

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

The Missouri Department of Natural Resources hereby issues a permit to:

City of Licking
Licking Northwest WWTP
0.2 miles SW of Hwy 63 & Shafer Road intersection
Licking, MO 65542

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo., and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources.

As the department does not examine structural features of design or the efficiency of mechanical equipment, the issuance of this permit does not include approval of these features.

A representative of the department may inspect the work covered by this permit during construction. Issuance of a permit to operate by the department will be contingent on the work substantially adhering to the approved plans and specifications.

This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

August 18, 2026

Effective Date

August 17, 2028

Expiration Date

A handwritten signature in black ink, appearing to read 'Heather S. Peters', is written over a horizontal line.

Heather S. Peters, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The proposed project will replace and rehabilitate the existing process equipment to ensure reliable and proper operation. The improvements include phased demolition of existing secondary clarifier mechanisms and their replacement with new secondary clarifier mechanism equipment packages, replacement of existing secondary clarifier weirs and baffles with new glass fiber reinforced polymer (GFRP) weirs and baffles, installation of new GFRP walkable launder trough cover for each secondary clarifier mechanism, replacement of existing telescoping valves with new telescoping valve equipment, phased construction of new UV disinfection process structure and installation of a new UV disinfection process equipment package, installation of new supervisory control and data acquisition (SCADA) system, which integrates both existing and proposed unit processes, incidental construction required for the implementation of the abovementioned improvements.

This project will also include general site work appropriate to the scope and purpose of the project and all necessary appurtenances to make a complete and usable wastewater treatment plant (WWTP).

II. COST ANALYSIS FOR COMPLIANCE

Pursuant to Section 644.145, RSMo., when issuing permits under this chapter that incorporate a new requirement for discharges from publicly owned combined or separate sanitary or storm sewer systems or publicly owned treatment works, or when enforcing provisions of this chapter or the Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq., pertaining to any portion of a publicly owned combined or separate sanitary or storm sewer system or publicly owned treatment works, the Department of Natural Resources shall make a “finding of affordability” on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the Federal Water Pollution Control Act. This process is completed through a cost analysis for compliance. Permits that do not include new requirements may be deemed affordable.

The department is not required to determine cost analysis for compliance because the permit contains no new conditions or requirements that convey a new cost to the facility.

III. CONSTRUCTION PERMIT CONDITIONS

The permittee is authorized to construct subject to the following conditions:

1. This construction permit does not authorize discharge.
2. All construction shall be in accordance with the plans and specifications prepared by Archer-Elgin Engineering Surveying and Architecture, LLC, and signed and sealed by Kenneth A. Campbell, P.E. and Steven L. Stack, P.E. with original date of March 21,

2025. The revised plan sheets (drawing sheets G-301, UV-P-200, UV-S-200) and were signed and sealed by Kenneth A. Campbell, P.E. and Steven L. Stack, P.E. on June 5, 2026, and approved by the department on August 18, 2026.

3. Regulation 10 CSR 20-4.040(18)(B)1 requires that projects be publicly advertised, allowing sufficient time for bids to be prepared and submitted. Projects should be advertised at least 30 days prior to bid opening.
4. The department must be contacted in writing prior to making any changes to the approved plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(11).
5. All changes in contract price or time within the approved scope of work must be by change order in accordance 10 CSR 20-4.040(19).
6. State and federal law does not permit bypassing of raw wastewater; therefore, steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the department's electronic Sanitary Sewer Overflow/Bypass Reporting system at <https://dnr.mo.gov/mogem/> or Southwest Regional Office per 10 CSR 20-7.015(9)(G).
7. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of 1 acre or more to obtain a Missouri State Operating Permit to discharge stormwater. The permit requires best management practices sufficient to control runoff and sedimentation to protect waters of the state. Land disturbance permits will only be obtained by means of the department's ePermitting system available online at <https://dnr.mo.gov/data-e-services/missouri-gateway-environmental-management-mogem>. See <https://dnr.mo.gov/data-e-services/water/electronic-permitting-epermitting> for more information.
8. A United States Army Corps of Engineers (USACE) Section 404 Department of Army permit (§404) along with the department's Section 401 Water Quality Certification or waiver (§401) may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high-water mark of jurisdictional waters of the U.S., then a §404/§401 will likely be required. Since the USACE makes determinations on what is jurisdictional, you must contact the USACE to determine permitting requirements. See <https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/section-401-water-quality> for more information or you may contact the department's Water Protection Program at 573-522-4502 or wp401cert@dnr.mo.gov.

