

CITY OF WEST CHICAGO

WHERE HISTORY & PROGRESS MEET

INFRASTRUCTURE COMMITTEE

**Thursday, October 3, 2019
7:00 P.M. – Committee Room A**

AGENDA

1. Call to Order, Roll Call, and Establishment of a Quorum
2. Approval of Minutes
 - A. Infrastructure Committee of June 6, 2019
3. Public Participation / Presentations
4. Items for Consent
 - A. Ordinance No. 19-O-0030 – Authorizing the Disposal of Surplus Equipment, Stock Inventory, and/or Personal Property Owned By the City Of West Chicago
 - B. Resolution No. 19-R-0046 – FY 2020-2022 CDBG Grant Application For Participating Streets
 - C. Resolution No. 19-R-0049 – 2019 Sanitary Collection System Supervisory Control and Data Acquisition (SCADA) Upgrade Project
 - D. Resolution No. 19-R-0050 – Contract Award - Clark Dietz, Inc. For Professional Engineering Services Associated with the Wastewater Treatment Plant Digester #1 Improvement Project
5. Items for Discussion
 - A. Installation of Railing at Stairway Adjacent to 461 Main Street (No Write-Up Attached; Staff to Verbally Discuss at Meeting)
6. Unfinished Business
7. New Business
8. Reports from Staff
9. Adjournment

Draft

MINUTES
INFRASTRUCTURE COMMITTEE

June 6, 2019 7:00 P.M.

1. Call to Order, Roll Call, and Establishment of a Quorum. Chairman Beifuss called the meeting to order at 7:00 P.M. Roll call found Aldermen James Beifuss, Heather Brown, Sandra Dimas, Matt Garling, Alton Hallett, and Jeanne Short present. Alderman Noreen Ligino-Kubinski was absent.

Staff present included Director of Public Works Robert Flatter and Administrative Assistant Ashley Heidorn.

2. Selection of Chairman and Vice-Chairman.

Alderman Dimas nominated Alderman Beifuss as the Chairman of the Infrastructure Committee, seconded by Alderman Garling.

Voting Yea: Aldermen Beifuss, Brown, Dimas, Garling, Hallett, and Short. Voting Nay: 0.

Alderman Beifuss nominated Alderman Dimas as the Vice-Chairman of the Infrastructure Committee, seconded by Alderman Short.

Voting Yea: Aldermen Beifuss, Brown, Dimas, Garling, Hallett, and Short. Voting Nay: 0.

3. Approval of Minutes

A. Infrastructure Committee Minutes of May 2, 2019. Alderman Hallett made a motion, seconded by Alderman Garling to approve the Meeting Minutes of May 2, 2019.

Voting Yea: Aldermen Beifuss, Brown, Dimas, Garling, Hallett, and Short. Voting Nay: 0.

4. Public Participation / Presentations. None.

5. Items for Consent. Alderman Garling requested discussion on Consent Item A. Alderman Dimas made a motion, seconded by Alderman Brown to approve:

- B. Resolution No. 19-R-0032 – Professional Services Agreement with Donohue & Associates, Inc. for Litigation Support Services Associated with the 2012 Well No. 12 Well House Project

Roll call found the vote unanimous for approval. Voting Yea: Aldermen Beifuss, Brown, Dimas, Garling, Hallett, and Short. Voting Nay: 0.

6. Items for Discussion.

5.A. Rejection of Bids – 2019 Sidewalk and Curb Maintenance Program. Mr. Flatter summarized the agenda item write-up and suggested that instead of re-bidding the 2019 Sidewalk and Curb Maintenance Program, the Committee could direct staff to use \$135,000 for sidewalk improvements along Washington Street. Alderman Garling proposed the idea of using funds budgeted for the 2019 Sidewalk Program toward other road projects this year rather than applying it towards sidewalk repairs on Washington Street. Alderman Beifuss inquired how much it would cost for the proposed sidewalk repairs on Washington. Mr. Flatter explained that the Washington Street Reconstruction Project is primarily pavement improvements without curb or sidewalk work, but there are a few depressed curbs, unnecessary driveway aprons, and sidewalks that could be corrected before the pavement would be done; the initial assessment estimates a cost of \$85,000.00 for sidewalk improvements along Washington Street. In Mr. Flatter's opinion, if businesses along Washington are being interrupted by the reconstruction project already, and there is a contractor ready and willing to do the additional work for a reasonable price, now would be the ideal time to work on the sidewalks as well. Following discussion, Alderman Garling proposed putting up to \$105,000.00 towards Washington Street sidewalk improvements (from the \$135,000.00 budgeted for the Sidewalk and Curb Maintenance Program) and saving the balance of \$30,000.00 in the Capital Projects fund for future projects. **Alderman Garling made a motion, seconded by Alderman Dimas to reject the bids and use up to \$105,000.00 of the 2019 Sidewalk and Curb Maintenance Program budget towards Washington Street sidewalk improvements and save the balance in the Capital Projects fund.**

Roll call found the vote unanimous for approval. Voting Yea: Aldermen Beifuss, Brown, Dimas, Garling, Hallett, and Short. Voting Nay: 0.

7. Unfinished Business. None.

8. New Business.

A. Cancel the July 4, 2019, Infrastructure Committee Meeting.

Voting Yea: Aldermen Beifuss, Brown, Dimas, Garling, Hallett, and Short. Voting Nay: 0.

9. Reports from Staff. None.

10. Adjournment. At 7:37 P.M., Alderman Hallett made a motion to adjourn, seconded by Alderman Dimas. Motion was unanimously approved by voice vote.

Respectfully submitted,

Ashley Heidorn
Administrative Assistant of Public Works

CITY OF WEST CHICAGO

INFRASTRUCTURE COMMITTEE AGENDA ITEM SUMMARY

ITEM TITLE:

Ordinance No. 19-O-0030 – Authorizing the Disposal of Surplus Equipment, Stock Inventory, and/or Personal Property Owned By the City Of West Chicago

AGENDA ITEM NUMBER:4.A**COMMITTEE AGENDA DATE:** October 3, 2019**COUNCIL AGENDA DATE:** October 21, 2019**STAFF REVIEW:** Robert E. Flatter, P.E., Public Works Director**SIGNATURE****APPROVED BY CITY ADMINISTRATOR:** Michael L. Guttman**SIGNATURE****ITEM SUMMARY:**

City staff has identified surplus equipment, stock inventory, and/or personal property that has no useful life and is no longer useful to the City, has little or no salvage value, and should be properly disposed of (please refer to Ordinance No. 19-O-0030 and Attachment A for additional information).

