

**Cox Mitigation Project  
Johnston County, North Carolina**

**FINAL Year 4 Monitoring Report**



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Appendix C	2009 Gauge Data
Appendix D	2009 Site Photos



## **1.0 SUMMARY**

This Annual Report details the monitoring activities during the 2009 growing season on the Cox Mitigation Site. Construction of the site was completed in December 2005. The 2009 data represent the results from the fourth 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, one crest gauge, one on-site rain gauge, and 16 cross sections, as required by the approved Restoration Plan.

In 2009, 11 of the 12 hydrology monitoring gauges recorded hydroperiods of at least seven percent of the growing season. The gauge that did not record a success criteria hydroperiod recorded a hydroperiod of three percent of the growing season, which is within the range of data from the reference wetland gauges. Based on the monitoring results of Years 1 through 4, it was concluded that the restored wetland 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.

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 2009 documented a range of surviving tree stem density of 440 stems per acre to 800 stems per acre, with an average tree density of 603 stems per acre. Overall, the site has met the initial vegetation success criteria of 320 surviving stems per acre after the third growing season, as specified in the Restoration Plan, and remains on track to achieve the final success criteria of 260 stems per acre after the fifth growing season.

During 2009, the restored stream channel remained stable and continued to provide the intended habitat and hydrologic functions. Two bankfull events were recorded during the year. All monitored cross sections showed negligible 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 DESCRIPTION

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 2009 monitoring season represents the fourth year of monitoring for the site.

### 2.2 PROJECT PURPOSE

Monitoring of the Cox site is required to demonstrate successful restoration based on comparison to reference site conditions, and based on the other criteria found in the Restoration Plan. 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 2009 (Year 4) at the Cox Mitigation Site.

**Table 1. Project Mitigation Structure and Objectives**

Reach Name	As-Built Length (ft)	Mitigation Units	Restoration Approach
<b>Stream</b>			
UT to Mill Creek	7,292	7,292	Restoration
UT to Mill Creek	350	140	Enhancement
<b>Total</b>	<b>7,642</b>	<b>7,432</b>	
<b>Wetland</b>			
Riverine	26.8 acres	26.8	Restoration
Non-Riverine	16.9 acres	16.9	Restoration

### 2.3 PROJECT HISTORY & SCHEDULE

**Table 2. Project Activity and Reporting History**

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

**Table 3. Project Contacts**

Contact	Firm Information
<b>Project Manager</b> Norton Webster	EBX-Neuse 1, LLC (919) 608-9688
<b>Designer</b> Kevin Tweedy, PE	Buck Engineering PC (919) 463-5488
<b>Monitoring Contractor</b> Daniel Ingram	WK Dickson and Co., Inc (919) 782-0495

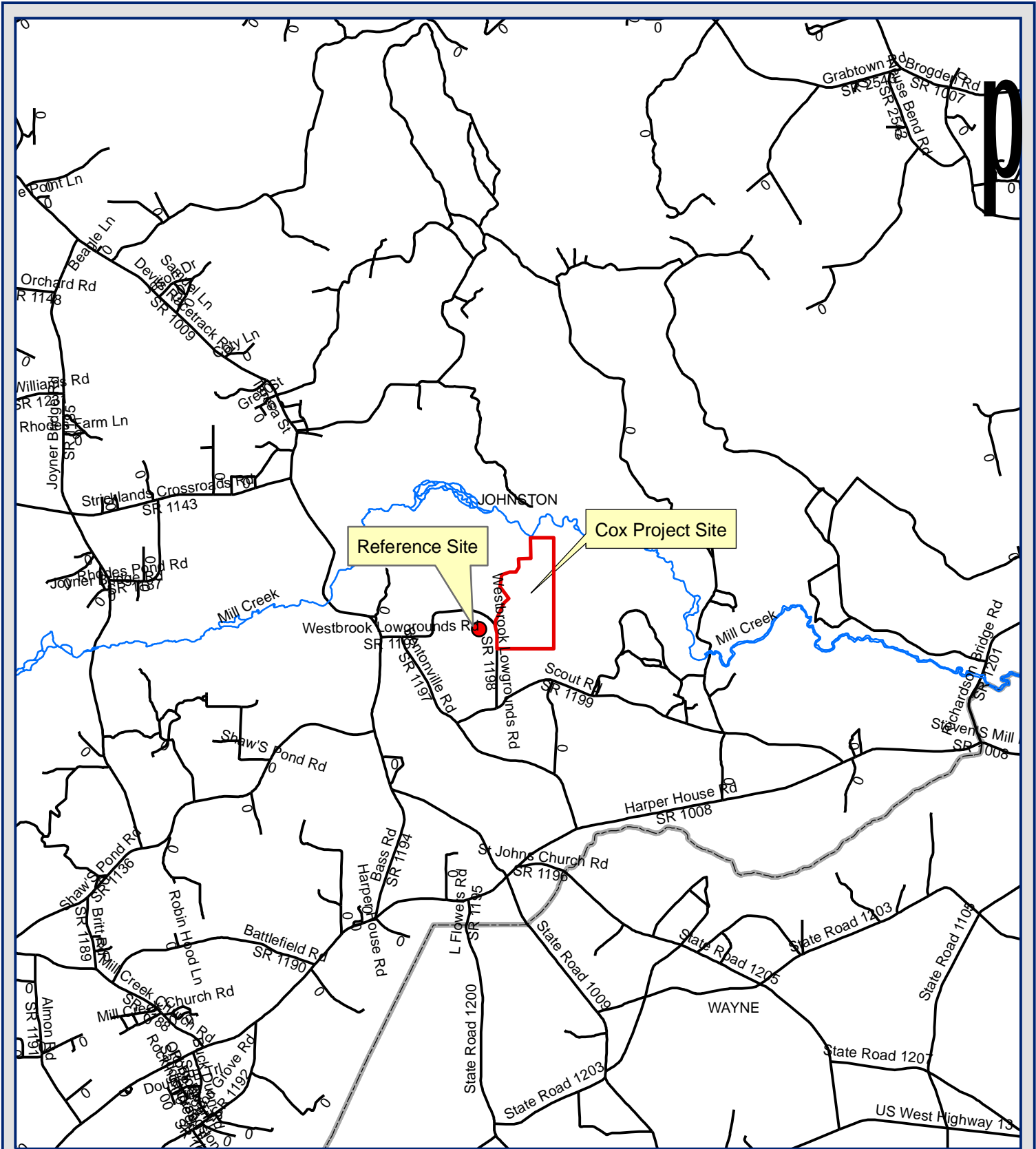
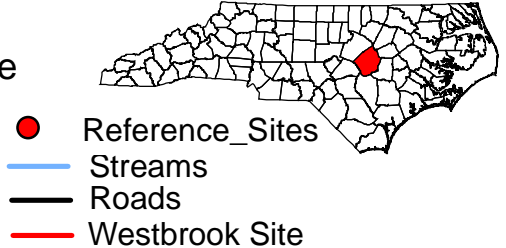


Figure 1.  
Cox Stream Mitigation Site  
Project Location Map  
Johnston County, NC

1 inch equals 1 miles



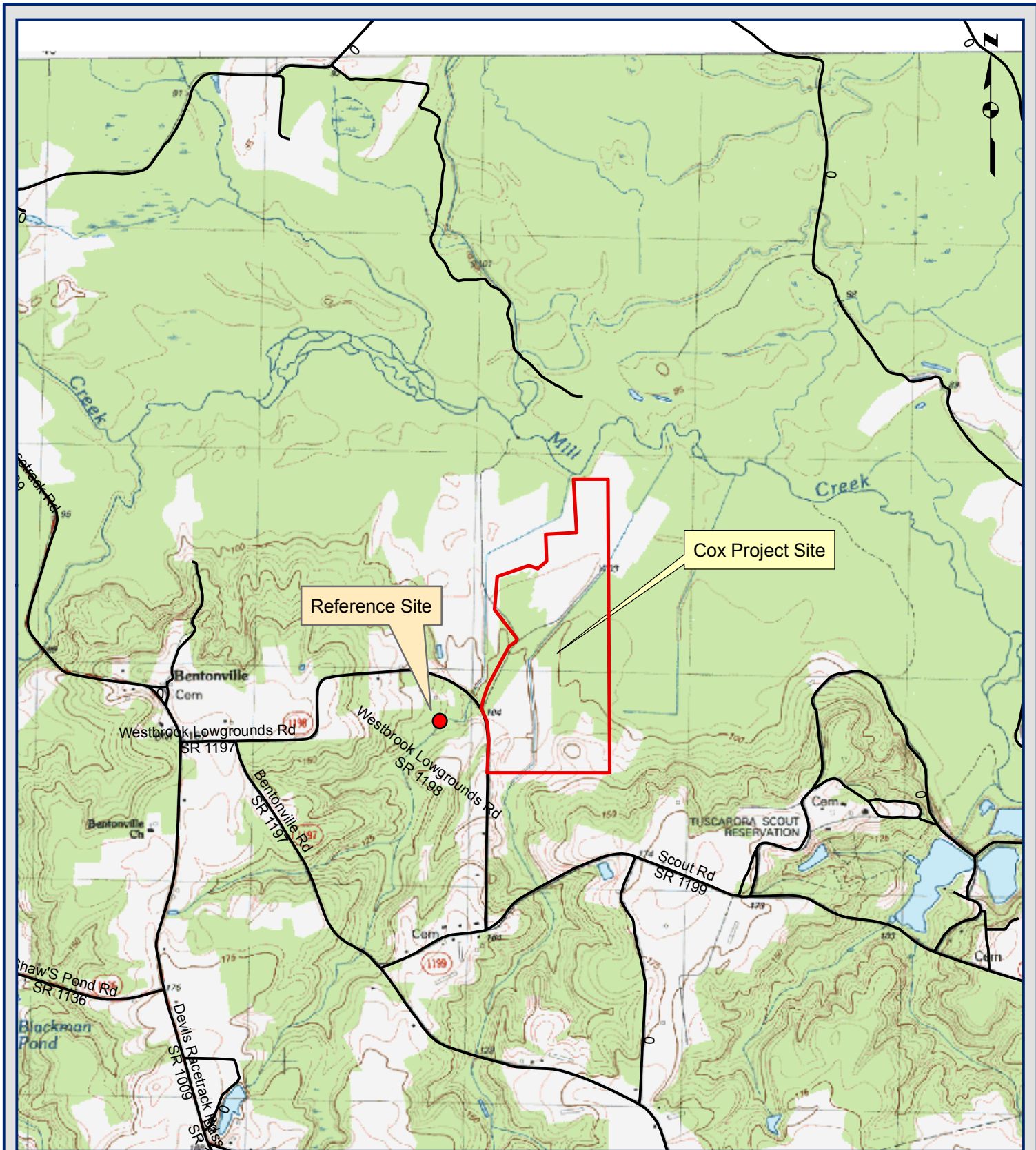


Figure 2.  
 Cox Stream Mitigation Site  
 USGS Topographic Map  
 Johnston County, NC

1 inch equals 2,000 feet

**LEGEND**

- Reference\_Sites
- Streams
- Roads
- Cox Site



## **3.0 HYDROLOGY**

### **3.1 HYDROLOGIC 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 nine automated and three manual groundwater gauges. The Restoration Plan further specifies 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 HYDROLOGY MONITORING EFFORTS**

Three manual groundwater gauges, nine automated Infinities groundwater gauges, one manual rain gauge, and one manual stream crest gauge were in place throughout the 2009 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



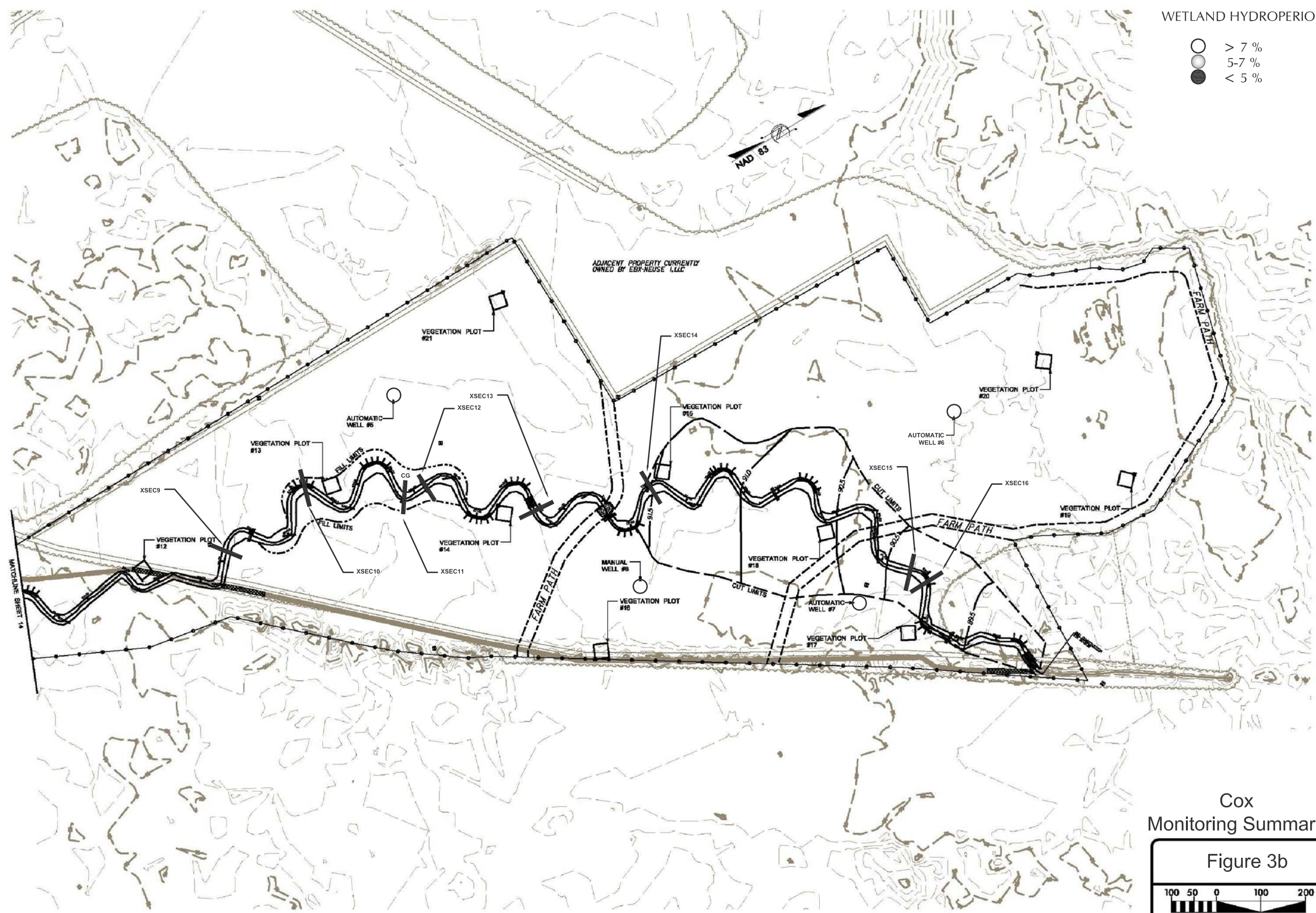






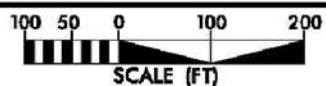
WETLAND HYDROPERIOD

- > 7 %
- ◐ 5-7 %
- ◑ < 5 %



Cox  
Monitoring Summary

Figure 3b





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

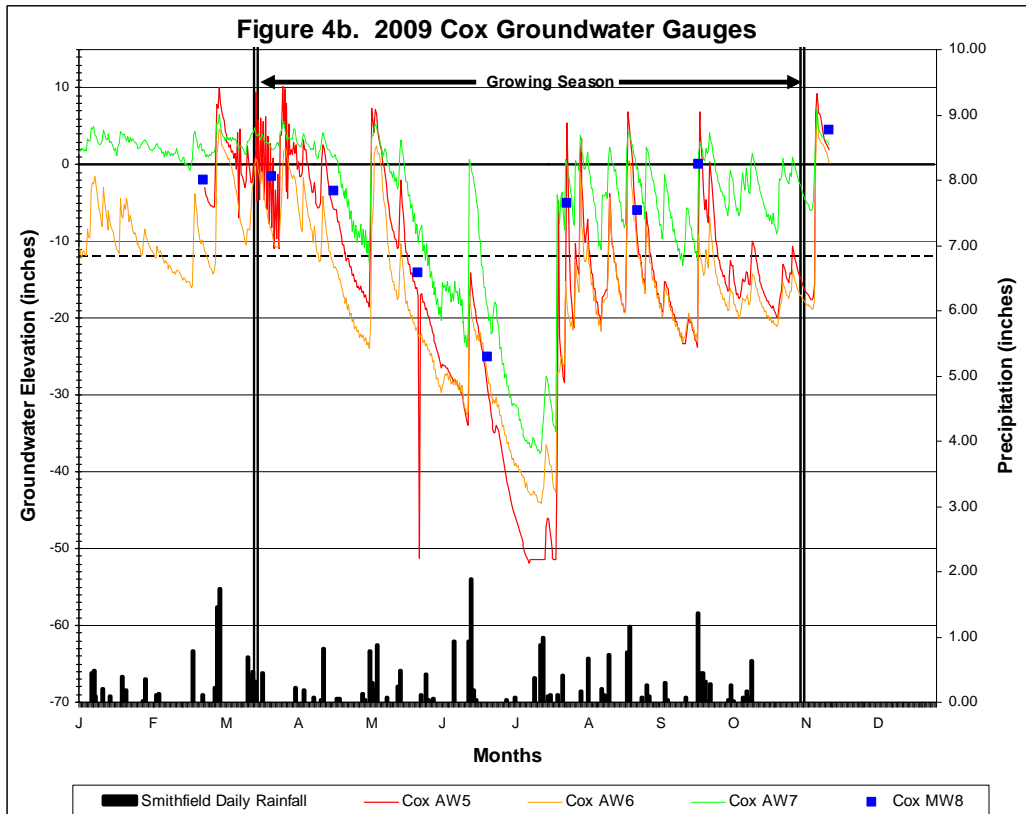
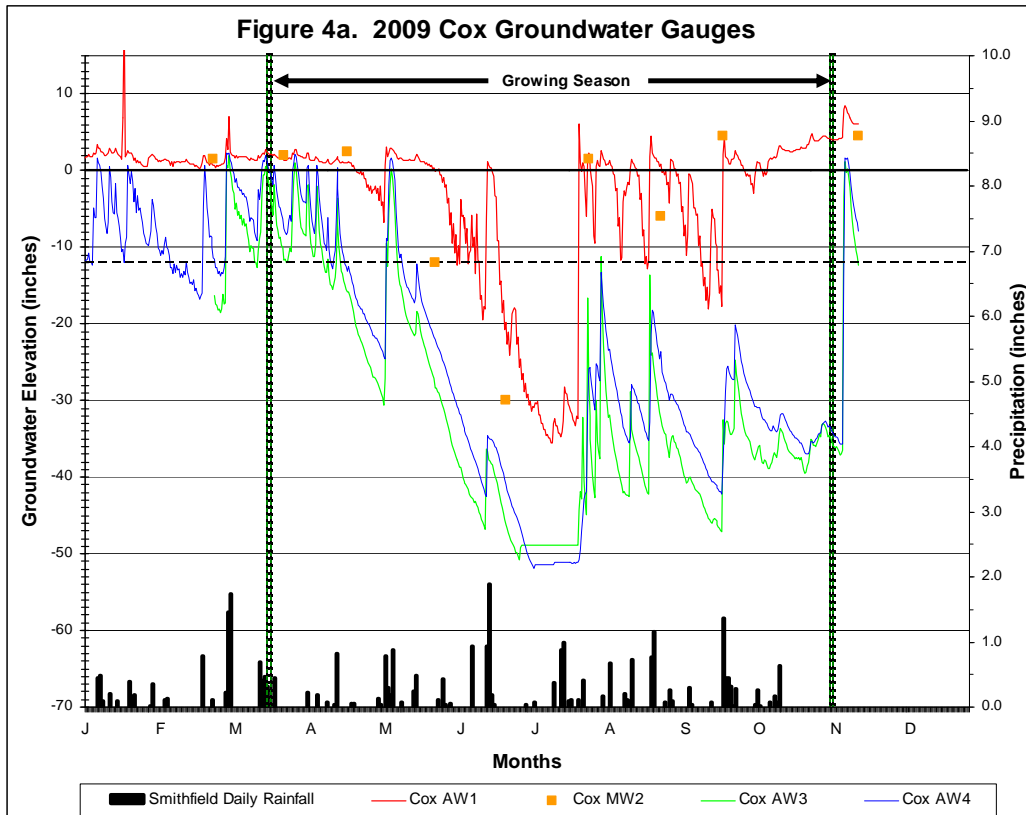
The following hydroperiod statistics were calculated for each monitoring station during the growing season: 1) most consecutive days that the water table was within twelve inches of the soil surface; 2) cumulative number of days that the water table was within twelve inches of the soil surface; and 3) 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 4. 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 5**. Raw hydrograph data collected from the monitoring gauges are provided in **Appendix C**.

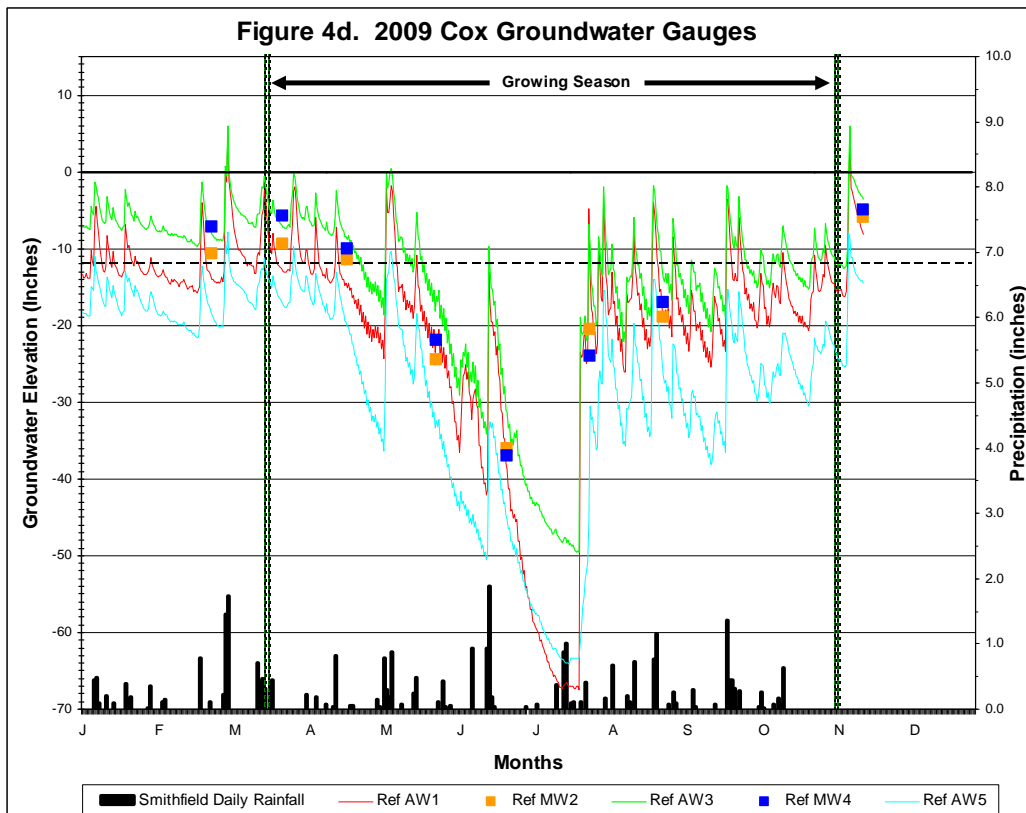
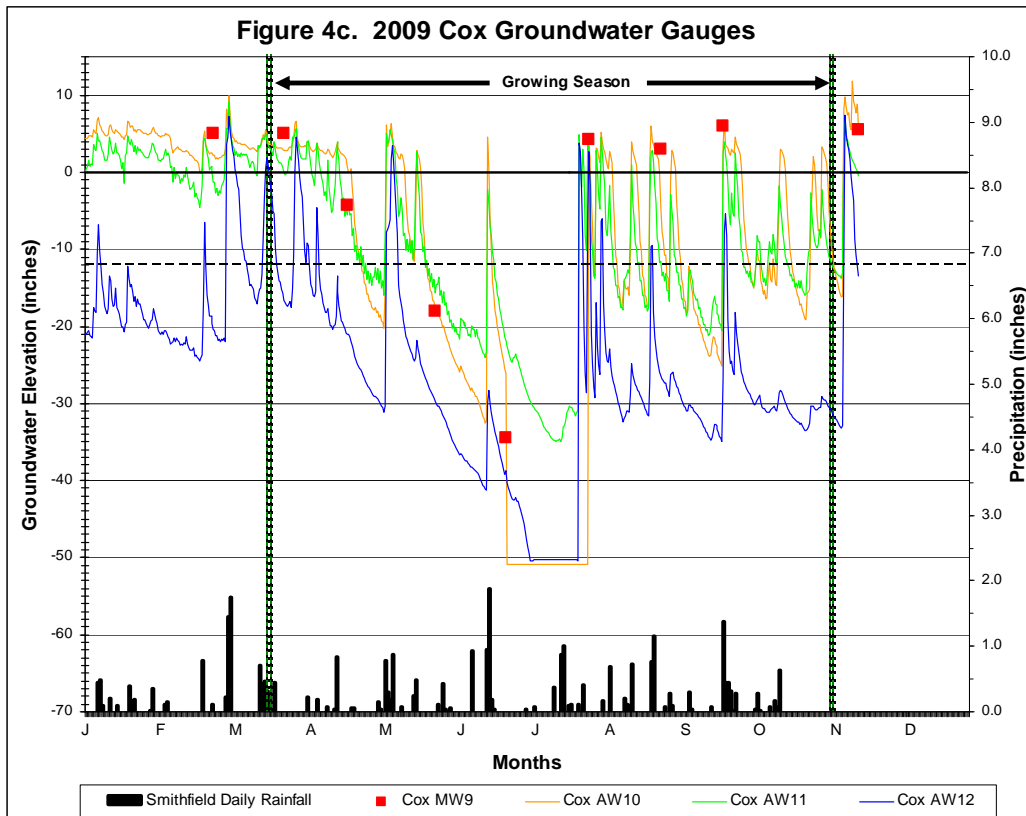
Year Four monitoring demonstrates that the site is functioning as designed, with varying degrees of wetness and saturation across the site. All gauges at the Cox site except AW12 exceeded the 7 percent hydrologic success criteria. All of the successful monitoring gauges recorded a wetland hydroperiod of 10 percent or more. Gauge AW12 had a hydroperiod of three percent of the growing season, and outperformed reference gauge RAW5. Overall, the mitigation site recorded hydroperiods similar to the range of hydroperiods recorded at the reference wetland site.

**Table 4. Hydrologic Monitoring Results**

2009 Max Hydroperiod (Growing Season 17-Mar through 05 Nov, 232 days)					
Gauge	Consecutive		Cumulative		Occurrences
	Days	Percent of Growing Season	Days	Percent of Growing Season	
Cox AW1	88	38	198	85	5
Cox MW2	71	31	170	73	7
Cox AW3	23	10	30	13	3
Cox AW4	26	11	38	16	3
Cox AW5	39	17	85	37	10
Cox AW6	27	12	55	24	9
Cox AW7	105	45	183	79	3
Cox MW8	45	19	158	68	10
Cox MW9	37	16	82	35	13
Cox AW10	39	17	114	49	12
Cox AW11	41	18	115	50	12
Cox AW12	6	3	24	10	9
Reference Gauges					
WBK RAW1	7	3	31	13	11
WBK RAW2	35	15	51	22	9
WBK RAW3	39	17	105	45	14
WBK RAW4	36	16	61	26	9
WBK RAW5	1	0	2	1	2

Figure 4. Groundwater Hydrographs





### 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 hydroperiod statistics that were calculated for the site monitoring stations were also calculated for each reference monitoring station during the growing season. The results of these calculations are presented in **Figure 4d** and **Table 4**. The reference gauges exhibit a range of hydroperiods similar to the mitigation site data, including two gauge locations (Ref AW1 and Ref AW5) with shorter wetland hydroperiods. The reference gauges are located in a riverine wetland upstream of the adjacent Westbrook mitigation site.

**Table 5. Comparison of Normal Rainfall to Observed Rainfall**

Month	Average	Normal Limits		Smithfield Precipitation	On-Site Precipitation
		30 Percent	70 Percent		
January	4.17	2.90	4.92	2.44	---
February	3.66	2.51	4.78	1.38	---
March	4.23	3.28	5.01	5.54	0.30
April	3.00	1.79	3.89	1.48	3.00
May	3.76	2.54	4.62	3.70	5.22
June	3.74	1.99	4.47	4.03	2.75
July	5.04	3.40	5.89	3.07	6.30
August	4.56	3.00	5.72	1.99	7.37
September	4.35	2.11	5.28	3.39	3.29
October	3.14	1.80	3.93	1.26	1.89*
November	3.14	1.93	3.81	1.83 <sup>†</sup>	8.69**
December	3.15	2.10	3.80	---	---
<b>Average</b>	---	<b>35.89</b>	<b>49.70</b>	---	---
<b>Total</b>	<b>45.95</b>	---	---	<b>30.11</b>	<b>38.81</b>

\* On-site auto gauge reading (all other on-site readings are from the manual rain gauge)

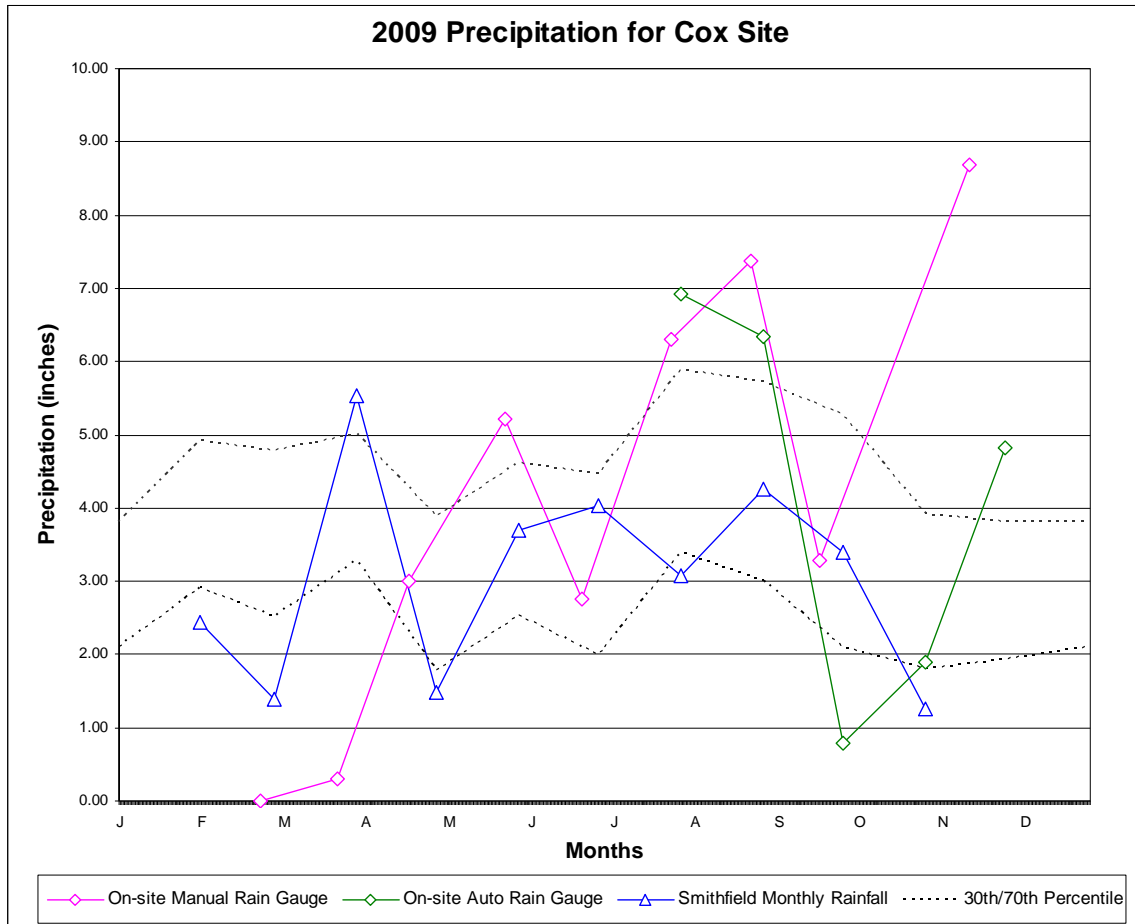
\*\*Includes approximate 4"-6" rainfall event after the end of the growing season

<sup>†</sup>Rainfall data from Nov.1 – Nov. 18

### 3.3.3 Climate Data

The Cox mitigation site experienced rainfall conditions below the annual average for Smithfield from January through March. On-site rainfall levels were normal or above normal from April through August. Total rainfall for the site is within normal limits for the year.

Figure 5. 2009 Rainfall



Note: The on-site auto rain gauge was installed June 30, 2009

### 3.4 HYDROLOGIC CONCLUSIONS

Data collected from all the groundwater monitoring gauges on the Cox Mitigation Site indicate that 11 of the 12 hydrology monitoring stations recorded hydroperiods of at least seven percent of the growing season. The remaining gauge recorded a hydroperiod of three percent of the growing season which was within the range of conditions experienced in the reference wetland.

On-site rainfall data was within the normal limits for Smithfield during the 2009 growing season. Based on the results from the mitigation site monitoring gauges during Years 1 through 4, it was concluded that the site is performing as designed.

## 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 three-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 five-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 invasive species (i.e. loblolly pine, red maple, sweet gum, etc.). Remedial action may be required should these present a problem and exceed 20 percent composition.

#### 4.2 DESCRIPTION OF SPECIES AND VEGETATION MONITORING

The following monitoring protocol was designed to monitor vegetation survival: 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 stream bed 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.

Plots have metal fence posts at each of the four corners to clearly and permanently establish the area to be sampled. Then ropes are hung connecting all four corners to help in determining if trees close to the plot boundary are inside or outside of the plot. Trees on the boundary and trees just outside of the boundary that appear to have greater than 50 percent of their canopy inside the boundary are counted inside the plot. A piece of ten-foot-tall, white PVC pipe is placed over the metal post on one corner to facilitate visual location of the plot throughout the five-year monitoring period.

All of the planted stems inside the plot are flagged with orange flagging and marked with a three-foot-tall piece of half inch PVC to identify them as the planted stems (vs. any colonizers) and to help locate them in the future. Each stem is tagged with a permanent, numbered aluminum tag. **Table 6** identifies the planted tree species.

**Table 6. Planted Tree Species**

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

#### 4.3 RESULTS OF VEGETATION MONITORING

The vegetation monitoring documented a surviving tree stem density range of 440 to 800 stems per acre with an overall average density of 603 stems per acre. Overall, the site has met the initial vegetation survival criteria of 320 stems per acre surviving after the third growing season, and is on track for meeting the final vegetation survival criteria of 260 stems per acre surviving after the fifth growing season.

**Table 7** presents 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 6**. 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 and recorded during this process. Annual variation in stem count data can be attributed to mortality and regeneration from root stock of stems previously assessed to be dead.

**Table 7. 2009 Vegetation Monitoring Plot Species Composition**

Plot	1	2	3	4	5	6	7	8	9	10	Total	Stem per Acre
COX 1	2	2	2	0	1	0	5	0	1	0	13	520
COX 2	0	0	3	0	5	0	7	0	0	2	17	680
COX 3	2	5	7	0	1	0	0	0	5	0	20	800
COX 4	2	1	3	0	2	0	3	0	2	0	13	520
COX 5	3	0	1	1	1	0	6	3	0	0	15	600
COX 6	1	1	10	0	0	0	3	0	1	0	16	640
COX 7	1	0	1	0	0	0	9	0	3	0	14	560
COX 8	0	0	1	0	0	0	10	0	0	2	13	520
COX 9	7	0	7	0	0	0	2	0	0	0	16	640
COX 10	5	4	2	0	0	0	0	0	1	0	12	480
COX 11	2	2	0	0	2	3	3	0	1	3	16	640
COX 12	0	0	0	0	0	2	6	1	1	8	18	720
COX 13	9	1	1	0	0	0	3	0	2	1	17	680
COX 14	0	0	0	0	1	1	14	0	0	2	18	720
COX 15	2	0	1	0	5	5	3	1	0	0	17	680
COX 16	1	0	0	2	3	0	5	0	0	0	11	440
COX 17	6	0	8	0	0	0	0	0	0	0	14	560
COX 18	1	0	3	0	3	3	4	0	2	1	17	680
COX 19	2	0	6	0	2	0	1	0	0	0	11	440
COX 20	3	0	1	5	0	0	2	0	0	0	11	440
COX 21	3	0	3	5	0	0	6	3	0	0	20	800
COX 22	2	0	4	2	0	0	4	1	0	0	13	520

Average Stems per Acre: 603

Range of Stems per Acre: 440-800

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 8. Volunteers within the Wetland Restoration Area**

ID	Scientific Name	Common Name	FAC Status
A	<i>Liquidambar styraciflua</i>	Sweetgum	FAC+
B	<i>Acer rubrum</i>	Red Maple	FAC
C	<i>Pinus taeda</i>	Loblolly Pine	FAC

Volunteer woody species were observed in high quantities in vegetation Plots 10 and 11. Management efforts should be focused on controlling the invasives in and around these plots. Sweetgum (*Liquidambar styraciflua*) is the most common volunteer, though red maple (*Acer rubrum*) and loblolly pine (*Pinus taeda*) were also observed. These areas are overpopulated with invasives due to the presence of seed trees in close proximity, as this is the narrowest part of the site. It would be advantageous to mechanically cut these saplings before they become larger.

#### **4.4 VEGETATION OBSERVATIONS & CONCLUSIONS**

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.), sedge (*Carex* spp.), smartweed (*Polygonum* spp.), and woolgrass (*Scirpus cyperinus*) 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.

A number of weedy species occur on the site, though none seem to pose any problems for the woody or herbaceous hydrophytic vegetation. Common weedy vegetation includes ragweed (*Ambrosia artemisiifolia*), wild dill (*Foeniculum vulgare*), goldenrod (*Solidago* spp.), dogfennel (*Eupatorium capillifolium*), horseweed (*Conyza* spp.), and broomsedge (*Andropogon* spp.). Any threatening weedy vegetation found in the future will be documented and discussed in tri-annual reports.

The site was planted in costal plain small stream swamp and wet hardwood forest species in January 2006. There were 22 vegetation-monitoring plots established throughout the planting areas. The data reflects that the site has met the interim minimum success criteria of 320 trees per acre at the end of year three, and is on trajectory to meet the final success criteria of 260 trees per acre at the end of year five.

### **5.0 STREAM MONITORING**

#### **5.1 STREAM 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 monitoring program described in the following sections was instituted following construction completion on the Cox Site.

### **5.2.1 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 2009 (Year 4) were surveyed in August 2009.

### **5.2.2 Longitudinal Profile**

A longitudinal profile of approximately 3,000 feet was surveyed along the restoration reach in Years 1 and 3. 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 at the maximum pool depth. A common benchmark will be used each year to facilitate comparison of year-to-year data.

### **5.2.3 Hydrology**

A crest gauge was installed on the site to document bankfull events (**Figure 3**). The gauge is checked monthly, and records the highest out-of-bank flow event that occurred during the past month (**Table 10**).

### **5.2.4 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, as well as facing upstream and downstream in the channel. 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 2009 growing season indicated several areas requiring continued observation. Vegetation has stabilized several areas of bank erosion and end cutting that were observed in 2008. Minor erosion is still occurring at a few structures, and several mid-channel bars were noted. **Table 9** details the stream areas of concern.

### 5.3.1 Cross Sections

Year 4 cross section monitoring data for stream stability were collected during August 2009 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. The cross section data are summarized in **Table 11**.

### 5.3.2 Longitudinal Profile

A longitudinal profile survey was conducted in Year 4. Based on a comparison to the previous profiles and cross sections, there has been very little adjustment to the stream profile or dimension since construction. Areas requiring further observation are listed in **Table 9**, and their locations are shown in **Figure 6**. None of those areas threaten the overall stability of the stream system.

