

Waters of the U.S. and Preliminary Jurisdictional Wetland Determinations Summary Report

I. Introduction

The Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA) are proposing to reconstruct and widen the existing Interstate 29/35 facility with new interchange configurations, bridges, including the bridge over the Missouri River, and roadways in an urbanized area of North Kansas City and Kansas City, Missouri (Clay and Jackson counties). The study corridor extends approximately 4.7 miles from just north of the Missouri Route 210/Armour Road interchange in North Kansas City and continues southward through the north leg of the Kansas City central business district (CBD) freeway loop, terminating at the northwest edge of the CBD loop. It is intended that the reconstructed facility will meet current interstate standards.

The following overview provides an environmental summary of the field investigations performed to assess Waters of the U.S. that would be impacted by the construction of the Preferred Alternative alignment. This information is compiled for the purpose of providing data for a Clean Water Act (CWA) Section 404 permit application. The MoDOT requested the investigation to include the results in the project's Environmental Impact Statement (EIS) document. The field work was conducted by HNTB Corporation environmental personnel on May 10, 2005 and March 3, 2006, and survey work was done by Taliaferro & Browne, Inc. on February 27, 2006 and March 17, 2006.

The Project Proponent and the Consultant for the project, and the contact persons, are as follows:

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A. Purpose of and Need for the Project

The purpose of the proposed project is to add vehicular capacity and improve safety consistent with best design practices along this 4.7-mile section of I-29/35. The proposed action will address several goals: 1) rehabilitate or replace the deteriorating infrastructure and improve interchanges; 2) improve traffic safety; 3) improve interstate system linkage across the Missouri River; 4) provide sufficient vehicle capacity and improve traffic operation to accommodate travel demands across the Missouri River and within the study corridor; 5) improve access to the CBD and other major activity centers; and 6) facilitate the movement of trucks.

B. Regulatory Background

Section 404 of the CWA prohibits the discharge of dredged or fill material into “Waters of the U.S.” unless exempted or authorized by the U.S. Army Corps of Engineers (USACE). Section 404 is the primary Federal statute that implements federal regulatory policies concerning the protection of wetlands and other waters of the U.S. as specified in various orders and regulations. The Kansas City District USACE maintains jurisdiction over the water resources in the area in which the I-29/35 corridor is located.

II. Methods

The MoDOT Wetland Protocol, dated January 2002, outlined the criteria that were used to identify streams and sites of potential jurisdictional wetlands. References included aerial photography; U.S. Geological Survey (USGS) maps; U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) maps ; Natural Resources Conservation Service (NRCS) county soil survey maps; the county hydric soils lists; and the 1987 USACE Wetlands Delineation Manual.

The stream crossings evaluated in this report include USGS blue line streams within the right-of-way and proposed impact area of the Preferred Alternative. Streams were photographed and were field-checked to determine the presence or absence of an established Ordinary High Water Mark (OHWM), and to determine the width of the OHWM. In addition, the adjacent vegetation and the composition of the stream channel were also noted. Field work at each stream also included observations to check for ponding or saturation on the terraces above the OHWM.

The NWI maps were reviewed to determine locations of potential “vegetated wetlands” within the impact area of the Preferred Alternative. On-site, Level 2 delineations were conducted at potential wetland areas using the Routine Method of the 1987 USACE Wetland Delineation Manual. Potential wetland areas were photographed and delineation forms were filled out to determine which wetland parameters, if any, were met. Soil samples were taken, hydrology was evaluated, vegetation was characterized and listed, and data collection points were located. On-site measurements were taken to determine the location and extent of wetland boundaries.

A GIS program (ArcGIS) was used to determine the length of stream and surface area of streams, wetlands, and ponds lying within the right-of-way and the length and surface area that could potentially be impacted by the Preferred Alternative. These were determined from field investigations, and from topographic base maps and aerial photographs overlain with a digital file of the proposed right-of-way impact area (see Plan View Maps in this Appendix).

Ponds were photographed and were checked to determine whether or not there was a hydrologic connection to a water of the U.S.

III. Results and Discussion

All of the water resources within the I-29/35 study corridor are in Clay County except for the south half of the Missouri River (the county line runs down the middle of the river).