9. Upon completion of construction:

- a. The City of Licking will become the continuing authority for operation and maintenance of these facilities;
- b. Submit an electronic copy of the as-builts if the project was not constructed in accordance with previously submitted plans and specifications; and
- c. Submit the enclosed form Statement of Work Completed to the department in accordance with 10 CSR 20-6.010(5)(N). When the facility applies for their next operating permit renewal, they will be expected to include an updated facility description on their application.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

Much of the existing equipment has exceeded its intended design life and resulted in reduced operational performance. The proposed project consists of replacement and rehabilitation of the existing process equipment to ensure reliable and proper operation. The WWTP improvements project will enhance the reliability of the plant with ability to consistently meet current discharge limits.

2. FACILITY DESCRIPTION

The Licking Northwest WWTP is operating under Missouri State Operating Permit No. MO-0040118. The existing facility consists of headworks with a comminutor, and screening followed by an intermediate pump station, an oxidation ditch with two secondary clarifiers, a tertiary cloth disc filter, ultraviolet disinfection, and cascade post aeration. Sludge is processed in an aerobic sludge digester and an aerated sludge holding tank. Sludge thickening is also available with a bag storage system with biosolids land applied. The facility was last upgraded in 1998 and much of the existing equipment has exceeded its intended design life. This condition has resulted in reduced operational reliability, operability and process performance. The proposed project will replace and rehabilitate the existing process equipment to ensure reliable and proper operation.

The Licking Northwest WWTP is located at 0.2 miles southwest of Hwy 63 and Shafer Road intersection, Licking, Missouri, in Texas County. The current facility has a design flow of 430,000 gallons per day and serves a design population equivalent of 7,338 people.

3. COMPLIANCE PARAMETERS

The existing facility can meet BOD₅, TSS, and ammonia weekly and monthly averages. The proposed project is required to meet final effluent limits established in Missouri State Operating Permit MO-0040118 dated May 1, 2022. No modifications to effluent limits are anticipated due to construction.

4. REVIEW OF MAJOR TREATMENT DESIGN CRITERIA

Existing Components:

Comminutor / influent pump / oxidation ditch / two (2) clarifiers / tertiary disk filter / UV disinfection / aerobic sludge digester / aerated sludge holding tank / sludge dewatering / biosolids are land applied.

Proposed Improvements:

- Secondary Clarifier Mechanism Replacement – The elevation difference between the secondary clarifier No. 1 and 2 can create hydraulic overloading to the clarifier no. 1. To reduce this concern, the existing clarifiers will be demolished in a phased way, and new secondary clarifiers will be installed.
- Secondary Clarifier Weirs and Baffles Reinstatement – The existing weirs and baffles will be replaced with the new glass fiber reinforced polymer (GFRP) weirs and baffles.
- New GFRP Walkable Launder Trough Cover Installment – Once the secondary clarifier's weirs and baffles are replaced, the launder trough covers will be installed. The launder trough covers help to reduce algae growth in the clarifier. The launder trough covers will be designed to allow operators to walk on the covers for access. Handrails will be installed on the inner radius of the cover to prevent operators from falling into the process tanks. Similarly, handrails will be installed on the exterior clarifier wall.
- Existing Telescoping Valves Replacement – The existing six-inch telescoping valve will be replaced, and a new eight inch telescoping valve will be installed to control the flow of decant from the sludge digester.
- Phased Construction of new UV Disinfection Process – The existing disinfection process structure will be demolished, and a new high intensity, low pressure UV disinfection process will be installed to meet the final *E. coli* effluent limits. The proposed UV facility shall utilize two sequential banks of UV lamps. Each bank will be comprised of 4 modules with 6 lamps per module. The depth and width of the modules will be respectively 4.5 ft and 1.34 ft. The UV facility will be designed to disinfect a peak design flow rate of 2.69 MGD.
- SCADA System Improvements – The originally installed supervisory control and data acquisition (SCADA) system is currently outdated, and the replacement parts are no longer manufactured. The existing SCADA system will be demolished and replaced with a new one for monitoring and controlling the processes both locally and remotely.

