

Appendix E

Response Letters

List of Letters

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15 DEC 2004



Bob Holden, Governor • Stephen M. Mahfood, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

December 1, 2004

Johnny McLean
Acting Chief, Environmental Section
Corps of Engineers, Little Rock District
P.O. Box 867
Little Rock, Arkansas 72203-0867

Re: Jordan Creek Watershed (COE) Springfield, Greene County, Missouri

Dear Mr. McLean:

Thank you for submitting information on the above referenced project for our review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended) and the Advisory Council on Historic Preservation's regulation 36 CFR part 800, which require identification and evaluation of cultural resources.

We have reviewed the information provided concerning the above referenced project. We have determined that there is a moderate to high potential for the presence of archaeological sites near and within the area of the proposed project, as indicated by the topographic location and the location of sites 23GR428, 23GR429, 23GR430, 23GR432 and 23GR433 with the watershed area, and that an archaeological survey should be conducted. This survey should be completed prior to the initiation of project-related construction activities. We have also enclosed a listing of properties listed in the National Register of Historic Places in Greene County.

A list of independent archaeological contractors who can perform such services is available through the Department of Natural Resources, Division of Administrative Support. The list can be obtained by calling (573) 751-0958 and requesting the "archaeological contractors list." Note that any 36 CFR Part 61 qualified archaeologist may perform an archaeological survey. If you choose a contractor not on the list, please be certain to include his or her curriculum vitae in the report. We would appreciate two (2) copies of the archaeological survey report when it is finished so we may complete the review and comment process.

If you have any questions, please write Judith Deel at State Historic Preservation Office, P.O. Box 176, Jefferson City, Missouri 65102 or call Ms. Deel at 573/751-7862. Please be sure to include the SHPO Log Number (003-GR-05) on all future correspondence or inquiries relating to this project.

Sincerely,

STATE HISTORIC PRESERVATION OFFICE

A handwritten signature in black ink, appearing to read "Mark A. Miles".

Mark A. Miles
Director and Deputy State
Historic Preservation Officer

Enclosure: As stated

c Joe Cothorn, EPA
Chris Davies, COE/LR
Alana Owen, Springfield

Integrity and excellence in all we do



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- Abou Ben Adhem Shrine Mosque**, 601 St. Louis St., Springfield (9/09/82)
- Anderson, Elijah Teague, House**, 406 N Pine, Republic (11/14/80)
- Bentley House**, 603 E Calhoun, Springfield (11/14/80)
- Benton Avenue AME Church**, 830 North Benton, Springfield, (10/14/01)
- Berry Cemetery**, 1431 W. Farm Rd. 74, Ash Grove vicinity (11/13/04)
- Boegel and Hine Flour Mill-Wommack Mill**, E side of North Main St., S of intersection Fair Grove (11/06/86)
- Boone, Nathan, House**, Nathan Boone Homestead State Historic Site, 1.75 mi. N of Ash Hwy. V (10/01/69)
- Campbell Avenue Historic District** (*Springfield, Missouri MPS*), 200 and 300 blocks of Ave., and 300 block of Park Central W, Springfield (6/25/99)
- Christ Episcopal Church**, 601 E Walnut, Springfield (3/26/87)
- College Apartments** (*Springfield, Missouri MPS*), 408 E. Walnut St., Springfield (5/01/00)
- Commercial Street Historic District**, Commercial St., Springfield (5/24/83)
- Day House**, 614 South St., Springfield (11/07/76)
- Gillioz Theater**, 325 Park Central E, Springfield (7/09/91)
- Gilmore Barn**, US 160, 3.5 mi. E of Ash Grove, Ash Grove vicinity (4/08/94)
- Heer's Department Store** (*Springfield, Missouri MPS*), 138 Park Central Square, Springfield
- Holland Building** (*Springfield, Missouri MPS*), 205 Park Central East, Springfield (11/15/00)

Hotel Sansone (*Springfield, Missouri MPS*), 312 Park Central E, Springfield (05/05/00)

