Cox Mitigation Project
Johnston County, North Carolina

Year 2 Monitoring Report

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1.0 SUMMARY

This Annual Report details the monitoring activities during the 2007 growing season on the Cox Mitigation Site. Construction of the site was completed in December 2005. The 2007 data represent the results from the second year of hydrologic, vegetation, and stream morphology monitoring.

Restoration of the Cox site involved stream restoration, stream enhancement, riverine wetland restoration, and non-riverine wetland restoration. Construction included a stable meandering channel across prior-converted hydric agricultural fields. The channel was designed and constructed with natural channel design techniques. Wetland restoration activities included raising the water table by filling drainage ditches and creation of microtopography across the site. After construction it was determined there was 7,292 linear feet of stream restoration, 350 linear feet of stream enhancement, 26.8 acres of riverine wetland restoration, and 16.9 acres of non-riverine wetland restoration. **Appendix A** contains the As-Built survey.

This Annual Report presents data from the 12 hydrology monitoring gauges, 22 vegetation monitoring plots, crest gauge, rain gauge, and 16 cross sections, as required by the approved Restoration Plan.

In 2007 six of twelve hydrology monitoring gauges recorded hydroperiods of at least 7 percent of the growing season despite abnormal drought conditions. The gauges that did not record a success criteria hydroperiod did record hydroperiods ranging from 1 percent to 5 percent of the growing season, and these gauges did correlate with data recorded by gauges located on the reference wetland site. Based on the monitoring results of Years 1 and 2 and considering the persistent drought conditions, it is concluded that the site is performing as designed.

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 well below normal limits for the growing season due to the severe drought that NC experienced in 2007 (see **Section 3.3.3**).

This Annual Report documents vegetation survivability based on twenty-two vegetation-monitoring plots, randomly located to represent the different zones within the project. The vegetation monitoring for 2007 documented a survivability range of 520 stems per acre to 800 stems per acre, with an average tree density of 651 stems per acre. Overall, the site is on track for meeting the initial vegetation success criteria of 320 stems per acre surviving after the third growing season as specified in the Restoration Plan for the site.

During 2007 the restored stream channel remained stable and continued to provide the intended habitat and hydrologic functions. One bankfull event was recorded during the year. All monitored cross sections show very little adjustment in stream dimension, and it was concluded that the site remains on track to achieve the stream success criteria as specified in the Restoration Plan for the site.

2.0 INTRODUCTION

2.1 Project

The Cox wetland and stream restoration site is located near the community of Bentonville in Johnston County, North Carolina (**Figure 1** and **Figure 2**). The site has a past history of

agricultural use consisting primarily of row crop agriculture. Ditches on the site were used to increase subsurface drainage when the land was under agricultural production. Construction of the site, including planting of trees, was completed in December 2005. Groundwater, surface water, and rain gauges were functional beginning January 2006. The 2007 monitoring season represents the second year of monitoring for the site.

2.2 Project Purpose

Monitoring of the Cox site is required to demonstrate successful restoration based on the criteria found in the Restoration Plan, and through a comparison to reference site conditions. hydrology, 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 2007 (Year 2) at the Cox Mitigation Site.

2.3 Project History

Table 1. Project History and Schedule

Project History	
January 2005	Construction Completed
January 2006	Post-restoration Monitoring Begins
November 2006	1st Annual Monitoring Report
November 2007	2nd Annual Monitoring Report
November 2008 (scheduled)	3rd Annual Monitoring Report
November 2009 (scheduled)	4th Annual Monitoring Report
November 2010 (scheduled)	5th Annual Monitoring Report

3.0 HYDROLOGY

3.1 Vegetation Success Criteria

As stated in the approved Mitigation Plan, to meet the hydrologic success criteria the monitoring data must show that for each normal year of rainfall within the monitoring period, the site has been inundated or saturated within 12 inches of the soil surface for a minimum of seven percent of the growing season (17 days). The day counts are based on the growing season for Johnston County, which is 232 days long (17 March – 5 November). As specified in the approved Restoration Plan, data are collected from five automated and five manual groundwater gauges. In addition, two automated gauges were installed in spring 2007 to augment the hydrology data.

The Restoration Plan further specified that in order for the hydrologic data to be considered successful it must be demonstrated that precipitation is either within or below normal limits.

3.2 Description of Hydrologic Monitoring efforts

Five manual groundwater gauges, seven automated Infinities groundwater gauges, and one manual stream crest gauge were in-place throughout the 2007 growing season (**Figures 3a and 3b**). 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, the crest gauge is read, and rainfall totals are collected from the on-site rain gauge.

Automated Gauges

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

Manual Gauges
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. This correction factor typically varies by several inches on a monthly basis. 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.

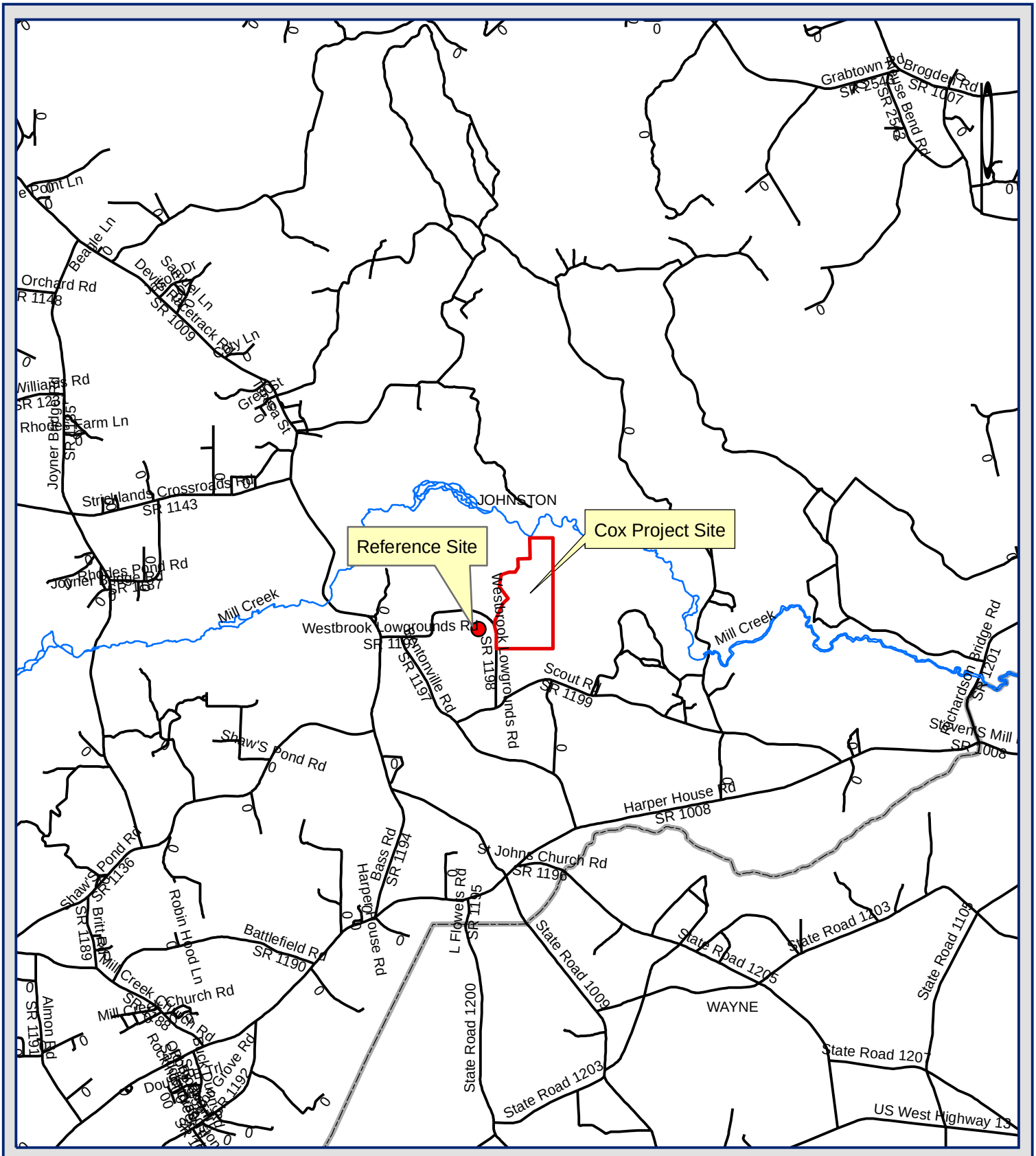
Data Interpretation
Wetland hydroperiods are calculated from twice daily water table depth elevations. A hydroperiod is calculated if the water table is equal to or less than -12 inches below ground surface for at least 24 hours. If a gauge falls below -12 inches for two consecutive readings (24 hours), 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, the hydroperiod is calculated continuously. This methodology accounts for minor technical malfunctions experienced by the automatic gauges.

3.3 Results of Hydrology Monitoring

3.3.1 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**. **Figures 4a, 4b, and 4c** provide charts of the water depth for each of the monitoring gauges on the site. Precipitation is shown in **Figure 7**. Raw hydrograph data collected from the monitoring gauges are provided in **Appendix C**.

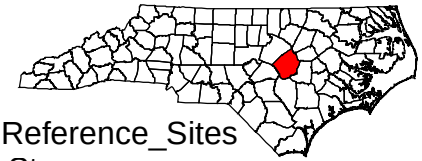
Year Two monitoring demonstrates that the site is functioning as designed, with varying degrees of wetness and saturation across the site. Gauges AW1, MW2, AW3, AW7, MW8, and MW9 exceeded the 7 percent hydrologic success criteria. Gauges AW5, MW6, and AW11 had significant hydroperiods of 4 to 5 percent of the growing season and outperformed some of the reference gauges but fell short of the success criteria. Overall, the mitigation site recorded a range of hydroperiods very similar to the range of hydroperiods recorded at the reference wetland site. As discussed in Section 3.3.3 below, 2007 rainfall was below normal limits for much of the growing season.



EBX

Figure 1.
Cox Stream Mitigation Site
Project Location Map
Johnston County, NC

1 inch equals 1 miles



Reference_Sites
Streams
Roads
Westbrook Site

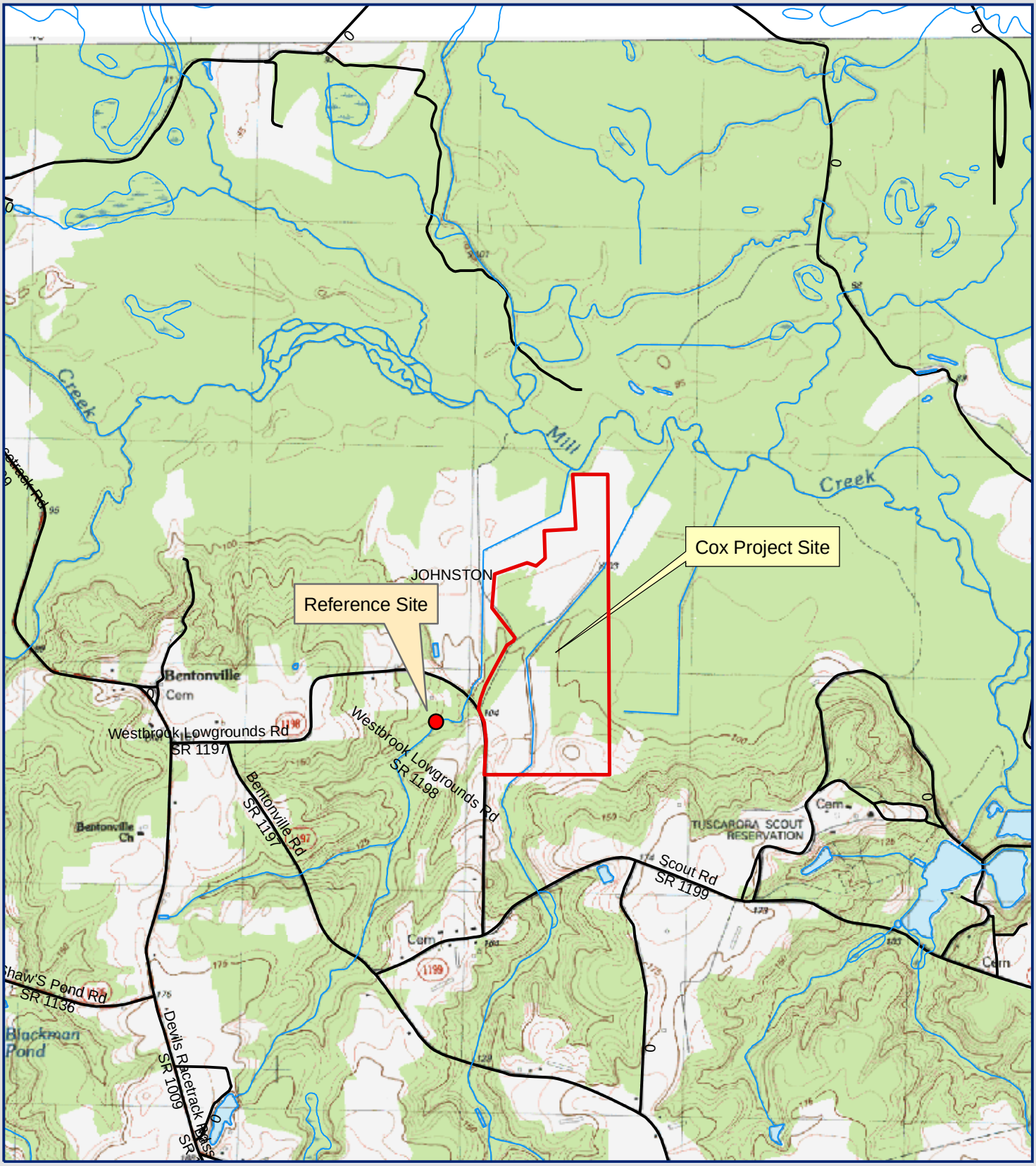
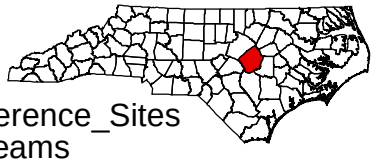


Figure 2.
Cox Stream Mitigation Site
USGS Topographic Map
Johnston County, NC

1 inch equals 2,000 feet



Reference_Sites
Streams
Roads
Westbrook Site

WETLAND HYDROPERIOD

> 7 %
5–7 %
< 5 %

NAD 83

MANUAL WELL #9
VEGETATION PLOT #5
AUTOMATIC WELL #10
VEGETATION PLOT #6
VEGETATION PLOT #7
VEGETATION PLOT #8
MATCHLINE SHEET 15
VEGETATION PLOT #11
VEGETATION PLOT #10
AUTOMATIC WELL #11
MANUAL WELL #4
CUT LIMITS
995
1000
1005
1010
1015
1020
1025
VEGETATION PLOT #9
AUTOMATIC WELL #12
AUTOMATIC WELL #3
MANUAL WELL #2
AUTOMATIC WELL #1
VEGETATION PLOT #4
VEGETATION PLOT #3
VEGETATION PLOT #1
VEGETATION PLOT #2

Figure 3a

Cox Stream Mitigation Site

100 50 0 100 200
SCALE (FT)

WETLAND HYDROPERIOD

> 7 %
5–7 %
< 5 %

NAD 83

ADJACENT PROPERTY CURRENTLY OWNED BY EBX-NEUSE I, LLC

VEGETATION PLOT #21

AUTOMATIC WELL #6

VEGETATION PLOT #13

FILL LIMITS

VEGETATION PLOT #12

VEGETATION PLOT #14

MANUAL WELL #9

VEGETATION PLOT #16

FARM PATH

VEGETATION PLOT #15

CUT LIMITS

VEGETATION PLOT #18

AUTOMATIC WELL #7

VEGETATION PLOT #17

MANUAL WELL #5

VEGETATION PLOT #20

FARM PATH

VEGETATION PLOT #19

MATCHLINE SHEET 14

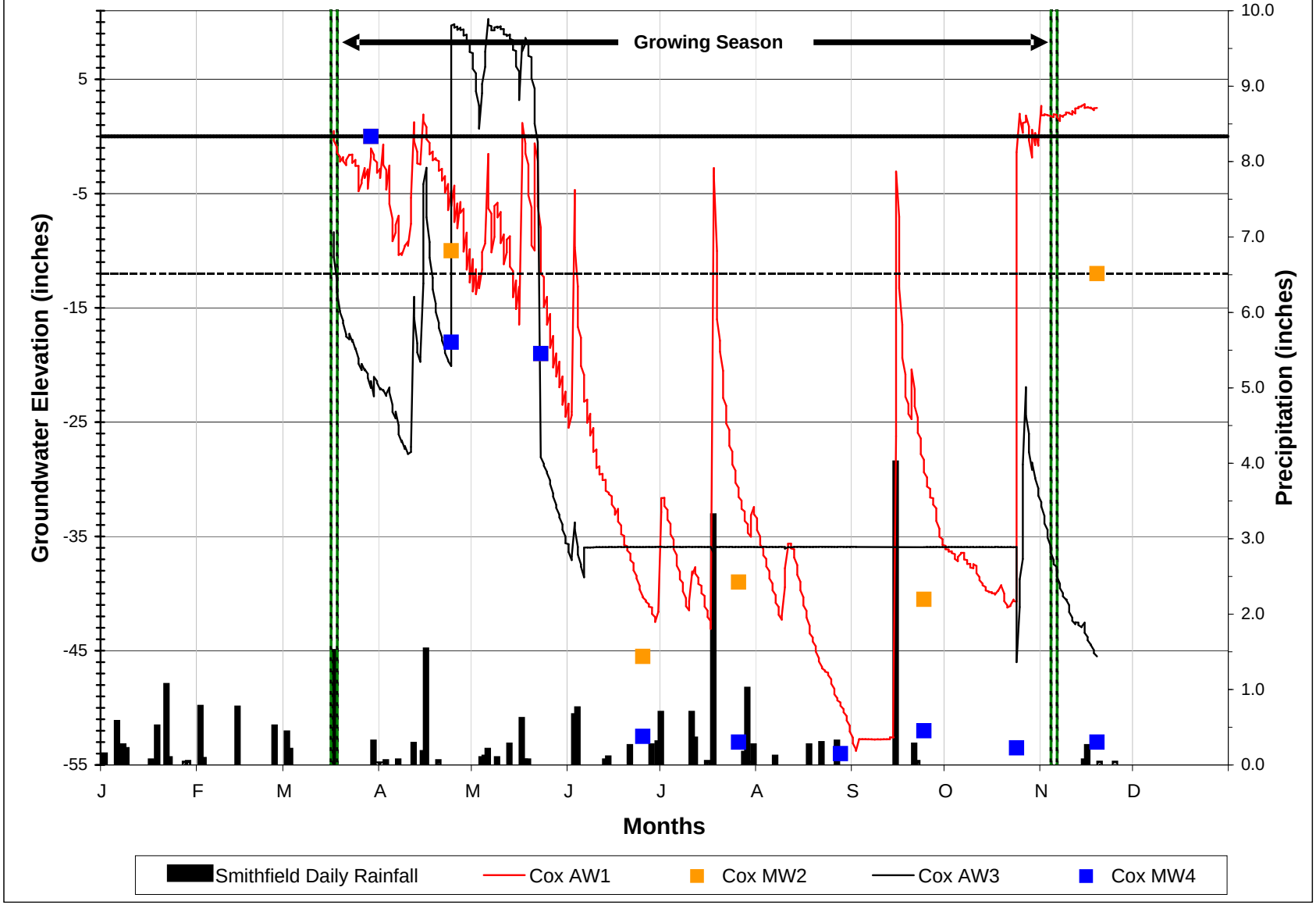
Figure 3b

Cox Stream Mitigation Site

100 50 0 100 200

SCALE (FT)

Figure 4a. 2007 Cox Groundwater Gauges



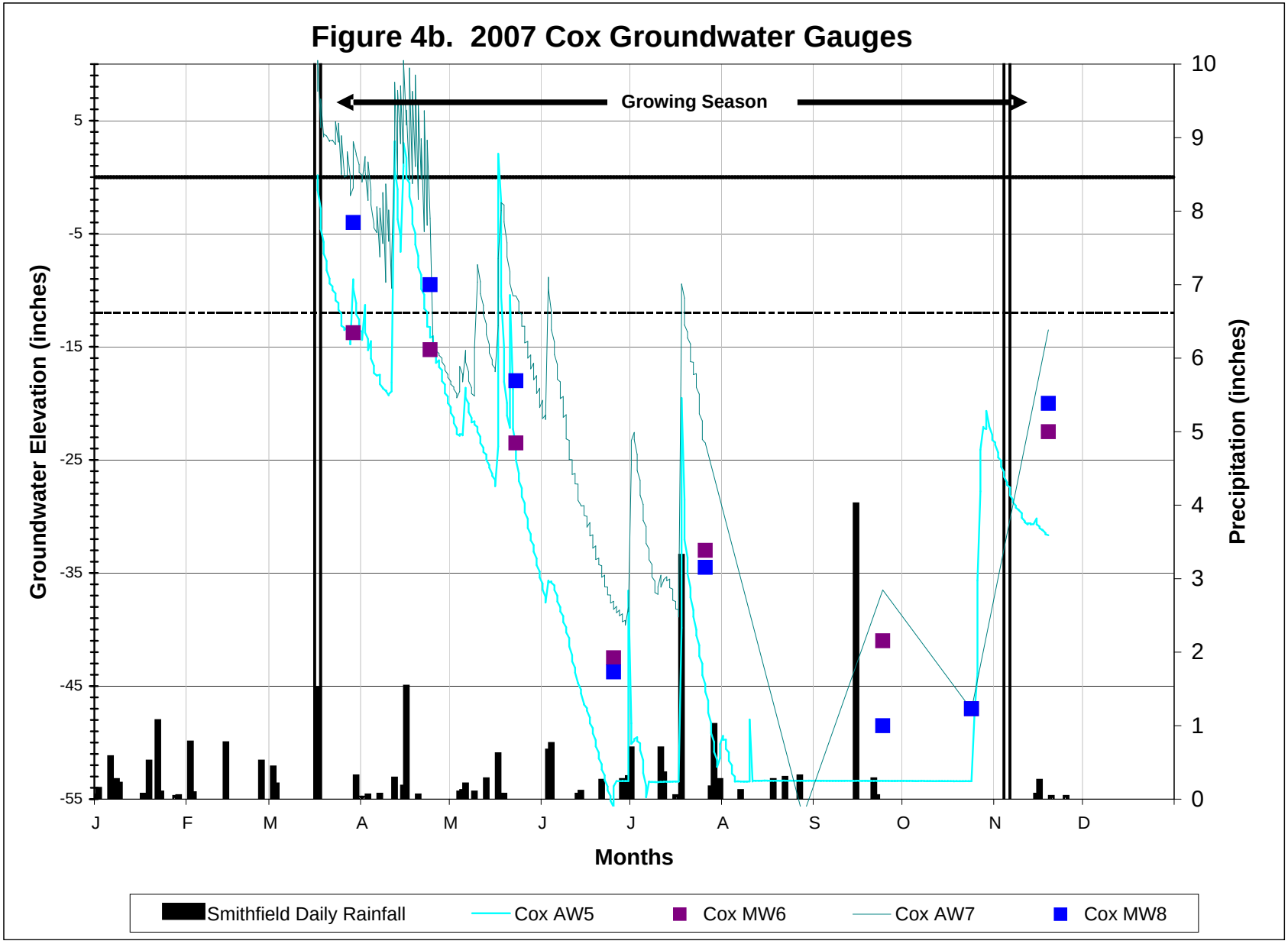


Figure 4b. 2007 Cox Groundwater Gauges
Growing Season
Groundwater Elevation (inches)
Precipitation (inches)
5
-5
-15
-25
-35
-45
-55
10
9
8
7
6
5
4
3
2
1
0
J
F
M
A
M
J
J
A
S
O
N
D
Months
Smithfield Daily Rainfall
Cox AW5
Cox MW6
Cox AW7
Cox MW8

Figure 4c. 2007 Cox Groundwater Gauges

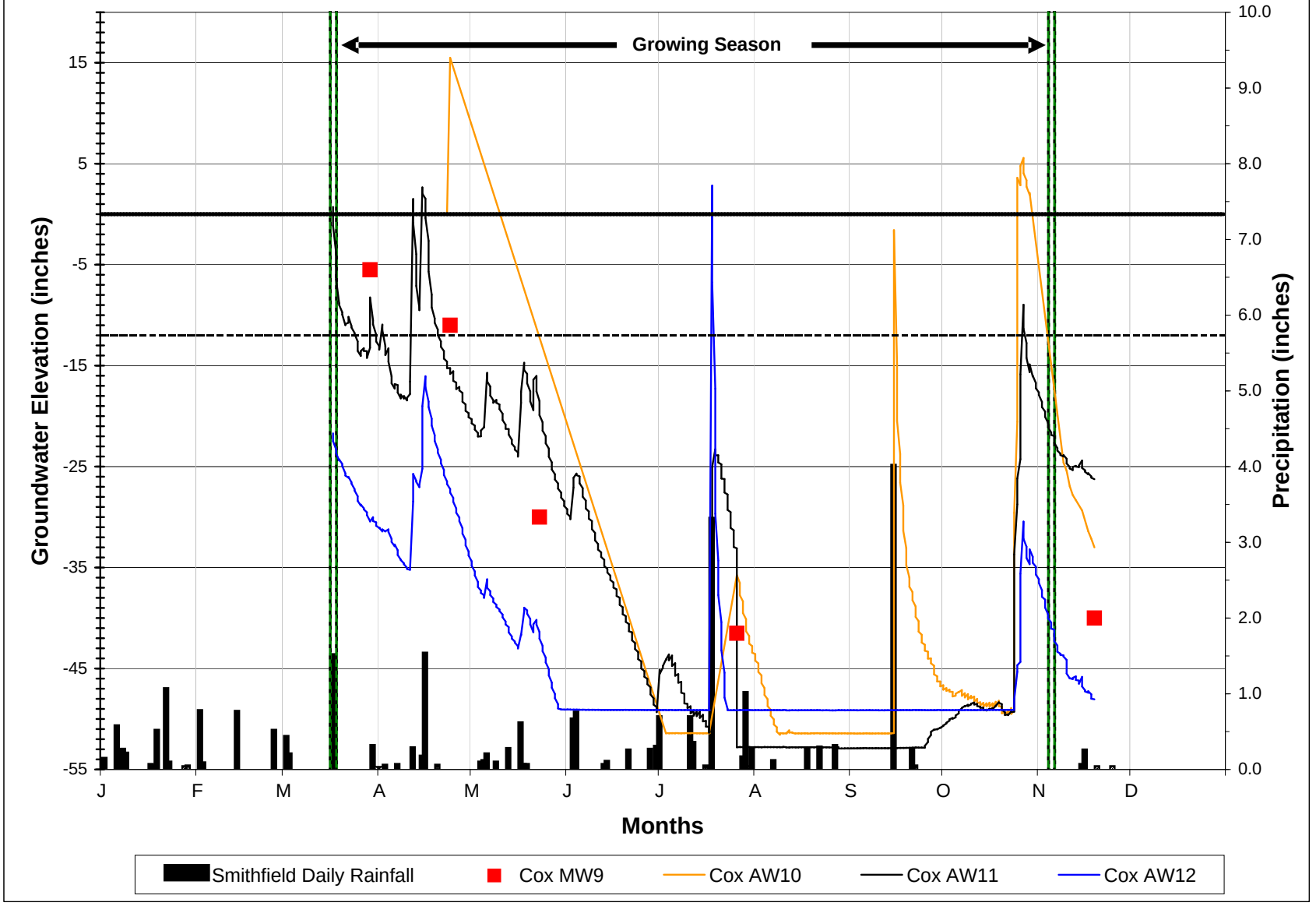


Table 2. Hydrologic Monitoring Results for 2007 (Year 2).

2007 Max Hydroperiod (Growing Season 17-Mar through 5-Nov, 232 days)					
Gauge	Consecutive		Cumulative		Occurrences
	Days	Percent of growing Season	Days	Percent of growing Season	
AW1	46	20	79	34	7
MW2	41	18	44	19	3
AW3	40	17	59	25	2
MW4	4	2	9	4	3
AW5	11	5	22	9	4
MW6	9	4	14	6	3
AW7	66	28	71	31	4
MW8	19	8	35	15	3
MW9	18	8	31	13	3
AW10	9	4	21	9	5
AW11	9	4	21	9	5
AW12	1	0	1	0	1

3.3.2 Reference Data

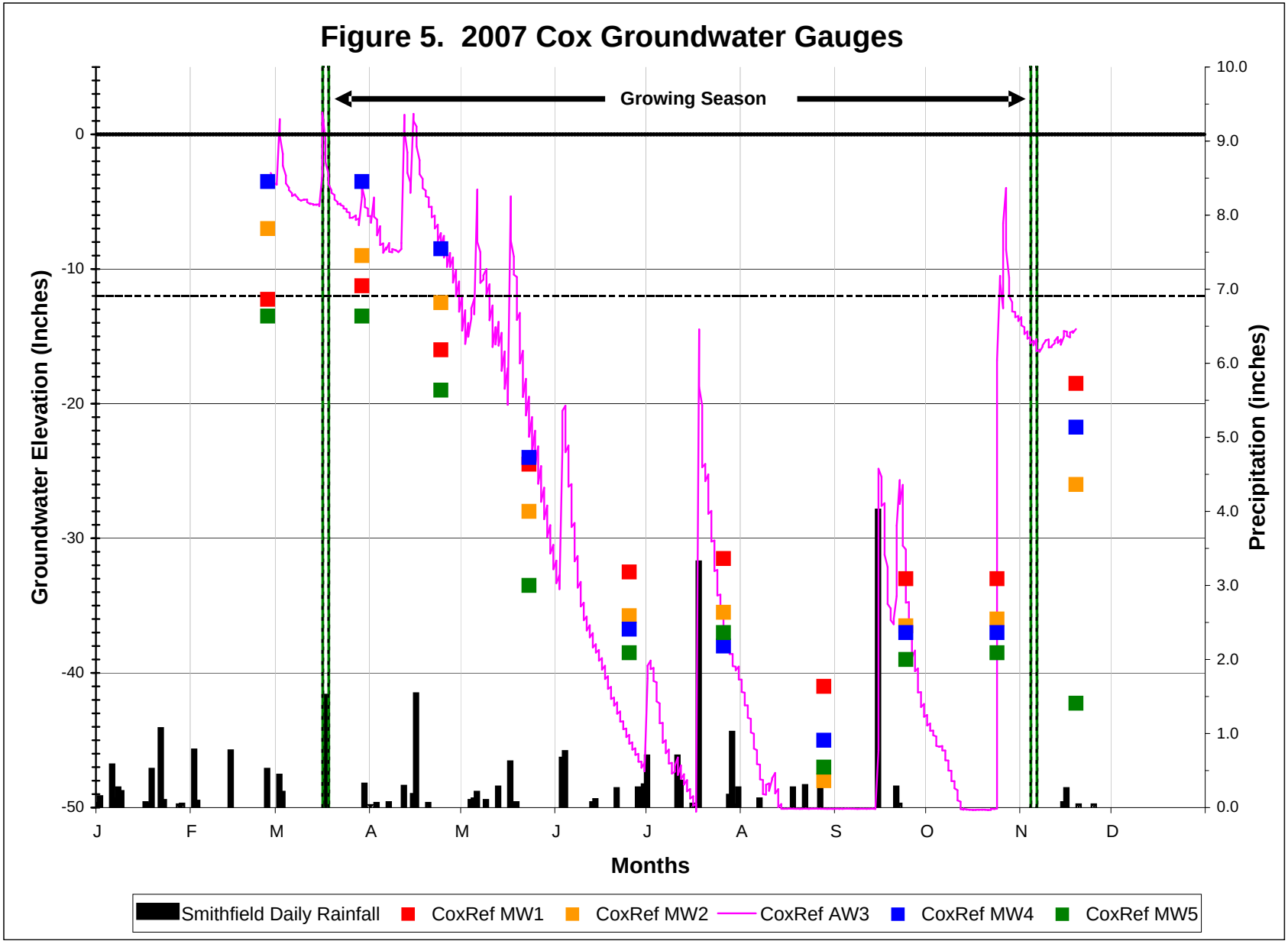
The approved Restoration Plan for the site provides that if the rainfall data for any given year during the monitoring period is not normal, the reference wetland data can be used to determine if there is a positive correlation between the performance of the restoration site and the natural hydrology of the reference site.

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** and **Figure 5**. The reference gauges exhibit a range of hydroperiods similar to the mitigation site data, including two gauge locations (Ref AW1 and MW5) with a minimal wetland hydroperiod. The reference gauges are located in a riverine wetland upstream of the adjacent Westbrook mitigation site.

Table 3. Reference Wetland Hydrologic Monitoring Results for 2007 Year 2).