5. OPERATING PERMIT

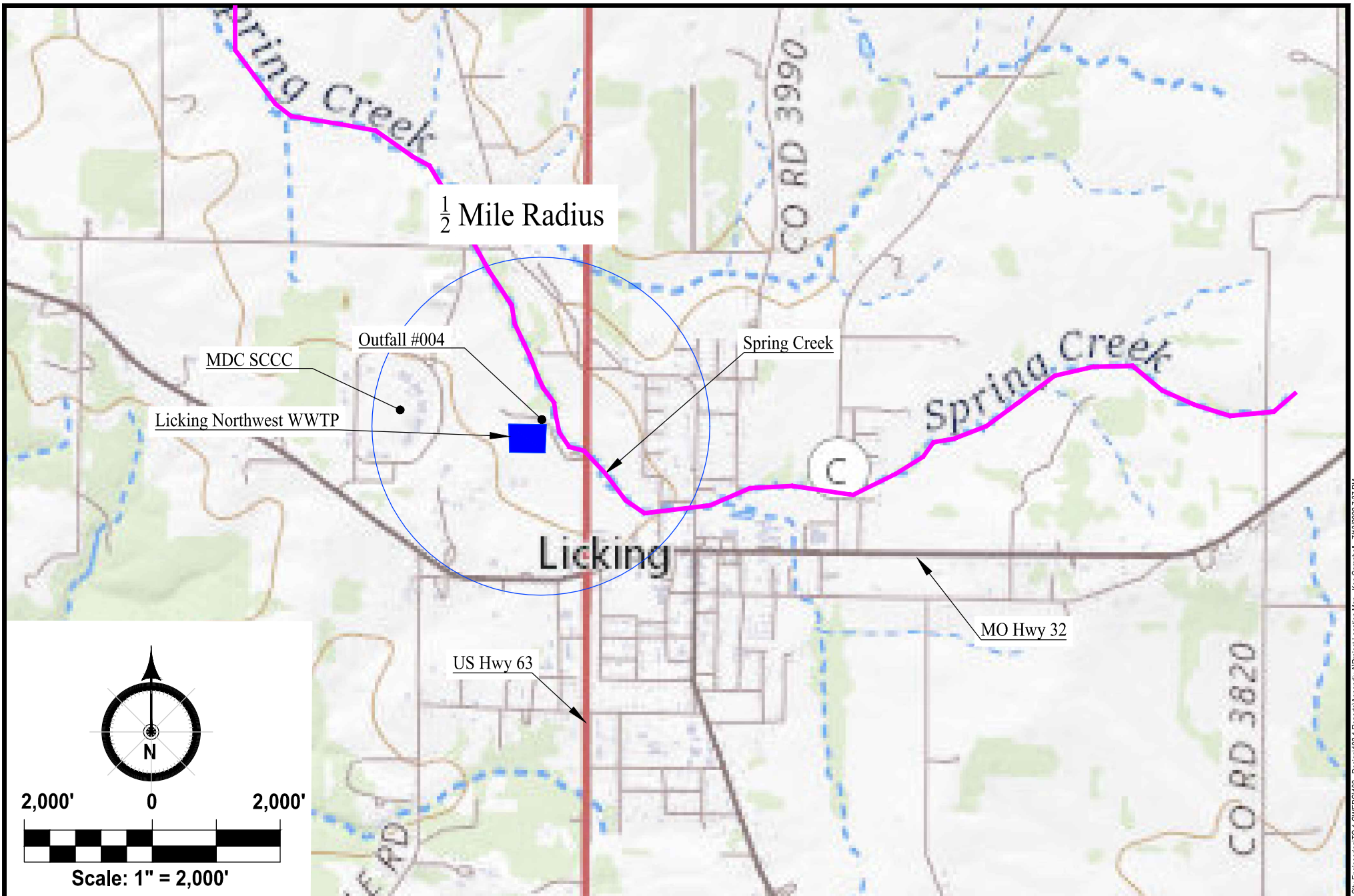
At construction substantial completion, submit the Statement of Work Completed form to the department in accordance with 10 CSR 20-6.010(5)(N). The Operating Permit does not need to be modified to reflect construction covered by this construction permit.

