BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

JOHNS MANVILLE, a Delaware corporation,	)	
	)	
Complainant,	)	
	)	
v.	)	PCB No. 14-3
	)	(Citizen Suit)
ILLINOIS DEPARTMENT OF TRANSPORTATION,	)	
	)	
	)	
Respondent.	)	

NOTICE OF FILING AND SERVICE

To: ALL PERSONS ON THE ATTACHED CERTIFICATE OF SERVICE

Please take note that today, September 13, 2019, I have filed with the Clerk of the Pollution Control Board the attached "IDOT's Motion *in Limine* to Strike the Opinions of Douglas G. Dorgan, Jr." and have served each person listed on the attached service list with a copy of the same.

Respectfully Submitted,

By: s/ *Evan J. McGinley*

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CERTIFICATE OF SERVICE

***Johns Manville v. Illinois Department of Transportation*, PCB 14-3 (Citizens)**

I, EVAN J. McGINLEY, do hereby certify that, today, September 13, 2019, I caused to be served on the individuals listed below, by electronic mail, a true and correct copy of the attached IDOT's Motion *in Limine* to Strike the Opinions of Douglas G. Dorgan, Jr. on each of the parties listed below:

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s/ *Evan J. McGinley*
Evan J. McGinley

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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	)	
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	)	(Citizen Suit)
ILLINOIS DEPARTMENT OF TRANSPORTATION,	)	
	)	
	)	
Respondent.	)	

IDOT'S MOTION *IN LIMINE* TO STRIKE THE OPINIONS OF DOUGLAS G. DORGAN, JR.

Respondent, Illinois Department of Transportation ("IDOT"), hereby moves the Hearing Officer, pursuant to Illinois Pollution Control Board Rules 101.500, 101.502 and 101.610, for an Order barring Petitioner's disclosed expert witness, Douglas G. Dorgan, from providing certain opinion testimony at trial. In support of this Motion *in Limine,* Respondent states as follows:

I. INTRODUCTION

The Hearing Officer should reject the proffered opinions of Johns Manville's expert witness, Douglas Dorgan, for several reasons. First, effectively by his own admissions and omissions, he has failed to identify any relevant expertise that would allow him to offer an opinion on the one remaining issue that must still proceed to hearing in this matter.[1] Second, even if Mr. Dorgan had the requisite expertise to offer such opinions, he has failed to satisfy the "general acceptance" standard for expert opinions. Third, even if Mr. Dorgan possessed the requisite expertise and had also used a generally accepted method to develop his opinions in this

[1] Mr. Dorgan identified three general opinions in his June 13, 2018 expert report, "Expert Report of Douglas G. Dorgan Jr. on Damages Attributable to IDOT" ("Dorgan Report"). (A copy of the Dorgan Report is attached to this Motion as Exhibit A.). As the result of stipulations entered into on August 13, 2018 by Johns Manville and IDOT, the issues which his first two general opinions (*See*, Motion, *supra*, at p. 3), respond to have been effectively resolved and therefore his opinions on those two issues are now irrelevant.

matter, the Board should still disregard his opinions, because they are the product of Mr. Dorgan having essentially cherry-picked his way through the record to reach a number of unsubstantiated conclusions. And, finally, even if Mr. Dorgan had the expertise, had used a generally accepted method for reaching his opinions, and had not cherry-picked facts to support those opinions, the Board should still disregard Mr. Dorgan's opinions because he, in turn, has disregarded the Board's opinions establishing the scope of IDOT's liability to be addressed and essentially seeks to reopen questions of IDOT's liability which the Board has already resolved.

II. STATEMENT OF FACTS

During five days of hearings conducted between May and June of 2016, the Board heard testimony from 10 witnesses (some of whom testified on two separate occasions) and received over 100 exhibits into evidence, regarding the question of whether the Illinois Department of Transportation was liable under Section 21(d) and (e) of the Environmental Act, 415 ILCS 5/21(d) and (e) for the disposal of asbestos waste on two parcels of land, located in Waukegan, Illinois, otherwise known as "Site 3" and "Site 6."

On December 15, 2016, the Board issued its Interim Opinion and Order in this matter ("Interim Opinion"). In its Interim Opinion, the Board found:

> IDOT caused opening dumping of ACM waste along the south side of Greenwood Avenue within Site (1S-4S) and adjacent areas along the north edge of Site 3 (B3-25, B3-16, B3-15) . . . Additionally, IDOT allowed opening dumping Parcel 0393 (B3-25, B3-15, B3-15, B3-50, and B3-45 (to the extent sample B3-45 falls on Parcel 0393)).
>
> (Interim Opinion, p.22.)

In the Interim Order, the Board directed the Hearing Office to conduct further hearings on three issues:

1. The cleanup work performed by JM in the portions of Site 3 and Site 6 where the Board found IDOT responsible for ACM waste present in soil.

2. The amount and reasonableness of JM's costs for this work.

3. The share of the JM's costs attributable to IDOT.

(Id.)

On June 13, 2018, Complainant served on IDOT the Dorgan Report. Mr. Dorgan offered three general opinions in his report:[2]

1) That Johns Manville incurred costs of $5,579,794 for implementing work which Johns Manville and Commonwealth Edison committed to performing under the 2007 AOC (i.e., "Administrative Order on Consent").

2) That Johns Manville's costs in implementing the required work was "reasonable and appropriate."

3) That $3,274,917 of Johns Manville's implementation costs are attributable to IDOT.

(Exhibit A, Dorgan Report, § 1, p. 1.)

On July 31, 2018, Mr. Dorgan was deposed about his opinions in the Dorgan Report.

On August 13, 2019, Johns Manville and IDOT jointly filed a set of four stipulations which effectively resolve the first two issues identified by the Board for further hearing in its Interim Opinion. (*See generally,* Exhibit B, August 13, 2019 Joint Stipulations.)

[2] Mr. Dorgan's first two opinions are not the subject of this Motion, as Johns Manville's and IDOT's August 13, 2019 joint stipulations have effectively resolved the first two issues identified by the Board for further hearing in its Interim Opinion and thus there is no need to try those issues or to hear any evidence regarding them.

III. ARGUMENT

A. Legal Standard for Providing Expert Opinions

As the Illinois Supreme Court has noted, the decision as to whether or not to admit expert testimony is committed to the discretion of the trial court. *Snelson v. Kamm*, 204 Ill.2d 1, 23 (2003). Expert testimony may be admitted, where the subject matter of the expert's testimony will assist the trier of fact in the resolution of an issue presented for trial. *Id.* In order to provide such testimony, however, the expert must be properly qualified to offer the opinion. *O'Brien v. Meyer* 196 Ill.App.3d 457, 461-2 (1st Dist. 1989). Furthermore, the expert's opinions must have an "adequate foundation establishing that the information on which the expert bases her opinion is reliable." *Fronabarger v. Burns,* 365 Ill.App.3d 560, 565 (5th Dist. 2008); *See also,* Cleary and Graham's Handbook of Illinois Evidence ("Cleary and Graham"), 9th Ed.., § 702.1 (1999) (noting that an expert opinion must be "supported by an adequate foundation of facts, data, or opinions . . .") Finally, any facts, data or opinions which an expert witness relies on in the formation of their opinions must be of the type which are reasonably relied upon by other experts in their respective field. *Wilson v. Clark,* 84 Ill.2d 186, 193 (1981) (citing Federal Rule of Evidence 703). The "reasonably relied upon" requirement serves as a check on the trustworthiness of potential evidence being used by an expert witness. *In re Commitment of Hooker*, 2012 IL App (2d) 101007968, ¶ 51.

B. Mr. Dorgan is not Qualified to Render any Opinions About the Attribution of any of Johns Manville's Costs to IDOT, Because He Does not Possess any Relevant Expertise to Offer Such Opinions

In Section 1.1 of Mr. Dorgan's Report asserts that he has "extensive experience" upon which to offer the opinions set forth in his report. (Exhibit A, Dorgan Report, §1.1, p.1.) He further lists nine areas in which he has worked during his career that provide him with this "extensive experience." (Id., p.2.) While some of his experience may be relevant to the first two

questions that the Board directed the parties to return to hearing in its Interim Opinion (i.e., '[t]he cleanup work performed by JM in the portions of Site 3 and Site 6 where the Board found IDOT responsible for ACM waste present in soil. 2. The amount and reasonableness of JM's costs for this work[]"), Mr. Dorgan does not identify any experience or background that is relevant to his being able to offer any opinions regarding the third issue which the parties are to return to hearing on, namely, "[t]he share of the JM's costs attributable to IDOT." Presumably, if Mr. Dorgan had experience in attributing cleanup costs to other parties, he would have specified that he had such experience somewhere in his report.

The absence of any mention in Mr. Dorgan's report of any experience that speaks to the remaining issue that the parties will return to hearing on is telling. In short, despite Mr. Dorgan's "extensive experience," he has never previously been involved in any sort of attribution exercise, such as the one that he has undertaken on behalf of Johns Manville here. He effectively conceded this point during his July 31, 2018 deposition in this matter, at which time he was asked the following questions and gave the following answers:

Q Isn't it fair to say that you've never been tasked with an assignment quite like the one that you've done in this case?
MS. BRICE: Objection, asked and answered.
BY THE WITNESS:
A I have been tasked with assignments similar to this on multiple occasions, but one exactly fitting the profile of this engagement, no.
BY MR. McGINLEY:
Q You've never actually previously done an assignment where you had to take costs and -- take costs that might have been related to an entire project and back out costs and apply it to only a specific area of -- or a specific portion of that project, correct?
A Not that I recall offhand. I don't

19 want to say absolutely that that hasn't
20 happened, just that I can't recall it offhand.

(Exhibit C, July 31, 2018 Deposition of Douglas G. Dorgan, Jr., ("Dorgan Dep."), p.183:1-20.) (Emphasis added.)

Not only has Mr. Dorgan never served as an expert witness in any prior matter where he was called upon to conduct a similar type of cost attribution to what he has done for Johns Manville in this case, he has also never given any type of presentations discussing such work either. (Dorgan Dep. pp.64:23-65:5.) Nor has he ever written any articles which discussed or in any way analyzed cost attribution mechanics. (Dorgan Dep. p. 65:6-9.) In other words, this case appears to represent the very first time that Mr. Dorgan has ever conducted any sort of cost attribution analysis along the lines of what the Board has asked the parties to address at hearing. Accordingly, the Board should reject Mr. Dorgan's opinions regarding any attribution of Johns Manville's costs to IDOT because he lacks any relevant experience that would provide a basis for rendering any such opinions.

C. Mr. Dorgan's Opinions Regarding the Attribution of Johns Manville's Costs Also do not Meet the Standards set for Expert Testimony Under Illinois Law Because He Cannot Demonstrate That They are Based on any Generally Accepted Methodology

The fact that Mr. Dorgan has never conducted, written about, or given any presentations on cost attribution analysis could possibly be overlooked if he was able to demonstrate that in conducting his cost attribution analysis regarding IDOT's purported share of Johns Manville's costs, he had relied on a known, generally accepted method for conducting this work. Under Illinois law, an expert must be able to demonstrate that the methods that they have used in the course of developing their opinions have achieved general acceptance within a community of experts. *Agnew v. Shaw*, 355 Ill.App.3d 981, 988 ((1st Dist. 2005) (citing *Frye v. United States,*

293 F.1013, 1014 (D.C. Cir. 1923).[3] But Mr. Dorgan's report does not make any reference to his having employed any sort of established method for conducting his work, nor does he make any such demonstration.

Mr. Dorgan's failure to employ any sort of recognized method through which he conducted his cost attribution analysis is particularly evident in Section 3.2 of his Report ("Attribution Approach"). This section of his report, which describes Dorgan's method for attributing portions of Johns Manville's cleanup costs to IDOT, makes absolutely no reference to having utilized any sort of recognized method for conducting this work. As such, it fails to satisfy the *Frye* standard for admissibility of expert opinion. As the Appellate Court for the Second District noted in *In re Commitment of Sandry*, 367 Ill.App.3d 949, 965 (2005), "'the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.'" (quoting *Frye*, 293 F. at 1014). Because Mr. Dorgan's Report does not identify that his attribution opinions are based on any accepted method, the Board should disregard them in their entirety. *Agnew*, 355 Ill.App.3d at 991-2 (holding that it was proper for the trial court to strike defendant's expert witness testimony, where the expert had offered opinions on causation of breast cancer based on a method that was not generally accepted within the medical community.)

D. Mr. Dorgan's Opinions Should Also be Struck Because They are the Product of Cherry-Picked Evidence and are Speculative

Even assuming that Mr. Dorgan somehow possessed relevant expertise and had employed a generally acceptable model for conducting his cost attribution analysis, many of his cost attributions are flawed and unreliable, because they rely on cherry-picked evidence. For example, Mr. Dorgan asserts that IDOT is responsible for 80% percent of the capping costs for

[3] Illinois courts adhere to the standard for the admissibility of expert testimony articulated by the court in *Frye. Snell v. Kamm,* 204 Ill.2d 24-25.

Site 3. (Dorgan Report, p. 25.) He reaches this conclusion based on his determination as to "what drove the requirements for the cap to be constructed across Site 3." (Id.) In order to reach his cost attribution determinations for the Site 3 remedy (i.e., a cap over the entire site), Mr. Dorgan has apparently chosen to highlight some facts which are beneficial to his client, while disregarding possibly less helpful facts. A visual representation of this "cherry-picking" approach can be seen when comparing Figure 2 to his Report, which includes limited information regarding the location of ACM found at the Site 3, with IDOT's Expert's demonstrative exhibit of the Site. (Attached as Exhibit D to IDOT's Motion is a copy of Exhibit 202, a demonstrative exhibit created by IDOT's expert Steven Gobelman and which was received into evidence during the Board's prior hearings in this matter.) While Dorgan's Figure 2 shows the majority of "Visual ACM Observed" as being located near Greenwood Avenue, Mr. Gobelman's Exhibit 202 depicts asbestos and Transite pipe being scattered throughout Site 3. This point, in turn, is further illustrated by Exhibit 63-83, a map showing "asbestos occurrence and volumes Site 3", which was created by Johns Manville's own environmental consultant which shows asbestos present throughout Site 3. (A copy of Exhibit 63-83 is attached hereto as Exhibit E to this Motion.)

Given the pervasive presence of ACM at Site 3 - going well beyond the portions of the Site which the Board found IDOT liable for - it is not surprising that USEPA required Johns Manville to cap all of Site 3. As USEPA noted in its 2012 Enforcement Action Memorandum (Exhibit 65), Ultimately, Mr. Dorgan's opinion regarding the attribution of Johns Manville's costs for capping the capping of Site 3 was required to address "actual or potential exposure" to human beings from asbestos in soil, the potential for that asbestos to migrate into the surrounding environment and the potential for weather conditions to move asbestos from the soil into the

environment. (Exhibit F, Hearing Exhibit 65-7 and 8.) Ultimately, Mr. Dorgan's opinion regarding the attribution of Johns Manville's costs for capping Site 3 fails to acknowledge the most significant factor for requiring a cap of Site 3, namely that:

> Given the Site conditions, the nature of the hazardous substances, and the potential exposure pathways described above, actual or threatened releases of hazardous substances from this Site, if not addressed implementing the removal action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or the environment.
>
> (Hearing Exhibit 65-9, Enforcement Action Memorandum, p. 9.)

Conveniently and misleadingly, Mr. Dorgan has chosen to misrepresent all of the factors that went into USEPA's requirement that Johns Manville install a cap over all of Site 3. As such, his opinion attributing 80% of the capping costs to IDOT is unfounded, because it is apparent that he has failed to consider highly relevant factors which resulted in USEPA ordering the capping of Site 3. Accordingly, the Hearing Officer should strike this portion of Mr. Dorgan's opinion, because it is the product of cherry-picked facts which serve only to bolster Johns Manville's attempts to unjustifiably foist its removal costs onto IDOT. *Cates v. Whirlpool Corp.*, 2017 WL 1862640, *15-16 (N.D. Ill. May 9, 2017) (rejecting an expert witness's opinion where he "had highly relevant data in front of him and effectively crossed out a large portion of it without any adequate explanation.").

E. Mr. Dorgan's Opinions Should be Rejected by the Board Because Through His Opinions, He is Relitigating the Board's Prior Liability Determinations in this Matter

On December 15, 2016, after having heard five days of testimony from ten different witnesses, and receiving over 100 exhibits into evidence (several of which were hundreds, if not thousands, of pages in length), the Board issued its Interim Opinion.

Mr. Dorgan's Report effectively seeks to undo a substantial part of the Board's prior work by arriving at cost attributions that go well beyond the Board's liability findings against

IDOT in the Interim Opinion. Once again, Mr. Dorgan asserts the same opinions that he made during the initial hearings in this matter, opinions which the Board has effectively already rejected. A case in point is Mr. Dorgan's determination that IDOT is responsible for all costs associated with the relocation of the city of Waukegan's water line. The sole support for this attribution is because the "[t]he entire lengthy of the water main located in Site 3 runs within Parcel No. 0393 . . . a Site 3 Area of Liability." (Dorgan Report, p. 16.)

Mr. Dorgan's attribution conflicts with the Board's ruling because the Board only found that "IDOT allowed open dumping on Parcel 0393 (B3-25, B3-14, B3-16, B3-50, and B3-45 (to the extent Sample B3-45 falls on Parcel 0393)." (Interim Opinion, p. 22.) Notably, in its Interim Opinion, the Board did not find IDOT solely liable for other ACM found within the boundaries of Parcel 0393 outside of the aforementioned soil-borings. (*See e.g.,* Id.) Mr. Dorgan does not seek to bolster his assertion that IDOT is responsible for the cost of the City's water line by arguing that there are any soil borings within the footprint of the waterline.

Mr. Dorgan also seeks to double the extent of IDOT's liability for Site 6, from the four soil borings (1S through 4S) that the Board found IDOT liable for in its Interim Opinion (Interim Opinion, p. 22) by including borings 5S through 8S, as well.. (Dorgan Report, Section 3.1.1.2, pp. 13-14.) His argument for the extension of IDOT's liability to an additional four soil borings is laid out in a brief statement in his report. ("As Mr. Peterson indicated and the construction photograph demonstrate, Campanella excavated to at least elevation 584 at areas 1S-8S and found a consistent seam of the same types of ACM materials . . .") (Id. p.14.) This statement lacks the degree of factual specificity that will allow for the admissibility of an expert opinion. *Martin v. Sally,* 341 IllApp.3d 308, 316 (2nd Dist. 2003) (the appellate court holding that that the trial court erred in admitting an accident reconstruction expert's testimony, because "the focus of

his opinion was based on generalities that were not tied to plaintiff specifically.") As such, Dorgan's opinions are properly rejected by the Hearing Officer, as they lack a "sufficient factual basis and [are] therefore based on conjecture." *Torres v. Midwest Development Co.*, 383 Ill.App.3d 20, 29 (1st Dist. 2008).

As Mr. Dorgan further discusses in Footnote 14 to his report, the issue of how far east IDOT's liability for the south Side of Greenwood Avenue was the subject of extensive examination and discussion during the first round of hearing in this matter. (See also, Hearing Transcript, June 24, 2016, pp: 198:6-201:11.) Thus, his references to information that Mr. Peterson provided to him and the photographs that he cites to as evidence for extending IDOT's liability to 8S should be seen as cumulative of evidence and testimony which both Mr. Dorgan and Johns Manville have already presented during the initial round of hearings in this matter and which the Board rejected. Accordingly, the Hearing Officer should use his discretion to bar expert testimony, where, as here, that testimony is cumulative of evidence already in the record. *Cetera v. DiFillipo,* 404 Ill.App.3d 20, 45 (1st Dist. 2010).

Mr. Dorgan also opines that IDOT is 100% responsible for all of Johns Manville's costs incurred in the removal of the North Shore Gas line from Site 3, merely because a portion of the gas line runs through Parcel 0393. (Dorgan Report, § 3.2.1.6, p.20-21.) Mr. Dorgan reached this opinion, notwithstanding the fact that the North Shore Gas line travels across Site 3 outside of any area of liability established by the Board in its Interim Opinion. (See generally, Dorgan Report, Figure 1, depicting the gas line moving from southwest to northeast across Site 3.)

Ultimately, though, Mr. Dorgan's reliance on prior, rejected testimony and evidence as the basis for some of the opinions he would offer in this matter now cannot be squared with the need to demonstrate that he is using the types of evidence and methods that other experts would

use in attempting to develop a cost attribution analysis. Accordingly, the Hearing Officer should reject Mr. Dorgan's opinions that IDOT is 100% responsible for all costs associated with the relocation of the City of Waukegan water line, the capping of Site 3, the extension of IDOT's liability on Site 6 past 4S to 8S and liability for North Shore Gas costs. Furthermore, the Hearing Officer should specifically bar Mr. Dorgan from providing any opinions at hearing regarding the attribution of liability that go beyond the scope of the Board's December 15, 2016 Interim Opinion and Order.

IV. CONCLUSION

For the reasons discussed above, IDOT requests that the Hearing Officer bar Johns Manville from presenting any opinions by its expert witness, Douglas G. Dorgan, Jr., on the issue of attribution of any portion of Johns Manville's cleanup costs for Sites 3 and 6 to IDOT, because his opinions are not based on any relevant expertise, any generally accepted method, and are otherwise fundamentally flawed.

WHEREFORE, Respondent, the ILLINOIS DEPARTMENT OF TRANSPORTATION, requests that the Hearing Officer:

1. Bar Johns Manville from presenting any testimony by Douglas G. Dorgan, Jr. that is responsive to the third subject identified by the Board for hearing (e.g., "The share of JM's costs attributable to IDOT.")
2. Alternatively, barring Mr. Dorgan from presenting any opinions at hearing that go beyond the scope of liability established by the Board in its Interim Opinion and Order.
3. Granting IDOT such other relief as the Board deems to be appropriate.

Respectfully Submitted,

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EXHIBIT A

June 13, 2018

EXPERT REPORT OF DOUGLAS G. DORGAN JR. ON DAMAGES ATTRIBUTABLE TO IDOT

JOHNS MANVILLE VS
ILLINOIS DEPARTMENT OF TRANSPORTATION

Former Johns Manville Facility
Site 3 and Site 6
Waukegan, Illinois

PREPARED BY

Weaver
Consultants
Group

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LIST OF EXHIBITS

1 EXECUTIVE SUMMARY, SCOPE OF WORK, AND SITE BACKGROUND

I have been requested to provide expert opinions on behalf of Johns Manville ("JM") concerning costs incurred for investigating and implementing removal activities at Site 3 and Site 6 of the Johns Manville Southwestern Site Area located in Waukegan, Lake County, Illinois (collectively, the "Sites"). The focus of my review has been on the total costs incurred by JM, the reasonableness of those costs, and the amount of those costs attributable to IDOT based upon the Illinois Pollution Control Board's ("Board") December 15, 2016 Interim Opinion and Order in this case ("IPCB Order").

Historic investigation, removal planning, and removal implementation at the Sites have been completed pursuant to an Administrative Order on Consent No. V-W-07-C-870 ("AOC") (Hearing Exhibit 62). Pursuant to the AOC, the United States Environmental Protection Agency ("USEPA") issued an Enforcement Action Memorandum dated November 30, 2012 ("EAM") (Hearing Exhibit 65), which dictated the remedy that JM was required to implement for the Sites.

Based upon my review of the record, my interviews with various persons involved in the work and my expertise, I have developed the following general opinions to a reasonable degree of professional certainty:

1. Johns Manville incurred costs of $5,579,794 for implementing the AOC at Site 3 and Site 6 ("Implementation Costs").
2. The Implementation Costs are reasonable and appropriate considering the work required and performed.
3. JM has incurred $3,274,917 in Implementation Costs that are attributable to IDOT.

1.1 Qualifications

My resume, together with the list of my publications, is presented in **Exhibit A**. I have over 30 years of experience working as an environmental consultant. I have a Bachelor of Science in Earth Science, with a Minor in Geology, and a Master of Science in Geography with a Concentration in Environmental Science. I am a Licensed Professional Geologist in the states of Illinois and Indiana.

Since 1986, my practice has focused on providing consulting services and performing remedial investigation, planning, design, and construction for a wide range of industrial, commercial, and institutional properties. I have been qualified as an expert witness and supported litigation associated with projects involving environmental assessment, design, permitting, and engineering design and construction-related issues. I have also

implemented various projects involving compliance with the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") and under various Illinois regulatory programs. I have regularly interfaced with both the USEPA and IEPA in many contexts.

Of particular relevance to this case, I have worked on numerous commercial and industrial properties exhibiting legacy environmental impacts. I have experience assessing and remediating soils and fill material impacted by a wide range of materials, including asbestos. I also have experience supporting environmental investigation and restoration associated with Brownfield's redevelopment.

During my career, I have extensive experience:

1. Investigating contaminated properties;
2. Evaluating appropriate environmental risk mitigation options;
3. Designing environmental remediation programs and preparing budgets to support same;
4. Developing bid specifications (general and technical) and compiling bid packages;
5. Evaluating and presenting contractor bids for conformance with specifications and cost competitiveness;
6. Overseeing contractors implementing remediation activities and managing budget;
7. Managing projects to leverage and take advantage of value and cost-effective engineering and construction methodologies to mitigate costs to the extent possible; and
8. Reviewing, approving, and tabulating contractor and/or consultant costs during implementation of remediation activities to evaluate reasonableness and cost effectiveness of completed work and conformity with remediation designs and specifications.

My qualifications are also further set out in my Expert Report dated March 16, 2015 (Hearing Exhibit 6), in my Affidavit dated February 15, 2016 (Hearing Exhibit 7), and in my testimony from the first hearing in this case.

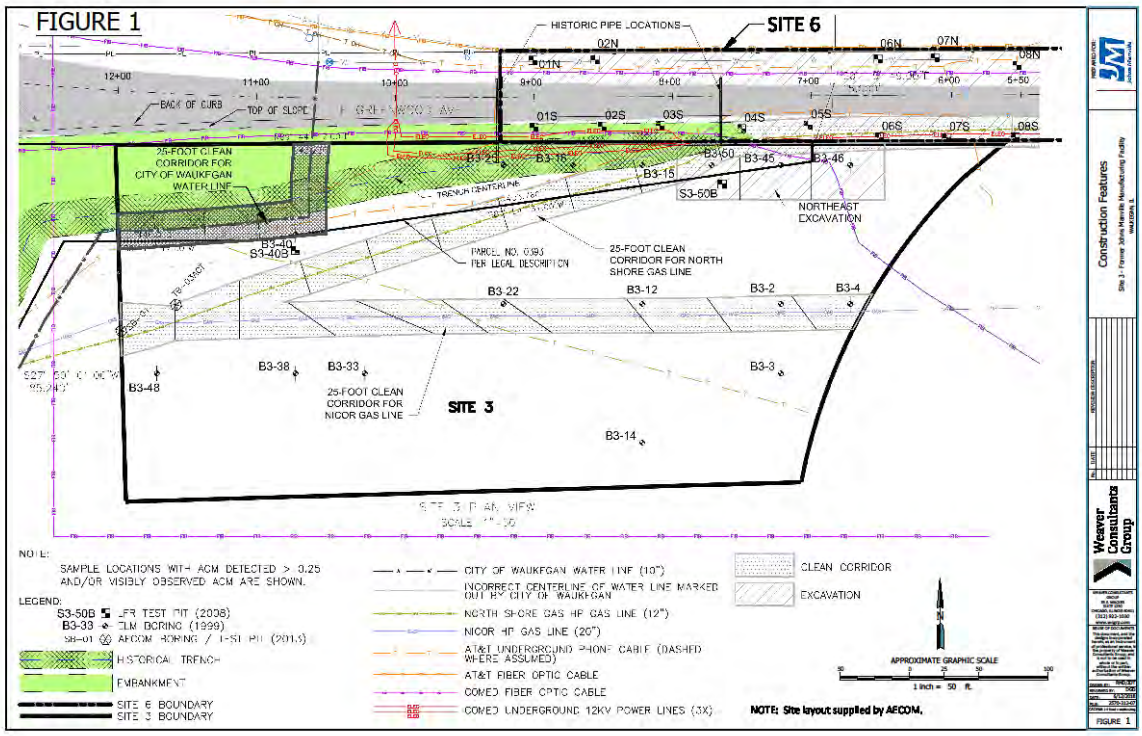
1.2 Information Considered

To prepare this Report, in addition to relying upon my experience and my involvement in the first phase of this case, I have reviewed various documents and deposition testimony associated with the investigation of the Sites, USEPA's selection of the removal action, the implementation of the removal action, and costs incurred with respect to such investigation, selection and implementation. **Exhibit B** to this Report,

prepared at my request, provides a tabulation and description of the costs JM incurred for professional engineering services performed at the Sites. **Exhibit C** to this Report, prepared at my request, presents a tabulation and description of the costs JM incurred for construction services performed at the Sites.

1.3 Site Location

Site 3 and Site 6 are shown below and on the attached **Figure 1**.[1]



The IPCB Order specifically references areas of Site 3 and Site 6 where the Board determined IDOT is responsible for the presence of asbestos containing material ("ACM"):

1. Where IDOT reconstructed Greenwood Avenue (samples 1S, 2S, 3S, 4S);
2. Where IDOT restored Site 3 after construction (samples B3-15, B3-16, B3-25);

[1] **Figure 1** was prepared using a Site Layout map provided by AECOM. I then added certain information to highlight features and areas of Site 3 and Site 6 discussed in various sections of this Report.

3. Where IDOT held an interest in and controlled the Greenwood Avenue Right-of-Way/Parcel No. 0393 (B3-15, B3-16, B3-25, B3-45, B3-50 as well as the remainder of the right-of-way).

(IPCB Order, pp. 8, 10, 13.)

1.4 Background on AOC and Scope of Remedial Action

1.4.1 History of AOC

JM entered into the AOC with USEPA in 2007. The AOC required that JM investigate and, to the extent necessary, remove ACM found at certain locations. The AOC laid out an administrative process and schedule for implementation of this work. Most of the work under the AOC took place from January of 2008 to the fall of 2016.

1.4.2 History of Scope of Remedial Action

Four revised versions of the Engineering Evaluation/Cost Analysis ("EE/CA") were submitted in response to comments received by JM from USEPA. The final EE/CA was submitted to USEPA on April 4, 2011 ("EE/CA Revision 4"). EE/CA Revision 4 evaluated four potential response action options for Sites 3 and 6, based on discussions with and requirements imposed by USEPA. These alternatives were discussed in further detail in my Expert Report dated March 16, 2015, which is incorporated herein by reference.

USEPA subsequently issued its EAM, which required a significantly more expansive remedy than what JM had proposed in EE/CA Revision 4. JM disputed the scope, cost, and technical feasibility of USEPA's EAM's selected remedy. As a result of this and additional work JM did to reduce costs, USEPA ultimately agreed to modify certain EAM requirements.

A Final Removal Action Work Plan ("RAWP") was submitted on March 31, 2014 and was approved on March 24, 2016 (see JM 0013669; Hearing Exhibits 66, 67).

The various tasks required by USEPA and performed with respect to the Sites fall into the following "Task Buckets":

- Nicor Gas Line (identified as "Nicor Gas" on **Exhibit B** and "Nicor" on **Exhibit C**);
- City of Waukegan Water Line (identified as "Waukegan Water" on **Exhibit B** and "Water Main" on **Exhibit C**);
- AT&T (identified as "AT&T" on **Exhibits B** and **C**);
- Utility/ACM Soils Excavation;
- Northeast Excavation (identified as "Northeast Excavation" on **Exhibit B** and "NE Excavation" on **Exhibit C**);

- North Shore Gas (identified as "North Shore Gas" on **Exhibit B** and "NSG" on **Exhibit C**);
- Dewatering activities (identified as "Dewatering" on **Exhibit C**);
- Filling and Capping (identified as "Filling/Capping" on **Exhibit C**);
- Ramp work (identified as "Ramp" on **Exhibit B**);
- General Site and Site Preparation Work (identified as "General Site" on **Exhibit B** and "Site Prep" on **Exhibit C**);
- Health and Safety Work (identified as "H&S" on **Exhibit C**);
- Drafting and execution of environmental covenants with numerous utilities (identified as "General Site" on **Exhibit B** and also contained in **Exhibit D**);
- Long term operations and maintenance ("O&M") of the vegetative soil barrier on Site 3 (identified on **Exhibit B**, Tables 4 and 5);
- Confirmatory soil sampling associated with excavations and clean corridors on Sites 3 and 6 (identified as heavy field work on **Exhibit B** and allocated into various Task Buckets);
- Mobilization and construction oversight (identified as "Engineering and RSE, Support Crew and Guardhouse" on **Exhibit C**); and
- Re-sampling of area on the South Side of Site 6 and concurrent limited soil removal (identified as heavy field work on **Exhibit B** and allocated into various Task Buckets).

2 JOHNS MANVILLE IMPLEMENTATION COSTS

2.1 Summary

The following presents a summary of the costs JM paid or will pay in connection with the work performed on the Sites under the RAWP. JM retained various vendors who generally performed three types of services with respect to the Sites: (1) "Professional Engineering Services"; (2) "Construction Services"; and (3) "Overall Support Services."

To align the services provided and costs incurred with the IPCB Order, I requested that Dr. Tatsuji Ebihara of AECOM, who has been involved with the Sites since 2007, and Mr. Dave Peterson of DMP PE, PC ("DMP"), the engineer overseeing the removal/construction implementation on the Sites since 2000, to complete the following tasks:

- Segregate costs incurred/invoiced on Site 3 from those incurred/invoiced on Site 6;
- Allocate the segregated costs into the various "Task Buckets" above.

This information is presented in **Exhibits B** and **C**.

2.1.1 Professional Engineering Services

From April of 2007 to July of 2017, Professional Engineering Services were being provided by several consulting firms including LFR/Arcadis (June 2008-2012) and AECOM (February 2012-present). Costs incurred for Professional Engineering Services generally related to planning for and implementing various investigations that took place on the Sites. After USEPA issued its EAM in November 2012, costs incurred for Professional Engineering Services generally related to disputing portions of the EAM, performing additional sampling required, and developing and implementing the RAWP. It is my understanding that JM incurred additional investigation costs prior to April of 2007, but that JM is not seeking to recover those costs in this action.