Jefferson Street Footbridge, Jefferson Ave., bet. Commercial and Chase Sts., Springfield

Keet-McElhany House, 435 E Walnut, Springfield (3/22/84)

Kite, Robert B. and Vitae A., Apartment Building, 769-771 South Ave., Springfield (1/

Landers Theater, 311 E Walnut, Springfield (8/12/77)

Lincoln School, 815 N Sherman, Springfield (5/31/00)

Marquette Hotel (*Springfield, Missouri MPS*), 400 E Walnut, Springfield (05/05/00)

Marx-Hurlburt Building (*Springfield, Missouri MPS*), 311-315 E. Park Central Sq., Sprin (9/02/03)

Mid-Town Historic District, roughly bounded by Pacific, Clay, Pythian, Summit, Calhou Central, Benton, Division, and Jefferson, Springfield (7/13/89)

Mid-Town Historic District (*Boundary Increase I*), roughly along N. Robberson Ave. an Ave., Springfield (8/09/02)

Netter-Ullman Building, 317 Park Central East, Springfield (4/18/03)

Oberman, D.M., Manufacturing Company Building, 600 North Boonville Avenue, Sprin (4/18/2002)

Old Calaboose, 409 W McDaniel, Springfield (11/14/80)

Palace Hotel (*Springfield, Missouri MPS*), 501 College St., Springfield (11/27/02)

Pearson Creek Archaeological District District includes: 23GR28; 23GR46; 23GR47; ; 23GR49; 23GR50; 23GR61; 23GR116; 23GR117; 23GR119; 23GR120; 23GR123; 23G 23GR133; 23GR134; 23GR135; 23GR167; 23GR176; 23GR177; 23GR341; Phelps Digg Mines; Gem Mines; Suffold and Eversal Shafts; Daisy Mine; Lewis & Benz Mines; Meyer Wolverine & O'Day Mines; Nathalie & Kodak Mines; Kershner Cemetery; Schoolcraft's C Marker; and Simpson Cemetery (10/11/78)

Rock Fountain Court Historic District, 2400 W. College St., Springfield (4/02/03)

St. John's Mercy Hospital Building, 620 W. Scott, Springfield (9/02/03)

South Avenue Commercial Historic District (*Springfield, Missouri MPS*), Walnut and f South and Robberson Aves., Springfield (6/25/99)

South-McDaniel-Patton Commercial Historic District (*Springfield, Missouri MPS*), Ro by S. Campbell Ave., W. McDaniel St., South Ave., and W. Walnut St., Springfield (3/07/

Springfield National Cemetery, 1702 E Seminole St., Springfield (8/27/99)

Springfield Warehouse and Commercial Historic District (*Springfield, Missouri MPS*) Mill and W Phelps Sts. and Boonville Ave., Springfield (6/25/99)

Stone Chapel, Drury College Campus, Benton & Central Sts., Springfield (10/21/82)

U.S. Customhouse and Post Office, 830 Boonville Ave., Springfield (6/27/79)

Walnut Street Commercial Historic District (*Springfield, Missouri MPS*), Walnut St., S (6/25/99)

Walnut Street Historic District, roughly bounded by McDaniel, Walnut, Elm Sts. & Shelbourn St., Springfield (3/21/85)

Walnut Street Historic District (*Boundary Decrease I*), along East Elm Street, Springfield

Walnut Street Historic District (*Boundary Increase I*), roughly along E. Walnut St., from 800 Blocks, Springfield (8/05/02)

Washington Avenue Baptist Church (Second Baptist Church), 729 North Washington (12/22/00; removed 10/06/01)

West Walnut Street Commercial Historic District (*Springfield, Missouri MPS*), roughly blocks of West Walnut Street and 300-400 blocks of South Campbell Avenue, Springfield

Wilson's Creek National Battlefield, SW of Springfield on MO 174 (also in Christian County) (10/15/66)

Wise Feed Company Building, 438-440 S. Campbell Ave., Springfield (1/06/03)

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Department of Natural Resources
P. O. Box 176, Jefferson City, MO 65102