A. Streams

Within the study corridor, field investigations were performed at three mapped stream crossings and one field-identified stream within the right of way (see Plan View Maps 1, 2 & 3 in this Appendix). Two of the streams (see Plan View Map 1) are intermittent (North Hillside Drainage Ditch – Stream 2, and an unnamed tributary of it – Stream 1), one is perennial (the Missouri

River – Stream 3, shown on Plan View Map 3), and the drainage ditch (Stream 4, shown on Plan View Map 2) appears to be ephemeral. All of these streams had an established channel with an OHWM and are recommended to be considered jurisdictional Waters of the U.S. Although Stream 4 has no direct connection to a water of the U.S. it is hydrologically adjacent to the Missouri River as it is within the river’s historic floodplain. Photographs were taken and pertinent information about each stream and adjacent riparian area was recorded.

Table 1 presents potential impacts to each stream within the Preferred Alternative including the type of impact, total length within the right of way, stream length impacted, OHWM width, surface area impacted, and project totals in linear feet and acres. Other information in the table includes the location, latitude/longitude, section/township/range, the USGS / NWI designation, and indication of hydric soil presence or absence.

B. Wetlands

The NWI maps were reviewed and showed one designation of a potential “vegetated wetland” (Wetland 1) within the Preferred Alternative (see Plan View Map 3). This area is located on the north side of the Missouri River (Stream 3) where a riparian woodland area is designated as PFO1A (palustrine forested, broad-leaved deciduous, temporarily flooded). After a routine wetland determination was performed, it was determined that this area (above the OHWM) did not meet all three parameters to be considered a jurisdictional wetland, and is therefore a riparian woodland.

During field investigations, it was observed that the areas adjacent to Streams 1 and 2 are adequately drained and are not subject to ponding or saturation for long duration. Due to these conditions, there is an absence of long-duration hydrology and no wetlands were present in the Preferred Alternative along these two streams.

In the area at Stream 4 (north of 16th Avenue), it was determined that two separate vegetated wetland areas exist (see Plan View Map 2). Wetland 2 (at the north end of Stream 4) is an emergent wetland covering 0.27 acre. It is a depressional area and its source of hydrology is from overland flow from the highway embankment on the west and to the north, and from the industrial trailer storage yard on the east. Wetland 3 (at the south end of Stream 4) is a small forested wetland in a depression covering 0.02 acre. The source of hydrology for Wetland 3 comes from ditch flow from the north, and from the culvert under 16th Avenue that flows into Stream 4 on the west side of the wetland area. However, the outflow culvert at the west end of Stream 4 is plugged with debris and sediment, and the water backs up into the depression rather than draining out, resulting in a poorly drained area.

Wetland 4 is a narrow (3-foot wide) band of hydrophytic vegetation around the perimeter of Pond 1 (see Plan View Map 2). Wetland 4 is composed of 0.02 acre of forested wetland on the east half of the pond, and 0.02 acre of emergent wetland on the west half of the pond. It is recommended that Wetland 4 be considered jurisdictional, as it is located within the historic floodplain of the Missouri River, and would be considered adjacent to the river.

C. Ponds

There is one pond within the Preferred Alternative. Pond 1, which has an NWI designation of PUBGx is a detention pond located inside the loop off-ramp at the 16th Avenue interchange (see Exhibit B and Appendix A). This pond has no outlet, but it is fed by overland flow from the east side of the highway, inflow from a pipe that collects surface run off from the west side of the highway, inflow from a pipe flowing into the pond from the southeast, and overland flow collected by a drain inlet/catch basin in a low area located between the east side of the pond and the loop ramp. The pipe at the southeast end of the pond and the pipe at the west end of

Stream 4 are both plugged with debris, which restricts the flow of water into the pond from the east side. There is no stream channel flowing in or out of the pond, and although the pond is within the historic floodplain of the Missouri River, it is cut off from the flood waters of the river by the river's levee and is above the ground water level. On February 27, 2006, the water's edge of the pond was surveyed and determined to be at elevation 729.5. The bottom of the pond is approximately 2 feet below this water level. The Missouri River water elevation on that same day was surveyed and determined to be at elevation 711.1. Therefore, it appears that there is no connection to the Missouri River, and the pond can be considered isolated and not a jurisdictional Water of the U.S. The survey of the pipes around the pond area was done on March 17, 2006.

A second pond was found just south of 19th Avenue, on the west side of I-29/35, however it is outside of the impact area and right of way of the Preferred Alternative.

