City Of Fayetteville
Wastewater Systems Improvements Project
Compensatory Wetland Mitigation Monitoring
Report No. 1

404 PERMIT FILE NO. 14207

December 31, 2007

Environmental Consulting Operations
ECO, INC.
"Integrating ECOnomy and ECOlogy"

1.0 INTRODUCTION AND PROJECT OVERVIEW

On March 10, 2005, the City of Fayetteville received Section 404 Individual Permit No. 14207 from the U.S. Army Corps of Engineers, Little Rock District (Corps), for the City of Fayetteville Wastewater Systems Improvement Project (WSIP). As part of the terms and conditions included in the Corps Section 404 Permit, five annual reports on the status of the mitigation site must be submitted to the Corps. The first annual wetland monitoring report is due December 31st after the first growing year and each year thereafter for a total of five years.

The 26.62-acre mitigation site lies within a 43.65-acre parcel of real property, which is located immediately to the north of the construction site for the new Westside Wastewater Treatment Plant (WWTP). A site location map is shown in Figure 1. The wetland mitigation site has been divided into two parcels due to the presence of a high-pressure natural gas line that extends diagonally through the property. Consequently, the West Mitigation Site is comprised of 12.04 acres and the East Mitigation Site is comprised of 14.58 acres.

Modifications to the existing hydrology at the mitigation site have been achieved via the construction of low elevation perimeter earthen berms designed to provide a mechanism for water retention at the site. Spillways with stop logs or risers have been constructed within the terrace berms in order to provide the ability to both hold and release water, as needed. Construction of the earthen berms resulted in two cells (W-1 and W-2) within the West Mitigation Site, and five cells (E-1 through E-5) within the East Mitigation Site, as shown by Figures 2 and 3. Mitigation activities completed to date include:

- **May 2006 - Discontinuation of cattle grazing and haying operations that had taken place for decades,**
- **May 2006 - Commencement of construction of earthen berms for hydrological modification,**
- **July 2006 - Completion of construction of earthen berms for hydrological modification,**
- **March 2007 - Installation of water level control structures**

The mitigation site has been named “Woolsey Wet Prairie Sanctuary” in honor of Samuel Gilbert Woolsey, whose family settled the property in 1830.

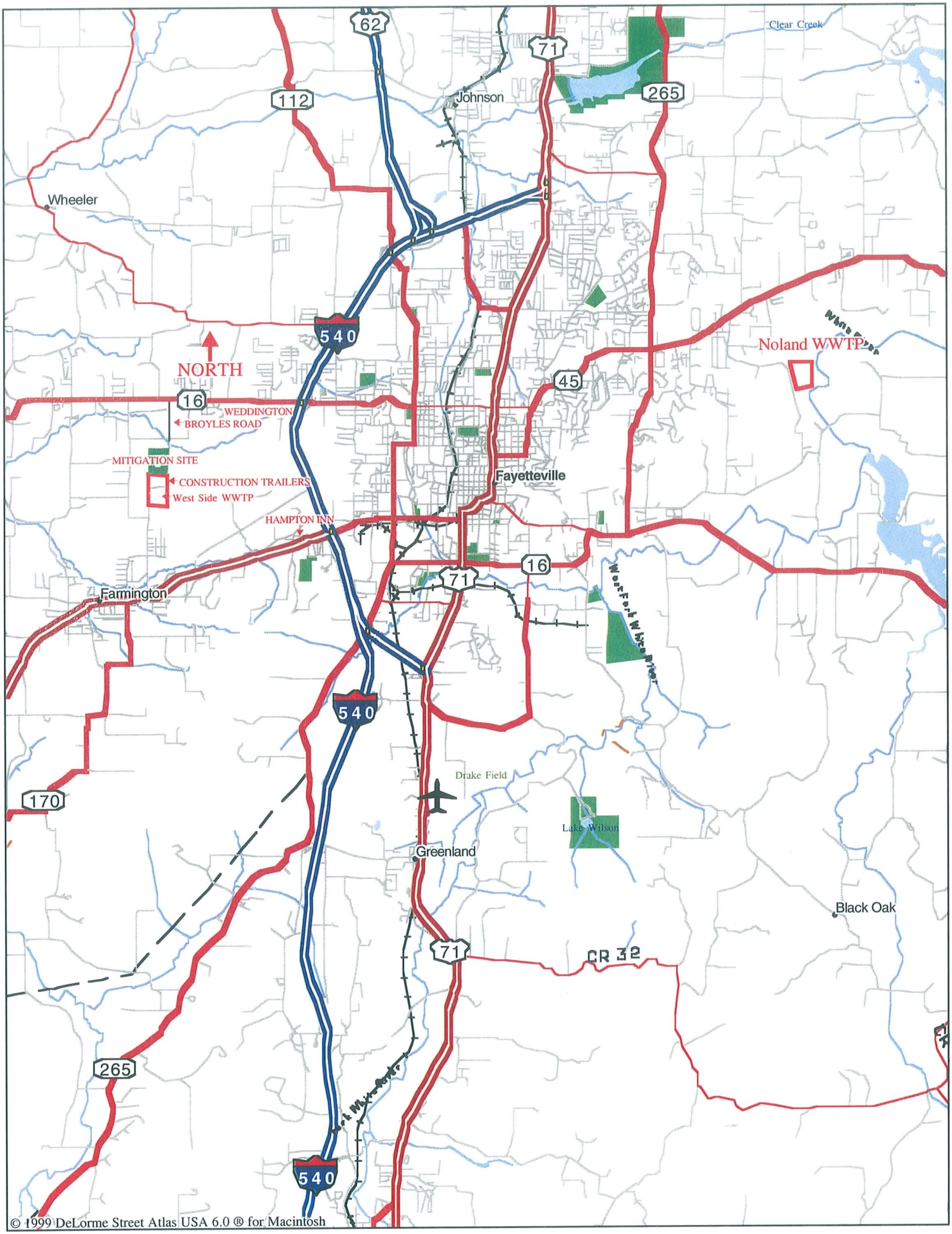

62
71
112
Johnson
Clear Creek
265
Wheeler
540
NORTH
16
WEDDINGTON
BROYLES ROAD
MITIGATION SITE
CONSTRUCTION TRAILERS
West Side WWTP
HAMPTON INN
Noland WWTP
45
Fayetteville
16
71
Farmington
West Fork White River
540
Drake Field
170
Lake Wilson
Greenland
Black Oak
71
CR 32
265
540
© 1999 DeLorme Street Atlas USA 6.0 ® for Macintosh