2007 Max Hydroperiod (Growing Season 17-Mar through 5-Nov, 232 days)					
Gauge	Consecutive		Cumulative		Occurrences
	Days	Percent of growing Season	Days	Percent of growing Season	
REF MW1	6	3	12	5	3
REF MW2	18	8	30	13	2
REF AW3	45	19	52	22	2
REF MW4	43	19	46	20	3
REF MW5	3	1	4	2	3

Figure 5. 2007 Cox Groundwater Gauges



3.3.3 Climate Data

The entire state of North Carolina experienced increasingly severe drought conditions throughout 2007, with some areas experiencing the lowest average stream flows on record. The first signs of drought began in February in the western part of the state. By early spring, abnormally dry conditions had spread across the state, and the western edge of the state began to see "moderate" drought conditions. From late spring through the summer, conditions steadily worsened. By August, 98 percent of North Carolina's land area was designated as being in either "severe", "extreme", or "exceptional" drought. Additionally, lowest-ever average stream flows were recorded at 13 monitoring stations in August, including nine in central North Carolina, two in the mountains, and two on the coastal plain. Nearly the entire state was categorized as experiencing "extreme" drought in September, with the southwest portion of the state categorized as experiencing "exceptional" drought. **Figure 6** depicts the increasing severity of the drought throughout the year.

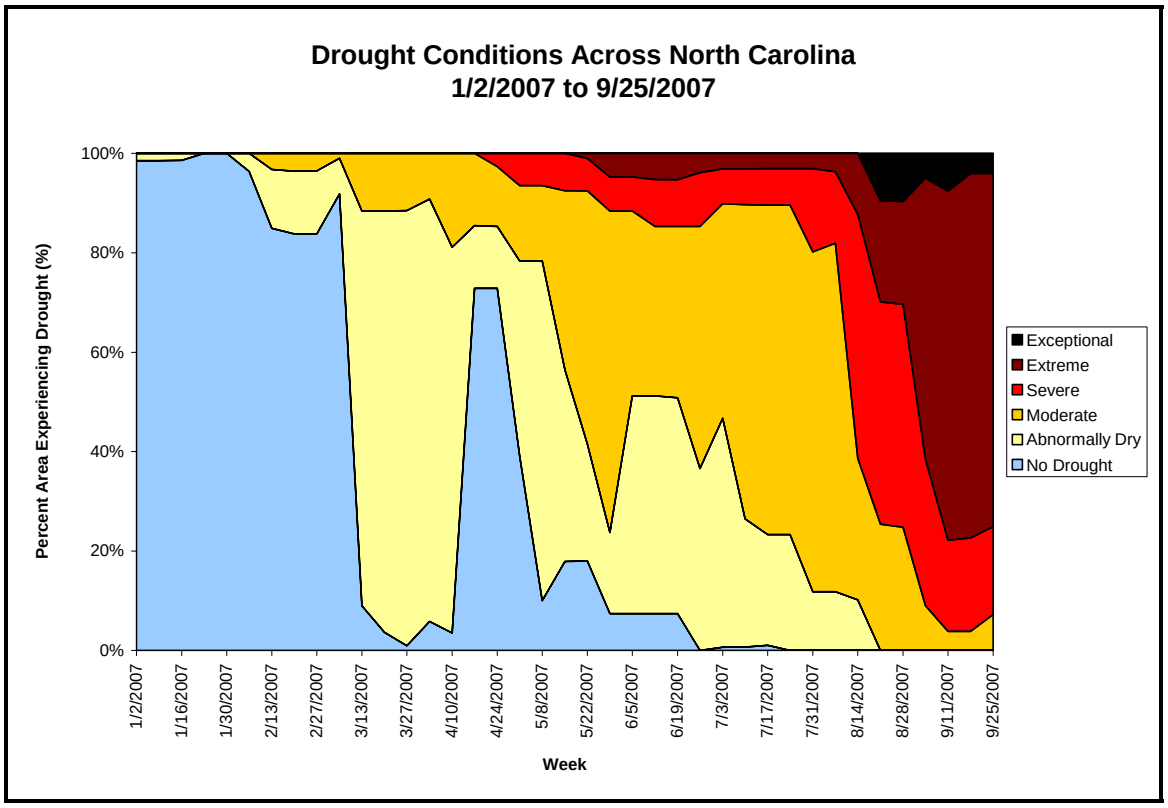


Figure 6. NC 2007 Drought Conditions

The Cox mitigation site experienced drought conditions consistent with state-wide trends. At the Smithfield monitoring station, near the Cox site, monthly precipitation levels fluctuated from the lower end of the normal range to over 1.4 inches below average from January through June (**Figure 2** and **Table 4**). The Smithfield station received above-normal rainfall (6.45 inches) in July, but only 0.93 inches the following month; over 2 inches below normal. The Smithfield station received normal rainfall levels in September. The accumulated rainfall deficit, the difference between the long-term average and the observed monthly precipitation levels, aggregated monthly, grew steadily throughout the year to -17.44 inches in November. The high rainfalls in September were not sufficient to reverse the trend of an increasing rainfall deficit. Persistent and worsening drought conditions severely impacted the wetland hydroperiods and stream flow at the Cox mitigation and reference sites.

Table 4. Johnston County Normal Rainfall and 2007 Observed Rainfall

Month	Average	Normal Limits		Smithfield Precipitation	On-Site Precipitation	Accumulated Rainfall Deficit
		30 Percent	70 Percent			
January	4.17	2.90	4.92	3.04	---	-1.13
February	3.66	2.51	4.78	2.08	2.30	-2.71
March	4.23	3.28	5.01	2.42	1.90	-4.52
April	3.00	1.79	3.89	2.09	3.05	-5.43
May	3.76	2.54	4.62	1.41	1.55	-7.78
June	3.74	1.99	4.47	2.31	0.00	-9.21
July	5.04	3.40	5.89	6.45	5.30	-7.80
August	4.56	3.00	5.72	0.93	2.35	-11.43
September	4.35	2.11	5.28	4.29	3.82	-11.49
October	3.14	1.80	3.93	0.00	0.30	-14.63
November	3.14	1.93	3.81	0.33	5.72	-17.44
December	3.15	2.10	3.80	---	---	---
Total	45.94	29.35	56.12	25.35	26.29	---

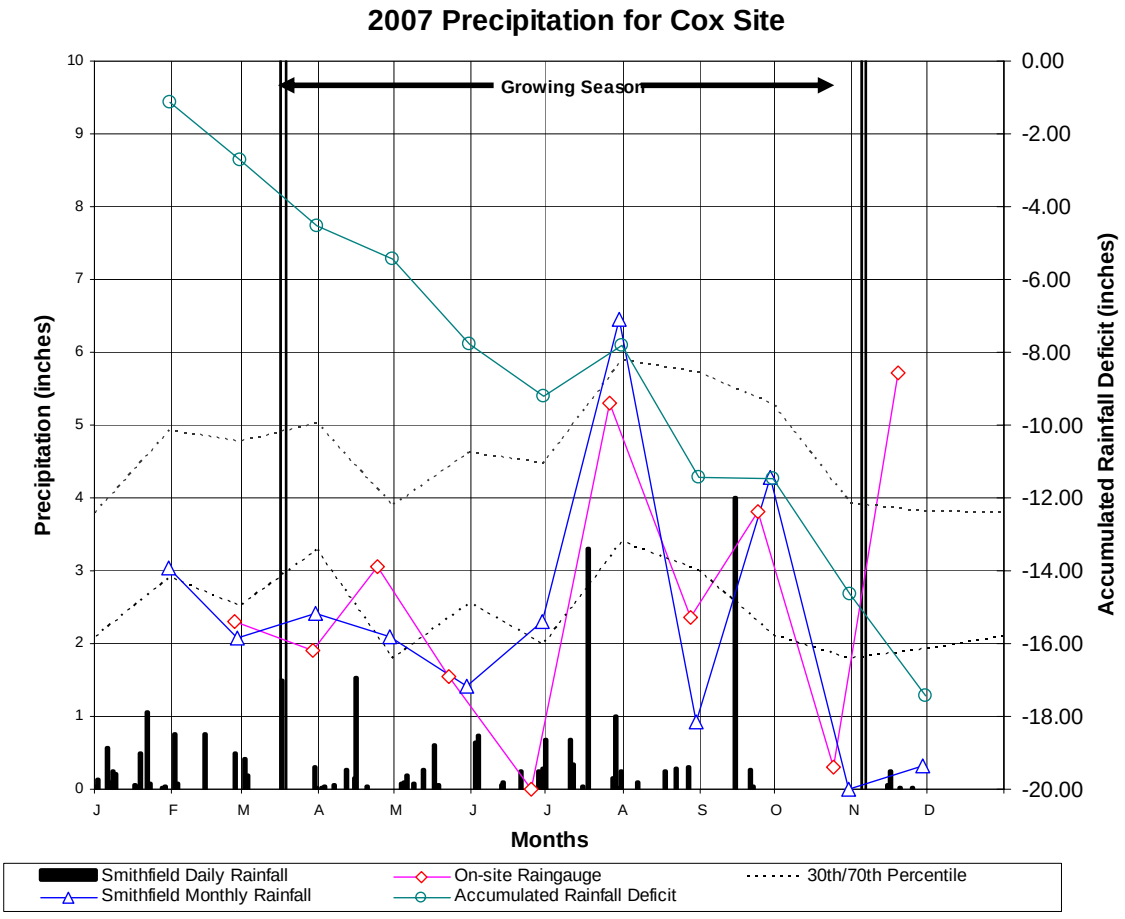


Figure 7. 2007 Rainfall Chart

3.4 Hydrologic Conclusions

Data collected from all the groundwater monitoring gauges on Cox Mitigation Site indicate that six of twelve hydrology monitoring stations recorded hydroperiods of at least 7 percent of the growing season. Four of the remaining gauges recorded hydroperiods of 4 to 5 percent of the growing season. The remaining two gauges exhibited conditions similar to the range of conditions experienced in the reference wetland.

Rainfall data demonstrated worsening drought conditions throughout the 2007 growing season. Based on the results from the mitigation site monitoring gauges during Years 1 and 2 and considering the results from the reference site gauges and the impact of abnormal drought conditions in 2007, it was concluded that the site is performing as designed. Particular attention will be paid to those gauges recording short hydroperiods in subsequent monitoring seasons.

4.0 VEGETATION

4.1 Vegetation Success Criteria

The interim measure of vegetative success for the Cox Wetland Mitigation Plan will be 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 5 of the monitoring period.

Up to 20 percent of the site species composition may be comprised of invaders. 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 Monitoring Protocol

Table 5. Planted Tree Species

ID	Scientific Name	Common Name	FAC Status
1	*Quercus michauxii*	Swamp Chestnut Oak	FACW-
2	*Quercus phellos*	Coastal Willow Oak	FACW-
3	*Platanus occidentalis*	Sycamore	FACW-
4	*Celtis laevigata*	Sugar Berry	FACW
5	*Quercus lyrata*	Overcup Oak	OBL
6	*Nyssa sylvatica*	Blackgum	FAC
7	*Betula nigra*	River Birch	FACW
8	*Nyssa biflora*	Swamp Tupleo	OBL
9	*Taxiodium distichum*	Bald Cypress	OBL
10	*Fraxinus pennsylvanica*	Green Ash	FACW

The following monitoring protocol was designed to predict vegetative survivability: 22 plots were established on the Cox Wetland Mitigation Site, to monitor approximately 1.2 percent of the site. Fifteen of the plots are established next to the streambed to monitor the vegetation in the stream restoration buffer and riverine wetland zone. The other seven plots are randomly located to represent the non-riverine wetland zone on the site. The plots were randomly located within each zone and randomly oriented within the wetland restoration area.

Plot construction involved using metal fence posts at each of the four corners to clearly and permanently establish the area that was to be sampled. Then ropes were hung connecting all four

corners to help in determining if trees close to the plot boundary were inside or outside of the plot. Trees right on the boundary and trees just outside of the boundary that appear to have greater than 50 percent of their canopy inside the boundary were counted inside the plot. A piece of white PVC pipe ten feet tall was placed over the metal post on one corner to facilitate visual location of site throughout the five-year monitoring period.

All of the planted stems inside the plot were flagged with orange flagging and marked with a 3-foot tall piece of half inch PVC to mark them as the planted stems (vs. any colonizers) and to help in locating them in the future. Each stem was then tagged with a permanent numbered aluminum tag.

4.3 Results of Vegetation Monitoring

Tables 6 and 7 present stem counts for each of the monitoring plots. Each planted tree species is identified across the top row, and each plot is identified down the left column. The numbers on the top row correlate to the ID column of **Table 5**. Trees are flagged in the field on an as-needed basis before the flags degrade. Flags are utilized, because they will not interfere with the growth of the tree. Volunteers are also flagged during this process.

Table 6. 2007 Vegetation Monitoring Plot Species Composition

Plot	1	2	3	4	5	6	7	8	9	10	Total	Stems/Acre
1	3	2	3	0	2	0	4	0	1	0	15	600
2	0	0	3	0	5	0	6	0	0	2	16	640
3	2	5	7	0	1	0	0	0	5	0	20	800
4	2	1	3	0	6	0	3	0	2	0	17	680
5	4	0	1	1	1	0	6	3	0	0	16	640
6	1	1	10	0	0	0	3	0	1	0	16	640
7	2	1	1	0	1	0	10	0	3	0	18	720
8	1	1	1	0	0	0	9	0	0	3	15	640
9	7	0	7	0	0	0	3	0	0	0	17	680
10	6	4	1	0	0	0	1	0	1	0	13	520
11	2	2	0	0	2	4	3	0	1	4	18	720
12	0	0	0	0	0	2	6	1	1	9	19	760
13	9	1	1	0	0	0	3	0	2	1	17	680
14	0	0	0	0	1	1	14	0	0	2	18	720
15	2	0	1	0	5	5	3	1	0	0	17	680
16	1	0	0	4	3	0	5	0	0	1	14	560
17	5	0	9	0	0	0	0	1	0	0	15	600
18	1	0	3	0	3	3	4	0	2	1	17	680
19	2	0	6	0	2	0	1	2	0	0	13	520
20	3	0	1	5	0	0	4	0	0	0	13	520
21	3	0	3	5	0	0	6	3	0	0	20	800
22	2	0	4	2	0	0	5	1	0	0	14	560

Average Stems/Acre: 651

Range of Stems/Acre: 520-800

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. Volunteers Tree Species

ID	Scientific Name	Common Name	FAC Status
A	*Liquidambar styraciflua*	Sweetgum	FAC+
B	*Acer rubrum*	Red Maple	FAC
C	*Pinus taeda*	Loblolly Pine	FAC
D	*Rhus copallinum*	Winged Sumac	No indicator

Volunteer woody species were observed in very high quantities in vegetation Plots 10 and 11, and if allowed to persist will exceed 20 percent of the total composition. Sweetgum (*Liquidambar styraciflua*) is the most common volunteer, though Red Maple (*Acer rubrum*), Loblolly Pine (*Pinus taeda*), and Winged Sumac (*Rhus copallinum*) were also observed.

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 present on the site. Hydrophytic herbaceous vegetation, including rush (*Juncus effusus*), spike-rush (*Eleocharis obtusa*), Boxseed (*Ludwigia* sp.), and sedge (*Carex* sp.), were observed across the site, particularly in areas of periodic inundation. The presence of these herbaceous wetland plants helps to confirm the presence of wetland hydrology on the site.

There are quite a many weedy species occurring on the site, though none seem to be posing problems for the woody or herbaceous hydrophytic vegetation. The weedy species are mostly annuals and do not threaten survivability on site. Commonly seen weedy vegetation includes ragweed (*Ambrosia artemisiifolia*) and wild dill (*Foeniculum vulgare)*. Any threatening weedy vegetation found in the future will be documented and discussed in future reports.

4.4 Vegetation Conclusions

The site was planted in coastal plain small stream swamp and wet hardwood forest species in January 2006. There were twenty-two vegetation-monitoring plots established throughout the planting areas. The data reflects that the overall site is on track to meet the interim success criteria of 320 trees per acre by the end of Year 3 and the final success criteria of 260 trees per acre by the end of Year 5 as specified in the Restoration Plan for the site.

5.0 STREAM MONITORING

5.1 Success Criteria

As stated in the approved Restoration Plan, the stream restoration success criteria for the site includes 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.

5.2 Stream Morphology Monitoring Plan

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

Bankfull Events: A crest gauge was installed on the site to document bankfull events (**Figure 3b**). The gauge is checked monthly, and records the highest out-of-bank flow event that occurred during the past month.

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 16 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 2007 (Year 2) were surveyed in August 2007.

Longitudinal Profiles: A longitudinal profile of approximately 3,000 feet was surveyed along the restoration reach in Year 1. The longitudinal survey will take place in Years 3 and 5 as well. Measurements include thalweg, water surface, bankfull, and top of low bank. Each of these measurements is taken at the head of each feature, e.g. riffle, run, pool, glide, and the max pool depth. A common benchmark will be used each year to facilitate comparison of year-to-year data. No longitudinal profile was surveyed during 2007 (Year 2).

Photo Reference Stations: Photographs are used to visually document restoration success. Reference stations are marked with wooden stakes and Global Positioning Satellite (GPS) coordinates have been determined for each location. Reference photos are taken at each permanent cross-section from both stream banks. 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. In-stream structures (e.g., rock vanes, cross vanes, and constructed riffles) are also photographed. Photo reference stations will be photographed at least once per year for at least 5 years following construction.

5.3 Stream Morphology Monitoring Results

Photographs were taken throughout the monitoring season to document the evolution of the restored stream channel (**Appendix D**). Herbaceous vegetation is moderately dense along the restored stream. Pools have maintained a variety of depths and habitat qualities, depending on the location and type of scour features (logs, root wads, transplants, etc.).

In-stream structures installed within the restored stream included constructed riffles, log vanes, log weirs, and root wads. Visual observations of structures throughout the past growing season

have indicated several areas requiring continued observation. The log weirs have experienced significant end cutting and undercutting that has resulted in head cuts migrating up the channel. Portions of the stream channel are showing bank erosion and sparse bank vegetation. **Table 8** details the stream areas of concern.

5.3.1 Cross Sections

Year 2 cross section monitoring data for stream stability were collected during August 2007 and compared to baseline data collected in 2006 (**Appendix B**). All monitored cross sections fell within the quantitative parameters defined for "E" or "C" type channels.

Table 8. 2007 Stream Areas Requiring Observation

Station	Feature	Description
20+40	Log Weir	End cut on right bank due to improper installation
23+50	Left Bank	Erosion behind root wad on downstream end, other root wads are stable
26+30	Right Bank	Erosion upstream of rootwad due to improper installation of rootwad
31+40	Log Weir	Undercut on right bank, banks appear stable
33+70	Log Weir	End cut on left bank
37+00	Right Bank	Erosion at old channel plug
46+80	Log Weir	Undercut at left bank
51+90	Bed	Erosion and approximate 9-inch headcut due to downstream structure failure
55+90	Bed	Erosion and approximate 9-inch headcut due to downstream structure failure
57+10	Log Weir	End cut on right bank
59+10	Log Weir	End cut on right bank
59+20	Bed	Erosion due to downstream structure failure, mid channel bar formation
63+00	Bed	Mid channel bar formation
65+30	Log Weir	Undercut on left bank
66+40	Bed	Head cut and bed erosion due to lack of downstream grade control
71+40	Log Weir	Undercut; grade control provided by rock ford
74+50	Right Bank	Erosion downstream of log vane due to improper installation
74+80	Bed	Erosion due to downstream structure failure
76+90	Log Weir	Undercut; adjacent grade control
81+60	Bed	Mid-channel bar formation
82+80	Bed	Approximate 6-inch headcut due to lack of downstream grade control

5.3.2 Longitudinal Profile

A longitudinal profile survey was not conducted in Year 2. The previous profile and cross sections indicated there has been very little adjustment to the stream profile or dimension since construction.

5.3.3 Hydrology

A bankfull event 0.3 feet above bankfull stage was recorded during the February site visit. No additional bankfull events were recorded during 2007.

Figure 8a

Cox

NAD 83

ADJACENT PROPERTY CURRENTLY OWNED BY EBX-NEUSE 1,LLC

VEGETATION PLOT #21

PA13

AUTOMATIC WELL #6

PA15

PA12

VEGETATION PLOT #13

PA11

FILL LIMITS

XSEC11

XSEC12

XSEC13

XSEC14

XSEC15

XSEC16

VEGETATION PLOT #12

XSEC9

VEGETATION PLOT #14

PA14

PA9

PA10

MATCHLINE SHEET 14

PA16

MANUAL WELL #5

VEGETATION PLOT #16

FARM PATH

VEGETATION PLOT #15

PA17

PA19

CUT LIMITS

PA18

VEGETATION PLOT #18

AUTOMATIC WELL #7

PA20

VEGETATION PLOT #17

PA21

MANUAL WELL #8

VEGETATION PLOT #20

FARM PATH

VEGETATION PLOT #19

Figure 8b

Cox

100 50 0 100 200

SCALE (FT)

6.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS

- Year 2 hydrologic monitoring has documented that suitable minimum wetland hydrology criterion was achieved across most of the site. Of the twelve hydrology monitoring gauges, six recorded consecutive hydroperiods for at least 7 percent of the growing season. The remaining gauges exhibited a range of hydroperiods similar to the range of hydroperiods recorded at the reference wetland. It was concluded that based on the monitoring results in Years 1 and 2 at both the mitigation and reference sites and given the abnormal drought conditions experienced in 2007, the site is performing as designed.

- The restored stream channel has remained stable and is providing the intended habitat and hydrologic functions. All monitoring cross sections for 2007 showed little adjustment in stream dimension. Observation of stream structures will continue in 2008 and repairs will be undertaken as required. Overall, the site is on track to achieve the stream success criteria as specified in the Restoration Plan for the site.

- Vegetation monitoring efforts have documented the range of surviving tree stems to be 520 to 800 stems per acre, with the average number of stems per acre on site to be 651, which is a survival rate of greater than 92 percent based on the initial planting count of 710 stems per acre. Based on the monitoring results of Years 1 and 2, the site is on track to achieve the interim vegetative success criteria specified in the Restoration Plan for the site.

- All hydrologic, vegetative and stream monitoring will continue through 2010.

APPENDIX A

As-Built Survey

COX SITE

PROJECT: 0214R

STATE	BUCK PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	0214R	1	20

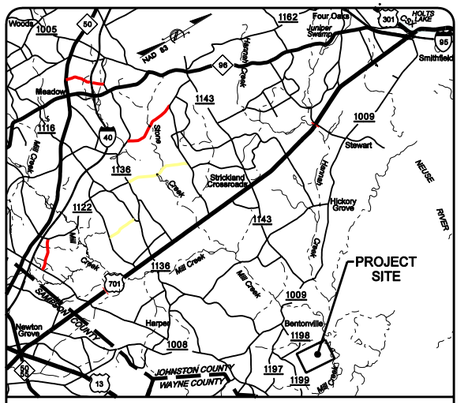
NO.	DATE	CHECKED BY	APPROVED BY
1	01/25/06	JOHN HUTTON	KEVIN TWEEDY

EBX NEUSE - I, LLC
COX SITE

JOHNSTON COUNTY

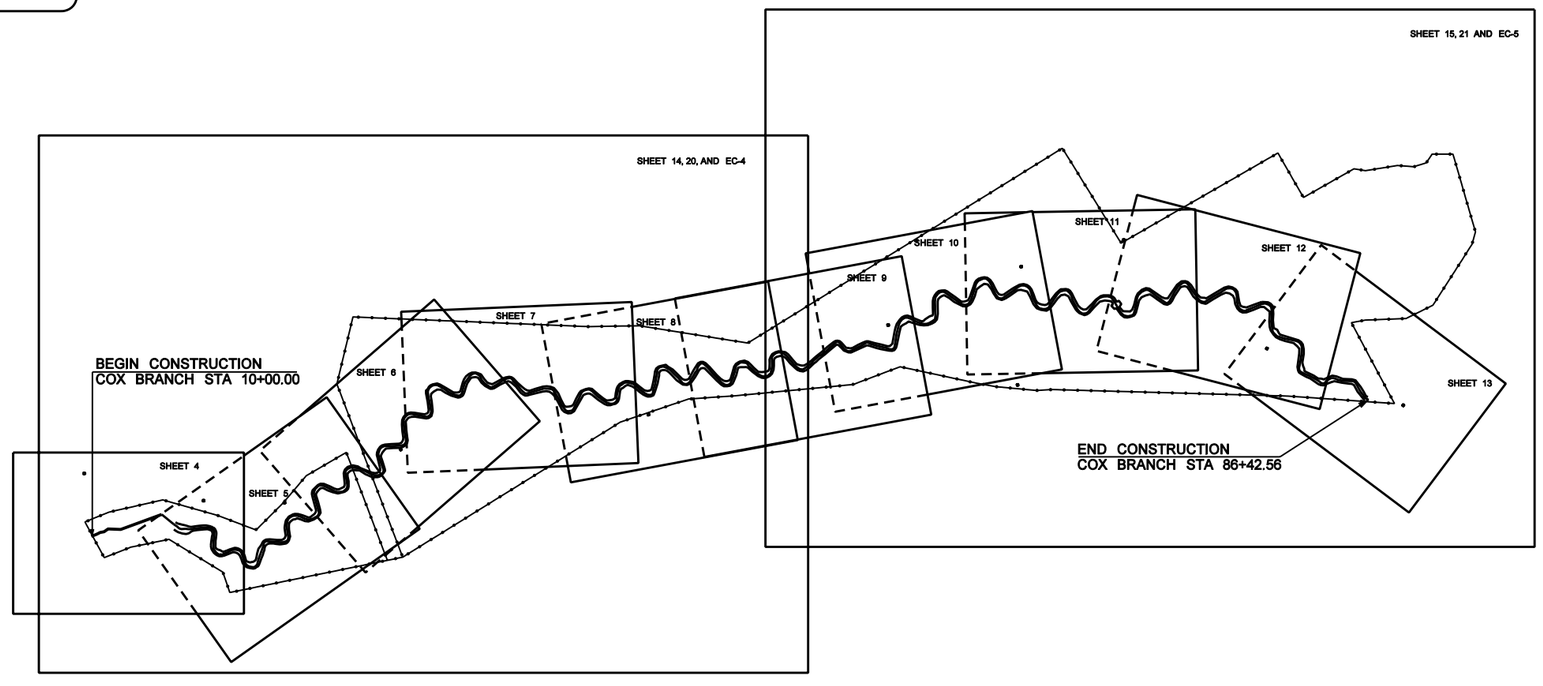
LOCATION: WEST OF GOLDSBORO
OFF SR 1198 WESTBROOK LOWGROUNDS ROAD

TYPE OF WORK: AS-BUILT PLANS



VICINITY MAP

INDEX OF SHEETS



NAD 83

GRAPHIC SCALES

50 0 50 100
PLANS

50 0 50 100
PROFILE (HORIZONTAL)

5 0 5 10
PROFILE (VERTICAL)

PROJECT SUMMARY

EXISTING STREAM LENGTH	=	5944	FEET
AS-BUILT STREAM RESTORATION LENGTH	=	7357	FEET
AS-BUILT STREAM ENHANCEMENT LENGTH	=	285	FEET
EXISTING WETLAND ACREAGE	=	0.8	ACRES
AS-BUILT WETLAND ACREAGE RIVERINE WETLAND	=	26.8	ACRES
AS-BUILT WETLAND ACREAGE NON-RIVERINE WETLAND	=	16.9	ACRES

PREPARED FOR THE OFFICE OF:
EBX NEUSE - I, LLC

2530 MERIDIAN PARKWAY, SUITE 200
DURHAM, NORTH CAROLINA 27713

EBX CONTACT:
THOMAS L. RINKER
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

DECEMBER '05
COMPLETION DATE:

KEVIN TWEEDY
PROJECT ENGINEER

JOHN HUTTON
PROJECT MANAGER

PROJECT ENGINEER

THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY:

KEVIN L. TWEEDY
027337
APRIL 4, 2006

THIS MEDIA SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT

SIGNATURE: *P.E.*

2/26/03

STREAM CONVENTIONAL SYMBOLS
SUPERCEDES SHEET 1B

- ROCK J-HOOK
- ROCK VANE
- OUTLET PROTECTION
- ROCK CROSS VANE
- DOUBLE DROP ROCK CROSS VANE
- SINGLE WING DEFLECTOR
- DOUBLE WING DEFLECTOR
- TEMPORARY SILT CHECK
- ROOT WAD
- LOG J-HOOK
- LOG VANE
- LOG WEIR
- LOG CROSS VANE
- CONSTRUCTED RIFFLE
- BOULDER CLUSTER
- ROCK STEP POOL
- SAFETY FENCE
- TAPE FENCE
- 100 YEAR FLOOD PLAIN
- CONSERVATION EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- FOOT BRIDGE
- TEMPORARY STREAM CROSSING
- PERMANENT STREAM CROSSING
- TRANSPLANTED VEGETATION
- TREE REMOVAL
- TREE PROTECTION
- TRANSPLANTS

**NOTE: ALL ITEMS ABOVE MAY NOT BE USED ON THIS PROJECT

GENERAL NOTES

1. THE CONTRACTOR IS REQUIRED TO INSTALL INSTREAM STRUCTURES USING A TRACK HOE WITH A HYDRAULIC THUMB OF SUFFICIENT SIZE TO MOVE BOULDERS 2FT X 2FT X 3FT (APPROXIMATELY 0.7 TONS).

2. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE, AT A MINIMUM, TWO OPERATORS AT ALL TIMES DURING CONSTRUCTION OF THE NEW STREAM CHANNEL. IN GENERAL, ONE OPERATOR WILL CUT THE NEW CHANNEL WITH A TRACK HOE, WHILE THE OTHER OPERATOR FOLLOWS AND INSTALLS INSTREAM STRUCTURES, BANK STABILIZATION PRACTICES, AND TRANSPLANTS. DURING CONSTRUCTION OF THE NEW STREAM CHANNEL, THE CONTRACTOR WILL BE REQUIRED TO HAVE TWO TRACK HOES AND ONE LOADER ON-SITE.

3. CONSTRUCTION IS SCHEDULED TO BEGIN JUNE 2005.

PROJECT REFERENCE NO.	SHEET NO.
0214R	1-A

PROJECT ENGINEER

THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY:

KEVIN L. TWEEDY
027337
AUGUST 26, 2005

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STANDARD SPECIFICATIONS

EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL
DECEMBER 1993

6.60 TEMPORARY SEDIMENT TRAP

6.06 CONSTRUCTION ACCESS

6.62 SILT FENCE

6.70 TEMPORARY (FORD) STREAM CROSSING

VEGETATION SELECTION

STREAMBANK AND RIVERINE WETLAND VEGETATION SELECTION LIST

BARE ROOTVEGETATION

NOTE: BARE ROOT VEGETATION SHALL BE INSTALLED RANDOMLY 6 TO 8 FEET APART FROM THE TOP OF THE STREAMBANK OUT TO THE EDGE OF RIVERINE WETLAND REVEGETATION LIMITS.

COMMON NAME	*SCIENTIFIC NAME*	*Percentage of Total*	Total Number
Blackgum	*Nyssa sylvatica*	10	2900
Green ash	*Fraxinus pennsylvanica*	10	2900
Swamp Chestnut Oak	*Quercus michauxii*	15	4350
Overcup Oak	*Quercus lyrata*	10	2900
Willow Oak	*Quercus phellos*	5	1450
Sycamore	*Platanus occidentalis*	20	5800
River Birch	*Betula nigra*	20	5800
Bald Cypress	*Taxadium Distichum*	10	2900
	TOTAL	100	29000

LIVE STAKING

NOTE: LIVE STAKES SHALL BE INSTALLED RANDOMLY 2 TO 3 FEET APART ALONG THE STREAMBANKS FROM THE TOE OF THE BANK TO THE TOP OF BANK.

COMMON NAME	*SCIENTIFIC NAME*	*Percentage of Total*	Total Number
ELDERBERRY	*SAMBUCUS CANADENSIS*	42	2500
BUTTONBUSH	*CEPHALANTHUS OCCIDENTALIS*	50	3000
BLACK WILLOW	*SALIX NIGRA*	8	500
	TOTAL	100	6000

TEMPORARY SEED MIX

NOTE: ALL DISTURBED AREAS WILL BE STABILIZED USING TEMPORARY SEED MIX

COMMON NAME	RATE	DATES
ANNUAL RYE (COOL SEASON)	130 LBS/ACRE	SEPTEMBER TO MARCH
MILLET (WARM SEASON)	45 LBS/ACRE	APRIL TO AUGUST

NON-RIVERINE WETLAND VEGETATION SELECTION LIST

BARE ROOT VEGETATION

NOTE: BARE ROOT VEGETATION SHALL BE INSTALLED RANDOMLY 6 TO 8 FEET APART FROM THE TOP OF THE STREAMBANK OUT TO THE EDGE OF RIVERINE WETLAND REVEGETATION LIMITS.