2.1.1.1 Costs for Past Professional Engineering Services

Table 1 of **Exhibit B** presents the costs JM incurred for Professional Engineering Services during each billing period and places them into corresponding Site 3 and Site 6 Task Buckets. For Professional Engineering Services, JM incurred costs of $684,027 for work performed at Site 3 and $679,593 for work performed at Site 6. This totals $1,363,620.[2]

[2] The final columns of Table 1 present the cost allocations to the various Task Buckets, segregating them between Site 3 and Site 6. At the bottom of the table, the cost allocations are totaled. Most of the heavy

2.1.1.2 Estimated Completion Costs for Professional Engineering Services Rendered by AECOM

The work effort at Site 3 and Site 6 is not yet completed. Table 2 and Table 3 of **Exhibit B** present estimates of costs for future Professional Engineering Services for Site 3 and Site 6 ("Completion Costs"). These Completion Costs generally relate to AECOM and DMP work (which is not accounted for elsewhere) required by the RAWP that remains to be completed. Completion Costs for Professional Engineering Services, JM is estimated to incur $80,621 for work performed at Site 3 and $68,250 for work performed at Site 6.[3] This totals $148,871.

2.1.1.3 AECOM O&M Costs

Tables 4 and Table 5 of **Exhibit B** present an estimate of the costs anticipated to be incurred by JM for monitoring and performance of O&M activities over the 30-year post closure period required by the RAWP. Table 4 presents a projection of these future costs over 30-year period and Table 5 presents the same projected O&M costs on an annual basis. JM is expected to incur $310,903 in O&M costs on Site 3 over the full 30-year post closure period ($6,236.90 per year).[4] No O&M costs are anticipated for Site 6.

2.1.2 Construction Services

Construction work began on the Sites around Summer/Fall 2015. Table 1 of **Exhibit C** presents the costs JM incurred for Construction Services and places them into corresponding Site 3 and Site 6 Task Buckets. For Constructions Services, JM incurred costs for work performed on both Site 3 and Site 6 totaling $3,325,081.

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field work costs involved confirmatory sampling. To allocate these costs into the different Task Buckets, I asked Dr. Ebihara to count all of the samples taken and then calculate the percentage of those samples associated with each Task. He then apportioned the invoiced amounts according to the percentage of samples associated with each Task Bucket. For instance, if 12% of the samples collected were for sampling along the Nicor Gas line on Site 3, 12% of the invoice amount was allocated to the Nicor Gas Task Bucket.

[3] The costs presented on Tables 2 and 3 of **Exhibit B** are those associated with additional tasks needed to complete the RAWP implementation and are identified under the "Extended Cost" column. Examples of project tasks that remain to be completed include, but are not limited to, repair of cap erosion, site restoration for relocation of AT&T fiber optic lines, and performance of the final site survey.

[4] Long-term O&M costs are generally associated with cap, vegetative cover, and fence monitoring and maintenance. In addition, consulting costs associated with overseeing and implementing these services have been included. The long-term costs were projected assuming an annual escalation factor, which is typically how future O&M costs are projected.

2.1.2.1 Costs for General Contracting Services Performed by Campanella & Sons

JM hired Campanella & Sons, Inc. ("Campanella") as the general contractor to implement the work required on Site 3 and Site 6 pursuant to the approved RAWP. Campanella was hired as the result of a competitive bid process that identified them as the low qualified bidder. Campanella's work was subdivided into two categories: (1) services included in the original bid documents ("Base Bid Services"); and (2) time and materials services ("T&M") that were outside the scope of the Base Bid Services. T&M costs were driven by requirements of USEPA regulators and/or the utility companies, and were identified after inception of the removal project.

The Base Bid Services costs are presented in Table 2 of **Exhibit C** and the T&M costs are presented in Table 3 of **Exhibit C.**[5] For Campanella's Bid Base Services, JM incurred costs of $776,068 for work performed at Site 3 and $410,128 for work performed at Site 6. Additionally, JM incurred costs for health and safety support work performed by Campanella on both Sites in the amount of $77,000. This totals $1,263,196.

For Campanella's T&M services, JM incurred costs of $233,880 related to work performed at Site 3 and $263,834 related to work performed at Site 6. Additionally, JM incurred costs for work that related to both Site 3 and Site 6 in the amount of $325,412. This totals $823,126.

JM's costs for services performed by Campanella (Base Bid Services and T&M) total $2,086,322.[6]

2.1.2.2 Costs for Site Management Services Rendered by DMP PE PC

DMP provided contractor management/supervision and engineering services at Site 3 and Site 6. Table 4 of **Exhibit C** presents the costs JM incurred for DMP's Site Management Services and places them into corresponding Site 3 and 6 Task Buckets. For DMP's Site Management Services, JM incurred costs of $130,080 for Site 3, $122,170 for Site 6, and $297,490 for Site 3 and Site 6. This totals $549,740.[7]

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[5] The original base bid categorized major work elements as "Item 1.0 Site 3 Excavation and Capping," "Item 2.0 Site 6 Excavation and Filling," and "Health and Safety" (the latter services applicable to both Site 3 and Site 6). Table 2 of **Exhibit C** includes information on the bid form "Line #", the corresponding JM Purchase Order Item (JM PO Item), and a description of the individual major and minor work elements. The amounts invoiced to, and paid by, JM for each of the minor work elements is also included. Campanella's T&M costs are presented on Table 3 of **Exhibit C**.

[6] Upon receipt of the DMP's cost allocations for Campanella, I took the additional step of segregating the Site 3 costs from the Site 6 costs so that I could subtotal certain costs by Task Buckets. The Campanella costs are presented on Tables 2 and 3 of **Exhibit C**.

[7] Upon receipt of DMP's cost allocations for DMP services, I took the additional step of segregating the costs by Site 3 and Site 6 and then by placing all related tasks together so that I could subtotal costs by

2.1.2.3 Payments to Utilities and Fencing (Other Invoices)

Table 5 of **Exhibit C** reflects payments JM made to AT&T and North Shore Gas for the relocation/excavation work those entities performed on their utilities on the Sites. It also reflects costs JM incurred to install a fence, clear trees on Site 6, and pay the North Shore Water Reclamation District. JM's costs for Payments to Utilities and Fencing for Sites 3 and 6 total $689,019.[8]

2.1.3 Costs for Legal Services by Walker Wilcox Matousek, LLP

JM retained Donald J. Manikas of Walker Wilcox Matousek, LLP to assist with non-litigation, legal support activities pertaining to the Sites. His work involved the preparation and negotiation of the various easement and other agreements to allow work in and around utilities. **Exhibit D** presents the costs JM incurred for Legal Services. JM's total costs for services performed by Mr. Manikas/Walker Wilcox Matousek with respect to Sites 3 and 6 total $71,840.

2.1.4 Costs for USEPA Regulatory Oversight

JM was required to make several payments to USEPA associated with regulatory oversight of the removal activities at Site 3 and Site 6. JM's USEPA Oversight Costs for Site 3 are $233,805. JM's USEPA Oversight Costs for Site 6 are $125,675. This totals $359,480.

2.1.5 Total Implementation Costs

In total, JM incurred $5,579,794 in Implementation Costs. The following table presents a summary of the Implementation Costs:

Task Bucket. The sorted version of the cost allocation is included as **Exhibit C**. The DMP costs are presented on Table 4 of **Exhibit C**.

[8] The total presented here is adjusted to remove costs associated with Site 4/5 shown under North Shore Gas (NSG) on Table 5 of **Exhibit C**.

Service	Service Provider	Site 3	Site 6	Site 3 and Site 6	Total
Professional - Engineering	LFR/Arcadis/ AECOM	$684,027	$679,593	$0	$1,363,620
Professional - Completion	AECOM Completion Costs	$80,621	$68,250	$0	$148,871
Professional - O&M	AECOM Operations and Maintenance	$310,903	$0	$0	$310,903
Construction - Base Bid	Campanella	$776,068	$410,128	$77,000	$1,263,196
Construction - T&M	Campanella	$233,880	$263,834	$325,412	$823,126
Construction - Management	DMP PE PC	$130,080	$122,170	$297,490	$549,740
Construction – Misc.	Various	$57,362	$102,082	$0	$159,444
Payments to Utilities	AT&T, NSWRD, NSG	$136,243	$393,331	$0	$529,574
Legal Services	Donald J. Manikas	$0	$0	$71,840	$71,840
Regulatory Oversight	EPA	$233,805	$125,675	$0	$359,480
Total		**$2,642,989**	**$2,165,063**	**$771,742**	**$5,579,794**

2.2 Cost Review and Reasonableness

I have reviewed the Implementation Costs and their supporting documentation to assess their accuracy, reasonableness, and payment status.

2.2.1 Accuracy of Invoices and Allocations

Over the removal project's ten-year time period, various consultants and contractors generated more than 500 invoices covering and evidencing the work performed. Based upon review of the invoices, summary tables, and interviews with Dr. Ebihara and Mr. Peterson, and review of deposition transcripts for Dr. Ebihara, Mr. Peterson, and Campanella, it is my opinion that the **Exhibits B** and **C** to this Report: (1) accurately depict JM's Implementation Costs incurred on Sites 3 and 6; (2) accurately segregate those Implementation Costs by Site 3 or Site 6;[9] and (3) accurately allocate those Implementation Costs by Task Bucket.

2.2.2 Project Management and Reasonableness of Implementation Costs

In my expert opinion, I believe that the Implementation Costs JM incurred are reasonable. I believe this to be true based on several considerations, including the following:

- Campanella was selected as the contractor based on a comprehensive, competitive bid process. Campanella was the low bidder of three bids that were submitted for the work.
- The unit rates charged are competitive with local market conditions.
- JM tasked its Project Supervisor (Frederick Scott Myers) to review and approve every invoice before it was paid.[10]
- JM performed an internal audit of the removal work and found no irregularities with respect to the bidding process, costs, or invoicing for the project.[11]
- JM required its vendors to provide detailed invoices. These invoices were also reviewed by Mr. Peterson for accuracy and consistency before being sent to JM for review and payment.
- JM disputed the remedy imposed by USEPA and ultimately convinced USEPA to agree to certain modifications that reduced JM's Implementation Costs. These JM-proposed modifications included, but were not limited to: (1) discharging water generated from dewatering activities to the North Shore Water Reclamation District rather incurring substantially greater costs for hauling the

[9] For a period of time, JM's consultants were issuing invoices for services that jointly covered both Site 4/5 and Site 6. At my request, Dr. Ebihara removed these costs from these invoices (**Exhibit B**). In the "Invoice Total Site 6" column of Table 1 of **Exhibit B**, he shows which expenses from the combined Site 4/5 and Site 6 work that are associated solely with the work performed on Site 6.

[10] Deposition of Frederick Scott Myers, June 29, 2017, pages 66 through 70.

[11] Deposition of Frederick Scott Myers, June 29, 2017, pages 66 through 70.

water to an offsite treatment facility; (2) landfilling materials excavated from the Sites on JM property as opposed to incurring substantially increased costs for transportation and disposal at an approved offsite location; and (3) avoiding the replacement of certain utility lines by abandoning them in place (City of Waukegan Water Line, NSG line). Because of these modifications, JM was ultimately able to reduce its Implementation Costs by several million dollars.

- Construction Services were generally done in accordance with the anticipated schedule, which minimized unexpected costs and cost overruns.
- Construction Services were managed in a manner consistent with standard industry practices. This included having regular construction meetings and preparation of daily field reports. The progress of construction was also documented daily through hundreds of photographs.

2.2.3 Costs Paid

To verify whether the Implementation Costs reflected on **Exhibits B** and **C** have been paid, I reviewed JM payment records for the Sites and spoke with Dr. Ebihara, Mr. Peterson, and Mr. Myers. The payment records provided by JM are attached as **Exhibit E**. Implementation Costs reflected on **Exhibits B** and **C** have been paid by JM except for the following costs that relate to future work, which I reasonably believe will be paid: (1) $148,871 in estimated Completion Costs for Professional Engineering Services to be rendered by AECOM with support from DMP; and (2) $310,903 in future O&M Costs.

This is consistent with information provided by Dr. Ebihara, Mr. Peterson, and Mr. Myers. These individuals are not aware of any invoices that remain unpaid for Professional Engineering Services or Construction Services.

All Walker Wilcox Matousek invoices have been paid in full.[12] JM has also paid all outstanding USEPA Oversight Costs.[13] I am not aware of any liens filed against the Sites (or larger property) for unpaid work completed by contractors providing services for the project. Based on communications with Scott Myers of JM, it is my understanding JM has established an environmental reserve for future costs related to work on Site 3 and Site 6. Given that JM has to date paid all invoices due in full, and the availability of a financial reserve for payment of future costs, it is my expectation and opinion that, as it has in the past, JM will pay future invoices in a timely fashion.

[12] Deposition of Donald Manikas.

[13] Deposition of Brent Tracy.

3 IDOT COST ATTRIBUTION

3.1 Summary

After tabulating the Implementation Costs, determining which Implementation Costs pertained to Site 3 and/or Site 6, and allocating the Implementation Costs to the Task Buckets, I had to determine how best to align the Task Buckets (which represent a portion of required work and associated Implementation Costs) to the Board's finding of liability, which focused on boring locations.

The first step in this process was to define the geographic extent of IDOT's liability (the "IDOT Areas of Liability") based upon the IPCB Order and the record. I then overlaid on a figure (see **Figure 2**) the location of visual ACM observed during historic investigations. This figure helps to demonstrate that most of the visual ACM observed is located within IDOT Areas of Liability. Thereafter, I evaluated each Task Bucket to determine whether the IDOT Areas of Liability caused JM to incur the Implementation Costs associated with the work in that Task Bucket.

3.1.1 The IDOT Areas of Liability

The Board identified the areas of the Sites for which IDOT is liable by sample locations. Samples were taken every 50 feet. In other words, each sample represents a 50 foot by 50 foot grid.

3.1.1.1 IDOT Site 3 Area of Liability

For Site 3, the Board found IDOT liable for contamination within Parcel No. 0393 due to IDOT's interest in and control of this parcel as well as because of IDOT's burial of ACM within certain sample grids on Site 3, namely B3-25, B3-15, B3-16, B3-50 and B3-45.

As a result, Implementation Costs JM incurred for any and all work within Parcel No. 0393 and any and all work associated with and/or caused by contamination in sample grids of B3-25, B3-15, B3-16, B3-50 and B3-45 should be attributable to IDOT. I refer to these areas as the "Site 3 Area of Liability."

3.1.1.2 IDOT Site 6 Area of Liability

For Site 6, the Board found IDOT liable for contamination on the South Side of Site 6 in the areas of 1S to 4S because IDOT buried ACM waste in these locations while reconstructing Greenwood Avenue during the Amstutz Project.

Based upon interviews with Mr. Peterson and a review of photographs taken during remedy implementation, it is my opinion that IDOT buried the ACM from 5S to 8S at the same time that it buried that ACM from 1S to 4S. According to Mr. Peterson, who

personally witnessed the excavation work in this area (which occurred after the first hearing in this case), it was apparent at the time of the excavation that the ACM placed at areas 1S-4S was placed at the same time as the ACM was placed at 5S–8S.

As Mr. Peterson indicated and the construction photographs demonstrate, Campanella excavated to at least elevation 584 at areas 1S-8S and found a consistent seam of the same type of ACM materials (Transite pipe, sludge, and roofing paper) along this entire transect (1S-8S) from the ground surface to a depth of approximately 3 to 5 feet below ground surface. Therefore, based upon this new evidence, it is my opinion that IDOT buried the ACM at 5S to 8S when it buried the ACM from 1S to 4S.

This conclusion is further supported by the soils encountered from 5S to 8S. Mr. Peterson reports that the ACM was encountered within fill materials. But that should be the case only if IDOT buried ACM in that location during the Amstutz Project. According to the pre-Amstutz engineering drawings, the soil in this area should have contained a layer of black cindery fill or black peat (Hearing Exhibit 21-A-26), not ACM. The absence of such material in conjunction with the existence of ACM (of the same type as found at 1S-4S and in a consistent seam with the ACM found at 1S-4S) indicates that IDOT removed the black cindery fill/black peat in the 1970s and replaced it with ACM during the Amstutz Project.[14] As a result, Implementation Costs JM incurred for any and all work associated with and/or caused by contamination in sample grids 1S-8S should be attributable to IDOT. I refer to these areas, 1S-8S, as the "Site 6 Area of Liability."

[14] *See also* **Figures 3** and **4** attached to this report. **Figure 3** aligns the engineering drawing for Detour Road A (Hearing Exhibit 21-A-23) with Site 6 sample locations. The engineering drawing shows that IDOT's work along Detour Road A extended to Station 15 (the Stationing used for Detour Road A), which is near Test Pit 7S. It also shows Detour Road A intersecting with Greenwood at areas 6S and 7S. Finally, it shows that fill was needed along Detour Road A from at least Detour Road A Station 8 to Detour Road A Station 15. This indicates that IDOT used fill at both areas 6S and 7S to raise the ground level to the proposed grade of 589.7. **Figure 4** aligns the engineering drawings for Detour Road A (Hearing Exhibit 21A-23) and for Greenwood (Hearing Exhibit 21-A-26) with the same sample locations. It shows that, according to the engineering drawings (Hearing Exhibit 21-A-26), "black cindery fill" or unsuitable peat existed immediately below Test Pits 4S, 5S, 6S and 7S (which are between Greenwood Stations 6 and 8), which needed to be removed down to elevation 584 to 584.5. Thereafter, per the drawing, fill was to be added up to elevation 590 at areas 4S, 5S, 6S, 7S and extending to 8S (Hearing Exhibit 21-A-26; see also Hearing Exhibits 06-28; 164/202-1 (for 7S stationing)). Both the cross section for Detour Road A and the cross section for Greenwood indicate that IDOT used fill material at areas 5S, 6S, 7S and at part of area 8S. See also Hearing Exhibits 84 and 164/202 (as to area 7S), showing that ACM located at areas 5S, 6S and 7S fall within the fill zone depicted on the Figures -- elevations of 584 and 589. Test Pit 5S contained ACM between 585.75 and 588.75 (see actual elevation numbers along top of Exhibit 84), Test Pit 6S contained ACM between 585.63 and 588.63, Test Pit 7S contained ACM between 584.94 and 587.94, and Test Pit 8 contained ACM between 587.60 to 588.60.

3.2 Attribution Approach

After defining the IDOT Areas of Liability, I evaluated each Task Bucket to determine whether the IDOT Areas of Liability caused JM to incur the Implementation Costs associated with the work in that Task Bucket. My findings are set forth in **Exhibit F.** The basis for assigning Cost Attribution to IDOT is provided in the following subsections of this Report. Based upon the analysis, it is my opinion that IDOT is responsible for **$3,274,917** of JM's **$5,579,794** total Implementation Costs.

3.2.1.1 Nicor Gas

The RAWP required that a clean corridor be constructed for the Nicor Gas line that runs through Site 3. The Nicor Gas Line is depicted on **Figure 1**. Figure 1 shows that all the work done to create the Nicor Gas clean corridor occurred outside of, and was unrelated to, any IDOT Area of Liability. Therefore, none of the costs incurred in creating a clean corridor around the Nicor Gas line ($218,090) are attributable to IDOT.

3.2.1.2 City of Waukegan Water Line

The RAWP required that a clean corridor be constructed for the City of Waukegan Water Line, the location of which is depicted in part on **Figure 1**.[15] The Implementation Costs incurred for the City of Waukegan Water Line include:

Service	Site 3	Site 6
Professional - Engineering Related to Water Line	$35,867	$48,433
Construction – Base Bid Related to Water Line	$25,170	
Construction – T&M		$38,241

[15] At the time of the first hearing in this case in May and June of 2016, it was thought that a substantial portion of the City of Waukegan Water line was located south of Parcel No. 0393. However, attempts by Campanella to locate the line after the hearing at that location were unsuccessful. In August of 2016, the line was finally located. In the prior hearing, there was testimony provided indicating that IDOT had moved the line during the Amstutz Project. Consistent with this testimony, as to Site 3, the line was found to be completely within Parcel No. 0393 (as shown on **Figure 1**). The actual location of the water main has been presented on an updated survey of the Site performed in June of 2017, which is included as **Exhibit G**. As depicted on **Exhibit G**, the City of Waukegan Water Line enters Site 3 from the northern portion of its western boundary. It then traverses east through Parcel No. 0393, before taking a 90-degree bend to the north where it crosses under E. Greenwood Avenue.

Service	Site 3	Site 6
Related to Water Line		
Total	$61,037	$86,674
IDOT Attribution	**$61,037**	**$0**

3.2.1.2.1 Site 3

The entire length of the water main located on Site 3 runs within Parcel No. 0393 (see **Figure 1**), a Site 3 Area of Liability. As a result, all costs associated with the City of Waukegan Water Line work on Site 3 are attributable to IDOT.

3.2.1.2.2 Site 6

On Site 6, the City of Waukegan Water Line is only present on the north side of Greenwood and outside any IDOT Area of Liability (see **Figure 1**). Therefore, I did not attribute any Site 6 City of Waukegan Water Line costs to IDOT.

As shown in **Exhibit F**, the portion of JM's Implementation Costs for work performed in constructing a clean corridor for the City of Waukegan Water Line that is attributable to IDOT is $61,037.

3.2.1.3 AT&T

AT&T had several telephone lines and a fiber optic line (the locations of which are depicted on **Figure 1**) that traversed portions of both Site 3 and Site 6. Each of these lines was abandoned with new service lines rerouted and temporarily installed on overhead utility poles bordering the southern boundary of the main JM facility on the north side of Greenwood. In some instances, the lines were physically removed when the surrounding soils were being excavated. Because of the way the work was invoiced (not broken down between the north and south side of Site 6) and the way the Board structured its IPCB Order (based on sample locations), I attributed the related Implementation Costs based upon the number of AT&T lines that run through the IDOT Areas of Liability.

The lines located on Site 3 and Site 6 include:

1. Three AT&T telephone lines located on Site 3. Two of these three lines travelled within Parcel No. 0393, a Site 3 Area of Liability. The third travelled from the southwestern boundary of Parcel No. 0393 in a southeasterly direction across Site 3. I concluded that this line did not fall within a Site 3 Area of Liability.
2. Two AT&T telephone lines were located on Site 6, one on the south side of Site 6 and one on the north side of Site 6. The one on the south side of Site 6 runs

through approximate boring locations 4S to 8S, which includes the Site 6 Area of Liability.

3. One AT&T fiber optic cable was located on the north side of Site 6, outside any IDOT Area of Liability.

Implementation Costs related to AT&T were incurred by JM in the form of a payment to AT&T (see Payments to Utilities) for abandoning and relocating these lines and a portion of Professional Engineering and Construction Services. Examples of the work performed include, but are not limited to: work plan preparation, utility pole installation, placement of a barrier wall, excavation of access holes on Greenwood Avenue, and backfilling of AT&T excavations. Because much of the construction work overlapped between Site 3 and Site 6, it was categorized on **Exhibit C** as both Site 3 and Site 6 work. The Implementation Costs incurred include:

Service	Site 3	Site 6	Sites 3 and 6
Professional - Engineering Related to AT&T	$26,524	$31,105	
Professional - Completion Related to AT&T		$15,000	
Construction – T&M Related to AT&T			$53,548
Construction– Management Related to AT&T			$45,350
Utility Payment to AT&T	$82,127	$238,161	
Total	$108,651	$284,266	$98,898
IDOT Attribution	**$71,710**	**$88,858**	**$40,449**

3.2.1.3.1 Site 3

On Site 3, since two of the three abandoned telephone lines run within the Site 3 Area of Liability, I attributed 66% of JM's Site 3 AT&T costs to IDOT. This totals $71,710.

3.2.1.3.2 Site 6

On Site 6, there is one AT&T phone line and one fiber optic line on the north side of Site 6 and one telephone line traversing the south side of Site 6 and running through the Site 6 Area of Liability. As shown on **Exhibit F**, Professional Engineering Services – Completion Costs of $15,000 were excluded from the IDOT allocation since they are projected costs for the AT&T fiber optic line located on the north side of Site 6. As a result, I attributed 33% of JM's costs for abandoning the AT&T lines on Site 6 to IDOT. This totals $88,858.

3.2.1.3.3 Site 3 and 6

To determine the percentage of costs for Construction Services for AT&T line work that could not be segregated to Site 3 or Site 6 alone, I divided the portion of costs I determined were attributable to IDOT ($160,568) by the total Site 3 and 6 costs for AT&T work ($392,918). I then applied this percentage, 40.9% (160,568/392,918), to the costs for Construction Services on Combined Sites 3 and 6 as follows:

$53,548 (Campanella T&M costs) * .409 = $21,901

$45,350 (DMP costs) * .409 = $18,548

The total costs I attributed to IDOT for AT&T work on Combined Site 3 and Site 6 is $40,449 ($21,901 + $18,548).

As shown in **Exhibit F**, and summarized in the above table, the portion of JM's costs for AT&T work performed attributable to IDOT is $201,017.

3.2.1.4 Utility/ACM Soils Excavation

Pursuant to the EAM, soils contaminated with ACM were required to be excavated and removed from the north and south sides of Site 6 around utilities. As part of this effort, certain utility lines located within these areas were excavated and removed (e.g., ComEd fiber optic and electrical lines located on the south side of Site 6). Consistent with the method used above, I determined the Implementation Costs associated with the soil removal around these lines on the north and south side of 6. The Implementation Costs incurred are shown within **Exhibit F** and include:

Service	Site 3	Site 6	Sites 3 and 6
Construction – Base Bid Soils for Site 6		$155,318	
Total		$155,318	

Service	Site 3	Site 6	Sites 3 and 6
IDOT Attribution		**$77,659**	

Excavation of ACM impacted soils occurred on both the north and south sides of Site 6. As shown on **Figure 1**, eight utility lines in total were present on the north and south sides of Site 6 including:

1. City of Waukegan Water Line (north side only)
2. North Shore Gas line (north and south side same line)
3. AT&T phone lines (one line on north, one on south)
4. AT&T fiber optic line (one line on north)
5. ComEd fiber optic line (one line on north, one on south)
6. ComEd electric line (south side only)

Four of the eight utility lines were located on the south side of Site 6 (AT&T phone, North Shore Gas, ComEd electric, and ComEd fiber optic) and ran through the Site 6 Area of Liability. Consequently, I have attributed 50% (4/8) of JM's total costs for excavation of ACM impacted soils on Site 6 to IDOT. This totals $77,659 ($155,318 * .50).

3.2.1.5 Northeast Excavation

The location of the Northeast Excavation ("NE Excavation") is depicted on **Figure 1**. At this location, the RAWP required that a 145 foot by 40 foot area be excavated to a depth of three to five feet and backfilled with clean material. A portion of the ComEd fiber optic line, which runs through 1S-4S, B3-50 and B3-45 also runs through the NE Excavation. The Implementation Costs incurred include:

Service	Site 3	Site 6	Sites 3 and 6
Professional - Engineering for Northeast Excavation	$3,977		
Professional – Completion Costs for Northeast Excavation	$10,000		
Construction – Base Bid for Northeast	$35,957		

Service	Site 3	Site 6	Sites 3 and 6
Excavation			
Total	$49,934		
IDOT Attribution	**$49,934**		

The NE Excavation involves the Site 3 Area of Liability. As a result, I have allocated 100% of the costs associated with the NE Excavation as being attributable to the IDOT Site 3 and Site 6 Areas of Liability.[16] This totals $49,934.

3.2.1.6 North Shore Gas

The EAM required a clean corridor for the entire North Shore Gas ("NSG") line on Sites 3 and 6, the location of which is depicted on **Figure 1**. However, it was later decided that instead of creating a clean corridor for the entire line, much of the line would be removed. The portion of the NSG line on Site 3 was kept in place and a clean corridor was created around it. The line was capped at 4S and the portion of the line on the south side of Site 6 running east of 4S was removed. The Implementation Costs incurred are shown within **Exhibit F** and include:

Service	Site 3	Site 6	Sites 3 and 6
Professional - Engineering for North Shore Gas	$135,159	$81,028	
Construction - T&M for North Shore Gas	$162,678		$22,327
Construction – Management for North Shore Gas			$35,830
Utility Payment to North Shore Gas[17]	$34,687	$153,833	

[16] In the field, JM was required to excavate to five feet in the northwest portion of the NE Excavation (around sample location B3-50 and B3-45) and 4 feet in the other areas.

[17] Per Table 5 of Exhibit C, JM made total payments to NSG of $188,521 (this excludes tabulated costs for Site 4/5). Per calculations performed by Dr. Ebihara, a total of 2458 lineal feet of NSG line was abandoned

Service	Site 3	Site 6	Sites 3 and 6
Total	$332,524	$234,861	$58,157
IDOT Attribution	**$332,524**	**$65,597**	**$40,826**

3.2.1.6.1 Site 3

On Site 3, the NSG line runs through a portion of Parcel No. 0393 as well as borings B3-15 and B3-50, all Site 3 Areas of Liability. As a result, all Site 3 NSG costs are attributable to IDOT. This totals $332,524.

3.2.1.6.2 Site 6

On Site 6, the capping of the clean corridor occurred within the Site 6 Area of Liability at area 4S. As a result, all capping of the NSG line on Site 6, which was limited to the area around 4S, is attributable to IDOT.

ACM was found on the north side of Site 6 near the NSG line. Because this work occurred on the north side of Site 6 and was not reasonably connected to any IDOT Area of Liability, as explained below, I did not attribute any of these costs to IDOT.

ACM was found on the south side of Site 6 near the NSG line. At the time of the EAM, there was no ACM found east of 8S. Nonetheless, USEPA required a clean corridor for the entire line from 4S and moving east, notwithstanding whether ACM had been found along those sections of the line.[18] Thus, the ACM within the IDOT Area of Liability drove the need to create the entire clean corridor for NSG along the south side of site 6.

It is my understanding that a total of 2005 lineal feet of the NSG line was removed on Site 6. Of this 2005 lineal feet, 560 feet (27.9% of the NSG line that was removed) was located on the south side of Site 6. Therefore, I have attributed 27.9% of JM's Implementation Costs for removal of the NSG line on Site 6 to IDOT. This totals $65,597

on Site 3 and Site 6. Of this total, 453 feet were located on Site 3 (18.4%), and 2,005 feet were located on Site 6 (81.6%). Therefore, the total NSG payments were allocated between Site 3 and Site 6 using these percentages.

[18] See EAM at Hearing Exhibit 65-16 (requiring excavation of "clean corridors" for all utilities); see also correspondence dated December 20, 2012 from Bryan Cave to USEPA Re: Notice of Dispute Concerning Enforcement Action Memorandum dated November 30, 2012, Page 7 and Page 10 (pointing out that instead of focusing on limited excavation and capping, USEPA was requiring the creation of 25-foot clean corridors for all buried utilities on the Sites, "regardless of whether impacts from ACM were noted in the overlying soil during the assessment.")

($234,861 * .279). These costs do not include the JM Implementation Costs for excavation and removal of ACM impacted soils as presented in Section 3.2.1.4.

3.2.1.6.3 Site 3 and 6

Certain Campanella T&M construction costs and DMP construction costs incurred for the NSG line were categorized as applying to both Site 3 and Site 6. These costs include work necessary to access the pipe and valve installation location and general construction management. JM incurred total costs of $58,157 for work performed by Campanella and DMP.

To determine the percentage of costs for NSG line work that could not be segregated to Site 3 or Site 6 alone, I divided the portion of costs I determined were attributable to IDOT ($398,121) by the total Site 3 and 6 costs for NSG work ($567,385). I then applied this percentage, 70.2%, to the costs for NSG line work on Combined Sites 3 and 6 ($58,157 * .702). The total costs I attributed to IDOT for NSG work on Combined Site 3 and Site 6 is $40,826.

Based upon the above, JM's costs for the NSG line that are attributable to IDOT total $438,947.

3.2.1.7 Dewatering

Dewatering was undertaken to support various construction activities that occurred during implementation of the RAWP. Dewatering was necessary owing to the high water table and number of excavations needed on both Site 3 and Site 6 to accommodate work predominantly relating to the clean corridor construction for the Nicor line, NSG line, City of Waukegan Water Line, and the NE Excavation. The Implementation Costs incurred are shown within **Exhibit F** and include:

Service	Site 3	Site 6	Sites 3 and 6
Construction – Base Bid for Dewatering	$140,800	$159,250	
Construction – T&M for Dewatering	$24,325		$17,675
Construction – Management for Dewatering	$74,530		$21,500
Construction Services – Payments to	$19,429	$1,337	

Service	Site 3	Site 6	Sites 3 and 6
Utilities			
Total	$259,084	$160,587	$39,175
IDOT Attribution	**$217,803**	**$79,625**	**$27,775**

My approach for attributing the costs associated with dewatering to IDOT was to consider the other activities during the removal action that dewatering supported.

3.2.1.7.1 Site 3

For Site 3, under the Campanella Base Bid, dewatering was needed to allow for construction of the clean corridors for the Nicor line, the NSG line, the City of Waukegan Water Line, and the NE Excavation. I have previously determined that 100% of the costs for construction of three clean corridors (City of Waukegan Water Line on Site 3, NSG line on Site 3, and NE Excavation on Site 3) were attributable to IDOT. I also determined that IDOT had no responsibility for the costs of construction for one clean corridor (Nicor Gas line). I therefore attributed 75% (3/4) of the Base Bid dewatering costs to IDOT. This totals $105,600.

JM also incurred costs for Campanella T&M dewatering services associated with construction of a water line that allowed for water to be moved from Site 3 under E. Greenwood Avenue for discharge to the North Shore Sanitary District sewer line. These costs totaled $24,325. I applied the same percentage (75%) to T&M dewatering costs to determine the portion of costs attributable to IDOT. This totals $18,244.

DMP provided Construction Management services for the dewatering activities on Site 3. Based upon the work it performed, DMP assigned 100% of its construction management costs for Site 3 to the work associated with dewatering for the NSG clean corridor construction. According to Mr. Peterson, these dewatering management costs were related to work required to install a valve for NSG near the western boundary of Site 3. As demonstrated above, 100% of the costs associated with Site 3 NSG clean corridor construction activities on Site 3 are attributable to IDOT. Therefore, 100% of the Construction Management costs have been allocated to IDOT. This totals $74,530.

DMP also incurred expenses associated with discharge of water generated from dewatering activities to the North Shore Water Reclamation District (water discharge fees). DMP incurred total costs of $20,766 (categorized above as Construction Costs –

Payments to Utilities). Of these total fees, $19,429 were for dewatering associated with the Site 3 and have been allocated to IDOT.[19]

Based upon the above, JM's costs for dewatering activities on Site 3 that are attributable to IDOT total $217,803.

3.2.1.7.2 Site 6

Campanella's Base Bid Services included work necessary to provide dewatering for clean corridor construction and soil removal work on both the north and south sides of Site 6. JM incurred total costs of $159,250 for Campanella's work. Based upon conversations with Mr. Peterson, I determined that the level of effort for these activities would be relatively the same for work on the north side of Site 6 as for work on the south side of Site 6. The dewatering work associated with the south side of Site 6 was concentrated from between 1S to approximately 9S. The excavation was deeper within this area resulting in the need to dewater. East of 9S, dewatering was not needed. Because the Site 6 IDOT Area of Liability caused this work, I attributed these costs to IDOT. I therefore attributed to IDOT 50% of JM's total costs for Campanella's dewatering services associated with the south side of Site 6. This totals $79,625.