FIGURE 2 – EAST MITIGATION SITE

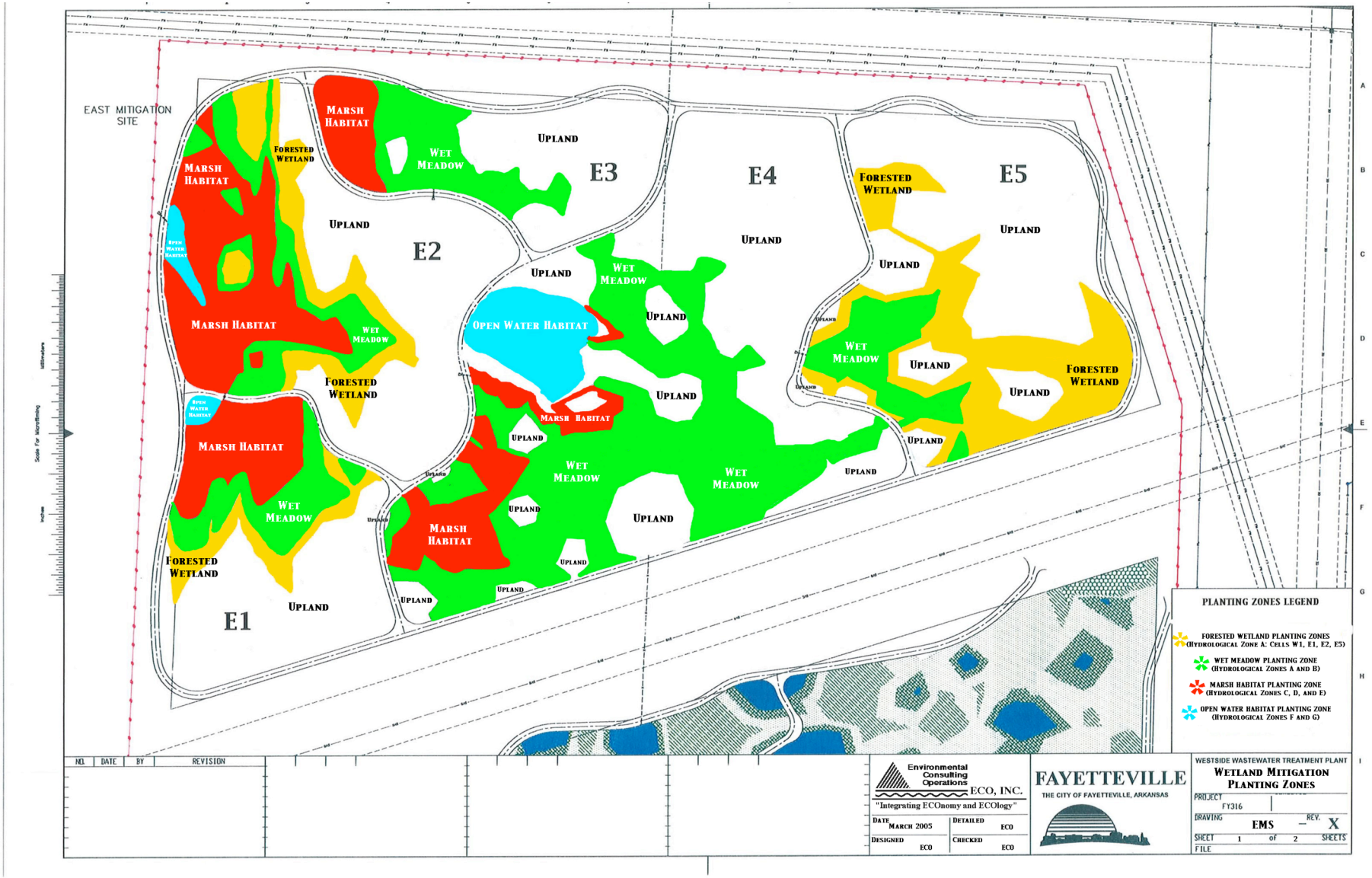
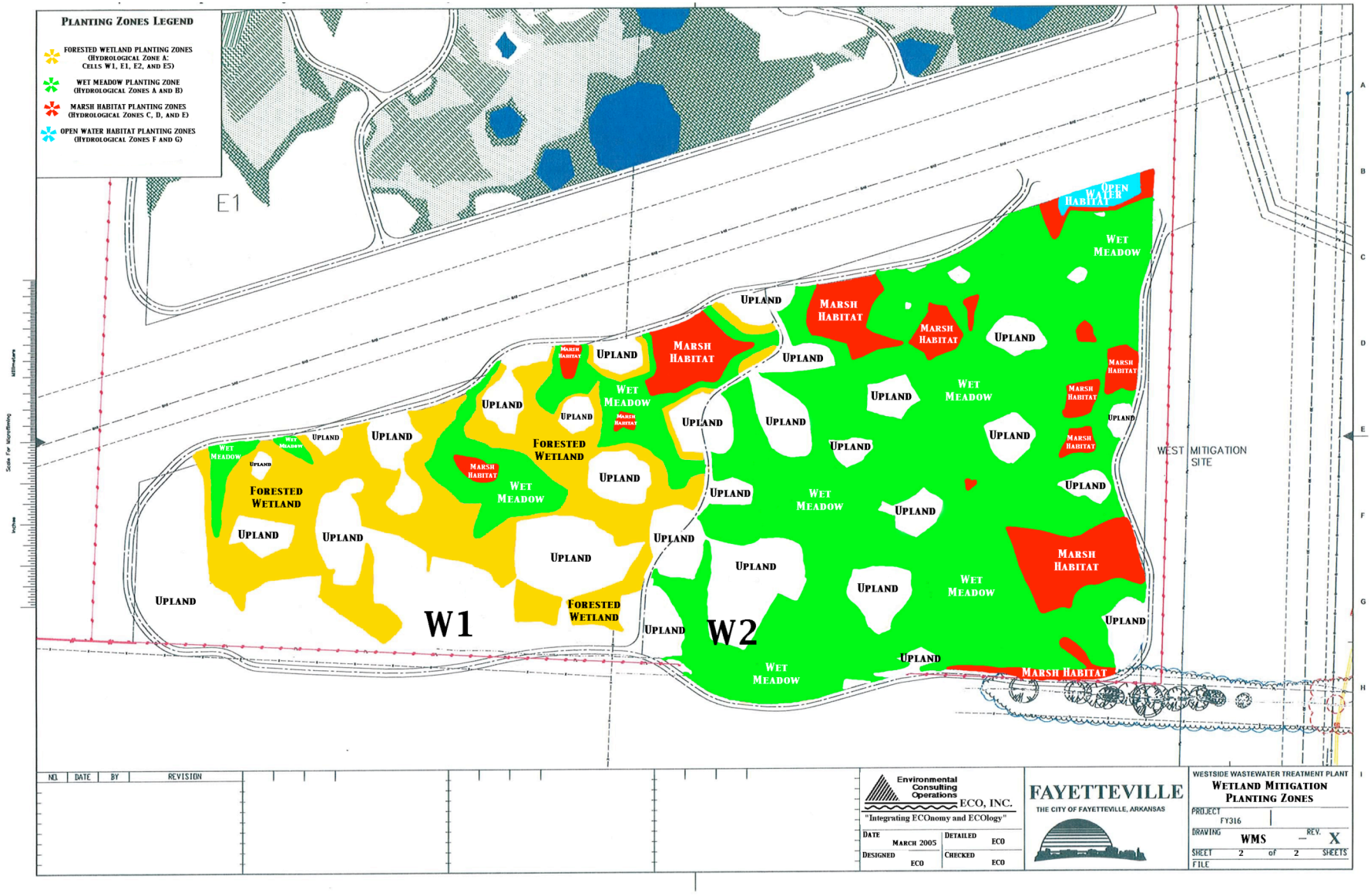