Tazrin Chowdhury, E.I.T.
Financial Assistance Center
tazrin.chowdhury@dnr.mo.gov

APPENDICES

Appendix A - Project Map

APPENDIX A – PROJECT MAP



DATE: 07/13/22	PRELIMINARY DRAWING FOR REVIEW AND APPROVAL PURPOSES ONLY. FINAL PLANS WILL BE SIGNED, SEALED, & ISSUED UPON RECEIPT OF ALL PLAN REVIEW COMMENTS AND APPROVALS FROM LOCAL, STATE, AND FEDERAL REGULATORY AGENCIES.	Corporate Authority: CM Archer Group, P.C.: E: 2003023612, LS: 2004017577-D Archer-Elgin Surveying & Engineering, LLC: E: 2011024038, LS: 2011025471, A-2012014618	 CM Archer Group, P.C. dba: ARCHER-ELGIN engineering surveying architecture Office Location: 310 East Sixth Street Rolla, Mo. 65401 573-364-6362 • Fax 573-364-4782 www.archer-elgin.com	Licking Northeast WWTTP Licking, Missouri	PROJECT NO. 22115201-TO1
DESIGNED BY: HPD				Project Location Map SE 1/4, NE 1/4, Sec 1, T32N, R9W	DRAWING NO. 1
DRAWN BY: HPD					



☒ - PRELIMINARY, NOT FOR CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION ☐ - THIS IS A REDUCED COPY, NOT FOR CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION.					PRELIMINARY DRAWING FOR REVIEW AND APPROVAL PURPOSES ONLY. FINAL PLANS WILL BE SIGNED, SEALED, & ISSUED UPON RECEIPT OF ALL PLAN REVIEW COMMENTS AND APPROVALS FROM LOCAL, STATE, AND FEDERAL REGULATORY AGENCIES.	CM Archer Group, P.C. dba: ARCHER-ELGIN engineering surveying architecture Corporate Authority: CM Archer Group, P.C.: E: 2003023612-D, LS: 2004017577-D, A-2016017179 Archer-Elgin Surveying & Engineering, LLC: E: 2011024038, LS: 2011025471, A-2012014618 310 East 6th Street; Rolla, Missouri 65401 ■ Phone: 573-364-6362 Fax: 573-364-4782 ■ www.archer-elgin.com		Licking Northwest WWTP Improvements Facility Plan Licking, Missouri	PROJECT NO. 22115201-T01
	Existing Site Plan							DRAWING NO. 2	
DESIGNED / DRAWN BY: x	DATE: 06/25/22	No.	DATE	BY	REVISION BLOCK				

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MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
**APPLICATION FOR CONSTRUCTION PERMIT –
WASTEWATER TREATMENT FACILITY**

FOR DEPARTMENT USE ONLY

APP NO.

CP NO.

FEE RECEIVED

CHECK NO.