COMMON NAME	*SCIENTIFIC NAME*	*Percentage of Total*	Total Number
Swamp Tupelo	*Nyssa sylvatica var.biflora*	15	1800
Sycamore	*Platanus occidentalis*	5	600
Swamp Chestnut Oak	*Quercus michauxii*	10	1200
Overcup Oak	*Quercus lyrata*	10	1200
Willow Oak	*Quercus phellos*	5	600
Sugarberry	*Celtis laevigata*	20	2400
River Birch	*Betula nigra*	20	2400
Green Ash	*Fraxinus pennsylvanica*	5	600
Bald Cypress	*Taxadium distichum*	10	1200
	TOTAL	100	12000

PERMANENT SEED MIX FOR ALL PLANTING ZONES

NOTE:
WETLAND SEED MIX SHALL BE SEEDED AT A RATE OF 15 LBS PER ACRE THOUGHOUT PLANTING ZONES

COMMON NAME	*SCIENTIFIC NAME*	*Percentage of Total*	Rate (lbs per acre)
Redtop	*Agrostis alba*	10	1.5
Virginia Wildrye	*Elymus virginicus*	15	2.25
Switch Grass	*Panicum virgatum*	15	2.25
Eastern Gamma Grass	*Tripsicum dactyloides*	5	0.75
Pennsylvania Smartweed	*Polygonum pennsylvanicum*	5	0.75
Little Blue Stem	*Schizachyrium scoparium*	5	0.75
Soft Rush	*Juncus effusus*	5	0.75
Beggars Tick	*Bidens frondosa (or aristosa)*	10	1.5
Lance-Leaved Tick Seed	*Coreopsis lanceolata*	10	1.5
Tioga Deer Tongue	*Panicum clandestinum*	10	1.5
Big Blue Stem	*Andropogon gerardii*	5	0.75
Indian Grass	*Sorgastrum nutans*	5	0.75

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2/26/03

*S.U.E = SUBSURFACE UTILITY ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

Edge of Pavement
Curb
Prop. Slope Stakes Cut
Prop. Slope Stakes Fill
Prop. Woven Wire Fence
Prop. Chain Link Fence
Prop. Barbed Wire Fence
Prop. Wheelchair Ramp
Curb Cut for Future Wheelchair Ramp
Exist. Guardrail
Prop. Guardrail
Equality Symbol
Pavement Removal

RIGHT OF WAY

Baseline Control Point
Existing Right of Way Marker
Exist. Right of Way Line w/Marker
Prop. Right of Way Line with Proposed R/W Marker (Iron Pin & Cap)
Prop. Right of Way Line with Proposed (Concrete or Granite) R/W Marker
Exist. Control of Access Line
Prop. Control of Access Line
Exist. Easement Line
Prop. Temp. Construction Easement Line
Prop. Temp. Drainage Easement Line
Prop. Perm. Drainage Easement Line

HYDROLOGY

Stream or Body of Water
River Basin Buffer
Flow Arrow
Disappearing Stream
Spring
Swamp Marsh
Shoreline
Falls, Rapids
Prop Lateral, Tail, Head Ditches

STRUCTURES

MAJOR
Bridge, Tunnel, or Box Culvert
Bridge Wing Wall, Head Wall and End Wall

MINOR
Head & End Wall
Pipe Culvert
Footbridge
Drainage Boxes
Paved Ditch Gutter

UTILITIES

Exist. Pole
Exist. Power Pole
Prop. Power Pole
Exist. Telephone Pole
Prop. Telephone Pole
Exist. Joint Use Pole
Prop. Joint Use Pole
Telephone Pedestal
U/G Telephone Cable Hand Hold
Cable TV Pedestal
U/G TV Cable Hand Hold
U/G Power Cable Hand Hold
Hydrant
Satellite Dish
Exist. Water Valve
Sewer Clean Out
Power Manhole
Telephone Booth
Cellular Telephone Tower
Water Manhole
Light Pole
H-Frame Pole
Power Line Tower
Pole with Base
Gas Valve
Gas Meter
Telephone Manhole
Power Transformer
Sanitary Sewer Manhole
Storm Sewer Manhole
Tank; Water, Gas, Oil
Water Tank With Legs
Traffic Signal Junction Box
Fiber Optic Splice Box
Television or Radio Tower
Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement

Recorded Water Line
Designated Water Line (S.U.E.*)
Sanitary Sewer
Recorded Sanitary Sewer Force Main
Designated Sanitary Sewer Force Main(S.U.E.*)
Recorded Gas Line
Designated Gas Line (S.U.E.*)
Storm Sewer
Recorded Power Line
Designated Power Line (S.U.E.*)
Recorded Telephone Cable
Designated Telephone Cable (S.U.E.*)
Recorded U/G Telephone Conduit
Designated U/G Telephone Conduit (S.U.E.*)
Unknown Utility (S.U.E.*)
Recorded Television Cable
Designated Television Cable (S.U.E.*)
Recorded Fiber Optics Cable
Designated Fiber Optics Cable (S.U.E.*)
Exist. Water Meter
U/G Test Hole (S.U.E.*)
Abandoned According to U/G Record
End of Information

BOUNDARIES & PROPERTIES

State Line
County Line
Township Line
City Line
Reservation Line
Property Line
Property Line Symbol
Exist. Iron Pin
Property Corner
Property Monument
Property Number
Parcel Number
Fence Line
Existing Wetland Boundaries
High Quality Wetland Boundary
Medium Quality Wetland Boundaries
Low Quality Wetland Boundaries
Proposed Wetland Boundaries
Existing Endangered Animal Boundaries
Existing Endangered Plant Boundaries

BUILDINGS & OTHER CULTURE

Buildings
Foundations
Area Outline
Gate
Gas Pump Vent or U/G Tank Cap
Church
School
Park
Cemetery
Dam
Sign
Well
Small Mine
Swimming Pool

TOPOGRAPHY

Loose Surface
Hard Surface
Change in Road Surface
Curb
Right of Way Symbol
Guard Post
Paved Walk
Bridge
Box Culvert or Tunnel
Ferry
Culvert
Footbridge
Trail, Footpath
Light House

VEGETATION

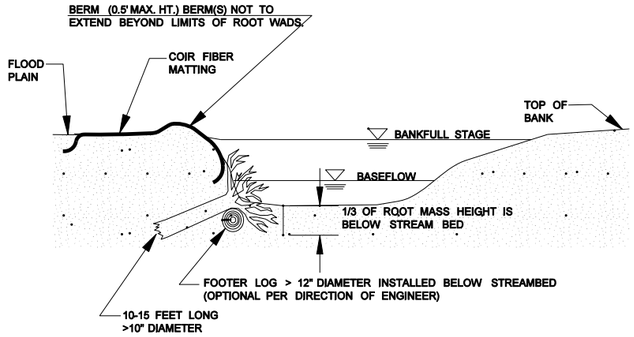
Single Tree
Single Shrub
Hedge
Woods Line
Orchard
Vineyard

RAILROADS

Standard Gauge
RR Signal Milepost
Switch

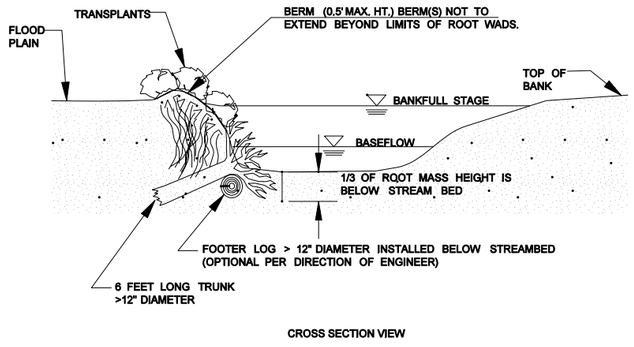
2/26/03

ROOT WADS WITHOUT TRANSPLANTS
NTS



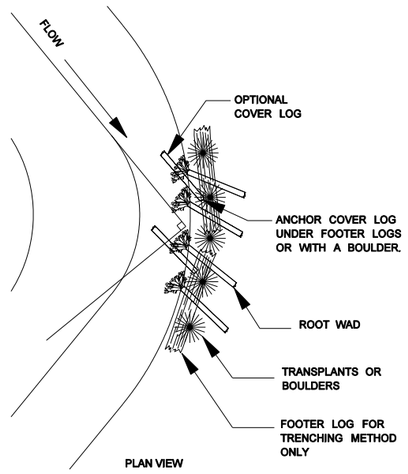
CROSS SECTION VIEW

ROOT WADS WITH TRANSPLANTS
NTS



CROSS SECTION VIEW

ROOT WADS



PLAN VIEW

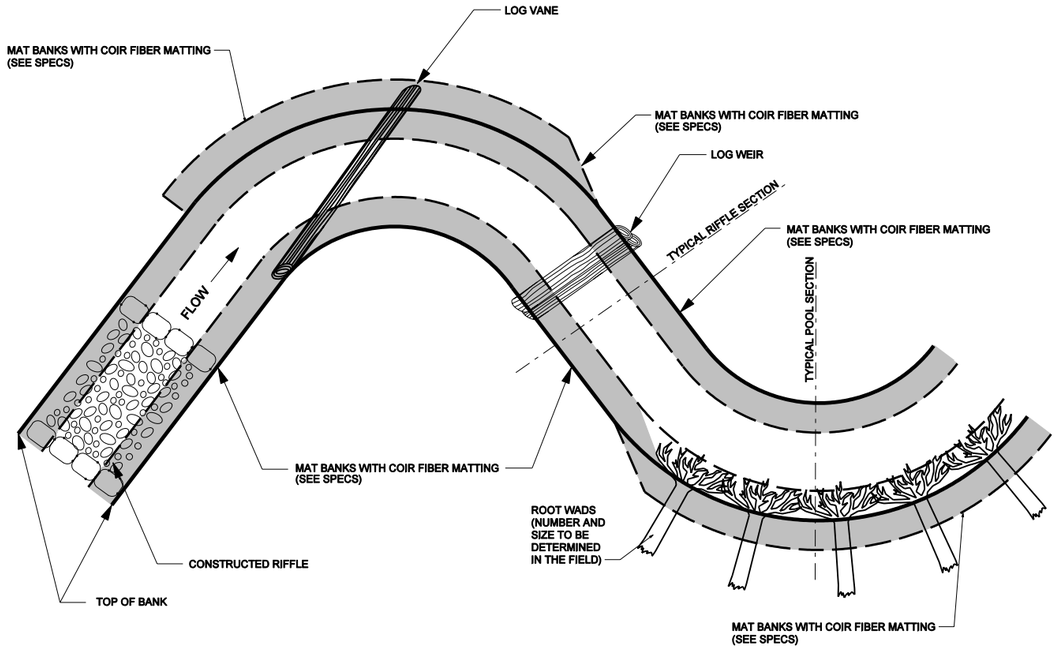
NOTES:
TRENCHING METHOD:
IF THE ROOT WAD CANNOT BE DRIVEN INTO THE BANK OR THE BANK NEEDS TO BE RECONSTRUCTED, THE TRENCHING METHOD SHOULD BE USED. THIS METHOD REQUIRES THAT A TRENCH BE EXCAVATED FOR THE LOG PORTION OF THE ROOT WAD. IN THIS CASE, A FOOTER LOG SHOULD BE INSTALLED UNDERNEATH THE ROOT WAD IN A TRENCH EXCAVATED PARALLEL TO THE BANK AND WELL BELOW THE STREAMBED. ONE-THIRD OF THE ROOT WAD SHOULD REMAIN BELOW NORMAL BASE FLOW CONDITIONS.

NOTES:
DRIVE POINT METHOD:
SHARPEN THE END OF THE LOG WITH A CHAINSAW BEFORE "DRIVING" IT INTO THE BANK. ORIENT ROOT WADS UPSTREAM SO THAT THE STREAM FLOW MEETS THE ROOT WAD AT A 90-DEGREE ANGLE. DEFLECTING THE WATER AWAY FROM THE BANK. A TRANSPLANT OR BOULDER SHOULD BE PLACED ON THE DOWNSTREAM SIDE OF THE ROOT WAD IF A BACK EDDY IS FORMED BY THE ROOT WAD. THE BOULDER SHALL BE APPROXIMATELY 4'X 3'X 2'.

TYPICAL STRUCTURE PLACEMENT

STRUCTURE NOTES:
1. GENERALLY LOG WEIRS, ROOT WADS, LOG VANES AND COIR FIBER MATTING WILL BE INSTALLED IN THE LOCATION AND SEQUENCE AS SHOWN.
2. ADDITIONAL STRUCTURES OR CHANGES TO STRUCTURE LOCATIONS MAY BE MADE BY THE DESIGN ENGINEER DURING CONSTRUCTION.

NOTES:
1. COIR FIBER MATTING TO BE INSTALLED ON ALL RESTORED STREAMBANKS.
2. IF ROOT WADS DO NOT COVER ENTIRE SLOPE ON OUTSIDE OF MEANDER BENDS, COIR FIBER MATTING IS NEEDED.



PROJECT REFERENCE NO.	SHEET NO.
0214R	2

PROJECT ENGINEER

THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY:

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027337
AUGUST 26, 2005

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BUCK ENGINEERING
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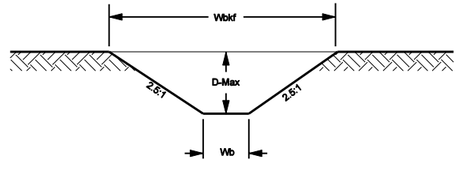
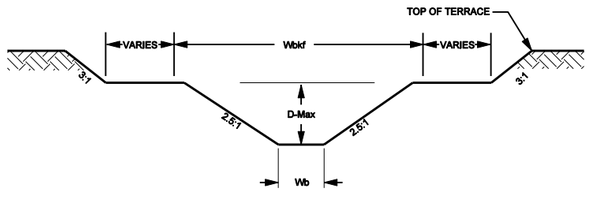
Cary, North Carolina 27511
Phone: 919-463-5488
Fax: 919-463-5490

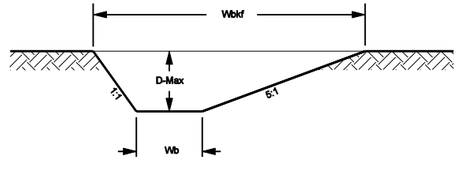
TYPICAL RIFFLE, POOL, AND BANKFULL BENCH CROSS SECTIONS



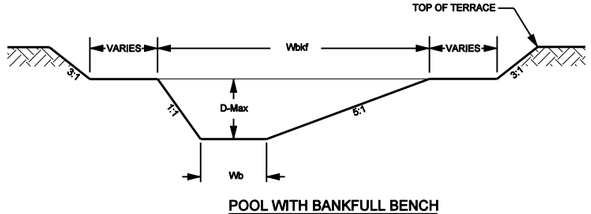
RIFFLE



RIFFLE WITH BANKFULL BENCH



POOL



POOL WITH BANKFULL BENCH

NOTES:
1. DURING CONSTRUCTION CORNERS OF DESIGN CHANNEL WILL BE ROUNDED AND A THALWEG WILL BE SHAPED PER DIRECTION OF ENGINEER.
2. POOLS SHOWN ABOVE ARE LEFT POOLS ONLY.

COX		
RIFFLE	POOL	
13.7	18.0	WIDTH OF BANKFULL (Wbkf)
1.0	1.5	MAXIMUM DEPTH (D-Max)
14.0	12.1	WIDTH TO DEPTH RATIO (Wbkf / D)
13.5	26.9	BANKFULL AREA (Abkf)
9.0	5.4	BOTTOM WIDTH (Wb)

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PROJECT REFERENCE NO.	SHEET NO.
0214R	2-A

PROJECT ENGINEER

THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY:

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AUGUST 26, 2005

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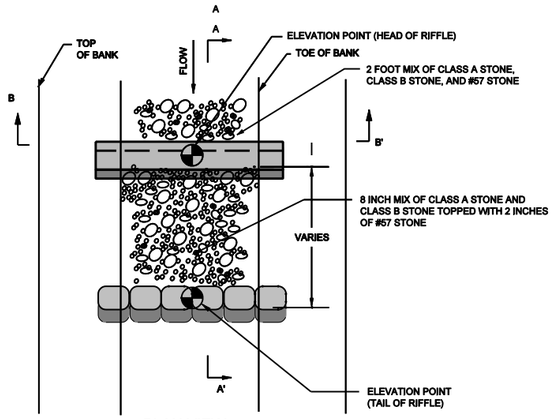
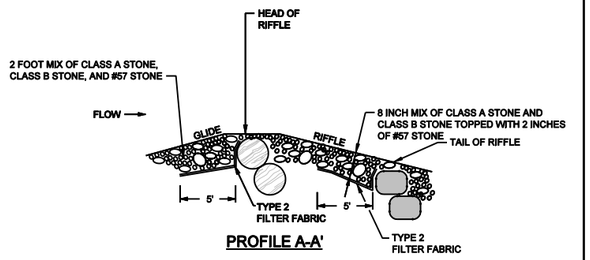
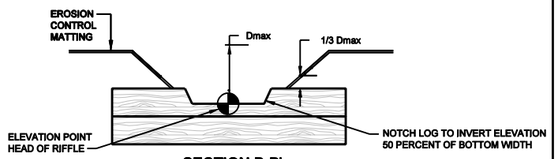


PLAN VIEW



PROFILE A-A'

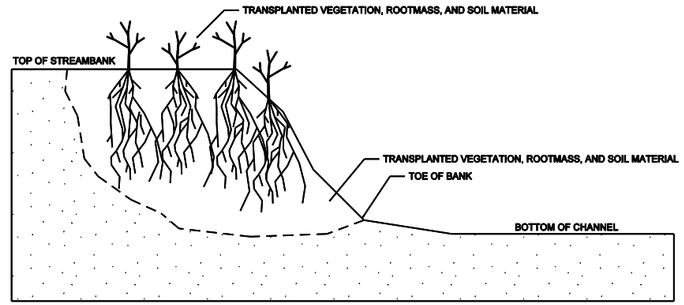


SECTION B-B'

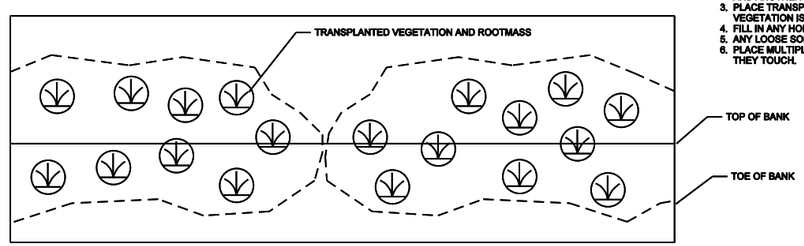
NOTES:

1. LOGS MUST BE AT LEAST 10 INCHES IN DIAMETER AND 15 FEET LONG.
2. DIG A TRENCH BELOW THE BED FOR THE UPSTREAM FOOTER LOGS AND STOCK PILE CUT MATERIAL.
3. PLACE FOOTER LOGS FIRST AND THEN HEADER (TOP) LOG. SET HEADER LOG APPROXIMATELY 3 INCHES ABOVE THE INVERT ELEVATION.
4. CUT A NOTCH IN THE HEADER LOG APPROXIMATELY 50 PERCENT OF THE CHANNEL BOTTOM WIDTH AND EXTENDING DOWN TO THE INVERT ELEVATION.
5. PLACE FOOTER ROCK FIRST AT TAIL OF RIFFLE AND THEN HEADER ROCK.
6. FOR BOTH INVERTS, INSTALL FILTER FABRIC FOR DRAINAGE BEGINNING AT THE MIDDLE OF THE HEADER AND EXTEND DOWNWARDTO THE DEPTH OF THE FOOTER, AND THEN UPSTREAM TO A MINIMUM OF FIVE FEET.
7. FILL IN THE UPSTREAM SIDE OF THE STRUCTURE WITH 2 FOOT MIX OF CLASS A STONE, CLASS B STONE, AND #57 STONE TO THE ELEVATION OF THE TOP OF THE HEADER LOG.
8. UNDERCUT RIFFLE BETWEEN INVERTS BY 8 INCHES, BACKFILL BETWEEN LOGS WITH A 8 INCH MIX OF CLASS A AND B STONE TOP WITH 2 INCHES OF #57 STONE.

TRANSPLANTED VEGETATION



CROSS SECTION VIEW

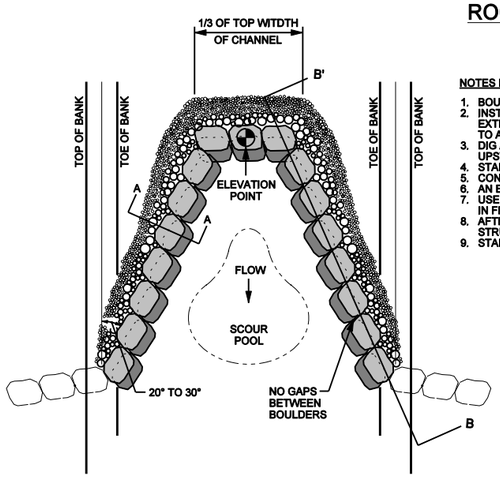


PLAN VIEW

NOTES:

1. EXCAVATE A HOLE IN THE BANK TO BE STABILIZED THAT WILL ACCOMMODATE THE SIZE OF TRANSPLANT TO BE PLACED. BEGIN EXCAVATION AT THE TOE OF THE BANK.
2. EXCAVATE TRANSPLANT USING A FRONT END LOADER. EXCAVATE THE ENTIRE ROOT MASS AND AS MUCH ADDITIONAL SOIL MATERIAL AS POSSIBLE. IF ENTIRE ROOT MASS CAN NOT BE EXCAVATE IN ONE BUCKET LOAD, THE TRANSPLANT IS TOO LARGE AND ANOTHER SHOULD BE SELECTED.
3. PLACE TRANSPLANT IN THE BANK TO BE STABILIZED SO THAT VEGETATION IS ORIENTATED VERTICALLY.
4. FILL IN ANY HOLES AROUND THE TRANSPLANT AND COMPACT.
5. ANY LOOSE SOIL LEFT IN THE STREAM SHOULD BE REMOVED.
6. PLACE MULTIPLE TRANSPLANTS CLOSE TOGETHER SUCH THAT THEY TOUCH.

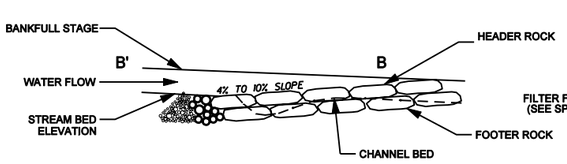
ROCK CROSS VANE



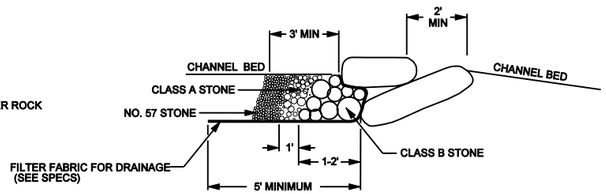
PLAN VIEW

NOTES FOR ALL VANE STRUCTURES:

1. BOULDERS MUST BE AT LEAST 2' x 2' x 3'.
2. INSTALL FILTER FABRIC FOR DRAINAGE BEGINNING AT THE MIDDLE OF THE HEADER ROCKS AND EXTEND DOWNWARD TO THE DEPTH OF THE BOTTOM FOOTER ROCK, AND THEN UPSTREAM TO A MINIMUM OF FIVE FEET.
3. DIG A TRENCH BELOW THE BED FOR FOOTER ROCKS AND PLACE FILL ON UPSTREAM SIDE OF VANE ARM, BETWEEN THE ARM AND STREAMBED.
4. START AT BANK AND PLACE FOOTER ROCKS FIRST AND THEN HEADER (TOP) ROCK.
5. CONTINUE WITH STRUCTURE, FOLLOWING ANGLE AND SLOPE SPECIFICATIONS.
6. AN EXTRA BOULDER CAN BE PLACED IN SCOUR POOL FOR HABITAT IMPROVEMENT.
7. USE CLASS B STONE TO FILL GAPS ON UPSTREAM SIDE OF BOULDERS,THEN CLASS A STONE IN FRONT OF CLASS B STONE, AND #57 STONE TO FILL GAPS ON UPSTREAM SIDE OF CLASS A STONE.
8. AFTER ALL STONE HAS BEEN PLACED, FILL IN THE UPSTREAM SIDE OF THE STRUCTURE WITH ON-SITE ALLUVIUM TO THE ELEVATION OF THE TOP OF THE HEADER ROCK.
9. START SLOPE AT BANKFULL STAGE.

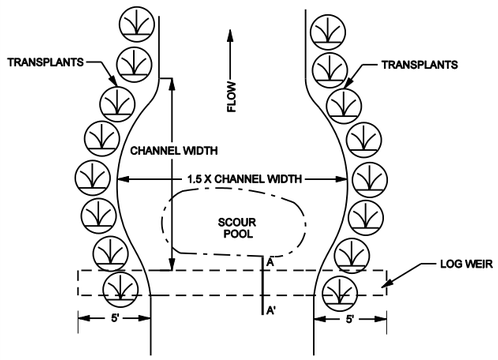


PROFILE VIEW B-B

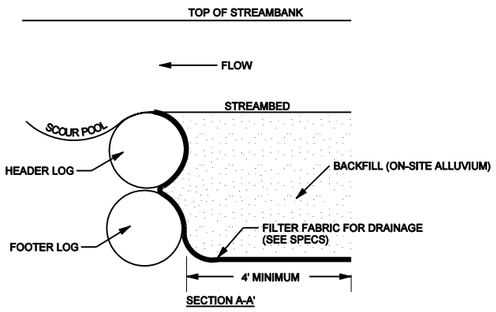


SECTION A - A

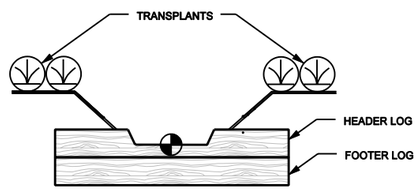
LOG WEIR



PLAN VIEW



SECTION A-A'



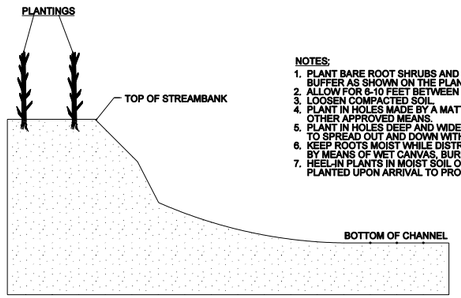
CROSS SECTION VIEW

NOTES:

1. LOGS SHOULD BE AT LEAST 12 INCHES IN DIAMETER, RELATIVELY STRAIGHT, HARDWOOD, AND RECENTLY HARVESTED.
2. LOGS >24 INCHES IN DIAMETER MAY BE USED ALONE WITHOUT AN ADDITIONAL LOG. FILTER FABRIC SHOULD STILL BE USED TO SEAL AROUND LOG
3. PLACE FOOTER LOGS FIRST AND THEN HEADER (TOP) LOG. SET HEADER LOG APPROXIMATLEY 3 INCHES ABOVE THE INVERT ELEVATION.
4. CUT A NOTCH IN THE HEADER LOG APPROXIMATLEY 50 PERCENT OF THE CHANNEL BOTTOM WIDTH AND EXTENDING DOWN TO THE INVERT ELEVATION.
5. USE FILTER FABRIC FOR DRAINAGE TO SEAL GAPS BETWEEN LOGS.
6. PLACE TRANSPLANTS FROM TOE OF STREAMBANK TO TOP OF STREAMBANK.

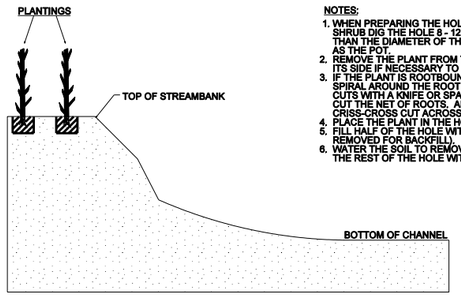
2/26/03

PLANTING SPECIFICATIONS



NOTES:
1. PLANT BARE ROOT SHRUBS AND TREES TO THE WIDTH OF THE BUFFER AS SHOWN ON THE PLANS.
2. ALLOW FOR 8-10 FEET BETWEEN PLANTINGS, DEPENDING ON SIZE.
3. LOOSEN COMPACTED SOIL.
4. PLANT IN HOLES MADE BY A MATTOCK, DIBBLE, PLANTING BAR, OR OTHER APPROVED MEANS.
5. PLANT IN HOLES DEEP AND WIDE ENOUGH TO ALLOW THE ROOTS TO SPREAD OUT AND DOWN WITHOUT J-ROOTING.
6. KEEP ROOTS MOIST WHILE DISTRIBUTING OR WAITING TO PLANT BY MEANS OF WET CANVAS, BURLAP, OR STRAW.
7. HEEL-IN PLANTS IN MOIST SOIL OR SAWDUST IF NOT PROMPTLY PLANTED UPON ARRIVAL TO PROJECT SITE.

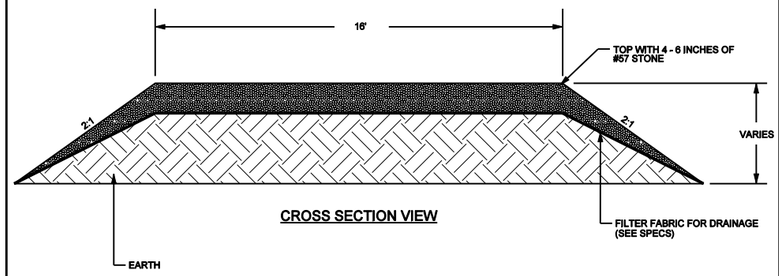
CROSS SECTION VIEW OF BARE ROOT PLANTING



NOTES:
1. WHEN PREPARING THE HOLE FOR A POTTED PLANT OR SHRUB DIG THE HOLE 6 - 12 INCHES LARGER THAN THE DIAMETER OF THE POT AND THE SAME DEPTH AS THE POT.
2. REMOVE THE PLANT FROM THE POT. LAY THE PLANT ON ITS SIDE IF NECESSARY TO REMOVE THE POT.
3. IF THE PLANT IS ROOTBOUND (ROOTS GROWING IN A SPIRAL AROUND THE ROOT BALL), MAKE VERTICAL CUTS WITH A KNIFE OR SPADE JUST DEEP ENOUGH TO CUT THE NET OF ROOTS. ALSO MAKE A CRISS-CROSS CUT ACROSS THE BOTTOM OF THE BALL.
4. PLACE THE PLANT IN THE HOLE.
5. FILL HALF OF THE HOLE WITH SOIL (SAME SOIL REMOVED FOR BACKFILL).
6. WATER THE SOIL TO REMOVE AIR POCKETS AND FILL THE REST OF THE HOLE WITH THE REMAINING SOIL.

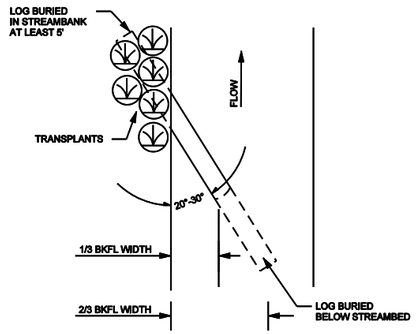
CROSS SECTION VIEW OF CONTAINER PLANTING

FARM PATH

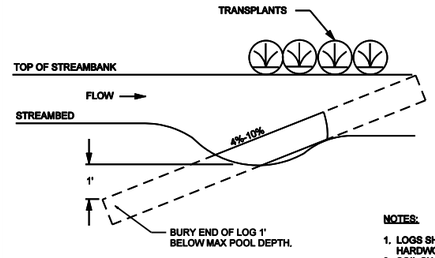


CROSS SECTION VIEW

LOG VANE



PLAN VIEW



PROFILE VIEW

NOTES:
1. LOGS SHOULD BE AT LEAST 12" INCHES IN DIAMETER, RELATIVELY STRAIGHT, HARDWOOD, AND RECENTLY HARVESTED.
2. SOIL SHOULD BE COMPACTED WELL AROUND BURIED PORTIONS OF LOG.
3. TRANSPLANTS ARE PLACED ALONG THE TOP OF THE BANK OVER THE BURIED LOG VANE TO PROTECT AGAINST EROSION DURING HIGH FLOWS.

PROJECT REFERENCE NO.	SHEET NO.
0214R	2-B

PROJECT ENGINEER

THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY:

KEVIN L. TWEEDY
027337
AUGUST 26, 2005

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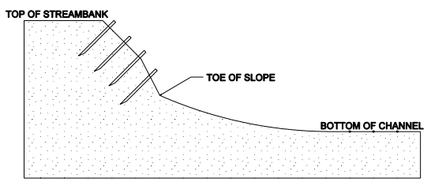
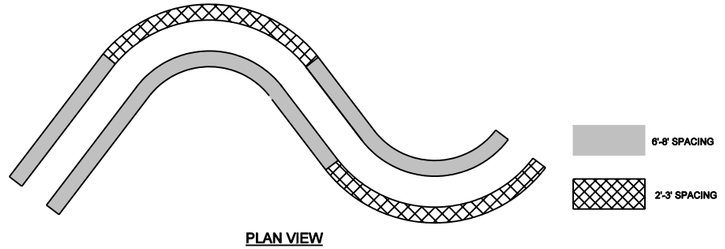
LIVE STAKING SPECIFICATION

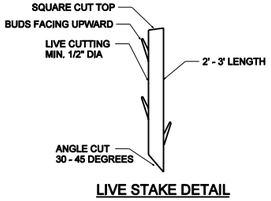


CROSS SECTION VIEW

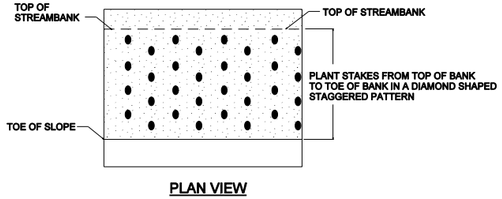
NOTES:
1. STAKES SHOULD BE CUT AND INSTALLED ON THE SAME DAY.
2. DO NOT INSTALL STAKES THAT HAVE BEEN SPLIT.
3. STAKES MUST BE INSTALLED WITH BUDS POINTING UPWARDS.
4. STAKES SHOULD BE INSTALLED PERPENDICULAR TO BANK.
5. STAKES SHOULD BE 1/2 TO 2 INCHES IN DIAMETER AND 2 TO 3 FT LONG.
6. STAKES SHOULD BE INSTALLED LEAVING 1/5 OF STAKE ABOVE GROUND.



