

FLOODPLAIN DEVELOPMENT APPLICATION
(For Proposed Development in Floodplain Areas)

Date 2-28-17 Permit No LG-17-01

NOI Fee Collected: Yes No Amount 100

Applicant/Developer Burns & McDonnell Engineering Company, Inc.

Address 9400 Ward Parkway
Kansas City, KS 64114

Telephone Number (314) 682-1560 Email Address jhesemann@burnsmcd.com

Contact Name John Hesemann

List Type and Purpose of Development Groundwater injection and extraction analysis

Located at Latitude 35°53'00.84"N, Longitude 97°34'34.03"W (see attached map)

Flood Zone Type: Zone A

If property will be located in an identified Special Flood Hazard Area complete the following and require certified elevation of proposed lowest floor (including basement) & lowest adjacent grade.

Name of Community Logan County, Unincorporated Areas

NFIP Community No 40083C0250F

Applicant Requests To:

- Construct Mine Construct Addition Remodel Elevate
- Drilling Demolish Add Fill Manufactured Housing (Placement)
- Storage (Equipment or Supplies)

Base Flood Elevation Undetermined Proposed Lowest Floor Elevation N/A

Flood Map Effective Date September 29, 2010

Community - Panel No. 400096 - 0250 F

Permit Fee \$100.00 Has permit fee been collected? Yes No

Plans, specifications and elevation certificate filed by the applicant shall constitute by reference, a part of this permit.

FOR OFFICIAL USE ONLY

This application has been reviewed by David Ball
Print Name Here

Date 2-28-17 David Ball
Signature of Reviewer

This application is considered complete and complies with the local floodplain ordinance or set of regulations

Are other local, state or federal permits required? Yes No If yes, list type(s)

DEVELOPMENT PERMIT APPLICATION

For Proposed Development on
LANDS LOCATED IN FLOODPLAIN AREAS

INSTRUCTIONS

~~TO COMPLY WITH FLOODPLAIN MANAGEMENT REGULATIONS AND TO MINIMIZE POTENTIAL FLOOD DAMAGE, IF YOU ARE BUILDING WITHIN AN IDENTIFIED FLOOD HAZARD AREA, YOU MUST AGREE TO CONSTRUCT YOUR PROPOSED DEVELOPMENT IN ACCORDANCE WITH THE FOLLOWING SPECIAL PROVISIONS:~~

SPECIAL FLOODPLAIN PROVISIONS

1. For RESIDENTIAL structures, the lowest floor (including basement) must be elevated to or above the base flood elevation (100-year flood elevation) as delineated in this community's floodplain management regulations or ordinances. See provisions for manufactured homes in local regulations.

2. For NON-RESIDENTIAL structures, the lowest floor must be elevated to or above the base flood elevation, or floodproofed to withstand the flood depths, pressures, velocities, impact and uplift forces associated with the 100-year flood as delineated in this community's floodplain management regulations or ordinances.

3. For ALL STRUCTURES, the foundation and the materials used must be constructed to withstand the pressures, velocities, impact and uplift forces associated with the 100-year flood.

4. All utility supply lines, outlets, switches and equipment must be installed and elevated so as to minimize damage from potential flooding. Water and sewer connections must have automatic back flow devices installed.

5. You must submit certification on the attached form(s) from a REGISTERED ENGINEER, ARCHITECT or LAND SURVEYOR, that the floor elevation and/or floodproofing requirements have been met. Failure to provide the required certification is a violation of this permit.

6. Other Provisions — See attached list _____ None _____

AUTHORIZATION

I have read or had explained to me and understand the above special provisions for flood plain development. Authorization is hereby granted the permitting authority and their agents or designees, singularly or jointly, to enter upon the above-described property during daylight hours for the purpose of making inspections or for any reason consistent with the issuing authority's floodplain management regulation. I further verify that the above information is true and accurate to the best of my knowledge and belief.



Signature of Applicant

02/09/2017

Date



June 18, 2018

Brian Noblitt
U.S. Army Corps of Engineers
1645 South 101st East Avenue
Tulsa, OK 74128

Re: Cimarron Environmental Response Trust Site in Logan County, Oklahoma
Regulatory Office File Tracking and Permit Number: SWT-2015-609
Burns & McDonnell Project Number: 104407

Dear Mr. Noblitt:

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) was retained by Cimarron Environmental Response Trust (CERT) to provide wetland delineation and permitting services for the Cimarron Environmental Response Trust Site (Project) in Logan County, Oklahoma (Appendix A). The purpose of this Project is to mitigate the uranium, nitrates, and fluorides in the groundwater through extraction, treatment, and discharge of affected groundwater. The Project is currently underway. Due to unexpected construction delays, the new estimated completion date is July 31, 2020. A U.S. Army Corps of Engineers (USACE) Nationwide Permit 12 (NWP 12) was issued for the project in 2015 and an extension of that permit is requested.

PROJECT DESCRIPTION

The Project is located at a site that was formerly owned and operated by Kerr-McGee Nuclear Corporation. The onsite facilities were utilized for the production of mixed oxide fuel and uranium fuel, including enriched uranium reactor fuel pellets and eventually fuel rods from 1966 to 1975. During this time, exposure of process water and material to the environment resulted in the contamination of the site groundwater. The site is now owned by the CERT. The concentration of uranium, nitrates, and fluorides in the groundwater must be reduced to achieve unrestricted release of the site and license termination from the Nuclear Regulatory Commission (NRC). Mitigation of these constituents will be achieved through the extraction, treatment, and discharge of affected groundwater. These processes will require the construction of groundwater extraction wells, groundwater extraction trenches, groundwater injection wells, groundwater injection trenches, process piping, two outfalls to the Cimarron River, and groundwater treatment facilities. All best management practices (BMPs) will be implemented in compliance with associated erosion and sedimentation regulations for disturbance; thereby minimizing those associated impacts.

SUMMARY

Burns & McDonnell conducted a wetland delineation of the Survey Area to identify wetlands and other waters of the U.S. on April 23 through 25, 2015, by Jack Finley, senior wetland scientist, and Micheal Hogan, Global Positioning System (GPS) specialist, both with Burns & McDonnell. One wetland and three stream channels were identified. The original delineation cover letter is included in attachment B. Although impacts to the waters will avoided to the



Brian Noblitt
U.S. Army Corps of Engineers
June 18, 2018
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extent practicable, the installation of the two outfall structures will create permanent, unavoidable impacts at the Cimarron River. Additionally, temporary impacts will occur to the wetland due to open trenching during construction of the outfall at that location.

A current concurrence letter from U.S. Fish and Wildlife Service (USFWS), as well as a Protected Species Determination Table has been requested prior to the USACE granting an extension to the NWP 12. Per instructions by the USFWS, an online project review has been conducted and submitted to the USFWS. There has been no change in the online review results, or in the design and location of the outfalls. Due to this, it is not expected to receive a response from USFWS and for the concurrence letter to be excepted. Therefore Burns & McDonnell on behalf of CERT would like to respectfully request an extension to the NWP 12.

If you have any questions about the content of this request extension of the NWP 12, please contact Ken Gouvion at (972) 455-3157 or kgouvion@burnsmcd.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Kenneth Gouvion".

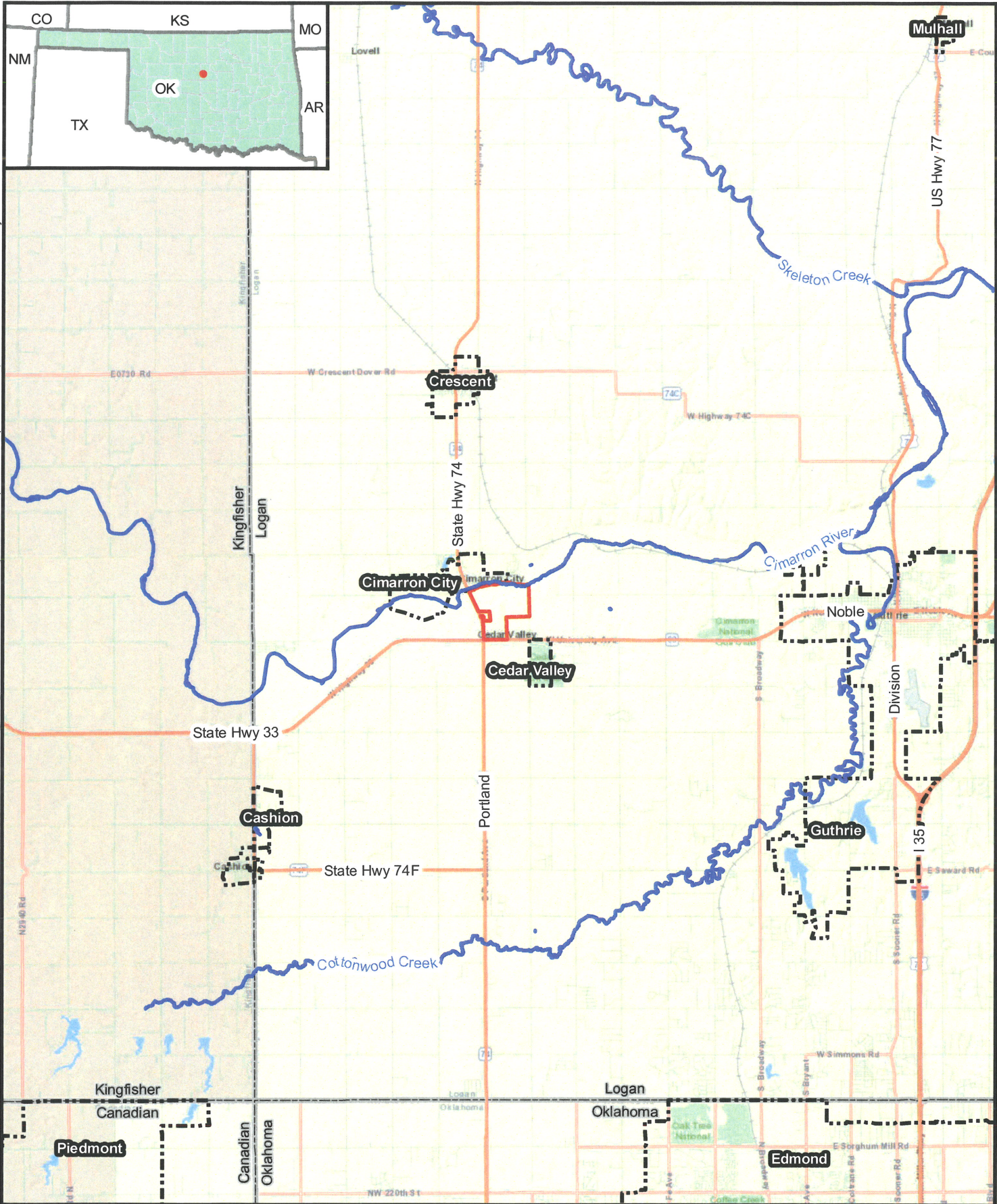
Kenneth Gouvion, CPESC, CISEC
Staff Environmental Scientist