**Table 9. Stream Areas Requiring Observation**

<b>Feature</b>	<b>STA</b>	<b>Description/Recommendation</b>	<b>Photo Number</b>
Root wads	18+00	Erosion on right bank behind root wads, no repair needed	SPA1
Root wads	20+00	Erosion on right bank behind root wads, no repair needed	SPA2
Root wads	23+50	Erosion on left bank behind root wads, no repair needed	SPA3
Channel	45+50	Mid-channel bar formation, no repair needed	SPA4
Channel	50+50	Vegetation in channel, no repair needed	SPA5
Channel	66+40	Mid-channel bar formation, no repair needed	SPA6
Log weir	76+90	Erosion at log weir, no repair needed	SPA7
Channel	81+60	Mid-channel bar formation, no repair needed	SPA8
Channel	82+70	Mid-channel bar formation, no repair needed	SPA9

### 5.3.3 Hydrology

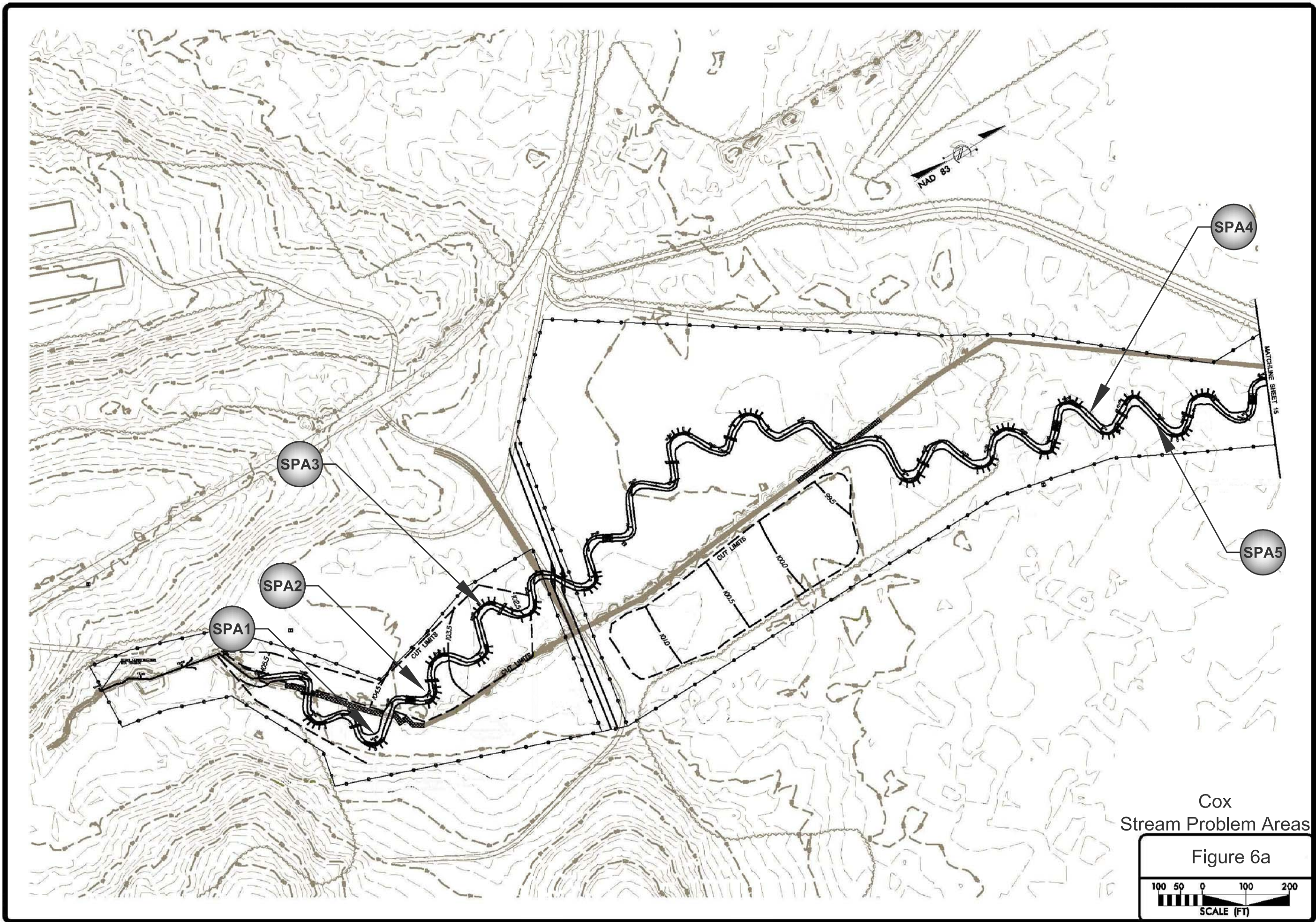
Three bankfull events were recorded during the 2009 monitoring season. Out of bank events of 0.4, 0.2, and 0.8 feet above bankfull stage were recorded during the March, July, and September site visits, respectively. The crest gauge data from 2009 are summarized in **Table 10**.

**Table 10. Crest Gauge Data**

<b>Month Recorded</b>	<b>Crest Gauge</b>
January	---
February	0.0
March	0.4
April	0.0
May	0.0
June	0.0
July	0.2
August	0.0
September	0.8
October	---
November	0.0
December	---

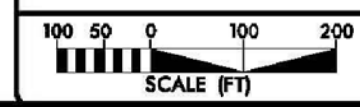




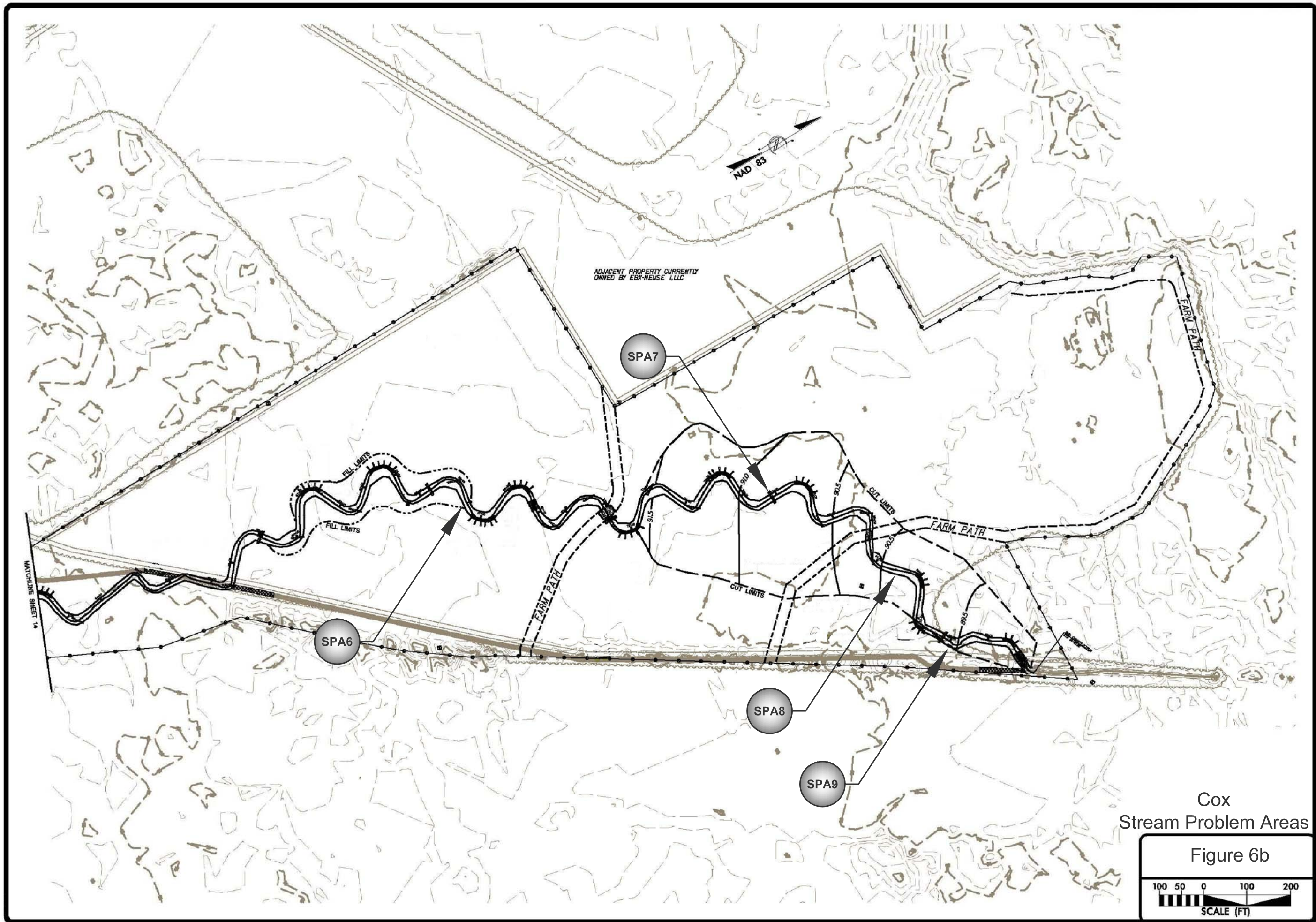


Cox  
Stream Problem Areas

Figure 6a

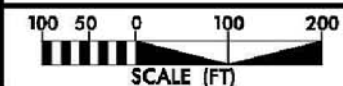






Cox  
Stream Problem Areas

Figure 6b



**Table 11. Summary of Morphologic Monitoring Parameters**

<b>Parameter</b>	<b>As-Built</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>
Bankfull Xsec Area, Abkf (sq ft)	17.4	13.0	10.9	13.6	12.5
Avg. Bankfull Width, Wbkf (ft)	17.5	15.1	15.3	16.7	13.9
Bankfull W/D	18.5	18.8	22.8	21.4	16.4
Bankfull Mean Depth, Dbkf (ft)	1.0	0.8	0.7	0.8	0.9
Bankfull Max Depth, Dmax (ft)	1.9	1.5	1.3	1.4	1.7

#### **5.4 STREAM CONCLUSIONS**

Overall the Cox stream mitigation is performing as designed. Cross section and profile data indicate that little change has occurred since the stream was built. Two bankfull events occurred at the site in 2009. A log weir and several root wads have experienced minor erosion, and minor bank erosion has occurred in one area. Several mid-channel bars have formed, and vegetation was observed in the channel. Several areas of erosion observed in 2008 have been stabilized by vegetation. It was concluded that the site is on track to achieve the success criteria specified in the Restoration Plan for the site.

### **6.0 CONCLUSIONS AND RECOMMENDATIONS**

- Year 4 hydrologic monitoring demonstrates that the site is on track to achieve the wetland hydrology criteria specified in the Restoration Plan. In 2009, 11 of the 12 gauges exceeded the seven percent hydrologic success criteria, and all of those recorded a wetland hydroperiod of 10 percent or more. The remaining gauge had a significant hydroperiod of three percent of the growing season, outperforming one of the five reference gauges. Overall, the mitigation site recorded a range of hydroperiods similar to the range of hydroperiods recorded at the reference wetland site.
- Vegetation monitoring has documented the average number of stems per acre on site to be 603, which is a survival rate of 85 percent based on the initial planting count of 710 stems per acre. Vegetation survival will likely remain at acceptable levels across the site. The site has met the interim success criteria of 320 trees per acre at the end of year three and is on track to meet the final success criteria of 260 trees per acre at the end of year five.
- The restored stream channel has remained stable and is providing the intended habitat and hydrologic functions. Three bankfull events were recorded at the site in 2009. All monitoring cross sections showed very little adjustment in stream dimension. Areas requiring observation include a log weir and several root wads that have experienced minor erosion, one area of bank erosion, and several mid-channel bars. The site is on track to achieve the stream success criteria specified in the Restoration Plan for the site.
- Vegetation, hydrologic and stream monitoring will continue through 2010.





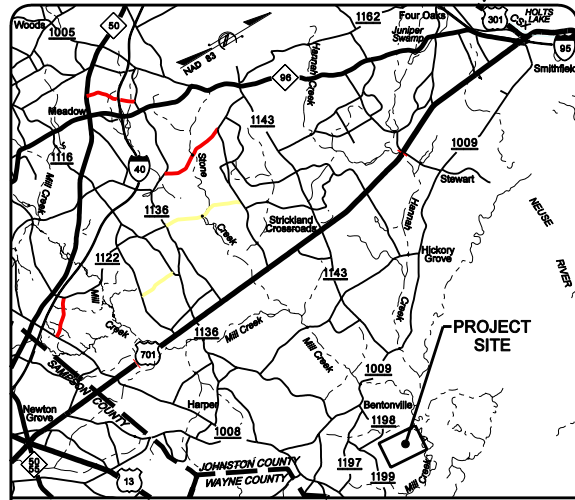
# **APPENDIX A**

## **As-Built Survey**



**PROJECT: COX SITE**

**PROJECT: 0214R**



**VICINITY MAP**

**INDEX OF SHEETS**

- 1 TITLE SHEET
- 1-A STREAM CONVENTIONAL SYMBOLS  
GENERAL NOTES, STANDARD SPECIFICATIONS, AND VEGETATION SELECTION
- 1-B CONVENTIONAL SYMBOLS
- 2 TO 2-B TYPICAL POOL AND RIFFLE CROSS SECTIONS, STRUCTURE DETAILS
- 4 TO 13 AS-BUILT PLAN VIEWS
- 14 & 15 GRADING PLAN AND MONITORING OVERVIEW
- 16 & 17 WETLAND OVERVIEW

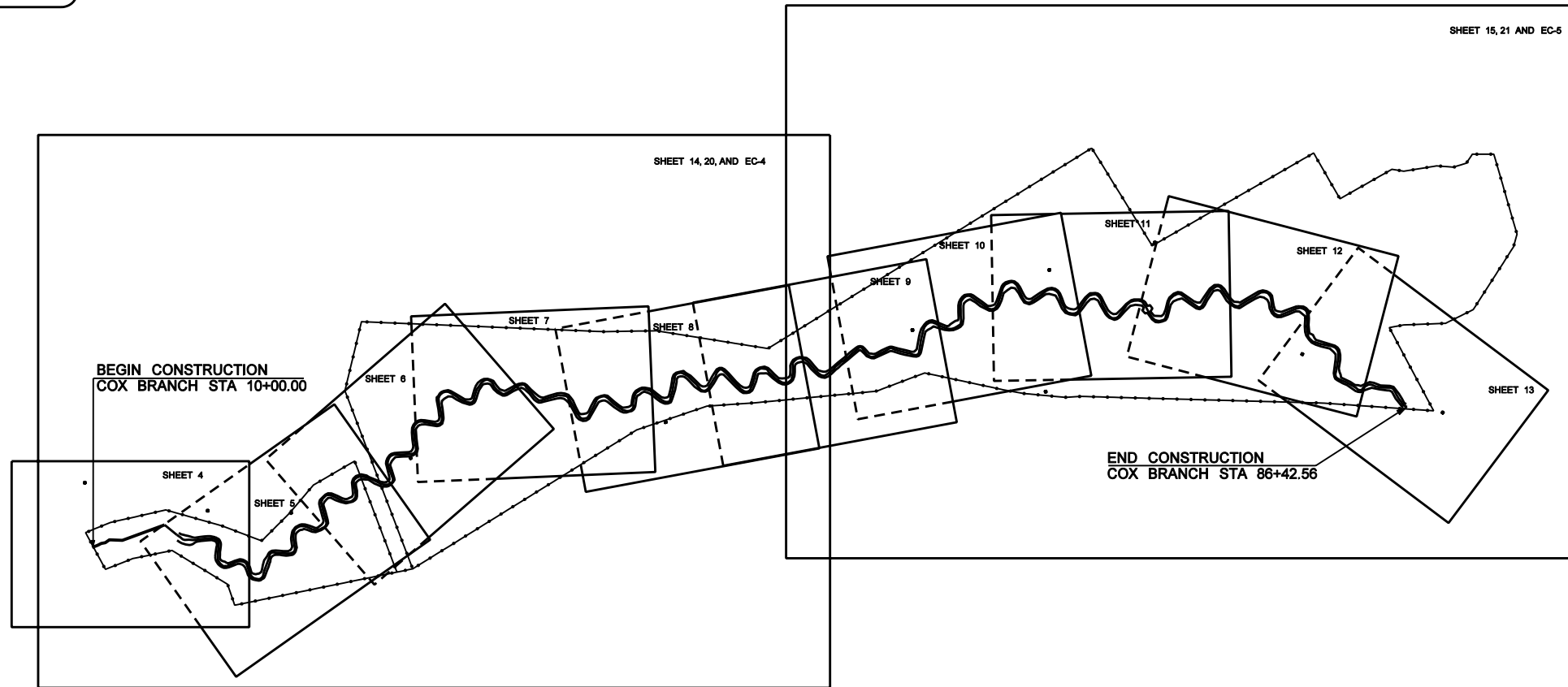
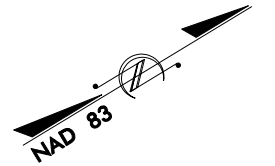
# EBX NEUSE - I, LLC COX SITE

## JOHNSTON COUNTY

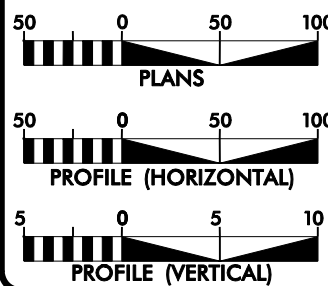
**LOCATION: WEST OF GOLDSBORO  
OFF SR 1198 WESTBROOK LOWGROUNDS ROAD**

**TYPE OF WORK: AS-BUILT PLANS**

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



**GRAPHIC SCALES**



<b>PROJECT SUMMARY</b>	
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	= 26.8 ACRES
RIVERINE WETLAND	= 26.8 ACRES
AS-BUILT WETLAND ACREAGE	= 16.9 ACRES
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:**

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.


## STREAM CONVENTIONAL SYMBOLS SUPERCEDES SHEET 1B

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

\*\*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. <b>0214R</b>	SHEET NO. <b>1-A</b>
PROJECT ENGINEER	
THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY:	
KEVIN L. TWEEDY 027337 AUGUST 28, 2005	
THIS MEDIA SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT	
	
8000 Regency Parkway Suite 200 Cary, North Carolina 27511 Phone: 919-463-5488 Fax: 919-463-5490	

## 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 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
Blackgum	<i>Nyssa sylvatica</i>	10	2900
Green ash	<i>Fraxinus pennsylvanica</i>	10	2900
Swamp Chestnut Oak	<i>Quercus michauxii</i>	15	4350
Overcup Oak	<i>Quercus lyrata</i>	10	2900
Willow Oak	<i>Quercus phellos</i>	5	1450
Sycamore	<i>Platanus occidentalis</i>	20	5800
River Birch	<i>Betula nigra</i>	20	5800
Bald Cypress	<i>Taxodium Distichum</i>	10	2900
	<b>TOTAL</b>	<b>100</b>	<b>29000</b>

#### 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	<i>SAMBUCUS CANADENSIS</i>	42	2500
BUTTONBUSH	<i>CEPHALANTHUS OCCIDENTALIS</i>	50	3000
BLACK WILLOW	<i>SALIX NIGRA</i>	8	500
	<b>TOTAL</b>	<b>100</b>	<b>6000</b>

#### 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	<i>Nyssa sylvatica var. biflora</i>	15	1800
Sycamore	<i>Platanus occidentalis</i>	5	600
Swamp Chestnut Oak	<i>Quercus michauxii</i>	10	1200
Overcup Oak	<i>Quercus lyrata</i>	10	1200
Willow Oak	<i>Quercus phellos</i>	5	600
Sugarberry	<i>Celtis laevigata</i>	20	2400
River Birch	<i>Betula nigra</i>	20	2400
Green Ash	<i>Fraxinus pennsylvanica</i>	5	600
Bald Cypress	<i>Taxodium distichum</i>	10	1200
	<b>TOTAL</b>	<b>100</b>	<b>12000</b>

#### PERMANENT SEED MIX FOR ALL PLANTING ZONES

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

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

\*S.U.E = SUBSURFACE UTILITY ENGINEER

ROADS & RELATED ITEMS

Edge of Pavement	---
Curb	---
Prop. Slope Stakes Cut	---C---
Prop. Slope Stakes Fill	---F---
Prop. Woven Wire Fence	○-○
Prop. Chain Link Fence	□-□
Prop. Barbed Wire Fence	◇-◇
Prop. Wheelchair Ramp	(WCR)
Curb Cut for Future Wheelchair Ramp	(CCFR)
Exist. Guardrail	--- ---
Prop. Guardrail	--- ---
Equality Symbol	⊕
Pavement Removal	XXXX

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	---(C/A)---
Prop. Control of Access Line	---(S)---
Exist. Easement Line	---E---
Prop. Temp. Construction Easement Line	---E---
Prop. Temp. Drainage Easement Line	---TDE---
Prop. Perm. Drainage Easement Line	---PDE---

HYDROLOGY

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

STRUCTURES

MAJOR	
Bridge, Tunnel, or Box Culvert	[CONC]
Bridge Wing Wall, Head Wall and End Wall	)CONC WW(

MINOR	
Head & End Wall	---CONC HW---
Pipe Culvert	===
Footbridge	--- ---
Drainage Boxes	□ CB
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	□
UG Telephone Cable Hand Hold	□
Cable TV Pedestal	□
UG TV Cable Hand Hold	□
UG 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	---TS---

Recorded Water Line	--- ---
Designated Water Line (S.U.E.*)	--- ---
Sanitary Sewer	---SS---
Recorded Sanitary Sewer Force Main	---FSS---
Designated Sanitary Sewer Force Main(S.U.E.*)	---FSS---
Recorded Gas Line	---G---
Designated Gas Line (S.U.E.*)	---G---
Storm Sewer	---S---
Recorded Power Line	---P---
Designated Power Line (S.U.E.*)	---P---
Recorded Telephone Cable	---T---
Designated Telephone Cable (S.U.E.*)	---T---
Recorded U/G Telephone Conduit	---TC---
Designated U/G Telephone Conduit (S.U.E.*)	---TC---
Unknown Utility (S.U.E.*)	---?UTL---
Recorded Television Cable	---TV---
Designated Television Cable (S.U.E.*)	---TV---
Recorded Fiber Optics Cable	---FO---
Designated Fiber Optics Cable (S.U.E.*)	---FO---
Exist. Water Meter	○
UG Test Hole (S.U.E.*)	⊕
Abandoned According to U/G Record	ATTUR
End of Information	E.O.I.

BOUNDARIES & PROPERTIES

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Property Line Symbol	PL
Exist. Iron Pin	EP
Property Corner	+
Property Monument	⊕
Property Number	123
Parcel Number	6
Fence Line	---X---
Existing Wetland Boundaries	---WW & ISBW---
High Quality Wetland Boundary	---HO WLB---
Medium Quality Wetland Boundaries	---MO WLB---
Low Quality Wetland Boundaries	---LO WLB---
Proposed Wetland Boundaries	---WLB---
Existing Endangered Animal Boundaries	---EAB---
Existing Endangered Plant Boundaries	---EPB---

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	R/W
Guard Post	⊕ GP
Paved Walk	---
Bridge	---
Box Culvert or Tunnel	---
Ferry	---
Culvert	---
Footbridge	---
Trail, Footpath	---
Light House	⊕

VEGETATION

Single Tree	⊕
Single Shrub	⊕
Hedge	---
Woods Line	---
Orchard	⊕
Vineyard	⊕

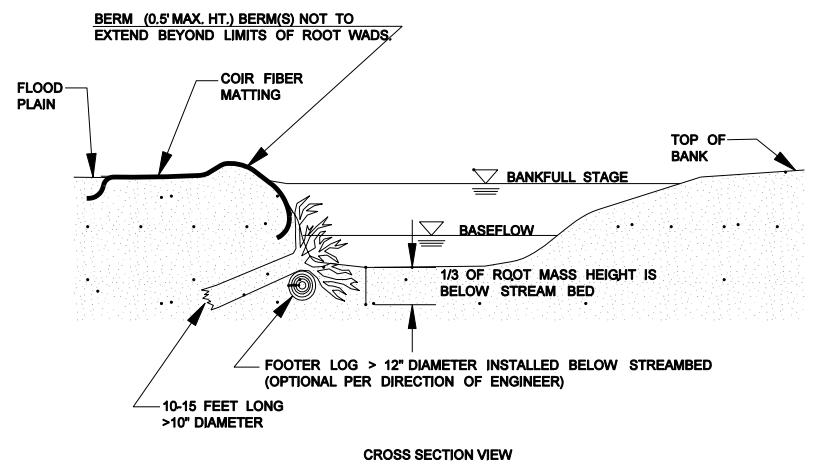
RAILROADS

Standard Gauge	---
RR Signal Milepost	---
Switch	---

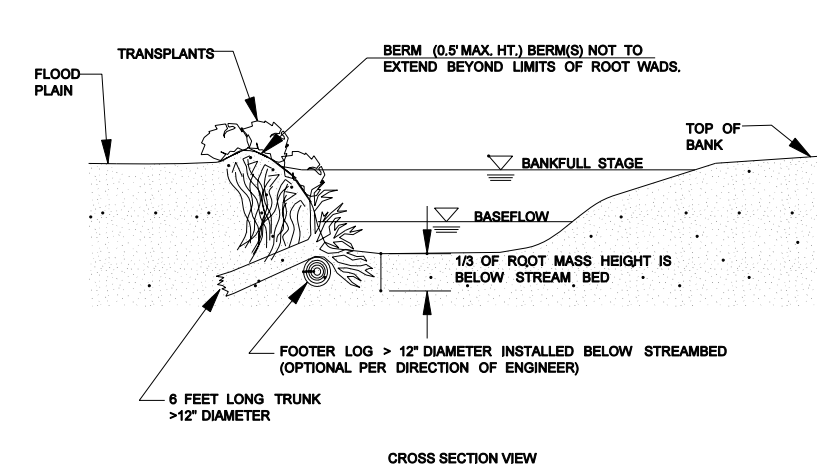
4/12/2006 Design\Plans\0214R\_EBX\_PSH\_IB.dgn

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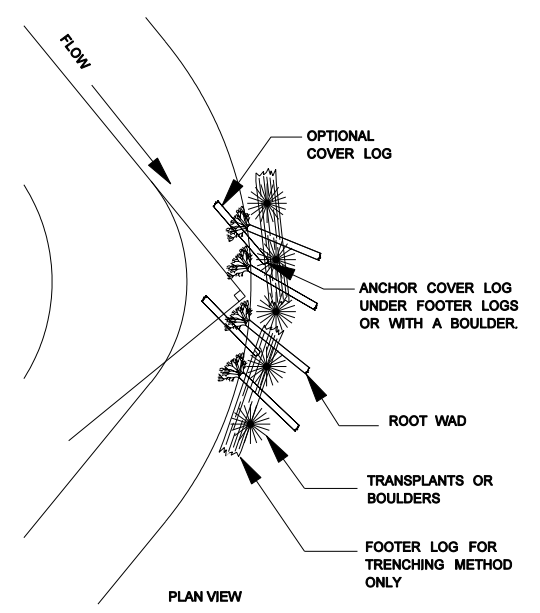
**ROOT WADS WITHOUT TRANSPLANTS**  
NTS



**ROOT WADS WITH TRANSPLANTS**  
NTS



**ROOT WADS**



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'.

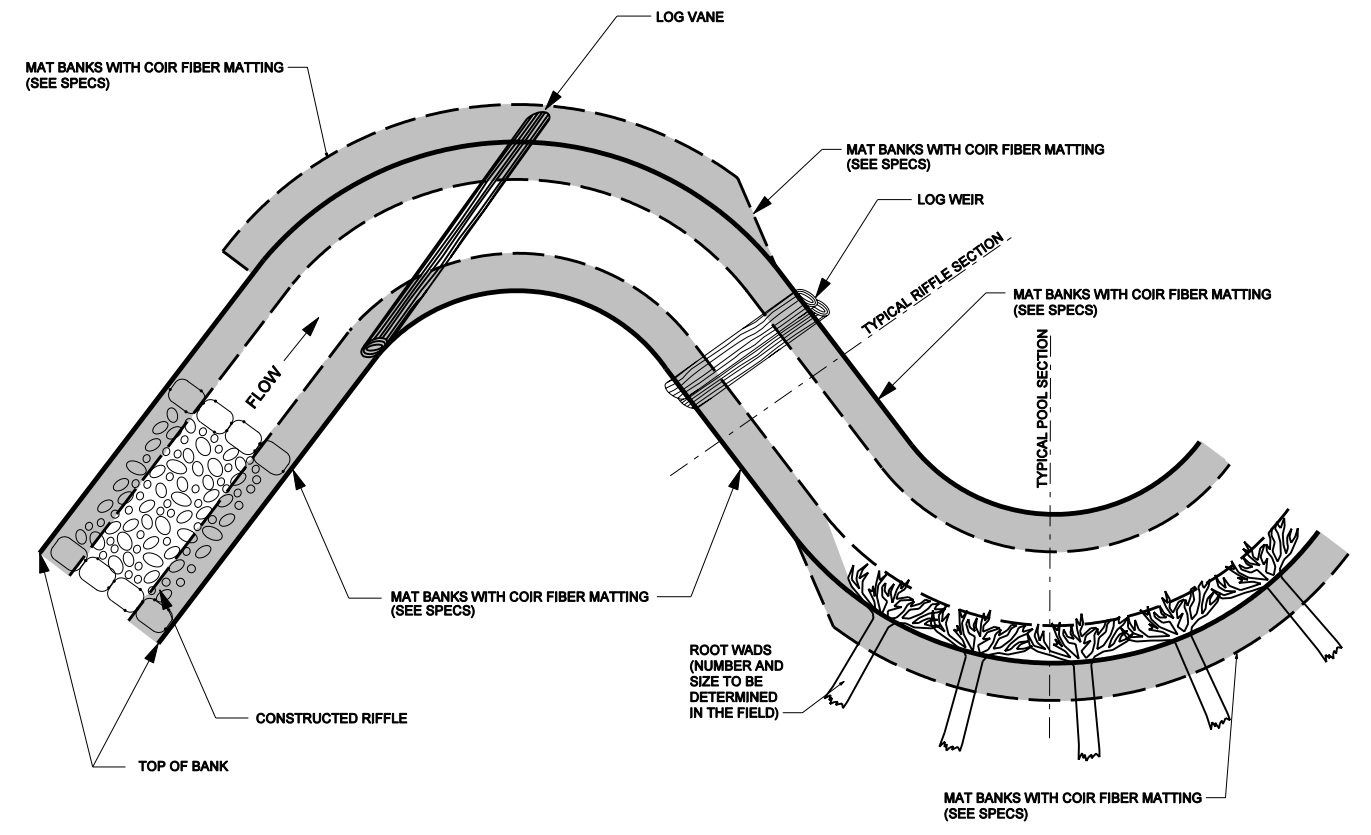
**TYPICAL STRUCTURE PLACEMENT**

**STRUCTURE NOTES:**

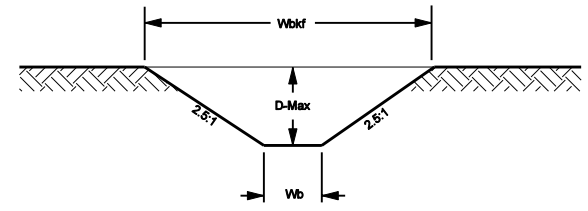
- GENERALLY LOG WEIRS, ROOT WADS, LOG VANES AND COIR FIBER MATTING WILL BE INSTALLED IN THE LOCATION AND SEQUENCE AS SHOWN.
- ADDITIONAL STRUCTURES OR CHANGES TO STRUCTURE LOCATIONS MAY BE MADE BY THE DESIGN ENGINEER DURING CONSTRUCTION.

**NOTES:**

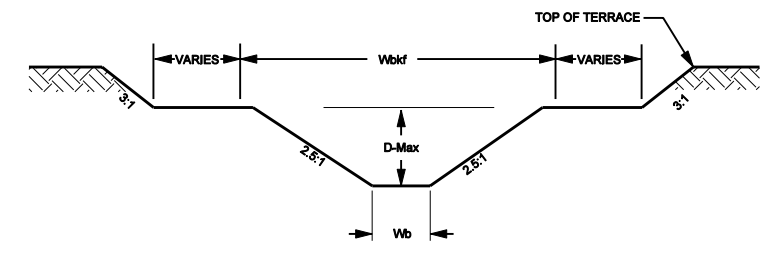
- COIR FIBER MATTING TO BE INSTALLED ON ALL RESTORED STREAMBANKS.
- IF ROOT WADS DO NOT COVER ENTIRE SLOPE ON OUTSIDE OF MEANDER BENDS, COIR FIBER MATTING IS NEEDED.



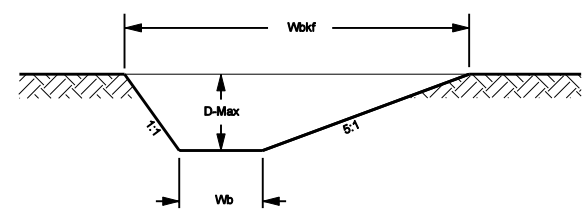
**TYPICAL RIFFLE, POOL, AND BANKFULL BENCH CROSS SECTIONS**



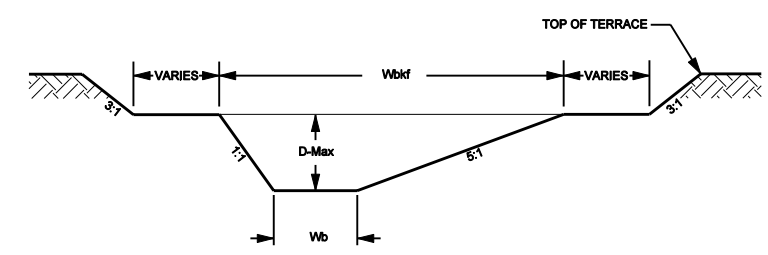
**RIFFLE**



**RIFFLE WITH BANKFULL BENCH**



**POOL**



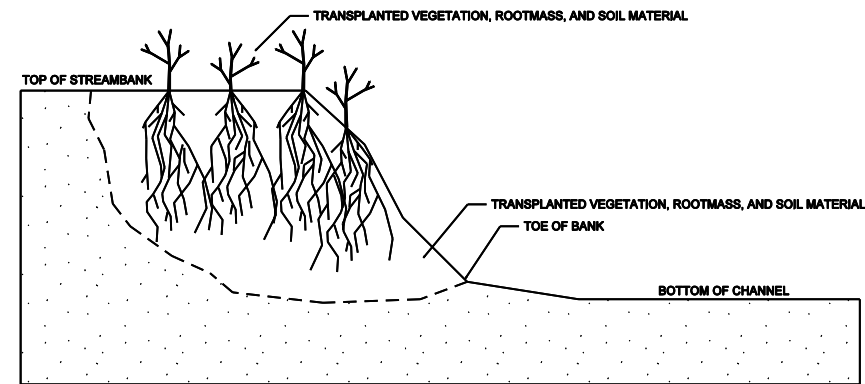
**POOL WITH BANKFULL BENCH**

COX	
RIFFLE	POOL
13.7	18.0
1.0	1.5
14.0	12.1
13.5	28.9
9.0	5.4

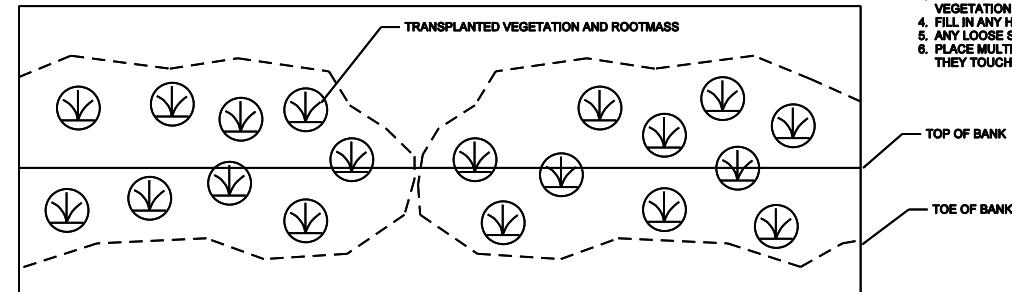
WIDTH OF BANKFULL (Wbkf)  
MAXIMUM DEPTH (D-Max)  
WIDTH TO DEPTH RATIO (Wbkf / D)  
BANKFULL AREA (Abkf)  
BOTTOM WIDTH (Wb)

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.

### TRANSPLANTED VEGETATION

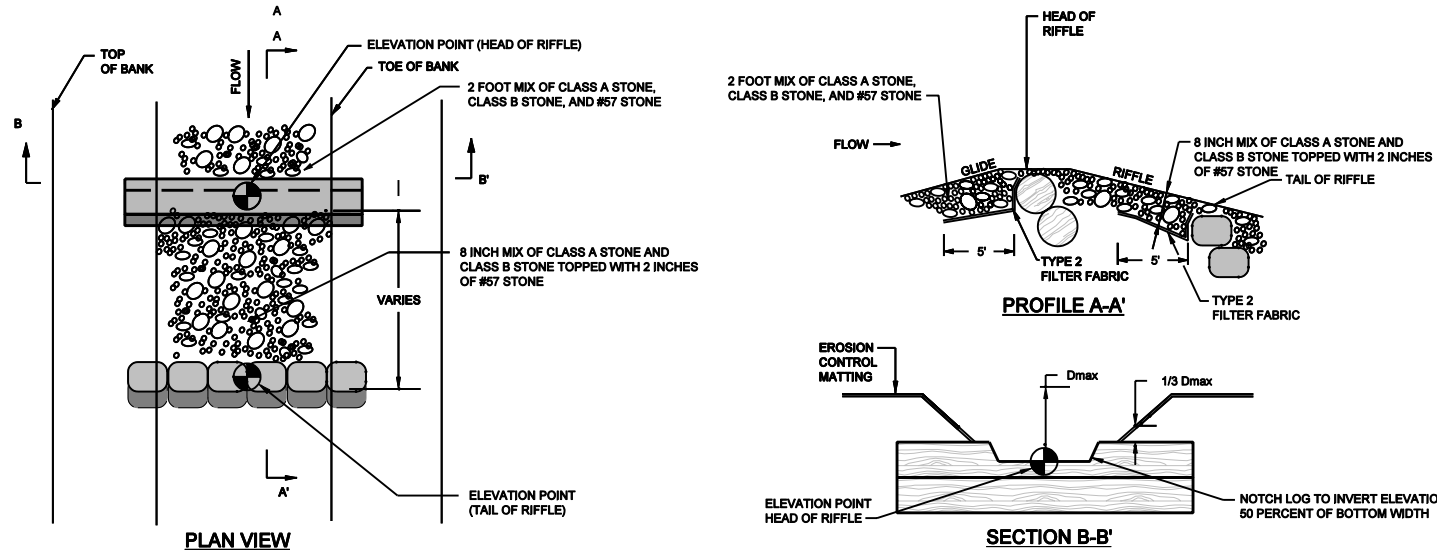


CROSS SECTION VIEW



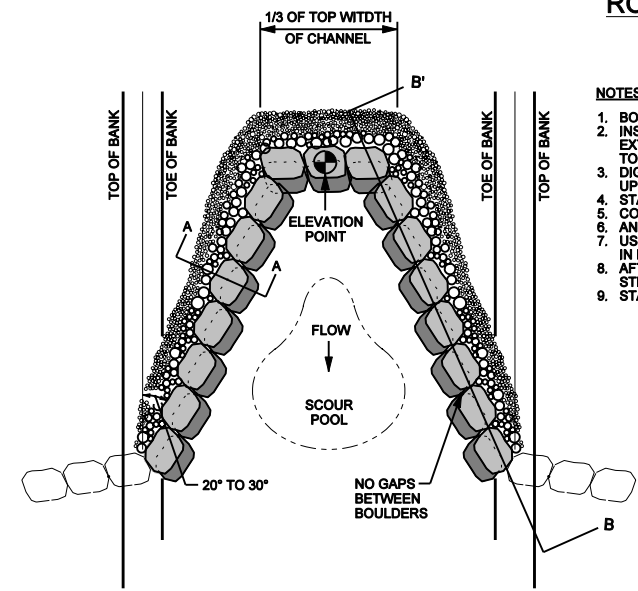
PLAN VIEW

- 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 EXCAVATED 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.



- 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 DOWNWARD TO 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.

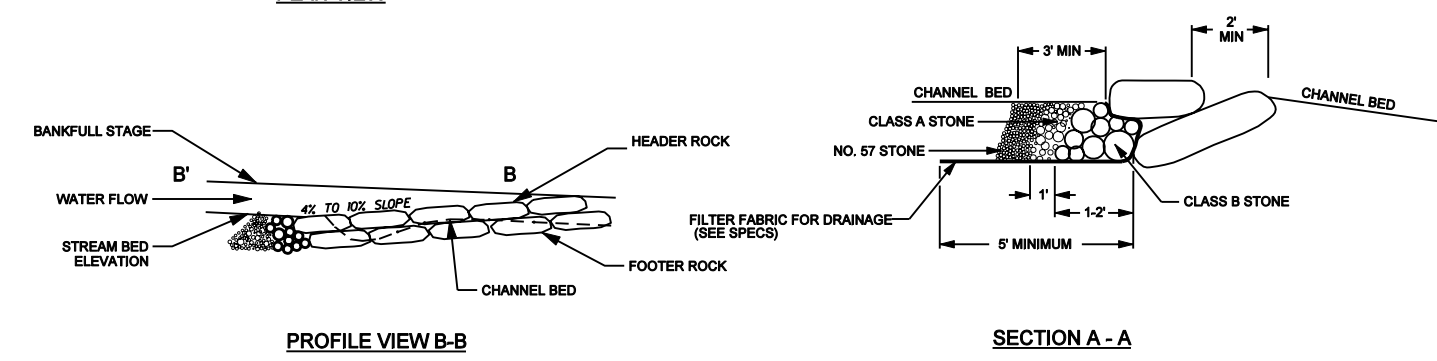
### ROCK CROSS VANE



PLAN VIEW

#### NOTES FOR ALL VANE STRUCTURES:

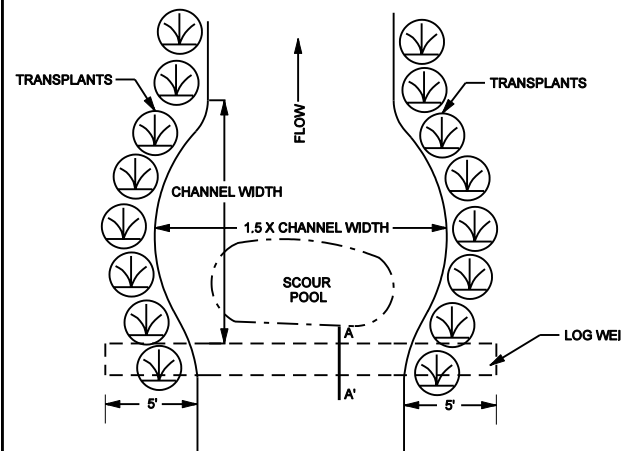
1. BOULDERS MUST BE AT LEAST 2' x 2' x 3'.
2. INSTALL FILTER FABRIC FOR DRAINAGE BEGINNING AT THE MIDDLE OF THE HEADER ROCKS AND EXTEND DOWNWARD TO THE DEPTH OF THE BOTTOM FOOTER ROCK, AND THEN UPSTREAM TO A MINIMUM OF FIVE FEET.
3. DIG A TRENCH BELOW THE BED FOR FOOTER ROCKS AND PLACE FILL ON UPSTREAM 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.



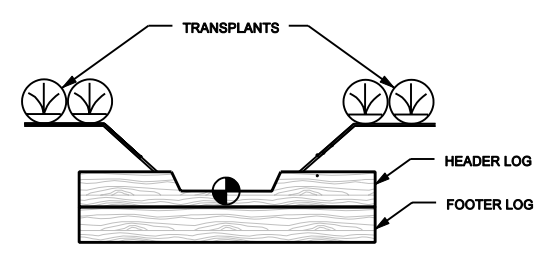
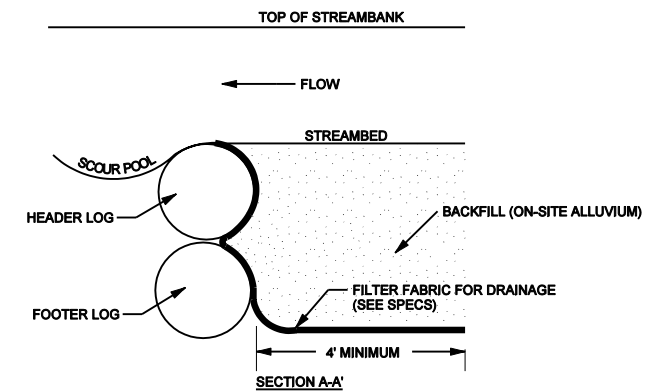
PROFILE VIEW B-B

SECTION A - A

### LOG WEIR



PLAN VIEW

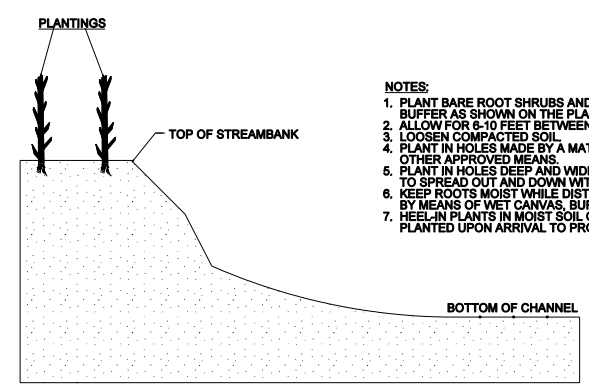


CROSS SECTION VIEW

- 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 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. USE FILTER FABRIC FOR DRAINAGE TO SEAL GAPS BETWEEN LOGS.
  6. PLACE TRANSPLANTS FROM TOE OF STREAMBANK TO TOP OF STREAMBANK.

