Appendix E – 2007 Wetland Survey

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AST Environmental Group
"A DBE Firm Specializing in Streams, Wetlands, Protected Species, Environmental Assessments, and Storm Water Compliance"

August 21, 2007
JS07-121

U.S. Department of the Army
Corps of Engineers
Western Regulatory Field Office
2042 Beltline Rd., SW, Bldg. C, Suite 415
Decatur, AL 35601

RE: Wetlands Assessment and Delineation
Proposed 30" Water Main
Limestone and Morgan Counties, Alabama

Dear Sirs:

AST Environmental Group (AST) has completed a wetlands assessment and delineation of the referenced site. This assessment was conducted at the request of Mr. Jim Williams of Hethcoat & Davis, Inc., and on behalf of Limestone County Water and Sewer Authority. Mr. Williams may be reached by mail at 278 Franklin Road, Suite 200, Nashville, TN 37027 or by telephone at (615) 577-4300.

AST's assessment and delineation consisted of in-house review of the *U.S. Department of Agriculture, Soil Conservation Service* (now NRCS), *Soil Survey of Limestone County, Alabama,* review of available topographic and aerial photographs, and a field reconnaissance.

Four wetland areas (W-1 – W-4) were found and delineated with plastic "wetland delineation" surveyor's tape, in the field; however one wetland (W-3) was later determined to be located outside of the assessment corridor and excluded from further reporting. A Site Map, Wetlands Map, Soils Map and site photographs are attached for your use.

AST is requesting written verification of this assessment. Should you need additional information or have questions, please feel free to contact me at (256) 476-7355.

