00		-13.07	-11.4	-15.56	1.63		
23-Oct-2006	20:00:00		-14.6	-12.5	-17.59	0.99		
24-Oct-2006	08:00:00		-16.28	-13.6	-18.71	0.23		
24-Oct-2006	20:00:00		-17.49	-14.3	-19.8	-0.38		
25-Oct-2006	08:00:00		-18.27	-15.2	-20.18	-0.99		
25-Oct-2006	20:00:00		-18.64	-15.4	-14	-1.19		
26-Oct-2006	08:00:00		-19.13	-16.1	-12.38	-1.55		
26-Oct-2006	20:00:00		-19.3	-16.1	-13.73	-1.58		
27-Oct-2006	08:00:00		-19.23	-16.1	-33.45	-1.62		
27-Oct-2006	20:00:00		-6.95	-9	-30.35	6.84		
28-Oct-2006	08:00:00		6.78	2.8	-11.17	21.13		
28-Oct-2006	20:00:00		1.94	2.8	-13.03	15.45		
29-Oct-2006	08:00:00		0.53	2	-15.11	13.78		
29-Oct-2006	20:00:00		-0.69	1.1	-17.52	12.69		
30-Oct-2006	08:00:00		-3.76	-2	-19.5	11.82		
30-Oct-2006	20:00:00		-6.52	-4.2	-20.84	11.24		
31-Oct-2006	08:00:00		-8.64	-6.1	-21.9	10.66		
31-Oct-2006	20:00:00		-9.68	-6.6	-22.63	10.35		
01-Nov-2006	08:00:00		-10.7	-7.9	-23.33	9.75		
01-Nov-2006	20:00:00		-11.31	-8.3	-23.85	9.49		

Westbrook 2006 Monitoring Data

		Water Lev						
Date	Time	AW1	AW2	AW3	AW4	AW5	MW1	MW2
02-Nov-2006	08:00:00		-11.91	-8.6	-24.34	8.97		
02-Nov-2006	20:00:00		-13.14	-9.9	-25.22	7.93		
03-Nov-2006	08:00:00		-14.16	-11	-26.05	7.09		
03-Nov-2006	20:00:00		-14.54	-11.4	-26.6	6.7		
04-Nov-2006	08:00:00		-15.04	-12.1	-27.1	6.22		
04-Nov-2006	20:00:00		-15.01	-11.9	-27.37	6.06		
05-Nov-2006	08:00:00		-15.4	-12.5	-27.73	5.7		
05-Nov-2006	20:00:00		-15.29	-12.1	-27.91	5.67		
06-Nov-2006	08:00:00		-15.63	-12.7	-28.2	5.3		
06-Nov-2006	20:00:00		-15.32	-12.1	-28.25	5.4		
07-Nov-2006	08:00:00		-15.16	-11.9	-28.24	5.48		
07-Nov-2006	20:00:00		0.98	2.8	-9.27	22.65		
08-Nov-2006	08:00:00		3.87	2.8	-9.73	21.55		
08-Nov-2006	20:00:00		0.82	2.8	-11.45	19.06		
09-Nov-2006	08:00:00		0.43	2.4	-13.57	17.39		
09-Nov-2006	20:00:00		-0.64	1.7	-15.56	16.31		
10-Nov-2006	08:00:00		-3.05	-0.7	-17.59	15.25		
10-Nov-2006	20:00:00		-5	-2.8	-18.71	14.78		
11-Nov-2006	08:00:00		-7.02	-4.6	-19.8	14.16		
11-Nov-2006	20:00:00		-7.88	-5.1	-20.18	14.08		
12-Nov-2006	08:00:00		0.36	0.9	-14	21.27		
12-Nov-2006	20:00:00		0.6	1.1	-12.38	20.64		
13-Nov-2006	08:00:00		0.2	-0.4	-13.73	18.35	-1.5	0.75

Westbrook 2006 Monitoring Data

		el (inches)						
Date	Time	CG	RG	Ref-MW1	Ref-MW2	Ref-AW3	Ref-MW4	Ref-MW5
01-Jan-2006	08:00:00					0		
01-Jan-2006	20:00:00					-0.2		
02-Jan-2006	08:00:00					-0.2		
02-Jan-2006	20:00:00					2.1		
03-Jan-2006	08:00:00					2.3		
03-Jan-2006	20:00:00					1.3		
04-Jan-2006	08:00:00					1		
04-Jan-2006	20:00:00					0.8		
05-Jan-2006	08:00:00					0.4		
05-Jan-2006	20:00:00					0.4		
06-Jan-2006	08:00:00					1.1		
06-Jan-2006	20:00:00					0.6		
07-Jan-2006	08:00:00					-0.2		
07-Jan-2006	20:00:00					-0.2		
08-Jan-2006	08:00:00					-0.4		
08-Jan-2006	20:00:00					-0.4		
09-Jan-2006	08:00:00					-0.4		
09-Jan-2006	20:00:00					-0.4		
10-Jan-2006	08:00:00					-0.2		
10-Jan-2006	20:00:00					-0.2		
11-Jan-2006	08:00:00					-0.2		
11-Jan-2006	20:00:00					0		
12-Jan-2006	08:00:00					0.2		
12-Jan-2006	20:00:00					0		
13-Jan-2006	08:00:00					0.2		
13-Jan-2006	20:00:00					-0.2		
14-Jan-2006	08:00:00					1.1		
14-Jan-2006	20:00:00					0		
15-Jan-2006	08:00:00					-0.6		
15-Jan-2006	20:00:00					-1.1		
16-Jan-2006	08:00:00					-1.1		
16-Jan-2006	20:00:00					-1.1		
17-Jan-2006	08:00:00					-1.1		
17-Jan-2006	20:00:00					-1.1		
18-Jan-2006	08:00:00					2.5		
18-Jan-2006	20:00:00					1		
19-Jan-2006	08:00:00					0		
19-Jan-2006	20:00:00					0		
20-Jan-2006	08:00:00					-0.8		
20-Jan-2006	20:00:00					-0.8		
21-Jan-2006	08:00:00					-0.8		
21-Jan-2006	20:00:00					1		
22-Jan-2006	08:00:00					0.2		
22-Jan-2006	20:00:00					-0.4		
23-Jan-2006	08:00:00					-0.4		
23-Jan-2006	20:00:00					0.2		
24-Jan-2006	08:00:00					1.3		
24-Jan-2006	20:00:00					0.8		
25-Jan-2006	08:00:00					0		
25-Jan-2006	20:00:00					-0.6		
26-Jan-2006	08:00:00					-1.3		
26-Jan-2006	20:00:00					-1.5		
27-Jan-2006	08:00:00					-2.1		
27-Jan-2006	20:00:00					-1.9		
28-Jan-2006	08:00:00					-2.1		
28-Jan-2006	20:00:00					-1.9		
29-Jan-2006	08:00:00					-1.7		
29-Jan-2006	20:00:00					-1.7		
30-Jan-2006	08:00:00					-1.3		
30-Jan-2006	20:00:00					-1.1		
31-Jan-2006	08:00:00					1.1		

