

**VILLAGE OF DOWNERS GROVE**  
**Report for the Village Council Meeting**  
**11/22/2016**

<b>SUBJECT:</b>	<b>SUBMITTED BY:</b>
Award of Contracts for Localized Poor Drainage Area Analyses	Nan Newlon Director of Public Works

**SYNOPSIS**

Resolutions have been prepared requesting authorization to execute contracts to the following firms to provide engineering studies of localized poor drainage areas within each of the Village's watersheds for a total cost of \$212,914.90. The costs by firm are broken out below:

Christopher B. Burke Engineering, Ltd.	\$72,160.00
Engineering Resource Associates, Inc.	\$41,275.30
Clark Dietz, Inc.	\$39,600.00
V3 Companies of Illinois, Ltd.	\$59,879.60
Each contract includes a specified, not-to-exceed amount, plus a 10% contingency.	

**STRATEGIC PLAN ALIGNMENT**

The goals for 2015-2017 include *Top Quality Infrastructure*.

**FISCAL IMPACT**

The FY16 Budget and FY17 Proposed Budget provides a total of \$700,000 in the Stormwater Fund (Page 4-29, line 17 and Page 4-21, line 1, respectively) for these contracts.

**RECOMMENDATION**

Approval on the November 22, 2016 consent agenda.

**BACKGROUND**

In 2007, the Village contracted with the above four engineering firms to study the four watersheds within Downers Grove: St. Joseph Creek North, St. Joseph Creek South, Lacey Creek and Prentiss Creek. The four watersheds are shown on the attached map. One component of these studies was to determine the level of flooding within Localized Poor Drainage Areas (LPDAs). An LPDA is defined as a depressional area that contains water from runoff at depths in excess of one (1) foot, and that have a tributary area of at least three (3) acres. LPDAs are regulated by the Village in a similar manner as floodplains with respect to structures that can be constructed within them.

Downers Grove has striven to provide accurate flooding and drainage information to property owners and developers and the current information is in need of updating for two reasons:

- First, more accurate data will be used to determine their boundaries and high water levels. The current determinations were established using primarily County, two-foot (2') topographic maps and GIS data. Staff is proposing to supplement this data with more accurate field data.
- Secondly, there have been significant changes in the Village in the past 10 years that impact LPDAs. These changes include redevelopment of private properties as well as the construction of numerous stormwater and cost-share projects in each of the watersheds.

Staff recommends updating the existing studies that were completed for each watershed utilizing the services of the consulting firms that completed the original hydrologic and hydraulic models in their respective watersheds.

#### **ATTACHMENTS**

Resolutions

Agreements

Watershed Exhibit

## RESOLUTION NO. \_\_\_\_\_

**A RESOLUTION AUTHORIZING EXECUTION OF AN  
AGREEMENT BETWEEN THE VILLAGE OF DOWNERS GROVE  
AND V3 COMPANIES OF ILLINOIS, LTD.**

BE IT RESOLVED by the Village Council of the Village of Downers Grove, DuPage County, Illinois, as follows:

1. That the form and substance of a certain Agreement (the "Agreement"), plus a ten percent (10%) contingency, between the Village of Downers Grove (the "Village") and V3 Companies of Illinois, Ltd. (the "Consultant"), for engineering consulting services to update the base flood elevations (BFEs) for localized poor drainage areas (LPDAs) in the Lacey Creek watershed, as set forth in the form of the Agreement submitted to this meeting with the recommendation of the Village Manager, is hereby approved.

2. That the Village Manager and Village Clerk are hereby respectively authorized and directed for and on behalf of the Village to execute, attest, seal and deliver the Agreement, substantially in the form approved in the foregoing paragraph of this Resolution, together with such changes as the Manager shall deem necessary.

3. That the proper officials, agents and employees of the Village are hereby authorized and directed to take such further action as they may deem necessary or appropriate to perform all obligations and commitments of the Village in accordance with the provisions of the Agreement.

4. That all resolutions or parts of resolutions in conflict with the provisions of this Resolution are hereby repealed.

5. That this Resolution shall be in full force and effect from and after its passage as provided by law.

\_\_\_\_\_  
Mayor

Passed:

Attest: \_\_\_\_\_

Village Clerk

## AGREEMENT

This Agreement is made this 14<sup>TH</sup> day of NOVEMBER 2016 by and between V3 Companies of Illinois, Ltd. ("Consultant") and the Village of Downers Grove, Illinois, an Illinois municipal corporation with offices at 801 Burlington Avenue, Downers Grove, Illinois 60515, ("Village").

WHEREAS, in 2007 Consultant provided services to the Village to determine base flood elevations (BFEs) for localized poor drainage areas (LPDAs) in the Lacey Creek watershed as part of the Watershed Infrastructure Improvement Project; and

WHEREAS, the LPDA BFEs within the Lacey Creek watershed need to be reviewed and updated, including documenting the assumptions and calculations associated with the derivation of each BFE, and the Village wishes to retain the services of the Consultant to do so; and

WHEREAS, the Consultant is willing to perform these services for compensation and in accordance with the terms and conditions described in this Agreement.

NOW, THEREFORE, in consideration of the mutual benefits that will result to the parties in carrying out the terms of this Agreement, it is agreed as follows:

### **I. Scope of Services**

See attached Proposal dated November 14, 2016 attached hereto and incorporated herein by reference as Exhibit B.

### **II. Term of Agreement**

The term of this Agreement shall be until May 31, 2017 or until the services as set forth in Exhibit B have been completed, whichever shall occur first.

### **III. Compensation**

#### **A. Basic Fees:**

Fees for these services shall not exceed Fifty-Four Thousand Four Hundred Thirty-six Dollars and no cents (\$54,436.00). Any additional work performed that will increase the agreement price in excess of this amount must be approved in writing by both parties.

#### **B. Consultant Invoices:**

The Consultant shall prepare invoices that contain a reference number, the billing period, the classifications and/or names of staff, numbers of hours billed to the project (with clear itemization for hours spent), all reimbursable expenses and a total reimbursable amount for the billing period including receipts therefor, amounts billed to date, and amounts received to date.

### **C. Prompt Payment Act:**

The Village will comply with the Local Government Prompt Payment Act, 50 ILCS 505/1 et seq., in that any bill approved for payment must be paid or the payment issued to the Consultant within 60 days of receipt of a proper bill or invoice. If payment is not issued to the Consultant within this 60 day period, an interest penalty of 1.0% of any amount approved and unpaid shall be added for each month or fraction thereof after the end of this 60 day period, until final payment is made.