FIGURE 3 – WEST MITIGATION SITE



2.0 MITIGATION SITE MONITORING

As specified within the City's 404 permit, ***"monitoring reports shall include inventories of all plant species, along with their relative frequency and percent cover, and photographs showing all representative areas of the mitigation site".*** Since the issuance of the City's 404 permit, the Director of Civil Works, Headquarters, U.S. Army Corps of Engineers issued Regulatory Guidance Letter (RGL) No. 06-03 on August 3, 2006, to provide guidance for minimum monitoring requirements for compensatory mitigation projects. Specifically, the RGL expressed that monitoring reports must be concise and effectively provide the information needed to determine the status of compensatory mitigation efforts. It also outlined the use of the three parameters defined in the 1987 Corps Wetland Delineation Manual (soils, hydrology, vegetation) and the use of functional assessment methods, as performance standards for wetland mitigation monitoring. Consequently, the following performance standards were evaluated to determine success in achieving mitigation goals and objectives:

- **Inventories of all plant species**
- **Estimated relative frequency and species dominance**
- **1987 Corps Delineation Manual parameters –soils, hydrology, vegetation**
- **Functional Assessment – "Pre" & "Post" Charleston Method**

Monitoring activities completed to date include:

- **2002-2005 Pre-Mitigation Baseline Site Characterization**
- **October 2006**
- **May 2007**
- **November 2007**

Forty-seven permanent monitoring stations (plots) were established, based upon the percent acreage of each plant community zones within each wetland cell, as shown in Table 1 below:

TABLE 1 - Plant Community Zone Acreage and # Plots Per Zone/Cell

Zone	Cell W1	Cell W2	Cell E1	Cell E2	Cell E3	Cell E4	Cell E5	TOTALS
Wet Meadow	0	4.45 ac. 7 plots	0	0.78 ac. 1 plot	0	1.80 ac. 3 plots	1.25 ac. 2 plots	8.28 ac. 13 plots
Forested	2.34 ac. 4 plots	0	0.46 ac. 1 plot	0	0.35 ac. 1 plot	0	0	3.15 ac. 6 plots
Marsh	0.12 ac. 1 plot	0.67 ac. 1 plot	0.36 ac. 1 plot	0.77 ac. 1 plot	0.19 ac. 1 plot	0.43 ac. 1 plot	0	2.54 ac. 6 plots
Open Water	0	0.05 ac. 1 plot	0.03 ac. 1 plot	0.04 ac. 1 plot	0.0	0.31 ac. 1 plot	0	0.43 ac. 4 plots
Upland Buffer	2.8 ac. 4 plots	1.61 ac. 2 plots	1.15 ac. 2 plots	1.41 ac. 2 plots	0.91 ac. 1 plot	2.67 ac. 4 plots	1.67 ac. 3 plots	12.22 ac. 18 plots
Acreage Totals	5.26 ac.	6.78 ac.	2.0 ac.	3.0 ac.	1.45 ac.	5.21 ac.	2.92 ac.	26.62 ac.
Total # Plots	9 plots	11 plots	5 plots	5 plots	3 plots	9 plots	5 plots	47 plots

2.1 - Plant Species Inventory

A spring season plant species inventory was conducted in 2001 and 2003 prior to mitigation activities. Only 47 and 53 plant species were observed, respectively, due to decades of haying and cattle grazing activities.

After removal of cattle and construction of the earthen berms, 166 taxa were observed during a plant species inventory in the fall of 2006. The species list continued to increase, as an additional 99 taxa, not previously observed, were present during the spring 2007 inventory. Thirteen new species were observed during the fall 2007 inventory.

The plant species inventory is indicative of total number of species observed and does not reflect relative frequency or percent density of any given species.

2.2 - 1987 Corps Delineation Manual Parameters

Wetland parameters that included soils, hydrology, and vegetation (based on wetland plant community dominance) were sampled within each plot type (upland, forested and wet meadow, marsh, and open water). The size and location of each of these zones was based upon a hydrological model that predicted areas of soil saturation and/or inundation. The percent of wetland characteristics present are shown graphically in Figure 4.

Upland Plots

As expected, upland plots exhibited a low percentage of wetland characteristics in the soil, hydrology, and vegetation parameters during all three sampling periods. A transition of soil characteristics from upland to wetland was observed at some of the plots from the fall of 2006 to the fall of 2007. As planned, some of the upland areas that are not on top of mounds will be converted from upland to wetland to generate wetland creation credits, due to hydrological modifications. Therefore, this trend indicates success in generating wetland creation credits.

In terms of vegetation, the fall 2006 period exhibited wetland vegetation at some of the upland plots where the hydrology had been enhanced. However, the spring and fall 2007 sampling periods did not exhibit dominant wetland vegetation, due to tall fescue dominance, lower 2007 rainfall, and water loss during installation of water level control structures.

Forested and Wet Meadow Plots

Forested wetland plots are areas that exhibit the same hydrology as wet meadows, but have been selected for planting of trees and shrubs to offset the loss of forested wetlands from the WSIP. The forested and wet meadow plots exhibited a high percentage of wetland soil and hydrology parameters during all three sampling periods. Dominant wetland vegetation was not observed in the forested and wet meadow plots during the three sampling periods. This is believed top be due to tall fescue dominance, lower 2007 rainfall, and water loss during installation of water level control structures.