Therefore, staff is requesting that these items be declared surplus so that they may be traded in, disposed of through auction, disposed of through the City's contractual waste hauler, recycled, or sold to a local scrap dealer for scrap value; in a manner deemed appropriate by the City Administrator, with or without consideration.

ACTIONS PROPOSED:

Adopt Ordinance No. 19-O-0030 for the disposal or sale of surplus equipment, stock inventory, and/or personal property owned by the City of West Chicago.

COMMITTEE RECOMMENDATION:

ORDINANCE NO. 19-O-0030

**AN ORDINANCE AUTHORIZING THE DISPOSAL OR SALE OF SURPLUS EQUIPMENT,
STOCK INVENTORY, AND/OR PERSONAL PROPERTY OWNED
BY THE CITY OF WEST CHICAGO**

WHEREAS, in the opinion of the corporate authorities of the City of West Chicago, it is no longer necessary or useful to or for the best interests of the City of West Chicago, to retain ownership of the surplus equipment, stock inventory, and/or personal property hereinafter described; and,

WHEREAS, it has been determined by the City Council of the City of West Chicago to properly dispose of said surplus equipment, stock inventory, and/or personal property.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of West Chicago, Illinois, in regular session assembled as follows:

SECTION 1. Pursuant to 65 ILCS 5/11-76-4, the City Council of the City of West Chicago finds that the surplus equipment, stock inventory, and/or personal property listed on Attachment A are no longer necessary or useful to the City of West Chicago and the best interests of the City of West Chicago will be served by their disposal.

SECTION 2. Pursuant to said Statute, the City Administrator is hereby authorized and directed to dispose of the aforementioned surplus equipment, stock inventory, and/or personal property in any manner deemed appropriate, with or without consideration.

SECTION 3. All ordinances and resolutions, or parts thereof, in conflict with the provisions of this Ordinance are, to the extent of such conflict, hereby repealed.

SECTION 4. That this Ordinance shall be in full force and effect ten (10) days from and after its passage, approval, and publication in pamphlet form as provided by law.

PASSED this 21st day of October 2019.

Alderman J. Beifuss	_____	Alderman L. Chassee	_____
Alderman J. Sheahan	_____	Alderman H. Brown	_____
Alderman A. Hallett	_____	Alderman M. Ferguson	_____
Alderman Birch-Ferguson	_____	Alderman S. Dimas	_____
Alderman C. Swiatek	_____	Alderman M. Garling	_____
Alderman R. Stout	_____	Alderman J. Short	_____
Alderman N. Ligino-Kubinski	_____	Vacant - 7 th Ward	_____

APPROVED as to form: _____
City Attorney

ADOPTED this 21st day of October 2019.

Mayor Ruben Pineda

ATTEST:

City Clerk, Nancy M. Smith

PUBLISHED: _____

Ordinance 19-O-0030

ATTACHMENT "A"
LISTING OF SURPLUS ITEMS
ORDINANCE NO. 19-O-0030

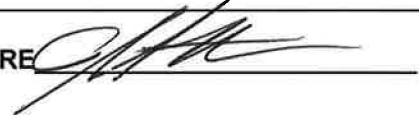
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CITY OF WEST CHICAGO

INFRASTRUCTURE COMMITTEE AGENDA ITEM SUMMARY

ITEM TITLE:

Resolution No. 19-R-0046 – FY 2020-2022 CDBG Grant
Application For Participating Streets

AGENDA ITEM NUMBER:4.B.**COMMITTEE AGENDA DATE:** October 3, 2019**COUNCIL AGENDA DATE:** October 7, 2019**STAFF REVIEW:** Robert E. Flatter, P.E., Director of Public Works**SIGNATURE****APPROVED BY CITY ADMINISTRATOR:** Michael L. Guttman**SIGNATURE****ITEM SUMMARY:**

In August 2019, the DuPage County Community Development Commission announced that they will accept applications for Community Development Block Grant (CDBG) funds for Neighborhood Investment, Community-Wide Benefit, Accessibility Improvements, and Planning Projects for FY 2020 thru 2022. Commencing with FY 2020 Applications, DuPage County is soliciting for 3 years' worth of projects, covering years 2020-2022. DuPage County is also limiting each municipality to two applications that must cover of at least 45.36% low to moderate-income level areas. A current Resolution authorizing staff to apply for CDBG funds must accompany them. Applications are due by October 11, 2019.

City staff plans to submit two (2) applications for infrastructure improvements (i.e., resurfacing, sidewalk replacement, curb repair, etc.) for the following projects:

1. Hillside Addition and Roosevelt Highlands Subdivision Rehabilitation Project, which consists of Elizabeth St., Gates St., and S. Oak St. from Dayton St. to Forest Ave.; Dayton St. from Bishop St. to S. Oak St., Glen Ave. and August St. from Bishop St. to IL Route 59; and Dale Ave. from S. Oak St. to IL Route 59. This project will be listed as the City's first priority.
2. Fair Meadows Subdivision Rehabilitation Project, which consists of Allen Ave., Barber St., and Blakely St. from August Ave. to Glen Ave.; Bishop St. from IL Route 38 to Forest Ave.; Glen Ave. from Joliet St. to Bishop St., and August St. from Joliet St. to IL Route 59. This project will be listed as the City's second priority.

As required as part of the application process, a public hearing for the above referenced projects was held on Monday, September 30, 2019, at 12:00 p.m. at the West Chicago Water Treatment Plant.

ACTIONS PROPOSED:

Approve Resolution No. 19-R-0046 authorizing the City Administrator to execute the CDBG grant applications for participating streets for FY 2020-2022 CDBG funding.