Westbrook 2006 Monitoring Data

		el (inches)						
Date	Time	CG	RG	Ref-MW1	Ref-MW2	Ref-AW3	Ref-MW4	Ref-MW5
31-Jan-2006	20:00:00					0.2		
01-Feb-2006	08:00:00					-0.8		
01-Feb-2006	20:00:00					-0.9		
02-Feb-2006	08:00:00					-1.3		
02-Feb-2006	20:00:00					-1.3		
03-Feb-2006	08:00:00					-0.9		
03-Feb-2006	20:00:00					-0.9		
04-Feb-2006	08:00:00					-0.8		
04-Feb-2006	20:00:00					-0.2		
05-Feb-2006	08:00:00					-1.3		
05-Feb-2006	20:00:00					-1.9		
06-Feb-2006	08:00:00					-2.3		
06-Feb-2006	20:00:00					-2.1		
07-Feb-2006	08:00:00					-1.5		
07-Feb-2006	20:00:00					-1.9		
08-Feb-2006	08:00:00					-2.5		
08-Feb-2006	20:00:00					-2.3		
09-Feb-2006	08:00:00					-2.7		
09-Feb-2006	20:00:00					-2.5		
10-Feb-2006	08:00:00					-3		
10-Feb-2006	20:00:00					-2.7		
11-Feb-2006	08:00:00					-2.3		
11-Feb-2006	20:00:00					1.1		
12-Feb-2006	08:00:00					0.6		
12-Feb-2006	20:00:00					-0.4		
13-Feb-2006	08:00:00					-1.3		
13-Feb-2006	20:00:00					-1.7		
14-Feb-2006	08:00:00					-2.1		
14-Feb-2006	20:00:00					-2.3		
15-Feb-2006	08:00:00					-2.5		
15-Feb-2006	20:00:00					-2.7		
16-Feb-2006	08:00:00					-2.3		
16-Feb-2006	20:00:00					-2.8		
17-Feb-2006	08:00:00					-2.1		
17-Feb-2006	20:00:00					-2.7		
18-Feb-2006	08:00:00					-2.7		
18-Feb-2006	20:00:00					-2.5		
19-Feb-2006	08:00:00					-3.2		
19-Feb-2006	20:00:00					-3.2		
20-Feb-2006	08:00:00					-3		
20-Feb-2006	20:00:00					-3		
21-Feb-2006	08:00:00					-2.8		
21-Feb-2006	20:00:00					-3		
22-Feb-2006	08:00:00					-2.7		
22-Feb-2006	20:00:00					-0.6		
23-Feb-2006	08:00:00					2.3		
23-Feb-2006	20:00:00					1.1		
24-Feb-2006	08:00:00					-0.2		
24-Feb-2006	20:00:00					-0.9		
25-Feb-2006	08:00:00					-1.9		
25-Feb-2006	20:00:00					-1.5		
26-Feb-2006	08:00:00					-1.9		
26-Feb-2006	20:00:00					-2.5		
27-Feb-2006	08:00:00					-3		
27-Feb-2006	20:00:00					-2.8		
28-Feb-2006	08:00:00					-2.8		
28-Feb-2006	20:00:00					-3.2		
01-Mar-2006	08:00:00					-3		
01-Mar-2006	20:00:00					-3.4		
02-Mar-2006	08:00:00					-2.8		
02-Mar-2006	20:00:00					-3.4		