The Village shall review in a timely manner each bill or invoice after its receipt. If the Village determines that the bill or invoice contains a defect making it unable to process the payment request, the Village shall notify the Consultant requesting payment as soon as possible after discovering the defect pursuant to rules promulgated under 50 ILCS 505/1 et seq. The notice shall identify the defect and any additional information necessary to correct the defect.

## **IV. General Terms and Conditions**

### **A. Relationship Between the Consultant and the Village**

The relationship between the Village and the Consultant is that of a buyer and seller of professional services and it is understood that the parties have not entered into any joint venture or partnership with the other.

### **B. Equal Employment Opportunity**

In the event of the Consultant's non-compliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act or the Rules and Regulations of the Illinois Department of Human Rights ("Department"), the Consultant may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and the contract may be canceled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation. During the performance of this Agreement, the Consultant agrees as follows:

1. That it will not discriminate against any employee or applicant for employment because of race, color religion, sex, marital status, national origin or ancestry, age, physical or mental handicap unrelated to ability, or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such underutilization.
2. That, if it hires additional employees in order to perform this Agreement or any portion thereof, it will determine the availability (in accordance with the Department's Rules and Regulations) of minorities and women in the area(s) from

which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.

3. That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental handicap unrelated to ability, or an unfavorable discharge from military service.
4. That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the consultant's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any such labor organization or representative fails or refuses to cooperate with the consultant in its efforts to comply with such Act and Rules and Regulations, the consultant will promptly so notify the Department and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations thereunder.
5. That it will submit reports as required by the Department's Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and the Department's Rules and Regulations.
6. That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and the Department for purposes of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.
7. That it will include verbatim or by reference the provisions of this clause in every subcontract it awards under which any portion of the contract obligations are undertaken or assumed, so that such provisions will be binding upon such subconsultant. In the same manner as with other provisions of this Agreement, the consultant will be liable for compliance with applicable provisions of this clause by such subconsultants; and further it will promptly notify the contracting agency and the Department in the event any subconsultant fails or refuses to comply therewith. In addition, the Consultant will not utilize any subconsultant declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivision or municipal corporations.

### **C. Sexual Harassment**

Consultant, as a party to a public contract, has a written sexual harassment policy so that it:

1. Notes the illegality of sexual harassment;
2. Sets forth the State law definition of sexual harassment;

3. Describes sexual harassment utilizing examples;
4. Describes the Consultant or supplier's internal complaint process including penalties;
5. Describes the legal recourse, investigative and complaint process available through the Illinois Department of Human Rights and the Human Rights Commission and how to contact these entities, and;
6. Describes the protection against retaliation afforded under the Illinois Human Rights Act.

#### **D. Drug Free Work Place**

Consultant, as party to a public contract, certifies and agrees that it will provide a drug free workplace by:

1. Publishing a statement: (1) Notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance, including cannabis, is prohibited in the grantee's or Consultant's workplace. (2) Specifying the actions that will be taken against employees for violations of such prohibition. (3) Notifying the employee that, as a condition of employment on such contract or grant, the employee will: abide by the terms of the statement; and notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.
2. Establishing a drug free awareness program to inform employees about: (1) the dangers of drug abuse in the workplace; (2) the grantee's or consultant's policy of maintaining a drug free workplace; (3) any available drug counseling, rehabilitation, and employee assistance programs; (4) the penalties that may be imposed upon employees for drug violations.
3. Providing a copy of the statement required by subparagraph (1) to each employee engaged in the performance of the contract or grant and to post the statement in a prominent place in the workplace.
4. Notifying the contracting or granting agency within ten (10) days after receiving notice of a criminal drug statute conviction from an employee or otherwise receiving actual notice of such conviction.
5. Imposing a sanction on, or requiring the satisfactory participation in a drug abuse assistance or rehabilitation program by, any employee who is so convicted as required by Section 5 of the Drug Free Workplace Act.
6. Assisting employees in selecting a course of action in the event drug counseling, treatment, and rehabilitation is required and indicating that a trained referral team is in place.
7. Making a good faith effort to continue to maintain a drug free workplace through implementation of the Drug Free Workplace Act.

#### **E. Non-Discrimination**

Consultant, its employees and subconsultants, agree not to commit unlawful discrimination and agree to comply with applicable provisions of the Illinois Human Rights Act, the Public Works Employment Discrimination Act, the U.S. Civil Rights Act and Section 504 of the Federal Rehabilitation Act, and rules applicable to each. The equal opportunity clause of the Department of Human Rights rules is specifically incorporated herein.

The Americans with Disabilities Act (42 U.S.C. 12101) and the regulations thereunder (28 CFR 35.130)(ADA) prohibit discrimination against persons with disabilities by the State, whether directly or through contractual arrangements, in the provision of any aid, benefit or service. As a condition of receiving this Agreement, the undersigned vendor certifies that services, programs and activities provided under this Agreement are and will continue to be in compliance with the ADA.

#### **F. Campaign Disclosure Certificate**

The Consultant shall comply with the Campaign Disclosure Certificate attached hereto and incorporated herein by reference as Exhibit A.

#### **G. Patriot Act Compliance**

The Consultant represents and warrants to the Village that neither it nor any of its principals, shareholders, members, partners, or affiliates, as applicable, is a person or entity named as a Specially Designated National and Blocked Person (as defined in Presidential Executive Order 13224) and that it is not acting, directly or indirectly, for or on behalf of a Specially Designated National and Blocked Person. The Consultant further represents and warrants to the Village that the Consultant and its principals, shareholders, members, partners, or affiliates, as applicable are not, directly or indirectly, engaged in, and are not facilitating, the transactions contemplated by this Agreement on behalf of any person or entity named as a Specially Designated National and Blocked Person. The Consultant hereby agrees to defend, indemnify and hold harmless the Village, and its elected or appointed officers, employees, agents, representatives, engineers and attorneys, from and against any and all claims, damages, losses, risks, liabilities and expenses(including reasonable attorney's fees and costs) arising from or related to any breach of the foregoing representations and warranties.

#### **H. Cooperation with FOIA Compliance**

Consultant acknowledges that the Freedom of Information Act may apply to public records in possession of the Consultant. Consultant shall cooperate with the Village in its efforts to comply with the Freedom of Information Act. 5 ILCS 140/1 et.seq.



## **I. Copyright or Patent Infringement**

The Consultant agrees to indemnify, defend, and hold harmless the Village against any suit, claim, or proceeding brought against the Village for alleged use of any equipment, systems, or services provided by the Consultant that constitutes a misuse of any proprietary or trade secret information or an infringement of any patent or copyright.