COMMITTEE RECOMMENDATION:

RESOLUTION NO. 19-R-0046

**A RESOLUTION APPLYING FOR COMMUNITY DEVELOPMENT
BLOCK GRANTS FROM DUPAGE COUNTY**

WHEREAS, DuPage County has announced that applications are being accepted for Community Development Block Grant Program funding for Neighborhood Investment, Community-wide Benefit, Accessibility Improvements, and Planning Projects for fiscal years 2020 thru 2022,

WHEREAS, the City has applied for various grants from the DuPage Community Development Commission in the past and has received the grants and completed the projects; and,

WHEREAS, the City has various public improvement projects which are in areas in which residents have low to moderate income levels; and,

WHEREAS, funds from the Community Development Block Grant Program would allow the City to maximize the use of its limited resources; and,

NOW, THEREFORE, BE IT RESOLVED by the City of West Chicago in regular session assemblies that:

1. The City of West Chicago shall apply for Community Development Block Grants for infrastructure improvements for the following projects:
 - a. Hillside Addition and Roosevelt Highlands Subdivision Rehabilitation Project, which consists of Elizabeth St., Gates St., and S. Oak St. from Dayton St. to Forest Ave.; Dayton St. from Bishop St. to S. Oak St., Glen Ave. and August St. from Bishop St. to IL Route 59; and Dale Ave. from S. Oak St. to IL Route 59.
 - b. Fair Meadows Subdivision Rehabilitation Project, which consists of Allen Ave., Barber St., and Blakely St. from August Ave. to Glen Ave.; Bishop St. from IL Route 38 to Forest Ave.; Glen Ave. from Joliet St. to Bishop St., and August St. from Joliet St. to IL Route 59.
2. The City Administrator is authorized to execute the application for the projects and to have the projects filed in a timely manner with DuPage County.

APPROVED this 7th day of October 2019.

AYES: _____

NAYS: _____

ABSTAIN: _____

ABSENT: _____

Mayor Ruben Pineda

ATTEST:

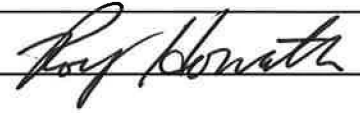
City Clerk Nancy M. Smith

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INFRASTRUCTURE COMMITTEE AGENDA ITEM SUMMARY

ITEM TITLE:

Resolution No. 19-R-0049 – 2019 Sanitary Collection System Supervisory Control and Data Acquisition (SCADA) Upgrade Project

AGENDA ITEM NUMBER:4.C**COMMITTEE AGENDA DATE:** October 3, 2019**COUNCIL AGENDA DATE:** October 21, 2019**STAFF REVIEW:** Rocky Horvath, Utility Superintendent**SIGNATURE****APPROVED BY CITY ADMINISTRATOR:** Michael L. Guttman**SIGNATURE****ITEM SUMMARY:**

In September 2013, City Council approved contracts with Clark Dietz and Dynamic Electric for the 2013 Lift Station Automation Improvement Design-Build Project. Said project consisted of furnishing all labor, materials, and equipment necessary to upgrade the Supervisory Control and Data Acquisition (SCADA) system (i.e., Programmable Logic Controller (PLC), communication equipment, security equipment, etc.) at twelve of the City's thirteen sanitary sewer lift stations. SCADA is a computer-controlled system that monitors and controls the operations of the lift station's pumps with the assistance of level transducers and/or floats to monitor real time sanitary waste flows in and out of the each lift station. SCADA systems are typically application specific.

In any computerized system, hardware and software upgrades are a required part of routine maintenance. After a thorough review of our current SCADA system staff have identified several modifications and maintenance upgrades that are required to keep the current system in good operational order. A general review of these required upgrades follows:

1. Upgrade Control Software: Each lift station is controlled by a PLC (i.e., a miniature computer). Each lift station PLC communicates with a master PLC housed at the City's Water Treatment Plant that then transmits operational data and alarms to City staff. All PLC's need software upgrades. As a part of this upgrade process, the code that operates the units will be reviewed and revised to more efficiently communicate data. Since the SCADA system communicates using bandwidth from the City's internet service provider, this upgrade will have the added benefit of reducing costs associated with data collection.
2. Establish a Master PLC Backup System: Our current master PLC has no backup system and it has failed in the past with no warning. When a failure of the master PLC occurs all communications fail rendering the alarms and monitors inoperable. When it fails, we can no longer automatically monitor and operate the sanitary collection system lift stations. As part of this project, a secondary control PLC will be installed at the Water Treatment Plant providing total system redundancy.
3. Add Reporting Software: Currently the system does not have a reporting function and staff must manually record data. Part of this project will be the addition of a Microsoft Excel based program, known as XL Reporter, which will track data in a digital format. This data will be used to improve lift station efficiency by identifying possible issues before failures occur.

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4. Integrate SCADA Systems: Recently the West Chicago/Winfield Regional Wastewater Treatment Plant completed a significant upgrade of its SCADA system. With upgrades to the City's lift Station SCADA system, both systems can be integrated allowing for the sharing of data, thereby improving operational efficiency.

Currently the City uses Advanced Automation and Controls of McHenry, Illinois to maintain its sanitary collection and water production SCADA Systems. At staff's request, Advanced Automation and Controls furnished a proposal to upgrade the City's sanitary collection system SCADA for \$49,660.00 (see attached). Advanced Automation and Controls proposal is summarized below:

1. Upgrade Control Software = \$25,000
 - a. Updating Existing Displays = \$2,800
2. Establish a Master PLC Backup System = \$15,000
3. Add Reporting Software = \$4,860
4. Integrate SCADA Systems = \$2,000

\$60,000.00 has been budgeted in the Sanitary Sewer Fund (05-34-43-4402) for sanitary lift station upgrades in FY 2019. Staff recommends approval of a Professional Services Agreement with Advanced Automation and Controls, in the amount of \$60,000.00, for all proposed upgrades and any additional improvements found necessary during the upgrade process. Any other issues found during the upgrades will be addressed/repared on a time and materials basis. Staff does anticipate some additional issues will need to be addressed due to the fact this is a complete system upgrade with outdated software.

Advanced Automation and Controls is familiar with the City's current SCADA system and operational needs, and they have recently successfully completed SCADA system installations associated with the City's Booster Station #4 and Sanitary Lift Station #1 Rehabilitation Projects.

As indicated above, the SCADA system is a vital component of the operation of the City's sanitary sewer collection system. These proposed upgrades will ensure the system remains operational for the next several years.