		el (inches)						
Date	Time	CG	RG	Ref-MW1	Ref-MW2	Ref-AW3	Ref-MW4	Ref-MW5
03-Mar-2006	08:00:00					-3.2		
03-Mar-2006	20:00:00					-3.8		
04-Mar-2006	08:00:00					-4.2		
04-Mar-2006	20:00:00					-4.2		
05-Mar-2006	08:00:00					-4.4		
05-Mar-2006	20:00:00					-4.2		
06-Mar-2006	08:00:00					-3.8		
06-Mar-2006	20:00:00					-3.2		
07-Mar-2006	08:00:00					-3.6		
07-Mar-2006	20:00:00					-4.2		
08-Mar-2006	08:00:00					-4.4		
08-Mar-2006	20:00:00					-4.4		
09-Mar-2006	08:00:00					-4.2		
09-Mar-2006	20:00:00					-4.4		
10-Mar-2006	08:00:00					-4.2		
10-Mar-2006	20:00:00					-4.4		
11-Mar-2006	08:00:00					-4		
11-Mar-2006	20:00:00					-3.6		
12-Mar-2006	08:00:00					-2.8		
12-Mar-2006	20:00:00					-3.8		
13-Mar-2006	08:00:00					-3.2		
13-Mar-2006	20:00:00					-4		
14-Mar-2006	08:00:00					-3.4		
14-Mar-2006	20:00:00					-4.2		
15-Mar-2006	08:00:00					-4.6		
15-Mar-2006	20:00:00					-4.9		
16-Mar-2006	08:00:00					-4.9		
16-Mar-2006	20:00:00					-5.1		
17-Mar-2006	08:00:00					-4.9		
17-Mar-2006	20:00:00					-5.3		
18-Mar-2006	08:00:00					-5.3		
18-Mar-2006	20:00:00					-5.5		
19-Mar-2006	08:00:00					-5.7		
19-Mar-2006	20:00:00					-5.7		
20-Mar-2006	08:00:00					-5.9		
20-Mar-2006	20:00:00					-3.8		
21-Mar-2006	08:00:00					2.3		
21-Mar-2006	20:00:00					2.1		
22-Mar-2006	08:00:00	0.17	2.36	-6	-4.25	1.3	-3	-12.5
22-Mar-2006	20:00:00					0.2		
23-Mar-2006	08:00:00					-1.1		
23-Mar-2006	20:00:00					-1.5		
24-Mar-2006	08:00:00					-1.7		
24-Mar-2006	20:00:00					-2.3		
25-Mar-2006	08:00:00					-2.7		
25-Mar-2006	20:00:00					-2.1		
26-Mar-2006	08:00:00					-2.8		
26-Mar-2006	20:00:00					-3		
27-Mar-2006	08:00:00					-3.6		
27-Mar-2006	20:00:00					-3.6		
28-Mar-2006	08:00:00					-3.8		
28-Mar-2006	20:00:00					-3.8		
29-Mar-2006	08:00:00					-4		
29-Mar-2006	20:00:00					-4.2		
30-Mar-2006	08:00:00					-4.4		
30-Mar-2006	20:00:00					-4.6		
31-Mar-2006	08:00:00					-4.6		
31-Mar-2006	20:00:00					-4.6		
01-Apr-2006	08:00:00					-3.8		
01-Apr-2006	20:00:00					-4.2		
02-Apr-2006	08:00:00					-4.4		

Westbrook 2006 Monitoring Data

		el (inches)						
Date	Time	CG	RG	Ref-MW1	Ref-MW2	Ref-AW3	Ref-MW4	Ref-MW5
02-Apr-2006	20:00:00					-4.7		
03-Apr-2006	08:00:00					-3.8		
03-Apr-2006	20:00:00					-3.2		
04-Apr-2006	08:00:00					-2.8		
04-Apr-2006	20:00:00					-3.6		
05-Apr-2006	08:00:00					-4.2		
05-Apr-2006	20:00:00					-4.6		
06-Apr-2006	08:00:00					-5.1		
06-Apr-2006	20:00:00					-5.3		
07-Apr-2006	08:00:00					-4.9		
07-Apr-2006	20:00:00					-5.7		
08-Apr-2006	08:00:00					-5.3		
08-Apr-2006	20:00:00					-4.4		
09-Apr-2006	08:00:00					-4.4		
09-Apr-2006	20:00:00					-5.1		
10-Apr-2006	08:00:00					-5.5		
10-Apr-2006	20:00:00					-5.9		
11-Apr-2006	08:00:00					-6.1		
11-Apr-2006	20:00:00					-6.4		
12-Apr-2006	08:00:00					-6.3		
12-Apr-2006	20:00:00					-6.8		
13-Apr-2006	08:00:00					-6.3		
13-Apr-2006	20:00:00					-7.4		
14-Apr-2006	08:00:00					-6.3		
14-Apr-2006	20:00:00					-8.2		
15-Apr-2006	08:00:00					-7.2		
15-Apr-2006	20:00:00					-9.7		
16-Apr-2006	08:00:00					-8.3		
16-Apr-2006	20:00:00					-10.6		
17-Apr-2006	08:00:00					-9.1		
17-Apr-2006	20:00:00					-3.8		
18-Apr-2006	08:00:00					-5.1		
18-Apr-2006	20:00:00					-6.6		
19-Apr-2006	08:00:00					-6.6		
19-Apr-2006	20:00:00					-8.5		
20-Apr-2006	08:00:00					-8		
20-Apr-2006	20:00:00					-10.6		
21-Apr-2006	08:00:00	0	0.91	-20	-21	-9.7	-16.5	-22
21-Apr-2006	20:00:00					-12.1		
22-Apr-2006	08:00:00					-10.6		
22-Apr-2006	20:00:00					-3.2		
23-Apr-2006	08:00:00					-1.5		
23-Apr-2006	20:00:00					-4		
24-Apr-2006	08:00:00					-4.6		
24-Apr-2006	20:00:00					-6.1		
25-Apr-2006	08:00:00					-5.5		
25-Apr-2006	20:00:00					-8.9		
26-Apr-2006	08:00:00					-8.3		
26-Apr-2006	20:00:00					-3.2		
27-Apr-2006	08:00:00					2.3		
27-Apr-2006	20:00:00					3		
28-Apr-2006	08:00:00					1.9		
28-Apr-2006	20:00:00					-0.4		
29-Apr-2006	08:00:00					-1.5		
29-Apr-2006	20:00:00					-3		
30-Apr-2006	08:00:00					-3.4		
30-Apr-2006	20:00:00					-4.9		
01-May-2006	08:00:00					-4.9		
01-May-2006	20:00:00					-6.1		
02-May-2006	08:00:00					-5.7		
02-May-2006	20:00:00					-7.6		

