NOTICE OF OPEN MEETING & VOTE TO CLOSE PART OF THE MEETING
A G E N D A
COUNCIL MEETING
City of Moberly
City Council Room – Moberly City Hall
101 West Reed Street
January 04, 2021
6:00 PM

Posted:

Pledge of Allegiance
Roll Call
Approval of Agenda
Recognition of Visitors
Communications, Requests, Informational Items & Consent Calendar
Public Hearing and Receipt of Bids
Ordinances & Resolutions

1. An Ordinance Approving A Cooperative Agreement With Charles And Belva Serio And/Or Vic-Tan-B's Ltd For Lake Spillway Repair**.**
2. A Resolution Supporting A Transportation Alternative Program Grant Application.
3. A Resolution Authorizing The City Manager To Execute A Farm Lease Between The City Of Moberly, Moberly Holding Company And Larry Sanders**.**
4. A Resolution Approving A Professional Engineering Services Agreement With Jacobs Engineering Group Inc. For Five EDA Funded Infrastructure Projects And Authorizing The City Manager To Execute The Agreement On Behalf Of The City**.**
5. A Resolution Approving A Letter Agreement With Jacobs Engineering Group Inc. For A Downtown CSO Storage Facility And Authorizing The City Manager To Execute The Agreement On Behalf Of The City.
6. A Resolution Approving A Letter Agreement With Jacobs Engineering Group Inc. For Review Of The Barr Engineering Report On Upgrades To The Moberly Correctional Center Lagoon And Ratifying The City Manager's Execution Of The Agreement On Behalf Of The City**.**
7. A Resolution Approving A Contract For The Sale Of Real Estate And Ratifying The Execution Of The Contract On Behalf Of The City.
8. A Resolution appropriating money out of the Treasury of the City of Moberly, Missouri.

Anything Else to Come Before the Council

9. Proposal from the Tourism Advisory Commission
10. Consideration of a Motion to Move the January 18, 2021 Council Meeting to January 19, 2021
11. Consideration of a Motion to Move the February 15, 2021 Council Meeting to February 16, 2021
12. Consideration of a Motion to adjourn to a Work Session

Official Reports
Adjournment

We invite you to attend virtually by viewing it live on the City of Moberly You Tube Live Channel, Facebook page. A link to the City's Channel can be found on our website's main page at www.cityofmoberly.com. The public is invited to attend the Council meeting. Representatives of the news media may obtain copies of this notice by contacting the City Clerk. If a special accommodation is needed as addressed by the Americans with Disabilities Act, please contact the City Clerk twenty-four (24) hours in advance of the meeting.

City of Moberly
City Council Agenda Summary

Agenda Number: _____
Department: Public Utilities
Date: January 4, 2021

Agenda Item: An Ordinance Approving A Cooperative Agreement With Charles And Belva Serio And/Or Vic-Tan-B's Ltd For Lake Spillway Repair.

Summary: Mr. and Mrs. Serio contacted the City regarding the repair of the emergency spillway for the lake on property they own just north of the railroad tracks east of Highway 63. The spillway drains directly across the City's main sewer interceptor that transports sewage to the wastewater treatment facility. Erosion in that area could damage the sewer lines. The Serios are willing to repair the spillway but asked for the City's consideration to cooperate in the payment of the repair.

Recommended Action: Approve this resolution

Fund Name: Sewer Line Maintenance

Account Number: 301.112.5314

Available Budget $: 72,071.67

ATTACHMENTS:

____ Memo	____ Council Minutes
____ Staff Report	____ Proposed Ordinance
____ Correspondence	____ Proposed Resolution
____ Bid Tabulation	____ Attorney's Report
____ P/C Recommendation	____ Petition
____ P/C Minutes	____ Contract
____ Application	____ Budget Amendment
____ Citizen	____ Legal Notice
____ Consultant Report	____Other_____

Roll Call	Aye	Nay
Mayor		
M___ S___ **Jeffrey**	____	____
Council Member		
M___ S___ **Brubaker**	____	____
M___ S___ **Kimmons**	____	____
M___ S___ **Davis**	____	____
M___ S___ **Kyser**	____	____
	Passed	Failed

BILL NO. _____ **ORDINANCE NO._____**

AN ORDINANCE APPROVING A COOPERATIVE AGREEMENT WITH CHARLES AND BELVA SERIO AND/OR VIC-TAN-B'S LTD FOR LAKE SPILLWAY REPAIR.

NOW THEREFORE BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MOBERLY, MISSOURI, TO-WIT:

SECTION ONE: Charles and Belva and/or Vic-Tan-B's LTD, a Missouri Corporation (the "Owners") own a lake in Moberly, Missouri in close proximity to the City's main sewer line and said lake requires repair of the spillway to avoid potential damage to the sewer line.

SECTION TWO: The Owners are willing to share the cost of repairing the spillway with the city and to enter into a Cooperative Agreement with the city for this purpose.

SECTION THREE: Staff has negotiated a Cooperative Agreement for spillway repair in the form attached hereto.

SECTION FOUR: The City Council hereby approves the Cooperative Agreement and authorizes the City Manager to execute the Cooperative Agreement on behalf of the City of Moberly.

SECTION SIX: This Ordinance shall be in full force and effect from and after its passage and adoption by the Council of the City of Moberly, Missouri, and its signature by the officer presiding at the meeting at which it was passed and adopted.

PASSED AND ADOPTED by the Council of the City of Moberly, Missouri, this 4th day of January, 2021.

_____

ATTEST: **Presiding Officer at Meeting**

_____

City Clerk

COOPERATIVE AGREEMENT

THIS COOPERATIVE AGREEMENT (this "Agreement") is made and entered into as of this _____ day of _____, 2021 (the "Effective Date") by and between THE CITY OF MOBERLY, a city of the third class and a Missouri municipality having a principal office at 101 West Reed Street, Moberly, Missouri, 65270 (the "City") and Charles and Belva Serio and/or Vic-Tan-B's LTD, a Missouri Corporation (the "Owner").

RECITALS

A. The Owner owns a lake in Moberly, Missouri in close proximity to the City's main sewer line and has contacted the city about the impending failure of a pipe in the emergency spillway which could allow the lake to drain across an easement containing the interceptor sewer that transports all of the flow to the City's Wastewater Treatment Plant.

B. The failure of the pipe could cause a failure of the City's main sewer line and the City desires to assist the Owner with repair of the lake spillway.

C. The total amount for the repair is anticipated to be $4,810.00.

AGREEMENT

NOW, THEREFORE, in consideration of the above premises and the mutual promises and covenants set forth in this Agreement, the City and Owner each hereby agrees as follows:

ARTICLE I.
SPILLWAY REPAIR

Section 1.1. **The Lake**. Owner owns a lake located within the following description: All that part of the South half of Section 32, Township 54, Range 13, lying East of Highway 63 and South of County Road ex RR right of way and also three acres described as beginning at the Northeast Corner of the Southeast quarter thence South 200 feet, thence East 540 feet, thence North 200 feet, thence West to the Point of Beginning, less road right of way.

Section 1.2. **The Repair**. The Owner intends to repair the spillway to the lake to prevent damage to the City sewer main.

ARTICLE II.
COST OF REPAIR

Section 2.1. **Repair Cost**. Owner has received a cost estimate from D&L Trenching for repairing the spillway of $4,810.00

Section 2.2. **City Contribution**. The City agrees to pay one-half of the cost of repair based upon an invoice from D&L Trenching or another suitable contractor.

ARTICLE III
IMPLEMENTATION OF THE PROJECT

Section 3.1. **Time for Completion; Owner's Control over Repair**. Promptly upon execution of this Agreement Owner shall contract with D&L Trenching (or some other suitable contractor) for the immediate repair of the spillway. Owner shall be responsible for all aspects of the repair and the City's only responsibility will be to promptly pay one-half of the repair cost, not to exceed $2,405.00 within 30 days of completion of the repair and presentation of an invoice for the repair.

Section 3.2. **Developer to Adhere to All Applicable Regulations.** To the full extent that any applicable regulation applies to any aspect of the repair, the Owner, for itself and for any contractor or sub-contractor as agent of the Owner, covenants and agrees to take or cause to be taken all such actions as are necessary to fully comply with such applicable regulation, and the lake shall be subject to all lawful regulations.

Section 3.3. **Breach**. In the event the spillway repair is not completed within six (6) months of the date of this Agreement, the City shall be relieved from its responsibility to pay its share of the cost of repair.

ARTICLE IV
MISCELLANEOUS PROVISIONS

Section 4.1. **No Assignment**. Neither Party shall be permitted to sell, assign or otherwise transfer its interest in the Agreement in whole or in part to any other individual or entity.

Section 4.2. **Notices.** Whenever notice or other communication is called for in this Agreement to be given or is otherwise given, such notice shall be in writing addressed to the addressees at the address set forth below, and transmitted by first class mail:

City: City of Moberly
Attention: Mary West-Calcagno Moberly, Missouri 65270

Owner:

Section 4.3. **Choice of Law; Venue; Waiver of Objections.** This Agreement shall be governed by and construed in accordance with the laws of the State of Missouri. The Parties agree that any action at law, suit in equity, or other judicial proceeding arising out of this Agreement shall be instituted only in the Circuit Court of Randolph County, Missouri and waive any objection based upon venue or forum non conveniens or otherwise.

Section 4.4. **Entire Agreement; Amendments; No Waiver by Prior Actions.** The Parties agree that this Agreement constitutes the entire agreement between them and no other agreements or representations have been made by the Parties. This Agreement shall only be amended in writing and effective when signed by the duly authorized agents of the Parties. The failure of any Party to insist in any one or more cases upon the strict performance of any term, covenant or condition shall not constitute a waiver or relinquishment for the future of any such term, covenant or condition.

Section 4.5. **No Waiver of Sovereign Immunity; Public Liability Strictly Limited.** Nothing in this Agreement shall be construed or deemed to constitute a waiver of the City's Sovereign Immunity. The Parties agree that in no event shall the City, or any of its officials, officers, agents, attorneys, employees, or representatives have any liability in damages or any other monetary liability to the Developer or any lessee, sublessee, assign, heir or personal representative of the Developer in respect of any suit, claim, or cause of action arising out of this Agreement.

Section 4.6. **Execution in Counterparts.** Each person executing this Agreement warrants and represents that he or she has authority to do so on behalf of the entity he or she represents. This Agreement may be executed in two or more counterparts, and all counterparts so executed shall for all purposes constitute one and same instrument, binding on the Parties hereto.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

CITY OF MOBERLY

By: _____
Brian Crane, City Manager

ATTEST:

_____
Shannon Hance, City Clerk

OWNER

By:_____

City of Moberly
City Council Agenda Summary

Agenda Number: _____
Department: Public Works
Date: January 4, 2021

Agenda Item: A Resolution Supporting A Transportation Alternative Program Grant Application.

Summary: The proposed TAP Project along south side of Rollins from the east side of Morley through the 500 block of East Rollins. This work is to be concide with the work that MoDOT will be completing on the North side of Rollins.

Recommended Action: Approve this resolution.

Fund Name: N/A

Account Number: N/A

Available Budget $: N/A

ATTACHMENTS:

___ Memo	___ Council Minutes
___ Staff Report	___ Proposed Ordinance
___ Correspondence	_x_ Proposed Resolution
___ Bid Tabulation	___ Attorney's Report
___ P/C Recommendation	___ Petition
___ P/C Minutes	___ Contract
___ Application	___ Budget Amendment
___ Citizen	___ Legal Notice
___ Consultant Report	____Other

Roll Call		Aye	Nay
Mayor			
M___ S___ **Jeffrey**		___	___
Council Member			
M___ S___ **Brubaker**		___	___
M___ S___ **Kimmons**		___	___
M___ S___ **Davis**		___	___
M___ S___ **Kyser**		___	___
	Passed	Failed	

BILL NO:_____ **RESOLUTION NO:_____**

A RESOLUTION SUPPORTING A TRANSPORTATION ALTERNATIVE PROGRAM GRANT APPLICATION.

WHEREAS, the City of Moberly has the opportunity to apply for Transportation Alternative Program ("TAP") grant funds from the Missouri Department of Transportation; and

WHEREAS, TAP was authorized under Section 1122 of the Moving Ahead for Progress in the 21st Century Act and is reauthorized under the FAST Act; and

WHEREAS, the City Council wishes to apply for these grant funds to replace the non-ADA sidewalks/approaches along the south side of Rollins from the east side of Morley through the 500 block of East Rollins; and

WHEREAS, final construction bids are unknown, and total grant funds are unknown at this time.

NOW, THEREFORE, BE IT RESOLVED AS FOLLOWS, TO-WIT:

SECTION ONE: The City of Moberly agrees to commit to the project's development, implementation, construction, maintenance, management, and financing should they be approved for grant funding.

SECTION TWO: This Resolution shall be in full force and effect from and after its passage and adoption.

PASSED AND ADOPTED by the Moberly City Council this 4th day of January, 2021.

_____

Presiding Officer at Meeting

ATTEST:

_____

City Clerk

The plan would be to prepare a TAP application in a multi-phase approach with the first application (phase I) being a sidewalk along the East side of S. Morley between the trailer parks on the North and South side of Shepherd Brothers Boulevard (SBB) with an option extension as far North as McKinsey, if funding allowed. The goal here would be to provide off-street access for the occupants, with the kids being the main focus at this time, to provide off-street access to the new sidewalk down SBB to the schools. The future phases would fill in the remainder of sidewalks on both sides of S. Morley between EE & M.

The Cost Share application is focusing on a partnership with MoDOT to use the funds they already are scheduling for the repaving of S. Morley and applying for cost share funds to match City money and add a third lane, drainage improvement, access improvements, sidewalks and curb and gutter where necessary. The first phase of this would be focused on Rollins/EE to Carpenter with an alternate of extending it to McKinsey if funding allows.

Obviously, the cost share, if approved would address the sidewalks in the areas approved and therefore reduce some of the future phases of TAP project. This is why our initial phases of the two grants are not overlapping.

If approved, we would work with MTCOG to prepare and administer the Cost Share Grant and Bartlett & West for the TAP application.

This initial expense would provide the basis for the current and future phases of applications.

City of Moberly
City Council Agenda Summary

Agenda Number: _____
Department: Administration
Date: January 4, 2021

Agenda Item: A Resolution Authorizing The City Manager To Execute A Farm Lease Between The City Of Moberly, Moberly Holding Company And Larry Sanders.

Summary: Consideration of an updated farm lease with Larry Sander for cash rent farming at Moberly Area Industrial Park. Proposed new farm lease has similar terms to existing farm lease with respect to price per acre, and length of time. Modifications include unifying the lease with the Moberly Holding Company's lease, changing the date of payment, and edits to the number of acres farmed due to the Plumrose project. Mr. Sander has agreed to honor the originally bid price per acre and has produced a report from his combine to show the reduced acreage from the Plumrose project

Recommended Action: Approve this resolution

Fund Name: N/A

Account Number: N/A

Available Budget $: 0.00

ATTACHMENTS:

___ Memo	___ Council Minutes
___ Staff Report	___ Proposed Ordinance
_x_ Correspondence	_X_ Proposed Resolution
___ Bid Tabulation	___ Attorney's Report
___ P/C Recommendation	___ Petition
___ P/C Minutes	___ Contract
___ Application	___ Budget Amendment
___ Citizen	___ Legal Notice
___ Consultant Report	___ Other_____

Roll Call	Aye	Nay
Mayor		
M___ S___ **Jeffrey**	___	___
Council Member		
M___ S___ **Brubaker**	___	___
M___ S___ **Kimmons**	___	___
M___ S___ **Davis**	___	___
M___ S___ **Kyser**	___	___
	Passed	Failed

BILL NO:_____ **RESOLUTION NO:_____**

A RESOLUTION AUTHORIZING THE CITY MANAGER TO EXECUTE A FARM LEASE BETWEEN THE CITY OF MOBERLY, MOBERLY HOLDING COMPANY AND LARRY SANDER.

WHEREAS, the City and Moberly Holding Company own undeveloped real estate (the "property") in an area known as the Moberly Area Industrial Park and are desirous of leasing the acreage for cash rent; and

WHEREAS, Larry Sander is willing to farm the property and is an experienced and skilled farmer; and

WHEREAS, attached hereto and incorporated herein is a proposed farm lease between the parties providing for cash rent of $177.00 per acre for the property.

NOW, THEREFORE, the Moberly, Missouri, City Council hereby approves the lease and authorizes the City Manager to execute the lease on behalf of the city.

RESOLVED this 4th day of January, 2021, by the Council of the City of Moberly, Missouri.

_____

Presiding Officer at Meeting

ATTEST:

_____

City Clerk

Farm Lease Agreement

Lessors:
City of Moberly
101 W. Reed St.
Moberly MO 65270

and

Moberly Holding Company
115 North Williams
Moberly, MO 65270

Lessee:
Larry Sander
2046 County road 1380
Cairo, MO 65239

Area to be Leased:

Payable to City of Moberly:
Farm #1616: Property consists of approximately 112.16 acres of cropland, more or less, in sections 25 & 26, Township 54N, Range 14W, located at approximately 3100 North Morley in Moberly, Missouri; and

Farm #1539: Property consists of approximately 18.19 acres of cropland, more or less, in the NE ¼ of NE ¼ lying East of County Road less and except: Beginning at the NE Corner TH W 222(s) S 1320'(S) E 222'(S) to POB, Section 26 Township 54, Range 14, located at approximately 2192 County Road 1325 in Moberly, Missouri; and

Farm #2805: Property consists of approximately 11.67 acres of cropland, more or less, in the Southeast Quarter of Section 23, Township 54 North, Range 14 West, Randolph County, Missouri, and being more particularly described as follows: Commencing at the Southeast corner of Section 23, Township 54 North, Range 14 West, thence North 88 degrees 13 minutes 03 seconds West a distance of 264.35 feet to an existing rod being the true Point of Beginning: thence North 88 degrees 11 minutes 02 seconds West 1075.78 feet to a point from which a found rod bears South 88 degrees 11 minutes 02 seconds East 25.65 feet; thence North 01 degrees 28 minutes 46 seconds East a distance of 751.16 feet; thence South 88 degrees 16 minutes 59 seconds East a distance of 1093.53 feet to a point from which a set rod bears South 02 degrees 49 minutes 53 seconds West a distance of 4.01 feet; thence South 02 degrees 49 minutes 53 seconds West a distance of 753.15 feet to the Point of Beginning, said tract containing 18.73 acres, more or less. Common Address: 2486 County Road 1325, Moberly, Missouri.

Payable to Moberly Holding Company and City of Moberly
Farm #5541: Property consists of approximately 60.7 acres of cropland, more or less, in sections 23, 24, 25 & 26, Township 54N, Range 14W, located at approximately 3100 North Morley in Moberly, Missouri; and

Payable to Moberly Holding Company
Farm #6145: Property consists of approximately 10.63 acres of cropland, more or less, in sections 7, Township 53, Range 13, southern quarter of Lot 8 and all of lots 9 & 10, located on Omar Bradley Drive in Moberly, Missouri.

Farm #6345: Property consists of approximately 19.33 acres of cropland, more or less, in sections 7, Township 53, Range 13, north of the Orscheln Farm & Home Distribution Center located on Omar Bradley Drive in Moberly, Missouri.

Reductions and Changes due to Land Transactions

Farm #1616: Farm is owned in entirety by the City of Moberly. Due to the Plumrose project facility being constructed on approximately 40 acres of row crop land contemplated by this lease, the Parties acknowledge the acreage will be less than the 112.16. The Lessor agrees to accept a printed receipt from the Lessee's Combine and/or GPS to assess actual acreage.

Farm #5541: Portions of the farm are owned by both the Lessors. The northern farm identified as "1" on the 2019 FSA Maps that is 36.30 acres is owned by the Moberly Holding Company. Cash rent for that section is payable to Moberly Holding Company. Farms "2, 6, and 3" are owned by the City of Moberly with cash rent for those sections payable to the City of Moberly. The Parties also acknowledge the Plumrose project facility will lead to reductions in tillable acres in the farms owned by the City of Moberly. The City agrees to accept a printed receipt from the Lessee's Combine and/or GPS to assess actual acreage.

Acreage Breakdowns:

To Moberly Holding Company:
Farm #6145 10.63 acres
Farm #6345 19.33 acres
Farm #5541 (Northern Section "1" only) 36.30 acres
Total acreage to Moberly Holding Company: 66.26 acres

To City of Moberly:
Farm #1539 18.19 acres
Farm #2805 11.67 acres
Farm #5541 (Southern Sections "2, 6, and 3" only) 24.4 acres* **Confirmed at 4.97 acres (12/3/20)**
Farm #1616 112.16 acres* **Confirmed at 74.73 acres (12/3/20)**
Total acreage to City of Moberly: 166.62 **UPDATED TO: 109.56 (12/3/20)**
"*" denotes a Farm that will be smaller due to Plumrose project facility. City of Moberly will accept a printed receipt from the Lessee's Combine and/or GPS to assess actual acreage.

~~**Total of 232.88 Acres**~~ **UPDATED TO: 175.82 (12/3/20)**

Prior Leases Revoked: The Parties intend for this lease to replace any known or assumed leases between the parties for the previously mentioned farms.

Term of Agreement: From January 1, 2020 to December 31, 2020. This agreement is for the term stated herein and no notice of termination of the Agreement is required.

Rental Rate: Lessee shall pay rent of One Hundred and Seventy Seven Dollars ($177.00) per acre, per year. This is cash rent due and payable to Lessors. Lessors are not responsible for any expenses incurred by Lessee in farming/planting/harvesting the acreage.

Payment: The payment is due on December 15 each year.

Indemnity: Lessee agrees to defend, indemnify and hold harmless the Lessor for losses/expenses incurred by Lessee in the farming of the leased property.

Insurance: Lessee agrees to maintain the following insurance:

Commercial General Liability with minimum limits of $1,000,000/occurrence and $2,000,000 aggregate.

Automobile Liability with minimum limits of $1,000,000/occurrence and $2,000,000 aggregate.

Workers' Compensation insurance with statutory limits as required by law including Employer's Liability insurance with minimum limits of $1,000,000 per accident.

Special Agreements:

Lessors and Lessee estimate the total tillable acres at approximately **175.82**. Lessors and Lessee agree that the actual determination of acres will be made by official FSA measurements. Lessors are responsible for payment of all property taxes and shall carry their own liability insurance on the property. Lessee, in addition to insurance required above, shall carry sufficient liability insurance to cover his/her farming operations on the land. Lessee shall pay all costs associated with producing crops on this land, and shall be entitled to all agricultural production from this land. Lessee shall further be entitled to all government payments which may be applicable for any participation in government programs on the land associated with farm #5541 only.

Should the Lessors desire to convert any portion of the land covered by this lease to non-agricultural use during the term of the lease that may cause damage to or the loss of any crops, the lessee agrees to vacate the premises immediately and the following shall be used to calculate compensation to Lessee:

- If damage or crop loss takes place before July 1, compensation shall be the reimbursement of actual documented expenses to prepare land and plant the crop.
- If damage or crop loss takes place after July 1, an average of the yield of the crop from only the remaining acres covered by this lease will be used to calculate compensation.

No hazardous chemicals may be transported or stored on the property covered by this lease and the Lessee may not build structures of any kind. No equipment may be stored on the property covered by this lease and no trash, rubbish or salvage may be placed or left on the property.

Lessee further agrees to provide up to $2,500 per year on a yearly basis for any land clearing or cleanup on the land covered by this lease free of charge to the owner. This will cover equipment and labor costs provided by the Lessee.

Liability: Lessors neither assumes nor accepts any and all liability for debts or activities associated with the farming of this land.

Agreed to and Signed this ____ day of _____, 2020 by:

Michael Bugalski, President Date
Moberly Holding Company

Brian Crane, City Manager
City of Moberly

Lessee Date

City of Moberly
City Council Agenda Summary

Agenda Number: _____
Department: Public Utilities
Date: January 4, 2021

Agenda Item: A Resolution Approving A Professional Engineering Services Agreement With Jacobs Engineering Group Inc. For Five EDA Funded Infrastructure Projects And Authorizing The City Manager To Execute The Agreement On Behalf Of The City.

Summary: The attached engineering contract contains five projects: North Morley Water Main Loop, Sturgeon and Rollins Water Main Replacement, Downtown Sewer Rehabilitation, Downtown CSO Storage Facility, and Morley Pump Station Retrofit and Force Main Extension. These projects are included in the $4.8M EDA grant that was announced to help fund $6.3M of projects. The storm water detention basin engineering will be performed by other engineers outside this contract. The construction for the storm water basin is a grant approved project.

Recommended Action: Pass the Resolution

Fund Name: Capital Improvement Trust Fund

Account Number: 304.000.5635

Available Budget $: $1,500,000.00 (grant match)

ATTACHMENTS:

___ Memo	___ Council Minutes	
___ Staff Report	___ Proposed Ordinance	
___ Correspondence	_x_ Proposed Resolution	
___ Bid Tabulation	___ Attorney's Report	
___ P/C Recommendation	___ Petition	
___ P/C Minutes	___ Contract	
___ Application	___ Budget Amendment	
___ Citizen	___ Legal Notice	
___ Consultant Report	___Other_____	

Roll Call	Aye	Nay
Mayor		
M___ S___ **Jeffrey**	___	___
Council Member		
M___ S___ **Brubaker**	___	___
M___ S___ **Kimmons**	___	___
M___ S___ **Davis**	___	___
M___ S___ **Kyser**	___	___
	Passed	Failed

BILL NO: _____ RESOLUTION NO:_____

A RESOLUTION APPROVING A PROFESSIONAL ENGINEERING SERVICES AGREEMENT WITH JACOBS ENGINEERING GROUP INC. FOR FIVE EDA FUNDED INFRASTRUCTURE PROJECTS AND AUTHORIZING THE CITY MANAGER TO EXECUTE THE AGREEMENT ON BEHALF OF THE CITY.

WHEREAS, Jacobs Engineering Group, Inc., ("Jacobs") has submitted a proposal and letter agreement to provide professional engineering services for five infrastructure projects identified as follows: North Morley Water Main Loop, Sturgeon & Rollins Water Main Replacement, Downtown Sewer Rehabilitation, Downtown CSO Storage Facility and the Morley Pump Station Retrofit & Force Main Extension; and

WHEREAS, said engineering services will be provided under a master agreement between the city and Jacobs dated October 5, 2020; and

WHEREAS, the fee to Jacobs will be funded in part as part of an EDA grant heretofore received by the city; and

WHEREAS, attached hereto and incorporated herein is the proposed Letter Agreement with Jacobs for the project with payment for said services not to exceed $606,355.00.

NOW, THEREFORE, the Moberly, Missouri, City Council hereby approves the Letter Agreement as recommended by city staff and authorizes the city manager to execute the Agreement on behalf of the City of Moberly.

RESOLVED this 4th day of January, 2021, by the Council of the City of Moberly, Missouri.

_____

Presiding Officer at Meeting

ATTEST:

_____

City Clerk

Stifel Tower
501 North Broadway
St. Louis, Missouri 63102
United States
T +1.314.335.4000
F +1.314.335.5104
F +1.314.335.5141
www.jacobs.com

December 11, 2020

Mary West-Calcagno
Director of Utilities
City of Moberly
101 West Reed Street
Moberly, MO 65270

Subject: EDA Grant Projects

Dear Mary:

Jacobs Engineering Group, Inc. (Jacobs) is pleased to present our proposal to provide the City of Moberly (City) with Professional Engineering Services for the five EDA grant projects: North Morley Water Main Loop, Sturgeon and Rollins Water Main Replacement, Downtown Sewer Rehabilitation, Downtown CSO Storage Facility, and Morley Pump Station Retrofit and Force Main Extension. The Projects and Services described in the following Proposals (Attachments A through E) will be performed under the Professional Services Agreement dated October 5, 2020 (shown at the end of this document).

The table below shows milestones and associated engineering fees for all five projects.

Project	Task	Completion Date	Associated Fee	Cumulative Fee
All Projects	Design NTP	12/22/2020		
Downtown CSO Storage Facility	Existing Conditions Survey	2/1/2021	$24,042	$24,042
North Morley Water Main Loop	Existing Conditions Survey	3/1/2021	$19,915	$43,957
Sturgeon and Rollins Water Main Replacement	Existing Conditions Survey	3/1/2021	$24,024	$67,981
Morley Pump Station Retrofit	Existing Conditions Survey	4/1/2021	$17,711	$85,692
Downtown CSO Storage Facility	60% Design	6/1/2021	$45,320	$131,012
North Morley Water Main Loop	90% Design	7/1/2021	$32,600	$163,612
Sturgeon and Rollins Water Main Replacement	90% Design	7/1/2021	$32,600	$196,212
Downtown Sewer Rehabilitation	Existing Conditions Survey	7/1/2021	$4,348	$200,560

Jacobs

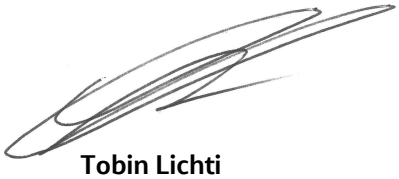
December 11, 2020
Subject: EDA Grant Projects

Project	Task	Completion Date	Associated Fee	Cumulative Fee
Morley Pump Station Retrofit	90% Design	8/1/2021	$105,580	$306,140
North Morley Water Main Loop	100% Design	9/1/2021	$3,619	$309,759
Sturgeon and Rollins Water Main Replacement	100% Design	9/1/2021	$3,619	$313,378
Downtown CSO Storage Facility	100% Design	9/1/2021	$30,213	$343,591
Morley Pump Station Retrofit	100% Design	10/1/2021	$11,728	$355,319
Downtown Sewer Rehabilitation	90% Design	11/1/2021	$55,845	$411,164
North Morley Water Main Loop	Bid Phase	12/1/2021	$4,791	$415,955
Sturgeon and Rollins Water Main Replacement	Bid Phase	12/1/2021	$4,791	$420,746
Downtown CSO Storage Facility	Bid Phase	12/1/2021	$4,229	$424,975
Morley Pump Station Retrofit	Bid Phase	1/1/2022	$5,018	$429,993
Downtown Sewer Rehabilitation	100% Design	2/1/2022	$6,202	$436,195
Downtown Sewer Rehabilitation	Bid Phase	5/1/2022	$3,577	$439,772
North Morley Water Main Loop	Construction Phase	7/1/2022	$27,513	$467,285
Sturgeon and Rollins Water Main Replacement	Construction Phase	7/1/2022	$28,292	$495,577
Downtown CSO Storage Facility	Construction Phase	8/1/2022	$38,696	$534,273
Morley Pump Station Retrofit	Construction Phase	8/1/2022	$56,249	$590,522
Downtown Sewer Rehabilitation	Construction Phase	11/1/2022	$15,833	$606,355

If you agree, please sign two copies of this letter and return them to us at your convenience. Thank you for the opportunity to continue our long standing support of the City.

December 11, 2020
Subject: EDA Grant Projects

Very truly yours,



Tobin Lichti
Project Manager
314.422.3336
Tobin.Lichti@Jacobs.com

Authorization to Proceed:

City of Moberly	**Jacobs Engineering Group, Inc.**
By _____	By_____
Title _____	Title_____
Date _____	Date _____

Jacobs

December 11, 2020
Subject: EDA Grant Projects

Attachment A

North Morley Water Main Loop

Jacobs Engineering Group, Inc. (Jacobs) is pleased to present our proposal to provide the City of Moberly (City) with Professional Engineering Services to design the North Morley Water Main Loop. Approximately 4,400 linear feet of existing 6-inch water main will be replaced with a 12-inch water main thereby increasing the capacity of the system in the vicinity of the improvement (see attached exhibit).

SCOPE

Existing Conditions Survey

Conduct a property and topographic survey along the proposed water main, including the determination of horizontal and vertical control to be utilized throughout the project.

1) Field run topographic survey. Topography includes ground elevations and existing physical improvements within the survey areas. Survey includes location of all building, structures and other physical improvements located within the survey area.
2) Contact Missouri-One-Call to provide the locations of existing utilities within the project limits. The locations of utilities within the project limits shall be field surveyed and incorporated into the base drawings for the project. After utilities have been marked, Jacobs will make site visit to verify final alignment for development of 90% design documents.
3) Dry utility locations for electric, telephone/cable and gas include surface indications of visible utilities, including manholes, poles, vaults, transformers and pedestals. Subsurface utility markings (established by Missouri One-Call) will be field located and shown on the topographic survey base drawings.
4) Wet utilities include water lines, sanitary sewer and storm sewer with inverts of pipe, pipe size with percent of slope for each sewer run shown. Wet utility locations include all surface indication including valves, vaults and fire hydrants.
5) Contour intervals will be 1-foot.
6) Establish property lines and property ownership.

North Morley Water Main Loop

Task 1 –Kick-Off Meeting. Jacobs will meet with City staff for a kick off meeting to review the project scope and define the project.

Task 2 - Develop 90% Design Documents. Jacobs will develop 90% Design Documents. The 90% submittal will be essentially a final set of documents that will include the following drawings:

1) Cover Sheet/Index
2) Sheet Layout

3) General Notes & Symbols
4) Site/Piping Plan
5) Water Main Plan & Profiles (6 sheets)

The 90% documents will also include technical specifications and front-end contract documents. The technical specifications will be in CSI format and the front-end bidding documents will be similar to what Jacobs has prepared on City projects following the EJCDC format. Jacobs intends to refer to the City's standard specifications and details in lieu of developing project specific details and water main related technical specifications.

Task 3 – 90% Design Review Meeting. After the 90% design documents (including an OPCC) have been submitted to the City for review, a meeting will be scheduled with City personnel to discuss the 90% design documents.

Task 4 – Final Plans and Specifications. Based on the comments from the review meeting in Task 3 final plans and specifications will be developed and issued to the City for Bid.

Task 5 – Permits. Upon completion of the final plans and specifications in Task 4, Jacobs will develop the application and the submittal package to Missouri Department of Natural Resources for a Construction Permit. Jacobs anticipates no other permits will be required for this project. We will also submit plans to the appropriate utilities for their review and approval.

Task 6 - Bid Phase Services. Jacobs will provide the following bidding phase services:

1) Conduct a pre-bid meeting at City Hall.
2) Coordinate distribution of plans and specifications to prospective bidders and manage the plan holder's list.
3) Prepare and distribute any necessary addendums.
4) Assist the City in responding to questions from potential bidders during the Bid period and prepare addenda, as required.
5) Attend the bid opening. Review the bids and provide the City with a recommendation for award.

Task 7 - Construction Phase Services.

Jacobs will provide Construction Phase Services, as described in the tasks below.

1) Pre-Construction Meeting. Jacobs will attend a pre-construction meeting with the City and the contractor selected for the project.
2) Shop drawing review for submittals during the construction period. Review detailed construction drawings and shop drawings, samples and other information submitted by Contractors, for conformance with the design concept and the concept of the information given in the Contract Documents. Such data will be recommended for approval, returned for revision, or rejected. This task includes the checking of shop and mill test reports of materials and equipment. Such review and recommendation shall not extend to means, methods,

sequences, techniques or procedures of construction, or to safety precautions and programs incident thereto as such are the responsibility of the Construction Contractor.

3) Respond to the contractor's RFIs (Request for Information). Scope includes responses of up to five RFIs.

4) Jacobs will provide part-time Resident Project Representative (RPR) services during the construction. A separate Construction Inspector will be provided by the City. The RPR will observe the progress and quality of the construction work to determine in general if the work is proceeding according to the Contract Documents. Jacobs will consult with City representatives and maintain contact by telephone and correspondence during the course of the project.

5) While on site, the RPR is responsible for seeing that the project is constructed in accordance with the drawings and specifications. However, Jacobs shall not be responsible for the failure of the Contractor(s) to perform the work in accordance with the Contract Document or the daily quality of Contractor's work. Jacobs will not bear any responsibility or liability for defects or deficiencies in the work or for the failure to so detect. The RPR shall provide observation of the Contractor, provide field administration on the work site, and act as the focal point for communication and correspondence with the Contractor at the field level. The RPR shall:

   a) Provide on-site administration and surveillance, as outlined herein, of the construction activities on the Project.

   b) If the Contractor has not corrected unsatisfactory work after request of the RPR, advise City of work that remains unsatisfactory, faulty or defective or does not conform to the Contract Documents.

   c) Receive Contractor's suggestions for modifications in drawings or specifications and report them, with comments, to the City.

   d) While on site, keep a diary or log book, in ink, recording hours on the job site, weather conditions, labor and equipment employed on the job, the location and nature of work being performed, the progress of the work, instructions given, accidents, data relative to questions of extras or deductions, list of visiting officials and representatives of manufacturers, fabricators, suppliers and distributors, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures.

   e) Advise the City, in advance, of scheduled major tests, inspections or the start of important phases of the work.

6) At a time near substantial completion of the work, prepare and submit to the Contractor a "punchlist" of items which require correction or completion.

7) Receive and record information as it is submitted by the Contractor regarding changes from the contract drawings made during progress of the work. Incorporate such changes on a set of contract plans to be used in preparing record drawings of the project.

8) Except upon written instructions of City, the RPR SHALL NOT:

   a) Authorize any deviation from the Contract Documents, or approve any substitution of materials or equipment.

b) Neither advise nor issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents.

c) Neither advise nor issue directions as to safety precautions and programs in connection with the work. However, if on site, Jacobs will report immediately to City upon the occurrence of any accident. Record and obtain all possible information concerning circumstances, weather, unsafe conditions, etc. Obtain pictures, if available, for the project records. This information shall be forwarded immediately to City.

d) Authorize occupancy, acceptance or conditional acceptance.

e) Participate in specialized field or laboratory tests, except as specifically authorized to do so by the Contract Documents.

f) Direct a Contractor to do work at a specific time or in a certain way unless it is an emergency that would otherwise endanger life or property.

