

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



CONSTRUCTION PERMIT

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

Elm Hills Utility Company, Inc.
Twin Oaks Estates WWTF
Missouri Route D & Missouri Highway 23
Knob Noster, MO 65336

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 (Department).

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 28, 2018
Effective Date

March 5, 2019
Modification Date

August 27, 2020
Expiration Date


Edward B. Galbraith, Director, Division of Environmental Quality


Chris Wieberg, Director, Water Protection Program

CONSTRUCTION PERMIT

I. CONSTRUCTION DESCRIPTION

The proposed construction is the installation of a moving bed bioreactor (MBBR) between the recirculation tank and the sand filter to improve treatment and to install chlorine disinfection. The construction is to help achieve compliance with the final ammonia and *gE. Coli* effluent limits, which are already effective. The existing treatment system is STEP septic tanks, pressurized collection system, recirculating media filter. Chlorine disinfection and dechlorination will be by a tablet system, the Noreweco Bio-Dynamic XT2000. The MBBR is composed of one tank total volume of the tank is 1,821 gallons and a hydraulic retention time of 4.1 hours at design average flow. The facility is proposing a reduction in design average flow to 9,990 gallons per day.

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 facility.

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 complete a cost analysis for compliance because the facility is not a combined or separate sanitary sewer system for a publically-owned treatment works.

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 submitted by 21 Design Group, Inc. on May 4, 2018.

3. 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(8).
4. 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 Kansas City Regional Office per 10 CSR 20-7.015(9)(E)2.
5. The wastewater treatment facility shall be located at least fifty feet (50') from any dwelling or establishment.
6. The wastewater treatment facility shall be located above the twenty-five (25)-year flood level.
7. Wastewater treatment facility shall not be located within one hundred feet (100'), and preferably three hundred feet (300') of any water well or water supply structure.
8. 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 dnr.mo.gov/env/wpp/epermit/help.htm. See dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm for more information.
9. A United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) issued by the Department or permit waiver 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 be required. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the Department's Water Protection Program at 573-751-1300 for more information. See dnr.mo.gov/env/wpp/401/ for more information.
10. Upon completion of construction:
 - A. Elms Hills Utility Operating Company, Inc. will become the continuing authority for operation, maintenance, and modernization of these facilities;
 - B. Submit an electronic copy of the as built's 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)(D) and request the operating permit modification be issued.

IV. REVIEW SUMMARY

1. CONSTRUCTION PURPOSE

The proposed construction is the installation of a moving bed bioreactor (MBBR) between the recirculation tank and the sand filter to improve treatment and to install chlorine disinfection. The construction is to help achieve compliance with the final ammonia and *E. Coli* effluent limits, which are already effective.

2. FACILITY DESCRIPTION

The Twin Oaks Estates WWTF is located at Route D and Highway 23, Knob Noster, in Johnson County, Missouri. The facility has an existing design average flow of 18,130gpd and serves a hydraulic population equivalent of approximately 182 people. The facility has 38 connections each with their own septic tank and 4,500 ft of pressurized sewer from the septic tanks to the recirculation tank.

The existing treatment system is STEP septic tanks, pressurized collection system, recirculating media filter. Construction will add a MBBR to the system following the recirculation tank and install chlorine disinfection and dechlorination. See Appendix A for process flow diagram.

As part of the upgrade the facility is proposing reducing the design average flow to 9,990 gpd based on flows received at the plant. The subdivision currently has 38 connections with an actual flow rate of 79 gpd per customer. The subdivision is platted for 50 houses; however with the low actual flows from the existing 38 connections, the pressurized collection system which limits the amount of inflow and infiltration (I&I) in the system with a pressurized sewer, the upgrades for the facility are for a design average flow of 9,990 gallons per day.

The permit was renewed with the following final effluent limits. With the final effluent limits is a summary of the existing facility's performance.

Parameter	Units	Permit Monthly Effluent Limit	Average discharge*
Flow	MGD	*	0.0031
Biochemical Oxygen Demand ₅	mg/L	30	4.73
Total Suspended Solids	mg/L	30	3.95
Ammonia as N-summer	mg/L	*/1.2	1.37
Ammonia as N-winter	mg/L	*/2.4	0.76

* monitoring only

★ discharge monitoring reports January 1, 2013 through March 31, 2018.

3. COMPLIANCE PARAMETERS

The final effluent limits the project is required to meet are established in the Twin Oaks Estates WWTP operating permit, MO-0132021 which was issued on July 1, 2017. The facility will have to meet the already effective Ammonia and *E. Coli* effluent limits, plus the final effluent limit for total residual chlorine as a result of construction.