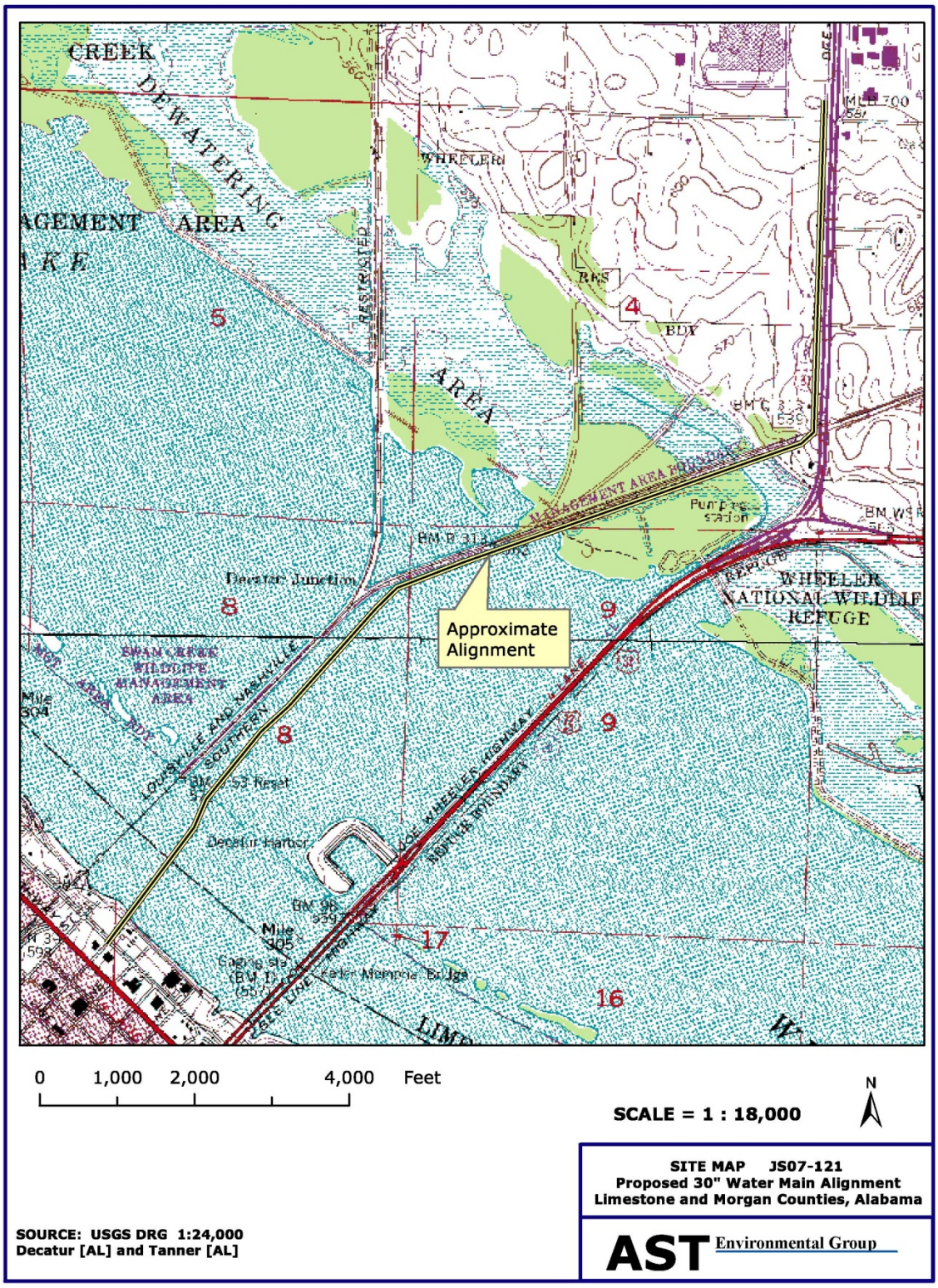
Sincerely,

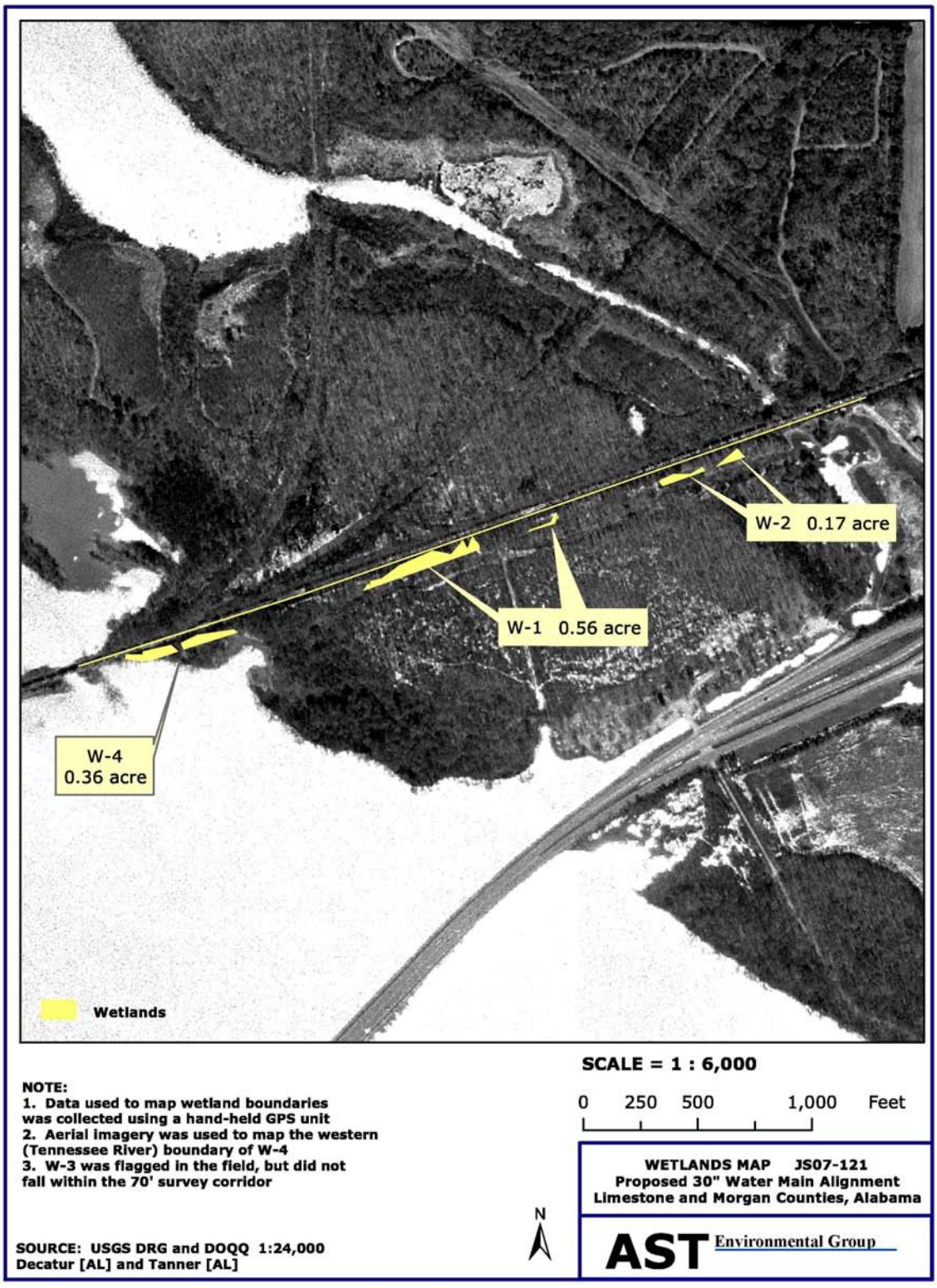
AST Environmental Group

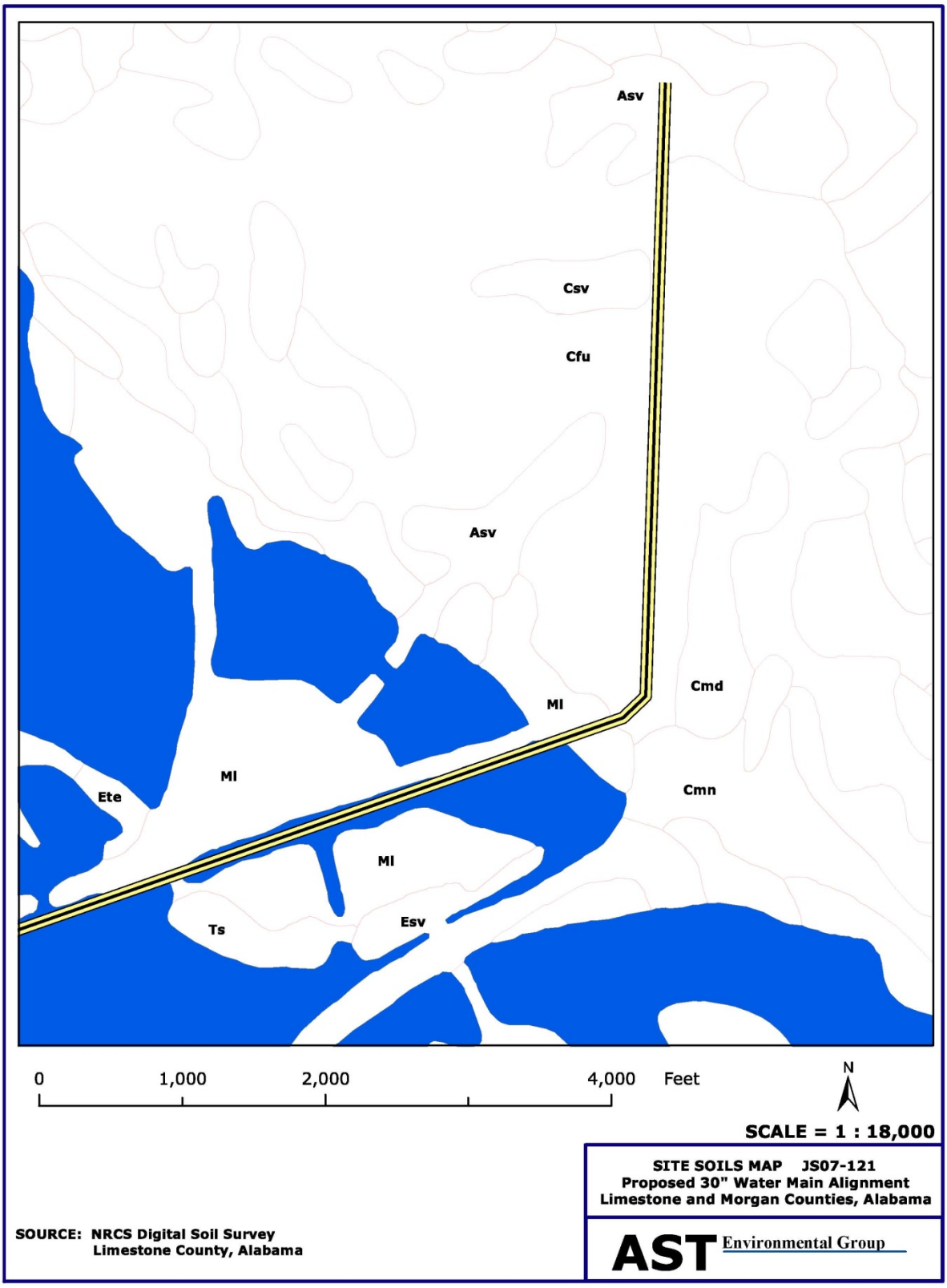
Jeff Selby, M.S.
Senior Biologist

Attachments

2042 Beltline Road SW, Suite 421C, Decatur, Alabama 35601 ♦ Phone (256) 301-0099 ♦ Fax (256) 350-1021


Approximate Alignment
WHEELER NATIONAL WILDLIFE REFUGE
Decatur Junction
Decatur Harbor
Pumping station
0 1,000 2,000 4,000 Feet
SCALE = 1 : 18,000
N
SITE MAP JS07-121
Proposed 30" Water Main Alignment
Limestone and Morgan Counties, Alabama
SOURCE: USGS DRG 1:24,000
Decatur [AL] and Tanner [AL]
AST Environmental Group


W-2 0.17 acre
W-1 0.56 acre
W-4
0.36 acre
Wetlands
SCALE = 1 : 6,000