## **J. Standard of Care**

Services performed by Consultant under this Agreement will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representations express or implied, and no warranty or guarantee is included or intended in this Agreement, or in any report, opinions, and documents or otherwise.

If the Consultant fails to meet the foregoing standard, Consultant will perform at its own cost, and without reimbursement from the Village, the professional services necessary to correct errors and omissions caused by Consultant's failure to comply with the above standard and reported to Consultant within one (1) year from the completion of Consultant's services for the Project.

## **V. Insurance and Indemnification of the Village**

### **A. Insurance**

The Consultant shall be required to obtain, from a company or companies lawfully authorized to do business in the jurisdiction in which the project is located, such general liability insurance which, at a minimum, will protect the Consultant from the types of claims set forth below which may arise out of or result from the Consultant's operations under this Contract and for which the Consultant may legally liable:

Claims under workers compensation, disability benefit and other similar employee benefit acts which are applicable to the operation to be performed;

Claims for damages resulting from bodily injury, occupational sickness or disease, or death of the Consultant's employees;

Claims for damages resulting from bodily injury, sickness or disease, or death of any person other than the Consultant's employees;

Claims for damages insured by the usual personal injury liability coverage which are sustained: (1) by a person as a result of an offense directly or indirectly related to employment of such person by the Consultant, or (2) by

another person;

Claims for damages, other than to the work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;

Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;

Claims for damages as a result of professional or any other type of negligent action by the Consultant or failure to properly perform services under the scope of the agreement between the Consultant and the Village.

The Consultant shall demonstrate having insurance coverage for a minimum of \$2 million for professional liability (errors and omissions).

As evidence of said coverages, Consultant shall provide the Village with certificates of insurance naming the Village of Downers Grove as an additional insured and include a provision for cancellation only upon at least 30 days prior notice to the Village.

## **B. Indemnification**

The Consultant will indemnify and hold harmless the Village and its officers, employees and agents from any and all liability, losses or damages the Village may suffer as a result of claims, demands, suits, actions or proceedings of any kind or nature in any way resulting from or arising out of negligent action on the part of the Consultant under this Agreement. This indemnification does not apply to liability caused by the Village's own negligence.

## **VI. Miscellaneous Provisions**

### **A. Termination**

In the event of the Consultant's nonperformance, breach of the terms of the Agreement, or for any other reason, including that sufficient funds to complete this Agreement are not appropriated by the Village, the Agreement may be canceled, in whole or in part, upon the Village's written notice to the Consultant. The Village will pay the Consultant's costs actually incurred as of the date of receipt of notice of termination. Upon termination, the Consultant will deliver all documents and products of whatever kind, and their reproducible originals related to the project, which have been produced to the date of the notice of termination.

### **B. Governing Law**

This Agreement will be governed by and construed in accordance with the laws of the State of Illinois. Venue is proper only in the County of DuPage.

**C. Successors and Assigns**

The terms of this Agreement will be binding upon and inure to the benefit of the parties and their respective successors and assigns; provided, however, that neither party will assign this Agreement in whole or in part without the prior written approval of the other.

**D. Waiver of Contract Breach**

The waiver by one party of any breach of this Agreement or the failure of one party to enforce at any time, or for any period of time, any of the provisions hereof will be limited to the particular instance and will not operate or be deemed to waive any future breaches of this Agreement and will not be construed to be a waiver of any provision except for the particular instance.

**E. Amendment**

This Agreement will not be subject to amendment unless made in writing and signed by all parties.

**F. Severability of Invalid Provisions**

If any provisions of this Agreement are held to contravene or be invalid under the laws of any state, country or jurisdiction, contravention will not invalidate the entire Agreement, but it will be construed as if not containing the invalid provision and the rights or obligations of the parties will be construed and enforced accordingly.

**G. Notice**

Any notice will be in writing and will be deemed to be effectively served when deposited in the mail with sufficient first class postage affixed, and addressed to the party at the party's place of business. Notices shall be addressed to designated representatives of both parties as follows:

**Village Manager  
Village of Downers Grove  
801 Burlington Ave.  
Downers Grove, IL 60515**

V3 Companies of Illinois, Ltd.  
7325 Janes Ave.  
Woodridge, IL 60517

**H. Village Ordinances**

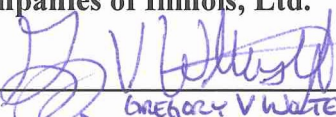
The Consultant will strictly comply with all ordinances of the Village of Downers Grove and laws of the State of Illinois.

**I. Use of Village's Name**

The Consultant is specifically denied the right of using in any form or medium the name of the Village for public advertising unless express permission is granted by the Village.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the date indicated above.

**V3 Companies of Illinois, Ltd.**

By:   
GREGORY V. WALTERSTADT

Title: VICE PRESIDENT

Date: 11/14/16

**Village of Downers Grove**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

### Exhibit A Campaign Disclosure Certificate

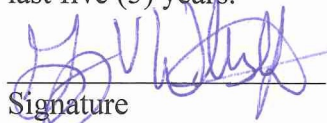
The Campaign Disclosure Certificate is required pursuant to the Village of Downers Grove Council Policy on Ethical Standards and is applicable to those campaign contributions made to any member of the Village Council.

Said Campaign Disclosure Certificate requires any individual or entity bidding to disclose campaign contributions, as defined in Section 9-1.4 of the Election Code (10 ILCS 5/9-1.4), made to current members of the Village Council within the five (5) year period preceding the date of the bid or proposal release.

By signing this Agreement, Consultant agrees to refrain from making any campaign contributions as defined in Section 9-1.4 of the Election Code (10 ILCS 5/9-1.4) to any Village Council member and any challengers seeking to serve as a member of the Downers Grove Village Council.

\_\_\_\_\_  
Under penalty of perjury, I declare:

Consultant has not contributed to any elected Village position within the last five (5) years.

  
\_\_\_\_\_  
Signature

GREGORY V WATERSTORF  
\_\_\_\_\_  
Print Name

Consultant has contributed a campaign contribution to a current member of the Village Council within the last five (5) years.