IV. Conclusions

As shown in Table 1, Streams 1, 2 and 3 would be impacted and the total potential linear impact to these streams would be up to 269 feet (the Missouri River will be bridged and would have no linear impact). A total of up to 169 feet would be impacted through culvert extensions and up to 100 feet would be cut off and filled at Stream 1 (east side of I-29/35) where a new channel would be cut from the downstream culvert extension to tie into the existing stream channel within existing MoDOT right of way. The total potential surface area impact within the OHWM would be approximately 0.18 acre, of which 0.04 acre is from culvert extension, 0.02 acre of which is from fill, and 0.12 acre of which is from bridge piers in the Missouri River. Although Stream 4 is within the Preferred Alternative right-of-way, it is outside of the impact area and would not be filled or otherwise disturbed.

As shown in Table 2, impacts would occur to Wetlands 2 and 4. The potential impacts to these jurisdictional wetlands would total 0.06 acre of emergent wetlands and 0.02 acre of forested wetlands. Although Wetland 3 is within the Preferred Alternative right of way, it is outside of the impact area and would not be filled or otherwise disturbed.

As shown in Table 3, the total surface area (0.56 acre) of the detention pond (Pond 1) would be impacted by removal. However, the pond does not appear to be a jurisdictional Water of the U.S., therefore the activities involving impacts to the pond would not likely be subject to Section 404 Permit regulations.

TABLE 1 - Stream Impacts

Stream #	Stream Name	Location	USGS / NWI	Soil Mapping	Water of the U.S.	Impact Type	OHWB Width (ft)	Impact Length (ft)	Impact Area (acres)	Length within ROW	Section/ Township/ Range	Latitude/ Longitude
Stream 1	Tributary of North Hillside Drainage Ditch	North of Armour Rd	Bln-I	NH	Yes	Culvert/ Fill	10	130	0.03	130	S13-T50N-R33W	39° 09' 01" N 94° 33' 36" W
Stream 2	North Hillside Drainage Ditch	North of Armour Rd	Bln-I	NH	Yes	Culvert	10	139	0.03	139	S13-T50N-R33W	39° 08' 55" N 94° 33' 36" W
Stream 3*	Missouri River	Paseo Bridge	Bln-P / R2UBH	HI	Yes	Bridge/ Temp. Access	920	0	0.12	230	S24/28-T50N-R33W	39° 07' 22" N 94° 33' 58" W
Stream 4	Unnamed Drainage Ditch	North of 16th Ave.	None	HI	Yes	None	7	0	0.00	360	S13-T50N-R33W	39° 08' 18" N 94° 33' 55" W
TOTALS								269	0.18			

* Indicates bridged stream crossing. Length of stream is considered NOT impacted. Surface area impacts are from piers.
Bln-I = Blue-line Intermittent; Bln-P = Blue-line Perennial; NH = Non-hydric soil; H = Hydric Soil; HI = Hydric Inclusions