ACTIONS PROPOSED:

Approve Resolution No. 19-R-0049 authorizing the Mayor to execute a Professional Services Agreement with Advanced Automation and Controls, Inc., for an amount not to exceed \$60,000.00, to provide services related to the 2019 Sanitary Collection System Supervisory Control and Data Acquisition (SCADA) Upgrade Project.

COMMITTEE RECOMMENDATION:

RESOLUTION NO. 19-R-0049

**A RESOLUTION AUTHORIZING THE MAYOR TO EXECUTE A
PROFESSIONAL SERVICES AGREEMENT WITH ADVANCED
AUTOMATION & CONTROLS, INC. FOR SERVICES RELATED TO THE 2019
SANITARY COLLECTION SYSTEM SUPERVISORY CONTROL AND DATA
ACQUISITION (SCADA) UPGRADE PROJECT**

BE IT RESOLVED by the City Council of the City of West Chicago, in regular session assembled, that the Mayor is hereby authorized to execute a Professional Services Agreement for services related to the 2019 Sanitary Collection System Supervisory Control and Data Acquisition (SCADA) Upgrade Project, between the City of West Chicago and Advanced Automation & Controls, Inc., for an amount not to exceed \$60,000.00, in substantially the form attached hereto and incorporated herein as Exhibit "A".

APPROVED this 21st day of October, 2019.

AYES: _____

NAYES: _____

ABSTAIN: _____

ABSENT: _____

Mayor Ruben Pineda

ATTEST:

City Clerk Nancy M. Smith

QUOTATION

Phone 815.578.0655
Fax 815.578.0677



780 Ridgeview Drive
McHenry, IL 60050

Name Rocky Horvath
Company City of West Chicago
Address

JOB NUMBER: NA

REFERENCE: SCADA Upgrades and
Modifications

Phone Number
Fax Number

LOCATION: West Chicago, IL

PROPOSAL DATE: September 20, 2019

☒ AS SPECIFIED ☐ AS EQUAL ☐ F.O.B. FACTORY PRICES DO NOT INCLUDE SALES OR USES TAXES
☐ AS ALTERNATIVE ☐ TRSP. PREPAID TERMS: NET -30 DAYS PER ATTACHED TERMS AND CONDITIONS

ITEM	QUAN	DESCRIPTION	TOTAL PRICE
		<p>Advanced Automation and Controls, Inc. is pleased to provide the following Quotation for SCADA modifications and upgrades for the City of West Chicago Water and Wastewater facilities. The following services including the primary material and labor tasks, included in this quotation are as follows:</p> <p style="text-align: center;"><u>Tasks:</u></p> <p style="text-align: center;"><u>(1) Upgrade SCADA Reporting Software</u></p> <p>Material:</p> <ul style="list-style-type: none">Sytech XLReporter Version 12, Professional Edition w/ Historical <p>Labor:</p> <ul style="list-style-type: none">Installation and setup of software into existing Rockwell FactoryView SE SCADA computer located at the WTP. <p style="text-align: center;"><u>(2) Upgrade of the MASTER PLC located at the WTP</u></p> <p>Material:</p> <ul style="list-style-type: none">Allen Bradley CompactLogix PLC CPU - 1769-L30ERAllen Bradley Power Supply - 1769-PA2Allen Bradley EtherNet Card - 1769-ECRSixNet Cell Modem - SN-6921-AMAntenna, Polyphaser, Cable, ConnectorsPULs 24VDC Power Supply for ModemNEMA 1 Enclosure	<p>Total Cost Based on Time and Material NOT TO EXCEED:</p> <p>\$60,000.00</p> <p><u>Cost ESTIMATES Breakdown:</u></p> <p>Task #1 \$4,860.00</p> <p>Task #2 \$15,000.00</p>

		<p>Labor:</p> <ul style="list-style-type: none"> • Write a new PLC program for lift station • Program Master PLC for polling and initial handshaking • SCADA database and screen modifications per site • OIT programming modifications per site • Master Modem configuration • Master PLC handshaking per site • Enclosure Fabrication and Installation**(See Note Below) <p><u>(3) Modifications to the existing SCADA displays and Alarming</u></p> <p>Labor:</p> <ul style="list-style-type: none"> • Cleanup and Modifications to the existing FactoryView SCADA displays and trending. • Mapping and modification of existing WIN911 alarming software. Develop alarming STANDARD for the system. <p><u>Notes:</u></p> <ul style="list-style-type: none"> • AAC will work closely with the West Chicago staff to improve or create the appropriate displays and alarming structure that will best fit the operation needs of the system. <p><u>(4)Modification to the Remote Access into SCADA</u></p> <p>Labor:</p> <ul style="list-style-type: none"> • System evaluation is required to try and improve the remote accessibility of the SCADA system. Item such as network connections, VCN Viewer Rev Level, Etc. will be reviewed and or modified. <p><u>(5)Rewrite of the Lift Station PLC programs</u></p> <p>Labor:</p> <ul style="list-style-type: none"> • Write / Modify a new PLC program for lift stations for new operations as well as communications logic. • SCADA database and screen modifications • Local OIT programming modifications • Master PLC handshaking to lift station 	<p>Task #3 \$ 2,800.00</p> <p>Task #4 \$ 2,000.00</p> <p>Task #5 \$ 25,000.00</p>
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		<p>Please do not hesitate to contact us if you have any questions or require any further information.</p>	
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ACCEPTED THIS _____ DAY OF September, 2019

PRICE FIRM FOR 30 DAYS

SUBMITTED THIS: _____

BY: _____

Advanced Automation &
Controls, Inc. BY: _____

www.aacontrolsinc.com

CITY OF WEST CHICAGO

INFRASTRUCTURE COMMITTEE AGENDA ITEM SUMMARY

ITEM TITLE:

Resolution No. 19-R-0050 – Contract Award - Clark Dietz, Inc. For Professional Engineering Services Associated with the Wastewater Treatment Plant Digester #1 Improvement Project

AGENDA ITEM NUMBER:4.D.**FILE NUMBER:** _____**COMMITTEE AGENDA DATE:** October 3, 2019**COUNCIL AGENDA DATE:** October 21, 2019**STAFF REVIEW:** Robert E. Flatter, P.E., Director of Public Works**SIGNATURE** **APPROVED BY CITY ADMINISTRATOR:** Michael L. Guttman**SIGNATURE** _____**ITEM SUMMARY:**

Under permit from the EPA, the West Chicago/Winfield Regional Wastewater Treatment Plant (WWTP) has three digesters to manage incoming flows and solid loadings at the WWTP. The first two anaerobic digesters (i.e., #1 and #2) are considered the primary digesters and are used to heat and mix the waste solid (sludge) during the digestion process before it is dewatered, using belt filter presses, and taken to a landfill. Digester #3 is not heated or mixed and is used as a secondary digester and storage.