Print the following information:

Name of Contributor: \_\_\_\_\_  
(company or individual)

To whom contribution was made: \_\_\_\_\_

Year contribution made: \_\_\_\_\_ Amount: \$ \_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name



October 7, 2016  
REVISED November 14, 2016

Ms. Kerry Behr, P.E., CFM  
Stormwater Administrator  
Village of Downers Grove  
5101 Walnut Avenue  
Downers Grove, Illinois 60515

Re: Proposal for Professional Services  
Lacey Creek Watershed – LPDA BFE Updates  
Downers Grove, Illinois

Dear Ms. Behr:

On behalf of V3 Companies of Illinois, Ltd. (V3), we are pleased to submit this proposal for professional services for the Village of Downers Grove (CLIENT) to confirm / establish / update the 100-year base flood elevations of 22 local poor drainage areas (LPDA) within the Lacey Creek watershed within the Village of Downers Grove.

### **PROJECT UNDERSTANDING**

There are 22 LPDAs within the Lacey Creek watershed within Downers Grove, as shown on the attached exhibit titled “Lacey Creek Watershed LPDA Map”.

We understand that base flood elevations (BFE) were established for the LPDAs in 2007, as part of the Watershed Infrastructure Improvement Project (WIIP). If the LPDA was within a “problem area” that was analyzed with detailed modeling for the WIIP, then the BFE was established through that detailed modeling, such as XP-SWMM modeling. Where modeling was not performed, LPDA BFE elevations were assumed based on the elevation of the apparent overflow of the depressional area, per contour mapping or subdivision plans. The presence of a low-flow outlet (or lack thereof) was noted for these LPDAs, but not considered when establishing the BFE elevation. Yet other elevations were established via site-specific studies conducted separately from the WIIP.

The Village is seeking a qualified firm to perform engineering services to review and update all LPDA BFEs within the Lacey Creek watershed, and to clearly document the assumptions and calculations associated with the derivation of each BFE.

A listing of the 22 LPDAs, the BFE, and the source of the BFE is shown in Table 1 below.

Ms. Kerry Behr, P.E., CFM  
 Village of Downers Grove  
 November 14, 2016  
 Page 2

**Table 1 – LPDA BFEs and Source**

LPDA ID	100-yr BFE	BFE Source	Company
1	726.7	Overflow elevation from 2-ft topo. Low flow outlet appears present.	V3
2	733.2	Storm sewer study of Lee & Ogden	ERA
3	733.2	Storm sewer study of Lee & Ogden	ERA
4	699	Overflow elevation from 2-ft topo. Low flow outlet appears present.	V3
5	698.4	Overflow elevation from 2-ft topo. Low flow outlet appears present.	V3
6	708.58	XP-SWMM analysis performed for WIIP	V3
7	714.26	XP-SWMM analysis performed for WIIP	V3
8	724.1	XP-SWMM analysis performed for WIIP	V3
9	727	Overflow elevation from 2-ft topo. No indication of low flow outlet.	V3
10	727.5	Overflow elevation from 2-ft topo. No indication of low flow outlet.	V3
11	727.76	XP-SWMM analysis performed for WIIP	V3
12	742.4	Overflow elevation from 2-ft topo. No indication of low flow outlet.	V3
13	735.72	XP-SWMM analysis performed for WIIP	V3
14	743.67	XP-SWMM analysis performed for WIIP	V3
15	744.5	Overflow elevation from 2-ft topo. No indication of low flow outlet.	V3
16	Varies	FEQ model prepared for non-WIIP project	V3
17	736.74	Site specific study	Intech
18	745	Overflow elevation from 2-ft topo. Low flow outlet appears present.	V3
19	754.7	Overflow elevation from 2-ft topo. No indication of low flow outlet.	V3
20	756	Overflow elevation from 2-ft topo. No indication of low flow outlet.	V3
21	753.1	Overflow elevation from 2-ft topo. No indication of low flow outlet.	V3
22	757	Overflow elevation from 2-ft topo. No indication of low flow outlet.	V3

Ms. Kerry Behr, P.E., CFM  
Village of Downers Grove  
November 14, 2016  
Page 3

### **SCOPE OF SERVICES**

V3 proposes the following scope of services:

***Task 1: Update LPDAs 6, 7, 8, 11, 13, 14, which were based on XP-SWMM modeling.***

These six LPDAs were analyzed in detail during the WIIP. The existing conditions XP-SWMM models will be reviewed against recent Village capital improvement plans, for projects constructed from 2007 to present. If no storm sewer improvements or other improvements have been constructed since the WIIP was prepared, the BFEs will be assumed accurate. If improvements have been made that would affect the modeling results, then the modeling will be updated to incorporate the latest infrastructure, based on as-built plans of the infrastructure improvements, or based on design plans if as-built plans are not available.

***Deliverable:*** A 3-page packet will be prepared for each LPDA that includes the following:

- Fact sheet with LPDA ID and location, basic calculation assumptions, resultant BFE elevation, and XP-SWMM node or calculation ID corresponding to the resultant elevation;
- Topographic map showing the LPDA, the area directly tributary to the LPDA (via overland flow), and indirect tributary areas to the LPDA (e.g., areas tributary via overflow from other LPDAs, etc.);
- Copy of calculations/output showing the relevant LPDA elevation.

***Task 2: Update LPDAs 1, 4, 5, 18, which appear to have low-flow outlets.*** The BFEs of these four LPDAs were based on the apparent overflow elevation of the depressional area, based on the 2-ft contour mapping. These four LPDAs appeared to have low-flow outlets that would allow drainage of the LPDA at an elevation below the overflow, but those low-flow outlets were assumed full/not-flowing to establish a conservative BFE during the WIIP.

V3 shall perform a field visit to confirm the presence of the low-flow outlet. V3 shall use topographic mapping to delineate the area tributary to the LPDA and establish a stage-storage rating for the depression. The stage-discharge rating shall be based on the low-flow outlet, with appropriate assumptions regarding the conveyance capacity of the low-flow system. For example, if the low flow outlet is a storm sewer, it may be assumed that the system is surcharged and flowing full during the 100-year storm, with a hydraulic grade line equal to the slope across the approximate rim elevations of the storm sewer system, relative to the elevation within the depressional area. A stage-discharge rating of the overflow from the LPDA shall also be established, using 2-ft topography or design plans or survey where available.

Basic hydrologic modeling, such as HEC-HMS or Win-TR20, shall be performed to establish the BFE of the LPDA. A critical duration analysis will be performed and the LPDA elevation shall be based on the storm that produces the highest BFE. Dynamic modeling such as XP-SWMM is not envisioned for this task.



Ms. Kerry Behr, P.E., CFM  
Village of Downers Grove  
November 14, 2016  
Page 4

**Deliverable:** A 3-page packet will be prepared for each LPDA that includes the following:

- Fact sheet with LPDA ID and location, basic calculation assumptions, resultant BFE elevation, and hydrologic model node or calculation ID corresponding to the resultant elevation;
- Topographic map showing the LPDA, the area directly tributary to the LPDA (via overland flow), and indirect tributary areas to the LPDA (e.g., areas tributary via overflow from other LPDAs, etc.);
- Copy of calculations/output showing the relevant LPDA elevation.