0 250 500 1,000 Feet
NOTE:
1. Data used to map wetland boundaries was collected using a hand-held GPS unit
2. Aerial imagery was used to map the western (Tennessee River) boundary of W-4
3. W-3 was flagged in the field, but did not fall within the 70' survey corridor
SOURCE: USGS DRG and DOQQ 1:24,000
Decatur [AL] and Tanner [AL]
N
WETLANDS MAP JS07-121
Proposed 30" Water Main Alignment
Limestone and Morgan Counties, Alabama
AST Environmental Group


Asv
Csv
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0
1,000
2,000
4,000
Feet
N
SCALE = 1 : 18,000
SITE SOILS MAP JS07-121
Proposed 30" Water Main Alignment
Limestone and Morgan Counties, Alabama
SOURCE: NRCS Digital Soil Survey
Limestone County, Alabama
AST Environmental Group

PHOTOGRAPH 1

Description: View of Wetland W-1 – facing east.
Taken by Jeff Selby, 8-13-07.

PHOTOGRAPH 2

Description: View of Wetland W-2 – facing east.
Taken by Jeff Selby, 8-13-07.

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SITE PHOTOGRAPHS
30" Water Main
Limestone County, AL

PHOTOGRAPH 3

Description: View of Wetland W-4 – facing west.
Taken by Jeff Selby, 8-21-07.

PHOTOGRAPH 4

Description: View of Wetland W-4 – facing west.
Taken by Jeff Selby, 8-21-07.

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SITE PHOTOGRAPHS
30" Water Main
Limestone County, AL

PHOTOGRAPH 5

Description: View of Upland U-1– facing west.
Taken by Jeff Selby, 8-13-07.

