City Council

COMMITTEE OF THE WHOLE

City of Belvidere, Illinois

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Alderman Tom Porter,	1st Ward	F&P Vice Chairman, City-County
Alderman Daniel Snow,	2nd Ward	BPZ Chairman, City-County Chairman
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Alderman George Crawford,	4th Ward	Public Safety Chairman
Alderman Mark Sanderson,	5th Ward	BPZ Vice Chairman
Alderman Marsha Freeman,	5th Ward	City-County Coordinating Committee

AGENDA

February 11, 2019

6:00 p.m.

City Council Chambers, 401 Whitney Blvd. Belvidere, Illinois

Call to Order: City Clerk Shauna Arco

Roll Call:

Public Comment:
Public Forum:

Reports of Officers, Boards, and Special Committees:
Election of Temporary Chair.

1. Building, Planning & Zoning, Unfinished Business: None.

2. Building, Planning & Zoning, New Business:

   (A) Community Development Budget Review.

3. Public Works, Unfinished Business: None.

4. Public Works, New Business:

   (A) South Side Storm Water Hydraulic Model Update.
   (B) Area 1 Sump Pump Inspections/Area 1 I/I Study.
   (C) Snow Plow Policy Review.
   (D) Purchase of used 60" Snow Blower.
   (E) Well #7 Electric Service Replacements.
   (F) Public Works Budget Review.

5. Adjournment:

BELVIDERE PUBLIC WORKS
401 Whitney Boulevard
Belvidere, IL 61008
Phone 815-544-9256 Fax: 815-544-4255

Memo

To: Mayor and City Council

From: Brent Anderson, Director of Public Works

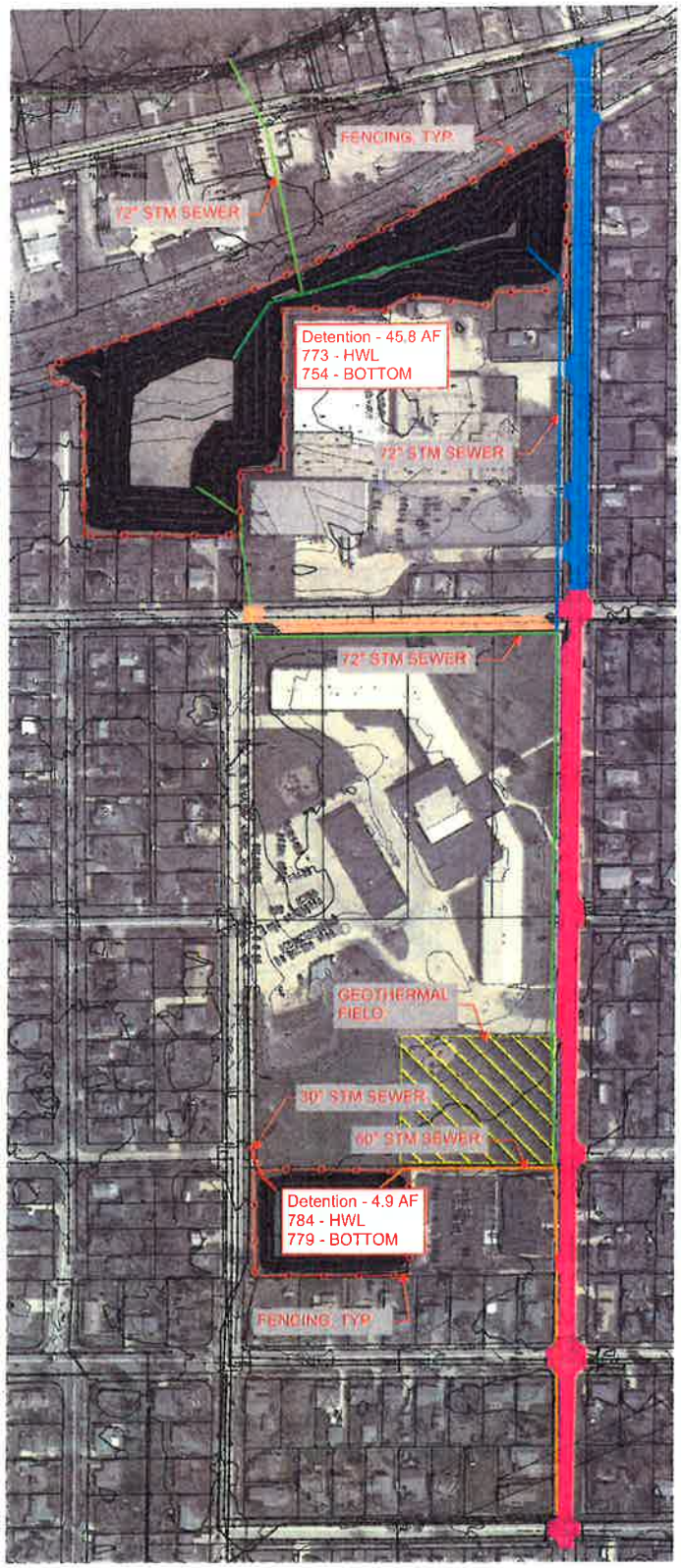
Date: August 7, 2017

Re: South Side Storm Water Map Update

The South Side Storm Water Report identified the need for a detention basin in the vicinity of Washington School. We have reviewed this project with CES, and they have proposed the installation of a 72" storm sewer relief line primarily along 5th Avenue from 7th Street to the Kishwaukee River (see attached map).

Attached is a work order from Baxter & Woodman to update the hydraulic model of this basin by adding the relief line and updating the detention requirements.

I would recommend approval of the work order from Baxter & Woodman at a cost not-to-exceed $3,120.00 for the south side storm water hydraulic model update. This work will be paid for from the engineering line item #01-5-360-6140.



C.E.S. INC.
700 WEST LOCUST ST., BELVIDERE, ILLINOIS 61008
PHONE: (815) 547-8435, FAX: (815) 544-0421
ILLINOIS DESIGN FIRM NO. 184-001160

CITY OF BELVIDERE, ILLINOIS
SOUTH SIDE STORMWATER STUDY – MODEL UPDATE 1
ENGINEERING SERVICES
WORK ORDER

ENGINEERS' PROJECT No. _____

Project Description:

The Project consists of engineering analysis of a proposed trunk sewer alternative to supplement study work previously completed. A detailed Project description is included in Attachment A of this Work Order.

Engineering Services:

The general provisions of this contract are enumerated in the Professional Engineering Services Agreement between the City and Engineers dated September 22, 2009. A detailed scope of services for this Project is listed in Attachment A of this Work Order.

Compensation:

Compensation for the services to be provided under this Work Order will be in accordance with the Engineering Services Agreement dated September 22, 2009. The Engineers' fee shall be computed on the basis of their standard hourly billing rates for actual work time performed which in total amount will not exceed **$3,120.**

Submitted by: **Baxter & Woodman, Inc.**	Approved by: **City of Belvidere, Illinois**
By: Gerald D. Groth	By: _____
Gerald D. Groth, PE	Mike Chamberlain
Title: Regional Manager	Title: Mayor
Date: January 25, 2019	Date: _____

Additional Comments and Conditions: None

BAXTER & WOODMAN
Consulting Engineers

Project Description

Project includes updating Belvidere's existing stormwater model to include an alternative design scenario. Project tasks will include updating the model, updating proposed results, amending engineer's estimates of probable cost to reflect the new design, and drafting final recommendations into a technical memo.

Scope of Services

The following scope of services details the anticipated tasks necessary to successfully complete this Project.

A. MODEL UPDATE – Model a proposed relief sewer along 5th Avenue that outlets to the river and connects to the existing sewer at 7th Street. Evaluate the concept to determine the effectiveness of the design. Determine the change in storage required for the proposed stormwater detention pond at Washington Elementary School.

B. TECHNICAL MEMO – Analyze model results and prepare one draft and final memo describing findings and recommendations. An exhibit of the updated revised alternative will be provided.

ESTIMATED MANHOUR AND FEE SUMMARY

Scope Item	Hours	Fee
Model Update	12	$1,440
Technical Memo	12	$1,680
TOTAL FEE	**24**	**$3,120**

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BAXTER & WOODMAN

Memo

To:	**Brent Anderson, Director of Public Works; City of Belvidere**
From:	**Steve Verseman / Daniel Powers**
Date:	**January 23, 2018** **Project No.: 170794.31**
Subject:	**Area 1 Sump Pump Inspections**

Baxter & Woodman, Inc. was retained to perform interior and exterior inspections of houses and businesses located in Belvidere's Area 1. Area 1 consists of approximately 178 homes and businesses west of U.S. Business Route 20/Belvidere Road, south of Kishwaukee River, east of Andrews Drive, and north of Logan Avenue (see **Figure 1**). The interior inspections and exterior inspections included determining the existence of sump pumps, determining the discharge point for existing sump pumps, and identifying other possible Infiltration and Inflow (I/I) sources (e.g. inappropriate downspout connections, sunken entrance drains, missing/damaged cleanout covers, etc.) located on private properties.

Figure 1
Area of Analysis (Area 1)

Work Performed

Baxter & Woodman teamed with Midwest Water Group and their subsidiary RMS Utility Services for the project. RMS performed a majority of the fieldwork, and specifically the door-to-door inspections, with a maximum of three (3) attempts, to gain entry into the buildings for the sump pump inspections. When there was no answer to the door knocking, the inspector left a door tag (which instructed the resident to schedule an inspection) and attempted knocking again at a different time and date. For each house/business, the inspector took detailed notes and photographs of any visible interior or exterior sump pump discharge/connections, illegal or potentially illegal downspout connections, poorly disconnected downspout drains acting as area drains, sunken entrance drains, driveway drains, missing or damaged cleanout caps/covers, and other defects of concern.