Marsh Plots

Marsh water plots exhibited a high percentage of wetland characteristics in the vegetation, soil, and hydrology parameters during the first two sampling periods and declined during the fall 2007 sampling period. The decline in soil and hydrology characteristics is likely due to lower 2007 rainfall, and water loss during installation of water level control structures. An increase in dominance by wetland vegetation was observed over the three sampling periods. This is most likely due to the fact that the invasive fescue is FAC-, and cannot survive well in highly saturated or inundated areas.

Open Water Plots

Open water plots exhibited a high percentage of wetland vegetation, soil, and hydrology parameters during all three sampling periods. A slight decline in wetland vegetation dominance was observed during from the fall of 2006 to the spring and fall of 2007. The decline in wetland vegetation within open water plots is believed to be due lower than average rainfall levels in 2007, as compared to 2006, and the fact that water stored from July 2006 through March 2007 was released when the water level control structures were installed.

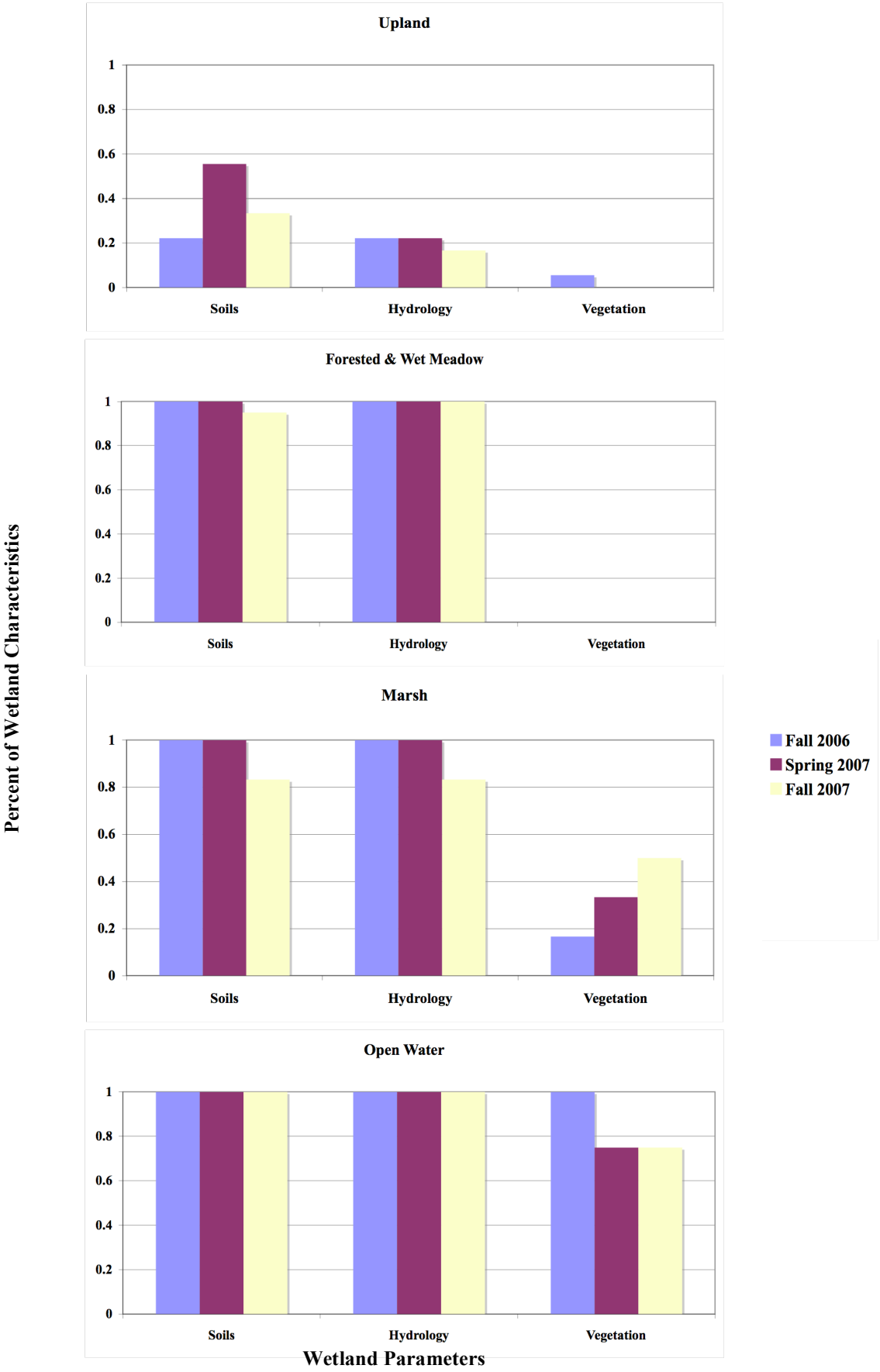


Figure 4 - Percent of wetland characteristics for soil, hydrology, and vegetation wetland parameters for three sampling periods (Fall 2006, Spring 2007, and Fall 2007).

2.3 - Species Richness

With regard to a trend analysis of species richness, the fall 2006 and fall 2007 monitoring periods were compared because plant communities are temporal in nature. Consequently, it would not be valid to compare any given spring plant community data to any fall plant community data.

Changes in species richness within monitoring plots between fall 2006 and fall 2007 vary by habitat type. The number of species in the plots between the two fall monitoring periods decreased in forested, marsh, upland, and wet meadow plots, but increased slightly in open water plots. Table 2 and Figure 5 illustrate the changes in number of species by habitat type. These data include species found in the four 1 m by 1 m herbaceous subplots and excludes species found outside the subplots within the larger 5 m radius plots.

Table 2 – Net change in mean number of species observed in forested, marsh, open water, upland, and wet meadow plot types during Fall 2006 and Fall 2007.

Plot Type	Fall 2006 Mean Number Of Species	Fall 2007 Mean Number Of Species	Net Change (+ Or -)
Forested	12.67	8.00	4.67 (-)
Marsh	11.50	9.67	1.83 (-)
Open Water	6.00	6.25	0.25 (+)
Upland	14.72	9.33	5.39 (-)
Wet Meadow	10.92	9.23	1.69 (-)

Decreases in the number of species in forested, upland, and wet meadow plots can likely be attributed to competitive exclusion by tall fescue (*Schedonorus arundinaceus*) that increased during this same period. However, variation in climate and management between 2006 and 2007 may have also contributed. The decrease in the number of species in the open water plots may be the result of variations in rainfall, and thus in water depth, between the two years. Specifically, shallower water may support higher species than deeper water, in which fewer species are adapted to live.