Appendices:

- Appendix A - Figures
- Appendix B - Original Wetland Delineation Cover Letter
- Appendix C - USFWS Online Concurrence Letter
- Appendix D - Species List: Oklahoma Ecological Services Field Office
- Appendix E - Protected Species Determination Table
- Appendix F - Previously Issued Online Concurrence Letter

cc: Eric Dulle – Burns & McDonnell
John Hesemann – Burns & McDonnell
Jeff Lux – Environmental Properties Management, LLC

APPENDIX A - FIGURES



- Project Boundary
- NHD Stream
- Highway
- City Limit
- County Line

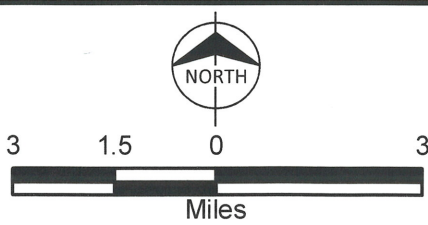
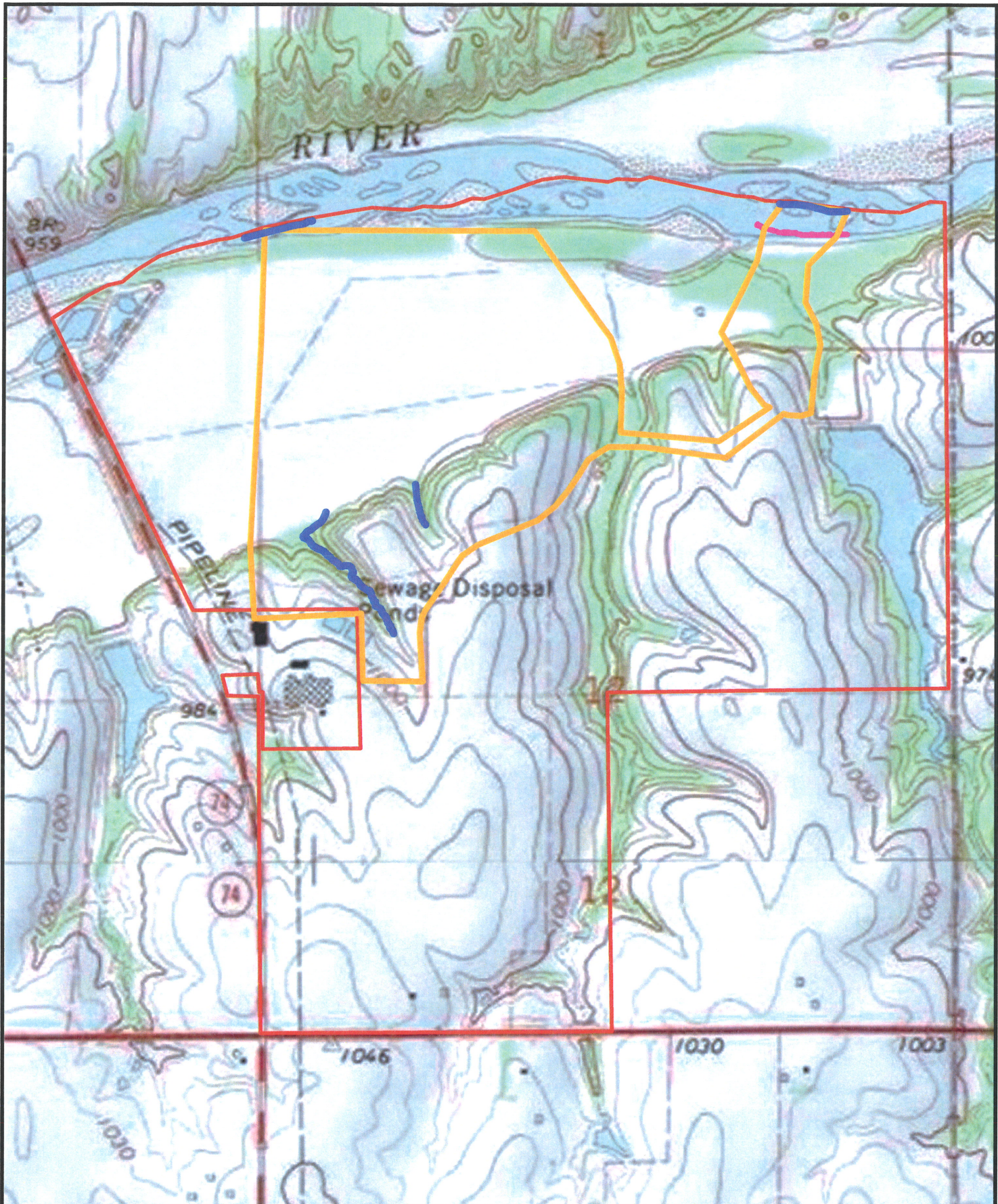





Figure A-1
General Vicinity Map
Groundwater Remediation Project
Cimarron Environmental
Response Trust
Logan County, Oklahoma



-  Project Boundary
-  Wetland Survey Boundary
-  Delineated Stream
-  Delineated Wetland

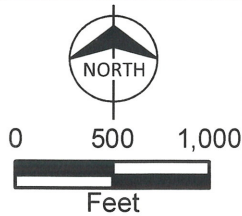
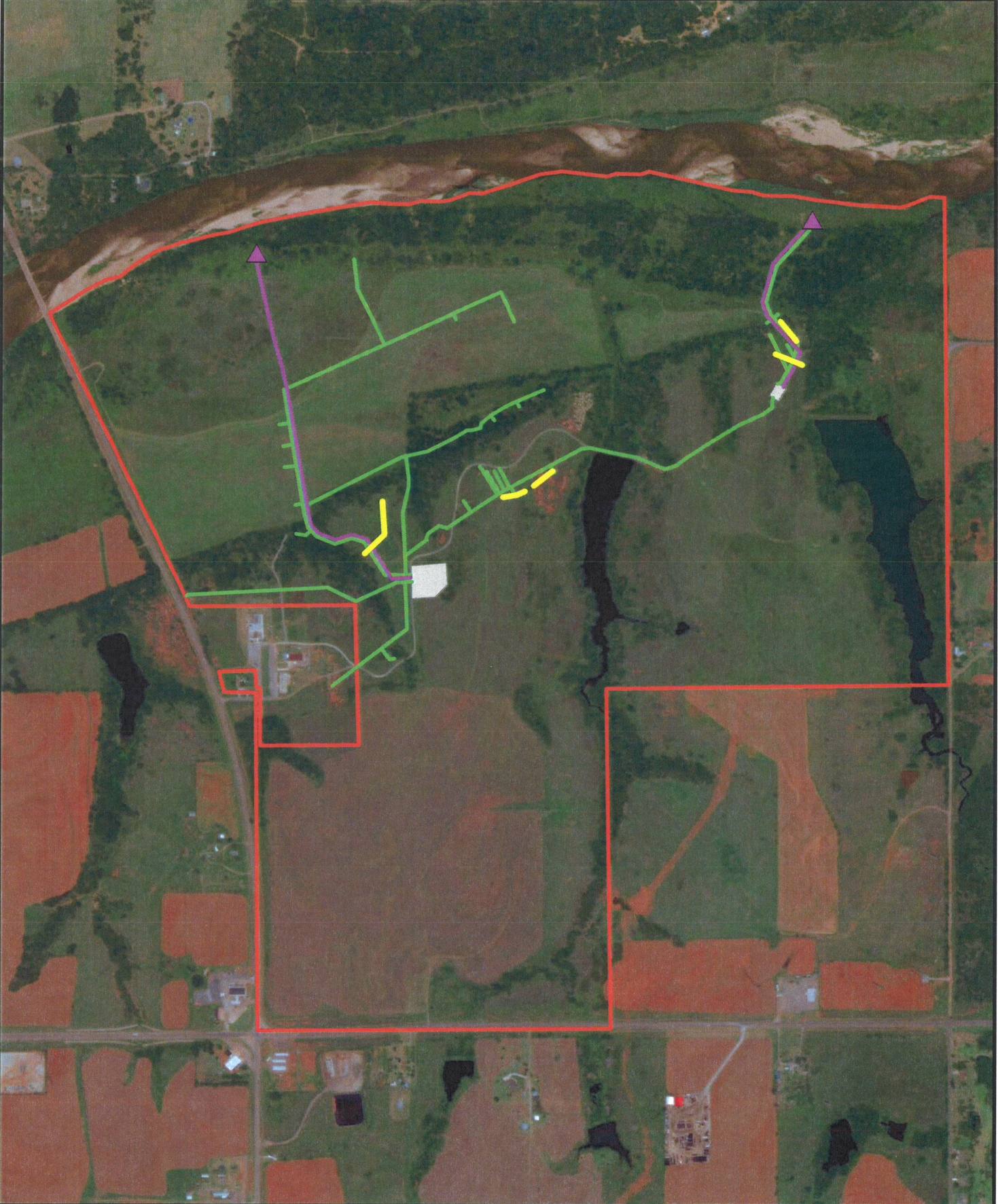