1-800-361-4827 / (573) 751-7860
E-mail: moshpo@dnr.mo.gov
Revised on Thursday November 18 2004



Heritage Review Report

Missouri Department of Conservation
 Attn: Shannon Cave
 Public Involvement Coordinator
 P. O. Box 180
 Jefferson City, MO 65102
 Shannon.Cave@mdc.mo.gov
 573-522-4115 Ext. 3250

Mr. Johnny McLean
 Department of the Army
 Little Rock District, Corps of Engineers
 P. O. Box 867
 Little Rock, AR 72203-0867

Project type: Flood damage and ecosystem restoration study
Location: Springfield, MO, Jordan Creek drainage
County: Greene
Described in query as: Flood damage and ecosystem restoration study
Date query received: November 19, 2004
cc: Gene Gardner, Chris Vitello

Enclosures:
 Management Recommendations for Construction Projects Affecting Missouri Streams and Rivers
 Management Recommendations for Construction Projects Affecting Missouri Wetlands
 Management Recommendations for Ozark Cavefish

This is not a site clearance letter, but a report of Missouri Department of Conservation records concerning public lands and sensitive resources known to be near and possibly affected by the proposed project. There are no records within the study area *per se*, but because of the area's karst geology, an approximately two mile wide buffer around the designated drainage led to the following listings:

Species/habitats with Federal restrictions: (see reverse for explanation)

Scientific Name	Common Name	Federal Status	State Status	State Rank	Ownership	Section	Township/Range
AMBLYOPUS ROSAE	OZARK CAVEFISH	T	E	S2	PRIVATE	04	028N022W
AMBLYOPUS ROSAE	OZARK CAVEFISH	T	E	S2	PRIVATE	05	028N022W
AMBLYOPUS ROSAE	OZARK CAVEFISH	T	E	S2	PRIVATE	32	029N022W

FEDERAL STATUS - The federal status is derived from the provisions of the federal Endangered Species Act, which is administered by the U.S. Fish and Wildlife Service. The Endangered Species Act provides federal protection for plants and animals listed as Endangered or Threatened. E = Endangered, T = Threatened, C = Candidate, PE = Proposed Endangered for Federal listing.

Species/habitats with State restrictions: (see reverse for explanation)

Scientific Name	Common Name	State Status	State Rank	Ownership	Section	Township/Range
LEPUS CALIFORNICUS	BLACK-TAILED JACKRABBIT	E	S1	PRIVATE	16	029N022W
TYTO ALBA	BARN OWL	E	S2	PRIVATE	31	029N021W
ACCIPITER COOPERI	COOPER'S HAWK	E	S3	PRIVATE	31	029N021W
AGALINIS PURPUREA	PURPLE FALSE FOXGLOVE	E	S2	PRIVATE	09	029N021W
AMB. ROSAE RECHARGE AREA	OZARK CAVEFISH RECHARGE AREA	E	S2	PRIVATE	17	029N022W
BUTEO SWAINSONI	SWAINSON'S HAWK	E	S2	PRIVATE	34	029N021W



MISSOURI DEPARTMENT OF CONSERVATION

Headquarters

2901 West Truman Boulevard, P.O. Box 180, Jefferson City, Missouri 65102-0180
Telephone: 573/751-4115 ▲ Missouri Relay Center: 1-800-735-2966 (TDD)

JOHN D. HOSKINS, Director

January 3, 2005

Mr. Johnny McLean
Department of the Army
Little Rock District, Corps of Engineers
P. O. Box 867
Little Rock, AR 72203-0867

Dear Mr. McLean:

Re: Jordan Creek drainage flood damage and ecosystem restoration, Springfield, MO

Thank you for your recent letter regarding the Missouri Department of Conservation's (MDC) input of the above referenced study. Enclosed is a "heritage review" which identifies records on the state's database of species and habitats of conservation concern. This is a report we typically provide to projects seeking information to comply with federal and state environmental laws. In addition, I consulted with various staff about recommendations of a more general nature, and convey the following:

1. There is repeated mention of channelization in the project plan. As a rule, channelization should be minimized to the fullest extent possible and a more natural meander pattern should be maintained or restored where feasible. Likewise, natural stream substrates should be maintained or established versus concrete lined channels.
- 2.. Construction BMPs should be followed throughout the project and erosion control should be a top priority. The Heritage Database review references several of our BMP documents. Reiterating the importance of these practices would be useful.
3. This project impinges on karst areas and potential habitat for species such as the Ozark cavefish. Sinkhole and losing stream reaches are pretty well defined in Greene County and efforts to avoid impacting these sensitive areas are critical. I would suggest that COE contact Loring Bullard at the Watershed Committee of the Ozarks for help in delineating sinkholes and losing stream reaches and U.S. Fish and Wildlife Service (USFWS) to discuss possible Section 7 consultation.
4. Riparian corridor maintenance or re-establishment should be a focus of this project. Wherever possible, a minimum 50-foot wide corridor of trees and shrubs should be an objective of this project.
5. Native plant species should be used in all plantings and follow-up efforts to ensure the long-term success of the project plan. We might note the availability of selected plant species through our nursery.

COMMISSION

STEPHEN C. BRADFORD
Cape Girardeau

ANITA B. GORMAN
Kansas City

CYNTHIA METCALFE
St. Louis

LOWELL MOHLER
Jefferson City

Mr. Johnny McLean
Page 2
January 3, 2005

6. Detention/retention basins could be managed as moist-soil units using native plantings to enhance wildlife habitat, birding opportunities and aesthetics. Ideally we could incorporate some fisheries features into some of these basins, although I suspect basin depth and long-term water retention would be limiting. Under these conditions, establishing quality fish populations and possible water quality concerns could be difficult to overcome.

Finally, MDC values the input of cooperators in the Stream Team program. There are three significant Non-Governmental Organizations (NGOs) in this area which include: Watershed Committee of the Ozarks (Loring Bullard), Ozark Greenways (Terry Whatley), and James River Basin Partnership (Holly Neill). A staff member from our office communicated with each cooperator listed above and summarized their input as follows:

- Avoid estimating the total cost for a comprehensive restoration plan. Other major watershed projects proposed in Springfield have been rejected or delayed because the total cost prompted too much opposition. Focus on the most cost effective actions, or break proposed actions into phases, so the most effective measures are enacted as soon as possible. These projects should include conspicuous locations that demonstrate significant aesthetic improvement, as well as flood control and ecosystem benefits. Cooperate with the city and other partners to share resources and achieve mutual goals as much as possible.
- Control runoff as close to the source as possible with porous surfaces, retention basins, landscaping, etc. Apparently the city has limited citywide control over runoff, but has some areas with special restrictions due to sinkholes and sensitive watersheds. Special watershed restrictions for Jordan Creek are likely to negatively impact redevelopment in central city and be counterproductive.
- Where possible, maintain existing floodplains in natural state; maintain existing natural stream beds and stream banks; restore banks and stream beds to natural conditions; restore floodplain areas that have been filled in or cut off from a stream channel, and "daylight" sections of stream that have been confined to culverts or covered by buildings.

Thank you for the opportunity to review and comment, and let me know if I may further assist.

Sincerely,



SHANNON CAVE
PUBLIC INVOLVEMENT COORDINATOR

SC:kb

Enclosure



DEPARTMENT OF THE ARMY
LITTLE ROCK DISTRICT CORPS OF ENGINEERS
POST OFFICE BOX 867
LITTLE ROCK, ARKANSAS 72203-0867
(501) 324-5751

<http://www.swl.usace.army.mil>

February 21, 2012

Planning and Environmental Division
Environmental Branch

«salutation» «fn» «ln»
«title»
«agency»
«office»
«add1»
«add2»
«city», «state» «zip»

Dear «salutation» «ln»:

The Little Rock District, U.S. Army Corps of Engineers is conducting a flood risk management study in the Jordan Creek watershed within the city limits of Springfield, Missouri. The study area is located within the White River Basin, extending approximately six miles along Jordan Creek, including North Branch and South Branch Jordan Creek. The study area (see enclosure) includes Jordan Creek, North Branch Jordan Creek, South Branch Jordan Creek and the upstream portion of Wilson Creek. In order to evaluate the impacts of any proposed action resulting from the study, the Little Rock District will be preparing an environmental assessment of the proposed action and alternatives evaluated in this study.