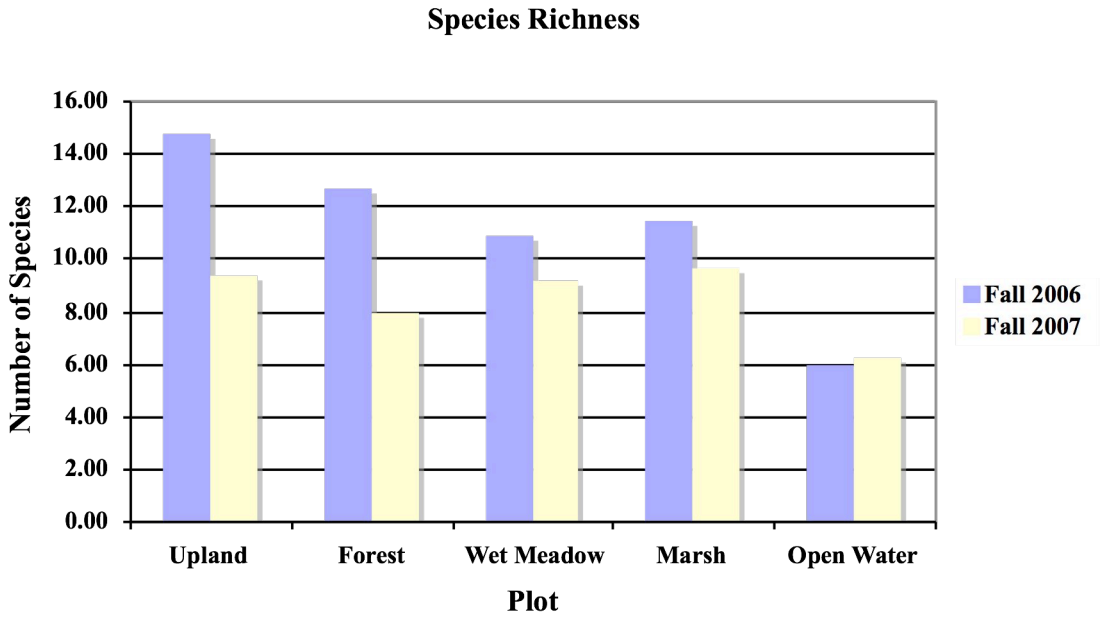


Figure 5 – Net change in mean number of species observed in forested, marsh, open water, upland, and wet meadow plot types during Fall 2006 and Fall 2007.

2.4 - Tall Fescue Percent Cover

The decreases in fescue cover in marsh (39.99%) and wet meadow (12.16%) plots are the result of wetter conditions created by the berms. The increase in fescue cover in open water (98.12%) plots is the result of the poor water retention within the open water plot in cell E-1. Possibilities for poor water retention within the cell include poor compaction of clay and/or poor compaction of the berm around the water gate. However, the open water plot in cell E-2 also does not hold water, but has very little fescue. The other two open water plots, both existing ponds, do not contain fescue.

Table 3 - Changes in percent cover of tall fescue (*Schedonorus arundinaceus*) by plot type between the fall 2006 and fall 2007 sampling periods.

Plot Type	# Of Plots Of Type	% Fescue Fall 2006	% Fescue Fall 2007	% Change
Forested	6	77.63	85.92	10.68% increase
Marsh	6	70.83	42.50	39.99% decrease
Open Water	4	10.63	21.06	98.12% increase
Upland	18	74.69	87.06	16.56% increase
Wet Meadow	13	90.90	79.85	12.16% decrease

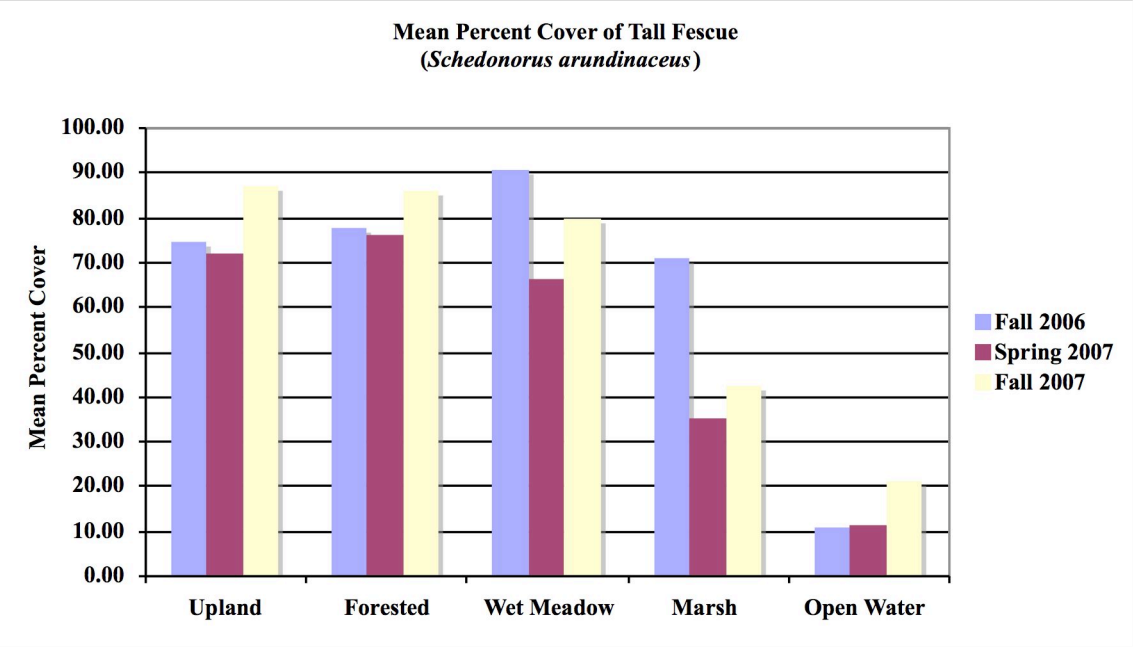


Figure 6 - Changes in percent cover of tall fescue (*Schedonorus arundinaceus*) by plot type between the fall 2006 and fall 2007 sampling periods.

2.5 - Rare plant species at Woolsey Wet Prairie Sanctuary

Seven plant species tracked as elements of conservation concern (rare species) by the Arkansas Natural Heritage Commission, were found to naturally occur at the mitigation site. All are sedges (family Cyperaceae) and are characteristic of wet prairie remnants. These include:

***Carex arkansana* (Arkansas sedge) – G4S1 –** This uncommon sedge is known in Arkansas from wet prairie remnants, hydric oak flatwoods, and similar open wetland habitats (ANHC, 2007). While it has no wetland indicator status code in the USDA Plants Database, it is listed by Yatskievych (1999) as occurring primarily in bottomland prairies and moist depressions of upland prairies. At Woolsey Wet Prairie it is scattered in wetter areas of the prairie.