DATE RECEIVED

APPLICATION OVERVIEW

The Application for Construction Permit – Wastewater Treatment Facility form has been developed in a modular format and consists of Part A and B. **All applicants must complete Part A.** Part B should be completed for applicants who currently land-apply wastewater or propose land application for wastewater treatment. **Please read the accompanying instructions before completing this form. Submittal of an incomplete application may result in the application being returned.**

PART A – BASIC INFORMATION

1.0 APPLICATION INFORMATION (Note – If any of the questions in this section are answered NO, this application may be considered incomplete and returned.)

- 1.1 Is this a Federal/State funded project? ☒ YES ☐ N/A Funding Agency: MO SRF Project #: C295928-01
- 1.2 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
☐ YES Date of Approval: _____ ☒ N/A
- 1.3 Has the department approved the proposed project's facility plan*?
☒ YES Date of Approval: 03/09/2023 ☐ NO (If No, complete No. 1.4.)
- 1.4 [Complete only if answered No on No. 1.3.] Is a copy of the facility plan* for wastewater treatment facilities included with this application?
☐ YES ☐ NO ☐ Exempt because _____
- 1.5 Is a copy of the appropriate plans* and specifications* included with this application?
☒ YES Denote which form is submitted: ☐ Hard copy ☒ Electronic copy (See instructions.) ☐ NO
- 1.6 Is a summary of design* included with this application? ☒ YES ☐ NO
- 1.7 Has the appropriate operating permit application (A, B, or B2) been submitted to the department?
☐ YES Date of submittal: _____
☐ Enclosed is the appropriate operating permit application and fee submittal. Denote which form: ☐ A ☐ B ☒ B2
☒ N/A: However, in the event the department believes that my operating permit requires revision to permit limitation such as changing equivalent to secondary limits to secondary limits or adding total residual chlorine limits, please share a draft copy prior to public notice? ☒ YES ☐ NO
- 1.8 Is the facility currently under enforcement with the department or the Environmental Protection Agency? ☐ YES ☒ NO
- 1.9 Is the appropriate fee or JetPay confirmation included with this application? ☐ YES ☒ NO
See Section 7.0

* Must be affixed with a Missouri registered professional engineer's seal, signature and date.

2.0 PROJECT INFORMATION

2.1 NAME OF PROJECT
Licking Northwest WWTP Improvements - Phase 2

2.2 ESTIMATED PROJECT CONSTRUCTION COST
\$ 2,976,647

2.3 PROJECT DESCRIPTION
See attached supplemental data

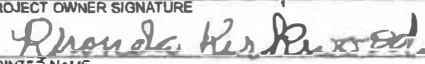
2.4 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION
See attached supplemental data

2.5 DESIGN INFORMATION

- A. Current population: 2877; Design population: 4300
- B. Actual Flow: _____ gpd; Design Average Flow: _____ gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: _____ gpd; Design Wet Weather Event: _____

2.6 ADDITIONAL INFORMATION

- A. Is a topographic map attached? ☒ YES ☐ NO
- B. Is a process flow diagram attached? ☒ YES ☐ NO