In 2006 the secondary digester tank (i.e., Digester #3) was cleaned and repaired. During the period of 2010 thru 2013, the interior of Digester #2 was cleaned and repairs were made to the internal digestion system equipment and components, including all gas safety equipment. Once repairs were completed with Digester #2, it was determined in the best interest of plant operations to clean and transfer sludge from Digester #1 into Digester #2; rather than generate new sludge for Digester #2 and pay to haul away the sludge from Digester #1. Once Digester #1 was cleaned, the City hired Clark Dietz, Inc. (CDI) to inspect Digester #1's internal digestion system equipment and components. Significant repairs were identified by CDI, who was then hired to perform Phase II engineering design services for the needed repairs. However, for budgetary reasons, repairs were not initiated and Digester #3 has sat unused since 2013. Digester #3's internal digestion system equipment and components are approximately thirty-three (33) years old and have out performed their useful life (i.e., typically 15-20 years).

Being very familiar with the City's Wastewater Treatment Plant and its digestion treatment process, and having previously provided design services and construction oversight services for the WWTP Digesters, and having already substantially completed design services for Digester #1, City staff approached CDI and requested a cost proposal to finalize Phase II engineering design services, provide bid assistance, and perform Phase III engineering construction oversight services associated with repairs to Digester #1. CDI's proposal is for a not to exceed amount of \$80,700.00.

If approved, CDI will finalize design services and provide bid assistance during 2019 for an amount not to exceed \$21,660.00. Construction is not anticipated to start until FY 2020, where CDI will provide construction oversight services for an amount not to exceed \$59,040.00. Adequate funds are currently budgeted/proposed in the West Chicago/Winfield Wastewater Authority Budget to cover said expenses.

Staff recommends that City Council award a professional services contract to Clark Dietz, Inc., for Professional Engineering Services associated with the Digester #1 Improvement Project, for an amount

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not to exceed \$80,700.00.

ACTIONS PROPOSED:

Approve Resolution No. 19-R-0050 authorizing the Mayor to execute a contract with Clark Dietz, Inc., for an amount not to exceed \$80,700.00, for professional engineering services associated with the Wastewater Treatment Plant Digester #1 Improvement Project.

COMMITTEE RECOMMENDATION:

RESOLUTION NO. 19-R-0050

**A RESOLUTION AUTHORIZING THE MAYOR TO EXECUTE
A CONTRACT AGREEMENT WITH CLARK DIETZ, INC. FOR
PROFESSIONAL ENGINEERING SERVICES RELATED TO THE DIGESTER #1
IMPROVEMENT PROJECT**

BE IT RESOLVED by the City Council of the City of West Chicago, in regular session assembled, that the Mayor is hereby authorized to execute a Contract Agreement for Professional Engineering Services related to the Digester #1 Improvement Project at the West Chicago/Winfield Regional Wastewater Treatment Plant, between the City of West Chicago and Clark Dietz, Inc., for an amount not to exceed \$80,700.00, in substantially the form attached hereto and incorporated herein as Exhibit "A".

ADOPTED this 21st day of October, 2019

AYES: _____

NAYES: _____

ABSTAIN: _____

ABSENT: _____

Mayor

ATTEST:

City Clerk



February 27, 2019

Mr. Robert Flatter
Public Works Director
City of West Chicago
475 Main Street
West Chicago, IL 60185

Re: Proposal Request Response
Digester No. 1 Construction Phase Services

Dear Mr. Flatter:

On behalf of Clark Dietz, I want to thank you for the opportunity to provide you with a proposal to provide construction phase services for the Digester No. 1 Improvements that were designed in 2013. We have reviewed the 2013 documents and discussed the project briefly with your WWTP operator and have prepared the following scope based on our understanding of the project.

This letter proposal summarizes our understanding, project approach and scope, our team, and our proposed schedule. The breakdown of our fee estimate by task and personnel is attached. Based on our previous work with you, we are not providing a "full" proposal including our qualifications. If, however, you would like references or additional information please let me know and I will forward those to you.

Project Understanding

The City of West Chicago and the Village of Winfield jointly own the wastewater treatment plant (WWTP), which discharges to the West Branch of the DuPage River under NPDES Permit No. IL0023469. Wastewater is treated through a series of unit processes, including screening, grit removal, clarification, aeration, filtration, and disinfection, to reduce the concentrations of biochemical oxygen demand (BOD), solids (TSS), ammonia, and microorganisms.

SLUDGE. The primary clarifiers remove 30% to 50% of the solids from the influent wastewater. Secondary biological treatment creates microorganism that treat the wastewater. Excessive microorganisms are removed from the secondary treatment system as waste activated sludge (WAS). Raw sludge removed in primary clarification is sent directly to the primary anaerobic digesters. WAS is thickened prior to discharge into the primary anaerobic digesters. The anaerobic digestion system reduces the volume of solids and reduces solids pathogen concentration. Digested sludge is then dewatered and disposed of in a landfill.

DIGESTERS. The WWTP has three (3) anaerobic digesters. The WWTP utilizes a two-stage high rate digestion process. The first two anaerobic digesters (No. 1 and No. 2) are the primary digesters and are heated and mixed; Digester No. 3 is not heated or mixed and is used as a secondary digester and for storage. Each of the three digesters is a covered circular tank with a cone slope bottom.



Previously both the primary digesters employed three confined draft tube gas lifters (mixing guns). In 2012, the City replaced the inoperable mixing system in Digester No. 2 with a new mechanical nozzle type of system. In 2013, Clark Dietz designed similar replacement systems for Digester No.1 with new mechanical nozzle mixing systems, new heat exchanger, and new gas safety equipment.

DIGESTER NO. 1 STATUS. For budgetary reasons, the Digester No. 1 improvement project was neither bid nor constructed in 2013. As a change order to the Digester No. 2 rehabilitation project, Digester No. 1 was cleaned in April 2013. It was then filled with water to avoid excessive stress on the lid. No modifications have been made to Digester No. 1 since April 2013.