9) Record Drawings and Certification of Construction Complete. Jacobs will provide record drawings for the project based on information provided by the contractor and recorded during construction. Jacobs will also certify construction is complete and in accordance with MDNR approved plans and specifications as required by MDNR.

FEE PROPOSAL

Our proposed fee the work described herein is a not to exceed cost of $89,958. This fee includes only those services outlined in our proposal. Additional services can be provided if requested by the City.

Existing Conditions Survey	$19,915
Detailed Design	$36,219
Bid Phase Services	$4,791
Construction Phase Services	$27,513
Direct Costs - Travel	$1,320
Direct Costs - Printing	$200
Total Not to Exceed Cost	**$89,958**

CONTRACTUAL HOURLY RATES

The following hourly rates will be used for the services in this proposal:

Project Manager	$130
Sr. Project Engineer	$150
CAD Designer I	$95
CAD Designer II	$130
RPR I	$90
RPR II	$145
Admin	$105

Jacobs

December 11, 2020
Subject: EDA Grant Projects

SCHEDULE

Jacobs will complete the services in this proposal in accordance with the following milestone dates. Associated fees do not include direct costs.

Task	Completion Date	Associated Fee
Design NTP	12/22/2020	
Existing Conditions Survey	3/1/2021	$19,915
90% Design	7/1/2021	$32,600
100% Design	9/1/2021	$3,619
Bid Phase	12/1/2021	$4,791
Construction Phase	7/1/2022	$27,513

ASSUMPTIONS / CLARIFICATIONS:

This proposal is based on the following assumptions and clarifications:

1. Jacobs will refer to the City's standard specifications and details wherever appropriate.
2. Pre-Design memorandums will not be prepared for the water main projects as the sizing is based on existing model recommendations and the routes have already been determined.
3. Two full size hard copies of the plans and specifications will be provided to the City for each project for the 90% review. Also, two full size sets of the Issued for Bid plans and specifications for each project will be provided to the City, MDNR (construction permit) along with two full size sets submitted to the Dodge and AGC plan rooms.
4. Jacobs will provide distribution of the plans and specifications to prospective bidders. Cost for reproduction and shipping of plans and specifications to prospective bidders is not included in the not to exceed cost, and will be charged to the prospective bidder.
5. RPR services include one visit every two weeks during water main construction activities. The fee for RPR services is based on:
   a) A 12 week construction duration for the water main installation, 8 hours every two weeks for a total of 48 hours, 6 visits.
   b) RPR services are not required during saw cutting or restoration.

   Should the construction scope require a longer duration in the field or the City would like more per week availability, additional funds may be requested.
6. Two sets of record drawings and an electronic media device with both pdf and AutoCAD files

Jacobs

December 11, 2020
Subject: EDA Grant Projects

Attachment B

Sturgeon and Rollins Water Main Replacement

Jacobs Engineering Group, Inc. (Jacobs) is pleased to present our proposal to provide the City of Moberly (City) with Professional Engineering Services to design the Sturgeon and Rollins Water Main Replacement. Approximately 5,450 linear feet of existing 10-inch and 14-inch water main will be replaced by a 16-inch water main thereby increasing the capacity of the system in the vicinity of the improvement. The proposed 16-inch water main will also connect to the Wicker Street Elevated Tank (see attached exhibit).

SCOPE

Existing Conditions Survey

Conduct a property and topographic survey along the proposed water main, including the determination of horizontal and vertical control to be utilized throughout the project.

1) Field run topographic survey. Topography includes ground elevations and existing physical improvements within the survey areas. Survey includes location of all building, structures and other physical improvements located within the survey area.
2) Contact Missouri-One-Call to provide the locations of existing utilities within the project limits. The locations of utilities within the project limits shall be field surveyed and incorporated into the base drawings for the project. After utilities have been marked, Jacobs will make site visit to verify final alignment for development of 90% design documents.
3) Dry utility locations for electric, telephone/cable and gas include surface indications of visible utilities, including manholes, poles, vaults, transformers and pedestals. Subsurface utility markings (established by Missouri One-Call) will be field located and shown on the topographic survey base drawings.
4) Wet utilities include water lines, sanitary sewer and storm sewer with inverts of pipe, pipe size with percent of slope for each sewer run shown. Wet utility locations include all surface indication including valves, vaults and fire hydrants.
5) Contour intervals will be 1-foot.
6) Establish property lines and property ownership.

Sturgeon and Rollins Water Main Replacement

Task 1 –Kick-Off Meeting. Jacobs will meet with City staff for a kick off meeting to review the project scope and define the project.

Task 2 - Develop 90% Design Documents. Jacobs will develop 90% Design Documents. The 90% submittal will be essentially a final set of documents that will include the following drawings:

1) Cover Sheet/Index

2) Sheet Layout
3) General Notes & Symbols
4) Site/Piping Plan
5) Water Main Plan & Profiles (6 sheets)

The 90% documents will also include technical specifications and front-end contract documents. The technical specifications will be in CSI format and the front-end bidding documents will be similar to what Jacobs has prepared on City projects following the EJCDC format. Jacobs intends to refer to the City's standard specifications and details in lieu of developing project specific details and water main related technical specifications.

Task 3 – 90% Design Remote Review Meeting. After the 90% design documents (including an OPCC) have been submitted to the City for review, a remote meeting will be scheduled with City personnel to discuss the 90% design documents.

Task 4 – Final Plans and Specifications. Based on the comments from the review meeting in Task 3 final plans and specifications will be developed and issued to the City for Bid.

Task 5 – Permits. Upon completion of the final plans and specifications in Task 4, Jacobs will develop the application and the submittal package to Missouri Department of Natural Resources for a Construction Permit. Jacobs anticipates no other permits will be required for this project. We will also submit plans to the appropriate utilities for their review and approval.

Task 6 - Bid Phase Services. Jacobs will provide the following bidding phase services:

1) Conduct a pre-bid meeting at City Hall.
2) Coordinate distribution of plans and specifications to prospective bidders and manage the plan holder's list.
3) Prepare and distribute any necessary addendums.
4) Assist the City in responding to questions from potential bidders during the Bid period and prepare addenda, as required.
5) Attend the bid opening. Review the bids and provide the City with a recommendation for award.

Task 7 - Construction Phase Services.

Jacobs will provide Construction Phase Services, as described in the tasks below.

1) Pre-Construction Meeting. Jacobs will attend a pre-construction meeting with the City and the contractor selected for the project.
2) Shop drawing review for submittals during the construction period. Review detailed construction drawings and shop drawings, samples and other information submitted by Contractors, for conformance with the design concept and the concept of the information given in the Contract Documents. Such data will be recommended for approval, returned for

revision, or rejected. This task includes the checking of shop and mill test reports of materials and equipment. Such review and recommendation shall not extend to means, methods, sequences, techniques or procedures of construction, or to safety precautions and programs incident thereto as such are the responsibility of the Construction Contractor.

3) Respond to the contractor's RFIs (Request for Information). Scope includes responses of up to 5 RFIs

4) Jacobs will provide part-time Resident Project Representative (RPR) services during the construction. A separate Construction Inspector will be provided by the City. The RPR will observe the progress and quality of the construction work to determine in general if the work is proceeding according to the Contract Documents. Jacobs will consult with City representatives and maintain contact by telephone and correspondence during the course of the project.

5) While on site, the RPR is responsible for seeing that the project is constructed in accordance with the drawings and specifications. However, Jacobs shall not be responsible for the failure of the Contractor(s) to perform the work in accordance with the Contract Document or the daily quality of Contractor's work. Jacobs will not bear any responsibility or liability for defects or deficiencies in the work or for the failure to so detect. The RPR shall provide observation of the Contractor, provide field administration on the work site, and act as the focal point for communication and correspondence with the Contractor at the field level. The RPR shall:

   a) Provide on-site administration and surveillance, as outlined herein, of the construction activities on the Project.

   b) If the Contractor has not corrected unsatisfactory work after request of the RPR, advise City of work that remains unsatisfactory, faulty or defective or does not conform to the Contract Documents.

   c) Receive Contractor's suggestions for modifications in drawings or specifications and report them, with comments, to the City.

   d) While on site, keep a diary or log book, in ink, recording hours on the job site, weather conditions, labor and equipment employed on the job, the location and nature of work being performed, the progress of the work, instructions given, accidents, data relative to questions of extras or deductions, list of visiting officials and representatives of manufacturers, fabricators, suppliers and distributors, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures.

   e) Advise the City, in advance, of scheduled major tests, inspections or the start of important phases of the work.

6) At a time near substantial completion of the work, prepare and submit to the Contractor a "punchlist" of items which require correction or completion.

7) Receive and record information as it is submitted by the Contractor regarding changes from the contract drawings made during progress of the work. Incorporate such changes on a set of contract plans to be used in preparing record drawings of the project.

8) Except upon written instructions of City, the RPR SHALL NOT:

a) Authorize any deviation from the Contract Documents, or approve any substitution of materials or equipment.

b) Neither advise nor issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents.

c) Neither advise nor issue directions as to safety precautions and programs in connection with the work. However, if on site, Jacobs will report immediately to City upon the occurrence of any accident. Record and obtain all possible information concerning circumstances, weather, unsafe conditions, etc. Obtain pictures, if available, for the project records. This information shall be forwarded immediately to City.

d) Authorize occupancy, acceptance or conditional acceptance.

e) Participate in specialized field or laboratory tests, except as specifically authorized to do so by the Contract Documents.

f) Direct a Contractor to do work at a specific time or in a certain way unless it is an emergency that would otherwise endanger life or property.

9) Record Drawings and Certification of Construction Complete. Jacobs will provide record drawings for the project based on information provided by the contractor and recorded during construction. Jacobs will also certify construction is complete and in accordance with MDNR approved plans and specifications as required by MDNR.

FEE PROPOSAL

Our proposed fee the work described herein is a not to exceed cost of $94,846. This fee includes only those services outlined in our proposal. Additional services can be provided if requested by the City.

Existing Conditions Survey	$24,024
Detailed Design	$36,219
Bid Phase Services	$4,791
Construction Phase Services	$28,292
Direct Costs - Travel	$1,320
Direct Costs - Printing	$200
Total Not to Exceed Cost	**$94,846**

CONTRACTUAL HOURLY RATES

The following hourly rates will be used for the services in this proposal:

Project Manager	$130
Sr. Project Engineer	$150
CAD Designer I	$95
CAD Designer II	$130
RPR I	$90
RPR II	$145
Admin	$105

Jacobs

December 11, 2020
Subject: EDA Grant Projects

SCHEDULE

Jacobs will complete the services in this proposal in accordance with the following milestone dates. Associated fees do not include direct costs.

Task	Completion Date	Associated Fee
Design NTP	12/22/2020	
Existing Conditions Survey	3/1/2021	$24,024
90% Design	7/1/2021	$32,600
100% Design	9/1/2021	$3,619
Bid Phase	12/1/2021	$4,791
Construction Phase	7/1/2022	$28,292

ASSUMPTIONS / CLARIFICATIONS:

1. Jacobs will refer to the City's standard specifications and details wherever appropriate.

2. Pre-Design memorandums will not be prepared for the water main projects as the sizing is based on existing model recommendations and the routes have already been determined.

3. Two full size hard copies of the plans and specifications will be provided to the City for each project for the 90% review. Also, two full size sets of the Issued for Bid plans and specifications for each project will be provided to the City, MDNR (construction permit) along with two full size sets submitted to the Dodge and AGC plan rooms.

4. Jacobs will provide distribution of the plans and specifications to prospective bidders. Cost for reproduction and shipping of plans and specifications to prospective bidders is not included in the not to exceed cost, and will be charged to the prospective bidder.

5. RPR services include one visit every two weeks during water main construction activities. The fee for RPR services is based on:

   a) A 10 week construction duration for the water main installation, 8 hours every two weeks for a total of 40 hours, 5 visits.

   b) RPR services are not required during saw cutting or restoration.

   Should the construction scope require a longer duration in the field or the City would like more per week availability, additional funds may be requested.

6. Two sets of record drawings and an electronic media device with both pdf and AutoCAD files

Jacobs

December 11, 2020
Subject: EDA Grant Projects

Attachment C

Downtown Sewer Rehabilitation

Jacobs Engineering Group, Inc. (Jacobs) is pleased to present our proposal to provide the City of Moberly (City) with Professional Engineering Services to design the Downtown Sewer Rehabilitation project. The Downtown Sewer Rehabilitation includes the CCTV investigation of approximately 17,000 linear feet of sewers, CIPP lining of approximately 11,000 linear foot of sewers, the replacement/rehabilitation of 22 manholes and untrapped inlets and up to 10 point repairs. Our proposal includes Existing Conditions Survey (CCTV & manhole inspection), Final Design (90%) Phase, Final Design (100%) Phase, Bid Phase, and Construction Management Services.

SCOPE

Existing Conditions Survey

Prepare Request for Proposal and a Scope of Work to conduct CCTV sewer inspections and manhole inspections.

1) Assist the City in evaluating the proposals and make a recommendation.
2) Coordinate and monitor the CCTV and manhole inspection work.
3) Review the draft inspection report.

Final Design

Task 1 –Kick-Off Meeting. Jacobs will meet with City staff for a kick off meeting to review the project scope.

Task 2 - Develop 90% Design Documents. Utilize the CCTV investigation report to develop design documents consisting of a cover sheet, sheet layout, general notes and symbols, up to 8 plan sheets utilizing the City's GIS Mapping, a detail sheet, and technical specifications for the elements of the project. 90% design drawings would be prepared at a scale of 1"=100' to provide sufficient accuracy for scaling on 22" x 34" or 24" x 36" sheets. The technical specifications will be in CSI format and the front end bidding documents will be similar to what Jacobs has prepared on City projects following the 2018 EJCDC format.

Task 3 – 90% Design Review Meeting. After the 90% design documents (including an OPCC) have been submitted to the City for review, a meeting will be scheduled with City personnel to discuss the 90% design documents.

Task 4 – Final Plans and Specifications. Based on the comments from the review meeting in Task 3 final plans and specifications will be developed and issued to the City for Bid.

Task 5 - Bid Phase Services. Jacobs will provide the following bidding phase services:

1) Conduct a pre-bid meeting at City Hall.

2) Coordinate distribution of plans and specifications to prospective bidders and manage the plan holder's list.
3) Prepare and distribute any necessary addendums.
4) Assist the City in responding to questions from potential bidders during the Bid period and prepare addenda, as required.
5) Attend the bid opening. Review the bids and provide the City with a recommendation for award.

Task 6- Construction Phase Services. Jacobs will provide Construction Phase Services, as described in the tasks below.

1) Pre-Construction Meeting. Jacobs will attend a pre-construction meeting with the City and the contractor selected for the project.
2) Shop drawing review for submittals during the construction period. Review detailed construction drawings and shop drawings, samples and other information submitted by Contractors, for conformance with the design concept and the concept of the information given in the Contract Documents. Such data will be recommended for approval, returned for revision, or rejected. This task includes the checking of shop and mill test reports of materials and equipment. Such review and recommendation shall not extend to means, methods, sequences, techniques or procedures of construction, or to safety precautions and programs incident thereto as such are the responsibility of the Construction Contractor.
3) Respond to the contractor's RFIs (Request for Information). Scope includes responses of up to five RFIs.
4) No RPR services are included in our Scope of Work.
5) Review Post-Lining CCTV and prepare and submit to the Contractor a "punchlist" of items which require correction or completion
6) Record Drawings and Certification of Construction Complete. Jacobs will provide record drawings for the project based on information provided by the contractor and recorded during construction. Jacobs will also certify construction is complete and in accordance with MDNR approved plans and specifications as required by MDNR.

FEE PROPOSAL

Our proposed fee the work described herein is a not to exceed cost of $86,930. This fee includes only those services outlined in our proposal. Additional services can be provided if requested by the City.

Existing Conditions Survey	$4,348
Detailed Design	$62,047
Bid Phase Services	$3,577
Construction Phase Services	$15,833
Direct Costs - Travel	$825
Direct Costs - Printing	$300
Total Not to Exceed Cost	**$86,930**

Jacobs

December 11, 2020
Subject: EDA Grant Projects

CONTRACTUAL HOURLY RATES

The following hourly rates will be used for the services in this proposal:

Project Manager	$130
Sr. Project Engineer	$150
CAD Designer I	$95
CAD Designer II	$130
Admin	$105

SCHEDULE

Jacobs will complete the services in this proposal in accordance with the following milestone dates. Associated fees do not include direct costs.

Task	Completion Date	Associated Fee
Design NTP	12/22/2020	
Existing Conditions Survey	7/1/2021	$4,348
90% Design	11/1/2021	$55,845
100% Design	2/1/2022	$6,202
Bid Phase	5/1/2022	$3,577
Construction Phase	11/1/2022	$15,833

ASSUMPTIONS / CLARIFICATIONS:

This proposal is based on the following assumptions and clarifications:

1. Scope does not include integration of CCTV and manhole inspection data with the City's GIS.

2. Jacobs will refer to the City's standard specifications and details wherever appropriate.

3. Two full size hard copies of the plans and specifications will be provided to the City for each project for the 90% review. Also, two full size sets of the Issued for Bid plans and specifications for each project will be provided to the City, MDNR (construction permit) along with two full size sets submitted to the Dodge and AGC plan rooms.

4. Jacobs will provide distribution of the plans and specifications to prospective bidders. Cost for reproduction and shipping of plans and specifications to prospective bidders is not included in the not to exceed cost, and will be charged to the prospective bidder.

5. Two sets of record drawings and an electronic media device with pdf files.

Jacobs

December 11, 2020
Subject: EDA Grant Projects

Attachment D

Downtown CSO Storage Facility

Jacobs Engineering Group, Inc. (Jacobs) is pleased to present our proposal to provide the City of Moberly (City) with Professional Engineering Services to design the Downtown CSO Storage Facility. The CSO Storage Facility includes the design of an underground CSO storage facility containing 400,000 gallons of storage, and two gravity sewers. The storage facility will be constructed in the basement of an existing parking garage, to be demolished by others. The attached exhibit depicts the anticipated scope of the project, note that no pump station design is included. Our proposal includes Existing Conditions Survey, Final Design (60%) Phase, Final Design (100%) Phase, Bid Phase, and Construction Management Services.

SCOPE

Existing Conditions Survey

Task 1 – Topographic Survey. Conduct a topographic survey of the project area including the street rights-of-ways surrounding the site.

1) Field run topographic survey. Topography includes ground elevations and existing physical improvements within the survey areas. Survey includes location of all building, structures and other physical improvements located within the survey area.
2) Contact Missouri-One-Call to provide the locations of existing utilities within the project limits. The locations of utilities within the project limits shall be field surveyed and incorporated into the base drawings for the project.
3) Dry utility locations for electric, telephone/cable and gas include surface indications of visible utilities, including manholes, poles, vaults, transformers and pedestals. Subsurface utility markings (established by Missouri One-Call) will be field located and shown on the topographic survey base drawings.
4) Wet utilities include water lines, sanitary sewer and storm sewer with inverts of pipe, pipe size with percent of slope for each sewer run shown. Wet utility locations include all surface indication including valves, vaults and fire hydrants.
5) Contour intervals will be 1-foot.
6) Property addresses.
7) Locate and stake up to six geotechnical boring locations

Task 2 – Geotechnical Program. Develop a geotechnical program that provides pipe and bedding design recommendations. Scope includes six 30-foot deep borings and data report containing bedding recommendations and pipe design parameters.

Jacobs

December 11, 2020
Subject: EDA Grant Projects

Final Design

Task 1 –Kick-Off Meeting. Jacobs will meet with City staff for a kick off meeting to review the project scope.

Task 2 - Develop 60% Design Documents. Prepare design documents consisting of preliminary drawings, and technical specifications for the elements of the project. 60% design drawings would be prepared at a horizontal scale of 1″=30′ and vertical scale 1″=10′ to provide sufficient accuracy for scaling on 22" x 34" or 24" x 36" sheets.

1) Cover Sheet/Index
2) Sheet Layout
3) General Notes & Symbols
4) Diversion Sewers Plan and Profile (2 sheets)
5) Storage Facility Plan
6) Storage Facility Profile
7) Storage Facility Details (2 sheets)
8) Demolition

The 60% documents will also include technical specifications and front-end contract documents. The technical specifications will be in CSI format and the front end bidding documents will be similar to what Jacobs has prepared on City projects following the 2018 EJCDC format.

Task 3 – 60% Design Review Meeting. After the 60% design documents (including an OPCC) have been submitted to the City for review, a meeting will be scheduled with City personnel to discuss the 60% design documents.

Task 4 – Final Plans and Specifications. Based on the comments from the review meeting in Task 3 final plans and specifications will be developed and issued to the City for Bid. The 100% documents will also include technical specifications and front-end contract documents. The technical specifications will be in CSI format and the front end bidding documents will be similar to what Jacobs has prepared on City projects following the 2018 EJCDC format.

Task 5 – Permits. Upon completion of the final plans and specifications in Task 4, Jacobs will develop the application and the submittal package to Missouri Department of Natural Resources for a Construction Permit, Jacobs anticipates no other permits will be required for this project. We will also submit plans to the appropriate utilities for their review and approval.

Task 6 - Bid Phase Services. Jacobs will provide the following bidding phase services:

1) Conduct a pre-bid meeting at City Hall.
2) Coordinate distribution of plans and specifications to prospective bidders and manage the plan holder's list.
3) Prepare and distribute any necessary addendums.
4) Assist the City in responding to questions from potential bidders during the Bid period and prepare addenda, as required.
5) Attend the bid opening. Review the bids and provide the City with a recommendation for award.

Task 7- Construction Phase Services.

Jacobs will provide Construction Phase Services, as described in the tasks below.

1) Pre-Construction Meeting. Jacobs will attend a pre-construction meeting with the City and the contractor selected for the project.

2) Shop drawing review for submittals during the construction period. Review detailed construction drawings and shop drawings, samples and other information submitted by Contractors, for conformance with the design concept and the concept of the information given in the Contract Documents. Such data will be recommended for approval, returned for revision, or rejected. This task includes the checking of shop and mill test reports of materials and equipment. Such review and recommendation shall not extend to means, methods, sequences, techniques or procedures of construction, or to safety precautions and programs incident thereto as such are the responsibility of the Construction Contractor.

3) Respond to the contractor's RFIs (Request for Information). Scope includes responses of up to five RFIs.

4) Jacobs will provide part-time Resident Project Representative (RPR) services during the construction. A separate Construction Inspector will be provided by the City. The RPR will observe the progress and quality of the construction work to determine in general if the work is proceeding according to the Contract Documents. Jacobs will consult with City representatives and maintain contact by telephone and correspondence during the course of the project.

5) While on site, the RPR is responsible for seeing that the project is constructed in accordance with the drawings and specifications. However, Jacobs shall not be responsible for the failure of the Contractor(s) to perform the work in accordance with the Contract Document or the daily quality of Contractor's work. Jacobs will not bear any responsibility or liability for defects or deficiencies in the work or for the failure to so detect. The RPR shall provide observation of the Contractor, provide field administration on the work site, and act as the focal point for communication and correspondence with the Contractor at the field level. The RPR shall:

    a) Provide on-site administration and surveillance, as outlined herein, of the construction activities on the Project.

    b) If the Contractor has not corrected unsatisfactory work after request of the RPR, advise City of work that remains unsatisfactory, faulty or defective or does not conform to the Contract Documents.

    c) Receive Contractor's suggestions for modifications in drawings or specifications and report them, with comments, to the City.

    d) While on site, keep a diary or log book, in ink, recording hours on the job site, weather conditions, labor and equipment employed on the job, the location and nature of work being performed, the progress of the work, instructions given, accidents, data relative to questions of extras or deductions, list of visiting officials and representatives of manufacturers, fabricators, suppliers and distributors, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures.

e) Advise the City, in advance, of scheduled major tests, inspections or the start of important phases of the work.

6) At a time near substantial completion of the work, prepare and submit to the Contractor a "punchlist" of items which require correction or completion.

7) Receive and record information as it is submitted by the Contractor regarding changes from the contract drawings made during progress of the work. Incorporate such changes on a set of contract plans to be used in preparing record drawings of the project.

8) Except upon written instructions of City, the RPR SHALL NOT:

   a) Authorize any deviation from the Contract Documents or approve any substitution of materials or equipment.

   b) Neither advise nor issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents.

   c) Neither advise nor issue directions as to safety precautions and programs in connection with the work. However, if on site, Jacobs will report immediately to City upon the occurrence of any accident. Record and obtain all possible information concerning circumstances, weather, unsafe conditions, etc. Obtain pictures, if available, for the project records. This information shall be forwarded immediately to City.

   d) Authorize occupancy, acceptance or conditional acceptance.

   e) Participate in specialized field or laboratory tests, except as specifically authorized to do so by the Contract Documents.

   f) Direct a Contractor to do work at a specific time or in a certain way unless it is an emergency that would otherwise endanger life or property.

9) Record Drawings and Certification of Construction Complete. Jacobs will provide record drawings for the project based on information provided by the contractor and recorded during construction. Jacobs will also certify construction is complete and in accordance with MDNR approved plans and specifications as required by MDNR.

FEE PROPOSAL

Our proposed fee the work described herein is a not to exceed cost of $145,440. This fee includes only those services outlined in our proposal. Additional services can be provided if requested by the City.

Existing Conditions Survey	$24,042
Detailed Design	$75,533
Bid Phase Services	$4,229
Construction Phase Services	$38,696
Direct Costs - Travel	$2,640
Direct Costs - Printing	$300
Total Not to Exceed Cost	**$145,440**

Jacobs

December 11, 2020
Subject: EDA Grant Projects

CONTRACTUAL HOURLY RATES

The following hourly rates will be used for the services in this proposal:

Project Manager	$130
Sr. Project Engineer	$150
CAD Designer I	$95
CAD Designer II	$130
RPR I	$90
RPR II	$145
Structural Engineer III	$190
Admin	$105

SCHEDULE

Jacobs will complete the services in this proposal in accordance with the following milestone dates. Associated fees do not include direct costs.

Task	Completion Date	Associated Fee
Design NTP	12/22/2020	
Existing Conditions Survey	2/1/2021	$24,042
60% Design	6/1/2021	$45,320
100% Design	9/1/2021	$30,213
Bid Phase	12/1/2021	$4,229
Construction Phase	8/1/2022	$38,696

ASSUMPTIONS / CLARIFICATIONS:

This proposal is based on the following assumptions and clarifications:

1. Jacobs will refer to the City's standard specifications and details wherever appropriate.

2. The storage facility will not require a pump station, per the preliminary design report and exhibit.

3. Two full size hard copies of the plans and specifications will be provided to the City for each project for the 60% review. Also, two full size sets of the Issued for Bid plans and specifications for each project will be provided to the City, MDNR (construction permit) along with two full size sets submitted to the Dodge and AGC plan rooms.

4. Jacobs will provide distribution of the plans and specifications to prospective bidders. Cost for reproduction and shipping of plans and specifications to prospective bidders is not included in the not to exceed cost, and will be charged to the prospective bidder.

December 11, 2020
Subject: EDA Grant Projects

5. RPR services include an average of one visit per week during the storage facility construction activities. The fee for RPR services is based on:
   a) A 12-week construction duration for the storage facility, 8 hours per week of RPR services (96 hours).
   b) RPR services are not needed until the end of the parking facility demolition.

   Should the construction scope require a longer duration in the field or the City would like more per week availability, additional funds may be requested.

6. Two sets of record drawings and an electronic media device with both pdf and AutoCAD files

Jacobs

December 11, 2020
Subject: EDA Grant Projects

Attachment E

Morley Pump Station Retrofit and Force Main Extension

Jacobs Engineering Group, Inc. (Jacobs) is pleased to present our proposal to provide the City of Moberly (City) with Professional Engineering Services to design the Morley Pump Station Retrofit and Force Main Extension. The Morley Street Lift Station is currently a wet pit/dry pit pump station. It has experienced a series of operational and maintenance issues throughout its service. The lift station will be retrofitted as a submersible lift station and the force main will be extended approximately 3,000 linear feet which will create additional capacity in the portion of the collection system to which it currently discharges (see attached exhibit).

SCOPE

Existing Conditions Survey

Conduct a property and topographic survey along the proposed force main, including the determination of horizontal and vertical control to be utilized throughout the project.

1) Field run topographic survey. Topography includes ground elevations and existing physical improvements within the survey areas. Survey includes location of all building, structures and other physical improvements located within the survey area.
2) Contact Missouri-One-Call to provide the locations of existing utilities within the project limits. The locations of utilities within the project limits shall be field surveyed and incorporated into the base drawings for the project. After utilities have been marked, Jacobs will make site visit to verify final alignment for development of 90% design documents.
3) Dry utility locations for electric, telephone/cable and gas include surface indications of visible utilities, including manholes, poles, vaults, transformers and pedestals. Subsurface utility markings (established by Missouri One-Call) will be field located and shown on the topographic survey base drawings.
4) Wet utilities include water lines, sanitary sewer and storm sewer with inverts of pipe, pipe size with percent of slope for each sewer run shown. Wet utility locations include all surface indication including valves, vaults and fire hydrants.
5) Contour intervals will be 1-foot.
6) Establish property lines and property ownership. Scope includes the preparation of legal description of up to five easements.

Morley Street Lift Station Retrofit and Force Main Extension

Task 1 –Kick-Off Meeting. Jacobs will meet with City staff for a kick off meeting to review the project scope.

Task 2 - Develop 90% Design Documents. Based on the Morley Pump Station Retrofit and Force Main Extension Facility Plan (prepared by Jacobs under a separate contract) review meeting Jacobs

will develop 90% Design Documents. The 90% submittal will be essentially a final set of documents that will include the following drawings:

1) Cover Sheet/Index
2) Sheet Layout
3) General Notes & Symbols
4) Site/Piping Plan
5) Miscellaneous Piping & Civil Details
6) Mechanical
7) Piping and Instrumentation Diagram – Symbols and Designation Sheet
8) Piping and Instrumentation Diagram
9) Electrical Symbol Drawing
10) Electrical Site/Grounding Plan
11) Electrical One Line Drawing
12) Electrical Details
13) Structural Details & General Notes
14) Mechanical/Structural/Electrical Demolition
15) Force Main Plan & Profiles (4 sheets)

The 90% documents will also include technical specifications and front-end contract documents. The technical specifications will be in CSI format and the front end bidding documents will be similar to what Jacobs has prepared on City projects following the 2018 EJCDC format.

Task 3 – 90% Design Review Meeting. After the 90% design documents (including an OPCC) have been submitted to the City for review, a meeting will be scheduled with City personnel to discuss the 90% design documents.

Task 4 – Final Plans and Specifications. Based on the comments from the review meeting in Task 3 final plans and specifications will be developed and issued to the City for Bid.

Task 5 – Permits. Upon completion of the final plans and specifications in Task 4, Jacobs will develop the application and the submittal package to Missouri Department of Natural Resources for a Construction Permit, and the Missouri Department of Transportation for a road crossing permit. Jacobs anticipates no other permits will be required for this project. We will also submit plans to the appropriate utilities for their review and approval.

Task 6 - Bid Phase Services. Jacobs will provide the following bidding phase services:

1) Conduct a pre-bid meeting at City Hall.

2) Coordinate distribution of plans and specifications to prospective bidders and manage the plan holder's list.

3) Prepare and distribute any necessary addendums.

4) Assist the City in responding to questions from potential bidders during the Bid period and prepare addenda, as required.

5) Attend the bid opening. Review the bids and provide the City with a recommendation for award.

Task 7- Construction Phase Services.

Jacobs will provide Construction Phase Services, as described in the tasks below.

1) Pre-Construction Meeting. Jacobs will attend a pre-construction meeting with the City and the contractor selected for the project.

2) Shop drawing review for submittals during the construction period. Review detailed construction drawings and shop drawings, samples and other information submitted by Contractors, for conformance with the design concept and the concept of the information given in the Contract Documents. Such data will be recommended for approval, returned for revision, or rejected. This task includes the checking of shop and mill test reports of materials and equipment. Such review and recommendation shall not extend to means, methods, sequences, techniques or procedures of construction, or to safety precautions and programs incident thereto as such are the responsibility of the Construction Contractor.

3) Respond to the contractor's RFIs (Request for Information). Scope includes responses of up to five RFIs.

4) Jacobs will provide part-time Resident Project Representative (RPR) services during the construction. A separate Construction Inspector will be provided by the City. The RPR will observe the progress and quality of the construction work to determine in general if the work is proceeding according to the Contract Documents. Jacobs will consult with City representatives and maintain contact by telephone and correspondence during the course of the project.

5) While on site, the RPR is responsible for seeing that the project is constructed in accordance with the drawings and specifications. However, Jacobs shall not be responsible for the failure of the Contractor(s) to perform the work in accordance with the Contract Document or the daily quality of Contractor's work. Jacobs will not bear any responsibility or liability for defects or deficiencies in the work or for the failure to so detect. The RPR shall provide observation of the Contractor, provide field administration on the work site, and act as the focal point for communication and correspondence with the Contractor at the field level. The RPR shall:

    a) Provide on-site administration and surveillance, as outlined herein, of the construction activities on the Project.

    b) If the Contractor has not corrected unsatisfactory work after request of the RPR, advise City of work that remains unsatisfactory, faulty or defective or does not conform to the Contract Documents.

c) Receive Contractor's suggestions for modifications in drawings or specifications and report them, with comments, to the City.

d) While on site, keep a diary or log book, in ink, recording hours on the job site, weather conditions, labor and equipment employed on the job, the location and nature of work being performed, the progress of the work, instructions given, accidents, data relative to questions of extras or deductions, list of visiting officials and representatives of manufacturers, fabricators, suppliers and distributors, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures.

e) Advise the City, in advance, of scheduled major tests, inspections or the start of important phases of the work.

6) At a time near substantial completion of the work, prepare and submit to the Contractor a "punchlist" of items which require correction or completion.

7) Receive and record information as it is submitted by the Contractor regarding changes from the contract drawings made during progress of the work. Incorporate such changes on a set of contract plans to be used in preparing record drawings of the project.

8) Except upon written instructions of City, the RPR SHALL NOT:

a) Authorize any deviation from the Contract Documents or approve any substitution of materials or equipment.

b) Neither advise nor issue directions relative to any aspect of the means, methods, techniques, sequences or procedures of construction unless such is specifically called for in the Contract Documents.

c) Neither advise nor issue directions as to safety precautions and programs in connection with the work. However, if on site, Jacobs will report immediately to City upon the occurrence of any accident. Record and obtain all possible information concerning circumstances, weather, unsafe conditions, etc. Obtain pictures, if available, for the project records. This information shall be forwarded immediately to City.

d) Authorize occupancy, acceptance or conditional acceptance.

e) Participate in specialized field or laboratory tests, except as specifically authorized to do so by the Contract Documents.

f) Direct a Contractor to do work at a specific time or in a certain way unless it is an emergency that would otherwise endanger life or property.

9) Record Drawings and Certification of Construction Complete. Jacobs will provide record drawings for the project based on information provided by the contractor and recorded during construction. Jacobs will also certify construction is complete and in accordance with MDNR approved plans and specifications as required by MDNR.

Jacobs

December 11, 2020
Subject: EDA Grant Projects

FEE PROPOSAL

Our proposed fee the work described herein is a not to exceed cost of $199,986. This fee includes only those services outlined in our proposal. Additional services can be provided if requested by the City.

Existing Conditions Survey	$17,711
Detailed Design	$117,308
Bid Phase Services	$5,018
Construction Phase Services	$56,249
Direct Costs - Travel	$3,300
Direct Costs - Printing	$400
Total Not to Exceed Cost	**$199,986**

CONTRACTUAL HOURLY RATES

The following hourly rates will be used for the services in this proposal:

Project Manager	$130
Sr. Project Engineer	$150
CAD Designer I	$95
CAD Designer II	$130
RPR I	$90
RPR II	$145
Sr. Electrical Engineer	$150
Structural Engineer I	$125
Structural Engineer II	$145
Admin	$105

SCHEDULE

Jacobs will complete the services in this proposal in accordance with the following milestone dates. Associated fees do not include direct costs.

Task	Completion Date	Associated Fee
Design NTP	12/22/2020	
Existing Conditions Survey	4/1/2021	$17,711
90% Design	8/1/2021	$105,580
100% Design	10/1/2021	$11,728
Bid Phase	1/1/2022	$5,018
Construction Phase	8/1/2022	$56,249

December 11, 2020
Subject: EDA Grant Projects

ASSUMPTIONS / CLARIFICATIONS:

This proposal is based on the following assumptions and clarifications:

1. Jacobs will refer to the City's standard specifications and details wherever appropriate.

2. The electrical and control system design is based on float system for level control and standard across the line starters or soft starters; no PLC based control system design is included.

3. Two full size hard copies of the plans and specifications will be provided to the City for each project for the 90% review. Also, two full size sets of the Issued for Bid plans and specifications for each project will be provided to the City, MDNR (construction permit) along with two full size sets submitted to the Dodge and AGC plan rooms.

4. Jacobs will provide distribution of the plans and specifications to prospective bidders. Cost for reproduction and shipping of plans and specifications to prospective bidders is not included in the not to exceed cost, and will be charged to the prospective bidder.

5. RPR services include one visit every two weeks during force main construction activities, and two visits per week during the pump station retrofit activities. The fee for RPR services is based on:
   a) A 6-week construction duration for the pump station retrofit, 16 hours per week of RPR services (108 hours).
   b) A 6-week construction duration for the force main installation, 8 hours every two weeks of RPR services (16 hours)
   c) Total of 150 hours and 15 visits to the job site
   d) RPR services are not required during saw cutting or restoration

   Should the construction scope require a longer duration in the field or the City would like more per week availability, additional funds may be requested.