PLAN VIEW

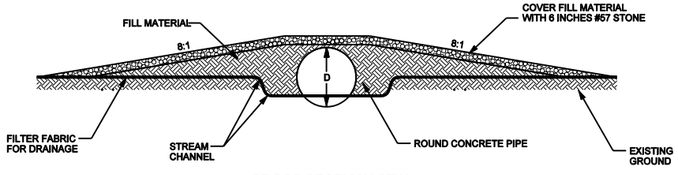


LIVE STAKE DETAIL

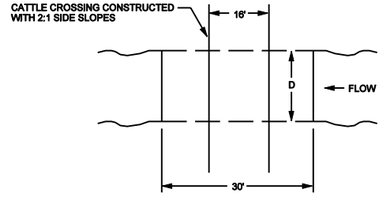


PLAN VIEW

PERMANENT STREAM CROSSING



CROSS SECTION VIEW



PLAN VIEW

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2/26/03

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0214R	4

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APRIL 4, 2006

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NAD 83

REBAR & CAP
2214423.21 N
581084.25 E
120.91 ELEV.

REBAR & CAP
2214754.00 N
581425.53 E
106.18 ELEV.

BEGIN CONSTRUCTION
STA 10+00.00

10+00
11+00
12+00
13+00
14+00
15+00
16+00

PHOTO POINT
#1

PHOTO POINT
#2

PHOTO POINT
#3

MATCHLINE SHEET 5 STA 16+00.00

CHANNEL BLOCK

COX SITE
AS-BUILT

30 0 30 60
SCALE (FT)

4/12/2006
I:\0214R\Design\as-built\0214R_EBX_asb_4.dgn

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0214R	5

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NAD 83

MATCHLINE SHEET 4 STA 16+00.00

MATCHLINE SHEET 6 STA 24+50.00

REBAR & CAP
2214923.88 N
581689.62 E
104.60 ELEV.

PHOTO POINT
#4

PHOTO POINT
#5

PHOTO POINT
#6

X-SECTION 1
STA 19+58.69

X-SECTION 2
STA 19+98.20

17+00
18+00
19+00
20+00
21+00
22+00
23+00
24+00

FILL EXISTING CHANNEL

CHANNEL BLOCK

COX SITE
AS-BUILT

30 0 30 60
SCALE (FT)

2/26/03

4/12/2006
C:\0214R\Design\as-built\0214R_EBX_asb_5.dgn

2/26/03

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0214R	6

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NAD 83

MATCHLINE SHEET 5 STA 24+50.00

MATCHLINE SHEET 7 STA 33+00.00

25+00

27+00

28+00

29+00

30+00

31+00

32+00

33+00

A

A'

X-SECTION 3
STA 30+00.02

X-SECTION 4
STA 31+31.12

PHOTO POINT
#7

REBAR & CAP
2214981.00 N
582182.92 E
100.74 ELEV.

100

001

CE

ARMOR PIPE CROSSING
WITH #57 STONE

ARMOR UPSTREAM
AND DOWNSTREAM
FACE OF FILL SLOPE
WITH CLASS B RIP RAP

EL=105.5'

CL

106.00

103.00

100.00

0.00

50.00

80.00

EL=100.6

EL=100.0

SECTION A-A'

FILL EXISTING CHANNEL

COX SITE
AS-BUILT

30 0 30 60
SCALE (FT)

4/4/2006
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NAD 83

MATCHLINE SHEET 6 STA 33+00.00

PHOTO POINT #8

X-SECTION 6 STA 40+33.63

X-SECTION 5 STA 38+52.46

MATCHLINE SHEET 8 STA 41+00.00

FILL EXISTING CHANNEL

CHANNEL BLOCK

COX SITE AS-BUILT

30 0 30 60
SCALE (FT)

4/12/2006
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2/26/03

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0214R	8

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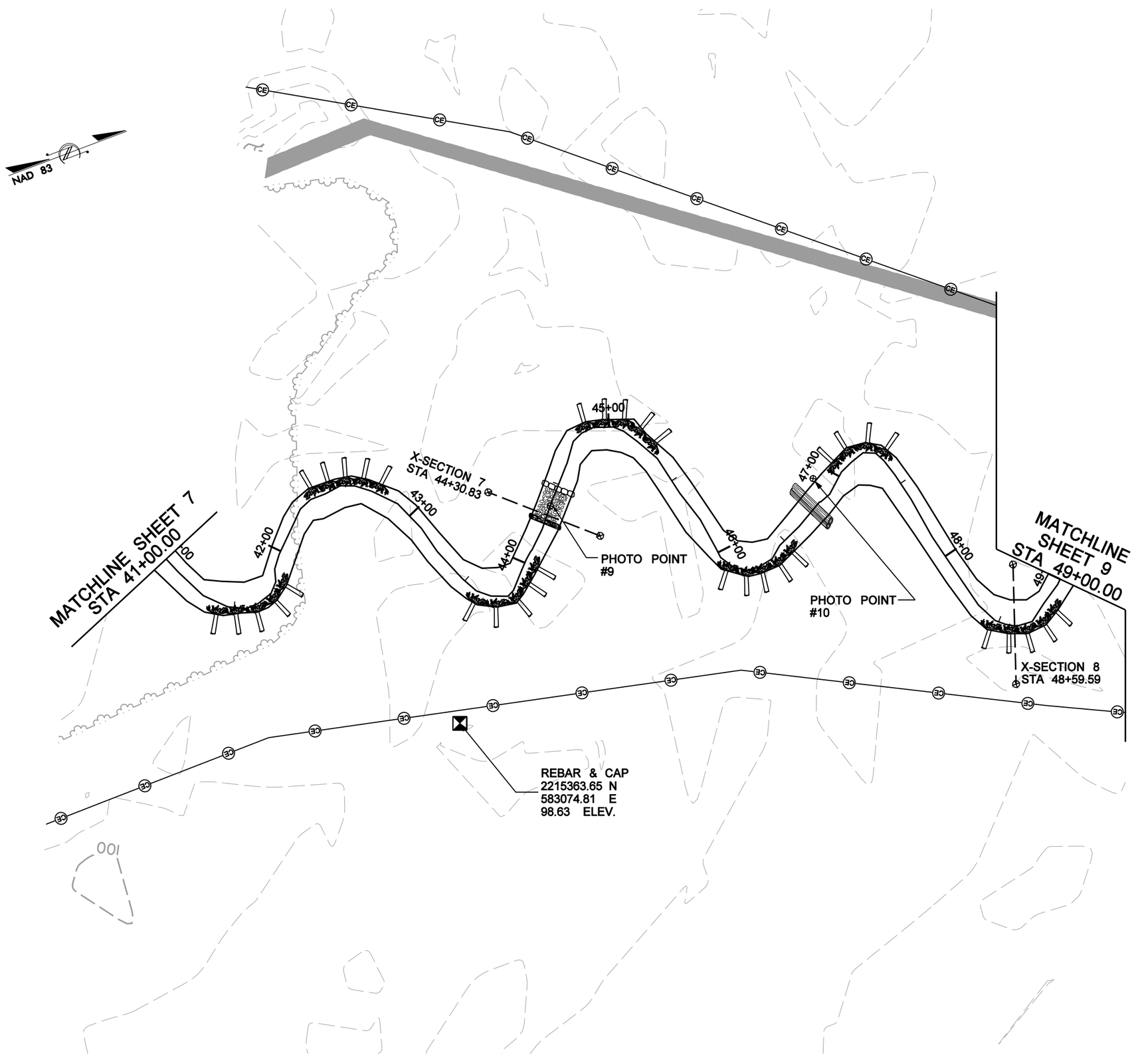

FILL EXISTING CHANNEL

COX SITE
AS-BUILT

30 0 30 60
SCALE (FT)

4/12/2006
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BUCK PROJECT REFERENCE NO.	SHEET NO.
0214R	9

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Fax: 919-463-5490

NAD 83

MATCHLINE SHEET 8 STA 49+00.00

MATCHLINE SHEET 10 STA 57+00.00

PHOTO POINT #11

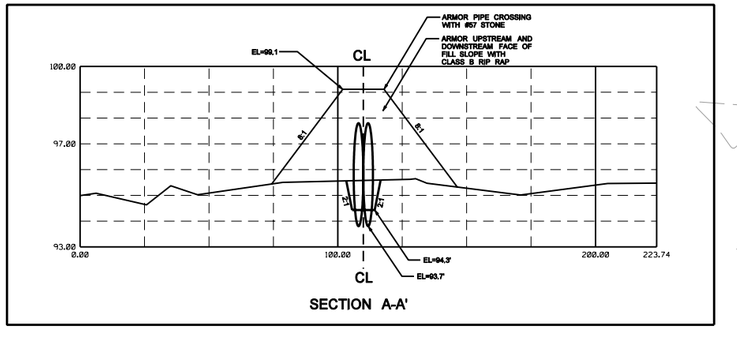
PHOTO POINT #12

PHOTO POINT #13

PHOTO POINT #14

49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00

A A'



SECTION A-A'

FILL EXISTING CHANNEL

CHANNEL BLOCK

COX SITE AS-BUILT

30 0 30 60
SCALE (FT)

4/12/2006
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0214R	10

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Fax: 919-463-5490

NAD 83

REBAR & CAP
2215325.43 N
584313.32 E
93.99 ELEV.

REBAR & CAP
2215548.93 N
584050.65 E
93.22 ELEV.

PHOTO POINT
#15

X-SECTION 10
STA 61+26.02

X-SECTION 9
STA 58+15.58

X-SECTION 11
STA 64+71.98

MATCHLINE SHEET 9 STA 57+00.00

MATCHLINE SHEET 11
STA 65+00.00

FILL EXISTING CHANNEL

CHANNEL BLOCK

COX SITE
AS-BUILT

30 0 30 60
SCALE (FT)

2/26/03

4/10/2006
C:\0214R\Design\as-built\0214R_EBX_asb_10.dgn

2/26/03

BUCK PROJECT REFERENCE NO.	SHEET NO.
0214R	11

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A CERTIFIED DOCUMENT

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

NAD 83

REBAR & CAP
2215622.36 N
584609.39 E
91.54 ELEV.

PHOTO POINT
#16

MATCHLINE SHEET 10
STA 65+00.00

65+00

X-SECTION 12
STA 65+21.43

66+00

67+00

68+00

PHOTO POINT
#17

X-SECTION 13
STA 68+92.20

69+00

70+00

71+00

REBAR & CAP
2215740.31 N
585002.58 E
90.57 ELEV.

X-SECTION 14
STA 73+09.46

73+00

72+00

PHOTO POINT
#18

FARM PATH

MATCHLINE SHEET 12
STA 74+00.00

74

COX SITE
AS-BUILT

30 0 30 60
SCALE (FT)

4/10/2006
I:\0214R\Design\as-built\0214R_EBX_asb_11.dgn

BUCK PROJECT REFERENCE NO.	SHEET NO.
0214R	12

PROJECT ENGINEER

THIS DOCUMENT
ORIGINALLY ISSUED AND
SEALED BY:

KEVIN L. TWEEDY
027337
APRIL 4, 2006

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BUCK ENGINEERING
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NAD 83

MATCHLINE SHEET 11
STA 74+00.00

MATCHLINE SHEET 13
STA 81+50.00

75+00
76+00
77+00
78+00
79+00
80+00
81+00

X-SECTION 15
STA 81+45.73

FARM PATH

REBAR & CAP
2216388.37 N
585260.18 E
89.30 ELEV.

FILL EXISTING CHANNEL

COX SITE
AS-BUILT

30 0 30 60
SCALE (FT)

2/26/03

4/12/2006
I:\0214R\Design\as-built\0214R_EBX_asb_12.dgn

2/26/03

BUCK PROJECT REFERENCE NO.	SHEET NO.
0214R	13

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Cary, North Carolina 27511
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Fax: 919-463-5490

NAD 83

FARM PATH

MATCHLINE SHEET 12
STA 81+50.00

X-SECTION 16
STA 82+06.90

82+00
83+00
84+00
85+00
86+00

PHOTO POINT
#19

PHOTO POINT
#20

END CONSTRUCTION
STA 86+42.56

REBAR & CAP
2216851.22 N
585598.33 E
88.53 ELEV.

WLB

CHANNEL BLOCK

FILL EXISTING CHANNEL

COX SITE
AS-BUILT

30 0 30 60
SCALE (FT)

4/4/2006
c:\0214R\Design\as-built\0214R_EBX_asb_13.dgn

2/26/03

BUCK PROJECT REFERENCE NO.	SHEET NO.
0214R	14

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NAD 83

MATCHLINE SHEET 15

VEGETATION PLOT #5
VEGETATION PLOT #7
VEGETATION PLOT #8
VEGETATION PLOT #6
VEGETATION PLOT #11
VEGETATION PLOT #10
VEGETATION PLOT #9
MANUAL WELL #3
AUTOMATIC WELL #3
MANUAL WELL #2
AUTOMATIC WELL #1
VEGETATION PLOT #1
VEGETATION PLOT #2
VEGETATION PLOT #3
VEGETATION PLOT #4

CUT LIMITS
99.5
100.0
100.5
101.0
102.5
103.5
104.5
105.5

FILL EXISTING CHANNEL

CHANNEL BLOCK

GRADING PLAN / MONITORING OVERVIEW

100 50 0 100 200
SCALE (FT)

4/12/2006
10:21:41
K:\Projects\0214R\Design\as-built\0214R_EBX_asb_14.dgn

2/26/03

BUCK PROJECT REFERENCE NO.	SHEET NO.
0214R	15

PROJECT ENGINEER

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Fax: 919-463-5490

NAD 83

ADJACENT PROPERTY CURRENTLY
OWNED BY EBX-NEUSE I,LLC

VEGETATION PLOT #21

AUTOMATIC WELL #5

VEGETATION PLOT #13

FILL LIMITS

VEGETATION PLOT #12

VEGETATION PLOT #14

MATCHLINE SHEET 14

FARM PATH

MANUAL WELL #8

VEGETATION PLOT #16

VEGETATION PLOT #15

CUT LIMITS

VEGETATION PLOT #18

AUTOMATIC WELL #7

VEGETATION PLOT #17

MANUAL WELL #6

VEGETATION PLOT #20

VEGETATION PLOT #19

FARM PATH

FILL EXISTING CHANNEL

CHANNEL BLOCK

GRADING PLAN / MONITORING OVERVIEW

100 50 0 100 200
SCALE (FT)

4/12/2006
C:\0214R\Design\as-built\0214R_EBX_asb_15.dgn

2/26/03

BUCK PROJECT REFERENCE NO.	SHEET NO.
0214R	16

PROJECT ENGINEER

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NAD 83

MATCHLINE SHEET 17

PLANTING ZONES

- RIVERINE WETLAND
- NON-RIVERINE WETLAND
- MINIMUM 50' STREAM RESTORATION BUFFER
- MINIMUM 50' STREAM ENHANCEMENT BUFFER

NOTE:
SEE VEGETATION SELECTION TABLES SHEET 1-A TO DETERMINE SPECIES COMPOSITION OF DIFFERENT PLANTING ZONES

WETLAND OVERVIEW

100 50 0 100 200
SCALE (FT)

4/12/2006
I:\0214R\Design\as-built\0214R_EBX_asb_16.dgn

2/26/03

BUCK PROJECT REFERENCE NO.	SHEET NO.
0214R	17

PROJECT ENGINEER

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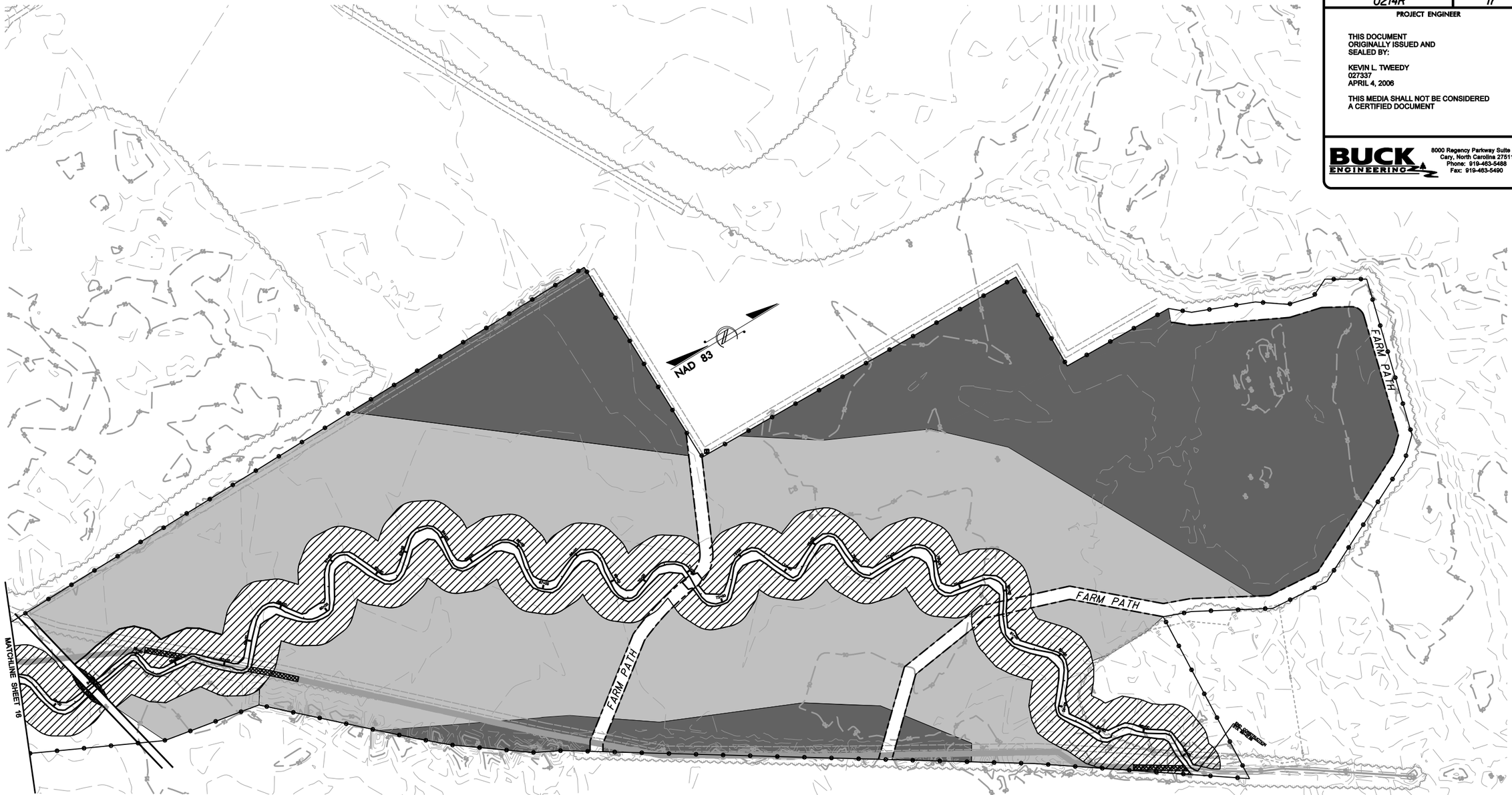


PLANTING ZONES

- RIVERINE WETLAND
- NON-RIVERINE WETLAND
- MINIMUM 50' STREAM RESTORATION BUFFER
- MINIMUM 50' STREAM ENHANCEMENT BUFFER

NOTE:
SEE VEGETATION SELECTION TABLES SHEET 1-A TO DETERMINE SPECIES COMPOSITION OF DIFFERENT PLANTING ZONES

WETLAND OVERVIEW

100 50 0 100 200
SCALE (FT)

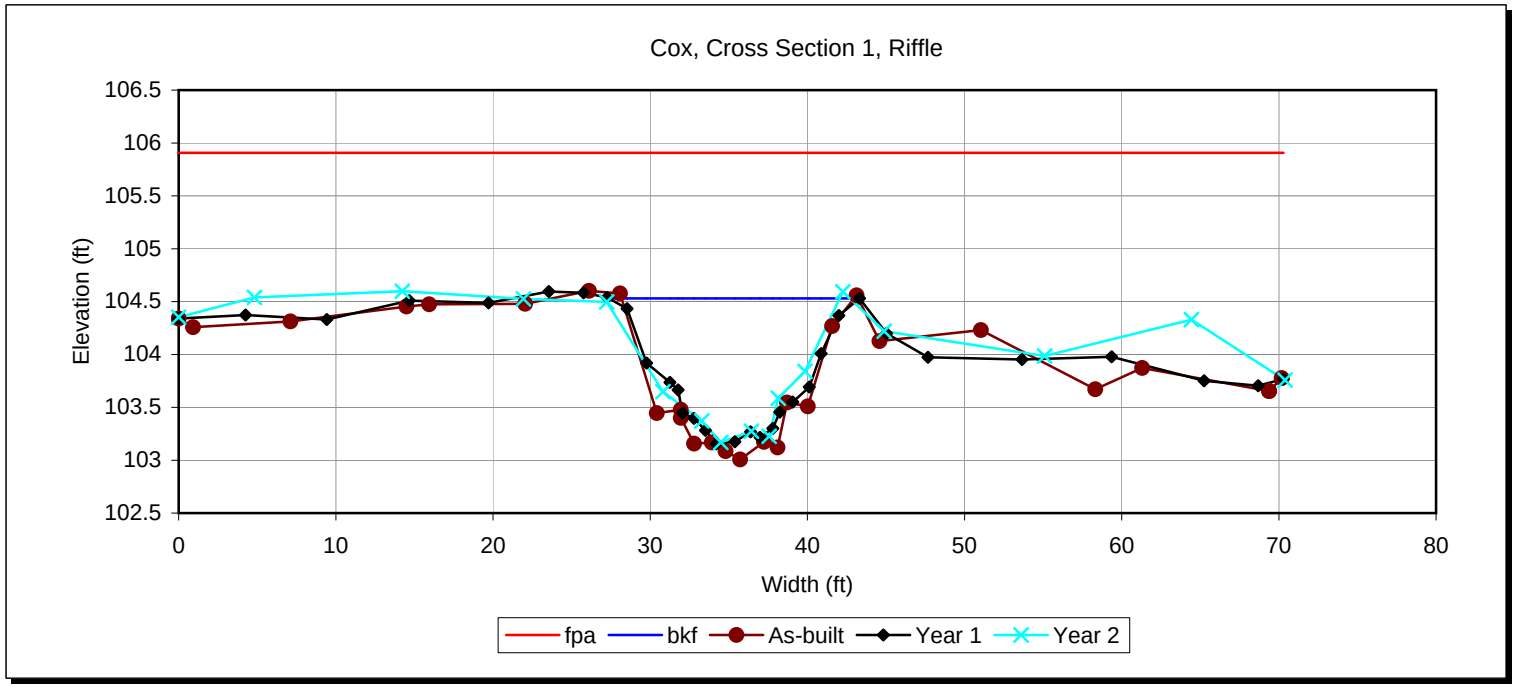
4/12/2006
c:\projects\0214R\design\as-built\0214R_EBX_asb_17.dgn

APPENDIX B

2007 Cross Section Data

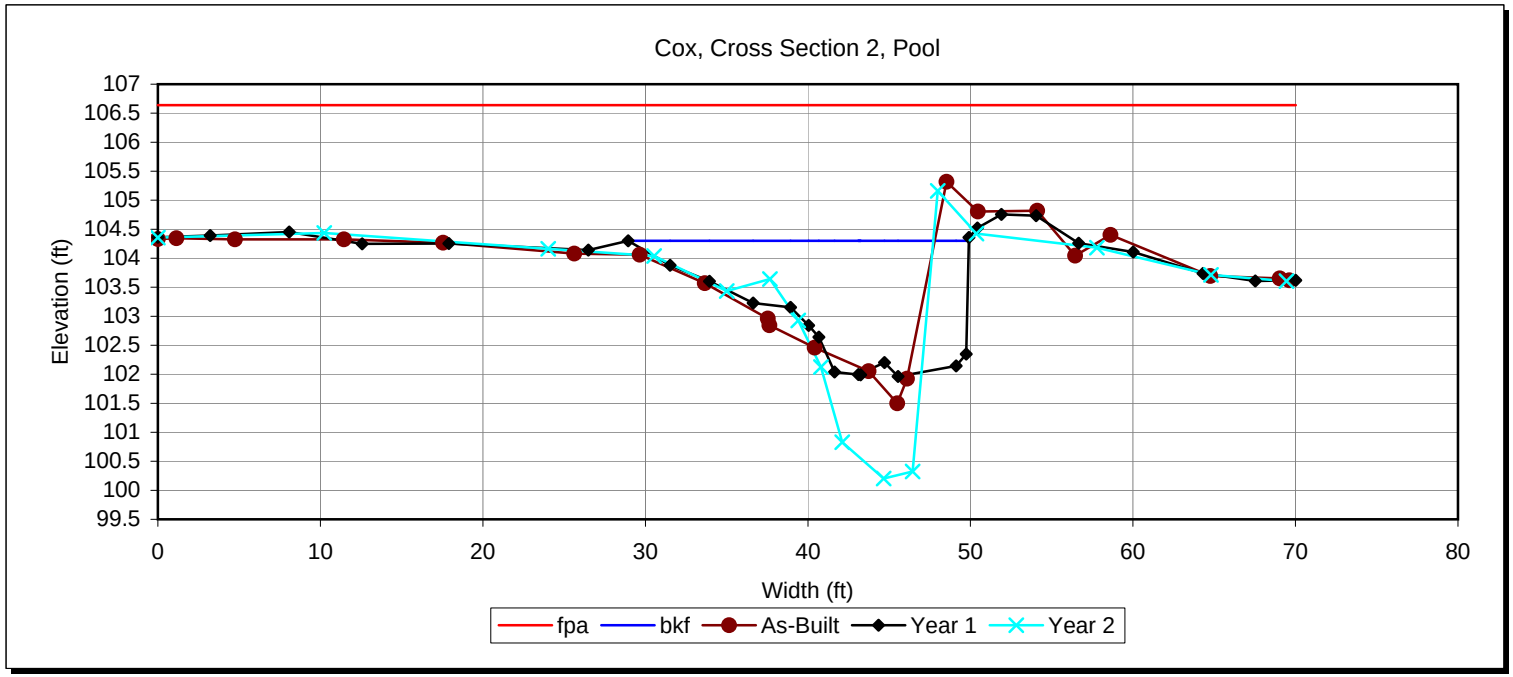
Looking at left bank.

Looking at right bank.



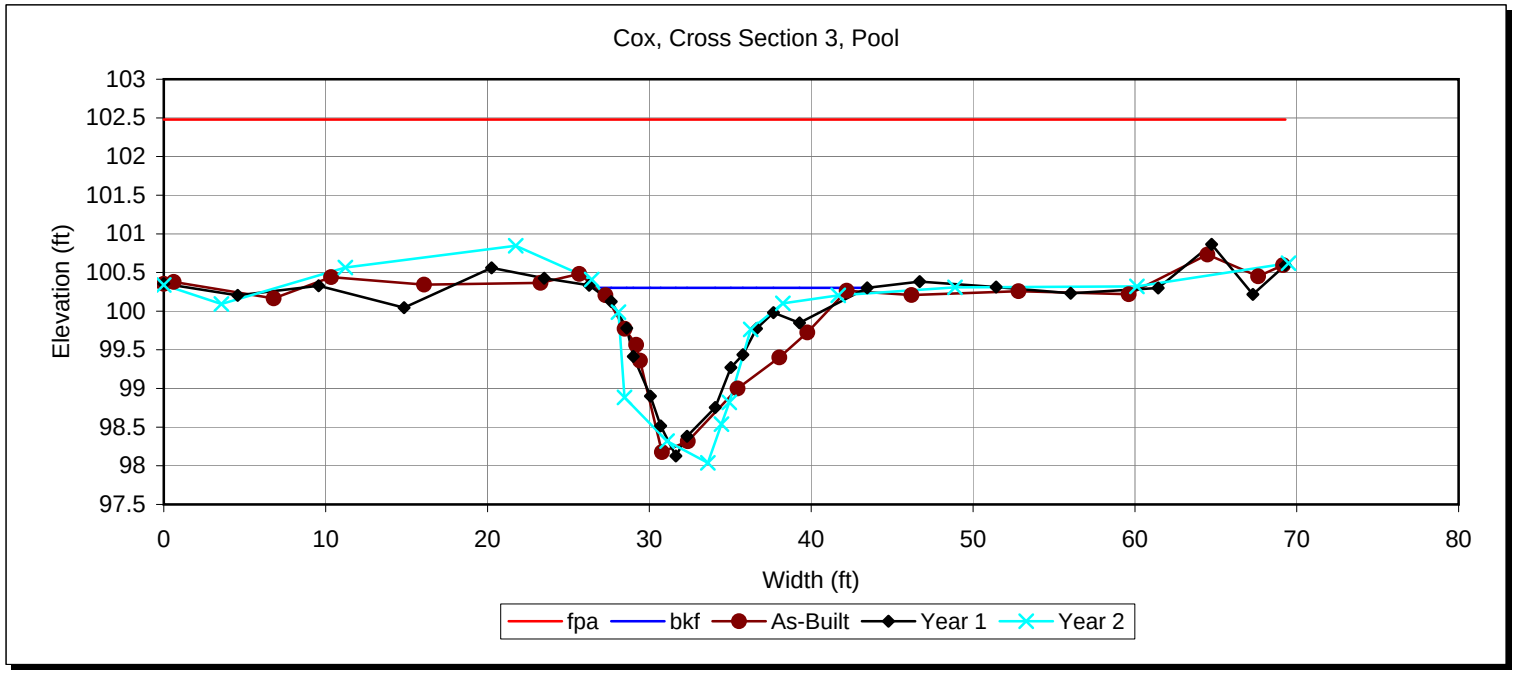
Looking at left bank.

Looking at right bank.



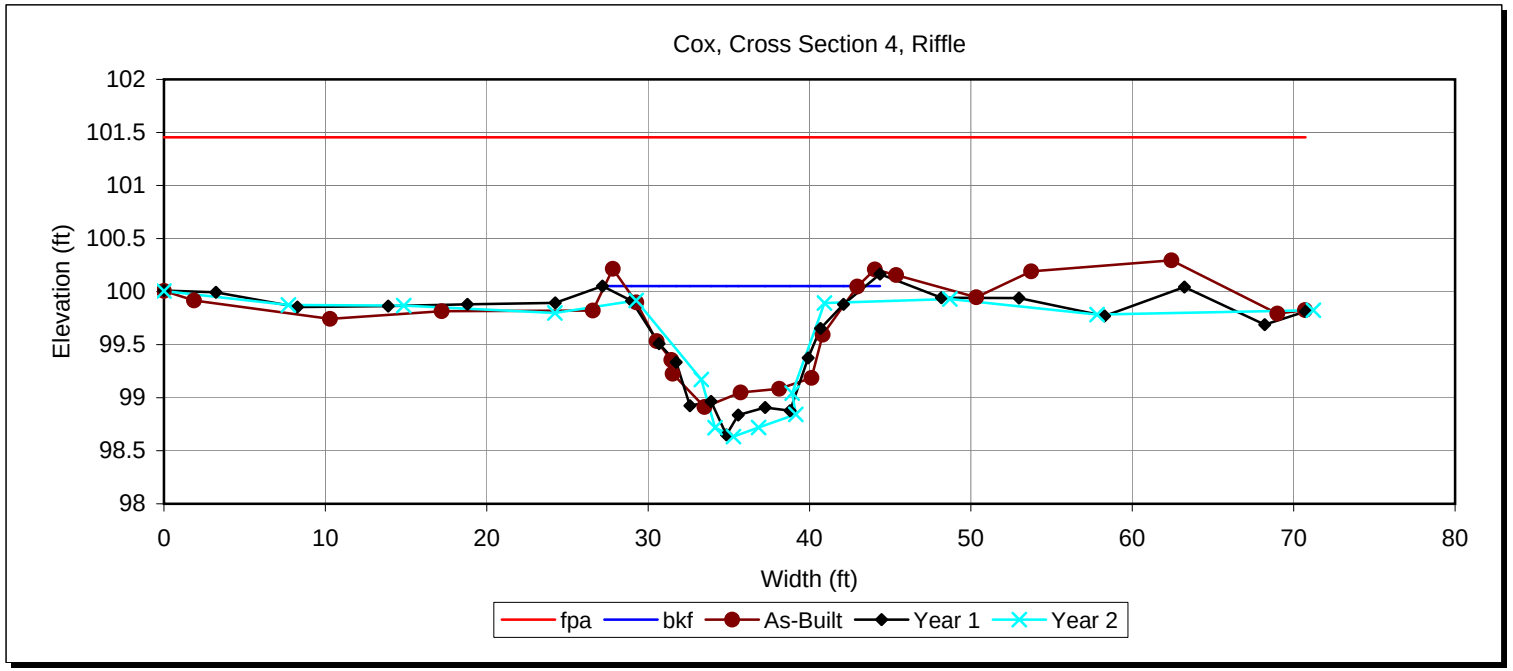
Looking at left bank.