Upon completion of the inspections, a GIS system was set up to record buildings with completed inspections, buildings that refused inspection, and buildings that had three unsuccessful attempts. In addition, GIS information of each building's inspection status and full inspection reports were provided. Inspection reports contain the resident address, number of attempts and status of inspection, crew identification, date and time of inspection, weather conditions on the inspection day, and notes and photographs of any defects. All of the GIS sump pump inspection data will be provided to the City, separate from this Memo, for the City's use in their GIS.

Results

A total of 178 houses and businesses were inspected to identify existing sump pumps, sump pump discharge locations, and other I/I contributors to the Area 1 sanitary system. **Appendix A – Sump Pump Inspection Results** summarizes the results of each inspection. The following categories are used to describe the results of each inspection:

1. *No Violation*

   Complete exterior and interior inspections were conducted for these buildings and no illegal connections or other I/I contributors were identified. These thirty-seven (37) homes and businesses do not require any follow-up action.

2. *Violation*

   The twenty-five (25) properties marked with this category have been identified as being I/I contributors. The most frequent violations were interior sump pump connections to the sanitary line, sunken entrance drains, and malfunctioning cleanout caps. A note of each violation is included in Appendix A.

3. *Downspout Discharge not Located*

   These properties have unidentified downspout discharge locations. The discharge points were unable to be located because the downspouts / piping enters the ground and the inspector was unable to identify the discharge point of the piping.

4. *Sump Pump Discharge not Located*

   These properties have unidentified sump pump discharge locations. Similar to downspout discharge points which were not located, sump pump discharge points were unable to be located because the sump pump piping enters the ground and the inspector was unable to identify the discharge point of the piping.

5. *Full Interior Inspection Required*

   Properties marked with this category did not receive an interior inspection. Interior inspections were not performed due to resident refusal or the maximum attempts to gain entry had been reached.

6. *Full Exterior Inspection Required*

   These properties did not receive an exterior inspection and no data was collected. No exterior inspection was conducted because of homeowner refusal.

7. *Sewer Backup History*

   Sewer backup history data was obtained for half of the properties in Area 1. Data was not collected in instances where the inspector was unable to reach the property owner after the maximum attempts. Of the eighty-nine (89) responses received, six (6) of the homes have had a sewer backup in the past.

Attached to this Memo is **Exhibit 1** which shows the results of the Sump Pump Inspections on a map of Area 1.

Recommendations

Baxter & Woodman recommends the following actions be taken to further identify Area 1 I/I contributors:

1. Follow-up inspections and additional work should be conducted for the properties where a sump pump or downspout discharge was not identified. These discharge points should be identified to ensure no illegal sanitary sewer connections exist. The work required to determine if the discharge point enters the sanitary sewer system include dyed-water testing.

2. Continue to attempt to gain access to buildings where no interior inspection was performed. The interior inspection is the most critical because of the potential for illegal interior sump pump connections to the sanitary sewer. On an individual basis, illegally connected sump pumps area a large I/I contributor due to the relatively high rates of flow from sump pump and the potential for a sump pump to be draining a large area with a constant inflow of stormwater runoff or groundwater.

   A portion of these efforts may require referencing and enforcing the City's Code of Ordinances to allow the City or City representatives to enter the building and complete the interior and, if needed, exterior inspections.

3. Develop a plan of action to remediate identified I/I sources.

City of Belvidere, Illinois
Area 1 Sump Pump Inspections
Sump Pump Inspection Results

Address	Parcel Number	No Violation	Violation	Downspout Discharge not Located	Sump Pump Discharge not Located	Full Interior Inspection Required	Full Exterior Inspection Required	Sewer Backup History	Violation Type/Comments
1238 E 2ND ST	8924					x	x		No interior or exterior inspection allowed
1244 E 2ND ST	8926					x			
1237 LOGAN AVE	8928					x			
1120 E 2ND ST	8930					x			
1228 E 2ND ST	8931	x						No	
1112 E 2ND ST	8933					x	x		No inspections allowed
1106 LOGAN AVE	8960					x			
1050 LOGAN AVE	8961			x		x			
1151 NETTIE ST	8972					x			
1204 LOGAN AVE	8974		x	x		x			Damaged cleanout cap
436 ANDREWS DR	8988					x			
436 BEACON DR	8990			x	x			No	
436 BIESTER DR	8991			x		x			
426 ANDREWS DR	8996					x			
419 BEACON ST	8997			x	x	x			Downspout disconnection also identified
407 BEACON DR	9009			x	x			No	
406 ANDREWS DR	9023			x				No	
1311 GROVER ST	9024				x	x			
366 ANDREWS DR	9025			x	x			Yes (1-3 Years Ago)	
1122 GROVER ST	9026					x			
1208 GROVER ST	9027		x					No	Sump pump tied into sanitary system (interior connection)
365 BIESTER DR	9028		x	x	x			No	Cleanout failed smoke test
366 BIESTER DR	9029					x			
375 CHANNING AVE	9030				x	x			
365 CHANNING AVE	9044			x				No	
356 ANDREWS DR	9045		x	x				No	Sump pump tied into sanitary system (interior connection)
356 BEACON DR	9047					x			
356 BIESTER DR	9049	x						No	
355 CHANNING AVE	9062			x		x			
346 ANDREWS DR	9063		x	x				No	Sump pump tied into sanitary system (interior connection)
345 BEACON DR	9064					x			
346 BEACON DR	9065				x			No	
345 BIESTER DR	9066	x						No	
346 BIESTER DR	9067			x				No	
345 CHANNING AVE	9068			x		x			
336 ANDREWS DR	9069					x			
335 BEACON DR	9070			x		x			
336 BEACON DR	9071					x			

City of Belvidere, Illinois
Area 1 Sump Pump Inspections
Sump Pump Inspection Results

Address	Parcel Number	No Violation	Violation	Downspout Discharge not Located	Sump Pump Discharge not Located	Full Interior Inspection Required	Full Exterior Inspection Required	Sewer Backup History	Violation Type/Comments
335 BIESTER DR	9072	x						No	
336 BIESTER DR	9073			x	x			Yes (>3 Years Ago)	
335 CHANNING AVE	9075			x	x	x			
326 ANDREWS DR	9076			x				No	
325 BEACON DR	9077			x		x			
330 BEACON DR	9078	x						No	
325 BIESTER DR	9079					x			
326 BIESTER DR	9080	x						No	
325 CHANNING AVE	9093			x				No	
316 ANDREWS DR	9096		x	x				No	Sump pump tied into sanitary system (interior connection)
315 BEACON DR	9097	x						No	
316 BEACON DR	9098		x					No	Sump pump tied into sanitary system (interior connection) & sunken entrance drain identified
315 BIESTER DR	9099			x	x			No	
316 BIESTER DR	9100					x			
315 CHANNING AVE	9101			x	x			No	
306 ANDREWS DR	9108	x						No	
305 BEACON DR	9109					x			
306 BEACON DR	9110	x						No	
1217 WILLOW ST	9111		x					No	Portion of sump pump discharge ejects into basement sink
305 BIESTER DR	9112			x	x	x			
306 BIESTER DR	9113					x			
305 CHANNING AVE	9115				x			No	
226 ANDREWS DR	9124			x	x			Yes (1-3 Years Ago)	
1110 WILLOW ST	9125		x		x			No	Sunken entrance drain identified
1114 WILLOW ST	9126				x			No	
225 BEACON DR	9127		x					No	Sump pump tied into sanitary system (interior connection)
220 BEACON DR	9128		x					No	Sump pump tied into sanitary system (interior connection)
1208 WILLOW ST	9129				x	x			
1218 WILLOW ST	9130	x						No	
1226 WILLOW ST	9131			x		x			
220 BIESTER DR	9132					x			
1310 WILLOW ST	9133		x					No	Downspout tapped to cleanout
1312 WILLOW ST	9134			x				No	
1105 JULIEN ST	9143	x						No	
1115 JULIEN ST	9144		x					No	Portion of sump pump discharges into basement sink
205 BEACON DR	9145					x			
202 BEACON DR	9146					x			
1215 JULIEN ST	9147					x			
205 BIESTER DR	9148	x						No	

City of Belvidere, Illinois
Area 1 Sump Pump Inspections
Sump Pump Inspection Results

Address	Parcel Number	No Violation	Violation	Downspout Discharge not Located	Sump Pump Discharge not Located	Full Interior Inspection Required	Full Exterior Inspection Required	Sewer Backup History	Violation Type/Comments
1303 JULIEN ST	9149					x			
1311 JULIEN ST	9150					x			
1315 JULIEN ST	9151			x	x			No	
1102 & 1104 JULIEN ST	9152	x						No	
1110 JULIEN ST	9153	x						No	
1118 JULIEN ST	9154		x					Yes (>3 Years Ago)	Sump pump tied into sanitary system (interior connection)
189 BEACON DR	9155	x						No	
190 BEACON DR	9157					x			
1218 JULIEN ST	9160		x					No	Sunken entrance drain identified
1224 JULIEN ST	9161					x			
190 BIESTER DR	9163					x			
1310 JULIEN ST	9164	x						No	
1004 JULIEN ST	9169			x		x			
926 JULIEN ST	9173			x	x			No	
186 BIESTER DR	9174					x			
184 BEACON DR	9175					x			
185 BIESTER DR	9176			x	x	x			
130 ANDREWS DR	9177			x				No	
131 BEACON DR	9178			x		x			
141 BEACON DR	9179			x	x			No	
183 BEACON DR	9180		x					Yes (>3 Years Ago)	Sump pump tied into sanitary system (interior connection)
1098 JULIEN ST	9185					x			Vacant building at NW corner of JULIEN ST and Andrews Dr.
181 BIESTER DR	9186		x					No	Sump pump tied into sanitary system(interior connection)
182 BIESTER DR	9187		x					No	Sump pump discharges into drain in garage
178 BEACON DR	9188	x						No	
178 BIESTER DR	9192		x					No	Sump pump tied into sanitary system (interior connection)
172 BEACON DR	9193					x			
110 BEACON DR	9197	x						No	
126 BEACON DR	9198					x			
177 BIESTER DR	9199				x				
140 BEACON DR	9200	x						No	
152 BEACON DR	9201					x			
166 BEACON DR	9202					x			
1115 LOGAN AVE	9229	x						No	
1204 E 2ND ST	9230					x			
1220 E 2ND ST	9231		x					No	Sump pump tied into sanitary system (interior connection)
1212 E 2ND ST	9232					x	x		No interior or exterior inspection allowed