CURRENT WORK. The City is now ready to construct the improvements to Digester No. 1 and place it back into service. Also, they would like to have Digester No. 3 cleaned as part of the Work. Engineering services to accomplish this work will involve resubmitting the construction permit, minimal updating of the design plans and specifications, bidding services, and construction services as described in detail below.

ESTIMATED CONSTRUCTION COST. The low bid in 2012 for the Digester No. 2 Work, which included cleaning of Digester No. 1, was for \$781,000. Disposal of the materials cleaned out of Digester No. 1 was a unit price item. The actual volume of clean materials was greater than the assumed amount, therefore there was a \$34,339.21 change order, which brought the total contract price to \$815,339.21. We have estimated cost of the proposed Digester No. 1 construction work using the 2012 total contract price and annual construction inflation using the Turner Construction Cost Inflation Index for 2013 through 2018 (and estimated for 2019). Based on this, the estimated bid price for the Digester No. 1 Work is \$1,072,000.

Project Approach

Clark Dietz's approach to performing the final Engineering Design will be to utilize the existing design documents prepared in 2013 as much as possible to minimize the amount of engineering required. Design Engineering work will include checking and updating the specified equipment, updating references to the WWTP SCADA integrator, preparing an IEPA construction permit application, and utilizing the latest version of the City's contract document language.

For Bidding and Construction, we will follow the plan that we have utilized for the last several construction projects we have worked with the City on: attending regular meetings, handling correspondence with the Contractor, coordinating issues between the City/operator and the Contractor, and reviewing submittals, RFIs, and Pay Application. The following is a detailed breakout of the scope.

Project Administration

KICKOFF MEETING. Clark Dietz's project manager and project engineer will meet with the City to discuss the assumptions in the proposal, changes needed since the 2013 design, details of the bidding schedule, and other assumptions and requirements of the project. Clark Dietz will also have an internal kickoff meeting to transmit the relevant project information to project staff.

MONTHLY STATUS REPORTS. Letter reports will be mailed to the City each month to assist the City in tracking our progress. The report will include a description of the tasks accomplished that month and upcoming tasks for the next month.



Engineering Design

PERMIT APPLICATION. A construction permit application was submitted to IEPA for this project in 2013, however these applications generally expire after 2 years. We will update the existing Preliminary Design Report, permit application, and send the updated design documents to IEPA for permitting.

UPDATE TECHNICAL AND CLEANING SPECIFICATIONS. To keep mixing, heat exchanger, and gas safety consistent between Digester No. 2 and Digester No. 1, the equipment that was specified for Digester No. 1 was pre-selected and the equipment prices were included on the Bid form. Clark Dietz will verify that the models specified are still available from the manufacturers. We can either update the prices on the bid form or write the specification with "no substitutions." This will be a discussion item at the Kickoff Meeting.

We understand from the plant operator that there are a few areas where valves and pressure regulators need to be replaced and that radar level sensors need to be added to the digester cover and tied into the control panel. We have assumed ten hours for the incorporation of this work.

We will also review and update the cleaning specifications as these include Safety Requirements from CH₂M Hill that need to be reviewed and updated. They also include a description for Cleaning Digester No. 1 as work was being performed in Digester No. 2. This will have to be updated to 1) drain Digester No. 1, 2) transfer and screen sludge from Digester No. 3 to No. 1 during Digester No. 1 startup, and 3) clean Digester No. 3.

UPDATE FRONT END DOCUMENTS. We will update the front-end documents to the City's latest version. We will also update the dates, contract information, and other relevant items.

UPDATE DRAWINGS. We will update the Drawings with Clark Dietz's current Border, update dates, and check references.

QAQC REVIEW. A Quality assurance/quality control (QAQC) review will be performed on the final bidding documents.

PROVIDE CITY WITH BIDDING DOCUMENTS. It is assumed that two copies of 11x17 plans and two copies of the Project Manual, in addition to electronic documents, will be provided to the City at Bid time.

Bidding

PRE-BID MEETING. The Project Engineer will prepare for, lead, and prepare minute from the pre-bid meeting.

ADDENDUMS. The Project Engineer, with assistance from other staff engineers, will prepare addendums. Two addendums have been assumed.

BID RECOMMENDATION. The Project Engineer will receive, review, and check references for the low bidder. A bid recommendation letter will then be prepared. It is assumed that the City does not require the engineer to attend the bid opening and will provide Clark Dietz a scanned copy of the bids.

FOR CONSTRUCTION DOCUMENTS. Clark Dietz will incorporate addendums into the Project Manual. It is assumed that two copies of 11x17 plans and two copies of the Project Manual, in addition to electronic documents, will be provided to the City at the start of construction.



Construction Phase Services

For this proposal and the fee estimate it was assumed that the City does not require on-site construction observation. Rather, a kickoff meeting will be held and we assumed monthly progress meetings. In addition, the Project Engineer will be available via phone to answer questions and coordinate. The scope will include:

- Preconstruction meeting
- Progress Meeting (assume 6)
- Site Visits (assume 20)
- RFI Review and Response (assume 10)
- Shop Drawing Review (assume 20 including 3 mechanical, 4 electrical, 1 structural, and the remainder process)
- O&M Manual Review (assume 8)
- Change Order Review (assume 2)
- Pay Application review (assume 8)
- Equipment Startup (Startup witness pumps)
- Substantial Completion, Punchlist, and Final Inspection
- Record Drawing preparation
- Project Close-Out (prepare and transit final documentation to City)

Project Schedule

We understand that the City would like to have an Agreement with an engineer in the next few months. The following is a tentative schedule. This can be adjusted to meet the City's needs.