Looking at right bank.



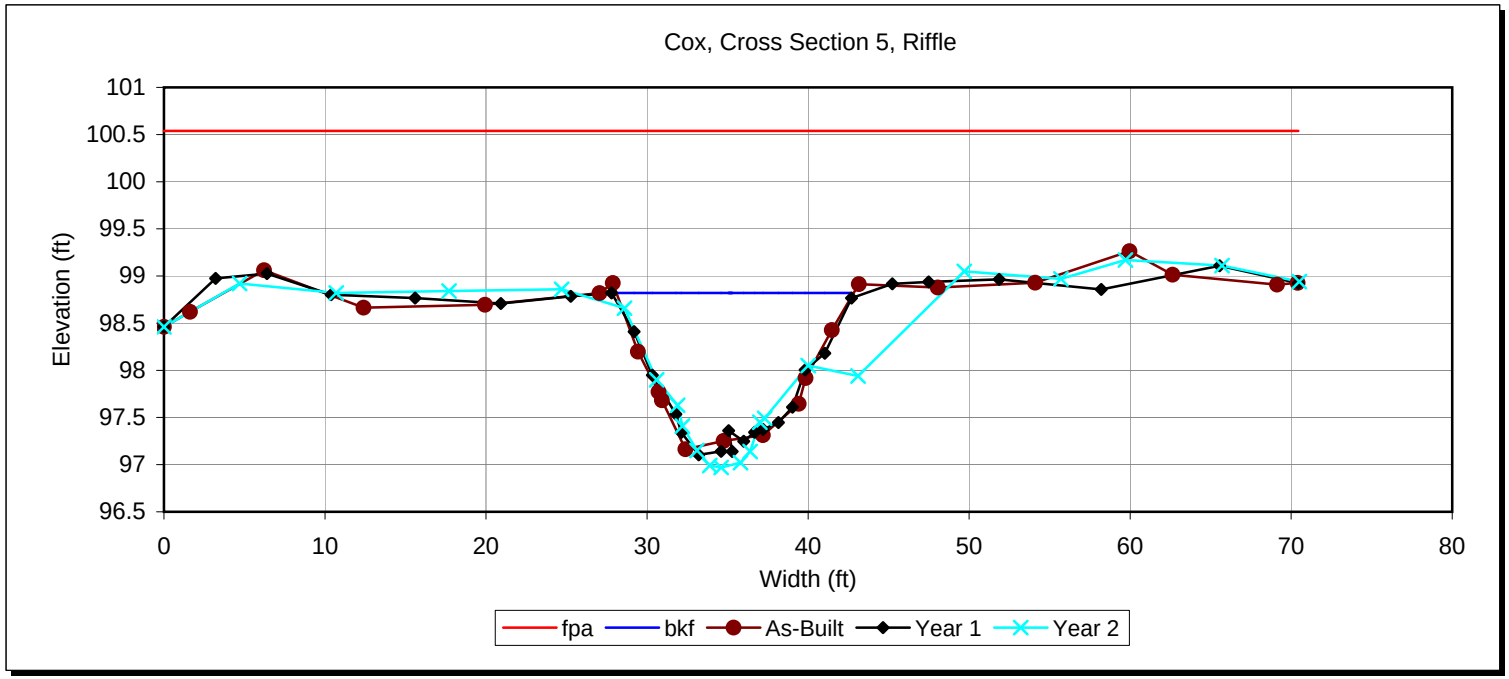
Looking at left bank.

Looking at right bank.



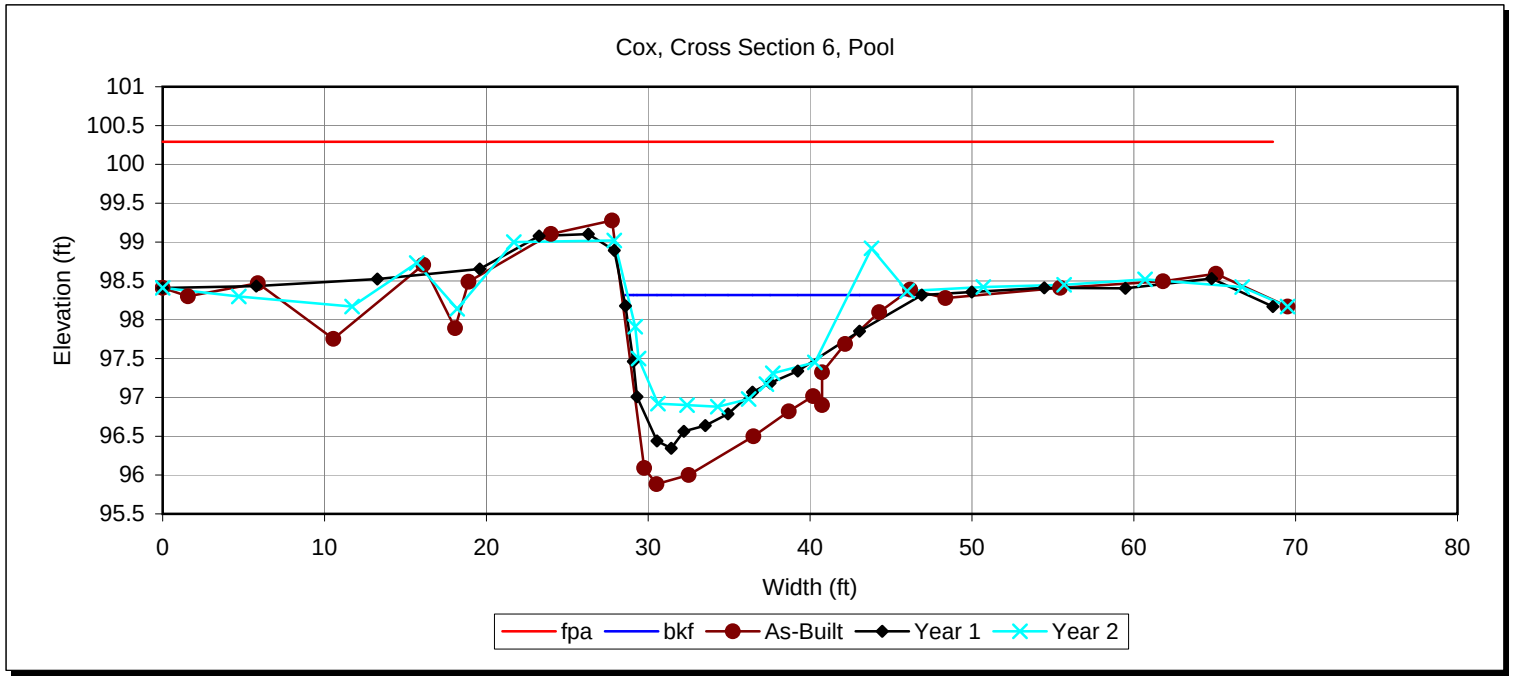
Looking at left bank.

Looking at right bank.



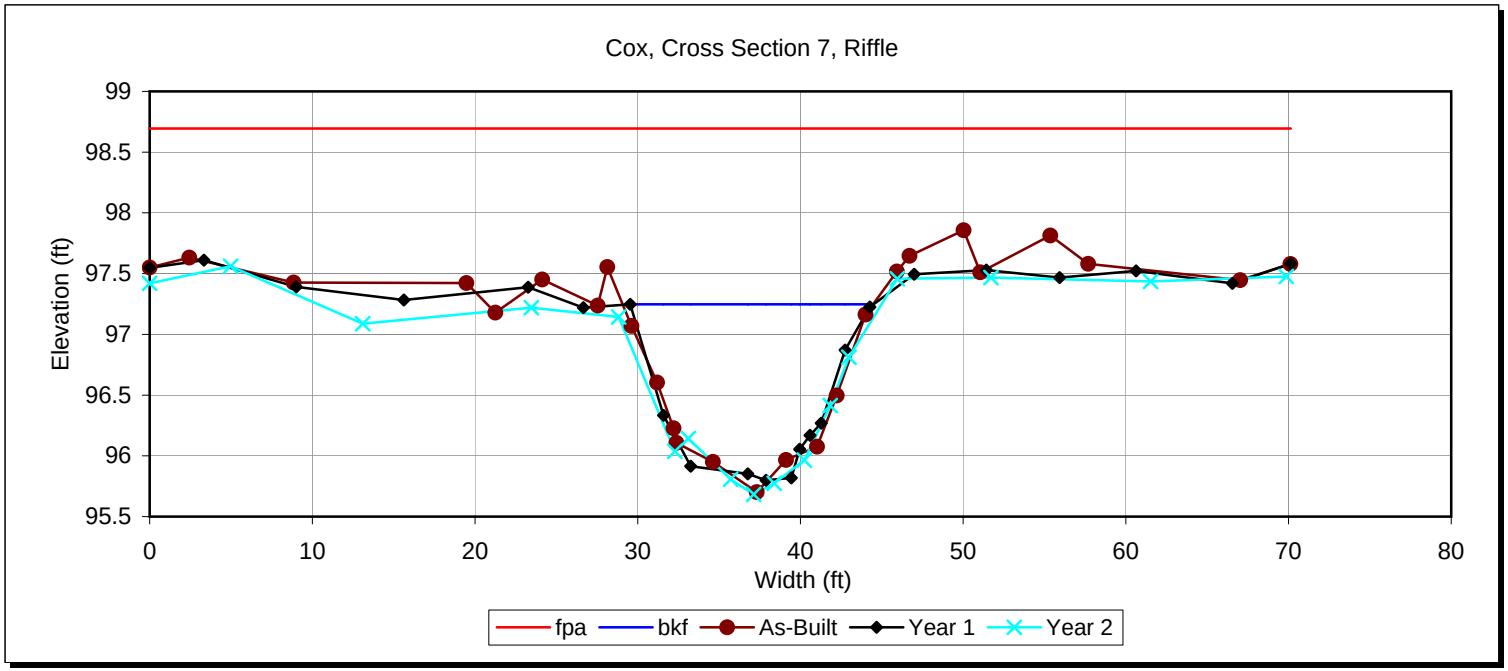
Looking at left bank.

Looking at right bank.



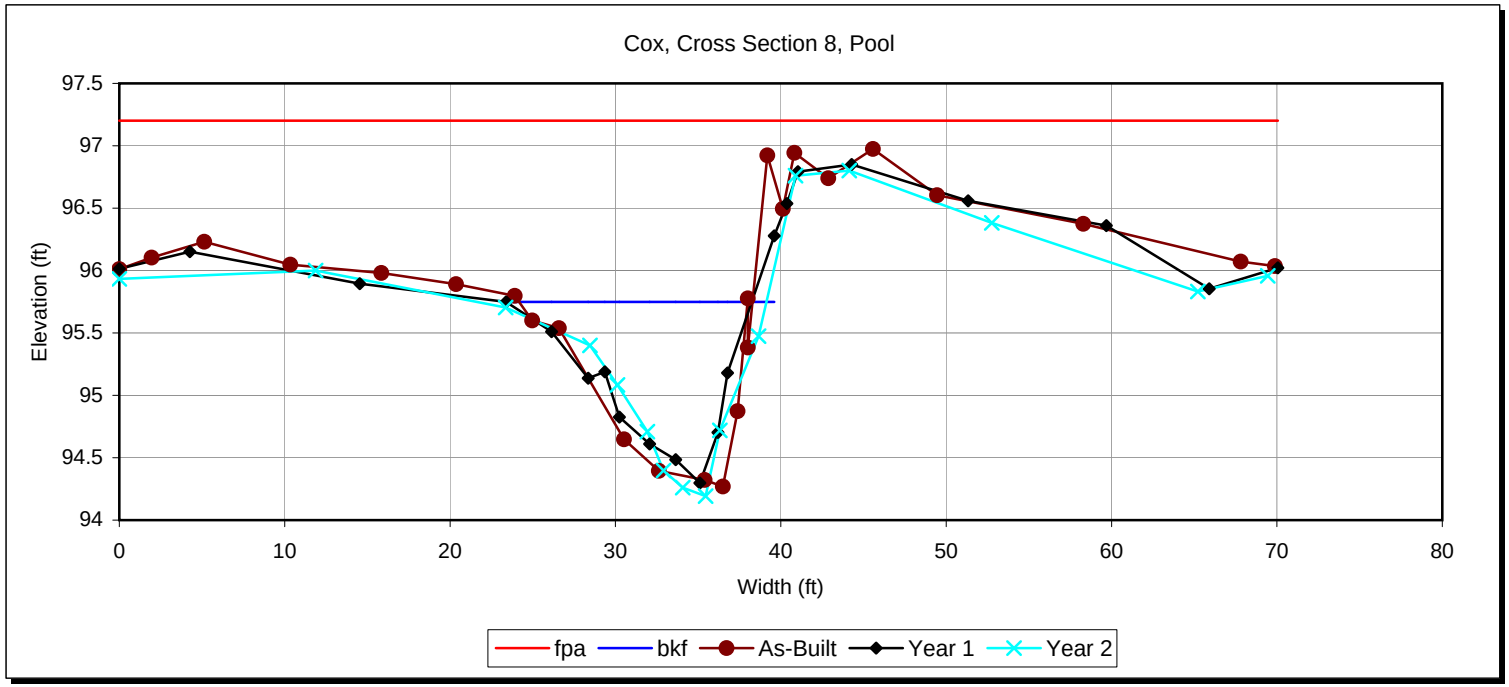
Looking at left bank.

Looking at right bank.



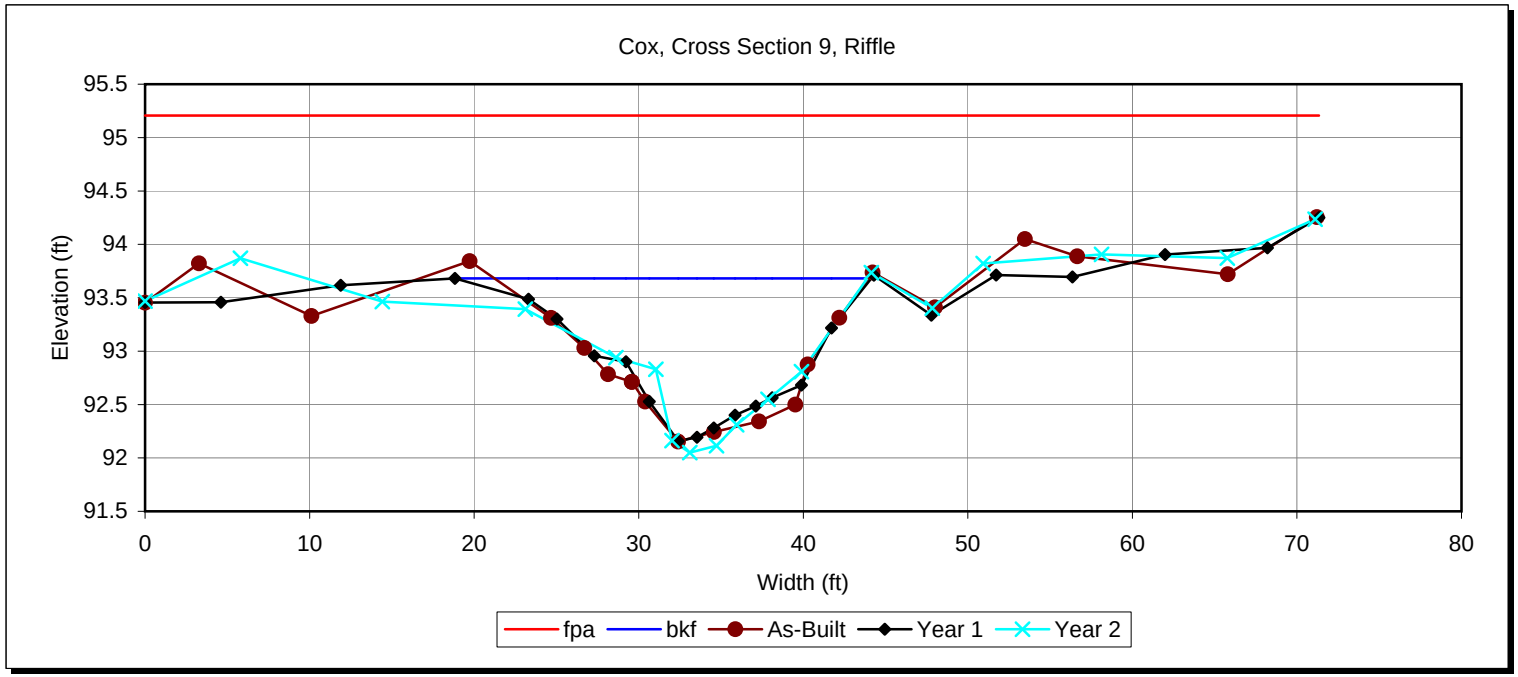
Looking at left bank.

Looking at right bank.



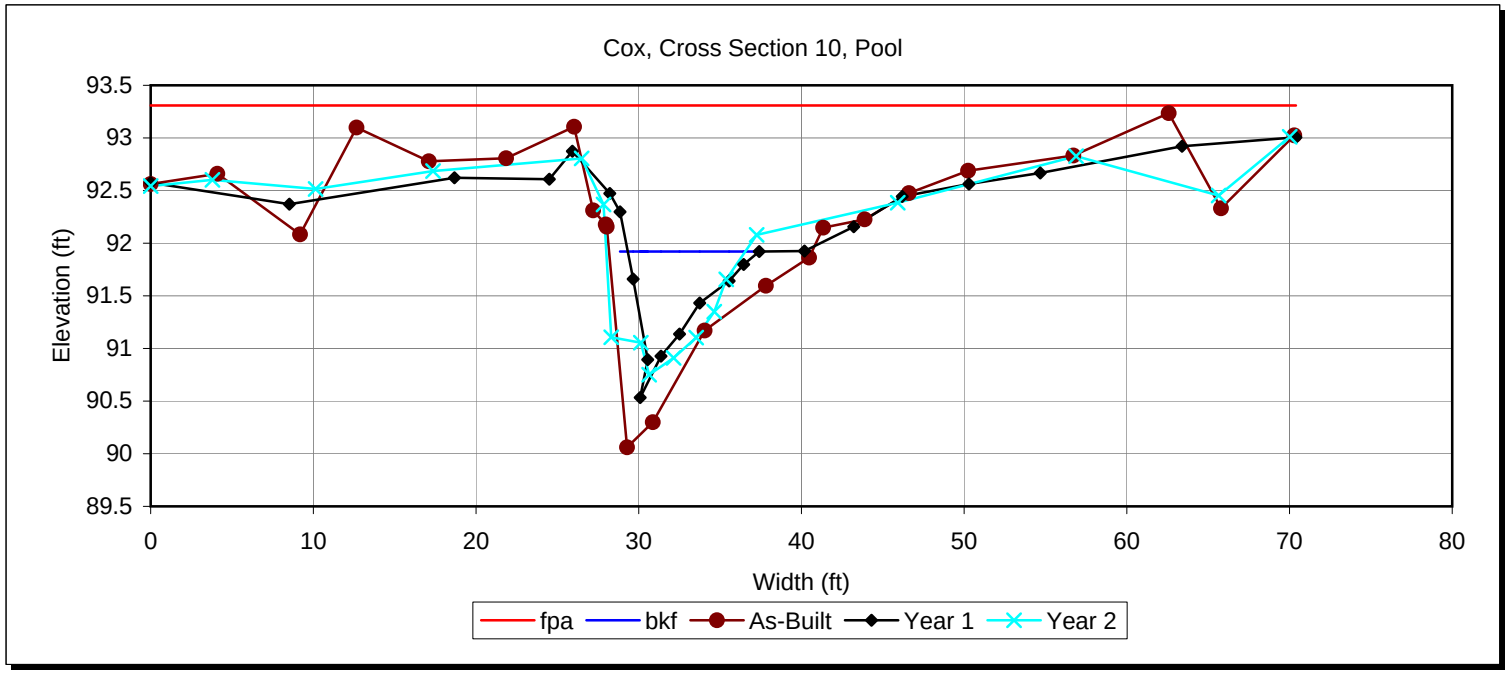
Looking at left bank.

Looking at right bank.



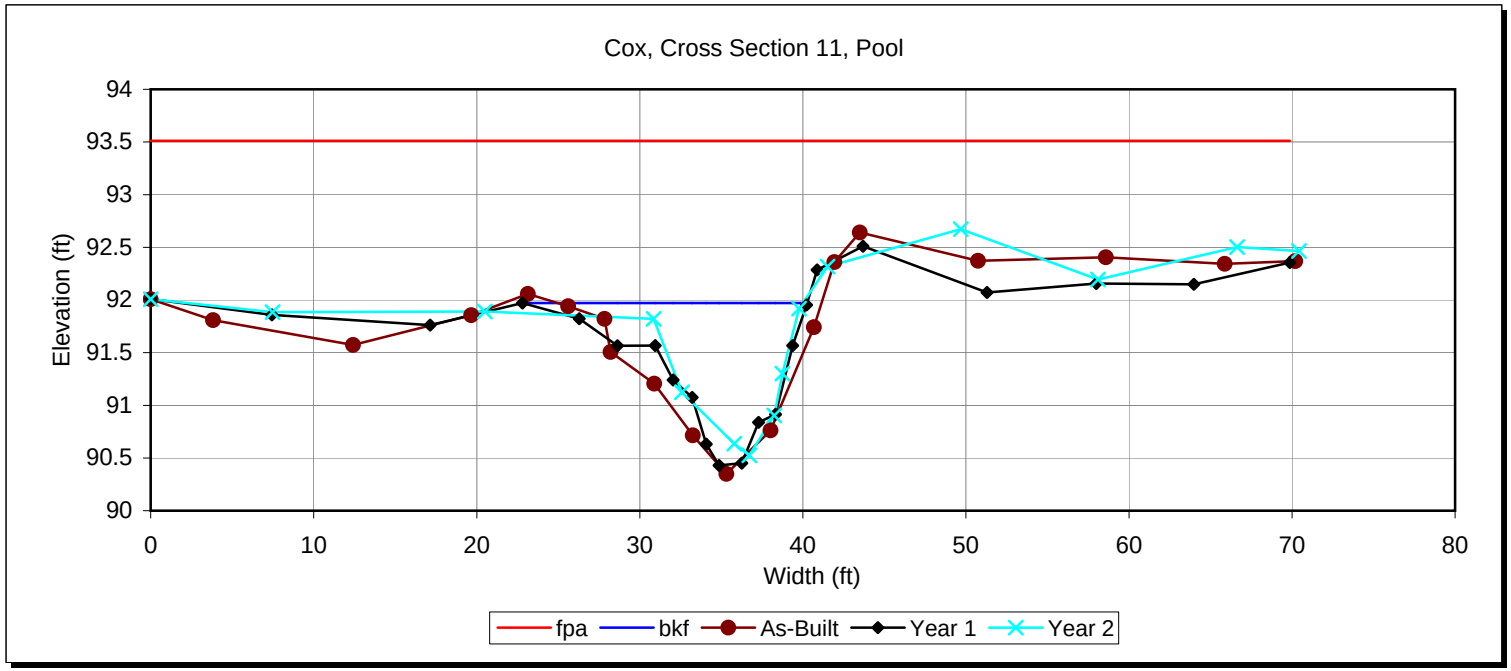
Looking at left bank.

Looking at right bank.



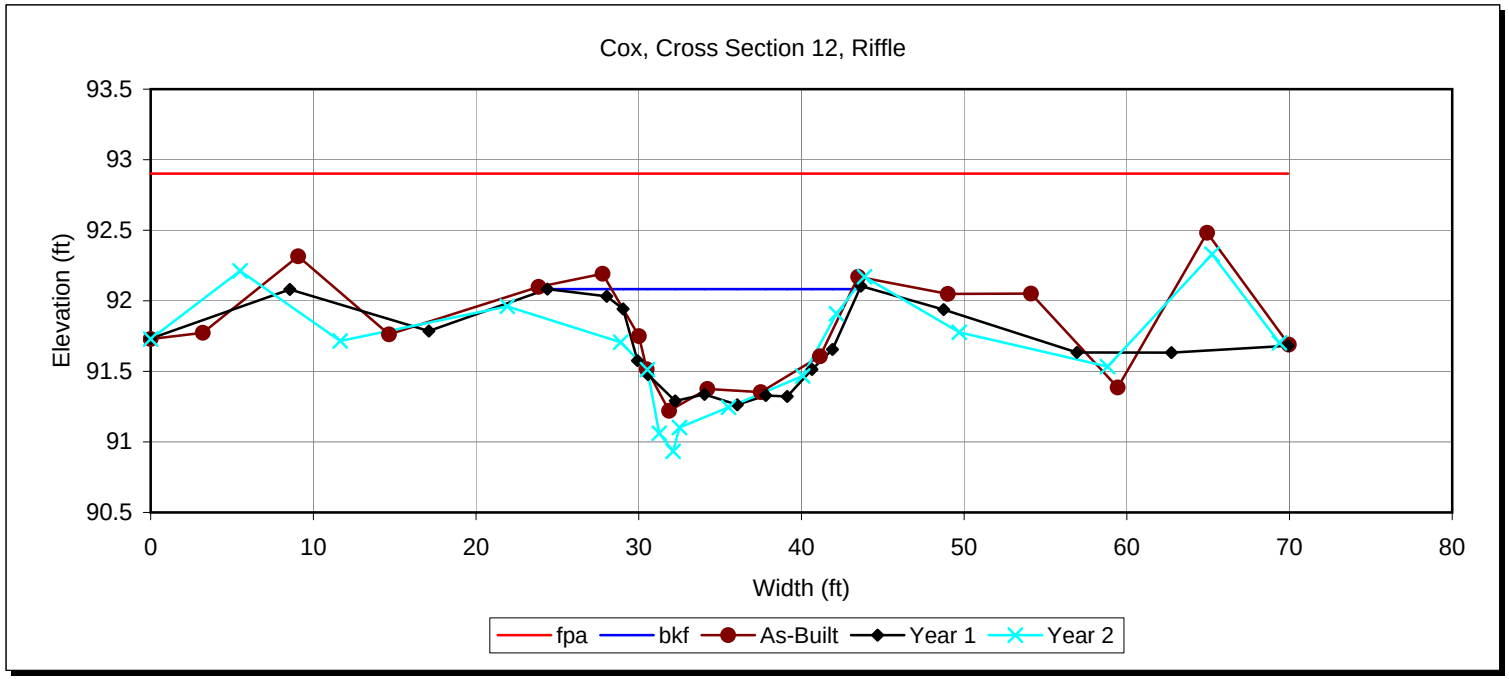
Looking at left bank.

Looking at right bank.



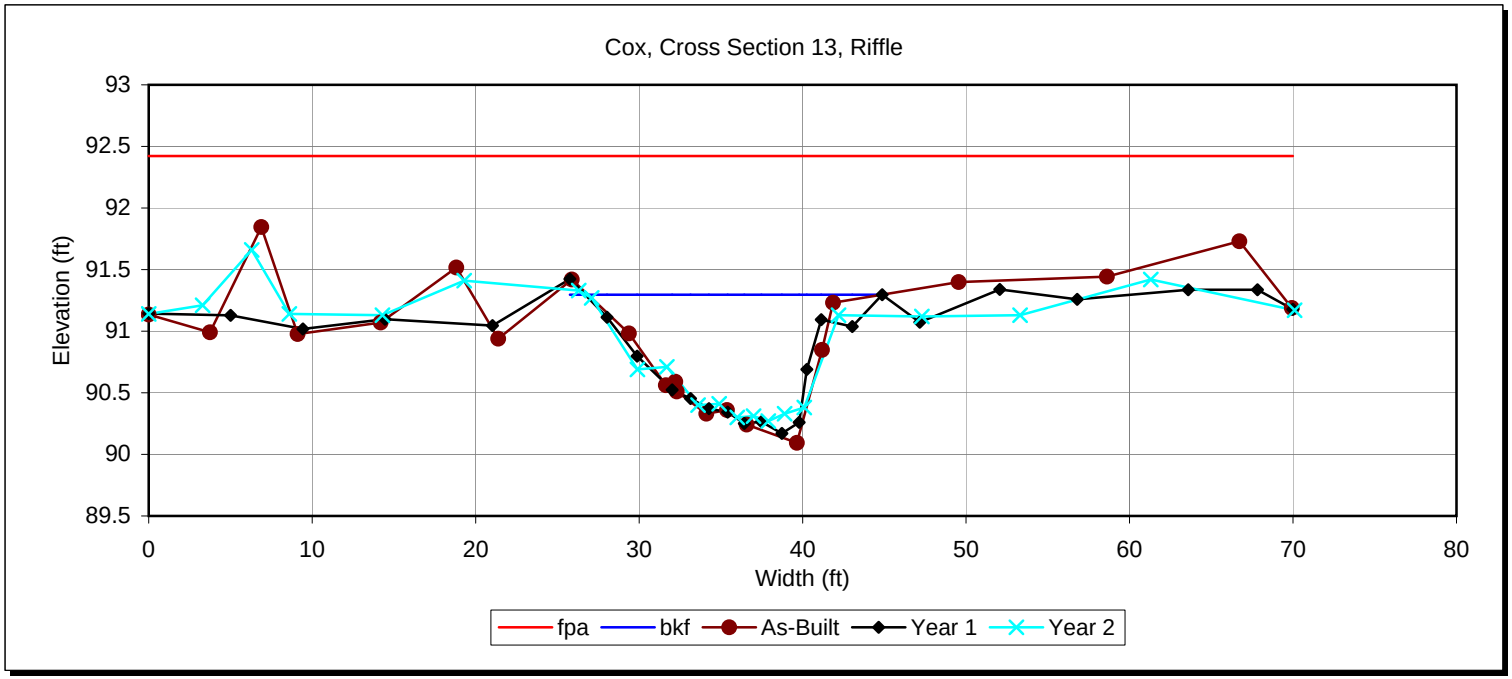
Looking at left bank.

Looking at right bank.



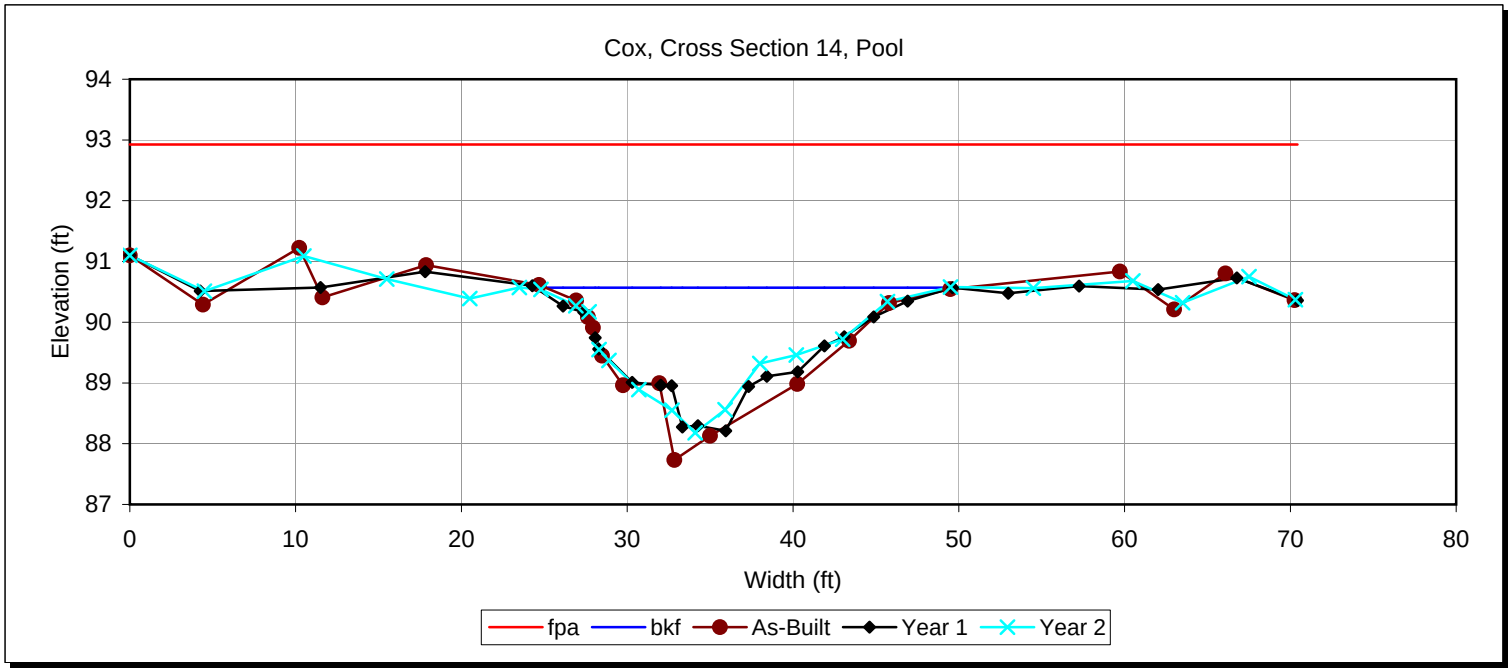
Looking at left bank.