***Carex opaca* (opaque prairie sedge) – G4S2S3 –** This rare sedge is primarily associated with unplowed, wet tallgrass prairie remnants in Arkansas (ANHC, 2007). While it has no wetland indicator status code in the USDA Plants Database, it is listed by Yatskievych (1999) as primarily occurring in "bottomland prairies, moist depressions of upland prairies, and margins of fens". At Woolsey Wet Prairie it is scattered in wetter areas of the prairie.

***Carex fissa* var. *fissa* (a sedge) – G3G4S1 –** Prior to its discovery at Woolsey Wet Prairie, this rare sedge was known in Arkansas from only two sites in Saline and Lonoke Counties where is occurs in disturbed prairie-associated wetlands and wet hardwood flatwoods (ANHC, 2007). At Woolsey Wet Prairie, it occurs in small numbers in two naturally occurring prairie swales in cells W-1 and W-2.

***Carex pellita* (a sedge) – G5S1 –** Prior to its collection at Woolsey Wet Prairie, this species was known to be extant at a single Arkansas locality, in a fen in Marion County. At Woolsey Wet Prairie it is uncommon in one open water plot and locally common in one marsh plot. It is apparently increasing at the site based on observations in 2007.

***Eleocharis wolfii* (Wolf's spikerush) – G3G4S2 –** This wetland sedge occurs in Arkansas primarily in wet areas in unplowed tallgrass prairie remnants but can persist in wet, open areas in landscapes that were formerly dominated by prairie vegetation (ANHC, 2007). At Woolsey Wet Prairie it is locally common in several naturally occurring swales and is now expanding around at least two of the marsh plots.

***Rhynchospora macrostachya* (tall horned beaksedge) – G4S1 -** Prior to its collection at Woolsey Wet Prairie, this species was known from Arkansas only from historical collections. At Woolsey Wet Prairie it was known from two natural prairie swales prior to construction of the berms, but is now also increasing in at least one marsh plot. In the fall of 2006, ECO, Inc. gathered seeds and successfully propagated over 40 specimens during the 2007 growing season that will be transplanted into marsh areas at the mitigation site.

***Scleria pauciflora* (fewflower nutrush) – G5S3 –** This sedge is known in Arkansas from unplowed tallgrass prairies, saline barrens, and open pine flatwoods (ANHC, 2007). At Woolsey Wet Prairie it occurs in areas that support other characteristic prairie vegetation.

SOURCES:

ANHC (Arkansas Natural Heritage Commission). 2007. Database of Elements of Conservation Concern. Arkansas Natural Heritage Commission. Little Rock, AR.

Yatskievych, G. 1999. Steyermark's Flora of Missouri. Vol. 1. Revised Edition. Missouri Dept. of Conservation & Missouri Botanical Garden Press. St. Louis, MO. 991 pp.

2.6 – Wetland Functional Assessment

The City of Fayetteville WSIP Compensatory Wetland Mitigation Plan, developed and submitted to the Little Rock District in January 2005, and the City's Section 404 permit outlined the creation of 4.05 acres of wet meadow wetlands and 3.06 acres of forested wetlands (total creation acreage = 7.11 acres), restoration and enhancement of 7.29 acres of existing emergent wetlands, and enhancement of 12.22 acres of existing upland prairie as buffering.

The total mitigation credits needed to offset the permanent alteration of wetlands by the WSIP were 80.8. The total anticipated credits to be generated from mitigation activities are shown in Table 4 below.

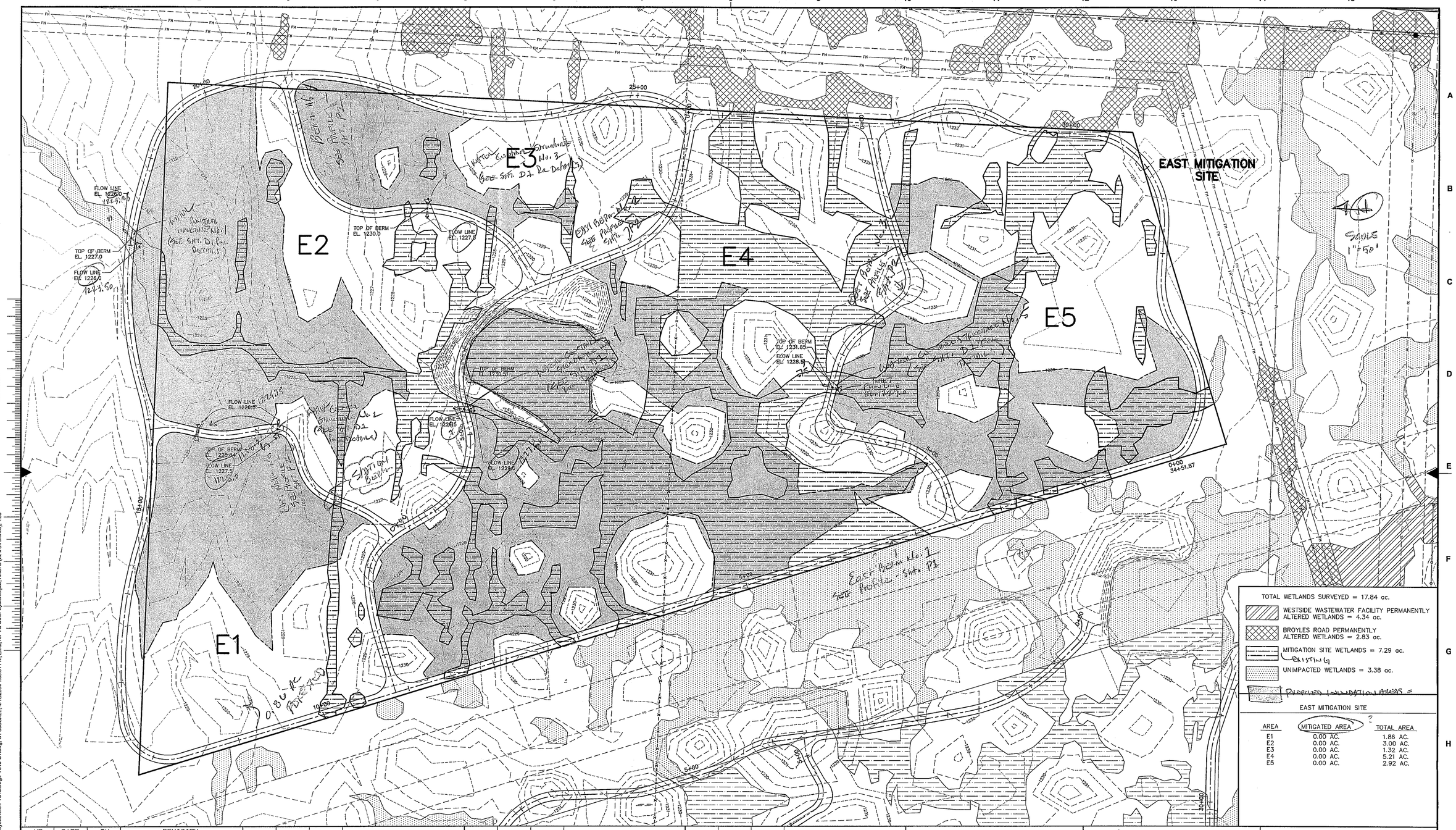
Table 4 - Project Acreage and Credit Mitigation Goals