Westbrook 2006 Monitoring Data

		el (inches)						
Date	Time	CG	RG	Ref-MW1	Ref-MW2	Ref-AW3	Ref-MW4	Ref-MW5
03-May-2006	08:00:00					-6.4		
03-May-2006	20:00:00					-9.7		
04-May-2006	08:00:00					-8.2		
04-May-2006	20:00:00					-11.6		
05-May-2006	08:00:00					-9.7		
05-May-2006	20:00:00					3.2		
06-May-2006	08:00:00					2.7		
06-May-2006	20:00:00					-0.4		
07-May-2006	08:00:00					-1.7		
07-May-2006	20:00:00					3.6		
08-May-2006	08:00:00					2.8		
08-May-2006	20:00:00					1.9		
09-May-2006	08:00:00					1.3		
09-May-2006	20:00:00					0		
10-May-2006	08:00:00					-0.6		
10-May-2006	20:00:00					-1.5		
11-May-2006	08:00:00					-1.3		
11-May-2006	20:00:00					-1.7		
12-May-2006	08:00:00					-2.3		
12-May-2006	20:00:00					-4		
13-May-2006	08:00:00					-3.8		
13-May-2006	20:00:00					-5.5		
14-May-2006	08:00:00					-4.4		
14-May-2006	20:00:00					-3.8		
15-May-2006	08:00:00					2.3		
15-May-2006	20:00:00					0		
16-May-2006	08:00:00					-0.8		
16-May-2006	20:00:00					-2.1		
17-May-2006	08:00:00					-2.5		
17-May-2006	20:00:00					-4.4		
18-May-2006	08:00:00	0.24	6.72	-16.5	-11.5	-4	-10	-19.5
18-May-2006	20:00:00					-3.4		
19-May-2006	08:00:00					-2.8		
19-May-2006	20:00:00					-5.5		
20-May-2006	08:00:00					-4.7		
20-May-2006	20:00:00					-7.2		
21-May-2006	08:00:00					-5.1		
21-May-2006	20:00:00					-9.3		
22-May-2006	08:00:00					-7.8		
22-May-2006	20:00:00					-10.6		
23-May-2006	08:00:00					-8.3		
23-May-2006	20:00:00					-12.5		
24-May-2006	08:00:00					-10.1		
24-May-2006	20:00:00					-13.7		
25-May-2006	08:00:00					-11		
25-May-2006	20:00:00					-14.6		
26-May-2006	08:00:00					-12.3		
26-May-2006	20:00:00					-16.1		
27-May-2006	08:00:00					-14		
27-May-2006	20:00:00					-17.6		
28-May-2006	08:00:00					-15.4		
28-May-2006	20:00:00					-18.8		
29-May-2006	08:00:00					-16.5		
29-May-2006	20:00:00					-19.9		
30-May-2006	08:00:00					-17.8		
30-May-2006	20:00:00					-21.2		
31-May-2006	08:00:00					-19.2		
31-May-2006	20:00:00					-22.2		
01-Jun-2006	08:00:00					-20.3		
01-Jun-2006	20:00:00					-23.3		
02-Jun-2006	08:00:00					-21.4		

Westbrook 2006 Monitoring Data

		el (inches)						
Date	Time	CG	RG	Ref-MW1	Ref-MW2	Ref-AW3	Ref-MW4	Ref-MW5
02-Jun-2006	20:00:00					-23.5		
03-Jun-2006	08:00:00					-17.8		
03-Jun-2006	20:00:00					-12.1		
04-Jun-2006	08:00:00					-11.6		
04-Jun-2006	20:00:00					-16.3		
05-Jun-2006	08:00:00					-14.4		
05-Jun-2006	20:00:00					-17.6		
06-Jun-2006	08:00:00					-0.8		
06-Jun-2006	20:00:00					-4.6		
07-Jun-2006	08:00:00					-5.5		
07-Jun-2006	20:00:00					-10.6		
08-Jun-2006	08:00:00					-9.7		
08-Jun-2006	20:00:00					-4.9		
09-Jun-2006	08:00:00					-5.1		
09-Jun-2006	20:00:00					-10.6		
10-Jun-2006	08:00:00					-9.9		
10-Jun-2006	20:00:00					-14.8		
11-Jun-2006	08:00:00					-13.1		
11-Jun-2006	20:00:00					-16.5		
12-Jun-2006	08:00:00					-6.1		
12-Jun-2006	20:00:00					3		
13-Jun-2006	08:00:00					0		
13-Jun-2006	20:00:00					-2.1		
14-Jun-2006	08:00:00					3.6		
14-Jun-2006	20:00:00					4.2		
15-Jun-2006	08:00:00					2.7		
15-Jun-2006	20:00:00					-0.6		
16-Jun-2006	08:00:00					-0.9		
16-Jun-2006	20:00:00					-3.2		
17-Jun-2006	08:00:00					-3		
17-Jun-2006	20:00:00					-5.7		
18-Jun-2006	08:00:00					-4.6		
18-Jun-2006	20:00:00					-8.5		
19-Jun-2006	08:00:00					-6.3		
19-Jun-2006	20:00:00					-11		
20-Jun-2006	08:00:00					-8.3		
20-Jun-2006	20:00:00					-14		
21-Jun-2006	08:00:00					-10.8		
21-Jun-2006	20:00:00					3		
22-Jun-2006	08:00:00					1		
22-Jun-2006	20:00:00					-1.9		
23-Jun-2006	08:00:00	0.5	7.9			-2.1	-8.5	-18
23-Jun-2006	20:00:00					-4.4		
24-Jun-2006	08:00:00					-4		
24-Jun-2006	20:00:00					-6.8		
25-Jun-2006	08:00:00					-5.1		
25-Jun-2006	20:00:00					3.6		
26-Jun-2006	08:00:00					2.1		
26-Jun-2006	20:00:00					1		
27-Jun-2006	08:00:00					0		
27-Jun-2006	20:00:00					2.5		
28-Jun-2006	08:00:00					1.1		
28-Jun-2006	20:00:00					-1.3		
29-Jun-2006	08:00:00					-1.5		
29-Jun-2006	20:00:00					-4.4		
30-Jun-2006	08:00:00					-3.6		
30-Jun-2006	20:00:00					-7		
01-Jul-2006	08:00:00					-5.1		
01-Jul-2006	20:00:00					-10.2		
02-Jul-2006	08:00:00					-7.8		
02-Jul-2006	20:00:00					-13.7		