In addition, DMP incurred (see footnote 20), $1,337 associated with discharge fees from the North Shore Water Reclamation District. Since these fees were associated with dewatering discharges from the north side of Site 6, they have not been allocated to IDOT.

3.2.1.7.3 Site 3 and 6

DMP allocated certain costs associated with dewatering activities to both Site 3 and Site 6. These included $17,675 in costs incurred by JM for Campanella's T&M Services, and $21,500 in costs for DMP's Construction Management (see Tables 3 and 4 of **Exhibit C**).

To determine the percentage of costs for dewatering work that could not be segregated to Site 3 or Site 6 alone, I divided the portion of costs I determined were attributable to

[19] Costs are presented on Table 5 of **Exhibit C**. JM incurred a total of $20,766 in expenses for dewatering discharges to the North Shore Water Reclamation District. Per information provided by Mr. Peterson, all of the expenses incurred in the month of June 2016 ($10,898) were for dewatering associated with the valve installation for the NSG line. Therefore, these expenses were allocated to Site 3, and therefore 100% of these costs were allocated to IDOT. July expenses were for NSG dewatering that took place on the north side of Site 6, therefore none of these costs were allocated to IDOT. For August, NSG dewatering that occurred between August 1 and August 5 were for the north side of Site 6. From August 6 to August 31, NSG dewatering was undertaken for work on Site 3. During the month of August, a total of 8,011,349 gallons were dewatered and discharged to NSWRD. For the period of August 1 to August 5, 659,525 gallons (8.2% of total) were discharged associated with dewatering on the north side of Site 6. The balance, 7,351,824 gallons (91.8%) was for NSG dewatering on Site 3. Therefore, 100% of June expenses ($10,898) and 91.8% of the August expenses ($8,531) were allocated to IDOT for work NSG dewatering work on Site 3 (total $19,429).

IDOT ($297,428) by the total Site 3 and 6 costs for dewatering work ($419,671). I then applied this percentage (70.9%), to the costs for dewatering work on Combined Sites 3 and 6 ($39,175 * .709). The total costs I attributed to IDOT for dewatering on Combined Site 3 and Site 6 is $27,775.

Based upon the above, JM's costs for dewatering and that are attributable to IDOT total $325,203.

3.2.1.8 Filling/Capping

The EAM and RAWP required that a vegetative soil cover (cap) be installed across Site 3. The cap is comprised of a six-inch layer of sand overlain by 15 inches of compacted clay, overlain by a minimum of 3 inches of topsoil to support a vegetative cover. The cap was required to include a geotextile placed between the base sand layer and overlying compacted clay.

The Filling/Capping costs also cover the removal of soils from both the north and south sides of Site 6. The Implementation Costs incurred are shown within **Exhibit F** and include:

Service	Site 3	Site 6	Sites 3 and 6
Construction – Base Bid for Filling/Capping	$328,983		
Construction – T&M for Filling/Capping	$41,721	$188,183	$231,862
Construction – Management for Filling/Capping	$55,550	$122,170	$120,150
Total	$426,254	$310,353	$352,012
IDOT Attribution	**$341,003**	**$155,177**	**$237,256**

3.2.1.8.1 Site 3

My approach for allocating the costs associated with Filling/Capping for Site 3 was to consider what drove the requirement for the cap to be constructed across Site 3. There were five Task Buckets applicable to Site 3 that drove the need for a cap. As discussed above, four of these five Task Buckets (City of Waukegan Water Line, NSG, AT&T, NE

Excavation (which included the ComEd Fiber Optic Cable)) were caused by the ACM contamination within the IDOT Site 3 Areas of Liability and therefore are attributable to IDOT. I also found that none of the costs for one of these Five Task Buckets (Nicor Gas) were attributable to IDOT. As a result, I allocated 80% (4/5) of JM's Site 3 cap costs to IDOT. This totals $341,003.

3.2.1.8.2 Site 6

Site 6 Filling/Capping (placement of vegetative layer) occurred on both the north side of Site 6 as well as the south side of Site 6. As discussed in Section 3.2.1.4, eight utility lines in total were present on the north and south sides of Site 6. Four of the eight utility lines are located on the south side of Site 6. Consequently, consistent with my attribution approach for the Utility/ACM Excavation Task Basket (see Section 3.2.1.4 above), I have attributed 50% (4/8) of JM's total costs for filling and capping on Site 6 to IDOT. This totals $155,177.

3.2.1.8.3 Site 3 and 6

DMP allocated certain costs associated with Filling/Capping activities to both Site 3 and Site 6. These included $231,862 in costs incurred by JM for Campanella's T&M Services and $120,150 in costs for DMP's Construction Management. To determine the percentage of costs for Filling/Capping that could not be segregated to Site 3 or Site 6 alone, I divided the portion of costs I determined were attributable to IDOT ($496,180) by the total Site 3 and 6 costs for filling/capping work ($736,607). I then applied this percentage, 67.4%, to the costs for filling/capping work on Combined Sites 3 and 6 ($352,012 * .674). The total costs I attributed to IDOT for filling/capping on Combined Site 3 and Site 6 is $237,256.

Based upon the above, JM's costs for Filling/Capping and that are attributable to IDOT total $733,436.

3.2.1.9 Ramp

Owing to the steep slopes of the E. Greenwood Avenue embankment, located on Parcel No. 0393, AECOM and USEPA deemed it impracticable to install the required vegetative cap over parts of the embankment. AECOM undertook sampling of a portion of the embankment to demonstrate that a cap would not be needed for these areas. Since these costs, as shown on **Exhibit F**, were incurred for work entirely within the Site 3 Area of Liability, 100% of JM's costs are attributable to IDOT. This totals $20,880.

3.2.1.10 General Site/Site Preparation

General Site/Site Preparation (Site Preparation) activities encompass a range of services that relate to general implementation of the work on Site 3 and Site 6. Examples include, but are not limited to, general project management, support to and interface

with regulatory authorities, professional services oversight of construction work performed at the Sites, future O&M costs, surveying support for construction activities, installation and maintenance of stormwater controls, traffic control, and clearing and grubbing the sites in preparation for construction. These tasks were unable to be allocated to a specific Task Bucket as otherwise identified herein.

The Implementation Costs incurred are shown within **Exhibit F** and include:

Service	Site 3	Site 6	Sites 3 and 6
Professional - Engineering	$355,534	$519,027	
Professional - Completion Costs	$70,621	$53,250	
Professional – O&M	$310,903		
Construction - Base Bid	$138,310	$95,560	
Construction–T&M		$37,410	
Construction–Management			$74,300
Construction – Misc.	$57,362	$102,082	
Total	$932,730	$807,329	$74,300
IDOT Attribution	**$710,118**	**$305,978**	**$46,883**

3.2.1.10.1 Site 3

JM incurred $355,534 in costs for Site Preparation Professional Engineering Services rendered by LFR, Arcadis, and AECOM for Site 3. To determine the percentage of Site Preparation Professional Engineering Services that are attributable to IDOT, I divided the portion of Site 3 costs for Construction Services that I determined were attributable to IDOT ($1,094,891), by the Site 3 costs for Construction Services ($1,476,454). I then applied this percentage (74.2%) to the costs for Site Preparation Professional Engineering Services on Site 3. The total costs I attributed to IDOT for Site Preparation Professional Engineering Services on Site 3 is $263,806.

Site Preparation Professional Engineering Services - Completion Costs for Site 3 generally include costs for services for Project Management, Regulatory Support, and AECOM Oversight (see Table 2 of **Exhibit B**). Services include, but are not limited to, general regulatory support, performance of the final site survey, preparation of the USEPA-required Completion Report, and finalization of the Completion Report based

upon USEPA comments. Costs for these services are projected to total approximately $70,621. To calculate the portion of these costs attributable to IDOT, I used the same rationale and applied the same percentage as above (74.2%) to JM's total Site Preparation Professional Engineering Services – Completion Costs for Site 3. This totals $52,401.

AECOM projects that, over the next 30 years, JM will incur approximately $310,903 in costs for O&M of the vegetative cap installed on Site 3 (see Table 4 of **Exhibit B**), which is required pursuant to the USEPA-approved RAWP. Since the O&M costs relate primarily to the vegetative cap installed on Site 3, I applied the same factor (80%) used for the Filling/Capping Task Bucket to calculate the portion of these costs attributable to IDOT. This totals $248,722.

Campanella's base bid included Site Preparation work on Site 3. These services include, but are not limited to, surveying, construction of stormwater controls, installation of traffic controls, and clearing and grubbing (see Table 2 of **Exhibit C**). JM's costs associated with these services total $138,310. To determine the percentage of Site Preparation Construction Services – Campanella Base Bid that are attributable to IDOT, consistent with my attribution approach above, I applied the same percentage (74.2%) to these Campanella Base Bid Site Preparation Services for Site 3. This totals $102,626.

Certain miscellaneous construction costs were incurred relating to Site 3 as shown on Table 5 of **Exhibit C** (i.e., installation of a fence and gate around Site 3). JM's costs associated with these activities total $57,362[20]. To determine the percentage of these costs attributable to IDOT, consistent with my attribution approach above, I applied the same percentage as above (74.2%) to JM's total costs for Site Preparation Construction Services - Miscellaneous on Site 3. This totals $42,563.

Based upon the above, the portion of JM's Site 3 costs for Site Preparation Services attributable to IDOT totals $710,118.

3.2.1.10.2 Site 6

JM incurred $519,027 in costs for Site Preparation Professional Engineering Services rendered by LFR, Arcadis and AECOM for Site 6. To determine the percentage of Site Preparation Professional Engineering Services that are attributable to IDOT, I divided the portion of Site 6 costs for Construction Services that I determined were attributable to IDOT ($466,915), by the Site 6 costs for Construction Services ($1,232,059). I then applied this percentage (37.9%) to the costs for Site Preparation Professional Engineering Services on Site 6. The total costs I attributed to IDOT for Site Preparation Professional Engineering Services on Site 6 is $196,711.

[20] The cost tabulation for installation of fence and gate for both Sites 3 and 6 reflect a credit amount (see Table 5 of **Exhibit C**). This credit amount was prorata applied to the costs for Site 3 and Site 6 which is why the amounts reflected in **Exhibit F** differ from those shown on Table 5 of **Exhibit C**.

Site Preparation Professional Engineering Services - Completion Costs for Site 6 generally include costs for services for Project Management, Regulatory Support, and AECOM Oversight (see Table 3 of **Exhibit B**). Services include, but are not limited to, DMP Resident Site Engineer support, performance of the final site survey, preparation of the USEPA-required Completion Report, finalization of the Completion Report based upon USEPA comments, AECOM support for finalization of utility agreements and covenants, support for regulatory site visits, and erosion repair services. Costs for these services are projected to total approximately $53,250. To calculate the portion of these costs attributable to IDOT, I used the same rationale and applied the same percentage as above (37.9%) to JM's total Site Preparation Professional Engineering Services – Completion Costs for Site 6. This totals $20,182.

Campanella Base Bid included Site Preparation work for Site 6. These services include surveying, construction of stormwater controls, installation of traffic controls, and clearing and grubbing (see Table 2 of **Exhibit C**). JM's costs associated with these services total $95,560. To determine the percentage of Site Preparation Campanella's Base Bid Construction Services that are attributable to IDOT, I applied the same percentage as above (37.9%) to JM's total costs for Campanella's Base Bid Site Preparation Construction Services. This totals $36,217.

Campanella T&M Construction Services also included Site Preparation work for Site 6. These services include relocation and subsequent removal of temporary fencing around Site 6 (see Table 3 of **Exhibit C**). JM's costs associated with these services total $37,410. To determine the percentage of Site Preparation Campanella T&M Construction Services that are attributable to IDOT, I applied the same percentage as above (37.9%) to JM's total costs for Campanella T&M Site Preparation Construction Services. This totals $14,178.

DMP allocated certain miscellaneous subcontractor costs to Site Preparation for Site 6. These services include installation of a fence and gate around Site 6 and clearing of Site 6 (see Table 5 of **Exhibit C**). JM's costs associated with these activities total $102,082[21]. To determine the percentage of Site Preparation Miscellaneous subcontractor costs that are attributable to IDOT, I applied the same percentage as above (37.9%) to JM's total costs for Site Preparation Miscellaneous subcontractor costs for Site 6. This totals $38,689.

Based upon the above, the portion of JM's Site 6 costs for Site Preparation activities attributable to IDOT totals $305,978.

[21] The cost tabulation for installation of fence and gate for both Sites 3 and 6 reflect a credit amount (see Table 5 of **Exhibit C**). This credit amount was prorata applied to the costs for Site 3 and Site 6 which is why the amounts reflected in **Exhibit F** differ from those shown on Table 5 of **Exhibit C**.

3.2.1.10.3 Site 3 and 6

DMP allocated certain of its management costs to Site Preparation for both Site 3 and Site 6. These were deemed to be services that related to Site 3 and Site 6 in general. These services include, but are not limited to, oversight of the construction entrance for the Sites, fence installation and relocation oversight, preparation of bid specifications, support of the bidding process, and participation in various utility meetings (see Table 4 of **Exhibit C**). JM's costs associated with these activities total $74,300. To determine the percentage of costs for these DMP Site Preparation Construction Management Services costs to be allocated to IDOT, I divided the portion of Construction Services costs that I determined were attributable to IDOT for Combined Sites 3 and 6 ($346,307), by the Sites 3 and 6 costs for Construction Services ($548,602). I then applied this percentage (63.1%) to the DMP Site Preparation Construction Management Services on Combined Sites 3 and 6 ($74,300). The total costs I attributed to IDOT for DMP Site Preparation Construction Management Services on Combined Site 3 and Site 6 are $46,883.

3.2.1.11 Health and Safety

3.2.1.11.1 Site 3 and 6

Certain costs in Campanella's Base Bid related to Health and Safety Officer Daily Expenses (see Table 1 of **Exhibit C).** These costs were allocated to the Health and Safety Bucket. Services included the full-time onsite presence of a Health and Safety officer for activities conducted on Site 3 and Site 6. JM's total costs for Health and Safety services totaled $77,000.

To calculate the portion of these costs attributable to IDOT, consistent with my attribution approach for the Site Preparation, I divided the portion of Site 3 and Site 6 costs for Construction Services that I determined were attributable to IDOT ($346,307), by the Site 3 and Site 6 costs for Construction Services ($548,602). I then applied this percentage (63.1%) to the costs for Health & Safety. The total costs I attributed to IDOT for Health and Safety on Combined Site 3 and 6 are $48,587.

3.2.1.12 EPA Oversight Costs

As part of the AOC, JM agreed to reimburse the USEPA for certain oversight costs. The USEPA issued invoices to JM for oversight work it performed from July of 2006 through June of 2016. JM paid these invoices in full. JM paid USEPA $233,805 for Site 3 oversight and $125,675 for Site 6 oversight. The amounts of USEPA's future invoices are unknown at this time. I reserve the right to amend this Report as USEPA issues additional invoices.

3.2.1.12.1 Site 3

To calculate the portion of JM's USEPA Oversight Costs attributable to IDOT for Site 3, I divided the portion of Site 3 costs for Construction Services that I determined were attributable to IDOT ($1,094,891), by the Site 3 costs for Construction Services ($1,476,454). I then applied this percentage (74.2%) to the USEPA Oversight Costs JM incurred on Site 3. The total costs I attributed to IDOT for USEPA Oversight on Site 3 is $173,483.[22]

3.2.1.12.2 Site 6

To calculate the portion of JM's USEPA Oversight Costs attributable to IDOT for Site 6, I divided the portion of Site 6 costs for Construction Services that I determined were attributable to IDOT ($466,915), by the Site 6 costs for Construction Services ($1,232,059). I then applied this percentage (37.9%) to the USEPA Oversight Costs JM incurred on Site 6. The total costs I attributed to IDOT for USEPA Oversight on Site 6 is $47,631.

3.2.1.13 Costs for Legal/Legal Support Services (Manikas/Walker Wilcox Matousek)

Donald J. Manikas/Walker Wilcox Matousek provided non-litigation, Legal Support Services related to the negotiation of easements and other agreements, including cost reimbursement agreements, for Sites 3 and 6 to allow the utility work required by the RAWP. JM incurred costs of $71,840 for services related to utility work on Sites 3 and 6. A detailed presentation of the costs for Legal Support Services has been included in **Exhibit D** (Manikas Invoice Table). I have applied these costs as related to Site 3 and Site 6.

To determine the percentage of Legal Support Services costs that are attributable to IDOT, I calculated the total costs for utility related work for Site 3, Site 6 and Site 3/6 ($1,638,837). I then divided this by the costs for Site 3, Site 6 and Site 3/6 utility related work attributable to IDOT ($778,660). I then applied this percentage (47.5%) to the Legal Support Services costs JM incurred. The total costs I attributed to IDOT for Legal Support Services for Site 3, 6, and 3/6 is $34,124.

3.2.2 IDOT Attribution Summary

The following presents a table that summarizes the IDOT Cost Attribution amounts referenced in Section 3 above by Task Bucket:

[22] The calculations for total Construction Services costs are shown at the bottom of Exhibit F under the General Site/Site Preparation columns of the table.

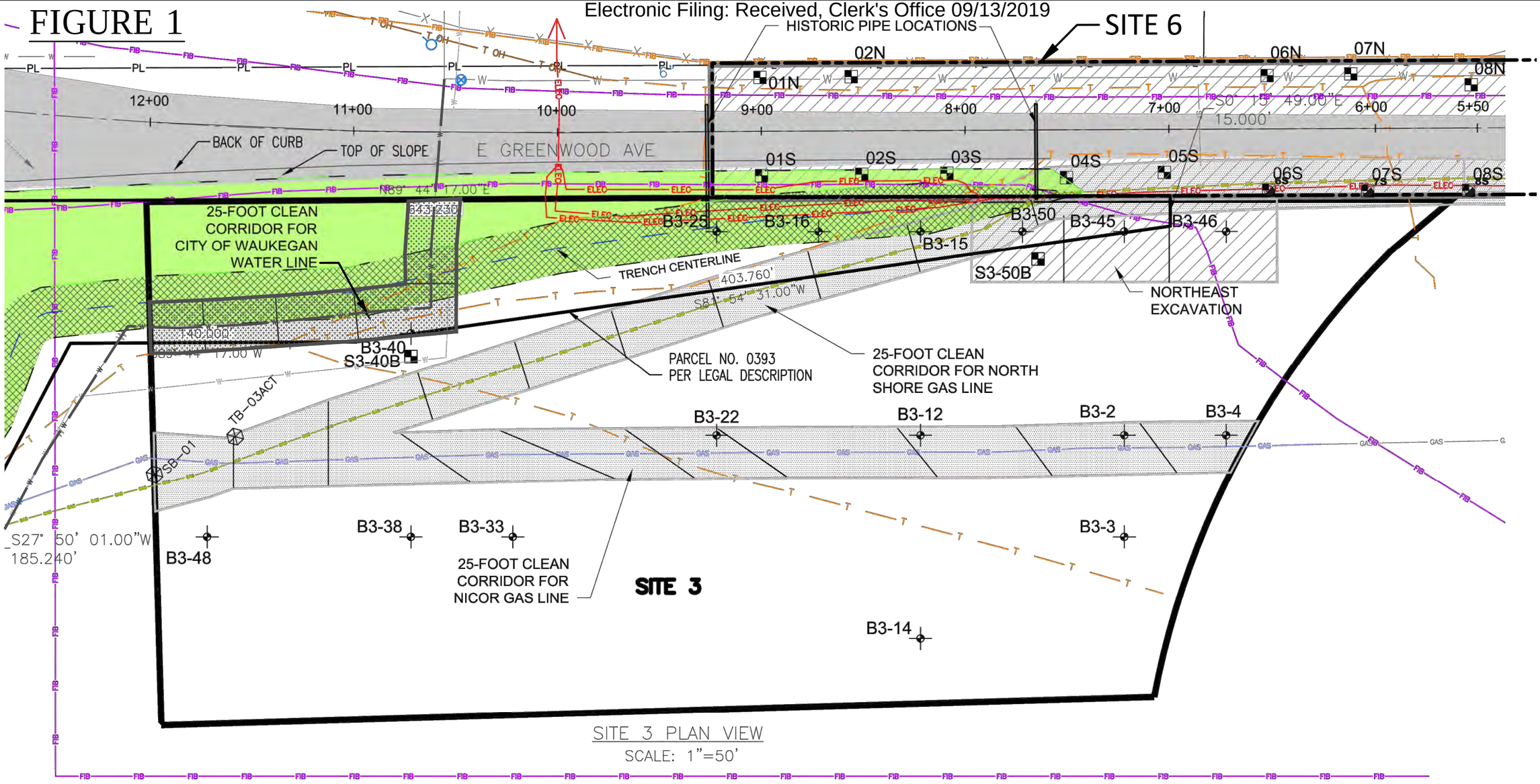
Task Bucket	Site 3	Site 6	Sites 3 and 6	Total
Nicor Gas	$0	$0	$0	$0
City of Waukegan Water Line	$61,037	$0	$0	$61,037
AT&T	$71,710	$88,858	$40,449	$201,017
Utility/ACM Excavation	$0	$77,659	$0	$77,659
North Shore Gas	$332,524	$65,597	$40,826	$438,947
Dewatering	$217,803	$79,625	$27,775	$325,203
Northeast Excavation	$49,934	$0	$0	$49,934
Filling/Capping	$341,003	$155,177	$237,256	$733,436
Ramp	$20,880	$0	$0	$20,880
General Site/Site Preparation	$710,118	$305,978	$46,883	$1,062,979
Health and Safety	$0	$0	$48,587	$48,587
USEPA Oversight Costs	$173,483	$47,631	$0	$221,114
Manikas/Walker Wilcox Matousek	$0	$0	$34,124	$34,124
Total	**$1,978,492**	**$820,525**	**$475,900**	**$3,274,917**

3.3 IDOT Attribution

It is my opinion that **$3,274,917** of the costs JM incurred on Sites 3 and 6 are attributable to IDOT's violations of the Act as found by the Board in its IPCB Order.

Figures

FIGURE 1



SITE 3 PLAN VIEW

SCALE: 1"=50'

NOTE:

SAMPLE LOCATIONS WITH ACM DETECTED ≥ 0.25 AND/OR VISIBLY OBSERVED ACM ARE SHOWN.

LEGEND:

- S3-50B — LFR TEST PIT (2008)
- B3-33 — ELM BORING (1999)
- SB–01 — AECOM BORING / TEST PIT (2013)
- HISTORICAL TRENCH
- EMBANKMENT
- SITE 6 BOUNDARY
- SITE 3 BOUNDARY
- CITY OF WAUKEGAN WATER LINE (10")
- INCORRECT CENTERLINE OF WATER LINE MARKED OUT BY CITY OF WAUKEGAN
- NORTH SHORE GAS HP GAS LINE (12")
- NICOR HP GAS LINE (20")
- AT&T UNDERGROUND PHONE CABLE (DASHED WHERE ASSUMED)
- AT&T FIBER OPTIC CABLE
- COMED FIBER OPTIC CABLE
- COMED UNDERGROUND 12KV POWER LINES (3X)
- CLEAN CORRIDOR
- EXCAVATION

N

APPROXIMATE GRAPHIC SCALE

50 0 25 50 100

1 inch = 50 ft.

NOTE: Site layout supplied by AECOM.

PREPARED FOR: JM Johns Manville

Construction Features

Site 3 & Site 6 - Former Johns Manville Manufacturing Facility
WAUKEGAN, IL

No.	DATE	REVISION DESCRIPTION

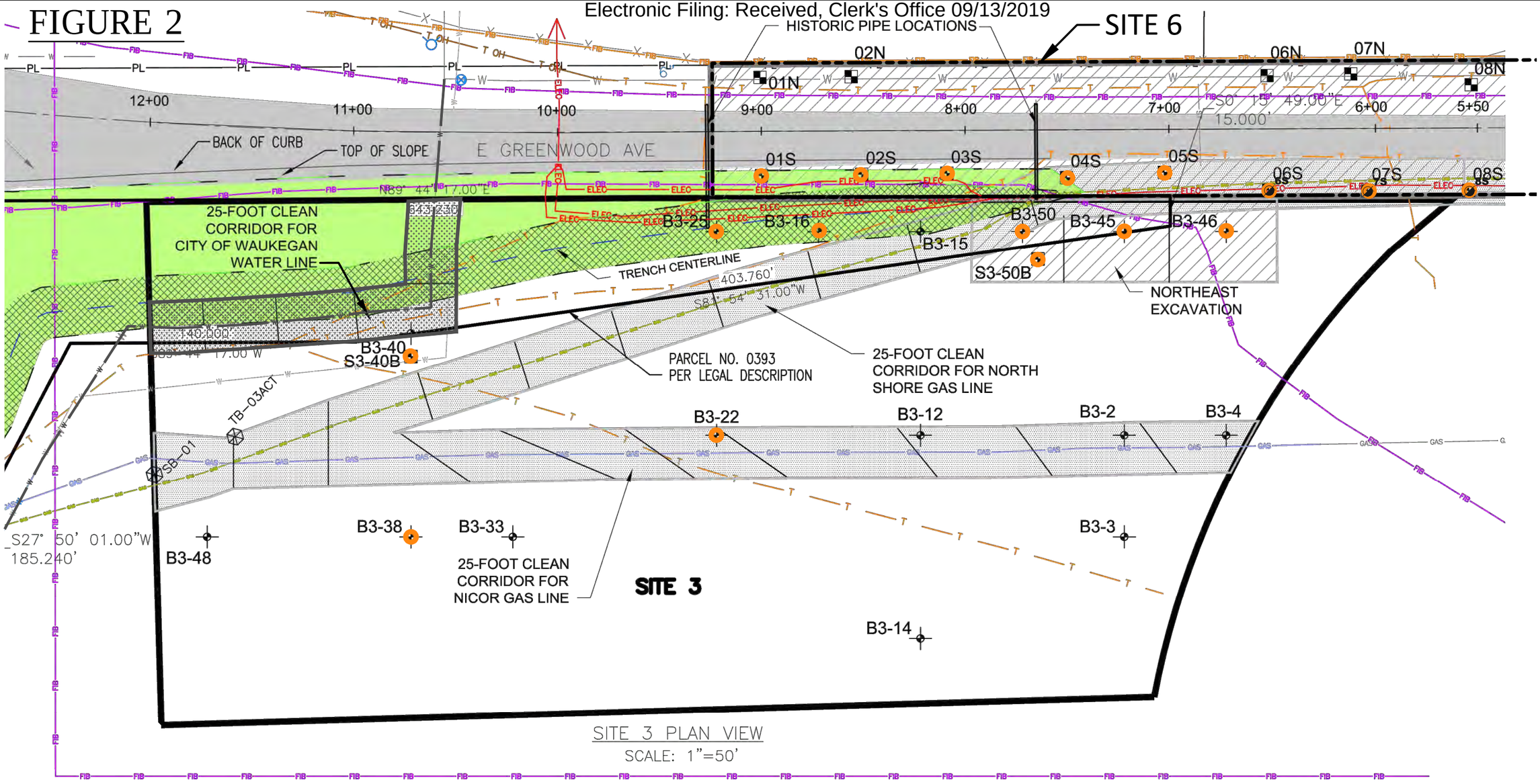
Weaver Consultants Group

WEAVER CONSULTANTS GROUP
35 E. WACKER
SUITE 1250
CHICAGO, ILLINOIS 60601
(312) 922-1030
www.wcgrp.com

DRAWN BY:	RMD/JDT
REVIEWED BY:	DGD
DATE:	6/12/2018
FILE:	2570-312-07
CADFIGS 1-4 Road x-section.dwg	

FIGURE 1

FIGURE 2



SITE 3 PLAN VIEW

SCALE: 1"=50'

NOTE:

SAMPLE LOCATIONS WITH ACM DETECTED ≥ 0.25 AND/OR VISIBLY OBSERVED ACM ARE SHOWN.

LEGEND:

- S3-50B — LFR TEST PIT (2008)
- B3-33 — ELM BORING (1999)
- SB–01 — AECOM BORING / TEST PIT (2013)
- HISTORICAL TRENCH
- EMBANKMENT
- SITE 6 BOUNDARY
- SITE 3 BOUNDARY
- CITY OF WAUKEGAN WATER LINE (10")
- INCORRECT CENTERLINE OF WATER LINE MARKED OUT BY CITY OF WAUKEGAN
- NORTH SHORE GAS HP GAS LINE (12")
- NICOR HP GAS LINE (20")
- AT&T UNDERGROUND PHONE CABLE (DASHED WHERE ASSUMED)
- AT&T FIBER OPTIC CABLE
- COMED FIBER OPTIC CABLE
- COMED UNDERGROUND 12KV POWER LINES (3X)
- CLEAN CORRIDOR
- EXCAVATION
- VISUAL ACM OBSERVED

N

APPROXIMATE GRAPHIC SCALE

50 0 25 50 100

1 inch = 50 ft.

NOTE: Site layout supplied by AECOM.

PREPARED FOR: Johns Manville

Construction Features and Visual Transite Pipe

Site 3 & Site 6 - Former Johns Manville Manufacturing Facility

WAUKEGAN, IL

REVISION DESCRIPTION | DATE | No.

Weaver Consultants Group

WEAVER CONSULTANTS GROUP
35 E. WACKER
SUITE 1250
CHICAGO, ILLINOIS 60601
(312) 922-1030
www.wcgrp.com

DRAWN BY: RMD/JDT
REVIEWED BY: DGD
DATE: 6/12/2018
FILE: 2570-312-07
CADFIGS 1-4 Road x-section.dwg

FIGURE 2

FIGURE 3

APPROXIMATE GRAPHIC SCALE
60 0 30 60 120
1 inch = 60 ft.

NOTE:
PROFILE WAS ADAPTED FROM IDOT PLANS PER CONTRACT NO. 28266 DATED DECEMBER 17, 1970. INFORMATION FROM THOSE PLANS HAS BEEN REPLICATED AS ACCURATELY AS POSSIBLE.

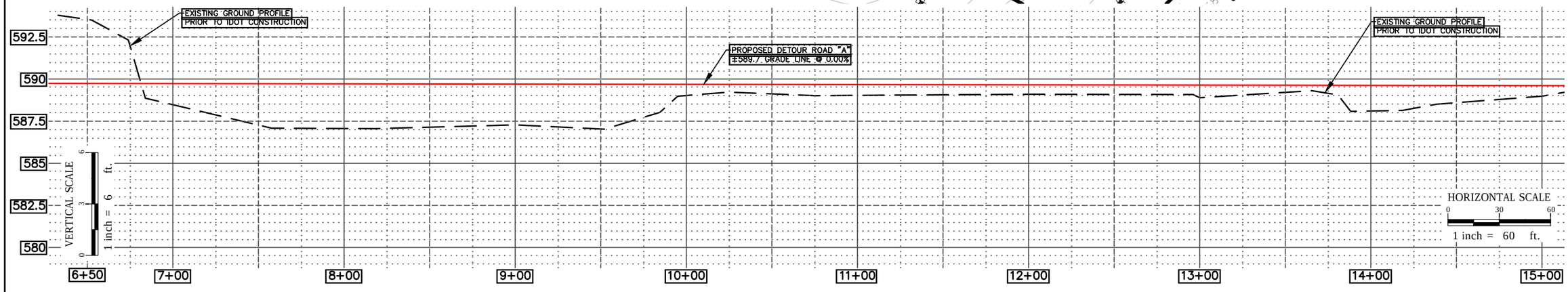
GREENWOOD AVE

SITE 6

SITE 3

FORMER PARKING LOT AREA

6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00



PREPARED FOR: JM Johns Manville

Plan and Profile - Detour Road "A"
Site 3 & Site 6 - Former Johns Manville Manufacturing Facility
WAUKEGAN, IL

No.	DATE	REVISION DESCRIPTION

Weaver Consultants Group

WEAVER CONSULTANTS GROUP
35 E. WACKER
SUITE 1250
CHICAGO, ILLINOIS 60601
(312) 922-1030
www.wcgrp.com

DRAWN BY: RMD/JDT
REVIEWED BY: DGD
DATE: 6/12/2018
FILE: 2570-312-07
CADFIGS 1-4 Road x-section.dwg

FIGURE 3

FIGURE 4

NOTE:

PROFILE WAS ADAPTED FROM IDOT PLANS PER CONTRACT NO. 28266 DATED DECEMBER 17, 1970. INFORMATION FROM THOSE PLANS HAS BEEN REPLICATED AS ACCURATELY AS POSSIBLE.