6. Two sets of record drawings and an electronic media device with both pdf and AutoCAD files

AGREEMENT

FOR

PROFESSIONAL SERVICES

BETWEEN

JACOBS ENGINEERING GROUP INC.

AND

THE CITY OF MOBERLY, MISSOURI

AGREEMENT FOR PROFESSIONAL SERVICES

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AGREEMENT FOR PROFESSIONAL SERVICES

THIS ENGINEERING MASTER SERVICES AGREEMENT, made and executed as of the 5th day of October, 2020 by and between **JACOBS ENGINEERING GROUP INC.**, with a place of business at 501 N. Broadway, St. Louis, MO 63012 (hereinafter called "Consultant") and City of Moberly, MO, a municipal corporation, with a place of business at 101 West Reed Street, Moberly, MO 65720 (hereinafter called "Client"), collectively referred to herein as "Parties", provides as follows:

ARTICLE 1

GENERAL OBLIGATIONS OF CONSULTANT

The description of the Client's project (the "Project") and scope of services (hereinafter "Services") to be provided to Client is stated in a formal Proposal from Consultant for each specific project. Each specific Project will reference this Master Services Agreement.

ARTICLE 2

COMPENSATION

Consultant will be compensated for Services as set forth in each Proposal.

ARTICLE 3

PAYMENTS

Consultant will submit bi-weekly invoices for compensation and expenses by electronic transmission. Payments will be due within 30 days after receipt of invoices and shall be made by electronic funds transfer to the bank and account designated in the invoice. Past due amounts will accrue interest at one and one-half percent (1½%) per month, without limiting other remedies.

ARTICLE 4

PERIOD OF SERVICE

Consultant shall make its best efforts to complete its Services for the Project within the time period set forth in the Proposal.

ARTICLE 5

CHANGES IN SCOPE OF SERVICES

Client may, at any time, make changes in the scope of Services for the Project or in the definition of Services to be performed. In the event Client notifies Consultant of its desire to make a

change in the scope of Services that may change the cost of performance, Consultant shall, within ten (10) working days after receiving such notice, give Client notification of any potential change in price for the Services. Equitable adjustments to price and time of performance resulting from scope of Services changes will be negotiated and upon mutual agreement by Client and Consultant, this Agreement will be modified by a written instrument, signed by both parties, to reflect the changes in scope of Services, price and schedule.

ARTICLE 6

STANDARD OF CARE

A. Consultant shall perform the Services with reasonable care, consistent with applicable professional and industry standards and in compliance with all applicable laws. Following completion of its Services and for a period of twelve (12) months thereafter, if the Services provided hereunder do not conform to the foregoing standards and the same is reported to Consultant by Client in writing promptly after recognition thereof, Consultant shall, at no cost to Client, furnish all remedial engineering, design or consulting Services required in connection therewith as soon as reasonably possible after receipt of such report from Client; and Consultant shall have no liability for costs related to the repair, replacement, addition or deletion of materials, equipment or facilities as a result of such failure to conform to the above-referenced warranties, which costs shall be deemed costs of the project, whether incurred during performance of the Services or after completion of the Services.

B. All representations, warranties and guarantees made by Consultant in connection with its Services are limited to those set forth in this Article. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE SPECIFICALLY EXCLUDED. For any deficiencies in the Services, Client shall be restricted to the remedies expressly set forth in this Article, whether asserted on the basis of contract, tort (including negligence) or otherwise.

ARTICLE 7

INDEMNIFICATION

Consultant will defend, indemnify and hold the Client harmless from all claims, liabilities, demands, costs, expenses (including attorneys' fees) and causes of action arising out of third party claims for bodily injury (including death) and damage to tangible property to the extent caused by a negligent act or omission of Consultant, its employee or subconsultant. No negligence shall be attributed to Consultant based on any acts or omissions of Client's contractors or other consultants.

ARTICLE 8

LIMITATION OF LIABILITY

The total aggregate liability of Consultant arising out of the performance or breach of this Agreement shall not exceed twenty-five percent (25%) of the compensation paid to Consultant under this Agreement. Notwithstanding any other provision of this Agreement, Consultant shall have no liability to the Client for contingent, consequential or other indirect damages including,

without limitation, damages for loss of use, revenue or profit; operating costs and facility downtime; or other similar business interruption losses, however the same may be caused. The limitations and exclusions of liability set forth in this Article shall apply regardless of the fault, breach of contract, tort (including negligence), strict liability or otherwise of Consultant, its employees or subconsultants. The Parties agree that the limitations and exclusions of liability set forth herein shall not be interpreted as a form of indemnification.

ARTICLE 9

INSURANCE

A. During the term of this Agreement, Consultant shall, at its sole expense, secure and maintain in force policies of insurance of the following types:

1. Workers' compensation coverage in accordance with the statutory requirements of the jurisdiction in which services are to be performed.
2. Employer's liability insurance with a minimum of $250,000.
3. Comprehensive General Liability Insurance, subject to a limit for bodily injury and property damage combined of at least $1,000,000 aggregate.
4. Automobile liability insurance subject to a limit for bodily injury and property damage combined, of at least $1,000,000 per occurrence.

B. Consultant shall furnish Client certificates of insurance evidencing the insurance coverages required in this Article 9. The certificates shall stipulate that should any of the above insurance policies be cancelled before the termination of this Agreement, the issuing company will endeavor to mail thirty (30) days' written notice to Client.

ARTICLE 10

RELATIONSHIP OF CONSULTANT TO CLIENT

The Consultant shall be and shall operate as an independent contractor with respect to the Services performed under this Agreement and shall not be nor operate as an agent, fiduciary or employee of Client. This Agreement is not intended to be one of hiring under the provisions of a Workers' Compensation statute or other law and shall not be so construed.

ARTICLE 11

PERSONNEL

Consultant agrees that during Consultant's performance of Services hereunder, adequate provision shall be made to staff and retain the services of such competent personnel as may be appropriate or necessary for the performance of such Services. Client shall have the right to review the personnel assigned by Consultant, and Consultant shall remove any personnel not acceptable to Client. Consultant may remove personnel assigned to the Project without Client's prior approval, provided the progress of the Services shall not be unreasonably impaired.

ARTICLE 12

OWNERSHIP OF INSTRUMENTS OF SERVICE AND DATA

A. Client agrees to defend, indemnify and hold harmless Consultant and its employees from and against claims resulting from re-use of the design data, drawings, estimates, calculations and specifications prepared by Consultant ("instruments of service") on extensions of the project or at a location other than that contemplated by this Agreement. Client is advised that should Client re-use the instruments of service at another location, the instruments of service should be reviewed and sealed by Client or an engineer licensed in the jurisdiction where the instruments of service are sought to be re-used.

B. All materials and information that are the property of Client and all copies or duplications thereof shall be delivered to Client by Consultant, if requested by Client, upon completion of Services. Consultant may retain one complete set of reproducible copies of all of its instruments of service.

ARTICLE 13

PERMITS AND LICENSES

Consultant represents to Client that it has and will maintain during the performance of the Services under this Agreement any permits or licenses which, under the regulations of federal, state, or local governmental authority, it may be required to maintain in order to perform the Services.

ARTICLE 14

ADHERENCE TO LAWS

Consultant shall adhere to federal, state, and local laws, rules, regulations, and ordinances applicable to performance of the Services hereunder including, without limitation, all applicable provisions of federal and state law relating to equal employment opportunity and non-discrimination.

ARTICLE 15

NONDISCLOSURE OF PROPRIETARY AND CONFIDENTIAL MATERIALS

Client and Consultant agree that any disclosure will be made on the following basis:

A. Confidential Client Information ("Primary Data") disclosed to Consultant which is identified in writing by Client as proprietary to Client shall be: (1) safeguarded, (2) maintained in confidence, and (3) made available by Consultant only to those of its employees or others who have a need-to-know and agree to equivalent conditions pertaining to nondisclosure as contained herein.

B. Upon completion of the Project or sooner if Client so requests, the Consultant shall return to Client's representative all Primary Data furnished to the Consultant under this Agreement and shall, if requested, deliver to the Client's representative all drawings, schedules, calculations, and other documents generated by Consultant for use in connection with the Project ("Secondary Data").

C. Consultant shall not use for itself or to disclose to third parties any Primary Data or Secondary Data without the prior written consent of Client.

D. The nondisclosure obligations pertaining to Primary and Secondary Data shall terminate three (3) years from date Consultant's association with this Project terminates. The nondisclosure obligations shall not apply to any data which:

1. Was known to the Consultant (and previously unrestricted) before disclosure of Primary Data to Consultant under this Agreement or before generation of Secondary Data;

2. Is subsequently acquired by the Consultant from a third party who is not in default of any obligation restricting the disclosure of such information; or

3. Is subsequently available or becomes generally available to the public.

E. Notwithstanding this nondisclosure obligation, Consultant may nevertheless draw upon its experience in its future association with other clients.

ARTICLE 16

CERTIFICATION OR SEALING OF INSTRUMENTS OF SERVICE BY PROFESSIONAL CONSULTANT

All specifications, drawings, and other engineering documents that are prepared by Consultant shall be certified or sealed by a registered professional engineer. Such certifications or seals shall be valid for the state in which the specifications, drawings, or other engineering documents are to be used or applied.

ARTICLE 17

FORCE MAJEURE

Any delays in or failure of performance by Consultant or Client, other than the payment of money, shall not constitute default hereunder if and to the extent such delays or failures of performance are caused by occurrences beyond the reasonable control of Client or Consultant, as the case may be, including but not limited to, acts of God or the public enemy; compliance with any order or request of any governmental authority; fires, floods, explosion, accidents; riots, strikes or other concerted acts of workmen, whether direct or indirect; or any causes, whether or not of the same class or kind as those specifically named above, which are not within the reasonable control of Client or Consultant respectively. In the event that any event of force majeure as herein defined occurs, Consultant shall be entitled to a reasonable extension of time for performance of its Services under this Agreement.

ARTICLE 18

PROJECT DELAY

If the Consultant's proposal calls for provision of its Services under a guaranteed maximum price, fixed fee, or stipulated lump sum basis and the Consultant's work on any phase of the Services is extended by one or more force majeure events or other delays not attributable in whole or in part to the fault of Consultant, then the guaranteed maximum price, fixed fee, or stipulated lump sum, as the case may be, shall be equitably adjusted.

ARTICLE 19

CONSTRUCTION PHASE SERVICES

If this Agreement includes the furnishing of any Services during the construction phase of the Project, the following terms will apply:

A. If Consultant is called upon to observe the work of Client's construction contractor(s) for the detection of defects or deficiencies in such work, Consultant will not bear any responsibility or liability for such defects or deficiencies or for the failure to so detect. Consultant shall not make inspections or reviews of the safety programs or procedures of the construction contractor(s), and shall not review their work for the purpose of ensuring their compliance with safety standards.

B. If Consultant is called upon to review submittals from construction contractors, Consultant shall review and approve or take other appropriate action upon construction contractor(s)' submittals such as shop drawings, product data and samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents. The Consultant's action shall be taken with such reasonable promptness as to cause no delay in the work while allowing sufficient time in the Consultant's professional judgment to permit adequate review. Review of such submittals will not be conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities or for substantiating instructions for installation or performance of equipment or systems designed by the construction contractor, all of which remain the responsibility of the construction contractor. The Consultant's review shall not constitute approval of safety precautions or of construction means, methods, techniques, sequences or procedures. The Consultant's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

C. Consultant shall not assume any responsibility or liability for performance of the construction services, or for the safety of persons and property during construction, or for compliance with federal, state and local statutes, rules, regulations and codes applicable to the conduct of the construction services.

D. All services performed by others, including construction contractors and their subcontractors, shall be warranted only by such others and not by the Consultant.

E. All contracts between Client and its construction contractor(s) shall contain broad form indemnity and insurance clauses in favor of Client and Consultant, in a form satisfactory to Consultant.

ARTICLE 20

GOVERNING LAW

This Agreement shall be governed by and construed in accordance with the laws of the State of Missouri.

ARTICLE 21

ALTERNATE DISPUTE RESOLUTION

A. Client and Consultant understand and appreciate that their long term mutual interests will be best served by affecting a rapid and fair resolution of any claims or disputes which may arise out of this Agreement. Therefore, both Parties agree to use their best efforts to resolve all such disputes as rapidly as possible on a fair and equitable basis. Toward this end both Parties agree to develop and follow a process for presenting, rapidly assessing, and settling claims on a fair and equitable basis.

B. If any dispute or claim arising under this Agreement cannot be resolved by the project managers for the Parties within thirty (30) days after they identified the problem, the Parties agree that either of them may refer the matter to a panel consisting of one (1) executive from each party not directly involved in the claim or dispute for review and resolution. A copy of the Agreement, agreed upon facts (and areas of disagreement), and concise summary of the basis for each side's contentions will be provided to both executives who shall review the same, confer, and attempt to reach a mutual resolution of the issue.

C. If the dispute cannot be resolved under the process set forth in Section B, the Parties may elect to resolve the dispute through non-binding mediation. If mediation is to be utilized, the Parties shall select a single unrelated but qualified Mediator who shall hold a hearing (not to exceed half a day) during which each Party shall present its version of the facts (supported, if desired, by sworn, written testimony, and other relevant documents), its assessment of damages, and its argument. The Parties shall provide the Mediator with copies of all documents provided to their senior executives under Section B at least ten (10) days prior to the scheduled date of the mediation hearing. The Parties may also provide the Mediator with copies of any laws or regulations that they feel are relevant to the dispute. A copy of the Agreement and any disputed Purchase Orders will be provided to the Mediator. Formal written arguments, legal memorandum, and live testimony are discouraged but may be permitted at the discretion of the Mediator. Both Parties agree to make any involved employees or documents available to the other Party for its review and use in preparing its position under this clause without the need for subpoena or other court order.

D. Following the mediation, the Mediator will meet with both Parties and provide each of them, on a confidential basis, with his/her views of the strengths and weaknesses of their respective positions. The Parties will then reconvene and, with the assistance of the Mediator, attempt to resolve the matter. If the Parties cannot achieve resolution on the day

of the mediation hearing or within forty-eight (48) hours thereafter, the Mediator will, within fifteen (15) additional days, issue a written, non-binding decision on the issue.

E. If the matter has not been resolved utilizing the processes set forth above and the Parties are unwilling to accept the non-binding decision of the Mediator, either or both Parties may elect to pursue resolution through litigation. In the event of any litigation between the Parties, it is agreed and stipulated that the case shall be heard and decided by the court, without a jury.

F. The costs of the Mediator shall be borne equally by the Parties. Each Party will bear its own costs of mediation.

ARTICLE 22

NOTICES AND/OR COMMUNICATIONS

All notices and/or communications to be given under this Agreement shall be in writing and shall be addressed as follows:

To Consultant		To Client	
Original to:	Michael McCarty	Original to:	Mary West-Calcagno
Position:	Vice President Missouri Operations	Position:	Director of Utilities
Address:	Jacobs Engineering Group Inc.	Address:	City of Moberly, MO
Copy to:	Tobin Lichti	Copy to:	Brian Crane
Position:	Project Manager	Position:	City Manager
Address:	Jacobs Engineering Group Inc.	Address:	City of Moberly, MO

Either party may, by written notice to the other, change the representative or the address to which such notices, certificates, or communications are to be sent.

Any notice or communication required in writing hereunder shall be given by registered, certified, or first class mail (postage required), TWX, telex, or telecopy addressed to the party at its address set forth above. Communications by TWX, telex, or telecopy shall be confirmed by depositing a copy on the same day with the U.S. Post Office for transmission by registered, certified, or first class mail in an envelope properly addressed. The postmark date of notices sent by mail (except for confirmatory notices) shall be the date of notice.

ARTICLE 23

MISCELLANEOUS

A. *Waiver.* Waiver by either party of any breach or failure to enforce any of the terms and conditions of this Agreement at any time shall not in any way effect, limit, or waive such

party's rights thereafter to enforce and compel strict compliance with all the terms and conditions of this Agreement.

B. *Severability.* Any provision of this Agreement prohibited by law shall be ineffective to the extent of such prohibition without invalidating the remaining provisions of this Agreement.

C. *Rights and Remedies.* The specific remedies set forth in this Agreement, including but not limited to those remedies with respect to the quality of the Services performed by Consultant hereunder, are the exclusive remedies of the Parties.

D. *Transfer of Ownership.* Client represents that either it is the sole owner of the facilities which are the object of the Services or that it is authorized to bind and does bind all owners of such facilities to the releases and limitations of liability set forth in this Agreement. Client further agrees that any future recipient of any interest in the facilities and the Services will be bound by such releases and limitations of liability such that the total aggregate liability of Consultant to Client and such recipients shall not exceed the limits of liability set forth in this Agreement.

E. *Publicity.* Neither of the Parties shall make any press release, news disclosure or other advertising related to the Project that includes the name of the other party without first obtaining the written approval of the other party.

F. *Entirety of Agreement.* This Agreement constitutes the entire Agreement between the parties with respect to the subject matter hereof and supersedes all prior negotiations and discussions concerning the subject matter hereof.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement to be effective as of the date first above written.

CONSULTANT:
JACOBS ENGINEERING GROUP INC.

By: _____

Title: VICE PRESIDENT

CLIENT:
CITY OF MOBERLY, MISSOURI

By: _____

Title: City Manager

City of Moberly
City Council Agenda Summary

Agenda Number: _____
Department: Public Utilities
Date: January 4, 2021

Agenda Item: A Resolution Approving A Letter Agreement With Jacobs Engineering Group Inc. For A Downtown Cso Storage Facility And Authorizing The City Manager To Execute The Agreement On Behalf Of The City.

Summary: Jacobs Engineering Group, Inc. provided the attached scope of work and fee to the City of Moberly for Professional Engineering Services to prepare for the design of the Downtown CSO Storage Facility. This scope of work provides for a hydraulic model of the combined sewers in town and of the downtown sewers specifically to determine flow rates, elevations, and existing conditions prior to the design for construction of the CSO storage basin.

Recommended Action: Approve this resolution.

Fund Name: Capital Improvement Sales Tax Fund, Design Engineering

Account Number: 304.000.5408.

Available Budget $: $73,900

ATTACHMENTS:

___ Memo	___ Council Minutes
___ Staff Report	___ Proposed Ordinance
___ Correspondence	__X_ Proposed Resolution
___ Bid Tabulation	___ Attorney's Report
___ P/C Recommendation	___ Petition
___ P/C Minutes	___ Contract
___ Application	___ Budget Amendment
___ Citizen	___ Legal Notice
___ Consultant Report	___ Other_____

Roll Call		Aye	Nay
Mayor			
M___ S___ **Jeffrey**		___	___
Council Member			
M___ S___ **Brubaker**		___	___
M___ S___ **Kimmons**		___	___
M___ S___ **Davis**		___	___
M___ S___ **Kyser**		___	___
		Passed	Failed

BILL NO: _____ **RESOLUTION NO:_____**

A RESOLUTION APPROVING A LETTER AGREEMENT WITH JACOBS ENGINEERING GROUP INC. FOR A DOWNTOWN CSO STORAGE FACILITY AND AUTHORIZING THE CITY MANAGER TO EXECUTE THE AGREEMENT ON BEHALF OF THE CITY.

WHEREAS, downtown Moberly often experiences flooding and basement backups which retards economic development and investment in the area; and

WHEREAS, Jacobs Engineering Group, Inc., ("Jacobs") has submitted a proposal to provide professional engineering services to prepare a detailed design for a 400,000 gallon storage facility; and

WHEREAS, attached hereto and incorporated herein is a Letter Agreement with a scope of work with Jacobs Engineering Group, Inc. for an underground storage facility to alleviate downtown flooding and basement backups with payment for said services not to exceed $25,465.00.

NOW, THEREFORE, the Moberly, Missouri, City Council hereby approves the Letter Agreement as recommended by city staff and authorizes the city manager to execute the Agreement on behalf of the City of Moberly.

RESOLVED this 4th day of January, 2021, by the Council of the City of Moberly, Missouri.

_____

Presiding Officer at Meeting

ATTEST:

_____

City Clerk

Stifel Tower
501 North Broadway
St. Louis, Missouri 63102
United States
T +1.314.335.4000
F +1.314.335.5104
F +1.314.335.5141
www.jacobs.com

October 29, 2020

Mary West-Calcagno
Director of Utilities
City of Moberly
101 West Reed Street
Moberly, MO 65270

Subject: Downtown CSO Storage Facility Preliminary Engineering

Dear Mary:

Jacobs Engineering Group, Inc. (Jacobs) is pleased to present our proposal to provide the City of Moberly (City) with Professional Engineering Services for the Downtown CSO Storage Facility. The CSO Storage Facility is an underground facility containing 400,000 gallons of storage to help alleviate flooding and basement backups in the Downtown Moberly area.

SCOPE

This document presents a scope of work to provide engineering services consisting of sewer modeling and development of conceptual storage solutions to mitigate combined sewer flooding in the vicinity of Williams Street and Reed Street in Downtown Moberly.

Jacobs will provide services in two areas. The first is the creation of a SWMM model representing the combined sewer system in Moberly. The second is to conduct modeling in support of the conceptual design of a proposed storage facility to provide relief to an 18-inch sewer line between Williams Street and Clark Street and a 24-inch sewer line along Reed Street.

Task 1 –Kick-Off Meeting. Jacobs will meet with City staff for a kickoff meeting to review the project scope.

Task 2 – Hydrologic and Hydraulic (H&H) Model

1) Jacobs will utilize existing GIS data to develop the H&H model. It is assumed that this data will include structure type, inverts (structure and pipe), rim elevations, and pipe shape, diameter and material. Data gaps will be filled by utilizing interpolation techniques and available topographic data.

October 29, 2020
Subject: Downtown CSO Storage Facility Preliminary Engineering

2) DEM/topography data will be updated based on the latest LIDAR data available (2011 or 2014 if published in time). Other data such as impervious areas will be estimated based on publicly available mapping.

Task 3 – Design Support Modeling

1) Jacobs will simulate storms of increasing magnitude to understand the capacity limits of the proposed storage volume of the storage facility. This may include a range of rainfall events, such as 0.5 in, 1.0 in, 1-yr 24-hr, 2-yr 24-hr, 5-yr 24-hr, and 10-yr 24-hr or rainfall of varying durations.

2) Jacobs will develop and run up to 6 existing conditions rainfall events through the hydraulic model. Selected rainfall events will be approved by the City of Moberly prior to final modeling. This base model will provide a better understanding as to the extent of the flooding in the existing sewersheds. Results will be shown in PC-SWMM generated graphs and may be further visualized in GIS or Microsoft Excel.

3) Jacobs will prepare a conceptual report summarizing the modeling methodology and results. Three copies of the Draft TM will be delivered to the City of Moberly for review.

4) Based on review comments from the City, Jacobs will prepare a Final TM and deliver three copies to the City.

FEE PROPOSAL

Our proposed fee the work described herein is a lump sum cost of $25,465. This fee includes only those services outlined in our proposal. Additional services can be provided if requested by the City.

SCHEDULE

If the City agrees with this approach, we would provide a schedule upon notice of acceptance of our proposal. The schedule will take into account the final design schedule associated with the EDA grant.

ASSUMPTIONS / CLARIFICATIONS:

This proposal is based on the following assumptions and clarifications:

1. No topographical or sewer system survey is included.

2. The lump sum amount in this proposal will be transferred over from the remaining funds in the Project Emerald Booster Pump Station project.

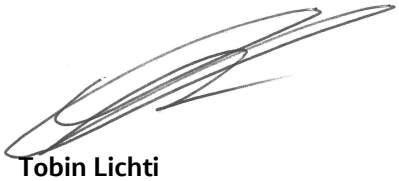
Original Lump Sum Contract	$65,500
Jacobs Cost to Date	$5,277
This Proposal	$25,465
Remaining funds	**$34,758**

October 29, 2020
Subject: Downtown CSO Storage Facility Preliminary Engineering

This work will be performed under the Professional Services Agreement dated October 5, 2021. If you have any questions, please let me know.

If you agree, please sign two copies of this letter and return them to us at your convenience. Thank you for the opportunity to continue our long standing support of the City.

Very truly yours,



Tobin Lichti
Project Manager
314.422.3336
Tobin.Lichti@Jacobs.com

Authorization to Proceed:

City of Moberly	**Jacobs Engineering Group, Inc.**
By _____	By_____
Title _____	Title_____
Date _____	Date _____

City of Moberly
City Council Agenda Summary

Agenda Number: _____
Department: Public Utilities
Date: January 4, 2021

Agenda Item: A Resolution Approving A Letter Agreement With Jacobs Engineering Group Inc. For Review Of The Barr Engineering Report On Upgrades To The Moberly Correctional Center Lagoon And Ratifying The City Manager's Execution Of The Agreement On Behalf Of The City.

Summary: The State of Missouri Legislature passed legislation to allow negotiations with the City of Moberly to acquire the Moberly Correctional Center's lagoon. This review will provide verification of assumptions and direction for negotiations.

Recommended Action: Approve this resolution.

Fund Name: Capital Improvement Sales Tax Fund, Design Engineering

Account Number: 304.000.5408

Available Budget $: $1,181,209.68

ATTACHMENTS:

____ Memo	____ Council Minutes
____ Staff Report	____ Proposed Ordinance
____ Correspondence	____ Proposed Resolution
____ Bid Tabulation	____ Attorney's Report
____ P/C Recommendation	____ Petition
____ P/C Minutes	____ Contract
____ Application	____ Budget Amendment
____ Citizen	____ Legal Notice
____ Consultant Report	____Other_____

Roll Call	Aye	Nay
Mayor		
M___ S___ **Jeffrey**	____	____
Council Member		
M___ S___ **Brubaker**	____	____
M___ S___ **Kimmons**	____	____
M___ S___ **Davis**	____	____
M___ S___ **Kyser**	____	____
	Passed	Failed

BILL NO:_____ **RESOLUTION NO:_____**

A RESOLUTION APPROVING A LETTER AGREEMENT WITH JACOBS ENGINEERING GROUP INC. FOR REVIEW OF THE BARR ENGINEERING REPORT ON UPGRADES TO THE MOBERLY CORRECTIONAL CENTER LAGOON AND RATIFYING THE CITY MANAGER'S EXECUTION OF THE AGREEMENT ON BEHALF OF THE CITY.

WHEREAS, the City is considering options to upgrade the lagoon(s) at the Moberly Correctional Center; and

WHEREAS, Barr Engineering prepared a report for the State of Missouri concerning upgrades to the Moberly Correctional Center lagoon; and

WHEREAS, attached hereto and incorporated herein is a Letter Agreement with a scope of work with Jacobs Engineering Group, Inc. to review the Barr Engineering report with payment for said services not to exceed $7,506.00; and

WHEREAS, the City Manager previously executed the attached agreement and seeks ratification of his action and approval of the Letter Agreement.

NOW, THEREFORE, the Moberly, Missouri, City Council hereby approves the Letter Agreement as recommended by city staff and ratifies the city manager's execution of the Agreement on behalf of the City of Moberly.

RESOLVED this 4th day of January, 2021, by the Council of the City of Moberly, Missouri.

_____

Presiding Officer at Meeting

ATTEST:

_____

City Clerk

Jacobs

Stifel Tower
501 North Broadway
St. Louis, Missouri 63102
United States
T +1.314.335.4000
F +1.314.335.5104
F +1.314.335.5141
www.jacobs.com

November 13, 2020

Mary West-Calcagno
Director of Utilities
City of Moberly
101 West Reed Street
Moberly, MO 65270

Subject: Review of MCC Wastewater System Improvements Design Basis Report

Dear Mary:

Jacobs Engineering Group, Inc. (Jacobs) is pleased to present our proposal to provide the City of Moberly (City) with Professional Engineering Services for review of the Moberly Correctional Center Wastewater System Improvements Design Basis Report prepared by Barr Engineering.

SCOPE

Barr Engineering has prepared a Design Basis Report (Report) for wastewater system improvements at the Moberly Correctional Center Lagoon. The City of Moberly is considering taking over ownership of the lagoon and would like an independent review of the Design Basis Report.

Under this proposal, Jacobs will provide a technical memo outlining the following:

1. Jacobs will develop a high level assessment of the report based on information Jacobs developed as part of the 2015 study regarding the Moberly Correctional Center.
2. Jacobs will render an opinion on the recommendations provided by Barr for necessary upgrades to achieve compliance with ammonia and e. coli compliance within a short period of time.
3. Based on the Report's assessment of existing conditions, Jacobs will render an opinion on the likelihood that the existing facility can be improved to reliably meet water quality standards and permit requirements for 20 years.
4. If it is not feasible to upgrade the current facilities for long term compliance, Jacobs will determine a high level opinion of probable cost (+/- 50%) to build a mechanical plant given the characteristics of the wastewater (laundry, metal shop, prison) with additional capacity for some growth or ability for expansion as the south part of Moberly develops.

Jacobs

November 13, 2020
Subject: Review of MCC Wastewater System Improvements Design Basis Report

FEE PROPOSAL

Our proposed fee the work described herein is a lump sum cost of $7,506. This fee includes only those services outlined in our proposal. Additional services can be provided if requested by the City.

SCHEDULE

If the City agrees with this approach, we would complete the memo by the end of CY 2020.

ASSUMPTIONS / CLARIFICATIONS:

This proposal is based on the following assumptions and clarifications:

1. The opinions and costs presented in the memo should not be used as the basis for design or budgetary purposes.

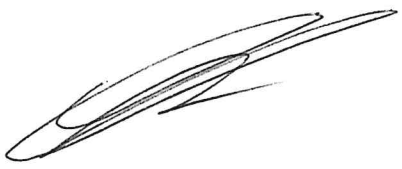
2. The lump sum amount in this proposal will be transferred over from the remaining funds in the Project Emerald Booster Pump Station project.

Original Lump Sum Contract	$65,500
Jacobs Cost to Date	$5,277
Downtown Storage Preliminary Engineering	$25,465
This Proposal	$7,506
Remaining funds	**$27,252**

This work will be performed under the Professional Services Agreement dated October 5, 2021. If you have any questions, please let me know.

If you agree, please sign two copies of this letter and return them to us at your convenience. Thank you for the opportunity to continue our long standing support of the City.

Very truly yours,



Tobin Lichti
Project Manager
314.422.3336
Tobin.Lichti@Jacobs.com

Jacobs

November 13, 2020
Subject: Review of MCC Wastewater System Improvements Design Basis Report

Authorization to Proceed:

City of Moberly

By Bri Cm

Title City Manager

Date 12/08/2020

Jacobs Engineering Group, Inc.

By _____

Title _____

Date _____

Wastewater System Improvements

Design Basis Report

Prepared for
Moberly Correctional Center

May 2019

Wastewater System Improvements

Design Basis Report

Prepared for
Moberly Correctional Center

May 2019

1001 Diamond Ridge, Suite 1100
Jefferson City, MO 65109
573.638.5000
www.barr.com

Wastewater System Improvements

Design Basis Report

May 2019

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Certifications

click here to add certification text

Name PE #: add PE number	Date

Abbreviations

Ammonia-N	Ammonia-Nitrogen
Barr	Barr Engineering Co.
BOD_5	Five Day Biochemical Oxygen Demand
DMR	Discharge Monitoring Report
DNR	Department of Natural Resources
DPT	Direct Push Technology
DO	Dissolved Oxygen
EDI	Environmental Dynamics International
GPD	Gallons Per Day
LEMNA	Lemna Environmental Technologies Incorporated
MCC	Moberly Correctional Center
MDNR	Missouri Department of Natural Resources
MDOC	Missouri Department of Corrections
NPDES	National Pollution Discharge Elimination System
PAN	Plant Available Nitrogen
TRIPLEPOINT	Triplepoint Environmental
TSS	Total Suspended Solids
UV	Ultraviolet
WCS	Wastewater Compliance Solutions
WWTS	Wastewater Treatment System

1 Introduction

1.1 Background

Wastewater generated at the Moberly Correctional Center (MCC) is served by a wastewater treatment system (WWTS) comprised of a bar screen and fine screen to remove larger solids, communitor to shred rags and other materials entering the wastewater system, and a series of three lagoons, two of which are aerated. The WWTS operates under a permit from the Missouri Department of Natural Resources (MDNR) (MO-0053937) and discharges to Coon Creek. Under the terms of the permit, the MCC's WWTS is required to comply with new limits for *E. coli* and ammonia-nitrogen (ammonia-N) by February 1, 2021. Additionally, the system has had recent non-compliance events for five-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS).

The purpose of this project is to design improvements to the WWTS to support compliance with current and future effluent limits, and to provide supporting electrical improvements to improve reliability and operability. The first phase of the project, the schematic phase, is intended to:

1) Provide further understanding of the causes of non-compliance.
2) Define the scope of improvements needed to meet the permit requirements, given the limitations of the current system.
3) Develop a technical basis for the compliance-related, reliability, and operability improvements.
4) Prepare an initial estimate of the construction cost for the improvements for the purposes of work planning, phasing, and prioritization.

This design basis report provides this information for MCC's use in developing the next phases of work, which include the detailed design of the WWTS improvements.

1.2 Summary of Project Requirements and Constraints

The scope of the improvements under evaluation for the WWTS generally fall into three categories:

1) Wastewater treatment improvements
2) Electrical and controls improvements
3) Civil engineering improvements (berm repair)

The wastewater treatment improvements include modifications to the lagoons to improve their performance with respect to BOD_5, TSS, and ammonia-N removal, addition of disinfection to meet the future *E. coli* limit, and removal of accumulated sludge from the lagoons. Electrical and controls improvements include consideration of relocating the influent pump station controls to an at-grade location, addition of an emergency generator, and improved controls for the system. The civil engineering improvements involve repairs to Lagoon 2, which currently has some leaks in the southwest berm.

The schedule for completion of this work considers the compliance schedule contained in the current discharge permit. The construction phase budget is currently fixed and this first phase of work is intended to support reconciliation of the budget, project scope, and project timeline.

2 Water Quality and Flow

2.1 Influent

2.1.1 Water Quality

The wastewater generated at the MCC is a combination of domestic waste and laundry water. The facility receives and processes laundry from other area correctional facilities and as a result, the wastewater has a significant industrial laundry component, as described in Section 2.1.2. There are also smaller flows generated from a metal plant, and a sign and print shop. The influent water quality used as the basis for this evaluation (Table 2-1) was developed from a combination of historical influent water quality monitoring data, recent sampling, and typical domestic and laundry wastewater compositions from the literature. The influent wastewater is similar in composition to typical domestic wastewater. However, the BOD_5 concentration is higher and more variable than typical domestic wastewater. In addition, while not analyzed, the wastewater is expected to contain surfactants due to the laundry component.

Table 2-1 Influent Water Quality

Parameter	Minimum	Average	Maximum
BOD_5 (mg/L)[1,]	300.7[3]	396.0[2]	1110.0[2]
TSS (mg/L)[4]	59.5[3]	154.0[2]	222.0[2]
NH_3-N (mg/L as N)[3,5]	4.7	11.3	44.4
Oil and grease (mg/L)[3]	9.0	28.7	31.6
Alkalinity (mg/L as $CaCO_3$)[6]		117	
Total phosphorus (mg/L)[6]		0.93	
TKN (mg/L)[6]		41	
UV254 transmittance (%)[7]		37% (unfiltered)	

1. For comparison, the result of the grab sample analyzed by Pace Analytical was 739 mg/L.
2. Calculated from the influent discharge monitoring report (DMR) data 2016-2017. Samples were taken after passing through a comminutor and a screen but before entering the ponds.
3. Calculated using typical domestic waste characteristics (Metcalf & Eddy, 2014), typical laundry characteristics (Braga & Varesche, 2014), and the known flow split between the domestic and laundry water.
4. For comparison, the result of the grab sample analyzed by Pace Analytical was 278 mg/L.
5. For comparison the result of the grab sample analyzed by Pace Analytical was 4.9 mg/L as N.
6. Assuming the result of a grab sample reflects the average concentration.
7. Assuming that the results of one grab sample analyzed by Barr Engineering Co. (Barr) reflects the average transmittance. When filtered by a 10 µm, 5 µm, and a 1.2 µm filter the UV254 transmittance was 41%, 43%, and 59%, respectively.

2.1.2 Flow Rates

The wastewater system was designed for 470,000 gallons per day (gpd) (State of Missouri, 2017). To compare the actual flowrate to the design flowrate, the MCC has two sets of flow data:

1. Potable water-use data measured daily by two water meters, one for the domestic use and one for the laundry water use.
2. DMR data measured at the effluent of the lagoon system.

The metered potable water-use data is measured daily and the DMR effluent data is measured less frequently. The metered potable water-use data indirectly measures the amount of water entering the lagoons by assuming that all of the water used at the MCC is eventually discharged to the lagoons. Since there is more complete potable water-use data, the metered data was used to calculate the average and maximum flowrates into the WWTS.

The average flow measured by the MCC water meters is less than the design flow. The maximum flow exceeds the design flow about 1% of the time. The laundry portion of the flow is about 62% of the total influent flow. The influent wastewater flow is summarized in Table 2-2.

Note that the metered data does not account for possible inflow and infiltration. Although the DMR data has one third of the data points of the metered data, the DMR data exceeds the design flow about 2% of the time compared to 1% of the time for the metered flow indicating that inflow and infiltration does contribute water to the lagoons. Water added by inflow and infiltration would be expected to dilute the concentrations that need to be treated.