Westbrook 2006 Monitoring Data

		el (inches)						
Date	Time	CG	RG	Ref-MW1	Ref-MW2	Ref-AW3	Ref-MW4	Ref-MW5
03-Jul-2006	08:00:00					-10.4		
03-Jul-2006	20:00:00					-15.2		
04-Jul-2006	08:00:00					-2.5		
04-Jul-2006	20:00:00					-6.6		
05-Jul-2006	08:00:00					-5.9		
05-Jul-2006	20:00:00					-12.5		
06-Jul-2006	08:00:00					-9.9		
06-Jul-2006	20:00:00					3.4		
07-Jul-2006	08:00:00					1.9		
07-Jul-2006	20:00:00					-1.3		
08-Jul-2006	08:00:00					-1.9		
08-Jul-2006	20:00:00					-4.4		
09-Jul-2006	08:00:00					-4		
09-Jul-2006	20:00:00					-7.4		
10-Jul-2006	08:00:00					-5.7		
10-Jul-2006	20:00:00					-10.8		
11-Jul-2006	08:00:00					-8.3		
11-Jul-2006	20:00:00					-14.4		
12-Jul-2006	08:00:00					-11		
12-Jul-2006	20:00:00					-16.1		
13-Jul-2006	08:00:00					-13.5		
13-Jul-2006	20:00:00					-18.2		
14-Jul-2006	08:00:00					-15.4		
14-Jul-2006	20:00:00					-19.5		
15-Jul-2006	08:00:00					-17.3		
15-Jul-2006	20:00:00					-21.4		
16-Jul-2006	08:00:00					-16.9		
16-Jul-2006	20:00:00					-22		
17-Jul-2006	08:00:00					-19.5		
17-Jul-2006	20:00:00					-23.5		
18-Jul-2006	08:00:00	0.35	3.95	-32.25	-35.25	-21.2	-34.25	
18-Jul-2006	20:00:00					-25.4		
19-Jul-2006	08:00:00					-23.5		
19-Jul-2006	20:00:00					-26.2		
20-Jul-2006	08:00:00					-19.9		
20-Jul-2006	20:00:00					-22		
21-Jul-2006	08:00:00					-20.3		
21-Jul-2006	20:00:00					-25.6		
22-Jul-2006	08:00:00					-24.9		
22-Jul-2006	20:00:00					-26.8		
23-Jul-2006	08:00:00					-17.5		
23-Jul-2006	20:00:00					-7.2		
24-Jul-2006	08:00:00					-7		
24-Jul-2006	20:00:00					-12.1		
25-Jul-2006	08:00:00					-11.2		
25-Jul-2006	20:00:00					-11.6		
26-Jul-2006	08:00:00					-10.8		
26-Jul-2006	20:00:00					-14.8		
27-Jul-2006	08:00:00					-13.8		
27-Jul-2006	20:00:00					-17.8		
28-Jul-2006	08:00:00					-16.1		
28-Jul-2006	20:00:00					-19.5		
29-Jul-2006	08:00:00					-17.5		
29-Jul-2006	20:00:00					-21.2		
30-Jul-2006	08:00:00					-19.2		
30-Jul-2006	20:00:00					-22.8		
31-Jul-2006	08:00:00					-20.9		
31-Jul-2006	20:00:00					-25.4		
01-Aug-2006	08:00:00					-24.9		
01-Aug-2006	20:00:00					-27.1		
02-Aug-2006	08:00:00					-27.1		

Westbrook 2006 Monitoring Data

		el (inches)						
Date	Time	CG	RG	Ref-MW1	Ref-MW2	Ref-AW3	Ref-MW4	Ref-MW5
02-Aug-2006	20:00:00					-28.5		
03-Aug-2006	08:00:00					-28.5		
03-Aug-2006	20:00:00					-29.2		
04-Aug-2006	08:00:00					-29.6		
04-Aug-2006	20:00:00					-30.2		
05-Aug-2006	08:00:00					-30.5		
05-Aug-2006	20:00:00					-31.1		
06-Aug-2006	08:00:00					-31.3		
06-Aug-2006	20:00:00					-31.9		
07-Aug-2006	08:00:00					-32.1		
07-Aug-2006	20:00:00					-32.1		
08-Aug-2006	08:00:00					-32.4		
08-Aug-2006	20:00:00					-32.6		
09-Aug-2006	08:00:00					-32.6		
09-Aug-2006	20:00:00					-33		
10-Aug-2006	08:00:00					-33		
10-Aug-2006	20:00:00					-33.4		
11-Aug-2006	08:00:00					-33.8		
11-Aug-2006	20:00:00					-33.8		
12-Aug-2006	08:00:00					-33.4		
12-Aug-2006	20:00:00					-32.4		
13-Aug-2006	08:00:00					-32.1		
13-Aug-2006	20:00:00					-31.5		
14-Aug-2006	08:00:00					-31.5		
14-Aug-2006	20:00:00					-31.7		
15-Aug-2006	08:00:00					-32.1		
15-Aug-2006	20:00:00					-32.6		
16-Aug-2006	08:00:00					-33		
16-Aug-2006	20:00:00					-33.6		
17-Aug-2006	08:00:00					-34		
17-Aug-2006	20:00:00					-34.2		
18-Aug-2006	08:00:00					-34.3		
18-Aug-2006	20:00:00					-34.3		
19-Aug-2006	08:00:00					-34.5		
19-Aug-2006	20:00:00					-34.5		
20-Aug-2006	08:00:00					-34.3		
20-Aug-2006	20:00:00					-34.5		
21-Aug-2006	08:00:00					-34.5		
21-Aug-2006	20:00:00					-34.3		
22-Aug-2006	08:00:00					-33.6		
22-Aug-2006	20:00:00					-32.1		
23-Aug-2006	08:00:00	0.5	3.53	-26.5	-35	-22.4	-37	-38.5
23-Aug-2006	20:00:00					-21.8		
24-Aug-2006	08:00:00					-21.1		
24-Aug-2006	20:00:00					-22.6		
25-Aug-2006	08:00:00					-22		
25-Aug-2006	20:00:00					-24.5		
26-Aug-2006	08:00:00					-26.4		
26-Aug-2006	20:00:00					-28.3		
27-Aug-2006	08:00:00					-29.2		
27-Aug-2006	20:00:00					-30.4		
28-Aug-2006	08:00:00					-31.5		
28-Aug-2006	20:00:00					-32.6		
29-Aug-2006	08:00:00					-33.2		
29-Aug-2006	20:00:00					-33.8		
30-Aug-2006	08:00:00					-34.3		
30-Aug-2006	20:00:00					-26		
31-Aug-2006	08:00:00					-15.7		
31-Aug-2006	20:00:00					-10.4		
01-Sep-2006	08:00:00					4.2		
01-Sep-2006	20:00:00					2.1		