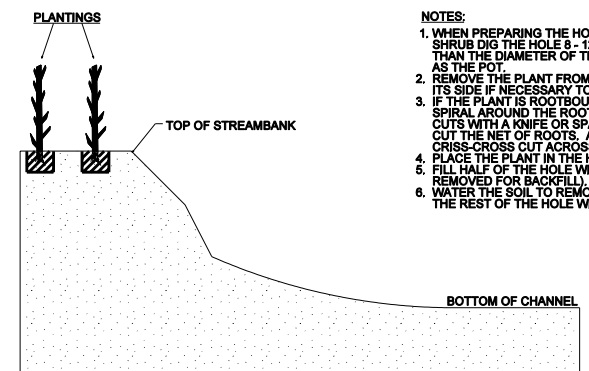
2/26/03

### PLANTING SPECIFICATIONS



CROSS SECTION VIEW OF BARE ROOT PLANTING

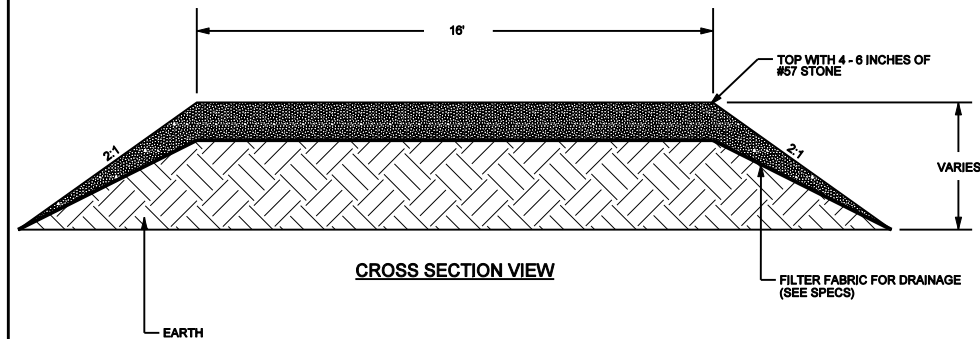
- NOTES:**
1. PLANT BARE ROOT SHRUBS AND TREES TO THE WIDTH OF THE BUFFER AS SHOWN ON THE PLANS.
  2. ALLOW FOR 8-10 FEET BETWEEN PLANTINGS, DEPENDING ON SIZE.
  3. LOOSEN COMPACTED SOIL.
  4. PLANT IN HOLES MADE BY A MATTOCK, DIBBLE, PLANTING BAR, OR OTHER APPROVED MEANS.
  5. PLANT IN HOLES DEEP AND 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 CONTAINER PLANTING

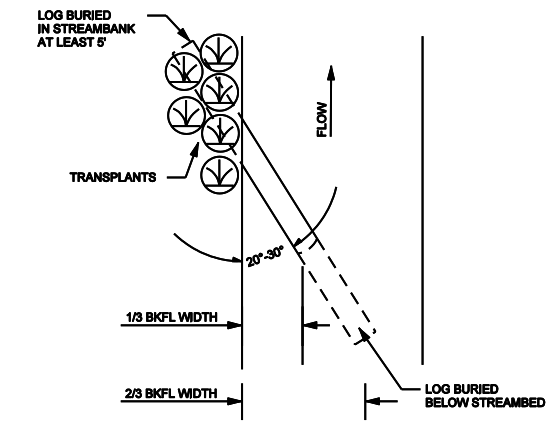
- NOTES:**
1. WHEN PREPARING THE HOLE FOR A POTTED PLANT OR SHRUB DIG THE HOLE 8 - 12 INCHES LARGER THAN THE DIAMETER OF THE POT AND THE SAME DEPTH AS THE POT.
  2. REMOVE THE PLANT FROM THE POT. LAY THE PLANT ON ITS SIDE IF NECESSARY TO REMOVE THE POT.
  3. IF THE PLANT IS ROOTBOUND (ROOTS GROWING IN 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.

### FARM PATH

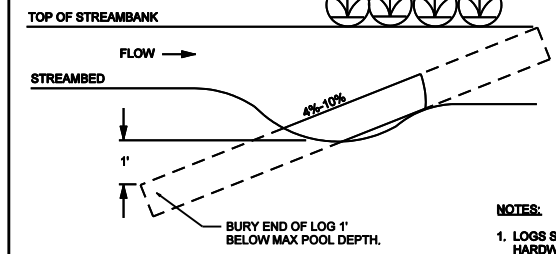


CROSS SECTION VIEW

### LOG VANE



PLAN VIEW

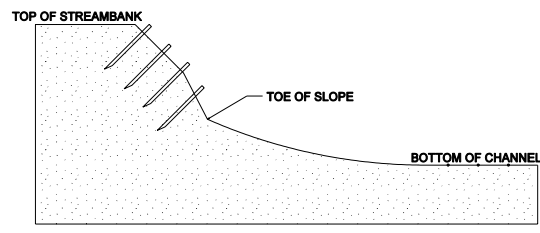


PROFILE VIEW

- 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.

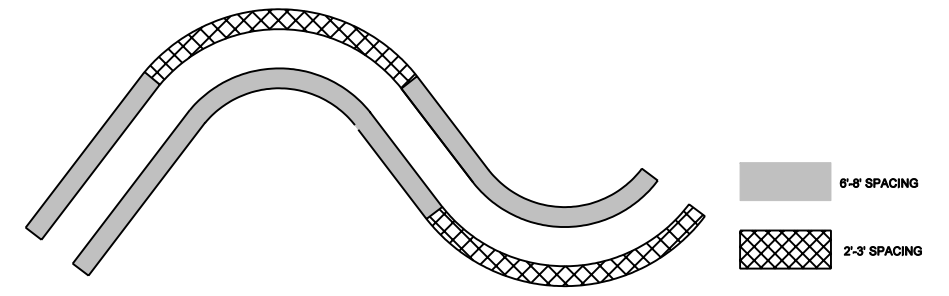
PROJECT REFERENCE NO. <b>0214R</b>	SHEET NO. <b>2-B</b>
PROJECT ENGINEER	
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<b>BUCK ENGINEERING</b>	
8000 Regency Parkway Suite 200 Cary, North Carolina 27511 Phone: 919-463-5488 Fax: 919-463-5490	

### LIVE STAKING SPECIFICATION

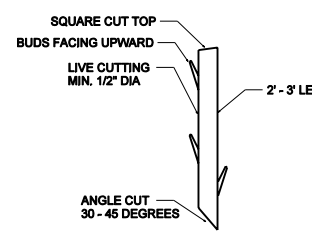


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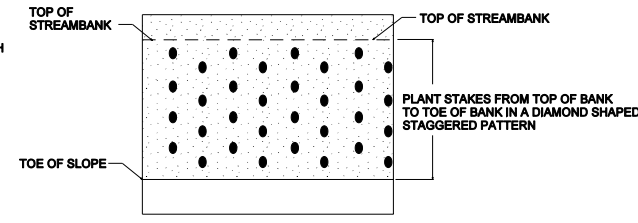
- NOTES:**
1. STAKES SHOULD BE CUT AND INSTALLED ON THE SAME DAY.
  2. DO NOT INSTALL STAKES THAT HAVE BEEN SPLIT.
  3. STAKES MUST BE INSTALLED WITH BUDS POINTING UPWARDS.
  4. STAKES SHOULD BE INSTALLED PERPENDICULAR TO BANK.
  5. STAKES SHOULD BE 1/2 TO 2 INCHES IN DIAMETER AND 2 TO 3 FT LONG.
  6.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



PLAN VIEW

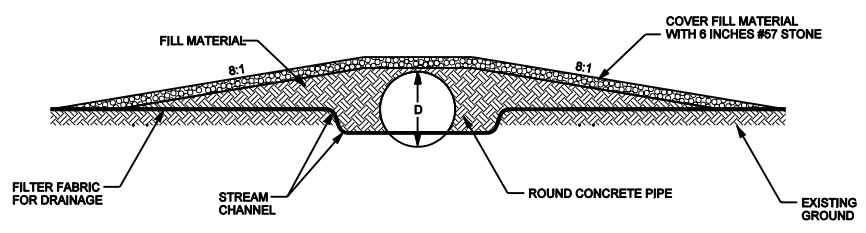


LIVE STAKE DETAIL

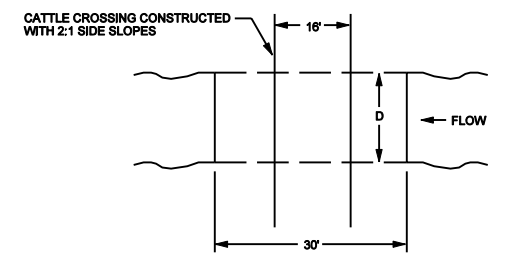


PLAN VIEW

### PERMANENT STREAM CROSSING



CROSS SECTION VIEW



PLAN VIEW

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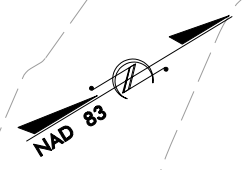
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ENGINEERING

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Cary, North Carolina 27511  
Phone: 919-463-5488  
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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

PHOTO POINT  
#1

PHOTO POINT  
#2

PHOTO POINT  
#3

MATCHLINE SHEET 5 STA 16+00.00



CHANNEL BLOCK

**COX SITE  
AS-BUILT**

SCALE (FT)

4/12/2006  
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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  
#6

PHOTO POINT  
#4

X-SECTION 1  
STA 19+58.69

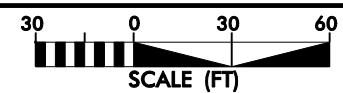
X-SECTION 2  
STA 19+98.20

PHOTO POINT  
#5

 FILL EXISTING CHANNEL

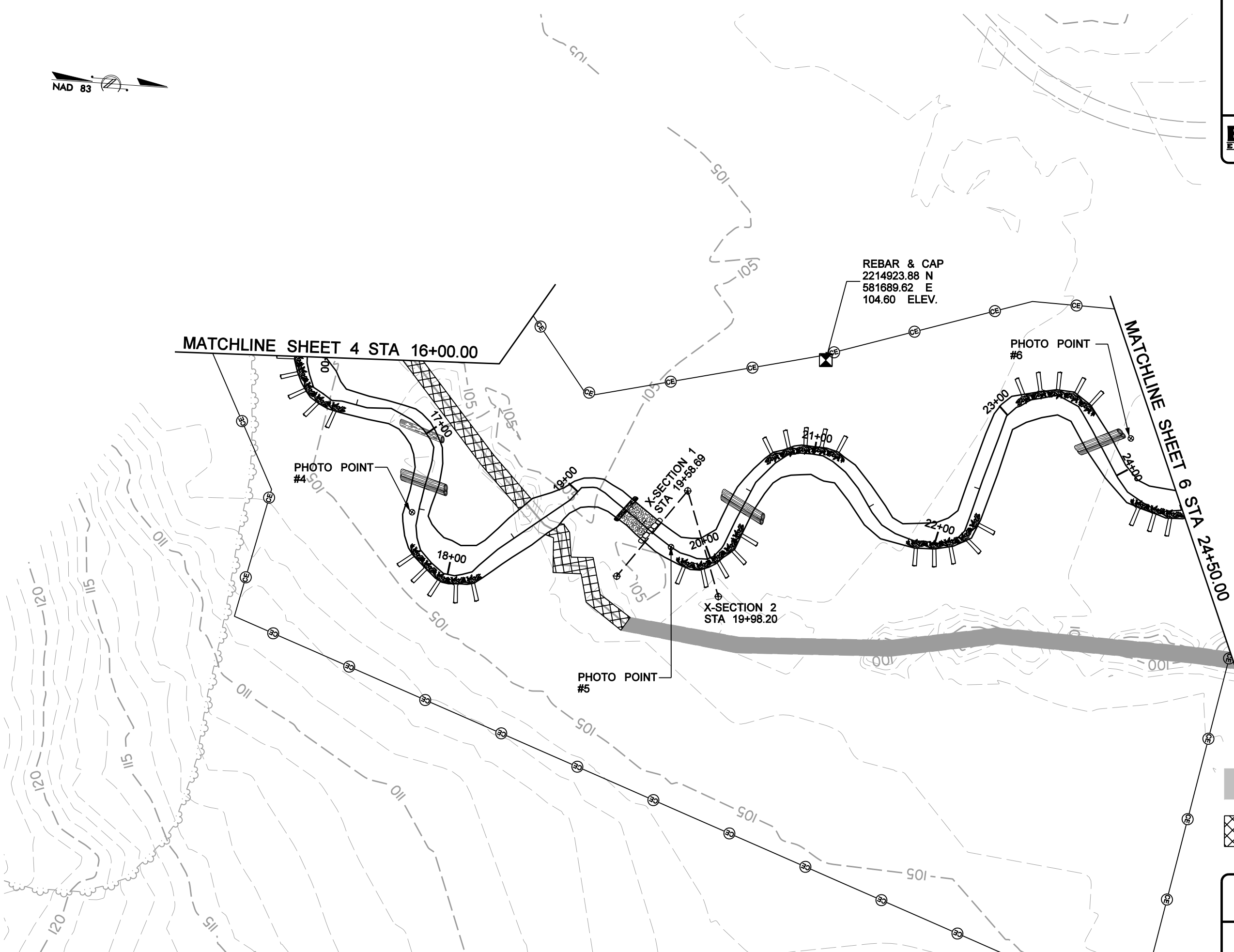
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AS-BUILT**



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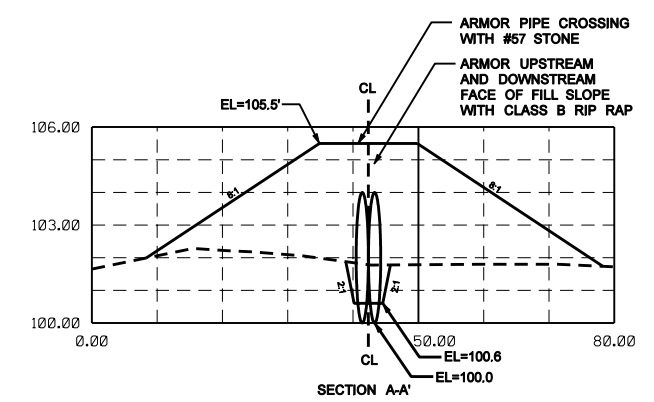
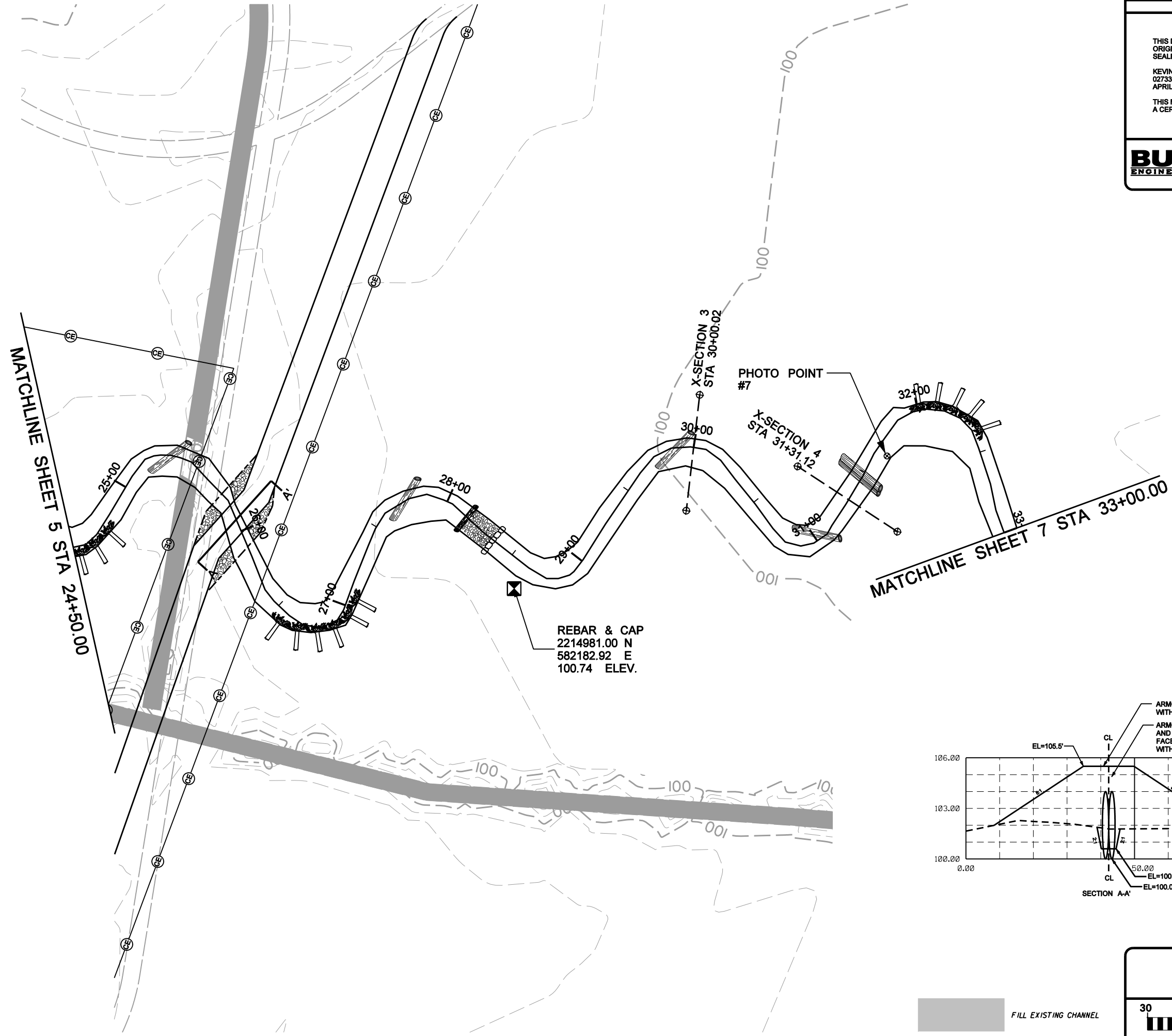


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**COX SITE  
AS-BUILT**

30 0 30 60  
SCALE (FT)

FILL EXISTING CHANNEL

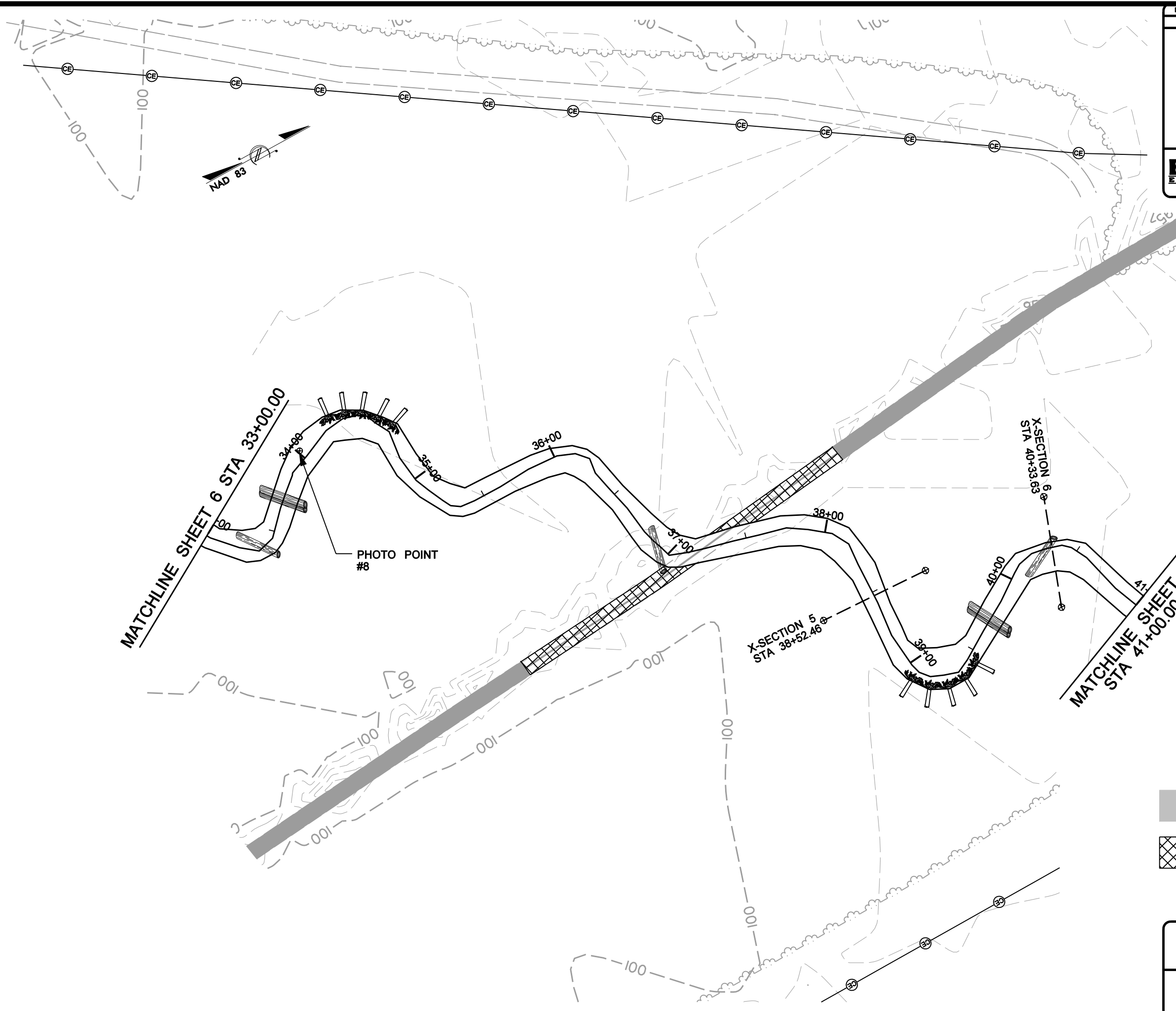
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2/26/03

4/12/2006  
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MATCHLINE SHEET 6 STA 33+00.00


PHOTO POINT #8

X-SECTION 5 STA 38+52.46

X-SECTION 6 STA 40+33.63

MATCHLINE SHEET 8 STA 41+00.00

 FILL EXISTING CHANNEL

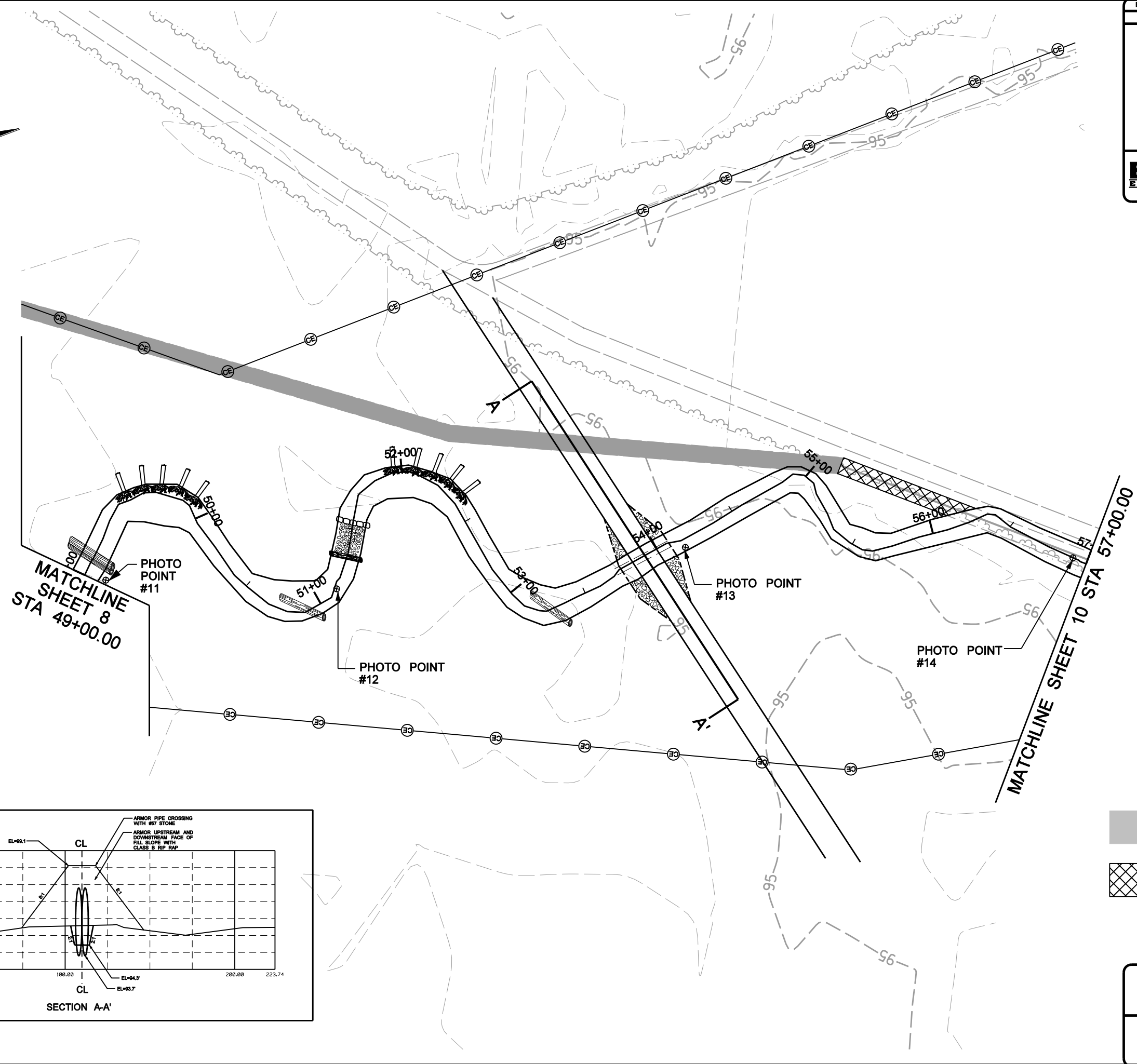
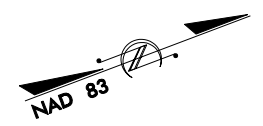
 CHANNEL BLOCK

**COX SITE AS-BUILT**

30 0 30 60  
 SCALE (FT)

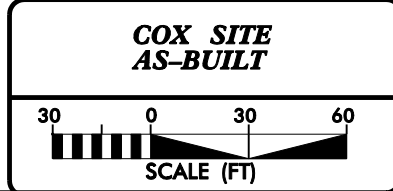
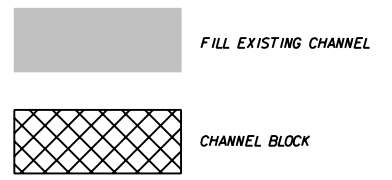
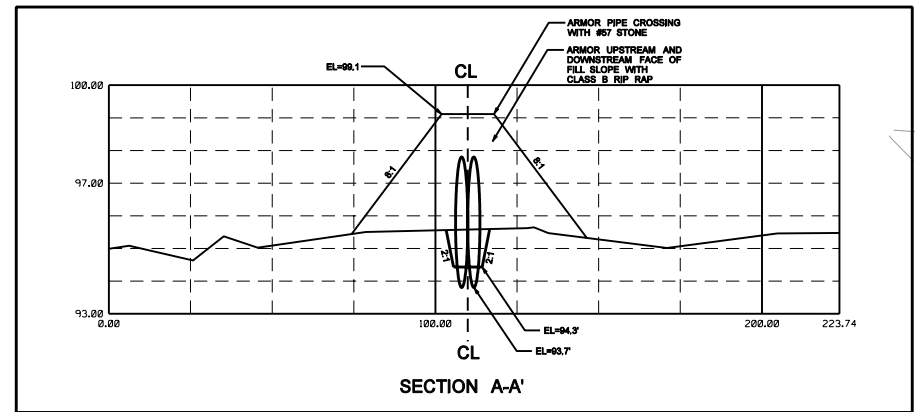


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MATCHLINE SHEET 8  
 STA 49+00.00

MATCHLINE SHEET 10 STA 57+00.00

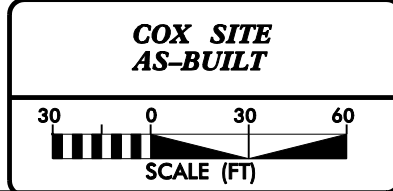
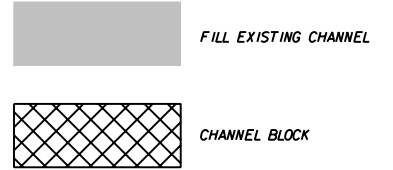
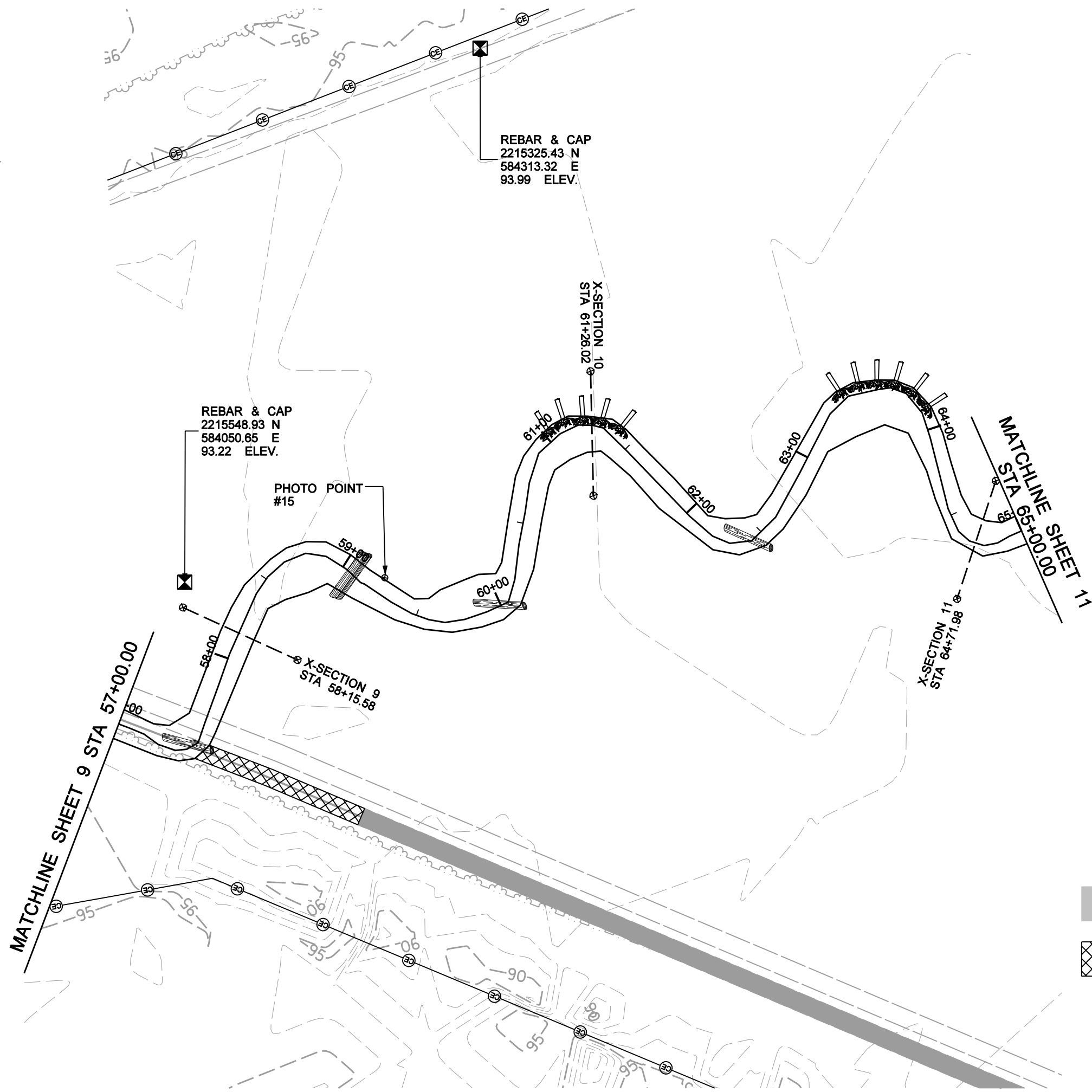
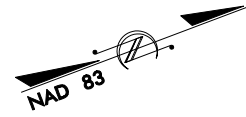


4/2/2006  
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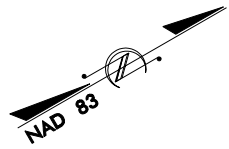
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8000 Regency Parkway Suite 200  
Cary, North Carolina 27511  
Phone: 919-463-5488  
Fax: 919-463-5490



REBAR & CAP  
2215622.36 N  
584609.39 E  
91.54 ELEV.

REBAR & CAP  
2215740.31 N  
585002.58 E  
90.57 ELEV.

PHOTO POINT  
#16

PHOTO POINT  
#17

PHOTO POINT  
#18

MATCHLINE SHEET 10  
STA 65+00.00

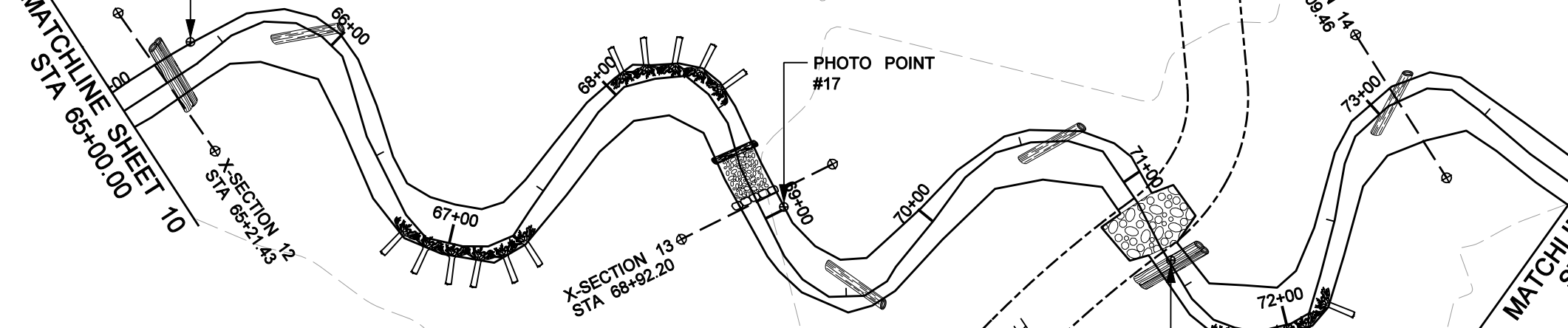
X-SECTION 12  
STA 65+21.43

X-SECTION 13  
STA 68+92.20

X-SECTION 14  
STA 73+09.46

MATCHLINE SHEET 12  
STA 74+00.00

FARM PATH



2/26/03

4/12/2006  
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**COX SITE  
AS-BUILT**

SCALE (FT)



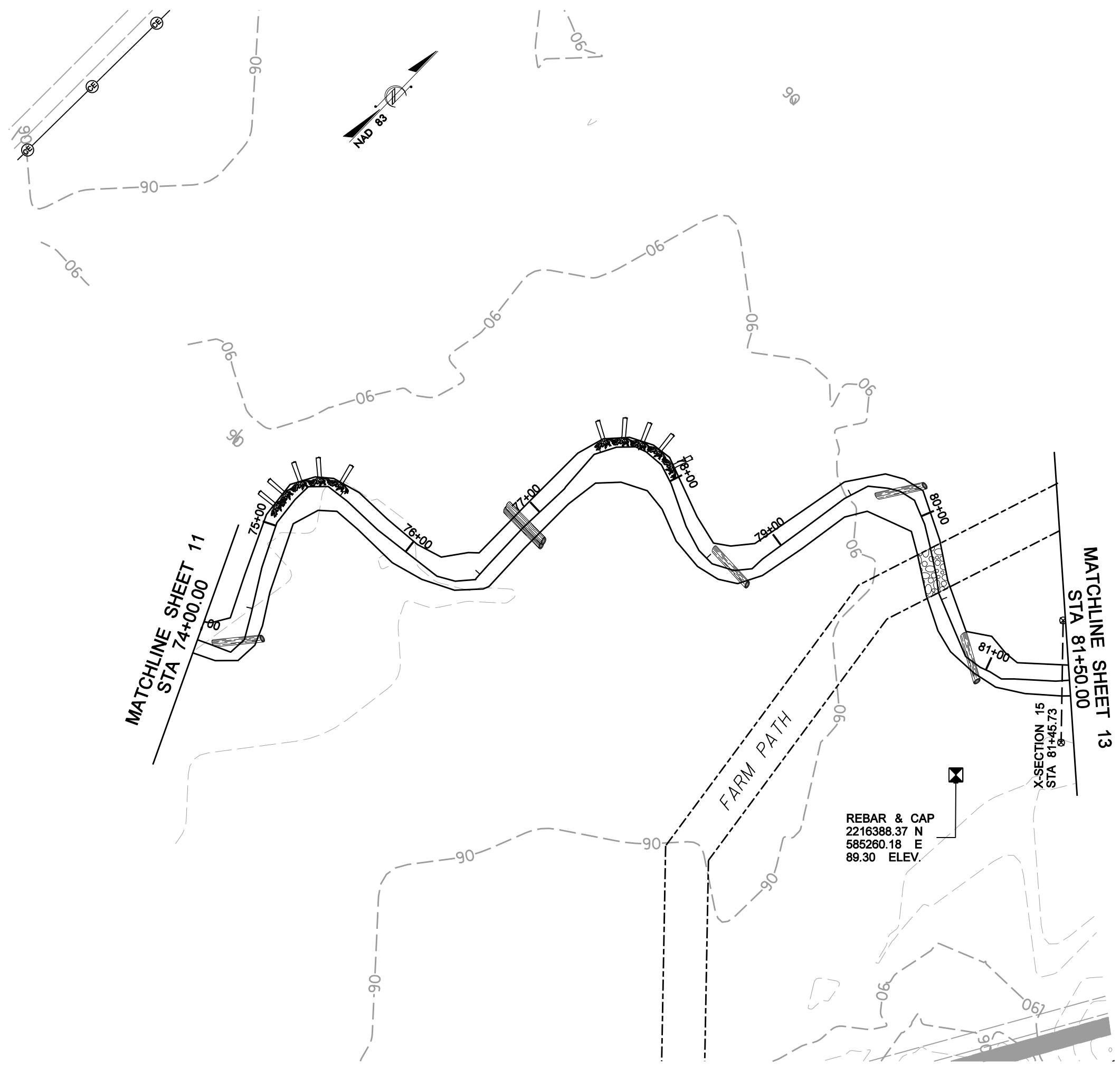
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4/12/2006  
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FILL EXISTING CHANNEL

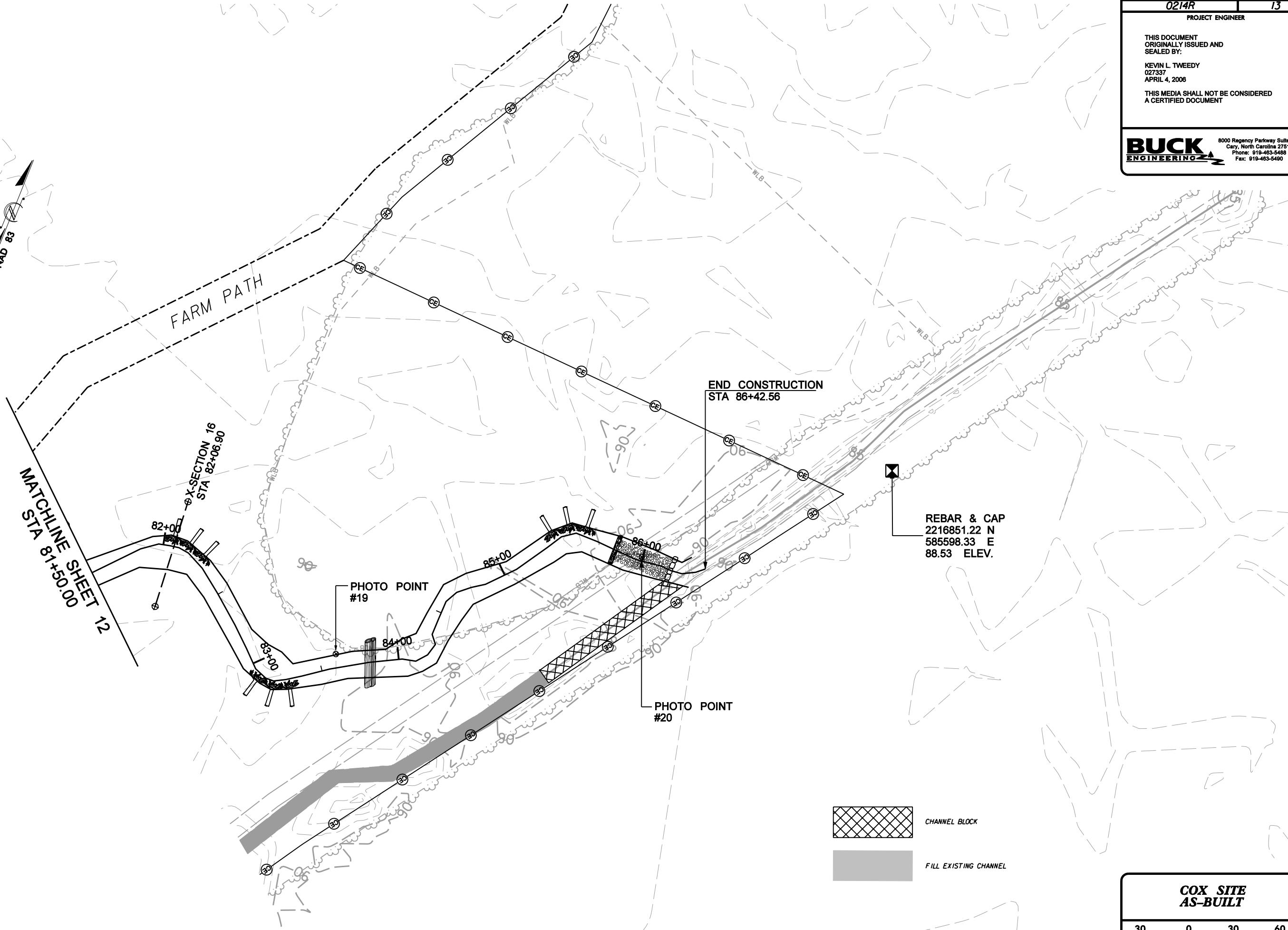
**COX SITE  
AS-BUILT**

SCALE (FT)

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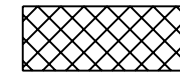


REBAR & CAP  
2216851.22 N  
585598.33 E  
88.53 ELEV.