**Task 3: Update LPDAs 9, 10, 12, 15, 19, 20, 21, 22, which appear to have no low-flow outlets.** The BFEs of these eight LPDAs were based on the apparent overflow elevation of the depressional area, based on the 2-ft contour mapping. These eight LPDAs appeared to have no low-flow outlets.

V3 shall perform a field visit to confirm that no low-flow outlets are present. If a low-flow outlet is observed, the BFE shall be established as described in Task 2. If no low-flow outlet is observed, then V3 shall use topographic mapping to delineate the area tributary to the LPDA and establish a stage-storage rating for the depression. A stage-discharge rating of the overflow from the LPDA shall also be established, using 2-ft topography or design plans or survey where available.

Basic hydrologic modeling, such as HEC-HMS or Win-TR20, shall be performed to establish the BFE of the LPDA. A critical duration analysis will be performed and the LPDA elevation shall be based on the storm that produces the highest BFE. Dynamic modeling such as XP-SWMM is not envisioned for this task.

**Deliverable:** A 3-page packet will be prepared for each LPDA that includes the following:

- Fact sheet with LPDA ID and location, basic calculation assumptions, resultant BFE elevation, and hydrologic model node or calculation ID corresponding to the resultant elevation;
- Topographic map showing the LPDA, the area directly tributary to the LPDA (via overland flow), and indirect tributary areas to the LPDA (e.g., areas tributary via overflow from other LPDAs, etc.);
- Copy of calculations/output showing the relevant LPDA elevation.

**Task 4: Update LPDA 16, which was modeled with FEQ.** No BFE was provided for LPDA 16, because it was modeled using FEQ. FEQ will provide elevations associated with historic storms, but it does not provide the statistical/synthetic “100-year” flood elevation.

For LPDA 16, the existing conditions FEQ model will be reviewed against recent Village capital improvement plans, for projects constructed from 2007 to present. If no storm sewer improvements or other improvements have been constructed since the WIIP was prepared, the FEQ model will be assumed accurate. If improvements have been made that would affect the modeling results, then the modeling will be updated to incorporate the latest infrastructure, based on as-built plans of the infrastructure improvements, or based on design plans if as-built plans are not available.

Ms. Kerry Behr, P.E., CFM  
Village of Downers Grove  
November 14, 2016  
Page 5

The FEQ model will be run for the historic series of storms. V3 shall then perform a Log-Pearson Type III statistical analysis on the results to establish the "100-year" base flood elevation for the LPDA. V3 shall also provide the maximum elevation from the historic series, for comparative purposes.

**Deliverable:** A 3-page packet will be prepared for each LPDA that includes the following:

- Fact sheet with LPDA ID and location, basic calculation assumptions, resultant BFE elevation, and FEQ node or calculation ID corresponding to the resultant elevation;
- Topographic map showing the LPDA, the area directly tributary to the LPDA (via overland flow), and indirect tributary areas to the LPDA (e.g., areas tributary via overflow from other LPDAs, etc.);

Copy of calculations/output showing the relevant LPDA elevation.

**Task 5: Update LPDA 2, 3, 17, which were studied prior to the WIIP.** A field visit shall be conducted at each of these three LPDAs, which had BFEs established prior to the WIIP. If a low flow outlet is observed, the BFE shall be updated in accordance with the services described in Task 2. If no low flow outlet is observed, the BFE shall be updated in accordance with the services described in Task 3.

**Deliverable:** A 3-page packet will be prepared for each LPDA that includes the following:

- Fact sheet with LPDA ID and location, basic calculation assumptions, resultant BFE elevation, and hydrologic model node or calculation ID corresponding to the resultant elevation;
- Topographic map showing the LPDA, the area directly tributary to the LPDA (via overland flow), and indirect tributary areas to the LPDA (e.g., areas tributary via overflow from other LPDAs, etc.);
- Copy of calculations/output showing the relevant LPDA elevation.

**Task 6: Topographic survey, as needed.** It is assumed that most of the information needed to model the LPDAs and generate/update BFEs can be obtained from 2-ft topographic mapping and as-built or final engineering plans. Topographic survey may be required to confirm or establish overflow elevations for the LPDAs, or to confirm or establish the invert of a storm sewer leaving an LPDA. Exact topographic survey needs will not be known until the 2-ft topography is reviewed and field visits are performed. For the purpose of this proposal, it is assumed that five days of survey field work (plus corresponding office work) will be necessary to obtain overflow elevations and/or storm sewer inverts at a handful of LPDAs. If more than five days of field work is necessary, the additional survey will be performed as an Additional Service. Survey will be on the NAVD88 vertical datum.

**Deliverable:** CADD file with surveyed information.

Ms. Kerry Behr, P.E., CFM  
Village of Downers Grove  
November 14, 2016  
Page 6

### **COMPENSATION**

V3 has prepared the following compensation schedule for the project. Compensation will be on an hourly basis, not to exceed the limits shown. An approximate breakdown of manhours is shown in the attached Manhour Estimate.

Tasks 1 – 5: Update LPDAs. This work shall be performed on a time and materials basis, based on the actual time expended by personnel engaged on the project, not to exceed **\$42,483**.

Task 6: Topographic survey, if needed. This work shall be performed on a time and materials basis, based on the actual time expended by personnel engaged on the project, not to exceed **\$11,703**.

Reimbursable direct costs are estimated as **\$250** for mileage, printing, postage, and other direct costs. These shall be billed to the Client with no mark-up.

The total compensation for all tasks is \$54,436.

### **EXTENT OF AGREEMENT**

This agreement is for engineering services associated with the 22 LPDAs identified in the exhibit and described herein. Should additional services be required for additional LPDAs, those will be the subject of a separate agreement. Furthermore, this agreement does not include services for:

1. The scope assumes that existing models are available for use for the LPDAs associated with Tasks 1 and 4, and detailed modeling does not need to be developed from scratch. If new models are necessary, development of those models shall be provided as an Additional Service.
2. The scope for Tasks 2, 3 and 5 assumes that a basic hydrologic model (such as HEC-HMS, Win-TR20 or TR-20) is suitable to represent the hydrologic and hydraulic conditions of the associated LPDAs. If more complex modeling is needed, such as XP-SWMM or FEQ, then development of those models shall be provided as an Additional Service.
3. Permitting services of any kind.
4. Engineering design services to improve drainage conditions at the LPDAs, or any other engineering design services.
5. Services associated with preparation for, and attendance at public meetings.
6. Survey services including Tree Location, Construction Staking, Record Drawing preparation, Preliminary and Final Plats, Plats of vacation, or Plats of easement dedication.