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SITE PHOTOGRAPHS
30" Water Main
Limestone County, AL

Project / Site:	30" Water Main	**Date:**	August 13, 2007				
Applicant / Owner:	Limestone County Water and Sewer Authority	**State:**	AL				
Investigator:	Jeff Selby	**County:**	Limestone				
Plot ID:	W-1	**Do Normal Circumstances exist on site?**	x	**YES**		**NO**
Transect ID:	N/A	**A-typical Situation?**		**YES**	x	**NO**
Community ID:	N/A	**Is the area a potential problem area?**		**YES**	x	**NO**
Remarks (use reverse side, if needed):	Forested wetland paralleling railroad bed						

VEGETATION

Dominant Plant Species		**Indicator**	**Stratum**	**Dominant Plant Species**		**Indicator**	**Stratum**
1.	*Ulmus rubra*	FAC	TR	**6.**	*Quercus phellos*	FACW-	TR
2.	*Berchemia scandens*	FACW	V	**7.**	*Toxicodendron radican*	FAC	V
3.	*Fraxinus pennsylvanica*	FACW	TR	**8.**	*Campsis radicans*	FAC	V
4.	*Acer rubrum*	FAC	TR	**9.**	*Liquidambar styraciflua*	FAC+	TR
5.	*Smilax rotundundifolia*	FAC	V	**10.**			
Percent of Dominant Species = OBL, FACW, or FAC (excluding FAC-)		9/9 or 100%					
Remarks:	A dominance of facultative / hydrophitic vegetation is present						

HYDROLOGY

Recorded Data (describe in remarks)		**WETLAND HYDROLOGY INDICATORS**				
Gauge		**Primary Indicators:**		**Secondary Indicators:**		
Aerial Photograph		**Inundated**	x	**Oxidized Root Channels**	x	
Other		**Saturated (upper 12")**	x	**Water-stained Leaves**	x	
No Recorded Data Available	X	**Water Marks**	x	**Local Soil Survey Data**	x	
Depth of Surface Water (inches)	none	**Drift Lines**		**FAC-Neutral Test**	x	
Depth to Water in Pit (inches)	none	**Sediment Deposits**		**Other (see remarks)**	x	
Depth to Saturated Soil (inches)	none	**Drainage Patterns**	x			
Remarks:	Wetland hydrology is present.					

SOILS

Series / Phase:	Melvin	**Confirmed Map Type?**	yes
Drainage Class:	Poorly drained	**Subgroup:**	

Depth (inches)	**Horizon**	**Matrix Color**	**Mottle Color**	**Mottle Abundance**	**Texture / Concretions...**	**Indicators**	
0-3	A	2.5Y 4/2			Silt Loam	**Sulfitic Odor**	
3-12+	B	2.5Y 6/1			Silt Loam	**Low Chroma / Gleyed Color**	x
						Hydric Soils List (local / US)	x
						Concretions	
						Organic Streaking	
						Other (see remarks)	
Remarks:	Hydric soils are present.						

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	x	**Yes**		**No**						
Wetland Hydrology Present?	x	**Yes**		**No**	**Is this sampling point in a wetland?**	x	**Yes**		**No**
Hydric Soils Present?	x	**Yes**		**No**					
Remarks:	Data Point W-1 is in a wetland.								

Project / Site:	30" Water Main	**Date:**	August 13, 2007				
Applicant / Owner:	Limestone County Water and Sewer Authority	**State:**	AL				
Investigator:	Jeff Selby	**County:**	Limestone				
Plot ID:	W-2	**Do Normal Circumstances exist on site?**	x	**YES**		**NO**
Transect ID:	N/A	**A-typical Situation?**		**YES**	x	**NO**
Community ID:	N/A	**Is the area a potential problem area?**		**YES**	x	**NO**
Remarks (use reverse side, if needed):	Forested wetland paralleling railroad bed						

VEGETATION

Dominant Plant Species		**Indicator**	**Stratum**	**Dominant Plant Species**		**Indicator**	**Stratum**
1.	*Ulmus rubra*	FAC	TR	**6.**	*Quercus phellos*	FACW-	TR
2.	*Berchemia scandens*	FACW	V	**7.**	*Toxicodendron radican*	FAC	V
3.	*Fraxinus pennsylvanica*	FACW	TR	**8.**	*Campsis radicans*	FAC	V
4.	*Acer rubrum*	FAC	TR	**9.**	*Liquidambar styraciflua*	FAC+	TR
5.	*Smilax rotundundifolia*	FAC	V	**10.**			
Percent of Dominant Species = OBL, FACW, or FAC (excluding FAC-)		9/9 or 100%					
Remarks:	A dominance of facultative / hydrophitic vegetation is present.						