Permanently Altered Wetlands	
North Broyles Road PEM Wetlands Permanently Altered	1.27 acres PEM/9.13 debits
Westside WWTP PEM Wetlands Permanently Altered	5.64 acres PEM/40.6 debits
Broyles Road/Goose Creek PFO Wetlands Permanently Altered	1.39 acres PFO/16.0 debits
Westside Collection System PFO Wetlands Permanently Altered	1.42 acres 13.5 debits
Eastside Collection System PFO Wetlands Permanently Altered	0.16 acres/1.52 debits
Total Permanently Altered Wetlands	9.88 acres/80.8 debits 9.72 acres/
Proposed Wetland Mitigation	
Existing Mitigation Site PEM Wetlands Restored/enhanced	7.29 acres/37.9 credits
Upland Prairie Buffer Restored/enhanced	12.22 acres/55.0 credits
Eastside Collection System PFO Wetlands partially restored	0.16 acres 0.2 credits
Westside Collection System PFO Wetlands partially restored	1.42 acres 2.3 credits
Total Wetlands Restored/Enhanced	21.09 acres/95.4 credits
PEM Wetlands Created	4.05 acres/8.5 credits
PFO Wetlands Created	3.06 acres/6.1 credits
Total Wetlands Created	7.11 acres/14.6 credits
Total Mitigation Wetlands	28.2 acres/110 credits

*PFO – palustrine forested wetlands "seasonally inundated forest"
*PEM – palustrine emergent wetlands "wet meadow"

Field observations have indicated that the hydrological model was extremely accurate in delineating wetland habitat type hydrology size and location. The model used 100 years of rainfall data, soil properties, evaporation, and detailed drawings with 6-inch contour lines. When applying the Charleston Method to the existing conditions at the mitigation site, it is evident that the City of Fayetteville will meet projections of generating 110 credits on 28.2 acres. Upon further review of wetland zone drawings, it was observed that there are approximately 2.13 acres of the "pre" mitigation wetlands that originally existed on the site are outside of the area of predicted wetlands. This means that the area of predicted wetlands, therefore, contains an

equivalent acreage of wetlands that were created, above and beyond the 7.11 acres predicted. Consequently, it is likely that more creation credits will be generated. This cannot be fully determined until mitigation activities have their full effect on the site. Figures 7 and 8 show shaded areas where pre-existing wetland lie outside of predicted wetlands. As compared to Figures 2 and 3 which only show predicted wetlands, the site will support closer to 16.5 acres of wetland habitat instead of the predicted 14.4 acres of wetland habitat.



NO.	DATE	BY	REVISION

McGoodwin Williams & Yates
Engineering Confidence

DATE	DETAILED
JANUARY 2, 2004	ELH
DESIGNED	CHECKED
X	X

FAYETTEVILLE
THE CITY OF FAYETTEVILLE, ARKANSAS

WESTSIDE WASTEWATER TREATMENT PLANT
CONCEPTUAL MITIGATION
EAST SITE PLAN

PROJECT	CONTRACT
FY316	X
DRAWING C1 – REV. X	
SHEET 1 of 2 SHEETS	
FILE	

Scale For Microfilming Millimeters

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FAYETTEVILLE
THE CITY OF FAYETTEVILLE, ARKANSAS

WESTSIDE WASTEWATER TREATMENT PLANT
CONCEPTUAL MITIGATION
WEST SITE PLAN

PROJECT FY316 | CONTRACT X
DRAWING **C2** – REV. **X**
SHEET 2 of 2 SHEETS
FILE

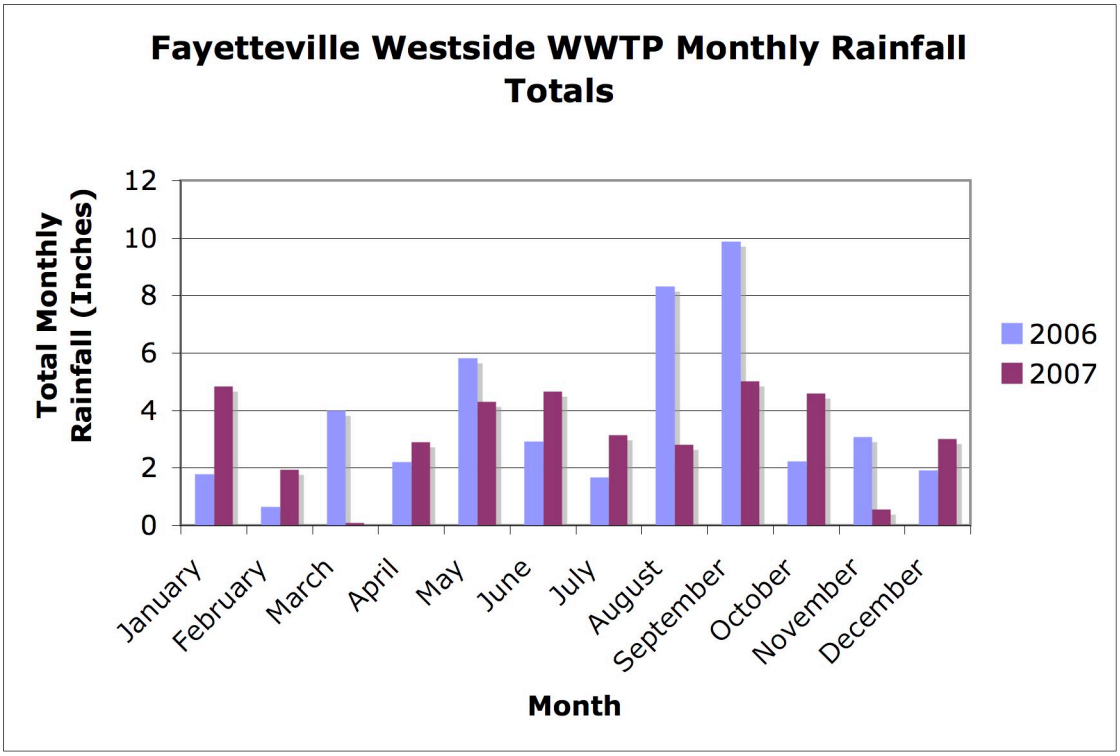
3.0 - Discussion

The mitigation site has yet to experience a full year of uninterrupted rainfall storage. Therefore the full effect of hydrological modifications has yet to be observed. Prior to wetland cell draining during the installation of water level control structures, many of the wetland cells were full at the deeper ends, and some overflowed the berms during heavy rainfall.