Westbrook 2006 Monitoring Data

		el (inches)						
Date	Time	CG	RG	Ref-MW1	Ref-MW2	Ref-AW3	Ref-MW4	Ref-MW5
02-Sep-2006	08:00:00					-1.3		
02-Sep-2006	20:00:00					-3.4		
03-Sep-2006	08:00:00					-4		
03-Sep-2006	20:00:00					-6.1		
04-Sep-2006	08:00:00					-5.5		
04-Sep-2006	20:00:00					-7.8		
05-Sep-2006	08:00:00					-3		
05-Sep-2006	20:00:00					-1.7		
06-Sep-2006	08:00:00					-2.5		
06-Sep-2006	20:00:00					-4		
07-Sep-2006	08:00:00					-4.6		
07-Sep-2006	20:00:00					-6.3		
08-Sep-2006	08:00:00					-6.1		
08-Sep-2006	20:00:00					-8.7		
09-Sep-2006	08:00:00					-8		
09-Sep-2006	20:00:00					-10.2		
10-Sep-2006	08:00:00					-9.3		
10-Sep-2006	20:00:00					-12.3		
11-Sep-2006	08:00:00					-10.6		
11-Sep-2006	20:00:00					-13.5		
12-Sep-2006	08:00:00					-12.3		
12-Sep-2006	20:00:00					-14.4		
13-Sep-2006	08:00:00					-13.1		
13-Sep-2006	20:00:00					-8		
14-Sep-2006	08:00:00					-2.1		
14-Sep-2006	20:00:00					-2.8		
15-Sep-2006	08:00:00					-4		
15-Sep-2006	20:00:00					-7		
16-Sep-2006	08:00:00					-7.2		
16-Sep-2006	20:00:00					-9.3		
17-Sep-2006	08:00:00					-8.3		
17-Sep-2006	20:00:00					-11.2		
18-Sep-2006	08:00:00					-10.2		
18-Sep-2006	20:00:00					-13.3		
19-Sep-2006	08:00:00					-11.6		
19-Sep-2006	20:00:00					-2.5		
20-Sep-2006	08:00:00					-3.4		
20-Sep-2006	20:00:00					-6.4		
21-Sep-2006	08:00:00	0.3	7.2	-17	-22	-7	-15.5	-25
21-Sep-2006	20:00:00					-9.7		
22-Sep-2006	08:00:00					-8.9		
22-Sep-2006	20:00:00					-10.8		
23-Sep-2006	08:00:00					-9.5		
23-Sep-2006	20:00:00					-12.3		
24-Sep-2006	08:00:00					-10.8		
24-Sep-2006	20:00:00					-13.8		
25-Sep-2006	08:00:00					-12.7		
25-Sep-2006	20:00:00					-14.8		
26-Sep-2006	08:00:00					-13.7		
26-Sep-2006	20:00:00					-15.9		
27-Sep-2006	08:00:00					-14.6		
27-Sep-2006	20:00:00					-16.9		
28-Sep-2006	08:00:00					-15		
28-Sep-2006	20:00:00					-17.6		
29-Sep-2006	08:00:00					-13.5		
29-Sep-2006	20:00:00					-15.2		
30-Sep-2006	08:00:00					-14.4		
30-Sep-2006	20:00:00					-16.7		
01-Oct-2006	08:00:00					-15.4		
01-Oct-2006	20:00:00					-18		
02-Oct-2006	08:00:00					-16.5		