3.0 WASTEWATER TREATMENT FACILITY					
NAME Licking Northwest WWTP		TELEPHONE NUMBER WITH AREA CODE 573-674-2521		E-MAIL ADDRESS lickingcity@hotmail.com	
ADDRESS (PHYSICAL)		CITY Licking	STATE MO	ZIP CODE 65542	COUNTY Texas
Wastewater Treatment Facility: Mo-0040118 (Outfall 1 Of 1)					
3.1 Legal Description: <u>1/4, SE 1/4, NE 1/4, Sec. 01, T 32N, R 9W</u> (Use additional pages if construction of more than one outfall is proposed.)					
3.2 UTM Coordinates Easting (X): <u>600371</u> Northing (Y): <u>4151507</u> For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)					
3.3 Name of receiving streams: <u>Spring Creek</u>					
4.0 PROJECT OWNER					
NAME City of Licking		TELEPHONE NUMBER WITH AREA CODE 573-674-2521		E-MAIL ADDRESS lickingcity@hotmail.com	
ADDRESS P.O. Box 89		CITY Licking	STATE MO	ZIP CODE 65542	
5.0 CONTINUING AUTHORITY: A continuing authority is a company, business, entity or person(s) that will be operating the facility and/or ensuring compliance with the permit requirements.					
NAME City of Licking		TELEPHONE NUMBER WITH AREA CODE 573-674-2521		E-MAIL ADDRESS lickingcity@hotmail.com	
ADDRESS P.O. Box 89		CITY Licking	STATE MO	ZIP CODE 65542	
5.1 A letter from the continuing authority, if different than the owner, is included with this application. ☐ YES ☐ NO ☒ N/A					
5.2 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A MISSOURI PUBLIC SERVICE COMMISSION REGULATED ENTITY.					
A. Is a copy of the certificate of convenience and necessity included with this application? ☐ YES ☐ NO					
5.3 COMPLETE THE FOLLOWING IF THE CONTINUING AUTHORITY IS A PROPERTY OWNERS ASSOCIATION					
A. Is a copy of the as-filed restrictions and covenants included with this application? ☐ YES ☐ NO					
B. Is a copy of the as-filed warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association included with this application? ☐ YES ☐ NO					
C. Is a copy of the as-filed legal instrument (typically the plat) that provides the association with valid easements for all sewers included with this application? ☐ YES ☐ NO					
D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? ☐ YES ☐ NO					
6.0 ENGINEER					
ENGINEER NAME / COMPANY NAME Ken Campbell, Archer-Elgin Engineering & Surveying		TELEPHONE NUMBER WITH AREA CODE 573-364-6362		E-MAIL ADDRESS kcampbell@cmarcher.com	
ADDRESS 310 E 6th St		CITY Rolla	STATE MO	ZIP CODE 65401	
7.0 APPLICATION FEE					
☐ CHECK NUMBER ☐ JETPAY CONFIRMATION NUMBER					
8.0 PROJECT OWNER: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.					
PROJECT OWNER SIGNATURE 					
PRINTED NAME Rhonda Kirkwood				DATE 3/24/25	
TITLE OR CORPORATE POSITION City Administrator		TELEPHONE NUMBER WITH AREA CODE 573-674-2521		E-MAIL ADDRESS lickingcity@hotmail.com	
Mail completed copy to: MISSOURI DEPARTMENT OF NATURAL RESOURCES WATER PROTECTION PROGRAM P.O. BOX 176 JEFFERSON CITY, MO 65102-0176					
END OF PART A.					
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHETHER PART B NEEDS TO BE COMPLETE.					

PART B – LAND APPLICATION ONLY**(Submit only if the proposed construction project includes land application of wastewater.)****8.0 FACILITY INFORMATION**

8.1 Type of wastewater to be irrigated: ☐ Domestic ☐ State/National Park ☐ Seasonal business
☐ Municipal ☐ Municipal with a pretreatment program or significant industrial users
☐ Other (explain) _____

8.2 Months when the business or enterprise will operate or generate wastewater:

☐ 12 months per year ☐ Part of the year (list months): _____

8.3 This system is designed for:

- ☐ No-discharge.
☐ Partial irrigation when feasible and discharge rest of time.
☐ Irrigation during recreational season, April – October, and discharge during November – March.
☐ Other (explain) _____.

9.0 STORAGE BASINS

9.1 Number of storage basins: 1 (Use additional pages if greater than three basins.)

9.2 Type of basins: ☐ Steel ☐ Concrete ☐ Fiberglass ☐ Earthen ☐ Earthen with membrane liner

9.3 Storage basin dimensions at inside top of berm (feet). Report freeboard as feet from top of berm to emergency spillway or overflow pipe.