Parameter	Units	Monthly average limit
Ammonia as N-summer	mg/L	1.2
Ammonia as N-winter	mg/L	2.4
Total Residual Chlorine	µg/L	8 (130 ML)
<i>E. Coli</i>	#/100mL	206

4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA

The current design guides, 10 CSR 20-8, do not contain design parameters for this configuration of technology or for recirculating media filters or moving bed biological reactors.

Existing major components which will remain in use include the following:

- Septic Tank – Each house has a septic tank that pumps water to the treatment plant.
- Recirculation Tank – The existing recirculation tank is approximately 18, 130 gallons per day. This tank will cycle water to the MBBR and recirculating media filter.
- Recirculating Media Filter – The existing sand filter was designed for 18,130 gpd. After the recirculating media filter, the splitter valve and discharge 20% rate and return 80%.

Construction will cover the following items:

- Moving Bed Bioreactor- The MBBR will follow the recirculation tank. The system is capable of treating a design average flow of 9,990 gpd and a peak flow of 15,000 gpd.
 - The system is composed of one tank with approximately 5.9 ft diameter and a depth of 9 ft. Total volume of the tank is 1,821 gallons.
 - The average flow hydraulic retention time is 4.1 hours and the peak flow hydraulic retention time is 1.4 hours.
 - The tank shall be filled approximately 65% with high surface area HDPE media (approx. 24,124 ft² of total surface area available, which is greater than the required 18,557 ft²).
 - Aeration supplied to maintain a dissolved oxygen concentration of 5.0 mg/L with a design blower flow rate of 23.8 scfm with 2.0 HP motors.
 - The effluent from the MBBR will flow to the existing sand filter prior to disinfection and discharge.

- Disinfection – Disinfection is the process of removal, deactivation, or killing of pathogenic microorganisms.
 - Tablet Chlorinator – Installation of a tablet Norweco Bio-Dynamic XT2000 or equivalent chlorination chamber receiving clarified effluent and prior to the chlorine contact tank. The tablet chlorinator shall have a design average flow of 20,000 gpd. The system will dispense hypochlorite as the wastewater comes into contact with the tablets.
 - Tablet Dechlorinator – Installation of a Norweco Bio-Dynamic XT2000 or equivalent dechlorination chamber receiving the chlorinated effluent and prior to Outfall No. 001. The tablet dechlorinator shall have a design average flow of 20,000 gpd. The system will dispense sodium sulfite as the wastewater comes into contact with the tablets.

5. OPERATING PERMIT

Operating permit MO-0113271 will require a modification to reflect the construction activities. The modification and upgrades to the treatment plant removes the schedule of compliance from the operating permit. The modified Twin Oaks Estates WWTF, MO-0113271 was successfully public noticed from July 5, 2018 to August 6, 2018 with no comments received. Submit the Statement of Work Completed to the Department in accordance with 10 CSR 20-6.010(5)(D) and request the operating permit modification be issued. The facility has already paid for the operating permit modification.

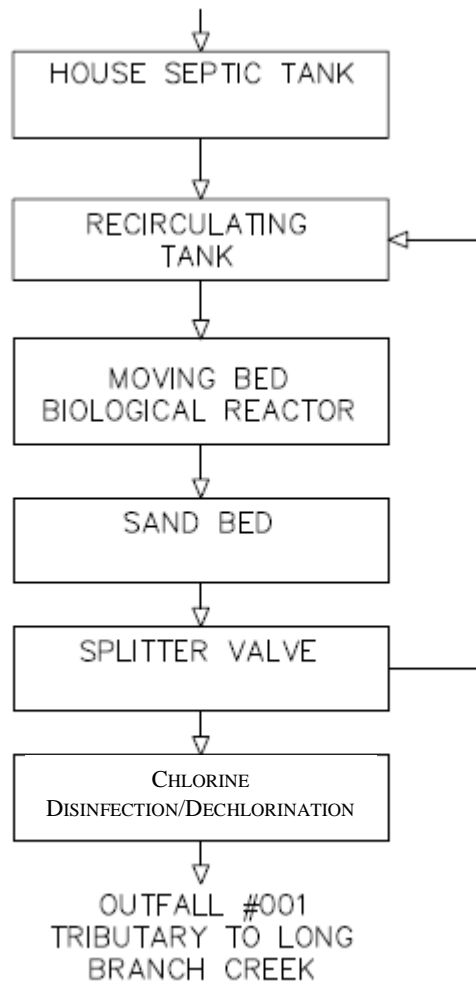
6. CONSTRUCTION PERMIT MODIFICATION

On February 19, 2019, Elms Hills Utility Operating Company, Inc. submitted an ownership transfer. The construction permit has been updated to reflect the new owner and continuing authority. Permit condition #10 was updated to reflect the new continuing authority. The operating permit modification will be issued to Elm Hills Utility Operating Company, Inc.

