



U.S. Army Corps
of Engineers
Tulsa District

Public Notice

Reply To:

U.S. Army Corps of Engineers
ATTN: Regulatory Office
2488 E 81st Street
Tulsa, OK 74137

SWT-2023-00412
Public Notice No.

September 30, 2024
Public Notice Date

October 30, 2024
Expiration Date

PURPOSE

The purpose of this public notice is to inform you of a proposal for work in which you might be interested and to solicit your comments and information to better enable us to make a reasonable decision on factors affecting the public interest.

SECTION 10

The U.S. Army Corps of Engineers is directed by Congress through Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) to regulate all work or structures in or affecting the course, condition, or capacity of navigable waters of the United States. The intent of this law is to protect the navigable capacity of waters important to interstate commerce.

SECTION 404

The U.S. Army Corps of Engineers is directed by Congress through Section 404 of the Clean Water Act (33 USC 1344) to regulate the discharges of dredged and fill material into all waters of the United States. These waters include lakes, rivers, streams, mudflats, sandflats, sloughs, wet meadows, natural ponds, and wetlands adjacent to other waters. The intent of the law is to protect these waters from the indiscriminate discharge of material capable of causing pollution and to restore and maintain their chemical, physical, and biological integrity.

NOTICE TO PUBLISHERS

This public notice has been provided as a public service and may be reprinted at your discretion. However, any cost incurred as a result of reprinting or further distribution shall not be a basis for claim against the Government.



**DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, TULSA DISTRICT
2488 EAST 81ST STREET
TULSA, OKLAHOMA 74137-4290**

Application No. SWT-2023-00412

**JOINT PUBLIC NOTICE
U.S. ARMY CORPS OF ENGINEERS
AND
OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ)
(30-DAY COMMENT PERIOD)**

Interested parties are hereby notified that the District Engineer (DE) has received an application for a Department of the Army (DA) permit and water quality certification pursuant to Sections 404 and 401 of the Clean Water Act (CWA). The ODEQ hereby incorporates this public notice and procedure as its own public notice and procedure by reference thereto.

Applicant: Guy Campbell
Waste Management of Oklahoma Inc.
2801 South 54th St. West
Muskogee, OK 74401

Agent: Jonathan Queen
Weaver Consultants Group, LLC
6420 Southwest Boulevard, Suite 206
Fort Worth, TX 76109

Location: The proposed project is in Section 06, Township 14 North, Range 18 East, near Muskogee, Muskogee County, Oklahoma. The project site can be found on the Southwest Muskogee, Oklahoma 7.5 Minute USGS Quadrangle map at North Latitude 35.720369 and West Longitude -95.442065.

Project Description: The application is for the grading, excavation, and fill into Waters of the U.S. (WOTUS) for the construction of a new landfill and stormwater detention system to allow for expansion of existing landfill operations on site.

Purpose: The basic purpose is to construct a 65-acre landfill and adjacent stormwater detention and settling ponds and associated operational roads on a 237-acre property already owned by Waste Management of Oklahoma (WMO).

The overall purpose of this project is to expand existing landfill operations to an adjacent property in order to prolong recycling and disposal activities for the City of Muskogee, Muskogee County, and surround communities. Current facilities have an

expected operational life of 3-4 years. The proposed project would extend operations for another estimated 20 years. There are special aquatic sites (wetlands) on the project site. The project is not a water dependent activity.

Summary Table of Impacts:

Original Proposal					
Number or Location	Impact Activity	Type of Water	Type of Fill Material	Qty of Material cys below OHWM	Footprint (ac and/or lf)
W-3	Settling Pond Construction	Emergent Wetland	Clean Soil Fill	323 cys	0.10 ac
W-7	Landfill Liner construction	Pond	Clean Soil Fill	27,814 cys	8.62 ac
W-8	Landfill Liner Construction	Emergent Wetland	Clean Soil Fill	226 cys	0.07 ac
W-9	Landfill Liner Construction	Pond	Clean Soil Fill	3,420 cys	1.06 ac
W-10	Landfill Liner Construction	Forested Wetland	Clean Soil Fill	1,033 cys	0.32 ac
W-11	Landfill Liner Construction	Emergent Wetland	Clean Soil Fill	97 cys	0.03 ac
ST-1	Settling Pond Construction	Stream	Clean Soil Fill	2 cys	127 lf
ST-2	Landfill Liner Construction	Stream	Clean Soil Fill	113 cys	1,358 lf
ST-3	Landfill Liner Construction	Stream	Clean Soil Fill	40 cys	252 lf
cubic yards (cys), ordinary high-water mark (OHWM), acre (ac), linear feet (lf)					

Description of Work: The applicant proposes to grade, excavate, and fill approximately 0.52 acres of wetlands, 9.68 acres of open water ponds, and 1,737 lf of stream channel with approximately 33,000 cys of clean soil fill. The constructed base will be used for the development of the proposed landfill foundation and liner system.

Avoidance and Minimization Information: The applicant provided the following statement with regard to how avoidance and minimization of impacts to aquatic resources was incorporated into the project plan:

Waste Management of Oklahoma, Inc. (or the applicant) evaluated several options to avoid impacts to Section 404 Jurisdictional areas located within the 236.3-acre landfill expansion property. A description of the evaluation process and alternatives considered are provided on Figures 3-1 through 3-4. The selected alternative (shown on Figure 3-4) balances the need to provide for the long-term solid waste disposal needs of Muskogee and surrounding communities while minimizing the impacts to potential existing jurisdictional areas located onsite. The selected alternative placed an emphasis on (1) benefitting the community and local industry by providing a much-needed basic service in the form of an environmentally safe, solid waste disposal, (2) compatibility with immediately adjacent land uses, with the expanded landfill being located immediately west of the existing landfill, as well as compatibility with nearby land uses that include agricultural, rangeland, and low to very low density rural residential areas, (3) incorporating perimeter drainage features that will collect, convey, and control stormwater and sediment on the project site while providing water quality improvements prior to off-site discharge of stormwater to downstream receiving waters, (4) utilizing established roadways and traffic patterns sufficient to handle waste management traffic, and (5) the creation of additional jurisdictional waters through a USACE approved mitigation bank or in-lieu fee program such that there will be no net loss of Waters of the US with the proposed project.

Mitigation: Furthermore, the applicant proposes the following as compensatory mitigation for the unavoidable impacts to aquatic resources expected from the proposed project:

The applicant proposes to mitigate for the unavoidable loss of aquatic resources through the purchase of credits from a USACE approved mitigation bank or in-lieu fee program. The applicant proposes to purchase bank credits for 1.71 acres of wetlands and 14037 credits of ephemeral streamline. These amounts are based on the aquatic resource delineation report and the utilization of the Oklahoma Stream Mitigation Method (OSMM).

This mitigation plan is the applicant's proposal. The Corps has made no determination at this time with regard to the adequacy of the proposed mitigation relative to the federal mitigation rules and guidance, including Tulsa District's Mitigation and Monitoring Guidelines. Compensatory Mitigation for unavoidable impacts may be required to ensure that this activity requiring a Section 404 permit, if issued, complies with the Section 404 (b)(1) Guidelines. The Corps bears the final decision on the need for and extent of mitigation required if the project proposed herein is authorized.

Government Authorizations obtained or received: The applicant is currently seeking a Section 401, Individual Water Quality Certification through Oklahoma Department of Environmental Quality (ODEQ). A Tier III Permit Modification will also be submitted to ODEQ to modify the existing solid waste operation permit.