Basin #1:	Length _____	Width _____	Depth _____	Freeboard _____	Depth _____	Safety _____	% Slope _____
Basin #2:	Length _____	Width _____	Depth _____	Freeboard _____	Depth _____	Safety _____	% Slope _____
Basin #3:	Length _____	Width _____	Depth _____	Freeboard _____	Depth _____	Safety _____	% Slope _____

9.4 Storage Basin operating levels (report as feet below emergency overflow level).

Basin #1:	Maximum operating water level _____ ft	Minimum operating water level _____ ft
Basin #2:	Maximum operating water level _____ ft	Minimum operating water level _____ ft
Basin #3:	Maximum operating water level _____ ft	Minimum operating water level _____ ft

9.5 Design depth of sludge in storage basins.

Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

9.6 Existing sludge depth, if the basins are currently in operation.

Basin #1: _____ ft Basin #2: _____ ft Basin #3: _____ ft

9.7 Total design sludge storage: _____ dry tons and _____ cubic feet

10.0 LAND APPLICATION SYSTEM

10.1 Number of irrigation sites _____ Total Acres _____ Maximum % field slopes _____
Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
Location: _____ ¼, _____ ¼, _____ ¼, _____ Sec. _____ T _____ R _____ County _____ Acres
(Use additional pages if greater than three irrigation sites.)

10.2 Type of vegetation: ☐ Grass hay ☐ Pasture ☐ Timber ☐ Row crops
☐ Other (describe) _____

10.3 Wastewater flow (dry weather) gallons per day: Average annual _____ Seasonal _____ Off-season _____

10.4 Land application rate (design flow including 1-in-10 year storm water flows):

Design:	_____ inches/year	_____ inches/hour	_____ inches/day	_____ inches/week
Actual:	_____ inches/year	_____ inches/hour	_____ inches/day	_____ inches/week

10.5 Total irrigation per year (gallons): Design: _____ gal Actual: _____ gal

10.6 Actual months used for irrigation (check all that apply):

☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

10.7 Land application rate is based on:

☐ Hydraulic Loading ☐ Other (describe) _____
☐ Nutrient Management Plan (N&P) If N&P is selected, is the plan included? ☐ YES ☐ NO

Part A, Section 2.0

Section 2.3: The project includes the following planned improvements:

- Demolition of existing secondary clarifier mechanisms and their replacement with new secondary clarifier mechanism equipment packages. Installation of new GFRP weirs, baffles and walkable launder trough covers.
- Phased construction of new UV disinfection structure and installation of new UV disinfection equipment package. Demolition of the existing UV disinfection process structure and equipment.
- Implementation of new supervisory control and data acquisition system at the facility, with aim to integrate existing and proposed processes in the SCADA architecture.
- Implementation of all necessary ancillary improvements to afford a complete and functional implementation of abovementioned improvements.

Section 2.4: Waste activated sludge is pumped from the bottom of the secondary clarifiers to the aerobic digester. The aerobic digester is utilized for stabilization of the sludge for the generation of biosolids. Thickened biosolids are transfer to the sludge storage basin. Stored sludge is periodically pumped to a sludge dewatering bag for dewatering. Polymer addition occurs upstream of the sludge dewatering bag as a flocculation aid to promote enhanced dewatering characteristics. Dewatered sludge is land applied in liquid or solid form.

Section 2.5.B: Actual Flow: 0.549 MGD

Design Average Flow: 0.430 MGD

Actual Daily Peak Flow: 1.33 MGD

Design Maximum Daily Flow: 1.33 MGD

Design Wet Weather Event: 2.69 MGD

Part A, Section 3.0

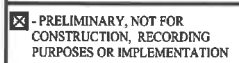
Section 3.0: Licking Northwest WWTP

0.2 MI SW of Intersection of Highway 63 & Schafer Road.

Licking, MO 65542

1.