City of Belvidere, Illinois
Area 1 Sump Pump Inspections
Sump Pump Inspection Results

Address	Parcel Number	No Violation	Violation	Downspout Discharge not Located	Sump Pump Discharge not Located	Full Interior Inspection Required	Full Exterior Inspection Required	Sewer Backup History	Violation Type/Comments
1231 LOGAN AVE	9233	x						No	
1205 LOGAN AVE	9234	x						No	
1217 LOGAN AVE	9235	x						No	
418 BEACON DR	9236	x						No	
425 BIESTER DR	9237				x				
410 BIESTER DR	9238					x			
1107 GROVER ST	9239				x	x			
1205 GROVER ST	9240			x	x	x			
405 BIESTER DR	9241					x			
402 BIESTER DR	9242					x			
406 BIESTER DR	9243			x		x			
406 BEACON DR	9244					x			
439 NETTIE ST	9245					x			
415 BIESTER DR	9246					x			
173 BIESTER DR	10272					x			
141 BIESTER DR	10275							No	
172 BIESTER DR	10277			x					
131 BIESTER DR	10280	x							
121 BIESTER DR	10281					x			
113 BIESTER DR	10282					x			
105 BIESTER DR	10283			x				No	
94 ANDREWS DR	10284	x						No	
164 BIESTER DR	10288					x	x		No interior or exterior inspection allowed
158 BIESTER DR	10293			x	x	x			
150 BIESTER DR	10297	x						No	
126 BIESTER DR	10310					x			
118 BIESTER DR	10312				x			Yes (>3 Years Ago)	
110 BIESTER DR	10315	x						No	
106 BIESTER DR	10317					x			
102 BIESTER DR	10321	x						No	
1246 E 2ND ST	13288	x						No	
860 BIESTER DR	13303	x							
544 BIESTER DR	13324		x	x	x	x			Cleanout cap damaged
536 BIESTER DR	13324			x	x	x			
528 BIESTER DR	13324			x	x	x			
520 BIESTER DR	13324			x	x	x			
512 BIESTER DR	13324			x	x	x			
504 BIESTER DR	13324		x	x	x	x			Cleanout cap not sealed

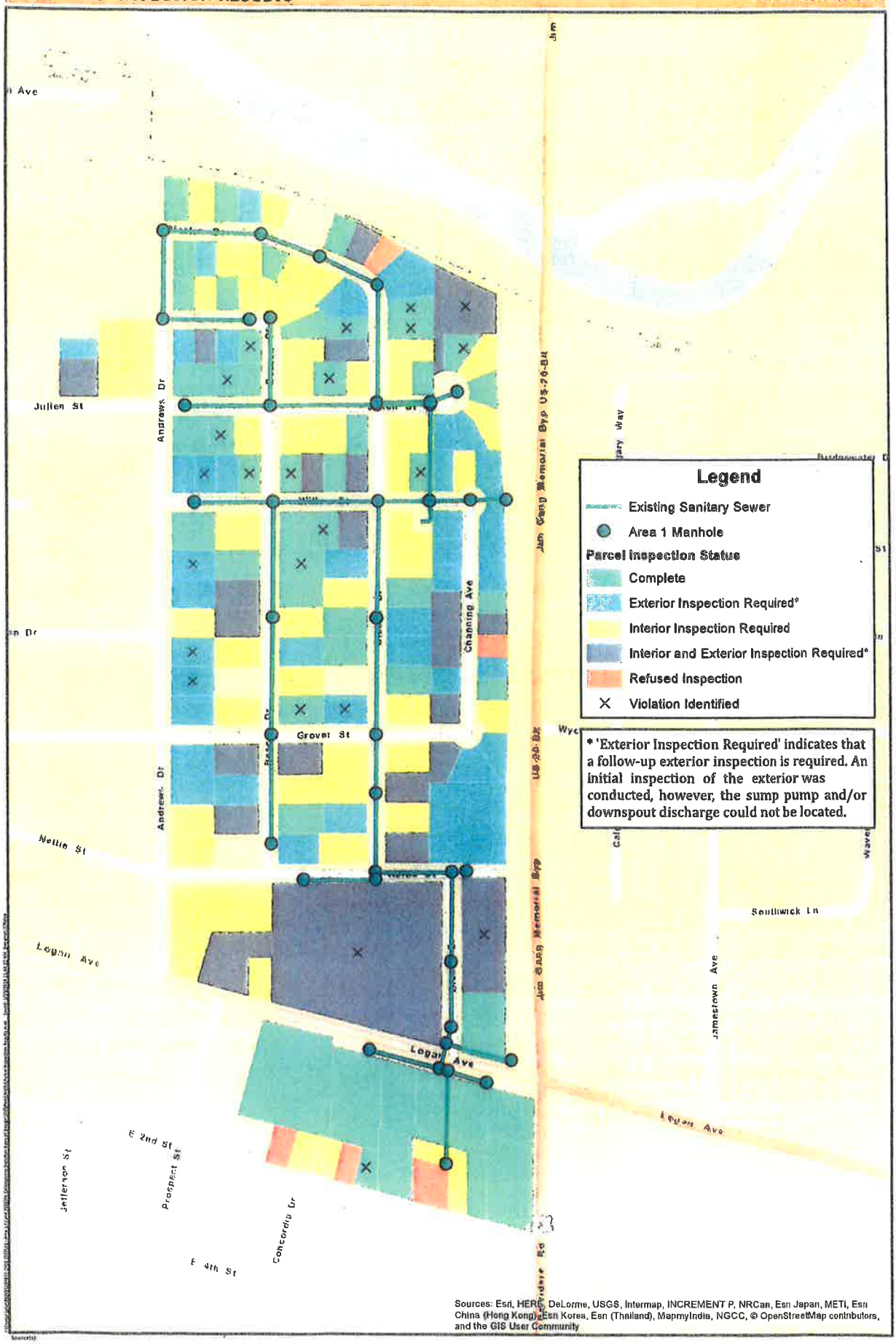
City of Belvidere, Illinois
Area 1 Sump Pump Inspections
Sump Pump Inspection Results

Address	Parcel Number	No Violation	Violation	Downspout Discharge not Located	Sump Pump Discharge not Located	Full Interior Inspection Required	Full Exterior Inspection Required	Sewer Backup History	Violation Type/Comments
1303 NETTIE ST	13324			x	x	x		No	
1420 and 1430 NETTIE ST	13351				x			No	
1400 and 1410 NETTIE ST	13351				x			No	
1313 GROVER ST	13363			x				No	
1315 GROVER ST	13378				x				
386 CHANNING AVE	13380					x		No	
376 CHANNING AVE	13397	x						No	
366 CHANNING AVE	13402			x					
356 CHANNING AVE	13419					x	x		No interior or exterior inspection allowed
346 CHANNING AVE	13424			x		x			Vacant property
336 CHANNING AVE	13441	x						No	
306 CHANNING AVE	13481			x				No	
1314 WILLOW ST	13496					x			
1316 WILLOW ST	13497			x				No	
1317 JULIEN ST	13504			x				No	
1319 JULIEN ST	13506					x			
1320 JULIEN ST	13514	x						No	
1318 JULIEN ST	13516					x			
1316 JULIEN ST	13517		x					No	Hole in ground (possible old clean out) failed smoke test
1314 JULIEN ST	13518			x				No	
1312 1/2 JULIEN ST	13518		x					No	Sump pump tied into sanitary system (interior connection)
1314 1/2 JULIEN ST	13518			x	x	x			
1312 JULIEN ST	13518		x	x		x			Hole in ground (possible old clean out) failed smoke test
1250 E 2ND ST	13681	x						No	
1275 LOGAN AVE	13682	x						No	
1253 LOGAN AVE	13683	x						No	

EXHIBIT 1

SUMP PUMP INSPECTION RESULTS

AREA 1 SUMP PUMP INSPECTIONS



BAXTER & WOODMAN

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BAXTER & WOODMAN

Memo

To:	**Brent Anderson, Director of Public Works; City of Belvidere**
From:	**Steven M. Verseman / Daniel Powers / Kaitlin Kublank**
Date:	**April 13, 2018** **Project No.: 160837.31**
Subject:	**Area 1 I/I and SSES Study**

Baxter & Woodman, Inc. was asked to conduct various Infiltration/Inflow (I/I) and Sanitary Sewer System Evaluation (SSES) study tasks in one defined area of the City's sanitary sewer system, referred to as Area 1. Area 1 consists of the area west of U.S. Business Route 20/Belvidere Road, south of Kishwaukee River, east of Andrews Drive, and north of Logan Avenue (see **Figure 1**).

Figure 1

Area of Study (Area 1)

Work Performed and Results

Manhole Inspections

Baxter & Woodman collaborated with Midwest Water Group (MWG) and their subsidiary RMS Utility Services to conduct and report on the I/I studies. Manhole inspections consisted of physical inspections including the use of a 360° digital scanning camera. A modified Level 1 inspection per NASSCO (National Association of Sewer Service Companies), using MACP (Manhole Assessment and Certification Program) guidelines, was conducted for each manhole referencing the 360° imaging. Each inspection documented manhole information (e.g. manhole diameter, manhole material, invert elevations, sewer diameters and materials, etc.), all I/I sources, and any other notable defects. From the 360° imaging, a grade was assigned to each manhole, signifying its condition. **Table 1** shows the number of manholes that fall under each grading category.