Project Setting: The proposed 237-acre project site lies between 2 watersheds, roughly divided from the northwest down to the southeast. The southern portion flows generally to southwest into Pecan Creek and the northern portion flows northeast into upper Coody Creek. Vegetation on site consists of grasslands with mixed riparian forested corridors and scattered emergent and forested wetlands. There are multiple streams present within a couple mile radius of the site. The surrounding land use consists of mostly rangeland with low density rural housing. Directly east of the property contains approximately 183 acres of active and closed landfill operations.

Existing Condition: Currently the proposed property consists of approximately 65 acres of active borrow area for the current active landfill. The remaining property consists of mostly grasslands with riparian corridors along the stream channels and scattered trees in the southern portion and northwest corner. Historic farm terracing is present throughout the undisturbed portions of the project area.

Cultural Resources: The DE is responsible to ensure compliance with the National Historic Preservation Act of 1966 (NHPA) (Public Law 89-665), as amended, and other cultural resources laws and Executive Orders. A preliminary review of the state's records has been completed for the presence of sites included in, or eligible for, inclusion in the National Register of Historic Places, as well as the Oklahoma Landmark Inventory Database. There are no known historic properties, as defined by the NHPA, in or within the vicinity of the proposed permit area.

Threatened and Endangered Species: The following federally listed species are known to occur in the vicinity or are listed for the county in which the proposed action is located: Gray Bat (*Myotis grisescens*), Tricolored Bat (*Perimyotis subflavus*), Piping Plover (*Charadrius melodus*), Rufa Red Knot (*Calidris canutus rufus*), Alligator Snapping Turtle (*Macrochelys temminckii*), American Burying Beetle (*Nicrophorus americanus*), Monarch Butterfly (*Danaus plexippus*)..... A copy of this notice is being furnished to the U.S. Fish and Wildlife Service and appropriate state agencies. The IPAC consultation number is 2024-0101137

Our preliminary determination is that the proposed activity will not affect listed threatened or endangered species or their critical habitat.

Evaluation Factors: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity and its intended use on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownerships, and, in general, the needs and welfare of the people. A permit will be denied if the discharge does not comply with the Environmental Protection Agency's 404(b)(1) Guidelines. Subject to the 404(b)(1) Guidelines and any other applicable guidelines or criteria, a permit will be granted unless the DE determines that it would be contrary to the public interest.

Plans and Data: Plans showing the location of the proposed activity and other data are enclosed with this notice. If additional information is desired, it may be obtained from Josh Mathis, Tulsa District Corps of Engineers, ATTN: Regulatory Office, 2488 East 81st Street, Tulsa, OK 74137; or telephone 918-669-7400.

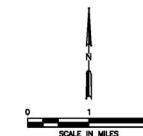
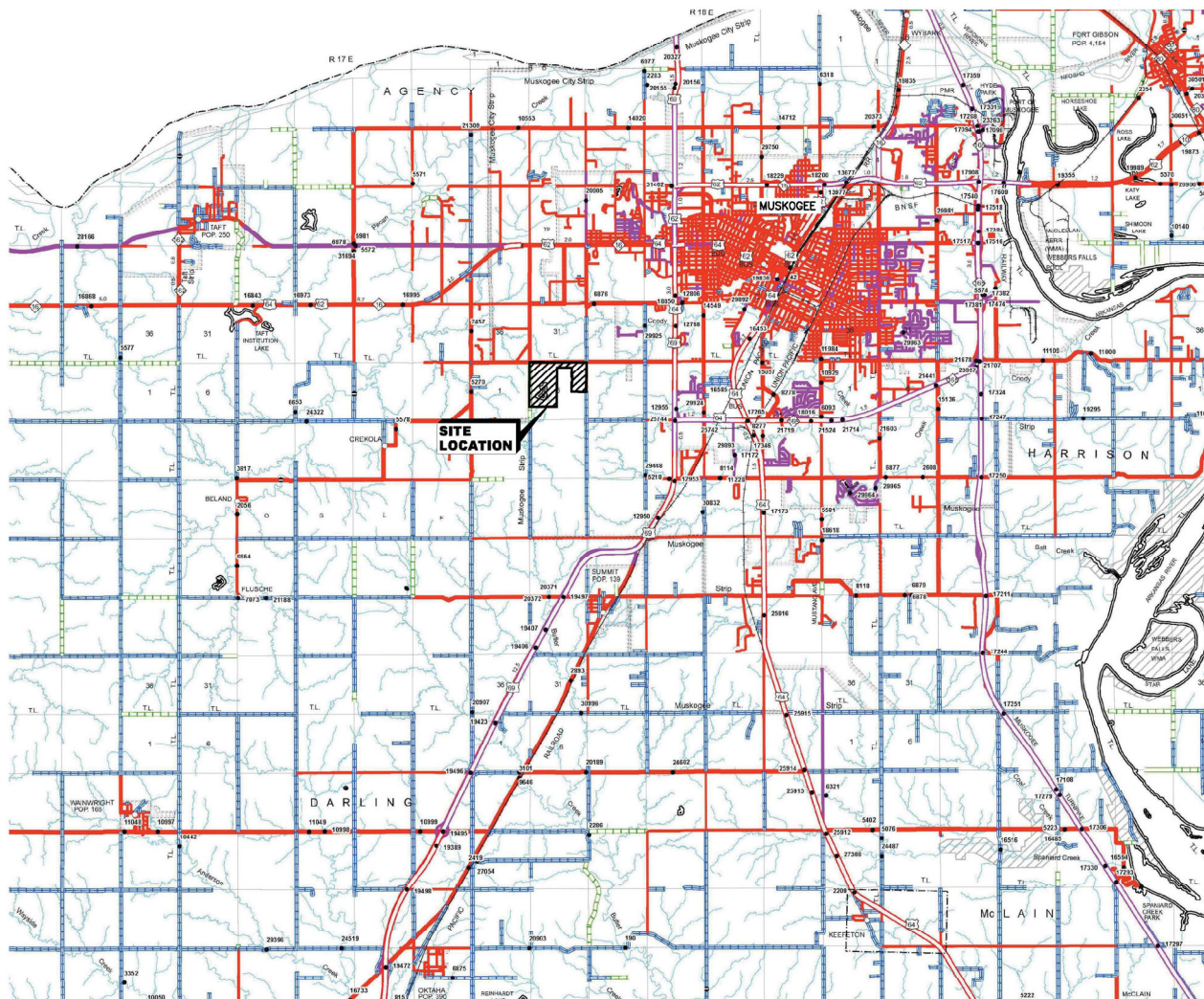
Comments: The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Any comments on this proposal must be submitted to be received by the Corps by the expiration date of this public notice comment period. Comments received after this date will not be considered in our decision. You may submit comments to mailing address Tulsa District Corps of Engineers, ATTN: Regulatory Office, 2488 East 81st Street, Tulsa, OK 74137 or email CESWT-RO@usace.army.mil. Please include the public notice number SWT-2023-00412 in the subject line of your email message.

Comments concerning water quality impacts will be forwarded to ODEQ for consideration in issuing a Section 401 Water Quality Certification for the proposed project. Work may **not** commence until decisions have been made on both Sections 401 and 404.

Andrew R. Commer
Chief, Regulatory Office

Enclosures



Legend

- Interstate Highway
- US Highway
- State Highway
- Divided Highway - Asphalt
- Divided Highway - Concrete
- Asphalt
- Concrete
- Gravel
- Grade & Drain
- Unimproved
- Railroad
- State Line
- County Line
- Section Line
- Corporate Limit
- Wildlife Management Area
- Wildlife Refuge
- River or Stream
- Lake or Reservoir
- Bridges
- Low Water Crossing
- Natural Elevation Point
- Natural Elevation Point

NOTES:

- REPRODUCED FROM GENERAL HIGHWAY MAPS, MUSKOGEE COUNTY, OKLAHOMA, (OK DOT STRATEGIC ASSET AND PERFORMANCE MANAGEMENT DIVISION OCTOBER 2018).