LEGEND

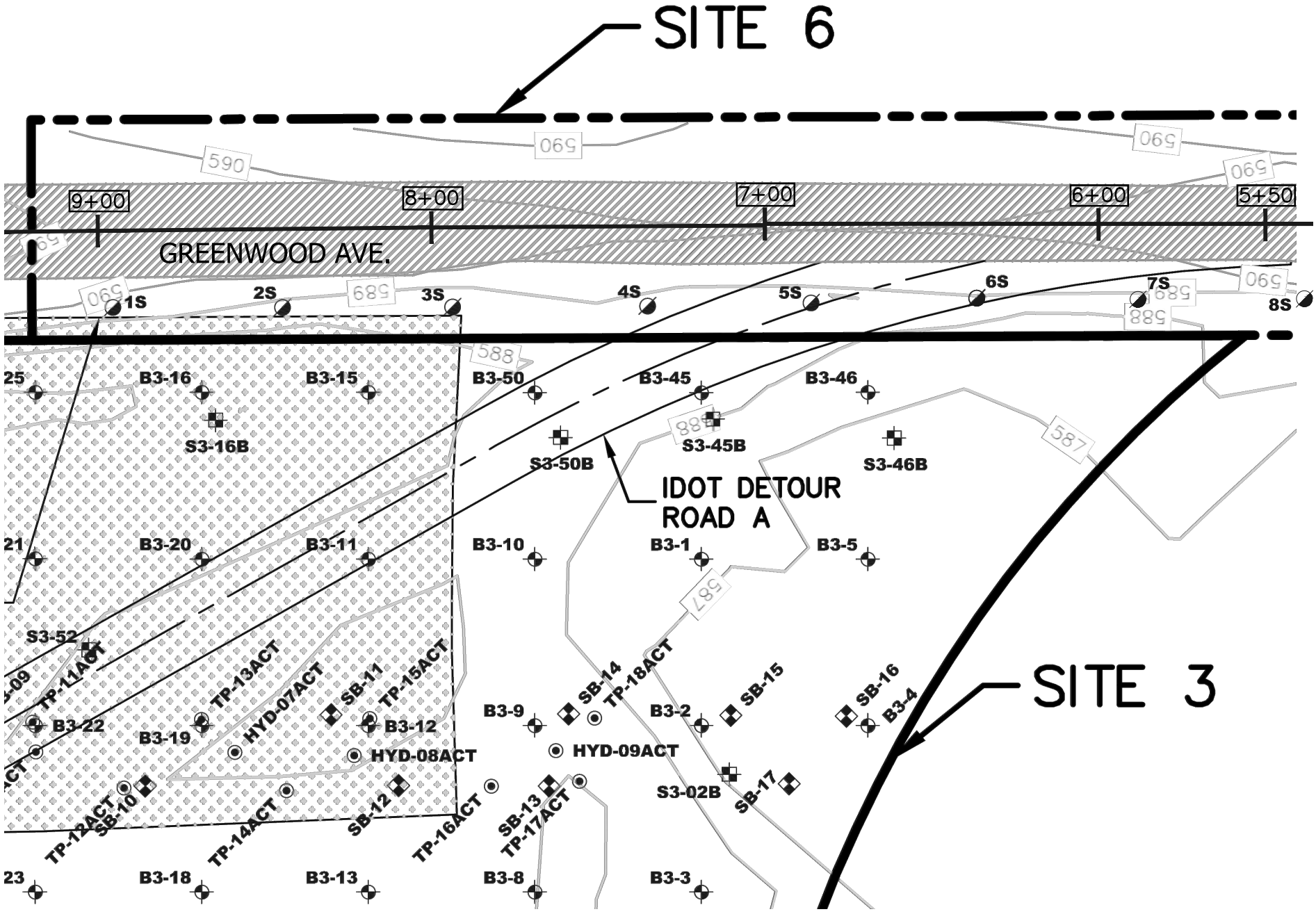
WHERE SOIL PROFILE IS DASHED, IT IS INFERRED

N

APPROXIMATE GRAPHIC SCALE

40 0 20 40 80

1 inch = 40 ft.



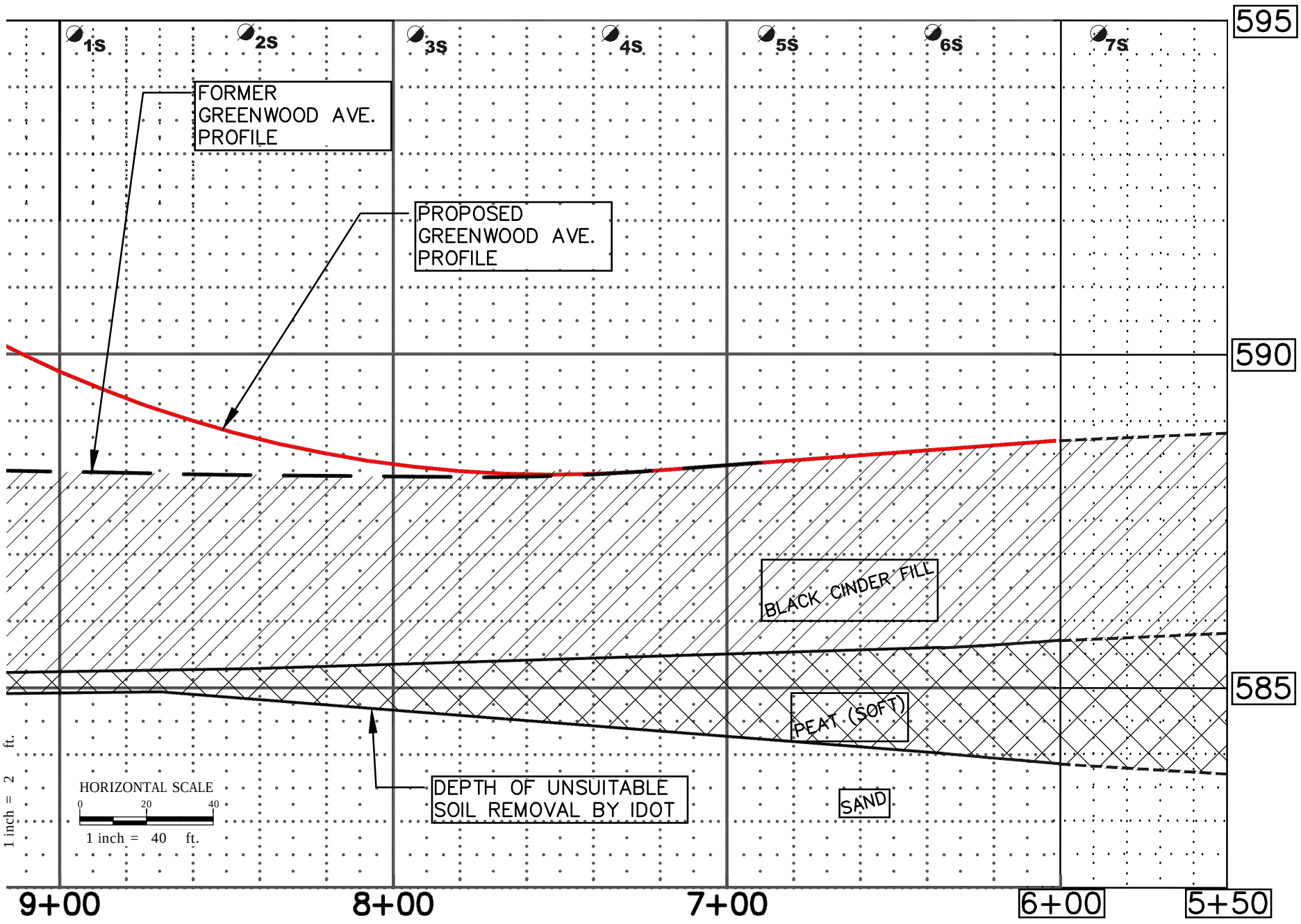


FIGURE 4

Z:\DFIGS 1-4 Road x-section.dwg

DRAWN BY: RMD/ JDT
REVIEWED BY: DGD
DATE: 6/12/2018
FILE: 2570-312-07

WEAVER CONSULTANTS GROUP
35 E. WACKER
SUITE 1250
CHICAGO, ILLINOIS 60601
(312) 922-1030
www.WCGrp.com

Weaver Consultants Group

No.	DATE	REVISION DESCRIPTION

Plan and Profile - Greenwood Avenue

Site 3 & Site 6 - Former Johns Manville Manufacturing Facility

WAUKEGAN, IL

PREPARED FOR: Johns Manville

Exhibit A

Dorgan Resume

DOUGLAS G. DORGAN, JR., LPG

Principal

Fields of Expertise

Environmental Site Assessments, Environmental Permitting, Brownfield's Redevelopment, Groundwater Impact Assessments, Environmental Remedial Projects, Risk Based Corrective Action, Solid Waste Facility Design/Permitting/Construction Observation

Certification

Licensed Professional Geologist, State of Indiana
Licensed Professional Geologist, State of Illinois
OSHA Supervisor's Health & Safety Training
Chemical-terrorism Vulnerability Information (CVI) Authorized User

Education

B.S. Earth Science, Eastern Illinois University, 1986
Graduate Course Work in Environmental Studies, Sangamon State University, 1986
M.S. Geography/Environmental Science, Northern Illinois University, 1993

Professional Summary

Mr. Dorgan serves as a Principal and Co-President for Weaver Consultants Group. He has previously lead the company's Environmental and Site, Building and Infrastructure (SBI) Practice Groups. He has over thirty years of environmental and solid waste control project experience. He has supervised completion of numerous projects including multi-phase environmental site assessments, risk based corrective action, Brownfield's redevelopment, hydrogeological investigations, groundwater impact assessments, remediation planning and implementation, multi media compliance audits, UST closures, and solid waste management facility design, permitting and environmental monitoring. He has been qualified as an Expert for various matters involving a range of topics including environmental response operations.

Prior to joining Weaver Consultants Group, Mr. Dorgan was an Office Director for a national environmental consulting firm.

Select Project Experience

He has been involved in over 100 state voluntary remediation program projects at sites located in states throughout the Midwest and Southwest. These projects have utilized a range of closure strategies involving site-specific fate and transport modeling, risk assessment, remediation, land use controls, and engineered barriers. Many of these projects were completed in support of property acquisition and consequently completed in accordance with aggressive schedule and risk mitigation requirements.

Mr. Dorgan has provided services to both private and public sector clients redeveloping Brownfield's. Plans have included residential, retail, commercial, industrial, and mixed use developments. Work has been performed pursuant to various state and federal grant and revolving loan programs. He also consults on the unique construction related aspects of developing distressed properties.

He has been the Principal in Charge for the Environmental Due Diligence associated with acquisition of the 3100 acre former Bethlehem/RG Steel facility in Sparrows Point, Maryland. Since completion of the property acquisition, Mr. Dorgan has been serving as the Project Coordinator on behalf of the owner, Tradepoint Atlantic, LLC. His responsibilities include coordination of environmental obligations being performed pursuant to regulatory agreements executed with both the Maryland Department of Environment and the United States Environmental Protection Agency.

Mr. Dorgan has been the Principal in Charge for environmental investigation and cleanup activities conducted by a Class I Railroad Operator at sites located in five states across the Midwest. Activities have included investigations and risk based cleanups conducted pursuant to various state voluntary cleanup programs.

He managed activities performed in compliance with a RCRA Hazardous Waste Management Permit for a major steel company located in Northwest Indiana.

DOUGLAS G. DORGAN, JR., LPG

Principal

Responsibilities include supervision of preparation of permit renewal and amendment applications, permit negotiations with IDEM and USEPA, and ongoing groundwater sampling and reporting for a hazardous waste landfill network comprised of 64 monitoring points. Mr. Dorgan also managed RCRA Corrective Action activities for the site, including preparation of required plans and deliverables and investigation and corrective measures implementation pursuant to approved workplans.

Mr. Dorgan managed acquisition of a comprehensive "No Further Remediation" letter pursuant to the Illinois Site Remediation Program for a 14-acre parcel located in the northern suburbs of Chicago. A soil and groundwater investigation was performed to assess site impacts. Tier 2 modeling and development of site specific background following the Illinois Tiered Approach to Corrective Action Objectives (TACO) methods were used to support appropriate soil and groundwater remediation objectives. Remediation activities included removal of 45,000 tons of debris and fill material, and excavation and disposal of LUST contaminated soils.

As Principal in Charge, Mr. Dorgan was previously responsible for overseeing design, permitting and compliance activities for a Type II and III Solid Waste Disposal facility in Pines, Indiana. He was also responsible for oversight of ongoing RI/FS activities for the Town of Pines Superfund Site in Pines, Indiana. On behalf of a major PRP, Mr. Dorgan collaborated with other technical consultants on the implementation of the RI/FS and ongoing remedial measures development and construction.

He managed the site investigation and Indiana Voluntary Remediation Program activities for a large glass manufacturing facility in Central Indiana. Site investigation activities resulted in remediation of select facility areas to control for impacts attributable to semi-volatile organic compounds, polychlorinated biphenyl's (PCB's), and inorganic constituents. Additional site measures included removal of contaminated creek sediments and implementation of a comprehensive groundwater investigation.

Mr. Dorgan managed an Illinois SRP application for a former die casting facility with PCB impacts to facility structures, soils, and shallow groundwater. Extensive site investigation was undertaken and TACO Tier 2 and 3 modeling performed. Certain remedial objectives for the project were approved through a Risk Based Disposal Approval Request submitted to USEPA Region 5..

He was Project Manager for a comprehensive Phase I Environmental Site Assessment of the General Motors Danville, IL gray iron foundry whose operations date to the early 1940s. Project required a detailed records review and site inspection to identify potential areas of concern. Subsequent responsibilities included developing a scope of work for site investigation.

Mr. Dorgan managed implementation of a facility-wide investigation for PCB-related impacts at a die casting facility in Chicago, Illinois. The investigation scope included sampling of soil, concrete, structural surfaces, and process equipment. Based on investigation results, alternative risk-based opinions were evaluated for site remediation. In support of on-going litigation, an engineering remediation cost estimate was generated.

Mr. Dorgan managed RCRA Corrective Action activities for a specialty steel manufacturing facility in Niles, Michigan. Activities included operation and monitoring of an Interim Measures groundwater remediation system, implementation of preliminary subsurface investigations, development of RCRA RFI Workplans, and negotiations with Michigan Department of Environmental Quality personnel.

He conducted comprehensive and media-specific environmental compliance audits of facilities located in four states for a major medical diagnostic imaging equipment manufacturer. Comprehensive audits were performed for select waste and scrap material management facilities. Audits included

DOUGLAS G. DORGAN, JR., LPG

Principal

recommendations for corrective measures in addition to development of a division-wide program for management of recoverable waste streams.

Mr. Dorgan was the Project Manager for a Phase I and II Environmental Site Assessment of a 1.1 million square foot former can manufacturing facility in Chicago. Assessment activities were designed to evaluate long term liabilities and environmental considerations associated with facility reuse and/or demolition planning.

Mr. Dorgan was responsible for managing environmental compliance aspects of a comprehensive underground storage tank management program implemented by a major electric utility company in Northern Illinois. The project required UST removal oversight/closure certification, site investigation, regulatory reporting, corrective action design/supervision, and regulatory negotiation. Project activities were concurrently undertaken at over 30 sites.

Publications/Presentations

Contributing author *"Municipal Solid Waste Landfills - Volume I General Issues,"* University of Illinois at Chicago, November, 1989

"Conducting Phase I Environmental Site Assessments," presented to the DeKalb County Economic Development Corporation, Industry Roundtable, DeKalb, IL, November, 1990

"Environmental Audits for Selection of Solid Waste Disposal Sites," presented at Waubonsee Community College, Sugar Grove, IL, November, 1992

"Distribution of Cadmium, Copper, Lead and Silver in Surface Soils of the Chicago Metropolitan Area," Northern Illinois University, August, 1993

"Conducting Effective Environmental Site Assessments," presented to the Institute of Business Law Conference 'Environmental Regulation in Illinois', September, 1993

"Minimizing Liability in Real Estate Transactions by Conducting Effective Environmental Site Assessments," New Mexico Conference on the Environment, Journal of Conference Proceedings, April, 1994

"*General Geologic/Hydrogeologic and Contaminant Transport Principles,"* presented to ITT/Hartford Insurance Co., January, 1996

"*Environmental Site Assessments and the Due Diligence Process*," presented to the AIG Environmental seminar 'Legal Actions Against Facilities', March, 1998

"*Brownfields Development, TACO and the SRP Process*," presented to the Calumet Area Industrial Commission Executive Council, May, 1998

"*Property Acquisition and the Due Diligence Process*," presented to Cushman and Wakefield Corporate Services Department, August, 1998

"*Brownfields Development, TACO and the SRP Process*," presented to the Calumet Area Industrial Commission, March, 1999

"*Risk Management Tools for Contaminated Site Development*," presented to a construction industry seminar 'A View From the Top', February, 2000

"*Voluntary Remediation of Brownfields/Risk Based Remediation*" presented to Illinois Association of Realtors, October, 2002

"*Blue Skies for Brownfields*", Illinois Association of Realtors Magazine, May 2003

"Environmental Considerations Associated with Site Development", presented to Power Construction Operations Meeting, March 2006

"Weaver Consultants Group Environmental Manager AAI Roundtable", facilitator and presenter, June 2006

"Overview of AAI and ASTM E1527-05: The Changing Due Diligence Landscape", presented to Grand Rapids Chamber of Commerce Environmental Committee, January, 2007

"Weaver Consultants Group Environmental Manager Vapor Intrusion Roundtable", facilitator and presenter, July/November, 2007

"Brownfields Redevelopment: A Catalyst for Change", presented to Indiana University Northwest, July, 2011

Exhibit B

AECOM Cost Tabulation Correspondence

AECOM
4320 Winfield Road, Suite 300
Warrenville, IL 60555

312.829.3000 tel
312.829.9031 fax

February 15, 2018

Brent Tracy
Johns Manville
717 17th Street
Denver, CO 80202

Douglas G. Dorgan, Jr.
Weaver Consultants Group
Principal
35 E. Wacker Drive, Suite 1250
Chicago, IL 60601

Subject: Updated Summary of Site 3 and Site 6 Costs, Southwestern Sites Area of Concern, Waukegan, IL

Dear Mr. Tracy and Mr. Dorgan,

Please find the AECOM Technical Services, Inc. (AECOM) updated cost summary for Site 3 and Site 6 of the Southwestern Sites Area of Concern in Waukegan, Illinois. Costs invoiced to Johns Manville from April 28, 2007 to September 8, 2017 by LFR Inc., ARCADIS U.S. Inc., and AECOM are summarized in Table 1. Narrative descriptions of costs summarized in Table 1 are provided in Attachment A.

A summary of estimated completion costs from September 9, 2017 to the anticipated final approval of the completion of work by the U.S. Environmental Protection Agency is included in Table 2 (Site 3) and Table 3 (Site 6). Estimated operation and maintenance (O&M) cost during a 30-year period for the Southwestern Sites Area of Concern following the completion of work is provided in Table 4 and Table 5.

Please contact me with any questions at 312.577.7429.

Yours sincerely,

Tat Ebihara

Tat Ebihara, PE, PhD
Senior Project Manager

Attachments:

- Table 1 - Site 3 and Site 6 Invoiced Costs to JM (April 28, 2007 to September 8, 2017)
- Table 2 - Site 3 Completion Costs
- Table 3 - Site 6 Completion Costs
- Table 4 - 30-Year O&M Costs
- Table 5 - Annual O&M Cost Basis
- Attachment A – Narrative Descriptions of Invoiced Costs to JM from April 28, 2007 to September 8, 2017

Table 1. Site 3 and Site 6 Costs Invoiced to JM, April 28, 2007 to Sept 8, 2017
Southwestern Sites Area of Concern, Waukegan, Illinois

Invoice Date	Timeframe	Site	Invoice Total		Combined Site 4/5 & Site 6 costs*	Primary Work Activity	Cost Category					Cost Breakdown								Cost Basis (% of Site 3&6 for each bucket)	Nicor Gas		Waukegan Water (CWW)		AT&T		ComEd		North Shore Gas		Northeastern Excavation		Ramp		General Site	
			Site 3	Site 6			EE/CA Investigation and Alternatives	Removal Action Work Plan (Soils)	Removal Action Work Plan (Utilities)	Construction Support		Nicor Gas	City of Waukegan - Water	AT&T	ComED	North Shore Gas	NE Excavation	Ramp	General Site		Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6
LFR Invoices																																		
20-Jun-2007	4/28/07 - 6/01/07	Site 3	$ 1,320		Site4/5 & Site 6=	EE/CA Investigation Planning, Site 4/5 costs (50%) removed*	x												100%		$ -		$ -		$ -		$ -		$ -		$ -				$ 1,320	
		Site 6		$ 664	$ 1,327		x												100%	No utilities.		$ -		$ -		$ -		$ -		$ -					$ 664
-	6/01/07 - 6/29/07	Site 3	$ -			No Site 3 or Site 6 work															$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -																No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
-	6/30/07 - 7/27/07	Site 3	$ 3,810		Site4/5 & Site 6=	EE/CA Investigation Planning, Site 4/5 costs (50%) removed*	x												100%		$ -		$ -		$ -		$ -		$ -					$ 3,810	
		Site 6		$ 4,665	$ 9,331		x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 4,665
-	7/28/07 - 8/31/07	Site 3	$ 3,936		Site4/5 & Site 6=	EE/CA Investigation Planning, Site 4/5 costs (50%) removed*	x												100%		$ -		$ -		$ -		$ -		$ -					$ 3,936	
		Site 6		$ 3,685	$ 7,370		x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 3,685
-	9/1/07 - 9/28/07	Site 3	$ 33		Site4/5 & Site 6=	EE/CA Investigation Planning, Site 4/5 costs (50%) removed*	x												100%		$ -		$ -		$ -		$ -		$ -					$ 33	
		Site 6		$ 16	$ 33		x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 16
-	10/1/07 - 11/2/07	Site 3	$ 3,930		Site4/5 & Site 6=	EE/CA Investigation Planning, Site 4/5 costs (50%) removed*	x												100%		$ -		$ -		$ -		$ -		$ -					$ 3,930	
		Site 6		$ 16	$ 33		x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 16
-	11/3/07 - 11/30/07	Site 3	$ 601		Site4/5 & Site 6=	EE/CA Investigation Planning, Site 4/5 costs (50%) removed*	x												100%		$ -		$ -		$ -		$ -		$ -					$ 601	
		Site 6		$ 300	$ 601		x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 300
-	12/1/07 - 12/28/07	Site 3	$ 768		Site4/5 & Site 6=	EE/CA Investigation Planning, Site 4/5 costs (50%) removed*	x												100%		$ -		$ -		$ -		$ -		$ -					$ 768	
		Site 6		$ 384	$ 768		x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 384
-	12/29/07 - 1/25/08	Site 3	$ 7,512		Site4/5 & Site 6=	Field Investigation and EE/CA, Site 4/5 costs (grid based %)	x												100%		$ -		$ -		$ -		$ -		$ -					$ 7,512	
		Site 6		$ 3,011	$ 8,520	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 3,011
11-Mar-2008	1/26/08 - 2/22/08	Site 3	$ 10,933		Site4/5 & Site 6=	Field Investigation and EE/CA, Site 4/5 costs (grid based %)	x												100%		$ -		$ -		$ -		$ -		$ -					$ 10,933	
		Site 6		$ 18,265	$ 51,681	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 18,265
15-Apr-2008	2/23/08 - 3/28/08	Site 3	$ 2,105		Site4/5 & Site 6=	Field Investigation and EE/CA, Site 4/5 costs (grid based %)	x												100%		$ -		$ -		$ -		$ -		$ -					$ 2,105	
		Site 6		$ 18,152	$ 51,362	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 18,152
8-May-2008	3/29/08 - 4/25/08	Site 3	$ 19,286		Site4/5 & Site 6=	Field Investigation and EE/CA, Site 4/5 costs (grid based %)	x												100%		$ -		$ -		$ -		$ -		$ -					$ 19,286	
		Site 6		$ 9,810.64	$ 27,760	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 9,811
17-Jun-2008	4/26/08 - 5/23/08	Site 3	$ 10,768		Site4/5 & Site 6=	Field Investigation and EE/CA, Site 4/5 costs (grid based %)	x												100%		$ -		$ -		$ -		$ -		$ -					$ 10,768	
		Site 6		$ 3,991.88	$ 11,295	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 3,992
18-Jul-2008	5/29/08 - 6/27/08	Site 3	$ 12,996		Site4/5 & Site 6=	Field Investigation and EE/CA, Site 4/5 costs (grid based %)	x												100%		$ -		$ -		$ -		$ -		$ -					$ 12,996	
		Site 6		$ 8,153	$ 16,306	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 8,153
12-Aug-2008	6/28/08 - 7/25/08	Site 3	$ -			No Site 3 or Site 6 work															$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -																No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
29-Aug-2008	7/26/08 - 8/22/16	Site 3	$ -		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%		$ -		$ -		$ -		$ -		$ -					$ -	
		Site 6		$ 4,208	$ 8,415	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 4,208
23-Oct-2008	8/23/08 - 9/26/08	Site 3	$ -		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%		$ -		$ -		$ -		$ -		$ -					$ -	
		Site 6		$ 2,015	$ 4,031	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 2,015
24-Nov-2008	9/27/08 - 10/24/08	Site 3	$ 2,358		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%		$ -		$ -		$ -		$ -		$ -					$ 2,358	
		Site 6		$ 4,208	$ 8,415	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 4,208
-	10/25/08 - 11/21/08	Site 3	$ 3,411		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%		$ -		$ -		$ -		$ -		$ -					$ 3,411	
		Site 6		$ 1,267	$ 2,535	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 1,267
22-Jan-2009	11/21/08 - 12/28/08	Site 3	$ -		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%		$ -		$ -		$ -		$ -		$ -					$ -	
		Site 6		$ 672	$ 1,344	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 672
17-Feb-2009	12/29/08 - 1/25/09	Site 3	$ -		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%		$ -		$ -		$ -		$ -		$ -					$ -	
		Site 6		$ 5,575	$ 11,150	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 5,575
16-Mar-2009	1/25/09 - 2/22/09	Site 3	$ -		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%		$ -		$ -		$ -		$ -		$ -					$ -	
		Site 6		$ 5,807	$ 11,614	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 5,807
21-Apr-2009	2/22/09 - 3/29/09	Site 3	$ -			No Site 3 or Site 6 work															$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -																No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
21-May-2009	3/29/09 - 5/3/09	Site 3	$ -			No Site 3 or Site 6 work															$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -																No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
-	5/3/09 - 5/31/09	Site 3	$ -			No Site 3 or Site 6 work															$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -																No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
13-Jul-2009	6/1/09 - 7/5/09	Site 3	$ -		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%		$ -		$ -		$ -		$ -		$ -					$ -	
		Site 6		$ 55	$ 110	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 55
24-Aug-2009	7/6/09 - 8/2/09	Site 3	$ -			No Site 3 or Site 6 work															$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -																No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
23-Sep-2009	8/2/09 - 8/30/09	Site 3	$ -			No Site 3 or Site 6 work															$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -																No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
22-Oct-2009	8/31/09 - 10/4/09	Site 3	$ -		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%		$ -		$ -		$ -		$ -		$ -					$ -	
		Site 6		$ (55)	$ (110)	removed*	x												100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ (55)
23-Nov-2009	10/5/09 - 11/1/09	Site 3	$ -			No Site 3 or Site 6 work															$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -																No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
-	11/2/09 - 11/29/09	Site 3	$ -			No Site 3 or Site 6 work															$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -																No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
-	11/30/09 - 12/20/09	Site 3	$ -			No Site 3 or Site 6 work															$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -																No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -

Table 1. Site 3 and Site 6 Costs Invoiced to JM, April 28, 2007 to Sept 8, 2017
Southwestern Sites Area of Concern, Waukegan, Illinois

Invoice Date	Timeframe	Site	Invoice Total		Combined Site 4/5 & Site 6 costs*	Primary Work Activity	Cost Category				Cost Breakdown								Cost Basis (% of Site 3&6 for each bucket)	Nicor Gas		Waukegan Water (CWW)		AT&T		ComEd		North Shore Gas		Northeastern Excavation		Ramp		General Site	
			Site 3	Site 6			EE/CA Investigation and Alternatives	Removal Action Work Plan (Soils)	Removal Action Work Plan (Utilities)	Construction Support	Nicor Gas	City of Waukegan - Water	AT&T	ComED	North Shore Gas	NE Excavation	Ramp	General Site		Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6
Arcadis (formerly LFR) Invoices																																		
10-Feb-2010	12/21/09 - 1/24/10	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
10-Mar-2010	1/24/10 - 2/21/10	Site 3	$ 4,327			EE/CA Response to Regulatory Comments	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 4,327	
		Site 6		$ -			x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ -
7-Apr-2010	2/22/10 - 3/28/10	Site 3	$ 7,350		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 7,350	
		Site 6		$ 3,675	$ 7,350	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 3,675
19-May-2010	3/29/10 - 4/25/10	Site 3	$ 4,276		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 4,276	
		Site 6		$ 2,138	$ 4,276	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 2,138
1-Jun-2010	4/26/10 - 5/23/10	Site 3	$ 810		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 810	
		Site 6		$ 405	$ 810	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 405
13-Jul-2010	5/24/10 - 6/27/10	Site 3	$ -		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ 439	$ 878	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 439
2-Aug-2010	6/28/10 - 7/25/10	Site 3	$ 3,176		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 3,176	
		Site 6		$ 1,588	$ 3,176	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 1,588
31-Aug-2010	7/26/10 - 8/22/10	Site 3	$ 44		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 44	
		Site 6		$ 22	$ 44	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 22
8-Oct-2010	8/23/10 - 9/26/10	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
2-Nov-2010	9/27/10 - 10/24/10	Site 3	$ 338		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 338	
		Site 6		$ 169	$ 338	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 169
-	10/25/10 - 11/21/10	Site 3	$ 733		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 733	
		Site 6		$ 366	$ 733	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 366
12-Jan-2011	11/22/10 - 12/26/10	Site 3	$ 135		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 135	
		Site 6		$ 68	$ 135	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 68
7-Feb-2011	12/28/10 - 1/23/11	Site 3	$ 2,250		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 2,250	
		Site 6		$ 1,125	$ 2,250	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 1,125
7-Mar-2011	1/24/11 - 2/20/11	Site 3	$ 1,961		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 1,961	
		Site 6		$ 609	$ 1,218	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 609
5-Apr-2011	2/21/11 - 3/27/11	Site 3	$ 4,186		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 4,186	
		Site 6		$ 2,093	$ 4,186	removed*	x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 2,093
28-Apr-2011	3/28/11 - 4/24/11	Site 3	$ 6,724		Site4/5 & Site 6=	EE/CA Response to Regulatory Comments, Site 4/5 costs (50%)	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 6,724	
		Site 6		$ 3,362	$ 6,724	removed*													100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 3,362
1-Jun-2011	4/25/11 - 5/22/11	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
11-Jul-2011	5/23/11 - 6/26/11	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
3-Aug-2011	6/27/11 - 7/24/11	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
29-Aug-2011	7/25/11 - 8/21/11	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
3-Oct-2011	8/22/11 - 9/25/11	Site 3	$ 135		Site4/5 & Site 6=	Post-EE/CA Regulatory Support, Site 4/5 costs (50%) removed*	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 135	
		Site 6		$ 68	$ 135		x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 68
3-Nov-2011	9/26/11 - 10/23/11	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6																	No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
1-Dec-2011	10/24/11 - 11/20/11	Site 3	$ 68		Site4/5 & Site 6=	Post-EE/CA Regulatory Support, Site 4/5 costs (50%) removed*	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 68	
		Site 6		$ 34	$ 68		x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 34
6-Jan-2012	11/21/11 - 12/25/11	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No utilities		$ -		$ -		$ -		$ -		$ -					$ -
8-Feb-2012	12/26/11 - 1/22/12	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No utilities		$ -		$ -		$ -		$ -		$ -					$ -
24-Feb-2012	1/23/12 - 2/19/12	Site 3	$ 135		Site4/5 & Site 6=	Post-EE/CA Regulatory Support, Site 4/5 costs (50%) removed*	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 135	
		Site 6		$ 68	$ 135		x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 68
3-Apr-2012	2/20/12 - 3/25/12	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
29-May-2012	4/23/12 - 5/20/12	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
5-Jul-2012	5/21/12 - 6/24/12	Site 3	$ 68		Site4/5 & Site 6=	Post-EE/CA Regulatory Support, Site 4/5 costs (50%) removed*	x												100%	$ -		$ -		$ -		$ -		$ -		$ -				$ 68	
		Site 6		$ 34	$ 68		x												100% No utilities		$ -		$ -		$ -		$ -		$ -					$ 34
30-Jul-2012	6/25/12 - 7/22/12	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
22-Aug-2012	7/23/12 - 8/19/12	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -

Table 1. Site 3 and Site 6 Costs Invoiced to JM, April 28, 2007 to Sept 8, 2017
Southwestern Sites Area of Concern, Waukegan, Illinois