Westbrook 2006 Monitoring Data

		el (inches)						
Date	Time	CG	RG	Ref-MW1	Ref-MW2	Ref-AW3	Ref-MW4	Ref-MW5
02-Oct-2006	20:00:00					-19		
03-Oct-2006	08:00:00					-17.3		
03-Oct-2006	20:00:00					-19.7		
04-Oct-2006	08:00:00					-18		
04-Oct-2006	20:00:00					-20.3		
05-Oct-2006	08:00:00					-19		
05-Oct-2006	20:00:00					-20.3		
06-Oct-2006	08:00:00					-18.8		
06-Oct-2006	20:00:00					-15		
07-Oct-2006	08:00:00					-14.2		
07-Oct-2006	20:00:00					-14.2		
08-Oct-2006	08:00:00					-5.1		
08-Oct-2006	20:00:00					-4		
09-Oct-2006	08:00:00					-5.1		
09-Oct-2006	20:00:00					-6.4		
10-Oct-2006	08:00:00					-6.6		
10-Oct-2006	20:00:00					-9.3		
11-Oct-2006	08:00:00					-9.1		
11-Oct-2006	20:00:00					-10.1		
12-Oct-2006	08:00:00					-9.5		
12-Oct-2006	20:00:00					-12.3		
13-Oct-2006	08:00:00					-12.3		
13-Oct-2006	20:00:00					-13.7		
14-Oct-2006	08:00:00					-13.1		
14-Oct-2006	20:00:00					-14.8		
15-Oct-2006	08:00:00					-14		
15-Oct-2006	20:00:00					-15.2		
16-Oct-2006	08:00:00					-14.4		
16-Oct-2006	20:00:00					-15.2		
17-Oct-2006	08:00:00					-14		
17-Oct-2006	20:00:00					-7.2		
18-Oct-2006	08:00:00					1		
18-Oct-2006	20:00:00					-1.5		
19-Oct-2006	08:00:00	0	2.75	-12	-15.5	-2.7	-9.5	-18
19-Oct-2006	20:00:00					-3.6		
20-Oct-2006	08:00:00					-3.6		
20-Oct-2006	20:00:00					-5.3		
21-Oct-2006	08:00:00					-6.1		
21-Oct-2006	20:00:00					-7.6		
22-Oct-2006	08:00:00					-7.4		
22-Oct-2006	20:00:00					-2.7		
23-Oct-2006	08:00:00					-3.8		
23-Oct-2006	20:00:00					-5.1		
24-Oct-2006	08:00:00					-5.7		
24-Oct-2006	20:00:00					-7		
25-Oct-2006	08:00:00					-7		
25-Oct-2006	20:00:00					-7.6		
26-Oct-2006	08:00:00					-7.6		
26-Oct-2006	20:00:00					-7.8		
27-Oct-2006	08:00:00					-7.4		
27-Oct-2006	20:00:00					-1.7		
28-Oct-2006	08:00:00					3.4		
28-Oct-2006	20:00:00					1.3		
29-Oct-2006	08:00:00					-0.9		
29-Oct-2006	20:00:00					-1.7		
30-Oct-2006	08:00:00					-2.5		
30-Oct-2006	20:00:00					-3.2		
31-Oct-2006	08:00:00					-3.2		
31-Oct-2006	20:00:00					-3.8		
01-Nov-2006	08:00:00					-3.6		
01-Nov-2006	20:00:00					-4.2		

		el (inches)						
Date	Time	CG	RG	Ref-MW1	Ref-MW2	Ref-AW3	Ref-MW4	Ref-MW5
02-Nov-2006	08:00:00					-3.8		
02-Nov-2006	20:00:00					-4.4		
03-Nov-2006	08:00:00					-4.7		
03-Nov-2006	20:00:00					-5.1		
04-Nov-2006	08:00:00					-5.3		
04-Nov-2006	20:00:00					-5.3		
05-Nov-2006	08:00:00					-5.5		
05-Nov-2006	20:00:00					-5.3		
06-Nov-2006	08:00:00					-5.3		
06-Nov-2006	20:00:00					-5.3		
07-Nov-2006	08:00:00					-4.9		
07-Nov-2006	20:00:00					3		
08-Nov-2006	08:00:00					2.8		
08-Nov-2006	20:00:00					1.3		
09-Nov-2006	08:00:00					-0.4		
09-Nov-2006	20:00:00					-1.1		
10-Nov-2006	08:00:00					-2.1		
10-Nov-2006	20:00:00					-2.3		
11-Nov-2006	08:00:00					-2.3		
11-Nov-2006	20:00:00					-2.8		
12-Nov-2006	08:00:00					1.1		
12-Nov-2006	20:00:00					1		
13-Nov-2006	08:00:00	0	3.73	-12	-8.5	-0.6	-5.5	-14.5

APPENDIX D

Site Photos

SPA 1. Undercutting at log vane (approx. 1') STA 20+40.

SPA 3. Beaver Dam at STA 48+40.

SPA 2. Undercutting at log vane STA 43+80.

SPA 4. Rock cross vane failure at STA 52+00.