Table 2-2 Influent Flow Rates

Parameter	DMR Data	Water Meter
Design Flow (gpd)[1]	470,000	
Average Daily Flow (gpd)	210,000[2]	202,000[3]
Max Daily Flow (gpd)	670,000[2]	530,000[3]
Average Laundry Flow (% of average flow)	Not reported	62%[2]

1. MCC's wastewater permit, MO-0053937.
2. The statistics were calculated using the monthly average reported in the DMR data from February 2010 to November 2018.
3. Approximately daily water meter flow data measuring the domestic and laundry potable water use from February 2018 to January 2019. It was assumed that the 2018 year of potable water use data accurately represents the amount of wastewater generated and the current and future wastewater flow rates.

2.2 Effluent

2.2.1 Treatment Requirements

The permit limits for the MCC WWTS are summarized in Table 2-3. The ammonia-N and *E. coli* limits listed will not be effective until 2021. The MCC is currently monitoring for these parameters, however, as required by the permit.

Table 2-3 Pond system permit limits

Parameter	Daily Maximum	Weekly Average	Monthly Average
BOD_5 (mg/L)	--	45	30
TSS (mg/L)	--	80	60
E. coli (#/100 mL)	--	1030	206
NH_3-N (mg/L as N) • Apr 1 – Sep 30 • Oct 1 – Mar 31	 5.7 9.6	 -- --	 1.3 2.8
O&G (mg/L)	--	15	10
pH	> 6.5		

2.2.2 Historical Effluent Water Quality

The historical water quality and flows are summarized by figures in Appendix A. A review of the past DMR data indicates that effluent from the lagoon system has struggled to meet the permit limits and it is unlikely that the existing lagoons will be able to reliably meet the future ammonia-N or *E. coli* limits. The lagoons have had difficulty producing effluent that meets the BOD_5 and TSS limits. The lagoons only had one exceedance of the BOD_5 weekly average from 2010-2018 but, frequently struggled to meet the monthly average from 2016-2017. The lagoons had several exceedances of the TSS weekly average from 2010-2018 and struggled to meet the monthly average limit from 2016-2018. The lagoons do consistently meet the pH limits and the oil and grease limits.

As expected, in the winter the lagoons struggle to provide the treatment necessary to meet the ammonia limits that will go into effect in 2021. The efficacy of ammonia removal in biological treatment systems is temperature-dependent and it is common for lagoons in colder climates to have lower ammonia removal in the winter. Monitoring data also indicated intermittently elevated *E. coli* in the discharge.

3 Wastewater Treatment Improvements

3.1 Overview of Existing System

The MCC lagoon WWTS was upgraded in 1986 and has had minimal changes since that time. The 1986 upgrade included raising the level of the existing berms and removing a sand filter that frequently clogged with algae. Figure 3-1 and Table 3-1 summarize the lagoon construction information. The headworks is comprised of a bar screen (1.5-in spacing), communitor, and fine screen (approximately 3/16-in spacing). The wastewater passes through a partial flume and the flowrate is measured with an ultrasonic flow meter. An influent lift station pumps the wastewater into a three-lagoon system. The first two lagoons (Lagoon 1 and Lagoon 2) are each aerated with eight mechanical mixing aerators, are designed for BOD_5 removal, and are operated in series. After Lagoon 1 and Lagoon 2, the wastewater enters the secondary lagoon (Lagoon 3) for settling and flows over a v-notch weir before discharging to Coon Creek.

Figure 3-1 Overview of the existing wastewater treatment system

Table 3-1 Summary of existing lagoons

	Lagoon 1	Lagoon 2	Lagoon 3
Volume (Mgal)[1,2]	18.3	18.8	1.0
Depth (ft)[3]	8.8	7.5	8.5
Aerators[4] Qty Size Type	 8 7.5 hp Fixed mount, surface aerators	 8 Unknown Floating mount, surface aerators	 None
Sludge depth (ft)[4]	0 to 3.5	0 to 3.5	2 to 3.5
Sludge volume (Mgal)[5]	2.3	2.8	0.6

1. E.T. Archer Corporation, 1996, Project no. 30-962-96-0012 (B), sheet 1 of 1, lagoon site plan sludge elevations.
2. Note that the volume is the total volume including the sludge volume at the time of the survey.
3. Tallaferro & Browne, Inc., 2003, T & B Project no. 19-1060, sheet 1 of 1, sludge profile – final.
4. Site visit by Barr on 2/4/19 and as-built plans for Project 30-962-5-0003(B) dated 1986.
5. Barr, 2016, Sludge Study Results, MCC, Domestic Wastewater Treatment Lagoons.

3.2 Basis for Proposed Improvements

3.2.1 Understanding of System Limitations

As discussed in Section 2.2.2, the MCC lagoons are not reliably meeting some of the current and future effluent limits. Our understanding of the current system limitations and the basis for proposed system modifications is described in the following sections.

3.2.1.1 Oxygen Demand for BOD5 and Ammonia-N Removal

BOD_5 and ammonia-N are treated biologically by a variety of microbes that are naturally occurring in wastewater. The microbes consume organic compounds (measured with BOD_5) and ammonia-N in the presence of oxygen. Therefore, to reduce the concentrations of these parameters in the lagoons there must be sufficient dissolved oxygen (DO) available. Typically, 1.5 kg O_2 are required per kg of BOD_5 to be treated and 5 kg of O_2 are required for every kg of ammonia-N (US EPA, 2011). In the case of the MCC wastewater, using the average daily flow rate and the average and maximum values from Table 1-1, the estimated range of oxygen required is 500 to 1,500 kg per day. Lagoon 1 and Lagoon 2 currently have eight 7.5 hp aerators (size assumed for Lagoon 2). In field conditions, mechanical aerators typically transfer about 0.4 to 0.9 kg of DO per horsepower hour (Metcalf & Eddy, 2014). Based on this assumption the existing aerators can provide about 1,200 to 2,600 kg of DO per day when all aerators are functioning. While there may be sufficient oxygen theoretically, there are a number of other issues that can reduce the effective treatment capacity or oxygen delivery:

- *Oxygen distribution and mixing:* non-ideal flow patterns (e.g. short-circuiting), aerator placement, and insufficient mixing at depth can reduce the treatment provided by the aerators. The sludge accumulation patterns measured in 2016 sludge study indicated possible low flow zones within the lagoons that may be contributing to insufficient treatment of the influent wastewater.
- *Sludge:* When biological solids accumulate in the bottom of treatment lagoons, anaerobic breakdown of the solids will occur over time. This process will contribute additional BOD_5 and nutrients into the water column, increasing the oxygen needed for treatment. It is likely that the

sludge accumulation in the lagoons (Table 3-1) is contributing additional load for the system to treat, though this load is difficult to quantify.

- *Mechanical issues:* We understand that winter ice accumulation on the lagoons contributes to aerator malfunctions and results in periods of time when not all aerators are operating. This will reduce the available oxygen and mixing needed for treatment.
- *Surfactants:* As described in Section 2.1, a significant portion of the flow to the WWTS derives from the MCC laundry system. It is possible that laundry processes may result in surfactants reporting to the WWTS. Surfactants can change the surface tension of water and reduce the efficiency of oxygen transfer. While we are unable to say with certainty that this is contributing to the observed performance issues, it is recommended that additional consideration be given to this during detailed design of the aeration system.

The 10 States Standards recommend that 2 mg/L of DO should be maintained in aerated lagoons at all times (Health Research Inc., 2014). However, we understand that in the summer the DO levels as low as 0.1-0.2 mg/L have been observed. That level of DO limits the amount of BOD_5 and ammonia-N that can be removed and further supports the hypothesis that there is insufficient DO being supplied to the lagoons to meet all of the current demands (influent plus sludge digestion byproducts).

3.2.1.2 Nitrification

Ammonia in lagoon systems is typically treated biologically in a process called nitrification. Similar to BOD_5 removal, ammonia is consumed by microbes in the presence of oxygen. The growth rates and activity of the microbes that consume ammonia are much slower than those that consume BOD_5 and the rates are highly temperature-dependent. There are several factors that can influence nitrification in lagoon systems, including:

1. DO
2. Temperature
3. Hydraulic residence time
4. Alkalinity
5. Presence or absence of inhibitory substances

As discussed in the previous section, it is likely that there is insufficient oxygen and/or mixing in the current lagoons to accomplish the required ammonia removal.

Nitrification is a temperature-dependent process. In the winter when the water temperature is below ten degrees Celsius, ammonia removal is significantly slowed. A pattern of higher effluent ammonia-N concentrations in the colder months is observed in the MCC DMR data. In order to overcome this, three types of tools are generally available: reduce heat loss across the lagoons (e.g. using insulated covers), grow and retain more nitrifying biomass to provide the required treatment, despite the slower rates (e.g. using fixed-film, attached growth processes), and/or provide additional heat to the system to maintain nitrification rates. Modification of the WWTS using one or more of these tools is recommended and is further discussed in Section 3.2.3.

To reduce the BOD_5 load and allow time for ammonia removal, the solids retention time of a lagoon designed for both BOD_5 removal and nitrification must be longer than the ten days required for BOD_5 removal. Typically 15 days is suggested for combined BOD_5 and ammonia removal. The existing lagoons provide sufficient solids retention time for both BOD_5 and nitrification.

The nitrifying bacteria also need sufficient alkalinity as a carbon source and pH buffer to consume ammonia. Nitrification produces a strong acid and requires the buffering capacity of alkalinity to prevent pH inhibition. Based on a single sample of 117 mg/L, there should be enough alkalinity in the lagoons for nitrification. For the alkalinity and ammonia to be microbially available, the pH should be maintained between 8-9 (Shammas, 1986). The pH in the lagoons was maintained between 8-9 for a majority of the operation from 2010-2015 but, started to drop below 7 from 2016-2018. The reason for this decline is not known, but it could be due to algae or sludge decomposition. More alkalinity samples should be taken to verify there is consistently sufficient alkalinity in the lagoons for nitrification.

A number of compounds are known to inhibit nitrification, including metals, synthetic organic compounds, and event high concentrations of free ammonia (WEF, 2010). It is unlikely that the ammonia concentrations are high enough to prevent nitrification. The presence of other inhibitors is unknown, but given the seasonal nature of ammonia removal at the WWTS, factors other than inhibition are a higher priority (i.e., oxygen supply and temperature).

3.2.1.3 Total Suspended Solids

TSS are typically removed biologically and by settling. The existing lagoons are of a sufficient size for TSS removal. However, elevated TSS can also be due to a number of other factors, including algae growth, sludge accumulation and sludge turn over, and also potentially surfactants from the laundry facility.

Algae growth is a common issue in wastewater treatment lagoons. The presence of nutrients (nitrogen and phosphorus), exposure to sunlight, and long retention times contribute to their growth. A combination of factors may be contributing to the algae growth in the ponds:

- Relative shallow depth (for light penetration)
- Insufficient aeration and mixing for BOD_5 and ammonia-N removal (nutrients)
- Sludge accumulation and release of digestion products into the water column (nutrients)

Sludge accumulation in the ponds may also contribute TSS to the effluent directly when seasonal turnover occurs in the ponds and by reduction of the available settling depth in the ponds. This is especially true in Lagoon 3 where there is 2-3 ft of sludge accumulation.

In some industrial laundry applications, we have observed that the laundry chemistry used can result in poorly settling solids. While there is no evidence to suggest that is in fact occurring at MCC, it is a possible contributing factor.

Given the likely contributors to elevated TSS in the effluent, the primary tools for improved treatment include improved BOD_5 and ammonia removal (via improved mixing and aeration), sludge removal from

the lagoons, and covers to reduce sunlight. These tools are included to varying degrees in the improvements Section 3.2.3.

3.2.1.4 E. coli

The last area where the lagoons struggle is with *E. coli*. *E. coli* is naturally present in wastewater and also can be introduced to lagoon by waterfowl and other animals that are attracted to bodies of water. *E. coli* can be treated with filtration, killed with chlorine, or deactivated with ultraviolet (UV) disinfection. UV systems require water with relatively high clarity (e.g. UV transmittance greater than 65% and TSS of less than 30 mg/L). Water having quality outside of these ranges can sometimes be disinfected with UV systems, however, the power requirements are much higher. Recent measurements of UV transmittance taken on the effluent wastewater ranged from 36% to 40% and TSS that frequently exceeds 30 mg/L. A filtration test conducted by Barr was able to improve the UV transmittance to 60% using filtration through a 1.2 µm filter. A majority of the small particles appear to be microscopic algae due to the color of the filter after filtration and the change in effluent color after filtration (Figure 3-2). To install UV disinfection, other lagoon improvements would be required, at a minimum, to reduce effluent TSS and improve the UV transmittance. If lagoon improvements are not sufficient to reduce TSS, filtration may be required. In applications with low UV transmittance, such as this, pilot testing is typically recommended prior to design to confirm the suitability of the technology for the application.

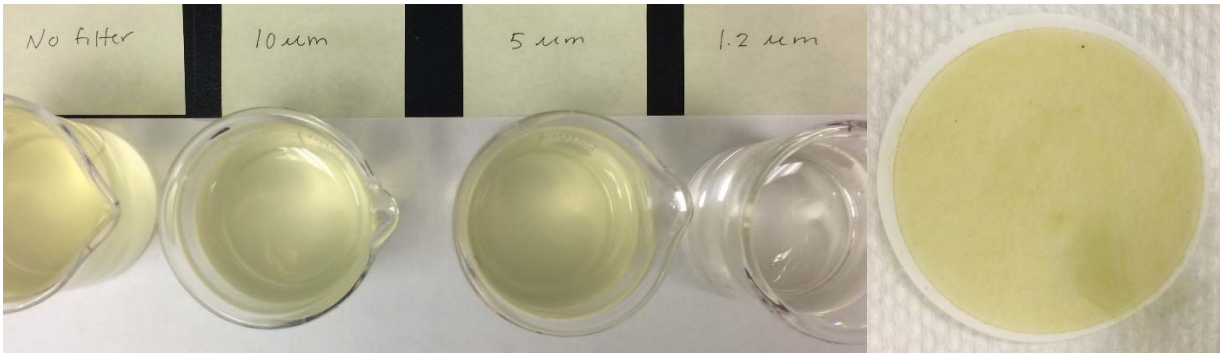

Figure 3-2 Filtered effluent and 1.2 µm filter after filtration

3.2.2 Code Requirements

In addition to meeting the MDNR National Pollution Discharge Elimination System (NPDES) permit MO-0053937, the lagoons must meet the Missouri Wastewater Design Guides and it is recommended that it also meet the 10 State Standards. The Missouri Wastewater Design Guides are relevant for new construction. New construction at the MCC that would need to comply with these guidelines include disinfection, berm addition, new piping, new outfalls, and lagoon retrofits. Lagoon retrofits that are included in the design guidance include baffles, covers, media filters, and polishing reactors (MDNR, 2018). The 10 State Standards also include design guidance for lagoons (Section 93) and UV disinfection (Section 104) (Health Research Inc., 2014).

3.2.3 Summary of Improvements

The sections below describe the wastewater treatment process improvements needed to improve the system performance for more reliable compliance with the current and future effluent limits. Drawings (site plans, process flow diagrams, and hydraulic profiles) depicting the changes can be found in Appendix B. Vendor-specific information is provided in Appendix C.

3.2.3.1 Biological Treatment Improvements

There are a number of vendors that supply lagoon modification equipment. Each vendor installs different technologies and therefore, has slightly different approaches to address fundamental system limitations. The vendors that supply lagoon modification equipment include Lemna Environmental Technologies Incorporated (Lemna), Environmental Dynamics International (EDI), Triplepoint Environmental (Triplepoint), and Wastewater Compliance Solutions (WCS). Each vendor reviewed this application and proposed solutions that included an improved aeration system, sludge removal, abandoning Lagoon 2 and adding a process to increase nitrification. All of the vendors except for Triplepoint also suggest abandoning Lagoon 3. The nitrification processes were either proposed as added reactors outside of the lagoons (Option 1) or added media inside the lagoons (Option 2). Two of the proposed are presented in this section. Option 1 is from Triplepoint and Option 2 is from EDI.

Option 1 Triplepoint

Option 1 is summarized in Table 3-2 and depicted in a Site Plan, Process Flow Diagram, and Hydraulic Profile in Appendix B (Figures B-1 through B-3, respectively).

Table 3-2 Summary of Option 1 Modifications

Issue with Current Lagoons	Proposed Modification
Insufficient DO for BOD_5 and ammonia removal	Add diffused aeration, increase aeration capacity
Insufficient biomass or heat for Nitrification	• Nitrification reactor outside of the lagoon • The reactor includes media to increase biomass via an attached growth process • The reactor has a heating system for cold weather
Elevated TSS	• Improved BOD_5 and ammonia removal via aeration to reduce potential for algal growth • Sludge settling in Lagoon 3 • The potential to add a filter after the nitrification reactor
Lagoon 2 Berm Repair	Not required. Lagoon 2 would be abandoned eliminating the need for a berm repair.
Sludge Removal	Sludge removal from Lagoon 1 and Lagoon 3 is recommended. Lagoon 2 is not used.

Option 1 adds diffused aeration to Lagoon 1 for BOD_5 removal. The addition of the aeration is the only modification within the lagoon. The existing overflow pipe from Lagoon 1 to Lagoon 2 would be abandoned and a new overflow pipe would be added to the east corner of Lagoon 1 to connect to the new nitrification reactor. The abandoned Lagoon 2 would be regraded on the eastern shore to support

an external nitrification reactor and a UV reactor. Regrading the lagoon would allow the system to continue to operate in gravity flow and prevent the need for added pumping. The nitrification reactor would consist of an attached growth media and aeration for nitrification in a concrete tank. The reactors have the ability to heat the water when colder water temperatures start to limit ammonia removal. After the nitrification reactor, Lagoon 3 would be used to settle solids produced in Lagoon 1 and the nitrification reactor. A majority of the ammonia will be removed in the nitrification reactor and therefore, minimal algae should grow in Lagoon 3 after the existing sludge is removed. A floating cover could be added in the future to prevent algae growth if needed. The water would flow by gravity to a UV reactor to deactivate E. coli. The water would be piped into the existing Lagoon 3 effluent box, which would be modified to block Lagoon 3 water from entering, and discharge to the same location at Coon Creek. It is noted for clarity that Lagoon 2 will be closed in this option.

Option 2 EDI

Option 2 is summarized in Table 3-3 and depicted in a Site Plan, Process Flow Diagram, and Hydraulic Profile in Appendix B (Figures B-4 through B-6, respectively).

Table 3-3 Summary of Option 2 Modifications

Issue with Current Lagoons	Proposed Modification
Insufficient DO for BOD_5 and ammonia removal	• Separate Lagoon 1 into three cells with two baffles to improve mixing and prevent short circuiting • Add diffused aeration, increase aeration capacity
Insufficient biomass or heat for nitrification	• Add attached growth media in the third cell • Add a cover to the third cell for heat retention
Elevated TSS	• Improved BOD_5 and ammonia removal via aeration and mixing • Settling to occur in Lagoon 1 quiescent zone • Add a cover to the third cell to prevent algae growth
Lagoon 2 Berm Repair	• Lagoon 2 would be abandoned eliminating the need for a berm repair
Sludge Removal	• Sludge removal from Lagoon 1 would be necessary • Lagoons 2 and 3 are not used

Option 2 would divide Lagoon 1 into three cells by adding two baffles. Aeration would be added to each cell. The aeration would be progressively reduced in each cell as the BOD_5 is consumed. The third cell would be covered to prevent algae growth. The aeration in the third cell would be near the influent water and the effluent to allow for a quiescent settling zone in-between the two aeration regimes for sludge settling. The third cell would also have an attached growth media floating in it to facilitate cold weather nitrification. This media is needed to grow and retain a greater amount of nitrifying biomass to overcome the slower nitrification rates in the colder months of the year. The foxtail media is a relative new product for EDI and there is limited performance data available for it, therefore, additional improvements may be necessary if treatment is not sufficient.

The existing Lagoon 1 overflow pipe would be abandoned and a new pipe from the east corner of Lagoon 1 would be directed to the eastern shore of abandoned Lagoon 2 to support a UV reactor. Regrading the lagoon would allow the system to continue to operate in gravity flow and prevent the need for added

pumping. The water would flow by gravity to a UV reactor to deactivate *E. coli*. The water would be piped into the existing Lagoon 3 effluent box, which would be modified to block Lagoon 3 water from entering, and discharge to the same location at the creek. It is noted for clarity that existing Lagoons 2 and 3 will be closed in this option.

3.2.3.2 UV Disinfection

Both options for improving the biological treatment would be accompanied with a UV disinfection system to deactivate *E. coli*. As described in Section 3.2.1.4, upstream process improvements to reduce TSS are recommended for this application (10 State Standards recommends that wastewater treated with UV have a UV transmittance of 65% and TSS less than 30 mg/L and be dosed with 30 mJ/cm^2). For this evaluation, we have assumed a UV transmittance of at least 50% and a TSS of 30 mg/L. There is limited data available on the range of UV transmittance at this facility and improvements to it based on modifications to the lagoons are difficult to predict. Additional data collection prior to detailed design and/or project phasing is recommended (Section 6).

Typical UV system information is provided in Appendix C. Table 3-3 summarizes the proposed UV system included in this evaluation.

Table 3-3 Summary of UV system information[1]

Item	Value or Description
UV transmittance, minimum (%)	50
Reactor influent TSS, 30-d average (mg/L)	30
Design UV dose (mJ/cm^2)	30
Configuration #banks #modules #bulbs (total)	 2 banks 12 modules 24 bulbs
Trough dimensions	2'-2" wide 19'-0.5" long assuming the weir is in the channel
Trough material	Concrete
Water level control	Weir box to maintain water level at 1.65'

1. Based on preliminary proposal by Trojan UV, dated 3/13/19.

If UV disinfection is installed it is recommended that consideration be given to relocating the NPDES compliance point closer to the outlet of the UV reactor to reduce the potential for cross contamination or regrowth prior to compliance sampling.

3.2.4 Sludge Removal and Pond Closure

Sludge removal from the lagoons will be dictated by which upgrades to the lagoon treatment system are pursued. Both nitrification alternatives involve the abandonment/closure of Lagoon 2 within the existing WWTS. If either of these alternatives are chosen, a closure plan will be required for Lagoon 2. The closure plan will be required to meet the requirements of the MDNR's Standard Conditions Part III, Section H pertaining to closure of lagoons. These conditions allow sludge to remain in the lagoons if it does not

exceed the agronomic loading rate as determined by the Plant Available Nitrogen (PAN). Based upon the results from the sludge sampling report (Barr, 2016), Lagoon 2 contains approximately 2,800,000 gallons of sludge and has a PAN loading rate of 1.7 lbs/1000 gallons. This translates into 16 acres needed in order to leave the sludge in place at agronomic rates. Given that the surface area of the second pond is approximately 6.5 acres, there is insufficient land available for the sludge currently in the second cell to be disposed of in place without additional land or further evaluation in the closure plan. This evaluation could include removal of a portion of the sludge or bringing in additional soil into the lagoon and mixing the soil with the sludge in the lagoon in order to achieve a PAN loading rate. In either case, these options would require approval by the MDNR in the closure plan, however, for purposes of this report it is assumed that all sludge from the second cell will be removed and land applied off-site as part of the closure of the pond. Should an alternative be selected that does not involve abandonment of any of the cells of the existing 3-cell aerated lagoon system, based upon the results of the 2016 sludge report, sludge removal is recommended for the existing lagoons.

The current alternatives/options under consideration also include the usage of the tertiary cell (cell number 3) in the proposed modifications. Based upon the sludge report (Barr, 2016), the sludge contained in the tertiary cell will be required to be removed. The report indicates that approximately 570,000 gallons of sludge is contained in the tertiary lagoon that may require up to 8.9 acres for land application.

3.2.4.1 Partial Closure and Removal of Sludge

In each of the recommended alternatives for providing additional nitrification capability to the treatment system, abandonment of Lagoon 2 and usage of the tertiary cell (Lagoon 3) for additional polishing is proposed for both the Triplepoint as well as the EDI nitrification alternatives/options. In each of these options, Lagoon 2 will be required to close and Lagoon 3 will require clean out of the sludge from the lagoon cell. This will require sludge removal from Lagoon 2 (prior to closure) and Lagoon 3 due to the volume of sludge in each of the cells. According to the 2016 Sludge Report, there is approximately 3,370,000 gallons of sludge in these two cells. Assuming a target nitrogen loading rate of 200 lbs/acre, approximately 34 acres are required to land apply the sludge at a rate of 99,100 gallons per acre.

As mentioned above, due to the volume of sludge in Lagoon 2, the agronomic nutrient loading rate would be exceeded if sludge were to remain in the cell as part of the closure. Therefore, sludge removal from Lagoon 2 is recommended prior to final closure of the lagoon. Please note, that final sludge disposition will need to be included in the closure plan.

3.2.4.2 Primary Cell Sludge

The 2016 sludge report indicates that approximately 2,300,000 gallons of sludge is contained in the primary cell of the WWTS. This volume of sludge is considered excessive to leave in place and is recommended for removal given the planned conversion of the primary cell (Lagoon 1) into a cell that provides additional nitrification capability. The report also indicates that the sludge has 2.4 lbs PAN/1000 gallons and requires approximately 35 acres for land application at a target fertilizer rate of 200 lbs N/acre.

4 Electrical and Controls Improvements

4.1 Emergency Generator

A backup generator with an automatic transfer switch is required to keep the WWTS running in the event of power loss from line power. The generator was designed to have enough power to run the comminutor, auger, and lift station in the headworks area. It will also run the garage power panel, which feeds the blower motors, nitrification reactor, and UV reactor. It has been sized to accommodate 300Amps of load for Option 1 and 150Amps of load for Option 2. These loads equate to a 250KVA generator for Option 1 and a 125KVA generator for Option 2.

The minimum load total are as follows:

- Option 1:
  - Nitrification System (70A)
  - Aeration System (160A)
  - UV System (20A)
  - Headworks (50A)
- Option 2:
  - Aeration System (80A)
  - UV System (20A)
  - Headworks (50A)

A concrete pad would need to be poured to accommodate the new generator and fuel tank.

4.2 Integrated Control System

A control system was requested in the scope, as there is no real system for running or troubleshooting the existing system. We propose to add an Allen-Bradley CompactLogix plc and Panelview Plus touchscreen to the garage area to control and run the existing lift-station, and comminutor/auger system. It will bring in the flow meter and add a level transmitter for better control of the lift station level. It will also have the capability to provide status and alarming of the standalone systems (UV, aeration, and nitrification).

4.3 Other Improvements

A few more pieces of equipment will need to be added and others demolished to finish the electrical upgrade. These improvements include:

- *Relocating the starters and control for the lift station pumps to the garage area:* This will improve the capability of resetting and troubleshooting the lift station area. The control will be through the new PLC in the garage.
- *Lift station ultrasonic level transmitter:* An ultrasonic level transmitter will be added to the lift station for control as the current float system has issues and is unreliable. This will tie back to the new PLC also.

- *Headworks flow meter and level transmitter:* A new flow meter and level transmitter will be added to the headworks area for controlling the comminutor and auger. These will tie back to the new PLC.
- *Incoming power area improvements:* Remove the existing 480V 400A disconnect and replace with a Nema 3R 480V 600A disconnect that will feed a new Nema 3R 480V 100A panel. This 480V panel will feed the existing 120V transformer, lift station, and comminutor. The 600A disconnect will also feed a new 480V 400A panel that will be located in the garage area. This 400A panel will then feed all the new loads added from options 1 and 2 and feed the existing equipment in the garage. Also, remove the existing disconnect by the lift station area. The second power meter can then be removed or taken out of service.

5 Berm Repair

5.1 Overview of Seepage Issues

Seepage pooling on the backslope of the western berm of Lagoon 2 has been noted by MCC staff since mid-2015. A limited field investigation that included performing 12 direct push technology (DPT) borings was performed on August 12, 2015 at the request of the Missouri Department of Corrections (MDOC). This investigation, which is detailed in a February 21, 2016 Technical Memorandum to MDOC, was designed to evaluate soil and groundwater conditions near the seepage areas and identify any evidence or irregularities in the berm related to the seepage issues. The investigation did not identify the cause of the seepage in the Lagoon 2 berm and recommendations were provided to address and repair the seepage areas.

5.2 Conceptual Berm Repair Options

Three berm repair options were developed for evaluation by MDOC that range in costs and assumed effectiveness. A summary of each conceptual berm repair option and an opinion of probable construction costs is provided below. The detailed cost estimates can be found in Appendix D.

5.2.1 Low Cost Option – Add additional 2 feet of compacted clay liner

A low cost option was developed to add compacted clay to the inside slope (lagoon side) of the berm. This option would include:

1. Drain Lagoon 2 and check slope for damage from burrowing animals and tree roots, or other damage that may be related to seepage issues on the backslope.
2. Strip six inches of clay off the inside slope and replace with compacted clay.
3. Add an additional two feet of compacted clay to the inside slope.

Clay will be compacted in thin lifts to at least 95% maximum dry density with a moisture content between 2% below and 4% above the optimum water content. Hydraulic conductivity of the compacted clay shall not exceed 1 x 10^{-7} cm/s.

An opinion of probable construction cost of $18,000 was developed for this option. This cost was developed under the assumption that a borrow source within two miles of the site is available with soils that meet the design criteria in accordance with 10 CSR 20-8.200. Costs assume MDOC owns the borrow area property and costs to purchase borrow soil have not been included in the estimate. Costs to perform construction quality control have not been included in the estimate.

The primary benefit of this option compared to the other two options is cost. This option may be sufficient to reduce or eliminate seepage if the seepage is related to a damaged inside slope. An additional benefit of this option is that the work can be completed rapidly, limiting the amount of time Lagoon 2 will be taken out of service.

5.2.2 Medium Cost Option – Replace portions of berm backslope with seepage issues

A medium cost option was developed to excavate and replace portions of the berm backslope where seepage issues are present. This option would include:

1. Drain Lagoon 2 while repairs to the backslope are being made.
2. Excavate five feet into portions of the berm backslope where seepage is present and haul clay to nearby disposal area.
3. Repair berm backslope by replacing excavated portions with compacted clay.

Clay will be compacted to at least 95% maximum dry density with a moisture content between 2% below and 4% above the optimum water content. Hydraulic conductivity of the compacted clay shall not exceed 1×10^{-7} cm/s.

An opinion of probable construction cost of $36,000 was developed for this option. This cost was developed under the assumption that a borrow source within two miles of the site is available with soils that meet the design criteria in accordance with 10 CSR 20-8.200. Costs assume MDOC owns the borrow area property and costs to purchase borrow soil have not been included in the estimate. Costs to perform construction quality control have not been included in the estimate.

The primary benefits of this option compared to the other two options are cost (lower cost than the high cost option) and effectiveness. This option addresses the specific portion of the berm backslope with seepage issues and may be sufficient to reduce or eliminate seepage. An additional benefit of this option is that the work can be completed rapidly, limiting the amount of time Lagoon Cell 2 will be taken out of service compared with the high cost option.

5.2.3 High Cost Option – Replace complete lagoon berm in seepage areas

A high cost option was developed to excavate and replace the lagoon berm from 50 feet northwest of seepage issues to 50 feet southeast of seepage issues. Total lagoon berm removal and replacement is approximately 260 feet. This option would include:

1. Drain Lagoon 2 during berm replacement.
2. Remove and replace approximately 260 feet of Lagoon 2 berm portions of the berm backslope.

This option includes berm removal outside the areas with seepage issues to address the potential of interconnected sand lenses through the berm that could carry seepage from different portions of the lagoon to the seepage areas.

Clay used to replace the berm will be compacted to at least 95% maximum dry density with a moisture content between 2% below and 4% above the optimum water content. Hydraulic conductivity of the compacted clay shall not exceed 1×10^{-7} cm/s.

An opinion of probable construction cost of $140,000 was developed for this option. This cost was developed under the assumption that a borrow source within two miles of the site is available with soils that meet the design criteria in accordance with 10 CSR 20-8.200. Costs assume MDOC owns the borrow area property and costs to purchase borrow soil have not been included in the estimate. Costs to perform construction quality control have not been included in the estimate.

The primary benefit of this option compared to the other two options is effectiveness. This option addresses the specific portion of the berm backslope with seepage issues and may be sufficient to reduce or eliminate seepage.

6 Project Implementation

6.1 Opinions of Probable Cost

Opinions of probable cost for the WWTS improvements described in this report were developed to assist MCC with project planning and prioritization, given the fixed budget available for improvements. The costs for the berm repairs are not discussed in this section as they were already discussed in Section 5 and none of the options include usage of the Lagoon 2. Tables 6-1 and 6-2 provide a summary of the construction estimates for Options 1 and 2 (described in Section 3), the requested electrical improvements, sludge removal, and disposal. Detailed estimates can be found in Appendix D. Tables 6-1 and 6-2 do not include the costs for repairing the berm on Lagoon 2 because Lagoon 2 would be abandoned under these scenarios.

Table 6-1 Opinion of Probable Cost – Option 1 (Triplepoint)

Item	Project Subgroup	Subtotal
1	Process mechanical wastewater system improvements	$1,600,000
2	Electrical and controls improvements	$400,000
3	Sludge disposal - Lagoon 1, 2, and 3	$370,000
4	Lagoon 2 closure	$330,000
	Subtotal	$2,700,000
	Contingency (20%)	$540,000
	Management Reserve	$-
	Engineering, Legal, Administrative	$-
	Total	***$3,240,000***
	Upper (+50%)	***$4,860,000***
	Lower (-30%)	***$2,268,000***

ASSUMPTIONS
Class 4 cost estimate in the AACE International system, typ. accuracy +50%/-30%
Contractor OH&P included in each line item
Contingency is an allowance for items known to be required for the project, but not specifically estimated at this stage (e.g. equip. freight, start-up/training, small dia. pipe, etc.)
Management reserves are allocations for project unknown conditions. No management reserve has been included.
No engineering, legal, administration, or other technical services have been included in this estimate.

Table 6-2 Opinion of Probable Cost – Option 2 (EDI)

Item	Project Subgroup	Subtotal
1	Process mechanical wastewater system improvements	$1,200,000
2	Electrical and controls improvements	$310,000
3	Sludge disposal - Lagoon 1, 2, and 3	$370,000
4	Lagoons 2 and 3 closure	$480,000
	Subtotal	$2,360,000
	Contingency (20%)	$470,000
	Management Reserve	$-
	Engineering, Legal, Administrative	$-
	Total	***$2,830,000***
	Upper (+50%)	***$4,245,000***
	Lower (-30%)	***$1,981,000***

ASSUMPTIONS

Class 4 cost estimate in the AACE International system, typ. accuracy +50%/-30%

Contractor OH&P included in each line item

Contingency is an allowance for items known to be required for the project, but not specifically estimated at this stage (e.g. equip. freight, start-up/training, small dia. pipe, etc.)

Management reserves are allocations for project unknown conditions. No management reserve has been included.

No engineering, legal, administration, or other technical services have been included in this estimate.

Costs for berm repair options for Lagoon 2, if needed due to project scope changes, are provided in Section 5 and in Appendix D.

The opinions of probable construction cost provided in this report are made on the basis of Barr's experience and qualifications and represents our best judgment as experienced and qualified professionals familiar with the project. The cost opinions are based on project-related information available to Barr at this time and includes a preliminary design basis for the project. The opinions of cost may change as more information becomes available and further design is completed. In addition, since we have no control over the cost of labor, materials, equipment, or services furnished by others, or over the contractor's methods of determining prices, or over competitive bidding or market conditions, Barr cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from the opinions of probable construction cost prepared by Barr. The estimates provided are Class 4 estimates, using the AACE classification system, with a typical degree of accuracy of +50/-30%, based on the degree of project definition at this time (AACE, 1997). Further design development and scope refinement are necessary to improve the degree of accuracy of the cost estimates.

6.2 Project Implementation Options for Budget Management

The construction cost estimates represent an upward departure from the allocated budget for this project. We understand that MCC is evaluating other options for wastewater management, in conjunction with the City of Moberly. In addition to that option, there are opportunities to phase and prioritize the scopes of work described in this report. Figure 6-1 depicts potential project phasing options for consideration.

6.3 Data Needs for Detailed Design

Some additional data collection is recommended to support the detailed design. This information is summarized in Table 6-3.