SWT-2024-00412

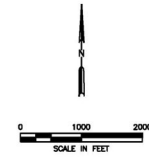
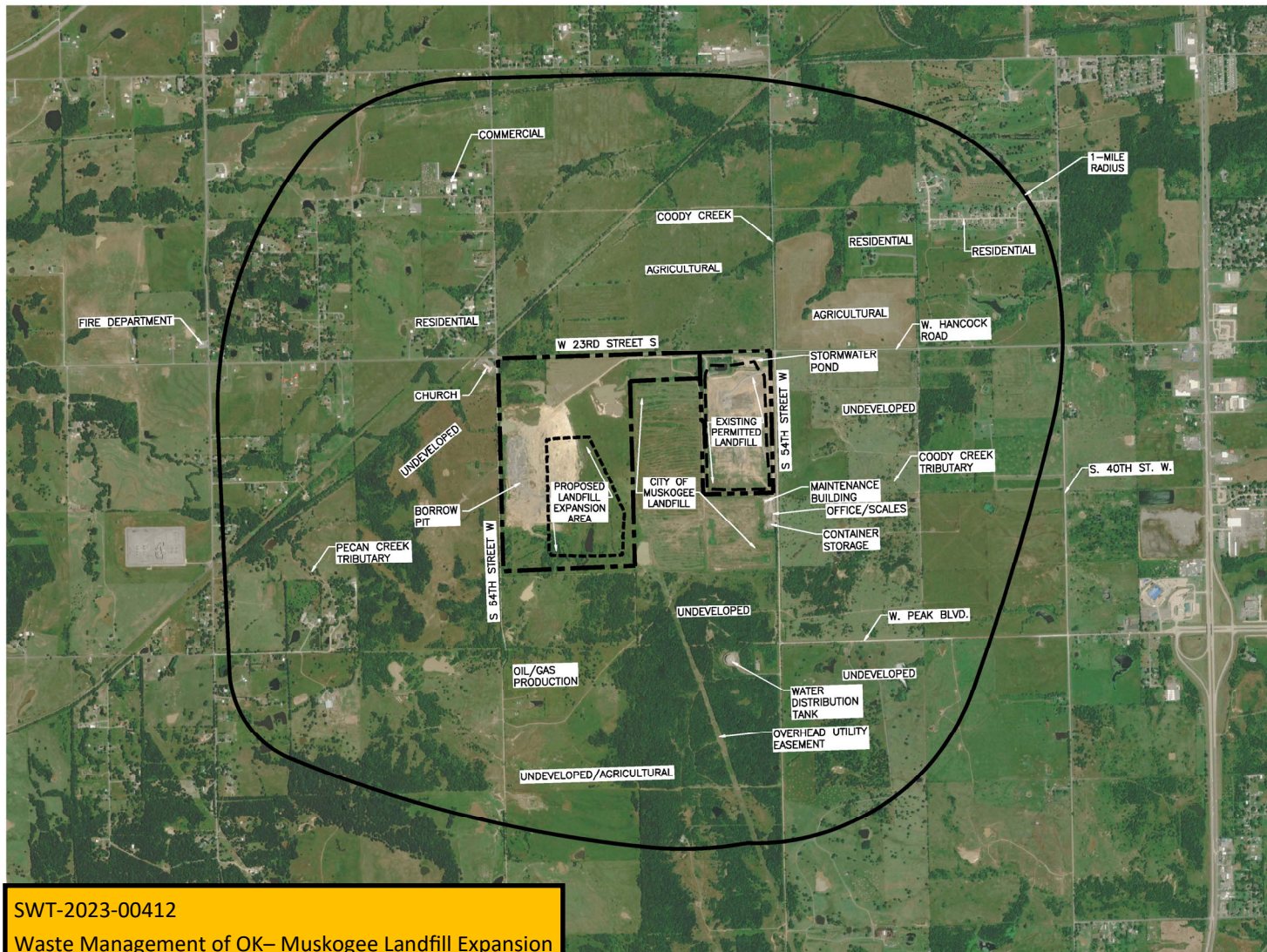
Waste Management of OK– Muskogee Landfill Expansion

Site Location Map

Muskogee County, OK

Enclosure 1 of 7

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION		PREPARED FOR: WASTE MANAGEMENT OF OKLAHOMA, INC.		SECTION 404 PERMIT SITE LOCATION MAP	
DATE: 06/2023 FILE: 0006-364-11 CAD: B-1-SITE LOCATION MAP.DWG		DRAWN BY: RMA DESIGN BY: JWP REVIEWED BY: JWG		MUSKOGEE COMMUNITY RDF MUSKOGEE COUNTY, OKLAHOMA	
 Weaver Consultants Group CA 3804 PE-06/30/2025		REVISIONS			
		NO.	DATE	DESCRIPTION	
				WWW.WCGRP.COM	
				FIGURE B-1	