Alternatives evaluated in this study, aside from the no action alternative, will include structural and non-structural measures that reduce flood risks associated with a 2%, 1% and 0.2% flood event (50, 100, and 500 year recurrence interval, respectively). Due to the urban nature of the drainage, with development resulting in channel modifications and confinement, the channel footprint will be similar in each alternative, incorporating detention basins, as well as structural and non-structural features which are anticipated to undergo some modifications depending on the selected alternative.

The feasibility study on Jordan Creek began in May 2004. A public scoping meeting was held on October 26, 2004 at the Ozarks Technical Community College. The meeting used an “open house” format and provided interested agencies and the public an opportunity to provide comments regarding the need for the study and possible solutions to flooding along Jordan Creek. In November 2004, an agency coordination letter requesting any pertinent information, comments or concerns regarding this proposed project was sent out.

Since 2004, the City of Springfield and the Corps have signed a feasibility cost sharing agreement (FCSA). The team has been developing baseline hydrologic and hydraulic information, along with alternatives development.

Jordan Creek FRM Study, Springfield, MO.
Appendix E: Agency Correspondence

At this time we are re-engaging resource agencies and stakeholders. We request any updated information your agency may have regarding the study proposal by March 21, 2012. This information will assist the Corps in determining the existing conditions of the Jordan Creek watershed as well as develop possible solutions to reduce flooding along the creek. If comments are not received by this date, we will assume your agency has no preliminary comments on the proposed action.

Comments should be addressed to Mr. Mike Rodgers, U.S. Army Corps of Engineers, Little Rock District, Planning and Environmental Division, P.O. Box 867, Little Rock, Arkansas 72203-0867, telephone number (501) 324-5030, email: michael.r.rodgers@usace.army.mil. If you have any additional questions, please contact the undersigned at (501) 324-5601 or email at Dana O. Coburn@usace.army.mil.

Sincerely,

Encl.