END CONSTRUCTION  
STA 86+42.56

PHOTO POINT  
#19

PHOTO POINT  
#20

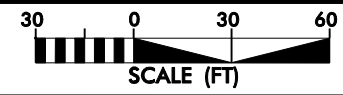


CHANNEL BLOCK



FILL EXISTING CHANNEL

**COX SITE  
AS-BUILT**



2/26/03

4/12/2006  
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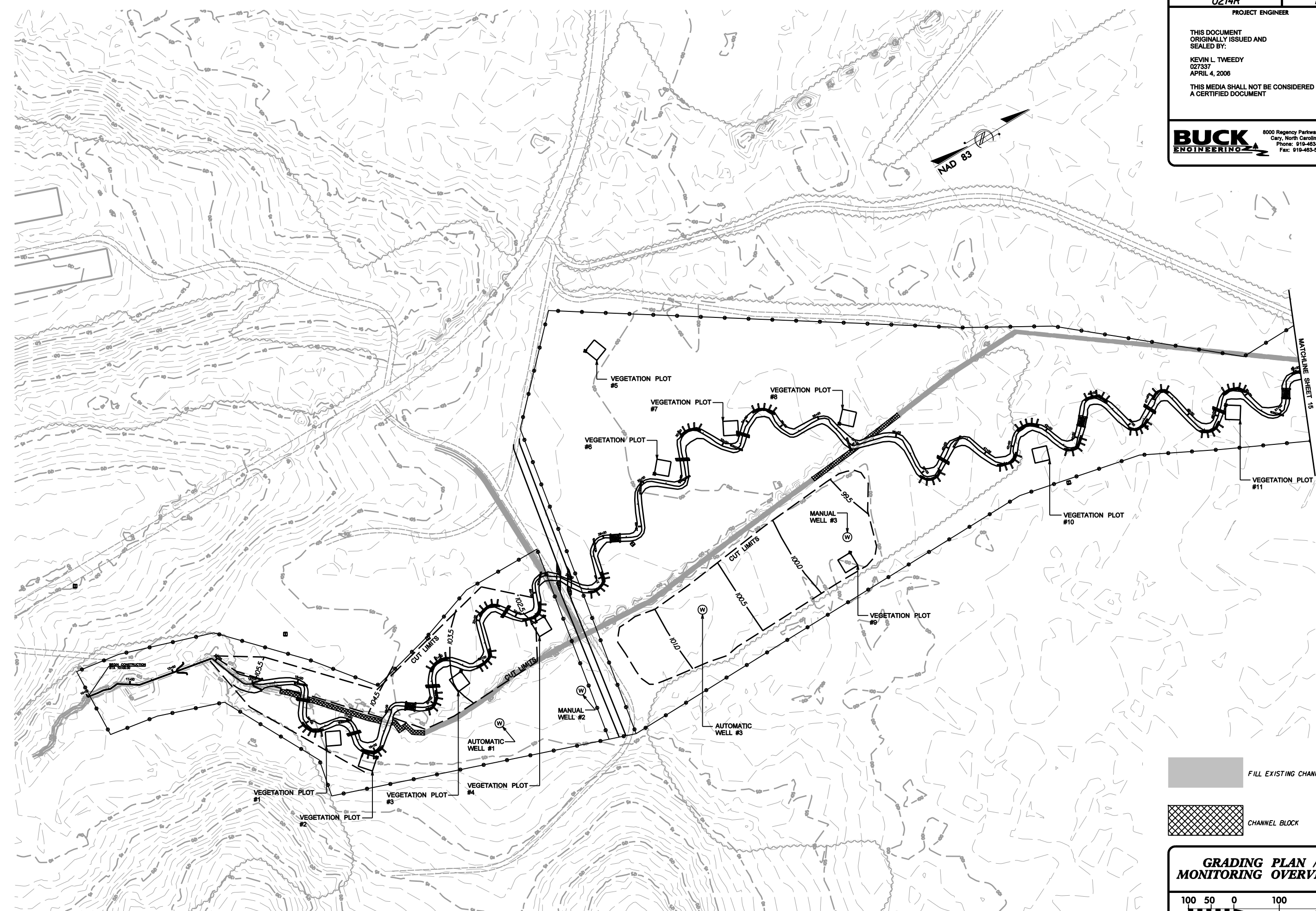
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**BUCK ENGINEERING**  
8000 Regency Parkway Suite 200  
Cary, North Carolina 27511  
Phone: 919-463-5488  
Fax: 919-463-5490

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4/2/2006  
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 FILL EXISTING CHANNEL

 CHANNEL BLOCK

**GRADING PLAN /  
MONITORING OVERVIEW**

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SCALE (FT)

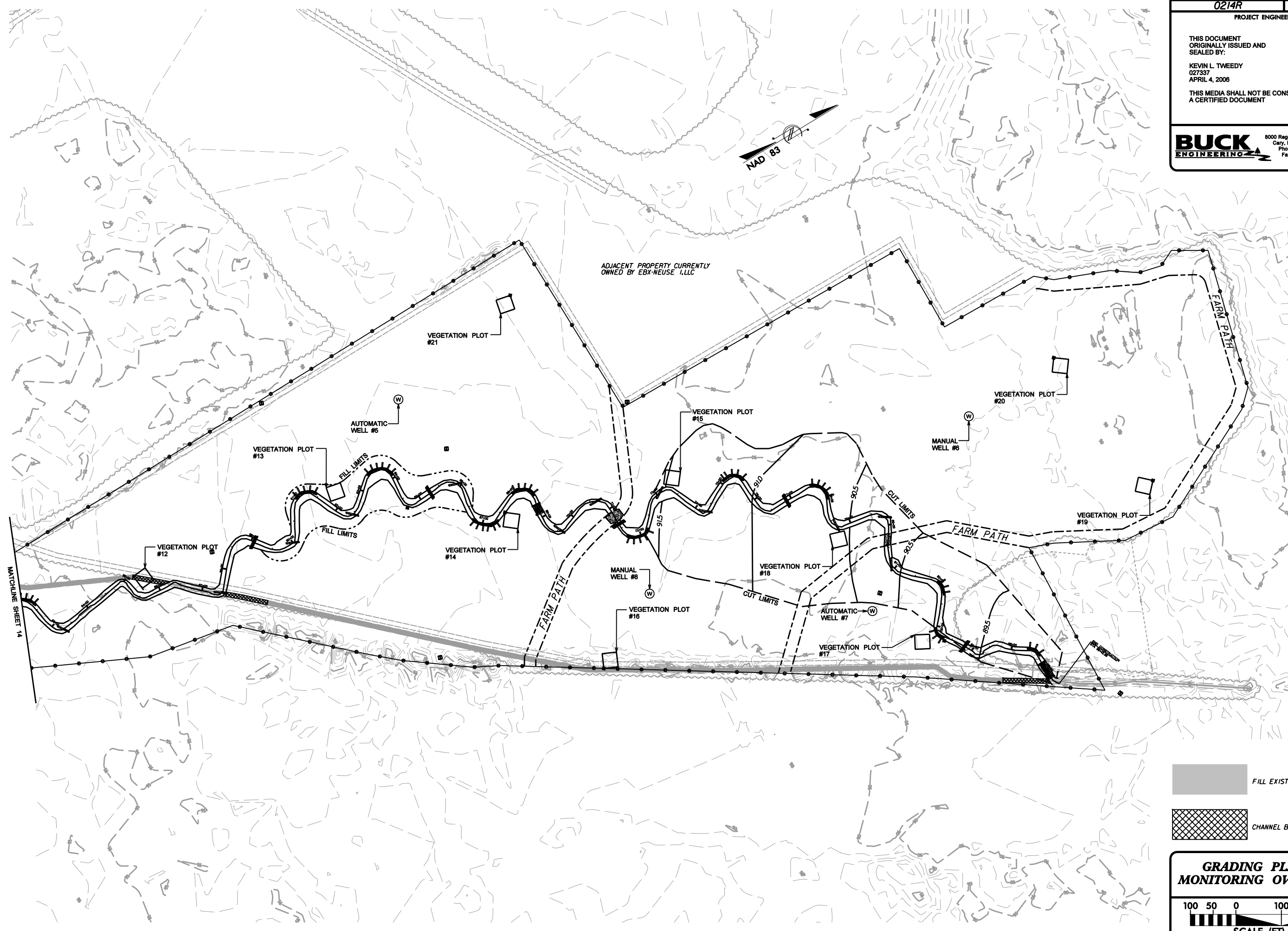
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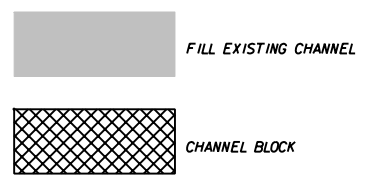
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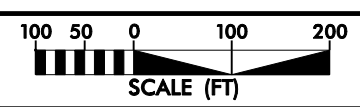
2/26/03



MATCHLINE SHEET 14



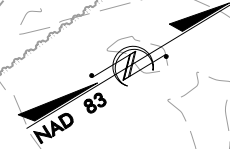
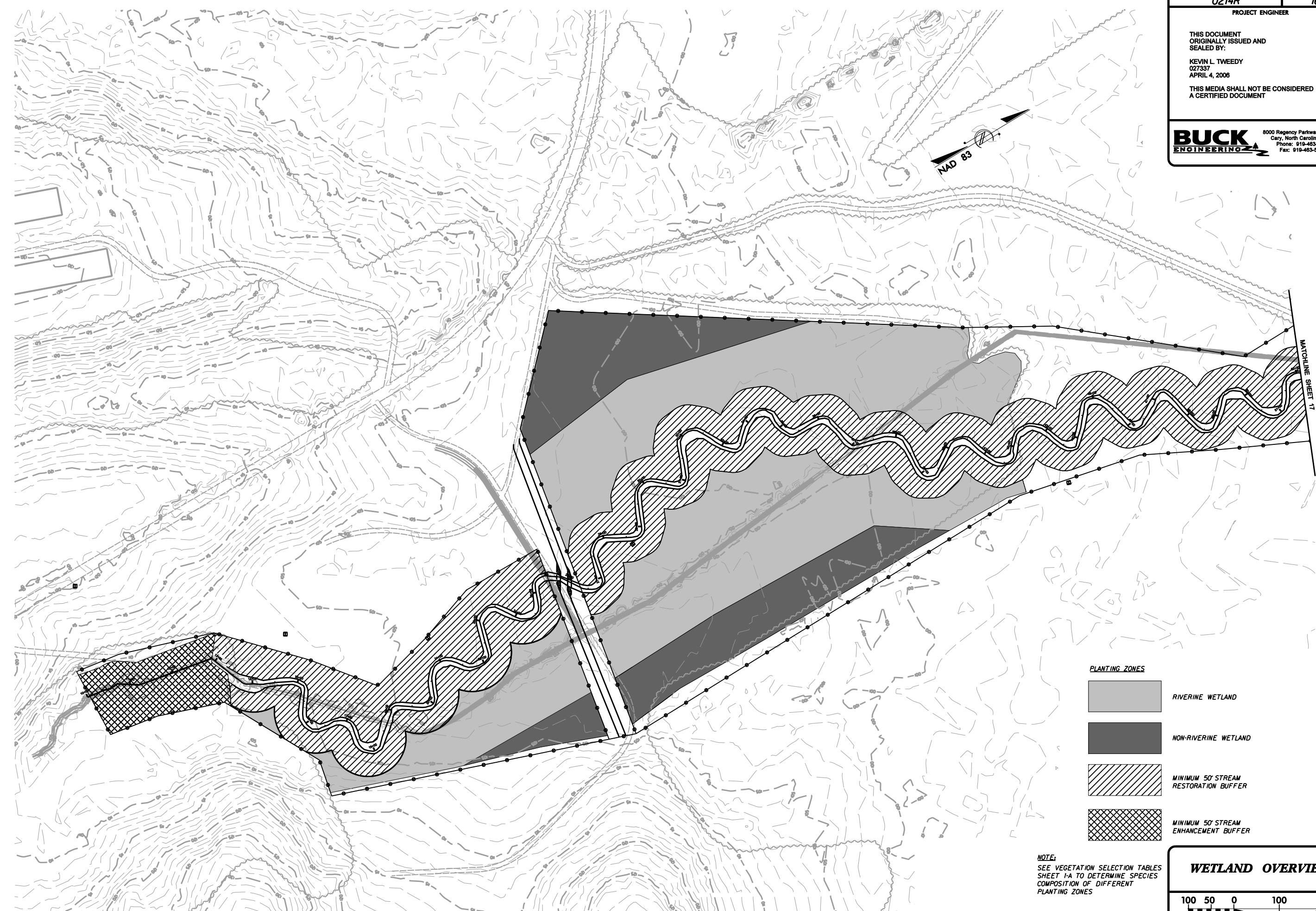
**GRADING PLAN /  
MONITORING OVERVIEW**







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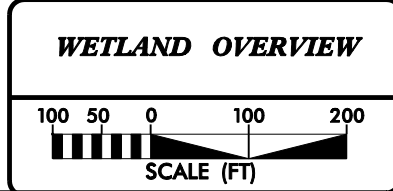
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 ENGINEERING  
 8000 Regency Parkway Suite 200  
 Cary, North Carolina 27511  
 Phone: 919-463-5488  
 Fax: 919-463-5490



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



2/26/03

4/12/2006  
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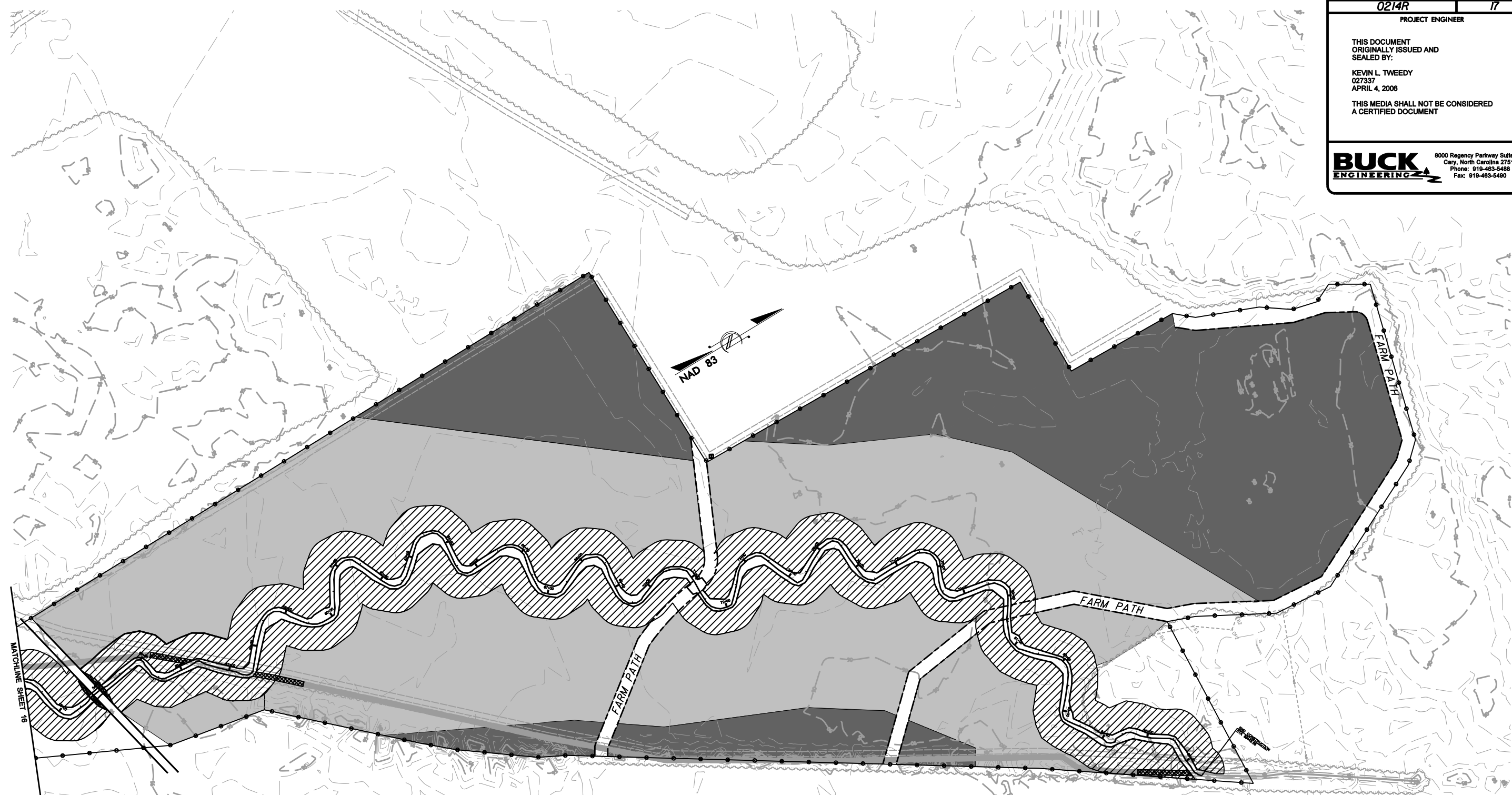


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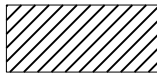

MATCHLINE SHEET 16

FARM PATH

FARM PATH

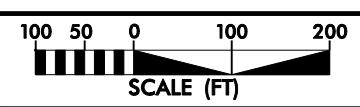
FARM PATH

**PLANTING ZONES**

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

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

**WETLAND OVERVIEW**



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4/2/2006  
F:\0214R\Design\as-but\0214R\_EBX\_estb.17.dgn

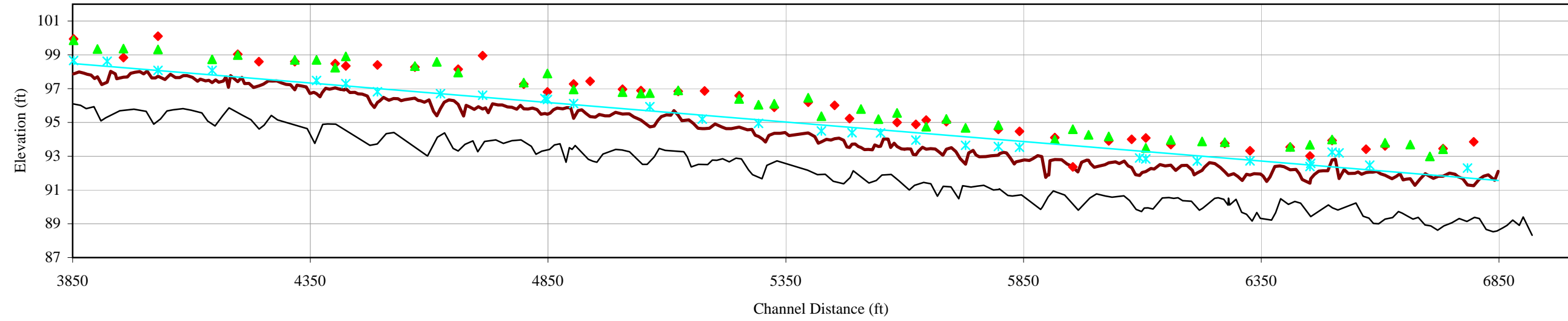
# **APPENDIX B**

## **2009 Profile and Cross Section Data**



Cox  
Station 38+52 - 68+92

— Year 1 (Offset -1ft) — Year 4 ◆ LTB ▲ RTB \* Water Srf — Linear (Water Srf)

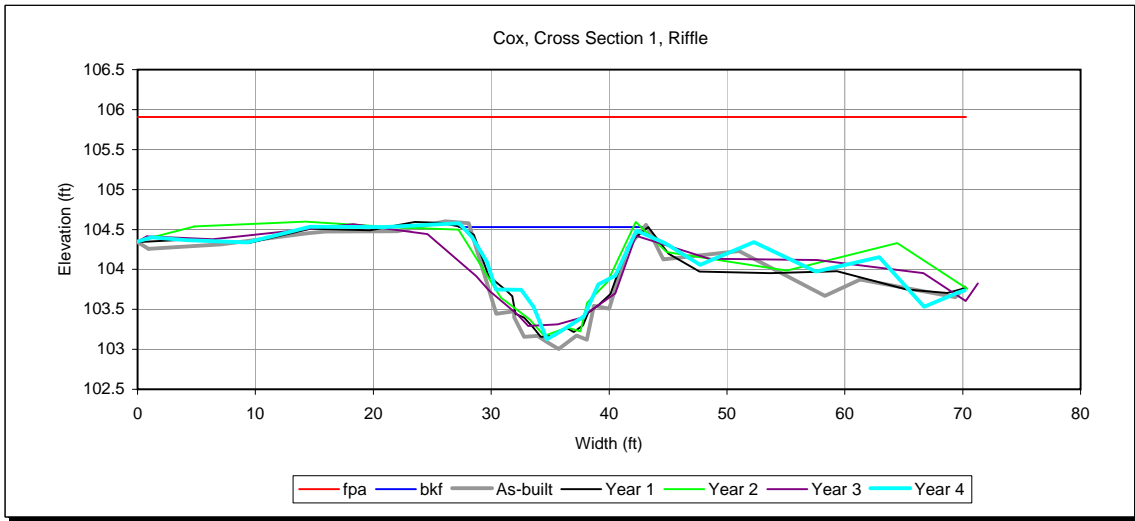




Looking at left bank.



Looking at right bank.







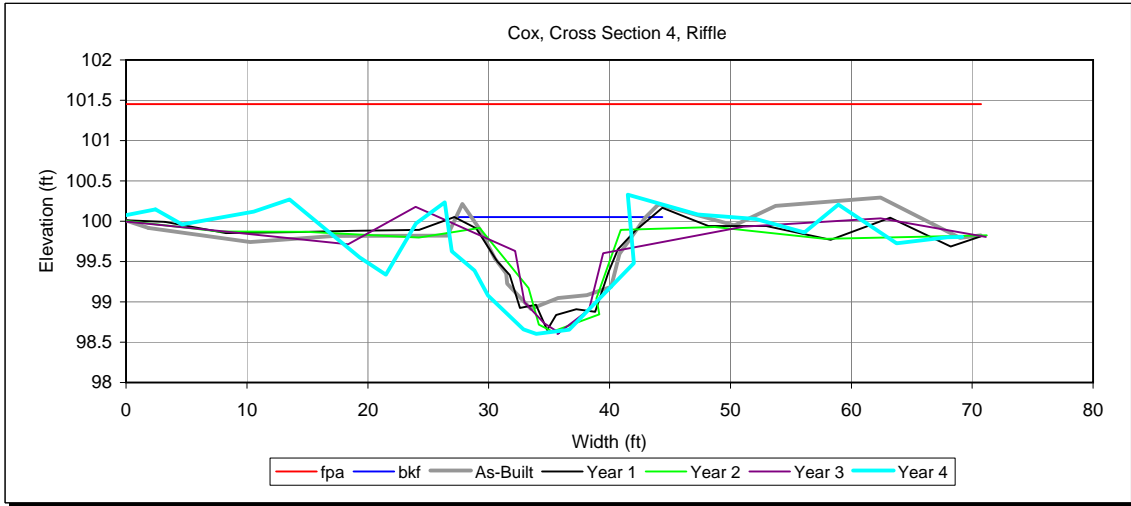




Looking at left bank.



Looking at right bank.







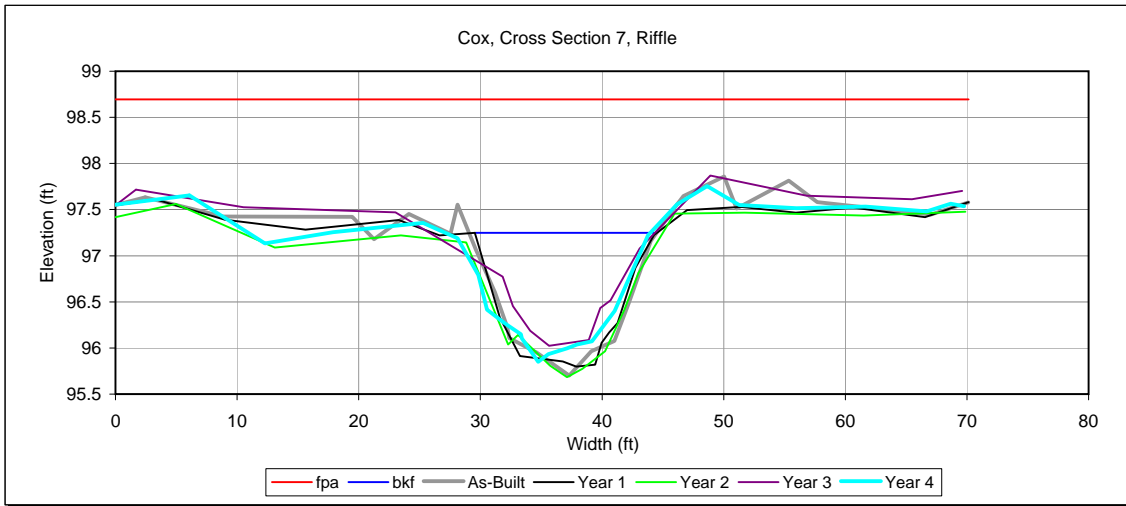




Looking at left bank.



Looking at right bank.

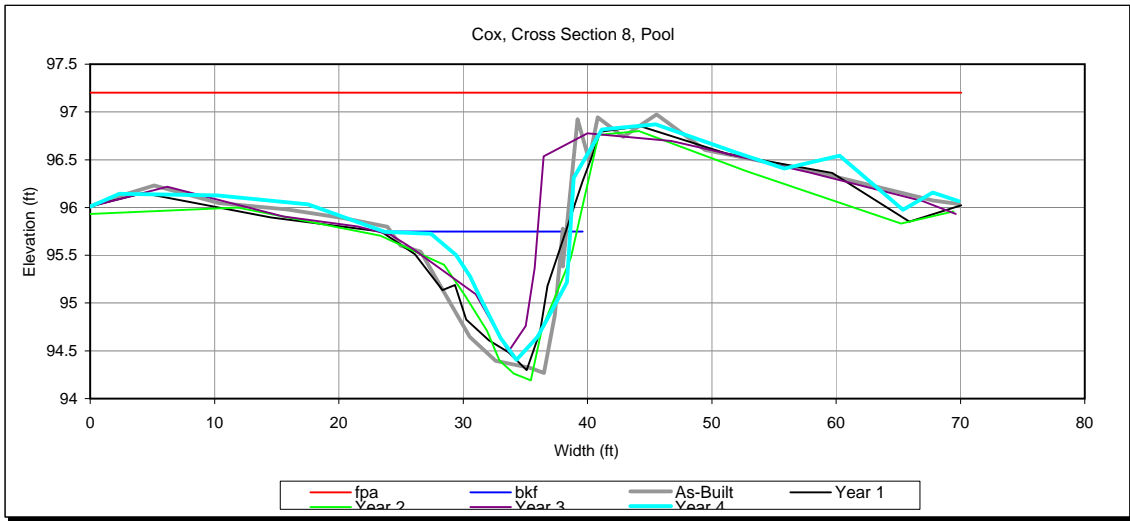




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Looking at right bank.

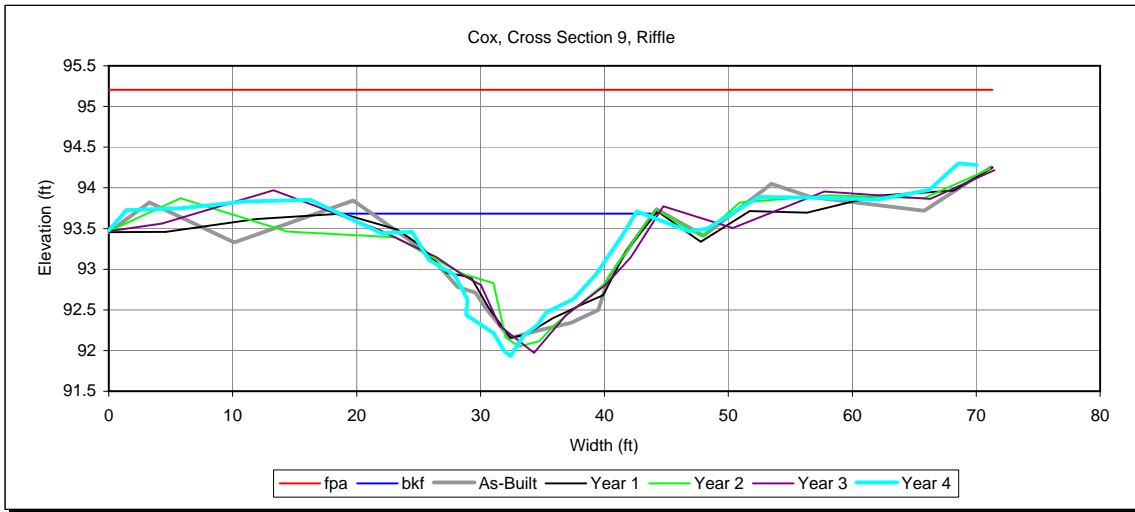




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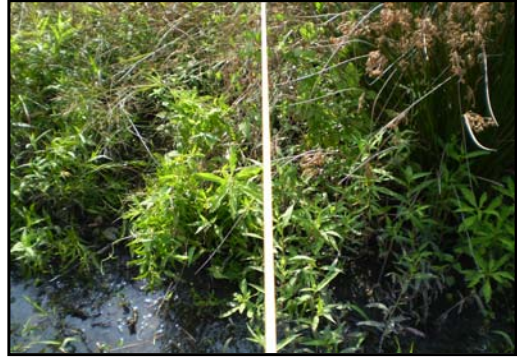


Looking at right bank.

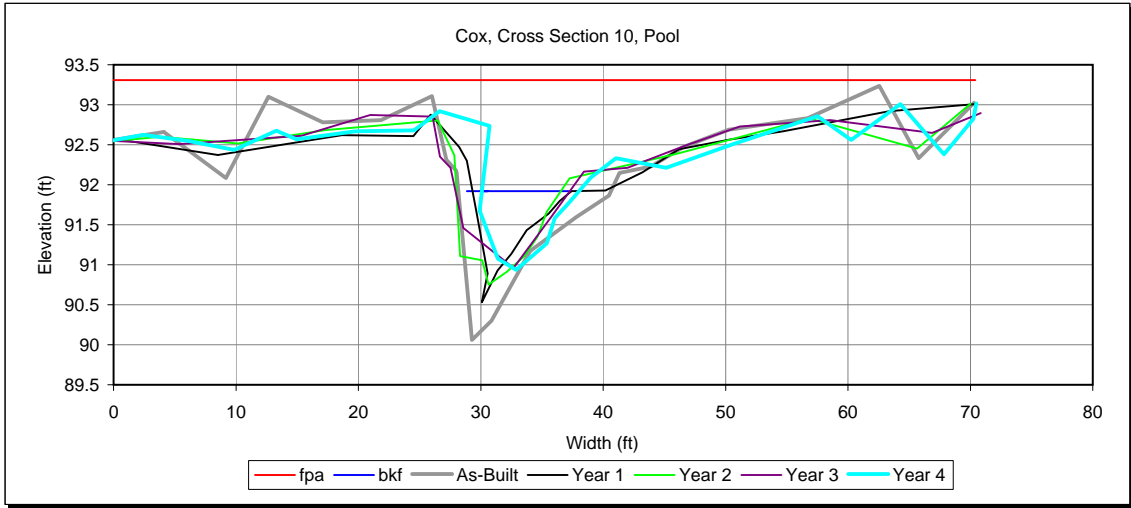




Looking at left bank.



Looking at right bank.

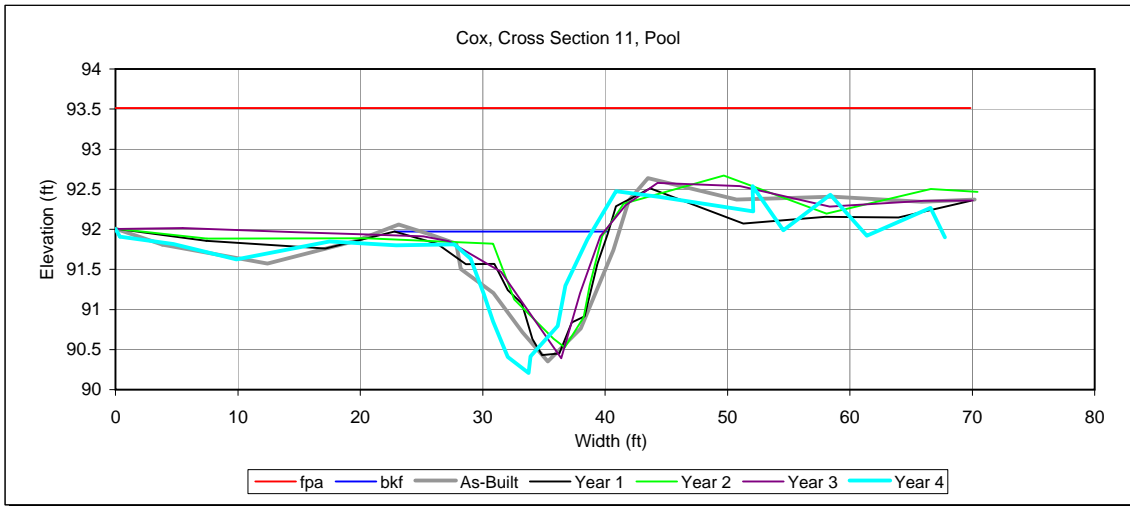




Looking at left bank.



Looking at right bank.







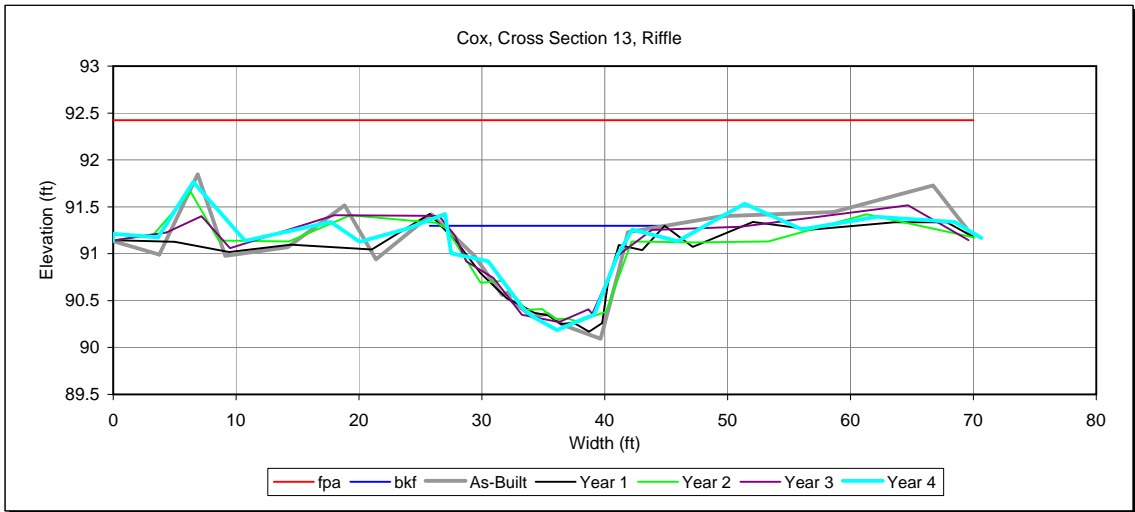




Looking at left bank.



Looking at right bank.

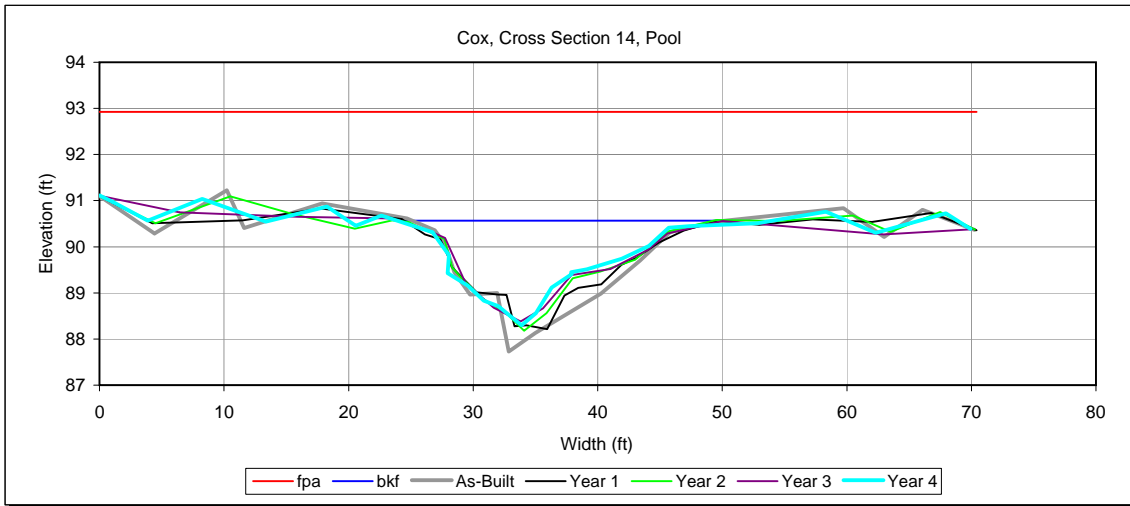




Looking at left bank.



Looking at right bank.

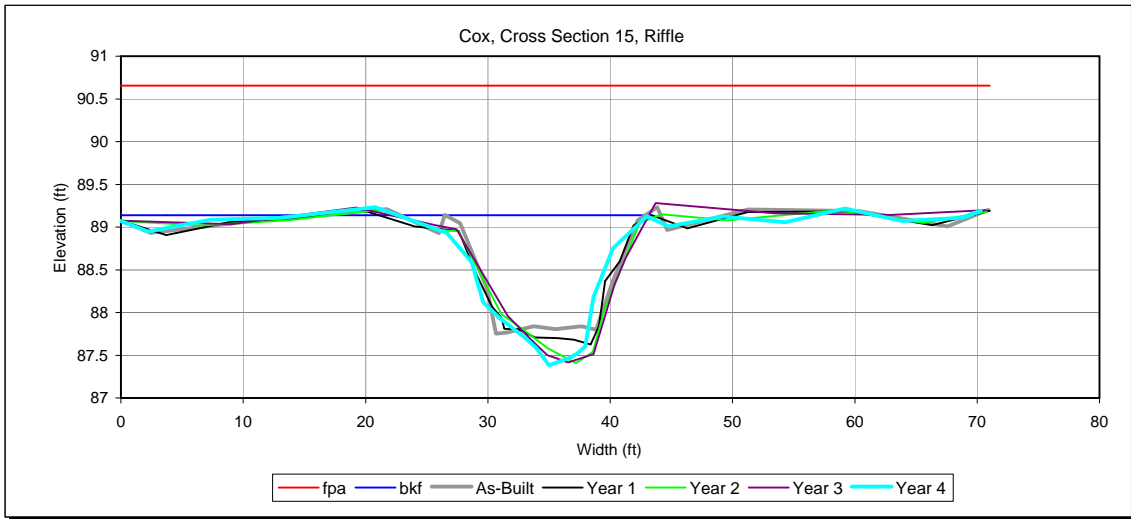




Looking at left bank.



Looking at right bank.

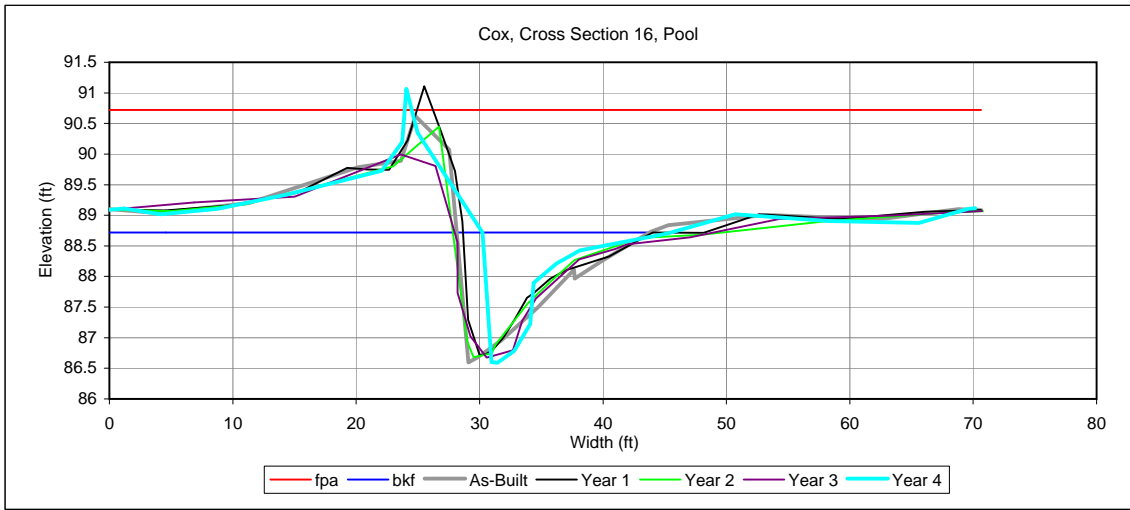




Looking at left bank.



Looking at right bank.