HYDROLOGY

Recorded Data (describe in remarks)		**WETLAND HYDROLOGY INDICATORS**				
Gauge		**Primary Indicators:**		**Secondary Indicators:**		
Aerial Photograph		**Inundated**	x	**Oxidized Root Channels**	x	
Other		**Saturated (upper 12")**	x	**Water-stained Leaves**	x	
No Recorded Data Available	X	**Water Marks**	x	**Local Soil Survey Data**	x	
Depth of Surface Water (inches)	0-12+	**Drift Lines**		**FAC-Neutral Test**	x	
Depth to Water in Pit (inches)	none	**Sediment Deposits**		**Other (see remarks)**	x	
Depth to Saturated Soil (inches)	6	**Drainage Patterns**	x			
Remarks:	Wetland hydrology is present					

SOILS

Series / Phase:	Melvin			**Confirmed Map Type?**	yes		
Drainage Class:	Poorly drained			**Subgroup:**			
Depth (inches)	**Horizon**	**Matrix Color**	**Mottle Color**	**Mottle Abundance**	**Texture / Concretions...**	**Indicators**	
0-3	A	2.5Y 4/2			Silt Loam	**Sulfitic Odor**	
3-12+	B	2.5Y 6/1			Silt Loam	**Low Chroma / Gleyed Color**	
						Hydric Soils List (local / US)	x
						Concretions	
						Organic Streaking	
						Other (see remarks)	
Remarks:	Hydric soils are present.						

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	x	**Yes**		**No**					
Wetland Hydrology Present?	x	**Yes**		**No**	**Is this sampling point in a wetland?**	x	**Yes**		**No**
Hydric Soils Present?	x	**Yes**		**No**					
Remarks:	Data Point W-2 is in a wetland.								

Project / Site:	30" Water Main	**Date:**	August 21, 2007				
Applicant / Owner:	Limestone County Water and Sewer Authority	**State:**	AL				
Investigator:	Jeff Selby	**County:**	Limestone				
Plot ID:	W-4	**Do Normal Circumstances exist on site?**	x	**YES**		**NO**
Transect ID:	N/A	**A-typical Situation?**		**YES**	x	**NO**
Community ID:	N/A	**Is the area a potential problem area?**		**YES**	x	**NO**
Remarks (use reverse side, if needed):	Wetland adjoins Tennessee River.						

VEGETATION

Dominant Plant Species		**Indicator**	**Stratum**	**Dominant Plant Species**		**Indicator**	**Stratum**
1.	*Cephalanthus occidentalis*	OBL	SS	**6.**			
2.	*Fraxinus pennsylvanica*	FACW	TR	**7.**			
3.	*Saururus cernuus*	OBL	H	**8.**			
4.	*Polygonum pensylvanicum*	FACW	H	**9.**			
5.	*Alisma subcordatum*	OBL	TR	**10.**			
Percent of Dominant Species = OBL, FACW, or FAC (excluding FAC-)		5/5 or 100%					
Remarks:	A dominance of facultative / hydrophitic vegetation is present.						

HYDROLOGY

Recorded Data (describe in remarks)		**WETLAND HYDROLOGY INDICATORS**			
Gauge		**Primary Indicators:**		**Secondary Indicators:**	
Aerial Photograph		**Inundated**	x	**Oxidized Root Channels**	x
Other		**Saturated (upper 12")**	x	**Water-stained Leaves**	x
No Recorded Data Available	X	**Water Marks**	x	**Local Soil Survey Data**	x
Depth of Surface Water (inches)	0-12+	**Drift Lines**		**FAC-Neutral Test**	x
Depth to Water in Pit (inches)	none	**Sediment Deposits**		**Other (see remarks)**	
Depth to Saturated Soil (inches)	8	**Drainage Patterns**	x		
Remarks:	Wetland hydrology is present				

SOILS

Series / Phase:	Melvin	**Confirmed Map Type?**	yes
Drainage Class:	Poorly drained	**Subgroup:**	