Dana O. Coburn
Chief, Environmental Branch

Jordan Creek FRM Study, Springfield, MO.
Appendix E: Agency Correspondence

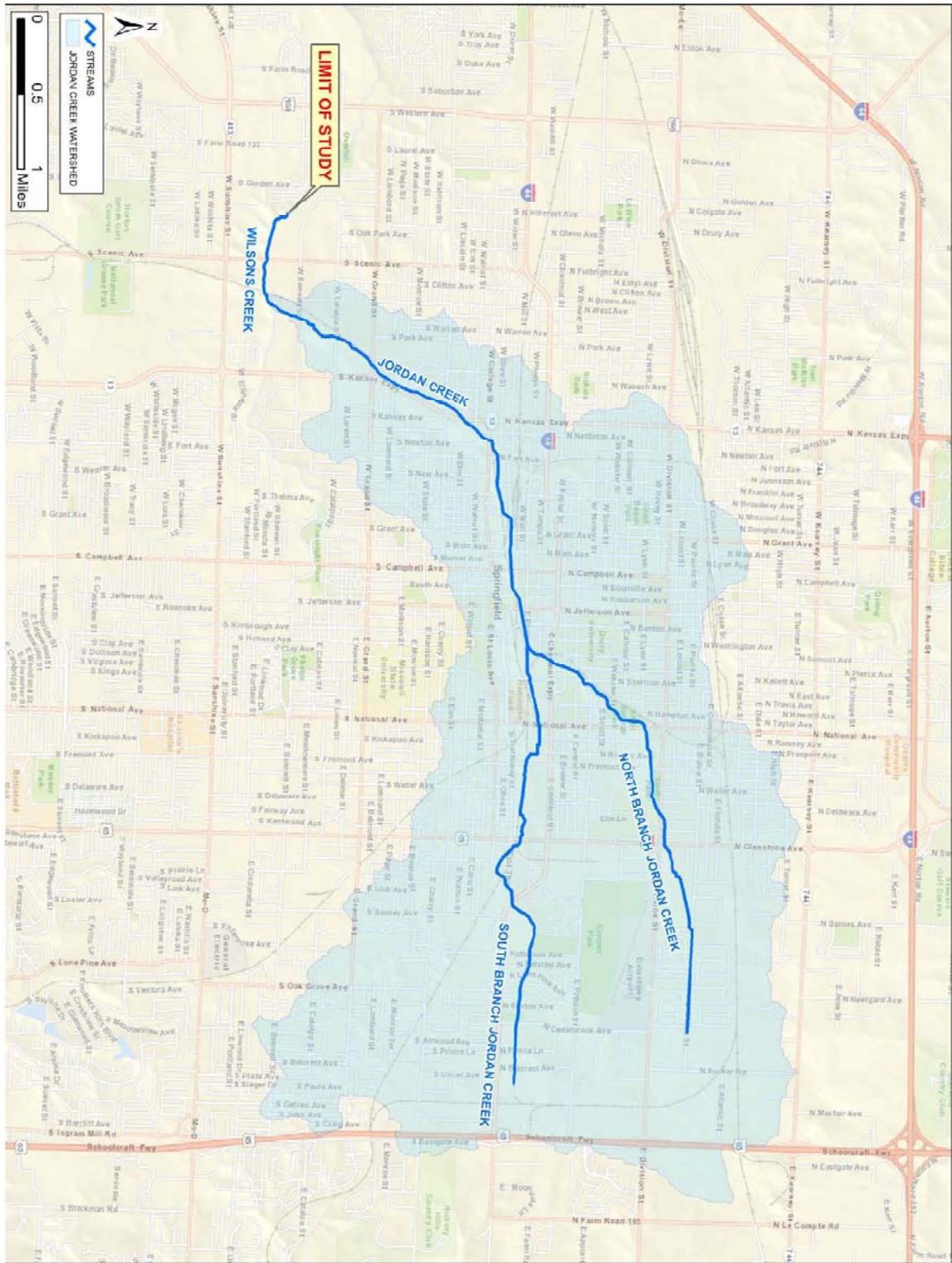
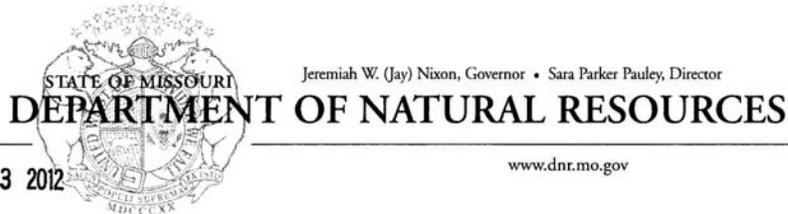


Figure 1. Jordan Creek Feasibility Study Project Area



APR 3 2012

www.dnr.mo.gov

Mr. Mike Rodgers
U.S. Army Corps of Engineers, Little Rock District
Planning and Environmental Division
P.O. Box 867, Little Rock, Arkansas 72203-0867

Re: Flood Risk Management Study, Jordan Creek Watershed, Springfield, Missouri

Dear Mr. Rodgers:

The Missouri Department of Natural Resources (department) appreciates the opportunity to review the information submitted for the proposed Flood Risk Management Study for the Jordan Creek Watershed in Springfield, Missouri. The department offers the following comments for consideration.

Water Quality

Since the Corps of Engineers conducted the initial Feasibility Study on Jordan Creek in 2004, EPA has established Total Maximum Daily Load or TMDLs for Jordan and Wilson Creeks in the Springfield metro area. These TMDLs use storm water runoff as a surrogate for unknown toxicity from multiple point and urban nonpoint sources. Jordan Creek and the upper portions of Wilson Creek above the Springfield wastewater treatment plant are significantly impaired by urban storm water runoff. Feasibility studies to determine the effectiveness of structural and non-structural best management practices will aid the City of Springfield in determining the most effective way to implement the requirements of these TMDLs to achieve reductions in storm water runoff.