Invoice Date	Timeframe	Site	Invoice Total		Combined Site 4/5 & Site 6 costs*	Primary Work Activity	Cost Category				Cost Breakdown									Cost Basis (% of Site 3&6 for each bucket)	Nicor Gas		Waukegan Water (CWW)		AT&T		ComEd		North Shore Gas		Northeastern Excavation		Ramp		General Site	
			Site 3	Site 6			EE/CA Investigation and Alternatives	Removal Action Work Plan (Soils)	Removal Action Work Plan (Utilities)	Construction Support	Nicor Gas	City of Waukegan - Water	AT&T	ComED	North Shore Gas	NE Excavation	Ramp	General Site			Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6	Site 3	Site 6
AECOM Invoices																																		
2-Mar-2012	Feb 6, 2012-Mar 2, 2012	Site 3	$ 5,191		Site4/5 & Site 6=	Post-EE/CA Regulatory Support, Site 4/5 costs (50%) removed*	x											100%		$ -		$ -		$ -		$ -		$ -		$ -				$ 5,191	
		Site 6		$ 5,191	$ 10,383		x											100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 5,191
10-Apr-2012	Mar 3, 2012 - Mar 30, 2012	Site 3	$ 3,825		Site4/5 & Site 6=	Post-EE/CA Regulatory Support, Site 4/5 costs (50%) removed*	x											100%		$ -		$ -		$ -		$ -		$ -		$ -				$ 3,825	
		Site 6		$ 3,831	$ 7,663		x											100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 3,831
7-Jun-2012	Mar 31, 2012-June 6, 2012	Site 3	$ 642		Site4/5 & Site 6=	Post-EE/CA Regulatory Support, Site 4/5 costs (50%) removed*	x											100%		$ -		$ -		$ -		$ -		$ -		$ -				$ 642	
		Site 6		$ 642	$ 1,283		x											100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 642
7-Sep-2012	Jun 8, 2012-Jun 29, 2012	Site 3	$ 216		Site4/5 & Site 6=	Post-EE/CA Regulatory Support, Site 4/5 costs (50%) removed*	x											100%		$ -		$ -		$ -		$ -		$ -		$ -				$ 216	
		Site 6		$ 216	$ 432		x											100%	No utilities		$ -		$ -		$ -		$ -		$ -					$ 216
13-Aug-2012	Jun 30, 2012 - Aug 3, 2012	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
31-Aug-2012	Aug 4, 2012- Aug 31, 2012	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
25-Oct-2012	Sept 1, 2012 - Oct 12, 2012	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
13-Jul-2012	6/1/12 - 6/29/12	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work		$ -		$ -		$ -		$ -		$ -					$ -
13-Jul-2012	6/30/12 - 10/12/12	Site 3	$ -			No Site 3 or Site 6 work														$ -		$ -		$ -		$ -		$ -		$ -				$ -	
		Site 6		$ -															No Site 3 or Site 6 work																$ -
14-Nov-2012	Oct 13, 2012-Nov 9, 2012	Site 3	$ 11		Site4/5 & Site 6=	Post-EE/CA Regulatory Support, Site 4/5 costs (50%) removed*	x											100%																$ 11	
		Site 6		$ 11	$ 23		x											100%	Assume no significant utility work															$ 11
20-Dec-2012	Nov 10 2012-Dec 7, 2012	Site 3	$ -			No Site 3 or Site 6 work																											$ -	
		Site 6		$ -															No Site 3 or Site 6 work																$ -
18-Jan-2013	Dec 8 2012-Jan 11, 2013	Site 3	$ 7,064		Site4/5 & Site 6=	Removal Action Work Plan, Site 4/5 costs (50%) removed*		x										100%																$ 7,064	
		Site 6		$ 7,063.94	$ 14,128			x										100%	Assume no significant utility work															$ 7,064
14-Feb-2013	Jan 12, 2013-Feb 8, 2013	Site 3	$ 8,224		Site4/5 & Site 6=	Removal Action Work Plan, Site 4/5 costs (50%) removed*		x										100%																$ 8,224	
		Site 6		$ 8,224	$ 16,448			x										100%	Assume no significant utility work															$ 8,224
25-Mar-2013	Feb 9, 2013 - Mar 11, 2013	Site 3	$ 9,606		Site4/5 & Site 6=	Removal Action Work Plan, Site 4/5 costs (50%) removed*		x										100%																$ 9,606	
		Site 6		$ 9,606	$ 19,212			x										100%	Assume no significant utility work															$ 9,606
29-Apr-2013	Mar 12, 2013- Apr 19, 2013	Site 3	$ 9,159		Site4/5 & Site 6=	Utility Agreements & Work Plans, Site 4/5 costs (50%) removed*			x																	$ 735							$ 8,424	
		Site 6		$ 9,159	$ 18,318				x										See invoice back-up				$ 3,563					$ 1,365					$ 4,231	
22-May-2013	Apr 20, 2013 - May 17, 2013	Site 3	$ 17,506		Site4/5 & Site 6=	Utility Agreements & Work Plans, Site 4/5 costs (50%) removed*			x											$ 12,523		$ 214										$ 4,770	
		Site 6		$ 11,434	$ 22,869				x										See invoice back-up			$ 2,138											$ 9,297	
14-Jun-2013	May 18, 2013- Jun 7, 2013	Site 3	$ 31,366		Site4/5 & Site 6=	Utility Agreements & Work Plans, Site 4/5 costs (50%) removed*			x											$ 14,058		$ 321						$ 1,180				$ 15,807	
		Site 6		$ 4,284	$ 8,568				x										See invoice back-up			$ 3,206						$ 2,400					$ (1,323)	
20-Aug-2013	Jun 8, 2013 - Aug 9, 2013	Site 3	$ 97,014		Site4/5 & Site 6=	Utility Agreements & Work Plans, Site 4/5 costs (50%) removed*			x											$ 51,339		$ 988										$ 44,687	
		Site 6		$ 12,272	$ 24,545				x										See invoice back-up			$ 7,904											$ 4,368	
27-Sep-2013	August 10, 2013- September 20, 2013	Site 3	$ 43,735		split site 4/5 and	Utility Agreements and Work Plans-Invoices separate Site 4/5			x											$ 10,688				$ 5,700				$ 5,700				$ 21,647	
		Site 6		$ 12,518	site 6 into separate	and Site 6 costs for dates after August 10, 2013			x										See invoice back-up			$ 7,763											$ 4,755	
17-Oct-2013	September 21, 2013 - October 11, 2013	Site 3	$ 25,392			Utility Agreements and Work Plans			x											$ 2,565		$ 1,323						$ 3,750				$ 17,754	
		Site 6		$ 8,028					x										See invoice back-up			$ 1,337		$ 1,275				$ 1,275					$ 4,141	
18-Dec-2013	October 12, 2013- November 8, 2013	Site 3	$ 70,826			Utility Agreements and Work Plans			x													$ 2,013		$ 7,570				$ 6,525				$ 54,719	
		Site 6		$ 31,136					x										See invoice back-up			$ 3,463		$ 6,753				$ 4,425					$ 16,496	
23-Dec-2013	November 9, 2013 - December 6, 2013	Site 3	$ 21			Utility Agreements and Work Plans			x																								$ 21	
		Site 6		$ 1,358					x										See invoice back-up			$ 1,155						$ 150					$ 53	
3-Feb-2014	December 7, 2013 - January 10, 2014	Site 3	$ 8,464			Utility Agreements and Work Plans			x													$ 3,590										$ 4,874	
		Site 6		$ 13,797					x										See invoice back-up			$ 5,785						$ 1,050					$ 6,962
14-Mar-2014	January 11, 2014 - March 7, 2014	Site 3	$ 153			Utility Agreements and Work Plans			x																								$ 153	
		Site 6		$ 2					x										See invoice back-up															$ 2
29-Apr-2014	March 8, 2014 - April 11, 2014	Site 3	$ 3			Utility Agreements and Work Plans			x																								$ 3	
		Site 6		-$95					x										See invoice back-up															$ (95)
10-Jun-2014	April 12, 2014 - May 23, 2014	Site 3	$ -			No Site 3 or Site 6 work																											$ -	
		Site 6		$ -															No Site 3 or Site 6 work																$ -
11-Jul-2014	May 24, 2014 - July 4, 2014	Site 3	$ 403			Utility Agreements and Work Plans			x																								$ 403	
		Site 6		$ -					x										See invoice back-up															$ -

Table 1. Site 3 and Site 6 Costs Invoiced to JM, April 28, 2007 to Sept 8, 2017
Southwestern Sites Area of Concern, Waukegan, Illinois

Invoice Date	Timeframe	Site	Invoice Total Site 3	Invoice Total Site 6	Combined Site 4/5 & Site 6 costs*	Primary Work Activity	Cost Category: EE/CA Investigation and Alternatives	Cost Category: Removal Action Work Plan (Soils)	Cost Category: Removal Action Work Plan (Utilities)	Cost Category: Construction Support	Cost Breakdown: Nicor Gas	Cost Breakdown: City of Waukegan - Water	Cost Breakdown: AT&T	Cost Breakdown: ComEd	Cost Breakdown: North Shore Gas	Cost Breakdown: NE Excavation	Cost Breakdown: Ramp	Cost Breakdown: General Site	Cost Basis (% of Site 3&6 for each bucket)	Nicor Gas Site 3	Nicor Gas Site 6	Waukegan Water (CWW) Site 3	Waukegan Water (CWW) Site 6	AT&T Site 3	AT&T Site 6	ComEd Site 3	ComEd Site 6	North Shore Gas Site 3	North Shore Gas Site 6	Northeastern Excavation Site 3	Northeastern Excavation Site 6	Ramp Site 3	Ramp Site 6	General Site Site 3	General Site Site 6
Overlapping invoices due to change in project number. Expenses during the overlapping timeframe were billed with project number associated with the applicable task.																																			
25-Sep-2014	June 23, 2014 - September 19, 2014	Site 3	$ 1,649			Utility Agreements and Work Plans			x										See invoice back-up					$ 698				$ 698						$ 254	
		Site 6		$ 18,666					x															$ 2,470				$ 2,470							$ 13,726
11/20/2014	Sep 20, 2014 - Nov 14, 2014	Site 3	$ 2,054			Utility Agreements and Work Plans			x										See invoice back-up					$ 543				$ 543						$ 969	
		Site 6		$ 3,252					x													$ 264		$ 1,054				$ 1,318							$ 617
1/9/2015	Nov 15, 2014 - Jan 2, 2015	Site 3	$ 1,860			Utility Agreements and Work Plans			x										See invoice back-up					$ 930				$ 930						$ -	
		Site 6		$ 3,775					x													$ 341		$ 1,364				$ 1,705							$ 365
3/25/2015	Jan 3, 2015 - Mar 13, 2015	Site 3	$ 12,868			Utility Agreements and Work Plans			x										See invoice back-up			$ 1,148						$ 8,850						$ 2,871	
		Site 6		$ 20,289					x													$ 1,040		$ 3,348				$ 6,389							$ 9,513
6/15/2015	March 14, 2015 - May 15, 2015	Site 3	$ 12,713			Utility Agreements and Work Plans			x										See invoice back-up					$ 6,357				$ 6,357						$ -	
		Site 6		$ 20,192					x															$ 4,650				$ 10,320							$ 5,222
8/27/2015	May 16, 2015 - July 10, 2015	Site 3	$ 28,919			Utility Agreements and Work Plans			x										See invoice back-up			$ 5,573		$ 3,565				$ 12,754						$ 7,026	
		Site 6		$ 41,080					x															$ 2,325				$ 16,547							$ 22,208
12/28/2015	July 11, 2015 - Nov 13, 2015	Site 3	$ 9,612			NSG Agreement and Work Plan			x										See invoice back-up					$ 1,163				$ 5,723						$ 2,727	
		Site 6		$ 14,659					x													$ 2,670		$ 4,004				$ 6,674							$ 1,311
The gap in the dates of invoices (Nov. 13, 2015 - Jan. 9, 2016) was due to the change in project numbers. Work performed during the Nov. 13, 2015 - Jan. 9, 2016 timeframe was captured in the first invoice of the new project number (dated Jan. 9, 2016 - Jan. 29, 2016).																																			
3/2/2016	Jan 9, 2016 - Jan 29, 2016	Site 3	$ 12,900			NSG Agreement and Work Plan			x										See invoice back-up, legal support cost ($750) removed from Site 6 invoice total									$ 6,225						$ 6,675	
		Site 6		$ 11,115					x															$ 2,888				$ 5,768							$ 2,460
4/13/2016	Jan 30, 2016 - Mar 11, 2016	Site 3	$ 3,896			NSG Agreement and Work Plan			x										See invoice back-up, legal support cost ($300) removed from Site 6 invoice total									$ 1,440						$ 2,456	
		Site 6		$ 8,060					x															$ 975				$ 1,635							$ 5,450
4/29/2016	Mar 12, 2016 - Apr 15, 2016	Site 3	$ 5,365			Site Preparation and NSG Work Activities				x									See invoice back-up			$ 1,807						$ 2,193						$ 1,366	
		Site 6		$ 15,568						x												$ 5,333						$ 4,179							$ 6,057
6/14/2016	Apr 16, 2016-Jun10 2016	Site 3	$ 3,504			Site Preparation and NSG Work Activities				x									See invoice back-up, legal support cost ($6,600) removed from Site 6 invoice total									$ 1,208						$ 2,296	
		Site 6		$ 11,139						x												$ 2,475						$ 7,731							$ 933
7/29/2016	Jun 11, 2016-Jul 15, 2016	Site 3	$ 1,125			NSG valv access and Excav #2, 3, 4				x									See invoice back-up, legal support cost ($2,850) removed from Site 6 invoice total	$ -		$ -		$ -		$ -		$ 750		$ -				$ 375	
		Site 6		$ 9,056						x												$ -		$ -		$ -		$ 5,628		$ -					$ 3,428
9/22/2016	**Jul 16 2016-Sep 9, 2016**	**Site 3-AECOM**	**$ 46,900**			**Heavy field work, lab costs, and field documentation****				**x**	**12%**	**15%**	**0%**	**0%**	**54%**	**3%**	**16%**			**$ 5,454**		**$ 6,908**		**$ -**		**$ -**		**$ 25,450**		**$ 1,454**		**$ 7,635**		**$ -**	
		Site 3-Lab	$ 30,846							x	12%	15%	0%	0%	54%	3%	16%		Site 3 sample-% sample locations in each corridor (see below**), Site 6 costs are included as Overall	$ 3,587		$ 4,543		$ -		$ -		$ 16,738		$ 956		$ 5,021		$ -	
		Site 6-AECOM		**$ 94,366**						**x**								**100%**			**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ 94,366**
		Site 6-Lab		$ 61,010						x								100%			$ -		$ -		$ -		$ -		$ -		$ -		$ -			$ 61,010
11/4/2016	**Sept 10, 2016-Oct 14, 2016**	**Site 3-AECOM**	**$ 23,248**			**Heavy field work, lab costs, and field documentation****				**x**	**12%**	**15%**	**0%**	**0%**	**54%**	**3%**	**16%**			**$ 2,703**		**$ 3,424**		**$ -**		**$ -**		**$ 12,615**		**$ 721**		**$ 3,785**		**$ -**	
		Site 3-Lab	$ 15,697							x	12%	15%	0%	0%	54%	3%	16%		Site 3 sample-% sample locations in each corridor (see below**), Site 6 costs are included as Overall	$ 1,825		$ 2,312		$ -		$ -		$ 8,518		$ 487		$ 2,555		$ -	
		Site 6-AECOM		**$ 594**						**x**								**100%**			**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ 594**
		Site 6-Lab		$ -						x								100%			$ -		$ -		$ -		$ -		$ -		$ -		$ -			$ -
2/9/2017	**Oct 15 2016-Jan 20 2017**	Site 3-AECOM	$ 5,286			**Lab costs and field documentation****				x	**12%**	**15%**	**0%**	**0%**	**54%**	**3%**	**16%**	100%		$ 615		$ 779		$ -		$ -		$ 2,868		$ 164		$ 861		$ -	
		Site 3-Lab	$ -							x	12%	15%	0%	0%	54%	3%	16%	100%	overall	$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -	
		Site 6-AECOM		$ 24,489						x								100%			$ -		$ -		$ -		$ -		$ -		$ -		$ -			$ 24,489
		Site 6-Lab		$ 491						x								100%			$ -		$ -		$ -		$ -		$ -		$ -		$ -			$ 491
5/31/2017	**Jan 21 2017 - May 19 2017**	Site 3-AECOM	$ 5,116			**Lab costs and field documentation****				x	**12%**	**15%**	**0%**	**0%**	**54%**	**3%**	**16%**	100%		**$ 595**		**$ 754**		**$ -**		**$ -**		**$ 2,776**		**$ 159**		**$ 833**			
		Site 3-Lab	$ -							x	12%	15%	0%	0%	54%	3%	16%	100%	overall	$ -		$ -		$ -		$ -		$ -		$ -		$ -			
		Site 6-AECOM		$ 6,723						x								100%																		$ 6,723
		Site 6-Lab		$ 94,014						x								100%																		$ 94,014
7/26/2017	**May 20, 2017 - July 14, 2017**	Site 3-AECOM	$ -			**Lab costs and field documentation****				x	**12%**	**15%**	**0%**	**0%**	**54%**	**3%**	**16%**	100%		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**			
		Site 3-Lab	$ 1,170							x	12%	15%	0%	0%	54%	3%	16%	100%	overall	$ 136		$ 172		$ -		$ -		$ 635		$ 36		$ 190			
		Site 6-AECOM		$ 2,209						x								100%																		$ 2,209
		Site 6-Lab		$ (30,955)						x								100%																		$ (30,955)
9/7/2017	**July 15, 2017 - Aug 11, 2017**	Site 3-AECOM	$ -			**Lab costs and field documentation****				x	**12%**	**15%**	**0%**	**0%**	**54%**	**3%**	**16%**	100%		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**			
		Site 3-Lab								x	12%	15%	0%	0%	54%	3%	16%	100%	overall	$ -		$ -		$ -		$ -		$ -		$ -		$ -			
		Site 6-AECOM		$ -						x								100%																		$ -
		Site 6-Lab		$ -						x								100%																		$ -
10/11/2017	**Aug 12, 2017 - Sept 8, 2017**	Site 3-AECOM	$ -			**Lab costs and field documentation****				x	**12%**	**15%**	**0%**	**0%**	**54%**	**3%**	**16%**	100%		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**			
		Site 3-Lab								x	12%	15%	0%	0%	54%	3%	16%	100%	overall	$ -		$ -		$ -		$ -		$ -		$ -		$ -			
		Site 6-AECOM		$ -						x								100%																		$ -
		Site 6-Lab								x								100%																		$ -
		Total	**$ 684,028**	**$ 679,593**															**Totals**	**$ 106,086**	**$ -**	**$ 35,867**	**$ 48,433**	**$ 26,524**	**$ 31,105**	**$ -**	**$ -**	**$ 135,159**	**$ 81,028**	**$ 3,977**	**$ -**	**$ 20,880**	**$ -**	**$ 355,534**	**$ 519,027**

Lab costs shown in BLUE

*** Invoices from April 28, 2007-August 9, 2013 include Site 4/5 and Site 6 as the same task.**

When the primary work activity during the invoice period was planning, remedial alternative evaluation, or regulatory support, and equal amount of effort was spent on Site 4/5 and Site 6 tasks. Site 4/5 costs (assume 50% of total task) are removed

	Site 4/5	Site 6
% of work effort	50%	50%

When the primary work activity during the invoice period was investigation, the amount of effort spent on Site 4/5 and Site 6 tasks depended on the number of grids that were being investigated. Below is a summary of Site 4/5 and Site 6 grids used for cost basis

	Site 4/5	Site 6
Total Grids within Site	161	88
% of total Grids within Site	65%	35%

****Heavy construction (Jan 16, 2016-Oct 14, 2016), lab costs, and field documentation (Jan 16 - Sept 8, 2017) shown in bold use the below basis**

SITE 3 - cost basis during heavy construction and field documentation (% based sample locations)**

	Sample locations	% of total
AT&T	0	*0%*
ComEd	0	*0%*
NE Corner	4	*3%*
Nicor	15	*12%*
North Shore	70	*54%*
Water Main	19	*15%*
Ramp	21	*16%*
Total Locations	**129**	*100%*

Note that duplicate samples and second analyses are not counted as separate sample locations

SITE 6 - cost basis

Costs included in Overall Site 6

Table 2
Site 3 Completion Costs, Southwestern Sites Area of Concern, Waukegan, IL

Estimate Documentation:

								With NSG Clean Corridor
2.0 Site 3 Excavation and Capping	**Quantity**	**UOM**	**Material**	**Labor**	**Equip**		**Sub Bid**	**Extended Cost**	**Subtotal**
1.1 Site Preparation									
1.1.1 Surveying, Staking, Utility Identification, & JULIE Call	0	LS	$0.00	$0.00	$0.00	$	117,650.00	$0.00	
1.1.2 Establish & Maintain Stormwater Controls	0	LS	$0.00	$0.00	$0.00	$	6,970.00	$0.00	
1.1.3 Traffic Control Plan Development & Implementation	0	LS	$0.00	$0.00	$0.00	$	57,220.00	$0.00	
1.1.4 Clearing and Grubbing	0	LS	$0.00	$0.00	$0.00	$	5,970.00	$0.00	
1.2 Excavation & Backfilling									
1.2.1 Excavation within 18 inches of gas line	0	LS	$0.00	$0.00	$0.00	$	42,125.00	$0.00	
1.2.2 Other Excavation up to 5 ft deep	0	LS	$0.00	$0.00	$0.00	$	13,195.00	$0.00	
1.2.3 Dewatering for Excavation & Sampling	0	weeks	$0.00	$0.00	$0.00	$	14,080.00	$0.00	
1.2.4 Haul Excavated Material to Industrial Canal	0	LS	$0.00	$0.00	$0.00	$	46,415.00	$0.00	
1.2.5 Dispose or Scrap abandoned utilities	0	LS	$0.00	$0.00	$0.00	$	5,690.00	$0.00	
1.2.6 Geotextile Procurement & Placement in Excavations	0	LS	$0.00	$0.00	$0.00	$	11,012.50	$0.00	
1.2.7 Backfill with Quarry Sand	0	CY	$0.00	$0.00	$0.00	$	30.00	$0.00	
1.3 Cap Construction									
1.3.1 Geotextile Procurement & Placement for Cap	0	LS	$0.00	$0.00	$0.00	$	26,540.00	$0.00	
1.3.2 Install 6-inch Sand Layer	0	LS	$0.00	$0.00	$0.00	$	28,340.00	$0.00	
1.3.3 Sampling and Analysis of Clay & Import Import	0	LS	$0.00	$0.00	$0.00	$	140,163.00	$0.00	
1.3.4 Install 15-inch Compacted Clay Layer	0	LS	$0.00	$0.00	$0.00	$	58,614.20	$0.00	
1.3.5 Sampling and Analysis of Sand/Compost & Import	0	LS	$0.00	$0.00	$0.00	$	39,009.20	$0.00	
1.3.6 Install 3-inch Sand/Compost Layer	0	LS	$0.00	$0.00	$0.00	$	15,870.00	$0.00	
1.3.7 Implement & Maintain Stormwater Controls to Prevent Erosion	0	LS	$0.00	$0.00	$0.00	$	10,000.00	$0.00	
1.3.8 Establish Thriving Vegetative Cover	0	LS	$0.00	$0.00	$0.00	$	10,447.00	$0.00	
Retainage (10%)	0	LS	$0.00	$0.00	$0.00	$	83,420.78	$0.00	
									$0.00

Table 2
Site 3 Completion Costs, Southwestern Sites Area of Concern, Waukegan, IL

3.0 Site 3 - Water Main Activities (10% of SW Sites total)	Quantity	UOM	Material	Labor	Equip	Sub Bid		
3.1 Site Preparation								
3.1.1 Surveying, Staking, Utility Identification, & JULIE Call	0	LS	$0.00	$0.00	$0.00	$ 12,985.00	$0.00	
3.1.2 Establish & Maintain Stormwater Controls	0	LS	$0.00	$0.00	$0.00	$ 1,200.00	$0.00	
3.1.3 Traffic Control Plan Development & Implementation	0	LS	$0.00	$0.00	$0.00	$ 10,000.00	$0.00	
3.2 Dewatering								
3.2.1 Install well point dewatering system for pipeline installation	0	LS	$0.00	$0.00	$0.00	$ 18,545.34	$0.00	
3.2.2 Operate well point dewatering system	0	weeks	$0.00	$0.00	$0.00	$ 5,335.00	$0.00	
3.2.3 Discharge cost	0	K gallons	$0.00	$0.00	$0.00	$1.16	$0.00	
3.3 Install Casings beneath Greenwood Ave								
3.3.1 Excavate through Greenwood Avenue at 2 Locations	0	LS	$0.00	$0.00	$0.00	$ 2,402.00	$0.00	
3.3.2 Install two 8-inch steel casings beneath Greenwood Ave	0	LS	$0.00	$0.00	$0.00	$ 507.40	$0.00	
3.3.3 Backfill and Resurface Greenwood Ave to match Existing Conditions	0	LS	$0.00	$0.00	$0.00	$ 1,751.00	$0.00	
3.4 Establish Temporary Water Service to NRG and JM								
3.4.1 Excavate & Install Concrete Manhole Over Pipe Transition	0	LS	$0.00	$0.00	$0.00	$ 362.25	$0.00	
3.4.2 Transition from Transite to C900 PVC Pipe	0	LS	$0.00	$0.00	$0.00	$ 509.46	$0.00	
3.4.3 Install Temporary 4 inch HDPE Water Service to NRG	0	LS	$0.00	$0.00	$0.00	$ 4,173.42	$0.00	
3.4.4 Install Temporary 2 inch HDPE Water Service to JM	0	LS	$0.00	$0.00	$0.00	$ 1,222.00	$0.00	
3.4.5 Reinstate NRG & JM below grade Water Service	0	LS	$0.00	$0.00	$0.00	$ 424.50	$0.00	
3.5 Excavation & Backfilling								
3.5.1 Excavate and Remove Transite Pipe, valves, and hydrants	0	LS	$0.00	$0.00	$0.00	$ 8,728.00	$0.00	
3.5.2 Haul asbestos impacted soil to Industrial Canal	0	LS	$0.00	$0.00	$0.00	$ 1,086.25	$0.00	
3.5.3 Procure 10-inch C900 DR18 PVC Pipe	0	LS	$0.00	$0.00	$0.00	$ 4,199.50	$0.00	
3.5.4 Install 10-inch C900 DR18 PVC Pipe	0	LS	$0.00	$0.00	$0.00	$ 29,534.00	$0.00	
3.5.5 Install new valves	0	LS	$0.00	$0.00	$0.00	$ 899.03	$0.00	
3.5.6 Install new fire hydrants	0	LS	$0.00	$0.00	$0.00	$ 1,736.85	$0.00	
3.5.7 Backfill with Excavated Sand	0	LS	$0.00	$0.00	$0.00	$ 9,596.50	$0.00	
3.5.8 Backfill with Borrow Pit Sand	0	LS	$0.00	$0.00	$0.00	$ 1,661.25	$0.00	
3.5.9 Dispose or Scrap abandoned utilities, valves, and hydrants	0	LS	$0.00	$0.00	$0.00	$ 569.00	$0.00	
3.5.10 Load, Haul, and Dump Transite Pipe at Landfill	0	LS	$0.00	$0.00	$0.00	$ 1,218.75	$0.00	
3.5.11 Pressure Test C900 Pipe System	0	LS	$0.00	$0.00	$0.00	$ 1,800.00	$0.00	
3.5.12 Establish Thriving Vegetative Cover	0	LS	$0.00	$0.00	$0.00	$ 808.80	$0.00	
Erosion repair	1	LS	$0.00	$0.00	$0.00	$ 8,000.00	$10,000.00	
Retainage (10%)	0	LS	$0.00	$0.00	$0.00	$ 24,640.56	$0.00	
								$10,000.00

Table 2
Site 3 Completion Costs, Southwestern Sites Area of Concern, Waukegan, IL

4.0 Utilities Abandonment Costs

Description	Quantity	UOM	Material	Labor	Equip	Sub Bid		
Utility abandonment fees - north shore gas & ATT	1	LS	$0.00	$0.00	$0.00	$0.00	$0.00	
Chain-link fencing	0	LF	$0.00	$0.00	$0.00	$30.00	$0.00	
Excavator with Operator	0	DAY	$0.00	$1,000.00	$2,000.00	$0.00	$0.00	
Laborer	0	DAY	$0.00	$1,000.00	$0.00	$0.00	$0.00	
Install well point dewatering system	0	LS	$0.00	$0.00	$0.00	$ 18,545.34	$0.00	
Operate well point dewatering system	0	weeks	$0.00	$0.00	$0.00	$ 5,335.00	$0.00	
Discharge cost to NSWRD	0	K gallons	$0.00	$0.00	$0.00	$1.16	$0.00	
PCB Wipe samples with 1-day TAT	0	EA	$0.00	$0.00	$0.00	$120.00	$0.00	
Pipe Disposal Cost	0	Loads	$0.00	$0.00	$0.00	$6,000.00	$0.00	
Hydroexcavation of materials within 1.5 ft of pipe	0	days	$0.00	$0.00	$0.00	$2,500.00	$0.00	
Pipe bracing for soil excavation under gas main	0	LS	$0.00	$0.00	$0.00	$50,000.00	$0.00	
North Shore Gas - watch and protect	0	days	$0.00	$1,200.00	$0.00	$0.00	$0.00	
Pre-construction clean corridor investigation	0	days	$400.00	$1,200.00	$800.00	$2,400.00	$0.00	
Pre-construction clean corridor lab analyses	0	ea	$0.00	$0.00	$0.00	$150.00	$0.00	
Clean corridor confirmation sampling with drill rig	0	days	$0.00	$1,200.00	$800.00	$2,400.00	$0.00	
Clean Corridor Soil Confirmation Lab Analyses	0	ea	$0.00	$0.00	$0.00	$150.00	$0.00	
Sampling Support for Clean Corridor Sampling	0	day	$0.00	$1,200.00	$0.00	$0.00	$0.00	
Haul surficial mat'l to Black ditch for NSG (0-2')	0	cy	$0.00	$0.00	$6.00	$0.00	$0.00	
Haul clean corridor excavated material to Black Ditch (2-6')	0	cy	$0.00	$0.00	$6.00	$0.00	$0.00	
Clean corridor backfill	0	cy	$0.00	$0.00	$20.00	$0.00	$0.00	
								$0.00

4.0 Project Management, Regulatory Support, Oversight

Description	Quantity	UOM	Material	Labor	Equip	Sub Bid		
AECOM - Regulatory support (2018)	12	Days	$0.00	$1,500.00	$0.00	$0.00	$18,000.00	
DMP - Regulatory support (2018)	12	Days	$0.00	$1,500.00	$0.00	$0.00	$18,000.00	
Final site survey	1	LS	$0.00	$0.00	$0.00	$5,000.00	$5,000.00	
Completion report (DMP)	1	LS	$0.00	$0.00	$0.00	$4,387.50	$4,387.50	
Completion report (AECOM)	1	LS	$0.00	$0.00	$0.00	$15,233.75	$15,233.75	
Response to Agency comments on Completion report	1	LS	$0.00	$0.00	$0.00	$10,000.00	$10,000.00	
								$70,621.25

5.0 Bond

Description	Quantity	UOM	Material	Labor	Equip	Sub Bid		
Performance bond cost (Fraction pertaining to Site 3)	0	LS	$0.00	$0.00	$0.00	$6,263.00	$0.00	
								$0.00

$ 80,621

Table 3
Site 6 Completion Costs, Southwestern Sites Area of Concern, Waukegan, IL

Estimate Documentation:

2.0 Site 6 Excavation and Filling	**Quantity**	**UOM**	**Material**	**Labor**	**Equip**	**Sub Bid**	**Extended Cost**	**Subtotal**
2.1 Site Preparation								
2.1.1 Surveying, Staking, Utility Identification, & JULIE Call	0	LS	$0.00	$0.00	$0.00	$ 67,150.00	$0.00	
2.1.2 Establish & Maintain Stormwater Controls	0	LS	$0.00	$0.00	$0.00	$ 19,940.00	$0.00	
2.1.3 Traffic Control Plan Development & Implementation	0	LS	$0.00	$0.00	$0.00	$ 3,470.00	$0.00	
2.1.4 Clearing and Grubbing including Tree & Stump Removal	0	LS	$0.00	$0.00	$0.00	$ 5,000.00	$0.00	
2.2 Excavation & Backfilling								
2.2.1 Excavation to 3 ft deep	0	LS	$0.00	$0.00	$0.00	$ 23,562.50	$0.00	
2.2.2 Dewatering for Excavation & Sampling	0	LS	$0.00	$0.00	$0.00	$ 196,000.00	$0.00	
2.2.3 Haul Excavated Material to Industrial Canal	0	LS	$0.00	$0.00	$0.00	$ 59,500.00	$0.00	
2.2.4 Geotextile Procurement & Placement in Excavations	0	LS	$0.00	$0.00	$0.00	$ 23,140.00	$0.00	
2.2.5 Backfill with Borrow Pit Sand	0	CY	$0.00	$0.00	$0.00	$ 30.00	$0.00	
2.2.6 Dispose or Scrap abandoned utilities	0	LS	$0.00	$0.00	$0.00	$ 5,690.00	$0.00	
2.2.7 Implement & Maintain Stormwater Controls to Prevent Erosion	0	LS	$0.00	$0.00	$0.00	$ 10,000.00	$0.00	
2.2.8 Establish Thriving Vegetative Cover	0	LS	$0.00	$0.00	$0.00	$ 8,425.00	$0.00	
Erosion repair	0	LS	$0.00	$0.00	$0.00	$10,000.00	$0.00	
Retainage (10%)	0	LS	$0.00	$0.00	$0.00	$51,995.14	$0.00	
Contractor Health and Safety Officer	0	day	$0.00	$0.00	$0.00	$ 1,100.00	$0.00	
								$0.00

Table 3
Site 6 Completion Costs, Southwestern Sites Area of Concern, Waukegan, IL

3.0 Site 6 - Water Main Activities (90% of SW Sites total)	Quantity	UOM	Material	Labor	Equip	Sub Bid	Extended Cost	Subtotal
3.1 Site Preparation								
3.1.1 Surveying, Staking, Utility Identification, & JULIE Call	0	LS	$0.00	$0.00	$0.00	$ 60,435.00	$0.00	
3.1.2 Establish & Maintain Stormwater Controls	0	LS	$0.00	$0.00	$0.00	$ 10,800.00	$0.00	
3.1.3 Traffic Control Plan Development & Implementation	0	LS	$0.00	$0.00	$0.00	$ 90,000.00	$0.00	
						$ -		
3.2 Dewatering						$ -		
3.2.1 Install well point dewatering system for pipeline installation	0	LS	$0.00	$0.00	$0.00	$ 166,908.06	$0.00	
3.2.2 Operate well point dewatering system	0	weeks	$0.00	$0.00	$0.00	$ 53,350.00	$0.00	
3.2.3 Discharge cost	0	K gallons	$0.00	$0.00	$0.00	$1.16	$0.00	
3.3 Install Casings beneath Greenwood Ave								
3.3.1 Excavate through Greenwood Avenue at 2 Locations	0	LS	$0.00	$0.00	$0.00	$ 21,618.00	$0.00	
3.3.2 Install two 8-inch steel casings beneath Greenwood Ave	0	LS	$0.00	$0.00	$0.00	$ 4,566.60	$0.00	
3.3.3 Backfill and Resurface Greenwood Ave to match Existing Conditi	0	LS	$0.00	$0.00	$0.00	$ 15,759.00	$0.00	
3.4 Establish Temporary Water Service to NRG and JM								
3.4.1 Excavate & Install Concrete Manhole Over Pipe Transition	0	LS	$0.00	$0.00	$0.00	$ 3,260.25	$0.00	
3.4.2 Transition from Transite to C900 PVC Pipe	0	LS	$0.00	$0.00	$0.00	$ 4,585.14	$0.00	
3.4.3 Install Temporary 4 inch HDPE Water Service to NRG	0	LS	$0.00	$0.00	$0.00	$ 37,560.74	$0.00	
3.4.4 Install Temporary 2 inch HDPE Water Service to JM	0	LS	$0.00	$0.00	$0.00	$ 10,998.00	$0.00	
3.4.5 Reinstate NRG & JM below grade Water Service	0	LS	$0.00	$0.00	$0.00	$ 3,820.50	$0.00	
3.5 Excavation & Backfilling								
3.5.1 Excavate and Remove Transite Pipe, valves, and hydrants	0	LS	$0.00	$0.00	$0.00	$ 78,552.00	$0.00	
3.5.2 Haul asbestos impacted soil to Industrial Canal	0	LS	$0.00	$0.00	$0.00	$ 9,776.25	$0.00	
3.5.3 Procure 10-inch C900 DR18 PVC Pipe	0	LS	$0.00	$0.00	$0.00	$ 37,795.50	$0.00	
3.5.4 Install 10-inch C900 DR18 PVC Pipe	0	LS	$0.00	$0.00	$0.00	$ 265,806.00	$0.00	
3.5.5 Install new valves	0	LS	$0.00	$0.00	$0.00	$ 8,091.23	$0.00	
3.5.6 Install new fire hydrants	0	LS	$0.00	$0.00	$0.00	$ 15,631.65	$0.00	
3.5.7 Backfill with Quarry Sand	0	CY	$0.00	$0.00	$0.00	$ 30.00	$0.00	
3.5.8 Backfill with Borrow Pit Sand	0	LS	$0.00	$0.00	$0.00	$ 14,951.25	$0.00	
3.5.9 Dispose or Scrap abandoned utilities, valves, and hydrants	0	LS	$0.00	$0.00	$0.00	$ 5,121.00	$0.00	
3.5.10 Load, Haul, and Dump Transite Pipe at Landfill	0	LS	$0.00	$0.00	$0.00	$ 10,968.75	$0.00	
3.5.11 Pressure Test C900 Pipe System	0	LS	$0.00	$0.00	$0.00	$ 16,200.00	$0.00	
3.5.12 Establish Thriving Vegetative Cover	0	LS	$0.00	$0.00	$0.00	$ 7,279.20	$0.00	
Retainage (10%)	0	LS	$0.00	$0.00	$0.00	$ 222,122.11	$0.00	
Contractor Health and Safety Officer	0	day	$0.00	$0.00	$0.00	$ 1,100.00	$0.00	
								$0.00