Log Vane @ STA 33+60

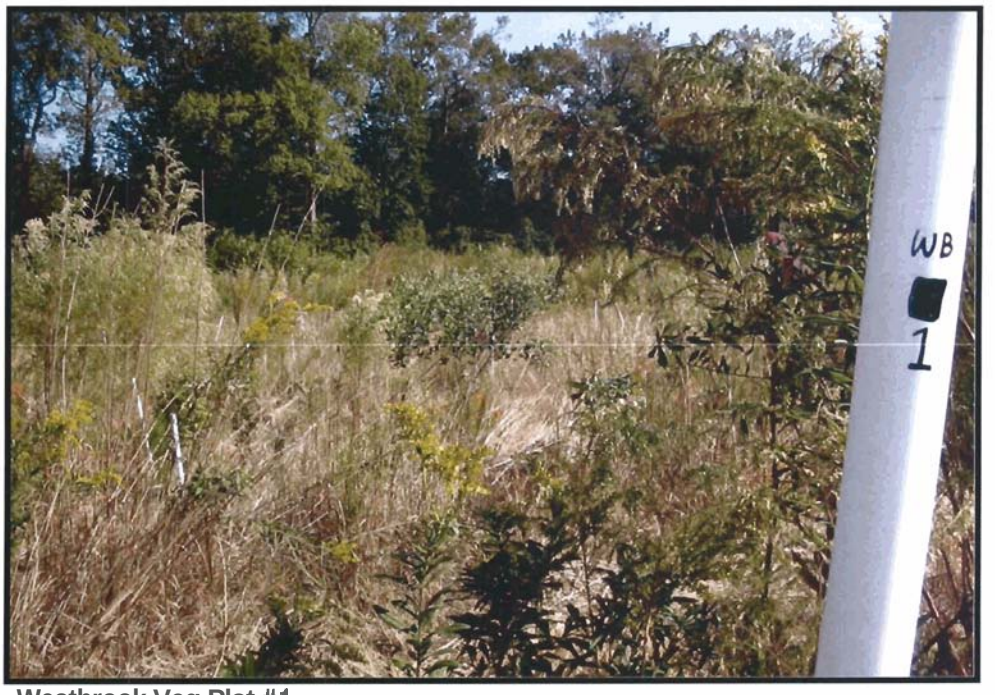
Log weir @ STA 0+60

Rock vane @ STA 53+20

Log vane @ STA 35+20

Broken pipe at Westbrook

Westbrook Veg Plot #2



Westbrook Veg Plot #1

Westbrook Veg Plot #3

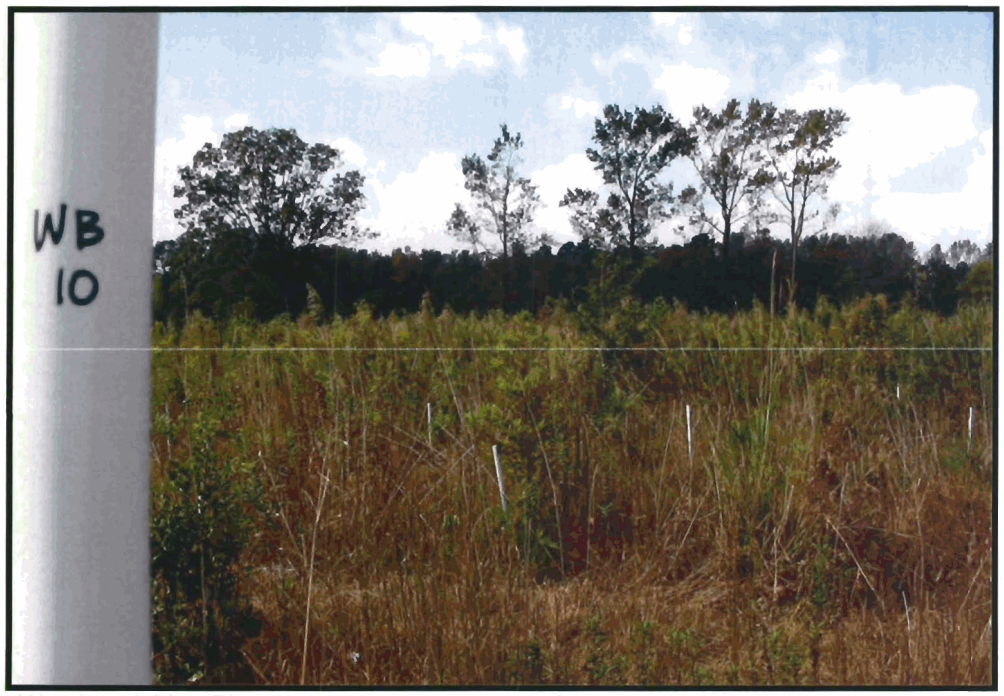
Westbrook Veg Plot #4

Westbrook Veg Plot #6

Westbrook Veg Plot #5

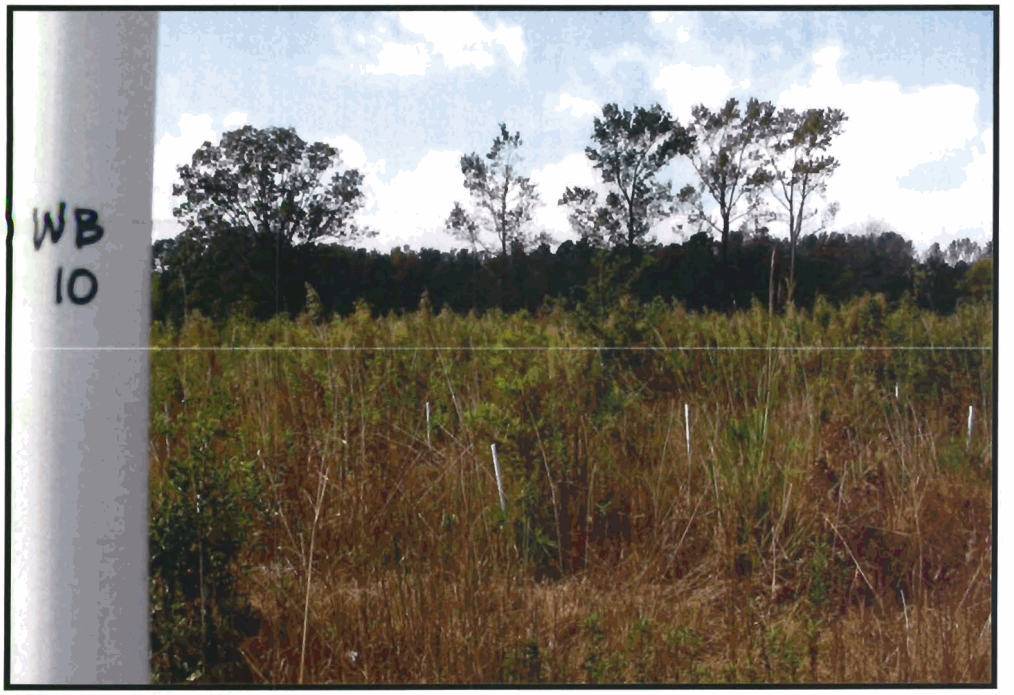
Westbrook Veg Plot #7

Westbrook Veg Plot #8



Westbrook Veg Plot #10

Westbrook Veg Plot #8



Westbrook Veg Plot #10

Westbrook Veg Plot #9

Westbrook Veg Plot #11

Westbrook Veg Plot #12

Westbrook Veg Plot #13