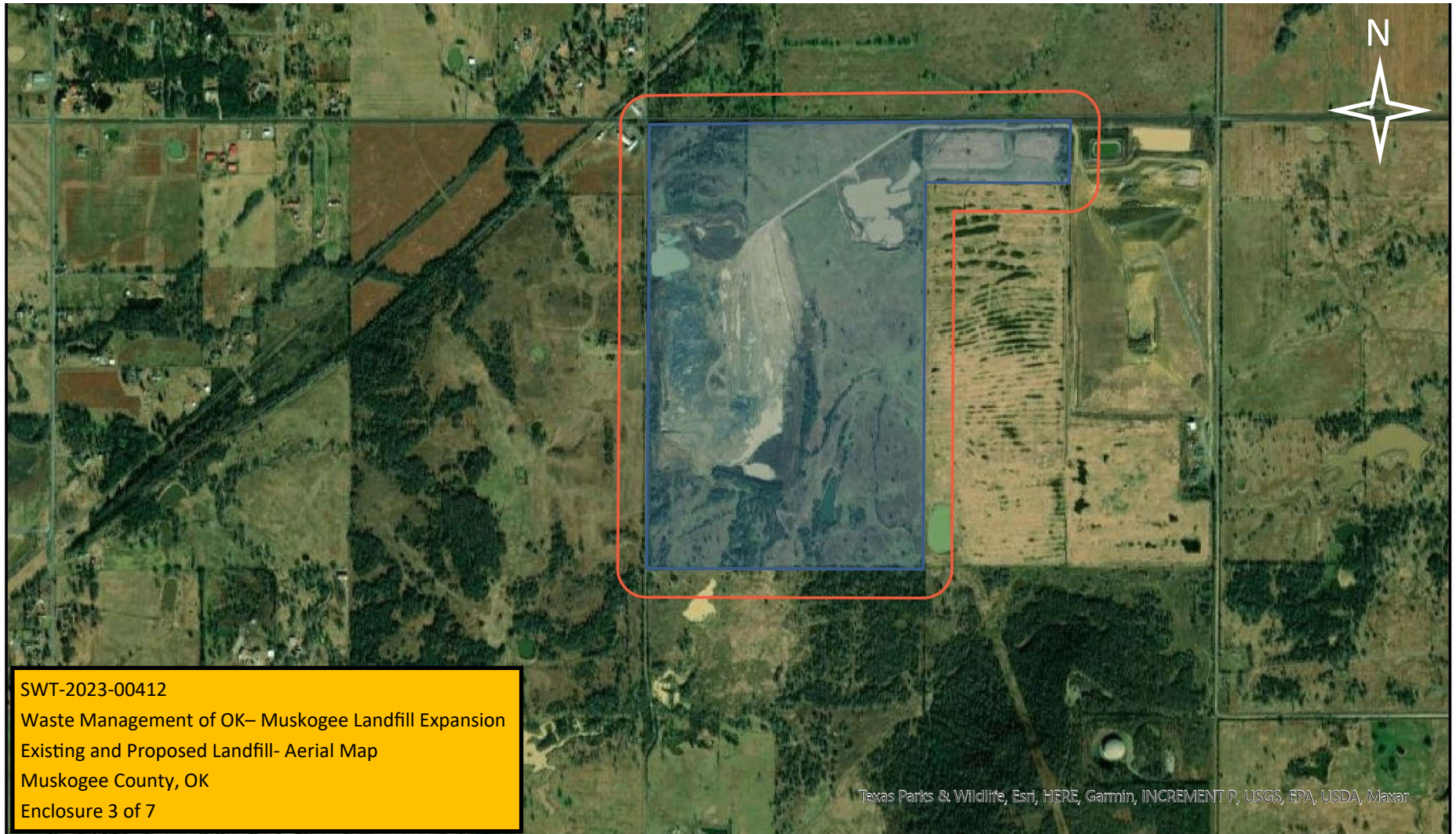


LEGEND	
	EXISTING PERMIT BOUNDARY
	PROPOSED PERMIT BOUNDARY
	PERMITTED LIMITS OF WASTE
	PROPOSED LIMITS OF WASTE

- NOTES:**
1. AERIAL PHOTOGRAPHY OBTAINED FROM GOOGLE EARTH, DATED JUNE 10, 2020.
 2. THE CITY OF MUSKOGEE LANDFILL IS NOT PART OF THE PROPOSED EXPANSION AND IS SHOWN FOR REFERENCE PURPOSES.
 3. PERMIT BOUNDARY AND EXISTING OVERHEAD EASEMENTS WERE REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY WEAVER CONSULTANTS GROUP, SIGNED BY MICHAEL D. BYTNER, LLS# 1986.
 4. A TOPOGRAPHIC SITE MAP OF THE PERMIT PROPERTY AND SURROUNDING PROPERTIES IS PROVIDED ON FIGURE B-2.

SWT-2023-00412
Waste Management of OK- Muskogee Landfill Expansion
Land Use Map
Muskogee County, OK
Enclosures 2 of 7

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION		PREPARED FOR WASTE MANAGEMENT OF OKLAHOMA, INC.		SECTION 404 PERMIT LAND USE MAP																
DATE: 06/20/23 FILE: 0088-364-11 CAD: 10-3-LAND USE MAP.DWG		DRAWN BY: JBP DESIGN BY: JBP REVIEWED BY: JVO		MUSKOGEE COMMUNITY RDF MUSKOGEE COUNTY, OKLAHOMA																
Weaver Consultants Group CA 3804 PE-06/30/2025		<table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>		REVISIONS		NO.	DESCRIPTION											WWW.WCGRP.COM		FIGURE B-3
REVISIONS																				
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**SWT-2023-00412: Muskogee Landfill
Aerial Map**

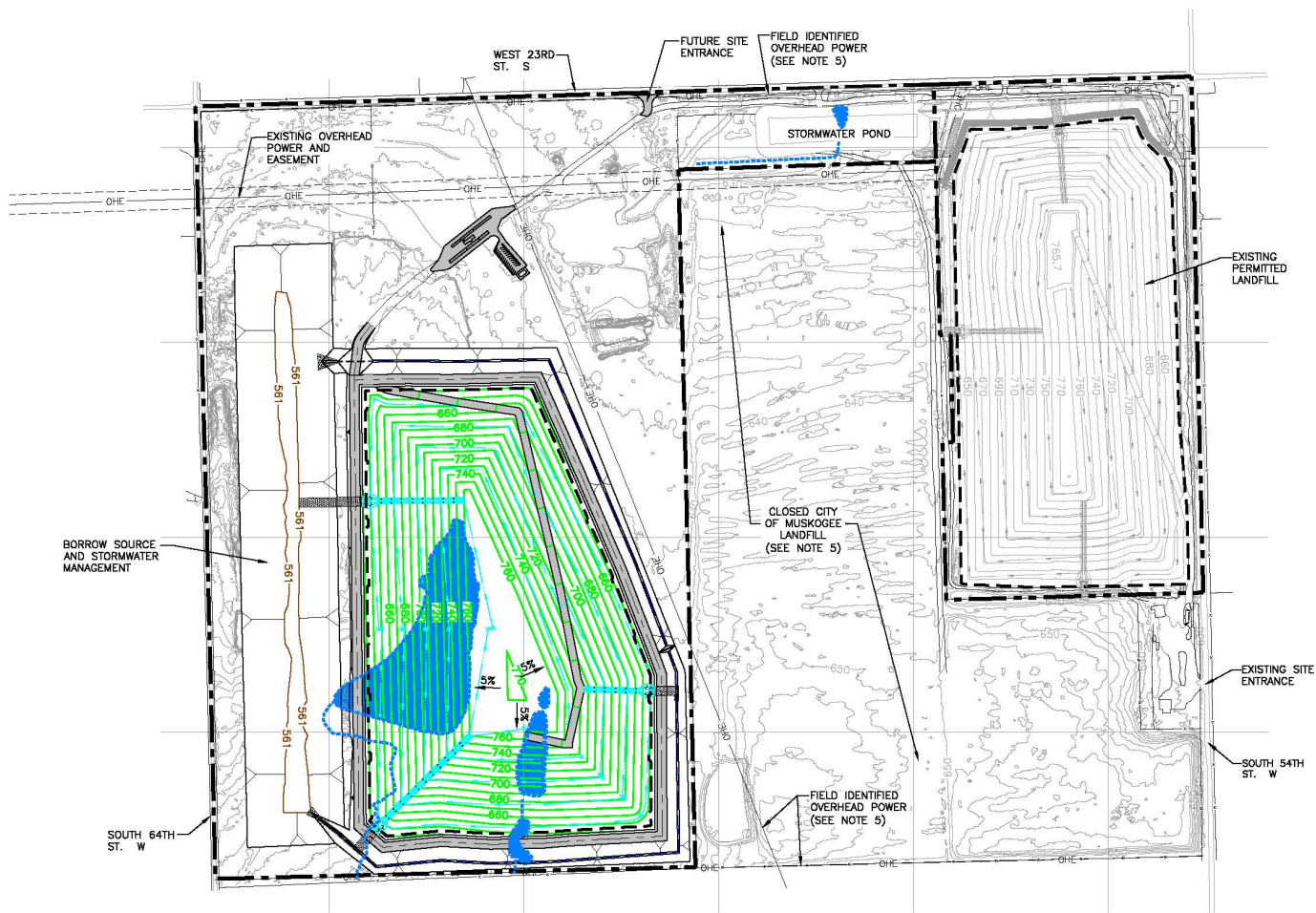
0 0.13 0.25 0.5
mi

Map Center: 95.444157°W 35.720355°N

Author Name

Date: 7/10/2024

Coordinate System: WGS 1984 Web Mercator Auxiliary
Sphere



NOTES:

- EXISTING CONTOURS AND ELEVATIONS PROVIDED BY HYDREX ENVIRONMENTAL FROM AERIAL PHOTOGRAPHY FLOWN 01-25-2023.
- THE EXPANSION WILL ADD A SEPARATE UNIT TO THE WEST OF THE EXISTING LANDFILL. NO CHANGES ARE PROPOSED TO THE EASTERN UNIT.
- THE CITY OF MUSKOGEE LANDFILL IS NOT PART OF THE PROPOSED EXPANSION AND IS SHOWN FOR REFERENCE PURPOSES.
- PERMIT BOUNDARY AND EXISTING OVERHEAD EASEMENTS WERE REPRODUCED FROM LEGAL DESCRIPTION PREPARED BY WEAVER CONSULTANTS GROUP, SIGNED BY MICHAEL D BYTNER, LLS# 1986.
- AN EASEMENT RECORD WAS NOT FOUND OR PROVIDED TO THE SURVEYOR. THE OVERHEAD POWER RUNNING ALONG THE NORTHERN AND SOUTHERN PROPERTY LINE AND NORTHWEST/SOUTHEAST ACROSS THE PROPERTY WAS FIELD IDENTIFIED AND SURVEYED.