Table 1

Area 1 Manhole Grades

Grade	# of Manholes	% of Manholes
0 – Best	1	3%
1	5	13%
2	19	49%
3 – Worst	14	35%

The table is sorted in descending order of manhole condition. The manholes with a grade of zero are in excellent condition and exhibit no signs of I/I. Only one manhole falls under this category. The remaining thirty-eight manholes in Area 1 have observable defects with infiltration. The defects are a result of deteriorated manhole materials and are typically observed at any joints or pipe connection points. In summary, the grade number is related to the frequency of defects and their level of severity, thus indicating its level of susceptibility to I/I.

The spatial [Geographic Information System (GIS)] files for the manholes contain the location, condition, and other manhole information and was provided along with a GPS map. The full MACP inspection reports were provided as well as all 360° imaging. In addition, three manholes which were not on City records were identified during the manhole inspections and are currently labeled as "Found" in all reports and inspections. All of the GIS manhole inspection data will be provided to the City, separate from this Memo, for the City's use in their GIS.

Smoke Testing

Smoke testing of Area 1 was completed with five separate setups. All smoke emission points were documented and are summarized in **Table 2**.

Table 2

Area 1 Smoke Test Results Summary

Smoke Emission Point	Number of Occurrences of Smoke Emission
Sanitary Manhole	15
Clean Out - Lid Not Sealed	2
Clean Out - Damaged	2
Other	2
Total	21

Of the thirty-nine manholes inspected in Area 1, fifteen had smoke emission which indicates a leaky cover and/or a deteriorated structure susceptible to I/I. The remaining six smoke emission points are from damaged or improper cleanouts and "holes" in the ground (possible old cleanouts). These cleanouts are at private residences, other than one cleanout at the Boone County Administration Campus. Full reports of the smoke testing set-ups and emission points were provided along with spatial data and a GPS map of the smoke emission locations. All of the GIS smoke testing data will be provided to the City, separate from this Memo, for the City's use in their GIS.

SL-RAT Acoustic Pipeline Assessment

SL-RAT acoustic pipeline assessment was completed for each sanitary sewer section in Area 1. The SL-RAT equipment measures the dissipation of sound energy through the airspace within a sewer pipe between the sewage flow and the pipe wall. The more obstructions in a sewer pipe – such as roots, grease, debris, joint offsets, "hand tapped" lateral connections, etc. – the more the sound energy is blocked. Each pipe segment was given a rating of 1 to10. A rating of 1 indicates almost no sound energy was received, which suggests the pipe is experiencing heavy blockage, while a rating of 10 suggests all of the sound energy is received and little to no blockage exists in the sewer. Therefore, lower rated pipes should be prioritized for CCTV inspection because of the potential sewer defects. **Table 3** breaks down the SL-RAT results into three categories based on the blockage assessment:

Table 3

Area 1 SL-RAT Summary

Pipe Condition	Pipe Segments	% of Segments	Total Pipe Length (feet)
Poor	3	8%	932
Fair	8	21%	2,206
Good	27	71%	6,052

Pipe condition was determined from the SL-RAT scores. An SL-RAT score of 1-3 suggests the pipe may have heavy blockage and is in "poor" condition. These sewer segments should be the highest of priority for CCTV assessment. An SL-RAT score of 4-6 suggests the pipe has moderate blockage and is in "fair" condition. These sewer segments should be prioritized for CCTV assessment after the "poor" condition pipes. Finally, a score of 7-10 suggests the pipe has minor to no blockage, and these segments would be the lowest of priority for CCTV assessment. Full reports of the SL-RAT set-ups and results were provided as well as a spatial files and a GPS map of the sewer segments tested. As with the manhole inspections and smoke testing, all of the GIS SL-RAT data will be provided to the City, separate from this Memo, for the City's use in their GIS.

CCTV Assessment

Based on SL-RAT acoustic pipeline assessment, sanitary sewers identified as in "poor" or "fair" condition (approximately 3,140 feet) where selected for CCTV Assessment. In addition to the sewers identified for CCTV inspection by SL-RAT assessment, the City also asked us to review approximately 2,605 feet of a trunk sewer previously televised by the City. The videos were reviewed in accordance with the National Association of Sewer Service Companies (NASSCO's) Pipeline Assessment & Certification Program (PACP) standards. Repairs were categorized into groups according to the urgency of repair:

1. **Immediate** – Sewers included had defects with PACP structural ratings of 4 or 5 and retained the sewer's original shape. Typical defects include broken pipe, fractured pipe, multiple cracks, and/or visible soil.

2. **Non-Immediate** – Sewers included had minor structural defects throughout a large portion of the sewer and retains the sewer's original shape. Typical defects include cracked pipes, surface damage, offset joints, angle joints and separated joints.

3. **Infiltration** – Sewers included had locations identified by infiltration, roots, and/or attached deposits. Roots and attached deposits, especially mineral deposits, are signs infiltration is also entering at that location within the pipe. To reduce infiltration in the system and to minimize roots entering the system and interrupting normal flow conditions, these locations have been recommended to be lined with a cured-in-place pipe or grouted.

4. **No Repair** – Sewers included had five or less minor structural defects and minimal evidence of inflow and infiltration. Sewers should be re-inspected and evaluated in five to ten years.

Table 4 shows a summary of recommended sewer repairs and total length of sewer for each type of repair.

Table 4

CCTV Assessment Summary

Repair Urgency	Pipe Segments	% of Segments	Recommended Repair Method	Pipe Length (feet)
Immediate	5	24%	Full Length Liner and/or Point Repair	1,080
Non-Immediate	3	14%	Full Length Liner	531
Infiltration	5	24%	Full Length Liner or Grouting Joints	1,306
No Repair	8	38%	Re-televise in 5 to 10 years	2,173

During the CCTV Television Inspection, there were four sewer segments that did not have their full lengths televised. The estimated total length of untelevised is roughly 655 lineal feet.

Recommendations

Manhole Inspections

The manhole score, and smoke test results, and the recommended rehabilitation methods and costs are shown in **Appendix A**. Baxter & Woodman recommends rehabilitation be completed on all but one manhole due to the existence of I/I and structural deficiencies observed during inspection and smoke testing. The rehabilitation costs are based on the current condition of the manhole and opinions of probable construction cost for the various methods of rehabilitation. Manholes with a higher grade typically cost more money to rehabilitate due to the greater extent of repairs required to mitigate I/I sources. Most rehabilitation methods can be done with minimal to no excavation, though nine of the manholes will require excavation and removal of the manhole frame.

For reference, attached is **Exhibit 1** which shows the manhole inspection results on a map of Area 1.

Smoke Testing

The defect ID, type, location, and recommendations from the smoke testing is detailed in **Appendix B**. There were no storm sewer structures (catch basins, inlets, and manholes) that had any smoke emission. The lack of smoke emission indicates no cross connection exists between the storm sewer and sanitary sewer; therefore, no further investigating is needed. Baxter & Woodman recommends that no dyed water testing be conducted in Area 1.

The attached **Exhibit 2** is a map of Area 1 showing the locations of the various points where smoke emission occurred.

SL-RAT Acoustic Pipeline Assessment

The start and end manholes, SL-RAT score, pipe condition, pipe diameter, and sewer section length are shown in **Appendix C**. Baxter & Woodman recommends all sewers with "poor" and "fair" conditions be televised by closed-circuit television (CCTV) camera system because these pipes are identified as having the most blockages. Although the remaining pipes are in "good" condition, Baxter & Woodman recommends these also be CCTV'd for City records as part of an ongoing sanitary sewer inspection program.

B&W was also asked to request proposals from qualified CCTV contractors to perform sewer televising in the sewer sections recommended for inspection based on the smoke testing and/or SL-RAT pipe assessments. Each company provided two proposals, one to televise the "poor" and "fair" rated pipes in the Area 1 (approximately 3,140 feet) and one to televise all of the pipes in Area 1 (approximately 9,230 feet). Each proposal includes light preparatory cleaning, CCTV inspection and a report from each televised section. The proposed prices and costs are summarized in **Table 5**.

Table 5

Area 1 CCTV Costs

	"Poor" and "Fair" Rated Pipes			All Pipes		
CCTV Contractor	CCTV Work	B&W Work	Total Cost	CCTV Work	B&W Work	Total Cost
American Underground	$1.95/ft	$1.20/ft	$ 9,925	$1.79/ft	$1.15/ft	$27,140
H.R. Stewart	$3.50/ft	$1.20/ft	$14,805	$3.50/ft	$1.15/ft	$42,920
Visu-Sewer	$4.18/ft	$1.20/ft	$16,950	$2.61/ft	$1.15/ft	$34,705
N P R Corp.	$4.69/ft	$1.20/ft	$18,555	$4.58/ft	$1.15/ft	$52,890

As a continuation of this project, B&W would perform the review, documentation, and recommendations work for the "poor" and "fair" rated pipes at $0.40 per foot, while our fee for all of the pipes would be $0.35 per foot.

Attached as **Exhibit 3** is a map of Area 1 showing the locations of the results of the SL-RAT sewer assessments.

CCTV Assessment

The sewer segments structural recommended rehabilitation methods and cost are shown in **Appendix D**. Appendix D includes the following repair methods:

1. **Point Repair** – This repair includes excavation and replacement of sewer pipe at specific defect locations. The length of replaced pipe ranges between five feet and 20 feet depending on defect severity and presence of other defects in the vicinity of the repair. This repair method is recommended for defects where the sewer is out-of-round or the cross-sectional area of the pipe is reduced to less than 90% of the pipe's original cross-sectional area.

2. **Full Length Liner** – This repair includes installation of a cured-in-place pipe in the existing sewer. This is a trenchless method that requires no excavation. Service laterals can typically be reinstated within 8-12 hours of the start of installation. This repair method is recommended for defects where the sewer has structural defects but retains its original shape. This repair method is also an effective method to reduce I/I, but has only be recommended for sewers that also had structural defects in addition to known infiltration locations.