TABLE 2 - Wetland Impacts

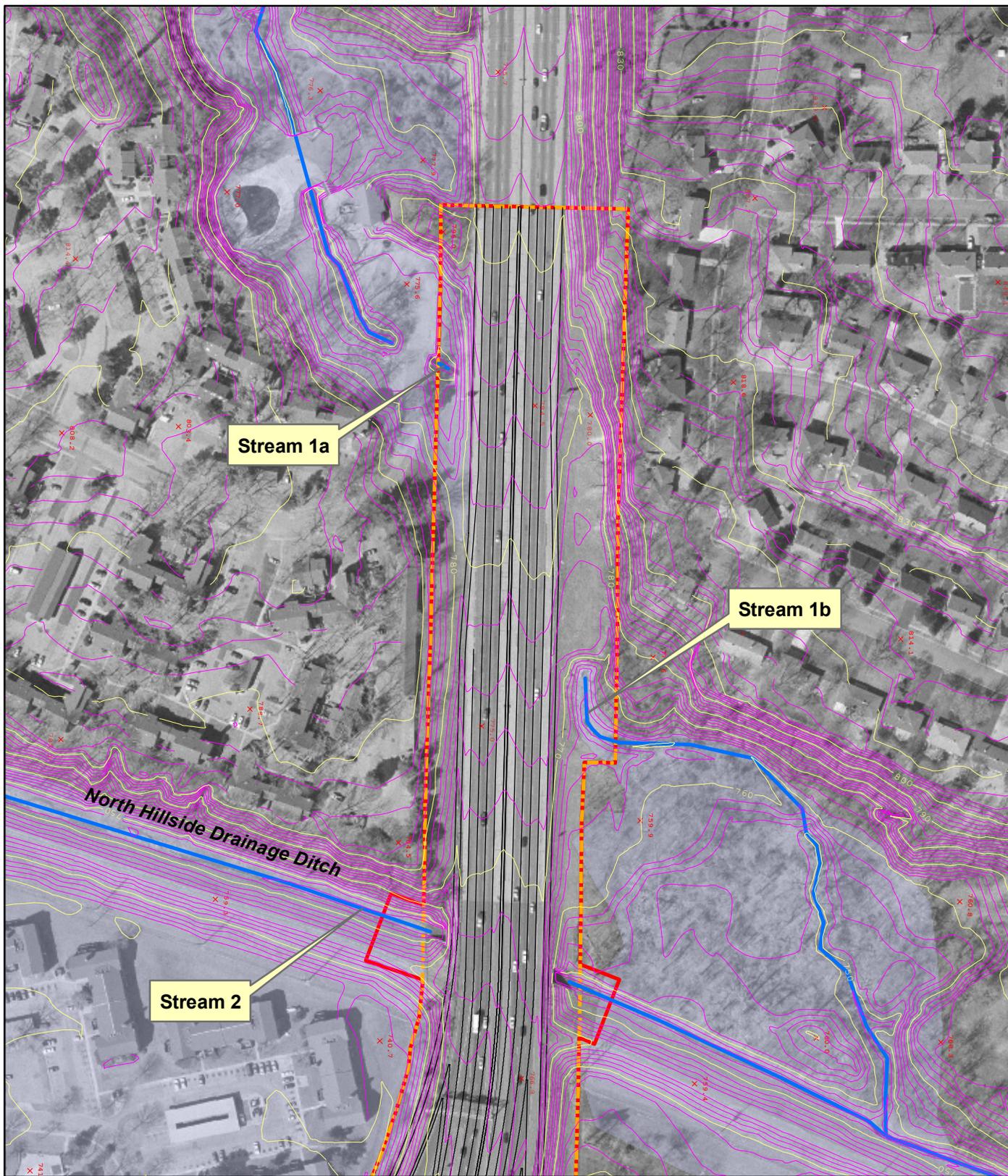
Wetland #	Location	NWI	Soil Map	Adjacent/ Isolated	Adjacent Waterway	Area within ROW (ac.)	Wetland Impacts by Type			Impact Type	Section/ Township/ Range	Latitude/ Longitude
							Emergent (ac.)	Scrub-Shrub (ac.)	Forested (ac.)			
W-1	Paseo Bridge	R2UBH	HI	Non-Wetland	Missouri River					Bridge	S28-T50N-R33W	39° 07' 28" N 94° 33' 59" W
W-2	North of 16th Ave.	none	HI	Adjacent	Stream 4 / Missouri River (historic fldpln.)	0.27	0.04	0	0	Fill	S13-T50N-R33W	39° 08' 21" N 94° 33' 56" W
W-3	North of 16th Ave.	none	HI	Adjacent	Stream 4 / Missouri River (historic fldpln.)	0.02	0	0	0	None	S13-T50N-R33W	39° 08' 17" N 94° 33' 56" W
W-4	At Pond 1	PUBGx	HI	Adjacent	Missouri River (historic fldpln.)	0.04	0.02	0	0.02	Fill	S13-T50N-R33W	39° 08' 18" N 94° 33' 59" W
TOTALS							0.06	0	0.02			

NH = Non-hydric soil; H = Hydric Soil; HI = Hydric Inclusions

TABLE 3 - Pond Impacts

Pond #	Location	NWI	Soil Map	Isolated	Water of the U.S.	Adjacent Waterway	Area within ROW (ac.)	Impact Area (ac.)	Pond Type	Impact Type	Section/ Township/ Range	Latitude/ Longitude
P-1	North of 16th Ave.	PUBGx	HI	Yes	No	None	0.56	0.56	Detention	Fill	S13-T50N-R33W	39° 08' 18" N 94° 33' 59" W
TOTALS								0.56				

NH = Non-hydric soil; H = Hydric Soil; HI = Hydric Inclusions



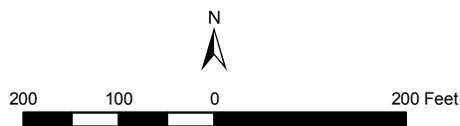
Stream 1a

Stream 1b

North Hillside Drainage Ditch

Stream 2

- - - Existing ROW
- Preferred Alternative ROW
- Preferred Alt. Pavement
- Streams
- 100-Year Floodplain
- NWI Wetlands
- Ponds
- Wetland - Field Delineated
- Wetland Data Point