Month	Task
March 2019	Engineering Agreement finalized and Kickoff Meeting
April 2019	Engineering Design Work
May 2019	Advertise for Bids
June 2019	Pre-Bid Meeting and Bid Opening
July 2019	Agreement Signed and Notice to Proceed
January 2020	Substantial Completion (180 days after Notice to Proceed)
February 2020	Final Completion (210 days after Notice to Proceed)

Assumptions

The main assumptions in this proposal are that 1) the design that was prepared in 2013 will largely stay the same with the exceptions that were indicated and 2) the number of meetings, shop drawings, etc. assumed is relatively accurate. The number of shop drawings, O&M Manuals, pay applications, and change orders were loosely based on the numbers for the Digester No. 2 project, so they will likely be similar. In addition, we have assumed:

1. This Agreement and any legal actions concerning its validity, interpretation and performance shall be governed by the laws of the location of the project.
2. Local permits for this project (street cuts, utility relocations, etc.) will be obtained by the Client with information provided by Clark Dietz. All permit fees will be paid by the Client.
3. State permits for this project will be obtained by the Client with information provided by Clark Dietz. All permit fees will be paid by the Client.
4. It is assumed that there will be minimal required modifications to the plant's SCADA system and that these modifications will be designed and integrated by the plant's SCADA system integrator. Clark Dietz will



coordinate the plant's SCADA system integrator to get a fee estimate that will be written into the Project Manual.

5. Front end (and back end) documents for the Project Manual will be the City's standard documents and updated documents will be provided by the City.
6. This scope and fee estimate does not include preparing documentation or specifications that would be necessary to meeting SRF or other loan requirements.
7. No on-site construction observation was assumed, however our Project Engineer will make regular site visits and conduct regular progress meetings and will be available to answer questions by phone.

Project Team

Our team is comprised of engineers and technicians who have a wide variety of experience at wastewater treatment plants in general and large equipment replacement such as digester equipment, in particular. Most of our team, listed below, is familiar to you and has worked with you on numerous other projects. For the day-to-day work on this project, specifically as it relates to bidding and site observation, Tom Foley, PE will be the Project Engineer. Tom is located in suburban Chicago, spends half his time in our Oakbrook Terrace office, and supports other clients in the area such as Wheaton and Elmhurst. Tom also has experience with anaerobic digester projects as shown in the attached resume. Tom will work closely with our other senior project engineer, Omkar Ghavi, PE, who is also located in our Oakbrook Terrace office. Omkar will be responsible for updating the design, coordinating permitting, and will take the lead in shop drawing review. Omkar was the staff engineer who did much of the original design work and Omkar and Tom work together on many projects.

Other staff include:

Andrea Bretl, PE – Project Manager
Lisa Zhart, PE – Electrical QAQC
Mike Strom – Electrical Design, Shop Drawings, Punchlist
Jim Edensburn – Process Design, Construction sequencing, Punchlist
Sean Marzano, PE – Structural Design
Ken Payne, PE – Mechanical Design
Archana Raju – Staff Engineer
Chad Larimore – Design technician

Fee

The total not-to-exceed fee for this scope is \$80,700. A breakdown of the hours and fee associated with each of these scope items is attached. This fee is approximately 2% of the estimated construction cost for design engineering work and 5.5% of the estimated construction cost for construction engineering work.

We appreciate this opportunity and look forward to working with you on this project.

Sincerely,
Clark Dietz, Inc.

Andrea W. Bretl, P.E.
Project Manager

FEE ESTIMATE

Construction Phase Services

City of West Chicago - Digester No. 1 Improvements Project

Last Revision: February 27, 2019

	AWB Project Manager P-5	LZ Electrical Engineer P-5	SMM Structural Engineer P-5	KRP HVAC P-5	OAG/TF Project Engineer P-4	JLE Construction Manager T-5	MLS Electrical Designer T-5	AR Staff Engineer P-2	CWL Engr/ Tech T-4	Expenses	Task Total
Project Administration											
Kickoff Meeting	8				8					\$ 200	\$ 2,760
General Administration	8										\$ 1,360
Subtotal											\$ 4,120
Design Update											
Prepare and Submit Permit Application					2			8		\$ 50	\$ 1,310
Update Technical and Cleaning Specifications					16	4	6	8			\$ 4,810
Update Front End Documents					8						\$ 1,200
Update Drawings									8		\$ 1,080
QAQC Review	8	8									\$ 2,720
Provide City with Bidding Documents								2		\$ 100	\$ 340
Subtotal											\$ 11,460
Bidding											
Pre-Bid Meeting					8					\$ 50	\$ 1,250
Addendums	4				8		2				\$ 2,170
Bid Recommendation	2				8						\$ 1,540
For-Construction Documents								4	4	\$ 100	\$ 1,120
Subtotal											\$ 6,080
Construction											
Pre-Construction Meeting	8				8					\$ 50	\$ 2,610
Progress Meetings (Assume 6)					48					\$ 300	\$ 7,500
Site Visits (Assume 20)					80					\$ 1,000	\$ 13,000
RFI Review and Responses (Assume 10)	4				16	4					\$ 3,660
Shop Drawing Review (Assume 20)	4		4	12	20		16	20			\$ 11,120
O&M Manual Review (Assume 8)					16			16			\$ 4,320
Change Order Review (Assume 2)	8				16						\$ 3,760
Applications for Payment (Assume 8)	4				16					\$ 160	\$ 3,240
Equipment Startup Services					12					\$ 100	\$ 1,900
Substantial Completion Punchlist						8	8			\$ 200	\$ 2,520
Final Inspection					8					\$ 50	\$ 1,250
Record Drawings									16	\$ 100	\$ 2,260
Project Close-Out	2				4			8			\$ 1,900
Subtotal											\$ 59,040
TOTAL HOURS	60	8	4	12	302	16	32	66	28		
RATE/HR - CDI	\$170	\$170	\$170	\$170	\$150	\$145	\$145	\$120	\$135		
TOTAL COST	\$10,200	\$1,360	\$680	\$2,040	\$45,300	\$2,320	\$4,640	\$7,920	\$3,780	\$ 2,460	\$80,700



Thomas J. Foley, PE

EXPERIENCE

9 Years

EDUCATION

MS, Environmental Engineering
and Science, University of Illinois at
Urbana-Champaign

BS, Environmental Engineering,
University of Illinois at Urbana-
Champaign

REGISTRATIONS

Illinois Professional Engineer
#062.065814

Wisconsin Professional Engineer
#44430-6

PROFESSIONAL AFFILIATIONS

Central States Water Environment
Association

Wisconsin Wastewater Operators
Association

American Water Works Association

Mr. Foley is an environmental engineer experienced with planning, design and construction engineering of wastewater collection and treatment, potable water treatment and distribution, and stormwater/drainage projects.