3. **Grouting Joints** – This repair includes pressure testing of sewer joints and injection of grout behind the sewer wall where the joints fail pressure testing. This repair method is for Infiltration and Inflow (I/I) reduction. This repair method is recommended for defects where the sewer is in good structural condition and has consistent evidence of I/I at joints. Evidence of I/I includes active infiltration, mineral deposits, and roots..

4. **T-Liner** – This repair includes the installation of a cured-in-place-pipe in the existing services. This is a trenchless method that requires no excavation and is recommended for the services in sewer mains that have already been identified as needing a full length liner. Service laterals can typically be reinstated within a few hours of the start of installation.

5. **Grouting Service Connection** – This repair includes the injection of grout at service connections behind the service wall where voids are present. This repair method is for Infiltration and Inflow (I/I) reduction. This repair method is recommended for defects where the sewer is in good structural condition and has shown consistent evidence of I/I at joints of the main line sewer. Evidence of I/I includes active infiltration, mineral deposits, and roots..

6. **Trim Lateral** – This repair is a trenchless method of cutting service laterals that intrude into the sewer more than one inch. This repair is typically performed prior to a liner installation but can be performed independent of other repairs.

Baxter & Woodman recommends the City budget for the sewer repairs identified in **Table 6** to address structural deficiencies and infiltration, which are based on 2018 estimated construction costs. Table 6 also includes recommendations for optional rehabilitation of service connections to reduce I/I.

Table 6

Summary of Structural Rehabilitation Costs

Structural Sewer Repairs	Service Rehabilitations Costs	Estimated Construction Costs
2018/2019 – Immediate Repairs (1-Year)		$80,350
Optional Costs:		
Grout Service Connections (2') or	$6,000	
Install 5' T-Liners at Services	$45,000	
(additional T-Liner Length approx. $60/Ft)		
2020 – 2023 – Non-Immediate Repairs (2 - 5 Years)		**$37,800**

In addition to the above structural repairs, sewers identified with infiltration, but with minor or no structural defects, have been recommended for either cured-in-place pipe lining or grouting. Baxter & Woodman recommends the City budget for sewer repairs to address sewers identified in **Table 7** as those sewers with infiltration, but with minor or no structural defects. Table 7 also includes recommendations for optional rehabilitation of service connections to reduce I/I.

Table 7

Summary of Infiltration Rehabilitation Costs

Infiltration Sewer Repairs	Cured-In-Place Pipe & 5' T-Liner	Grouting Joints & Service Connections
Main Line Sewer (With Minor Structural Defects)	$46,500	$37,300
Optional Costs:		
Grout Service Connections (2') or		$6,400
Install 5' T-Liners at Services	$48,000	
(additional T-Liner Length approx. $60/Ft)		
Main Line Sewer (With No Structural Defects)		**$12,300**
Optional Costs:		
Grout Service Connections (2')		**$2,400**

City of Belvidere, Illinois
Area 1 I/I and SSES
Manhole Rehabilitation

Manhole Information			Recommended Manhole Improvements								
MH No.	MH Score	Smoke Exfiltration	Replace Cover	Replace Frame	Reset Frame	Replace Adjusting Rings	Install Chimney Seal	Interior Manhole Sealing	Repair Bench	Clean MH bottom (bench/channel)	Manhole Rehabilitation Cost
(03)136	2	Yes (KW13)						x	x	x	$ 3,000
(03)137	1	No					x	x			$ 1,680
(03)138	3	No				x	x	x	x	x	$ 3,880
(03)139	3	No					x	x	x	x	$ 2,880
(03)140	3	No		x				x	x	x	$ 4,260
(03)141	2	No					x	x			$ 1,680
(03)142	3	No						x			$ 1,440
(03)143	3	No		x		x	x	x			$ 4,340
(03)144	1	Yes (KW17)						x			$ 1,080
(03)146	2	Yes (KW21)					x	x		x	$ 2,700
(03)147	2	No					x	x			$ 1,680
(03)148	1	Yes (KW16)						x			$ 1,080
(03)149	2	No					x	x			$ 1,680
(03)151	2	No						x			$ 1,080
(03)152	2	No						x			$ 1,440
(03)153	2	No	x					x			$ 1,980
(03)154	2	No						x	x	x	$ 2,640
(03)155	3	Yes (KW3)						x	x	x	$ 2,640
(03)156	2	Yes (KW7)						x	x	x	$ 3,000
(03)157	2	Yes (KW8)					x	x			$ 2,040
(03)158	3	No						x			$ 2,160
(03)159	3	Yes (KW10)				x	x	x	x		$ 4,980
(03)160	3	Yes (KW11)						x	x	x	$ 3,000
(03)161	2	No						x			$ 1,080
(03)186	3	Yes (KW9)						x			$ 1,800
(03)187	2	No					x	x			$ 2,040
(03)188	1	Yes (KW2)			x			x			$ 2,280
(03)189	0	Yes (KW1)									$ -
(03)190	3	No				x		x	x	x	$ 4,640
(03)191	2	Yes (KW18)						x	x	x	$ 2,280
(03)192	2	No					x	x			$ 2,400
(03)193	2	Yes (KW15)					x	x			$ 2,400
(03)194	3	No				x	x	x		x	$ 4,660
(03)195	3	No					x	x			$ 2,400
(13)007	2	Yes (KW14)					x				$ 600
(15)120	1	No					x	x			$ 2,400
found1	2	No						x			$ 1,080
found3	2	No				x	x	x			$ 3,480
found4	3	No						x	x	x	$ 2,280
										Opinion of Probable Construction Cost	$ 92,160
										Engineering - Design and Construction (20%)	$ 18,500
										Opinion of Probable Total Project Cost	$ 110,660

Appendix B

City of Belvidere, Illinois
Area 1 I/I and SSES
Smoke Testing Results

Defect ID	Defect Type	Setup Number	Address or MH No.	Comment	Recommended for Future Dye Water Testing?
KW1	Smoke - Sanitary Manhole	1	(03)189		No
KW2	Smoke - Sanitary Manhole	1	(03)188		No
KW3	Smoke - Sanitary Manhole	1	(03)155		No
KW4	Clean Out - Damaged	1	Boone County Administration Campus		No
KW5	Clean Out - Lid Not Sealed	1	504 Biester Drive		No
KW6	Clean Out - Damaged	1	544 Biester Drive		No
KW7	Smoke - Sanitary Manhole	1	(03)156		No
KW8	Smoke - Sanitary Manhole	1	(03)157		No
KW9	Smoke - Sanitary Manhole	1	(03)186		No
KW10	Smoke - Sanitary Manhole	1	(03)159		No
KW11	Smoke - Sanitary Manhole	1	(03)160		No
KW12	Clean Out - Lid Not Sealed	2	365 Biester Drive		No
KW13	Smoke - Sanitary Manhole	3	(03)136		No
KW14	Smoke - Sanitary Manhole	3	(13)007		No
KW15	Smoke - Sanitary Manhole	4	(03)193		No
KW16	Smoke - Sanitary Manhole	5	(03)148		No
KW17	Smoke - Sanitary Manhole	5	(03)144		No
KW18	Smoke - Sanitary Manhole	5	(03)191		No
KW19	Other - Smoke	5	1316 Julien Street	Hole next to driveway - possible cleanout	No
KW20	Other - Smoke	5	1312 Julien Street	Hole next to driveway - possible cleanout	No
KW21	Smoke - Sanitary Manhole	5	(03)146		No

City of Belvidere, Illinois
Area 1 I/I and SSES
SL-RAT Results

MH #1	MH #2	SL-RAT Score	Pipe Condition	Diameter	Length (ft)
(03)143	(03)142	1	POOR	8"	340
(03)139	(03)138	1	POOR	8"	406
(03)144	(03)143	3	POOR	8"	186
(03)158	(03)157	4	FAIR	8"	88
(03)149	(03)147	4	FAIR	8"	294
(03)141	(03)142	5	FAIR	8"	178
(03)189	(03)188	6	FAIR	8"	250
(03)136	(03)137	6	FAIR	8"	273
(03)147	(03)144	6	FAIR	8"	369
(03)137	(03)141	6	FAIR	8"	364
(03)152	(03)151	6	FAIR	8"	400
(03)190	Found3	7	GOOD	8"	98
(03)140	(03)139	7	GOOD	8"	376
(03)151	(03)141	7	GOOD	8"	403
(03)190	(03)143	8	GOOD	8"	6
(03)146	Found1	8	GOOD	8"	223
(03)191	(03)190	8	GOOD	8"	189
(15)120	(03)157	8	GOOD	8"	222
(03)153	(03)152	8	GOOD	8"	204
(13)142	(03)007	8	GOOD	8"	140
(03)155	(03)154	8	GOOD	8"	265
(03)146	(03)191	8	GOOD	8"	403
(03)195	(03)194	8	GOOD	8"	305
(03)193	(03)192	8	GOOD	8"	339
(03)138	(03)137	8	GOOD	8"	402
(03)186	(03)158	9	GOOD	8"	33
(03)159	(03)186	9	GOOD	8"	141
(03)156	Found4	9	GOOD	8"	224
(03)154	(03)153	9	GOOD	8"	272
(03)148	(03)147	9	GOOD	8"	303
(03)161	(03)186	9	GOOD	8"	317
(03)194	(03)193	9	GOOD	8"	302
(03)160	(03)159	9	GOOD	8"	253
(03)192	Found1	9	GOOD	8"	218
(03)156	(03)155	9	GOOD	8"	306
(03)188	(03)154	10	GOOD	8"	25
(03)187	(03)155	10	GOOD	8"	52
(03)157	Found4	10	GOOD	8"	57

City of Belvidere, Illinois
Area 1 I/I and SSES
CCTV Assessment Recommendation Summary