Looking at right bank.

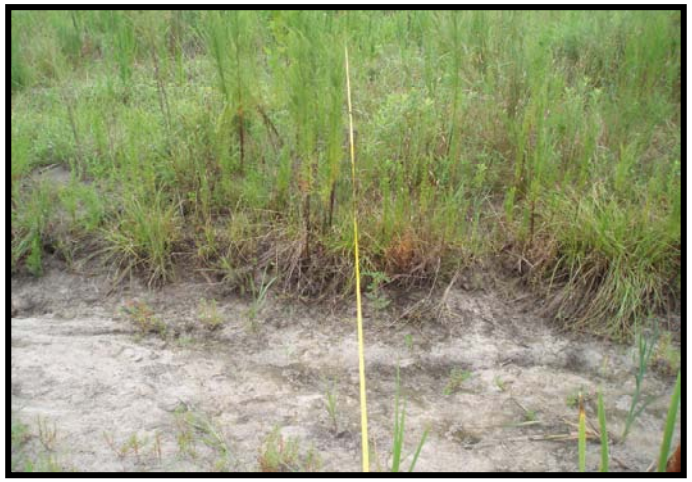


Looking at left bank.

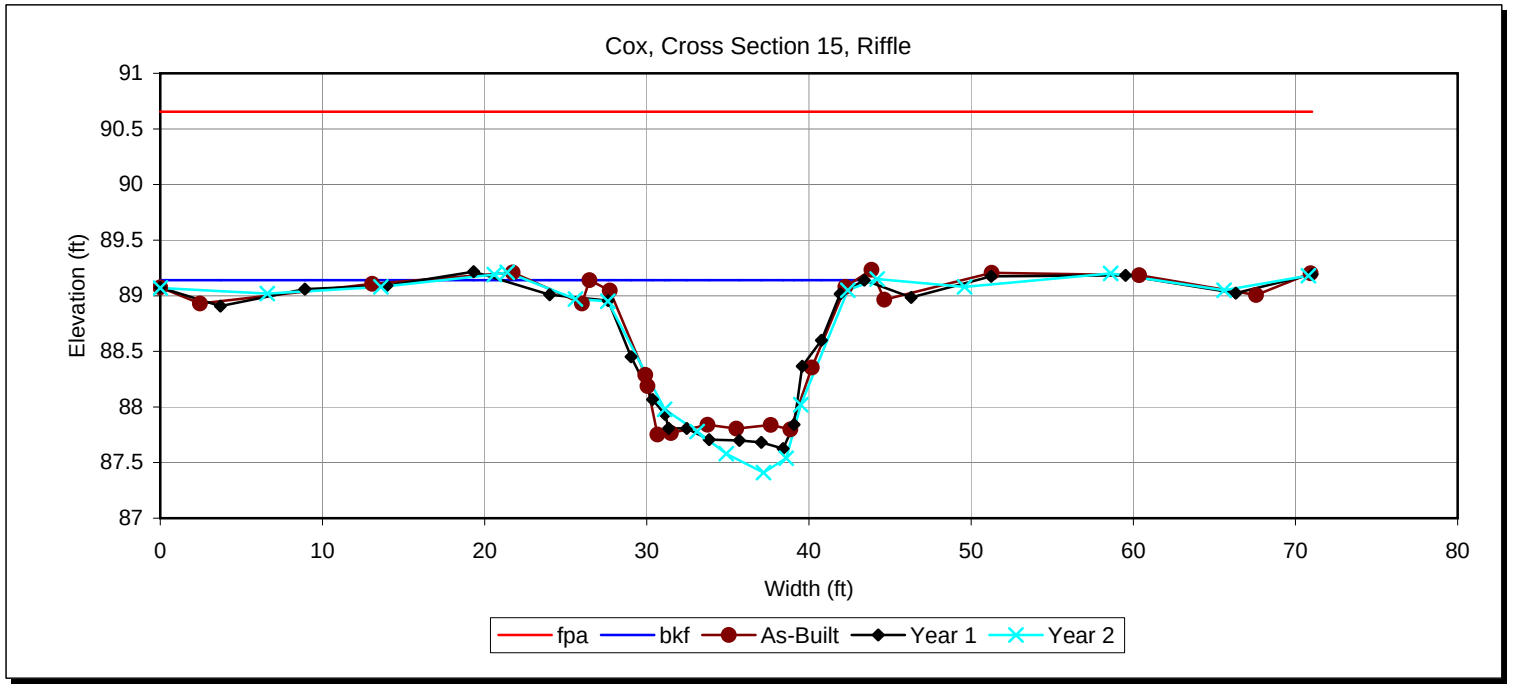
Looking at right bank.



Looking at left bank.

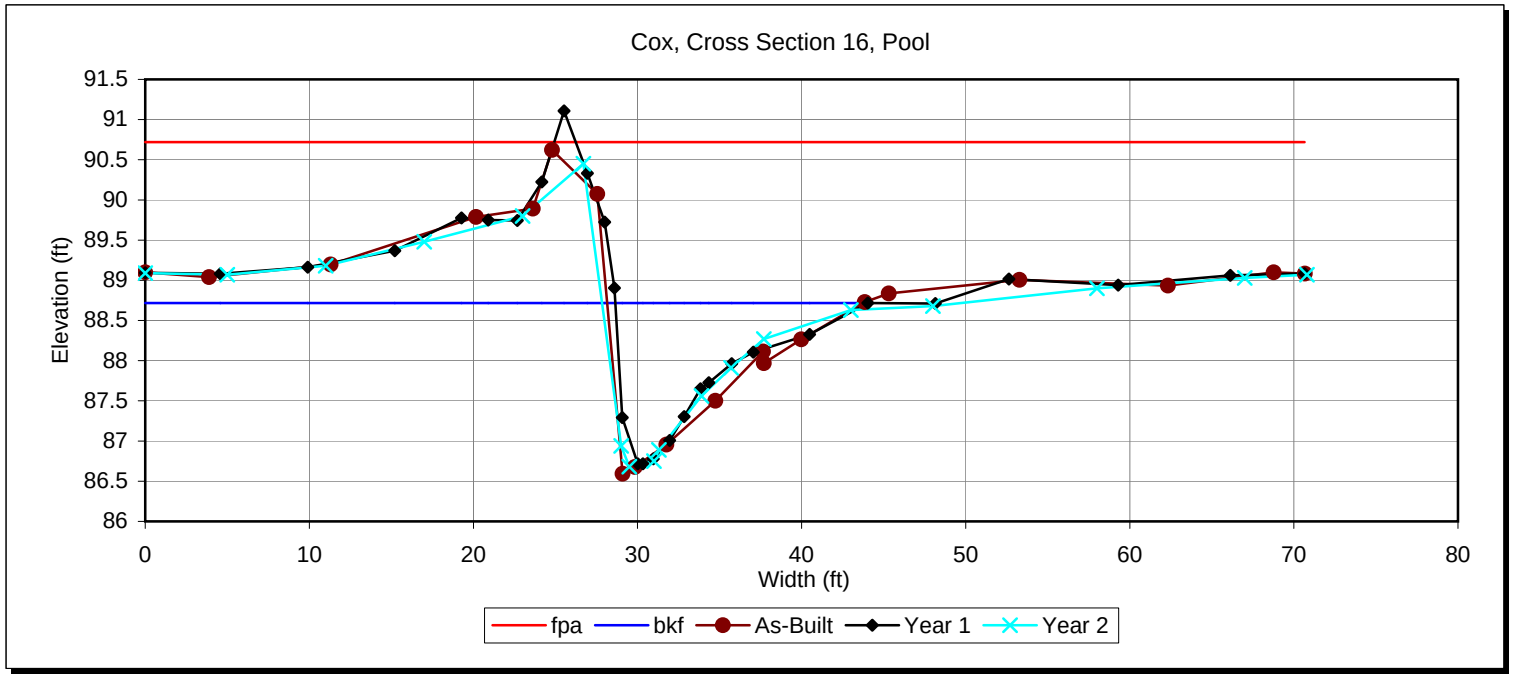


Looking at right bank.



Looking at left bank.

Looking at right bank.



APPENDIX C

2007 Gauge Data

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
1-Jan-2007	08:00:00						
1-Jan-2007	20:00:00						
2-Jan-2007	08:00:00						
2-Jan-2007	20:00:00						
3-Jan-2007	08:00:00						
3-Jan-2007	20:00:00						
4-Jan-2007	08:00:00						
4-Jan-2007	20:00:00						
5-Jan-2007	08:00:00						
5-Jan-2007	20:00:00						
6-Jan-2007	08:00:00						
6-Jan-2007	20:00:00						
7-Jan-2007	08:00:00						
7-Jan-2007	20:00:00						
8-Jan-2007	08:00:00						
8-Jan-2007	20:00:00						
9-Jan-2007	08:00:00						
9-Jan-2007	20:00:00						
10-Jan-2007	08:00:00						
10-Jan-2007	20:00:00						
11-Jan-2007	08:00:00						
11-Jan-2007	20:00:00						
12-Jan-2007	08:00:00						
12-Jan-2007	20:00:00						
13-Jan-2007	08:00:00						
13-Jan-2007	20:00:00						
14-Jan-2007	08:00:00						
14-Jan-2007	20:00:00						
15-Jan-2007	08:00:00						
15-Jan-2007	20:00:00						
16-Jan-2007	08:00:00						
16-Jan-2007	20:00:00						
17-Jan-2007	08:00:00						
17-Jan-2007	20:00:00						
18-Jan-2007	08:00:00						
18-Jan-2007	20:00:00						
19-Jan-2007	08:00:00						
19-Jan-2007	20:00:00						
20-Jan-2007	08:00:00						
20-Jan-2007	20:00:00						
21-Jan-2007	08:00:00						
21-Jan-2007	20:00:00						
22-Jan-2007	08:00:00						
22-Jan-2007	20:00:00						
23-Jan-2007	08:00:00						
23-Jan-2007	20:00:00						
24-Jan-2007	08:00:00						
24-Jan-2007	20:00:00						
25-Jan-2007	08:00:00						
25-Jan-2007	20:00:00						
26-Jan-2007	08:00:00						
26-Jan-2007	20:00:00						

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
27-Jan-2007	08:00:00						
27-Jan-2007	20:00:00						
28-Jan-2007	08:00:00						
28-Jan-2007	20:00:00						
29-Jan-2007	08:00:00						
29-Jan-2007	20:00:00						
30-Jan-2007	08:00:00						
30-Jan-2007	20:00:00						
31-Jan-2007	08:00:00						
31-Jan-2007	20:00:00						
1-Feb-2007	08:00:00						
1-Feb-2007	20:00:00						
2-Feb-2007	08:00:00						
2-Feb-2007	20:00:00						
3-Feb-2007	08:00:00						
3-Feb-2007	20:00:00						
4-Feb-2007	08:00:00						
4-Feb-2007	20:00:00						
5-Feb-2007	08:00:00						
5-Feb-2007	20:00:00						
6-Feb-2007	08:00:00						
6-Feb-2007	20:00:00						
7-Feb-2007	08:00:00						
7-Feb-2007	20:00:00						
8-Feb-2007	08:00:00						
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18-Feb-2007	20:00:00						
19-Feb-2007	08:00:00						
19-Feb-2007	20:00:00						
20-Feb-2007	08:00:00						
20-Feb-2007	20:00:00						
21-Feb-2007	08:00:00						
21-Feb-2007	20:00:00						

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
22-Feb-2007	08:00:00						
22-Feb-2007	20:00:00						
23-Feb-2007	08:00:00						
23-Feb-2007	20:00:00						
24-Feb-2007	08:00:00						
24-Feb-2007	20:00:00						
25-Feb-2007	08:00:00						
25-Feb-2007	20:00:00						
26-Feb-2007	08:00:00						
26-Feb-2007	20:00:00						
27-Feb-2007	08:00:00						
27-Feb-2007	20:00:00						
28-Feb-2007	08:00:00						
28-Feb-2007	20:00:00						
01-Mar-2007	08:00:00						
01-Mar-2007	20:00:00						
02-Mar-2007	08:00:00						
02-Mar-2007	20:00:00						
03-Mar-2007	08:00:00						
03-Mar-2007	20:00:00						
04-Mar-2007	08:00:00						
04-Mar-2007	20:00:00						
05-Mar-2007	08:00:00						
05-Mar-2007	20:00:00						
06-Mar-2007	08:00:00						
06-Mar-2007	20:00:00						
07-Mar-2007	08:00:00						
07-Mar-2007	20:00:00						
08-Mar-2007	08:00:00						
08-Mar-2007	20:00:00						
09-Mar-2007	08:00:00						
09-Mar-2007	20:00:00						
10-Mar-2007	08:00:00						
10-Mar-2007	20:00:00						
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11-Mar-2007	20:00:00						
12-Mar-2007	08:00:00						
12-Mar-2007	20:00:00						
13-Mar-2007	08:00:00						
13-Mar-2007	20:00:00						
14-Mar-2007	08:00:00						
14-Mar-2007	20:00:00						
15-Mar-2007	08:00:00						
15-Mar-2007	20:00:00						
16-Mar-2007	08:00:00						
16-Mar-2007	20:00:00						
17-Mar-2007	08:00:00	0.49		-8.37		0.17	
17-Mar-2007	20:00:00	-0.38		-10.56		-1.14	
18-Mar-2007	08:00:00	-0.94		-12.59		-2.78	
18-Mar-2007	20:00:00	-1.40		-13.62		-4.58	
19-Mar-2007	08:00:00	-1.78		-15.27		-5.74	
19-Mar-2007	20:00:00	-2.20		-15.36		-6.76	

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
20-Mar-2007	08:00:00	-1.81		-16.11		-7.41	
20-Mar-2007	20:00:00	-2.14		-16.33		-8.23	
21-Mar-2007	08:00:00	-2.51		-17.33		-8.97	
21-Mar-2007	20:00:00	-2.06		-17.51		-9.40	
22-Mar-2007	08:00:00	-1.59		-17.75		-9.66	
22-Mar-2007	20:00:00	-1.64		-17.27		-9.98	
23-Mar-2007	08:00:00	-1.58		-17.96		-10.28	
23-Mar-2007	20:00:00	-2.31		-17.79		-10.90	
24-Mar-2007	08:00:00	-2.05		-18.62		-11.13	
24-Mar-2007	20:00:00	-2.57		-18.54		-11.74	
25-Mar-2007	08:00:00	-2.57		-19.42		-12.06	
25-Mar-2007	20:00:00	-4.79		-19.88		-13.14	
26-Mar-2007	08:00:00	-4.08		-20.44		-13.31	
26-Mar-2007	20:00:00	-3.83		-19.91		-13.52	
27-Mar-2007	08:00:00	-2.76		-20.46		-13.31	
27-Mar-2007	20:00:00	-3.63		-20.37		-13.96	
28-Mar-2007	08:00:00	-2.88		-20.77		-13.93	
28-Mar-2007	20:00:00	-4.57		-21.12		-14.78	
29-Mar-2007	08:00:00	-1.80	0.00	-22.00	0	-9.03	-13.75
29-Mar-2007	20:00:00	-1.04		-21.41		-9.84	
30-Mar-2007	08:00:00	-1.61		-22.74		-11.14	
30-Mar-2007	20:00:00	-2.01		-21.04		-12.14	
31-Mar-2007	08:00:00	-2.27		-21.42		-12.59	
31-Mar-2007	20:00:00	-3.18		-21.57		-13.56	
01-Apr-2007	08:00:00	-2.83		-22.14		-13.65	
01-Apr-2007	20:00:00	-3.63		-22.03		-14.39	
02-Apr-2007	08:00:00	-0.71		-22.25		-11.30	
02-Apr-2007	20:00:00	-2.49		-22.19		-13.75	
03-Apr-2007	08:00:00	-2.93		-22.70		-14.31	
03-Apr-2007	20:00:00	-4.65		-22.53		-15.30	
04-Apr-2007	08:00:00	-2.54		-21.97		-14.50	
04-Apr-2007	20:00:00	-5.90		-22.41		-16.05	
05-Apr-2007	08:00:00	-7.21		-23.49		-16.67	
05-Apr-2007	20:00:00	-9.17		-24.12		-17.32	
06-Apr-2007	08:00:00	-8.40		-24.67		-17.55	
06-Apr-2007	20:00:00	-7.74		-24.08		-17.54	
07-Apr-2007	08:00:00	-6.94		-25.27		-17.47	
07-Apr-2007	20:00:00	-10.37		-26.07		-18.31	
08-Apr-2007	08:00:00	-10.19		-26.75		-18.64	
08-Apr-2007	20:00:00	-10.37		-26.61		-18.67	
09-Apr-2007	08:00:00	-9.60		-27.35		-18.89	
09-Apr-2007	20:00:00	-9.55		-27.10		-18.89	
10-Apr-2007	08:00:00	-9.20		-27.77		-19.29	
10-Apr-2007	20:00:00	-9.56		-27.79		-19.19	
11-Apr-2007	08:00:00	-7.64		-27.61		-18.94	
11-Apr-2007	20:00:00	-5.36		-27.17		-18.14	
12-Apr-2007	08:00:00	1.24		-14.04		3.17	
12-Apr-2007	20:00:00	-0.42		-15.86		0.79	
13-Apr-2007	08:00:00	-1.34		-18.10		-1.07	
13-Apr-2007	20:00:00	-2.36		-18.90		-3.72	
14-Apr-2007	08:00:00	-2.44		-19.72		-5.20	
14-Apr-2007	20:00:00	-2.38		-19.29		-6.60	

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
15-Apr-2007	08:00:00	1.92		-12.87		0.97	
15-Apr-2007	20:00:00	1.34		-4.17		3.02	
16-Apr-2007	08:00:00	0.82		-2.74		1.70	
16-Apr-2007	20:00:00	-0.24		-7.07		-0.07	
17-Apr-2007	08:00:00	-0.56		-9.25		-0.52	
17-Apr-2007	20:00:00	-1.56		-10.60		-1.74	
18-Apr-2007	08:00:00	-1.32		-12.37		-2.73	
18-Apr-2007	20:00:00	-2.08		-13.38		-4.15	
19-Apr-2007	08:00:00	-1.90		-14.63		-4.96	
19-Apr-2007	20:00:00	-2.03		-15.35		-5.96	
20-Apr-2007	08:00:00	-2.16		-16.31		-6.96	
20-Apr-2007	20:00:00	-3.00		-16.75		-7.98	
21-Apr-2007	08:00:00	-2.83		-17.58		-8.64	
21-Apr-2007	20:00:00	-3.87		-17.86		-9.89	
22-Apr-2007	08:00:00	-3.47		-18.56		-10.40	
22-Apr-2007	20:00:00	-4.91		-18.93		-11.63	
23-Apr-2007	08:00:00	-4.16		-19.57		-11.92	
23-Apr-2007	20:00:00	-6.45		-19.64		-13.22	
24-Apr-2007	08:00:00	-4.73	-10.00	-20.09	-18	-13.26	-15.25
24-Apr-2007	20:00:00	-6.11		9.70		-14.19	
25-Apr-2007	08:00:00	-4.30		9.82		-14.07	
25-Apr-2007	20:00:00	-7.48		9.52		-15.42	
26-Apr-2007	08:00:00	-5.87		9.61		-15.49	
26-Apr-2007	20:00:00	-8.03		9.33		-16.42	
27-Apr-2007	08:00:00	-5.73		9.51		-16.20	
27-Apr-2007	20:00:00	-6.67		9.32		-16.79	
28-Apr-2007	08:00:00	-6.34		9.36		-17.06	
28-Apr-2007	20:00:00	-10.08		8.84		-18.03	
29-Apr-2007	08:00:00	-8.41		8.90		-18.34	
29-Apr-2007	20:00:00	-11.65		8.20		-19.10	
30-Apr-2007	08:00:00	-9.87		8.18		-19.40	
30-Apr-2007	20:00:00	-12.78		7.39		-19.98	
01-May-2007	08:00:00	-10.73		7.28		-20.34	
01-May-2007	20:00:00	-13.56		5.92		-20.84	
02-May-2007	08:00:00	-11.62		5.52		-21.25	
02-May-2007	20:00:00	-13.80		3.95		-21.75	
03-May-2007	08:00:00	-12.21		2.68		-22.22	
03-May-2007	20:00:00	-13.28		0.68		-22.71	
04-May-2007	08:00:00	-11.62		3.78		-22.86	
04-May-2007	20:00:00	-10.12		4.58		-22.74	
05-May-2007	08:00:00	-9.35		6.09		-22.72	
05-May-2007	20:00:00	-9.14		7.41		-22.83	
06-May-2007	08:00:00	-1.52		10.27		-18.63	
06-May-2007	20:00:00	-6.29		9.74		-19.51	
07-May-2007	08:00:00	-6.75		9.64		-20.02	
07-May-2007	20:00:00	-10.14		9.28		-20.78	
08-May-2007	08:00:00	-8.78		9.28		-21.29	
08-May-2007	20:00:00	-6.08		9.54		-21.69	
09-May-2007	08:00:00	-5.80		9.61		-21.59	
09-May-2007	20:00:00	-7.08		9.50		-21.88	
10-May-2007	08:00:00	-6.61		9.63		-22.09	
10-May-2007	20:00:00	-9.33		9.39		-22.52	

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
11-May-2007	08:00:00	-8.58		9.39		-22.95	
11-May-2007	20:00:00	-11.18		8.93		-23.51	
12-May-2007	08:00:00	-10.14		8.90		-23.92	
12-May-2007	20:00:00	-9.03		8.79		-24.31	
13-May-2007	08:00:00	-8.73		8.91		-24.53	
13-May-2007	20:00:00	-11.39		8.54		-25.00	
14-May-2007	08:00:00	-11.78		8.42		-25.46	
14-May-2007	20:00:00	-14.06		7.58		-25.69	
15-May-2007	08:00:00	-12.60		7.48		-26.24	
15-May-2007	20:00:00	-15.10		6.12		-26.41	
16-May-2007	08:00:00	-13.16		5.69		-26.78	
16-May-2007	20:00:00	-16.46		3.18		-27.33	
17-May-2007	08:00:00	-1.74		8.28		-23.81	
17-May-2007	20:00:00	1.18		7.48		2.07	
18-May-2007	08:00:00	-0.62		8.13		-2.15	
18-May-2007	20:00:00	-1.48		8.62		-10.53	
19-May-2007	08:00:00	-2.47		8.07		-15.08	
19-May-2007	20:00:00	-5.15		7.05		-18.10	
20-May-2007	08:00:00	-6.20		6.93		-19.97	
20-May-2007	20:00:00	-9.53		5.09		-21.09	
21-May-2007	08:00:00	-9.98		4.19		-22.17	
21-May-2007	20:00:00	-0.61		1.12		-10.43	
22-May-2007	08:00:00	-2.12		-0.50		-18.78	
22-May-2007	20:00:00	-6.09				-22.28	
23-May-2007	08:00:00	-7.97	-19.00		-19	-23.72	-23.5
23-May-2007							
24-May-2007							
24-May-2007							
25-May-2007							
25-May-2007							
26-May-2007							
26-May-2007							
27-May-2007							
27-May-2007							
28-May-2007							
28-May-2007							
29-May-2007							
29-May-2007							
30-May-2007							
30-May-2007							
31-May-2007							
31-May-2007							
1-Jun-2007							
1-Jun-2007							
2-Jun-2007							
2-Jun-2007							
3-Jun-2007							
3-Jun-2007							
4-Jun-2007							
4-Jun-2007							
5-Jun-2007							
5-Jun-2007							

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
6-Jun-2007							
6-Jun-2007							
7-Jun-2007							
7-Jun-2007							
8-Jun-2007							
8-Jun-2007							
9-Jun-2007							
9-Jun-2007							
10-Jun-2007							
10-Jun-2007							
11-Jun-2007							
11-Jun-2007							
12-Jun-2007							
12-Jun-2007							
13-Jun-2007							
13-Jun-2007							
14-Jun-2007							
14-Jun-2007							
15-Jun-2007							
15-Jun-2007							
16-Jun-2007							
16-Jun-2007							
17-Jun-2007							
17-Jun-2007							
18-Jun-2007							
18-Jun-2007							
19-Jun-2007							
19-Jun-2007							
20-Jun-2007							
20-Jun-2007							
21-Jun-2007							
21-Jun-2007							
22-Jun-2007							
22-Jun-2007							
23-Jun-2007							
23-Jun-2007							
24-Jun-2007							
24-Jun-2007							
25-Jun-2007							
25-Jun-2007							
26-Jun-2007							
26-Jun-2007							
27-Jun-2007							
27-Jun-2007							
28-Jun-2007							
28-Jun-2007							
29-Jun-2007							
29-Jun-2007							
30-Jun-2007							
30-Jun-2007							
1-Jul-2007							
1-Jul-2007							

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
2-Jul-2007							
2-Jul-2007							
3-Jul-2007							
3-Jul-2007							
4-Jul-2007							
4-Jul-2007							
5-Jul-2007							
5-Jul-2007							
6-Jul-2007							
6-Jul-2007							
7-Jul-2007							
7-Jul-2007							
8-Jul-2007							
8-Jul-2007							
9-Jul-2007							
9-Jul-2007							
10-Jul-2007							
10-Jul-2007							
11-Jul-2007							
11-Jul-2007							
12-Jul-2007							
12-Jul-2007							
13-Jul-2007							
13-Jul-2007							
14-Jul-2007							
14-Jul-2007							
15-Jul-2007							
15-Jul-2007							
16-Jul-2007							
16-Jul-2007							
17-Jul-2007							
17-Jul-2007							
18-Jul-2007							
18-Jul-2007							
19-Jul-2007							
19-Jul-2007							
20-Jul-2007							
20-Jul-2007							
21-Jul-2007							
21-Jul-2007							
22-Jul-2007							
22-Jul-2007							
23-Jul-2007							
23-Jul-2007							
24-Jul-2007							
24-Jul-2007							
25-Jul-2007							
25-Jul-2007							
26-Jul-2007							
26-Jul-2007							
27-Jul-2007							
27-Jul-2007							

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
28-Jul-2007							
28-Jul-2007							
29-Jul-2007							
29-Jul-2007							
30-Jul-2007							
30-Jul-2007							
31-Jul-2007							
31-Jul-2007							
1-Aug-2007							
1-Aug-2007							
2-Aug-2007							
2-Aug-2007							
3-Aug-2007							
3-Aug-2007							
4-Aug-2007							
4-Aug-2007							
5-Aug-2007							
5-Aug-2007							
6-Aug-2007							
6-Aug-2007							
7-Aug-2007							
7-Aug-2007							
8-Aug-2007							
8-Aug-2007							
9-Aug-2007							
9-Aug-2007							
10-Aug-2007							
10-Aug-2007							
11-Aug-2007							
11-Aug-2007							
12-Aug-2007							
12-Aug-2007							
13-Aug-2007							
13-Aug-2007							
14-Aug-2007							
14-Aug-2007							
15-Aug-2007							
15-Aug-2007							
16-Aug-2007							
16-Aug-2007							
17-Aug-2007							
17-Aug-2007							
18-Aug-2007							
18-Aug-2007							
19-Aug-2007							
19-Aug-2007							
20-Aug-2007							
20-Aug-2007							
21-Aug-2007							
21-Aug-2007							
22-Aug-2007							
22-Aug-2007							

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
23-Aug-2007							
23-Aug-2007							
24-Aug-2007							
24-Aug-2007							
25-Aug-2007							
25-Aug-2007							
26-Aug-2007							
26-Aug-2007							
27-Aug-2007							
27-Aug-2007							
28-Aug-2007							
28-Aug-2007							
29-Aug-2007							
29-Aug-2007							
30-Aug-2007							
30-Aug-2007							
31-Aug-2007							
31-Aug-2007							
1-Sep-2007							
1-Sep-2007							
2-Sep-2007							
2-Sep-2007							
3-Sep-2007							
3-Sep-2007							
4-Sep-2007							
4-Sep-2007							
5-Sep-2007							
5-Sep-2007							
6-Sep-2007							
6-Sep-2007							
7-Sep-2007							
7-Sep-2007							
8-Sep-2007							
8-Sep-2007							
9-Sep-2007							
9-Sep-2007							
10-Sep-2007							
10-Sep-2007							
11-Sep-2007							
11-Sep-2007							
12-Sep-2007							
12-Sep-2007							
13-Sep-2007							
13-Sep-2007							
14-Sep-2007							
14-Sep-2007							
15-Sep-2007							
15-Sep-2007							
16-Sep-2007							
16-Sep-2007							
17-Sep-2007							
17-Sep-2007							

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
18-Sep-2007							
18-Sep-2007							
19-Sep-2007							
19-Sep-2007							
20-Sep-2007							
20-Sep-2007							
21-Sep-2007							
21-Sep-2007							
22-Sep-2007							
22-Sep-2007							
23-Sep-2007							
23-Sep-2007							
24-Sep-2007							
24-Sep-2007							
25-Sep-2007							
25-Sep-2007							
26-Sep-2007							
26-Sep-2007							
27-Sep-2007							
27-Sep-2007							
28-Sep-2007							
28-Sep-2007							
29-Sep-2007							
29-Sep-2007							
30-Sep-2007							
30-Sep-2007							
1-Oct-2007							
1-Oct-2007							
2-Oct-2007							
2-Oct-2007							
3-Oct-2007							
3-Oct-2007							
4-Oct-2007							
4-Oct-2007							
5-Oct-2007							
5-Oct-2007							
6-Oct-2007							
6-Oct-2007							
7-Oct-2007							
7-Oct-2007							
8-Oct-2007							
8-Oct-2007							
9-Oct-2007							
9-Oct-2007							
10-Oct-2007							
10-Oct-2007							
11-Oct-2007							
11-Oct-2007							
12-Oct-2007							
12-Oct-2007							
13-Oct-2007							
13-Oct-2007							

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
14-Oct-2007							
14-Oct-2007							
15-Oct-2007							
15-Oct-2007							
16-Oct-2007							
16-Oct-2007							
17-Oct-2007							
17-Oct-2007							
18-Oct-2007							
18-Oct-2007							
19-Oct-2007							
19-Oct-2007							
20-Oct-2007							
20-Oct-2007							
21-Oct-2007							
21-Oct-2007							
22-Oct-2007							
22-Oct-2007							
23-Oct-2007							
23-Oct-2007							
24-Oct-2007							
24-Oct-2007							
25-Oct-2007							
25-Oct-2007							
26-Oct-2007							
26-Oct-2007							
27-Oct-2007							
27-Oct-2007							
28-Oct-2007							
28-Oct-2007							
29-Oct-2007							
29-Oct-2007							
30-Oct-2007							
30-Oct-2007							
31-Oct-2007							
31-Oct-2007							
1-Nov-2007							
1-Nov-2007							
2-Nov-2007							
2-Nov-2007							
3-Nov-2007							
3-Nov-2007							
4-Nov-2007							
4-Nov-2007							
5-Nov-2007							
5-Nov-2007							
6-Nov-2007							
6-Nov-2007							
7-Nov-2007							
7-Nov-2007							
8-Nov-2007							
8-Nov-2007							

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
9-Nov-2007							
9-Nov-2007							
10-Nov-2007							
10-Nov-2007							
11-Nov-2007							
11-Nov-2007							
12-Nov-2007							
12-Nov-2007							
13-Nov-2007							
13-Nov-2007							
14-Nov-2007							
14-Nov-2007							
15-Nov-2007							
15-Nov-2007							
16-Nov-2007							
16-Nov-2007							
17-Nov-2007							
17-Nov-2007							
18-Nov-2007							
18-Nov-2007							
19-Nov-2007							
19-Nov-2007							
20-Nov-2007							
20-Nov-2007							
21-Nov-2007							
21-Nov-2007							
22-Nov-2007							
22-Nov-2007							
23-Nov-2007							
23-Nov-2007							
24-Nov-2007							
24-Nov-2007							
25-Nov-2007							
25-Nov-2007							
26-Nov-2007							
26-Nov-2007							
27-Nov-2007							
27-Nov-2007							
28-Nov-2007							
28-Nov-2007							
29-Nov-2007							
29-Nov-2007							
30-Nov-2007							
30-Nov-2007							
1-Dec-2007							
1-Dec-2007							
2-Dec-2007							
2-Dec-2007							
3-Dec-2007							
3-Dec-2007							
4-Dec-2007							
4-Dec-2007							