Leasue Meyers, EI
Engineering Section
leasue.meyers@dnr.mo.gov

Cindy LePage, P.E.
Engineering Section
cindy.lepage@dnr.mo.gov

APPENDIX A: PROCESS FLOW DIAGRAM



31799

RECEIVED

FEB 19 2019



MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
APPLICATION FOR TRANSFER OF OPERATING PERMIT

FOR AGENCY USE ONLY

CHECK NO.

DATE RECEIVED

FEE SUBMITTED

1231

2-19-19

4100.00 8B

THE FOLLOWING ITEMS (1 - 4) ARE TO BE COMPLETED BY THE CURRENT OWNER.
SEE INSTRUCTIONS FOR APPROPRIATE FEE TO BE SUBMITTED WITH APPLICATION.

1. FACILITY

NAME Twin Oaks		TELEPHONE NUMBER WITH AREA CODE (660) 687-9536	
ADDRESS (PHYSICAL) Missouri Route D & Missouri Highway	CITY Knob Noster	STATE MO	ZIP 65336
PERMIT NUMBER #MO- 0132021	COUNTY Johnson County		

2. CURRENT OWNER

NAME Twin Oaks Estates Homes Association, Inc.		EMAIL ADDRESS wrturpin78@gmail.com		TELEPHONE NUMBER WITH AREA CODE (660) 687-9536	
ADDRESS P.O. Box 175		CITY Knob Noster		STATE MO	ZIP 65336

3. CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility. (If same as current owner, respond "same")

NAME		EMAIL ADDRESS		TELEPHONE NUMBER WITH AREA CODE	
ADDRESS		CITY		STATE	ZIP

4. CERTIFICATION

I certify I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and upon transfer approval, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available under the Missouri Clean Water Law. Further, I certify I have read the existing permit and agree to abide by the terms and conditions once the transfer is complete.

NAME (TYPE OR PRINT) Walter "Ray" Turpin		OFFICIAL TITLE President		TELEPHONE NUMBER WITH AREA CODE (660) 687-9536	
SIGNATURE 				DATE SIGNED December 14, 2018	

THE FOLLOWING ITEMS (5 – 10) WILL APPLY AFTER THE COMPLETION OF TRANSFER (SALE) AND ARE TO BE COMPLETED BY THE APPLICANT FOR TRANSFER OF OPERATING PERMIT (BUYER) OR AUTHORIZED AGENT.

5. FACILITY (IF DIFFERENT THAN ABOVE)

NAME	TELEPHONE NUMBER WITH AREA CODE
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6. FUTURE OWNER

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
Elm Hills Utility Operating Company, Inc.	jcox@cswrgroup.com	(314) 283-7316	
ADDRESS	CITY	STATE	ZIP
500 Northwest Plaza Dr. Suite 500	St. Ann	MO	63074

7. CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the facility. (If same as future owner, respond "same")

NAME	EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE	
ADDRESS	CITY	STATE	ZIP

8. FACILITY CONTACT

NAME	TITLE		
Josiah Cox	President		
EMAIL ADDRESS	TELEPHONE NUMBER WITH AREA CODE		
jcox@cswrgroup.com	(314) 283-7316		
ADDRESS	CITY	STATE	ZIP
500 Northwest Plaza Dr. Suite 500	St. Ann	MO	63074

9. ADDITIONAL INFORMATION

9.1 Anticipated effective date of transfer of ownership: December 14, 2018

9.2 Are any changes in production, in raw materials, or in the quantity of discharges from this facility planned or anticipated?
☐ Yes ☐ No If yes, explain (Attach sheets as necessary)

10. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally-consistent set of data. **One of the following must be checked in order for this application to be considered complete.** Please visit <http://dnr.mo.gov/env/wpp/edmr.htm> to access the Facility Participation Package.

- ☐ - You have completed and submitted with this permit application the required documentation to participate in the eDMR system.
- ☐ - You have previously submitted the required documentation to participate in the eDMR system and/or you are currently using the eDMR system.
- ☐ - You have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.