Item	Purpose/Rationale
Soil borings	Geotechnical information to support the design of new concrete structures
Effluent UV transmittance, filtered and unfiltered	Critical design parameter for the UV disinfection
Influent alkalinity concentration	Confirm sufficient alkalinity is present for nitrification

7 References

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Appendix A

DMR Effluent Water Quality

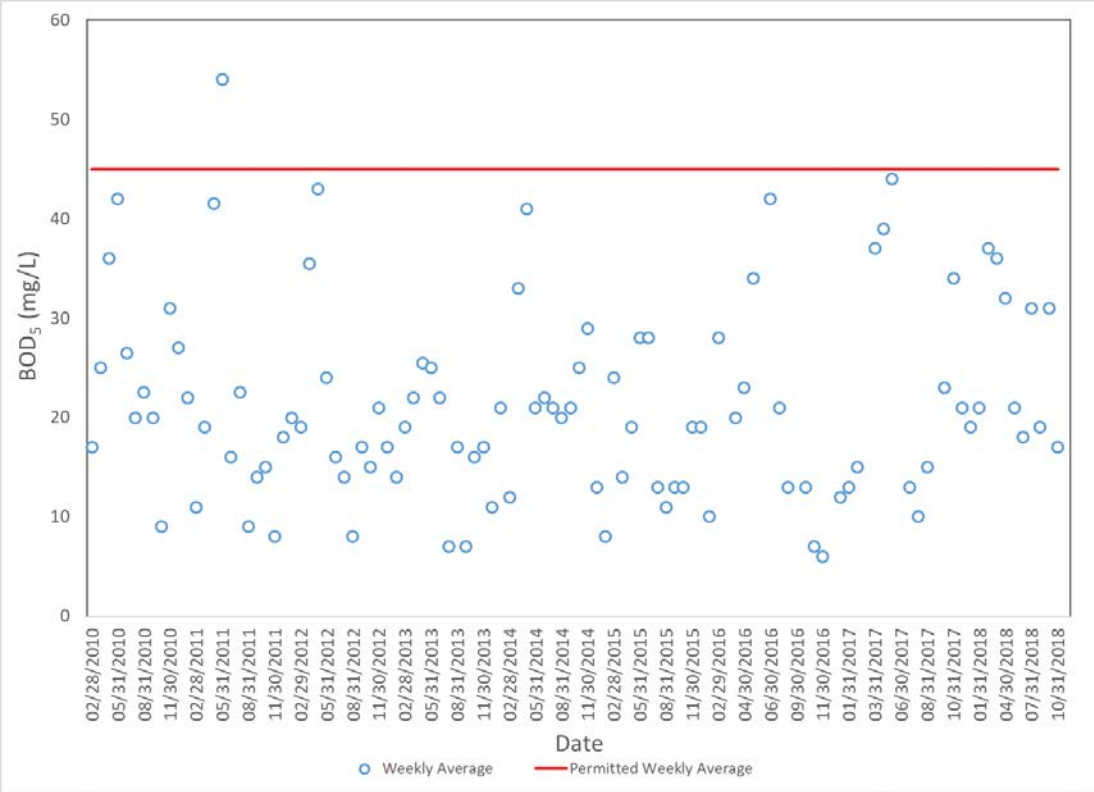


Figure A-1. Weekly Average Effluent BOD_5

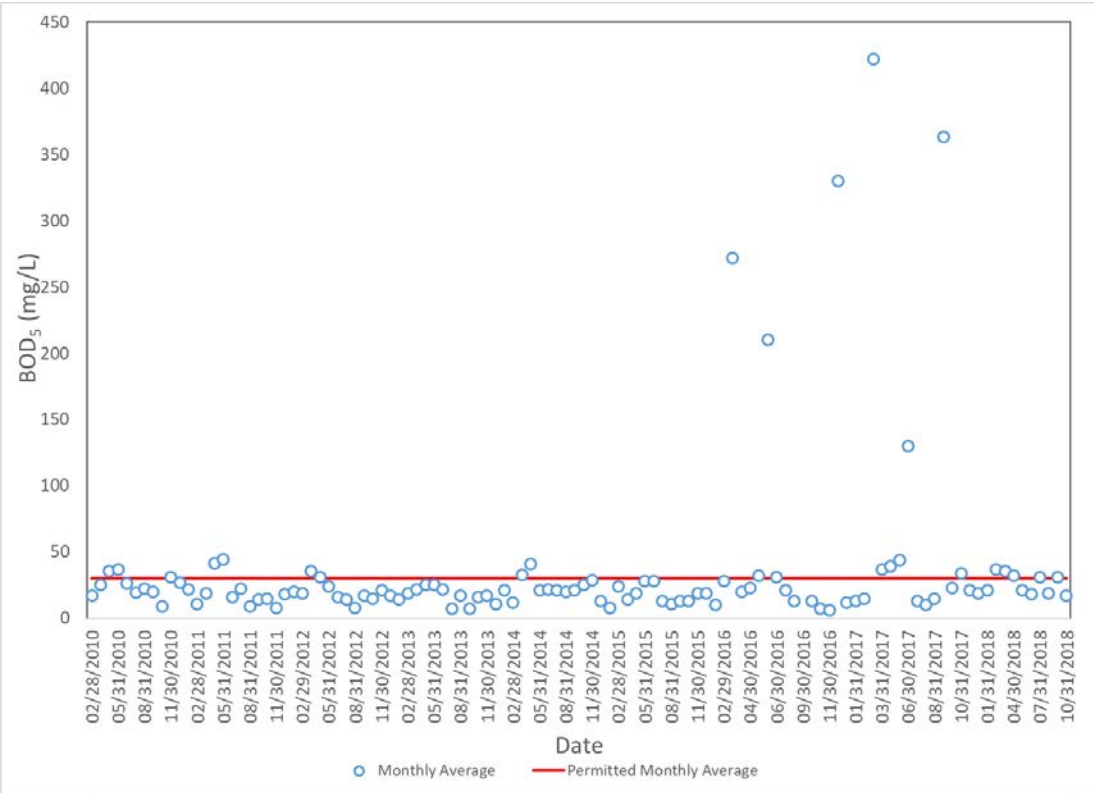


Figure A-2. Monthly Average Effluent BOD_5

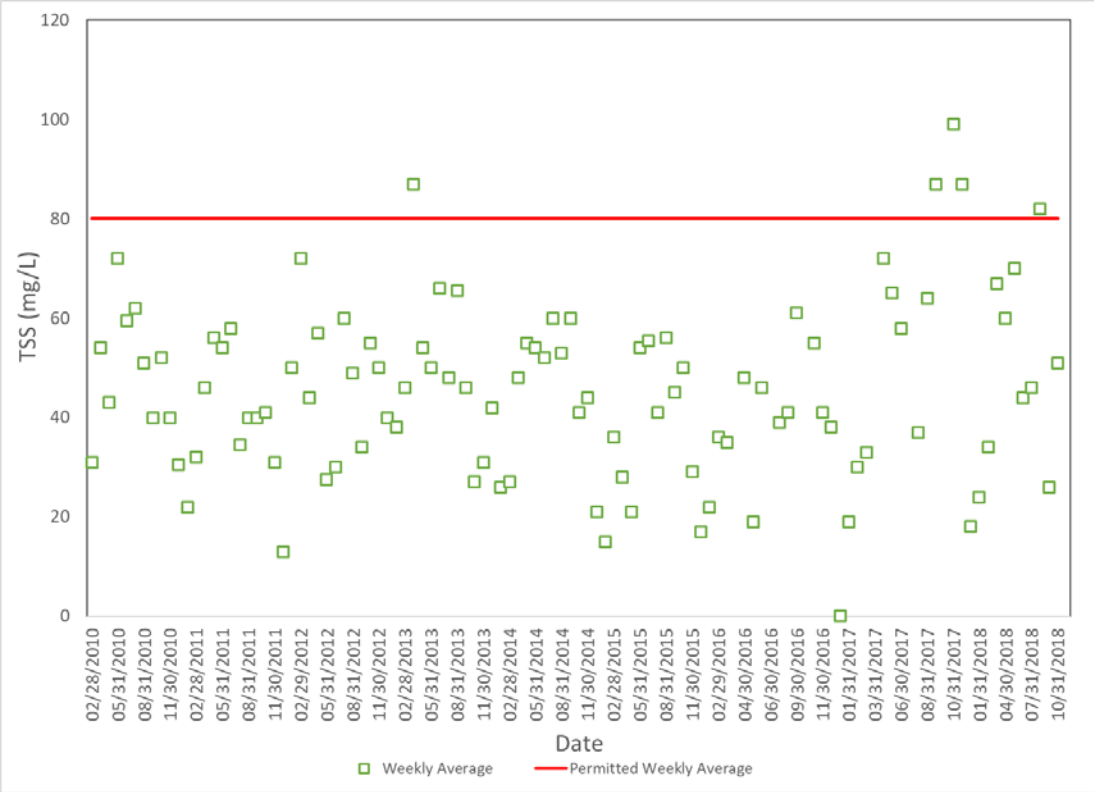


Figure A-3. Weekly Average Effluent TSS

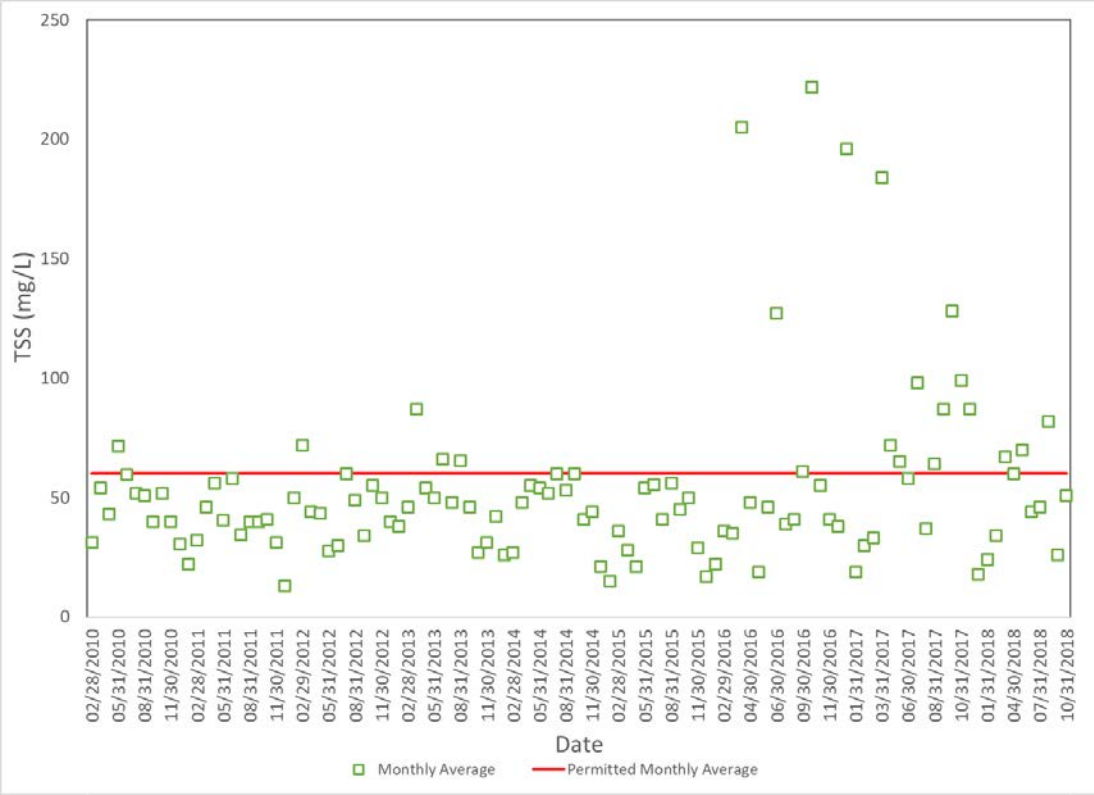


Figure A-4. Monthly Average Effluent TSS

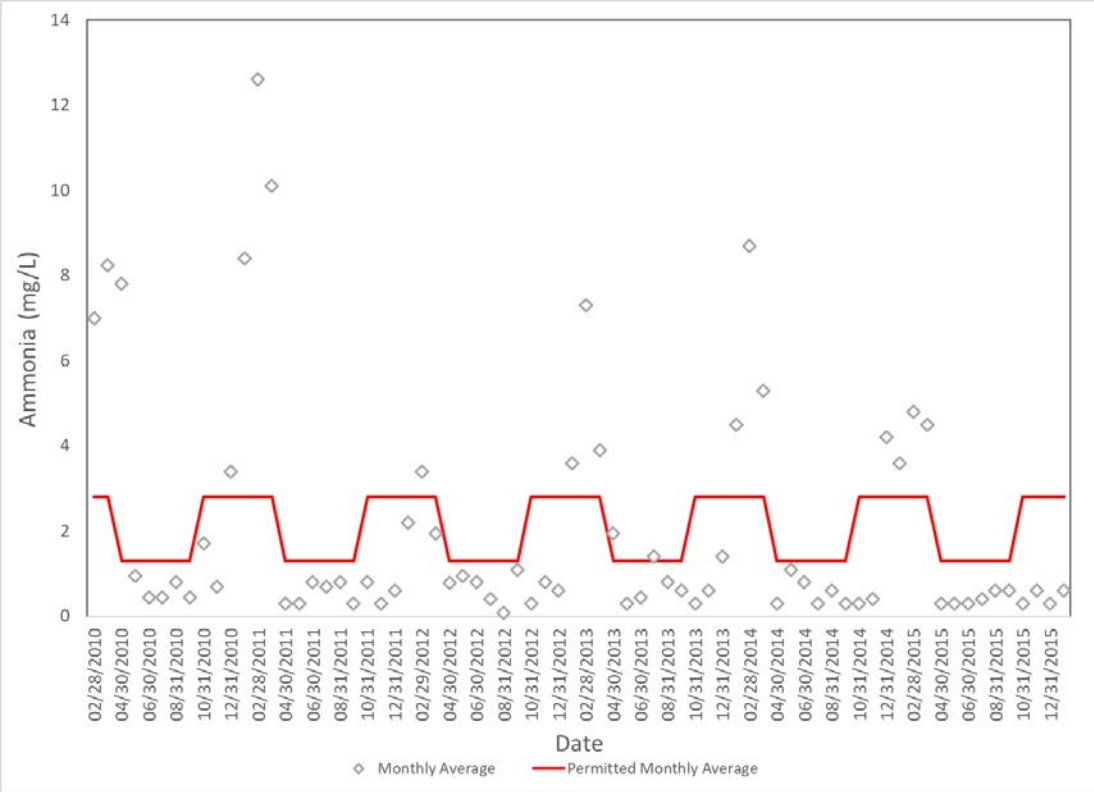


Figure A-5. Monthly Average Effluent Ammonia

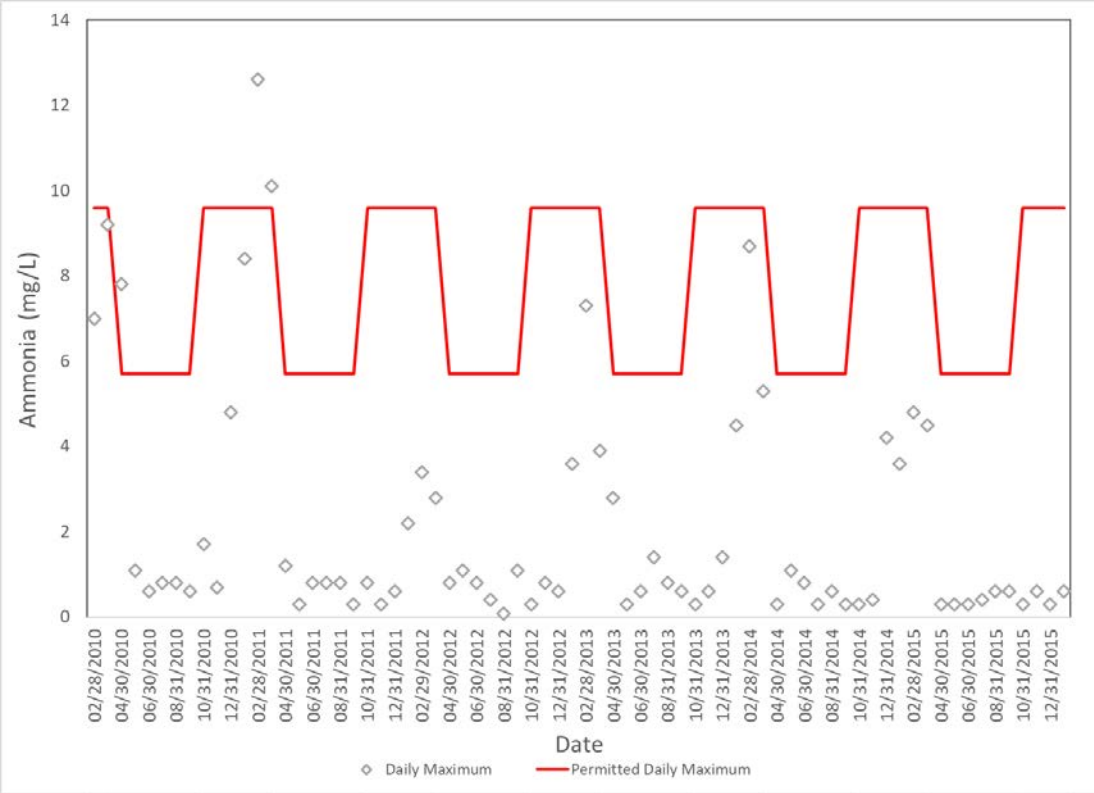


Figure A-6. Daily Maximum Effluent Ammonia

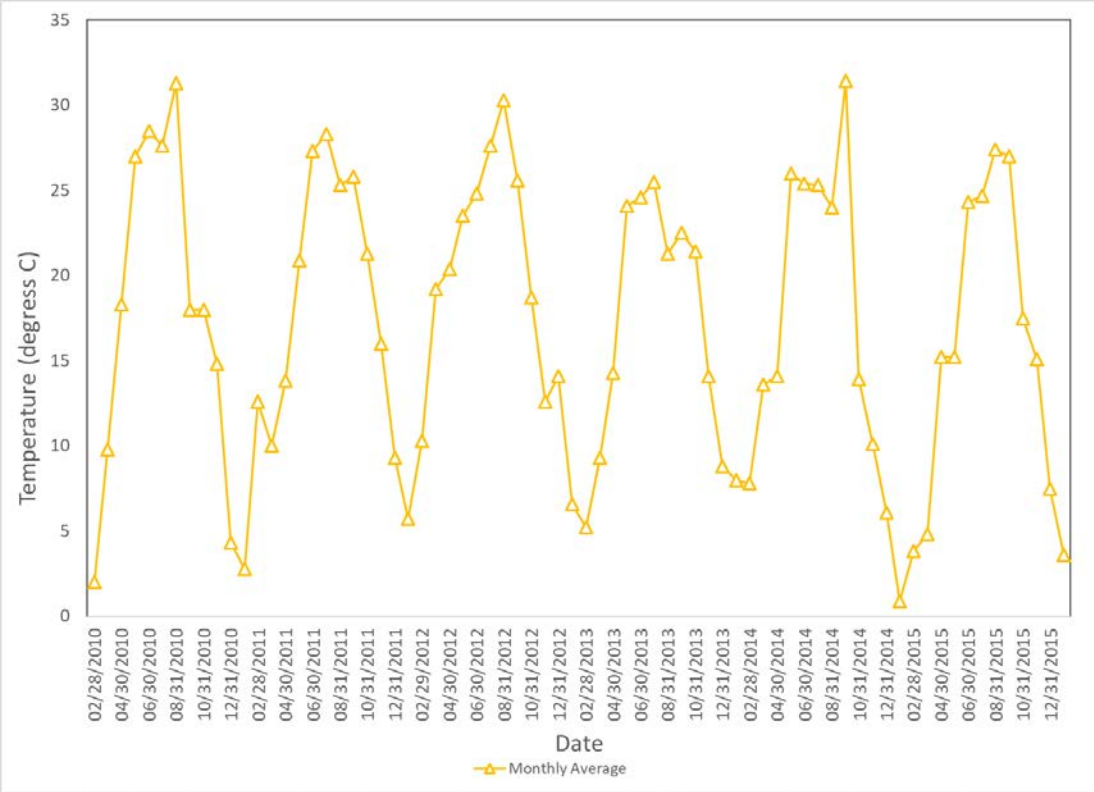


Figure A-7. Monthly Average Effluent Temperature

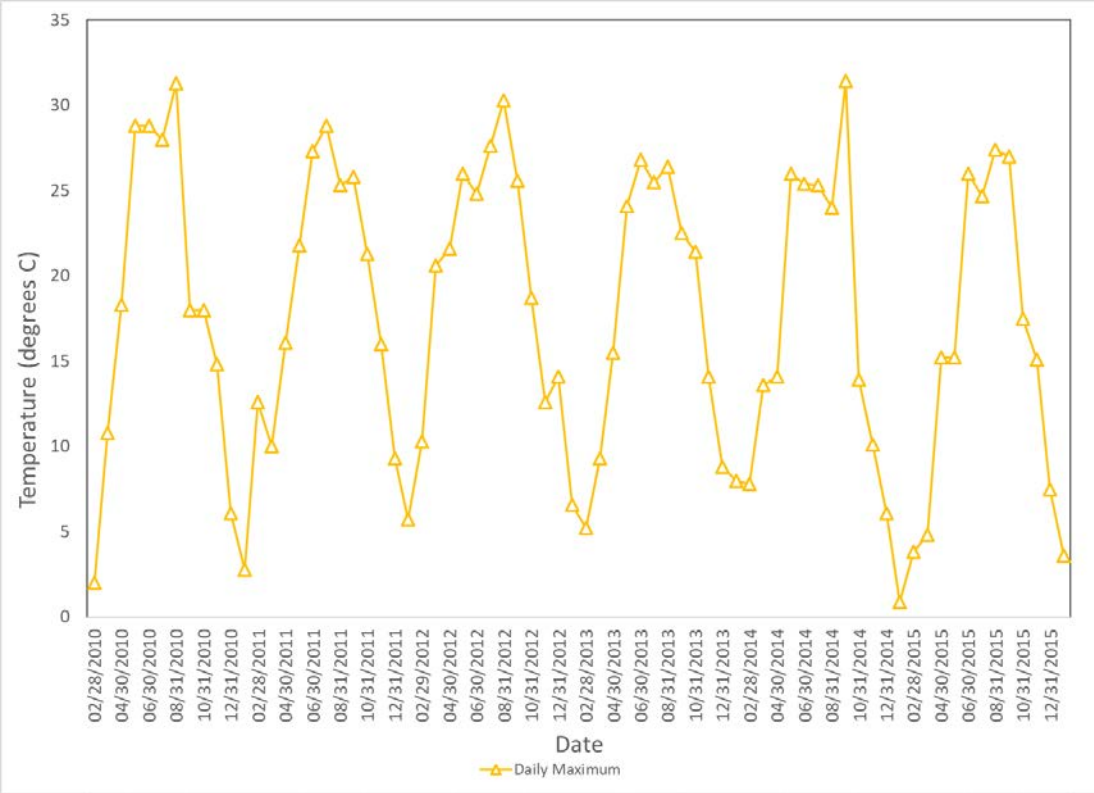


Figure A-8. Daily Maximum Effluent Temperature

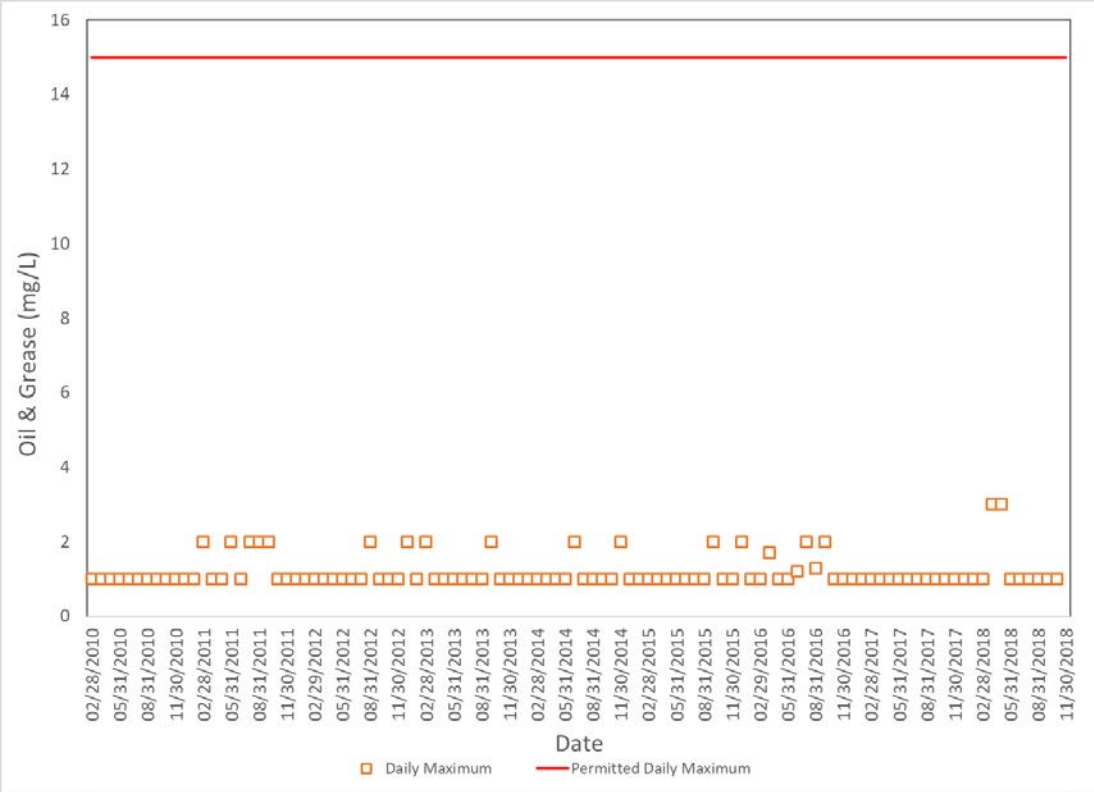


Figure A-9. Daily Maximum Effluent Oil & Grease

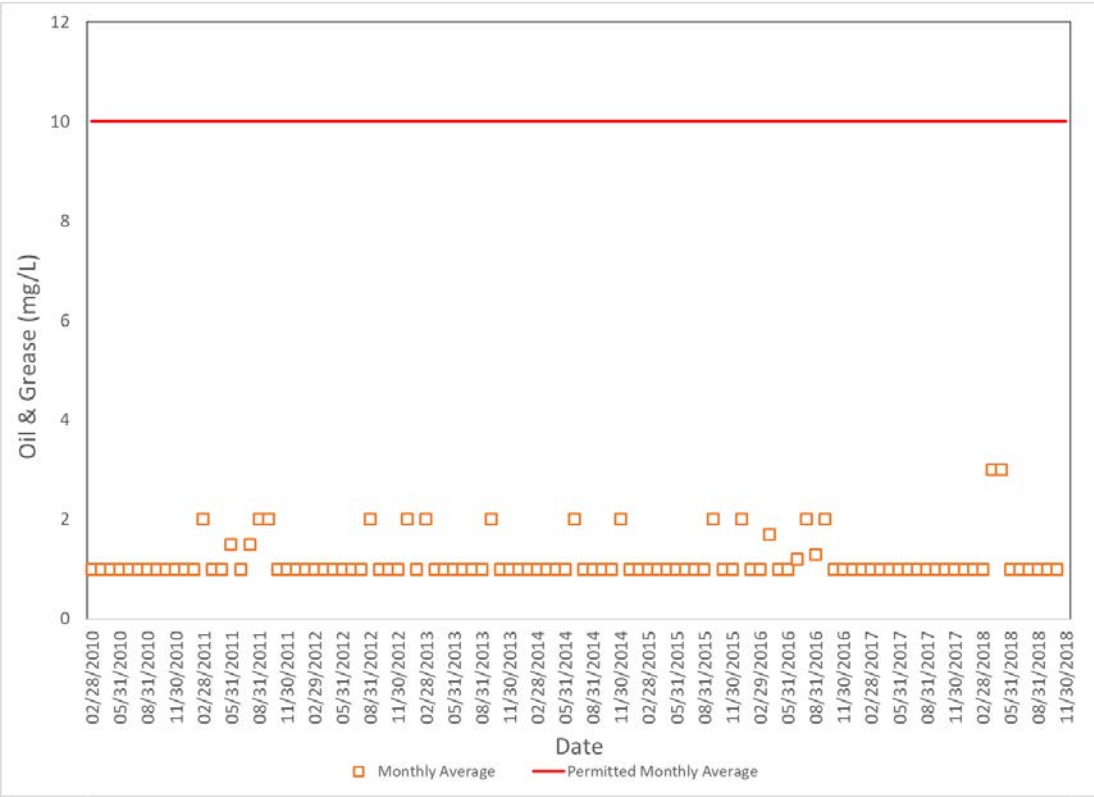


Figure A-10.Monthly Average Effluent Oil & Grease

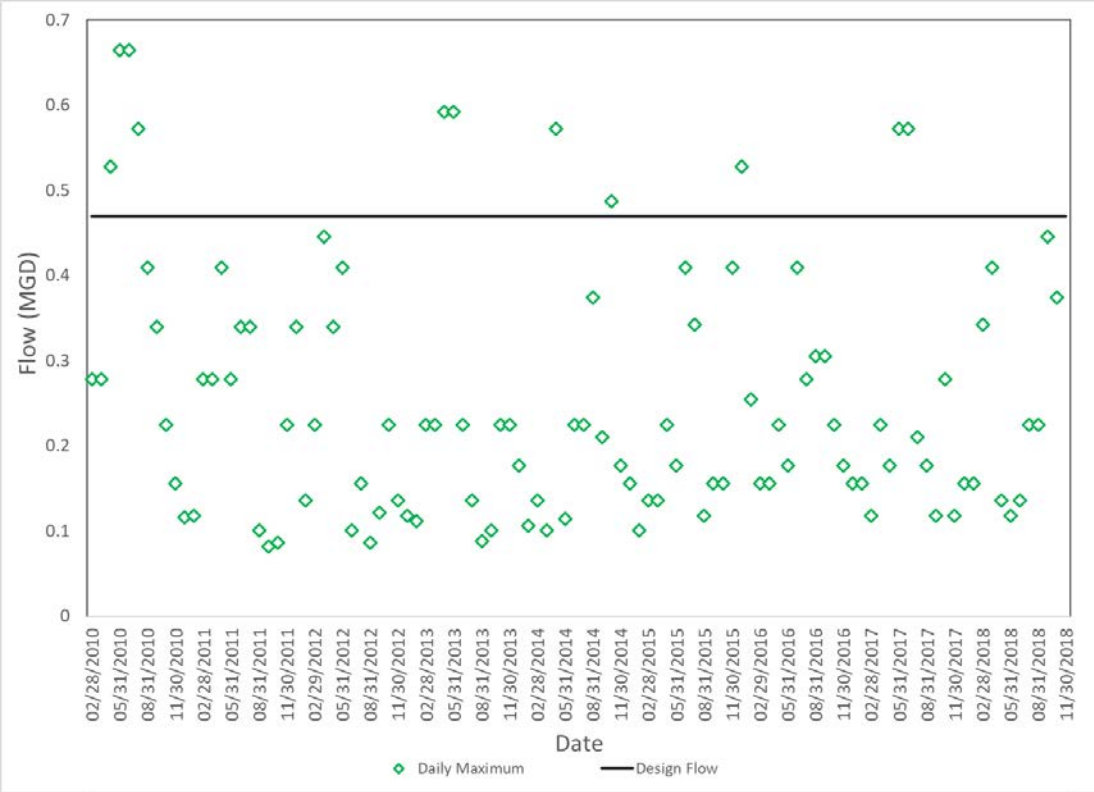


Figure A-11. Daily Maximum Effluent Flow

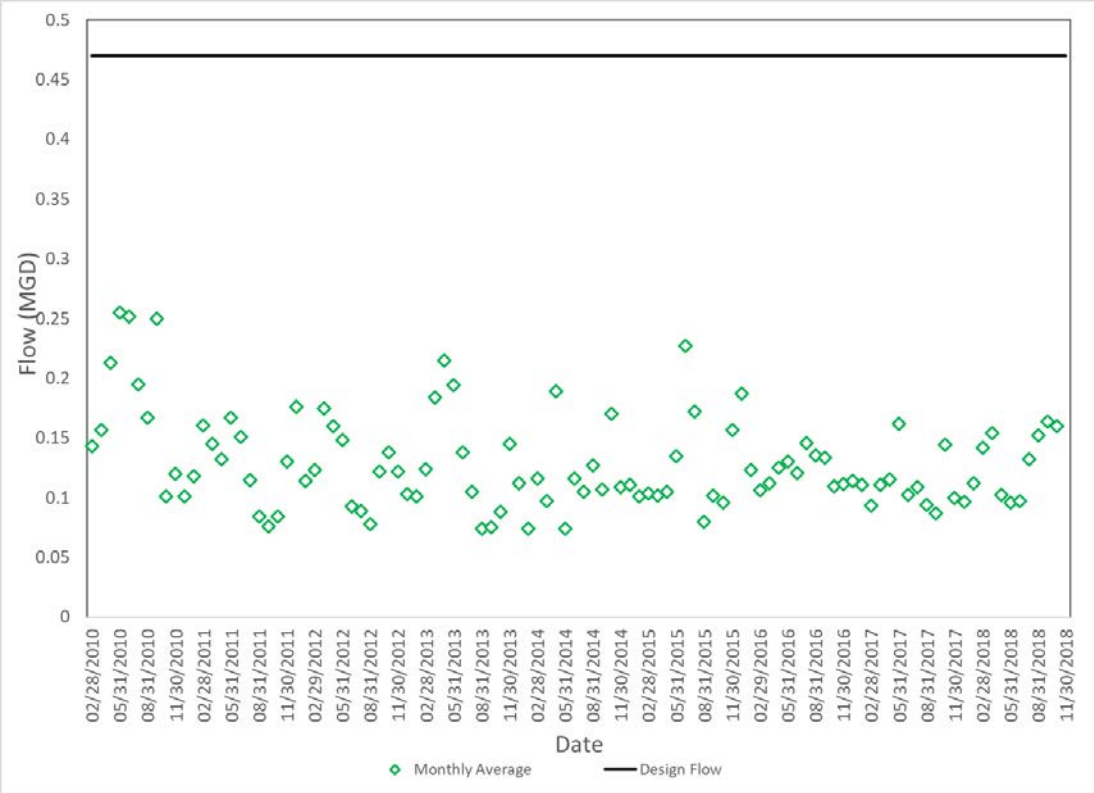


Figure A-12. Monthly Average Effluent Flow

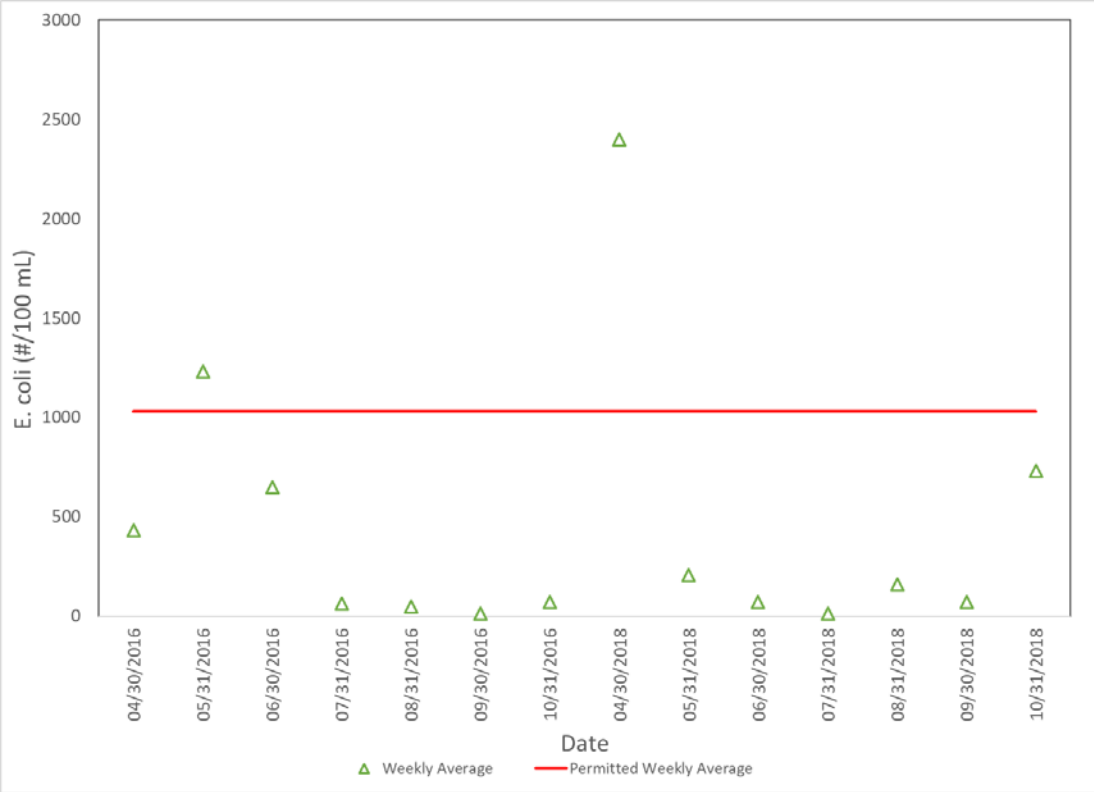


Figure A-13. Weekly Average Effluent E. coli

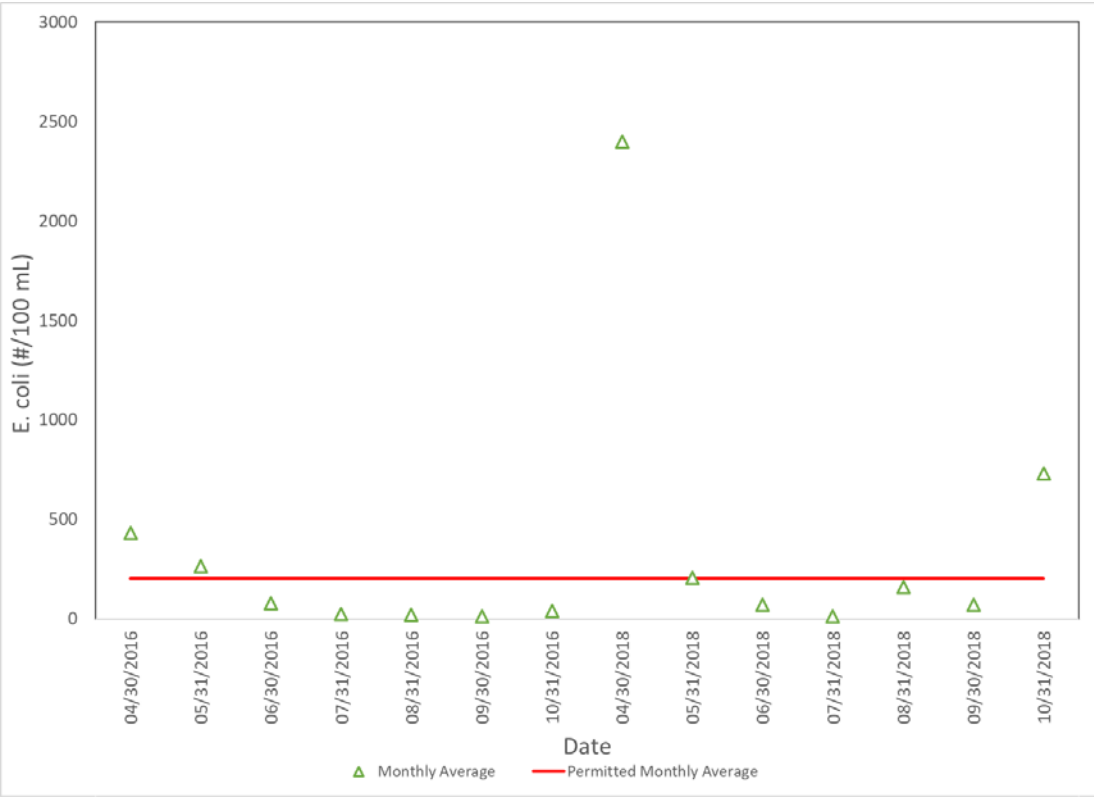


Figure A-14. Monthly Average Effluent E. coli

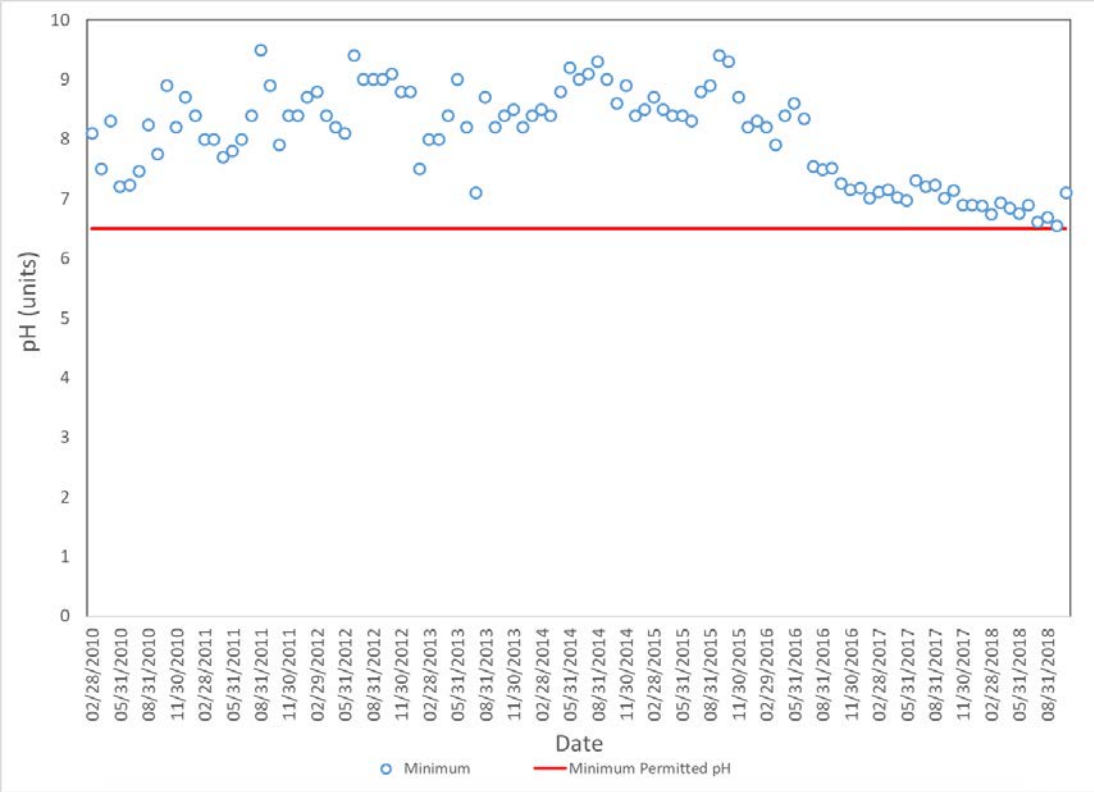
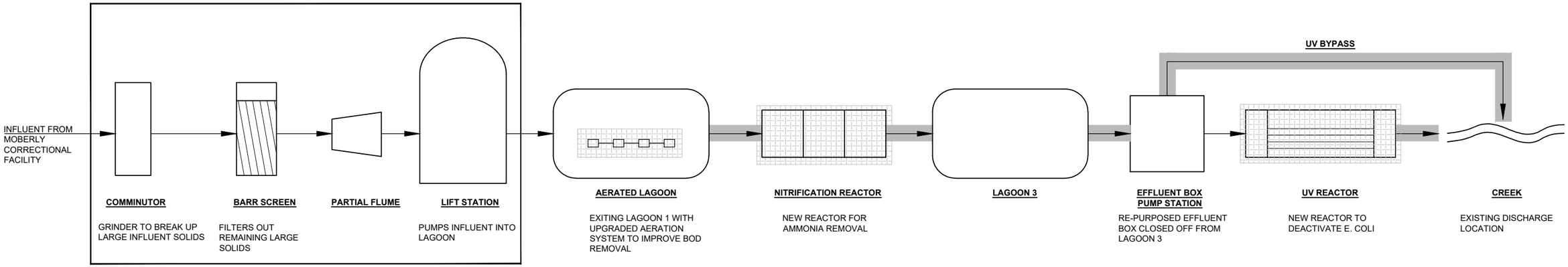


Figure A-15. pH

Appendix B

Preliminary Drawings



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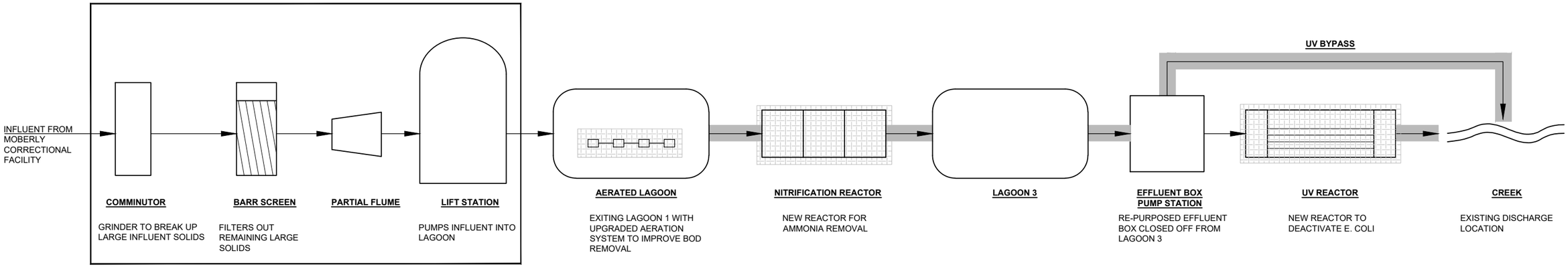

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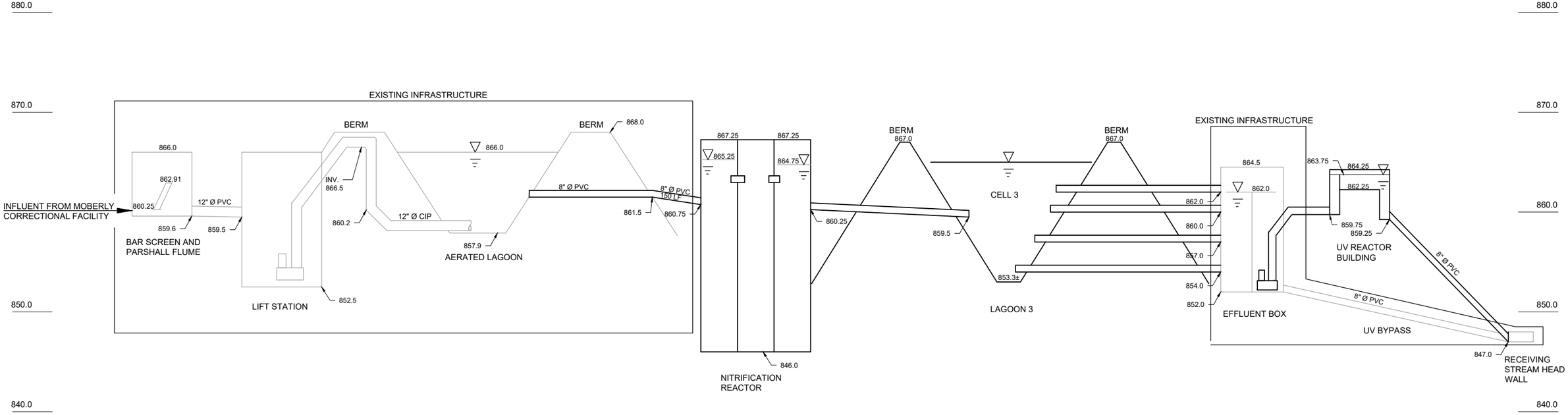

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DWG. No.	B-3
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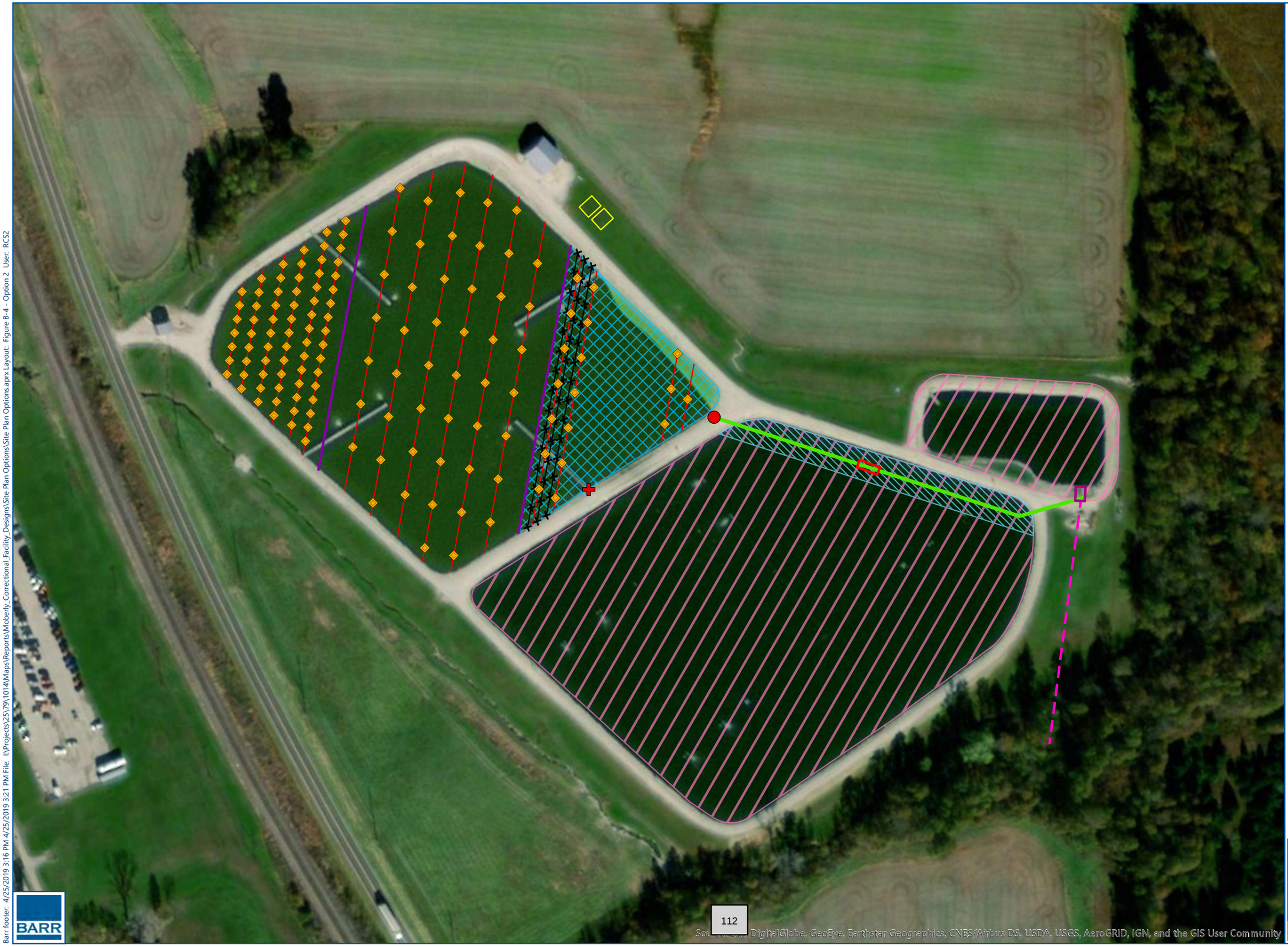
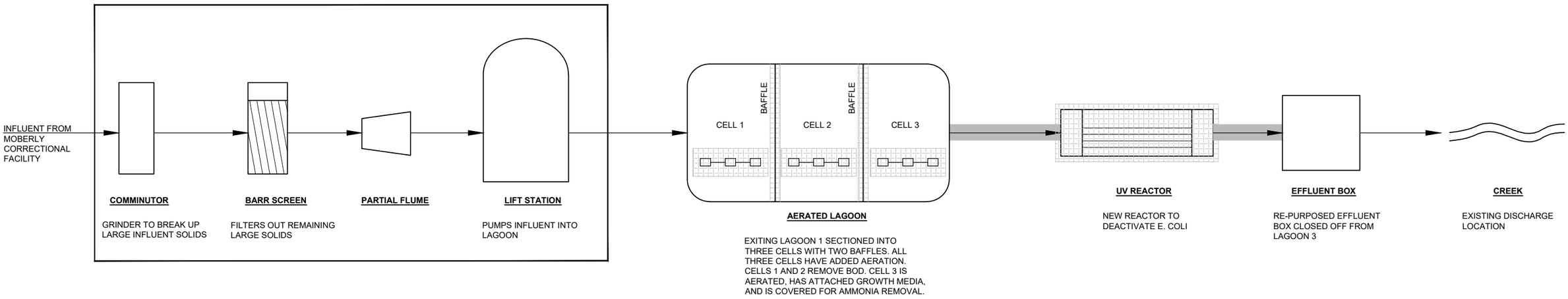


OPTION 2
Moberly Correctional Facility
Site Plan

FIGURE B-4

BARR



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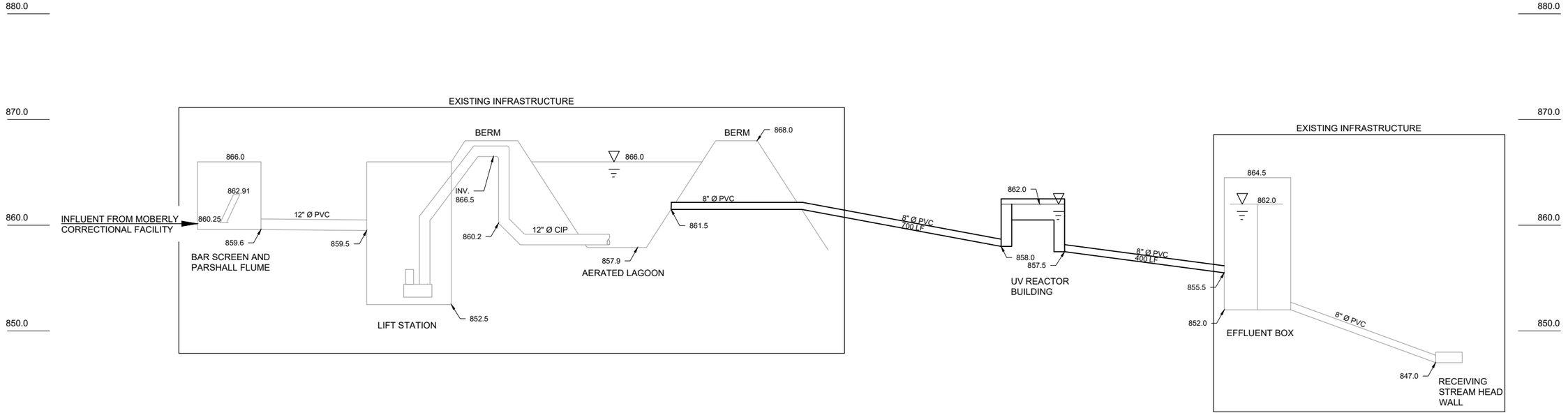

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Appendix C

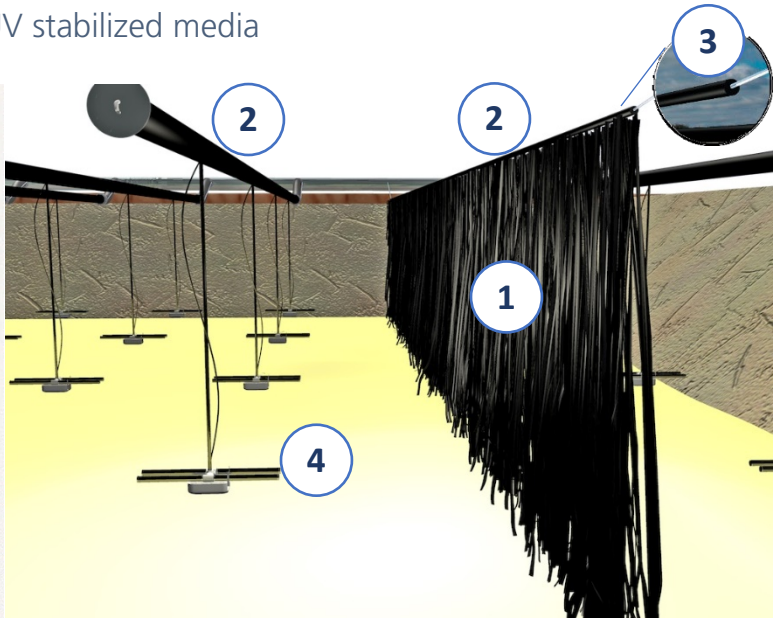
Equipment Supplier Information

EDI Lagoon BioReef™ Solution

Innovative Attached Growth Technology for Lagoon Advanced Biological Treatment Solutions

BioReef™ media incorporates advanced technologies for superior lagoon performance and process reliability

- High surface area to volume ratio
- Clog free performance with non-confined and flexible media
- Minimum maintenance with self-regulating biofilm
- Well suited for carbonaceous BOD removal, TSS polishing, ammonia conversion, or nitrogen removal even in cold climates
- Maximum contact with wastewater using full depth and full basin width deployment.
- Installs independent of basin structure with floating boom and suspended media
- Long service life with UV stabilized media



System Components

1. Fixed-Film Media Options
2. Floatation Boom
3. Mooring Anchor
4. Aeration System

To learn more about the EDI BioReef™ Solution, call or visit us online today.

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EDI Lagoon BioReef™

EDI Lagoon BioReef is an additive technology ideally suited to improve removal of BOD and nitrogen in conventional lagoon or suspended growth biological processes. Treatment systems experiencing any of the following conditions can benefit from the application of the BioReef System:

- Hydraulic or organic overload
- Inadequate BOD or TSS reduction
- Poor ammonia conversion
- High effluent total nitrogen
- Reduced cold weather performance

Biological processes are limited in their ability to treat wastewater by the mass of microorganisms that can be retained and suspended in the biological reactor. The BioReef system effectively increases the mass of microorganisms in the biological reactor by providing surfaces where microorganisms can attach and be retained in the system. Many systems require no additional solids separation or recovery devices, or mixing energy for solids suspension.

The Lagoon BioReef system is compatible with existing lagoon-based wastewater treatment processes. Biological solids are self-regulating. Excess biological solids that accumulate on the BioReef are automatically shed from the media and in aerated lagoon applications, biological solids settle and are stored in the partial mix aerated and quiescent zones in the system. In complete mix applications without partial mix or quiescent lagoons, downstream clarification and/or solids wasting may be required.

The BioReef system is usually an aerobic process requiring aeration to support the respiration requirements of the retained biomass population. When combined with an EDI high efficiency FlexAir™ diffused aeration system, the BioReef system is one of the more energy efficient, wastewater treatment processes available in the industry.

The BioReef system may also be effective in reducing total nitrogen. Once a stabilized biofilm is developed, dissolved oxygen gradients within the biofilm allow nitrates to be reduced to nitrogen gas which is released from the system. This denitrification process can provide additional benefits including alkalinity and oxygen recovery while increasing the process and operating efficiency of the overall system.

The Lagoon BioReef system is easy to deploy and install; making the product ideal for large reactors including stabilization ponds and aerated lagoons. BioReef modules are delivered to the jobsite factory preassembled with mounting supports. The BioReef assembly generally attaches to the floatation modules and are retained in place with mooring anchors on the reactor perimeter. No other installation requirements or mounting hardware are required. Once the system is properly installed, minimum maintenance is required for long-term performance.

The BioReef system is one of many efficient, low cost, lagoon-based technologies available from EDI. For detailed information on advanced technology lagoon-based treatment systems, contact EDI or a local EDI representative.

Patent No. US 7,713,415 B2 & Patents Applied for:

engineered solutions since 1976

EDI-engineered solutions are the result of over 40 years' experience in the water and wastewater industry. By applying advanced technology principles of aeration and biological treatment to challenges facing its customers, EDI has earned the reputation of being an innovator and industry leader.

Floating Aeration Systems

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configurations

for any industrial or municipal application, tank size, or geometry

the #1 floating aeration system

EDI Floating Lateral Aeration Systems offer unique solutions ideally suited for applications where the basin cannot be taken off-line. The air distribution piping (laterals) float on the water surface with individual diffuser assemblies that are fully accessible, allowing maintenance without interrupting the processes or draining the basin.

Engineered components deliver unmatched system reliability and operating performance

- Fully retrievable units
- High structural integrity
- Superior efficiency
- Economical installation cost
- Hundreds of installations

cold weather operation

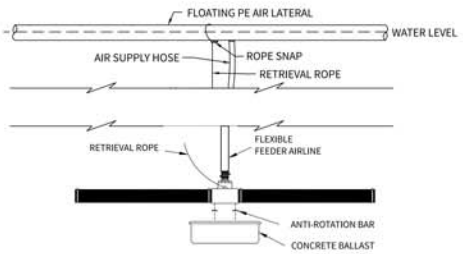
full-depth mixing

energy efficient

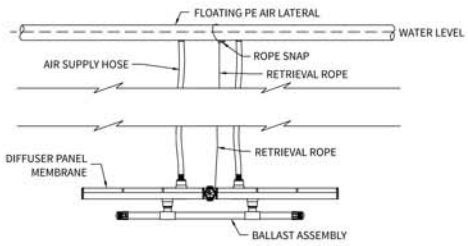
Benefits & Capabilities

Applications	New or existing lagoons and aeration basins for increased efficiency and increased capacity.
Energy Savings	Can deliver over 6–7 lbs of oxygen per hp/hr (3.6–4.3 kg/kWh) SOTR.
Wet Installation	Install without de-watering existing basins and without taking the system out of service.
Design Flexibility	Compatible with earthen, lined, or concrete basins of any size or shape (PM, CM or AS).
Process Reliability	Delivers long-term efficiency and operational performance.
Process Efficiency	Controlled distribution of oxygen and mixing, through full-depth and wall-to-wall distributions.