Structural with Infiltration Repairs

From Structure	To Structure	Street	Material	Diameter (in.)	Televised Length (Ft.)	Number of Services	Intruding Services	Heavy Roots	Grease	Recommended Rehabilitation Method	Structutral with Infiltration Repairs: Main Line Sewer: Trim Intruding Services	Full Length Cured-In-Place Liner	Reinstate Services	Point Repair	Subtotal	Service Rehabilitation Options: Grout Connection	5' T-Liner
IMMEDIATE REPAIRS																	
03 147	03 144	Julien St	VCP	8	365.5	6	1			Full Length Liner	$ 250	$ 16,500	$ 1,500	$ -	$ 18,250	$ 2,400	$ 18,000
03 139	03 138	Beacon Dr	VCP	8	89.8	1	1			Point Repair and Full Length Liner	$ 250	$ 4,100	$ 250	$ 10,000	$ 14,600	$ 400	$ 3,000
03 149	03 147	Julien St	VCP	8	280.4	8	4			Full Length Liner	$ 1,000	$ 13,200	$ 2,000	$ -	$ 16,200	$ 3,200	$ 24,000
(5)162	(5)081	Oakbrook Drive	VCP	15	135	0	0			Full Length Liner	$ -	$ 12,500	$ -	$ -	$ 12,500	$ -	$ -
(5)162	(5)042	Oakbrook Drive	VCP	15	209	0	0			Full Length Liner	$ -	$ 18,800	$ -	$ -	$ 18,800	$ -	$ -
										Immediate Main Line Sewer Structural Repairs Total:					$ 80,350	$ -	$ -
										Optional Service Repair Total:					$ -	$ 6,000	$ 45,000
NON-IMMEDIATE REPAIRS																	
03 158	03 157	Biester	CI	8	83.9	0	0			Full Length Liner	$ -	$ 3,800	$ -	$ -	$ 3,800	$ -	$ -
03 143	03 142	Julien St	VCP	8	99.9	0	0			Full Length Liner	$ -	$ 4,500	$ -	$ -	$ 4,500	$ -	$ -
(5)042	(5)086	Oakbrook Drive	VCP	15	347	0	0			Full Length Liner	$ -	$ 29,500	$ -	$ -	$ 29,500	$ -	$ -
										Non- Immediate Main Line Sewer Structural Repairs Total:					$ 37,800	$ -	$ -
										Optional Service Repair Total:					$ -	$ -	$ -

Infiltration Repairs

From Structure	To Structure	Street	Material	Diameter (in.)	Televised Length (Ft.)	Number of Services	Intruding Services	Heavy Roots	Grease	Recommended Rehabilitation Method	Infiltration Repairs (No Major Structural Concerns): Main Line Sewer Options: Trim Intruding Services	Full Length Cured-In-Place Liner	Reinstate Services	CIPP Subtotal	Grouting & Pressure Testing	Service Rehabilitation Options: Grout Connection	5' T-Liner
INFILTRATION REPAIRS WITH MINOR STRUCTURAL DEFECTS																	
03 136	03 137	Willow St	VCP	8	267.7	5	0	X		Full Length Liner	$ -	$ 12,100	$ 1,250	$ 13,350	$ 10,800	$ 2,000	$ 15,000
03 152	03 151	Biester Dr	VCP	8	299.3	6	2	X		Full Length Liner	$ 500	$ 13,500	$ 1,500	$ 15,500	$ 12,000	$ 2,400	$ 18,000
03 137	03 141	Willow St	VCP	8	359.7	5	1	X	X	Full Length Liner	$ 250	$ 16,200	$ 1,250	$ 17,700	$ 14,500	$ 2,000	$ 15,000
										Lining Main Line Sewer Total:				$ 46,550	$ -	$ -	$ -
										or Grouting & Pressure Testing Main Line Sewer Total:				$ -	$ 37,300	$ -	$ -
										Optional Service Repair Totals:				$ -	$ -	$ 6,400	$ 48,000
INFILTRATION REPAIRS (NO STRUCTURAL DEFECTS)																	
03 189	03 188	Nettle	VCP	8	242	2	1	X		Remove Mineral Deposts and Grout Joints	$ 250	$ -	$ -	$ -	$ 9,800	$ 800	$ -
03 144	03 143	Julien St	VCP	8	137.5	4	4	X		Remove Mineral Deposts and Grout Joints	$ 1,000	$ -	$ -	$ -	$ 2,500	$ 1,600	$ -
										Lining Main Line Sewer Total:				$ -	$ -	$ -	$ -
										or Grouting & Pressure Testing Main Line Sewer Total:				$ -	$ 12,300	$ -	$ -
										Optional Service Repair Totals:				$ -	$ -	$ 2,400	$ -
NO REPAIRS																	
03 142	03 007	Willow St	PVC	8	259	5	0			Retelevise in 5 to 10 years							
(16)036	(16)035	Crystal Pakrway	PVC	12	234	0	0			Retelevise in 5 to 10 years **							
(16)036	(16)037	Crystal Pakrway	VCP	12	219	0	0			Inspect MH's for possible I/I							
(5)081	(5)043	Oakbrook Drive	VCP	15	110*	0	0			Retelevise in 5 to 10 years							
(5)086	(5)154	Oakbrook Drive	VCP	15	250*	0	0			Retelevise in 5 to 10 years							
(6)095	(6)096	Oakbrook Drive	PVC	12	382	0	0			Retelevise in 5 to 10 years **							
(6)096	(6)097	Oakbrook Drive	PVC	12	357	0	0			Retelevise in 5 to 10 years **							
(16)037	(6)095	Oakbrook Drive	PVC	12	362	0	0			Retelevise in 5 to 10 years **							

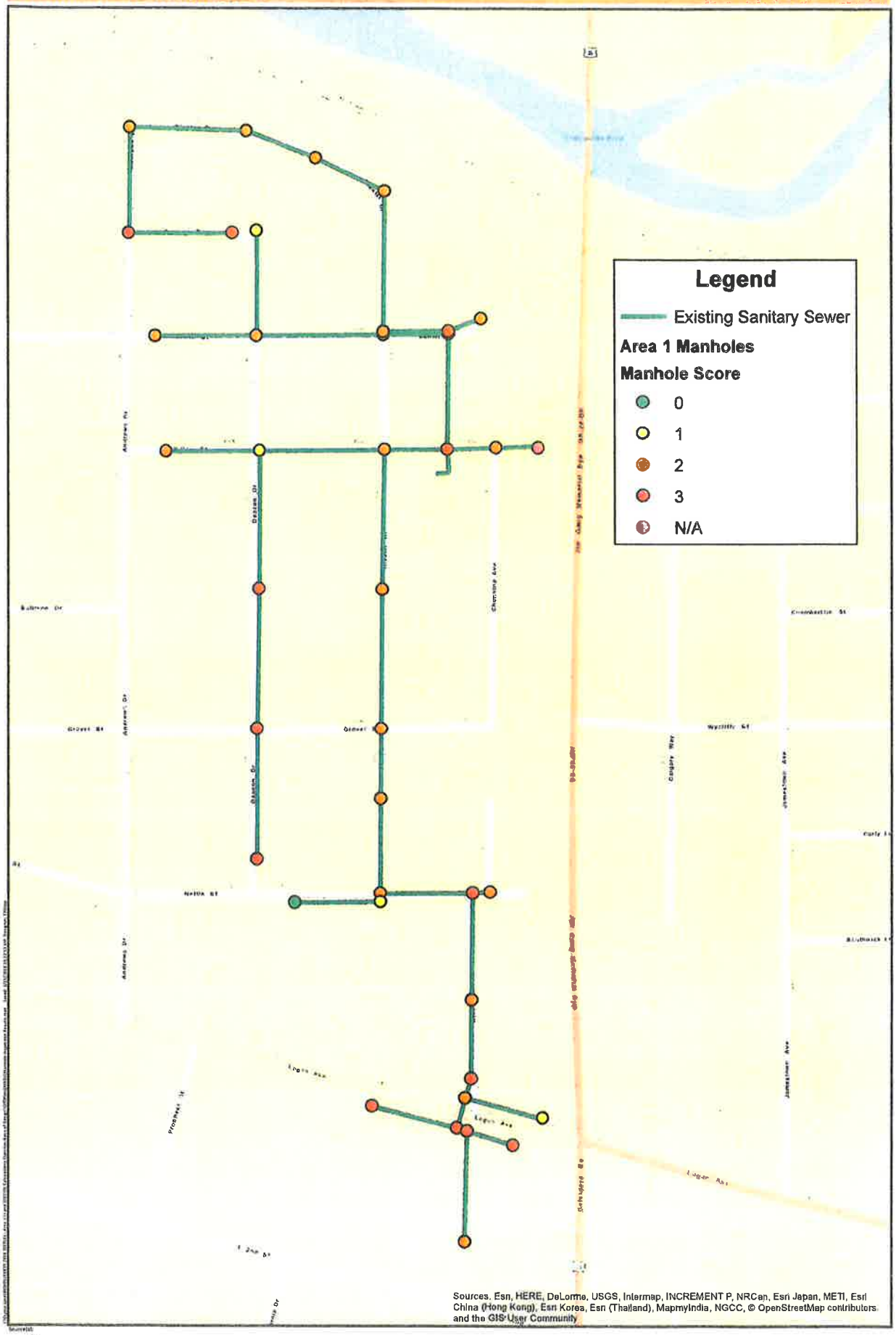
Notes:

**The televised length shown in red identifies sewers that were not fully televised and thus does not represent the sewer's true length*