Figure A-2
Wetlands Delineation Map
Groundwater Remediation Project
Cimarron Environmental
Response Trust
Logan County, Oklahoma



 Project Boundary	 Groundwater Line
 Discharge Line	 Structure
 Outfall	 Exploratory Trench


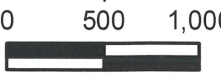

 NORTH

 0 500 1,000
 Feet



Figure A-3
 Structure Location Map
 Groundwater Remediation Project
 Cimarron Environmental
 Response Trust
 Logan County, Oklahoma

APPENDIX B - ORIGINAL WETLAND DELINEATION COVER LETTER



September 8, 2015

Division Chief
U.S. Army Corps of Engineers
CESWT-RO
1645 South 101st East Ave
Tulsa, OK 74128

Re: Cimarron Remediation Project

Dear Sir/Madam:

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) was retained by the Cimarron Environmental Response Trust (Trust) to provide wetland delineation and permitting services for the proposed Cimarron Remediation Project (Project). These actions are part of a larger effort to remediate groundwater contaminated by a former uranium enrichment facility.

INTRODUCTION

The Project is located at a site that was formerly owned and operated by Kerr-McGee Nuclear Corporation (KMNC) (Figure A-1 in Appendix A). From 1966 to 1975, the onsite facilities were utilized for the production of mixed oxide fuel and uranium fuel including enriched uranium reactor fuel pellets and eventually fuel rods. During this time, exposure of process water and material to the environment resulted in the contamination of site groundwater. The site is now owned by the Trust. The concentration of uranium, nitrates, and fluorides in the groundwater must be reduced to achieve unrestricted release of the site and license termination from the U.S. Nuclear Regulatory Commission (NRC) and the Oklahoma Department of Environmental Quality (DEQ). Mitigation of these constituents will be achieved through the extraction, treatment, and discharge of affected groundwater. These processes will require the construction of groundwater extraction wells, groundwater extraction trenches, groundwater injection wells, groundwater injection trenches, process piping, two outfalls to the Cimarron River, and groundwater treatment facilities.

The Project has the potential to impact wetlands or other waters of the U.S. that may be under the jurisdiction of the U.S. Army Corps of Engineers (USACE) as designated by Section 404 of the Clean Water Act. Burns & McDonnell conducted a wetland delineation for the Project to evaluate for the presence of waters of the U.S., including streams, creeks, and ponds. This report has been prepared to identify and assess potential impacts to these waters.

The Project Survey Area included in the wetland delineation (Figures A-2 and A-3) consists of land that may be disturbed during the construction and operation of groundwater remediation activities and totals approximately 600 acres. Some trenching will occur outside of the Survey Area, but will be confined to existing low-maintenance roads in these areas.

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METHODS

The following sections summarize the methods used to review existing data for the Survey Area and to conduct the onsite wetland delineation.

Desktop Evaluation

Burns & McDonnell reviewed available background information for the Survey Area to identify locations where wetlands or streams were likely to be present. This information included:

- U.S. Geological Survey (USGS) 1:24,000 Topographic Quadrangle: Crescent, Oklahoma (2002)
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Quadrangle: Crescent, Oklahoma (2002)
- USGS National Hydrography Dataset (NHD) (2014)
- Natural Resources Conservation Service (NRCS) 2012 Soil Survey Geographic (SSURGO) digital data for Logan County, Oklahoma
- Geographic Information System (GIS) User Community aerial images (2015)
- Guidance from the Tulsa office of the USACE regarding the presence/absence of Section 10 Waters.

Wetland presence/absence depicted on the NWI maps was compared with local soil and hydrological data, aerial photography, and topographic maps to assess the most likely locations for wetlands and other waters of the U.S. based on available data. These maps are included as Figures A-2 and A-3.

Wetland Delineation

A jurisdictional wetland delineation was conducted on April 23 through 25, 2015, by Jack Finley, senior wetland scientist, and Michael Hogan, Global Positioning System (GPS) specialist, both with Burns & McDonnell. The wetland delineation was conducted in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) and Version 2.0 (2010) of the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region* (Regional Supplement). Sample plots were established and Wetland Determination Data Forms from the Regional Supplement were completed to characterize the Survey Area (Appendix B). Vegetation, soil conditions, and hydrologic indicators were recorded at each of these sample plots. Locations of the sample plots and water features were recorded using a sub-meter-accurate GPS unit. Natural color photographs of sample plots, wetlands, streams, and uplands were taken onsite and are included as Photographs C-1 through C-21 in Appendix C.

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RESULTS

The following sections describe the results of the existing data review and the completed wetland delineation.

Desktop Evaluation

Topographic, NWI, and NHD information is shown in Figure A-2. The Survey Area is located in the Cross Timbers Transition Zone of the Central Great Plains Ecoregion.¹ It consists of rough plains that are covered by prairie grasses and eastern red cedar, scattered oaks, and elms. Terrain and vegetation are transitional between the less rugged, grass-covered ecoregions to the west and the hilly oak savanna to the east. Today, land use is a mixture of grassland and fallow ground. This area has ridge and plain topography, with the ridges generally running north-south and the plains flat or gently sloped. The topography of the Survey Area ranges from an elevation of 1,010 feet on the bluffs overlooking the Cimarron River Floodplain to 930 feet within the floodplain. Topographic contours suggest that numerous drainageways likely to contain ephemeral or intermittent streams emanate from the bluffs into the floodplain.

NHD data indicates that the Project lies within the Lower Cimarron-Skelton Drainage Hydrologic Unit Code (HUC8) 11050002. NWI data indicate the presence of two freshwater ponds and one emergent wetland near the southern edge of the western Survey Area. NHD data shows an intermittent stream flowing through the eastern Survey Area toward the Cimarron River, which is a perennial river, with numerous freshwater wetlands evident throughout the channel.

As shown in Figure A-3, the NRCS SSURGO digital data indicate that the Survey Area includes 12 soil types:

- CoIC2 Coyle-Ironmound complex, 3 to 5 percent slopes, eroded
- DiRG Darsil-Rock outcrop complex, 15 to 45 percent slopes
- GaGA Gaddy-Gracemore complex, 0 to 1 percent slopes, frequently flooded
- GadA Gaddy loamy fine sand, 0 to 1 percent slopes, occasionally flooded
- GooE Goodnight fine sand, 1 to 15 percent slopes
- IrCE Ironmound-Coyle complex, 5 to 15 percent slopes
- LerA Lebron clay, 0 to 1 percent slopes, occasionally flooded
- PIT Pits
- URB Urban land
- YaaA Yahola loam, 0 to 1 percent slopes, occasionally flooded

¹ Woods, A.J., Omernik, J.M., Butler, D.R., Ford, J.G., Henley, J.E., Hoagland, B.W., Arndt, D.S., and Moran, B.C., 2005, *Ecoregions of Oklahoma* (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,250,000).

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- YahA Yahola fine sandy loam, 0 to 1 percent slopes, occasionally flooded
- W Water

Of these 12 soil types, 6 (Gaddy-Gracemore complex, 0 to 1 percent slopes, frequently flooded; Gaddy loamy fine sand, 0 to 1 percent slopes, occasionally flooded; Goodnight fine sand, 1 to 15 percent slopes; Lebron clay, 0 to 1 percent slopes, occasionally flooded; Yahola loam, 0 to 1 percent slopes, occasionally flooded; and the Yahola fine sandy loam, 0 to 1 percent slopes) are included on the local and national hydric soil lists.

Aerial imagery indicates a river system with a forested riparian buffer followed by a broad herbaceous community. This community ends abruptly at another woody community that runs in a southwest to northeast direction. Several prominent wooded drainageways emanate from this community in a southerly direction. Numerous areas of disturbance including roads and excavated areas are present. Several dammed impoundments are adjacent to the Survey Area.

Wetland Delineation

On April 22 through 24, 2015, Jack Finley, senior wetland scientist, and Michael Hogan, Global Positioning System (GPS) Specialist, both with Burns & McDonnell, conducted a wetland delineation of the Survey Area. The vegetation, soils, and hydrology within the Survey Area are described below.

Vegetation. The Survey Area was largely composed of grassland. Typical vegetation in the upland portions of the Survey Area included drooping brome (*Bromus tectorum*), southern sedge (*Carex australis*), goldenrod (*Solidago* sp.), common hackberry (*Celtis occidentalis*), and green ash (*Fraxinus pennsylvanica*).

Soils. Typical upland soils were dark reddish brown (5YR 3/4 or 5YR 4/6) or dark red (2.5YR 4/4 or 2.5YR 3/4) and silt or sand in texture. Wetland soils were also dark reddish brown (5YR 3/4 or 5YR 4/6) and sandy or silty in texture.

Hydrology. The primary sources of hydrology within the Survey Area are precipitation and surface water runoff. Common hydrology indicators included geomorphic position and a positive FAC-Neutral Test.

Jurisdictional Areas

One Palustrine Emergent (PEM) wetland, one perennial stream, and two intermittent streams were identified during the wetland delineation (Figure A-4; Photographs C-3 through C-21). Sample plots were located in the wetlands and adjacent uplands. USACE data forms from the Regional Supplement were completed for each sample plot (Appendix B).