1. DEMOLISH EXISTING SECONDARY CLARIFIER MECHANISM, WEIRS AND BAFFLES.
2. INSTALL NEW WALKABLE LAUNDER TROUGH COVERS.
3. CONSTRUCT NEW UV DISINFECTION PROCESS

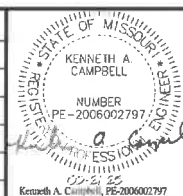


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DESIGNED / DRAWN BY:	DATE:
KAC/WT	03/21/25

1	03-21-25	KAC
No.	DATE	BY

ISSUED TO MDNR
REVISION BLOCK



CM Archer Group, P.C, dba:



Corporate Authority:
CM Archer Group, P.C.: E: 2003023612-D, LS: 2004017577-D, A-2016017179
 310 East 6th Street Rolla, Missouri 65401 ■ Phone: 573-364-6362 Fax: 573-364-4782 ■ www.archer-elgin.com

Licking Northwest WWTP Improvements - Phase 2
Licking, Missouri

Proposed Facility Flow Diagram

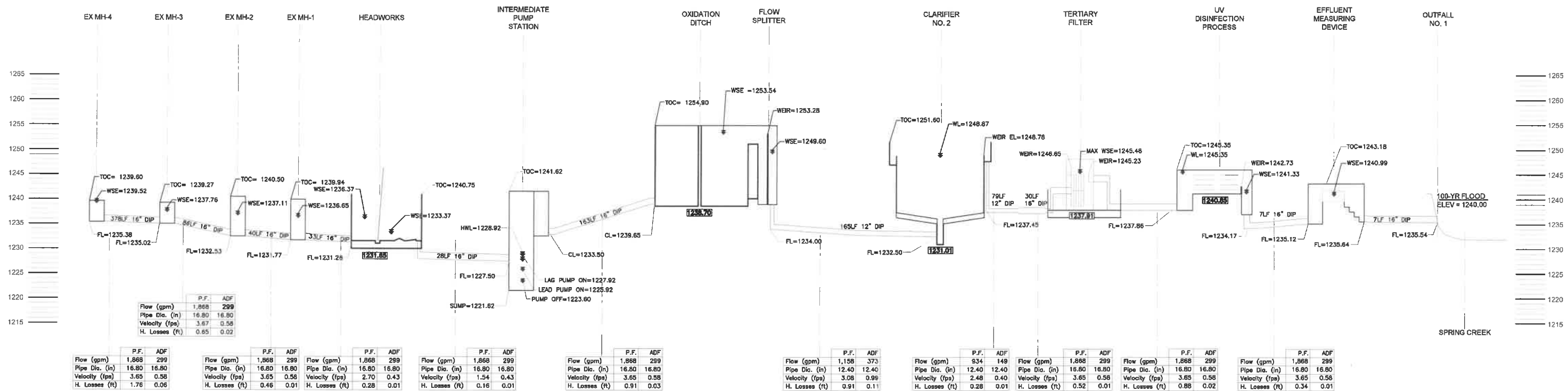
PROJECT NO.

22115201-TO2

DRAWING NO.

G-300

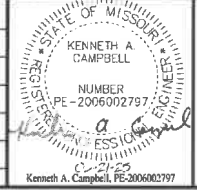
HYDRAULIC PROFILE
SECONDARY TREATMENT TRAIN



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DESIGNED / DRAWN BY:	DATE:	I	03-21-25	KAC	ISSUED TO MDNR
KAC/WT	03/21/25	No.	DATE	BY	REVISION BLOCK



CM Archer Group, P.C. dba:

ARCHER-ELGIN
ENGINEERING | SURVEYING | ARCHITECTURE

Corporate Authority:
CM Archer Group, P.C.; E: 2003023612-D, LS: 2004017577-D, A-2016017179
310 East 9th Street, Rolla, Missouri 65401 Phone: 573-364-4382 Fax: 573-364-4782 www.archer-elgin.com

Licking Northwest WWTP Improvements - Phase 2 Licking, Missouri	PROJECT NO. 22115201-T02
Proposed Facility Hydraulic Profile	DRAWING NO. G-301