*** I/I was not visible at the time of review*

EXHIBIT 1

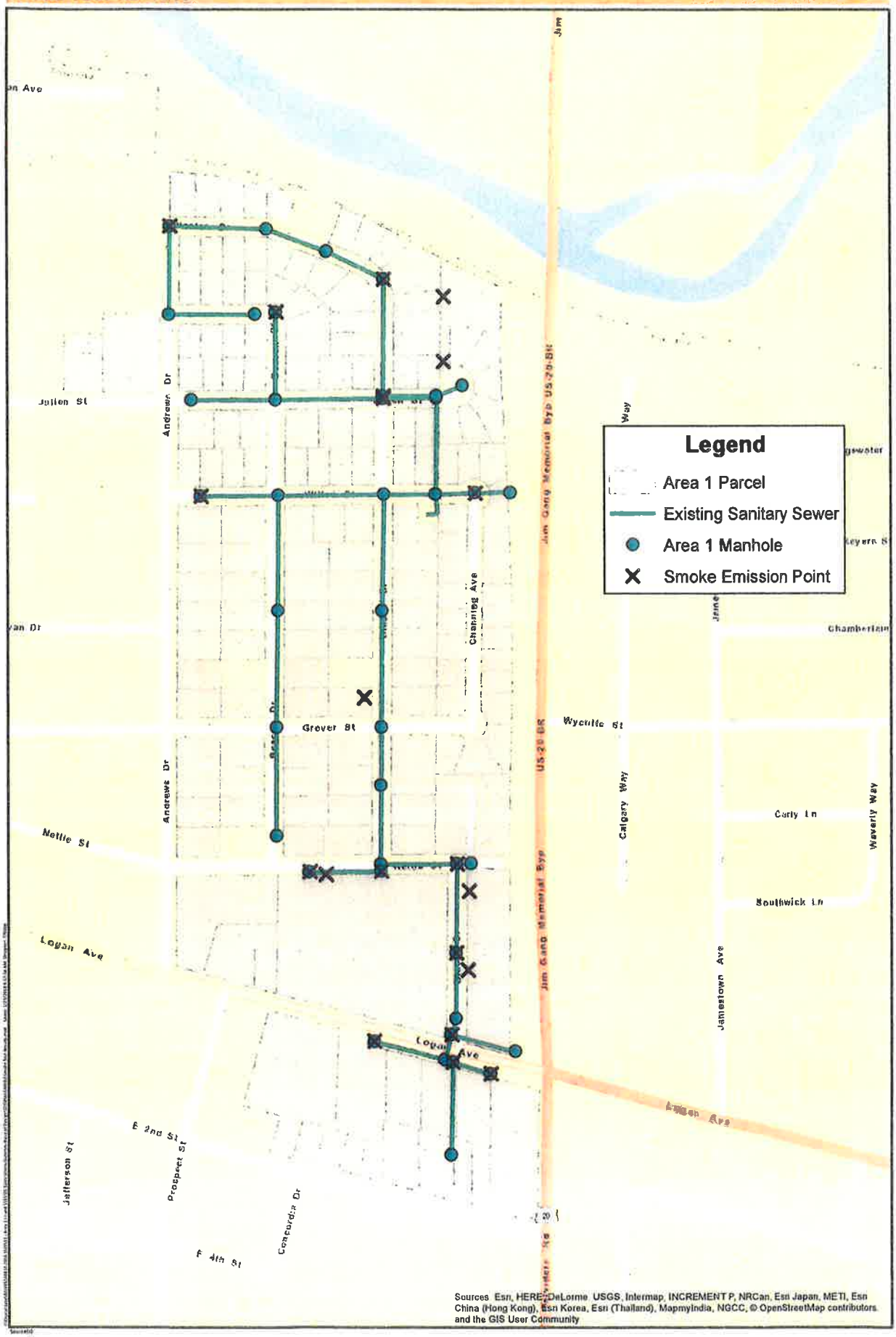
MANHOLE INSPECTION GRADES



BAXTER & WOODMAN

EXHIBIT 2

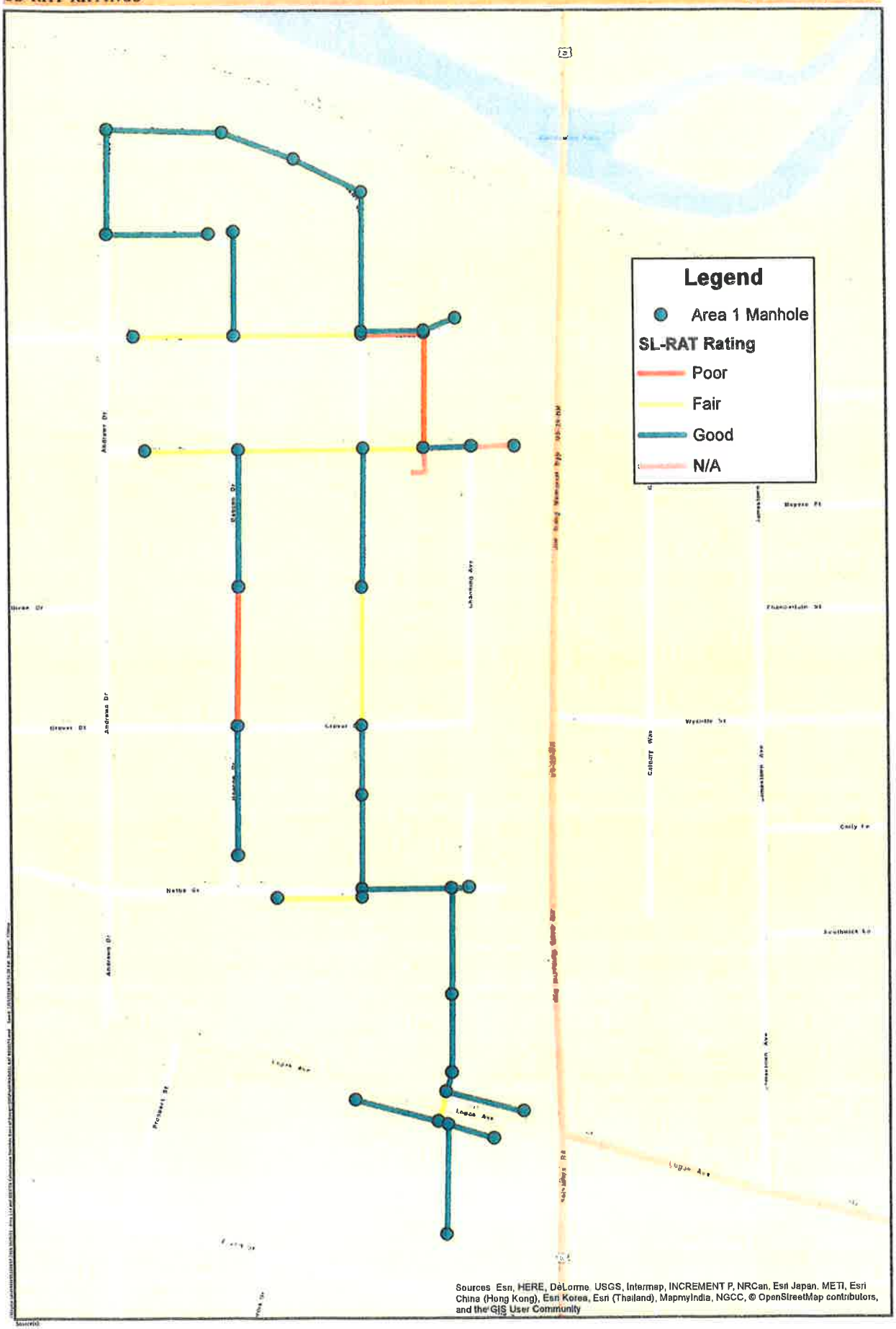
SMOKE TEST RESULTS



BAXTER & WOODMAN

EXHIBIT 3

SL-RAT RATINGS



N

1 " = 250 '

0 125 250 500 Feet

BAXTER & WOODMAN

SNOW POLICY

Posted by City Admin (/news-and-events/recent-news/blogger/listings/city-belvidere) on Wednesday, 23 January 2019 in News (/news-and-events/recent-news/categories/listings/news)

In order to help the general public understand how we handle each snow storm, our salting and plowing policy is written below. Keep in mind that ***the snow removal ordinance prohibits parking on any public street, alley or parking lot whenever two inches or more of snow accumulates.*** By using this system, we can generally have the entire city plowed curb to curb, including alleys and parking lots within 8-10 hours following the end of the storm.

1" or less of Accumulation: Salting Only. As soon as roads become slick, we will begin salting of all arterial and collector streets and just intersections on residential streets.

If the storm begins after regular Street Department working hours, the Police Department Shift Supervisor can authorize the dispatcher to call in one (1) or two (2) Street Department employees to begin salting operations. If additional manpower is needed, the Street Superintendent will be contacted by one of the employees on duty.

1" to 2" Accumulation: Salting operations stop after 1" accumulation. We will begin plowing arterials, collectors, and residential streets, if conditions warrant, when the storm ends. If there are cars parked on the street, plows will go around them.

More than 2" Accumulation: After 2" have accumulated, only the driving lanes on arterials, collector and residential streets will be plowed. Primary emphasis will be on high traffic streets, therefore not all residential streets may be plowed at this time. Driving lanes will be re-plowed at each additional 3" of accumulation until the storm ends.

In the municipal parking lots and in the street scape parking areas, we will attempt to clear all snowfall prior to 7:00 am. Vehicles parked in these areas Monday - Saturday between 7:00 am and 7:00 pm will not be ticketed or towed. After 7:00 pm, they will be subject to towing and tickets.

When the storm ends, all streets, alleys, and parking lots will be plowed curb to curb subject to the above policies and any vehicles parked on the roadway will be ticketed and towed at the owner's expense.

The End of Your Driveway

The City's crews use side discharge plows. As the plows move forward, snow moves along the blade from the left to the right. The discharge from the blade is deposited along the curb or in the grass boulevard on the city right of way. This discharge, officially known as a "windrow", ends up leaving snow in driveway approaches along the route. While we understand the aggravation this can cause, this natural result of plowing is unavoidable.

Your Mailbox

The goal of the Street Department is to clear the streets for travel. No matter how hard we try, it is not possible to provide perfect conditions for your mail carrier. Final clearing adjacent to mailboxes is the responsibility of each resident.

The Postal Service asks customers to clear snow and ice from sidewalks, stairs and mailboxes, to help letter carriers deliver the mail. This will help your carrier efficiently deliver your mail. If your carrier is not able to safely deliver the mail to your mailbox, delivery may be suspended.