Table 3
Site 6 Completion Costs, Southwestern Sites Area of Concern, Waukegan, IL

4.0 Utilities Abandonment Costs

Description	Quantity	UOM	Material	Labor	Equip	Sub Bid	Extended Cost	Subtotal
Utility abandonment fees - north shore gas & ATT	1	LS	$0.00	$0.00	$0.00	$0.00	$0.00	
Chain-link fencing	0	LF	$0.00	$0.00	$0.00	$30.00	$0.00	
Excavator with Operator	0	DAY	$0.00	$1,000.00	$2,000.00	$0.00	$0.00	
Laborer	0	DAY	$0.00	$1,000.00	$0.00	$0.00	$0.00	
Install well point dewatering system	0	LS	$0.00	$0.00	$0.00	$ 18,545.34	$0.00	
Operate well point dewatering system	0	weeks	$0.00	$0.00	$0.00	$ 5,335.00	$0.00	
Site Restoration for AT&T fiber optic relocation	1	LS	$0.00	$0.00	$0.00	$15,000.00	$15,000.00	
								$15,000.00

5.0 Project Management, Regulatory Support, Oversight

Description	Quantity	UOM	Material	Labor	Equip	Sub Bid	Extended Cost	Subtotal
DMP - RSE - 2018 support cost	2	Days	$0.00	$4,000.00	$0.00	$0.00	$8,000.00	
DMP - Completion Report & Final Site survey	1	LS	$0.00	$9,249.57	$0.00	$0.00	$9,249.57	
AECOM - Closure report support	1	LS	$0.00	$16,000.00	$0.00	$0.00	$16,000.00	
Response to Agency comments	1	LS	$0.00	$10,000.00	$0.00	$0.00	$10,000.00	
AECOM - utility agreements, covenant support	1	LS	$0.00	$0.00	$0.00	$0.00	$0.00	
Regulatory Site visit support	1	LS	$0.00	$10,000.00	$0.00	$0.00	$10,000.00	
								$53,249.57

6.0 Bond

Description	Quantity	UOM	Material	Labor	Equip	Sub Bid	Extended Cost	Subtotal
Performance bond cost (Fraction pertaining to Site 6)	0	LS	$0.00	$0.00	$0.00	$13,274.00	$0.00	
								$0.00

Construction Cost Estimate $ 68,249.57

Table 4
30-Year O&M Costs, Southwestern Sites Area of Concern, Waukegan, IL

Cost Over Time Report (With Markups)
Folder: JM Waukegan Reserve Estimates
Project Name: Southwestern Sites Location: WAUKEGAN, IL
Project ID: Southwestern Sites Report Option: Calendar

Escalation Rate	3.10%	20-year average rate of change, based on ENR index
ENR Construction Cost Index - 2017	10678	April 2017, ENR Construction Cost Index
ENR Construction Cost Index - 1997	5799	April 1997, ENR Construction Cost Index

Name: Tat Ebihara
Title: Senior Project Manager
Agency/Org./Office: AECOM
Business Address: 100 S Wacker Dr. Suite 500, Chicago, IL 60606
Phone: 312.577.7429
Email: tat.ebihara@aecom.com

Prepared Date: 10/16/16

Technology Name	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	Row Total
Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	
Operations and Maintenance	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$187,107
Sub-Total	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$6,237	$187,107
Escalation Factor	1.031	1.063	1.096	1.130	1.165	1.201	1.238	1.277	1.316	1.357	1.399	1.442	1.487	1.533	1.581	1.630	1.680	1.732	1.786	1.841	1.898	1.957	2.018	2.080	2.145	2.211	2.280	2.351	2.424	2.499	
Total	$6,430	$6,630	$6,835	$7,047	$7,265	$7,490	$7,723	$7,962	$8,209	$8,463	$8,726	$8,996	$9,275	$9,562	$9,859	$10,164	$10,479	$10,804	$11,139	$11,484	$11,840	$12,207	$12,586	$12,976	$13,378	$13,793	$14,220	$14,661	$15,115	$15,584	$310,903

Table 5

Annual O&M Cost Basis, Southwestern Sites Area of Concern, Waukegan, IL

Phase Documentation:

Phase Type: SW Sites
Phase Name: O&M
Description: O&M Utiliites coordination and Cap Maintenance

Technology: Operations and Maintenance
Element: Misc. Support Cost

Phase	Description	Quantity	UOM	Material	Labor	Equip	Sub Bid	Extended Cost
33220105	Engineer III	24	HR	$0.00	$115.00	$0.00	$0.00	$2,760.00
33220106	Engineer IV	4	HR	$0.00	$135.00	$0.00	$0.00	$540.00
33220113	Project Administrator II	4	HR	$0.00	$80.00	$0.00	$0.00	$320.00
33220152	Technician II	8	HR	$0.00	$65.00	$0.00	$0.00	$520.00
33220164	Scientist III	0	HR	$0.00	$95.00	$0.00	$0.00	$0.00
33220170	Project Director IV	2	HR	$0.00	$175.00	$0.00	$0.00	$350.00
33240101	Other Direct Costs	1	LS	$375.00	$0.00	$0.00	$0.00	$375.00
							Total Element Cost:	$4,865.00

Element: Cap Maintenance

Phase	Description	Quantity	UOM	Material	Labor	Equip	Sub Bid	Extended Cost
18010412	Construction Signs	4	SF	$43.73	$0.00	$0.00	$0.00	$174.90
95010135	Rip-Rap 6 inch	15	TON	$0.00	$0.00	$0.00	$35.00	$525.00
95010234	SW Sites Field Mowing - Annual Allowance	1	LS	$0.00	$0.00	$0.00	$229.00	$229.00
95010235	SW Sites Cover Repair & Road Maintenance - Annual Allowance	1	LS	$0.00	$0.00	$0.00	$229.00	$229.00
95010236	SW Sites Fence Repair - Annual Allowance	1	LS	$0.00	$0.00	$0.00	$100.00	$100.00
95010237	SW Sites Hand Removal of Woody Vegetation - Annual Allowance	1	LS	$0.00	$0.00	$0.00	$114.00	$114.00
							Total Element Cost:	$1,371.90
							Total 1st Year Tech Cost:	**$6,236.90**

Attachment A

Narrative Descriptions of Invoiced Costs to JM from April 28, 2007 to September 8, 2017

LFR Invoices from April 28, 2007 – December 28, 2007 period

1. Primary work activity during this timeframe was the Engineering Evaluation and Cost Analysis (EE/CA) Investigation Planning.
2. Invoices include task 25 "Southwestern Sites AOC - Site 3 Work" and task 26 "Southwestern Sites AOC - Site 4, 5, and 6 Work." Task 25 includes costs associated with Site 3 work. Task 26 includes both costs associated with Site 4/5 and Site 6 work. An approximately equal amount of effort was expended on Site 4/5 and Site 6 EE/CA Investigation Planning; therefore, Site 4/5 costs (assumed 50% of total task) were removed.
3. Work associated with Site 3 or Site 6 was not performed during the following timeframe: June 1, 2007 to June 29, 2007.

LFR Invoices from December 29, 2007 – June 27, 2008 period

1. Primary work activity during this timeframe was the field investigation and preparation of the EE/CA Report (Revision 0) submitted to USEPA on June 13, 2008.
2. Invoices include task 25 "Southwestern Sites AOC - Site 3 Work" and task 26 "Southwestern Sites AOC - Site 4, 5, and 6 Work." Task 25 includes costs associated with Site 3 work. Task 26 includes both costs associated with Site 4/5 and Site 6 work. The amount of effort expended during the Field Investigation Work and preparation of the EE/CA Report (Revision 0) depended on the number of grids that were sampled. During the EE/CA investigation, a total of 161 grids were sampled in Site 4/5, and a total of 88 grids were sampled in Site 6. The costs associated with Site 4/5 are assumed to be proportional to the number of grids sampled (161/249=65%). Site 4/5 costs (assumed 65% of total task) were removed.

LFR/ Arcadis (formerly LFR) Invoices from June 28, 2008 - April 24, 2011

1. Primary work activity during this timeframe was the EE/CA Response to regulatory comments. The final EE/CA (Revision 4) was submitted to USEPA on April 11, 2011.
2. Arcadis acquired LFR. Invoices use both LFR and Arcadis names from 2009-2012.
3. Invoices include task 25 "Southwestern Sites AOC - Site 3 Work" and task 26 "Southwestern Sites AOC - Site 4, 5, and 6 Work." Task 25 includes costs associated with Site 3 work. Task 26 includes both costs associated with Site 4/5 and Site 6 work. An approximately equal amount of effort was spent on Site 4/5 and Site 6 EE/CA Response to regulatory comments; therefore, Site 4/5 costs (assumed 50% of total task) were removed.
4. Work associated with Site 3 or Site 6 was not performed during the following timeframes: June 28, 2008 – July 25, 2008, February 22, 2009 – May 31, 2009, July 6, 2009 – August 30, 2009, October 5, 2009 – January 24, 2010, and August 23, 2010 – September 26, 2010.

LFR/ Arcadis (formerly LFR) Invoices from April 25, 2011 – August 19, 2012 period

1. Primary work activity during this timeframe was the Post-EE/CA Regulatory Support. Note that both Arcadis and AECOM worked on project during transition period from February 6, 2012 (AECOM start date) – August 19, 2012 (Arcadis end date).
2. Arcadis acquired LFR. Invoices use both LFR and Arcadis names from 2009-2012.
3. Invoices include task 25 "Southwestern Sites AOC - Site 3 Work" and task 26 "Southwestern Sites AOC - Site 4, 5, and 6 Work." Task 25 includes costs associated with Site 3 work. Task 26 includes both costs associated with Site 4/5 and Site 6 work. An approximately equal amount of effort was spent on Site 4/5 and Site 6 Post-EE/CA Regulatory Support; therefore, Site 4/5 costs (assumed 50% of total task) were removed.
4. Work associated with Site 3 or Site 6 was not performed during the following timeframes: April 25, 2011 – August 21, 2011, September 26, 2011 – October 23, 2011, November 21, 2011 – January 22, 2011, February 20, 2012 – May 20, 2012, and June 25, 2012 – August 19, 2012.

AECOM Invoices from February 6, 2012 – December 7, 2012 period

1. Primary work activity during this timeframe was the Post-EE/CA Regulatory Support. The Enforcement Action Memorandum was issued by USEPA on November 30, 2012. Note that both Arcadis and AECOM worked on project during transition period from February 6, 2012 (AECOM start date) – August 19, 2012 (Arcadis end date)
2. Invoices include task 25 "Southwestern Sites AOC - Site 3 Work" and task 26 "Southwestern Sites AOC - Site 4, 5, and 6 Work." Task 25 includes costs associated with Site 3 work. Task 26 includes both costs associated with Site 4/5 and Site 6 work. An approximately equal amount of effort was spent on Site 4/5 and Site 6 Post-EE/CA Regulatory Support; therefore, Site 4/5 costs (assumed 50% of total task) were removed.
3. Work associated with Site 3 or Site 6 was not performed during the following timeframes: June 30, 2012 - October 12, 2012 and November 10, 2012 – December 7, 2012.

AECOM Invoices from December 8, 2012 – March 11, 2013 period

1. Primary work activity during this timeframe was the Removal Action Work Plan.
2. Invoices include task 25 "Southwestern Sites AOC - Site 3 Work" and task 26 "Southwestern Sites AOC - Site 4, 5, and 6 Work." Task 25 includes costs associated with Site 3 work. Task 26 includes both costs associated with Site 4/5 and Site 6 work. An approximately equal amount of effort was spent on Site 4/5 and Site 6 Removal Action Work Plan; therefore, Site 4/5 costs (assumed 50% of total task) were removed.

AECOM Invoice #37337583 dated April 29, 2013 (March 12, 2013 – April 19, 2013)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Utility owner meetings were conducted beginning in March 2013 to finalize approach with regard to either utility relocation, abandonment, or creating clean corridors.
2. Invoices include task 25 "Southwestern Sites AOC - Site 3 Work" and task 26 "Southwestern Sites AOC - Site 4, 5, and 6 Work." Task 25 includes costs associated with Site 3 work. Task 26 includes both costs associated with Site 4/5 and Site 6 work. An approximately equal amount of effort was spent on Site 4/5 and Site 6 Utility Agreements & Work Plans; therefore, Site 4/5 costs (assumed 50% of total task) were removed.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined for the invoice period. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.

4. Todd Frauhiger has worked on underground utilities tasks and Andrew Hable worked on in water conveyance piping tasks. These staff members were utilized during the invoice period to address specific gas utilities and water main issues as noted on a copy of the invoice.

AECOM Invoice #37344868 dated May 22, 2013 (April 20, 2013 – May 17, 2013)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 25 "Southwestern Sites AOC - Site 3 Work" and task 26 "Southwestern Sites AOC - Site 4, 5, and 6 Work." Task 25 includes costs associated with Site 3 work. Task 26 includes both costs associated with Site 4/5 and Site 6 work. An approximately equal amount of effort was spent on Site 4/5 and Site 6 Utility Agreements & Work Plans; therefore, Site 4/5 costs (assumed 50% of total task) were removed.
2. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined for the invoice period. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
3. Andrew Hable worked on water conveyance piping tasks, and Matt Mesarch worked on subsurface investigation tasks. These staff members were utilized during the invoice period to address specific gas utilities and water main issues as noted on a copy of the invoice.

AECOM Invoice #37352067 dated June 14, 2013 (May 18, 2013 – June 7, 2013)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 25 "Southwestern Sites AOC - Site 3 Work" and task 26 "Southwestern Sites AOC - Site 4, 5, and 6 Work." Task 25 includes costs associated with Site 3 work. Task 26 includes both costs associated with Site 4/5 and Site 6 work. An approximately equal amount of effort was spent on Site 4/5 and Site 6 Utility Agreements & Work Plans; therefore, Site 4/5 costs (assumed 50% of total task) were removed.
2. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined for the invoice period. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
3. Todd Frauhiger worked on underground utilities tasks, and Andrew Hable worked on water conveyance piping tasks. Matt Mesarch and Martin Weber worked on field investigation tasks. These staff members were utilized during the invoice period to address specific gas utilities and water main issues as noted on a copy of the invoice.

AECOM Invoice #37370125 dated August 20, 2013 (June 8, 2013 – August 9, 2013)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 25 "Southwestern Sites AOC - Site 3 Work" and task 26 "Southwestern Sites AOC - Site 4, 5, and 6 Work." Task 25 includes costs associated with Site 3 work. Task 26 includes both costs associated with Site 4/5 and Site 6 work. An approximately equal amount of effort was spent on Site 4/5 and Site 6 Utility Agreements & Work Plans; therefore, Site 4/5 costs (assumed 50% of total task) were removed.
2. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined for the invoice period. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
3. Matt Mesarch, Matt Kyrias, and Martin Weber developed plans and conducted field investigation activities, including subcontractors, for the Nicor gas main corridor in Site 3.
4. Hsing-Hua Chu and Andrew Hable worked on water main piping design tasks as noted on a copy of the invoice.

AECOM Invoice #37381058 dated September 27, 2013 (August 10, 2013 – September 20, 2013)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 100 "Site 3 Engineering" and task 120 "Site 6 Engineering."
2. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined for the invoice period. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
3. Matt Kyrias performed field investigation activities and data compilation for the Nicor gas main corridor in Site 3.
4. Hsing-Hua Chu and Andrew Hable worked on water main piping design tasks as noted on a copy of the invoice.
5. .

AECOM Invoice #37385674 dated October 17, 2013 (September 21, 2013 – October 11, 2013)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 100 "Site 3 Engineering" and task 120 "Site 6 Engineering."
2. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined for the invoice period. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
3. Matt Kyrias performed data compilation and reporting activities for the Nicor gas main corridor in Site 3.
4. Hsing-Hua Chu and Andrew Hable worked on water main piping design tasks as noted on a copy of the invoice.

AECOM Invoice #37395023 dated November 20, 2013 (October 12, 2013 – November 8, 2013)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 100 "Site 3 Engineering" and task 120 "Site 6 Engineering." The Removal Action Work Plan was submitted to USEPA on November 4, 2013.
2. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined for the invoice period. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
3. Matt Kyrias performed data compilation and reporting activities for the Nicor gas main corridor in Site 3.
4. Hsing-Hua Chu and Arthur Goodfriend conducted water main activities as noted on a copy of the invoice.
5. Mark Fuller coordinated AT&T activities as noted on a copy of the invoice.

AECOM Invoice #37404085 dated December 23, 2013 (November 9, 2013 – December 6, 2013)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 100 "Site 3 Engineering" and task 120 "Site 6 Engineering."
2. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined for the invoice period. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
3. Hsing-Hua Chu and Arthur Goodfriend have expertise in water conveyance piping design conducted water main activities as noted on a copy of the invoice.

AECOM Invoice #37414324 dated February 4, 2014 (December 11, 2013 – January 10, 2014)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 100 "Site 3 Engineering" and task 120 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
4. Hsing-Hua Chu and Arthur Goodfriend have expertise in water conveyance piping design conducted water main activities as noted on a copy of the invoice.

AECOM Invoice #37425097 dated March 14, 2014 (January 11, 2014 – March 7, 2014)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 100 "Site 3 Engineering" and task 120 "Site 6 Engineering." The Removal Action Work Plan (Revision 1) was submitted to USEPA on January 24, 2014.
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. All work for this invoice was assigned to a "general" cost category.

AECOM Invoice #37436418 dated April 29, 2014 (March 8, 2014 – April 11, 2014)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 100 "Site 3 Engineering" and task 120 "Site 6 Engineering." The Removal Action Work Plan (Revision 2) was submitted to USEPA on March 31, 2014.
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. All work for this invoice was assigned to a "general" cost category.

AECOM Invoice #37455694 dated July 11, 2014 (April 12, 2014 – May 23, 2014)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 100 "Site 3 Engineering" and task 120 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. All work for this invoice was assigned to a "general" cost category.

AECOM Invoice #37475770 dated September 25, 2014 (June 23, 2014 – September 19, 2014)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.

AECOM Invoice #37489528 dated November 29, 2014 (September 20, 2014 – November 14, 2014)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.

AECOM Invoice #37501030 dated January 9, 2015 (November 15, 2014 – January 2, 2015)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.

AECOM Invoice #37519174 dated March 25, 2015 (January 3, 2014 – March 13, 2015)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
4. Hsing-Hua Chu has expertise in water conveyance piping design and conducted water main activities as noted on a copy of the invoice.

AECOM Invoice #37579851 dated June 15, 2015 (March 14, 2015 – May 15, 2015)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.

AECOM Invoice #37617264 dated August 27, 2015 (May 16, 2015 – July 10, 2015)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering." The Removal Action Work Plan (Revision 3) was submitted to USEPA on July 8, 2015.
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
4. Christina Bryz-Gornia and Serina Ranft conducted work activities related to North Shore Gas as identified on the invoice.
5. Badger Daylighting hydroexcavation utilities location services were employed to locate both North Shore Gas and City of Waukegan water mains.

AECOM Invoice #37679934 dated December 28, 2015 (July 11, 2015 – November 13, 2015)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
4. Christina Bryz-Gornia and Serina Ranft conducted work activities related to North Shore Gas as identified on the invoice.

AECOM Invoice #37711966 dated March 2, 2016 (January 9, 2016 – January 29, 2016)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
4. Christina Bryz-Gornia conducted work activities related to North Shore Gas as identified on the invoice.

AECOM Invoice #37732228 dated April 13, 2016 (January 30, 2016 – March 11, 2016)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
4. Christina Bryz-Gornia conducted work activities related to North Shore Gas as identified on the invoice.

AECOM Invoice #37741266 dated April 29, 2016 (March 12, 2015 – April 15, 2016)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.
4. Christina Bryz-Gornia conducted work activities related to utilities as identified on the invoice.

AECOM Invoice #37763387 dated June 14, 2016 (April 16, 2016 – June 10, 2016)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.

AECOM Invoice #37785606 dated July 29, 2016 (June 11, 2016 – July 15, 2016)

1. Primary work activity during this timeframe was the Utility Agreements & Work Plans. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering."
2. Tat Ebihara managed the AECOM team and participated in day-to-day work activities during the invoice period, and possesses detailed knowledge of staff work assignments and expertise utilized while conducting work on the Southwestern Sites Area of Concern.
3. Cost designation to specific categories of work activities for Site 3 or Site 6 was determined by Tat Ebihara. The remainder of the work not specifically assigned to a cost category was assigned to a "general" cost category.

AECOM Invoices from July 16, 2016 – January 20, 2017 period

1. Primary work activity during this timeframe was heavy field work, field work documentation and laboratory costs. Invoices include task 030 "Site 3 Engineering" and task 050 "Site 6 Engineering.

2. In Site 3, the amount of effort expended for cost categories (AT&T, ComEd, NE Corner, Nicor, North Shore, Water Main and Ramp) depended on the number of samples collected from each location. The costs associated with each cost category are assumed to be proportional to the number of sample locations (see summary table below).

	Sample locations	% of total
AT&T	0	0%
ComEd	0	0%
NE Corner	4	3%
Nicor	15	12%
North Shore	70	54%
Water Main	19	15%
Ramp	21	16%
Total Locations	**129**	

3. All Site 6 costs are included in the general Site 6 cost category. This is due to the nature of overlapping utility corridors within portion of the Site 6 road shoulders.

AECOM Invoices from January 21, 2017 to September 8, 2017

1. Primary work activity during this timeframe was laboratory costs and field work documentation. Invoices include applicable charges within task 030 “Site 3 Engineering” and task 050 “Site 6 Engineering.

2. In Site 3, the amount of effort expended for cost categories (AT&T, ComEd, NE Corner, Nicor, North Shore, Water Main and Ramp) depended on the number of samples collected from each location. The costs associated with each cost category are assumed to be proportional to the number of sample locations (see summary table below).

	Sample locations	% of total
AT&T	0	0%
ComEd	0	0%
NE Corner	4	3%
Nicor	15	12%
North Shore	70	54%
Water Main	19	15%
Ramp	21	16%
Total Locations	**129**	

3. All Site 6 costs are included in the general Site 6 cost category. This is due to the nature of overlapping utility corridors within portion of the Site 6 road shoulders. It should be noted that Site 6 laboratory charges included a $30,955 credit for the July 26, 2017 invoice associated with a laboratory overcharge amount.

Exhibit C

DMP Cost Tabulation Table

Table 1

Costs incurred during Site 3 & Site 6 Remediation Work
Campanella & Sons, DMP PE PC, AT&T, NSG, NSWRD, & Fence Work

May 11, 2017

Total Cost

Line#	Work Element	Campanella Project Award	Campanella T&M	DMP PE PC Engineering & Supervision T&M	Others including AT&T, NSWRD NSG & Fence	Total Project Value
1	AT&T	$ -	$ 53,548.37	$ -	$ 320,288.66	$ 373,837.03
2	NSG	$ 77,659.00	$ 185,005.38	$ -	$ 188,521.31	$ 451,185.69
3	NICOR	$ 106,848.37	$ 5,156.38	$ -	$ -	$ 112,004.75
4	Dewatering	$ 300,050.00	$ 41,999.64	$ -	$ 20,766.32	$ 362,815.96
5	NE Excavation	$ 35,957.43	$ -	$ -	$ -	$ 35,957.43
6	Water Main	$ 25,170.20	$ 38,240.64	$ -	$ -	$ 63,410.84
7	Filling/Capping	$ 328,983.00	$ 461,765.85	$ -	$ -	$ 790,748.85
8	Comed / Fiber Optic Cable	$ 77,659.00	$ -	$ -	$ -	$ 77,659.00
9	Site Preparation	$ 233,870.00	$ 37,410.43	$ -	$ 159,443.50	$ 430,723.93
10	Health and Safety	$ 77,000.00	$ -	$ -	$ -	$ 77,000.00
11	Engineering	$ -	$ -	$ 70,030.00	$ -	$ 70,030.00
12	RSE, Support Crew & Guardhouse	$ -	$ -	$ 479,710.00	$ -	$ 479,710.00
13	Total	**$ 1,263,197.00**	**$ 823,126.69**	**$ 549,740.00**	**$ 689,019.79**	**$ 3,325,083.48**

Notes

Line#	Work Element	Notes
14	AT&T	Includes Site 3 & Site 6 work and AT&T invoice.
15	NSG	Includes dewatering, valve access, and excavations north and south of Greenwood Ave.
16	NICOR	Includes Site 3 work to provide clean corridor.
17	Dewatering	Includes dewatering necessary to collect confirmation samples.
18	NE Excavation	Includes Site 3 work.
19	Water Main	Includes Site 3 & Site 6 work to provide clean corridor.
20	Filling/Capping	Includes Site 3 & Site 6 work, quarry sand, 3" stone, clay, and seeding.
21	Comed / Fiber Optic Cable	Includes Site 6 work south of Greenwood Ave.
22	Site Preparation	Includes Site 3 & Site 6 clearing, grubbing, storm water, traffic control, fencing, etc.
23	Health and Safety	Includes Site 3 & Site 6 work.
24	Engineering	Includes Site 3 & Site 6 work for bid specification, permitting, meetings, off-site activity.
25	RSE, Support Crew & Guardhouse	Includes Site 3 & Site 6 work on-site as well as other concurrent activities.

Table updated October 13, 2017

Table 2

Costs incurred during Site 3 & Site 6 Remediation Work
Campanella & Sons Southwest Sites Project Award
May 11, 2017

1.0 Site 3 Excavation and Capping

Line#	JM PO Item	1.1 Site Preparation	Invoiced to & Paid by JM	AT&T	NSG	Utility/ACM Excavation	NICOR	Dewater	W. Main	NE Ex.	Fill/Cap	Fib. Opt.	Site Prep	H&S
1	10	1.1.1 Surveying, Staking, Utility Identification, & JULIE Call	$ 68,150.00										$ 68,150.00	
2	20	1.1.2 Establish & Maintain Stormwater Controls	$ 6,970.00										$ 6,970.00	
3	30	1.1.3 Traffic Control Plan Development & Implementation	$ 57,220.00										$ 57,220.00	
4	40	1.1.4 Clearing and Grubbing	$ 5,970.00										$ 5,970.00	
		1.2 Excavation & Backfilling												
5	50	1.2.1 Excavation within 18 inches of gas line	$ 42,125.00				$ 42,125.00							
6	60	1.2.2 Other Excavation up to 5 ft deep	$ 13,195.00				$ 6,786.00		$ 2,639.00	$ 3,770.00				
7	70	1.2.3 Dewatering for Excavation & Sampling	$ 140,800.00					$ 140,800.00						
8	80	1.2.4 Haul Excavated Material to Industrial Canal	$ 46,415.00				$ 23,870.57		$ 9,283.00	$ 13,261.43				
9	90	1.2.5 Dispose or Scrap abandoned utilities	$ 5,690.00				$ 2,926.29		$ 1,138.00	$ 1,625.71				
10	100	1.2.6 Geotextile Procurement & Placement in Excavations	$ 11,013.00				$ 5,663.83		$ 2,202.60	$ 3,146.57				
11	110	1.2.7 Backfill with Borrow Pit Sand	$ 49,538.00				$ 25,476.69		$ 9,907.60	$ 14,153.71				
		1.3 Cap Construction												
12	120	1.3.1 Geotextile Procurement & Placement for Cap	$ 26,540.00								$ 26,540.00			
13	130	1.3.2 Install 6-inch Sand Layer	$ 28,340.00								$ 28,340.00			
14	140	1.3.3 Sampling and Analysis of Clay & Import Import	$ 140,163.00								$ 140,163.00			
15	150	1.3.4 Install 15-inch Compacted Clay Layer	$ 58,614.00								$ 58,614.00			
16	160	1.3.5 Sampling and Analysis of Sand/Compost & Import	$ 39,009.00								$ 39,009.00			
17	170	1.3.6 Install 3-inch Sand/Compost Layer	$ 15,870.00								$ 15,870.00			
18	180	1.3.7 Implement & Maintain Stormwater Controls to Prevent Erosion	$ 10,000.00								$ 10,000.00			
19	190	1.3.8 Establish Thriving Vegetative Cover	$ 10,447.00								$ 10,447.00			
20		**Site 3 Total**	**$ 776,069.00**	$ -	$ -		$ 106,848	$ 140,800	$ 25,170	$ 35,957	$ 328,983	$ -	$ 138,310	$ -
				x	x		x	x	x	x	x	x	x	x

2.0 Site Site 6 Excavation and Filling

Line#	JM PO Item	2.1 Site Preparation	Invoiced to & Paid by JM	AT&T(1)	NSG	Utility/ACM Excavation	NICOR	Dewater	W. Main	NE Ex.	Fill/Cap	Fib. Opt.	Site Prep	H&S
21	200	2.1.1 Surveying, Staking, Utility Identification, & JULIE Call	$ 67,150.00										$ 67,150.00	
22	210	2.1.2 Establish & Maintain Stormwater Controls	$ 19,940.00										$ 19,940.00	
23	220	2.1.3 Traffic Control Plan Development & Implementation	$ 3,470.00										$ 3,470.00	
24	230	2.1.4 Clearing and Grubbing including Tree & Stump Removal	$ 5,000.00										$ 5,000.00	
		2.2 Excavation & Backfilling												
25	240	2.2.1 Excavation to 3 ft deep	$ 23,563.00			$ 23,563.00								
26	250	2.2.2 Dewatering for Excavation & Sampling	$ 159,250.00					$ 159,250.00						
27	260	2.2.3 Haul Excavated Material to Industrial Canal	$ 59,500.00			$ 59,500.00								
28	270	2.2.4 Geotextile Procurement & Placement in Excavations	$ 23,140.00			$ 23,140.00								
29	280	2.2.5 Backfill with Borrow Pit Sand	$ 25,000.00			$ 25,000.00								
30	290	2.2.6 Dispose or Scrap abandoned utilities	$ 5,690.00			$ 5,690.00								
31	300	2.2.7 Implement & Maintain Stormwater Controls to Prevent Erosion	$ 10,000.00			$ 10,000.00								
32	310	2.2.8 Establish Thriving Vegetative Cover	$ 8,425.00			$ 8,425.00								
33		**Site 6 Total**	**$ 410,128.00**	$ -	$ -	$ 155,318	$ -	$ 159,250	$ -	$ -	$ -	$ -	$ 95,560	$ -
				x	x		x	x	x	x	x	x	x	

Health

Line#	JM PO Item	Description	Duration	Year	Invoiced to & Paid by JM	AT&T	NSG	Utility/ACM Excavation	NICOR	Dewater	W. Main	NE Ex.	Fill/Cap	Fib. Opt.	Site Prep	H&S
34	1010	7.2 Health and Safety Officer Daily Expense	13 days	2015	$ 14,300.00											$ 14,300.00
35		(Rate of $1,100/day)	57 days	2016	$ 62,700.00											$ 62,700.00
36			**Health and**		**$ 77,000.00**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 77,000
						AT&T	NSG	Utility/ACM	NICOR	Dewater	W. Main	NE Ex.	Fill/Cap	Fib. Opt.	Site Prep	H&S
37			**Overall Total**		**$ 1,263,197.00** Total	**$ 0.00**	**$ 0.00**	**$ 155,318.00**	**$ 106,848.38**	**$ 300,050.00**	**$ 25,170.20**	**$ 35,957.42**	**$ 328,983.00**	**$ 0.00**	**$ 233,870.00**	**$ 77,000.00**
						x	x		x							

-1 AT&T includes telephone and fiber optic lines located on Site 6.