Economical	High degree of factory assembly for rapid field installation.
Mechanical Reliability	Robust construction for the toughest industrial or municipal application with no moving parts.
Diffuser Options	Use EDI high-efficiency FlexAir™ Panel or Tube diffusers.
Retrievable	All systems are fully retrievable without process interruption or draining the basin.

Tube Diffuser Assembly
with concrete ballast



Panel Diffuser Assembly
with encapsulated ballast



for additional information
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Lagoons Do It Better.

It's our belief, our motto, and our mission.

Lagoons provide reliable, cost-effective, and low maintenance wastewater treatment. Lagoon owners are increasingly challenged to meet stricter effluent requirements, expand capacity, or simply upgrade antiquated equipment. That's why we have dedicated our 30+ years of lagoon engineering expertise to rehabilitating lagoons—innovating treatment technologies and processes that leverage existing infrastructure while minimizing capital expense. Our cutting-edge solutions, including efficient lagoon aeration, cold weather ammonia-nitrogen removal, advanced lagoon treatment, and tertiary phosphorus reduction, allow lagoons to be reinvented instead of replaced.

Triplepoint is committed to being your complete lagoon solution provider, with lagoon products and processes that are reliable, cost-effective, and easy to operate. We believe in partnering with you to plan, design, and implement the best possible treatment system for your facility—one that we guarantee will work; one that we stand behind.

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LAGOONS
Do it better.™

Triplepoint Water Technologies
1010 W. Lake Street
Oak Park, IL 60301

Call: (800) 654 9307
info@tpenv.com
www.tpenv.com

MADE IN USA

MARS AERATION SYSTEM

Mixing. Aerating. Lagoons.

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water technologies

THE MARS AERATION SYSTEM

The MARS Aeration System utilizes industry-leading submerged aeration diffuser technology, providing effective mixing and efficient aeration in a portable unit. MARS Aerators are simple to install: each self-weighted unit is connected to an on-shore air supply via flexible weighted tubing and lowered into the water. Maintenance is just as easy and can be completed from the surface without incurring system downtime. This modular design allows for the MARS to be implemented in any size wastewater facility, from single user systems to full-scale facilities.

EFFICIENT MIXING & AERATING
ONE **PORTABLE** UNIT

DOUBLE BUBBLE TECHNOLOGY™

Coarse Bubble Mixing: Large bubbles are released at the bottom of the static tube creating a draft that pulls water and liquefied organic matter up from the basin floor and through the unit. This produces a highly agitated water column that thoroughly mixes and circulates the entire wastewater tank or lagoon.

Fine Bubble Efficiency: Fine bubble diffusers surround the static tube, maximizing oxygen transfer efficiency (OTE) while minimizing energy consumption. Enhanced by coarse bubble mixing, the fine bubble oxygenation provides the ideal environment for biological treatment.

Optimized Energy Distribution: The MARS Technology's modular design allows for treatment to be evenly distributed throughout the entire lagoon, mixing and aerating from the basin floor to the surface.

COST EFFICIENT INSTALLATION

Ease of Installation: The self-weighted, portable, and modular design allows an entire MARS Aeration System to be quickly installed from the surface without ever taking the lagoon offline. This keeps effluent levels within permit, even during a system-wide upgrade.

High Airflow and Mixing Capacity: Due to the MARS' industry leading high airflow and mixing capabilities, the total number of units necessary to treat a facility is minimized. As a result, costs from installation materials, labor, and long-term maintenance are all greatly decreased.

LOWER MAINTENANCE COSTS

Ease of Maintenance: Each MARS Aerator is self-weighted, portable and equipped with a stainless steel tether and locator float. When necessary, individual units can be easily lifted to the surface for servicing without the expense of dewatering or the inconvenience of system downtime.

Centralized Air Supply: Air can be supplied to the entire MARS Aeration System by a single, centralized on-shore blower. If needed, additional blowers can be provided to meet sizing, layout, or redundancy requirements. For further energy savings and control, Variable Frequency Drives (VFD) and dissolved oxygen (DO) meters can be incorporated.

Anti-Fouling Design: The MARS Aerator resists fouling in several ways:

a. Utilizing self-checked fine & coarse bubble diffusers
b. Using self-cleaning EPDM membranes
c. Elevating the diffusers above accumulated solids
d. Eliminating all submerged moving parts

Installation of MARS Aerators with optional service barge

MARS PRODUCT LINE

The versatility and portability of the MARS Aerator make it ideal for wastewater facility retrofits. MARS Aeration is frequently used to upgrade treatment plants with clogged fine bubble diffusers, inefficient coarse bubble aerators, or broken down surface aerators. Durable construction, fast and simple installation, and low operation and maintenance costs, coupled with its superior oxygenation and mixing performance, make the MARS Aerator the preferred choice for efficiency, reliability, and longevity.

MODELS OPTIMIZED FOR YOUR APPLICATION

The MARS Aeration System includes a broad range of product models and options. Triplepoint's engineering team designs systems that are customized to meet your facility's unique requirements while targeting the fastest possible project payback period—often 12-36 months.

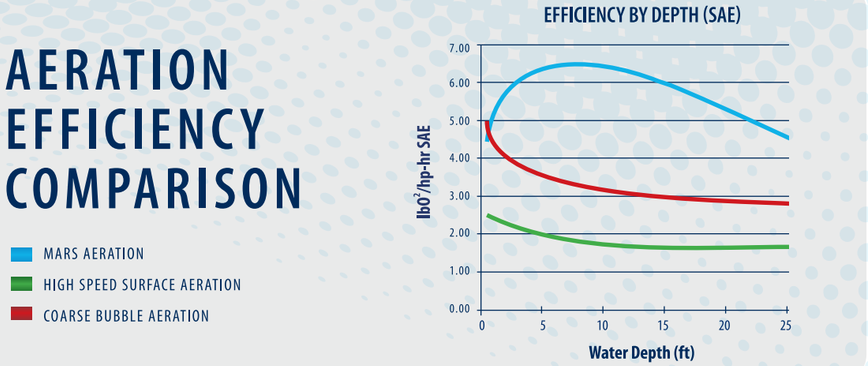
DESIGNED FOR RELIABILITY

All products are manufactured in the USA from the finest industrial-grade materials and have proven resilient in the harshest municipal and industrial wastewater environments. The MARS even excels at cold-weather operation, as all equipment is installed below the surface of the water. Whether it's the compact, rugged frame, stainless steel fittings, lack of moving parts, or the Anti-Fouling diffusers, every component has been selected and tested to provide many years of worry-free operation.

ENERGY EFFICIENCY

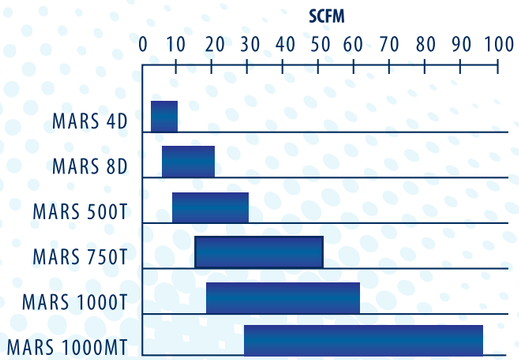
Extensive independent testing has proven that the MARS Aerator has a best-in-industry Standard Aeration Efficiency (SAE). The MARS is 50-60% more energy efficient than high-speed surface aerators and 40-50% more efficient than coarse bubble diffusers. Energy efficiency is further enhanced by the patented Double-Bubble Technology, which allows custom optimization of each system's fine bubble (oxygenation) and coarse bubble (mixing) demands.

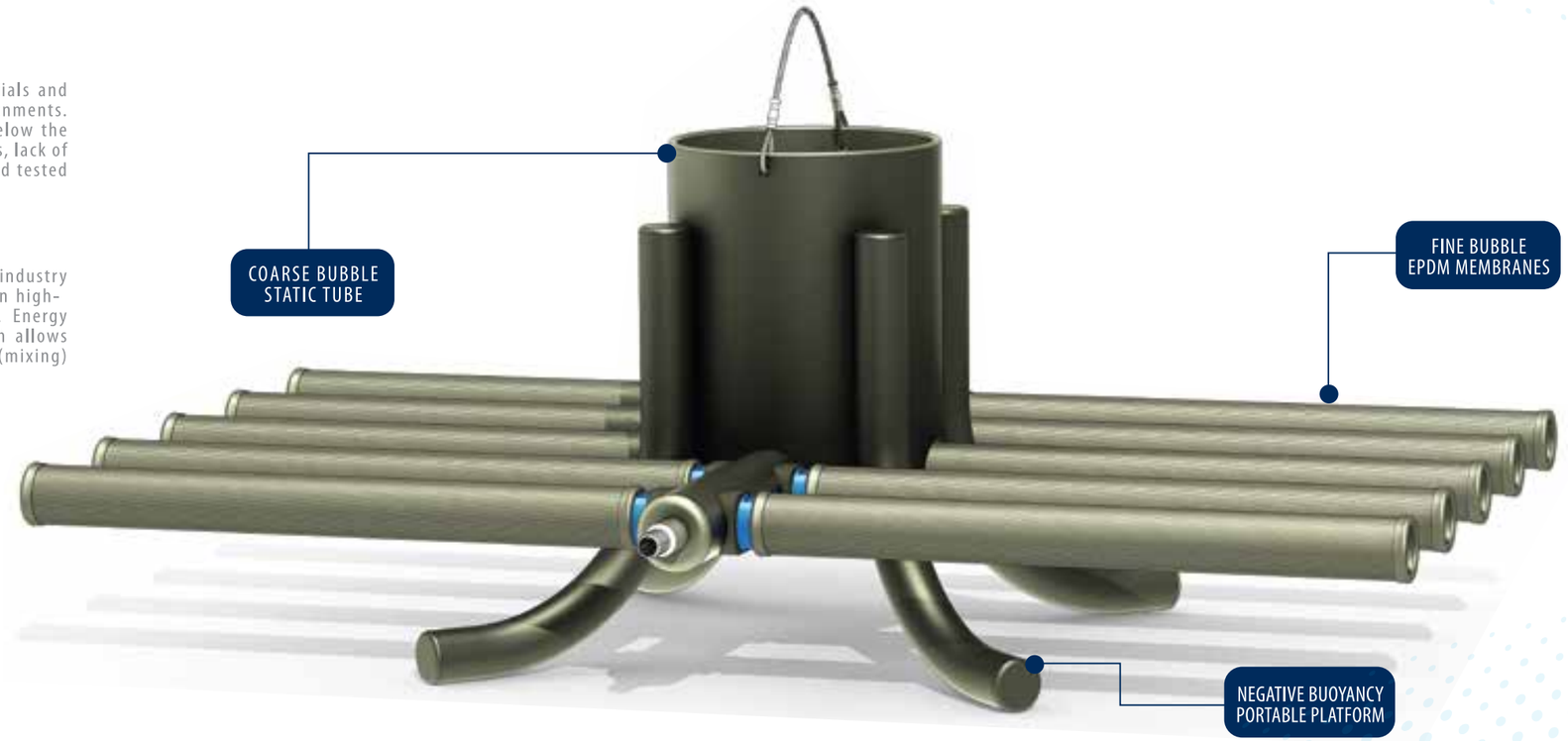
AERATION EFFICIENCY COMPARISON

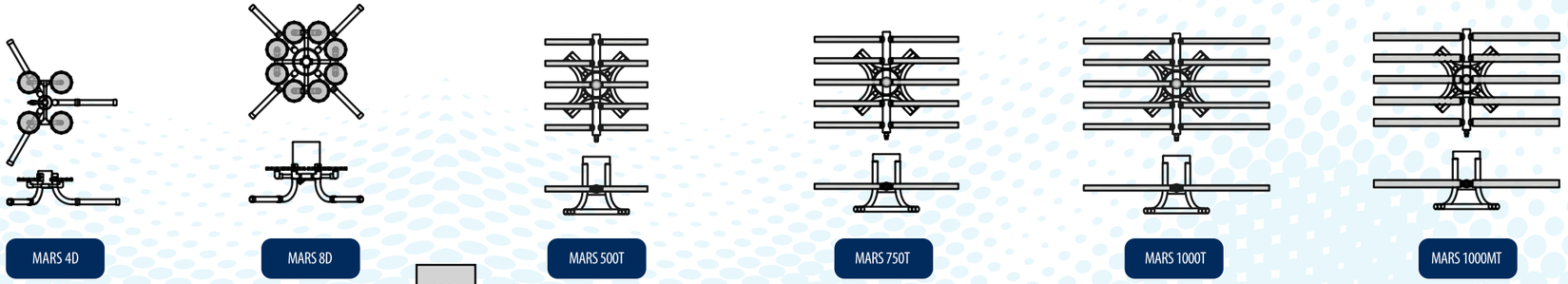


*Based on lab testing in clean water. Not for design purposes.

MARS RECOMMENDED AIRFLOW







YOUR SOLUTION IS OUR GOAL

30 YEARS OF AERATION EXPERIENCE AT YOUR SERVICE

Throughout your entire project, from concept plan to long-term operation, Triplepoint seeks to partner with you to achieve the lowest possible lifecycle costs. We don't sell products - we provide solutions.

OPTIMIZED FOR YOUR APPLICATION

We have a saying here at Triplepoint: "Good data, good decisions." So, when we combine 30+ years of wastewater treatment plant design, construction, and operation experience with good hard data from your wastewater treatment facility, we ensure your project is designed the right way, the first time.

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INSTALLATION & LIFETIME SUPPORT

INSTALLATION CONTRACTING & SUPERVISION

At Triplepoint, we understand that a plan is only as good as its implementation, and we are committed to making every startup a successful one. That is why we offer professional installation supervision with every complete MARS Aeration System.

LIFETIME PRODUCT SUPPORT

Every MARS Aeration System is backed by an unequivocal commitment to lifetime support. Triplepoint has a team of product support personnel that is dedicated to helping customers operate and maintain their systems as efficiently as possible.