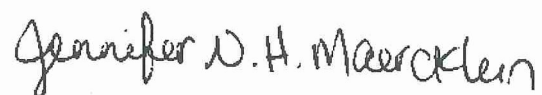
**Please note that V3 can provide or contract with a sub-consultant, the services outlined in items 1-6 above should they be required.**

Ms. Kerry Behr, P.E., CFM  
Village of Downers Grove  
November 14, 2016  
Page 7

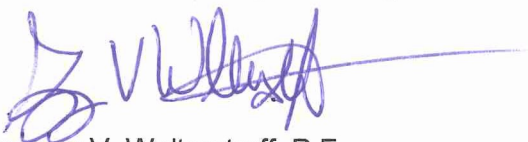
We appreciate the opportunity to present this proposal and look forward to working with you on this project.

Sincerely,

V3 COMPANIES



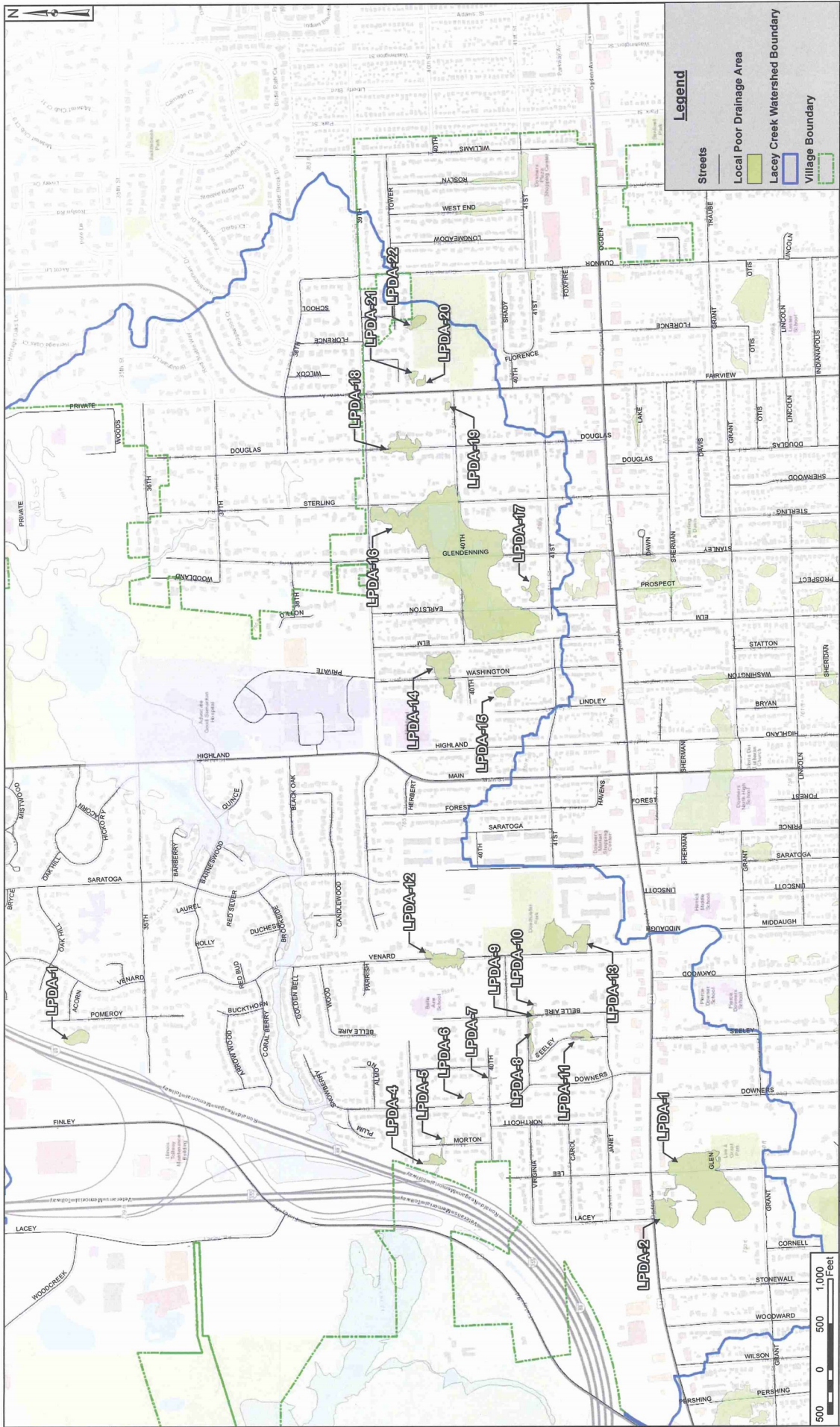
Jennifer N. H. Maercklein, P.E., CFM  
Water Resources Project Manager



Gregory V. Wolterstorff, P.E.  
Director of Natural Resources

JNHM/GVW/jb

Attachments



DATE: 09/29/16	<p><b>LACEY CREEK WATERSHED LPDA MAP</b></p>
SCALE: See Scale Bar	
<p>Lacey Creek Watershed Downers Grove, Illinois</p>	<p>ESRI World Topographic Map (2016)</p>
<p>500 0 500 1,000 Feet</p>	<p>US Corporates 7335 Woodridge, Illinois 60517 630.724.9200 phone 630.724.9202 fax www.Vico.com</p>
<p>BASE LAYER:</p>	<p>ESRI World Topographic Map (2016)</p>
<p>DATE: 09/29/16</p>	<p>ESRI World Topographic Map (2016)</p>
<p>SCALE: See Scale Bar</p>	<p>ESRI World Topographic Map (2016)</p>

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**Lacey Creek LPDA Updates**