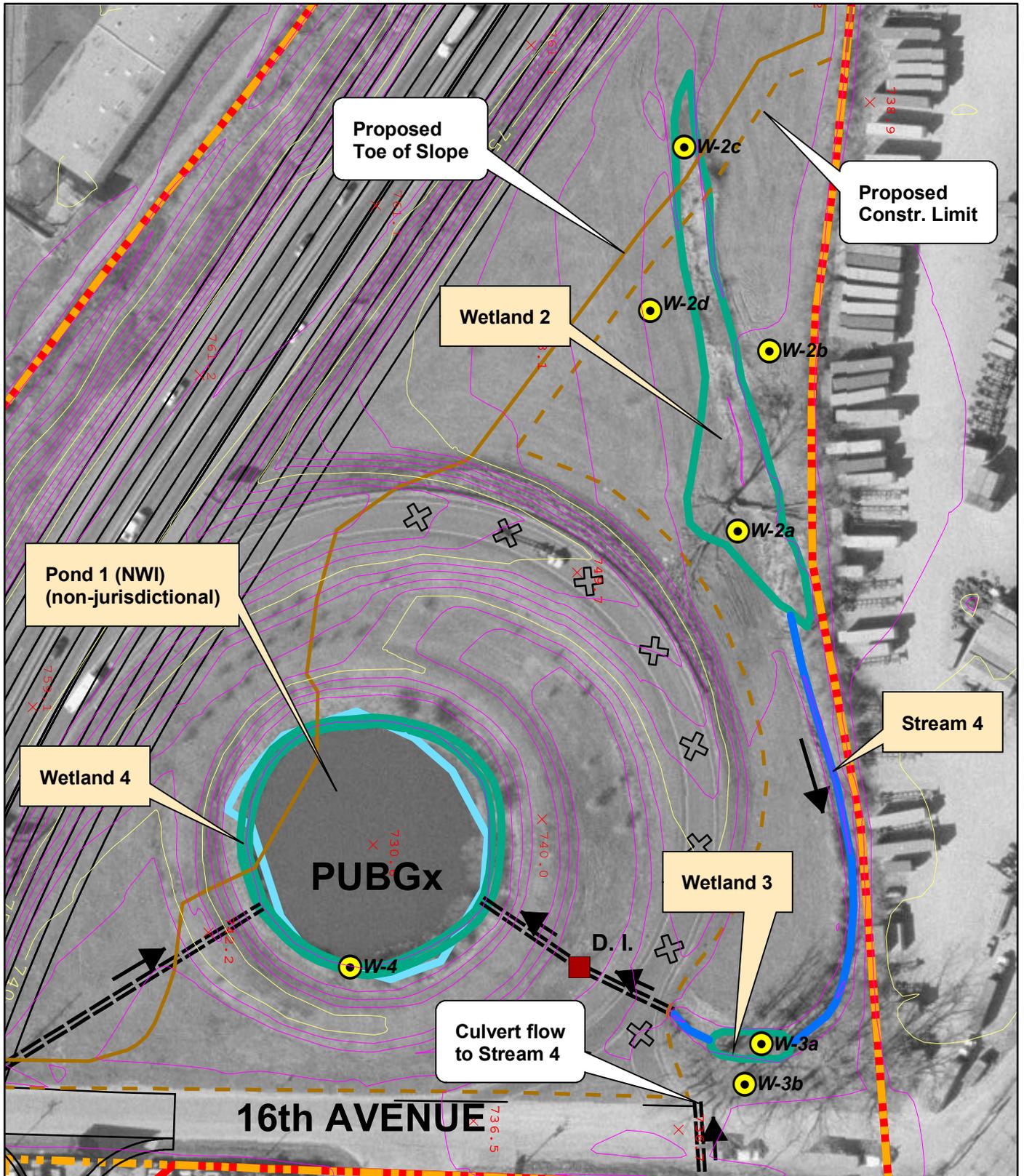


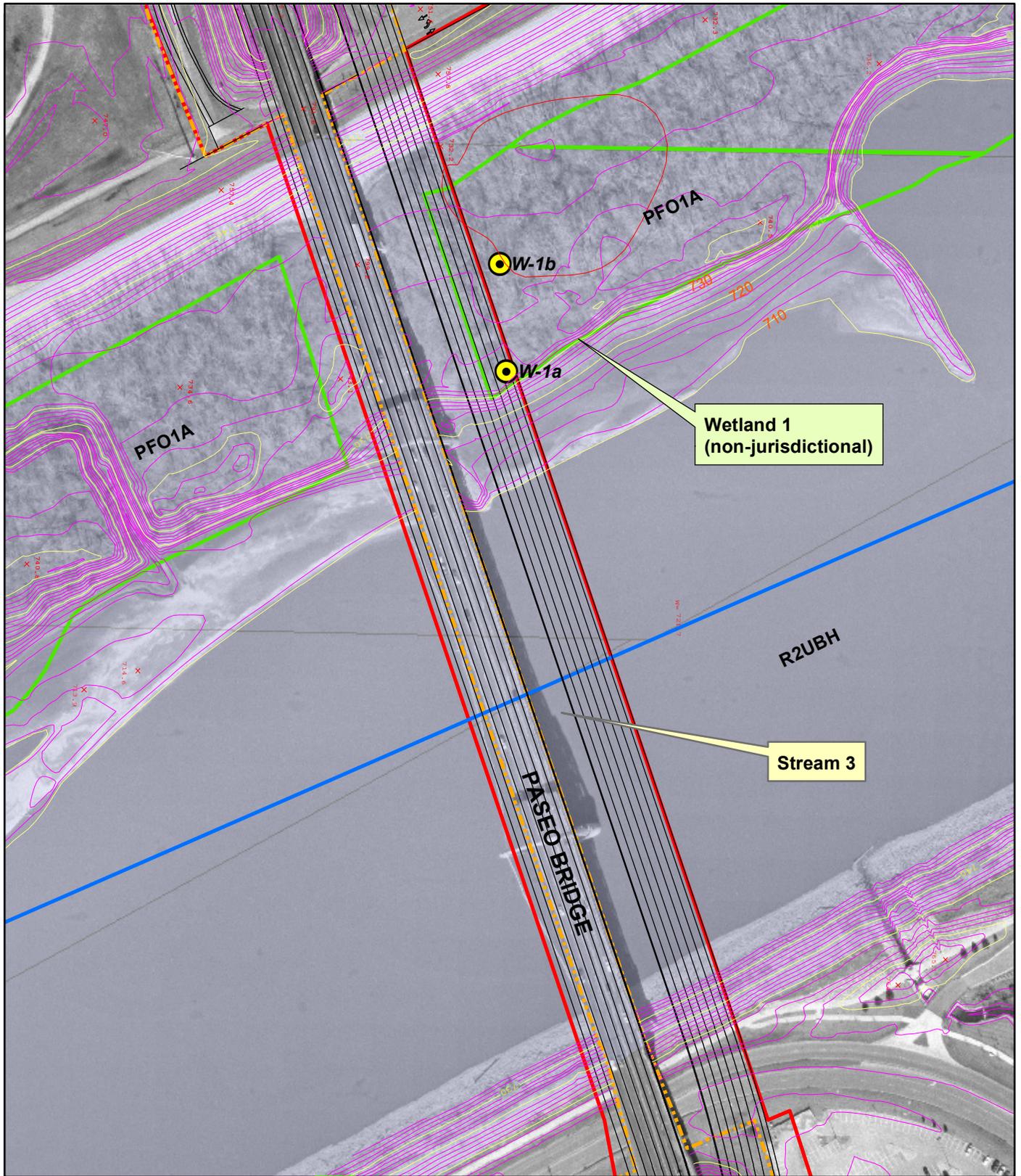
I-29/35 Corridor Study



**Cities of North Kansas City & Kansas City
Clay & Jackson Counties, Missouri**

**Plan View - Map 1
Streams 1 & 2**





Wetland 1
(non-jurisdictional)

Stream 3

Existing ROW	NWI Wetlands	 N 210 105 0 210 Feet
Preferred Alternative ROW	NWI Ponds	
Preferred Alt. Pavement	Wetland - Field Delineated	
Streams	Wetland Data Point	
100-Year Floodplain	Culverts (Existing)	

I-29/35 Corridor Study

**Cities of North Kansas City & Kansas City
Clay & Jackson Counties, Missouri**

**Plan View - Map 3
Stream 3
Wetland 1**