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Wetlands

Wetland 1 (W-1). W-1 (0.28 acre) is a PEM wetland located in the northern portion of the Survey Area (Figure A-4; Photographs C-6, C-7, and C-9). Vegetation in this wetland was dominated by littletooth sedge (*Carex microdonta*), reed canary grass (*Phalaris arundinacea*), and stinging nettle (*Urtica dioica*). The hydrology was indicated by Geomorphic Position (D2) and a positive FAC-Neutral Test (A2).

Streams

Stream 1 (S-1) S-1 is a perennial stream (Cimarron River) that flows in an easterly direction at the northern boundary of the Survey Area (Figure A-4; Photographs C-15 and C-16). S-1 averaged more than 400 feet wide, and 988 linear feet of its length were delineated within the Survey Area. S-1 is approximately 6 feet deep at the ordinary high water mark (OHWM). Surrounding vegetation included sandbar willow (*Salix interior*) and eastern red cedar (*Juniperus virginiana*).

Stream 2 (S-2) S-2 is an intermittent stream that flows in a northerly direction through the Survey Area (Figure A-4; Photographs C-17 and C-18). S-2 averaged 3 feet wide, and 326 linear feet of its length were delineated within the Survey Area. S-2 had a depth of 0.5 foot at the OHWM, and the substrate of S-2 consisted of silt and sandstone.

Stream 3 (S-3) S-3 is an intermittent stream that flows in a northerly direction through the Survey Area (Figure A-4; Photographs C-20 and C-21). S-3 averaged 3 feet wide, and 1,395 linear feet of its length were delineated within the Survey Area. The substrate of S-3 consisted of silt and sandstone, and the depth at the OHWM was 0.3 foot.

SUMMARY

Burns & McDonnell conducted a wetland delineation of the Survey Area to identify wetlands and other waters of the U.S. One wetland and three stream channels were identified. Although impacts to these waters will be avoided to the extent practicable, the installation of the two outfall structures will create permanent, unavoidable impacts at the Cimarron River (S-1). Additionally, temporary impacts will occur at W-1 due to open trenching during construction of the outfall at that location. As a result, it is anticipated that the Project will require authorization under a Nationwide Permit 7 (NWP 7) for intake and outfall structures, requiring formal notification to the USACE.

Burns & McDonnell on behalf of the Trust would like to respectfully request a preliminary jurisdictional determination of the waters described in this report. Additionally, we would like to request concurrence that the Project, as currently designed, would qualify for authorization under a NWP 7.



Division Chief
September 8, 2015
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If you have any questions or require additional information, please contact me by telephone at (816) 822-4311 or by e-mail at jbailey@burnsmcd.com.

Sincerely,

A handwritten signature in blue ink that reads "Justin E. Bailey".

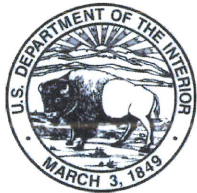
Justin E. Bailey, PWS
Senior Wetland Specialist

Attachments:

- Appendix A - Figures
- Appendix B - USACE Data Forms
- Appendix C - Ground Photographs

cc: Brian Weis – Burns & McDonnell
John Hesemann – Burns & McDonnell
Jeff Lux – Environmental Properties Management

APPENDIX C - USFWS ONLINE CONCURRENCE LETTER



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Division of Ecological Services
9014 East 21st Street
Tulsa, Oklahoma 74129
918/581-7458 / (FAX) 918/581-7467



June 7, 2018

Online Project Review Concurrence Letter

To: Kenneth Gouvion
Burns & McDonnell Engineering Company, Inc.
15950 N. Dallas Parkway, Tower II, Suite 700
Dallas, TX 75248
Phone: (972) 455-3157, Email: kgouvion@burnsmcd.com

Project Name: Cimarron Environmental Response Trust Site in Logan County, Oklahoma
Burns & McDonnell Project No. 104407

Consultation Code: 02EKOK00-2018-SLI-1456 - Current
(02EKOK00-2015-SLI-1367 - August 25, 2015)

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Oklahoma Ecological Services Field Office (ESFO) online project review process. By providing this letter in conjunction with your complete project review package, you are certifying that you have accurately completed the online project review process for the referenced project in accordance with all instructions provided, using the best available information to reach your conclusions. Concurrence with “not likely to adversely affect” determinations does not provide any exemption for violations of section 9 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA) or “take” of federally-listed species. The Federal action agency is ultimately responsible for ensuring compliance with the ESA and any take that occurs due to your proposed action would be considered a violation under section 9 of the ESA.

This letter and the enclosed project review package complete the review of your project in accordance with the ESA. This letter also provides information for your project review under the National Environmental Policy Act (National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C.4321-4347, 83 Stat. 852), as amended.

A copy of this letter and the project review package must be emailed to **okprojectreview@fws.gov** for this certification to be valid. This letter and the project review package will be maintained in Service records. **Please allow the Oklahoma ESFO 45 days to review your information. If the Oklahoma ESFO determines that the package is not complete, or that additional coordination is necessary, we will contact your office. If, after 45 days from the date of your email submittal of your project review package, the Oklahoma ESFO has not contacted your office, consider your section 7 consultation complete.**

The proposed action consists of:

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) is providing environmental support services for the Cimarron Environmental Response Trust (CERT) at a site formerly owned and operated by Kerr-McGee Nuclear Corporation (KMNC) in Logan County, Oklahoma (Project) (Appendix A). For the purpose of informal consultation with the U.S. Fish and Wildlife Service (USFWS), Burns & McDonnell evaluated threats to species protected by the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.), Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668), and the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703).

Project start and completion dates:

Project is currently underway. Due to unexpected construction delays, the new estimated completion date is July 31, 2020.

Federal agency or federal program providing a permit, funding, grant, authorization, loan, etc. associated with the proposed project and how that agency is associated with your project:

U.S. Nuclear Regulatory Commission is providing oversight. A U.S. Army Corps of Engineers (USACE) nationwide permit was issued for the project in 2015 and a request for an extension of that permit has been submitted. The USACE has requested a current project

Federal Agency/Program Point of contact (Name, phone, and email address):

Kenneth Kalman
Phone: (301) 415-6664
Email: kenneth.kalman@nrc.gov

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in “not likely to adversely affect/modify” determinations for listed species and critical habitat in relation to potential effects of your proposed project. We certify that the use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with determinations of “not likely to adversely affect” for listed species and critical habitat reached by proper use of this process. For projects where this particular determination is reached, additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages efforts to avoid or minimize adverse impacts to them from project effects. Some federal agencies have standing policies that grant limited protections to candidate species. Conservation of candidate species now may preclude future needs to federally list them as endangered or threatened, at which point their legal protection would become required. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of listed species or critical habitat becomes available, this determination may be reconsidered. You should re-visit the Service's Information, Planning, and Conservation (IPaC) website at <http://ecos/fws.gov/ipac/> within 90 days of project initiation to ensure species information is correct. If new species or critical habitat is identified, this letter is no longer valid and a new project package should be submitted to the Oklahoma ESFO.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Oklahoma is available at our website: <<http://www.fws.gov/southwest/es/oklahoma/>>. If you have any questions, please call 918-581-7458 or send an email message to OKProjectReview@fws.gov.

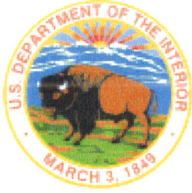
Sincerely,
/s/ Jonna Polk
Field Supervisor
Oklahoma Ecological Services Field Office

Enclosures:

- 1) ENTIRE PROJECT REVIEW
 - PACKAGE: Species Conclusion Table
 - IPaC Species List and Action Area map
 - This letter (Online Concurrence Letter)
 - (Optional) Additional maps
- 2) Other relevant project data/documents

The USFWS concurrence letter form August 25, 2015, has been included with this submittal.

APPENDIX D - SPECIES LIST: OKLAHOMA ECOLOGICAL SERVICES FIELD OFFICE



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467
<http://www.fws.gov/southwest/es/Oklahoma/>

In Reply Refer To:

May 01, 2018

Consultation Code: 02EKOK00-2018-SLI-1456

Event Code: 02EKOK00-2018-E-03449

Project Name: Cimarron Environmental Response Trust Site in Logan County, Oklahoma

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Non-federal entities conducting activities that may result in take of listed species should consider seeking coverage under section 10 of the ESA, either through development of a Habitat Conservation Plan (HCP) or, by becoming a signatory to the General Conservation Plan (GCP) currently under development for the American burying beetle. Each of these mechanisms provides the means for obtaining a permit and coverage for incidental take of listed species during otherwise lawful activities.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit through our Project Review step-wise process <http://www.fws.gov/southwest/es/oklahoma/OKESFO%20Permit%20Home.htm>.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oklahoma Ecological Services Field Office

9014 East 21st Street

Tulsa, OK 74129-1428

(918) 581-7458

Project Summary

Consultation Code: 02EKOK00-2018-SLI-1456

Event Code: 02EKOK00-2018-E-03449

Project Name: Cimarron Environmental Response Trust Site in Logan County, Oklahoma

Project Type: LAND - RESTORATION / ENHANCEMENT

Project Description: Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) is providing environmental support services for the Cimarron Environmental Response Trust (CERT) at a site formerly owned and operated by Kerr-McGee Nuclear Corporation (KMNC) in Logan County, Oklahoma (Project) (Appendix A). For the purpose of informal consultation with the U.S. Fish and Wildlife Service (USFWS), Burns & McDonnell conducted desktop analyses to evaluate threats to species protected by the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.), Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668), and the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703).