Village of Downers Grove

October 3, 2016 REV November 7, 2016

V3 OM = 2,800

**V3 MANHOUR SUMMARY**

	Number of LPDAs	V3 Direct Labor Cost per ONE LPDA	V3 Total Billing Cost per ALL LPDAs	V3 Total Hours for ONE LPDA	V3 Project Staff Hours PER LPDA, NOT PER TASK, by Personnel Classification (Rates shown beneath each Personnel Classification reflect Direct Labor Hourly Rates)													
					Water Res. Principal \$ 70.00	Water Res. Mgr & Engr \$ 51.90	Water Res. Senior Engineer \$ 60.00	Water Res. Project Engineer \$ 46.00	Water Res. Design Engineer \$ 33.50	GIS Analyst \$ 33.50	Survey Instrument Man \$ 26.00	Survey Chief \$ 32.00	Project Surveyor III \$ 31.00	Survey Director/ PLS \$ 54.00				
<b>Task 1: Update LPDAs 6, 7, 8, 11, 13, 14, which were based on XP-SWMM modeling.</b>																		
Field visit to confirm conditions	6	\$ 40	\$ 668	1	6			0.5	0.5									
Review village plans for new infrastructure	6	\$ 23	\$ 386	1	3			0.5										
update modeling - assume only 1 model to update	1	\$ 240	\$ 672	4	4		4											
find old (or use new) output and make user-friendly printout of results	6	\$ 46	\$ 773	1	6			1										
Exhibit showing LPDA and trib area	6	\$ 134	\$ 2,251	4	24					2	2							
Form documenting assumptions	6	\$ 92	\$ 1,546	2	12													
QA/QC & Coordination	6	\$ 87	\$ 1,460	2	9	0.5	1											
<b>Subtotal, Task 1</b>	<b>6</b>	<b>\$ 662</b>	<b>\$ 7,756</b>	<b>14</b>	<b>64</b>													
<b>Task 2: Update LPDAs 1, 4, 5, 18, which appear to have low-flow outlets</b>																		
Field visit to confirm conditions and take measurements	4	\$ 80	\$ 890	2	8			1	1									
Review village plans for new infrastructure	4	\$ 23	\$ 258	1	2			0.5										
Delineate trib area	4	\$ 92	\$ 1,030	2	8			2										
Calculate stage-storage rating	4	\$ 46	\$ 515	1	4			1										
Calculate stage-discharge rating	4	\$ 92	\$ 1,030	2	8			2										
Calculate CN, Tc	4	\$ 46	\$ 515	1	4			1										
Build and run model (HEC-HMS or Win-TR20)	4	\$ 46	\$ 515	1	4			1	1									
Critical Duration Analysis	4	\$ 63	\$ 703	2	6			1	1	0.5								
User-friendly printout of results	4	\$ 46	\$ 515	1	4			1										
Exhibit showing LPDA and trib area	4	\$ 134	\$ 1,501	4	16					2	2							
Form documenting assumptions	4	\$ 92	\$ 1,030	2	8													
QA/QC & Coordination	4	\$ 87	\$ 973	2	6	0.5	1											
<b>Subtotal, Task 2</b>	<b>4</b>	<b>\$ 846</b>	<b>\$ 9,477</b>	<b>20</b>	<b>78</b>													

**Lacey Creek LPDA Updates**  
 Village of Downers Grove  
 October 3, 2016 REV November 7, 2016

V3 OM = 2,800

**V3 MANHOUR SUMMARY**

Task	Number of LPDAs	V3 Direct Labor Cost per ONE LPDA	V3 Total Billing Cost per ALL LPDAs	V3 Total Hours for ONE LPDA	V3 Total Hours for ALL LPDAs	V3 Project Staff Hours PER LPDA, NOT PER TASK, by Personnel Classification (Rates shown beneath each Personnel Classification reflect Direct Labor Hourly Rates)												
						Water Res. Principal \$ 70.00	Water Res. Mgr & Engr \$ 51.90	Water Res. Senior Engineer \$ 60.00	Water Res. Project Engineer \$ 46.00	Water Res. Design Engineer \$ 33.50	GIS Analyst \$ 33.50	Instrument Man \$ 26.00	Survey Chief \$ 32.00	Project Surveyor III \$ 31.00	Survey Director/ PLS \$ 54.00			
<b>Task 3: Update LPDAs 9, 10, 12, 15, 19, 20, 21, 22, which appear to have no low-flow outlets</b>																		
Field visit to confirm conditions	8	\$ 40	\$ 890	1	8													
Review village plans for new infrastructure	8	\$ 23	\$ 515	1	4			0.5	0.5									
Delineate trib area	8	\$ 92	\$ 2,061	2	16			2										
Calculate stage-storage rating	8	\$ 46	\$ 1,030	1	8			1										
Calculate stage-discharge rating	8	\$ 23	\$ 515	1	4			0.5										
Calculate CN, Tc	8	\$ 46	\$ 1,030	1	8			1										
Build and run model (HEC-HMS or Win-TR20)	8	\$ 46	\$ 1,030	1	8			1										
Critical Duration Analysis	8	\$ 63	\$ 1,406	2	12			1		0.5								
User-friendly printout of results	8	\$ 46	\$ 1,030	1	8			1										
Exhibit showing LPDA and trib area	8	\$ 134	\$ 3,002	4	32			2		2								
Form documenting assumptions	8	\$ 92	\$ 2,061	2	16			2										
QA/QC & Coordination	6	\$ 87	\$ 1,460	2	9		0.5	1										
<b>Subtotal, Task 3</b>	<b>8</b>	<b>\$ 651</b>	<b>\$ 14,571</b>	<b>16</b>	<b>124</b>													
<b>Task 4: Update LPDA 16, which was modeled with FEQ</b>																		
Field visit to confirm conditions	1	\$ 40	\$ 111	1	1				0.5	0.5								
Review village plans for new infrastructure	1	\$ 23	\$ 64	1	1				0.5									
update modeling - assume only 1 small change to update	1	\$ 240	\$ 672	4	4			4										
Critical Duration Analysis	1	\$ 332	\$ 930	6	6			4		2								
Run LP111 analysis with results	1	\$ 240	\$ 672	4	4			4										
make user-friendly printout of results	1	\$ 60	\$ 168	1	1			1										
Exhibit showing LPDA and trib area	1	\$ 134	\$ 375	4	4			2		2								
Form documenting assumptions	1	\$ 120	\$ 336	2	2			2										
QA/QC & Coordination	1	\$ 87	\$ 243	2	2		0.5	1										
<b>Subtotal, Task 4</b>	<b>1</b>	<b>\$ 1,276</b>	<b>\$ 3,572</b>	<b>24</b>	<b>24</b>													