Project Experience

Anaerobic Digester Mixing and Biogas Production Study, Beloit, WI / Environmental Engineer. Study of the anaerobic digestion process to develop improvements in the mixing process. Study focused on potential energy savings and creation of options associated with converting the existing gas bubble mixing system to a mechanically mixed system, and potential increase in biogas production with improved mixing, options for utilizing the additional biogas, and options to further increase biogas production by importing high-strength waste materials from Beloit College and select food manufacturers within the City.

Biosolids Program Evaluation, Beloit, WI / Project Manager. Analysis of the existing biosolids management program and Class "B" options for managing biosolids, and development of a financial model. Options studied included liquid land application, solids hauling, utilizing an outside hauler, and use of site specific sludge bunkers for storage on private land.

Struvite/Biosolids Handling Study, Beloit, WI / Environmental Engineer. This study examined four methods of Class "A" sludge production: composting, lime stabilization, heat drying, and thermophilic digestion. The report evaluated the advantages and disadvantages, equipment requirements, capital cost of each of these options, and determined if the overall life cycle cost of these alternatives is lower than the cost of the current sludge hauling operations.

Biosolids Program Evaluation, WalCoMet Sewerage District, Walworth County, WI / Environmental Engineer. Analysis of the existing biosolids management program and options for managing biosolids in the future, along with development of a financial model.

Digester Roof Rehab, Jackson, WI / Environmental Engineer. Project included renovation of two original anaerobic digesters and replacement of the original bubble lance mixing system in the primary digester with a new grinder pump and nozzle mixing system to improve the overall performance of the digester.

WWTF Energy Study Review, Jackson, WI / Environmental. Evaluated the existing digester gas production and utilization at the Jackson wastewater treatment plant (WWTP) including review of the existing digester systems and equipment. The analysis was used to determine the feasibility and costs of further utilization of biogas at the plant such as improving the existing digester methods, alternate digestion methods, and cogeneration.

Tertiary Filter Replacement, Jackson, WI / Environmental Engineer. This project included demolition and installation of three 50 horsepower turbo blowers, two tertiary filters, and all associated electrical and piping modifications at the Village's Wastewater Treatment Facility.

East WWTP Capacity Improvements, Evansville, IN / Environmental Engineer. Design to expand an 18 MGD plant to increase the peak sustained flow from 22.5 MGD to 40 MGD, through use of a BAF. Other improvements included primary sludge degritting, hydraulic bottleneck corrections, disinfection system expansion and conversion to UV, and filamentous control measures including selector zone addition and centrate equalization.

Energy Efficiency Improvements, Westside Wastewater Treatment Facility, Evansville, IN / Staff Engineer. Study to determine potential energy cost savings through implementation of updated control systems. Included analysis of the primary sludge withdrawal system, feasibility of automating the primary clarifier inlet gates, activated sludge secondary clarifier pipe manifold, automated blower controls, and WAS thickening automation.

Wastewater Treatment Plant Expansion, Phase II, Northwest Regional Water Reclamation Facility, Fox Lake, IL / Environmental Engineer. Eight separate projects were bid to expand the capacity of this facility, including fine screens and final clarifier replacement, tertiary filter replacement, grit system addition, primary clarifier rehabilitation, RAS pump control addition, electrical distribution center replacement, process expansion, and bio-solids handling expansion. The bio-solids handling expansion included the addition of a fourth primary digester, new mixing systems, expansion of the digester control building, and installation of a bio-gas fueled generator and conditioning system.

Screw Pump Repairs, Fox Lake, IL / Environmental Engineer. Design and construction observation for the rehabilitation of the stairs, replacement of bearings, gearboxes, pads, and couplings on four screw pumps at the first and second stage pump stations. The project included the preparation of plans and specifications, coordination of the pre-bid meeting, and assistance with project management during construction.

Building 60 Motor Control Center Replacement, Northwest Regional Water Reclamation Facility, Fox Lake, IL / Environmental Engineer. Design services for replacement of an existing motor control center located in the NWRWRF facility's Tertiary Filter Building. Work required confirmation of existing loads being fed from the motor control center. Design included installation of a temporary power source and construction sequencing was required to ensure continuous operation of the facility.

Energy Efficiency Improvements, Sanitary District of Decatur, Decatur, IL / Environmental Engineer. Design to upgrade the aeration system in the blower building and the mixing system in the waste activated sludge storage tanks. The energy efficiency upgrades included two new 350-HP turbo blowers with associated electrical equipment to combine three aeration systems into one system; piping and appurtenances for operation of the blower system; six waste activated sludge storage tank mixers and associated piping; and electrical conduit, wire, associated process control instrumentation, and appurtenances for the new system.

Bar Screen Replacement, Eastside Wastewater Treatment Plant, Joliet, IL / Environmental Engineer. Design of screens upgrade to limit the amount of nuisance solids entering downstream processes. Project included preparation of screen equipment request for proposals and recommendation of screening equipment selection; hydraulic modeling; electrical and controls upgrade; and coordination of new screen and existing screenings conveyor.

Vernon Hills NCT Blower Addition, Lake County, IL / Project Engineer. Project included preliminary and final design, along with construction engineering services to achieve effective biological nutrient removal within the secondary treatment process, and to add high speed turbo style blowers to better meet system air demands and reduce the overall energy use of the system. A BioWin model was developed to simulate eight alternative configurations to optimize treatment and design included automation of the aeration control. The project resulted in reduction of power usage equating to an annual savings of nearly \$70,000.

VFD Replacement - Pumps 2 and 4, Rock River Water Reclamation District, Rockford, IL / Environmental Engineer. Design of a "green" excess flow lagoon at this wastewater treatment facility, resulting in reserved space within the treatment facility for other uses, minimized power usage with related cost savings, and reduction of hydraulic load on the main pump station.

Bar Screen Replacement, Wheaton Sanitary District, Wheaton, IL / Lead Environmental Engineer. Preliminary and final design of improved bar screens provided for capacity to handle peak flows with one screen out of service; ability to pivot screens out of the channel for maintenance; SCADA controls operating both on water level and timer; and automated reverse operation to clear obstructions. A detailed construction sequencing plan was developed to convert operation to the new screens without interfering with normal treatment operations. Work also included preparation of SRF loan documentation to fund the improvements.