The Wilson Creek and Jordan Creek TMDLs can be found on the department's TMDL web page at the following link: <http://www.dnr.mo.gov/env/wpp/tmdl/2375-wilsons-3374-jordan-cks-tmdl.pdf>

Hazardous Materials

There are numerous sites in the Jordan Creek area that are listed in the department's databases as potentially containing hazardous materials. We are providing general information below. We are also attaching additional site information including address, GPS data, etc. for Tanks and Voluntary Cleanup Program (VCP) sites. The department is also providing maps of the study area showing the location of Tanks sites, Superfund sites, Dry Cleaner sites, VCP sites, and Resource Conservation and Recovery Act (RCRA) permitted sites.

Underground Storage Tank (UST) sites

The department's databases include information on six UST sites with open remediation cases, and another three UST sites that are actively remediating.



Jordan Creek Watershed
Page Two

Superfund sites

Robert E. Lee Lumber site. No impact is expected during this project. No further action was required at the site after the owner confirmed that it was never a wood-treating facility. Solid State Circuits, 616 Boonville Road. Trichloroethene (TCE) and lead in soil and groundwater. The site was proposed for Missouri Registry of Hazardous Waste sites, but the proposal was withdrawn when the onsite wells were closed.

Syntex, 2460 West Bennett Street. This is now an active RCRA site, with known groundwater contamination of As, Ba, benzene, TCE, PCE and several other metals and VOCs. Soil contamination has been remediated.

RCRA permitted sites

There is one RCRA permitted site, one interim status facility, and one resource recovery site that appear to be within the ¼ mile boundary of the Jordan Creek Study Area as described below.

1. Archimica (MOD095038329) is located at 2460 W. Bennett Street, Springfield and is on the very western end of the study area. This facility is a RCRA Permitted site and is currently an active manufacturer of pharmaceutical chemicals.
2. Zenith Electronics (MOD043941798) is located at 2500 E. Kearney, Springfield and is a closed Interim Status facility. This facility is located at the southern edge of the lower branch of Jordan Creek.
3. Computer Recycling Center (MOR000520023) is a closed Resource Recovery facility and was located at 1434 North National, Springfield. This site is located on the northern edge of the upper branch of Jordan Creek.

In addition, there is one other RCRA site that is just outside and on the upper eastern edge of the study area that might also be of interest. This fourth facility is the VOPAK USA INC - SPRINGFIELD VWR (MOD000823229) located at 220 S. Barnes, Springfield. Based on the information available, it is likely that there are sites in the study area with hazardous materials present that would be impacted by whatever action the Corps of Engineers chooses as a result of this study.

We appreciate the opportunity to provide comments for the proposed Flood Risk Management Study for the Jordan Creek Watershed in Springfield, Missouri. If you have any questions or need clarification, please contact me, phone number (573) 751-3195. The address for correspondence is Department of Natural Resources, P.O. Box 176, Jefferson City, MO 65102. Thank you.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES



Jane Beetem
Policy Coordinator

JB/mkc



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Columbia Ecological Services Field Office
101 Park DeVillie Drive, Suite A
Columbia, Missouri 65203-0057
Phone: (573) 234-2132 Fax: (573) 234-2181



June 28, 2012

Rec'd
JUL 02 2012
JL

Colonel Glen A. Massett
District Engineer
Little Rock District, Corps of Engineers
Little Rock, Arkansas 72203

Dear Colonel Massett:

This planning assistance letter is submitted by the U.S. Fish and Wildlife Service (Service) to the Little Rock District, U.S. Army Corps of Engineers (Corps), for use in the Jordan Creek Feasibility Study within the City of Springfield, Missouri. Information and planning assistance are provided in accordance with the provisions of, and under the authority of, the Fish and Wildlife Coordination Act (Coordination Act) (48 stat. 401, as amended; 16 U.S.C. 661 et seq.), and the "Agreement Between the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers for Funding Fish and Wildlife Coordination Activities." The comments of this letter do not, however, fulfill the reporting requirements of the Service under Section 2(b) of the Coordination Act.