# **APPENDIX C**

## **2009 Gauge Data**





Date	Time	Water Level (inches)										
		Cox AW1	Cox MW2	Cox AW3	Cox AW4	Cox AW5	Cox AW6	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11
01-Jan-2009	08:00:00	1.58			-11.73		-10.71	1.50			4.43	0.03
01-Jan-2009	20:00:00	1.81			-11.64		-11.13	1.85			4.45	0.42
02-Jan-2009	08:00:00	1.88			-11.55		-12.16	2.07			4.49	0.77
02-Jan-2009	20:00:00	2.19			-10.77		-11.38	2.16			4.67	1.57
03-Jan-2009	08:00:00	1.81			-11.97		-11.21	1.80			4.68	0.84
03-Jan-2009	20:00:00	1.87			-11.90		-11.64	1.97			4.67	1.11
04-Jan-2009	08:00:00	1.88			-12.28		-11.91	1.80			4.59	1.01
04-Jan-2009	20:00:00	2.37			-4.87		-8.30	3.40			5.46	3.58
05-Jan-2009	08:00:00	2.21			-6.05		-9.40	3.11			5.22	3.01
05-Jan-2009	20:00:00	2.26			-6.18		-9.52	3.15			5.04	2.86
06-Jan-2009	08:00:00	3.38			1.65		-3.15	4.88			6.80	5.12
06-Jan-2009	20:00:00	2.91			1.02		-2.32	4.68			7.07	4.15
07-Jan-2009	08:00:00	2.99			0.75		-2.52	5.04			6.14	4.02
07-Jan-2009	20:00:00	2.51			-0.19		-1.51	3.91			5.82	3.54
08-Jan-2009	08:00:00	2.44			-2.07		-2.69	3.76			5.42	2.86
08-Jan-2009	20:00:00	2.23			-3.55		-3.89	3.26			5.20	2.47
09-Jan-2009	08:00:00	1.91			-6.32		-5.28	2.75			4.91	1.58
09-Jan-2009	20:00:00	2.00			-7.26		-6.21	2.64			4.78	1.51
10-Jan-2009	08:00:00	2.08			-8.14		-7.10	2.75			4.78	1.51
10-Jan-2009	20:00:00	2.29			-6.73		-8.06	3.12			4.87	2.36
11-Jan-2009	08:00:00	2.92			0.56		-2.91	4.47			5.97	4.63
11-Jan-2009	20:00:00	2.67			-0.96		-4.76	3.97			6.19	3.69
12-Jan-2009	08:00:00	2.31			-4.04		-6.00	3.34			5.51	2.77
12-Jan-2009	20:00:00	2.29			-5.44		-7.04	3.20			5.17	2.40
13-Jan-2009	08:00:00	2.38			-5.67		-8.53	3.62			5.06	2.61
13-Jan-2009	20:00:00	2.96			-1.70		-6.03	4.11			5.52	3.75
14-Jan-2009	08:00:00	2.46			-5.47		-7.16	2.92			5.41	2.54
14-Jan-2009	20:00:00	2.20			-6.10		-8.01	3.15			5.15	2.44
15-Jan-2009	08:00:00	2.02			-7.29		-8.36	2.77			4.97	2.16
15-Jan-2009	20:00:00	1.77			-8.79		-8.72	2.24			4.87	1.58
16-Jan-2009	08:00:00	1.47			-10.62		-9.84	1.76			4.60	0.44
16-Jan-2009	20:00:00	6.93			-10.25		-10.49	2.12			4.64	1.20
17-Jan-2009	08:00:00	20.54			-12.07		-11.04	1.15			4.32	-1.42
17-Jan-2009	20:00:00	1.88			-9.40		-11.14	2.51			4.73	2.16
18-Jan-2009	08:00:00	2.07			-8.60		-11.60	2.73			4.95	2.54
18-Jan-2009	20:00:00	2.65			0.63		-4.46	4.29			6.68	4.65
19-Jan-2009	08:00:00	2.36			-0.55		-6.60	4.04			6.40	4.01
19-Jan-2009	20:00:00	2.33			-1.61		-6.92	3.81			5.81	3.61
20-Jan-2009	08:00:00	2.29			-0.04		-5.20	4.03			5.97	4.19
20-Jan-2009	20:00:00	2.05			-1.29		-5.87	3.60			5.98	3.61
21-Jan-2009	08:00:00	1.38			-4.08		-4.44	3.08			5.39	2.65
21-Jan-2009	20:00:00	1.59			-2.25		-5.30	3.70			5.52	3.44
22-Jan-2009	08:00:00	1.06			-5.53		-7.36	2.91			5.26	2.29
22-Jan-2009	20:00:00	1.34			-3.20		-6.68	3.57			5.58	3.38
23-Jan-2009	08:00:00	1.02			-5.16		-7.38	3.12			5.52	2.76
23-Jan-2009	20:00:00	1.17			-4.84		-8.47	3.38			5.54	2.95
24-Jan-2009	08:00:00	0.89			-5.84		-8.95	3.12			5.38	2.69
24-Jan-2009	20:00:00	0.74			-6.73		-8.79	2.88			5.27	2.50
25-Jan-2009	08:00:00	0.60			-8.20		-9.42	2.71			5.05	2.13
25-Jan-2009	20:00:00	0.57			-8.61		-10.42	2.49			5.00	2.08
26-Jan-2009	08:00:00	0.49			-9.40		-9.99	2.14			4.97	1.83
26-Jan-2009	20:00:00	0.53			-9.65		-10.75	2.19			4.93	1.84
27-Jan-2009	08:00:00	1.70			-9.80		-10.92	2.27			4.91	1.95
27-Jan-2009	20:00:00	1.87			-8.88		-11.85	2.67			5.04	2.45
28-Jan-2009	08:00:00	1.94			-9.95		-11.61	2.99			5.08	2.83
28-Jan-2009	20:00:00	2.16			-3.71		-9.59	3.13			5.45	3.84
29-Jan-2009	08:00:00	1.94			-4.60		-8.36	3.22			5.82	3.57
29-Jan-2009	20:00:00	1.77			-5.92		-9.28	3.04			5.36	3.04
30-Jan-2009	08:00:00	1.56			-7.38		-9.81	2.71			5.08	2.58
30-Jan-2009	20:00:00	1.53			-8.12		-10.26	2.53			4.98	2.36
31-Jan-2009	08:00:00	1.16			-10.17		-10.79	2.01			4.71	1.57
31-Jan-2009	20:00:00	1.29			-10.44		-11.09	1.99			4.68	1.55
01-Feb-2009	08:00:00	1.21			-11.06		-11.24	1.82			4.63	1.34
01-Feb-2009	20:00:00	1.37			-10.44		-11.60	2.19			4.77	1.79
02-Feb-2009	08:00:00	1.32			-10.96		-12.05	2.19			4.71	1.69
02-Feb-2009	20:00:00	1.55			-9.68		-12.14	2.62			4.80	2.34
03-Feb-2009	08:00:00	1.49			-8.74		-10.51	2.79			5.01	2.94
03-Feb-2009	20:00:00	1.37			-9.98		-11.34	2.31			4.94	2.26
04-Feb-2009	08:00:00	1.29			-10.31		-11.41	2.11			4.88	2.51
04-Feb-2009	20:00:00	1.18			-11.03		-11.29	2.06			4.71	2.07
05-Feb-2009	08:00:00	0.77			-12.69		-12.08	1.47			4.37	0.60
05-Feb-2009	20:00:00	1.10			-12.69		-12.25	1.70			3.20	0.73
06-Feb-2009	08:00:00	0.57			-13.38		-12.80	0.96			2.54	-1.26
06-Feb-2009	20:00:00	1.21			-12.24		-12.56	1.82			2.86	0.56
07-Feb-2009	08:00:00	1.03			-13.24		-12.82	1.26			2.98	-0.88
07-Feb-2009	20:00:00	1.25			-12.34		-12.96	1.81			3.18	0.01
08-Feb-2009	08:00:00	1.19			-12.92		-13.66	1.77			3.38	-0.27
08-Feb-2009	20:00:00	1.21			-12.80		-13.14	1.50			3.06	-0.44
09-Feb-2009	08:00:00	0.96			-13.88		-13.33	1.14			2.99	-1.49
09-Feb-2009	20:00:00	1.11			-13.49		-13.80	1.42			2.79	-0.87
10-Feb-2009	08:00:00	1.11			-13.93		-14.11	1.26			2.67	-1.16
10-Feb-2009	20:00:00	1.18			-13.19		-13.89	1.47			2.69	-0.37
11-Feb-2009	08:00:00	1.21			-13.61		-14.19	1.50			2.68	-0.57
11-Feb-2009	20:00:00	1.56			-11.79		-13.76	2.18			2.86	0.67
12-Feb-2009	08:00:00	1.14			-13.29		-13.71	1.43			2.75	-0.41
12-Feb-2009	20:00:00	0.96			-13.94		-13.95	0.80			2.54	-1.45
13-Feb-2009	08:00:00	0.81			-14.65		-14.23	0.60			2.28	-2.18
13-Feb-2009	20:00:00	0.82			-14.53		-14.56	0.43			2.15	-2.10
14-Feb-2009	08:00:00	0.83			-14.79		-15.08	0.81			1.99	-1.90
14-Feb-2009	20:00:00	0.93			-14.31		-14.77	1.03			1.94	-1.33
15-Feb-2009	08:00:00	0.54			-15.67		-14.89	-0.10			1.62	-3.21
15-Feb-2009	20:00:00	0.76			-15.37		-15.42	0.26			1.59	-2.69
16-Feb-2009	08:00:00	0.59			-16.03		-15.12	-0.08			1.48	-3.34
16-Feb-2009	20:00:00	0.44			-16.31		-15.17	-0.33			1.14	-3.67
17-Feb-2009	08:00:00	0.15			-16.79		-15.41	-0.65			0.09	-4.62
17-Feb-2009	20:00:00	0.50			-16.26		-15.94	0.02			-0.18	-3.42
18-Feb-2009	08:00:00	1.07			-15.94		-15.85	0.63			0.78	-1.75
18-Feb-2009	20:00:00	1.97			-4.77		-9.02	3.96			4.47	4.12
19-Feb-2009	08:00:00	2.00			0.65		-3.79	4.37			5.29	4.41
19-Feb-2009	20:00:00	1.49			-1.59		-5.32	3.49			3.66	3.48
20-Feb-2009	08:00:00	1.09			-4.89		-6.57	2.96			2.95	2.47
20-Feb-2009	20:00:00	1.04			-6.47		-7.57	2.49			2.62	1.65
21-Feb-2009	08:00:00	0.63			-8.74		-8.63	2.09			2.35	0.33
21-Feb-2009	20:00:00	1.00			-8.57		-9.70	2.60			2.48	0.57
22-Feb-2009	08:00:00	1.11			-8.70		-10.20	2.78			2.59	0.84
22-Feb-2009	20:00:00	0.89			-9.95		-9.78	1.79			2.55	0.11
23-Feb-2009	08:00:00	0.66	1.50		-11.45		-10.48	2.02	-2.00	5.00	2.20	-1.27
23-Feb-2009	20:00:00	0.75		-16.34	-11.57	-2.91	-11.14	1.66			2.16	-1.21
24-Feb-2009	08:00:00	0.33		-17.36	-12.71	-3.87	-11.56	1.05			1.72	-2.66
24-Feb-2009	20:00:00	0.69		-17.51	-12.64	-4.19	-12.22	1.35			1.89	-2.09
25-Feb-2009	08:00:00	0.49		-18.21	-13.46	-4.79	-12.55	1.10			1.73	-2.94
25-Feb-2009	20:00:00	0.75		-18.02	-13.15	-4.97	-13.24	1.35			1.83	-2.34
26-Feb-2009	08:00:00	0.72		-18.45	-13.71	-5.35	-13.42	1.15			1.83	-2.66

Date	Time	Water Level (inches)										
		Cox AW1	Cox MW2	Cox AW3	Cox AW4	Cox AW5	Cox AW6	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11
27-Feb-2009	08:00:00	0.91		-16.10	-13.42	-5.45	-14.19	1.68			2.17	-1.49
27-Feb-2009	20:00:00	1.05		-17.47	-12.68	-5.46	-13.80	1.73			2.23	-0.98
28-Feb-2009	08:00:00	1.66		-17.24	-11.25	0.16	-12.42	2.67			2.99	2.65
28-Feb-2009	20:00:00	4.27		0.69	2.33	7.90	1.09	5.53			8.19	5.76
01-Mar-2009	08:00:00	2.73		0.44	2.17	7.44	2.89	5.27			6.18	5.69
01-Mar-2009	20:00:00	7.01		1.94	2.27	10.10	4.75	6.55			9.96	9.18
02-Mar-2009	08:00:00	2.46		-0.14	1.41	8.08	4.41	5.16			7.08	5.83
02-Mar-2009	20:00:00	2.19		-0.82	0.97	7.12	2.65	4.16			5.44	4.36
03-Mar-2009	08:00:00	1.93		-2.45	0.02	6.24	2.26	3.65			4.60	3.47
03-Mar-2009	20:00:00	1.97		-2.90	-0.34	5.80	1.93	3.64			4.44	3.08
04-Mar-2009	08:00:00	1.70		-5.00	-1.51	4.40	1.68	3.16			3.91	2.26
04-Mar-2009	20:00:00	1.98		-4.18	-1.11	3.89	1.28	3.72			4.10	2.72
05-Mar-2009	08:00:00	1.72		-5.82	-2.19	2.94	1.37	3.20			3.77	2.04
05-Mar-2009	20:00:00	1.86		-5.39	-2.08	2.94	0.70	3.50			3.77	2.38
06-Mar-2009	08:00:00	1.81		-6.25	-2.61	2.24	0.86	3.20			3.71	2.11
06-Mar-2009	20:00:00	1.83		-5.74	-2.42	2.60	0.00	3.51			3.70	2.47
07-Mar-2009	08:00:00	1.77		-7.01	-3.13	1.63	-0.04	3.13			3.63	2.12
07-Mar-2009	20:00:00	1.84		-6.29	-2.89	1.76	-1.06	3.52			3.65	2.44
08-Mar-2009	08:00:00	1.76		-7.31	-3.42	0.81	-1.67	3.21			3.55	2.26
08-Mar-2009	20:00:00	1.79		-6.92	-3.47	1.47	-2.76	3.42			3.50	2.29
09-Mar-2009	08:00:00	1.64		-8.24	-4.25	-0.54	-3.47	3.07			3.37	1.97
09-Mar-2009	20:00:00	1.52		-8.97	-5.21	4.22	-4.59	2.40			3.23	1.33
10-Mar-2009	08:00:00	1.41		-10.57	-6.63	-6.85	-5.69	2.11			3.04	0.65
10-Mar-2009	20:00:00	1.59		-9.77	-6.13	4.60	-7.02	2.49			3.06	1.11
11-Mar-2009	08:00:00	1.56		-10.10	-6.27	-1.20	-7.69	2.45			3.14	1.41
11-Mar-2009	20:00:00	1.56		-10.10	-6.51	-1.46	-8.16	2.37			3.19	1.26
12-Mar-2009	08:00:00	1.32		-11.80	-7.97	-2.20	-8.92	1.74			3.03	0.37
12-Mar-2009	20:00:00	1.34		-12.01	-8.64	-2.94	-9.94	1.56			2.79	-0.23
13-Mar-2009	08:00:00	1.32		-12.57	-9.08	-2.23	-10.36	1.31			2.73	-0.56
13-Mar-2009	20:00:00	1.95		-10.46	-2.52	2.53	-8.36	3.15			3.49	3.47
14-Mar-2009	08:00:00	1.70		-8.89	-3.75	0.75	-8.30	3.08			3.53	3.08
14-Mar-2009	20:00:00	1.86		-8.00	-2.13	-0.66	-8.56	3.41			3.52	3.41
15-Mar-2009	08:00:00	2.15		-3.09	0.35	-2.27	-6.15	3.86			3.91	4.41
15-Mar-2009	20:00:00	2.26		-0.62	1.34	-2.25	-3.16	4.13			4.83	4.43
16-Mar-2009	08:00:00	2.18		-0.61	1.15	0.05	-2.33	4.21			4.41	4.30
16-Mar-2009	20:00:00	2.72		-0.53	1.91	0.16	-0.18	4.89			5.58	5.05
17-Mar-2009	08:00:00	2.38		-0.37	1.33	1.91	0.66	4.23			4.85	4.26
17-Mar-2009	20:00:00	2.35		-1.11	0.59	9.40	0.75	3.86			4.02	3.58
18-Mar-2009	08:00:00	2.18		-2.06	-0.04	-4.67	0.55	3.67			3.72	3.11
18-Mar-2009	20:00:00	2.21		-3.20	-0.39	5.75	-0.67	3.97			3.67	3.00
19-Mar-2009	08:00:00	2.09		-4.45	-1.18	-4.47	-1.58	3.74			3.52	2.63
19-Mar-2009	20:00:00	1.91		-5.85	-1.88	6.14	-2.54	3.20			3.45	2.22
20-Mar-2009	08:00:00	2.11		-1.91	0.76	-1.10	-0.86	3.98			3.95	3.94
20-Mar-2009	20:00:00	1.93		-4.76	-0.76	5.60	-2.79	3.52			3.49	2.90
21-Mar-2009	08:00:00	1.74		-7.03	-2.68	-4.59	-4.00	3.01			3.20	1.90
21-Mar-2009	20:00:00	1.72		-7.74	-3.57	6.32	-5.48	2.99			3.12	1.58
22-Mar-2009	08:00:00	1.65		-8.85	-4.63	-5.87	-6.05	2.77			3.11	1.20
22-Mar-2009	20:00:00	1.70		-8.68	-4.81	3.70	-7.14	2.86			3.16	1.29
23-Mar-2009	08:00:00	1.60		-9.76	-5.61	-7.79	-7.51	2.58			3.10	1.05
23-Mar-2009	20:00:00	1.60		-10.01	-6.21	2.72	-8.36	2.44			3.05	0.66
24-Mar-2009	08:00:00	1.39	2.00	-11.64	-7.54	-8.25	-8.58	2.00	-1.50	5.00	2.84	-0.03
24-Mar-2009	20:00:00	1.36		-11.59	-8.01	0.87	-9.56	2.05			2.78	-0.27
25-Mar-2009	08:00:00	1.40		-12.06	-8.30	-10.91	-10.30	2.15			2.79	-0.15
25-Mar-2009	20:00:00	1.43		-11.82	-8.06	-3.33	-10.71	2.23			2.86	0.17
26-Mar-2009	08:00:00	1.59		-10.90	-6.49	-9.70	-10.73	2.71			3.09	1.51
26-Mar-2009	20:00:00	1.58		-10.06	-5.77	-1.22	-10.64	2.95			3.24	2.07
27-Mar-2009	08:00:00	1.55		-10.62	-6.59	-10.85	-10.68	2.49			3.22	1.62
27-Mar-2009	20:00:00	2.28		-5.36	-0.02	3.91	-7.28	4.38			3.82	4.55
28-Mar-2009	08:00:00	2.08		-1.40	0.92	3.90	-4.89	4.35			4.42	4.36
28-Mar-2009	20:00:00	2.75		1.00	2.07	10.31	-0.30	5.64			6.24	5.01
29-Mar-2009	08:00:00	2.78		0.07	1.77	5.37	1.95	5.69			6.60	5.72
29-Mar-2009	20:00:00	2.18		-1.63	0.72	9.85	2.20	4.31			4.49	4.11
30-Mar-2009	08:00:00	2.05		-3.54	-0.48	-3.43	1.77	3.73			3.82	3.29
30-Mar-2009	20:00:00	1.92		-5.81	-1.90	7.94	1.23	3.45			3.51	2.50
31-Mar-2009	08:00:00	1.76		-7.37	-3.15	-4.43	0.86	3.24			3.33	1.86
31-Mar-2009	20:00:00	1.78		-7.75	-3.70	5.26	-0.23	3.52			3.33	1.72
01-Apr-2009	08:00:00	1.71		-8.20	-4.00	1.59	-0.55	3.37			3.32	1.76
01-Apr-2009	20:00:00	1.68		-8.30	-4.12	1.99	-1.18	3.44			3.39	1.70
02-Apr-2009	08:00:00	1.67		-8.44	-4.23	1.37	-1.80	3.48			3.36	1.79
02-Apr-2009	20:00:00	2.24		-2.08	0.44	2.85	-1.32	4.74			3.96	4.00
03-Apr-2009	08:00:00	2.24		-1.90	0.76	1.49	-1.76	4.72			3.89	4.15
03-Apr-2009	20:00:00	1.52		-7.18	-2.49	2.61	-2.77	3.37			3.40	2.92
04-Apr-2009	08:00:00	1.32		-9.52	-4.89	-0.55	-4.34	2.76			3.02	0.38
04-Apr-2009	20:00:00	1.30		-10.26	-6.54	0.33	-5.89	2.57			2.85	-0.38
05-Apr-2009	08:00:00	1.29		-11.24	-7.42	-1.53	-6.81	2.53			2.73	-0.81
05-Apr-2009	20:00:00	1.34		-11.21	-8.25	-1.55	-8.17	2.32			2.76	-1.72
06-Apr-2009	08:00:00	1.75		-9.58	-6.07	-1.01	-8.60	3.24			2.96	0.61
06-Apr-2009	20:00:00	1.70		-2.07	0.68	3.28	-1.68	4.11			3.81	3.73
07-Apr-2009	08:00:00	1.55		-4.73	-0.77	1.98	-3.27	3.67			3.30	2.84
07-Apr-2009	20:00:00	1.22		-7.89	-3.36	1.96	-4.54	2.94			3.02	1.33
08-Apr-2009	08:00:00	1.15		-9.66	-5.16	0.28	-5.52	2.78			2.82	0.21
08-Apr-2009	20:00:00	1.19		-10.23	-6.45	-0.19	-6.71	2.61			2.79	-0.84
09-Apr-2009	08:00:00	1.05		-11.53	-7.65	-1.75	-7.00	2.23			2.65	-1.44
09-Apr-2009	20:00:00	1.00		-12.49	-9.40	-2.37	-8.33	2.00			2.56	-3.07
10-Apr-2009	08:00:00	1.08		-13.23	-9.84	-3.61	-8.56	2.12			2.44	-2.57
10-Apr-2009	20:00:00	1.12		-13.22	-10.40	-3.62	-10.03	2.05			2.47	-3.62
11-Apr-2009	08:00:00	1.43		-11.60	-6.13	-2.28	-8.10	3.15			2.92	1.61
11-Apr-2009	20:00:00	0.98		-13.55	-10.20	-4.10	-9.60	1.94			2.77	-1.96
12-Apr-2009	08:00:00	0.91		-14.81	-11.72	-4.98	-10.19	1.37			2.38	-3.42
12-Apr-2009	20:00:00	0.86		-15.02	-12.35	-5.30	-11.39	1.00			2.13	-5.18
13-Apr-2009	08:00:00	0.99		-15.55	-12.75	-5.68	-11.53	0.93			1.89	-4.89
13-Apr-2009	20:00:00	1.22		-14.73	-11.43	-5.50	-12.60	1.78			2.14	-3.14
14-Apr-2009	08:00:00	1.35		-13.96	-10.45	-5.05	-12.43	2.04			2.60	-1.61
14-Apr-2009	20:00:00	1.50		-12.04	-6.07	0.76	-9.62	3.40			3.36	2.25
15-Apr-2009	08:00:00	1.82		-3.52	0.38	2.64	-4.11	4.20			3.90	4.01
15-Apr-2009	20:00:00	1.49		-7.13	-2.25	2.19	-6.13	3.61			3.31	2.90
16-Apr-2009	08:00:00	1.29		-9.72	-4.97	1.02	-7.50	3.03			2.99	1.75
16-Apr-2009	20:00:00	1.03		-11.45	-8.13	-0.37	-9.00	2.24			2.71	-0.94
17-Apr-2009	08:00:00	1.02		-13.08	-9.63	-1.96	-9.82	1.92			2.44	-2.04
17-Apr-2009	20:00:00	1.10		-13.48	-10.61	-2.91	-11.15	1.97			2.41	-3.61
18-Apr-2009	08:00:00	1.07		-14.36	-11.21	-4.27	-11.36	1.62			2.19	-3.40
18-Apr-2009	20:00:00	0.99		-14.81	-12.18	-4.66	-12.38	1.21			2.01	-5.72
19-Apr-2009	08:00:00	1.08		-15.55	-12.54	-5.45	-12.59	1.06			1.69	-4.75
19-Apr-2009	20:00:00	0.99	2.50	-15.86	-13.06	-5.86	-13.40	1.03	-3.50	-4.25	0.60	

Date	Time	Water Level (inches)										
		Cox AW1	Cox MW2	Cox AW3	Cox AW4	Cox AW5	Cox AW6	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11
25-Apr-2009	20:00:00	-0.54		-22.51	-18.11	-12.22	-18.86	-5.52			-12.78	-12.25
26-Apr-2009	08:00:00	-0.32		-23.03	-18.61	-12.14	-18.27	-4.47			-12.97	-10.72
26-Apr-2009	20:00:00	-1.04		-23.47	-18.76	-13.29	-19.65	-7.15			-14.31	-13.08
27-Apr-2009	08:00:00	-1.00		-24.09	-19.34	-13.21	-19.25	-5.99			-14.53	-11.91
27-Apr-2009	20:00:00	-2.11		-24.59	-19.57	-14.33	-20.43	-8.69			-15.77	-13.95
28-Apr-2009	08:00:00	-1.77		-24.99	-20.03	-14.27	-20.08	-7.29			-15.87	-12.74
28-Apr-2009	20:00:00	-2.63		-25.29	-20.14	-15.21	-21.34	-9.53			-16.71	-14.38
29-Apr-2009	08:00:00	-1.95		-25.74	-20.63	-15.04	-21.05	-7.94			-16.70	-13.09
29-Apr-2009	20:00:00	-2.89		-26.36	-20.96	-15.95	-21.68	-10.15			-17.61	-14.70
30-Apr-2009	08:00:00	-2.46		-26.92	-21.47	-15.87	-21.49	-8.72			-17.72	-13.63
30-Apr-2009	20:00:00	-2.46		-26.96	-21.53	-16.25	-22.48	-9.47			-17.88	-13.68
01-May-2009	08:00:00	-1.94		-27.17	-21.82	-15.82	-22.08	-7.73			-17.50	-12.26
01-May-2009	20:00:00	-2.98		-27.40	-21.88	-16.61	-22.54	-10.44			-18.24	-13.84
02-May-2009	08:00:00	-2.31		-27.66	-22.18	-16.38	-22.24	-8.38			-18.05	-12.54
02-May-2009	20:00:00	-3.84		-28.20	-22.50	-17.25	-22.95	-10.76			-18.80	-14.40
03-May-2009	08:00:00	-2.03		-28.70	-22.94	-16.96	-22.51	-8.45			-18.43	-12.81
03-May-2009	20:00:00	-4.60		-29.17	-23.26	-17.89	-23.37	-11.53			-19.35	-15.03
04-May-2009	08:00:00	-4.11		-29.71	-23.67	-17.96	-23.15	-10.08			-19.51	-14.11
04-May-2009	20:00:00	-6.69		-30.52	-24.20	-18.54	-23.93	-12.78			-20.26	-15.97
05-May-2009	08:00:00	0.63		-27.07	-24.54	-8.12	-21.15	-3.38			-15.34	-8.18
05-May-2009	20:00:00	3.11		-9.42	-8.88	7.30	-8.09	3.94			6.18	5.04
06-May-2009	08:00:00	1.78		-12.44	-9.07	5.43	-6.29	3.76			3.27	3.76
06-May-2009	20:00:00	2.29		-5.44	-1.89	4.15	-2.22	4.31			3.95	4.11
07-May-2009	08:00:00	2.95		-1.84	1.35	5.21	1.17	4.86			4.97	5.44
07-May-2009	20:00:00	3.00		0.15	1.69	7.28	2.14	5.32			6.27	4.84
08-May-2009	08:00:00	2.72		-0.96	1.13	6.63	2.44	4.78			4.55	4.05
08-May-2009	20:00:00	2.54		-2.79	0.00	4.37	1.53	4.02			3.45	3.08
09-May-2009	08:00:00	2.35		-5.33	-1.23	3.23	1.42	3.86			3.32	2.59
09-May-2009	20:00:00	2.06		-9.23	-5.50	2.51	0.43	2.62			2.55	-0.83
10-May-2009	08:00:00	1.71		-11.71	-7.73	1.97	-0.47	2.37			2.44	-1.88
10-May-2009	20:00:00	1.56		-13.74	-10.44	0.29	-3.27	1.05			1.88	-5.66
11-May-2009	08:00:00	1.59		-14.81	-11.31	-0.14	-4.65	1.65			1.68	-5.11
11-May-2009	20:00:00	1.65		-15.22	-10.95	-1.23	-5.50	2.06			2.37	-3.36
12-May-2009	08:00:00	1.51		-16.19	-12.23	-2.43	-7.32	1.45			2.28	-4.96
12-May-2009	20:00:00	1.37		-17.01	-13.08	-3.39	-10.13	0.07			1.64	-8.17
13-May-2009	08:00:00	1.35		-18.04	-14.06	-5.28	-11.07	0.10			0.47	-7.97
13-May-2009	20:00:00	1.27		-18.83	-14.67	-7.08	-13.43	-1.02			-3.31	-10.11
14-May-2009	08:00:00	1.26		-19.35	-15.16	-7.50	-13.85	-0.82			-5.62	-8.71
14-May-2009	20:00:00	1.29		-19.72	-15.42	-8.51	-15.11	-1.73			-7.60	-10.26
15-May-2009	08:00:00	1.44		-20.13	-15.81	-8.68	-15.16	-0.93			-8.16	-8.69
15-May-2009	20:00:00	1.28		-20.55	-16.16	-9.65	-16.27	-2.10			-9.61	-10.51
16-May-2009	08:00:00	1.50		-20.89	-16.54	-9.72	-16.22	-1.62			-9.85	-8.80
16-May-2009	20:00:00	1.28		-21.19	-16.75	-10.89	-17.58	-3.15			-11.38	-11.16
17-May-2009	08:00:00	1.26		-21.57	-17.19	-10.81	-17.28	-2.73			-11.52	-9.66
17-May-2009	20:00:00	1.74		-21.24	-16.51	-5.19	-13.39	1.81			-4.70	-0.80
18-May-2009	08:00:00	2.08		-18.42	-12.19	-1.96	-10.25	3.23			2.83	2.69
18-May-2009	20:00:00	1.77		-18.62	-13.81	-5.13	-12.48	1.81			2.22	-1.13
19-May-2009	08:00:00	1.48		-19.83	-15.18	-6.45	-13.70	1.06			1.79	-3.23
19-May-2009	20:00:00	1.24		-20.86	-16.12	-8.96	-15.98	-0.62			0.66	-7.68
20-May-2009	08:00:00	1.25		-21.66	-17.06	-9.56	-16.21	-0.79			-2.02	-8.02
20-May-2009	20:00:00	1.12		-22.22	-17.54	-11.33	-18.07	-2.23			-6.50	-10.28
21-May-2009	08:00:00	1.18		-22.81	-18.09	-11.49	-17.74	-2.08			-8.19	-9.60
21-May-2009	20:00:00	0.89		-23.36	-18.53	-13.01	-19.04	-4.12			-11.44	-12.31
22-May-2009	08:00:00	1.00		-23.95	-19.04	-13.01	-18.81	-3.87			-12.04	-11.40
22-May-2009	20:00:00	0.70		-24.61	-19.48	-14.18	-19.89	-5.62			-13.79	-13.45
23-May-2009	08:00:00	0.82		-25.16	-19.99	-14.14	-19.70	-5.13			-14.11	-12.55
23-May-2009	20:00:00	0.57		-25.70	-20.38	-15.20	-20.65	-7.39			-15.30	-14.21
24-May-2009	08:00:00	0.67		-26.17	-20.81	-15.13	-20.54	-6.23			-15.47	-13.10
24-May-2009	20:00:00	0.28		-26.67	-21.19	-16.12	-21.52	-9.01			-16.58	-14.85
25-May-2009	08:00:00	0.57		-27.17	-21.62	-16.05	-21.27	-7.65			-16.75	-13.86
25-May-2009	20:00:00	0.17	-12.00	-28.08	-22.08	-17.05	-23.31	-10.10	-14.00	-18.00	-17.69	-15.62
26-May-2009	08:00:00	0.03		-28.38	-22.55	-51.22	-23.00	-8.77			-17.70	-14.62
26-May-2009	20:00:00	0.12		-28.79	-22.94	-16.98	-23.39	-8.41			-17.98	-14.48
27-May-2009	08:00:00	0.25		-29.01	-23.28	-16.76	-23.07	-7.91			-18.09	-13.60
27-May-2009	20:00:00	-0.59		-29.47	-23.66	-17.87	-23.18	-11.17			-18.98	-16.02
28-May-2009	08:00:00	-0.51		-30.10	-24.12	-17.90	-22.87	-10.45			-19.26	-15.30
28-May-2009	20:00:00	-1.59		-30.67	-24.66	-18.85	-23.67	-12.56			-20.07	-16.88
29-May-2009	08:00:00	-0.83		-31.13	-25.04	-18.71	-23.29	-10.19			-19.91	-15.57
29-May-2009	20:00:00	-2.13		-31.64	-25.55	-19.58	-24.05	-13.09			-20.71	-17.28
30-May-2009	08:00:00	-1.79		-32.28	-26.03	-19.83	-24.07	-12.04			-21.10	-16.85
30-May-2009	20:00:00	-4.16		-32.96	-26.64	-20.69	-24.94	-14.69			-21.80	-18.43
31-May-2009	08:00:00	-3.60		-33.57	-27.05	-20.99	-24.61	-13.89			-22.20	-18.04
31-May-2009	20:00:00	-7.13		-34.24	-27.66	-21.81	-25.72	-15.91			-22.76	-19.37
01-Jun-2009	08:00:00	-5.54		-35.23	-28.20	-22.19	-25.51	-15.14			-23.21	-19.20
01-Jun-2009	20:00:00	-9.45		-35.83	-28.80	-22.92	-26.61	-16.99			-23.71	-20.22
02-Jun-2009	08:00:00	-6.95		-36.32	-29.17	-23.24	-26.66	-16.03			-24.02	-19.66
02-Jun-2009	20:00:00	-10.71		-36.73	-29.73	-23.94	-27.87	-18.24			-24.44	-20.66
03-Jun-2009	08:00:00	-8.34		-37.34	-30.14	-24.37	-27.76	-17.35			-24.77	-20.18
03-Jun-2009	20:00:00	-12.25		-37.67	-30.70	-25.05	-28.85	-19.52			-25.16	-21.09
04-Jun-2009	08:00:00	-9.81		-38.30	-31.10	-25.71	-28.86	-18.57			-25.47	-21.00
04-Jun-2009	20:00:00	-12.23		-38.74	-31.65	-26.43	-29.60	-20.30			-25.88	-21.68
05-Jun-2009	08:00:00	-3.82		-38.77	-31.90	-25.96	-28.89	-15.42			-25.19	-18.96
05-Jun-2009	20:00:00	-5.93		-39.40	-32.49	-26.10	-28.26	-16.01			-25.58	-19.10
06-Jun-2009	08:00:00	-5.83		-40.17	-33.07	-26.15	-27.34	-15.68			-25.99	-19.35
06-Jun-2009	20:00:00	-7.51		-40.53	-33.58	-26.44	-27.45	-16.52			-26.34	-19.85
07-Jun-2009	08:00:00	-6.14		-40.80	-33.86	-26.45	-27.08	-15.11			-26.53	-19.52
07-Jun-2009	20:00:00	-9.43		-40.95	-34.40	-26.88	-28.00	-16.63			-26.89	-20.27
08-Jun-2009	08:00:00	-7.58		-41.32	-34.80	-27.04	-27.38	-15.78			-27.12	-20.17
08-Jun-2009	20:00:00	-12.11		-41.64	-35.28	-27.55	-28.60	-17.87			-27.55	-21.11
09-Jun-2009	08:00:00	-10.79		-42.12	-35.73	-27.81	-28.16	-16.83			-27.85	-21.03
09-Jun-2009	20:00:00	-10.48		-42.46	-36.29	-28.17	-28.75	-17.71			-28.22	-21.33
10-Jun-2009	08:00:00	-5.85		-42.70	-36.69	-27.97	-27.95	-15.22			-28.05	-19.93
10-Jun-2009	20:00:00	-9.97		-42.84	-37.12	-28.40	-28.73	-16.69			-28.38	-20.42
11-Jun-2009	08:00:00	-8.72		-43.23	-37.55	-28.51	-27.98	-16.39			-28.56	-20.36
11-Jun-2009	20:00:00	-13.46		-43.12	-37.98	-29.01	-29.32	-18.11			-29.04	-21.40
12-Jun-2009	08:00:00	-5.72		-43.68	-38.45	-29.06	-28.32	-16.12			-29.09	-20.35
12-Jun-2009	20:00:00	-11.62		-43.99	-38.92	-29.60	-29.43	-18.29			-29.62	-21.57
13-Jun-2009	08:00:00	-11.80		-44.58	-39.46	-29.82	-28.69	-17.64			-29.94	-21.72
13-Jun-2009	20:00:00	-16.76		-44.91	-39.96	-30.52	-30.28	-20.52			-30.54	-22.49
14-Jun-2009	08:00:00	-16.26		-45.50	-40.56	-30.97	-30.38	-20.48			-30.92	-22.79
14												