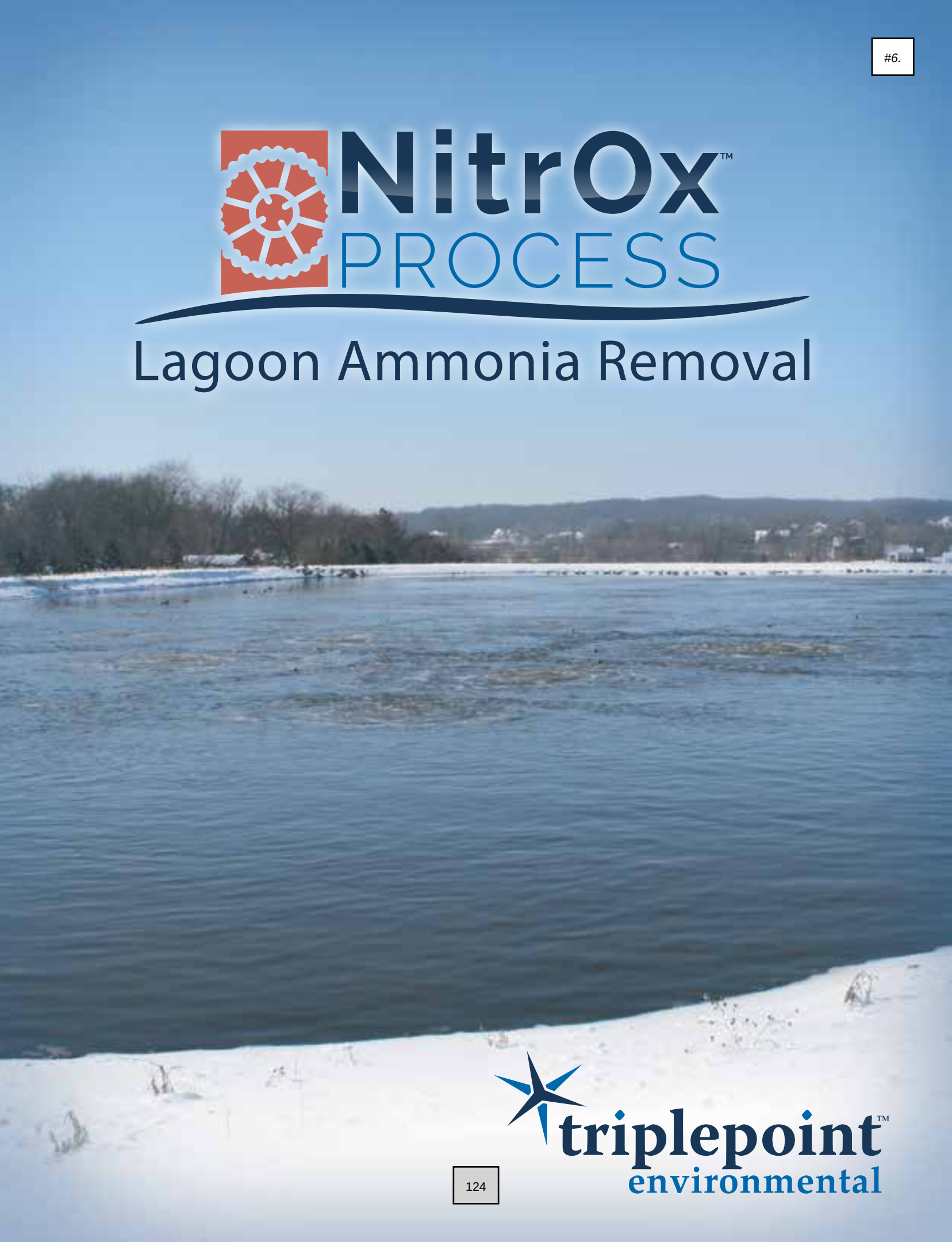
PLANNING DESIGN IMPLEMENTATION

triplepoint water technologies

MARS Installation prior to lagoon fill, West Jackson County WWTP

NitrOx™ PROCESS

Lagoon Ammonia Removal



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NitrOx™ Process

The patent-pending **NitrOx Process** features a thermally-regulated nitrification reactor specifically designed to remove ammonia from your lagoon effluent. When winter wastewater temperatures fall those few month a year, the NitrOx System cost-effectively heats up the water—just a few degrees—to ensure sufficient biomass to achieve rapid nitrification. The NitrOx System integrates with your existing infrastructure and can even be configured to address BOD and TN challenges while economically achieving near-complete ammonia removal at any lagoon temperature.

NitrOx™ PROCESS

Lagoon Ammonia Removal

FINANCIALLY FEASIBLE

1. **Low Capital Costs:** Any required facility upgrade should not be prohibitively expensive. Your lagoons are already accomplishing the majority of the required treatment, and we harness that resource by incorporating the NitrOx Reactor directly into your existing process for the sole purpose of ammonia removal. This helps to keep your capital costs low, minimizing the financial burden of plant upgrades.

2. **Simple Operation:** Lagoons are simple to operate—they are low maintenance, low hassle, and offer lots of flexibility—making them the perfect wastewater treatment solution for small communities. We designed the NitrOx Reactor with precisely this in mind: Self-cleaning media, robust medium bubble aeration, and automated temperature control are just some of the features that keep maintenance low and operation simple.

3. **Built to Last:** Wastewater systems must be designed to stand the test of time. Lagoons are among the most robust treatment plants available, and the NitrOx Reactor is built to last just as long without replacement. Concrete and stainless steel materials ensure that your infrastructure remains viable for twenty plus years.

PROVEN & PREDICTABLE

1. **Decades of Performance:** We believe in evolution, not revolution, and that's why the NitrOx Reactor integrates technology that was not just proven but perfected over decades, with thousands of installations in operation around the world. By adapting this technology to the specific needs of lagoon systems, we leverage proven nitrification performance to ensure your system reliably keeps you in compliance.

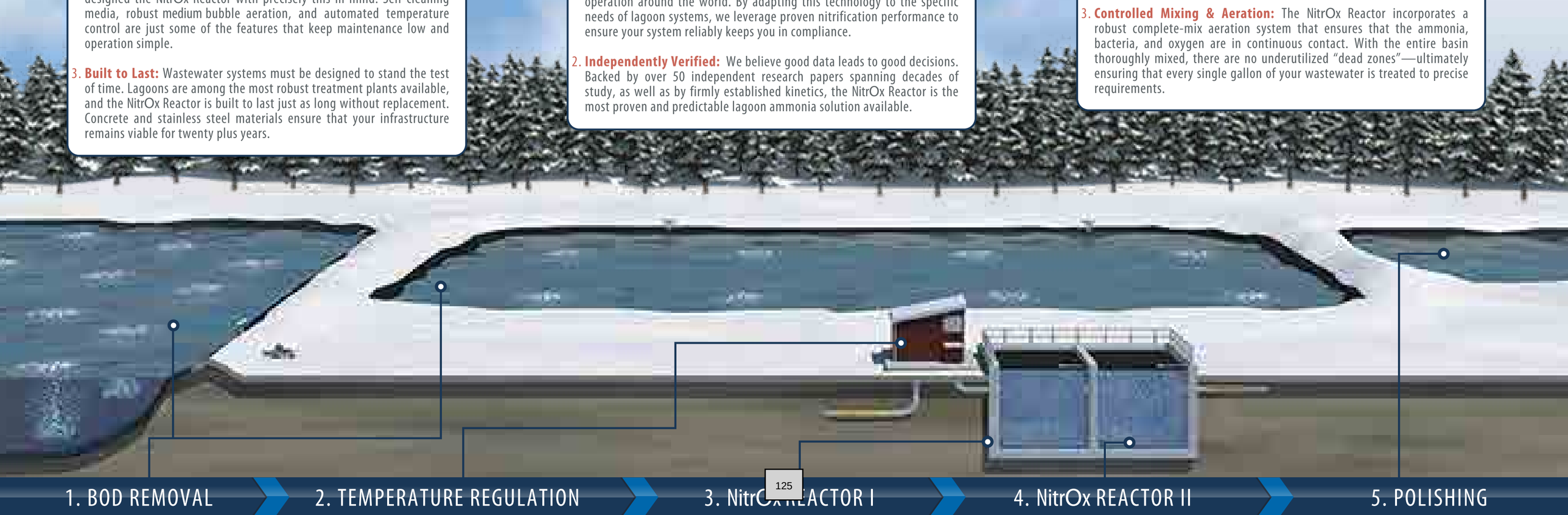
2. **Independently Verified:** We believe good data leads to good decisions. Backed by over 50 independent research papers spanning decades of study, as well as by firmly established kinetics, the NitrOx Reactor is the most proven and predictable lagoon ammonia solution available.

CONTROLLED NITRIFICATION

1. **Controlled Temperature:** Controlled processes yield controlled results. By thermally regulating the influent and insulating to prevent heat loss, the NitrOx Reactor consistently meets strict ammonia limits no matter how cold or unpredictable your winters are.

2. **Controlled Biomass:** The NitrOx Reactor cultivates a dense collection of nitrifying bacteria by utilizing millions of individual attached-growth media. This population of nitrifiers is thousands of times larger than what occurs naturally in your lagoon, providing for rapid ammonia removal—even in cold weather.

3. **Controlled Mixing & Aeration:** The NitrOx Reactor incorporates a robust complete-mix aeration system that ensures that the ammonia, bacteria, and oxygen are in continuous contact. With the entire basin thoroughly mixed, there are no underutilized "dead zones"—ultimately ensuring that every single gallon of your wastewater is treated to precise requirements.



NitrOx REACTOR

Lagoon Ammonia Removal

THE NitrOx™ PRINCIPLE

Ammonia removal through nitrification will reliably occur with the proper conditions. The purpose of the NitrOx Process is to control and optimize each of these conditions, fostering an ideal habitat for a specific set of bacteria called nitrifiers and super-concentrating them into a small, cost-effective, and highly efficient reactor. In doing so, NitrOx guarantees results.

MAXIMIZING BACTERIA CONCENTRATION

An increase in nitrifiers yields an increase in ammonia reduction. Nitrifiers grow on substrate or "media," meaning that in order to increase the quantity of these bacteria, you need to increase the surface area they grow on. The NitrOx Reactor contains millions of small media, producing over 150 square feet of surface area per every cubic foot of volume. This provides for a dense concentration of nitrifiers, and allows the NitrOx Process to be the most effective ammonia treatment solution in the smallest footprint, even at low temperatures.

CONTROLLING TEMPERATURE

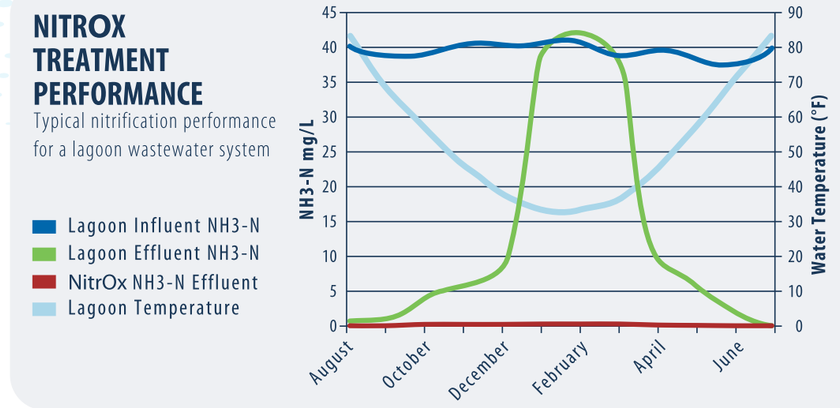
As the water cools, nitrifiers consume ammonia more slowly. In the coldest winter months, wastewater can be too cold for the nitrifiers to effectively consume ammonia, so the NitrOx Reactor automatically regulates its influent by gently heating the water to 39-42˚F with heat exchangers and/or an optional geothermal heat source, then maintains this temperature with an insulated cover. Because this temperature increase is minor and only required a few months per year, the NitrOx Reactor operates cost effectively while promoting rapid ammonia reduction.

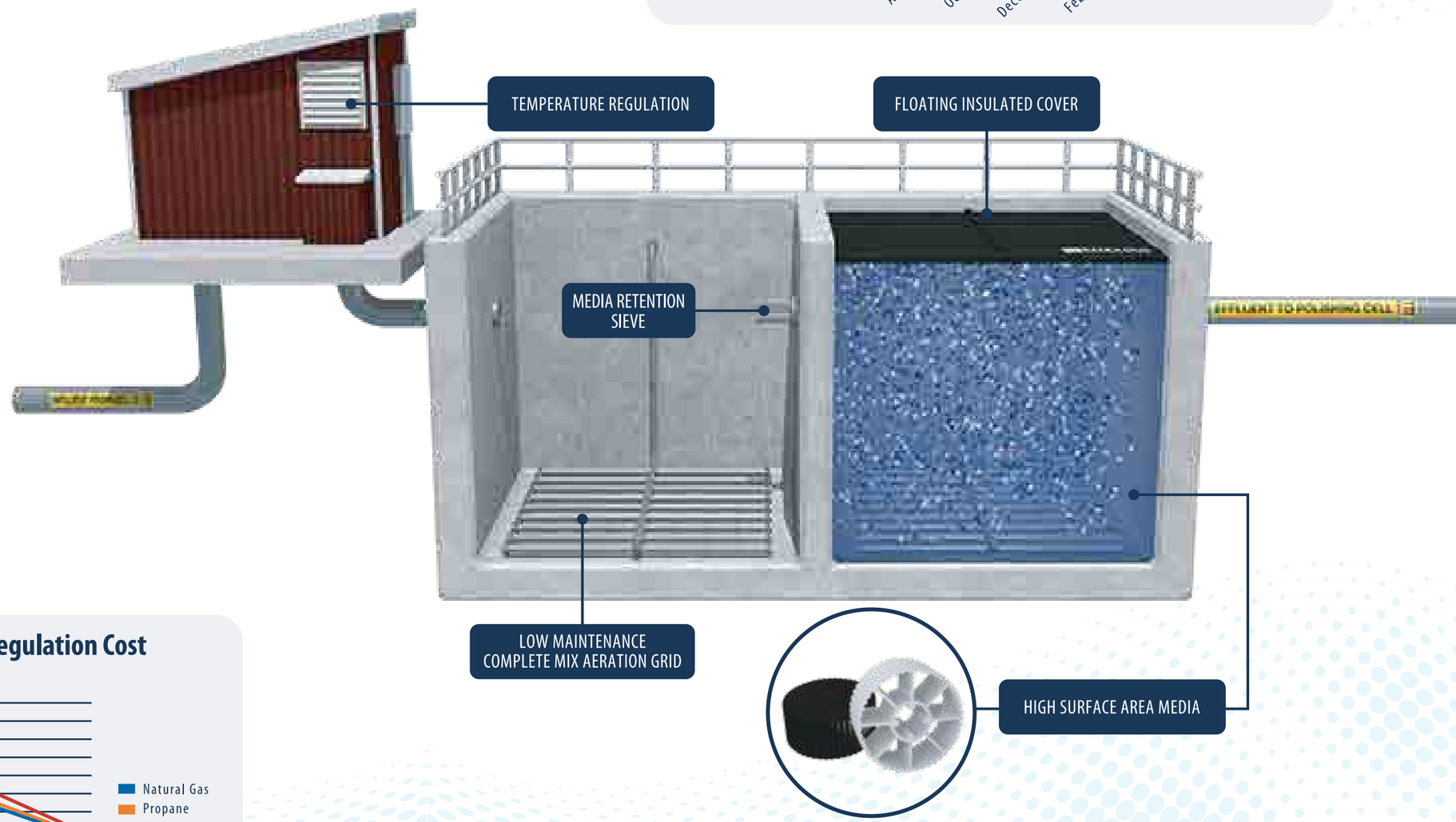
OPTIMIZING MIXING & AERATING

Low maintenance coarse bubble diffusers release large bubbles from a full-floor grid, transferring the oxygen nitrifiers need to complete their ammonia digestion. These coarse bubbles also distribute their high-energy mixing throughout the Reactor, agitating the millions of media so the bacteria, the oxygen, and the waste are continuously in contact, creating an ideal environment for rapid ammonia reduction. This same mixing also causes the media to collide with each other, the walls, and the piping sieves, constantly self-cleaning so you don't have to.

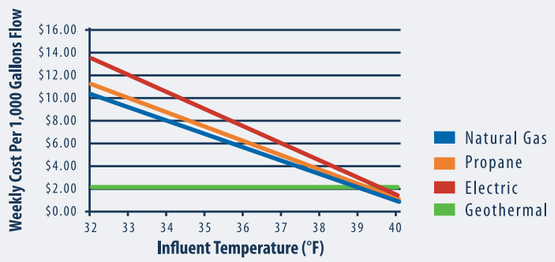
NITROX TREATMENT PERFORMANCE

Typical nitrification performance for a lagoon wastewater system





Temperature Regulation Cost



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MADE IN USA

TROJANUV3000™PTP

Wastewater Disinfection

TROJAN UV™

Water Confidence™

TROJAN UV3000™ PTP

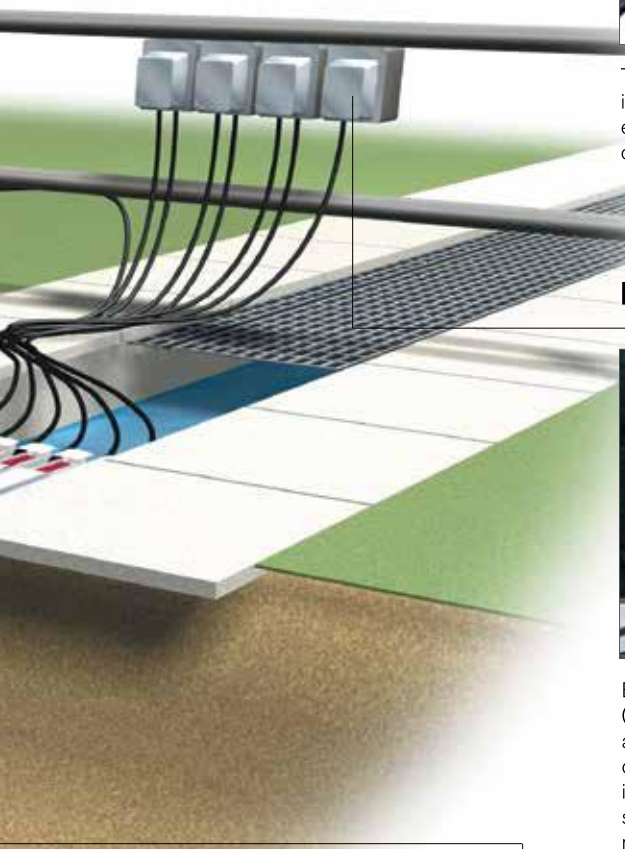
Robust, operator-friendly solutions designed for economical disinfection

System Monitor/Control Center

The optional System Monitor includes a submersible UV sensor, and provides digital output of UV intensity at each bank. Elapsed time display provides continuous readout of actual hours of operation (lamp hours). A dry contact enables a remote low UV intensity alarm.

Water Level Control

A fixed weir maintains the correct channel effluent depth over different flow rates, allowing a maximum head loss of 1.5 inches (3.8 cm). The system is also equipped with a drain for easy channel cleaning, and available for both concrete channels and stainless steel channel option.



Electronic Ballast

The electronic ballast is mounted within its own Type 6P (IP67)-rated watertight enclosure within the module frame and is cooled by convection.

Power Distribution

Each Power Distribution Receptacle (PDR) powers two (2) UV modules and allows for quick and safe electrical disconnect. The duplex ground fault interrupter receptacles ensure operator safety and are mounted inside Type 3R rain shield boxes.

UV Modules

UV lamps are mounted on stainless steel frames. Lamps are enclosed in quartz sleeves and submerged horizontally and parallel to water flow. A bank is made up of multiple modules placed in parallel positions. All wiring, from ballasts to lamps, runs inside the module frame. A display showing individual lamp status is provided on top of each module.

Stainless Steel Effluent Channel

An optional Type 304 stainless steel channel, complete with UV module support rack, can be used. Channel can be installed as a freestanding structure connected to flanged pipes using the optional transition boxes.

TROJAN UV3000™ PTP

Simple, Dependable UV Solutions

Proven, chemical-free disinfection from the industry leader

UV is the most effective, safe and environmentally friendly way to disinfect wastewater. It provides broad-spectrum protection against a wide range of pathogens, including bacteria, viruses and chlorine-resistant protozoa (such as Cryptosporidium and Giardia).

The TrojanUV3000™PTP (Packaged Treatment Plant) is a simple, robust and operator-friendly UV systems used for the disinfection of wastewater. This highly flexible system has demonstrated effective and reliable performance around the world. The TrojanUV3000PTP is pre-engineered for quick, inexpensive installation with pipe runs using pre-fabricated, flanged stainless steel channels, or into existing chlorine contact basins and effluent channels.

The proven infrastructure of the TrojanUV3000PTP has been continuously refined to enhance friendly operation.

Key Benefits

TrojanUV3000PTP

Increased operator, community and environmental safety. Uses environmentally friendly ultraviolet light – the safest alternative for wastewater disinfection. No disinfection by-products are created and no chlorine compounds are transported, stored or handled by plant staff.

Proven disinfection. Based on actual dose delivery testing (bioassay validation). Verified field performance data eliminates sizing assumptions resulting from theoretical dose calculations.

Reduced engineering and installation costs. The TrojanUV3000PTP can be equipped with pre-fabricated stainless steel channels and transition boxes for inline integration with existing flanged piping – thus minimizing engineering and installation costs. The system can be easily retrofitted into existing chlorine contact tanks and effluent channels, and comes pre-tested, pre-assembled and pre-wired to minimize installation costs.

Designed for simplicity and reliability. Systems are straightforward to operate and require minimal operator involvement, thanks to modular design and robust components.

Operator-friendly maintenance. Our lamps are guaranteed for 12,000 hours of operation and can be replaced without tools in less than three minutes per lamp. Modules are electrically separate, allowing a single module to be removed without disrupting flow or taking the system offline.

Outdoor installation flexibility. All components can be installed outdoors, eliminating the need and costs of a building, shelter and air conditioning for ballast cooling.

Well suited to changing regulations. Our systems do not have any negative impact on receiving waters, making them strategically sound choice for long-term treatment as regulations continue to become increasingly stringent.

Guaranteed performance and comprehensive warranty. Our systems include a Lifetime Disinfection Performance Guarantee.

Advanced, Self-Contained UV Modules

Compact footprint simplifies installation and eliminates air conditioning costs

Benefits:

- Space-saving, electronic ballasts are housed in the modules to minimize footprint size, installation time and costs
- Convection cooling of the ballasts eliminates costs associated with air conditioning or forced-air cooling
- Lamps are protected in a fully-submersible, Type 316 stainless steel frame
- All wiring and cables are safely enclosed inside the waterproof module frame – fully protecting them from effluent and UV light
- Modules are electrically separated from each other, allowing them to be individually removed for maintenance and spare modules quickly inserted to maintain maximum performance

The advanced, self-contained modules incorporate convection-cooled ballasts and feature a UV lamp status indicator (below) for at-a-glance confirmation that all lamps are operating.

- Streamlined modules minimize head loss and prevent buildup of debris on the lamps
- All module wiring is pre-installed and factory-tested

Innovative Ballasts and Enclosures Provide Significant Advantages	
Module-mounted Ballasts	• Take up less space and reduce footprint, minimizing installation time and costs
Convection Cooling	• Housing the ballasts in the module allows for natural convection cooling to dissipate the heat of the ballasts into the air • The ballasts are kept sealed and protected • No air conditioning or forced-air cooling required
Clean, Water-tight Protection	• Some suppliers use external cabinets with forced-air cooling. This introduces dust and moisture onto circuit boards and other electronic components, greatly reducing the life of these components • Internal housing in sealed modules keeps all components dry and clean
Internal Cabling	• All lamp/ballast wiring is contained within the module frame. This configuration protects wires and cables from exposure to effluent, debris fouling and UV light • Internal cabling allows all electrical connections within the module to be factory-tested

Proven Performance, Components and Design

Validated through regulatory-endorsed bioassay testing

Benefits:

- Performance data is generated from actual field testing (bioassay validation) over a range of flow rates, effluent qualities and UV transmittances
- Provides regulatory-endorsed physical verification that systems will perform as expected – ensuring public and environmental safety
- Most accurate assessment of system sizing needs
- Low-pressure lamps and ballasts have proven their outstanding reliability in thousands of installations
- Open-channel design allows cost-effective installation into existing effluent channels & chlorine contact basins
- Systems can be installed outdoors to reduce building capital costs
- Modular design is scalable for precise sizing, and expandable to meet new regulatory or capacity requirements

Gravity-fed, open channel design delivers cost savings at installation through simple retrofits into existing effluent channels and chlorine contact tanks. Rugged, proven components make operation and maintenance extremely cost effective.

Designed & Built for Easy Maintenance

User-friendly design requires minimal service and operator involvement

Benefits:

- Lamps are warranted for 12,000 hours
- Routine maintenance can be scheduled and completed without disrupting disinfection
- Replacement of UV lamps can be completed without tools and requires less than three minutes per lamp

Lightweight, self-contained modules are operator-friendly and make routine maintenance quick and easy. Modules can be individually removed for periodic sleeve cleaning and lamp replacement after 12,000 hours. An optional, mobile cleaning rack simplifies maintenance procedures.

Highly Flexible Installation Configurations

Pre-engineered for cost-effective integration with piping or channels

Benefits:

- Designed to meet disinfection requirements with minimal engineering costs
- Can be installed in series to treat higher flows or provide additional redundancy
- Pre-engineered stainless steel channels with built-in weirs are installed as a freestanding structure
- Stainless steel channels are easily integrated with existing flanged piping using our highly flexible transition boxes (Figure 1)
- Optional turn boxes minimize system footprint by connecting stainless steel channels and allowing two banks in series to be installed side-by-side (Figure 2)
- Transition boxes can be designed for straight, left or right pipe connections (Figure 3)

Figure 1: Banks in Series – Side View

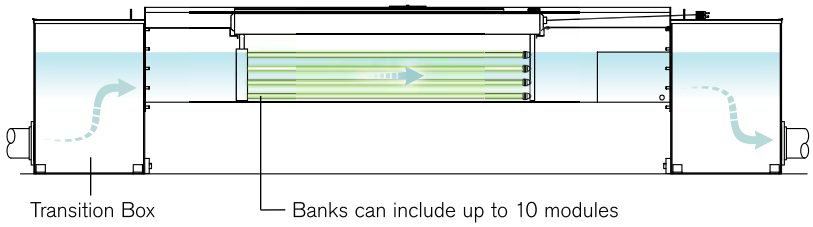


Figure 2: Banks in Series With Turn Box – Overhead View

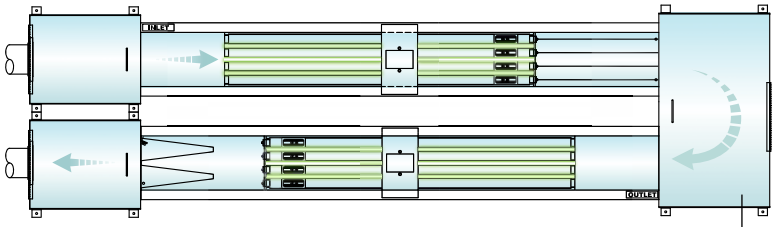
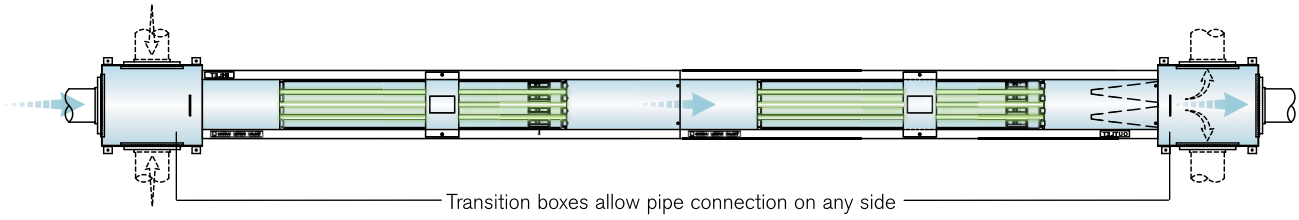


Figure 3: Banks in Series – Overhead View



Pre-engineered for simple, effective, low-cost wastewater disinfection. The optional 304 stainless steel channels feature a UV module support rack, and can be installed as a freestanding unit. Turn boxes and transition boxes allow systems to be incorporated with maximum flexibility and minimal footprint.

TROJAN UV3000™ PTP

System Specifications

System Characteristics	TrojanUV3000™PTP
Typical Applications	Up to 3 MGD (473 m^3/hr)
Lamp Type	Low-pressure
Ballast Type	Electronic; non-variable
Input Power Per Lamp	45 or 87.5 Watts
Lamp Configuration	Horizontal, parallel to flow
Module Configuration	2 or 4 lamps per module
Bank Configuration	Up to 10 modules per bank
Channel Configurations	
Lamp Banks in Series	Up to 2
Channel Options	Stainless Steel (Trojan option) or Concrete (by others)
Flanged Transition Connections	Optional for stainless steel channels
U-Turn Connector Box	Optional for stainless steel channels
Level Control Device Options	Fixed weir
Enclosure Ratings	
System Monitor/Control Center	Fibreglass
Ballast Enclosure	TYPE 6P (IP67)
Ballast Cooling Method	Convection; no air conditioning or forced air required
Installation Location	Indoor or outdoor
System Monitoring & Controls	
Controller	Optional; Monitoring only
UV Intensity Monitoring	Optional
Flow Pacing	–
Inputs Required	None
Local Status Indication	Lamp Age (hours) UV Intensity (mW/cm^2)
Remote Alarms	UV Intensity (4-20 mA)
Location	Indoor or outdoor
Maximum Distance from UV Channel	15 ft. (4.5 m)
Electrical Requirements	
Power Distribution	Individual GFI Receptacles
Quantity Required	1 receptacle per 2 modules
Power Input	120V, single phase

TrojanUV is part of the Trojan Technologies group of businesses.

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www.trojanuv.com

For a list of our global offices, please visit **trojanuv.com/contactus**.

TROJAN UV™
A TROJAN TECHNOLOGIES BUSINESS

Appendix D

Opinions of Probable Cost

City of Moberly
City Council Agenda Summary

Agenda Number: _____
Department: Public Utilities
Date: January 4, 2021

Agenda Item: A Resolution Approving A Contract For The Sale Of Real Estate And Ratifying The Execution Of The Contract On Behalf Of The City.

Summary: In a closed council meeting the city staff notified council of a sale by auction of real estate located within the watershed for Sugar Creek Lake. The city was authorized to participate in the auction to acquire specific pieces of the property within a certain price range. Mary Calcagno successfully bid on the two tracts and executed a contract with a 10% payment.

Recommended Action: Approve this resolution

Fund Name: Land Acquisition Costs

Account Number: 303.000.5506

Available Budget $: 0

ATTACHMENTS:

_X_ Memo	___ Council Minutes	
___ Staff Report	___ Proposed Ordinance	
___ Correspondence	___ Proposed Resolution	
___ Bid Tabulation	___ Attorney's Report	
___ P/C Recommendation	___ Petition	
___ P/C Minutes	___ Contract	
___ Application	___ Budget Amendment	
___ Citizen	___ Legal Notice	
___ Consultant Report	___Other_____	

Roll Call	Aye	Nay
Mayor		
M___ S___ **Jeffrey**	___	___
Council Member		
M___ S___ **Brubaker**	___	___
M___ S___ **Kimmons**	___	___
M___ S___ **Davis**	___	___
M___ S___ **Kyser**	___	___
	Passed	Failed

BILL NO:_____ **RESOLUTION NO:_____**

A RESOLUTION APPROVING A CONTRACT FOR THE SALE OF REAL ESTATE AND RATIFYING THE EXECUTION OF THE CONTRACT ON BEHALF OF THE CITY.

WHEREAS, city staff previously notified the city council of the sale, by auction, of real estate located within the watershed for Sugarcreek Lake; and

WHEREAS, the city council authorized staff to participate in the auction and to acquire the property within certain price parameters; and

WHEREAS, Mary E. Calcagno attended the auction and successfully bid on two tracts and executed a contract on behalf of the city and made a ten percent down payment; and

WHEREAS, the Contract for the Sale of Real Estate (the "contract") is attached hereto.

NOW, THEREFORE, the Moberly, Missouri, City Council hereby approves the Contract as recommended by city staff and ratifies Mary E. Calcagno's execution of the Contract on behalf of the City of Moberly.

RESOLVED this 4th day of January, 2021, by the Council of the City of Moberly, Missouri.

_____

Presiding Officer at Meeting

ATTEST:

_____

City Clerk

CITY OF MOBERLY
101 WEST REED ST
MOBERLY MO 65270-1554

Date	Voucher Numbe
12-23-2020	27058

VENDOR

TOWN & COUNTRY ABSTRACT CO
PO BOX 177
MOBERLY, MO 65270

APPROVED BY:

Invoice #	Description	GL Account	Amount
20201218	10% DOWN SUGAR CREEK LAND AUCTION PURCHASE, 2 TRACTS	LAND ACQUISITION COSTS 303.000.5506	13,054.00

Vendor # 642

Total 13,054.00

Greg Hodge

From: Brian Crane
Sent: Sunday, December 20, 2020 2:55 PM
To: Austin Kyser; Randall Thompson; Cole Davis; Jerry Jeffrey; John Kimmons; Kay Galloway; Shirley Olney; Tim Brubaker
Cc: Greg Hodge; Randall Thompson; Mary West
Subject: Sugar Creek Lake Land Auction
Attachments: 20-222.pdf

In case you haven't heard about the public auction Friday, the city was successful getting tract 1 and 4 on this property. Thanks Mary for attending for the city! We ended up paying $130,540. We paid 10% that night as a deposit. We need to make sure we either minus our part of the land owned by city, and if we want to get tract 5 from him. We will need to close and have council take appropriate action. After completion, the staff will work on an internal review about needs/use for the property, and if none, potential resale/lease of property with restrictions if possible. Thanks and see everyone tomorrow.

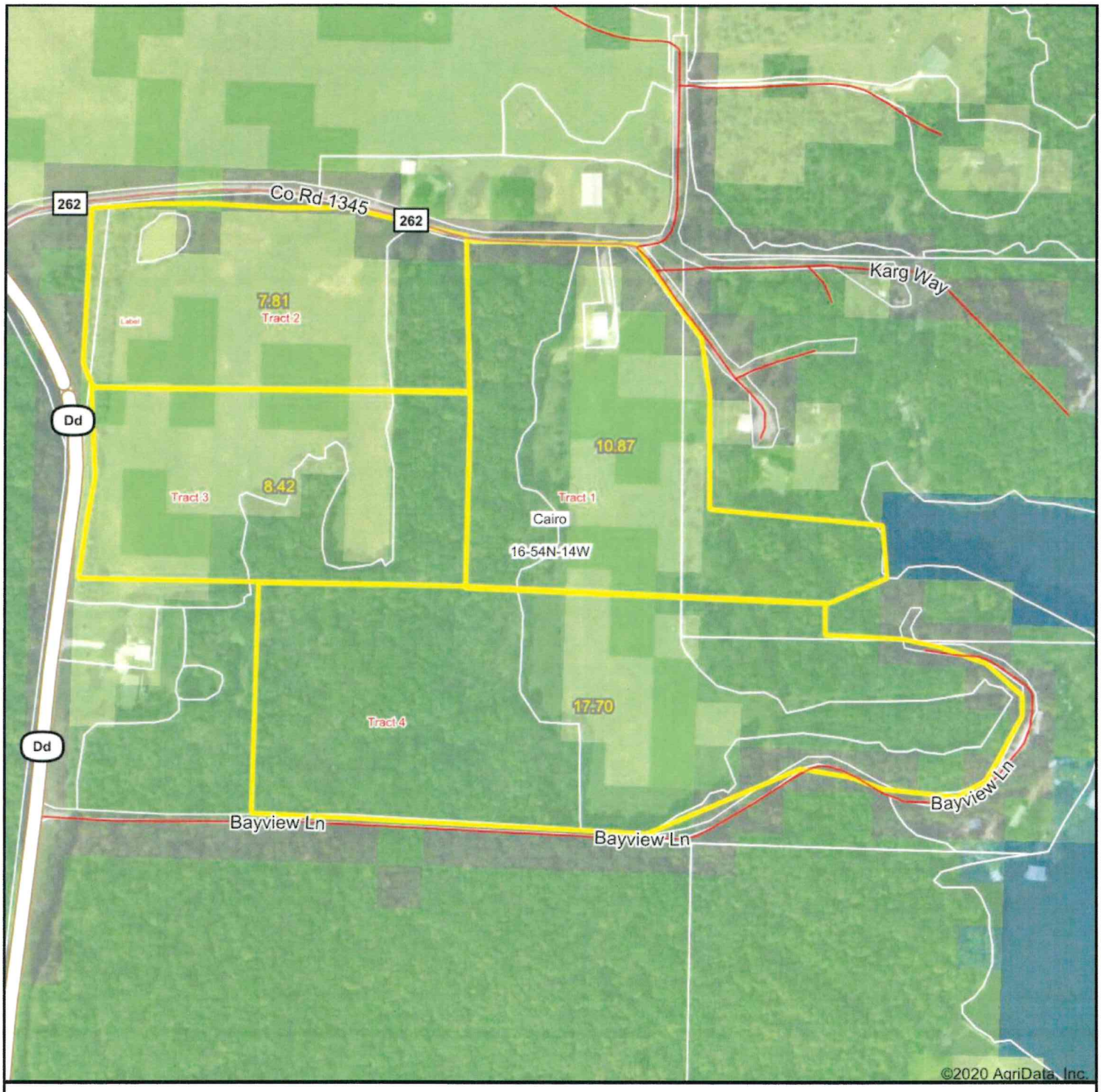
Brian

CITY OF MOBERLY **GENERAL DISBURSEMENT ACCOUNT** 85365

Town & Country Title Co. 13,054.00

This is from the check Mary did Friday.
Carla

Aerial Map



Map Center: 39° 28' 39.69, -92° 29' 3.11

0ft 346ft 692ft

16-54N-14W
Randolph County
Missouri

N
W E
S

10/29/2020

Maps Provided By
surety® CUSTOMIZED ONLINE MAPPING
© AgriData, Inc. 2020 www.AgriDataInc.com

Field borders provided by Farm Service Agency as of 5/21/2008. Crop data provided by USDA National Agricultural Statistics Service Cropland Data Layer.