Table updated October 13, 2017

Table 3

Costs incurred during Site 3 & Site 6 Remediation Work

Campanella & Sons Time and Materials Invoices

May 11, 2017

Line #	Date	Site	Invoice#	Scope of Work	Description	Quantity	Unit	Unit Cost	Total Cost	AT&T	NSG	Utility/ACM Excavation	NICOR	Dewater	W. Main	NE Ex.	Fill/Cap	Fib. Opt.	Site Prep	H&S
8	7/8/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Cat 320 Excavator	4.5	hrs	$ 250.00	$ 1,125					$ 1,125						
9	7/8/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Cat IT38 Loader	4.5	hrs	$ 220.00	$ 990					$ 990						
10	7/8/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Laborer Foreman	4.5	hrs	$ 105.00	$ 473					$ 473						
11	7/8/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Laborer	9	hrs	$ 105.00	$ 945					$ 945						
12	7/8/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Semi Dump Trailer	5	hrs	$ 125.00	$ 625					$ 625						
13	7/8/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	36" RCP	64	lf	$ 43.90	$ 2,810					$ 2,810						
14	7/8/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Mastic	3	ea	$ 51.75	$ 155					$ 155						
15	7/9/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Cat 320 Excavator	8.5	hrs	$ 250.00	$ 2,125					$ 2,125						
16	7/9/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Cat IT38 Loader	8	hrs	$ 220.00	$ 1,760					$ 1,760						
17	7/9/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Laborer Foreman	8	hrs	$ 105.00	$ 840					$ 840						
18	7/9/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Laborer	24	hrs	$ 105.00	$ 2,520					$ 2,520						
19	7/9/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Semi Dump Trailer	6	hrs	$ 125.00	$ 750					$ 750						
20	7/9/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Premium	118	lf	$ 6.15	$ 726					$ 726						
21	7/9/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Flowable Fill	16	cy	$ 117.30	$ 1,877					$ 1,877						
22	7/9/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	CA-7 Gravel	10.22	ton	$ 17.25	$ 176					$ 176						
23	7/10/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Cat 320 Excavator	8.5	hrs	$ 250.00	$ 2,125					$ 2,125						
24	7/10/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Laborer Foreman	8	hrs	$ 105.00	$ 840					$ 840						
25	7/10/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Laborer	16	hrs	$ 105.00	$ 1,680					$ 1,680						
26	7/10/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Semi Dump Trailer	5	hrs	$ 125.00	$ 625					$ 625						
27	7/10/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	CA-7 Gravel	18.75	ton	$ 17.25	$ 323					$ 323						
28	7/10/2015	Site 3	8592	Greenwood crossing with 36 inch pipe for dewatering	Binder Course	13.83	ton	$ 60.40	$ 835					$ 835						
129	5/16/2016	Site 3	8752	Dewatering for NSG valve access	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
130	5/17/2016	Site 3	8752	Dewatering for NSG valve access	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
131	5/17/2016	Site 3	8752	Dewatering for NSG valve access	NIB 3 FP Ball VLV FIP x FIP	1	Ea	$ 189.41	$ 189		$ 189									
132	5/17/2016	Site 3	8752	Dewatering for NSG valve access	3 Blk Mal Tee	1	Ea	$ 77.89	$ 78		$ 78									
133	5/17/2016	Site 3	8752	Dewatering for NSG valve access	Strainer 4"	1	Ea	$ 61.78	$ 62		$ 62									
134	5/24/2016	Site 3	8752	Maintain Pumps for NSG valve access	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
135	5/25/2016	Site 3	8752	Maintain Pumps for NSG valve access	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
136	5/26/2016	Site 3	8752	Dewatering for NSG valve access	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
137	5/26/2016	Site 3	8752	Haul Material to Black Ditch	Six-Wheel Dump	4	Hrs	$ 110.00	$ 440		$ 440									
138	5/27/2016	Site 3	8752	Dewatering pump installation	JD 744H Loader	8	Hrs	$ 225.00	$ 1,800		$ 1,800									
139	5/27/2016	Site 3	8752	24 hr Dewatering	Laborer	20.5	Hrs	$ 110.00	$ 2,255		$ 2,255									
140	5/27/2016	Site 3	8752	24 hr Dewatering	Laborer Overtime	4.5	Hrs	$ 30.85	$ 139		$ 139									
141	5/31/2016	Site 3	8752	Maintain pumps for NSG dewatering	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
142	6/1/2016	Site 3	8752	Maintain pumps for NSG dewatering	Cat 938G Wheel Loader	8	Hrs	$ 200.00	$ 1,600		$ 1,600									
143	6/1/2016	Site 3	8752	Maintain pumps for NSG dewatering	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
144	6/2/2016	Site 3	8752	Maintain pumps for NSG dewatering	Cat 938G Wheel Loader	10	Hrs	$ 200.00	$ 2,000		$ 2,000									
145	6/2/2016	Site 3	8752	Maintain pumps for NSG dewatering	Operator Overtime	2	Hrs	$ 36.60	$ 73		$ 73									
146	6/2/2016	Site 3	8752	Maintain pumps for NSG dewatering	Laborer	12.5	Hrs	$ 110.00	$ 1,375		$ 1,375									
147	6/2/2016	Site 3	8752	Maintain pumps for NSG dewatering	Laborer Overtime	4.5	Hrs	$ 30.85	$ 139		$ 139									
148	6/3/2016	Site 3	8752	Install crane mats for NSG valve access	Cat 938G Wheel Loader	11.5	Hrs	$ 200.00	$ 2,300		$ 2,300									
149	6/3/2016	Site 3	8752	Install crane mats for NSG valve access	Operator Overtime	3.5	Hrs	$ 36.60	$ 128		$ 128									
150	6/3/2016	Site 3	8752	Install crane mats for NSG valve access	Laborer	11.5	Hrs	$ 110.00	$ 1,265		$ 1,265									
151	6/3/2016	Site 3	8752	Install crane mats for NSG valve access	Laborer Overtime	3.5	Hrs	$ 30.85	$ 108		$ 108									
152	6/6/2016	Site 3	8752	Install crane mats for NSG valve access	Cat 938G Wheel Loader	10	Hrs	$ 200.00	$ 2,000		$ 2,000									
153	6/6/2016	Site 3	8752	Install crane mats for NSG valve access	Operator Overtime	2	Hrs	$ 36.60	$ 73		$ 73									
154	6/6/2016	Site 3	8752	Install crane mats for NSG valve access	Laborer	10	Hrs	$ 110.00	$ 1,100		$ 1,100									
155	6/6/2016	Site 3	8752	Install crane mats for NSG valve access	Laborer Overtime	2	Hrs	$ 30.85	$ 62		$ 62									
156	6/7/2016	Site 3	8752	Install crane mats for NSG valve access	Cat 938G Wheel Loader	8	Hrs	$ 200.00	$ 1,600		$ 1,600									
157	6/7/2016	Site 3	8752	Install crane mats for NSG valve access	Laborer	9.5	Hrs	$ 110.00	$ 1,045		$ 1,045									
158	6/7/2016	Site 3	8752	Install crane mats for NSG valve access	Laborer Overtime	1.5	Hrs	$ 30.85	$ 46		$ 46									
159	6/7/2016	Site 3	8752	Install crane mats for NSG valve access	Silt Fence	300	Ft	$ 0.44	$ 132		$ 132									
160	6/8/2016	Site 3	8752	Install crane mats for NSG valve access	Cat 938G Wheel Loader	8	Hrs	$ 200.00	$ 1,600		$ 1,600									
161	6/8/2016	Site 3	8752	Install crane mats for NSG valve access	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
162	6/9/2016	Site 3	8752	Install crane mats for NSG valve access	Cat 938G Wheel Loader	8	Hrs	$ 200.00	$ 1,600		$ 1,600									
163	6/9/2016	Site 3	8752	Install crane mats for NSG valve access	Laborer	8.5	Hrs	$ 110.00	$ 935		$ 935									
164	6/9/2016	Site 3	8752	Install crane mats for NSG valve access	Laborer Overtime	0.5	Hrs	$ 30.85	$ 15		$ 15									
165	6/10/2016	Site 3	8752	Install crane mats for NSG valve access	Cat 938G Wheel Loader	8	Hrs	$ 200.00	$ 1,600		$ 1,600									
166	6/10/2016	Site 3	8752	Install crane mats for NSG valve access	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
167	6/13/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Cat 938G Wheel Loader	4	Hrs	$ 200.00	$ 800		$ 800									
168	6/13/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Cat D6 Dozer	4	Hrs	$ 220.00	$ 880		$ 880									
169	6/13/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
170	6/14/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Cat 938G Wheel Loader	4	Hrs	$ 200.00	$ 800		$ 800									
171	6/14/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
172	6/14/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Six-Wheel Dump	8.5	Hrs	$ 110.00	$ 935		$ 935									
173	6/15/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Cat 938G Wheel Loader	4	Hrs	$ 200.00	$ 800		$ 800									
174	6/15/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Cat D6 Dozer	4	Hrs	$ 220.00	$ 880		$ 880									
175	6/15/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Laborer	16	Hrs	$ 110.00	$ 1,760		$ 1,760									
176	6/15/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Six-Wheel Dump	9.5	Hrs	$ 110.00	$ 1,045		$ 1,045									
177	6/16/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Cat 938G Wheel Loader	8	Hrs	$ 200.00	$ 1,600		$ 1,600									
178	6/16/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
179	6/16/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Six-Wheel Dump	9	Hrs	$ 110.00	$ 990		$ 990									
180	6/17/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Cat 938G Wheel Loader	8	Hrs	$ 200.00	$ 1,600		$ 1,600									
181	6/17/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
182	6/17/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Six-Wheel Dump	7.5	Hrs	$ 110.00	$ 825		$ 825									
183	6/20/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Cat 938G Wheel Loader	8	Hrs	$ 200.00	$ 1,600		$ 1,600									
184	6/20/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
185	6/20/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Six-Wheel Dump	8	Hrs	$ 110.00	$ 880		$ 880									

Table 3

Costs incurred during Site 3 & Site 6 Remediation Work

Campanella & Sons Time and Materials Invoices

May 11, 2017

Line #	Date	Site	Invoice#	Scope of Work	Description	Quantity	Unit	Unit Cost	Total Cost	AT&T	NSG	Utility/ACM Excavation	NICOR	Dewater	W. Main	NE Ex.	Fill/Cap	Fib. Opt.	Site Prep	H&S
186	6/20/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Polyfilm	2	Rolls	$ 109.25	$ 219		$ 219									
197	6/28/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
198	6/29/2016	Site 3	8752	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
199	6/30/2016	Site 3	8752	Support NSG contractor Meade including filling	JD 744H Loader	8	Hrs	$ 225.00	$ 1,800		$ 1,800									
200	6/30/2016	Site 3	8752	Support NSG contractor Meade including filling	Six-Wheel Dump	9	Hrs	$ 110.00	$ 990		$ 990									
201	6/30/2016	Site 3	8752	Support NSG contractor Meade including filling	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
202	7/1/2016	Site 3	8753	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880		$ 880									
209	7/15/2016	Site 3	8752	Seeding NSG valve area	Laborer	1	Hrs	$ 110.00	$ 110		$ 110									
238	8/24/2016	Site 3	8786	Excavation backfill	Trench Backfill-Sand	602.8	Ton	$ 13.50	$ 8,138								$ 8,138			
248	9/1/2016	Site 3	8786	Stockpile management	Polyfilm 16x100-4 MIL	1	Roll	$ 56.29	$ 56				$ 56							
249	9/1/2016	Site 3	8786	Stockpile management	Polyfilm 20x100-4 MIL	1	Roll	$ 70.09	$ 70				$ 70							
277	9/15/2016	Site 3	8800	Hand dig by gas main	Laborer	13	Hrs	$ 110.00	$ 1,430				$ 1,430							
278	9/16/2016	Site 3	8800	Haul from Site 3 to Black Ditch	Cat 938G Loader	2	Hrs	$ 200.00	$ 400				$ 400							
279	9/16/2016	Site 3	8800	Haul from Site 3 to Black Ditch	Cat 320C Excavator	2.5	Hrs	$ 235.00	$ 588				$ 588							
280	9/16/2016	Site 3	8800	Haul from Site 3 to Black Ditch	Laborer	2	Hrs	$ 110.00	$ 220				$ 220							
281	9/16/2016	Site 3	8800	Haul from Site 3 to Black Ditch	Semi-Dump	1	Hrs	$ 120.00	$ 120				$ 120							
282	9/16/2016	Site 3	8800	Excavation backfill	Trench Backfill-Sand	260.75	Ton	$ 13.50	$ 3,520								$ 3,520			
283	9/19/2016	Site 3	8800	Excavation backfill	Trench Backfill-Sand	474.75	Ton	$ 13.50	$ 6,409								$ 6,409			
284	9/20/2016	Site 3	8800	Haul tar material to landfill	Cat 320C Excavator	4.5	Hrs	$ 235.00	$ 1,058				$ 1,058							
285	9/20/2016	Site 3	8800	Haul tar material to landfill	Laborer	4.5	Hrs	$ 110.00	$ 495				$ 495							
286	9/20/2016	Site 3	8800	Haul tar material to landfill	Semi-Dump	6	Hrs	$ 120.00	$ 720				$ 720							
287	9/20/2016	Site 3	8800	Excavation backfill	Trench Backfill-Sand	419.7	Ton	$ 13.50	$ 5,666								$ 5,666			
288	9/21/2016	Site 3	8800	Excavation backfill	Trench Backfill-Sand	74.4	Tons	$ 13.50	$ 1,004								$ 1,004			
295	9/28/2016	Site 3	8800	Excavation backfill	Laborer	8	Hrs	$ 110.00	$ 880								$ 880			
296	9/28/2016	Site 3	8800	Excavation backfill	Semi-Dump	5	Hrs	$ 120.00	$ 600								$ 600			
297	9/28/2016	Site 3	8800	Excavation backfill	Trench Backfill-Sand	36.45	Ton	$ 13.50	$ 492								$ 492			
298	9/29/2016	Site 3	8800	Excavation backfill	Semi-Dump	16	Hrs	$ 120.00	$ 1,920								$ 1,920			
299	9/29/2016	Site 3	8800	Excavation backfill	Trench Backfill-Sand	451.9	Ton	$ 13.50	$ 6,101								$ 6,101			
300	9/30/2016	Site 3	8800	Excavation backfill	Semi-Dump	10.5	Hrs	$ 120.00	$ 1,260								$ 1,260			
301	9/30/2016	Site 3	8800	Excavation backfill	Trench Backfill-Sand	97.65	Ton	$ 13.50	$ 1,318								$ 1,318			
302	10/3/2016	Site 3	8800	Excavation backfill	Semi-Dump	8	Hrs	$ 120.00	$ 960								$ 960			
303	10/3/2016	Site 3	8800	Excavation backfill	Trench Backfill-Sand	114.8	Ton	$ 13.50	$ 1,550								$ 1,550			
356	11/14/2016	Site 3	8846	Armoring clay with stone in wet area	Skidsteer at JM (Case 450CT)	2	hrs	$ 195.00	$ 390								$ 390			
357	11/14/2016	Site 3	8846	Armoring clay with stone in wet area	3" Stone	60	ton	$ 25.21	$ 1,513								$ 1,513			
210	5/16 - 7/15	Site 3	8752	Dewatering for NSG valve and pipe access	Mercino - Dewatering for NSG Valve Access	1	invoice	$ 15,525.00	$ 15,525		$ 15,525									
211	5/16 - 7/15	Site 3	8752	Dewatering for NSG valve and pipe access	Mercino - Dewatering for NSG Valve Access	1	invoice	$ 7,040.88	$ 7,041		$ 7,041									
212	5/16 - 7/15	Site 3	8752	Dewatering for NSG valve and pipe access	Mercino - Dewatering for NSG Valve Access	1	invoice	$ 11,738.63	$ 11,739		$ 11,739									
213	5/16 - 7/15	Site 3	8752	Dewatering for NSG valve and pipe access	Fuel for Mercino Dewatering Pumps	1215	gallons	$ 2.31	$ 2,808		$ 2,808									
214	5/16 - 7/15	Site 3	8752	Dewatering for NSG valve and pipe access	4"x50' Red Lay Flat Hose W/C&G Ends	12	each	$ 111.15	$ 1,334		$ 1,334									
215	5/16 - 7/15	Site 3	8752	Dewatering for NSG valve and pipe access	3"x50' Red Lay Flat Hose W/C&G Ends	12	each	$ 86.36	$ 1,036		$ 1,036									
216	5/16 - 7/15	Site 3	8752	Crane matts for NSG valve access (5/16-6/30)	Matt Delivery & 1 Month Rental (Midwest Access)	1	invoice	$ 49,676.45	$ 49,676		$ 49,676									
217	5/16 - 7/15	Site 3	8752	Crane matts for NSG valve access	Matt Removal, 307 Matts (Midwest Access)	1	invoice	$ 13,405.69	$ 13,406		$ 13,406									
								Total	$ 233,881	$ -	$ 162,678		$ 5,156	$ 24,325	$ -	$ -	$ 41,721	$ -	$ -	$ -
222	8/3/2016	Site 6	8786	Excavation backfill	Six-Wheel Dump	4	Hrs	$ 110.00	$ 440								$ 440			
223	8/3/2016	Site 6	8786	Excavation backfill	3" Stone	150.94	Ton	$ 18.68	$ 2,820								$ 2,820			
224	8/3/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	669.25	Ton	$ 13.50	$ 9,035								$ 9,035			
225	8/4/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	723.80	Ton	$ 13.50	$ 9,771								$ 9,771			
226	8/5/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	1022.25	Ton	$ 13.50	$ 13,800								$ 13,800			
227	8/8/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	950.8	Ton	$ 13.50	$ 12,836								$ 12,836			
228	8/9/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	1176.8	Ton	$ 13.50	$ 15,887								$ 15,887			
229	8/10/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	485.75	Ton	$ 13.50	$ 6,558								$ 6,558			
230	8/11/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	623.15	Ton	$ 13.50	$ 8,413								$ 8,413			
231	8/12/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	528.55	Ton	$ 13.50	$ 7,135								$ 7,135			
232	8/15/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	851.45	Ton	$ 13.50	$ 11,495								$ 11,495			
233	8/16/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	929.45	Ton	$ 13.50	$ 12,548								$ 12,548			
234	8/17/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	1172.25	Ton	$ 13.50	$ 15,825								$ 15,825			
235	8/18/2016	Site 6	8786	Excavation backfill	Trench Backfill-Sand	496.9	Ton	$ 13.50	$ 6,708								$ 6,708			
236	8/18/2016	Site 6	8786	Excavation backfill	3" Stone	201.71	Ton	$ 18.68	$ 3,768								$ 3,768			
237	8/18/2016	Site 6	8786	Excavation backfill	CM-06 Stone	19.05	Ton	$ 14.95	$ 285								$ 285			
245	9/1/2016	Site 6	8786	Excavation backfill	3" Stone	38.39	Ton	$ 18.68	$ 717								$ 717			
246	9/1/2016	Site 6	8785	Relocate temporary fence	Laborer	16.5	Hrs	$ 110.00	$ 1,815										$ 1,815	
247	9/1/2016	Site 6	8785	Relocate temporary fence	Laborer Overtime	0.5	Hrs	$ 30.85	$ 15										$ 15	
250	9/2/2016	Site 6	8785	Relocate temporary fence	Laborer	24	Hrs	$ 110.00	$ 2,640										$ 2,640	
253	9/2/2016	Site 6	8786	Excavation backfill	3" Stone	115.79	Ton	$ 18.68	$ 2,163								$ 2,163			
254	9/2/2016	Site 6	8786	Excavation backfill	CM-06 Stone	39.41	Ton	$ 14.95	$ 589								$ 589			
256	9/6/2016	Site 6	8786	Excavation backfill	Semi Dump	5	Hrs	$ 120.00	$ 600								$ 600			
257	9/6/2016	Site 6	8786	Excavation backfill	3" Stone	129.61	Ton	$ 18.68	$ 2,421								$ 2,421			
261	9/9/2016	Site 6	8785	Water main repair	CA-7 Bedding Stone	8.06	Ton	$ 18.69	$ 151						$ 151					
262	9/9/2016	Site 6	8785	Water main repair	Six-Wheel Dump	1	Hrs	$ 110.00	$ 110						$ 110					
263	9/9/2016	Site 6	8785	Water main repair	Laborer	15	Hrs	$ 110.00	$ 1,650						$ 1,650					
264	9/9/2016	Site 6	8785	Water main repair	JD 135 Excavator	5.5	Hrs	$ 200.00	$ 1,100						$ 1,100					
269	9/12/2016	Site 6	8800	Capping	Semi Dump	7.5	Hrs	$ 120.00	$ 900								$ 900			
270	9/12/2016	Site 6	8800	Capping	3" Stone	150.89	Ton	$ 18.68	$ 2,819								$ 2,819			
271	9/13/2016	Site 6	8800	Capping	Six-Wheel Dump	2	Hrs	$ 110.00	$ 220								$ 220			
272	9/13/2016	Site 6	8800	Capping	3" Stone	27.08	Ton	$ 18.68	$ 506								$ 506			
273	9/14/2016	Site 6	8800	Capping	Semi Dump	3	Hrs	$ 120.00	$ 360								$ 360			
274	9/14/2016	Site 6	8800	Capping	Six-Wheel Dump	4	Hrs	$ 110.00	$ 440								$ 440			
275	9/14/2016	Site 6	8800	Capping	3" Stone	117.19	Ton	$ 18.68	$ 2,189								$ 2,189			

Table 3

Costs incurred during Site 3 & Site 6 Remediation Work

Campanella & Sons Time and Materials Invoices

May 11, 2017

Line #	Date	Site	Invoice#	Scope of Work	Description	Quantity	Unit	Unit Cost	Total Cost	AT&T	NSG	Utility/ACM Excavation	NICOR	Dewater	W. Main	NE Ex.	Fill/Cap	Fib. Opt.	Site Prep	H&S
276	9/14/2016	Site 6	8800	Capping	CM-06 Stone	19.72	Ton	$ 14.95	$ 295								$ 295			
289	9/22/2016	Site 6	8800	Remove temporary fence	Cat 938G Loader	1.5	Hrs	$ 200.00	$ 300										$ 300	
290	9/22/2016	Site 6	8800	Remove temporary fence	Laborer	5	Hrs	$ 110.00	$ 550										$ 550	
291	9/23/2016	Site 6	8800	Remove fence and relocate concrete blocks	Cat 938G Loader	7	Hrs	$ 200.00	$ 1,400										$ 1,400	
292	9/23/2016	Site 6	8800	Remove fence and relocate concrete blocks	Laborer	11	Hrs	$ 110.00	$ 1,210										$ 1,210	
294	9/26/2016	Site 6	8800	Remove fence	Laborer	8	Hrs	$ 110.00	$ 880										$ 880	
321	10/24/2016	Site 6	8846	Preparing for southern boundary excavation	Excavator at JM (Cat 315)	8.5	hrs	$ 225.00	$ 1,913						$ 1,913					
322	10/24/2016	Site 6	8846	Dismantling southern fence	Laborer	16	hrs	$ 110.00	$ 1,760										$ 1,760	
323	10/25/2016	Site 6	8846	Southern boundary excavation	Excavator at JM (Cat 315)	11.5	hrs	$ 225.00	$ 2,588						$ 2,588					
324	10/25/2016	Site 6	8846	Southern boundary excavation	Six-Wheeler at JM	22.5	hrs	$ 110.00	$ 2,475						$ 2,475					
325	10/25/2016	Site 6	8846	Southern boundary excavation	Water Truck	11.5	hrs	$ 180.00	$ 2,070						$ 2,070					
326	10/25/2016	Site 6	8846	Southern boundary excavation	Laborer	32	hrs	$ 110.00	$ 3,520						$ 3,520					
327	10/25/2016	Site 6	8846	Southern boundary excavation	Loader at JM (Cat 938)	8	hrs	$ 235.00	$ 1,880						$ 1,880					
328	10/27/2016	Site 6	8846	Southern boundary excavation	Excavator at JM (Cat 330)	8.5	hrs	$ 240.00	$ 2,040						$ 2,040					
329	10/27/2016	Site 6	8846	Southern boundary excavation	Excavator at JM (Cat 315)	11.5	hrs	$ 225.00	$ 2,588						$ 2,588					
330	10/27/2016	Site 6	8846	Southern boundary excavation	Loader at JM (Cat 938)	1	hrs	$ 235.00	$ 235						$ 235					
331	10/27/2016	Site 6	8846	Relocating temporary fence & excavation	Skidsteer at JM (TR 320)	11	hrs	$ 195.00	$ 2,145										$ 2,145	
332	10/27/2016	Site 6	8846	Southern boundary excavation	Six-Wheeler at JM	22	hrs	$ 110.00	$ 2,420						$ 2,420					
333	10/27/2016	Site 6	8846	Relocating temporary fence & excavation	Laborer	72.5	hrs	$ 110.00	$ 7,975										$ 7,975	
334	10/28/2016	Site 6	8846	Southern boundary excavation	Excavator at JM (Cat 315)	8.5	hrs	$ 225.00	$ 1,913						$ 1,913					
335	10/28/2016	Site 6	8846	Southern boundary excavation	Loader at JM (Cat 938)	8	hrs	$ 235.00	$ 1,880						$ 1,880					
336	10/28/2016	Site 6	8846	Southern boundary excavation	Skidsteer at JM (TR 320)	8	hrs	$ 195.00	$ 1,560						$ 1,560					
337	10/28/2016	Site 6	8846	Southern boundary excavation	Six-Wheeler at JM	17	hrs	$ 110.00	$ 1,870						$ 1,870					
338	10/28/2016	Site 6	8846	Southern boundary excavation	Laborer	24	hrs	$ 110.00	$ 2,640						$ 2,640					
339	10/31/2016	Site 6	8846	Backfilled southern boundary excavation	Skidsteer at JM (TR 320)	8	hrs	$ 195.00	$ 1,560								$ 1,560			
340	10/31/2016	Site 6	8846	Backfilled southern boundary excavation	Trench Backfill-Sand	468.5	ton	$ 14.32	$ 6,709								$ 6,709			
341	10/31/2016	Site 6	8846	Removing southern fence & excavation backfill	Laborer	8	hrs	$ 110.00	$ 880										$ 880	
342	11/1/2016	Site 6	8846	Removing southern fence & installing temporary fence	Laborer	40	hrs	$ 110.00	$ 4,400										$ 4,400	
343	11/2/2016	Site 6	8846	Removing southern fence & installing temporary fence	Laborer	24	hrs	$ 110.00	$ 2,640										$ 2,640	
344	11/3/2016	Site 6	8846	Dewatered southern boundary excavation	Laborer	8	hrs	$ 110.00	$ 880						$ 880					
345	11/4/2016	Site 6	8846	Backfilled southern boundary excavation	Skidsteer at JM (TR 320)	8	hrs	$ 195.00	$ 1,560								$ 1,560			
346	11/4/2016	Site 6	8846	Backfilled southern boundary excavation	Trench Backfill-Sand	137.85	ton	$ 14.32	$ 1,974								$ 1,974			
347	11/4/2016	Site 6	8846	Backfilled southern boundary excavation, fence work	Laborer	24	hrs	$ 110.00	$ 2,640								$ 2,640			
348	11/7/2016	Site 6	8846	Backfilled southern boundary excavation	Skidsteer at JM (TR 320)	9	hrs	$ 195.00	$ 1,755								$ 1,755			
349	11/7/2016	Site 6	8846	Backfilled southern boundary excavation	Trench Backfill-Sand	339.35	ton	$ 14.32	$ 4,859								$ 4,859			
350	11/7/2016	Site 6	8846	Backfilled southern boundary excavation, fence work	Laborer	24	hrs	$ 110.00	$ 2,640								$ 2,640			
351	11/8/2016	Site 6	8846	Southern boundary excavation	Loader at JM (Cat 938)	8	hrs	$ 235.00	$ 1,880						$ 1,880					
352	11/8/2016	Site 6	8846	Southern boundary excavation	Laborer	8	hrs	$ 110.00	$ 880						$ 880					
353	11/9/2016	Site 6	8846	Backfilled southern boundary excavation	Loader at JM (Cat 938)	9.5	hrs	$ 235.00	$ 2,233								$ 2,233			
354	11/9/2016	Site 6	8846	Backfilled southern boundary excavation	Laborer	8	hrs	$ 110.00	$ 880								$ 880			
355	11/10/2016	Site 6	8846	Fence relocation work, staked Black Ditch	Laborer	32	hrs	$ 110.00	$ 3,520										$ 3,520	
358	11/14/2016	Site 6	8846	Fence relocation work	Laborer	24	hrs	$ 110.00	$ 2,640										$ 2,640	
359	11/15/2016	Site 6	8846	Capping Site 6	Skidsteer at JM (Case 70XT)	8	hrs	$ 195.00	$ 1,560								$ 1,560			
360	11/15/2016	Site 6	8846	Capping Site 6	Topsoil	12	lds	$ 65.00	$ 780								$ 780			
361	11/15/2016	Site 6	8846	Fence relocation work	Laborer	24	hrs	$ 110.00	$ 2,640										$ 2,640	
362	11/16/2016	Site 6	8846	Capping Site 6	Skidsteer at JM (Case 70XT)	8	hrs	$ 195.00	$ 1,560								$ 1,560			
364	11/16/2016	Site 6	8846	Capping Site 6	Laborer	8	hrs	$ 110.00	$ 880								$ 880			
368	11/17/2016	Site 6	8846	Capping Site 6	Skidsteer at JM (TR 320)	8	hrs	$ 195.00	$ 1,560								$ 1,560			
369	11/17/2016	Site 6	8846	Capping Site 6	Skidsteer at JM (Case 450CT)	8	hrs	$ 195.00	$ 1,560								$ 1,560			
377	12/8/2016	Site 6	8846	Double Arrow Sign in Site 6 (installed 12/5)	Arrow Sign - W25	1	EA	$ 682.00	$ 682								$ 682			
379	12/8/2016	Site 6	8846	Capping Site 6 (11/23)	IDOT Mix Surcharge for Site 6	2.5	acres	$ 500.00	$ 1,250								$ 1,250			
								Total	$ 263,835	$ -	$ -		$ -	$ -	$ 38,241	$ -	$ 188,183	$ -	$ 37,410	$ -
1	5/6/2015	Sites 3 & 6	8523	Utility pole installation to reroute AT&T cables	Cat 320 Excavator	8.5	hrs	$ 250.00	$ 2,125	$ 2,125										
2	5/6/2015	Sites 3 & 6	8523	Utility pole installation to reroute AT&T cables	Semi Dump Trailer	6	hrs	$ 125.00	$ 750	$ 750										
3	5/6/2015	Sites 3 & 6	8523	Utility pole installation to reroute AT&T cables	Laborer Foreman	8.5	hrs	$ 105.00	$ 893	$ 893										
4	5/7/2015	Sites 3 & 6	8523	Utility pole installation to reroute AT&T cables	Cat 320 Excavator	8.5	hrs	$ 250.00	$ 2,125	$ 2,125										
5	5/7/2015	Sites 3 & 6	8523	Utility pole installation to reroute AT&T cables	Semi Dump Trailer	5.5	hrs	$ 125.00	$ 688	$ 688										
6	5/7/2015	Sites 3 & 6	8523	Utility pole installation to reroute AT&T cables	Laborer Foreman	8.5	hrs	$ 105.00	$ 893	$ 893										
7	5/7/2015	Sites 3 & 6	8523	Utility pole installation to reroute AT&T cables	Utility Pole Installation (Home Towne Electric Sub.)	1	invoice	$ 12,128.00	$ 12,128	$ 12,128										
29	8/29/2015	Sites 3 & 6	8592	Deliver & stage barrier wall for AT&T	Cat 315CL Excavator	6	hrs	$ 250.00	$ 1,500	$ 1,500										
30	8/29/2015	Sites 3 & 6	8592	Deliver & stage barrier wall for AT&T	JD 744H Loader	8	hrs	$ 220.00	$ 1,760	$ 1,760										
31	8/29/2015	Sites 3 & 6	8592	Deliver & stage barrier wall for AT&T	Semi Flat Bed	12.5	hrs	$ 125.00	$ 1,563	$ 1,563										
32	8/29/2015	Sites 3 & 6	8592	Deliver & stage barrier wall for AT&T	Laborer	8	hrs	$ 105.00	$ 840	$ 840										
33	8/31/2015	Sites 3 & 6	8592	Excavate access holes on Greenwood Ave for AT&T	Komatsu PC490LC Excavator	3	hrs	$ 250.00	$ 750	$ 750										
34	8/31/2015	Sites 3 & 6	8592	Excavate access holes on Greenwood Ave for AT&T	JD 744H Loader	3	hrs	$ 220.00	$ 660	$ 660										
35	8/31/2015	Sites 3 & 6	8592	Excavate access holes on Greenwood Ave for AT&T	Cat 315CL Excavator	3	hrs	$ 250.00	$ 750	$ 750										
36	8/31/2015	Sites 3 & 6	8592	Excavate access holes on Greenwood Ave for AT&T	Laborer	6	hrs	$ 105.00	$ 630	$ 630										
37	8/31/2015	Sites 3 & 6	8592	Excavate access holes on Greenwood Ave for AT&T	Six Wheeler Dump	8	hrs	$ 110.00	$ 880	$ 880										
38	9/3/2015	Sites 3 & 6	8616	Excavate access holes on Greenwood Ave for AT&T	Cat 315CL Excavator	8.5	hrs	$ 250.00	$ 2,125	$ 2,125										
39	9/3/2015	Sites 3 & 6	8616	Excavate access holes on Greenwood Ave for AT&T	Laborer	6	hrs	$ 105.00	$ 630	$ 630										
40	9/3/2015	Sites 3 & 6	8616	Excavate access holes on Greenwood Ave for AT&T	Six Wheel dump	9.5	hrs	$ 110.00	$ 1,045	$ 1,045										
41	10/19/2015	Sites 3 & 6	8643	Place barrier wall for AT&T	Cat IT 38G Loader	4	hrs	$ 200.00	$ 800	$ 800										
42	11/13/2015	Sites 3 & 6	8643	Place barrier wall for AT&T	Cat 320C Backhoe	5	hrs	$ 235.00	$ 1,175	$ 1,175										
43	11/13/2015	Sites 3 & 6	8643	Place barrier wall for AT&T	Operator Overtime	1	hrs	$ 36.60	$ 37	$ 37										
44	11/13/2015	Sites 3 & 6	8643	Place barrier wall for AT&T	Cat 740 Off Road Truck	3	hrs	$ 245.00	$ 735	$ 735										
45	11/13/2015	Sites 3 & 6	8643	Place barrier wall for AT&T	Laborer	8	hrs	$ 105.00	$ 840	$ 840										
46	12/4/2015	Sites 3 & 6	8643	Build berm to dewater at Greenwood Ave. for AT&T	JD 744H Loader	8	hrs	$ 220.00	$ 1,760	$ 1,760										
47	12/4/2015	Sites 3 & 6	8643	Build berm to dewater at Greenwood Ave. for AT&T	Laborer Foreman	8	hrs	$ 105.00	$ 840	$ 840										