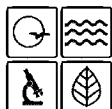
11. CERTIFICATION

I certify I am familiar with the information contained in the application, that to the best of my knowledge and belief such information is true, complete and accurate, and upon transfer approval, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders and decisions, subject to any legitimate appeal available under the Missouri Clean Water Law. Further, I certify I have read the existing permit and agree to abide by the terms and conditions once the transfer is complete.

NAME (TYPE OR PRINT)	OFFICIAL TITLE	TELEPHONE NUMBER WITH AREA CODE
Josiah Cox	President	(314) 283-7316
SIGNATURE	DATE SIGNED	

C0001993

AP29844



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

RECEIVED

MAY 04 2018

FOR DEPARTMENT USE ONLY	
APP NO.	CP NO.
FEE RECEIVED	CHECK NO.
DATE RECEIVED <u>5-4-18</u>	

SB

APPLICATION OVERVIEW

The Application for Construction Permit – Wastewater Facility form is for construction pertaining to domestic wastewater treatment facilities, agrichemical facilities, and components thereof. This 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: _____ Project #: _____
- 1.2 Is this an application for an agrichemical? ☐ YES (See instructions.) ☒ N/A
- 1.3 Has the Missouri Department of Natural Resources approved the proposed project's antidegradation review?
☐ YES Date of Approval: N/A
- 1.4 Has the department approved the proposed project's facility plan*?
☐ YES Date of Approval: _____ ☒ NO ☐ N/A (If Not Applicable, complete No. 1.5.)
- 1.5 [Complete only if answered Not Applicable on No. 1.4] Is a copy of the engineering report* for wastewater treatment facilities with a design flow less than 22,500 gpd included with this application?
☒ YES ☐ NO
- 1.6 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
- 1.7 Is a summary of design* included with this application? ☒ YES ☐ NO
- 1.8 Is a general operating permit applicable?
☒ YES Submit the appropriate operating permit application to the Regional Office at least 60 days prior to operation.
☐ NO Enclose the appropriate operating permit application and fee submittal. Denote which form: ☐ B ☐ B2
- 1.9 Is the facility currently under enforcement with the department or the Environmental Protection Agency? ☐ YES ☒ NO
- 1.10 Is the appropriate fee included with this application? ☒ YES ☐ NO (See instructions for appropriate fee.)

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

2.0 PROJECT INFORMATION**2.1 NAME OF PROJECT**

Twin Oak Estates WWTF Improvements

2.2 PROJECT DESCRIPTION

Improvements to the facility consist of installation of an MBBR and disinfection unit.

2.3 SLUDGE HANDLING, USE AND DISPOSAL DESCRIPTION

Each home has their own septic tank. Only grey water is pumped to treatment facility.

2.4 DESIGN INFORMATION

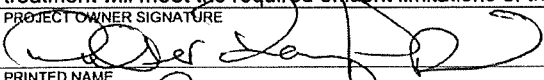
- A. Current population: 100; Design population: 182
- B. Actual Flow: 3,000 gpd; Design Average Flow: 9,990 gpd;
Actual Peak Daily Flow: _____ gpd; Design Maximum Daily Flow: _____ gpd;
Design Wet Weather Event: _____