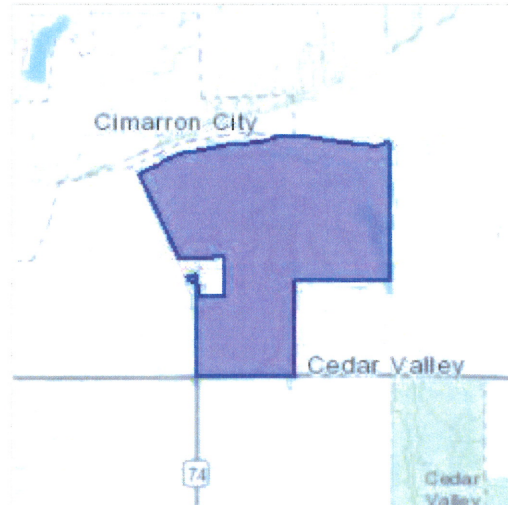
Burns & McDonnell and CERT are requesting a concurrence with the findings of this desktop habitat assessment that the proposed Project has not effect or is not likely to adversely affect species protected under the jurisdiction of the USFWS.

The Project is located at a site that was formerly owned and operated by Kerr-McGee Nuclear Corporation. The onsite facilities were utilized for the production of mixed oxide fuel and uranium fuel, including enriched uranium reactor fuel pellets and eventually fuel rods from 1966 to 1975. During this time, exposure of process water and material to the environment resulted in the contamination of the site groundwater. The site is now owned by the CERT. The concentration of uranium, nitrates, and fluorides in the groundwater must be reduced to achieve unrestricted release of the site and license termination from the Nuclear Regulatory Commission (NRC). Mitigation of these constituents will be achieved through the extraction, treatment, and discharge of affected groundwater. These processes will require the construction of groundwater extraction wells, groundwater extraction trenches, groundwater injection wells, groundwater injection trenches, process piping, two outfalls to the Cimarron River, and groundwater treatment facilities. All best management practices (BMPs) will be implemented in compliance with

associated erosion and sedimentation regulations for disturbance; thereby minimizing those associated impacts.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/35.88045145911566N97.5770481123075W>



Counties: Logan, OK

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Least Tern <i>Sterna antillarum</i> Population: interior pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Fishes

NAME	STATUS
Arkansas River Shiner <i>Notropis girardi</i> Population: Arkansas River Basin (AR, KS, NM, OK, TX) There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4364	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Arkansas River Shiner <i>Notropis girardi</i> https://ecos.fws.gov/ecp/species/4364#crithab	Final

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- [PEM1Fx](#)
- [PEM1C](#)

FRESHWATER FORESTED/SHRUB WETLAND

- [PSS2C](#)
- [PSS/EM1Fh](#)

FRESHWATER POND

- [PUBHx](#)
- [PAB4Hx](#)
- [PUBHh](#)

LAKE

- [L1UBHh](#)

RIVERINE

- [R2UBH](#)
- [R2USC](#)

APPENDIX E - PROTECTED SPECIES DETERMINATION TABLE

Table 1: Species Conclusion Table

Project Name: Cimarron Environmental Response Trust Site in Logan County, Oklahoma

Date: June 7, 2018

Name	Status	Habitat Determination	Notes / Documentation	Effect Determination
Least tern (<i>Sterna antillarum</i>)	Endangered	No Potential Habitat Present	Project impacts will not include areas in the Cimarron River. No exposed salt flats, beaches, or sand bars within the vicinity of the action are.	No Effect
Piping plover (<i>Charadrius melodus</i>)	Threatened	No Potential Habitat Present	Project impacts will not include areas in the Cimarron River. No exposed salt flats, beaches, or sand bars within the vicinity of the action are.	No Effect
Red knot (<i>Calidris canutus rufa</i>)	Threatened	No Potential Habitat Present	Project impacts will not include areas in the Cimarron River. No exposed salt flats, beaches, or sand bars within the vicinity of the action are.	No Effect
Whooping crane (<i>Grus americana</i>)	Endangered	No Potential Habitat Present	No stop-over habitat is present. Project impacts will not include areas in the Cimarron River. No other suitable habitat is present.	No Effect
Arkansas River shiner (<i>Notropis girardi</i>)	Threatened	No Potential Habitat Present	Project impacts will not include areas in the Cimarron River. Project discharges will be compliant with all other permitting requirements and include all appropriate best management practices for construction to control for erosion and sedimentation.	No Effect
Arkansas River Shiner Critical Habitat	Threatened	Critical Habitat Not Present	Project impacts will not include areas in the Cimarron River. Project discharges will be compliant with all other permitting requirements and include all appropriate best management practices for construction to control for erosion and sedimentation.	Not Likely to Adversely Modify Critical Habitat

Information confirmed through the USFWS Information, Planning, and Conservation System (IPaC) official species list for the Project (<http://ecos.fws.gov/ipac> accessed May 01, 2018) and the ODWC list of threatened, endangered, and rare species, (http://www.wildlifedepartment.com/wildlifemgmt/endangered/State_Listed_by_County.pdf accessed June 7, 2018).

APPENDIX F - PREVIOUSLY ISSUED ONLINE CONCURRENCE LETTER



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Division of Ecological Services
9014 East 21st Street
Tulsa, Oklahoma 74129
918/581-7458 / (FAX) 918/581-7467



July 28, 2015

Online Project Review Concurrence Letter

To: Bryan R. Gasper
Burns & McDonnell Engineering Company, Inc.
9400 Ward Parkway
Kansas City, Missouri 64114

Project Name: Cimarron Environmental Response Trust Site in Logan County, Oklahoma
Burns & McDonnell Project No. 72454
USFWS Consultation Code: 02EKOK00-2015-SLI-1367

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Oklahoma Ecological Services Field Office online project review process. By providing this letter in conjunction with your project review package, you are certifying that you have accurately completed the online project review process for the referenced project in accordance with all instructions provided, using the best available information to reach your conclusions. Concurrence with “not likely to adversely affect” determinations does not provide any exemption for violations of section 9 of the ESA or “take” of federally-listed species. The Federal action agency is ultimately responsible for ensuring compliance with the ESA and any take that occurs due to your proposed action would be considered a violation under section 9 of the ESA.

This letter and the enclosed project review package complete the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act (National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be emailed to okprojectreview@fws.gov for this certification to be valid. This letter and the project review package will be maintained in Service records. **Please allow the OKESFO 60 days to review your information. If the OKESFO determines that the package is not complete, or that additional coordination is necessary, we will contact your office. If after 60 days from the time you emailed your project review package the OKESFO has not contacted your office, consider your section 7 consultation complete.**

The proposed action consists of

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) is providing environmental support services for the Cimarron Environmental Response Trust (CERT) at a site formerly owned and operated by Kerr-McGee Nuclear Corporation (KMNC) in Logan County, Oklahoma (Project) (Appendix A). For the purpose of informal consultation with the U.S. Fish and Wildlife Service (USFWS), Burns & McDonnell conducted desktop analyses to evaluate threats to species protected by the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.), Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668), and the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703).

Burns & McDonnell and CERT are requesting a concurrence with the findings of this desktop habitat assessment that the proposed Project has not effect or is not likely to adversely affect species protected under the jurisdiction of the USFWS.

The Project is located at a site that was formerly owned and operated by Kerr-McGee Nuclear Corporation. The onsite facilities were utilized for the production of mixed oxide fuel and uranium fuel, including enriched uranium reactor fuel pellets and eventually fuel rods from 1966 to 1975. During this time, exposure of process water and material to the environment resulted in the contamination of the site groundwater. The site is now owned by the CERT. The concentration of uranium, nitrates, and fluorides in the groundwater must be reduced to achieve unrestricted release of the site and license termination from the Nuclear Regulatory Commission (NRC). Mitigation of these constituents will be achieved through the extraction, treatment, and discharge of affected groundwater. These processes will require the construction of groundwater extraction wells, groundwater extraction trenches, groundwater injection wells, groundwater injection trenches, process piping, two outfalls to the Cimarron River, and groundwater treatment facilities. All best management practices (BMPs) will be implemented in compliance with associated erosion and sedimentation regulations for disturbance; thereby minimizing those associated impacts.

The project is expected to be completed:

July 2018

This project review is needed for:

The concentration of uranium, nitrates, and fluorides in the groundwater must be reduced to achieve unrestricted release of the site and license termination from the NRC.

The species conclusions table in the enclosed project review package summarizes your ESA conclusions. These conclusions resulted in “not likely to adversely affect/modify” determinations for listed species and critical habitat in relation to potential effects of your proposed project. We certify that the use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with determinations of “not likely to adversely affect” for listed species and critical habitat reached by proper use of this process. For projects where this particular determination is reached, additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages efforts to avoid or minimize adverse impacts to them from project effects. Some federal agencies have standing policies that grant limited protections to candidate species. Conservation of candidate species now may preclude future needs to federally list them as endangered or threatened, at which point their legal protection would become required. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of listed species or critical habitat becomes available, this determination may be reconsidered. You should re-visit the Service's Information, Planning, and Conservation (IPaC) website at <http://ecos/fws.gov/ipac/> within 90 days of project initiation to ensure species information is correct. If new species or critical habitat is identified, this letter is no longer valid and a new project package should be submitted to the OKESFO.

Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Oklahoma is available at our website: <<http://www.fws.gov/southwest/es/oklahoma/>>. If you have any questions, please call 918-581-7458 or send an email message to OKProjectReview@fws.gov.

Sincerely,
/s/ Jontie Aldrich
Acting Field Supervisor
Oklahoma Ecological Services Field Office

Enclosures:

- 1) ENTIRE PROJECT REVIEW PACKAGE:
 - Species Conclusion Table
 - IPaC Species List and Action Area map
 - This letter (Online Concurrence Letter)
 - (Optional) Additional maps
- 2) Other relevant project data/documents

ODWC state list of protected species by county - Logan County, OK.