The current water storage at the mitigation site is the result of March through December 2007 rain events that totaled 31.11 inches of rainfall during this period. As a comparison, during March through December of 2006, there was 42.04 inches of rainfall.

Figure 9 shows 2006 and 2007 monthly rainfall data collected at the WWTP site immediately adjacent to the mitigation site. During 2006, there was a total of 44.7 inches of rainfall, while during 2007 there was a total of 37.9 inches of rainfall. Given that the site is allowed to collect a full year of rainfall, it is anticipated that during 2008, there will be an increase in monitoring stations exhibiting wetland vegetation, soils, and hydrology.

FIGURE 9



The changes in land use practices at the mitigation site as pastureland have not only created conditions conducive to native plants not previously observed, but have also allowed the tall fescue to grow unchecked. This is especially true early and late in the growing season when cool temperatures favor dense growth of fescue, such that it quickly out-competes native plants. Tall fescue is currently the largest single threat to the ecological character at the mitigation site, particularly in wet meadow habitats. Being a facultative plant, fescue can readily overtake wet meadows that are seasonally saturated.

4.0 – Recommendations

Although a unique wet prairie habitat is being restored at the site, mitigation efforts will have been done in vain if measures are not taken to control the tall fescue. If allowed to go unchecked, the fescue will dominate and eventually become a near monoculture situation. Tall fescue is a very invasive non-native species that has been responsible for the demise of a multitude of native plant communities in Arkansas. The following vegetation management activities are recommended in order to protect, maintain, and improve native plants at the site:

1) Herbicide Application(s)

The City of Fayetteville has received a modification to Section 404 permit No. 14207 to apply herbicides for control of fescue. ECO, Inc. has conferred with Dr. Tom Barnes of the University of Kentucky Agricultural Extension Service. Dr. Barnes is nationally renown as an expert in native wetland grass restoration, and control of non-native invasive species.

A contract has been awarded to a state licensed herbicide applicator to conduct the work in January 2008. The herbicide sulfosulfuron will be applied at rates that will not exceed manufactures label recommendations. Sulfosulfuron is a grass-specific herbicide that will kill invasives such as fescue, Johnson grass and Bermuda grass. It is harmless to many native grass species, and has a very short half-life.

Fescue, being a cool season grass, carries on photosynthetic process even during winter months in Arkansas. Consequently, the use of sulfosulfuron during the cool season is advantageous in that it will kill fescue, but will not harm many native grasses that are dormant at this time of the year. Locations where small stands of cool season sedges and rushes currently exist in marsh areas have been flagged in the field, and are designated as “no

spray" areas. The anticipated effect of the sulfosulfuron will be two-fold: 1) kill dense stands of fescue, and 2) increase natural fuel value so that a prescribed burn can be conducted. Follow-up "spot" applications of herbicides may be necessary after completion of the prescribed burn.

2) Prescribed Burn

The City of Fayetteville has received a modification to Section 404 permit No. 14207 to conduct a prescribed burn at the mitigation site. It has been obvious that many native plant species (some of them rare) are within the seedbed at the mitigation site, and have been either dormant or suppressed until conditions became favorable for them. The full extent of what species lie dormant within the existing seedbed is currently unknown. However, it is speculated that a multitude of other native plant species are potentially present. Many native plant seeds require sunlight in order to germinate. Fire has historically been a natural occurrence, and the anthropogenic suppression of fire has been responsible for the eradication of many native plant communities nationwide. In recent time, fire has been recognized as a valuable tool in restoration of native plant communities. It acts to burn away the "thatch" layer of decaying plant matter that lies immediately on the ground surface, allowing previously shaded seeds to be exposed to sunlight. It is anticipated that subsequent to completion of a prescribed burn at the mitigation site, additional native plant species will be observed.

The City of Fayetteville is in the process of awarding a contract for completion of a prescribed burn. The burn will take place when favorable weather conditions exist after the sulfosulfuron has killed enough tall fescue to create adequate fuel for the burn.

3) Enhanced Hydrological Monitoring

Subsequent to the burn, permanent staff gauges will be installed in open water and marsh areas to monitor degree of inundation. Shallow monitoring wells will be installed in wet meadow areas to monitor subsurface saturation relative to the soil surface.

4) Berm Seeding

Little vegetation, other than invasive species, has been observed to grow on the earthen berms constructed to form the wetland cells. Subsequent to the prescribed burn, the berms will be seeded with native grasses that are of local genotype.

5) Relocation of Forested Wetland Planting Zones

The majority of the seven rare plant species have been observed at wet meadow areas within the West Mitigation Site, that have been targeted for planting of wetland trees and shrubs. Planting of trees and shrubs within these areas would be detrimental to the survival of the rare sedge species that grow in full sunlight. Consequently, forested planting zones will now be predominately on the north end of the East Mitigation Site. A contract will be awarded to complete the tree/shrub planting, in conjunction with required tree/shrub planting at the WWTP outfall structure.

6) Mowing

The City of Fayetteville has received a modification to Section 404 permit No. 14207 to conduct periodic mowing. The mowing will be aimed toward invasive species such as tall fescue, Johnson grass, ragweed, and sericea lespedeza. If necessary, stands of these species will be mowed to a height of 10-12 inches as they begin to mature, but before they form seed heads. This is intended to prevent the dispersal of additional seeds from invasive species.

5.0 - CONCLUSIONS

Systematic monitoring and assessment of wetland condition will, over time, produce necessary baseline data to help identify problem areas, evaluate management decisions for wetland protection, and document trends in wetland quantity and quality. The City of Fayetteville has encouraged academic endeavors at the mitigation site, and will allow public access as a natural area for recreational purposes. Although not quantified, it is believed that the habitat improvements to the site thus far, have been of benefit to amphibian and avian populations. Successful “surprises” have been observed at the Woolsey Wet Prairie Sanctuary, and the City of Fayetteville has supported all efforts needed to achieve compliance with Section 404 Permit No. 14207 wetland compensatory requirements.

For questions or comments, contact:

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