2.5 ADDITIONAL INFORMATION

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

2.6 ESTIMATED PROJECT CONSTRUCTION COST

\$

3.0 WASTEWATER TREATMENT FACILITY				
NAME Twin Oak Estates RSF		TELEPHONE NUMBER WITH AREA CODE		EMAIL ADDRESS
ADDRESS (PHYSICAL) Missouri Route D & Missouri Highway 23		CITY Knob Noster	STATE MO	ZIP CODE 65336
COUNTY Johnson				
Wastewater Treatment Facility: Mo- 0132021 (Outfall 1 Of 1)				
3.1 Legal Description: ¼, SE ¼, SE ¼, Sec. 9 , T 45N , R 24W (Use additional pages if construction of more than one outfall is proposed.)				
3.2 UTM Coordinates Easting (X): 451147 Northing (Y): 4283475 For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)				
3.3 Name of receiving streams: Tributary to Long Branch Creek				
4.0 PROJECT OWNER				
NAME Twin Oaks Estates Homes Association, Inc.		TELEPHONE NUMBER WITH AREA CODE (660) 864-6958		EMAIL ADDRESS
ADDRESS P.O. Box 175		CITY Knob Noster	STATE MO	ZIP CODE 65336
5.0 CONTINUING AUTHORITY: Permanent organization that will serve as the continuing authority for the operation, maintenance and modernization of the wastewater collection system.				
NAME Same		TELEPHONE NUMBER WITH AREA CODE		EMAIL ADDRESS
ADDRESS		CITY	STATE	ZIP CODE
5.1 A letter from the continuing authority, if different than the owner, is included with this application. <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> 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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> 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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> 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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> 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? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				
D. Is a copy of the Missouri Secretary of State's nonprofit corporation certificate included with this application? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				
6.0 ENGINEER				
ENGINEER NAME / COMPANY NAME Benjamin Kuenzel, 21 Design Group, Inc.		TELEPHONE NUMBER WITH AREA CODE (636) 432-2144		EMAIL ADDRESS ben@21designgroup.net
ADDRESS 1351 Jefferson, Suite 301		CITY Washington	STATE MO	ZIP CODE 63090
7.0 PROJECT OWNER: I hereby certify that I am familiar with the information contained in this application and to the best of my knowledge and belief such information is true, complete, and accurate, and if granted this permit, I agree to abide by the Missouri Clean Water Law and all rules, regulations, orders, and decisions, subject to any legitimate appeal available to applicant under Missouri Clean Water Law. I also understand the issuance of the construction permit does not guarantee the proposed wastewater treatment will meet the required effluent limitations of the issued Missouri State Operating Permit for this facility.				
PROJECT OWNER SIGNATURE 				
PRINTED NAME Walter Ray Turpin			DATE 24 APR 18	
TITLE OR CORPORATE POSITION HOA President		TELEPHONE NUMBER WITH AREA CODE (660) 563-3807		EMAIL ADDRESS
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: <input type="checkbox"/> Domestic <input type="checkbox"/> State/National Park <input type="checkbox"/> Seasonal business <input type="checkbox"/> Municipal <input type="checkbox"/> Municipal with a pretreatment program or significant industrial users <input type="checkbox"/> Other (explain) _____	
8.2 Months when the business or enterprise will operate or generate wastewater: <input type="checkbox"/> 12 months per year <input type="checkbox"/> Part of the year (list months): _____	
8.3 This system is designed for: <input type="checkbox"/> No-discharge <input type="checkbox"/> Subsurface <input type="checkbox"/> Partial irrigation when feasible and discharge rest of time <input type="checkbox"/> Irrigation during recreational season, April – October, and discharge during November – March <input type="checkbox"/> Other (explain) _____	
9.0 STORAGE BASINS	
9.1 Number of storage basins: _____ (Use additional pages if greater than two basins.)	
9.2 Type of basins: <input type="checkbox"/> Steel <input type="checkbox"/> Concrete <input type="checkbox"/> Fiberglass <input type="checkbox"/> Earthen <input type="checkbox"/> 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 _____	
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	
9.5 Design depth of sludge in storage basins. Basin #1: _____ ft Basin #2: _____ ft	
9.6 Existing sludge depth, if the basins are currently in operation. Basin #1: _____ ft Basin #2: _____ ft	
9.7 Total design sludge storage: _____ dry tons and _____ cubic feet	
10.0 LAND APPLICATION SYSTEM	
10.1 Type of land application: <input type="checkbox"/> Fixed Head Sprinklers <input type="checkbox"/> Center Pivot <input type="checkbox"/> Traveling Gun <input type="checkbox"/> Drip Dispersal <input type="checkbox"/> Subsurface Low Pressure Pipe <input type="checkbox"/> Other (describe) _____	
10.2 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.)	
10.3 Type of vegetation: <input type="checkbox"/> Grass hay <input type="checkbox"/> Pasture <input type="checkbox"/> Timber <input type="checkbox"/> Row crops <input type="checkbox"/> Other (describe) _____	
10.4 Wastewater flow (dry weather) gallons per day: Average annual _____ Seasonal _____ Off-season _____	
10.5 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	
10.6 Total irrigation per year (gallons): Design: _____ gal Actual: _____ gal	
10.7 Actual months used for irrigation (check all that apply): <input type="checkbox"/> Jan <input type="checkbox"/> Feb <input type="checkbox"/> Mar <input type="checkbox"/> Apr <input type="checkbox"/> May <input type="checkbox"/> Jun <input type="checkbox"/> Jul <input type="checkbox"/> Aug <input type="checkbox"/> Sep <input type="checkbox"/> Oct <input type="checkbox"/> Nov <input type="checkbox"/> Dec	
10.8 Land application rate is based on: <input type="checkbox"/> Hydraulic Loading <input type="checkbox"/> Other (describe) _____ <input type="checkbox"/> Nutrient Management Plan (N and P) If N and P is selected, is the plan included? <input type="checkbox"/> YES <input type="checkbox"/> NO	