02/09/2017

David Ball
Logan County Emergency Management
312 East Harrison
Guthrie, OK 73044

Re: Floodplain Permit Application for the Environmental Properties Management, LLC
Groundwater Remediation Project

Dear Mr. Ball,

Environmental Properties Management LLC (EPM), a Trustee for the Cimarron Environmental Response Trust (CERT), has retained Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) to provide FEMA floodplain permitting for the proposed Groundwater Remediation Project (Project). These actions are part of a larger effort to remediate groundwater contaminated by a former nuclear fuel production facility.

The Project is located at a site that was formerly owned and operated by Kerr-McGee Nuclear Corporation (KMNC) in Logan County, Oklahoma. From 1966 to 1975, the onsite facilities were utilized for the production of mixed oxide fuel and uranium fuel including enriched uranium reactor fuel pellets and eventually fuel rods. During this time, exposure of process water and material to the environment resulted in the contamination of site groundwater. The site is now owned by CERT. The concentration of uranium, nitrates, and fluorides in the groundwater must be reduced to achieve unrestricted release of the site and license termination from the U.S. Nuclear Regulatory Commission (NRC) and the Oklahoma Department of Environmental Quality (DEQ). Mitigation of these constituents will be achieved through the extraction, treatment, and discharge of affected groundwater.

This phase of the Project will construct four water injection trenches and one groundwater extraction trench, followed by testing of injection and extraction efficiencies as part of final design for the Project. Two of the test trenches will be within the FEMA 100-year floodplain. These test trenches will be excavated to the specified dimensions. The injection wells will be constructed in the trenches and the then the trench will be partially backfilled with aggregate. The trenches will then be returned to their previous contours using the excavated spoils and stabilized.

The groundwater injection and extraction efficiency will be tested by placing a frac tank, utilized to supply clean water, near the targeted injection trench and moved as necessary. Following completion of injection testing activities, this frac tank will be removed from the Project site. Two frac tanks will be utilized to store water generated during the extraction trench tests. These frac tanks will remain onsite pending characterization and treatment (as necessary) of the extracted water. These tanks will be staged outside of the FEMA 100-year floodplain to avoid any potential impacts, to the extent practicable, should flooding occur.

David Ball
Logan County Emergency Management
02/09/2017
Page 2

Per our phone conversation, the following procedures will be followed during construction:

- The spoils will be stockpiled outside of the FEMA 100-year floodplain during construction activities.
- Equipment and materials will not be staged within the limits of the FEMA 100-year floodplain.
- Excess spoils will be spread and stabilized outside of the FEMA 100-year floodplain.

Enclosed is the Logan County Floodplain Development Application, General Vicinity Map, Excavation and Grading Plans, and \$100 permit fee. If you require any additional information or clarification, please contact me by phone at (816) 605-7821, or by email at kgouvion@burnsmcd.com.

Sincerely,



Ken Gouvion, CISEC
Staff Environmental Scientist

Enclosure

FLOODPLAIN DEVELOPMENT APPLICATION
(For Proposed Development in Floodplain Areas)

Date July 28, 2015 Permit No _____

NOI Fee Collected: Yes _____ No _____ Amount _____

Applicant/Developer Burns & McDonnell Engineering Company, Inc.

Address 9400 Ward Parkway

Kansas City, KS 64114

Telephone Number (314) 682-1560 Email Address jhesemann@burnsmcd.com

Contact Name John Hesemann

List Type and Purpose of Development Groundwater injection and extraction analysis

Located at Latitude 35°53'00.84"N, Longitude 97°34'34.03"W (see attached map)

Flood Zone Type: Zone A

If property will be located in an identified Special Flood Hazard Area complete the following and require certified elevation of proposed lowest floor (including basement) & lowest adjacent grade.

Name of Community Logan County, Unincorporated Areas

NFIP Community No 40083C0250F

Applicant Requests To:

- Construct Mine Construct Addition Remodel Elevate
 Drilling Demolish Add Fill Manufactured Housing (Placement)
 Storage (Equipment or Supplies)

Base Flood Elevation Undetermined Proposed Lowest Floor Elevation N/A

Flood Map Effective Date September 29, 2010

Community - Panel No. 400096 - 0250 F

Permit Fee \$100.00 Has permit fee been collected? Yes No

Plans, specifications and elevation certificate filed by the applicant shall constitute by reference, a part of this permit.

FOR OFFICIAL USE ONLY

This application has been reviewed by _____
Print Name Here

Date: _____
Signature of Reviewer

This application is considered complete and complies with the local floodplain ordinance or set of regulations

Are other local, state or federal permits required? Yes No If yes, list type(s) _____

DEVELOPMENT PERMIT APPLICATION

For Proposed Development on
LANDS LOCATED IN FLOODPLAIN AREAS

INSTRUCTIONS

~~TO COMPLY WITH FLOODPLAIN MANAGEMENT REGULATIONS AND TO MINIMIZE POTENTIAL FLOOD DAMAGE, IF YOU ARE BUILDING WITHIN AN IDENTIFIED FLOOD HAZARD AREA, YOU MUST AGREE TO CONSTRUCT YOUR PROPOSED DEVELOPMENT IN ACCORDANCE WITH THE FOLLOWING SPECIAL PROVISIONS:~~

SPECIAL FLOODPLAIN PROVISIONS

1. For RESIDENTIAL structures, the lowest floor (including basement) must be elevated to or above the base flood elevation (100-year flood elevation) as delineated in this community's floodplain management regulations or ordinances. See provisions for manufactured homes in local regulations.

2. For NON-RESIDENTIAL structures, the lowest floor must be elevated to or above the base flood elevation, or floodproofed to withstand the flood depths, pressures, velocities, impact and uplift forces associated with the 100-year flood as delineated in this community's floodplain management regulations or ordinances.

3. For ALL STRUCTURES, the foundation and the materials used must be constructed to withstand the pressures, velocities, impact and uplift forces associated with the 100-year flood.

4. All utility supply lines, outlets, switches and equipment must be installed and elevated so as to minimize damage from potential flooding. Water and sewer connections must have automatic back flow devices installed.

5. You must submit certification on the attached form(s) from a REGISTERED ENGINEER, ARCHITECT or LAND SURVEYOR, that the floor elevation and/or floodproofing requirements have been met. Failure to provide the required certification is a violation of this permit.

6. Other Provisions — See attached list _____ None _____

AUTHORIZATION

I have read or had explained to me and understand the above special provisions for flood plain development. Authorization is hereby granted the permitting authority and their agents or designees, singularly or jointly, to enter upon the above-described property during daylight hours for the purpose of making inspections or for any reason consistent with the issuing authority's floodplain management regulation. I further verify that the above information is true and accurate to the best of my knowledge and belief.



Signature of Applicant

02/09/2017

Date

LOGAN COUNTY FLOODPLAIN BOARD FEE SCHEDULE

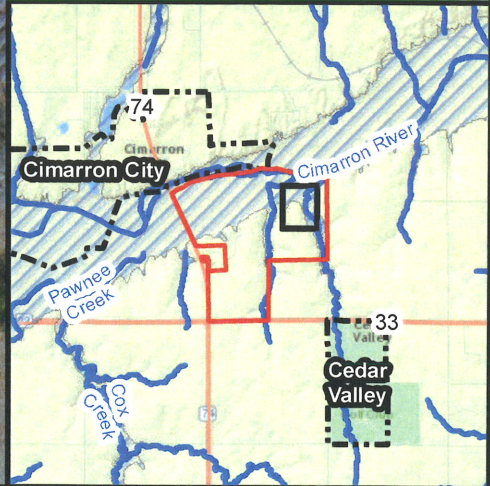
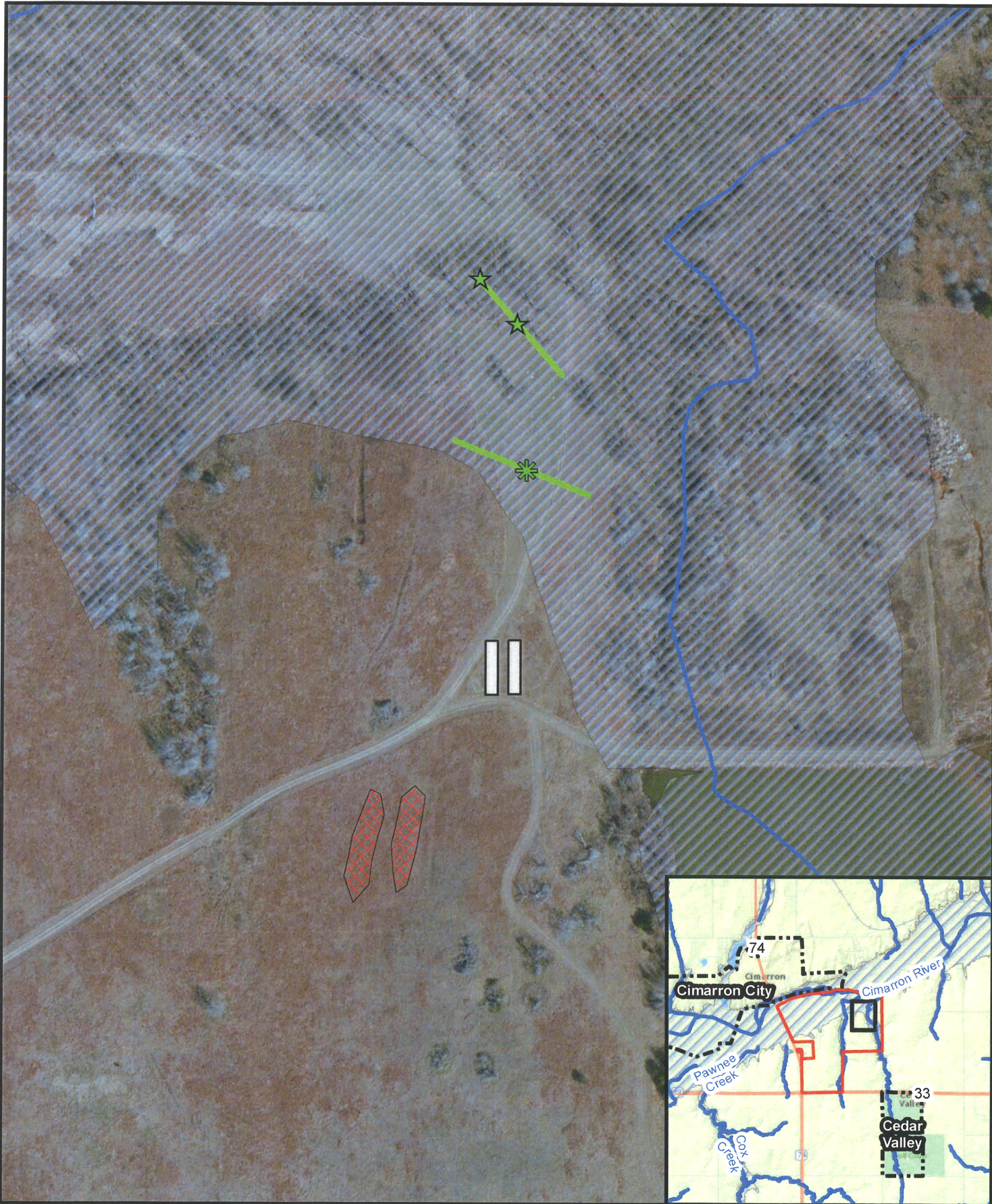
The Floodplain Board for Logan County establishes the following fee schedule not to exceed \$500 for any one service:











- A. Notice of Intent Fee- \$25.00 maximum
- B. Floodplain Development Permit Application Review- \$100
- C. Floodplain Development Permit Fee- \$25.00
- D. Inspection Fee-per inspection- \$25.00

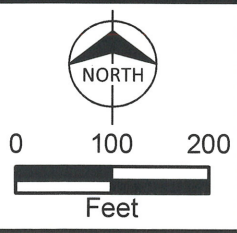
Questions can be directed to Logan County Floodplain Administrator David Ball Phone 405-282-0494 or Email

Loganoem@gmail.com

Path: Z:\General\KMESP\Depth\Enviro_Monitoring\SWPPP\02\Working Documents\89761 CERT Groundwater Remediation Project, OK01\GIS\DataFiles\ArcDocs\CERT Floodplain Map.mxd kgowion 1/31/2017
 COPYRIGHT © 2017 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community
 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



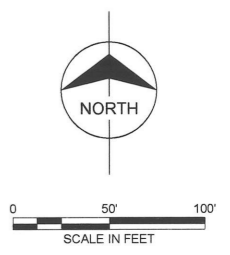
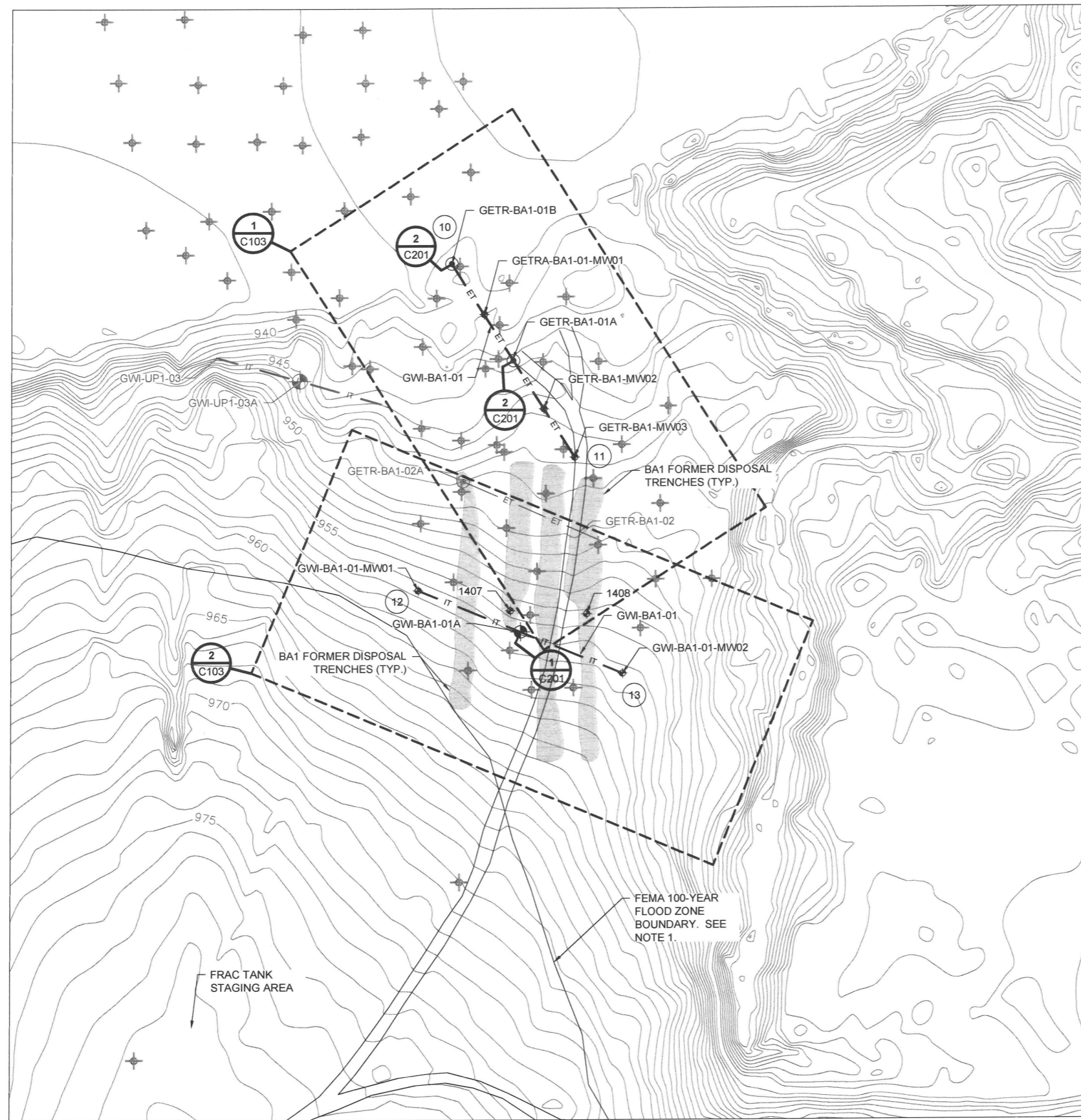
-  Extraction Well
-  Injection Well
-  Trench
-  Spoil Pile
-  Site Boundary
-  Frac Tank
-  NHD Stream
-  100-year FEMA Floodplain
-  Construction Area
-  City Limit



General Vicinity Map
Groundwater Remediation
Project
Cimarron Environmental
Response Trust
Logan County, Oklahoma

no.	date	by	ckd	description
A	2/01/17	BC	JH	FOR REVIEW

- NOTES:
1. FRAC TANKS, EQUIPMENT, TRENCH SPOILS, ETC. SHALL BE STAGED AT AN ELEVATION ABOVE THE FEMA 100-YEAR FLOOD ELEVATION IN ACCORDANCE WITH THE SWPPP.
 2. CONTRACTOR SHALL PROTECT EXISTING MONITOR WELLS DURING INJECTION AND EXTRACTION TRENCH INSTALLATION AND PILOT TESTING ACTIVITIES. CONTRACTOR MAY SUBMIT ALTERNATE TRENCH ALIGNMENT FOR ENGINEER APPROVAL IN EFFORT TO PROTECT EXISTING MONITOR WELLS.
 3. TOPOGRAPHY SHOWN IS FROM AN AERIAL SURVEY DATED MAY 2014.



PRELIMINARY - NOT FOR CONSTRUCTION



9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 OKLAHOMA FIRM LICENSEE NO. 421

FEBRUARY 2017	B. CLEMENT
	checked
B. CLEMENT	J. HESEMANN

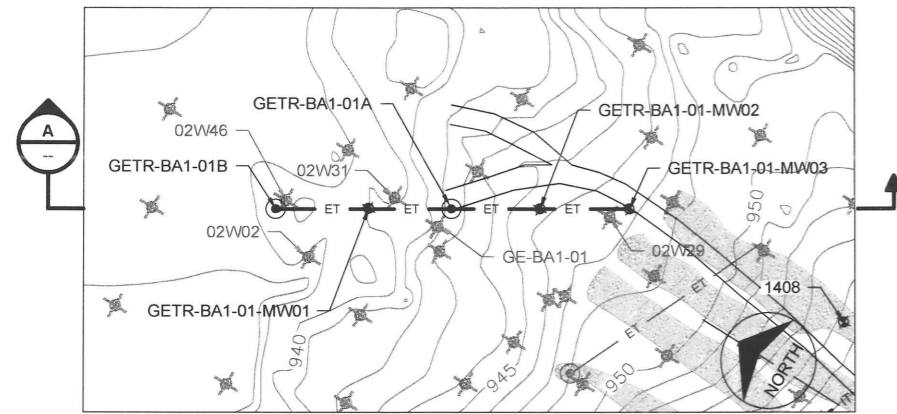
Cimmaron Environmental Response Trust
 BURIAL AREA 1
 SITE PLAN

96785	contract
	rev.