Date	Time	Water Level (inches)										
		Cox AW1	Cox MW2	Cox AW3	Cox AW4	Cox AW5	Cox AW6	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11
22-Jun-2009	08:00:00	-14.43		-43.36	-38.48	-24.40	-23.11	-13.33			-22.76	-18.51
22-Jun-2009	20:00:00	-18.55		-43.95	-39.01	-25.64	-25.02	-15.93			-23.76	-19.66
23-Jun-2009	08:00:00	-16.98		-44.76	-39.57	-26.45	-25.06	-16.04			-24.44	-20.23
23-Jun-2009	20:00:00	-20.76		-45.47	-40.33	-27.93	-26.66	-18.25			-25.42	-21.28
24-Jun-2009	08:00:00	-19.78	-30.00	-46.19	-40.97	-29.13	-27.31	-18.35	-25.00	-34.50	-26.15	-21.84
24-Jun-08	20:00:00	-22.70		-46.59	-41.64	-30.29	-28.46	-20.33			-50.86	-22.65
25-Jun-08	08:00:00	-21.01		-47.35	-42.24	-31.15	-28.49	-20.01			-50.86	-23.17
25-Jun-08	20:00:00	-24.02		-47.70	-42.64	-32.61	-30.30	-22.06			-50.86	-23.94
26-Jun-08	08:00:00	-22.17		-48.16	-43.13	-33.40	-30.30	-21.65			-50.86	-24.30
26-Jun-08	20:00:00	-18.70		-48.61	-43.79	-34.47	-31.03	-20.44			-50.86	-24.68
27-Jun-08	08:00:00	-18.21		-48.90	-44.04	-34.87	-30.53	-18.56			-50.86	-23.98
27-Jun-08	20:00:00	-17.88		-49.20	-44.50	-34.91	-31.07	-17.93			-50.86	-24.01
28-Jun-08	08:00:00	-18.27		-49.84	-44.85	-33.91	-30.26	-18.26			-50.86	-23.53
28-Jun-08	20:00:00	-22.61		-49.75	-45.25	-34.29	-31.60	-20.45			-50.86	-24.23
29-Jun-08	08:00:00	-21.68		-50.32	-45.75	-34.54	-31.25	-20.96			-50.86	-24.55
29-Jun-08	20:00:00	-25.67		-50.73	-46.15	-35.67	-32.71	-23.98			-50.86	-25.27
30-Jun-08	08:00:00	-24.51		-49.18	-46.62	-36.46	-32.66	-23.71			-50.86	-25.66
30-Jun-08	20:00:00	-27.28		-48.83	-47.23	-37.61	-34.09	-25.94			-50.86	-26.33
1-Jul-08	08:00:00	-26.54		-48.83	-47.92	-38.48	-33.93	-25.80			-50.86	-26.86
1-Jul-08	20:00:00	-28.77		-48.83	-48.48	-39.56	-35.25	-27.74			-50.86	-27.46
2-Jul-08	08:00:00	-27.75		-48.83	-49.09	-40.40	-35.22	-27.30			-50.86	-27.99
2-Jul-08	20:00:00	-29.59		-48.82	-49.65	-41.33	-36.27	-28.92			-50.86	-28.44
3-Jul-08	08:00:00	-29.17		-48.85	-50.12	-42.01	-36.15	-28.88			-50.86	-28.88
3-Jul-08	20:00:00	-30.66		-48.83	-50.56	-42.87	-37.21	-30.34			-50.86	-29.35
4-Jul-08	08:00:00	-30.19		-48.82	-50.99	-43.59	-37.23	-30.07			-50.86	-29.70
4-Jul-08	20:00:00	-31.33		-48.82	-51.19	-44.34	-38.34	-31.43			-50.86	-30.05
5-Jul-08	08:00:00	-30.75		-48.84	-51.60	-44.98	-38.24	-31.01			-50.86	-30.38
5-Jul-08	20:00:00	-30.85		-48.82	-51.81	-45.56	-39.15	-31.20			-50.86	-30.55
6-Jul-08	08:00:00	-30.23		-48.82	-51.44	-45.93	-38.81	-31.17			-50.86	-30.82
6-Jul-08	20:00:00	-30.41		-48.83	-51.45	-46.51	-39.30	-31.57			-50.86	-30.96
7-Jul-08	08:00:00	-30.17		-48.82	-51.45	-46.97	-39.11	-31.65			-50.86	-31.08
7-Jul-08	20:00:00	-31.86		-48.83	-51.47	-47.53	-39.94	-33.23			-50.86	-31.42
8-Jul-08	08:00:00	-31.79		-48.83	-51.47	-48.05	-39.74	-33.15			-50.86	-31.70
8-Jul-08	20:00:00	-32.93		-48.83	-51.46	-48.60	-40.38	-34.28			-50.86	-32.15
9-Jul-08	08:00:00	-33.03		-48.82	-51.44	-49.14	-40.39	-34.41			-50.86	-32.63
9-Jul-08	20:00:00	-33.73		-48.83	-51.39	-49.68	-40.77	-35.38			-50.86	-32.96
10-Jul-08	08:00:00	-33.84		-48.83	-51.38	-50.22	-40.78	-35.44			-50.86	-33.27
10-Jul-08	20:00:00	-34.53		-48.82	-51.38	-50.73	-41.99	-35.96			-50.86	-33.49
11-Jul-08	08:00:00	-34.38		-48.83	-51.40	-51.14	-41.41	-35.88			-50.86	-33.73
11-Jul-08	20:00:00	-34.94		-48.83	-51.40	-51.44	-42.49	-36.25			-50.86	-33.87
12-Jul-08	08:00:00	-34.81		-48.84	-51.40	-51.87	-42.61	-36.18			-50.86	-34.10
12-Jul-08	20:00:00	-35.54		-48.83	-51.41	-51.44	-42.93	-36.83			-50.86	-34.40
13-Jul-08	08:00:00	-35.48		-48.84	-51.40	-51.46	-43.07	-36.75			-50.86	-34.68
13-Jul-08	20:00:00	-32.98		-48.84	-51.37	-51.43	-42.77	-35.49			-50.86	-34.81
14-Jul-08	08:00:00	-32.40		-48.82	-51.12	-51.35	-42.47	-35.64			-50.86	-34.79
14-Jul-08	20:00:00	-33.24		-48.83	-51.12	-51.34	-43.01	-36.52			-50.86	-34.93
15-Jul-08	08:00:00	-33.34		-48.83	-51.14	-51.33	-42.93	-36.71			-50.86	-34.70
15-Jul-08	20:00:00	-34.30		-48.82	-51.14	-51.43	-43.79	-37.26			-50.86	-34.76
16-Jul-08	08:00:00	-34.23		-48.83	-51.17	-51.47	-43.96	-37.15			-50.86	-34.57
16-Jul-08	20:00:00	-34.78		-48.82	-51.17	-51.44	-43.93	-37.58			-50.86	-34.88
17-Jul-08	08:00:00	-34.12		-48.83	-51.16	-51.48	-44.13	-37.31			-50.86	-34.48
17-Jul-08	20:00:00	-32.73		-48.82	-51.17	-51.44	-42.71	-34.46			-50.86	-33.11
18-Jul-08	08:00:00	-28.28		-48.83	-51.16	-51.35	-42.03	-32.61			-50.86	-32.91
18-Jul-08	20:00:00	-28.95		-48.84	-51.17	-51.33	-38.85	-29.72			-50.86	-32.20
19-Jul-08	08:00:00	-29.14		-48.83	-51.17	-47.05	-36.53	-27.61			-50.86	-31.19
19-Jul-08	20:00:00	-30.42		-48.83	-51.17	-46.05	-37.04	-27.95			-50.86	-30.77
20-Jul-08	08:00:00	-30.75		-48.83	-51.16	-46.20	-38.09	-29.01			-50.86	-30.40
20-Jul-08	20:00:00	-31.38		-48.82	-51.17	-47.40	-39.01	-30.24			-50.86	-30.47
21-Jul-08	08:00:00	-31.65		-48.82	-51.18	-48.68	-39.13	-31.08			-50.86	-30.45
21-Jul-08	20:00:00	-32.52		-48.82	-51.18	-50.25	-40.49	-32.28			-50.86	-30.91
22-Jul-08	08:00:00	-32.87		-48.82	-51.17	-51.23	-40.76	-33.09			-50.86	-31.09
22-Jul-08	20:00:00	-33.32		-48.82	-51.18	-51.43	-42.03	-33.99			-50.86	-31.57
23-Jul-08	08:00:00	-32.00		-48.84	-51.17	-51.35	-42.28	-34.12			-50.86	-31.12
23-Jul-08	20:00:00	-32.27		-48.82	-51.17	-51.37	-42.69	-34.67			-50.86	-31.04
24-Jul-08	08:00:00	6.04		-44.34	-50.72	-38.87	-26.96	-3.93			-50.86	4.90
24-Jul-08	20:00:00	1.07		-41.90	-49.50	-4.73	-27.14	-5.00			-50.86	1.45
25-Jul-08	08:00:00	-0.09		-42.85	-47.03	-22.49	-26.98	-7.68			-50.86	-1.85
25-Jul-08	20:00:00	0.97		-32.11	-45.29	-24.76	-25.29	-4.18			-50.86	3.01
26-Jul-08	08:00:00	0.57		-40.43	-42.82	-25.92	-24.82	-3.51			-50.86	0.18
26-Jul-08	20:00:00	-2.84		-43.03	-42.14	-27.66	-26.28	-6.21			-50.86	-8.16
27-Jul-08	08:00:00	-6.01		-44.97	-41.80	-28.31	-26.07	-8.56			-50.86	-10.20
27-Jul-08	20:00:00	1.85		-16.54	-30.53	-15.66	-15.24	0.71			-50.86	3.86
28-Jul-08	08:00:00	2.33	1.50	-27.64	-25.89	5.52	-17.99	0.03	-5.00	4.25	3.52	1.75
28-Jul-08	20:00:00	0.72		-31.98	-25.62	-2.47	-19.59	-1.40			1.81	-1.56
29-Jul-08	08:00:00	0.44		-35.03	-26.22	-11.00	-19.82	-1.85			0.85	-3.62
29-Jul-08	20:00:00	-1.11		-37.42	-27.70	-16.35	-21.01	-3.42			-3.57	-8.71
30-Jul-08	08:00:00	-2.02		-39.76	-28.77	-18.22	-20.36	-4.28			-6.99	-10.14
30-Jul-08	20:00:00	-8.55		-41.58	-30.28	-20.45	-21.54	-7.13			-12.09	-13.39
31-Jul-08	08:00:00	-9.51		-42.75	-31.27	-21.20	-20.88	-7.92			-13.36	-13.78
31-Jul-08	20:00:00	0.58		-29.89	-25.27	-10.21	-12.26	0.52			3.15	2.88
1-Aug-08	08:00:00	1.38		-35.42	-25.50	-12.91	-14.36	0.18			2.96	0.35
1-Aug-08	20:00:00	0.71		-36.61	-26.72	-13.58	-15.81	-0.05			2.00	-2.96
2-Aug-08	08:00:00	0.56		-37.60	-27.48	-14.28	-16.56	-0.65			1.29	-4.82
2-Aug-08	20:00:00	2.56		-11.29	-13.26	1.38	-1.05	3.87			5.23	4.62
3-Aug-08	08:00:00	2.12		-18.40	-15.58	3.34	-3.90	3.08			3.94	2.76
3-Aug-08	20:00:00	1.52		-23.04	-17.66	-2.32	-7.81	1.83			3.02	0.13
4-Aug-08	08:00:00	1.38		-25.70	-19.03	-4.48	-9.22	1.38			2.63	-1.62
4-Aug-08	20:00:00	0.68		-28.77	-20.98	-8.70	-12.32	-0.53			1.70	-7.47
5-Aug-08	08:00:00	0.82		-30.65	-22.09	-10.05	-12.68	-0.60			0.91	-8.17
5-Aug-08	20:00:00	0.94		-32.21	-23.41	-8.80	-12.23	0.60			0.39	-5.76
6-Aug-08	08:00:00	1.40		-31.85	-23.36	-7.03	-9.85	1.65			2.67	-1.68
6-Aug-08	20:00:00	0.70		-33.26	-24.56	-10.91	-12.74	-0.51			2.09	-7.74
7-Aug-08	08:00:00	0.50		-34.48	-25.33	-11.85	-13.36	-1.30			1.19	-9.42
7-Aug-08	20:00:00	-0.46		-35.53	-26.39	-14.10	-15.63	-3.04			-3.12	-12.35
8-Aug-08	08:00:00	-0.49		-36.46	-27.06	-14.26	-15.30	-3.15			-6.45	-12.63
8-Aug-08	20:00:00	-2.56		-37.31	-28.11	-16.06	-17.78	-4.87			-10.70	-14.77
9-Aug-08	08:00:00	-2.34		-38.12	-28.73	-16.15	-16.86	-5.04			-11.82	-14.78
9-Aug-08	20:00:00	-7.28		-38.98	-29.78	-17.84	-19.48	-7.37			-14.70	-16.36
10-Aug-08	08:00:00	-6.20		-39.66	-30.36	-17.87	-18.87	-7.36			-15.12	-16.14
10-Aug-08	20:00:00	-11.63		-40.43	-31.53	-19.49	-20.89	-10.51			-17.26	-17.61
11-Aug-08	08:00:00	-11.41		-41.10	-32.09	-19.66	-20.27	-1				

Date	Time	Water Level (inches)											
		Cox AW1	Cox MW2	Cox AW3	Cox AW4	Cox AW5	Cox AW6	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11	
18-Aug-08	20:00:00	-3.74		-38.22	-31.31	-14.87	-14.93	-3.06				-9.08	-14.06
19-Aug-08	08:00:00	-2.96		-38.89	-31.65	-14.91	-14.68	-3.14				-10.15	-14.06
19-Aug-08	20:00:00	-8.48		-39.68	-32.51	-16.66	-16.87	-4.89				-13.36	-16.01
20-Aug-08	08:00:00	-7.73		-40.34	-32.97	-16.71	-16.43	-4.91				-13.78	-15.95
20-Aug-08	20:00:00	-12.21		-41.12	-33.91	-18.19	-18.21	-7.41				-16.04	-17.51
21-Aug-08	08:00:00	-11.22		-41.63	-34.31	-18.23	-18.03	-7.04				-16.22	-17.28
21-Aug-08	20:00:00	-12.86		-42.02	-34.96	-19.08	-19.32	-8.20				-17.31	-18.03
22-Aug-08	08:00:00	-11.67		-42.20	-35.13	-19.06	-19.21	-7.70				-17.36	-17.50
22-Aug-08	20:00:00	1.76		-13.62	-32.79	-8.43	-9.03	1.78				1.57	-3.49
23-Aug-08	08:00:00	4.45		-24.05	-21.31	6.85	0.01	3.83				6.01	2.45
23-Aug-08	20:00:00	2.27		-23.76	-18.15	5.36	0.60	4.18				4.04	2.86
24-Aug-08	08:00:00	1.96		-25.29	-18.45	3.30	0.07	3.61				3.56	1.40
24-Aug-08	20:00:00	1.64		-26.72	-20.17	1.92	-2.67	2.76				2.98	-1.76
25-Aug-08	08:00:00	1.58		-27.89	-21.22	0.01	-4.06	2.31				2.73	-3.99
25-Aug-08	20:00:00	1.12		-29.38	-22.61	-3.64	-7.14	1.57				2.12	-8.54
26-Aug-08	08:00:00	1.19		-30.50	-23.45	-5.37	-7.43	0.89				1.75	-9.27
26-Aug-08	20:00:00	0.53		-31.51	-24.60	-8.34	-10.06	-0.59				0.02	-11.76
27-Aug-08	08:00:00	0.81	-6.00	-32.40	-23.55	-10.08	-11.62	-0.32	-6.00	3.00		-4.56	-11.51
27-Aug-08	20:00:00	-0.32		-33.32	-26.32	-11.62	-12.14	-2.37				-7.74	-13.41
28-Aug-08	08:00:00	0.01		-33.77	-26.74	-11.76	-12.12	-1.88				-8.66	-12.93
28-Aug-08	20:00:00	-0.49		-34.28	-27.41	-12.94	-13.51	-2.90				-10.76	-14.11
29-Aug-08	08:00:00	-0.02		-34.46	-27.67	-12.84	-13.09	-2.50				-10.76	-13.16
29-Aug-08	20:00:00	-1.79		-35.66	-28.59	-14.83	-15.32	-5.03				-13.41	-15.40
30-Aug-08	08:00:00	-1.50		-36.46	-29.07	-14.88	-15.22	-4.81				-13.72	-15.36
30-Aug-08	20:00:00	-4.21		-37.46	-29.94	-16.32	-16.80	-7.13				-15.60	-16.76
31-Aug-08	08:00:00	1.50		-35.53	-29.13	-6.18	-7.86	2.26				-1.12	-2.90
31-Aug-08	20:00:00	1.36		-34.80	-29.18	-7.53	-8.99	1.93				2.89	-4.84
1-Sep-08	08:00:00	1.21		-34.56	-29.26	-8.48	-10.03	1.29				2.49	-6.54
1-Sep-08	20:00:00	0.27		-35.35	-30.03	-11.38	-12.78	-0.31				1.47	-10.71
2-Sep-08	08:00:00	0.29		-35.60	-30.06	-11.81	-12.76	-0.78				0.50	-11.19
2-Sep-08	20:00:00	-0.67		-36.17	-30.50	-13.61	-14.98	-1.96				-4.03	-12.97
3-Sep-08	08:00:00	-0.45		-36.30	-30.58	-13.70	-14.63	-2.07				-6.57	-12.97
3-Sep-08	20:00:00	-1.76		-36.96	-31.07	-15.18	-16.06	-3.38				-9.82	-14.52
4-Sep-08	08:00:00	-1.60		-37.49	-31.37	-15.26	-15.79	-3.97				-11.02	-14.73
4-Sep-08	20:00:00	-5.37		-38.43	-32.07	-16.88	-17.41	-5.63				-13.99	-16.33
5-Sep-08	08:00:00	-4.74		-39.02	-32.43	-16.84	-17.00	-6.02				-14.54	-16.50
5-Sep-08	20:00:00	-8.53		-39.78	-33.11	-18.07	-18.66	-7.89				-16.52	-17.73
6-Sep-08	08:00:00	-7.11		-40.15	-33.40	-18.03	-18.22	-7.74				-16.72	-17.51
6-Sep-08	20:00:00	-11.04		-40.73	-34.07	-19.18	-19.87	-9.64				-18.13	-18.64
7-Sep-08	08:00:00	-8.41		-40.55	-34.12	-18.96	-19.55	-8.36				-17.94	-17.99
7-Sep-08	20:00:00	-0.40		-40.06	-34.22	-15.17	-16.40	-1.21				-12.10	-13.16
8-Sep-08	08:00:00	-0.55		-39.91	-34.40	-15.27	-16.21	-2.19				-13.52	-12.68
8-Sep-08	20:00:00	-1.28		-40.48	-34.94	-16.01	-16.90	-3.06				-14.82	-13.66
9-Sep-08	08:00:00	-1.61		-40.77	-35.22	-16.15	-16.97	-3.97				-15.67	-14.07
9-Sep-08	20:00:00	-4.85		-41.16	-35.69	-17.78	-18.56	-5.97				-17.70	-15.87
10-Sep-08	08:00:00	-4.87		-41.56	-35.93	-17.92	-18.51	-6.20				-18.04	-16.20
10-Sep-08	20:00:00	-5.81		-41.79	-36.22	-18.44	-19.07	-6.85				-18.51	-16.60
11-Sep-08	08:00:00	-5.64		-41.84	-36.34	-18.47	-18.99	-6.81				-18.60	-16.50
11-Sep-08	20:00:00	-9.75		-42.07	-36.68	-19.50	-20.29	-8.73				-19.72	-17.77
12-Sep-08	08:00:00	-8.53		-42.13	-36.75	-19.40	-20.05	-8.35				-19.81	-17.62
12-Sep-08	20:00:00	-12.41		-42.71	-37.26	-20.46	-21.13	-10.08				-20.77	-18.85
13-Sep-08	08:00:00	-11.79		-43.16	-37.53	-20.46	-20.52	-9.84				-20.99	-18.81
13-Sep-08	20:00:00	-14.98		-43.74	-38.12	-21.43	-21.62	-11.21				-21.86	-19.80
14-Sep-08	08:00:00	-13.88		-44.14	-38.33	-21.48	-21.23	-10.92				-22.14	-19.77
14-Sep-08	20:00:00	-16.87		-44.59	-38.93	-22.40	-22.44	-12.34				-22.82	-20.54
15-Sep-08	08:00:00	-15.20		-44.84	-39.11	-22.40	-21.80	-11.58				-23.05	-20.36
15-Sep-08	20:00:00	-18.03		-45.31	-39.76	-23.26	-23.08	-13.04				-23.67	-21.13
16-Sep-08	08:00:00	-16.19		-45.60	-39.93	-23.29	-22.43	-11.85				-23.89	-20.95
16-Sep-08	20:00:00	-8.33		-45.91	-40.32	-23.27	-22.25	-9.67				-23.78	-20.03
17-Sep-08	08:00:00	-5.05		-45.97	-40.53	-22.17	-21.16	-5.66				-22.24	-17.96
17-Sep-08	20:00:00	-6.17		-45.55	-40.66	-20.76	-20.06	-5.64				-21.38	-16.72
18-Sep-08	08:00:00	-6.26		-45.36	-40.74	-19.94	-19.28	-6.21				-21.45	-16.17
18-Sep-08	20:00:00	-9.51		-45.49	-40.94	-20.51	-20.50	-7.96				-22.26	-17.07
19-Sep-08	08:00:00	-9.97		-45.76	-41.03	-20.46	-20.14	-8.23				-22.61	-17.24
19-Sep-08	20:00:00	-13.04		-46.21	-41.40	-21.49	-21.31	-9.73				-23.41	-18.35
20-Sep-08	08:00:00	-12.99		-46.48	-41.54	-21.65	-21.24	-9.68				-23.79	-18.57
20-Sep-08	20:00:00	-15.93		-46.68	-41.81	-22.77	-22.54	-11.54				-24.38	-19.60
21-Sep-08	08:00:00	-15.06		-46.92	-41.88	-22.93	-21.96	-11.19				-24.66	-19.82
21-Sep-08	20:00:00	-17.69		-47.20	-42.20	-23.75	-23.18	-12.47				-25.10	-20.56
22-Sep-08	08:00:00	2.10	4.50	-32.53	-37.96	-7.38	-9.05	1.46	0.00	6.00		3.32	2.47
22-Sep-08	20:00:00	4.31		-35.73	-33.27	6.83	-11.29	2.69				6.81	3.86
23-Sep-08	08:00:00	1.88		-33.02	-28.79	4.97	-11.54	2.91				3.70	2.38
23-Sep-08	20:00:00	1.58		-32.69	-25.86	2.60	-12.38	2.57				3.34	0.89
24-Sep-08	08:00:00	1.44		-32.88	-25.52	0.35	-13.12	1.95				3.10	-1.23
24-Sep-08	20:00:00	0.94		-33.70	-26.24	-3.64	-14.41	0.77				2.55	-5.44
25-Sep-08	08:00:00	0.89		-34.40	-26.77	-5.77	-14.03	0.56				2.21	-6.82
25-Sep-08	20:00:00	1.46		-34.49	-27.15	-4.47	-11.07	2.14				2.94	-2.64
26-Sep-08	08:00:00	1.47		-34.05	-27.19	-6.77	-12.58	1.52				2.72	-5.15
26-Sep-08	20:00:00	1.58		-33.62	-27.25	-7.58	-13.46	1.82				2.48	-5.69
27-Sep-08	08:00:00	2.54		-24.79	-20.06	0.41	-6.76	4.14				4.58	2.45
27-Sep-08	20:00:00	2.11		-26.59	-20.88	-1.26	-8.94	3.06				3.57	-0.04
28-Sep-08	08:00:00	1.97		-27.60	-21.60	-2.57	-9.90	2.58				3.28	-1.91
28-Sep-08	20:00:00	1.46		-28.92	-22.66	-5.09	-11.86	1.19				2.83	-5.82
29-Sep-08	08:00:00	1.57		-30.47	-23.71	-7.19	-12.58	0.62				2.33	-7.34
29-Sep-08	20:00:00	0.70		-31.70	-24.88	-9.74	-14.28	-0.86				0.73	-10.05
30-Sep-08	08:00:00	0.65		-32.50	-25.89	-10.58	-14.58	-1.14				-2.15	-10.37
30-Sep-08	20:00:00	-0.01		-33.49	-26.48	-12.11	-15.67	-2.23				-6.23	-12.33
1-Oct-08	08:00:00	-0.03		-34.04	-27.00	-12.52	-15.65	-2.41				-7.76	-12.39
1-Oct-08	20:00:00	-0.65		-34.52	-27.56	-13.62	-16.77	-3.42				-9.83	-13.19
2-Oct-08	08:00:00	-0.43		-34.71	-27.89	-13.74	-16.79	-3.49				-10.53	-12.80
2-Oct-08	20:00:00	-0.78		-35.10	-28.36	-14.47	-17.58	-4.14				-11.77	-13.54
3-Oct-08	08:00:00	-0.51		-35.36	-28.66	-14.40	-17.35	-4.02				-12.05	-12.80
3-Oct-08	20:00:00	-1.79		-36.10	-29.28	-15.56	-18.42	-5.54				-13.67	-14.28
4-Oct-08	08:00:00	-1.70		-36.90	-29.76	-15.79	-18.20	-5.86				-14.21	-14.37
4-Oct-08	20:00:00	-2.94		-37.40	-30.30	-16.50	-19.04	-6.60				-15.06	-14.94
5-Oct-08	08:00:00	-0.87		-37.74	-30.68	-16.23	-18.87	-4.86				-13.74	-13.99
5-Oct-08	20:00:00	0.35		-37.08	-30.79	-14.66	-17.86	-1.96				-11.76	-11.47
6-Oct-08	08:00:00	1.13		-36.56	-30.91	-12.53	-16.14	-0.68				-9.95	-8.20
6-Oct-08	20:00:00	1.02		-36.06	-30.99	-13.05	-16.55	-1.44					

Date	Time	Water Level (inches)										
		Cox AW1	Cox MW2	Cox AW3	Cox AW4	Cox AW5	Cox AW6	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11
15-Oct-08	08:00:00	3.26		-34.43	-32.85	-9.93	-14.17	1.42			-1.69	-1.80
15-Oct-08	20:00:00	3.28		-33.68	-31.93	-10.36	-14.44	0.65			3.06	-4.18
16-Oct-08	08:00:00	2.90		-33.90	-31.75	-10.96	-14.92	0.06			2.77	-5.89
16-Oct-08	20:00:00	2.72		-34.21	-31.77	-12.13	-15.91	-0.70			2.31	-7.95
17-Oct-08	08:00:00	2.74		-34.85	-32.02	-12.88	-16.18	-1.46			1.83	-9.22
17-Oct-08	20:00:00	2.64		-35.36	-32.54	-14.15	-17.06	-2.47			0.42	-10.95
18-Oct-08	08:00:00	2.67		-35.71	-32.75	-14.54	-17.27	-2.83			-2.65	-11.37
18-Oct-08	20:00:00	2.64		-36.35	-33.26	-15.15	-17.76	-3.26			-5.93	-12.06
19-Oct-08	08:00:00	2.55		-36.68	-33.57	-15.46	-17.82	-3.72			-7.99	-12.27
19-Oct-08	20:00:00	2.47		-36.80	-33.88	-16.18	-18.57	-4.42			-10.20	-13.39
20-Oct-08	08:00:00	2.44		-36.99	-34.11	-16.39	-18.54	-4.80			-11.35	-13.33
20-Oct-08	20:00:00	2.41		-37.16	-34.40	-16.92	-19.17	-5.59			-12.80	-14.14
21-Oct-08	08:00:00	2.60		-37.31	-34.55	-17.28	-19.04	-5.74			-13.47	-13.98
21-Oct-08	20:00:00	2.54		-37.53	-34.86	-17.71	-19.83	-6.75			-14.71	-14.79
22-Oct-08	08:00:00	2.75		-37.49	-34.92	-17.72	-19.66	-6.43			-15.12	-14.36
22-Oct-08	20:00:00	2.76		-37.54	-35.12	-18.17	-20.23	-7.28			-16.00	-14.96
23-Oct-08	08:00:00	2.82		-37.49	-35.23	-18.33	-19.89	-6.56			-16.24	-14.07
23-Oct-08	20:00:00	2.81		-37.74	-35.49	-18.65	-20.66	-7.65			-17.16	-14.96
24-Oct-08	08:00:00	3.06		-37.47	-35.50	-18.44	-20.32	-6.29			-17.07	-14.04
24-Oct-08	20:00:00	2.99		-38.01	-35.84	-19.04	-20.76	-7.87			-17.88	-15.14
25-Oct-08	08:00:00	2.86		-39.02	-36.38	-19.29	-20.73	-8.24			-18.39	-15.44
25-Oct-08	20:00:00	2.91		-39.42	-36.83	-19.75	-21.09	-9.02			-18.93	-16.00
26-Oct-08	08:00:00	3.00		-39.30	-36.99	-19.86	-20.77	-8.55			-19.16	-15.87
26-Oct-08	20:00:00	3.37		-38.52	-36.91	-18.12	-19.20	-1.82			-15.58	-12.27
27-Oct-08	08:00:00	3.38		-38.00	-36.96	-17.04	-18.22	-2.06			-15.45	-10.40
27-Oct-08	20:00:00	3.81		-37.02	-36.53	-16.29	-17.83	-1.44			-15.15	-10.00
28-Oct-08	08:00:00	4.44		-35.09	-35.29	-13.03	-15.37	0.82			-5.07	-2.63
28-Oct-08	20:00:00	4.87		-35.27	-35.43	-13.33	-15.87	-0.22			-2.78	-5.74
29-Oct-08	08:00:00	4.13		-35.82	-35.51	-13.78	-16.27	-1.29			2.01	-7.58
29-Oct-08	20:00:00	3.88		-35.88	-35.29	-14.69	-16.92	-1.85			1.00	-8.92
30-Oct-08	08:00:00	3.83		-35.95	-35.10	-14.99	-17.02	-2.18			-1.61	-9.51
30-Oct-08	20:00:00	3.88		-35.51	-34.82	-15.31	-17.49	-2.49			-5.49	-9.88
31-Oct-08	08:00:00	3.93		-34.98	-34.43	-15.06	-17.25	-2.30			-7.55	-9.41
31-Oct-08	20:00:00	4.07		-34.48	-34.29	-14.06	-16.52	-0.97			-7.36	-7.43
1-Nov-08	08:00:00	4.21		-34.75	-34.27	-14.22	-16.53	-1.50			-8.61	-8.40
1-Nov-08	20:00:00	4.57		-33.12	-33.32	-10.54	-13.60	1.05			3.24	-2.17
2-Nov-08	08:00:00	4.59		-32.97	-32.92	-11.41	-14.38	0.37			2.92	-4.78
2-Nov-08	20:00:00	4.58		-33.20	-32.81	-12.27	-15.15	-0.32			2.40	-6.75
3-Nov-08	08:00:00	4.49		-33.49	-32.72	-12.77	-15.50	-0.85			1.90	-7.85
3-Nov-08	20:00:00	4.32		-33.95	-32.98	-13.61	-16.29	-1.55			1.04	-9.40
4-Nov-08	08:00:00	4.26		-34.78	-33.40	-14.22	-16.53	-2.12			-1.59	-10.34
4-Nov-08	20:00:00	4.19		-34.56	-33.34	-14.62	-17.04	-2.44			-5.15	-11.02
5-Nov-08	08:00:00	4.20		-34.72	-33.38	-14.87	-16.98	-2.75			-7.49	-11.25
5-Nov-08	20:00:00	4.10		-35.20	-33.87	-15.54	-17.46	-3.59			-9.67	-12.08
6-Nov-08	08:00:00	4.07		-35.83	-34.26	-15.94	-17.63	-3.96			-11.04	-12.11
6-Nov-08	20:00:00	4.07		-36.02	-34.52	-16.33	-17.93	-4.54			-12.27	-12.59
7-Nov-08	08:00:00	4.05		-36.18	-34.66	-16.56	-18.00	-4.72			-13.08	-12.70
7-Nov-08	20:00:00	4.06		-35.94	-34.70	-16.72	-18.39	-5.04			-13.76	-13.12
8-Nov-08	08:00:00	4.11		-36.30	-34.95	-16.96	-18.17	-5.24			-14.39	-13.26
8-Nov-08	20:00:00	4.13		-36.71	-35.36	-17.29	-18.52	-5.85			-15.19	-13.52
9-Nov-08	08:00:00	4.19		-37.09	-35.68	-17.50	-18.50	-6.01			-15.77	-13.46
9-Nov-08	20:00:00	4.26		-36.92	-35.76	-17.59	-18.79	-5.79			-16.15	-13.79
10-Nov-08	08:00:00	4.30		-36.42	-35.61	-17.28	-18.66	-4.85			-16.20	-13.00
10-Nov-08	20:00:00	5.01		-30.80	-35.34	-15.56	-17.35	-0.47			-8.14	-8.80
11-Nov-08	08:00:00	8.04		-3.39	-11.22	6.75	0.52	4.36			8.15	4.08
11-Nov-08	20:00:00	8.52		1.16	1.72	9.30	7.16	7.14			9.74	7.29
12-Nov-08	08:00:00	8.22		-0.20	1.44	7.52	4.45	5.22			8.40	4.09
12-Nov-08	20:00:00	7.49		0.17	1.70	6.79	3.49	4.80			7.46	4.32
13-Nov-08	08:00:00	7.41		-0.72	0.81	6.75	3.35	4.33			7.79	3.33
13-Nov-08	20:00:00	6.86		-2.10	-0.39	6.23	2.91	4.10			5.94	2.65
14-Nov-08	08:00:00	6.54		-4.67	-1.95	5.51	2.77	3.73			5.60	2.08
14-Nov-08	20:00:00	6.34		-6.65	-3.37	4.20	2.55	3.57			11.83	1.65
15-Nov-08	08:00:00	6.13		-8.26	-4.60	3.29	2.24	3.36			9.11	1.22
15-Nov-08	20:00:00	6.07		-9.12	-5.27	2.91	1.86	3.23			8.65	0.89
16-Nov-08	08:00:00	6.17		-10.43	-6.23	2.63	1.60	3.01			7.70	0.40
16-Nov-08	20:00:00	6.17		-11.16	-6.76	2.33	0.88	2.98			8.78	0.16
17-Nov-08	08:00:00	6.15	4.50	-12.32	-7.83	2.05	0.24	2.67	4.50	5.50	6.00	-0.44
17-Nov-08	20:00:00											
18-Nov-08	08:00:00											
18-Nov-08	20:00:00											
19-Nov-08	08:00:00											
19-Nov-08	20:00:00											
20-Nov-08	08:00:00											
20-Nov-08	20:00:00											
21-Nov-08	08:00:00											
21-Nov-08	20:00:00											
22-Nov-08	08:00:00											
22-Nov-08	20:00:00											
23-Nov-08	08:00:00											
23-Nov-08	20:00:00											
24-Nov-08	08:00:00											
24-Nov-08	20:00:00											
25-Nov-08	08:00:00											
25-Nov-08	20:00:00											
26-Nov-08	08:00:00											
26-Nov-08	20:00:00											
27-Nov-08	08:00:00											
27-Nov-08	20:00:00											
28-Nov-08	08:00:00											
28-Nov-08	20:00:00											
29-Nov-08	08:00:00											
29-Nov-08	20:00:00											
30-Nov-08	08:00:00											
30-Nov-08	20:00:00											
1-Dec-08	08:00:00											
1-Dec-08	20:00:00											
2-Dec-08	08:00:00											
2-Dec-08	20:00:00											
3-Dec-08	08:00:00											
3-Dec-08	20:00:00											
4-Dec-08	08:00:00											
4-Dec-08	20:00:00											
5-Dec-08	08:00:00											
5-Dec-08	20:00:00											
6-Dec-08	08:00:00											
6-Dec-08	20:00:00											
7-Dec-08	08:00:00											
7-Dec-08	20:00:00											
8-Dec-08	08:00:00											
8-Dec-08	20:00:00											
9-Dec-08	08:00:00											
9-Dec-08	20:00:00											
10-Dec-08	08:00:00											
10-Dec-08	20:00:00											
11-Dec-08	08:00:00											



Date	Time	Water Level (inches)										
		Cox AW1	Cox MW2	Cox AW3	Cox AW4	Cox AW5	Cox AW6	Cox AW7	Cox MW8	Cox MW9	Cox AW10	Cox AW11
11-Dec-08	20:00:00											
12-Dec-08	08:00:00											
12-Dec-08	20:00:00											
13-Dec-08	08:00:00											
13-Dec-08	20:00:00											
14-Dec-08	08:00:00											
14-Dec-08	20:00:00											
15-Dec-08	08:00:00											
15-Dec-08	20:00:00											
16-Dec-08	08:00:00											
16-Dec-08	20:00:00											
17-Dec-08	08:00:00											
17-Dec-08	20:00:00											
18-Dec-08	08:00:00											
18-Dec-08	20:00:00											
19-Dec-08	08:00:00											
19-Dec-08	20:00:00											
20-Dec-08	08:00:00											
20-Dec-08	20:00:00											
21-Dec-08	08:00:00											
21-Dec-08	20:00:00											
22-Dec-08	08:00:00											
22-Dec-08	20:00:00											
23-Dec-08	08:00:00											
23-Dec-08	20:00:00											
24-Dec-08	08:00:00											
24-Dec-08	20:00:00											
25-Dec-08	08:00:00											
25-Dec-08	20:00:00											
26-Dec-08	08:00:00											
26-Dec-08	20:00:00											
27-Dec-08	08:00:00											
27-Dec-08	20:00:00											
28-Dec-08	08:00:00											
28-Dec-08	20:00:00											
29-Dec-08	08:00:00											
29-Dec-08	20:00:00											
30-Dec-08	08:00:00											
30-Dec-08	20:00:00											
31-Dec-08	08:00:00											
31-Dec-08	20:00:00											

Smithfield Data: Station NC-JH-3 Smithfield 2.8 SE (Data in red are from st

Date	Time	Cox AW12	Ref AW1	Ref MW2	Ref AW3	Ref MW4	Ref AW5	CG	On-site Manual Rain Gauge	On-site Tipping Bucket	Tipping Bucket Totals	Smithfield Daily Rainfall	Smithfield Monthly Rainfall	30th/70th Percentile	/70th Percentile	Average
dd-mm-yyyy	hh:mm:ss													2.10	3.80	
01-Jan-2009	08:00:00	-21.05	-13.45		-7.20		-18.27									
01-Jan-2009	20:00:00	-21.00	-13.86		-7.26		-18.41									
02-Jan-2009	08:00:00	-20.67	-13.67		-7.22		-18.50									
02-Jan-2009	20:00:00	-20.51	-13.17		-7.04		-18.51									
03-Jan-2009	08:00:00	-21.23	-13.85		-7.34		-18.73									
03-Jan-2009	20:00:00	-21.27	-13.88		-7.34		-18.70									
04-Jan-2009	08:00:00	-21.55	-13.87		-7.44		-18.76									
04-Jan-2009	20:00:00	-17.51	-10.14		-4.51		-14.90									
05-Jan-2009	08:00:00	-18.08	-11.71		-5.33		-15.05									
05-Jan-2009	20:00:00	-18.25	-12.29		-5.62		-15.44									
06-Jan-2009	08:00:00	-10.51	-6.07		-1.26		-11.00					0.44				
06-Jan-2009	20:00:00	-6.73	-4.58		-1.84		-12.83									
07-Jan-2009	08:00:00	-10.23	-6.61		-2.89		-13.47					0.49				
07-Jan-2009	20:00:00	-12.36	-7.78		-3.47		-14.38									
08-Jan-2009	08:00:00	-14.54	-9.78		-4.74		-15.03					0.10				
08-Jan-2009	20:00:00	-15.64	-10.93		-5.44		-15.69									
09-Jan-2009	08:00:00	-17.44	-12.13		-6.21		-16.63					0.00				
09-Jan-2009	20:00:00	-17.94	-12.90		-6.53		-17.10									
10-Jan-2009	08:00:00	-18.31	-13.06		-6.75		-17.47									
10-Jan-2009	20:00:00	-17.65	-12.45		-6.63		-17.44									
11-Jan-2009	08:00:00	-13.46	-8.25		-3.27		-13.71					0.21				
11-Jan-2009	20:00:00	-14.12	-9.54		-4.12		-14.16									
12-Jan-2009	08:00:00	-16.40	-10.65		-5.23		-15.25									
12-Jan-2009	20:00:00	-17.35	-11.92		-5.91		-15.93									
13-Jan-2009	08:00:00	-17.28	-12.48		-6.22		-16.35									
13-Jan-2009	20:00:00	-15.07	-10.31		-4.66		-14.89									
14-Jan-2009	08:00:00	-17.53	-11.91		-5.85		-15.82					0.09				
14-Jan-2009	20:00:00	-17.87	-12.25		-6.24		-16.28									
15-Jan-2009	08:00:00	-18.29	-12.56		-6.49		-16.86									
15-Jan-2009	20:00:00	-19.26	-13.11		-6.85		-17.50									
16-Jan-2009	08:00:00	-20.12	-13.57		-7.24		-18.04									
16-Jan-2009	20:00:00	-20.07	-13.53		-7.30		-18.27									
17-Jan-2009	08:00:00	-20.64	-13.74		-7.71		-18.76									
17-Jan-2009	20:00:00	-19.71	-13.20		-7.26		-18.37									
18-Jan-2009	08:00:00	-19.37	-12.89		-7.11		-18.11									
18-Jan-2009	20:00:00	-12.19	-6.84		-2.32		-12.98									
19-Jan-2009	08:00:00	-13.82	-8.46		-3.59		-13.76					0.39				
19-Jan-2009	20:00:00	-14.90	-9.90		-4.45		-14.32									
20-Jan-2009	08:00:00	-14.48	-9.57		-3.97		-13.91					0.16				
20-Jan-2009	20:00:00	-15.52	-10.47		-4.76		-14.45									
21-Jan-2009	08:00:00	-16.82	-11.54		-5.55		-15.36					0.18				
21-Jan-2009	20:00:00	-16.12	-11.81		-5.83		-15.54									
22-Jan-2009	08:00:00	-17.46	-12.30		-6.33		-16.20									
22-Jan-2009	20:00:00	-16.37	-11.08		-5.12		-14.85									
23-Jan-2009	08:00:00	-17.15	-11.78		-5.87		-15.47									
23-Jan-2009	20:00:00	-17.00	-11.62		-5.82		-15.45									
24-Jan-2009	08:00:00	-17.73	-12.11		-6.26		-16.09									
24-Jan-2009	20:00:00	-18.35	-12.54		-6.51		-16.58									
25-Jan-2009	08:00:00	-19.09	-12.96		-6.84		-17.09									
25-Jan-2009	20:00:00	-19.18	-13.05		-6.98		-17.42									
26-Jan-2009	08:00:00	-19.67	-13.32		-7.21		-17.86									
26-Jan-2009	20:00:00	-19.99	-13.39		-7.33		-18.06									
27-Jan-2009	08:00:00	-20.18	-13.39		-7.45		-18.22									
27-Jan-2009	20:00:00	-19.81	-13.21		-7.38		-18.14									
28-Jan-2009	08:00:00	-19.26	-12.89		-7.22		-17.86					0.02				
28-Jan-2009	20:00:00	-19.15	-12.34		-6.51		-16.17									
29-Jan-2009	08:00:00	-17.69	-11.12		-5.78		-15.61					0.36				
29-Jan-2009	20:00:00	-18.34	-12.15		-6.47		-16.04									
30-Jan-2009	08:00:00	-19.14	-12.65		-6.87		-16.74									
30-Jan-2009	20:00:00	-19.57	-12.94		-7.09		-17.27									
31-Jan-2009	08:00:00	-20.54	-13.37		-7.51		-17.99									
31-Jan-2009	20:00:00	-20.79	-13.51		-7.64		-18.29					2.44	2.90	4.92	4.17	
01-Feb-2009	08:00:00	-21.06	-13.63		-7.78		-18.58									
01-Feb-2009	20:00:00	-20.78	-13.49		-7.68		-18.66									
02-Feb-2009	08:00:00	-21.00	-13.47		-7.79		-18.72									
02-Feb-2009	20:00:00	-20.52	-13.18		-7.67		-18.63									
03-Feb-2009	08:00:00	-20.56	-12.80		-7.03		-18.10					0.12				
03-Feb-2009	20:00:00	-20.89	-13.32		-7.59		-18.47									
04-Feb-2009	08:00:00	-21.39	-13.70		-7.75		-18.61					0.14				
04-Feb-2009	20:00:00	-21.69	-13.76		-7.71		-18.54									
05-Feb-2009	08:00:00	-22.31	-14.25		-8.17		-19.11									
05-Feb-2009	20:00:00	-22.09	-14.55		-8.08		-19.18									
06-Feb-2009	08:00:00	-22.00	-14.71		-8.29		-19.53									
06-Feb-2009	20:00:00	-21.52	-13.98		-8.00		-19.36									
07-Feb-2009	08:00:00	-22.02	-14.29		-8.24		-19.57									
07-Feb-2009	20:00:00	-21.52	-14.08		-8.08		-19.48									
08-Feb-2009	08:00:00	-21.85	-14.13		-8.14		-19.51									
08-Feb-2009	20:00:00	-21.96	-14.32		-8.19		-19.61									
09-Feb-2009	08:00:00	-22.51	-14.57		-8.47		-19.89									
09-Feb-2009	20:00:00	-22.25	-14.94		-8.43		-19.85									
10-Feb-2009	08:00:00	-22.46	-14.45		-8.51		-19.91									
10-Feb-2009	20:00:00	-22.16	-14.35		-8.46		-19.89									
11-Feb-2009	08:00:00	-22.36	-14.36		-8.58		-19.87									
11-Feb-2009	20:00:00	-21.29	-14.01		-8.29		-19.54									
12-Feb-2009	08:00:00	-22.32	-14.45		-8.53		-20.00									
12-Feb-2009	20:00:00	-22.73	-14.87		-8.81		-20.29									
13-Feb-2009	08:00:00	-23.12	-15.28		-9.04		-20.52									
13-Feb-2009	20:00:00	-23.04	-15.07		-9.08		-20.66									
14-Feb-2009	08:00:00	-23.08	-14.92		-9.03		-20.64									
14-Feb-2009	20:00:00	-22.81	-15.03		-8.86		-20.62									
15-Feb-2009	08:00:00	-23.80	-14.80		-9.32		-21.08									
15-Feb-2009	20:00:00	-23.65	-15.61		-9.32		-21.03									
16-Feb-2009	08:00:00	-24.00	-15.40		-9.43		-21.26									
16-Feb-2009	20:00:00	-24.12	-15.55		-9.53		-21.43									
17-Feb-2009	08:00:00	-24.44	-15.72		-9.72		-21.61									
17-Feb-2009	20:00:00	-23.97	-15.27		-9.47		-21.46					0.00				
18-Feb-2009	08:00:00	-23.65	-14.90		-9.22		-19.78									
18-Feb-2009	20:00:00	-17.18	-8.06		-3.54		-14.38					0.78				
19-Feb-2009	08:00:00	-6.47	-3.99		-1.35		-12.33									
19-Feb-2009	20:00:00	-12.33	-6.37		-3.17		-13.83									
20-Feb-2009	08:00:00	-15.96	-9.74		-4.88		-14.92									
20-Feb-2009	20:00:00	-17.28	-11.48		-5.94		-15.75									
21-Feb-2009	08:00:00	-18.68	-12.70		-6.84		-16.78									
21-Feb-2009	20:00:00	-18.73	-12.95													