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
5-Dec-2007							
5-Dec-2007							
6-Dec-2007							
6-Dec-2007							
7-Dec-2007							
7-Dec-2007							
8-Dec-2007							
8-Dec-2007							
9-Dec-2007							
9-Dec-2007							
10-Dec-2007							
10-Dec-2007							
11-Dec-2007							
11-Dec-2007							
12-Dec-2007							
12-Dec-2007							
13-Dec-2007							
13-Dec-2007							
14-Dec-2007							
14-Dec-2007							
15-Dec-2007							
15-Dec-2007							
16-Dec-2007							
16-Dec-2007							
17-Dec-2007							
17-Dec-2007							
18-Dec-2007							
18-Dec-2007							
19-Dec-2007							
19-Dec-2007							
20-Dec-2007							
20-Dec-2007							
21-Dec-2007							
21-Dec-2007							
22-Dec-2007							
22-Dec-2007							
23-Dec-2007							
23-Dec-2007							
24-Dec-2007							
24-Dec-2007							
25-Dec-2007							
25-Dec-2007							
26-Dec-2007							
26-Dec-2007							
27-Dec-2007							
27-Dec-2007							
28-Dec-2007							
28-Dec-2007							
29-Dec-2007							
29-Dec-2007							
30-Dec-2007							
30-Dec-2007							

Date	Time	Water Level (inches)					
dd-mmm-yyyy	hh:mm:ss	Cox AW1	Cox MW2	Cox AW3	Cox MW4	Cox AW5	Cox MW6
31-Dec-2007							
31-Dec-2007							

Date	Time						
dd-mmm-yyyy	hh:mm:ss	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11	Cox AW12
1-Jan-2007	08:00:00						
1-Jan-2007	20:00:00						
2-Jan-2007	08:00:00						
2-Jan-2007	20:00:00						
3-Jan-2007	08:00:00						
3-Jan-2007	20:00:00						
4-Jan-2007	08:00:00						
4-Jan-2007	20:00:00						
5-Jan-2007	08:00:00						
5-Jan-2007	20:00:00						
6-Jan-2007	08:00:00						
6-Jan-2007	20:00:00						
7-Jan-2007	08:00:00						
7-Jan-2007	20:00:00						
8-Jan-2007	08:00:00						
8-Jan-2007	20:00:00						
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9-Jan-2007	20:00:00						
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15-Jan-2007	20:00:00						
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23-Jan-2007	08:00:00						
23-Jan-2007	20:00:00						
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25-Jan-2007	20:00:00						
26-Jan-2007	08:00:00						
26-Jan-2007	20:00:00						

Date	Time						
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27-Jan-2007	08:00:00						
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3-Feb-2007	08:00:00						
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14-Mar-2007	20:00:00						
15-Mar-2007	08:00:00						
15-Mar-2007	20:00:00						
16-Mar-2007	08:00:00						
16-Mar-2007	20:00:00						
17-Mar-2007	08:00:00	7.60			0	0.73	-21.70
17-Mar-2007	20:00:00	10.33			0	-1.15	-22.48
18-Mar-2007	08:00:00	4.39			0	-3.84	-23.29
18-Mar-2007	20:00:00	6.93			0	-6.48	-23.66
19-Mar-2007	08:00:00	3.58			0	-8.82	-24.39
19-Mar-2007	20:00:00	3.83			0	-8.99	-24.28

Date	Time						
dd-mmm-yyyy	hh:mm:ss	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11	Cox AW12
20-Mar-2007	08:00:00	3.64			0	-9.71	-24.74
20-Mar-2007	20:00:00	3.65			0	-9.94	-24.93
21-Mar-2007	08:00:00	3.17			0	-10.99	-25.66
21-Mar-2007	20:00:00	3.26			0	-10.89	-25.88
22-Mar-2007	08:00:00	3.24			0	-10.74	-26.09
22-Mar-2007	20:00:00	3.29			0	-10.17	-26.02
23-Mar-2007	08:00:00	2.88			0	-11.08	-26.55
23-Mar-2007	20:00:00	4.90			0	-11.22	-26.67
24-Mar-2007	08:00:00	3.11			0	-11.77	-27.23
24-Mar-2007	20:00:00	4.79			0	-11.86	-27.37
25-Mar-2007	08:00:00	0.24			0	-12.6	-27.93
25-Mar-2007	20:00:00	3.67			0	-13.54	-28.39
26-Mar-2007	08:00:00	0.31			0	-14.04	-28.86
26-Mar-2007	20:00:00	0.00			0	-13.56	-28.76
27-Mar-2007	08:00:00	0.17			0	-13.27	-29.12
27-Mar-2007	20:00:00	2.26			0	-13.54	-29.23
28-Mar-2007	08:00:00	0.05			0	-13.57	-29.53
28-Mar-2007	20:00:00	-1.64			0	-14.23	-29.80
29-Mar-2007	08:00:00	-0.95	-4	-5.5	0	-13.24	-30.39
29-Mar-2007	20:00:00	3.15			0	-8.25	-30.43
30-Mar-2007	08:00:00	2.11			0	-10.5	-30.01
30-Mar-2007	20:00:00	2.00			0	-10.91	-30.39
31-Mar-2007	08:00:00	1.11			0	-11.93	-30.51
31-Mar-2007	20:00:00	0.43			0	-12.61	-30.86
01-Apr-2007	08:00:00	0.16			0	-13.08	-31.07
01-Apr-2007	20:00:00	-0.43			0	-13.41	-31.07
02-Apr-2007	08:00:00	1.84			0	-10.94	-31.42
02-Apr-2007	20:00:00	0.59			0	-11.49	-31.22
03-Apr-2007	08:00:00	-2.07			0	-13.06	-31.42
03-Apr-2007	20:00:00	1.35			0	-13.96	-31.40
04-Apr-2007	08:00:00	-1.17			0	-13.28	-31.22
04-Apr-2007	20:00:00	-2.44			0	-14.62	-31.47
05-Apr-2007	08:00:00	-4.13			0	-16.06	-32.16
05-Apr-2007	20:00:00	-4.49			0	-16.75	-32.46
06-Apr-2007	08:00:00	-4.91			0	-17.27	-32.88
06-Apr-2007	20:00:00	-2.62			0	-16.83	-32.71
07-Apr-2007	08:00:00	-7.07			0	-16.92	-33.28
07-Apr-2007	20:00:00	-2.73			0	-17.65	-33.75
08-Apr-2007	08:00:00	-5.87			0	-18.25	-34.22
08-Apr-2007	20:00:00	-1.36			0	-17.88	-34.25
09-Apr-2007	08:00:00	-9.31			0	-18.26	-34.58
09-Apr-2007	20:00:00	-0.61			0	-18.01	-34.66
10-Apr-2007	08:00:00	-5.67			0	-18.44	-35.02
10-Apr-2007	20:00:00	-2.91			0	-18.18	-35.13
11-Apr-2007	08:00:00	-9.82			0	-17.81	-35.22
11-Apr-2007	20:00:00	-7.41			0	-16.58	-35.17
12-Apr-2007	08:00:00	2.46			0	1.51	-28.45
12-Apr-2007	20:00:00	8.41			0	-0.84	-25.72
13-Apr-2007	08:00:00	0.09			0	-3.96	-26.41
13-Apr-2007	20:00:00	7.68			0	-7.1	-26.50
14-Apr-2007	08:00:00	2.97			0	-9.27	-27.03
14-Apr-2007	20:00:00	8.09			0	-9.5	-26.80

Date	Time						
dd-mmm-yyyy	hh:mm:ss	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11	Cox AW12
15-Apr-2007	08:00:00	1.22			0	2.65	-25.21
15-Apr-2007	20:00:00	10.33			0	2.04	-19.01
16-Apr-2007	08:00:00	4.61			0	1.53	-16.04
16-Apr-2007	20:00:00	5.93			0	-0.38	-17.15
17-Apr-2007	08:00:00	-0.25			0	-2.64	-18.57
17-Apr-2007	20:00:00	9.66			0	-5.68	-19.10
18-Apr-2007	08:00:00	-0.57			0	-7.98	-20.26
18-Apr-2007	20:00:00	7.59			0	-9.23	-20.94
19-Apr-2007	08:00:00	0.95			0	-10.32	-21.89
19-Apr-2007	20:00:00	9.04			0	-10.75	-22.45
20-Apr-2007	08:00:00	-1.98			0	-11.43	-23.28
20-Apr-2007	20:00:00	6.56			0	-11.98	-23.62
21-Apr-2007	08:00:00	-0.09			0	-12.61	-24.32
21-Apr-2007	20:00:00	3.41			0	-13.14	-24.68
22-Apr-2007	08:00:00	-4.82			0	-13.56	-25.32
22-Apr-2007	20:00:00	5.89			0	-14.31	-25.83
23-Apr-2007	08:00:00	-4.26			0	-14.6	-26.46
23-Apr-2007	20:00:00	3.28			0	-15.25	-26.72
24-Apr-2007	08:00:00	-3.65	-9.5	-11	15.5	-15.25	-27.22
24-Apr-2007	20:00:00					-15.83	-27.58
25-Apr-2007	08:00:00					-15.55	-28.10
25-Apr-2007	20:00:00	-14.81				-16.51	-28.49
26-Apr-2007	08:00:00	-15.11				-16.68	-29.14
26-Apr-2007	20:00:00	-15.35				-17.32	-29.56
27-Apr-2007	08:00:00	-15.59				-17.11	-30.04
27-Apr-2007	20:00:00	-15.75				-17.46	-30.41
28-Apr-2007	08:00:00	-16.01				-17.7	-31.09
28-Apr-2007	20:00:00	-16.33				-18.58	-31.64
29-Apr-2007	08:00:00	-16.71				-18.84	-32.24
29-Apr-2007	20:00:00	-17.07				-19.48	-32.80
30-Apr-2007	08:00:00	-17.44				-19.7	-33.41
30-Apr-2007	20:00:00	-17.71				-20.11	-33.80
01-May-2007	08:00:00	-18.05				-20.31	-34.38
01-May-2007	20:00:00	-18.31				-20.72	-34.83
02-May-2007	08:00:00	-18.56				-20.94	-35.38
02-May-2007	20:00:00	-18.74				-21.33	-35.78
03-May-2007	08:00:00	-19.14				-21.67	-36.42
03-May-2007	20:00:00	-19.51				-22.02	-36.92
04-May-2007	08:00:00	-18.94				-22	-37.27
04-May-2007	20:00:00	-16.74				-21.43	-37.52
05-May-2007	08:00:00	-17.44				-21.1	-37.74
05-May-2007	20:00:00	-18.10				-21.11	-38.00
06-May-2007	08:00:00	-15.31				-15.71	-36.16
06-May-2007	20:00:00	-16.33				-16.56	-37.01
07-May-2007	08:00:00	-17.22				-17.08	-37.34
07-May-2007	20:00:00	-18.03				-17.96	-37.72
08-May-2007	08:00:00	-18.62				-18.42	-38.06
08-May-2007	20:00:00	-19.13				-18.68	-38.40
09-May-2007	08:00:00	-19.35				-18.4	-38.67
09-May-2007	20:00:00	-15.08				-18.68	-38.90
10-May-2007	08:00:00	-9.27				-18.85	-39.14
10-May-2007	20:00:00	-7.73				-19.31	-39.31

Date	Time						
dd-mmm-yyyy	hh:mm:ss	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11	Cox AW12
11-May-2007	08:00:00	-9.25				-19.76	-39.65
11-May-2007	20:00:00	-10.30				-20.4	-39.92
12-May-2007	08:00:00	-11.33				-20.85	-40.34
12-May-2007	20:00:00	-12.15				-21.26	-40.63
13-May-2007	08:00:00	-12.99				-21.28	-40.90
13-May-2007	20:00:00	-13.90				-21.83	-41.42
14-May-2007	08:00:00	-14.79				-22.35	-41.83
14-May-2007	20:00:00	-15.54				-22.73	-42.03
15-May-2007	08:00:00	-16.14				-23.07	-42.32
15-May-2007	20:00:00	-16.57				-23.32	-42.43
16-May-2007	08:00:00	-16.92				-23.59	-42.79
16-May-2007	20:00:00	-17.20				-24.01	-43.01
17-May-2007	08:00:00	-13.13				-18.68	-41.63
17-May-2007	20:00:00	-7.19				-17.62	-41.70
18-May-2007	08:00:00	-2.94				-14.71	-39.36
18-May-2007	20:00:00	-2.25				-15.44	-38.97
19-May-2007	08:00:00	-2.46				-15.81	-39.24
19-May-2007	20:00:00	-3.96				-16.75	-39.56
20-May-2007	08:00:00	-5.80				-17.55	-40.08
20-May-2007	20:00:00	-7.05				-18.54	-40.63
21-May-2007	08:00:00	-8.36				-19.41	-41.41
21-May-2007	20:00:00	-9.41				-16.39	-40.61
22-May-2007	08:00:00	-10.5				-16.02	-40.18
22-May-2007	20:00:00					-17.56	-40.65
23-May-2007	08:00:00		-18	-30		-18.5	-41.38
23-May-2007							
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Date	Time						
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Date	Time						
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Date	Time						
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28-Jul-2007							
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22-Aug-2007							
22-Aug-2007							

Date	Time						
dd-mmm-yyyy	hh:mm:ss	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11	Cox AW12
23-Aug-2007							
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1-Sep-2007							
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16-Sep-2007							
16-Sep-2007							
17-Sep-2007							
17-Sep-2007							

Date	Time						
dd-mmm-yyyy	hh:mm:ss	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11	Cox AW12
18-Sep-2007							
18-Sep-2007							
19-Sep-2007							
19-Sep-2007							
20-Sep-2007							
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13-Oct-2007							
13-Oct-2007							

Date	Time						
dd-mmm-yyyy	hh:mm:ss	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11	Cox AW12
14-Oct-2007							
14-Oct-2007							
15-Oct-2007							
15-Oct-2007							
16-Oct-2007							
16-Oct-2007							
17-Oct-2007							
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31-Oct-2007							
31-Oct-2007							
1-Nov-2007							
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7-Nov-2007							
7-Nov-2007							
8-Nov-2007							
8-Nov-2007							

Date	Time						
dd-mmm-yyyy	hh:mm:ss	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11	Cox AW12
9-Nov-2007							
9-Nov-2007							
10-Nov-2007							
10-Nov-2007							
11-Nov-2007							
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30-Nov-2007							
30-Nov-2007							
1-Dec-2007							
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2-Dec-2007							
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3-Dec-2007							
4-Dec-2007							
4-Dec-2007							

Date	Time						
dd-mmm-yyyy	hh:mm:ss	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11	Cox AW12
5-Dec-2007							
5-Dec-2007							
6-Dec-2007							
6-Dec-2007							
7-Dec-2007							
7-Dec-2007							
8-Dec-2007							
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9-Dec-2007							
9-Dec-2007							
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29-Dec-2007							
29-Dec-2007							
30-Dec-2007							
30-Dec-2007							

Date	Time						
dd-mmm-yyyy	hh:mm:ss	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11	Cox AW12
31-Dec-2007							
31-Dec-2007							

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
1-Jan-2007	08:00:00				
1-Jan-2007	20:00:00				
2-Jan-2007	08:00:00				
2-Jan-2007	20:00:00				
3-Jan-2007	08:00:00				
3-Jan-2007	20:00:00				
4-Jan-2007	08:00:00				
4-Jan-2007	20:00:00				
5-Jan-2007	08:00:00				
5-Jan-2007	20:00:00				
6-Jan-2007	08:00:00				
6-Jan-2007	20:00:00				
7-Jan-2007	08:00:00				
7-Jan-2007	20:00:00				
8-Jan-2007	08:00:00				
8-Jan-2007	20:00:00				
9-Jan-2007	08:00:00				
9-Jan-2007	20:00:00				
10-Jan-2007	08:00:00				
10-Jan-2007	20:00:00				
11-Jan-2007	08:00:00				
11-Jan-2007	20:00:00				
12-Jan-2007	08:00:00				
12-Jan-2007	20:00:00				
13-Jan-2007	08:00:00				
13-Jan-2007	20:00:00				
14-Jan-2007	08:00:00				
14-Jan-2007	20:00:00				
15-Jan-2007	08:00:00				
15-Jan-2007	20:00:00				
16-Jan-2007	08:00:00				
16-Jan-2007	20:00:00				
17-Jan-2007	08:00:00				
17-Jan-2007	20:00:00				
18-Jan-2007	08:00:00				
18-Jan-2007	20:00:00				
19-Jan-2007	08:00:00				
19-Jan-2007	20:00:00				
20-Jan-2007	08:00:00				
20-Jan-2007	20:00:00				
21-Jan-2007	08:00:00				
21-Jan-2007	20:00:00				
22-Jan-2007	08:00:00				
22-Jan-2007	20:00:00				
23-Jan-2007	08:00:00				
23-Jan-2007	20:00:00				
24-Jan-2007	08:00:00				
24-Jan-2007	20:00:00				
25-Jan-2007	08:00:00				
25-Jan-2007	20:00:00				
26-Jan-2007	08:00:00				
26-Jan-2007	20:00:00				

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
27-Jan-2007	08:00:00				
27-Jan-2007	20:00:00				
28-Jan-2007	08:00:00				
28-Jan-2007	20:00:00				
29-Jan-2007	08:00:00				
29-Jan-2007	20:00:00				
30-Jan-2007	08:00:00				
30-Jan-2007	20:00:00				
31-Jan-2007	08:00:00				
31-Jan-2007	20:00:00				
1-Feb-2007	08:00:00				
1-Feb-2007	20:00:00				
2-Feb-2007	08:00:00				
2-Feb-2007	20:00:00				
3-Feb-2007	08:00:00				
3-Feb-2007	20:00:00				
4-Feb-2007	08:00:00				
4-Feb-2007	20:00:00				
5-Feb-2007	08:00:00				
5-Feb-2007	20:00:00				
6-Feb-2007	08:00:00				
6-Feb-2007	20:00:00				
7-Feb-2007	08:00:00				
7-Feb-2007	20:00:00				
8-Feb-2007	08:00:00				
8-Feb-2007	20:00:00				
9-Feb-2007	08:00:00				
9-Feb-2007	20:00:00				
10-Feb-2007	08:00:00				
10-Feb-2007	20:00:00				
11-Feb-2007	08:00:00				
11-Feb-2007	20:00:00				
12-Feb-2007	08:00:00				
12-Feb-2007	20:00:00				
13-Feb-2007	08:00:00				
13-Feb-2007	20:00:00				
14-Feb-2007	08:00:00				
14-Feb-2007	20:00:00				
15-Feb-2007	08:00:00				
15-Feb-2007	20:00:00				
16-Feb-2007	08:00:00				
16-Feb-2007	20:00:00				
17-Feb-2007	08:00:00				
17-Feb-2007	20:00:00				
18-Feb-2007	08:00:00				
18-Feb-2007	20:00:00				
19-Feb-2007	08:00:00				
19-Feb-2007	20:00:00				
20-Feb-2007	08:00:00				
20-Feb-2007	20:00:00				
21-Feb-2007	08:00:00				
21-Feb-2007	20:00:00				

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
22-Feb-2007	08:00:00				
22-Feb-2007	20:00:00				
23-Feb-2007	08:00:00				
23-Feb-2007	20:00:00				
24-Feb-2007	08:00:00				
24-Feb-2007	20:00:00				
25-Feb-2007	08:00:00				
25-Feb-2007	20:00:00				
26-Feb-2007	08:00:00	-12.25	-7		-3.5
26-Feb-2007	20:00:00				
27-Feb-2007	08:00:00				
27-Feb-2007	20:00:00			-2.866666667	
28-Feb-2007	08:00:00			-3.296666667	
28-Feb-2007	20:00:00			-3.596666667	
01-Mar-2007	08:00:00			-3.736666667	
01-Mar-2007	20:00:00			-3.676666667	
02-Mar-2007	08:00:00			1.133333333	
02-Mar-2007	20:00:00			-0.076666667	
03-Mar-2007	08:00:00			-1.456666667	
03-Mar-2007	20:00:00			-2.326666667	
04-Mar-2007	08:00:00			-3.056666667	
04-Mar-2007	20:00:00			-3.636666667	
05-Mar-2007	08:00:00			-3.956666667	
05-Mar-2007	20:00:00			-4.136666667	
06-Mar-2007	08:00:00			-4.376666667	
06-Mar-2007	20:00:00			-4.576666667	
07-Mar-2007	08:00:00			-4.456666667	
07-Mar-2007	20:00:00			-4.506666667	
08-Mar-2007	08:00:00			-4.716666667	
08-Mar-2007	20:00:00			-4.796666667	
09-Mar-2007	08:00:00			-4.926666667	
09-Mar-2007	20:00:00			-4.916666667	
10-Mar-2007	08:00:00			-4.836666667	
10-Mar-2007	20:00:00			-4.856666667	
11-Mar-2007	08:00:00			-4.836666667	
11-Mar-2007	20:00:00			-5.036666667	
12-Mar-2007	08:00:00			-5.176666667	
12-Mar-2007	20:00:00			-5.136666667	
13-Mar-2007	08:00:00			-5.186666667	
13-Mar-2007	20:00:00			-5.236666667	
14-Mar-2007	08:00:00			-5.206666667	
14-Mar-2007	20:00:00			-5.236666667	
15-Mar-2007	08:00:00			-5.176666667	
15-Mar-2007	20:00:00			-5.336666667	
16-Mar-2007	08:00:00			-2.976666667	
16-Mar-2007	20:00:00			1.613333333	
17-Mar-2007	08:00:00			-0.35	
17-Mar-2007	20:00:00			-2.04	
18-Mar-2007	08:00:00			-2.89	
18-Mar-2007	20:00:00			-3.69	
19-Mar-2007	08:00:00			-4.15	
19-Mar-2007	20:00:00			-4.34	

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
20-Mar-2007	08:00:00			-4.51	
20-Mar-2007	20:00:00			-4.84	
21-Mar-2007	08:00:00			-5.03	
21-Mar-2007	20:00:00			-5.19	
22-Mar-2007	08:00:00			-5.15	
22-Mar-2007	20:00:00			-5.24	
23-Mar-2007	08:00:00			-5.34	
23-Mar-2007	20:00:00			-5.50	
24-Mar-2007	08:00:00			-5.55	
24-Mar-2007	20:00:00			-5.75	
25-Mar-2007	08:00:00			-5.82	
25-Mar-2007	20:00:00			-6.20	
26-Mar-2007	08:00:00			-6.19	
26-Mar-2007	20:00:00			-6.18	
27-Mar-2007	08:00:00			-6.02	
27-Mar-2007	20:00:00			-6.36	
28-Mar-2007	08:00:00			-6.25	
28-Mar-2007	20:00:00			-6.75	
29-Mar-2007	08:00:00	-11.25	-9.00	-4.68	-3.50
29-Mar-2007	20:00:00			-3.87	
30-Mar-2007	08:00:00			-4.81	
30-Mar-2007	20:00:00			-5.40	
31-Mar-2007	08:00:00			-5.51	
31-Mar-2007	20:00:00			-6.08	
01-Apr-2007	08:00:00			-6.08	
01-Apr-2007	20:00:00			-6.57	
02-Apr-2007	08:00:00			-4.70	
02-Apr-2007	20:00:00			-6.12	
03-Apr-2007	08:00:00			-6.33	
03-Apr-2007	20:00:00			-7.50	
04-Apr-2007	08:00:00			-6.82	
04-Apr-2007	20:00:00			-8.23	
05-Apr-2007	08:00:00			-8.10	
05-Apr-2007	20:00:00			-8.80	
06-Apr-2007	08:00:00			-8.41	
06-Apr-2007	20:00:00			-8.56	
07-Apr-2007	08:00:00			-8.07	
07-Apr-2007	20:00:00			-8.72	
08-Apr-2007	08:00:00			-8.76	
08-Apr-2007	20:00:00			-8.52	
09-Apr-2007	08:00:00			-8.60	
09-Apr-2007	20:00:00			-8.60	
10-Apr-2007	08:00:00			-8.73	
10-Apr-2007	20:00:00			-8.75	
11-Apr-2007	08:00:00			-8.52	
11-Apr-2007	20:00:00			-8.07	
12-Apr-2007	08:00:00			1.45	
12-Apr-2007	20:00:00			0.24	
13-Apr-2007	08:00:00			-1.35	
13-Apr-2007	20:00:00			-2.86	
14-Apr-2007	08:00:00			-3.59	
14-Apr-2007	20:00:00			-4.34	

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
15-Apr-2007	08:00:00			1.52	
15-Apr-2007	20:00:00			0.99	
16-Apr-2007	08:00:00			0.58	
16-Apr-2007	20:00:00			-0.90	
17-Apr-2007	08:00:00			-1.93	
17-Apr-2007	20:00:00			-2.96	
18-Apr-2007	08:00:00			-3.31	
18-Apr-2007	20:00:00			-4.00	
19-Apr-2007	08:00:00			-4.18	
19-Apr-2007	20:00:00			-4.61	
20-Apr-2007	08:00:00			-4.69	
20-Apr-2007	20:00:00			-5.40	
21-Apr-2007	08:00:00			-5.38	
21-Apr-2007	20:00:00			-6.16	
22-Apr-2007	08:00:00			-6.04	
22-Apr-2007	20:00:00			-6.99	
23-Apr-2007	08:00:00			-6.71	
23-Apr-2007	20:00:00			-7.90	
24-Apr-2007	08:00:00	-16.00	-12.50	-7.34	-8.50
24-Apr-2007	20:00:00			-8.31	
25-Apr-2007	08:00:00			-7.54	
25-Apr-2007	20:00:00			-9.15	
26-Apr-2007	08:00:00			-8.36	
26-Apr-2007	20:00:00			-9.85	
27-Apr-2007	08:00:00			-8.81	
27-Apr-2007	20:00:00			-9.85	
28-Apr-2007	08:00:00			-9.14	
28-Apr-2007	20:00:00			-11.01	
29-Apr-2007	08:00:00			-10.10	
29-Apr-2007	20:00:00			-12.01	
30-Apr-2007	08:00:00			-10.93	
30-Apr-2007	20:00:00			-13.17	
01-May-2007	08:00:00			-11.97	
01-May-2007	20:00:00			-14.58	
02-May-2007	08:00:00			-13.06	
02-May-2007	20:00:00			-15.57	
03-May-2007	08:00:00			-14.01	
03-May-2007	20:00:00			-15.03	
04-May-2007	08:00:00			-13.66	
04-May-2007	20:00:00			-12.91	
05-May-2007	08:00:00			-12.22	
05-May-2007	20:00:00			-13.36	
06-May-2007	08:00:00			-4.10	
06-May-2007	20:00:00			-7.99	
07-May-2007	08:00:00			-8.74	
07-May-2007	20:00:00			-11.03	
08-May-2007	08:00:00			-10.79	
08-May-2007	20:00:00			-10.48	
09-May-2007	08:00:00			-10.00	
09-May-2007	20:00:00			-11.90	
10-May-2007	08:00:00			-11.13	
10-May-2007	20:00:00			-13.81	

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
11-May-2007	08:00:00			-12.71	
11-May-2007	20:00:00			-15.80	
12-May-2007	08:00:00			-14.33	
12-May-2007	20:00:00			-15.61	
13-May-2007	08:00:00			-13.93	
13-May-2007	20:00:00			-15.70	
14-May-2007	08:00:00			-14.74	
14-May-2007	20:00:00			-17.57	
15-May-2007	08:00:00			-16.12	
15-May-2007	20:00:00			-18.90	
16-May-2007	08:00:00			-17.37	
16-May-2007	20:00:00			-20.09	
17-May-2007	08:00:00			-4.61	
17-May-2007	20:00:00			-7.90	
18-May-2007	08:00:00			-9.08	
18-May-2007	20:00:00			-10.42	
19-May-2007	08:00:00			-10.60	
19-May-2007	20:00:00			-13.79	
20-May-2007	08:00:00			-13.26	
20-May-2007	20:00:00			-17.01	
21-May-2007	08:00:00			-16.08	
21-May-2007	20:00:00			-19.51	
22-May-2007	08:00:00			-18.16	
22-May-2007	20:00:00			-20.88	
23-May-2007	08:00:00	-24.50	-28.00	-19.49	-24.00
23-May-2007				-22.46	
24-May-2007				-20.99	
24-May-2007				-23.57	
25-May-2007				-22.01	
25-May-2007				-24.63	
26-May-2007				-23.17	
26-May-2007				-25.95	
27-May-2007				-24.63	
27-May-2007				-27.29	
28-May-2007				-26.24	
28-May-2007				-28.58	
29-May-2007				-27.56	
29-May-2007				-29.9	
30-May-2007				-29.03	
30-May-2007				-31.13	
31-May-2007				-30.49	
31-May-2007				-32.3	
1-Jun-2007				-31.66	
1-Jun-2007				-33.34	
2-Jun-2007				-32.74	
2-Jun-2007				-33.78	
3-Jun-2007				-23.45	
3-Jun-2007				-20.53	
4-Jun-2007				-20.15	
4-Jun-2007				-23.61	
5-Jun-2007				-23.11	
5-Jun-2007				-26.17	

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
6-Jun-2007				-25.98	
6-Jun-2007				-29.16	
7-Jun-2007				-28.86	
7-Jun-2007				-31.71	
8-Jun-2007				-31.31	
8-Jun-2007				-33.66	
9-Jun-2007				-33.24	
9-Jun-2007				-35.06	
10-Jun-2007				-34.79	
10-Jun-2007				-36.09	
11-Jun-2007				-35.81	
11-Jun-2007				-36.85	
12-Jun-2007				-36.46	
12-Jun-2007				-37.36	
13-Jun-2007				-37.04	
13-Jun-2007				-38.11	
14-Jun-2007				-37.87	
14-Jun-2007				-38.49	
15-Jun-2007				-38.29	
15-Jun-2007				-39.09	
16-Jun-2007				-38.9	
16-Jun-2007				-39.75	
17-Jun-2007				-39.46	
17-Jun-2007				-40.45	
18-Jun-2007				-40.24	
18-Jun-2007				-41.19	
19-Jun-2007				-41.03	
19-Jun-2007				-41.93	
20-Jun-2007				-41.83	
20-Jun-2007				-42.43	
21-Jun-2007				-42.19	
21-Jun-2007				-43.03	
22-Jun-2007				-42.86	
22-Jun-2007				-43.62	
23-Jun-2007				-43.59	
23-Jun-2007				-44.18	
24-Jun-2007				-44.13	
24-Jun-2007				-44.76	
25-Jun-2007		-32.5	-35.75	-44.6	-36.75
25-Jun-2007				-45.26	
26-Jun-2007				-45.15	
26-Jun-2007				-45.7	
27-Jun-2007				-45.6	
27-Jun-2007				-46.09	
28-Jun-2007				-46.01	
28-Jun-2007				-46.6	
29-Jun-2007				-46.59	
29-Jun-2007				-47.04	
30-Jun-2007				-46.69	
30-Jun-2007				-47.3	
1-Jul-2007				-40.41	
1-Jul-2007				-39.46	

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
2-Jul-2007				-39.08	
2-Jul-2007				-39.72	
3-Jul-2007				-39.63	
3-Jul-2007				-40.6	
4-Jul-2007				-40.7	
4-Jul-2007				-42.11	
5-Jul-2007				-42.27	
5-Jul-2007				-43.74	
6-Jul-2007				-43.71	
6-Jul-2007				-45.19	
7-Jul-2007				-44.99	
7-Jul-2007				-45.96	
8-Jul-2007				-45.69	
8-Jul-2007				-46.73	
9-Jul-2007				-46.68	
9-Jul-2007				-47.48	
10-Jul-2007				-47.33	
10-Jul-2007				-46.89	
11-Jul-2007				-46.28	
11-Jul-2007				-47.58	
12-Jul-2007				-46.87	
12-Jul-2007				-47.88	
13-Jul-2007				-47.52	
13-Jul-2007				-48.29	
14-Jul-2007				-47.96	
14-Jul-2007				-48.79	
15-Jul-2007				-48.62	
15-Jul-2007				-49.33	
16-Jul-2007				-49.16	
16-Jul-2007				-49.87	
17-Jul-2007				-49.71	
17-Jul-2007				-50.31	
18-Jul-2007				-14.49	
18-Jul-2007				-18.79	
19-Jul-2007				-20.14	
19-Jul-2007				-24.72	
20-Jul-2007				-24.48	
20-Jul-2007				-25.76	
21-Jul-2007				-25.25	
21-Jul-2007				-28.18	
22-Jul-2007				-27.96	
22-Jul-2007				-30.24	
23-Jul-2007				-30.16	
23-Jul-2007				-32.43	
24-Jul-2007				-32.35	
24-Jul-2007				-34.24	
25-Jul-2007				-34.18	
25-Jul-2007				-35.68	
26-Jul-2007		-31.5	-35.5	-35.59	-38
26-Jul-2007				-36.89	
27-Jul-2007				-36.78	
27-Jul-2007				-37.79	