PROPOSED LANDFILL DEVELOPMENT

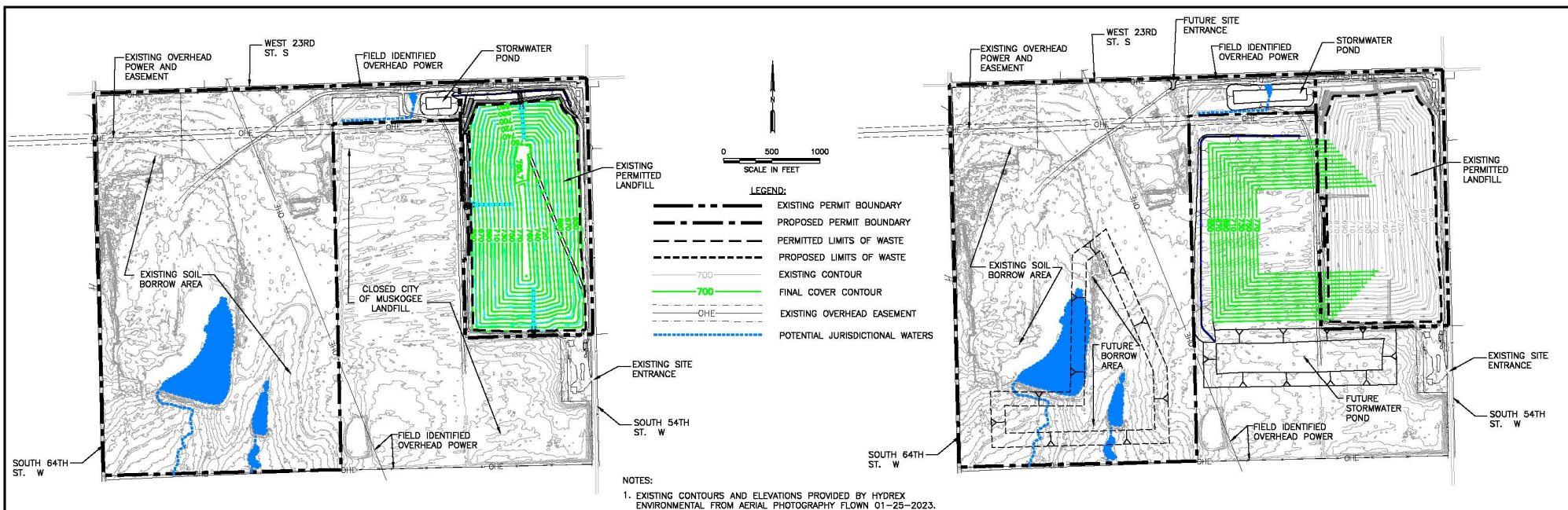
THIS ALTERNATIVE PROVIDES FOR THE LONG-TERM WASTE MANAGEMENT NEEDS OF MUSKOGEE COUNTY AND OTHER COMMUNITIES CURRENTLY SERVED BY THE LANDFILL. THIS ALTERNATIVE WAS SELECTED FOR THE FOLLOWING REASONS:

- THE LANDFILL EXPANSION BENEFITS THE COMMUNITY AND LOCAL INDUSTRY BY PROVIDING A MUCH-NEEDED BASIC SERVICE IN THE FORM OF AN ENVIRONMENTALLY SAFE SOLID WASTE DISPOSAL FACILITY.
- THE LANDFILL PROPERTY AND ADJACENT PROPERTIES HAVE A HISTORY OF LAND USE COMPATIBILITY, HAVING SUCCESSFULLY OPERATED AT THIS LOCATION SINCE 1987, BEGINNING WITH THE CITY OF MUSKOGEE LANDFILL.
- SURROUNDING LAND USES ARE COMPATIBLE WITH THE PROPOSED LANDFILL DEVELOPMENT AND ARE PREDOMINANTLY AGRICULTURAL, RANGELAND, AND LOW TO VERY LOW DENSITY RURAL RESIDENTIAL AREAS.
- THE CURRENT TRAFFIC PATTERNS AND ROADWAYS ARE SUFFICIENT TO HANDLE THE CONTINUED WASTE MANAGEMENT TRAFFIC SERVED BY THE LANDFILL.
- WASTE MANAGEMENT OF OKLAHOMA, INC. HAS EXPRESSED A WILLINGNESS TO PROVIDE MITIGATION OF JURISDICTIONAL WATERS IMPACTED BY THE DEVELOPMENT BY PURCHASE OF CREDITS FROM USACE-APPROVED IN-LIEU FEE PROGRAM.
- INCORPORATING PERIMETER DRAINAGE FEATURES THAT WILL COLLECT, CONVEY AND CONTROL STORMWATER AND SEDIMENT ON THE PROJECT SITE WHILE PROVIDING WATER QUALITY IMPROVEMENTS PRIOR TO OFF-SITE DISCHARGE TO DOWNSTREAM RECEIVING WATERS.

SWT-2023-00412

Waste Management of OK- Muskogee Landfill Expansion
Proposed Development- Preferred Option
Muskogee County, OK
Enclosure 4of 7

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION		PREPARED FOR WASTE MANAGEMENT OF OKLAHOMA, INC.		SECTION 404 PERMIT ALTERNATIVES ASSESSMENT	
DATE: 08/2023 FILE: 0088-264-11 QID: 3-4 PROJECT OVERVIEW.DWG		DRAWN BY: RAA DESIGN BY: JBP REVIEWED BY: JBP		MUSKOGEE COMMUNITY RDF MUSKOGEE COUNTY, OKLAHOMA	
WEAVER CONSULTANTS GROUP CA 3804 PE - 06/30/2023		REVISIONS NO. DATE DESCRIPTION 1 08/2024 UPDATED WATERS		WWW.WCGRP.COM	
				FIGURE 3-4	



ALTERNATIVE 1-DO NOT EXPAND LANDFILL

THIS OPTION INCLUDES NOT EXPANDING THE CURRENT LANDFILL BEYOND THE CURRENTLY PERMITTED FOOTPRINT AND GRADES. THIS OPTION WAS ELIMINATED FROM CONSIDERATION FOR THE FOLLOWING REASONS:

- THE EXISTING LANDFILL HAS LESS THAN 4 YEARS OF DISPOSAL CAPACITY REMAINING. THIS ALTERNATIVE WOULD LEAVE THE CITY OF MUSKOGEE AND SURROUNDING COMMUNITIES WITHOUT A VIABLE WASTE DISPOSAL OPTION WITHIN A REASONABLE DISTANCE FROM THE COMMUNITIES AND INCREASE DISPOSAL COSTS TO THE RESIDENTS DEPENDENT ON THE LANDFILL FOR WASTE MANAGEMENT SERVICES.
- THIS ALTERNATIVE WOULD PLACE ADDITIONAL PRESSURES ON THE LONG-TERM WASTE MANAGEMENT STRATEGIES WITHIN THE STATE OF OKLAHOMA BY REMOVING OR CLOSING A CURRENTLY VIABLE ALTERNATIVE FOR WASTE DISPOSAL AND MANAGEMENT.
- NOT EXPANDING THE LANDFILL ONTO ADJACENT WASTE DISPOSAL PROPERTY IS A POOR USE OF RESOURCES FROM A LAND USE PERSPECTIVE, AS THE CURRENT LANDFILL PROPERTY AND ADJACENT PROPERTIES HAVE PROVEN TO BE COMPATIBLE WITH OTHER NEARBY RURAL LAND USES.
- THIS ALTERNATIVE WOULD REQUIRE WMO AND THE CITY OF MUSKOGEE TO SEEK ALTERNATIVE DISPOSAL OPTIONS, INCLUDING IMPACTING LANDS THAT WERE NOT PREVIOUSLY UTILIZED FOR WASTE MANAGEMENT ACTIVITIES, JURISDICTIONAL WATERS IMPACTS, VISUAL IMPACTS, LOCAL OR REGIONAL OPPOSITION, OR OTHER SITING CRITERIA IMPACTS.
- THE ONGOING USE OF THE PROPERTY WEST OF THE CURRENTLY PERMITTED LANDFILL PROPERTY WILL RENDER THE PROPERTY UNUSABLE FOR FUTURE COMMERCIAL OR RESIDENTIAL DEVELOPMENT.

ALTERNATIVE 2-EXPAND LANDFILL ONTO CLOSED CITY OF MUSKOGEE LANDFILL

THIS OPTION INCLUDES A LATERAL EXPANSION FROM THE CURRENT LANDFILL TO THE WEST, OVER THE TOP OF THE CLOSED CITY OF MUSKOGEE LANDFILL. THIS OPTION WAS ELIMINATED FROM CONSIDERATION FOR THE FOLLOWING REASONS:

- THE CITY LANDFILL IS A TRENCH FILL, WITH LIMITED INFORMATION AVAILABLE REGARDING THE LOCATION, DEPTH, PLACEMENT METHOD AND COMPOSITION OF WASTE WITHIN THE LANDFILL. OPERATIONAL IN THE 1980'S, IT IS REASONABLY ASSUMED THAT THE DISPOSAL TRENCHES WERE CONSTRUCTED WITHOUT THE BENEFIT OF LINER OR LEACHATE COLLECTION SYSTEMS, OR OTHER ENVIRONMENTAL CONTROLS. RECONFIGURED LANDFILL PROVIDES DISPOSAL CAPACITY OF APPROXIMATELY 4.5 MILLION CUBIC YARDS, WHICH IS APPROXIMATELY 13 YEARS OF ADDITIONAL LIFE WITH LIMITED OPPORTUNITY FOR FUTURE EXPANSION.
- THE DEVELOPMENT OVER THE CLOSED CITY OF MUSKOGEE LANDFILL WOULD REQUIRE WMO TO NEGOTIATE PURCHASE OF THE ADJACENT PROPERTY WHICH REASONABLY WOULD REQUIRE THAT WMO ASSUME THE ENVIRONMENTAL RISKS AND LIABILITIES ASSOCIATED WITH THE EXISTING HISTORIC LANDFILL CURRENTLY OWNED BY THE CITY.
- EXPANSION OVER A CLOSED TRENCH FILL LANDFILL POSES SIGNIFICANT ENGINEERING CHALLENGES ASSOCIATED WITH LINER SYSTEM INTEGRITY, LEACHATE MANAGEMENT, AND CONSTRUCTION. DIFFERENTIAL SETTLEMENT OF VERTICAL EXPANSIONS OVER TRENCH FILL LANDFILLS POSES A RISK OF DAMAGE OR FAILURE OF LINER SYSTEMS AND LEACHATE MANAGEMENT SYSTEMS WITHOUT SIGNIFICANT LINER FOUNDATION IMPROVEMENTS.
- THE NEED TO EXCAVATE AND RELOCATE WASTE FROM THE TRENCH FILL IS OFTEN REQUIRED FOR WASTE DETERMINED TO BE HIGHLY COMPRESSIBLE OR OF SUCH VARYING THICKNESS AND COMPOSITION THAT ISSUES OF DIFFERENTIAL SETTLEMENT (AND POTENTIAL ENVIRONMENTAL IMPACTS) ARE UNACCEPTABLE. EXCAVATION AND RELOCATION OF WASTE WOULD LIKELY BE REQUIRED TO PROVIDE NEEDED STORMWATER MANAGEMENT FEATURES REQUIRED FOR DEVELOPMENT.
- THE EXPANSION OF THE MSW LANDFILL OVER THE CLOSED CITY OF MUSKOGEE LANDFILL PRESENTS SIGNIFICANT ENGINEERING CHALLENGES, AND FORMIDABLE ENVIRONMENTAL PROTECTION AND LIABILITY RISKS TO WMO, WITH POTENTIAL ENVIRONMENTAL LIABILITIES EXCEEDING THE VALUE OF THE EXPANSION OPTION.
- THE DEVELOPMENT AND OPERATION OF A LANDFILL OVER A TRENCH FILL WOULD REQUIRE THE RELOCATION OF 1,800,000 CY OF WASTE. THEN WOULD REQUIRE USE OF CLEAN SOILS. SOILS WOULD BE REQUIRED FOR REPLACEMENT FILL OF POTENTIAL CONTAMINATED SUBSURFACE SOIL, SEPARATION/GRADING FILL, LINER AND LEACHATE COLLECTION SYSTEMS, OPERATIONAL COVER SOILS, AND FINAL COVER. THEREFORE THIS ALTERNATIVE WOULD REQUIRE APPROXIMATE 1,800,000 CY OF SOILS FOR DEVELOPMENT, OPERATION, AND CLOSURE. THIS WOULD REPRESENT APPROXIMATELY 50 ACRES OF BORROW SOURCE AT AN AVERAGE DEPTH OF 22 FEET. THEREFORE THE POTENTIAL JURISDICTIONAL WATERS LOCATED WITHIN THE FUTURE BORROW AREA WOULD BE DISTURBED.
- WMO MET WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ) IN SEPTEMBER 2018 AND APRIL 2019 TO DISCUSS POTENTIAL PERMITTING APPROACHES TO ALLOW WMO TO REDEVELOP AND BEGIN OPERATING THE CITY LANDFILL. ALTHOUGH A PROCESS WAS DISCUSSED ODEQ VOICED CONCERN REGARDING 1) REMOVAL OF THE EXISTING COVER SYSTEM AND RELOCATION OF DECOMPOSING WASTE AND ITS EFFECT ON THE SURROUNDING ENVIRONMENT, 2) POTENTIAL INFILTRATION OF SURFACE/STORMWATER INTO THE WASTE SYSTEM, 3) POTENTIAL RELEASE AND MANAGEMENT OF CONTAMINATED WATER, AND 4) ABILITY TO DEVELOP AN EFFECTIVE LINER OR LEACHATE COLLECTION SYSTEM ON AN UNSTABLE WASTE BASE.