Date	Time	Cox AW12	Ref AW1	Ref MW2	Ref AW3	Ref MW4	Ref AW5	CG	On-site Manual Rain Gauge	On-site Tipping Bucket	Tipping Bucket Totals	Smithfield Daily Rainfall	Smithfield Monthly Rainfall	30th/70th Percentile	/70th Percentile	Average
27-Feb-2009	08:00:00	-21.88	-13.77		-8.96		-20.08									
27-Feb-2009	20:00:00	-21.57	-14.41		-8.90		-20.16									
28-Feb-2009	08:00:00	-22.01	-12.87		-7.76		-17.22					0.23				
28-Feb-2009	20:00:00	3.60	-0.34		0.76		-9.13					1.38		2.51	4.78	3.66
01-Mar-2009	08:00:00	4.55	-1.34		-0.56		-10.64					1.45				
01-Mar-2009	20:00:00	7.21	5.09		5.94		-7.76									
02-Mar-2009	08:00:00	5.24	-1.14		-0.29		-11.49					1.74				
02-Mar-2009	20:00:00	4.10	-2.71		-1.55		-12.80									
03-Mar-2009	08:00:00	2.77	-3.90		-2.58		-13.53									
03-Mar-2009	20:00:00	1.97	-5.84		-3.17		-13.84									
04-Mar-2009	08:00:00	0.26	-7.28		-3.92		-14.27									
04-Mar-2009	20:00:00	-0.44	-8.13		-4.12		-14.29									
05-Mar-2009	08:00:00	-1.67	-9.02		-4.59		-14.60									
05-Mar-2009	20:00:00	-2.29	-9.66		-4.82		-14.71									
06-Mar-2009	08:00:00	-5.31	-10.21		-5.19		-14.86									
06-Mar-2009	20:00:00	-8.25	-10.18		-5.23		-15.02									
07-Mar-2009	08:00:00	-9.86	-10.56		-5.54		-15.20									
07-Mar-2009	20:00:00	-10.34	-10.81		-5.55		-15.32									
08-Mar-2009	08:00:00	-11.35	-11.00		-5.85		-15.51									
08-Mar-2009	20:00:00	-11.61	-11.19		-5.84		-15.72									
09-Mar-2009	08:00:00	-12.70	-11.79		-6.14		-16.00									
09-Mar-2009	20:00:00	-13.40	-12.22		-6.25		-16.49									
10-Mar-2009	08:00:00	-14.63	-11.79		-6.68		-16.91									
10-Mar-2009	20:00:00	-14.60	-12.19		-6.76		-17.05									
11-Mar-2009	08:00:00	-14.88	-12.11		-6.70		-17.10									
11-Mar-2009	20:00:00	-15.14	-12.29		-6.60		-17.26									
12-Mar-2009	08:00:00	-16.25	-12.31		-6.99		-17.54									
12-Mar-2009	20:00:00	-16.63	-13.16		-7.18		-17.75									
13-Mar-2009	08:00:00	-17.01	-13.22		-7.27		-18.02									
13-Mar-2009	20:00:00	-15.98	-10.98		-5.57		-15.22									
14-Mar-2009	08:00:00	-15.12	-10.53		-5.53		-14.73					0.70				
14-Mar-2009	20:00:00	-14.99	-10.83		-5.41		-14.33									
15-Mar-2009	08:00:00	-13.27	-8.45		-3.67		-12.89					0.42				
15-Mar-2009	20:00:00	-8.31	-5.56		-1.96		-12.58									
16-Mar-2009	08:00:00	-3.53	-4.90		-2.16		-12.75					0.47				
16-Mar-2009	20:00:00	0.43	-2.44		-0.50		-11.37									
17-Mar-2009	08:00:00	1.83	-3.53		-1.75		-12.59					0.31				
17-Mar-2009	20:00:00	1.16	-5.91		-2.99		-13.36									
18-Mar-2009	08:00:00	-0.54	-7.94		-3.92		-13.82									
18-Mar-2009	20:00:00	-1.73	-9.44		-4.47		-14.24									
19-Mar-2009	08:00:00	-2.91	-10.06		-5.26		-14.56									
19-Mar-2009	20:00:00	-5.07	-10.63		-5.47		-15.05									
20-Mar-2009	08:00:00	-5.39	-8.05		-3.77		-13.48					0.45				
20-Mar-2009	20:00:00	-9.85	-9.79		-4.88		-14.36									
21-Mar-2009	08:00:00	-12.07	-10.47		-5.82		-15.07									
21-Mar-2009	20:00:00	-12.93	-11.82		-6.12		-15.64									
22-Mar-2009	08:00:00	-14.08	-12.13		-6.48		-16.08									
22-Mar-2009	20:00:00	-14.21	-12.25		-6.42		-16.34									
23-Mar-2009	08:00:00	-15.12	-12.41		-6.76		-16.56									
23-Mar-2009	20:00:00	-15.58	-12.66		-6.81		-16.91									
24-Mar-2009	08:00:00	-16.62	-12.93	-9.50	-7.18	-5.75	-17.20	0.40	0.30							
24-Mar-2009	20:00:00	-16.86	-13.11		-7.26		-17.50									
25-Mar-2009	08:00:00	-17.27	-13.09		-7.41		-17.61									
25-Mar-2009	20:00:00	-17.33	-13.08		-7.37		-17.67									
26-Mar-2009	08:00:00	-17.10	-12.79		-7.09		-17.32									
26-Mar-2009	20:00:00	-16.78	-12.69		-6.89		-17.10									
27-Mar-2009	08:00:00	-17.48	-12.92		-7.12		-16.97									
27-Mar-2009	20:00:00	-15.13	-9.15		-4.05		-13.88									
28-Mar-2009	08:00:00	-10.97	-6.79		-2.85		-13.06									
28-Mar-2009	20:00:00	0.09	-2.37		-0.17		-9.81									
29-Mar-2009	08:00:00	4.62	-2.04		-0.64		-11.67									
29-Mar-2009	20:00:00	3.17	-4.02		-2.06		-13.09									
30-Mar-2009	08:00:00	1.41	-6.57		-3.59		-13.76									
30-Mar-2009	20:00:00	-0.58	-8.72		-4.42		-14.34									
31-Mar-2009	08:00:00	-2.26	-10.10		-5.35		-14.76									
31-Mar-2009	20:00:00	-3.10	-11.12		-5.74		-15.21						5.54	3.28	5.01	4.23
01-Apr-2009	08:00:00	-6.56	-11.61		-6.07		-15.39					0.00				
01-Apr-2009	20:00:00	-10.28	-11.83		-5.95		-15.54									
02-Apr-2009	08:00:00	-11.74	-12.01		-6.29		-15.55					0.00				
02-Apr-2009	20:00:00	-9.12	-10.14		-4.59		-13.57									
03-Apr-2009	08:00:00	-9.56	-10.20		-4.57		-13.65					0.23				
03-Apr-2009	20:00:00	-12.38	-11.82		-5.55		-14.95									
04-Apr-2009	08:00:00	-14.48	-12.48		-6.45		-15.77									
04-Apr-2009	20:00:00	-15.02	-13.29		-6.61		-16.52									
05-Apr-2009	08:00:00	-15.97	-13.33		-7.02		-16.81									
05-Apr-2009	20:00:00	-16.06	-13.28		-7.06		-17.36									
06-Apr-2009	08:00:00	-15.55	-12.63		-6.89		-17.01									
06-Apr-2009	20:00:00	-4.59	-5.93		-2.78		-13.29									
07-Apr-2009	08:00:00	-8.45	-8.47		-4.50		-13.94					0.19				
07-Apr-2009	20:00:00	-13.30	-10.35		-5.41		-14.84									
08-Apr-2009	08:00:00	-15.17	-12.08		-6.10		-15.44									
08-Apr-2009	20:00:00	-15.73	-12.66		-6.39		-16.09									
09-Apr-2009	08:00:00	-16.93	-12.96		-6.89		-16.54									
09-Apr-2009	20:00:00	-17.52	-13.49		-7.20		-17.34									
10-Apr-2009	08:00:00	-18.12	-13.39		-7.41		-17.52									
10-Apr-2009	20:00:00	-18.16	-13.84		-7.71		-18.24									
11-Apr-2009	08:00:00	-17.72	-12.65		-6.62		-17.14					0.08				
11-Apr-2009	20:00:00	-18.92	-14.01		-7.68		-18.41									
12-Apr-2009	08:00:00	-19.85	-14.13		-7.98		-18.63									
12-Apr-2009	20:00:00	-19.95	-14.51		-8.21		-19.20									
13-Apr-2009	08:00:00	-20.46	-14.29		-8.23		-19.09									
13-Apr-2009	20:00:00	-19.92	-14.02		-8.08		-19.15									
14-Apr-2009	08:00:00	-19.77	-13.64		-7.70		-18.61					0.03				
14-Apr-2009	20:00:00	-18.62	-12.03		-5.83		-16.46									
15-Apr-2009	08:00:00	-13.39	-7.24		-2.44		-13.05					0.83				
15-Apr-2009	20:00:00	-15.48	-9.58		-4.26		-14.13									
16-Apr-2009	08:00:00	-17.22	-11.82		-5.43		-14.90									
16-Apr-2009	20:00:00	-18.24	-13.21		-6.49		-16.25									
17-Apr-2009	08:00:00	-19.26	-13.48		-7.04		-16.92									
17-Apr-2009	20:00:00	-19.46	-14.02		-7.54		-17.94									
18-Apr-2009	08:00:00	-19.94	-14.02		-7.70		-18.32									
18-Apr-2009	20:00:00	-20.27	-14.87		-8.42		-19.46									
19-Apr-2009	08:00:00	-20.80	-14.55		-8.44		-19.60									
19-Apr-2009	20:00:00	-21.06	-15.15	-11.50	-8.82	-10.00	-20.15									
20-Apr-2009	08:00:00	-21.05	-14.56		-8.37		-20.14	0.00	3.00			0.00				

Date	Time	Cox AW12	Ref AW1	Ref MW2	Ref AW3	Ref MW4	Ref AW5	CG	On-site Manual Rain Gauge	On-site Tipping Bucket	Tipping Bucket Totals	Smithfield Daily Rainfall	Smithfield Monthly Rainfall	30th/70th Percentile	/70th Percentile	Average
25-Apr-2009	20:00:00	-25.96	-19.56		-12.98		-27.61									
26-Apr-2009	08:00:00	-26.32	-18.25		-12.11		-27.30					0.00				
26-Apr-2009	20:00:00	-26.69	-20.42		-13.99		-28.97									
27-Apr-2009	08:00:00	-27.11	-18.81		-12.99		-28.50					0.00				
27-Apr-2009	20:00:00	-27.50	-21.20		-14.95		-30.32									
28-Apr-2009	08:00:00	-27.78	-19.64		-13.73		-29.70					0.00				
28-Apr-2009	20:00:00	-28.05	-21.69		-15.60		-31.34									
29-Apr-2009	08:00:00	-28.30	-20.09		-14.27		-30.69					0.00				
29-Apr-2009	20:00:00	-28.63	-22.15		-15.88		-32.39									
30-Apr-2009	08:00:00	-28.97	-20.52		-14.71		-31.74					0.00				
30-Apr-2009	20:00:00	-29.01	-21.55		-15.63		-32.60					1.48	1.79	3.89	3.00	
01-May-2009	08:00:00	-29.09	-20.09		-14.34		-31.58					0.00				
01-May-2009	20:00:00	-29.23	-21.62		-16.09		-33.24									
02-May-2009	08:00:00	-29.37	-20.27		-14.88		-32.57					0.14				
02-May-2009	20:00:00	-29.76	-22.33		-16.92		-34.16									
03-May-2009	08:00:00	-30.00	-20.96		-15.45		-33.32					0.04				
03-May-2009	20:00:00	-30.32	-23.12		-17.72		-35.11									
04-May-2009	08:00:00	-30.57	-21.95		-16.39		-34.74					0.00				
04-May-2009	20:00:00	-31.08	-24.29		-18.64		-36.31									
05-May-2009	08:00:00	-30.34	-18.36		-12.46		-28.74					0.78				
05-May-2009	20:00:00	-7.77	-2.14		-0.14		-14.06									
06-May-2009	08:00:00	-7.49	-5.33		-2.19		-13.49					0.29				
06-May-2009	20:00:00	-7.03	-5.24		-1.29		-12.84									
07-May-2009	08:00:00	-6.22	-3.54		-0.08		-10.55					0.18				
07-May-2009	20:00:00	1.66	-1.78		0.39		-10.42									
08-May-2009	08:00:00	3.48	-2.53		-0.58		-11.92					0.88				
08-May-2009	20:00:00	1.27	-5.65		-2.59		-13.69									
09-May-2009	08:00:00	-1.89	-7.98		-3.92		-14.46					0.00				
09-May-2009	20:00:00	-5.26	-11.60		-6.44		-16.85									
10-May-2009	08:00:00	-7.86	-12.43		-6.90		-17.75					0.00				
10-May-2009	20:00:00	-14.76	-15.53		-9.11		-20.05									
11-May-2009	08:00:00	-16.18	-14.98		-8.76		-20.33					0.00				
11-May-2009	20:00:00	-16.88	-15.05		-8.54		-20.45									
12-May-2009	08:00:00	-17.92	-14.65		-8.63		-20.59					0.08				
12-May-2009	20:00:00	-19.31	-16.92		-10.46		-22.62									
13-May-2009	08:00:00	-20.17	-15.58		-9.93		-22.60					0.00				
13-May-2009	20:00:00	-21.30	-18.02		-11.68		-24.62									
14-May-2009	08:00:00	-21.64	-16.72		-10.70		-24.18					0.00				
14-May-2009	20:00:00	-22.28	-17.63		-11.73		-25.50									
15-May-2009	08:00:00	-22.70	-16.90		-10.85		-24.84					0.00				
15-May-2009	20:00:00	-23.25	-18.22		-12.25		-26.42									
16-May-2009	08:00:00	-23.61	-17.27		-11.29		-25.71					0.00				
16-May-2009	20:00:00	-24.16	-19.15		-13.13		-27.59									
17-May-2009	08:00:00	-24.52	-17.49		-11.93		-26.76					0.25				
17-May-2009	20:00:00	-23.99	-13.72		-7.98		-22.03									
18-May-2009	08:00:00	-21.85	-10.88		-5.35		-18.53					0.49				
18-May-2009	20:00:00	-22.89	-14.81		-8.36		-20.25									
19-May-2009	08:00:00	-23.70	-15.24		-9.03		-20.49					0.00				
19-May-2009	20:00:00	-24.77	-18.09		-11.54		-22.95									
20-May-2009	08:00:00	-25.22	-17.34		-11.03		-22.99					0.00				
20-May-2009	20:00:00	-25.80	-19.48		-13.07		-25.38									
21-May-2009	08:00:00	-26.16	-18.18		-12.04		-25.32					0.00				
21-May-2009	20:00:00	-26.69	-20.69		-14.53		-27.77									
22-May-2009	08:00:00	-27.05	-19.00		-13.18		-27.17					0.00				
22-May-2009	20:00:00	-27.54	-21.55		-15.44		-29.35									
23-May-2009	08:00:00	-27.93	-19.70		-13.98		-28.61					0.00				
23-May-2009	20:00:00	-28.35	-22.18		-16.11		-30.63									
24-May-2009	08:00:00	-28.61	-20.27		-14.57		-29.95					0.00				
24-May-2009	20:00:00	-29.00	-22.82		-16.89		-32.00									
25-May-2009	08:00:00	-29.29	-20.49		-15.37		-31.25					0.00				
25-May-2009	20:00:00	-29.69	-23.52		-16.12		-33.43									
26-May-2009	08:00:00	-30.05	-21.61	-24.50	-16.24	-22.00	-32.47	0.00	5.22		0.00					
26-May-2009	20:00:00	-30.28	-22.32		-16.80		-33.25									
27-May-2009	08:00:00	-30.29	-20.47		-15.46		-32.27					0.11				
27-May-2009	20:00:00	-30.63	-24.22		-19.05		-34.79									
28-May-2009	08:00:00	-30.97	-22.36		-17.27		-34.12					0.00				
28-May-2009	20:00:00	-31.39	-24.86		-19.90		-36.06									
29-May-2009	08:00:00	-31.71	-22.85		-17.84		-35.06					0.43				
29-May-2009	20:00:00	-32.04	-25.62		-20.65		-37.13									
30-May-2009	08:00:00	-32.47	-23.78		-19.10		-36.80					0.03				
30-May-2009	20:00:00	-32.99	-26.79		-22.21		-38.47									
31-May-2009	08:00:00	-33.29	-25.90		-20.74		-38.17					0.00				
31-May-2009	20:00:00	-33.76	-28.08		-23.69		-39.88						3.70	2.54	4.62	3.76
01-Jun-2009	08:00:00	-34.29	-27.97		-22.43		-39.72					0.05				
01-Jun-2009	20:00:00	-34.75	-30.12		-25.20		-41.13									
02-Jun-2009	08:00:00	-35.06	-29.83		-23.64		-40.56									
02-Jun-2009	20:00:00	-35.42	-32.51		-26.66		-42.28									
03-Jun-2009	08:00:00	-35.66	-32.52		-25.37		-41.87									
03-Jun-2009	20:00:00	-35.98	-34.91		-28.11		-43.45									
04-Jun-2009	08:00:00	-36.31	-34.35		-26.83		-42.94									
04-Jun-2009	20:00:00	-36.64	-36.61		-29.01		-44.21									
05-Jun-2009	08:00:00	-36.49	-33.27		-24.44		-41.62									
05-Jun-2009	20:00:00	-36.74	-29.50		-25.49		-43.20									
06-Jun-2009	08:00:00	-36.98	-26.57		-23.55		-42.93									
06-Jun-2009	20:00:00	-37.24	-26.27		-24.01		-43.77					0.00				
07-Jun-2009	08:00:00	-37.31	-25.19		-22.50		-43.29									
07-Jun-2009	20:00:00	-37.42	-26.99		-25.41		-44.78									
08-Jun-2009	08:00:00	-37.53	-26.08		-23.61		-44.02					0.00				
08-Jun-2009	20:00:00	-37.72	-28.80		-27.92		-45.71									
09-Jun-2009	08:00:00	-37.95	-29.46		-26.00		-45.07					0.00				
09-Jun-2009	20:00:00	-38.21	-32.31		-27.39		-45.86									
10-Jun-2009	08:00:00	-38.26	-29.52		-24.74		-44.56					0.93				
10-Jun-2009	20:00:00	-38.44	-28.72		-27.51		-46.24									
11-Jun-2009	08:00:00	-38.53	-28.26		-25.33		-45.55					0.00				
11-Jun-2009	20:00:00	-38.77	-30.40		-29.24		-47.04									
12-Jun-2009	08:00:00	-38.81	-30.89		-27.16		-46.55					0.00				
12-Jun-2009	20:00:00	-39.11	-35.56		-30.60		-48.03									
13-Jun-2009	08:00:00	-39.41	-35.72		-29.58		-47.57									
13-Jun-2009	20:00:00	-39.78	-38.57		-32.17		-49.07									
14-Jun-2009	08:00:00	-40.10	-38.46		-31.32		-48.66									
14-Jun-2009	20:00:00	-40.58	-40.64		-33.36		-49.92									
15-Jun-2009	08:00:00	-40.83	-40.53		-32.62		-49.48									
15-Jun-2009	20:00:00	-41.16	-42.11		-34.18		-50									

Date	Time	Cox AW12	Ref AW1	Ref MW2	Ref AW3	Ref MW4	Ref AW5	CG	On-site Manual Rain Gauge	On-site Tipping Bucket	Tipping Bucket Totals	Smithfield Daily Rainfall	Smithfield Monthly Rainfall	30th/70th Percentile	/70th Percentile	Average
22-Jun-2009	08:00:00	-37.06	-31.39		-25.57		-41.36					0.00				
22-Jun-2009	20:00:00	-37.83	-34.60		-28.93		-43.19									
23-Jun-2009	08:00:00	-38.49	-34.77		-28.00		-43.03									
23-Jun-2009	20:00:00	-39.27	-37.90		-30.97		-44.81									
24-Jun-2009	08:00:00	-38.66	-38.79	-36.00	-31.29	-37.00	-45.24	0.00	2.75							
24-Jun-08	20:00:00	-40.31	-41.36		-33.41		-46.54									
25-Jun-08	08:00:00	-40.90	-41.26		-32.83		-46.29					0.00				
25-Jun-08	20:00:00	-41.45	-44.16		-35.25		-48.16									
26-Jun-08	08:00:00	-41.88	-43.99		-34.80		-48.04					0.00				
26-Jun-08	20:00:00	-42.32	-45.06		-35.57		-49.25									
27-Jun-08	08:00:00	-42.48	-44.60		-33.97		-48.65					0.00				
27-Jun-08	20:00:00	-42.56	-45.61		-34.66		-49.99									
28-Jun-08	08:00:00	-42.26	-45.30		-33.73		-49.12					0.00				
28-Jun-08	20:00:00	-42.59	-48.04		-36.99		-50.98									
29-Jun-08	08:00:00	-42.74	-48.07		-36.78		-50.83					0.00				
29-Jun-08	20:00:00	-43.29	-50.43		-38.32		-52.22									
30-Jun-08	08:00:00	-43.70	-50.22		-38.25		-51.95					0.00				
30-Jun-08	20:00:00	-44.35	-52.34		-39.62		-53.29									
1-Jul-08	08:00:00	-44.97	-51.97		-39.77		-53.33			0.05		0.00	4.03	1.99	4.47	3.74
1-Jul-08	20:00:00	-45.72	-54.07		-40.82		-54.49									
2-Jul-08	08:00:00	-46.79	-53.93		-40.67		-54.37			0.02		0.03				
2-Jul-08	20:00:00	-47.76	-55.45		-41.67		-55.42									
3-Jul-08	08:00:00	-48.60	-55.56		-41.61		-55.47					0.00				
3-Jul-08	20:00:00	-49.47	-56.96		-42.49		-56.39									
4-Jul-08	08:00:00	-50.34	-57.03		-42.41		-56.32					0.00				
4-Jul-08	20:00:00	-50.34	-58.56		-43.12		-57.18									
5-Jul-08	08:00:00	-50.33	-58.66		-43.04		-57.06			0.03		0.00				
5-Jul-08	20:00:00	-50.32	-59.27		-43.47		-57.57									
6-Jul-08	08:00:00	-50.30	-59.50		-43.06		-57.44			0.02		0.07				
6-Jul-08	20:00:00	-50.29	-59.92		-43.37		-57.78					0.00				
7-Jul-08	08:00:00	-50.29	-60.21		-43.37		-57.78									
7-Jul-08	20:00:00	-50.28	-61.06		-44.14		-58.59									
8-Jul-08	08:00:00	-50.28	-60.91		-44.25		-58.67					0.00				
8-Jul-08	20:00:00	-50.26	-61.71		-45.01		-59.50									
9-Jul-08	08:00:00	-50.28	-62.07		-44.97		-59.63					0.00				
9-Jul-08	20:00:00	-50.27	-62.70		-45.50		-60.23									
10-Jul-08	08:00:00	-50.28	-62.91		-45.69		-60.32					0.00				
10-Jul-08	20:00:00	-50.27	-63.79		-46.08		-60.91									
11-Jul-08	08:00:00	-50.27	-63.75		-46.17		-60.87					0.00				
11-Jul-08	20:00:00	-50.29	-64.67		-46.45		-61.46									
12-Jul-08	08:00:00	-50.27	-64.93		-46.58		-61.51					0.00				
12-Jul-08	20:00:00	-50.27	-65.03		-47.18		-62.11									
13-Jul-08	08:00:00	-50.27	-65.75		-47.22		-62.25			0.45		0.00				
13-Jul-08	20:00:00	-50.27	-65.56		-46.68		-62.12									
14-Jul-08	08:00:00	-50.25	-65.82		-46.48		-62.08					0.37				
14-Jul-08	20:00:00	-50.26	-66.38		-47.37		-62.75									
15-Jul-08	08:00:00	-50.25	-66.45		-47.42		-62.81					0.00				
15-Jul-08	20:00:00	-50.28	-67.22		-47.83		-63.24									
16-Jul-08	08:00:00	-50.28	-67.11		-48.00		-63.27			0.09		0.00				
16-Jul-08	20:00:00	-50.30	-67.28		-48.24		-63.57									
17-Jul-08	08:00:00	-50.32	-67.04		-48.05		-63.50			0.65		0.87				
17-Jul-08	20:00:00	-50.29	-66.77		-47.65		-63.86									
18-Jul-08	08:00:00	-50.28	-66.72		-47.69		-63.95			0.12		1.00				
18-Jul-08	20:00:00	-50.27	-66.49		-48.24		-64.01									
19-Jul-08	08:00:00	-50.27	-67.02		-48.02		-64.05					0.00				
19-Jul-08	20:00:00	-50.27	-67.01		-48.55		-64.10									
20-Jul-08	08:00:00	-50.27	-67.02		-48.39		-63.35					0.09				
20-Jul-08	20:00:00	-50.28	-67.02		-48.71		-63.36									
21-Jul-08	08:00:00	-50.26	-67.04		-48.57		-63.36					0.11				
21-Jul-08	20:00:00	-50.28	-67.38		-48.99		-63.35									
22-Jul-08	08:00:00	-50.28	-67.31		-49.31		-63.35			0.17		0.00				
22-Jul-08	20:00:00	-50.30	-67.04		-49.47		-63.36									
23-Jul-08	08:00:00	-50.32	-67.05		-49.34		-63.36			2.23		0.00				
23-Jul-08	20:00:00	-50.36	-67.42		-49.60		-63.36									
24-Jul-08	08:00:00	3.85	-23.51		-18.98		-61.26			0.04		0.12				
24-Jul-08	20:00:00	2.65	-24.13		-20.92		-59.00									
25-Jul-08	08:00:00	-2.72	-23.86		-21.20		-56.68			0.60		0.00				
25-Jul-08	20:00:00	-8.77	-21.28		-20.60		-55.35									
26-Jul-08	08:00:00	-20.37	-21.26		-18.75		-53.24					0.41				
26-Jul-08	20:00:00	-26.06	-24.89		-22.01		-52.06									
27-Jul-08	08:00:00	-28.54	-24.05		-21.73		-50.81			1.38						
27-Jul-08	20:00:00	-6.02	-4.83		-6.90		-45.68									
28-Jul-08	08:00:00	2.70	-13.24	-20.50	-9.63	-24.00	-30.58	0.20	6.30	0.01						
28-Jul-08	20:00:00	-1.63	-17.81		-14.48		-32.22									
29-Jul-08	08:00:00	-6.57	-18.48		-15.27		-31.90									
29-Jul-08	20:00:00	-21.09	-21.19		-17.55		-34.02									
30-Jul-08	08:00:00	-25.04	-20.85		-17.48		-33.83									
30-Jul-08	20:00:00	-27.79	-23.65		-19.95		-36.24									
31-Jul-08	08:00:00	-29.21	-22.48		-19.35		-35.92			1.06						
31-Jul-08	20:00:00	-16.86	-9.21		-8.40		-27.53			6.92		3.07	3.40	5.89	5.04	
1-Aug-08	08:00:00	-22.73	-12.33		-9.90		-25.93			0.08						
1-Aug-08	20:00:00	-24.97	-16.42		-12.80		-27.42									
2-Aug-08	08:00:00	-26.18	-16.86		-13.50		-27.72			1.46						
2-Aug-08	20:00:00	-6.36	-3.46		-1.91		-15.49									
3-Aug-08	08:00:00	-5.98	-7.85		-5.23		-13.52					0.16				
3-Aug-08	20:00:00	-17.03	-13.51		-9.08		-19.00									
4-Aug-08	08:00:00	-20.62	-14.91		-10.16		-20.10					0.00				
4-Aug-08	20:00:00	-23.44	-18.54		-13.31		-23.85									
5-Aug-08	08:00:00	-24.56	-18.00		-12.98		-24.50			0.26		0.00				
5-Aug-08	20:00:00	-24.65	-17.67		-12.65		-24.73									
6-Aug-08	08:00:00	-22.88	-13.11		-9.49		-21.77			0.17		0.68				
6-Aug-08	20:00:00	-25.34	-17.13		-12.63		-25.20									
7-Aug-08	08:00:00	-26.38	-16.91		-13.01		-25.62					0.00				
7-Aug-08	20:00:00	-27.23	-20.02		-15.70		-28.35									
8-Aug-08	08:00:00	-27.66	-18.73		-14.89		-28.29					0.00				
8-Aug-08	20:00:00	-28.51	-21.87		-17.88		-30.75									
9-Aug-08	08:00:00	-29.03	-20.30		-16.56		-30.43									
9-Aug-08	20:00:00	-29.88	-23.40		-19.93		-33.04									
10-Aug-08	08:00:00	-30.34	-21.82		-18.32		-32.78									
10-Aug-08	20:00:00	-31.13	-25.18		-22.10		-35.37									
11-Aug-08	08:00:00	-31.57	-26.03		-20.83		-35.17			0.51						
11-Aug-08	20:00:00	-32.40	-26.11		-22.27		-35.68									
12-Aug-08	08:00:00	-31.99	-15.85		-13.64		-30.83			0.07		0.21				
12-Aug-08	20:00:00	-31.68	-16.98		-14.											





Date	Time	Cox AW12	Ref AW1	Ref MW2	Ref AW3	Ref MW4	Ref AW5	CG	On-site Manual Rain Gauge	On-site Tipping Bucket	Tipping Bucket Totals	Smithfield Daily Rainfall	Smithfield Monthly Rainfall	30th/70th Percentile	/70th Percentile	Average
15-Oct-08	08:00:00	-28.60	-10.53		-7.06		-21.02			0.17		0.63				
15-Oct-08	20:00:00	-28.28	-12.13		-7.98		-21.08									
16-Oct-08	08:00:00	-28.50	-13.45		-8.84		-21.05					0.01				
16-Oct-08	20:00:00	-28.92	-14.50		-9.76		-21.77									
17-Oct-08	08:00:00	-29.33	-15.21		-10.30		-22.29					0				
17-Oct-08	20:00:00	-29.85	-16.60		-11.31		-23.53									
18-Oct-08	08:00:00	-30.16	-16.87		-11.63		-23.90			0.01		0				
18-Oct-08	20:00:00	-30.66	-17.50		-11.96		-24.50									
19-Oct-08	08:00:00	-30.97	-17.50		-12.15		-24.80					0				
19-Oct-08	20:00:00	-31.29	-18.43		-12.94		-25.75									
20-Oct-08	08:00:00	-31.49	-18.09		-12.83		-25.82					0				
20-Oct-08	20:00:00	-31.71	-18.80		-13.49		-26.69									
21-Oct-08	08:00:00	-31.90	-18.36		-13.26		-26.66					0				
21-Oct-08	20:00:00	-32.09	-19.56		-14.04		-27.61									
22-Oct-08	08:00:00	-32.25	-18.82		-13.69		-27.42									
22-Oct-08	20:00:00	-32.39	-19.68		-14.33		-28.24									
23-Oct-08	08:00:00	-32.47	-18.84		-13.81		-27.84									
23-Oct-08	20:00:00	-32.65	-20.13		-14.90		-29.07									
24-Oct-08	08:00:00	-32.61	-19.51		-14.22		-28.72			0.01						
24-Oct-08	20:00:00	-32.86	-20.22		-14.98		-29.77									
25-Oct-08	08:00:00	-33.16	-20.09		-14.91		-29.88									
25-Oct-08	20:00:00	-33.43	-20.64		-15.33		-30.46									
26-Oct-08	08:00:00	-33.51	-20.03		-14.96		-30.12			0.22		0.01				
26-Oct-08	20:00:00	-33.29	-16.50		-11.99		-27.02									
27-Oct-08	08:00:00	-32.96	-15.69		-11.26		-25.74			0.09		0.17				
27-Oct-08	20:00:00	-32.58	-15.67		-11.08		-25.00									
28-Oct-08	08:00:00	-30.29	-10.77		-7.31		-21.58			0.26		0.24				
28-Oct-08	20:00:00	-30.38	-12.74		-8.94		-22.53									
29-Oct-08	08:00:00	-30.36	-14.02		-10.22		-22.76					0.07				
29-Oct-08	20:00:00	-30.66	-15.51		-11.10		-23.33									
30-Oct-08	08:00:00	-30.80	-15.65		-11.40		-23.45					0.02				
30-Oct-08	20:00:00	-30.84	-15.47		-11.58		-23.66									
31-Oct-08	08:00:00	-30.63	-14.87		-11.39		-23.57			0.10		0.02				
31-Oct-08	20:00:00	-30.46	-13.43		-10.24		-22.47						1.80	1.80	3.93	3.14
1-Nov-08	08:00:00	-30.48	-13.68		-10.50		-22.67			0.32	1.89	0.08				
1-Nov-08	20:00:00	-29.03	-9.52		-6.76		-19.35									
2-Nov-08	08:00:00	-29.36	-11.16		-8.14		-19.71									
2-Nov-08	20:00:00	-29.57	-12.34		-9.13		-20.27									
3-Nov-08	08:00:00	-29.59	-12.90		-9.64		-20.64									
3-Nov-08	20:00:00	-29.93	-13.77		-10.22		-21.44									
4-Nov-08	08:00:00	-30.39	-14.32		-10.72		-21.93									
4-Nov-08	20:00:00	-30.50	-14.55		-10.95		-22.39									
5-Nov-08	08:00:00	-30.63	-14.42		-11.01		-22.56					0.01				
5-Nov-08	20:00:00	-30.99	-15.15		-11.54		-23.37									
6-Nov-08	08:00:00	-31.38	-15.39		-11.86		-23.72					0				
6-Nov-08	20:00:00	-31.71	-15.79		-12.09		-24.25									
7-Nov-08	08:00:00	-31.94	-15.51		-12.18		-24.39					0				
7-Nov-08	20:00:00	-32.08	-15.51		-12.12		-24.65									
8-Nov-08	08:00:00	-32.37	-15.35		-12.15		-24.71					0				
8-Nov-08	20:00:00	-32.76	-16.01		-12.35		-25.24									
9-Nov-08	08:00:00	-33.04	-16.24		-12.54		-25.25					0				
9-Nov-08	20:00:00	-33.16	-16.19		-12.51		-25.45									
10-Nov-08	08:00:00	-32.92	-15.54		-12.20		-25.05				1.32	0				
10-Nov-08	20:00:00	-32.82	-12.12		-10.00		-18.24									
11-Nov-08	08:00:00	-10.25	-1.95		0.03		-7.97			2.77		1.74				
11-Nov-08	20:00:00	7.45	4.05		5.95		-8.84									
12-Nov-08	08:00:00	4.81	-2.10		-0.36		-11.10			0.38						
12-Nov-08	20:00:00	3.61	-2.57		-0.71		-11.15									
13-Nov-08	08:00:00	3.06	-3.41		-0.85		-12.33			0.03						
13-Nov-08	20:00:00	1.74	-4.06		-1.35		-12.96									
14-Nov-08	08:00:00	-0.51	-4.75		-1.76		-13.39			0.01						
14-Nov-08	20:00:00	-2.23	-5.38		-2.09		-13.62									
15-Nov-08	08:00:00	-3.68	-6.02		-2.62		-13.86									
15-Nov-08	20:00:00	-8.68	-6.50		-2.75		-13.96									
16-Nov-08	08:00:00	-10.82	-7.26		-3.15		-14.13					0.00				
16-Nov-08	20:00:00	-12.23	-7.65		-3.28		-14.24									
17-Nov-08	08:00:00	-13.37	-8.19	-6.00	-3.61	-5.00	-14.43	0.00	8.69							
17-Nov-08	20:00:00															
18-Nov-08	08:00:00											0.00				
18-Nov-08	20:00:00															
19-Nov-08	08:00:00															
19-Nov-08	20:00:00															
20-Nov-08	08:00:00															
20-Nov-08	20:00:00															
21-Nov-08	08:00:00															
21-Nov-08	20:00:00															
22-Nov-08	08:00:00															
22-Nov-08	20:00:00															
23-Nov-08	08:00:00															
23-Nov-08	20:00:00															
24-Nov-08	08:00:00															
24-Nov-08	20:00:00															
25-Nov-08	08:00:00															
25-Nov-08	20:00:00															
26-Nov-08	08:00:00															
26-Nov-08	20:00:00															
27-Nov-08	08:00:00															
27-Nov-08	20:00:00															
28-Nov-08	08:00:00															
28-Nov-08	20:00:00															
29-Nov-08	08:00:00															
29-Nov-08	20:00:00															
30-Nov-08	08:00:00															
30-Nov-08	20:00:00										4.83		1.83	1.93	3.81	3.14
1-Dec-08	08:00:00															
1-Dec-08	20:00:00															
2-Dec-08	08:00:00															
2-Dec-08	20:00:00															
3-Dec-08	08:00:00															
3-Dec-08	20:00:00															
4-Dec-08	08:00:00															
4-Dec-08	20:00:00															
5-Dec-08	08:00:00															
5-Dec-08	20:00:00															
6-Dec-08	08:00:00															
6-Dec-08	20:00:00															
7-Dec-08	08:00:00															
7-Dec-08	20:00:00															
8-Dec-08	08:00:00															
8-Dec-08	20:00:00															
9-Dec-08	08:00:00															
9-Dec-08	20:00:00															
10-Dec-08	08:00:00															
10-Dec-08	20:00:00															
11-Dec-08	08:00:00															

Date	Time									On-site Manual Rain Gauge	On-site Tipping Bucket	Tipping Bucket Totals	Smithfield Daily Rainfall	Smithfield Monthly Rainfall	30th/70th Percentile	/70th Percentile	Average	
dd-mm-yyy	hh:mm:ss	Cox AW12	Ref AW1	Ref MW2	Ref AW3	Ref MW4	Ref AW5	CG										
11-Dec-08	20:00:00																	
12-Dec-08	08:00:00																	
12-Dec-08	20:00:00																	
13-Dec-08	08:00:00																	
13-Dec-08	20:00:00																	
14-Dec-08	08:00:00																	
14-Dec-08	20:00:00																	
15-Dec-08	08:00:00																	
15-Dec-08	20:00:00																	
16-Dec-08	08:00:00																	
16-Dec-08	20:00:00																	
17-Dec-08	08:00:00																	
17-Dec-08	20:00:00																	
18-Dec-08	08:00:00																	
18-Dec-08	20:00:00																	
19-Dec-08	08:00:00																	
19-Dec-08	20:00:00																	
20-Dec-08	08:00:00																	
20-Dec-08	20:00:00																	
21-Dec-08	08:00:00																	
21-Dec-08	20:00:00																	
22-Dec-08	08:00:00																	
22-Dec-08	20:00:00																	
23-Dec-08	08:00:00																	
23-Dec-08	20:00:00																	
24-Dec-08	08:00:00																	
24-Dec-08	20:00:00																	
25-Dec-08	08:00:00																	
25-Dec-08	20:00:00																	
26-Dec-08	08:00:00																	
26-Dec-08	20:00:00																	
27-Dec-08	08:00:00																	
27-Dec-08	20:00:00																	
28-Dec-08	08:00:00																	
28-Dec-08	20:00:00																	
29-Dec-08	08:00:00																	
29-Dec-08	20:00:00																	
30-Dec-08	08:00:00																	
30-Dec-08	20:00:00																	
31-Dec-08	08:00:00																	
31-Dec-08	20:00:00													0.00	2.10	3.80	3.15	

Station 317994							
Date	Time	Monthly Rainfall Deficit (from mean)	Accumulated Rainfall Deficit	Date	Jurisdictional Water Table	Ground Elevation	Growing Season
dd-mm-yyyy	hh:mm:ss						
01-Jan-2009	08:00:00			01-Jan-2008	-12	0	J
01-Jan-2009	20:00:00			01-Jan-2008	-12	0	
02-Jan-2009	08:00:00			02-Jan-2008	-12	0	J
02-Jan-2009	20:00:00			02-Jan-2008	-12	0	
03-Jan-2009	08:00:00			03-Jan-2008	-12	0	J
03-Jan-2009	20:00:00			03-Jan-2008	-12	0	
04-Jan-2009	08:00:00			04-Jan-2008	-12	0	J
04-Jan-2009	20:00:00			04-Jan-2008	-12	0	
05-Jan-2009	08:00:00			05-Jan-2008	-12	0	J
05-Jan-2009	20:00:00			05-Jan-2008	-12	0	
06-Jan-2009	08:00:00			06-Jan-2008	-12	0	J
06-Jan-2009	20:00:00			06-Jan-2008	-12	0	
07-Jan-2009	08:00:00			07-Jan-2008	-12	0	J
07-Jan-2009	20:00:00			07-Jan-2008	-12	0	
08-Jan-2009	08:00:00			08-Jan-2008	-12	0	J
08-Jan-2009	20:00:00			08-Jan-2008	-12	0	
09-Jan-2009	08:00:00			09-Jan-2008	-12	0	J
09-Jan-2009	20:00:00			09-Jan-2008	-12	0	
10-Jan-2009	08:00:00			10-Jan-2008	-12	0	J
10-Jan-2009	20:00:00			10-Jan-2008	-12	0	
11-Jan-2009	08:00:00			11-Jan-2008	-12	0	J
11-Jan-2009	20:00:00			11-Jan-2008	-12	0	
12-Jan-2009	08:00:00			12-Jan-2008	-12	0	J
12-Jan-2009	20:00:00			12-Jan-2008	-12	0	
13-Jan-2009	08:00:00			13-Jan-2008	-12	0	J
13-Jan-2009	20:00:00			13-Jan-2008	-12	0	
14-Jan-2009	08:00:00			14-Jan-2008	-12	0	J
14-Jan-2009	20:00:00			14-Jan-2008	-12	0	
15-Jan-2009	08:00:00			15-Jan-2008	-12	0	J
15-Jan-2009	20:00:00			15-Jan-2008	-12	0	
16-Jan-2009	08:00:00			16-Jan-2008	-12	0	J
16-Jan-2009	20:00:00			16-Jan-2008	-12	0	
17-Jan-2009	08:00:00			17-Jan-2008	-12	0	J
17-Jan-2009	20:00:00			17-Jan-2008	-12	0	
18-Jan-2009	08:00:00			18-Jan-2008	-12	0	J
18-Jan-2009	20:00:00			18-Jan-2008	-12	0	
19-Jan-2009	08:00:00			19-Jan-2008	-12	0	J
19-Jan-2009	20:00:00			19-Jan-2008	-12	0	
20-Jan-2009	08:00:00			20-Jan-2008	-12	0	J
20-Jan-2009	20:00:00			20-Jan-2008	-12	0	
21-Jan-2009	08:00:00			21-Jan-2008	-12	0	J
21-Jan-2009	20:00:00			21-Jan-2008	-12	0	
22-Jan-2009	08:00:00			22-Jan-2008	-12	0	J
22-Jan-2009	20:00:00			22-Jan-2008	-12	0	
23-Jan-2009	08:00:00			23-Jan-2008	-12	0	J
23-Jan-2009	20:00:00			23-Jan-2008	-12	0	
24-Jan-2009	08:00:00			24-Jan-2008	-12	0	J
24-Jan-2009	20:00:00			24-Jan-2008	-12	0	
25-Jan-2009	08:00:00			25-Jan-2008	-12	0	J
25-Jan-2009	20:00:00			25-Jan-2008	-12	0	
26-Jan-2009	08:00:00			26-Jan-2008	-12	0	J
26-Jan-2009	20:00:00			26-Jan-2008	-12	0	
27-Jan-2009	08:00:00			27-Jan-2008	-12	0	J
27-Jan-2009	20:00:00			27-Jan-2008	-12	0	
28-Jan-2009	08:00:00			28-Jan-2008	-12	0	J
28-Jan-2009	20:00:00			28-Jan-2008	-12	0	
29-Jan-2009	08:00:00			29-Jan-2008	-12	0	J
29-Jan-2009	20:00:00			29-Jan-2008	-12	0	
30-Jan-2009	08:00:00			30-Jan-2008	-12	0	J
30-Jan-2009	20:00:00			30-Jan-2008	-12	0	
31-Jan-2009	08:00:00			31-Jan-2008	-12	0	J
31-Jan-2009	20:00:00	1.73	1.73	31-Jan-2008	-12	0	
01-Feb-2009	08:00:00			01-Feb-2008	-12	0	F
01-Feb-2009	20:00:00			01-Feb-2008	-12	0	
02-Feb-2009	08:00:00			02-Feb-2008	-12	0	F
02-Feb-2009	20:00:00			02-Feb-2008	-12	0	
03-Feb-2009	08:00:00			03-Feb-2008	-12	0	F
03-Feb-2009	20:00:00			03-Feb-2008	-12	0	
04-Feb-2009	08:00:00			04-Feb-2008	-12	0	F
04-Feb-2009	20:00:00			04-Feb-2008	-12	0	
05-Feb-2009	08:00:00			05-Feb-2008	-12	0	F
05-Feb-2009	20:00:00			05-Feb-2008	-12	0	
06-Feb-2009	08:00:00			06-Feb-2008	-12	0	F
06-Feb-2009	20:00:00			06-Feb-2008	-12	0	
07-Feb-2009	08:00:00			07-Feb-2008	-12	0	F
07-Feb-2009	20:00:00			07-Feb-2008	-12	0	
08-Feb-2009	08:00:00			08-Feb-2008	-12	0	F
08-Feb-2009	20:00:00			08-Feb-2008	-12	0	
09-Feb-2009	08:00:00			09-Feb-2008	-12	0	F
09-Feb-2009	20:00:00			09-Feb-2008	-12	0	
10-Feb-2009	08:00:00			10-Feb-2008	-12	0	F
10-Feb-2009	20:00:00			10-Feb-2008	-12	0	
11-Feb-2009	08:00:00			11-Feb-2008	-12	0	F
11-Feb-2009	20:00:00			11-Feb-2008	-12	0	
12-Feb-2009	08:00:00			12-Feb-2008	-12	0	F
12-Feb-2009	20:00:00			12-Feb-2008	-12	0	
13-Feb-2009	08:00:00			13-Feb-2008	-12	0	F
13-Feb-2009	20:00:00			13-Feb-2008	-12	0	
14-Feb-2009	08:00:00			14-Feb-2008	-12	0	F
14-Feb-2009	20:00:00			14-Feb-2008	-12	0	
15-Feb-2009	08:00:00			15-Feb-2008	-12	0	F
15-Feb-2009	20:00:00			15-Feb-2008	-12	0	
16-Feb-2009	08:00:00			16-Feb-2008	-12	0	F
16-Feb-2009	20:00:00			16-Feb-2008	-12	0	
17-Feb-2009	08:00:00			17-Feb-2008	-12	0	F
17-Feb-2009	20:00:00			17-Feb-2008	-12	0	
18-Feb-2009	08:00:00			18-Feb-2008	-12	0	F
18-Feb-2009	20:00:00			18-Feb-2008	-12	0	
19-Feb-2009	08:00:00			19-Feb-2008	-12	0	F
19-Feb-2009	20:00:00			19-Feb-2008	-12	0	
20-Feb-2009	08:00:00			20-Feb-08	-12	0	F
20-Feb-2009	20:00:00			20-Feb-08	-12	0	
21-Feb-2009	08:00:00			21-Feb-08	-12	0	F
21-Feb-2009	20:00:00			21-Feb-08	-12	0	
22-Feb-2009	08:00:00			22-Feb-08	-12	0	F
22-Feb-2009	20:00:00			22-Feb-08	-12	0	
23-Feb-2009	08:00:00			23-Feb-08	-12	0	F
23-Feb-2009	20:00:00			23-Feb-08	-12	0	
24-Feb-2009	08:00:00			24-Feb-08	-12	0	F
24-Feb-2009	20:00:00			24-Feb-08	-12	0	
25-Feb-2009	08:00:00			25-Feb-08	-12	0	F
25-Feb-2009	20:00:00			25-Feb-08	-12	0	
26-Feb-2009	08:00:00			26-Feb-08	-12	0	F
26-Feb-2009	20:00:00			26-Feb-08	-12	0	