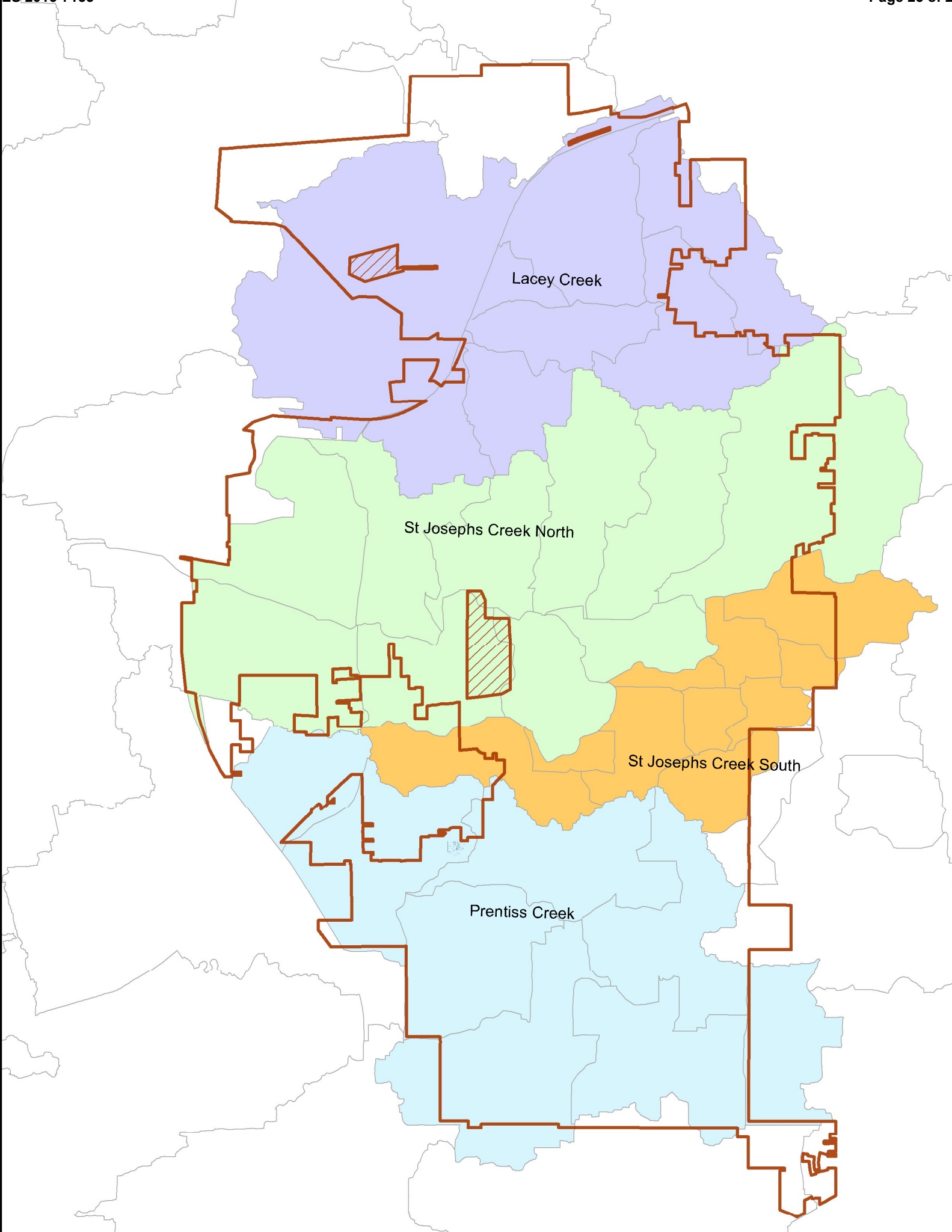
**Lacey Creek LPDA Updates**  
 Village of Downers Grove  
 October 3, 2016 REV November 7, 2016

V3 OM = 2.800

**V3 MANHOUR SUMMARY**

Task 5: Update LPDA 2, 3, 17, which were studied prior to the WIIP	Number of LPDAs	V3 Direct Labor Cost per ONE LPDA	V3 Total Billing Cost per ALL LPDAs	V3 Total Hours for ONE LPDA	V3 Total Hours for ALL LPDAs	V3 Project Staff Hours PER LPDA, NOT PER TASK, by Personnel Classification (Rates shown beneath each Personnel Classification reflect Direct Labor Hourly Rates)														
						Water Res. Principal \$ 70.00	Water Res. Mgr. & Engr \$ 51.90	Water Res. Senior Engineer \$ 60.00	Water Res. Project Engineer \$ 46.00	Water Res. Design Engineer \$ 33.50	GIS Analyst \$ 33.50	Survey Instrument Man \$ 26.00	Survey Chief \$ 32.00	Project Surveyor III \$ 31.00	Survey Director/ PLS \$ 54.00					
Field visit to confirm conditions and take measurements	3	\$ 80	\$ 668	2	6				1	1										
Review village plans for new infrastructure	3	\$ 23	\$ 193	1	2				0.5											
Delineate trib area	3	\$ 92	\$ 773	2	6				2											
Calculate stage-storage rating	3	\$ 46	\$ 386	1	3				1											
Calculate stage-discharge rating	3	\$ 92	\$ 773	2	6				2											
Calculate CN, Tc	3	\$ 46	\$ 386	1	3				1											
Build and run model (HEC-HMS or Win-TR20)	3	\$ 46	\$ 386	1	3				1											
Critical Duration Analysis	3	\$ 63	\$ 527	2	5				1											
User-friendly printout of results	3	\$ 46	\$ 386	1	3				1											
Exhibit showing LPDA and trib area	3	\$ 134	\$ 1,126	4	12									2						
Form documenting assumptions	3	\$ 92	\$ 773	2	6				2											
QA/QC & Coordination	3	\$ 87	\$ 730	2	5				1											
<b>Subtotal, Task 5</b>	<b>3</b>	<b>\$ 846</b>	<b>\$ 7,108</b>	<b>20</b>	<b>59</b>															
<b>Subtotal, Tasks 1 - 5</b>			<b>\$ 42,483</b>																	
<b>Task 6: Topo Survey</b>																				
5 days of field work	1	\$ 4,180	\$ 11,703	132	132				1					1						
<b>Subtotal, Task 6</b>	<b>1</b>	<b>\$ 4,180</b>	<b>\$ 11,703</b>	<b>132</b>	<b>132</b>															
<b>Reimbursable Direct Costs</b>			<b>\$ 250</b>																	
<b>TOTAL</b>	<b>22</b>	<b>\$ 8,460</b>	<b>\$ 54,436</b>	<b>225</b>	<b>481</b>				<b>3</b>	<b>5</b>	<b>19</b>	<b>44</b>	<b>16</b>	<b>10</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>40</b>	<b>10</b>





Lacey Creek

St Josephs Creek North

St Josephs Creek South

Prentiss Creek