SWT-2023-00412

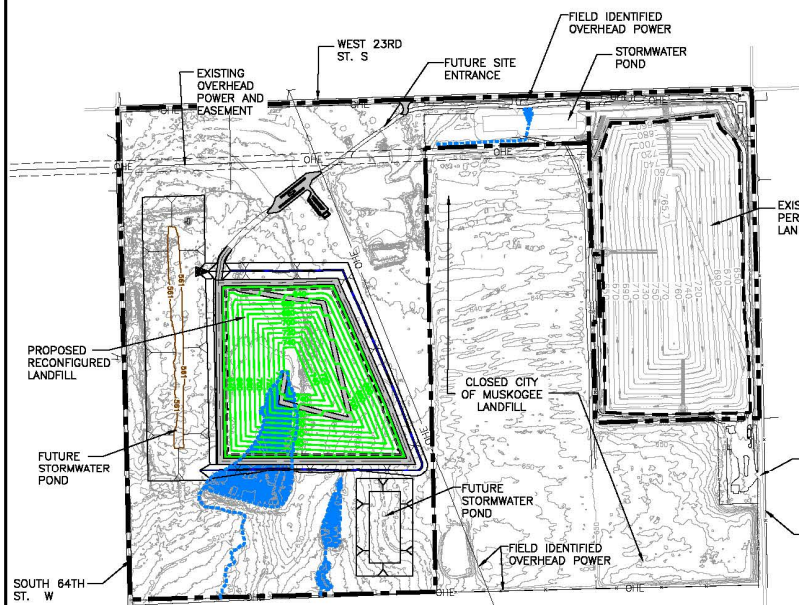
Waste Management of OK- Muskogee Landfill Expansion

Alternative 1- No Action; Alternate 2- Modify existing landfill

Muskogee County, OK

Enclosure 5 of 7

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION		WASTE MANAGEMENT OF OKLAHOMA, INC. SECTION 404 PERMIT ALTERNATIVES ASSESSMENT													
DATE: 08/2023 FILE: 0086-2024-11 CAD: FIG 3-1-PROJECT OVERVIEW.DWG		DRAWN BY: RAA DESIGNED BY: JBP REVIEWED BY: JAO													
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NO.	DATE	DESCRIPTION													
1	09/2024	UPDATED WATERS													
2	09/2024	REVISED ALTERNATIVE 2 TEXT													
3	09/2024	REVISED ALTERNATIVE 2 BORROW AREA													
WWW.WCGRP.COM		FIGURE 3-1													



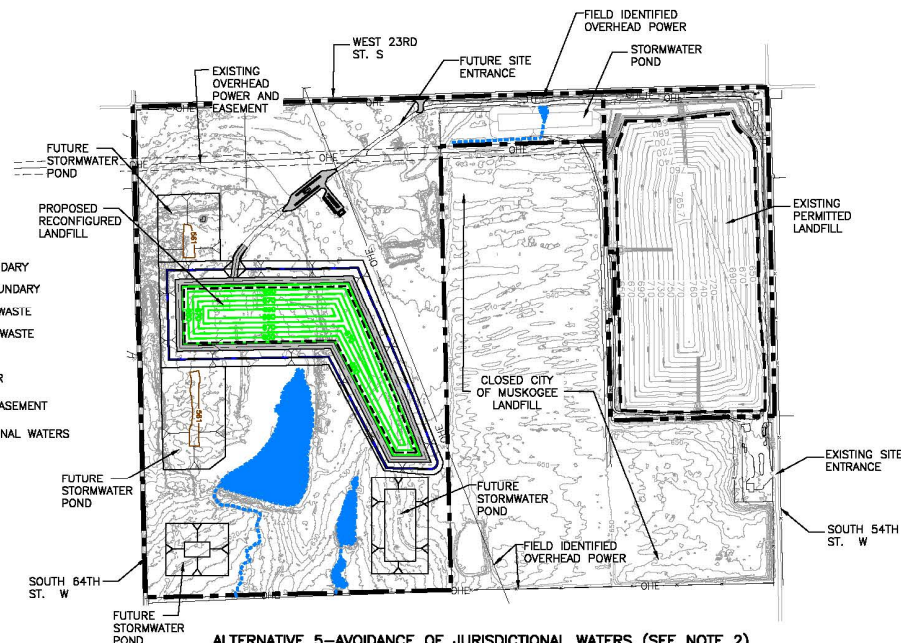
ALTERNATIVE 3-RECONFIGURATION OF PROPOSED FACILITY

THIS OPTION INCLUDES A RECONFIGURATION OF THE PROPOSED LANDFILL TO THE LAYOUT SHOWN IN ABOVE FIGURE. RECONFIGURED LANDFILL PROVIDES ADDITIONAL DISPOSAL CAPACITY OF APPROXIMATELY 2.6 MILLION CUBIC YARDS, WHICH REPRESENTS APPROXIMATELY 8 YEARS OF ADDITIONAL DISPOSAL CAPACITY. THIS OPTION WAS ELIMINATED FROM CONSIDERATION FOR THE FOLLOWING REASONS:

- THIS CONFIGURATION PROVIDES ONLY 8 YEARS OF ADDITIONAL DISPOSAL CAPACITY WHICH IS NOT A LONG TERM SOLUTION FOR WASTE DISPOSAL IN THE COMMUNITY. ADDITIONALLY, THIS LAYOUT IS VERY INEFFICIENT REGARDING THE AIRSPACE GAINED COMPARED TO THE LANDFILL FOOTPRINT.
- LANDFILL RECONFIGURATION REDUCES THE AVAILABLE LANDS FOR SOIL BORROWING AND STORMWATER MANAGEMENT FACILITIES IN THE SOUTHERN PORTION OF THE PROPERTY, AT A POTENTIAL COST TO WMO ASSOCIATED WITH OFF-SITE BORROWING AND TRANSPORT OF SOILS FOR CONSTRUCTION AND WASTE MANAGEMENT.
- THIS CONFIGURATION WOULD STILL REQUIRE DISTURBANCE OF POTENTIAL JURISDICTIONAL WATERS, REQUIRING USACE PERMITTING AND MITIGATION.

NOTES:

- EXISTING CONTOURS AND ELEVATIONS PROVIDED BY HYDREX ENVIRONMENTAL FROM AERIAL PHOTOGRAPHY FLOWN 01-25-2023.
- ALTERNATIVE 4 IS SHOWN ON FIGURE 3-3.



ALTERNATIVE 5-AVOIDANCE OF JURISDICTIONAL WATERS (SEE NOTE 2)

THIS OPTION INVOLVES THE MINIMAL EXPANSION OF THE EXISTING LANDFILL AND AVOIDANCE OF JURISDICTIONAL WATERS. THIS OPTION WAS ELIMINATED FROM CONSIDERATION FOR THE FOLLOWING REASONS:

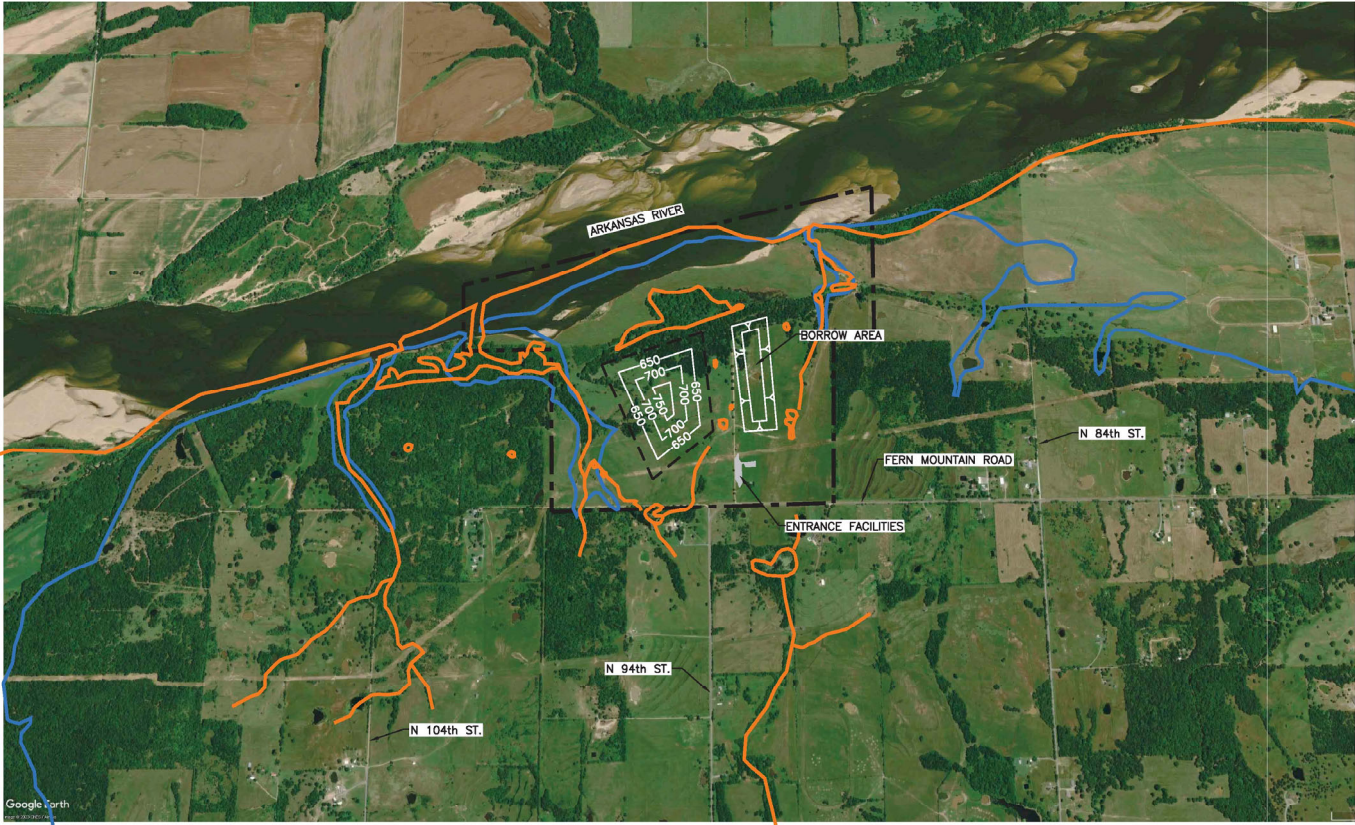
- THE DEVELOPMENT OF AREA OUTSIDE OF JURISDICTIONAL WATERS WOULD CREATE AN INEFFICIENT DESIGN AND MINIMIZE THE SOLID WASTE DISPOSAL CAPACITY DUE TO OPERATIONAL LIMITATIONS. THIS ALTERNATIVE WOULD PROVIDE 1,100,000 CY OF OPERATIONAL AIRSPACE FROM THE DEVELOPMENT OF 19.0 ACRES OF LANDFILL. THIS REPRESENTS APPROXIMATELY 58,000 CY OF OPERATIONAL AIRSPACE PER ACRE. THE SELECTED ALTERNATIVE (FIGURE 3-4) WOULD PROVIDE 6,707,000 CY OF OPERATIONAL AIRSPACE FROM THE DEVELOPMENT OF 65.5 ACRES OF LANDFILL. THIS REPRESENTS APPROXIMATELY 102,000 CY OF OPERATIONAL AIRSPACE PER ACRE. THE SELECTED ALTERNATIVE WOULD PROVIDE 75% MORE OPERATIONAL AIRSPACE PER ACRE THAN DEVELOPING ALTERNATIVE 4.
- AVOIDANCE OF JURISDICTIONAL WATERS WOULD NOT PROVIDE THE NEEDED EXPANSION VOLUME FOR THE LANDFILL. THIS ALTERNATIVE WOULD PROVIDE AN ADDITIONAL 3 YEARS OF OPERATIONAL AIRSPACE. THIS WOULD LIKELY LEAD TO THE NEED TO DEVELOP A NEW LANDFILL. SEE ALTERNATIVES 2 AND 4. THE SELECTED ALTERNATIVE (FIGURE 3-4) WOULD PROVIDE AN ADDITIONAL 20 YEARS OF OPERATIONAL AIRSPACE.
- THE DEVELOPMENT OF AREA OUTSIDE OF JURISDICTIONAL WATERS WOULD NOT BE A GOOD UTILIZATION OF RESOURCES (LAND) CONSIDERING THE ADJACENT COMPATIBLE LAND USE (LANDFILL).

SWT-2023-00412

Waste Management of OK- Muskogee Landfill Expansion
Alternatives 3 & 5- Adjacent Property Development, Modified Design
Muskogee County, OK
Enclosure 6 of 7

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION		PREPARED FOR WASTE MANAGEMENT OF OKLAHOMA, INC.		SECTION 404 PERMIT ALTERNATIVES ASSESSMENT													
DATE: 06/2023 FILE: 0080-364-11 C&D: FIG 3-2-PROJECT OVERVIEW.DWG		DRAWN BY: JWP DESIGN BY: JWP REVIEWED BY: JWP		MUSKOGEE COMMUNITY RDF MUSKOGEE COUNTY, OKLAHOMA													
Weaver Consultants Group CA 3804 PE - 06/30/2025		<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>05/2024</td> <td>UPDATED WATERS</td> </tr> <tr> <td>2</td> <td>06/2024</td> <td>ADDED ADDITIONAL ALTERNATIVE 3 CONSIDERATIONS</td> </tr> <tr> <td>3</td> <td>06/2024</td> <td>ADDED ALTERNATIVE 4</td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION	1	05/2024	UPDATED WATERS	2	06/2024	ADDED ADDITIONAL ALTERNATIVE 3 CONSIDERATIONS	3	06/2024	ADDED ALTERNATIVE 4	WWW.WCGRP.COM FIGURE 3-2	
NO.	DATE	DESCRIPTION															
1	05/2024	UPDATED WATERS															
2	06/2024	ADDED ADDITIONAL ALTERNATIVE 3 CONSIDERATIONS															
3	06/2024	ADDED ALTERNATIVE 4															

03/08/2023 10:41 EXTENSION 2023/404 PERMIT 3-3 OPTION 4.dwg, jphbr, 1:2



SWT-2023-00412
Waste Management of OK- Muskogee Landfill Expansion
Alternative 4- Development of Alternate Property
Muskogee County, OK
Enclosure 7 of 7

NOTES:

1. FLOODPLAIN REPRODUCED FROM FEMA FIR PANEL NO. 4010100075F AND 4010100090F FOR MUSKOGEE COUNTY AND INCORPORATED AREAS, EFFECTIVE FEBRUARY 4, 2011.
2. WETLAND INFORMATION REPRODUCED FROM THE U.S. FISH AND WILDLIFE SERVICE'S NATIONAL WETLAND INVENTORY.

<input type="checkbox"/> DRAFT	DATE: 06/20/23	DRAWN BY: JWP DESIGN BY: JBP REVIEWED BY: JWP
<input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY	FILE: 0096-364-11	
<input type="checkbox"/> ISSUED FOR CONSTRUCTION	CAD: 3-3 OPTION 4.DWG	
Weaver Consultants Group CA 3804 PE - 06/30/2023		

PREPARED FOR WASTE MANAGEMENT OF OKLAHOMA, INC.		
REVISIONS		
NO.	DATE	DESCRIPTION

SECTION 404 PERMIT ALTERNATIVES ASSESSMENT	
MUSKOGEE COMMUNITY RDF MUSKOGEE COUNTY, OKLAHOMA	
WWW.WCGRP.COM	FIGURE 3-3