401 Whitney Boulevard, Suite 200
Belvidere, Illinois 61008
815-544-9256 Fax: 815-544-4255

Belvidere Public Works

Memo

To: Mayor and City Council

From: Brent Anderson, Director of Public Works

Date: 2/7/2019

Re: Purchase of Used 60" Snow Blower

We have been looking for a snow blower attachment for our mini-loader to use in the downtown area, well houses, lift stations and other restricted areas we are responsible for during snow removal operations. We have located a like new used 2015 Case 60" snow blower that meets our needs. The following proposals were received for cost reference:

1.	Miller-Bradford & Risberg, Inc 4949 26th Avenue Rockford, IL 61109	2015 Case 60" Snow blower Attachment 2018 Case 60" Snow blower Attachment	$5,400.00 $8,400.00
2.	West Side Tractor Sales 3110 Prairie Road Rockford, IL 61102	2018 John Deere SB60B	$8,200.00

I would recommend approval of the purchase of the 2015 Case 60" snow blower attachment from Miller-Bradford & Risberg , in the amount of $5,400.00. This equipment will be paid for from the following line items:

Street #01-5-310-6020	$1,800.00
Water #61-5-810-6030	$1,800.00
Sewer #61-5-830-6030	$1,800.00


CASE
SV250

401 Whitney Boulevard, Suite 200
Belvidere, Illinois 61008
815-544-9256 Fax: 815-544-4255

City of Belvidere
Department of Public Works

Memo

To: Mayor and City Council

From: Brent Anderson, Director of Public Works

Date: February 7, 2019

Re: Well #7 Electric Service Upgrade

The current budget includes replacement of the roof at Well #7. In order to facilitate the new pitched roof design, we need to change the existing electric service from overhead to underground. This change will also eliminate one utility pole on the property.

We have received the following bids to install a new underground service at Well #7:

1. Engel Electric — $7,979.00
   1514 W 4th St
   Sterling, IL 61081

2. William Charles Electric — $13,100.00
   833 Featherstone Road
   Rockford, IL 61107

I would recommend approval of the low bid from Engel Electric, in the amount of $7,979.00, for the installation of a new underground electric service for Well #7. This work will be paid for from Line Item #61-5-810-6010.

PROPOSAL

ENGEL ELECTRIC CO.
ELECTRICAL CONTRACTORS
1514 W FOURTH STREET
STERLING, IL 61081
(815) 625-5949 / FAX (815) 625-5987
CELL (815) 716-3632
Visit Our Web-Site @ www.engelelectric.com
"An Equal Opportunity Employer"

January 11,2019

City of Belvidere / Brent Anderson

Subject: Well 7 Underground Service

I am very pleased to have the opportunity to send you this proposal for performing the above project as per the following

Scope of Work: Supply and install wire and conduit for new underground 400A from pole to CT cabinet to replace existing overhead service. Understood trench to be provided by others.

Labor and Material ***$7,979.00***

Notes:

1. Any items of work outside of the above scope that would need to be added/deleted will be handled on an additive/deductive change order basis.
2. No housekeeping pads are included.
3. No allowance, contingencies, bonds, permits, utility fees, or any other fees of any kind are included.
4. All work performed during our regular scheduled work hours.
5. Material sales tax is not included in our proposal.
6. Temporary power & lighting is not included in this quote.
7. This proposal signed by both parties is to be the contract. All proposal notes will become part of contract. If a contract will be required it will be mutually agreeable between signatory entities. We will schedule work upon signed receipt of proposal or written notice to proceed.
8. Title to all equipment and materials will remain with Engel Electric Company until payment in full has been made.
9. Engel Electric Company reserves proprietary rights, including copyrights, to this document and the data shown thereon. Said document, drawing, and/or data are the exclusive property of Engel Electric Company and shall not be used or reproduced for any other entity or project without the expressed written consent, approval and participation of Engel Electric Company.

Payment to be made as follows:
Invoiced monthly. Terms net 15 days maximum of 30 days from date of invoice. A 1 1/2 % interest per month charge will be added to all past due accounts.

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado, and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance.

Authorized Signature Larry Walzer ext. 106

Note: This proposal may be withdrawn by us if not accepted within 30 days.

Acceptance of Proposal -The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Printed Name: _____

Date of Acceptance: _____

Signature: _____

William Charles
Electric
A WILLIAM CHARLES COMPANY

833 Featherstone Road
Rockford, Illinois 61107

815.654.4700
Fax 815.654.4736

To:	City Belvidere	**Contact:**	Dan Anderson
Address:	401 Whitney Boulevard	**Phone:**	815-544-9256
	Belvidere, IL 61008 BOONE	**Fax:**	
Project Name:	Belvidere Well House Service Located At E 2nd St	**Bid Number:**	2019-DB
Project Location:	Belvidere, IL	**Bid Date:**	2/6/2019

WCE Scope:

WCE will install conduit from the existing ComEd pole to the existing 400 amp CT Cabinet. WCE will pull the new cable, terminate and test for the proper rotation. ComEd will be responsible for the terminations at the pole. The service wire will be a Three Phase, 480V, Grounded B phase to match existing. WCE will remove and dispose of the existing overhead wire. All digging/trenching and backfilling will be by others. WCE will install the conduit in the trench.

Item #	Item Description	Estimated Quantity	Unit	Unit Price	Total Price
	Re-Feed Well House 400 A Service	1.00	LS	$13,100.00	$13,100.00

Total Bid Price: $13,100.00

Notes:

- 1. Price is Good for 30 days
  2. No Traffic Control
  3. No Layout
  4. No taxes or Permits.
  5. No Rock Excavation
  6. Locating private utilities by others
  7. No Bid or Performance Bond
  8. No QA/QC testing.
  9. No spoil removal.
  10. Any ComEd connection Fees will be paid by the owner.
  11. It is assumed that the existing 400 amp CT Cabinet is a ComEd approved cabinet.
  12. All Digging/Trenching/backfilling will be by others.
  13. Restoration will be others.
  14. WCE will install the conduit (digging/backfilling by others), pull the wire, and terminate at the CT Cabinet.
- TERMS OF PROPOSAL

1. UNLESS OTHER PAYMENT TERMS ARE SPECIFICALLY PROVIDED BELOW, ALL PAYMENTS TO BE APPLIED AGAINST THE CONTRACT PRICE ARE DUE AND PAYABLE WITHIN 15 DAYS AFTER THE DATE OF THE INVOICE. ALL AMOUNTS DUE AS PAYMENTS WILL BE INVOICED MONTHLY BASED UPON THE PROPORTION OF THE WORK COMPLETED AND THE MATERIALS DELIVERED TO OR SET ASIDE AND STORED FOR THIS PROJECT DURING THE PREVIOUS MONTH, THE UNBILLED BALANCE OF THE CONTRACT PRICE WILL BE INVOICED UPON COMPLETION.

OTHER PAYMENT TERMS:

_____

_____

2. ALL AMOUNTS NOT PAID WHEN DUE WILL BEAR INTEREST AT THE RATE OF 2% PER MONTH ON THE UNPAID BALANCE ON THE FIRST DAY OF THE MONTH COMMENCING ON THE DATE THE PAYMENT WAS DUE; PROVIDED, HOWEVER, THAT IF THIS PROPOSAL RELATES TO WORK NOT PERFORMED FOR A BUSINESS OR IN CONNECTION WITH A TRADE OR BUSINESS OF THE PARTY ACCEPTING THIS PROPOSAL, THE APPLICABLE RATE OF INTEREST SHALL BE 24% PER YEAR.

3. THE PARTY ACCEPTING THIS PROPOSAL SHALL INDEMNIFY WILLIAM CHARLES ELECTRIC AND ITS AGENTS

- AND EMPLOYEES AND SHALL HOLD THEM HARMLESS FROM ANY AND ALL ACTUAL OR ALLEGED CLAIMS, DAMAGES, LOSSES, PENALTIES (GOVERNMENTAL OR PRIVATE), AND EXPENSES, INCLUDING ATTORNEY'S FEES, ARISING OUT OF OR RESULTING FROM THE PERFORMANCE OF THE WORK DESCRIBED IN THIS PROPOSAL EXCLUDING, HOWEVER, CLAIMS, DAMAGES, LOSSES, PENALTIES AND EXPENSES WHICH ARE CAUSED BY THE NEGLIGENCE OF WILLIAM CHARLES ELECTRIC OR ITS AGENTS OR EMPLOYEES.

4. THIS PROPOSAL OF WILLIAM CHARLES ELECTRIC DOES NOT INCLUDE PERMITS, TESTS, FEES, BONDS, SEEDING, LANDSCAPING, WEED CONTROL, UTILITY RELOCATION OR IRRIGATION RELOCATION.

5. WILLIAM CHARLES ELECTRIC RESERVES ALL LIEN RIGHTS PERMITTED BY LAW AND THIS PROPOSAL GIVES NOTICE THAT WILLIAM CHARLES ELECTRIC MAY RECORD A LIEN AGAINST THE PROPERTY WHERE THE WORK IS PERFORMED AT ANY TIME. NO LIEN RIGHTS MAY BE WAIVED BY THIS PROPOSAL.

6. WILLIAM CHARLES ELECTRIC RESERVES THE RIGHT TO SET OFF PAYMENT FOR THE WORK IDENTIFIED BY THIS PROPOSAL AGAINST ANY DEBT OWED BY THE OWNER, OR ANY AFFILIATED INTEREST OF THE OWNER, TO WILLIAM CHARLES ELECTRIC OR ANY OF ITS AFFILIATED ENTITIES.

ACCEPTED:	**CONFIRMED:**
The above prices, specifications and conditions are satisfactory and are hereby accepted.	**William Charles Electric, LLC**
Buyer: _____	
Signature: _____	**Authorized Signature:** _____
Date of Acceptance: _____	**Estimator:** David Bonavia (815) 654-4342 dbonavia@williamcharleselectric.com