Date	Time	Monthly Rainfall Deficit (from mean)	Accumulated Rainfall Deficit			Date	Jurisdictional Water Table	Ground Elevation	Growing Season			
dd-mm-yyyy	hh:mm:ss											
27-Feb-2009	08:00:00					27-Feb-08	-12	0				F
27-Feb-2009	20:00:00					27-Feb-08	-12	0				
28-Feb-2009	08:00:00					28-Feb-08	-12	0				F
28-Feb-2009	20:00:00	2.28	4.01			28-Feb-08	-12	0				
01-Mar-2009	08:00:00					1-Mar-08	-12	0				M
01-Mar-2009	20:00:00					1-Mar-08	-12	0				
02-Mar-2009	08:00:00					2-Mar-08	-12	0				M
02-Mar-2009	20:00:00					2-Mar-08	-12	0				
03-Mar-2009	08:00:00					3-Mar-08	-12	0				M
03-Mar-2009	20:00:00					3-Mar-08	-12	0				
04-Mar-2009	08:00:00					4-Mar-08	-12	0				M
04-Mar-2009	20:00:00					4-Mar-08	-12	0				
05-Mar-2009	08:00:00					5-Mar-08	-12	0				M
05-Mar-2009	20:00:00					5-Mar-08	-12	0				
06-Mar-2009	08:00:00					6-Mar-08	-12	0				M
06-Mar-2009	20:00:00					6-Mar-08	-12	0				
07-Mar-2009	08:00:00					7-Mar-08	-12	0				M
07-Mar-2009	20:00:00					7-Mar-08	-12	0				
08-Mar-2009	08:00:00					8-Mar-08	-12	0				M
08-Mar-2009	20:00:00					8-Mar-08	-12	0				
09-Mar-2009	08:00:00					9-Mar-08	-12	0				M
09-Mar-2009	20:00:00					9-Mar-08	-12	0				
10-Mar-2009	08:00:00					10-Mar-08	-12	0				M
10-Mar-2009	20:00:00					10-Mar-08	-12	0				
11-Mar-2009	08:00:00					11-Mar-08	-12	0				M
11-Mar-2009	20:00:00					11-Mar-08	-12	0				
12-Mar-2009	08:00:00					12-Mar-08	-12	0				M
12-Mar-2009	20:00:00					12-Mar-08	-12	0				
13-Mar-2009	08:00:00					13-Mar-08	-12	0				M
13-Mar-2009	20:00:00					13-Mar-08	-12	0				
14-Mar-2009	08:00:00					14-Mar-08	-12	0				M
14-Mar-2009	20:00:00					14-Mar-08	-12	0				
15-Mar-2009	08:00:00					15-Mar-08	-12	0				M
15-Mar-2009	20:00:00					15-Mar-08	-12	0				
16-Mar-2009	08:00:00					16-Mar-08	-12	0		20		M
16-Mar-2009	20:00:00					16-Mar-08	-12	0				
17-Mar-2009	08:00:00					17-Mar-08	-12	0				M
17-Mar-2009	20:00:00					17-Mar-08	-12	0				
18-Mar-2009	08:00:00					18-Mar-08	-12	0		20		M
18-Mar-2009	20:00:00					18-Mar-08	-12	0				
19-Mar-2009	08:00:00					19-Mar-08	-12	0				M
19-Mar-2009	20:00:00					19-Mar-08	-12	0				
20-Mar-2009	08:00:00					20-Mar-08	-12	0				M
20-Mar-2009	20:00:00					20-Mar-08	-12	0				
21-Mar-2009	08:00:00					21-Mar-08	-12	0				M
21-Mar-2009	20:00:00					21-Mar-08	-12	0				
22-Mar-2009	08:00:00					22-Mar-08	-12	0				M
22-Mar-2009	20:00:00					22-Mar-08	-12	0				
23-Mar-2009	08:00:00					23-Mar-08	-12	0				M
23-Mar-2009	20:00:00					23-Mar-08	-12	0				
24-Mar-2009	08:00:00					24-Mar-08	-12	0				M
24-Mar-2009	20:00:00					24-Mar-08	-12	0				
25-Mar-2009	08:00:00					25-Mar-08	-12	0				M
25-Mar-2009	20:00:00					25-Mar-08	-12	0				
26-Mar-2009	08:00:00					26-Mar-08	-12	0				M
26-Mar-2009	20:00:00					26-Mar-08	-12	0				
27-Mar-2009	08:00:00					27-Mar-08	-12	0				M
27-Mar-2009	20:00:00					27-Mar-08	-12	0				
28-Mar-2009	08:00:00					28-Mar-08	-12	0				M
28-Mar-2009	20:00:00					28-Mar-08	-12	0				
29-Mar-2009	08:00:00					29-Mar-08	-12	0				M
29-Mar-2009	20:00:00					29-Mar-08	-12	0				
30-Mar-2009	08:00:00					30-Mar-08	-12	0				M
30-Mar-2009	20:00:00					30-Mar-08	-12	0				
31-Mar-2009	08:00:00					31-Mar-08	-12	0				M
31-Mar-2009	20:00:00	-1.31	2.70			31-Mar-08	-12	0				
01-Apr-2009	08:00:00					1-Apr-08	-12	0				A
01-Apr-2009	20:00:00					1-Apr-08	-12	0				
02-Apr-2009	08:00:00					2-Apr-08	-12	0				A
02-Apr-2009	20:00:00					2-Apr-08	-12	0				
03-Apr-2009	08:00:00					3-Apr-08	-12	0				A
03-Apr-2009	20:00:00					3-Apr-08	-12	0				
04-Apr-2009	08:00:00					4-Apr-08	-12	0				A
04-Apr-2009	20:00:00					4-Apr-08	-12	0				
05-Apr-2009	08:00:00					5-Apr-08	-12	0				A
05-Apr-2009	20:00:00					5-Apr-08	-12	0				
06-Apr-2009	08:00:00					6-Apr-08	-12	0				A
06-Apr-2009	20:00:00					6-Apr-08	-12	0				
07-Apr-2009	08:00:00					7-Apr-08	-12	0				A
07-Apr-2009	20:00:00					7-Apr-08	-12	0				
08-Apr-2009	08:00:00					8-Apr-08	-12	0				A
08-Apr-2009	20:00:00					8-Apr-08	-12	0				
09-Apr-2009	08:00:00					9-Apr-08	-12	0				A
09-Apr-2009	20:00:00					9-Apr-08	-12	0				
10-Apr-2009	08:00:00					10-Apr-08	-12	0				A
10-Apr-2009	20:00:00					10-Apr-08	-12	0				
11-Apr-2009	08:00:00					11-Apr-08	-12	0				A
11-Apr-2009	20:00:00					11-Apr-08	-12	0				
12-Apr-2009	08:00:00					12-Apr-08	-12	0				A
12-Apr-2009	20:00:00					12-Apr-08	-12	0				
13-Apr-2009	08:00:00					13-Apr-08	-12	0				A
13-Apr-2009	20:00:00					13-Apr-08	-12	0				
14-Apr-2009	08:00:00					14-Apr-08	-12	0				A
14-Apr-2009	20:00:00					14-Apr-08	-12	0				
15-Apr-2009	08:00:00					15-Apr-08	-12	0				A
15-Apr-2009	20:00:00					15-Apr-08	-12	0				
16-Apr-2009	08:00:00					16-Apr-08	-12	0				A
16-Apr-2009	20:00:00					16-Apr-08	-12	0				
17-Apr-2009	08:00:00					17-Apr-08	-12	0				A
17-Apr-2009	20:00:00					17-Apr-08	-12	0				
18-Apr-2009	08:00:00					18-Apr-08	-12	0				A
18-Apr-2009	20:00:00					18-Apr-08	-12	0				
19-Apr-2009	08:00:00					19-Apr-08	-12	0				A
19-Apr-2009	20:00:00					19-Apr-08	-12	0				
20-Apr-2009	08:00:00					20-Apr-08	-12	0				A
20-Apr-2009	20:00:00					20-Apr-08	-12	0				
21-Apr-2009	08:00:00					21-Apr-08	-12	0				A
21-Apr-2009	20:00:00					21-Apr-08	-12	0				
22-Apr-2009	08:00:00					22-Apr-08	-12	0				A
22-Apr-2009	20:00:00					22-Apr-08	-12	0				
23-Apr-2009	08:00:00					23-Apr-08	-12	0				A
23-Apr-2009	20:00:00					23-Apr-08	-12	0				
24-Apr-2009	08:00:00					24-Apr-08	-12	0				A
24-Apr-2009	20:00:00					24-Apr-08	-12	0				
25-Apr-2009	08:00:00					25-Apr-08	-12	0				A

Date	Time	Monthly Rainfall Deficit (from mean)	Accumulated Rainfall Deficit			Date	Jurisdictional Water Table	Ground Elevation	Growing Season		
dd-mmm-yyyy	hh:mm:ss										
25-Apr-2009	20:00:00					25-Apr-08	-12	0			
26-Apr-2009	08:00:00					26-Apr-08	-12	0			A
26-Apr-2009	20:00:00					26-Apr-08	-12	0			
27-Apr-2009	08:00:00					27-Apr-08	-12	0			A
27-Apr-2009	20:00:00					27-Apr-08	-12	0			
28-Apr-2009	08:00:00					28-Apr-08	-12	0			A
28-Apr-2009	20:00:00					28-Apr-08	-12	0			
29-Apr-2009	08:00:00					29-Apr-08	-12	0			A
29-Apr-2009	20:00:00					29-Apr-08	-12	0			
30-Apr-2009	08:00:00					30-Apr-08	-12	0			A
30-Apr-2009	20:00:00	1.52	4.22			30-Apr-08	-12	0			
01-May-2009	08:00:00					1-May-08	-12	0			M
01-May-2009	20:00:00					1-May-08	-12	0			
02-May-2009	08:00:00					2-May-08	-12	0			M
02-May-2009	20:00:00					2-May-08	-12	0			
03-May-2009	08:00:00					3-May-08	-12	0			M
03-May-2009	20:00:00					3-May-08	-12	0			
04-May-2009	08:00:00					4-May-08	-12	0			M
04-May-2009	20:00:00					4-May-08	-12	0			
05-May-2009	08:00:00					5-May-08	-12	0			M
05-May-2009	20:00:00					5-May-08	-12	0			
06-May-2009	08:00:00					6-May-08	-12	0			M
06-May-2009	20:00:00					6-May-08	-12	0			
07-May-2009	08:00:00					7-May-08	-12	0			M
07-May-2009	20:00:00					7-May-08	-12	0			
08-May-2009	08:00:00					8-May-08	-12	0			M
08-May-2009	20:00:00					8-May-08	-12	0			
09-May-2009	08:00:00					9-May-08	-12	0			M
09-May-2009	20:00:00					9-May-08	-12	0			
10-May-2009	08:00:00					10-May-08	-12	0			M
10-May-2009	20:00:00					10-May-08	-12	0			
11-May-2009	08:00:00					11-May-08	-12	0			M
11-May-2009	20:00:00					11-May-08	-12	0			
12-May-2009	08:00:00					12-May-08	-12	0			M
12-May-2009	20:00:00					12-May-08	-12	0			
13-May-2009	08:00:00					13-May-08	-12	0			M
13-May-2009	20:00:00					13-May-08	-12	0			
14-May-2009	08:00:00					14-May-08	-12	0			M
14-May-2009	20:00:00					14-May-08	-12	0			
15-May-2009	08:00:00					15-May-08	-12	0			M
15-May-2009	20:00:00					15-May-08	-12	0			
16-May-2009	08:00:00					16-May-08	-12	0			M
16-May-2009	20:00:00					16-May-08	-12	0			
17-May-2009	08:00:00					17-May-08	-12	0			M
17-May-2009	20:00:00					17-May-08	-12	0			
18-May-2009	08:00:00					18-May-08	-12	0			M
18-May-2009	20:00:00					18-May-08	-12	0			
19-May-2009	08:00:00					19-May-08	-12	0			M
19-May-2009	20:00:00					19-May-08	-12	0			
20-May-2009	08:00:00					20-May-08	-12	0			M
20-May-2009	20:00:00					20-May-08	-12	0			
21-May-2009	08:00:00					21-May-08	-12	0			M
21-May-2009	20:00:00					21-May-08	-12	0			
22-May-2009	08:00:00					22-May-08	-12	0			M
22-May-2009	20:00:00					22-May-08	-12	0			
23-May-2009	08:00:00					23-May-08	-12	0			M
23-May-2009	20:00:00					23-May-08	-12	0			
24-May-2009	08:00:00					24-May-08	-12	0			M
24-May-2009	20:00:00					24-May-08	-12	0			
25-May-2009	08:00:00					25-May-08	-12	0			M
25-May-2009	20:00:00					25-May-08	-12	0			
26-May-2009	08:00:00					26-May-08	-12	0			M
26-May-2009	20:00:00					26-May-08	-12	0			
27-May-2009	08:00:00					27-May-08	-12	0			M
27-May-2009	20:00:00					27-May-08	-12	0			
28-May-2009	08:00:00					28-May-08	-12	0			M
28-May-2009	20:00:00					28-May-08	-12	0			
29-May-2009	08:00:00					29-May-08	-12	0			M
29-May-2009	20:00:00					29-May-08	-12	0			
30-May-2009	08:00:00					30-May-08	-12	0			M
30-May-2009	20:00:00					30-May-08	-12	0			
31-May-2009	08:00:00					31-May-08	-12	0			M
31-May-2009	20:00:00	0.06	4.28			31-May-08	-12	0			
01-Jun-2009	08:00:00					1-Jun-08	-12	0			J
01-Jun-2009	20:00:00					1-Jun-08	-12	0			
02-Jun-2009	08:00:00					2-Jun-08	-12	0			J
02-Jun-2009	20:00:00					2-Jun-08	-12	0			
03-Jun-2009	08:00:00					3-Jun-08	-12	0			J
03-Jun-2009	20:00:00					3-Jun-08	-12	0			
04-Jun-2009	08:00:00					4-Jun-08	-12	0			J
04-Jun-2009	20:00:00					4-Jun-08	-12	0			
05-Jun-2009	08:00:00					5-Jun-08	-12	0			J
05-Jun-2009	20:00:00					5-Jun-08	-12	0			
06-Jun-2009	08:00:00					6-Jun-08	-12	0			J
06-Jun-2009	20:00:00					6-Jun-08	-12	0			
07-Jun-2009	08:00:00					7-Jun-08	-12	0			J
07-Jun-2009	20:00:00					7-Jun-08	-12	0			
08-Jun-2009	08:00:00					8-Jun-08	-12	0			J
08-Jun-2009	20:00:00					8-Jun-08	-12	0			
09-Jun-2009	08:00:00					9-Jun-08	-12	0			J
09-Jun-2009	20:00:00					9-Jun-08	-12	0			
10-Jun-2009	08:00:00					10-Jun-08	-12	0			J
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11-Jun-2009	08:00:00					11-Jun-08	-12	0			J
11-Jun-2009	20:00:00					11-Jun-08	-12	0			
12-Jun-2009	08:00:00					12-Jun-08	-12	0			J
12-Jun-2009	20:00:00					12-Jun-08	-12	0			
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13-Jun-2009	20:00:00					13-Jun-08	-12	0			
14-Jun-2009	08:00:00					14-Jun-08	-12	0			J
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15-Jun-2009	20:00:00					15-Jun-08	-12	0			
16-Jun-2009	08:00:00					16-Jun-08	-12	0			J
16-Jun-2009	20:00:00					16-Jun-08	-12	0			
17-Jun-2009	08:00:00					17-Jun-08	-12	0			J
17-Jun-2009	20:00:00					17-Jun-08	-12	0			
18-Jun-2009	08:00:00					18-Jun-08	-12	0			J
18-Jun-2009	20:00:00					18-Jun-08	-12	0			
19-Jun-2009	08:00:00					19-Jun-08	-12	0			J
19-Jun-2009	20:00:00					19-Jun-08	-12	0			
20-Jun-2009	08:00:00					20-Jun-08	-12	0			J
20-Jun-2009	20:00:00					20-Jun-08	-12	0			
21-Jun-2009	08:00:00					21-Jun-08	-12	0			J
21-Jun-2009	20:00:00					21-Jun-08	-12	0			

Date	Time	Monthly Rainfall Deficit (from mean)	Accumulated Rainfall Deficit			Date	Jurisdictional Water Table	Ground Elevation	Growing Season			
dd-mmm-yyyy	hh:mm:ss											
22-Jun-2009	08:00:00					22-Jun-08	-12	0				J
22-Jun-2009	20:00:00					22-Jun-08	-12	0				
23-Jun-2009	08:00:00					23-Jun-08	-12	0				J
23-Jun-2009	20:00:00					23-Jun-08	-12	0				
24-Jun-2009	08:00:00					24-Jun-08	-12	0				J
24-Jun-08	20:00:00					24-Jun-08	-12	0				
25-Jun-08	08:00:00					25-Jun-08	-12	0				J
25-Jun-08	20:00:00					25-Jun-08	-12	0				
26-Jun-08	08:00:00					26-Jun-08	-12	0				J
26-Jun-08	20:00:00					26-Jun-08	-12	0				
27-Jun-08	08:00:00					27-Jun-08	-12	0				J
27-Jun-08	20:00:00					27-Jun-08	-12	0				
28-Jun-08	08:00:00					28-Jun-08	-12	0				J
28-Jun-08	20:00:00					28-Jun-08	-12	0				
29-Jun-08	08:00:00					29-Jun-08	-12	0				J
29-Jun-08	20:00:00					29-Jun-08	-12	0				
30-Jun-08	08:00:00					30-Jun-08	-12	0				J
30-Jun-08	20:00:00	-0.29	3.99			30-Jun-08	-12	0				
1-Jul-08	08:00:00					1-Jul-08	-12	0				J
1-Jul-08	20:00:00					1-Jul-08	-12	0				
2-Jul-08	08:00:00					2-Jul-08	-12	0				J
2-Jul-08	20:00:00					2-Jul-08	-12	0				
3-Jul-08	08:00:00					3-Jul-08	-12	0				J
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4-Jul-08	08:00:00					4-Jul-08	-12	0				J
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17-Jul-08	08:00:00					17-Jul-08	-12	0				J
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21-Jul-08	08:00:00					21-Jul-08	-12	0				J
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22-Jul-08	08:00:00					22-Jul-08	-12	0				J
22-Jul-08	20:00:00					22-Jul-08	-12	0				
23-Jul-08	08:00:00					23-Jul-08	-12	0				J
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24-Jul-08	08:00:00					24-Jul-08	-12	0				J
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25-Jul-08	08:00:00					25-Jul-08	-12	0				J
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27-Jul-08	08:00:00					27-Jul-08	-12	0				J
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28-Jul-08	08:00:00					28-Jul-08	-12	0				J
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29-Jul-08	08:00:00					29-Jul-08	-12	0				J
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30-Jul-08	08:00:00					30-Jul-08	-12	0				J
30-Jul-08	20:00:00					30-Jul-08	-12	0				
31-Jul-08	08:00:00					31-Jul-08	-12	0				J
31-Jul-08	20:00:00	1.97	5.96			31-Jul-08	-12	0				
1-Aug-08	08:00:00					1-Aug-08	-12	0				A
1-Aug-08	20:00:00					1-Aug-08	-12	0				
2-Aug-08	08:00:00					2-Aug-08	-12	0				A
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3-Aug-08	08:00:00					3-Aug-08	-12	0				A
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7-Aug-08	08:00:00					7-Aug-08	-12	0				A
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9-Aug-08	08:00:00					9-Aug-08	-12	0				A
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14-Aug-08	20:00:00					14-Aug-08	-12	0				
15-Aug-08	08:00:00					15-Aug-08	-12	0				A
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16-Aug-08	08:00:00					16-Aug-08	-12	0				A
16-Aug-08	20:00:00					16-Aug-08	-12	0				
17-Aug-08	08:00:00					17-Aug-08	-12	0				A
17-Aug-08	20:00:00					17-Aug-08	-12	0				
18-Aug-08	08:00:00					18-Aug-08	-12	0				A



Date dd-mmm-yyyy	Time hh:mm:ss	Monthly Rainfall Deficit (from mean)	Accumulated Rainfall Deficit			Date	Jurisdictional Water Table	Ground Elevation	Growing Season			
18-Aug-08	20:00:00					18-Aug-08	-12	0				
19-Aug-08	08:00:00					19-Aug-08	-12	0				A
19-Aug-08	20:00:00					19-Aug-08	-12	0				
20-Aug-08	08:00:00					20-Aug-08	-12	0				A
20-Aug-08	20:00:00					20-Aug-08	-12	0				
21-Aug-08	08:00:00					21-Aug-08	-12	0				A
21-Aug-08	20:00:00					21-Aug-08	-12	0				
22-Aug-08	08:00:00					22-Aug-08	-12	0				A
22-Aug-08	20:00:00					22-Aug-08	-12	0				
23-Aug-08	08:00:00					23-Aug-08	-12	0				A
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24-Aug-08	08:00:00					24-Aug-08	-12	0				A
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25-Aug-08	08:00:00					25-Aug-08	-12	0				A
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26-Aug-08	08:00:00					26-Aug-08	-12	0				A
26-Aug-08	20:00:00					26-Aug-08	-12	0				
27-Aug-08	08:00:00					27-Aug-08	-12	0				A
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28-Aug-08	08:00:00					28-Aug-08	-12	0				A
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29-Aug-08	08:00:00					29-Aug-08	-12	0				A
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30-Aug-08	08:00:00					30-Aug-08	-12	0				A
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31-Aug-08	08:00:00					31-Aug-08	-12	0				A
31-Aug-08	20:00:00	0.31	6.27			31-Aug-08	-12	0				
1-Sep-08	08:00:00					1-Sep-08	-12	0				S
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25-Sep-08	08:00:00					25-Sep-08	-12	0				S
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26-Sep-08	08:00:00					26-Sep-08	-12	0				S
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30-Sep-08	20:00:00	0.96	7.23			30-Sep-08	-12	0				
1-Oct-08	08:00:00					1-Oct-08	-12	0				O
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2-Oct-08	08:00:00					2-Oct-08	-12	0				O
2-Oct-08	20:00:00					2-Oct-08	-12	0				
3-Oct-08	08:00:00					3-Oct-08	-12	0				O
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8-Oct-08	08:00:00					8-Oct-08	-12	0				O
8-Oct-08	20:00:00					8-Oct-08	-12	0				
9-Oct-08	08:00:00					9-Oct-08	-12	0				O
9-Oct-08	20:00:00					9-Oct-08	-12	0				
10-Oct-08	08:00:00					10-Oct-08	-12	0				O
10-Oct-08	20:00:00					10-Oct-08	-12	0				
11-Oct-08	08:00:00					11-Oct-08	-12	0				O
11-Oct-08	20:00:00					11-Oct-08	-12	0				
12-Oct-08	08:00:00					12-Oct-08	-12	0				O
12-Oct-08	20:00:00					12-Oct-08	-12	0				
13-Oct-08	08:00:00					13-Oct-08	-12	0				O
13-Oct-08	20:00:00					13-Oct-08	-12	0				
14-Oct-08	08:00:00					14-Oct-08	-12	0				O
14-Oct-08	20:00:00					14-Oct-08	-12	0				

Date dd-mm-yyyy	Time hh:mm:ss	Monthly Rainfall Deficit (from mean)	Accumulated Rainfall Deficit			Date	Jurisdictional Water Table	Ground Elevation	Growing Season			
15-Oct-08	08:00:00					15-Oct-08	-12	0				O
15-Oct-08	20:00:00					15-Oct-08	-12	0				
16-Oct-08	08:00:00					16-Oct-08	-12	0				O
16-Oct-08	20:00:00					16-Oct-08	-12	0				
17-Oct-08	08:00:00					17-Oct-08	-12	0				O
17-Oct-08	20:00:00					17-Oct-08	-12	0				
18-Oct-08	08:00:00					18-Oct-08	-12	0				O
18-Oct-08	20:00:00					18-Oct-08	-12	0				
19-Oct-08	08:00:00					19-Oct-08	-12	0				O
19-Oct-08	20:00:00					19-Oct-08	-12	0				
20-Oct-08	08:00:00					20-Oct-08	-12	0				O
20-Oct-08	20:00:00					20-Oct-08	-12	0				
21-Oct-08	08:00:00					21-Oct-08	-12	0				O
21-Oct-08	20:00:00					21-Oct-08	-12	0				
22-Oct-08	08:00:00					22-Oct-08	-12	0				O
22-Oct-08	20:00:00					22-Oct-08	-12	0				
23-Oct-08	08:00:00					23-Oct-08	-12	0				O
23-Oct-08	20:00:00					23-Oct-08	-12	0				
24-Oct-08	08:00:00					24-Oct-08	-12	0				O
24-Oct-08	20:00:00					24-Oct-08	-12	0				
25-Oct-08	08:00:00					25-Oct-08	-12	0				O
25-Oct-08	20:00:00					25-Oct-08	-12	0				
26-Oct-08	08:00:00					26-Oct-08	-12	0				O
26-Oct-08	20:00:00					26-Oct-08	-12	0				
27-Oct-08	08:00:00					27-Oct-08	-12	0				O
27-Oct-08	20:00:00					27-Oct-08	-12	0				
28-Oct-08	08:00:00					28-Oct-08	-12	0				O
28-Oct-08	20:00:00					28-Oct-08	-12	0				
29-Oct-08	08:00:00					29-Oct-08	-12	0				O
29-Oct-08	20:00:00					29-Oct-08	-12	0				
30-Oct-08	08:00:00					30-Oct-08	-12	0				O
30-Oct-08	20:00:00					30-Oct-08	-12	0				
31-Oct-08	08:00:00					31-Oct-08	-12	0				O
31-Oct-08	20:00:00	1.34	8.57			31-Oct-08	-12	0				
1-Nov-08	08:00:00					1-Nov-08	-12	0				N
1-Nov-08	20:00:00					1-Nov-08	-12	0				
2-Nov-08	08:00:00					2-Nov-08	-12	0				N
2-Nov-08	20:00:00					2-Nov-08	-12	0				
3-Nov-08	08:00:00					3-Nov-08	-12	0				N
3-Nov-08	20:00:00					3-Nov-08	-12	0				
4-Nov-08	08:00:00					4-Nov-08	-12	0				N
4-Nov-08	20:00:00					4-Nov-08	-12	0	20			
5-Nov-08	08:00:00					5-Nov-08	-12	0				N
5-Nov-08	20:00:00					5-Nov-08	-12	0				
6-Nov-08	08:00:00					6-Nov-08	-12	0	20			N
6-Nov-08	20:00:00					6-Nov-08	-12	0				
7-Nov-08	08:00:00					7-Nov-08	-12	0				N
7-Nov-08	20:00:00					7-Nov-08	-12	0				
8-Nov-08	08:00:00					8-Nov-08	-12	0				N
8-Nov-08	20:00:00					8-Nov-08	-12	0				
9-Nov-08	08:00:00					9-Nov-08	-12	0				N
9-Nov-08	20:00:00					9-Nov-08	-12	0				
10-Nov-08	08:00:00					10-Nov-08	-12	0				N
10-Nov-08	20:00:00					10-Nov-08	-12	0				
11-Nov-08	08:00:00					11-Nov-08	-12	0				N
11-Nov-08	20:00:00					11-Nov-08	-12	0				
12-Nov-08	08:00:00					12-Nov-08	-12	0				N
12-Nov-08	20:00:00					12-Nov-08	-12	0				
13-Nov-08	08:00:00					13-Nov-08	-12	0				N
13-Nov-08	20:00:00					13-Nov-08	-12	0				
14-Nov-08	08:00:00					14-Nov-08	-12	0				N
14-Nov-08	20:00:00					14-Nov-08	-12	0				
15-Nov-08	08:00:00					15-Nov-08	-12	0				N
15-Nov-08	20:00:00					15-Nov-08	-12	0				
16-Nov-08	08:00:00					16-Nov-08	-12	0				N
16-Nov-08	20:00:00					16-Nov-08	-12	0				
17-Nov-08	08:00:00					17-Nov-08	-12	0				N
17-Nov-08	20:00:00					17-Nov-08	-12	0				
18-Nov-08	08:00:00					18-Nov-08	-12	0				N
18-Nov-08	20:00:00					18-Nov-08	-12	0				
19-Nov-08	08:00:00					19-Nov-08	-12	0				N
19-Nov-08	20:00:00					19-Nov-08	-12	0				
20-Nov-08	08:00:00					20-Nov-08	-12	0				N
20-Nov-08	20:00:00					20-Nov-08	-12	0				
21-Nov-08	08:00:00					21-Nov-08	-12	0				N
21-Nov-08	20:00:00					21-Nov-08	-12	0				
22-Nov-08	08:00:00					22-Nov-08	-12	0				N
22-Nov-08	20:00:00					22-Nov-08	-12	0				
23-Nov-08	08:00:00					23-Nov-08	-12	0				N
23-Nov-08	20:00:00					23-Nov-08	-12	0				
24-Nov-08	08:00:00					24-Nov-08	-12	0				N
24-Nov-08	20:00:00					24-Nov-08	-12	0				
25-Nov-08	08:00:00					25-Nov-08	-12	0				N
25-Nov-08	20:00:00					25-Nov-08	-12	0				
26-Nov-08	08:00:00					26-Nov-08	-12	0				N
26-Nov-08	20:00:00					26-Nov-08	-12	0				
27-Nov-08	08:00:00					27-Nov-08	-12	0				N
27-Nov-08	20:00:00					27-Nov-08	-12	0				
28-Nov-08	08:00:00					28-Nov-08	-12	0				N
28-Nov-08	20:00:00					28-Nov-08	-12	0				
29-Nov-08	08:00:00					29-Nov-08	-12	0				N
29-Nov-08	20:00:00					29-Nov-08	-12	0				
30-Nov-08	08:00:00					30-Nov-08	-12	0				N
30-Nov-08	20:00:00	1.31	9.88			30-Nov-08	-12	0				
1-Dec-08	08:00:00					1-Dec-08	-12	0				D
1-Dec-08	20:00:00					1-Dec-08	-12	0				
2-Dec-08	08:00:00					2-Dec-08	-12	0				D
2-Dec-08	20:00:00					2-Dec-08	-12	0				
3-Dec-08	08:00:00					3-Dec-08	-12	0				D
3-Dec-08	20:00:00					3-Dec-08	-12	0				
4-Dec-08	08:00:00					4-Dec-08	-12	0				D
4-Dec-08	20:00:00					4-Dec-08	-12	0				
5-Dec-08	08:00:00					5-Dec-08	-12	0				D
5-Dec-08	20:00:00					5-Dec-08	-12	0				
6-Dec-08	08:00:00					6-Dec-08	-12	0				D
6-Dec-08	20:00:00					6-Dec-08	-12	0				
7-Dec-08	08:00:00					7-Dec-08	-12	0				D
7-Dec-08	20:00:00					7-Dec-08	-12	0				
8-Dec-08	08:00:00					8-Dec-08	-12	0				D
8-Dec-08	20:00:00					8-Dec-08	-12	0				
9-Dec-08	08:00:00					9-Dec-08	-12	0				D
9-Dec-08	20:00:00					9-Dec-08	-12	0				
10-Dec-08	08:00:00					10-Dec-08	-12	0				D
10-Dec-08	20:00:00					10-Dec-08	-12	0				
11-Dec-08	08:00:00					11-Dec-08	-12	0				D

Date dd-mm-yyyy	Time hh:mm:ss	Monthly Rainfall Deficit (from mean)	Accumulated Rainfall Deficit			Date	Jurisdictional Water Table	Ground Elevation	Growing Season			
11-Dec-08	20:00:00					11-Dec-08	-12	0				
12-Dec-08	08:00:00					12-Dec-08	-12	0				D
12-Dec-08	20:00:00					12-Dec-08	-12	0				
13-Dec-08	08:00:00					13-Dec-08	-12	0				D
13-Dec-08	20:00:00					13-Dec-08	-12	0				
14-Dec-08	08:00:00					14-Dec-08	-12	0				D
14-Dec-08	20:00:00					14-Dec-08	-12	0				
15-Dec-08	08:00:00					15-Dec-08	-12	0				D
15-Dec-08	20:00:00					15-Dec-08	-12	0				
16-Dec-08	08:00:00					16-Dec-08	-12	0				D
16-Dec-08	20:00:00					16-Dec-08	-12	0				
17-Dec-08	08:00:00					17-Dec-08	-12	0				D
17-Dec-08	20:00:00					17-Dec-08	-12	0				
18-Dec-08	08:00:00					18-Dec-08	-12	0				D
18-Dec-08	20:00:00					18-Dec-08	-12	0				
19-Dec-08	08:00:00					19-Dec-08	-12	0				D
19-Dec-08	20:00:00					19-Dec-08	-12	0				
20-Dec-08	08:00:00					20-Dec-08	-12	0				D
20-Dec-08	20:00:00					20-Dec-08	-12	0				
21-Dec-08	08:00:00					21-Dec-08	-12	0				D
21-Dec-08	20:00:00					21-Dec-08	-12	0				
22-Dec-08	08:00:00					22-Dec-08	-12	0				D
22-Dec-08	20:00:00					22-Dec-08	-12	0				
23-Dec-08	08:00:00					23-Dec-08	-12	0				D
23-Dec-08	20:00:00					23-Dec-08	-12	0				
24-Dec-08	08:00:00					24-Dec-08	-12	0				D
24-Dec-08	20:00:00					24-Dec-08	-12	0				
25-Dec-08	08:00:00					25-Dec-08	-12	0				D
25-Dec-08	20:00:00					25-Dec-08	-12	0				
26-Dec-08	08:00:00					26-Dec-08	-12	0				D
26-Dec-08	20:00:00					26-Dec-08	-12	0				
27-Dec-08	08:00:00					27-Dec-08	-12	0				D
27-Dec-08	20:00:00					27-Dec-08	-12	0				
28-Dec-08	08:00:00					28-Dec-08	-12	0				D
28-Dec-08	20:00:00					28-Dec-08	-12	0				
29-Dec-08	08:00:00					29-Dec-08	-12	0				D
29-Dec-08	20:00:00					29-Dec-08	-12	0				
30-Dec-08	08:00:00					30-Dec-08	-12	0				D
30-Dec-08	20:00:00					30-Dec-08	-12	0				
31-Dec-08	08:00:00					31-Dec-08	-12	0				D
31-Dec-08	20:00:00	3.15	13.03			31-Dec-08	-12	0				



# **APPENDIX D**

## **2009 Site Photos**





**Problem Area Photos**



**SPA 1 - Erosion behind root wads, Sta. 18+00.**



**SPA 2 - Erosion behind root wads, Sta. 20+00.**





**SPA 3 – Erosion behind root wads, Sta. 23+50.**



**SPA 4 – Mid channel bar formation, Sta. 45+50.**





**SPA 5 – Vegetation in channel, Sta. 50+50.**



**SPA 6 – Mid channel bar formation, Sta. 66+40.**





**SPA 7 – Erosion at log weir, Sta. 76+90.**



**SPA 8 – Mid channel bar formation, Sta. 81+60.**



**SPA 9 – Mid channel bar formation, Sta. 82+70.**



**Vegetation Monitoring Plot Photos**



**Cox Vegetation Monitoring Plot #1**



**Cox Vegetation Monitoring Plot #2**





**Cox Vegetation Monitoring Plot #3**



**Cox Vegetation Monitoring Plot #4**





**Cox Vegetation Monitoring Plot #5**



**Cox Vegetation Monitoring Plot #6**





**Cox Vegetation Monitoring Plot #7**



**Cox Vegetation Monitoring Plot #8**





**Cox Vegetation Monitoring Plot #9**



**Cox Vegetation Monitoring Plot #10**





**Cox Vegetation Monitoring Plot #11**



**Cox Vegetation Monitoring Plot #12**





**Cox Vegetation Monitoring Plot #13**



**Cox Vegetation Monitoring Plot #14**





**Cox Vegetation Monitoring Plot #15**



**Cox Vegetation Monitoring Plot #16**





**Cox Vegetation Monitoring Plot #17**



**Cox Vegetation Monitoring Plot #18**





**Cox Vegetation Monitoring Plot #19**

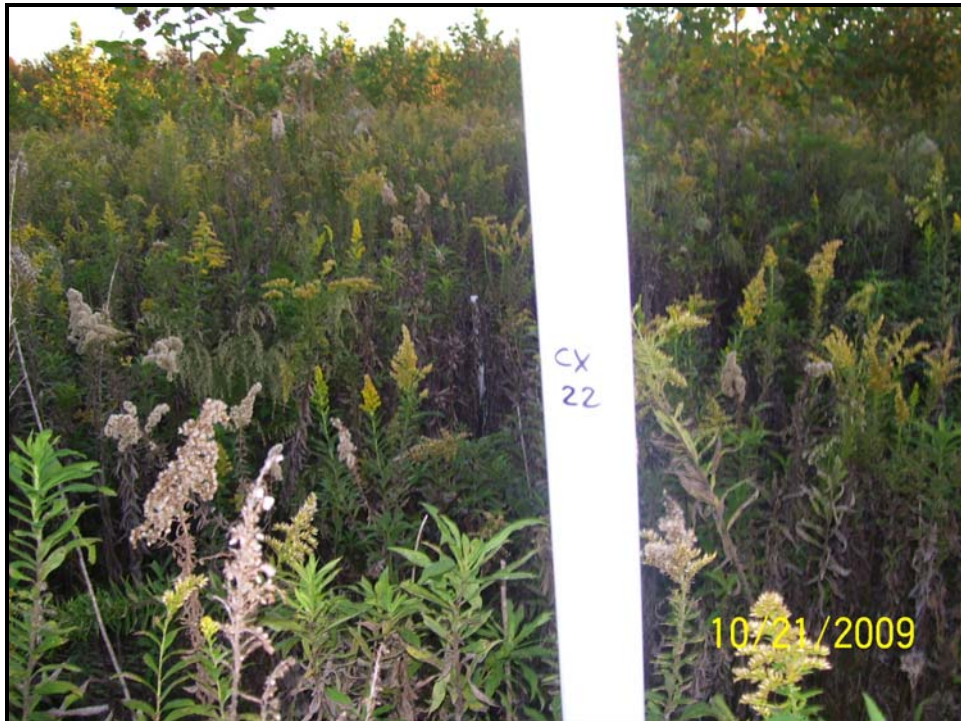


**Cox Vegetation Monitoring Plot #20**





**Cox Vegetation Monitoring Plot #21**



**Cox Vegetation Monitoring Plot #22**