Depth (inches)	**Horizon**	**Matrix Color**	**Mottle Color**	**Mottle Abundance**	**Texture / Concretions...**	**Indicators**	
0-3	A	2.5Y 4/2	7.5Y 6/2		Silt Loam	**Sulfitic Odor**	
3-10	B	10YR 4/4	10YR 5/3	Many	Silt Loam	**Low Chroma / Gleyed Color**	
10+	C	10YR 7/2	10YR 4/4	Many		**Hydric Soils List (local / US)**	x
						Concretions	Fe
						Organic Streaking	
						Other (see remarks)	

Remarks:	Hydric soils are present.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	x	**Yes**		**No**						
Wetland Hydrology Present?	x	**Yes**		**No**	**Is this sampling point in a wetland?**	x	**Yes**		**No**
Hydric Soils Present?	x	**Yes**		**No**					

Remarks:	Data Point W-4 is in a wetland.

Project / Site:	30" Water Main	**Date:**	August 13, 2007				
Applicant / Owner:	Limestone County Water and Sewer Authority	**State:**	AL				
Investigator:	Jeff Selby	**County:**	Limestone				
Plot ID:	U-1	**Do Normal Circumstances exist on site?**	x	**YES**		**NO**
Transect ID:	N/A	**A-typical Situation?**		**YES**	x	**NO**
Community ID:	N/A	**Is the area a potential problem area?**		**YES**	x	**NO**
Remarks (use reverse side, if needed):	Located near wetlands W-1 and W-4						

VEGETATION

Dominant Plant Species		**Indicator**	**Stratum**	**Dominant Plant Species**		**Indicator**	**Stratum**
1.	*Ulmus rubra*	FAC	TR	**6.**	*Quercus phellos*	FACW-	TR
2.	*Betula nigra*	FACW	TR	**7.**	*Toxicodendron radican*	FAC	V
3.	*Ligustrum sinense*	FAC	SS	**8.**	*Campsis radicans*	FAC	V
4.	*Carya ovata*	FACU	TR	**9.**	*Liquidambar styraciflua*	FAC+	TR
5.	*Celtis occidentalis*	FACU	TR	**10.**			
Percent of Dominant Species = OBL, FACW, or FAC (excluding FAC-)		7/9 or 77%					
Remarks:	A dominance of facultative / hydrophitic vegetation is present						

HYDROLOGY

Recorded Data (describe in remarks)		**WETLAND HYDROLOGY INDICATORS**					
Gauge		**Primary Indicators:**			**Secondary Indicators:**		
Aerial Photograph		**Inundated**			**Oxidized Root Channels**	x	
Other		**Saturated (upper 12")**			**Water-stained Leaves**		
No Recorded Data Available	X				**Local Soil Survey Data**	x	
Depth of Surface Water (inches)	none	**Water Marks**			**FAC-Neutral Test**	x	
Depth to Water in Pit (inches)	none	**Drift Lines**			**Other (see remarks)**		
Depth to Saturated Soil (inches)	none	**Sediment Deposits**					
		Drainage Patterns					
Remarks:	Wetland hydrology is marginally present						

SOILS

Series / Phase:	Melvin	**Confirmed Map Type?**	No
Drainage Class:	Poorly drained	**Subgroup:**	

Depth (inches)	**Horizon**	**Matrix Color**	**Mottle Color**	**Mottle Abundance**	**Texture / Concretions...**	**Indicators**	
0-2	A	2.5Y 4/3			Silt Loam	**Sulfitic Odor**	
2-12	B1	10YR 5/6			Silty Clay Loam	**Low Chroma / Gleyed Color**	
12-14+	B2	10YR 5/6	7.5Y 6/2		Silty Clay Loam	**Hydric Soils List (local / US)**	
						Concretions	
						Organic Streaking	
						Other (see remarks)	
Remarks:	Hydric soils are not present						

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	x	**Yes**		**No**	**Is this sampling point in a wetland?**		**Yes**	x	**No**
Wetland Hydrology Present?	x	**Yes**		**No**					
Hydric Soils Present?		**Yes**	x	**No**					
Remarks:	Data Point U-1 is not in a wetland.								

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