The Service has reviewed the proposed project under the Section 7 of the Endangered Species Act and has made a preliminary determination that no federally listed species are known to occur within the project site. We will make a final determination under Section 7 of the Endangered Species Act when the project alternatives are reviewed.

Description of the Study Area and Proposed Project

The project proposal as submitted included the H&F Report dated November 2010, involving modifications to address urban flooding in Jordan Creek within the City of Springfield in Greene County, Missouri.

The Service commends the City of Springfield for attempting to address the cumulative negative effects resulting from altering Jordan Creek and conveying water through channelized concrete lined channels in sections of Springfield. We support the primary objectives of the project and are providing additional recommendations to mitigate project impacts. We would like to emphasize that although severely deteriorated, the Jordan Creek riparian corridor still provides habitat for countless species of aquatic and riparian wildlife. On a recent site visit, we observed numerous fish, shore birds, amphibians and various other bird species throughout the project area. We believe with appropriate planning, the project can improve and enhance environmental services provided by Jordan Creek.

The Service is aware that the project consultant recommended a design to address constantly changing development projects in an urban environment. We do not believe additional studies are necessary in formulating hydrological design. The Service would like to discuss, at some point during project planning, the assumptions stated on page 14 of the H&H Report.

The initial report provided general engineering recommendations for the expansion or development of detention basins to reduce impacts associated with flooding along Jordan Creek. We generally don't recommend or support impounding and altering stream systems, but in this case the detention basins may be a suitable alternative to temporarily store flood water throughout the Jordan Creek basin. The detention basins may also provide suitable habitat for amphibians and shore and wading birds. We believe the in-stream structures could be designed to allow free passage of aquatic species. We recommend that the Corps follow the Missouri Department of Conservation's "Best management Recommendations for Construction Projects Affecting Missouri Streams and Rivers."

The Service believes that "rough channels" in combination with detention basins, may actually reduce flooding by slowing the flow of floodwaters in the downtown sections of Springfield. The Service believes it is counterproductive to convert natural stream channels into concrete ditches in an attempt to reduce flood impacts.

The Service would like for the city to consider the following general recommendations where possible:

- Improve all existing stream channels to appropriate width and depth ratios and use native stream bed materials.
- Convert existing concrete box structures (culverts) to more natural openings. New culverts should be bottomless or should be placed at least 10% below grade. When culverts are placed properly, head cuts should not occur in the stream.
- Open the sections of stream that are currently piped and replace them with new stream channels with 3:1 bank slopes on at least one side. In all other sections of streams that are concrete lined, remove at least one of the stream slopes and construct 3:1 bank slopes.
- Increase the use of storm water detention basins with common flow lines to adjacent stream channels and basin floors. The detention basins should be planted with native wetland vegetation. The constructed vegetated sites should be monitored for at least 5 years and replanted if exotic species invade the sites.
- Plant native tree and shrub species along project corridors to improve riparian habitat.
- Timber stand improvements may be appropriate in some locations, but should be done in consultation with a professional forester.
- Replant all disturbed areas with native vegetation.

Based on the project proposal we reviewed, the project footprint will not impact any public recreational areas that receive funding under the Water and Conservation Fund. During the design phase, the Service is available to provide assistance to improving fish and wildlife habitat within the Jordan Creek Basin

The Service appreciates the opportunity to provide these comments and recommendations early in the Corps project planning phase. Please continue to inform us as the project progresses. If you

Jordan Creek FRM Study, Springfield, MO.
Appendix E: Agency Correspondence

have any questions regarding our comments or recommendations, please contact Bryan Simmons of my staff at 417-836-5302, or by email at bryan_simmons@fws.gov.

Sincerely,



Amy Salveter
Field Supervisor

Cc: Mike Rodgers, U.S. Army Corps of Engineers, Little Rock District