BMCD-GWREMED-C002 **A**

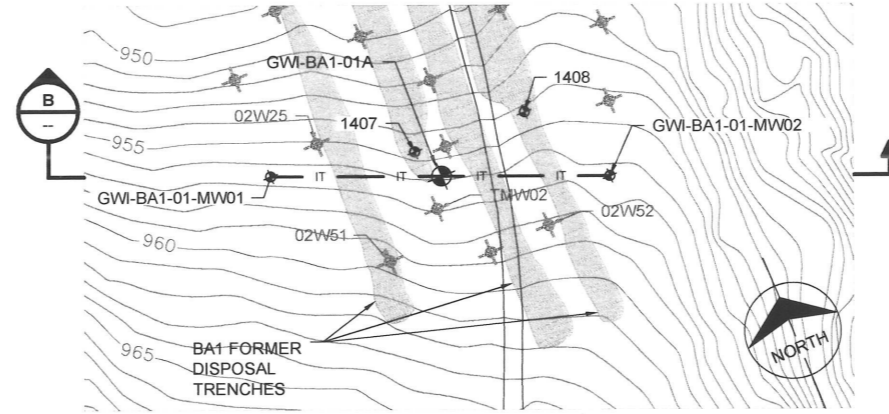
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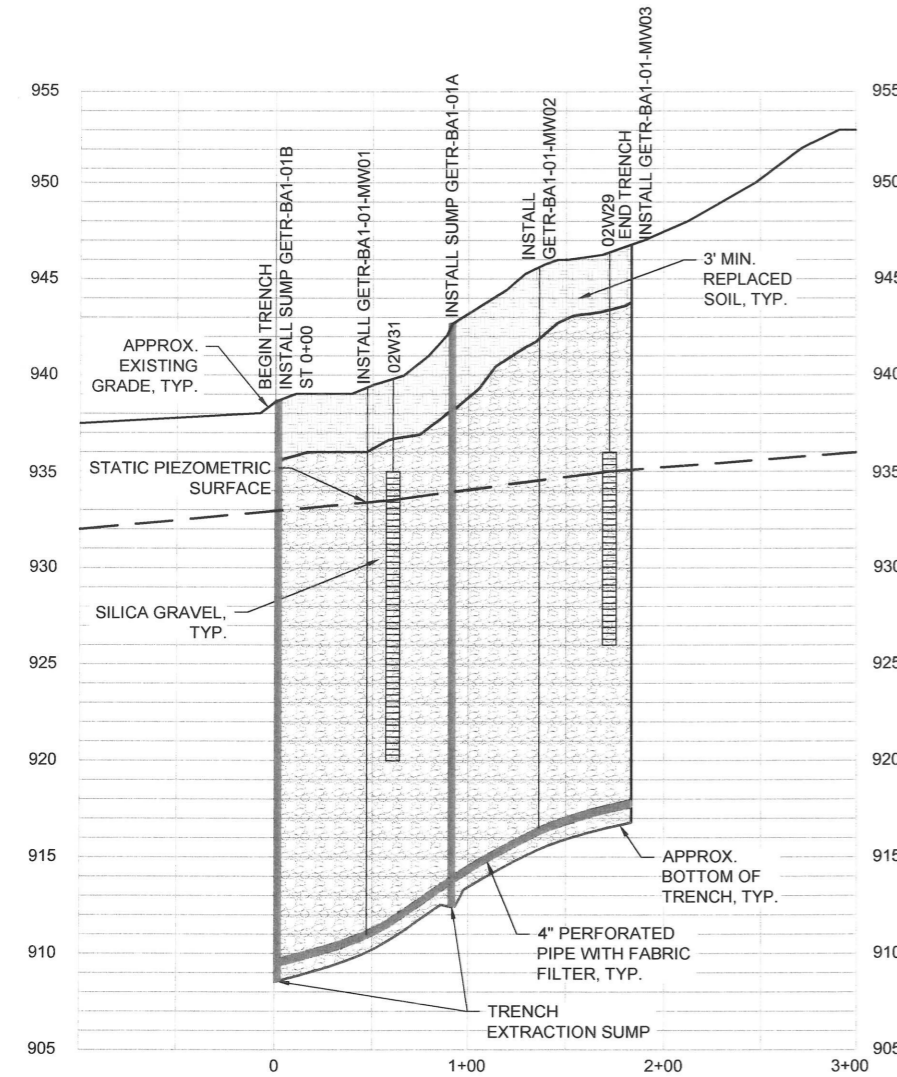
**EXTRACTION TRENCH GETR-BA1-01
DETAIL**

1
C003



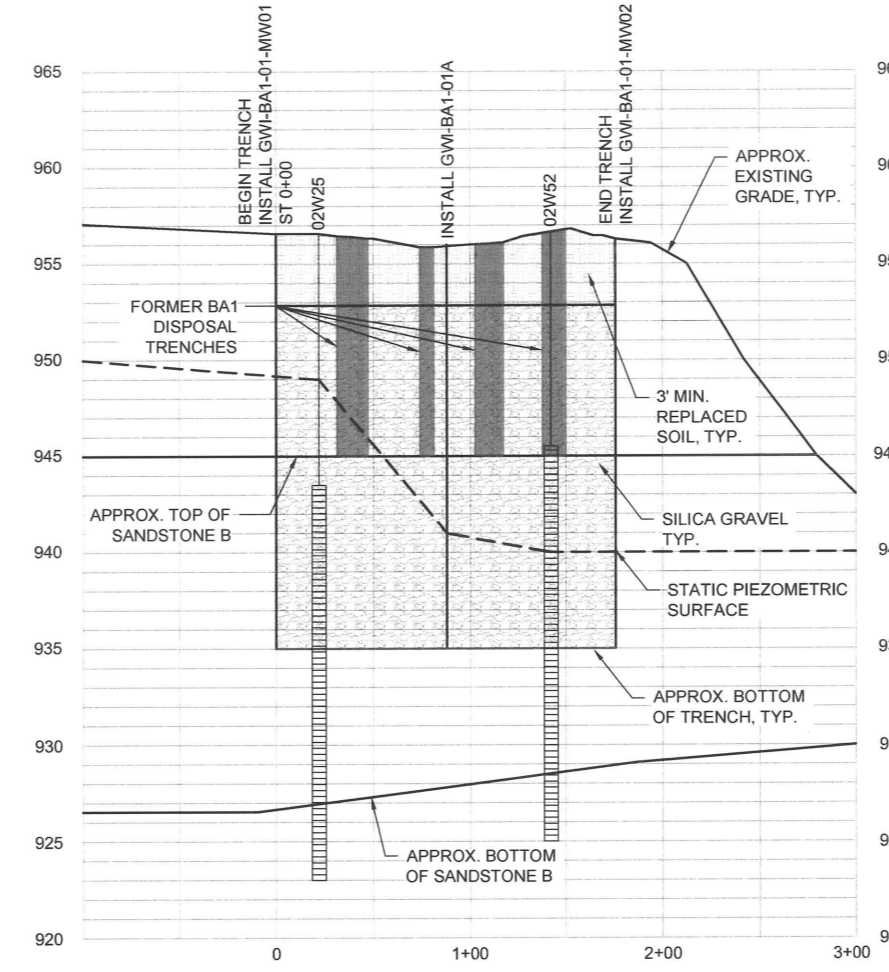
**INJECTION TRENCH GWI-BA1-01
DETAIL**

2
C003



**EXTRACTION TRENCH GETR-BA1-01
ELEVATION VIEW**

A



**INJECTION TRENCH GWI-BA1-01
ELEVATION VIEW**

B

- NOTES:**
1. TOPOGRAPHY SHOWN IS FROM AN AERIAL SURVEY DATED MAY 2014.
 2. STATIC PIEZOMETRIC SURFACE FOR BURIAL AREA 1 CREATED FROM WATER LEVEL MEASUREMENTS FROM SANDSTONE B AND TRANSITION ZONE MONITOR WELLS ON AUGUST 8, 2016.
 3. EXISTING SANDSTONE B AND TRANSITION ZONE MONITOR WELL LOCATIONS AND SCREEN INTERVALS ARE PROJECTED IN CROSS SECTION.
 4. CONTRACTOR SHALL ABANDON EXISTING MONITOR WELLS PRIOR TO TRENCH CONSTRUCTION AS DIRECTED BY ENGINEER. FOLLOWING COMPLETION OF TRENCH INSTALLATION, CONTRACTOR SHALL RE-INSTALL MONITOR WELLS AS DIRECTED BY ENGINEER. ENGINEER WILL PROVIDE MONITOR WELL LOCATIONS AND WELL CONSTRUCTION DETAILS FOR BA1 MONITOR WELLS NOT DEPICTED ON SHEET C103 UPON COMPLETION AND ACCEPTANCE OF TRENCH INSTALLATION.
 5. MONITOR WELL 1407 SHALL BE CONSTRUCTED WITH A SCREEN INTERVAL FROM 8 TO 13 FEET BELOW GROUND SURFACE. MONITOR WELL 1408 SHALL BE CONSTRUCTED WITH A SCREEN INTERVAL ACROSS BOTH THE TRANSITION ZONE AND SANDSTONE B. SEE SHEET C202 FOR CONSTRUCTION DETAILS FOR ALL OTHER MONITOR WELL, INJECTION WELL, AND SUMPS DEPICTED ON SHEETS C003 AND C103.

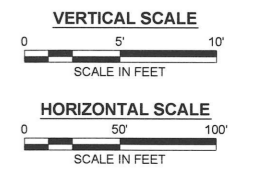
no.	date	by	ckd	description
A	2/01/17	BC	JH	FOR REVIEW

**PRELIMINARY - NOT
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KANSAS CITY, MO 64114
816-333-9400
OKLAHOMA FIRM LICENSE NO. 421

JANUARY 2017	B. CLEMENT
B. CLEMENT	checked J. HESEMANN



**Cimmaron Environmental Response Trust
BA1 INJECTION AND EXTRACTION
TRENCH DETAILS**

96785	contract
	rev.