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
28-Jul-2007				-37.71	
28-Jul-2007				-38.59	
29-Jul-2007				-38.59	
29-Jul-2007				-39.49	
30-Jul-2007				-39.54	
30-Jul-2007				-39.81	
31-Jul-2007				-39.53	
31-Jul-2007				-40.49	
1-Aug-2007				-40.5	
1-Aug-2007				-41.41	
2-Aug-2007				-41.47	
2-Aug-2007				-42.4	
3-Aug-2007				-42.41	
3-Aug-2007				-43.33	
4-Aug-2007				-43.41	
4-Aug-2007				-44.42	
5-Aug-2007				-44.52	
5-Aug-2007				-45.62	
6-Aug-2007				-45.73	
6-Aug-2007				-46.77	
7-Aug-2007				-46.81	
7-Aug-2007				-47.9	
8-Aug-2007				-47.95	
8-Aug-2007				-49	
9-Aug-2007				-49.04	
9-Aug-2007				-48.3	
10-Aug-2007				-48.2	
10-Aug-2007				-48.76	
11-Aug-2007				-47.91	
11-Aug-2007				-47.81	
12-Aug-2007				-47.42	
12-Aug-2007				-48.95	
13-Aug-2007				-48.63	
13-Aug-2007				-49.97	
14-Aug-2007				-49.74	
14-Aug-2007				-50.09	
15-Aug-2007				-50.09	
15-Aug-2007				-50.08	
16-Aug-2007				-50.09	
16-Aug-2007				-50.08	
17-Aug-2007				-50.07	
17-Aug-2007				-50.08	
18-Aug-2007				-50.08	
18-Aug-2007				-50.08	
19-Aug-2007				-50.09	
19-Aug-2007				-50.08	
20-Aug-2007				-50.09	
20-Aug-2007				-50.09	
21-Aug-2007				-50.09	
21-Aug-2007				-50.08	
22-Aug-2007				-50.08	
22-Aug-2007				-50.08	

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
23-Aug-2007				-50.09	
23-Aug-2007				-50.09	
24-Aug-2007				-50.08	
24-Aug-2007				-50.08	
25-Aug-2007				-50.08	
25-Aug-2007				-50.08	
26-Aug-2007				-50.07	
26-Aug-2007				-50.09	
27-Aug-2007				-50.07	
27-Aug-2007				-50.09	
28-Aug-2007		-41	-48	-50.08	-45
28-Aug-2007				-50.09	
29-Aug-2007				-50.09	
29-Aug-2007				-50.09	
30-Aug-2007				-50.09	
30-Aug-2007				-50.08	
31-Aug-2007				-50.1	
31-Aug-2007				-50.08	
1-Sep-2007				-50.09	
1-Sep-2007				-50.08	
2-Sep-2007				-50.08	
2-Sep-2007				-50.1	
3-Sep-2007				-50.07	
3-Sep-2007				-50.1	
4-Sep-2007				-50.08	
4-Sep-2007				-50.08	
5-Sep-2007				-50.08	
5-Sep-2007				-50.08	
6-Sep-2007				-50.08	
6-Sep-2007				-50.09	
7-Sep-2007				-50.08	
7-Sep-2007				-50.09	
8-Sep-2007				-50.09	
8-Sep-2007				-50.1	
9-Sep-2007				-50.09	
9-Sep-2007				-50.08	
10-Sep-2007				-50.09	
10-Sep-2007				-50.08	
11-Sep-2007				-50.09	
11-Sep-2007				-50.09	
12-Sep-2007				-50.08	
12-Sep-2007				-50.09	
13-Sep-2007				-50.08	
13-Sep-2007				-50.08	
14-Sep-2007				-50.1	
14-Sep-2007				-50.09	
15-Sep-2007				-45.74	
15-Sep-2007				-24.83	
16-Sep-2007				-25.43	
16-Sep-2007				-27.59	
17-Sep-2007				-27.39	
17-Sep-2007				-31.22	

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
18-Sep-2007				-32.13	
18-Sep-2007				-34.88	
19-Sep-2007				-35.21	
19-Sep-2007				-36.08	
20-Sep-2007				-36.39	
20-Sep-2007				-35.98	
21-Sep-2007				-34.29	
21-Sep-2007				-29.06	
22-Sep-2007				-25.68	
22-Sep-2007				-27.45	
23-Sep-2007				-26.03	
23-Sep-2007				-30.55	
24-Sep-2007		-33	-36.5	-30.83	-37
24-Sep-2007					
25-Sep-2007					
25-Sep-2007					
26-Sep-2007					
26-Sep-2007					
27-Sep-2007					
27-Sep-2007					
28-Sep-2007					
28-Sep-2007					
29-Sep-2007					
29-Sep-2007					
30-Sep-2007					
30-Sep-2007					
1-Oct-2007					
1-Oct-2007					
2-Oct-2007					
2-Oct-2007					
3-Oct-2007					
3-Oct-2007					
4-Oct-2007					
4-Oct-2007					
5-Oct-2007					
5-Oct-2007					
6-Oct-2007					
6-Oct-2007					
7-Oct-2007					
7-Oct-2007					
8-Oct-2007					
8-Oct-2007					
9-Oct-2007					
9-Oct-2007					
10-Oct-2007					
10-Oct-2007					
11-Oct-2007					
11-Oct-2007					
12-Oct-2007					
12-Oct-2007					
13-Oct-2007					
13-Oct-2007					

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
14-Oct-2007					
14-Oct-2007					
15-Oct-2007					
15-Oct-2007					
16-Oct-2007					
16-Oct-2007					
17-Oct-2007					
17-Oct-2007					
18-Oct-2007					
18-Oct-2007					
19-Oct-2007					
19-Oct-2007					
20-Oct-2007					
20-Oct-2007					
21-Oct-2007					
21-Oct-2007					
22-Oct-2007					
22-Oct-2007					
23-Oct-2007					
23-Oct-2007					
24-Oct-2007					
24-Oct-2007					
25-Oct-2007					
25-Oct-2007					
26-Oct-2007					
26-Oct-2007					
27-Oct-2007					
27-Oct-2007					
28-Oct-2007					
28-Oct-2007					
29-Oct-2007					
29-Oct-2007					
30-Oct-2007					
30-Oct-2007					
31-Oct-2007					
31-Oct-2007					
1-Nov-2007					
1-Nov-2007					
2-Nov-2007					
2-Nov-2007					
3-Nov-2007					
3-Nov-2007					
4-Nov-2007					
4-Nov-2007					
5-Nov-2007					
5-Nov-2007					
6-Nov-2007					
6-Nov-2007					
7-Nov-2007					
7-Nov-2007					
8-Nov-2007					
8-Nov-2007					

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
9-Nov-2007					
9-Nov-2007					
10-Nov-2007					
10-Nov-2007					
11-Nov-2007					
11-Nov-2007					
12-Nov-2007					
12-Nov-2007					
13-Nov-2007					
13-Nov-2007					
14-Nov-2007					
14-Nov-2007					
15-Nov-2007					
15-Nov-2007					
16-Nov-2007					
16-Nov-2007					
17-Nov-2007					
17-Nov-2007					
18-Nov-2007					
18-Nov-2007					
19-Nov-2007					
19-Nov-2007					
20-Nov-2007					
20-Nov-2007					
21-Nov-2007					
21-Nov-2007					
22-Nov-2007					
22-Nov-2007					
23-Nov-2007					
23-Nov-2007					
24-Nov-2007					
24-Nov-2007					
25-Nov-2007					
25-Nov-2007					
26-Nov-2007					
26-Nov-2007					
27-Nov-2007					
27-Nov-2007					
28-Nov-2007					
28-Nov-2007					
29-Nov-2007					
29-Nov-2007					
30-Nov-2007					
30-Nov-2007					
1-Dec-2007					
1-Dec-2007					
2-Dec-2007					
2-Dec-2007					
3-Dec-2007					
3-Dec-2007					
4-Dec-2007					
4-Dec-2007					

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
5-Dec-2007					
5-Dec-2007					
6-Dec-2007					
6-Dec-2007					
7-Dec-2007					
7-Dec-2007					
8-Dec-2007					
8-Dec-2007					
9-Dec-2007					
9-Dec-2007					
10-Dec-2007					
10-Dec-2007					
11-Dec-2007					
11-Dec-2007					
12-Dec-2007					
12-Dec-2007					
13-Dec-2007					
13-Dec-2007					
14-Dec-2007					
14-Dec-2007					
15-Dec-2007					
15-Dec-2007					
16-Dec-2007					
16-Dec-2007					
17-Dec-2007					
17-Dec-2007					
18-Dec-2007					
18-Dec-2007					
19-Dec-2007					
19-Dec-2007					
20-Dec-2007					
20-Dec-2007					
21-Dec-2007					
21-Dec-2007					
22-Dec-2007					
22-Dec-2007					
23-Dec-2007					
23-Dec-2007					
24-Dec-2007					
24-Dec-2007					
25-Dec-2007					
25-Dec-2007					
26-Dec-2007					
26-Dec-2007					
27-Dec-2007					
27-Dec-2007					
28-Dec-2007					
28-Dec-2007					
29-Dec-2007					
29-Dec-2007					
30-Dec-2007					
30-Dec-2007					

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW1	CoxRef MW2	CoxRef AW3	CoxRef MW4
31-Dec-2007					
31-Dec-2007					

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
1-Jan-2007	08:00:00				
1-Jan-2007	20:00:00				0.04
2-Jan-2007	08:00:00				
2-Jan-2007	20:00:00				0.13
3-Jan-2007	08:00:00				
3-Jan-2007	20:00:00				0
4-Jan-2007	08:00:00				
4-Jan-2007	20:00:00				0
5-Jan-2007	08:00:00				
5-Jan-2007	20:00:00				0
6-Jan-2007	08:00:00				
6-Jan-2007	20:00:00				0.56
7-Jan-2007	08:00:00				
7-Jan-2007	20:00:00				0.1
8-Jan-2007	08:00:00				
8-Jan-2007	20:00:00				0.25
9-Jan-2007	08:00:00				
9-Jan-2007	20:00:00				0.2
10-Jan-2007	08:00:00				
10-Jan-2007	20:00:00				0
11-Jan-2007	08:00:00				
11-Jan-2007	20:00:00				0
12-Jan-2007	08:00:00				
12-Jan-2007	20:00:00				0
13-Jan-2007	08:00:00				
13-Jan-2007	20:00:00				0
14-Jan-2007	08:00:00				
14-Jan-2007	20:00:00				0
15-Jan-2007	08:00:00				
15-Jan-2007	20:00:00				0
16-Jan-2007	08:00:00				
16-Jan-2007	20:00:00				0
17-Jan-2007	08:00:00				
17-Jan-2007	20:00:00				0.05
18-Jan-2007	08:00:00				
18-Jan-2007	20:00:00				0.03
19-Jan-2007	08:00:00				
19-Jan-2007	20:00:00				0.5
20-Jan-2007	08:00:00				
20-Jan-2007	20:00:00				0
21-Jan-2007	08:00:00				
21-Jan-2007	20:00:00				0
22-Jan-2007	08:00:00				
22-Jan-2007	20:00:00				1.05
23-Jan-2007	08:00:00				
23-Jan-2007	20:00:00				0.08
24-Jan-2007	08:00:00				
24-Jan-2007	20:00:00				0
25-Jan-2007	08:00:00				
25-Jan-2007	20:00:00				0
26-Jan-2007	08:00:00				
26-Jan-2007	20:00:00				0

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
27-Jan-2007	08:00:00				
27-Jan-2007	20:00:00				0
28-Jan-2007	08:00:00				
28-Jan-2007	20:00:00				0.02
29-Jan-2007	08:00:00				
29-Jan-2007	20:00:00				0.03
30-Jan-2007	08:00:00				
30-Jan-2007	20:00:00				0
31-Jan-2007	08:00:00				
31-Jan-2007	20:00:00				0
1-Feb-2007	08:00:00				
1-Feb-2007	20:00:00				0
2-Feb-2007	08:00:00				
2-Feb-2007	20:00:00				0.76
3-Feb-2007	08:00:00				
3-Feb-2007	20:00:00				0.07
4-Feb-2007	08:00:00				
4-Feb-2007	20:00:00				0
5-Feb-2007	08:00:00				
5-Feb-2007	20:00:00				0
6-Feb-2007	08:00:00				
6-Feb-2007	20:00:00				0
7-Feb-2007	08:00:00				
7-Feb-2007	20:00:00				0
8-Feb-2007	08:00:00				
8-Feb-2007	20:00:00				0
9-Feb-2007	08:00:00				
9-Feb-2007	20:00:00				0
10-Feb-2007	08:00:00				
10-Feb-2007	20:00:00				0
11-Feb-2007	08:00:00				
11-Feb-2007	20:00:00				0
12-Feb-2007	08:00:00				
12-Feb-2007	20:00:00				0
13-Feb-2007	08:00:00				
13-Feb-2007	20:00:00				0
14-Feb-2007	08:00:00				
14-Feb-2007	20:00:00				0.75
15-Feb-2007	08:00:00				
15-Feb-2007	20:00:00				0
16-Feb-2007	08:00:00				
16-Feb-2007	20:00:00				0
17-Feb-2007	08:00:00				
17-Feb-2007	20:00:00				0
18-Feb-2007	08:00:00				
18-Feb-2007	20:00:00				0
19-Feb-2007	08:00:00				
19-Feb-2007	20:00:00				0
20-Feb-2007	08:00:00				
20-Feb-2007	20:00:00				0
21-Feb-2007	08:00:00				
21-Feb-2007	20:00:00				0

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
22-Feb-2007	08:00:00				
22-Feb-2007	20:00:00				0
23-Feb-2007	08:00:00				
23-Feb-2007	20:00:00				0
24-Feb-2007	08:00:00				
24-Feb-2007	20:00:00				0
25-Feb-2007	08:00:00				
25-Feb-2007	20:00:00				0
26-Feb-2007	08:00:00	-13.5	0.3	2.3	
26-Feb-2007	20:00:00				0.5
27-Feb-2007	08:00:00				
27-Feb-2007	20:00:00				0
28-Feb-2007	08:00:00				
28-Feb-2007	20:00:00				0
01-Mar-2007	08:00:00				
01-Mar-2007	20:00:00				0
02-Mar-2007	08:00:00				
02-Mar-2007	20:00:00				0.42
03-Mar-2007	08:00:00				
03-Mar-2007	20:00:00				0.19
04-Mar-2007	08:00:00				
04-Mar-2007	20:00:00				0
05-Mar-2007	08:00:00				
05-Mar-2007	20:00:00				0
06-Mar-2007	08:00:00				
06-Mar-2007	20:00:00				0
07-Mar-2007	08:00:00				
07-Mar-2007	20:00:00				0
08-Mar-2007	08:00:00				
08-Mar-2007	20:00:00				0
09-Mar-2007	08:00:00				
09-Mar-2007	20:00:00				0
10-Mar-2007	08:00:00				
10-Mar-2007	20:00:00				0
11-Mar-2007	08:00:00				
11-Mar-2007	20:00:00				0
12-Mar-2007	08:00:00				
12-Mar-2007	20:00:00				0
13-Mar-2007	08:00:00				
13-Mar-2007	20:00:00				0
14-Mar-2007	08:00:00				
14-Mar-2007	20:00:00				0
15-Mar-2007	08:00:00				
15-Mar-2007	20:00:00				0
16-Mar-2007	08:00:00				
16-Mar-2007	20:00:00				0
17-Mar-2007	08:00:00				
17-Mar-2007	20:00:00				1.5
18-Mar-2007	08:00:00				
18-Mar-2007	20:00:00				0
19-Mar-2007	08:00:00				
19-Mar-2007	20:00:00				0

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
20-Mar-2007	08:00:00				
20-Mar-2007	20:00:00				0
21-Mar-2007	08:00:00				
21-Mar-2007	20:00:00				0
22-Mar-2007	08:00:00				
22-Mar-2007	20:00:00				0
23-Mar-2007	08:00:00				
23-Mar-2007	20:00:00				0
24-Mar-2007	08:00:00				
24-Mar-2007	20:00:00				0
25-Mar-2007	08:00:00				
25-Mar-2007	20:00:00				0
26-Mar-2007	08:00:00				
26-Mar-2007	20:00:00				0
27-Mar-2007	08:00:00				
27-Mar-2007	20:00:00				0
28-Mar-2007	08:00:00				
28-Mar-2007	20:00:00				0
29-Mar-2007	08:00:00	-13.50	0.00	1.9	
29-Mar-2007	20:00:00				0
30-Mar-2007	08:00:00				
30-Mar-2007	20:00:00				0.3
31-Mar-2007	08:00:00				
31-Mar-2007	20:00:00				0.01
01-Apr-2007	08:00:00				
01-Apr-2007	20:00:00				0
02-Apr-2007	08:00:00				
02-Apr-2007	20:00:00				0.01
03-Apr-2007	08:00:00				
03-Apr-2007	20:00:00				0.04
04-Apr-2007	08:00:00				
04-Apr-2007	20:00:00				0
05-Apr-2007	08:00:00				
05-Apr-2007	20:00:00				0
06-Apr-2007	08:00:00				
06-Apr-2007	20:00:00				0
07-Apr-2007	08:00:00				
07-Apr-2007	20:00:00				0.05
08-Apr-2007	08:00:00				
08-Apr-2007	20:00:00				0
09-Apr-2007	08:00:00				
09-Apr-2007	20:00:00				0
10-Apr-2007	08:00:00				
10-Apr-2007	20:00:00				0
11-Apr-2007	08:00:00				
11-Apr-2007	20:00:00				0
12-Apr-2007	08:00:00				
12-Apr-2007	20:00:00				0.27
13-Apr-2007	08:00:00				
13-Apr-2007	20:00:00				0
14-Apr-2007	08:00:00				
14-Apr-2007	20:00:00				0

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
15-Apr-2007	08:00:00				
15-Apr-2007	20:00:00				0.16
16-Apr-2007	08:00:00				
16-Apr-2007	20:00:00				1.52
17-Apr-2007	08:00:00				
17-Apr-2007	20:00:00				0
18-Apr-2007	08:00:00				
18-Apr-2007	20:00:00				0
19-Apr-2007	08:00:00				
19-Apr-2007	20:00:00				0
20-Apr-2007	08:00:00				
20-Apr-2007	20:00:00				0.04
21-Apr-2007	08:00:00				
21-Apr-2007	20:00:00				0
22-Apr-2007	08:00:00				
22-Apr-2007	20:00:00				0
23-Apr-2007	08:00:00				
23-Apr-2007	20:00:00				0
24-Apr-2007	08:00:00	-19.00	0.00	3.05	
24-Apr-2007	20:00:00				0
25-Apr-2007	08:00:00				
25-Apr-2007	20:00:00				0
26-Apr-2007	08:00:00				
26-Apr-2007	20:00:00				0
27-Apr-2007	08:00:00				
27-Apr-2007	20:00:00				0
28-Apr-2007	08:00:00				
28-Apr-2007	20:00:00				0
29-Apr-2007	08:00:00				
29-Apr-2007	20:00:00				0
30-Apr-2007	08:00:00				
30-Apr-2007	20:00:00				0
01-May-2007	08:00:00				
01-May-2007	20:00:00				0
02-May-2007	08:00:00				
02-May-2007	20:00:00				0
03-May-2007	08:00:00				
03-May-2007	20:00:00				0
04-May-2007	08:00:00				
04-May-2007	20:00:00				0.08
05-May-2007	08:00:00				
05-May-2007	20:00:00				0.1
06-May-2007	08:00:00				
06-May-2007	20:00:00				0.19
07-May-2007	08:00:00				
07-May-2007	20:00:00				0
08-May-2007	08:00:00				
08-May-2007	20:00:00				0
09-May-2007	08:00:00				
09-May-2007	20:00:00				0.08
10-May-2007	08:00:00				
10-May-2007	20:00:00				0

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
11-May-2007	08:00:00				
11-May-2007	20:00:00				0
12-May-2007	08:00:00				
12-May-2007	20:00:00				0
13-May-2007	08:00:00				
13-May-2007	20:00:00				0.26
14-May-2007	08:00:00				
14-May-2007	20:00:00				0
15-May-2007	08:00:00				
15-May-2007	20:00:00				0
16-May-2007	08:00:00				
16-May-2007	20:00:00				0
17-May-2007	08:00:00				
17-May-2007	20:00:00				0.6
18-May-2007	08:00:00				
18-May-2007	20:00:00				0.05
19-May-2007	08:00:00				
19-May-2007	20:00:00				0.05
20-May-2007	08:00:00				
20-May-2007	20:00:00				0
21-May-2007	08:00:00				
21-May-2007	20:00:00				0
22-May-2007	08:00:00				
22-May-2007	20:00:00				0
23-May-2007	08:00:00	-33.50	0.00	1.55	
23-May-2007					0
24-May-2007					
24-May-2007					0
25-May-2007					
25-May-2007					0
26-May-2007					
26-May-2007					0
27-May-2007					
27-May-2007					0
28-May-2007					
28-May-2007					0
29-May-2007					
29-May-2007					0
30-May-2007					
30-May-2007					0
31-May-2007					
31-May-2007					0
1-Jun-2007					
1-Jun-2007					0
2-Jun-2007					
2-Jun-2007					0
3-Jun-2007					
3-Jun-2007					0.65
4-Jun-2007					
4-Jun-2007					0.74
5-Jun-2007					
5-Jun-2007					0

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
6-Jun-2007					
6-Jun-2007					0
7-Jun-2007					
7-Jun-2007					0
8-Jun-2007					
8-Jun-2007					0
9-Jun-2007					
9-Jun-2007					0
10-Jun-2007					
10-Jun-2007					0
11-Jun-2007					
11-Jun-2007					0
12-Jun-2007					
12-Jun-2007					0
13-Jun-2007					
13-Jun-2007					0.05
14-Jun-2007					
14-Jun-2007					0.09
15-Jun-2007					
15-Jun-2007					0
16-Jun-2007					
16-Jun-2007					0
17-Jun-2007					
17-Jun-2007					0
18-Jun-2007					
18-Jun-2007					0
19-Jun-2007					
19-Jun-2007					0
20-Jun-2007					
20-Jun-2007					0
21-Jun-2007					
21-Jun-2007					0.24
22-Jun-2007					
22-Jun-2007					0
23-Jun-2007					
23-Jun-2007					0
24-Jun-2007					
24-Jun-2007					0
25-Jun-2007		-38.5			
25-Jun-2007				0	0
26-Jun-2007					
26-Jun-2007					0
27-Jun-2007					
27-Jun-2007					0
28-Jun-2007					
28-Jun-2007					0.25
29-Jun-2007					
29-Jun-2007					0
30-Jun-2007					
30-Jun-2007					0.29
1-Jul-2007					
1-Jul-2007					0.68

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
2-Jul-2007					
2-Jul-2007					0
3-Jul-2007					
3-Jul-2007					0
4-Jul-2007					
4-Jul-2007					0
5-Jul-2007					
5-Jul-2007					0
6-Jul-2007					
6-Jul-2007					0
7-Jul-2007					
7-Jul-2007					0
8-Jul-2007					
8-Jul-2007					0
9-Jul-2007					
9-Jul-2007					0
10-Jul-2007					
10-Jul-2007					0
11-Jul-2007					
11-Jul-2007					0.68
12-Jul-2007					
12-Jul-2007					0.34
13-Jul-2007					
13-Jul-2007					0
14-Jul-2007					
14-Jul-2007					0
15-Jul-2007					
15-Jul-2007					0
16-Jul-2007					
16-Jul-2007					0.03
17-Jul-2007					
17-Jul-2007					0
18-Jul-2007					
18-Jul-2007					3.3
19-Jul-2007					
19-Jul-2007					0
20-Jul-2007					
20-Jul-2007					0
21-Jul-2007					
21-Jul-2007					0
22-Jul-2007					
22-Jul-2007					0
23-Jul-2007					
23-Jul-2007					0
24-Jul-2007					
24-Jul-2007					0
25-Jul-2007					
25-Jul-2007					0
26-Jul-2007		-37		5.3	
26-Jul-2007					0
27-Jul-2007					
27-Jul-2007					0

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
28-Jul-2007					
28-Jul-2007					0.15
29-Jul-2007					
29-Jul-2007					1
30-Jul-2007					
30-Jul-2007					0.02
31-Jul-2007					
31-Jul-2007					0.25
1-Aug-2007					
1-Aug-2007					0
2-Aug-2007					
2-Aug-2007					0
3-Aug-2007					
3-Aug-2007					0
4-Aug-2007					
4-Aug-2007					0
5-Aug-2007					
5-Aug-2007					0
6-Aug-2007					
6-Aug-2007					0
7-Aug-2007					
7-Aug-2007					0.1
8-Aug-2007					
8-Aug-2007					0
9-Aug-2007					
9-Aug-2007					0
10-Aug-2007					
10-Aug-2007					0
11-Aug-2007					
11-Aug-2007					0
12-Aug-2007					
12-Aug-2007					0
13-Aug-2007					
13-Aug-2007					0
14-Aug-2007					
14-Aug-2007					0
15-Aug-2007					
15-Aug-2007					0
16-Aug-2007					
16-Aug-2007					0
17-Aug-2007					
17-Aug-2007					0
18-Aug-2007					
18-Aug-2007					0.25
19-Aug-2007					
19-Aug-2007					0
20-Aug-2007					
20-Aug-2007					0
21-Aug-2007					
21-Aug-2007					0
22-Aug-2007					
22-Aug-2007					0.28

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
23-Aug-2007					
23-Aug-2007					0
24-Aug-2007					
24-Aug-2007					0
25-Aug-2007					
25-Aug-2007					0
26-Aug-2007					
26-Aug-2007					0
27-Aug-2007					
27-Aug-2007					0.3
28-Aug-2007		-47			
28-Aug-2007			0	2.35	0
29-Aug-2007					
29-Aug-2007					0
30-Aug-2007					
30-Aug-2007					0
31-Aug-2007					
31-Aug-2007					0
1-Sep-2007					
1-Sep-2007					
2-Sep-2007					
2-Sep-2007					0
3-Sep-2007					
3-Sep-2007					0
4-Sep-2007					
4-Sep-2007					0
5-Sep-2007					
5-Sep-2007					0
6-Sep-2007					
6-Sep-2007					
7-Sep-2007					
7-Sep-2007					0
8-Sep-2007					
8-Sep-2007					0
9-Sep-2007					
9-Sep-2007					0
10-Sep-2007					
10-Sep-2007					0
11-Sep-2007					
11-Sep-2007					0
12-Sep-2007					
12-Sep-2007					0
13-Sep-2007					
13-Sep-2007					0
14-Sep-2007					
14-Sep-2007					0
15-Sep-2007					
15-Sep-2007					4
16-Sep-2007					
16-Sep-2007					
17-Sep-2007					
17-Sep-2007					0

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
18-Sep-2007					
18-Sep-2007					0
19-Sep-2007					
19-Sep-2007					0
20-Sep-2007					
20-Sep-2007					0
21-Sep-2007					
21-Sep-2007					0.26
22-Sep-2007					
22-Sep-2007					0.03
23-Sep-2007					
23-Sep-2007					
24-Sep-2007		-39	0		
24-Sep-2007				3.82	
25-Sep-2007					
25-Sep-2007					
26-Sep-2007					
26-Sep-2007					0
27-Sep-2007					
27-Sep-2007					0
28-Sep-2007					
28-Sep-2007					0
29-Sep-2007					
29-Sep-2007					
30-Sep-2007					
30-Sep-2007					0
1-Oct-2007					
1-Oct-2007					0
2-Oct-2007					
2-Oct-2007					
3-Oct-2007					
3-Oct-2007					
4-Oct-2007					
4-Oct-2007					
5-Oct-2007					
5-Oct-2007					
6-Oct-2007					
6-Oct-2007					
7-Oct-2007					
7-Oct-2007					
8-Oct-2007					
8-Oct-2007					
9-Oct-2007					
9-Oct-2007					
10-Oct-2007					
10-Oct-2007					
11-Oct-2007					
11-Oct-2007					
12-Oct-2007					
12-Oct-2007					
13-Oct-2007					
13-Oct-2007					

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
14-Oct-2007					
14-Oct-2007					
15-Oct-2007					
15-Oct-2007					
16-Oct-2007					
16-Oct-2007					
17-Oct-2007					
17-Oct-2007					
18-Oct-2007					
18-Oct-2007					
19-Oct-2007					
19-Oct-2007					
20-Oct-2007					
20-Oct-2007					
21-Oct-2007					
21-Oct-2007					
22-Oct-2007					
22-Oct-2007					
23-Oct-2007					
23-Oct-2007					
24-Oct-2007					
24-Oct-2007					
25-Oct-2007					
25-Oct-2007					
26-Oct-2007					
26-Oct-2007					
27-Oct-2007					
27-Oct-2007					
28-Oct-2007					
28-Oct-2007					
29-Oct-2007					
29-Oct-2007					
30-Oct-2007					
30-Oct-2007					
31-Oct-2007					
31-Oct-2007					
1-Nov-2007					
1-Nov-2007					
2-Nov-2007					
2-Nov-2007					
3-Nov-2007					
3-Nov-2007					
4-Nov-2007					
4-Nov-2007					
5-Nov-2007					
5-Nov-2007					
6-Nov-2007					
6-Nov-2007					
7-Nov-2007					
7-Nov-2007					
8-Nov-2007					
8-Nov-2007					

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
9-Nov-2007					
9-Nov-2007					
10-Nov-2007					
10-Nov-2007					
11-Nov-2007					
11-Nov-2007					
12-Nov-2007					
12-Nov-2007					
13-Nov-2007					
13-Nov-2007					
14-Nov-2007					
14-Nov-2007					
15-Nov-2007					
15-Nov-2007					
16-Nov-2007					
16-Nov-2007					
17-Nov-2007					
17-Nov-2007					
18-Nov-2007					
18-Nov-2007					
19-Nov-2007					
19-Nov-2007					
20-Nov-2007					
20-Nov-2007					
21-Nov-2007					
21-Nov-2007					
22-Nov-2007					
22-Nov-2007					
23-Nov-2007					
23-Nov-2007					
24-Nov-2007					
24-Nov-2007					
25-Nov-2007					
25-Nov-2007					
26-Nov-2007					
26-Nov-2007					
27-Nov-2007					
27-Nov-2007					
28-Nov-2007					
28-Nov-2007					
29-Nov-2007					
29-Nov-2007					
30-Nov-2007					
30-Nov-2007					
1-Dec-2007					
1-Dec-2007					
2-Dec-2007					
2-Dec-2007					
3-Dec-2007					
3-Dec-2007					
4-Dec-2007					
4-Dec-2007					

Date	Time			On-site Raingauge	Smithfield Daily Rainfall
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG		
5-Dec-2007					
5-Dec-2007					
6-Dec-2007					
6-Dec-2007					
7-Dec-2007					
7-Dec-2007					
8-Dec-2007					
8-Dec-2007					
9-Dec-2007					
9-Dec-2007					
10-Dec-2007					
10-Dec-2007					
11-Dec-2007					
11-Dec-2007					
12-Dec-2007					
12-Dec-2007					
13-Dec-2007					
13-Dec-2007					
14-Dec-2007					
14-Dec-2007					
15-Dec-2007					
15-Dec-2007					
16-Dec-2007					
16-Dec-2007					
17-Dec-2007					
17-Dec-2007					
18-Dec-2007					
18-Dec-2007					
19-Dec-2007					
19-Dec-2007					
20-Dec-2007					
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21-Dec-2007					
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22-Dec-2007					
22-Dec-2007					
23-Dec-2007					
23-Dec-2007					
24-Dec-2007					
24-Dec-2007					
25-Dec-2007					
25-Dec-2007					
26-Dec-2007					
26-Dec-2007					
27-Dec-2007					
27-Dec-2007					
28-Dec-2007					
28-Dec-2007					
29-Dec-2007					
29-Dec-2007					
30-Dec-2007					
30-Dec-2007					

Date	Time				
dd-mmm-yyyy	hh:mm:ss	CoxRef MW5	CG	On-site Raingauge	Smithfield Daily Rainfall
31-Dec-2007					
31-Dec-2007					

APPENDIX D

2007 Site Photos

Photo 1. Typical root wad structures found along the bends.

Photo 2. Typical log weir, installed correctly.

Photo 3. Typical double barrel corrugated metal pipe culverts and stream crossing.

Photo 4. Typical log weir.

Photo 5. Typical rock cross vane, looking downstream.

Photo 6. Typical conditions found at the site.

Photo 7. Typical ford crossing.

Photo 8. Typical log vane.

Photo 9. Typical root wad structures to armor bends.

Photo 10. Typical constructed riffle.

SPA #1. STA 20+40. Log weir end cut on right bank.

SPA #2. STA 23+50. Erosion on left bank behind rootwad.

SPA #3. STA 26+30. Erosion on right bank upstream of rootwad.

SPA #4. 31+40. Log weir undercut on right bank.

SPA #5. STA 33+70. Log weir end cut on left bank.

SPA #6. STA 37+00. Erosion on right bank.

SPA #7. STA 46+80. Log weir undercut on left bank.

SPA #8. STA 51+90. Bed erosion.

SPA #9. STA 55+90. bed erosion.

SPA #10. STA 57+10. Log weir end cut on right bank.

SPA #11. STA 59+10. Log weir end cut on right bank.

SPA #12. STA 59+20. Bed erosion and mid-channel bar formation.

SPA #13. STA 63+00. Bed erosion and mid-channel bar formation.

SPA #14. STA 65+30. Log weir end cut on left bank.

SPA #15. STA 66+40. Head cut and bed erosion.

SPA #16. STA 71+40. Log weir undercut.

SPA #17. STA 74+50. Erosion on right bank downstream of log vane.

SPA #18. STA 74+80. Bed erosion.

SPA #19. STA 76+90. Log weir undercut.

SPA #20. STA 81+60. Mid-channel bar formation.

SPA #21. STA 82+80. Head cut and bed erosion.