(https://www.scottysauctionservice.com)

(tel:15733564405)

573-356-4405 (tel:15733564405)

Sugar Creek Lake Real Estate Auction; Friday, December 18, 2020 at 6:00 p.m.

Directions: Auction to be held at Route Z Classic Country Barn & Grill located just West of the US Highway 63, State Highway K intersection in Cairo, Missouri. Watch for auction signs the day of sale.

Real Estate: We will be offering for auction four tracts of land located in the Sugar Creek Lake area. Sugar Creek Lake is a 330 acre reservoir on Sugar Creek located approximately 4 miles northeast of the City of Moberly and serves as the City's drinking water source. The lake is used frequently for recreation and there is a public access for boating and fishing available. The acreage is partly wooded with openings that would make great areas for recreation or a terrific location to build your dream home. To arrange a personal showing to view the real estate, please call Scotty at 573-356-4405.

TRACT 1: Proceed West of US Highway 63 at Cairo approximately 4.5 miles on State Highway Z to State Highway DD. Turn South for 2.2 miles to County Road 1345 for 0.2 miles, following curve of the road to Private Road 1348 and continue South approximately 0.1 mile to east boundary of the property. The property is 11 acres more or less, has lake access and includes a 45′ x 30′ pole barn shop/shed with water and septic. It has a concrete floor, a 14′ wide x 12′ high door and two-12 wide' x 8′ high doors. It would make a perfect weekend get away or a great building location.

TRACT 2: Proceed West of US Highway 63 at Cairo approximately 4.5 miles on State Highway Z to State Highway DD for 2.2 miles. The property is located at the intersection of State Highway DD and County Road 1345. The property is 8 acres more or less and includes a small pond. It's a perfect place for a get away or building location.

TRACT 3: Proceed West of US Highway 63 at Cairo approximately 4.5 miles on State Highway Z to State Highway DD. Turn South for 2.3 miles to County Road 1345. The property is located on your left. The property is 9 acres more or less. With a wooded backdrop and blacktop frontage, it would be great for a get away or building location.

TRACT 4: Proceed West of US Highway 63 at Cairo approximately 4.5 miles on State Highway Z to State Highway DD. Turn South for 2.4 miles to County Road 1340. Travel East approximately 0.2 miles. The property is located on the left. The property is 18 acres more or less. With a nice blend of woods and open fields, this property is the perfect place to build your dream home.

Real Estate Terms & Conditions:

1. PROCEDURE: All bids placed are by the Acre. The winning bidder will get their choice of tract(s). In the first round of bidding, the property will not be considered "SOLD" but will be considered "PENDING". When all tracts are considered "PENDING", th eer will meet with the seller and each tract will be opened back up for additional bids. If high bidder chooses more than one tract of land at the same time in the fi f bidding, those properties will be opened back up together for bidding.

#7.

2. ACCEPTANCE OF BID PRICES: Winning bidder will enter into a Contract to Purchase immediately upon being declared the Successful Bidder by the Auctioneer. Th Seller reserves the right to reject any and all bids. Once accepted, this agreement shall be binding on the parties and their successors and assigns. This agreement is N subject to financing, inspections, or other contingencies that delay the closing for any such reason.

3. DOWN PAYMENT: 10% of the contract purchase price will be due upon acceptance of the Sales Contract. Personal or Cashier's Checks will be accepted. This is "AS IS, WHERE IS" and is non-refundable.

4. CLOSING: Closing shall be within 30 days of the auction date.

5. POSSESSION: Possession will be given at closing, subject to the remaining rights of the current tenant(s) if any.

6. TITLE: Seller shall furnish the buyer(s) at Sellers expense an Owners Policy of Title Insurance in the amount of the purchase price, and agrees to provide and execute a proper deed conveying merchantable title to the real estate to the buyer(s).

7. SURVEY: AT SELLERS OPTION, the Seller shall provide a new survey where there is no existing legal description to convey title. All acreage is subject to final survey.

8. REAL ESTATE TAXES: Real Estate taxes shall be prorated as of the date of closing between the Seller and the Buyers.

The information is believed to be accurate; however, no liability for its accuracy, errors or omissions is assumed. All lines are drawn on maps, photographs, etc. are approximate. Buyers should verify the information to their satisfaction. There are no expressed or implied warranties pertaining to this property. Real estate (including all improvements, if any) is being sold As Is, Where Is with NO warranties expressed or implied. Please make all inspections and have financing arranged prior to the end of bidding.

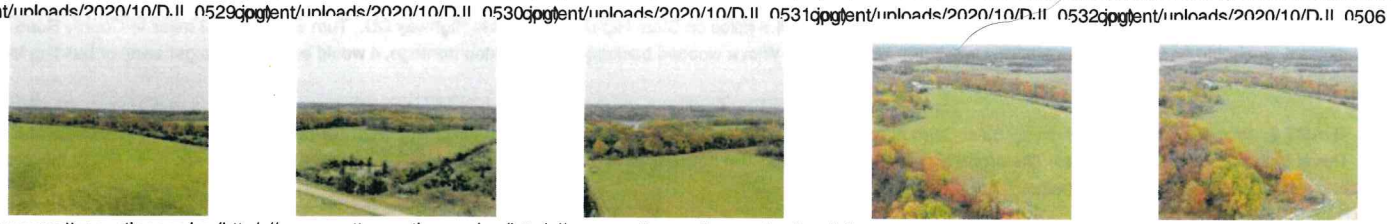
Click on image to enlarge

(https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0514.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0515.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0516.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0517.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0518

(https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0519.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0520.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0521.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0522.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0523

(https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0524.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0525.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0526.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0527.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0528

(https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0529.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0530.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0531.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0532.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0506



(https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0505.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0507.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0508.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0509.jpg) (https://www.scottysauctionservice.com/wp-content/uploads/2020/10/DJI_0510

CONTRACT FOR THE SALE OF REAL ESTATE

This Contract of Sale is being made this 18th day of December (month), 2020 (year).

Title to this property is currently held in a Trust. Yes or (No) (circle one).
If applicable, name of current Trustee _____.

This property is being sold by a Power of Attorney. Yes or (No) (circle one).
If applicable, name of Power of Attorney. _____.

This contract is therefore, by and between the following parties PH Holding LLC hereafter referred to as "Sellers" and City of Moberly hereafter referred to as "Buyers." That for and in consideration of the mutual obligations of the parties hereto, Seller and Buyer covenant and agree and Seller shall sell and convey the Buyer and Seller agrees to purchase the following described real estate, located in the County of Randolph State of Missouri, legally described as: _____
and also commonly described as Tract 1 & Tract 4 Sugar Creek Lake

(Hereafter referred to as "Property", with the full legal description on Seller's title insurance policy to govern.) Together with all the improvements to the Property including but not limited to all structures and attached fixtures, and additionally to include the following described personal property.

n/a

And additionally to specifically excluded the following described personal property:

n/a.

Special Agreements:

Subject however, to any easements, covenants, and restrictions of record and any existing zoning laws or ordinances that may affect the use of the Property.

The following terms and covenants of sale are hereby included:

1. TERMS: The price for said property shall be $130,540.00, _____, to be paid as follows: $13,054.00 down at the time of the execution of this contract as a non-refundable earnest money deposit to be applied to the purchase price at time of closing. Said deposit shall be deposited in the escrow account with Town & Country Title (title of company) within one business day, and shall be held until closing. Upon delivery of the Warranty Deed at closing, Buyer shall pay the balance of the purchase price to the Seller. In the event the buyer breaches the terms of this contract, the earnest money deposit shall be forfeited to and retained by the seller.
2. CLOSING: The closing of the sale of the Property shall be executed at the office of Town & Country Title (title of company), in Moberly, MO, on or before the 20th day of January, 2021 (year). Possession of the Property shall be delivered to the Buyer upon payment of balance by Buyer and execution and delivery of the Warranty Deed of Seller.
3. WARRANTIES: Neither the Seller nor the Auctioneer make any warranties either express or implied concerning the condition of any part of the Property or the Improvements thereon. Buyer agrees that he has made all inspections he deems necessary, including inspections for lead based paint, mold, structural condition, and suitability for a particular purpose, and hereby waives his/her right to any further inspections. Buyer is purchasing the property in "AS-IS" condition. Buyer understands and agrees that nothing in the Contract of Sale shall be construed to impose or imply any obligation or liability on Seller prior to or after the Closing Date to alter, improve, or repair the Property or any improvements they are on, or to initiate or pay for any abatement, remediation or other response action to the

existence of any hazardous waste, material or substance subject to remediation or other response action in compliance with any state or federal law or regulations on or under the surface of the property or any appurtenant intend easement location, or in, on or under the improvements there on.

4. TITLE INSURANCE/CLOSING: The Seller shall within a reasonable time prior to the closing date specified herein deliver the buyer a commitment to issue an owner's policy of title insurance. Any commitment made it hereunder shall be in the amount of the insurance company license to write title insurance in Missouri (state), which policy shall insure the owner's title to be marketable in fact as called for by the Contract and shall that a policy shall be issued immediately after the Seller's General Warranty Deed to the buyer is filed of record. All costs of said title insurance, including the premium for the final owner's title policy, will be paid for by the seller. Any other cost and expenses will be paid by the appropriate party as usual and customary. Closing cost will be split between the buyer and seller.
5. TAXES: Real estate taxes for the year 2021 shall be prorated as for the date of closing.
6. RISK OF LOSS: any loss or damage to the Property by fire or any other casualty, whether or not covered by insurance, which occurs prior to Closing shall not in any way void or impair the Contract of Sale. The Seller shall maintain fire and extended coverage insurance on the premises until closing.
7. ENTIRE AGREEMENT: This Contract of Sale represents the entire agreement between the parties and shall extend to and be binding upon the heirs, personal representatives, successors and assigns. If Buyer is a business entity, the principles of Buyer hereby join in the execution of the contract, including without limitation, the payment of the purchase price on the closing date. If more than one person executes this Contract pursuant to this clause, the obligations of each such person shall be joint and several.

IN WITNESS WHEREOF, the Buyer(s) and Seller(s) have executed this Agreement on the date indicated and acknowledge receipt of one copy of this Contract.

BUYER: Mary E. Calcagno DATE: 12/18/2020

BUYER PHONE NUMBER: (660) 651-7565

BUYER: _____ DATE: _____

BUYER PHONE NUMBER: _____

SELLER: [signature] DATE: 12/18/2020

SELLER PHONE NUMBER: 660 734 2188

SELLER: _____ DATE: _____

SELLER PHONE NUMBER: _____

City of Moberly
City Council Agenda Summary

Agenda Number: _____
Department: City Clerk
Date: January 4, 2021

Agenda Item: A Resolution appropriating money out of the Treasury of the City of Moberly, Missouri.

Summary: Appropriation Resolution.

Recommended Action: Please approve this Resolution.

Fund Name: N/A

Account Number: N/A

Available Budget $: N/A

ATTACHMENTS:

___ Memo	___ Council Minutes	
___ Staff Report	___ Proposed Ordinance	
___Correspondence	_x_ Proposed Resolution	
___ Bid Tabulation	___ Attorney's Report	
___ P/C Recommendation	___ Petition	
___ P/C Minutes	___ Contract	
___ Application	___ Budget Amendment	
___ Citizen	___ Legal Notice	
___ Consultant Report	___Other_____	

Roll Call	Aye	Nay
Mayor		
M___ S___ **Jeffrey**	___	___
Council Member		
M___ S___ **Brubaker**	___	___
M___ S___ **Kimmons**	___	___
M___ S___ **Davis**	___	___
M___ S___ **Kyser**	___	___
	Passed	Failed

BILL NO. _____ **RESOLUTION NO.** _____

A RESOLUTION APPROPRIATING MONEY OUT OF THE TREASURY OF THE CITY OF MOBERLY, MISSOURI IN THE AMOUNT OF $457,993.40.

WHEREAS, the funds are to be disbursed as follows;

SECTION 1: There is hereby appropriated out of the **General Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$44,567.98.**
SECTION 2: There is hereby appropriated out of the **Non-Resident Lodging Tax Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$14,167.68.**
SECTION 3: There is hereby appropriated out of the **Payroll Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$2,580.42.**
SECTION 4: There is hereby appropriated out of the **Solid Waste Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$10,145.33.**
SECTION 5: There is hereby appropriated out of the **Heritage Hills Golf Course Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$962.00.**
SECTION 6: There is hereby appropriated out of the **Parks and Recreation Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$165,663.39.**
SECTION 7: There is hereby appropriated out of the **Airport Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$14,830.35.**
SECTION 8: There is hereby appropriated out of the **Veteran Memorial Flag Project Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$109.81.**
SECTION 9: There is hereby appropriated out of the **Utilities Collection Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$3,093.93.**
SECTION 10: There is hereby appropriated out of the **Utilities OP & Maintenance Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$58,499.73.**
SECTION 11: There is hereby appropriated out of the **Utilities OP Reserve Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$15,511.52.**
SECTION 12: There is hereby appropriated out of the **Capital Improvement Trust Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$21,203.86.**
SECTION 13: There is hereby appropriated out of the **2004B SRF Bonds Debt Service Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$37,900.15.**
SECTION 14: There is hereby appropriated out of the **2006A SRF Bonds Debt Service Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$27,495.96.**
SECTION 15: There is hereby appropriated out of the **2004C Bonds Debt Service Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$26,187.97.**
SECTION 16: There is hereby appropriated out of the **Emergency Telephone Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$7,060.00.**
SECTION 17: There is hereby appropriated out of the **Street Improvement Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$6,863.32.**
SECTION 18: There is hereby appropriated out of the **Downtown CID Property Tax Fund** of the Treasury of the City of Moberly, Missouri to pay expenses due January 4, 2021 in the amount of **$1,150.00.**

NOW, THEREFORE, the Moberly City Council authorizes these expenditures.
RESOLVED this 4th day of January 2021 by the Council of the City of Moberly, Missouri.

ATTEST:

_____
Presiding Officer

_____
City Clerk

I hereby certify that there is sufficient money standing to the credit of the City of Moberly, Missouri, unappropriated in the several funds covered by this resolution to meet the requirements of this resolution.

_____
City Treasurer, City of Moberly, Missouri

EXPENSES PAID DECEMBER 17, 2020 - JANUARY 4, 2021 FOR THE FOLLOWING FUNDS ARE TO BE INCLUDED WITH THE JANUARY 4, 2021 APPROPRIATION RESOLUTION TOTAL.

General Fund	$	44,567.98
Non-Resident Lodging Tax Fund	$	14,167.68
Payroll Fund	$	2,580.42
Solid Waste Fund	$	10,145.33
Heritage Hills Golf Course Fund	$	962.00
Parks and Recreation Fund	$	165,663.39
Airport Fund	$	14,830.35
Veteran Memorial Flag Project Fund	$	109.81
Utilities Collection Fund	$	3,093.93
Utilities OP & Maintenance Fund	$	58,499.73
Utilities OP Reserve Fund	$	15,511.52
Capital Improvement Trust Fund	$	21,203.86
2004B SRF Bonds Debt Service Fund	$	37,900.15
2006A SRF Bonds Debt Service Fund	$	27,495.96
2004C Bonds Debt Service Fund	$	26,187.97
Emergency Telephone Fund	$	7,060.00
Street Improvement Fund	$	6,863.32
Downtown CID Property Tax Fund	$	1,150.00
Total	**$**	**457,993.40**

I hereby certify that there is sufficient money standing to the credit of the City of Moberly, Missouri, unappropriated to cover the above funds.

Lynn A. Hodge — 12/30/2020

City Treasurer, City of Moberly, Missouri — Date

BANK#	BANK NAME	CHECK#	DATE	ACCOUNT#	NAME	CHECK AMOUNT	CLEARED	MANUAL	VOID	REASON FOR VOID
24 DISBURSEMENTS										
		85365	12/18/2020	642	TOWN & COUNTRY ABSTRACT CO	13,054.00		MANUAL		
*		85366	Thru 85376							
		85377	1/04/2021	5445	BOCK JEREMY	1,303.24				
		85378	1/04/2021	6311	AIRMEDCARE NETWORK	350.00				
		85379	1/04/2021	6305	ALEWELT CONCRETE INC	125.00				
		85380	1/04/2021	6120	AMAZON CAPITAL SERVICES	241.05				
		85381	1/04/2021	6	AMEREN MISSOURI	15.94				
		85382	1/04/2021	6	AMEREN MISSOURI	354.00				
		85383	1/04/2021	5411	ARCHIVESOCIAL	4,788.00				
		85384	1/04/2021	790	ARISTA INFORMATION SYSTEMS INC	2,804.57				
		85385	1/04/2021	30	ARTDEP+BENTON	3,007.00				
		85386	1/04/2021	17	AT&T 5001	7,049.50				
		85387	1/04/2021	17	AT&T 5001	10.50				
		85388	1/04/2021	26	B & D LOCK & KEY	125.00				
		85389	1/04/2021	2694	BOB'S BUTCHER SHOP	129.87				
		85390	1/04/2021	2885	BOTKINS TRUCKING LLC	455.84				
		85391	1/04/2021	6312	BRANSTETTER SUMMER	100.00				
		85392	1/04/2021	2605	BRATCHER'S MARKET	371.31				
		85393	1/04/2021	4186	BROOKS MICHELLE	78.06				
		85394	1/04/2021	591	CASON BUILDING MAINTENANCE INC	2,063.70				
		85395	1/04/2021	3137	CINTAS CORPORATION #379	54.58				
		85396	1/04/2021	653	COE EQUIPMENT	197.73				
		85397	1/04/2021	2645	CORE & MAIN LP	1,301.74				
		85398	1/04/2021	4673	CRANE BRIAN	1,600.00				
		85399	1/04/2021	678	CROWN POWER & EQUIPMENT	68.70				
		85400	1/04/2021	695	ENGINEERING SURVEYS & SERVICES	10,115.28				
		85401	1/04/2021	2950	EVERTS MATT	74.81				
		85402	1/04/2021	3103	FASTENAL COMPANY	273.29				
		85403	1/04/2021	2839	FUSION TECHNOLOGY LLC	1,155.95				
		85404	1/04/2021	704	GALLS LLC	2,309.90				
		85405	1/04/2021	6310	GERALD MURRAY MUSIC LLC	3,750.00				
		85406	1/04/2021	298	HARLAN ELECTRIC & CONTROLS LLC	812.00				
		85407	1/04/2021	5959	HEARTLAND TACT OFFICERS ASSOC	175.00				
		85408	1/04/2021	6309	HOOTON TONJA	25.00				
		85409	1/04/2021	6096	HUTCHINSON RECREATION & DESIGN	108,600.00				
		85410	1/04/2021	471	HYDRO KINETICS	32,676.00				
		85411	1/04/2021	2812	JACOBS ENGINEERING GROUP INC	21,203.86				
		85412	1/04/2021	2919	L & J DEVELOPMENT INC	43,878.62				
		85413	1/04/2021	579	LAND/CHARITON COUNTY CONCRETE	1,167.26				
		85414	1/04/2021	6255	LEGEND NUTRITION LLC	375.00				
		85415	1/04/2021	1381	LEON UNIFORM COMPANY	1,016.85				
		85416	1/04/2021	4025	LEWIS SARAH	100.00				
		85417	1/04/2021	1246	LOCHNER	14,224.82				
		85418	1/04/2021	6308	LONG REBECCA	100.00				
		85419	1/04/2021	1565	MACON ELECTRIC COOP	40.46				
		85420	1/04/2021	1756	MIRMA	857.52				
		85421	1/04/2021	5239	MISSOURI DEPART OF REV 3375	2,968.93				
		85422	1/04/2021	3539	MISSOURI LOGOS	1,175.00				
		85423	1/04/2021	604	MISSOURI MUNICIPAL LEAGUE	1,817.40				
		85424	1/04/2021	360	MO DEPARTMENT OF NATURAL RESOU	150.00				
		85425	1/04/2021	2771	MO POLICE CHIEFS ASSOCIATION	225.00				

BANK# BANK NAME CHECK#	DATE	ACCOUNT#	NAME	CHECK AMOUNT	CLEARED	MANUAL	VOID	REASON FOR VOID
85426	1/04/2021	2740	MOBERLY AREA CHAMBER OF COMMER	14,167.68				
85427	1/04/2021	4906	MUTTER FARMS LLC	7,450.19				
85428	1/04/2021	2892	PACE ANALYTICAL	389.00				
85429	1/04/2021	5727	PEST PRO SOLUTIONS INC	60.00				
85430	1/04/2021	6193	ROBERTS DEMOLITION & ROLL OFF	5,400.00				
85431	1/04/2021	617	SCHULTE SUPPLY INC	1,573.08				
85432	1/04/2021	2394	SESAC	483.00				
85433	1/04/2021	6008	SHADES OF TUESDAY LLC	500.00				
85434	1/04/2021	6307	SKINNER DAVID	100.00				
85435	1/04/2021	2610	BRENDLINGER ENTERPRISES INC	100.00				
85436	1/04/2021	6162	SWALLOW TROPHY & ENGRAVING	35.00				
85437	1/04/2021	6303	THE HEARTLAND	275.00				
85438	1/04/2021	2640	THOMAS HILL PUBLIC WATER SUPPL	71.51				
85439	1/04/2021	1562	UNITED FIRST AID & SAFETY,LLC	101.05				
85440	1/04/2021	2643	UNITED WAY	1,238.42				
85441	1/04/2021	2223	US CELLULAR	379.76				
85442	1/04/2021	2644	USA BLUE BOOK	84.65				
85443	1/04/2021	2646	VALIC	992.00				
85444	1/04/2021	2742	WAL MART COMMUNITY	.00			VOID:	
85445	1/04/2021	2742	WAL MART COMMUNITY	764.73				
85446	1/04/2021	2772	WIRELESS USA	577.35				
85447	1/04/2021	6306	WIRTZ ROBERT JR	286.95				
85448	1/04/2021	5298	ZAMKUS AND ASSOCIATES LLC	1,000.00				
*20190838								
20190839	12/21/2020	5883	GREATLIFE SERVICES, LLC	3,459.00		E-PAY	VOID:	NEEDS PAPER CHECK
20190840	12/24/2020	5783	BANKCARD SERVICES	5,345.91		E-PAY		
20190841	12/22/2020	5429	UMR	91,584.08		E-PAY	VOID:	INCORRECT VENDOR
20190842	12/22/2020	2708	UMB BANK	91,584.08		E-PAY		
20190843	12/28/2020	6	AMEREN MISSOURI	36,116.76		E-PAY		

* See Check Summary below for detail on gaps and checks from other modules.

BANK TOTALS:

OUTSTANDING	457,993.40
CLEARED	.00
BANK 24 TOTAL	457,993.40
VOIDED	95,043.08

FUND		TOTAL	OUTSTANDING	CLEARED	VOIDED
100	GENERAL FUND	44,567.98	44,567.98	.00	.00
102	NON-RESIDENT LODGING TAX	14,167.68	14,167.68	.00	.00
105	PAYROLL FUND	2,580.42	2,580.42	.00	.00
110	SOLID WASTE FUND	10,145.33	10,145.33	.00	.00
114	HERITAGE HILLS GOLF CRSE	962.00	962.00	.00	3,459.00
115	PARKS & RECREATION FUND	165,663.39	165,663.39	.00	.00
120	AIRPORT FUND	14,830.35	14,830.35	.00	.00
140	VETERAN MEMORIAL FLAG PRJ	109.81	109.81	.00	.00
300	UTILITIES COLLECTION FUND	3,093.93	3,093.93	.00	.00
301	UTILITIES OP & MAINT	58,499.73	58,499.73	.00	.00
303	UTILITIES OP RESERVE	15,511.52	15,511.52	.00	.00
304	CAPITAL IMPROVEMENT TRUST	21,203.86	21,203.86	.00	.00

BANK# BANK NAME CHECK# DATE	ACCOUNT#	NAME	CHECK AMOUNT	CLEARED	MANUAL	VOID	REASON FOR VOID	
	377	2004B SRF BONDS DEBT SERV	37,900.15	37,900.15		.00		37,900.15
	378	2006A SRF BONDS DEBT SERV	27,495.96	27,495.96		.00		27,495.96
	379	2004C BONDS DEBT SERVICE	26,187.97	26,187.97		.00		26,187.97
	400	EMERGENCY TELEPHONE FUND	7,060.00	7,060.00		.00		.00
	601	STREET IMPROVEMENT FUND	6,863.32	6,863.32		.00		.00
	912	DOWNTOWN CID PROP TAX	1,150.00	1,150.00		.00		.00

BANK#	BANK NAME	
CHECK#		DESCRIPTION
24	DISBURSEMENTS	
85365		Accounts Payable Checks
85366 Thru	85376	Utility Billing Checks
85377 Thru	85448	Accounts Payable Checks
20190839 Thru	20190843	Accounts Payable E-Pay

City of Moberly
City Council Agenda Summary

Agenda Number: _____
Department: City Manager
Date: January 4, 2021

Agenda Item: Proposal from the Tourism Advisory Commission

Summary: At the October 20, 2020 Moberly Tourism Commission meeting following proposal was reviewed and recommended approval by the Commission.

A proposal from Downtown CID for mural placements in downtown Moberly. They are requesting $1,000 for the event for the mural project. The board made a motion to approve this request for $800 (maximum is $1,000). Points received was 31 out of 35. This is a Capital Improvement Project

We are requesting the design and painting of a mural on what was formerly the JT Cross building on Clark St. This would include the painting of:

- three small windows
- doorway
- large window
- entry
- sign at top of building

We have received one bid from local artist, Jared VanCleve, in the amount of $8,350.00. This bid includes the prep, paint and sealing of the artwork.
The tourism commission has voted to put $1000 towards the painting of this mural with the contingency that there is an interactive element incorporated into the mural.

Recommended Action: Approve this proposal

Fund Name: Non-Resident Lodging Tax Fund

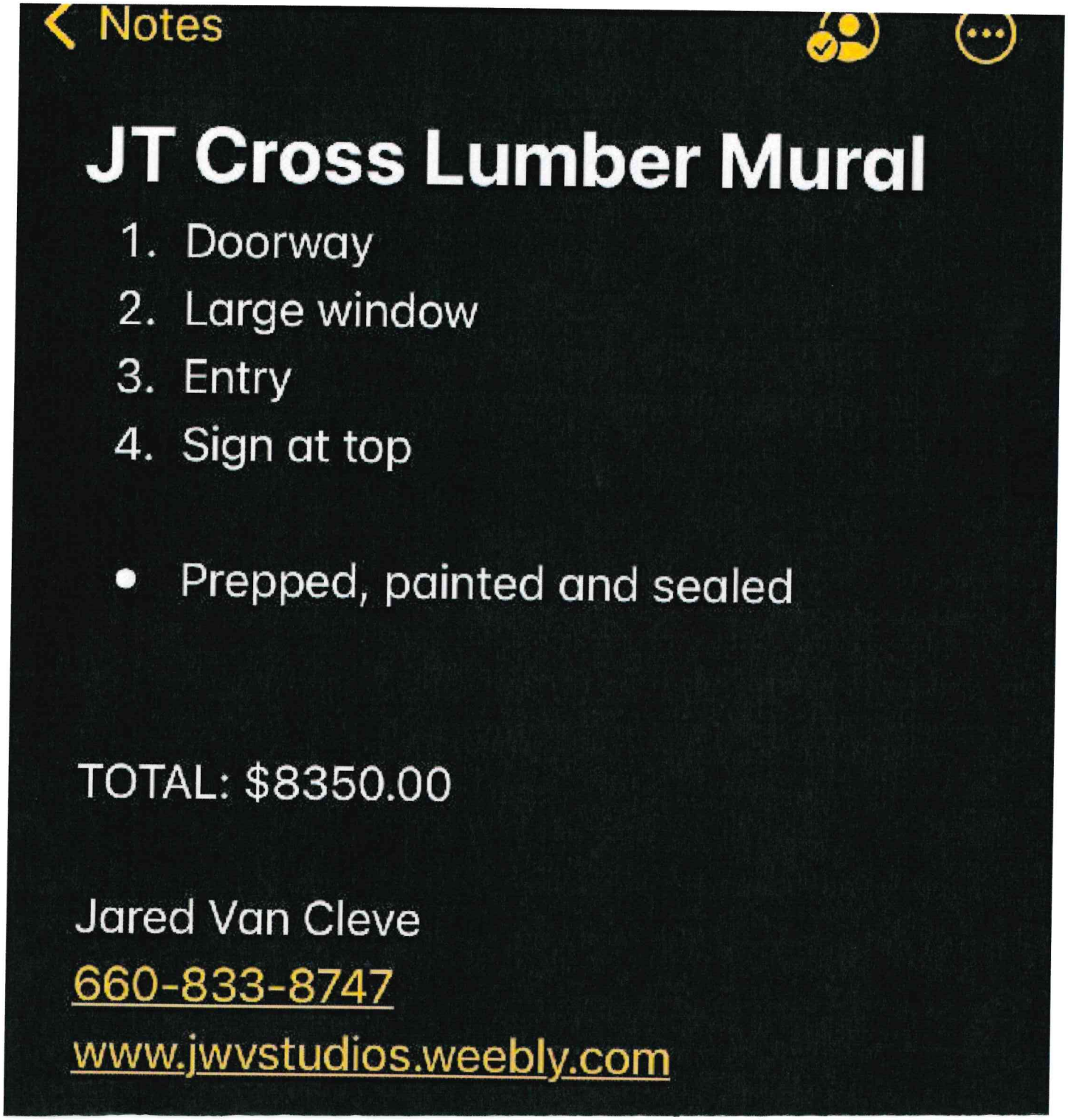
Account Number: 102.000.5502

Available Budget $: 5,000

ATTACHMENTS:

___ Memo	___ Council Minutes	
___ Staff Report	___ Proposed Ordinance	
_x_ Correspondence	___ Proposed Resolution	
___ Bid Tabulation	___ Attorney's Report	
___ P/C Recommendation	___ Petition	
___ P/C Minutes	___ Contract	
___ Application	___ Budget Amendment	
___ Citizen	___ Legal Notice	
___ Consultant Report	___Other_____	

Roll Call	Aye	Nay
Mayor		
M___ S___ **Jeffrey**	___	___
Council Member		
M___ S___ **Brubaker**	___	___
M___ S___ **Kimmons**	___	___
M___ S___ **Davis**	___	___
M___ S___ **Kyser**	___	___
	Passed	Failed


Notes
JT Cross Lumber Mural
1. Doorway
2. Large window
3. Entry
4. Sign at top
• Prepped, painted and sealed
TOTAL: $8350.00
Jared Van Cleve
660-833-8747
www.jwvstudios.weebly.com

Minutes of Meeting
Tourism Advisory Committee
October 20, 2020
6:00 PM

The Tourism Advisory Commission for the City of Moberly met in a session on Tuesday, October 20, 2020 at 6:00 p.m. in the Council Chambers of City Hall. The meeting was called to order by Assistant Chairman, Emily Goyea-Furlong.

Members Present: **Gina Fowler**
Julie Sharp
Chris Weathers
John Kimmons-City Council

City Staff Attending: **Emily Goyea-Furlong, Grant Specialist/PR**
Shirley Olney, Executive Assistant

Members Absent: **Stacie Hammontree**
Janie Riley

Visitors: **Michelle Greenwell- Moberly Tourism Specialist**

Chair Emily opened the meeting at 6:00 PM. Two members were absent from the meeting.

The minutes from the October 16, 2019 meeting was reviewed. Emily asked if there were any corrections, one correction was made by in the second proposal the amount of points was switched. Chris Weathers made a motion to approve the minutes with correction. Julie Sharp seconded the motion. Motion carried

The first proposal was from City of Moberly for placement of murals in downtown Moberly. Emily Goyea-Furlong presented to the board a picture of the Fennel building of where they are looking to place these murals possibly. She is hoping to get the designs finalized soon by Jared VanCleve. Ms. Goyea-Furlong exited the meeting for further discussion by the board. Ms. Weathers asked if there were any questions or discussion regarding the mural. There being none, Gina Fowler made a motion that $881 of the $1,000 request be approved. Total points received was 31 of a possible 35 points. Julie Sharp seconded the motion. Motion carried

Ms. Goyea-Furlong rejoined the meeting.

The next proposal was from Moberly Chamber of Commerce for advertising purchase of new material distribution bags. Emily Goyea-Furlong asked if there was any other questions or discussions. Ms. Goyea-Furlong stated that with no other proposals that have been submitted this year would the board suggest that Moberly Chamber of Commerce possible purchase a better bag for new resident materials instead of the plastic bag. Mr. Kimmons does mention to the board that they might look at the guidelines to make sure that this item would be covered. After some discussion the board would like to have the guidelines resent out to everyone. Ms. Goyea-Furlong mentions that after everyone has reviewed the guidelines and if it felt that the these would fall under the approved guidelines. Then Michelle can get some

figures together and send to Shirley. Emily Goyea-Furlong asked if there was any further discussion; being none, this item was tabled at this time.

The last item on the agenda is review the account balance.

Emily asked if there was anything else to be brought before the Commission. There being no other business Chris Weathers made a motion to adjourn. Julie Sharp seconded the motion to adjourn. Meeting adjourned.

City of Moberly!

Name of Organization: Downtown CID Board Date: 10/16/2020

Contact Person: _____

Address: 101 W. Reed Telephone: 660-269-7663

Date of Event: _____ Name of Event: JT Cross Mural

How Event Promotes Tourism in Moberly

What are the specific, measurable Tourism benefits your event or capital project produces?

Murals promote economic development of populations at risk of displacement. Murals provide a sense of identity, belonging, attachment, welcoming and openness, and strengthen community identification. They create a sense of placemaking and create destinations as well as increasing foot traffic. They also create a sense of public safety by creating a feeling that the location is cared for.

How does your event promote tourism, conventions, and other events within the city?

The goal of this campaign is to engage tourists, and locals, which will encourage curiosity and reinvestment into downtown Moberly. In time we hope that with increased revenue we will be capable of offering additional events in the downtown area and encourage investment. As this building is being advertised as an investment opportunity we believe that adding character to the outside will highlight the potential at this site.

How does your event attract non-residents?

Murals attract non-residents as a location to visit as "selfie-spots". Many times individuals in front of murals are used on social media which will give other viewer an idea of the opportunities we have to offer in Moberly.

If your application were accepted, how would the tourism funds granted be used? (If marketing, fill out itemized marketing budget)

Tourism funds will be used to purchase paint and pay the artist.

Financial Statement (See Attached)

Statement of Assurances

Any funds received under this grant will be used for the purposes described in this application. The figures, facts, and representations in this application are true and correct to be best of my knowledge.

Name (Please Print): Downtown CID Board

Signature: _____

Date: 10/16/2020 Title or Office Held: _____

Detailed Budget

Event: Mural on JT Cross building

Date of Event: _____ Date of Application: _____

Sponsor: _____

	Actual Last Year 20__ OR First Annual Budget	Estimated Present Year 20__
Income (Estimated)		
Rental Booths		
Entry Fees/ Gate Receipts	$	$
Donations/ Sponsorships		
T-Shirts and Souvenirs		
Food and Drinks, Etc.		
Moberly Tourism Grant	$	$
Other: (Explain)		
_____		
_____		
Expenses (Itemized)		
Advertising *		
T-Shirts and Souvenirs Food, Drinks, Etc.		
Labor Costs		
Entertainment		$4,000
Supplies		$1,000
Postage		
Rentals		
Insurance		
Payout, awards, prizes, contest winnings		
Other (Explain)		
_____		
_____		
Total Expenditures		$5,000
Estimate Value of In-Kind Services (Explain)		
_____		

*If marketing grant application, fill out itemized marketing budget sheet.

*Omitting required information will disqualify your application

Itemized Budget of Marketing Grant Funds

(Grant column should match grant dollars in detailed budget) (Total cost should match Advertising dollars in detailed budget)

Item	Description	Total Cost	Grant
Mural	JT Cross Building	5,000	1,000
	TOTAL	5,000	1,000


MURAL'S ON highlighted AREA'S


Mural's on highlighted area's

City of Moberly!

MOBERLY TOURISM COMMISSION

GRANT APPLICATION

PROJECT SCORE SHEET

Date: 10/20/20

Tourism Board Member Name: _____

Name of Event: MuRal

Name of Organization: City of Moberly

Evaluation Factors	Possible Points	Score
Quantify expansion of tourism in Moberly	5	3
Positive Community Impact to Moberly	5	4
Quality and Uniqueness of proposed Project	5	5
Positive Economic Impact to Moberly	5	5
Stability of Management and capacity	5	5
Evidence of Community Support	5	5
Overnight Hotel Stays, Retail, Restaurant	5	4
Total	35	31

The following values are assigned to each numeric spread:

Outstanding - 5 points
Excellent - 4 points
Good - 3 points
Marginal - 2 points
Poor - 1 point

$1,000 $880

November 14, 2020 at 10:09 AM

JT Cross Lumber Mural

1. 3 small windows
2. Doorway
3. Large window
4. Entry
5. Sign at top

- Prepped, painted and sealed

TOTAL: $9,490.00

Jared Van Cleve
660-833-8747
www.jwvstudios.weebly.com