Table 3

Costs incurred during Site 3 & Site 6 Remediation Work

Campanella & Sons Time and Materials Invoices

May 11, 2017

Line #	Date	Site	Invoice#	Scope of Work	Description	Quantity	Unit	Unit Cost	Total Cost	AT&T	NSG	Utility/ACM Excavation	NICOR	Dewater	W. Main	NE Ex.	Fill/Cap	Fib. Opt.	Site Prep	H&S
48	12/4/2015	Sites 3 & 6	8643	Build berm to dewater at Greenwood Ave. for AT&T	6-Wheel Dump	16	hrs	$ 110.00	$ 1,760	$ 1,760										
49	12/4/2015	Sites 3 & 6	8643	Build berm to dewater at Greenwood Ave. for AT&T	CA-6	27.47	tns	$ 12.65	$ 348	$ 348										
50	12/4/2015	Sites 3 & 6	8643	Build berm to dewater at Greenwood Ave. for AT&T	PGE	16	lds	$ 240.00	$ 3,840	$ 3,840										
51	12/7/2015	Sites 3 & 6	8643	Maintain berm for AT&T bore, fill in excavated hole	JD 744H Loader	5.5	hrs	$ 220.00	$ 1,210	$ 1,210										
52	12/7/2015	Sites 3 & 6	8643	Maintain berm for AT&T bore, fill in excavated hole	Laborer Foreman	8	hrs	$ 105.00	$ 840	$ 840										
53	12/8/2015	Sites 3 & 6	8643	Dewater at AT&T excavation.	Laborer Foreman	6.5	hrs	$ 105.00	$ 683	$ 683										
54	12/8/2015	Sites 3 & 6	8643	Dewater at AT&T excavation.	Laborer Foreman Overtime	1	hrs	$ 35.85	$ 36	$ 36										
55	12/14/2015	Sites 3 & 6	8643	Remove berm for AT&T	Cat 938G Wheel Loader	5	hrs	$ 200.00	$ 1,000	$ 1,000										
56	12/14/2015	Sites 3 & 6	8643	Remove berm for AT&T	Komatsu PC490LC-10 Excavator	1.5	hrs	$ 275.00	$ 413	$ 413										
57	12/14/2015	Sites 3 & 6	8643	Remove berm for AT&T	Laborer Foreman	2.5	hrs	$ 105.00	$ 263	$ 263										
58	12/14/2015	Sites 3 & 6	8643	Remove berm for AT&T	Laborer	2.5	hrs	$ 105.00	$ 263	$ 263										
59	12/18/2015	Sites 3 & 6	8643	Backfill AT&T excavation	Komatsu PC490LC-10 Excavator	7	hrs	$ 275.00	$ 1,925	$ 1,925										
60	12/18/2015	Sites 3 & 6	8643	Backfill AT&T excavation	Laborer	8.5	hrs	$ 105.00	$ 893	$ 893										
61	12/18/2015	Sites 3 & 6	8643	Backfill AT&T excavation	Laborer Overtime	0.5	hrs	$ 35.85	$ 18	$ 18										
62	12/18/2015	Sites 3 & 6	8643	Backfill AT&T excavation	Semi Dump Trailer	9.5	hrs	$ 120.00	$ 1,140	$ 1,140										
63	3/8/2016	Sites 3 & 6	8721	Move and stage 4" and 6" HDPE pipe for dewatering	JD 744H Loader	2	Hrs	$ 220.00	$ 440					$ 440						
64	3/8/2016	Sites 3 & 6	8721	Move and stage 4" and 6" HDPE pipe for dewatering	Laborer	2	Hrs	$ 105.00	$ 210					$ 210						
65	3/9/2016	Sites 3 & 6	8721	Assemble 4" and 6" HDPE pipe for dewatering	Laborer	4	Hrs	$ 105.00	$ 420					$ 420						
66	3/10/2016	Sites 3 & 6	8721	Assemble 4" and 6" HDPE pipe for dewatering	JD 744H Loader	4	Hrs	$ 220.00	$ 880					$ 880						
67	3/10/2016	Sites 3 & 6	8721	Assemble 4" and 6" HDPE pipe for dewatering	Laborer	4	Ea	$ 105.00	$ 420					$ 420						
68	3/10/2016	Sites 3 & 6	8721	Assemble 4" and 6" HDPE pipe for dewatering	6x4 MJ Reducer	1	Ea	$ 97.75	$ 98					$ 98						
69	3/10/2016	Sites 3 & 6	8721	Assemble 4" and 6" HDPE pipe for dewatering	4 MJ Long Solid Sleeve	3	Ea	$ 82.80	$ 248					$ 248						
70	3/10/2016	Sites 3 & 6	8721	Assemble 4" and 6" HDPE pipe for dewatering	4 MJ Cap	1	Ea	$ 34.50	$ 35					$ 35						
71	3/10/2016	Sites 3 & 6	8721	Assemble 4" and 6" HDPE pipe for dewatering	6 MJ 90 Bend	1	Ea	$ 132.25	$ 132					$ 132						
72	4/4/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	Laborer	4	Hrs	$ 105.00	$ 420					$ 420						
73	4/6/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	Laborer	4	Hrs	$ 105.00	$ 420					$ 420						
74	4/6/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	4 MJ Tee	3	Ea	$ 138.00	$ 414					$ 414						
75	4/6/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	6x6 MJ Tee	3	Ea	$ 189.75	$ 569					$ 569						
76	4/6/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	4" PVC Mega Lug Kit	6	Ea	$ 39.10	$ 235					$ 235						
77	4/6/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	6" PVC Mega Lug Kit	6	Ea	$ 59.80	$ 359					$ 359						
78	4/6/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	4"x12" Black Nipple	3	Ea	$ 21.85	$ 66					$ 66						
79	4/6/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	6"x12" Black Nipple	3	Ea	$ 56.35	$ 169					$ 169						
80	4/6/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	4" Black Coupling	3	Ea	$ 32.75	$ 98					$ 98						
81	4/6/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	6" Black Coupling	3	Ea	$ 67.85	$ 204					$ 204						
82	4/7/2016	Sites 3 & 6	8721	Disassemble HDPE dewatering pipe for fusion	Laborer	4	Hrs	$ 105.00	$ 420					$ 420						
83	4/8/2016	Sites 3 & 6	8721	Stage HDPE pipe for dewatering	Laborer	4	Hrs	$ 105.00	$ 420					$ 420						
84	4/20/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	Laborer	4	Hrs	$ 105.00	$ 420					$ 420						
85	4/20/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	6 1000 SDR 11 IPS PE 90 Mold	3	Ea	$ 41.98	$ 126					$ 126						
86	4/20/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	6 1000 SDR 11 IPS PE Tee Mold	6	Ea	$ 55.78	$ 335					$ 335						
87	4/20/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	4 1000 SDR 11 IPS PE Tee Mold	3	Ea	$ 22.71	$ 68					$ 68						
88	4/20/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	6 1000 SDR 11 IPS PE Flg	6	Ea	$ 20.70	$ 124					$ 124						
89	4/20/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	6" IPS Plate Lap Joint Flange	6	Ea	$ 12.08	$ 72					$ 72						
90	4/20/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	4 1000 SDR 11 IPS PE Flg	3	Ea	$ 12.65	$ 38					$ 38						
91	4/20/2016	Sites 3 & 6	8721	Install fittings for HDPE pipe for dewatering	4" IPS Plate Lap Joint Flange	3	Ea	$ 9.78	$ 29					$ 29						
92	4/21/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	JD 744H Loader	4	Hrs	$ 220.00	$ 880					$ 880						
93	4/21/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	Cat 938G Wheel Loader	4	Hrs	$ 200.00	$ 800					$ 800						
94	4/21/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	Laborer	4	Hrs	$ 105.00	$ 420					$ 420						
95	4/21/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	Fuse 6" & 4" HDPE Pipe-RJ Underground	4	Hrs	$ 129.25	$ 517					$ 517						
96	4/22/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	Laborer	4	Hrs	$ 105.00	$ 420					$ 420						
97	4/22/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	Fuse 6" & 4" HDPE Pipe-RJ Underground	4	Hrs	$ 129.25	$ 517					$ 517						
98	4/22/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	6x4 CI Reducing Comp FLG	3	Ea	$ 73.60	$ 221					$ 221						
99	4/22/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	6x3 CI Comp FLG F/Steel	3	Ea	$ 73.60	$ 221					$ 221						
100	4/22/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	4x3 DI STD Comp FLG F/Steel	3	Ea	$ 60.95	$ 183					$ 183						
101	4/22/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	4" B Alum QC Male Coupler	3	Ea	$ 27.60	$ 83					$ 83						
102	4/22/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	4" Alum QC Dust Plug	3	Ea	$ 16.10	$ 48					$ 48						
103	4/22/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	3" B Alum QC Male Coupler	3	Ea	$ 20.70	$ 62					$ 62						
104	4/22/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	3" Part "DP" Alum Dust Plug	3	Ea	$ 9.20	$ 28					$ 28						
105	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	Laborer	8	Hrs	$ 10.50	$ 84					$ 84						
106	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	Fuse 6" & 4" HDPE Pipe-RJ Underground	4	Hrs	$ 129.25	$ 517					$ 517						
107	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	4x1/8 FLG FF RR Gasket	3	Ea	$ 3.45	$ 10					$ 10						
108	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	6x1/8 FLG FF RR Gasket	6	Ea	$ 4.03	$ 24					$ 24						
109	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	6x4 1000 SDR17 IPS PE Red	1	Ea	$ 27.03	$ 27					$ 27						
110	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	4 1000 SDR11 IPS PE Cap	1	Ea	$ 11.79	$ 12					$ 12						
111	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	NIB 3 FP Ball VLV FIP x FIP	3	Ea	$ 189.41	$ 568					$ 568						
112	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	NIB 4 FP Ball VLV FIP x FIP	1	Ea	$ 343.41	$ 343					$ 343						
113	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	4x6 STD Black Nipple	2	Ea	$ 58.25	$ 117					$ 117						
114	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	3x6 STD Black Nipple	6	Ea	$ 42.27	$ 254					$ 254						
115	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	4 BLK MAL 90 ELL	1	Ea	$ 122.79	$ 123					$ 123						
116	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	3/4x520 PTFE Tape G0.35-0.40 Density	3	Ea	$ 0.69	$ 2					$ 2						
117	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	4 x Close STD Black Nipple	2	Ea	$ 41.43	$ 83					$ 83						
118	4/25/2016	Sites 3 & 6	8721	Fuse HDPE pipe for dewatering	LACO 1 QT BIC PTFE Paste 42049 Silicitite	1	Ea	$ 64.69	$ 65					$ 65						
119	4/26/2016	Sites 3 & 6	8721	Test and flush HDPE pipe for dewatering	Laborer	4	Hrs	$ 105.00	$ 420					$ 420						
120	4/27/2016	Sites 3 & 6	8721	Test and flush HDPE pipe for dewatering	Laborer	4	Hrs	$ 105.00	$ 420					$ 420						
121	4/29/2016	Sites 3 & 6	8721	Test and flush HDPE pipe for dewatering	Laborer	3.5	Hrs	$ 105.00	$ 368					$ 368						
122	5/3/2016	Sites 3 & 6	8733	HPDE installation equipment for dewatering	6x12-1/2 Clamp	2	Ea	$ 120.91	$ 242					$ 242						
123	5/3/2016	Sites 3 & 6	8733	HPDE installation equipment for dewatering	Spring Washer	6	Ea	$ 12.25	$ 74					$ 74						
124	5/6/2016	Sites 3 & 6	8733	HPDE installation equipment for dewatering	3" Alum QC Male Coupler	1	Ea	$ 18.00	$ 18					$ 18						
125	5/6/2016	Sites 3 & 6	8733	HPDE installation equipment for dewatering	3" Part "DP" Alum Dust Plug	1	Ea	$ 8.00	$ 8					$ 8						

Table 3

Costs incurred during Site 3 & Site 6 Remediation Work

Campanella & Sons Time and Materials Invoices

May 11, 2017

Line #	Date	Site	Invoice#	Scope of Work	Description	Quantity	Unit	Unit Cost	Total Cost
126	5/6/2016	Sites 3 & 6	8733	HPDE installation equipment for dewatering	6x3 DI Reducing FLG F/STL	1	Ea	$ 64.00	$ 64
127	5/6/2016	Sites 3 & 6	8733	HPDE installation equipment for dewatering	5/8 Spring Washer	6	Ea	$ 10.65	$ 64
128	5/6/2016	Sites 3 & 6	8733	HPDE installation equipment for dewatering	6x12-1/2 Clamp	2	Ea	$ 104.19	$ 208
187	6/21/2016	Sites 3 & 6	8753	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880
188	6/22/2016	Sites 3 & 6	8753	Support NSG contractor Meade including dewatering	Cat 938G Wheel Loader	6	Hrs	$ 200.00	$ 1,200
189	6/22/2016	Sites 3 & 6	8752	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880
190	6/22/2016	Sites 3 & 6	8752	Support NSG contractor Meade including dewatering	Six-Wheel Dump	8	Hrs	$ 110.00	$ 880
191	6/23/2016	Sites 3 & 6	8752	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880
192	6/23/2016	Sites 3 & 6	8752	Support NSG contractor Meade including dewatering	Six-Wheel Dump	8	Hrs	$ 110.00	$ 880
193	6/24/2016	Sites 3 & 6	8752	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880
194	6/24/2016	Sites 3 & 6	8752	Support NSG contractor Meade including dewatering	Six-Wheel Dump	8.5	Hrs	$ 110.00	$ 935
195	6/27/2016	Sites 3 & 6	8752	Support NSG contractor Meade including dewatering	Laborer	8	Hrs	$ 110.00	$ 880
196	6/27/2016	Sites 3 & 6	8752	Support NSG contractor Meade including dewatering	Six-Wheel Dump	8	Hrs	$ 110.00	$ 880
203	7/5/2016	Sites 3 & 6	8753	Support NSG contractor Meade including filling	JD 744H Loader	8	Hrs	$ 225.00	$ 1,800
204	7/5/2016	Sites 3 & 6	8753	Support NSG contractor Meade including filling	Laborer	8	Hrs	$ 110.00	$ 880
205	7/5/2016	Sites 3 & 6	8753	Support NSG contractor Meade including filling	Six-Wheel Dump	8	Hrs	$ 110.00	$ 880
206	7/6/2016	Sites 3 & 6	8753	Support NSG contractor Meade including filling	Laborer	8	Hrs	$ 110.00	$ 880
207	7/7/2016	Sites 3 & 6	8753	Support NSG contractor Meade including filling	Laborer	8	Hrs	$ 110.00	$ 880
208	7/8/2016	Sites 3 & 6	8752	Support NSG contractor Meade including filling	Laborer	8	Hrs	$ 110.00	$ 880
239	8/25/2016	Sites 3 & 6	8786	Excavation backfill	Trench Backfill-Sand	1334.4	Ton	$ 13.50	$ 18,014
240	8/26/2016	Sites 3 & 6	8786	Excavation backfill	Trench Backfill-Sand	1441.75	Ton	$ 13.50	$ 19,464
241	8/29/2016	Sites 3 & 6	8786	Excavation backfill	Trench Backfill- Sand	905.8	Ton	$ 13.50	$ 12,228
242	8/31/2016	Sites 3 & 6	8786	Excavation backfill	Trench Backfill-Sand	869	Ton	$ 13.50	$ 11,732
243	9/1/2016	Sites 3 & 6	8786	Excavation backfill	Semi Dump	2	Hrs	$ 120.00	$ 240
244	9/1/2016	Sites 3 & 6	8786	Excavation backfill	Trench Backfill-Sand	890.55	Ton	$ 13.50	$ 12,022
251	9/2/2016	Sites 3 & 6	8786	Excavation backfill	Semi Dump	8	Hrs	$ 120.00	$ 960
252	9/2/2016	Sites 3 & 6	8786	Excavation backfill	Trench Backfill-Sand	1431.1	Ton	$ 13.50	$ 19,320
255	9/6/2016	Sites 3 & 6	8786	Excavation backfill	Trench Backfill-Sand	1459.15	Ton	$ 13.50	$ 19,699
258	9/7/2016	Sites 3 & 6	8786	Excavation backfill	Trench Backfill-Sand	1738.75	Ton	$ 13.50	$ 23,473
259	9/8/2016	Sites 3 & 6	8786	Excavation backfill	Trench Backfill-Sand	1685.85	Ton	$ 13.50	$ 22,759
260	9/9/2016	Sites 3 & 6	8786	Excavation backfill	Trench Backfill-Sand	737.85	Ton	$ 13.50	$ 9,961
265	9/10/2016	Sites 3 & 6	8785	Remove HDPE line	Cat 938G	3	Hrs	$ 200.00	$ 600
266	9/10/2016	Sites 3 & 6	8785	Remove HDPE line	Operator Overtime	3	Hrs	$ 36.60	$ 110
267	9/10/2016	Sites 3 & 6	8785	Remove HDPE line	Laborer	4	Hrs	$ 110.00	$ 440
268	9/10/2016	Sites 3 & 6	8785	Remove HDPE line	Laborer	4	Hrs	$ 30.85	$ 123
293	9/23/2016	Sites 3 & 6	8800	Excavation backfill	Trench Backfill-Sand	347.7	Ton	$ 13.50	$ 4,694
304	10/17/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Dozer at JM (JD 750K)	8	hrs	$ 220.00	$ 1,760
305	10/17/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Excavator at JM (Cat 330)	8.5	hrs	$ 240.00	$ 2,040
306	10/17/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Off-Road Truck (Cat D250)	8	hrs	$ 230.00	$ 1,840
307	10/17/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Off-Road Truck (Cat 725)	8	hrs	$ 230.00	$ 1,840
308	10/17/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Laborer	8	hrs	$ 110.00	$ 880
309	10/18/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Dozer at JM (JD 750K)	8	hrs	$ 220.00	$ 1,760
310	10/18/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Dozer at JM (Cat D6)	2	hrs	$ 220.00	$ 440
311	10/18/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Excavator at JM (Cat 330)	9	hrs	$ 240.00	$ 2,160
312	10/18/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Off-Road Truck (Cat D250)	8	hrs	$ 230.00	$ 1,840
313	10/18/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Off-Road Truck (Cat 725)	8	hrs	$ 230.00	$ 1,840
314	10/19/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Dozer at JM (JD 750K)	4	hrs	$ 220.00	$ 880
315	10/19/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Dozer at JM (Cat D6)	4	hrs	$ 220.00	$ 880
316	10/19/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Excavator at JM (Cat 330)	4.5	hrs	$ 240.00	$ 1,080
317	10/19/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Off-Road Truck (Cat D250)	4	hrs	$ 230.00	$ 920
318	10/19/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Off-Road Truck (Cat 725)	4	hrs	$ 230.00	$ 920
319	10/19/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Skidsteer at JM (TR 320)	1	hrs	$ 195.00	$ 195
320	10/19/2016	Sites 3 & 6	8846	Loaded, hauled and placed clay to cap Black Ditch	Six-Wheeler at JM	4.5	hrs	$ 110.00	$ 495
363	11/16/2016	Sites 3 & 6	8846	Capping Site 6 & Black Ditch	Topsoil	45	lds	$ 65.00	$ 2,925
365	11/17/2016	Sites 3 & 6	8846	Capping the Black Ditch	Excavator to Load (JD 470)	6	hrs	$ 250.00	$ 1,500
366	11/17/2016	Sites 3 & 6	8846	Capping the Black Ditch	Clay Import (Semi)	100	loads	$ 140.00	$ 14,000
367	11/17/2016	Sites 3 & 6	8846	Capping the Black Ditch	Dozer at JM (Cat D6)	8	hrs	$ 220.00	$ 1,760
370	11/17/2016	Sites 3 & 6	8846	Capping the Black Ditch	Loader at JM (Cat 973)	4	hrs	$ 235.00	$ 940
371	11/17/2016	Sites 3 & 6	8846	Capping Site 6 & Black Ditch	Topsoil	32	lds	$ 65.00	$ 2,080
372	11/17/2016	Sites 3 & 6	8846	Capping the Black Ditch	Laborer	24	hrs	$ 110.00	$ 2,640
373	11/18/2016	Sites 3 & 6	8846	Capping the Black Ditch	Skidsteer at JM (TR 320)	8	hrs	$ 195.00	$ 1,560
374	11/18/2016	Sites 3 & 6	8846	Capping the Black Ditch	Skidsteer at JM (Case 70XT)	8	hrs	$ 195.00	$ 1,560
375	11/18/2016	Sites 3 & 6	8846	Capping the Black Ditch	Topsoil	28	lds	$ 65.00	$ 1,820
376	11/18/2016	Sites 3 & 6	8846	Capping the Black Ditch	Laborer	8	hrs	$ 110.00	$ 880
378	12/8/2016	Sites 3 & 6	8846	Capping the Black Ditch (11/22)	Black Ditch Hydro Seeding	1.3	acres	$ 2,970.00	$ 3,861
218	5/16 - 7/15	Sites 3 & 6	8752	Dewatering for NSG valve and pipe access	Generator	315.6	hours	$ 14.42	$ 4,551
219	5/16 - 7/15	Sites 3 & 6	8752	Dewatering for NSG valve and pipe access	Fuel	104.15	gallons	$ 2.31	$ 241
220	5/16 - 7/15	Sites 3 & 6	8752	Dewatering for NSG valve and pipe access	2" Pump	96	hours	$ 12.00	$ 1,152
221	5/16 - 7/15	Sites 3 & 6	8752	Dewatering for NSG valve and pipe access	3" Pump	72	hours	$ 14.00	$ 1,008
								Total	$ 325,412
380								**Total**	**$ 823,127**

AT&T	NSG	Utility/ACM Excavation	NICOR	Dewater	W. Main	NE Ex.	Fill/Cap	Fib. Opt.	Site Prep	H&S
				$ 64						
				$ 64						
				$ 208						
	$ 880									
	$ 1,200									
	$ 880									
	$ 880									
	$ 880									
	$ 880									
	$ 880									
	$ 935									
	$ 880									
	$ 880									
	$ 1,800									
	$ 880									
	$ 880									
	$ 880									
	$ 880									
	$ 880									
							$ 18,014			
							$ 19,464			
							$ 12,228			
							$ 11,732			
							$ 240			
							$ 12,022			
							$ 960			
							$ 19,320			
							$ 19,699			
							$ 23,473			
							$ 22,759			
							$ 9,961			
				$ 600						
				$ 110						
				$ 440						
				$ 123						
							$ 4,694			
							$ 1,760			
							$ 2,040			
							$ 1,840			
							$ 1,840			
							$ 880			
							$ 1,760			
							$ 440			
							$ 2,160			
							$ 1,840			
							$ 1,840			
							$ 880			
							$ 880			
							$ 1,080			
							$ 920			
							$ 920			
							$ 195			
							$ 495			
							$ 2,925			
							$ 1,500			
							$ 14,000			
							$ 1,760			
							$ 940			
							$ 2,080			
							$ 2,640			
							$ 1,560			
							$ 1,560			
							$ 1,820			
							$ 880			
							$ 3,861			
	$ 4,551									
	$ 241									
	$ 1,152									
	$ 1,008									
$ 53,548	$ 22,327	$ -	$ -	$ 17,675	$ -	$ -	$ 231,862	$ -	$ -	$ -
$ 53,548	**$ 185,005**	**$ -**	**$ 5,156**	**$ 42,000**	**$ 38,241**	**$ -**	**$ 461,766**	**$ -**	**$ 37,410**	**$ -**

Table 4

Costs incurred during Site 3 & Site 6 Remediation Work

DMP PE PC Invoices

May 11, 2017

Line#	Date	Site	Invoice#	Scope of Work (Contractor Supervision or Engineering)	Description	Quantity	Unit	Unit Rate	Total Cost	Bid Spec., Permitting, Meetings, Engineering	RSE, Crew, GH
179	5/20/2016	Site 3	1080	Dewatering for NSG valve access	Engineering	3	hrs	$ 120.00	$ 360.00		$ 360.00
180	5/20/2016	Site 3	1080	Dewatering for NSG valve access	Support Crew	1	day	$ 1,000.00	$ 1,000.00		$ 1,000.00
181	5/23/2016	Site 3	1080	Dewatering for NSG valve access	Engineering	3	hrs	$ 120.00	$ 360.00		$ 360.00
182	5/23/2016	Site 3	1080	Dewatering for NSG valve access	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
183	5/24/2016	Site 3	1080	Dewatering for NSG valve access	Engineering	8	hrs	$ 120.00	$ 960.00		$ 960.00
184	5/24/2016	Site 3	1080	Dewatering for NSG valve access	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
185	5/25/2016	Site 3	1080	Dewatering for NSG valve access	Engineering	14	hrs	$ 120.00	$ 1,680.00		$ 1,680.00
186	5/25/2016	Site 3	1080	Dewatering for NSG valve access	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
187	5/26/2016	Site 3	1080	Dewatering for NSG valve access	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
188	5/26/2016	Site 3	1080	Dewatering for NSG valve access	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
189	5/27/2016	Site 3	1080	Dewatering for NSG valve access	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
190	5/27/2016	Site 3	1080	Dewatering for NSG valve access	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
191	5/31/2016	Site 3	1091	Dewatering for NSG valve access	Engineering	8	hrs	$ 120.00	$ 960.00		$ 960.00
192	5/31/2016	Site 3	1091	Dewatering for NSG valve access	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
193	6/1/2016	Site 3	1091	Dewatering for NSG valve access	Engineering	8	hrs	$ 120.00	$ 960.00		$ 960.00
194	6/1/2016	Site 3	1091	Dewatering for NSG valve access	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
195	6/2/2016	Site 3	1091	Dewatering for NSG valve access	Engineering	8	hrs	$ 120.00	$ 960.00		$ 960.00
196	6/2/2016	Site 3	1091	Dewatering for NSG valve access	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
197	6/2/2016	Site 3	1091	Dewatering for NSG valve access	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
198	6/3/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Engineering	6	hrs	$ 120.00	$ 720.00		$ 720.00
199	6/3/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
200	6/3/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
201	6/6/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Engineering	6	hrs	$ 120.00	$ 720.00		$ 720.00
202	6/6/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
203	6/6/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
204	6/7/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Engineering	6	hrs	$ 120.00	$ 720.00		$ 720.00
205	6/7/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
206	6/7/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
207	6/8/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Engineering	4	hrs	$ 120.00	$ 480.00		$ 480.00
208	6/8/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
209	6/8/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
210	6/9/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Engineering	4	hrs	$ 120.00	$ 480.00		$ 480.00
211	6/9/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
212	6/9/2016	Site 3	1091	Dewatering for NSG valve access, crane mat installation	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
213	6/10/2016	Site 3	1091	Dewatering for NSG valve access	Engineering	6	hrs	$ 120.00	$ 720.00		$ 720.00
214	6/10/2016	Site 3	1091	Dewatering for NSG valve access	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
215	6/10/2016	Site 3	1091	Dewatering for NSG valve access	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
216	6/13/2016	Site 3	1091	Dewatering for NSG valve access	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
217	6/13/2016	Site 3	1091	Dewatering for NSG valve access	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
218	6/13/2016	Site 3	1091	Dewatering for NSG valve access	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
219	6/14/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
220	6/14/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
221	6/14/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
222	6/15/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
223	6/15/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
224	6/15/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
225	6/16/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
226	6/16/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
227	6/16/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
228	6/17/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Engineering	5	hrs	$ 120.00	$ 600.00		$ 600.00
229	6/17/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00

Table 4

Costs incurred during Site 3 & Site 6 Remediation Work

DMP PE PC Invoices

May 11, 2017

Line#	Date	Site	Invoice#	Scope of Work (Contractor Supervision or Engineering)	Description	Quantity	Unit	Unit Rate	Total Cost	Bid Spec., Permitting, Meetings, Engineering	RSE, Crew, GH
230	6/17/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
231	6/20/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
232	6/20/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
233	6/20/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
249	6/28/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
250	6/28/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
251	6/28/2016	Site 3	1091	Dewatering for NSG valve access & pipe excavation	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
252	6/29/2016	Site 3	1091	Dewatering for NSG valve access & pipe work	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
253	6/29/2016	Site 3	1091	Dewatering for NSG valve access & pipe work	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
254	6/29/2016	Site 3	1091	Dewatering for NSG valve access & pipe work	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
255	6/30/2016	Site 3	1091	Dewatering for NSG valve access & pipe work	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
256	6/30/2016	Site 3	1091	Dewatering for NSG valve access & pipe work	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
257	6/30/2016	Site 3	1091	Dewatering for NSG valve access & pipe work	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
258	7/1/2016	Site 3	1091	Dewatering for NSG valve access & pipe work	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
259	7/1/2016	Site 3	1091	Dewatering for NSG valve access & pipe work	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
260	7/1/2016	Site 3	1091	Dewatering for NSG valve access & pipe work	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
							Subtotal		$ 74,530		$ 74,530
362	8/23/2016	Site 3	1098	Excavated Site 3	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
363	8/23/2016	Site 3	1098	Excavated Site 3	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
364	8/23/2016	Site 3	1098	Excavated Site 3	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
365	8/24/2016	Site 3	1098	Excavated and backfilled Site 3	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
366	8/24/2016	Site 3	1098	Excavated and backfilled Site 3	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
371	8/29/2016	Site 3	1098	Backfilled Site 3	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
372	8/29/2016	Site 3	1098	Backfilled Site 3	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
408	9/16/2016	Site 3	1105	Excavated, backfilled and capped Site 3	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
409	9/16/2016	Site 3	1105	Excavated, backfilled and capped Site 3	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
410	9/16/2016	Site 3	1105	Excavated, backfilled and capped Site 3	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
411	9/19/2016	Site 3	1105	Backfilled and capped Site 3	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
412	9/19/2016	Site 3	1105	Backfilled and capped Site 3	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
413	9/19/2016	Site 3	1105	Backfilled and capped Site 3	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
414	9/20/2016	Site 3	1105	Excavated, backfilled and capped Site 3	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
415	9/20/2016	Site 3	1105	Excavated, backfilled and capped Site 3	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
416	9/20/2016	Site 3	1105	Excavated, backfilled and capped Site 3	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
417	9/21/2016	Site 3	1105	Backfilled Site 3	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
418	9/21/2016	Site 3	1105	Backfilled Site 3	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
419	9/21/2016	Site 3	1105	Backfilled Site 3	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
426	9/29/2016	Site 3	1105	Backfilled Site 3	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
427	9/29/2016	Site 3	1105	Backfilled Site 3	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
428	9/29/2016	Site 3	1105	Backfilled Site 3	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
429	9/30/2016	Site 3	1105	Backfilled Site 3	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
430	9/30/2016	Site 3	1105	Backfilled Site 3	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
431	9/30/2016	Site 3	1105	Backfilled Site 3	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
432	10/4/2016	Site 3	1114	Capped Site 3	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
433	10/4/2016	Site 3	1114	Capped Site 3	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
434	10/4/2016	Site 3	1114	Capped Site 3	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
435	10/5/2016	Site 3	1114	Capped Site 3	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
436	10/5/2016	Site 3	1114	Capped Site 3	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
437	10/5/2016	Site 3	1114	Capped Site 3	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
441	10/10/2016	Site 3	1114	Site 3 capping	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
442	10/10/2016	Site 3	1114	Site 3 capping	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
443	10/11/2016	Site 3	1114	Site 3 capping	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00

Table 4

Costs incurred during Site 3 & Site 6 Remediation Work

DMP PE PC Invoices

May 11, 2017

Line#	Date	Site	Invoice#	Scope of Work (Contractor Supervision or Engineering)	Description	Quantity	Unit	Unit Rate	Total Cost	Bid Spec., Permitting, Meetings, Engineering	RSE, Crew, GH
444	10/11/2016	Site 3	1114	Site 3 capping	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
445	10/11/2016	Site 3	1114	Site 3 capping	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
446	10/12/2016	Site 3	1114	Site 3 capping	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
447	10/12/2016	Site 3	1114	Site 3 capping	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
448	10/12/2016	Site 3	1114	Site 3 capping	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
449	10/13/2016	Site 3	1114	Site 3 capping	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
450	10/13/2016	Site 3	1114	Site 3 capping	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
451	10/13/2016	Site 3	1114	Site 3 capping	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
452	10/14/2016	Site 3	1114	Site 3 capping	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
453	10/14/2016	Site 3	1114	Site 3 capping	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
454	10/14/2016	Site 3	1114	Site 3 capping	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
							Subtotal		$ 55,550.00	$ -	$ 55,550.00
							Site 3 Total		$ 130,080	$ -	$ 130,080
282	7/15/2016	Site 6	1095	Site 6 clearing, excavated Site 6 & hauled to Black Ditch	Engineering	2	hrs	$ 120.00	$ 240.00		$ 240.00
283	7/15/2016	Site 6	1095	Site 6 clearing, excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
284	7/15/2016	Site 6	1095	Site 6 clearing, excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
285	7/18/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
286	7/18/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
287	7/18/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
288	7/19/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
289	7/19/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
290	7/19/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
291	7/20/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
292	7/20/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
293	7/20/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
294	7/21/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
295	7/21/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
296	7/21/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
297	7/22/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Engineering	4	hrs	$ 120.00	$ 480.00		$ 480.00
298	7/22/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
299	7/22/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
300	7/25/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
301	7/25/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
302	7/25/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
303	7/26/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
304	7/26/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Support Crew	0.6	day	$ 1,500.00	$ 900.00		$ 900.00
305	7/26/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Support Crew	0.4	day	$ 1,500.00	$ 600.00		$ 600.00
306	7/26/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
307	7/27/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
308	7/27/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
309	7/27/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
310	7/28/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
311	7/28/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
312	7/28/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
313	7/29/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
314	7/29/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
315	7/29/2016	Site 6	1095	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
316	8/1/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
317	8/1/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
318	8/1/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
319	8/2/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00

Table 4

Costs incurred during Site 3 & Site 6 Remediation Work

DMP PE PC Invoices

May 11, 2017

Line#	Date	Site	Invoice#	Scope of Work (Contractor Supervision or Engineering)	Description	Quantity	Unit	Unit Rate	Total Cost	Bid Spec., Permitting, Meetings, Engineering	RSE, Crew, GH
320	8/2/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
321	8/2/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
322	8/3/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch, sand backfill	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
323	8/3/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch, sand backfill	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
324	8/3/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch, sand backfill	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
325	8/4/2016	Site 6	1098	Backfilled Site 6	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
326	8/4/2016	Site 6	1098	Backfilled Site 6	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
327	8/4/2016	Site 6	1098	Backfilled Site 6	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
328	8/5/2016	Site 6	1098	Backfilled Site 6	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
329	8/5/2016	Site 6	1098	Backfilled Site 6	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
330	8/5/2016	Site 6	1098	Backfilled Site 6	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
359	8/22/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
360	8/22/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
361	8/22/2016	Site 6	1098	Excavated Site 6 & hauled to Black Ditch	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
373	8/30/2016	Site 6	1098	Excavated Site 6	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
374	8/30/2016	Site 6	1098	Excavated Site 6	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
375	8/30/2016	Site 6	1098	Excavated Site 6	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
399	9/13/2016	Site 6	1105	Backfilled Site 6	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
400	9/13/2016	Site 6	1105	Backfilled Site 6	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
401	9/13/2016	Site 6	1105	Backfilled Site 6	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
402	9/14/2016	Site 6	1105	Backfilled Site 6	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
403	9/14/2016	Site 6	1105	Backfilled Site 6	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
404	9/14/2016	Site 6	1105	Backfilled Site 6	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
420	9/22/2016	Site 6	1105	Capped Site 6	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
421	9/22/2016	Site 6	1105	Capped Site 6	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
422	9/22/2016	Site 6	1105	Capped Site 6	Guardhouse Attendance	0.125	day	$ 400.00	$ 50.00		$ 50.00
423	9/22/2016	Site 6	1105	Capped Site 6	Guardhouse Attendance	0.875	day	$ 400.00	$ 350.00		$ 350.00
424	9/26/2016	Site 6	1105	Dismantled Site 6 fence	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
425	9/26/2016	Site 6	1105	Dismantled Site 6 fence	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
438	10/7/2016	Site 6	1114	Site 6 capping & stormwater erosion controls	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
439	10/7/2016	Site 6	1114	Site 6 capping & stormwater erosion controls	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
440	10/7/2016	Site 6	1114	Site 6 capping & stormwater erosion controls	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
464	10/20/2016	Site 6	1114	Southern boundary excavation work	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
465	10/20/2016	Site 6	1114	Southern boundary excavation work	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
466	10/20/2016	Site 6	1114	Southern boundary excavation work	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
467	10/21/2016	Site 6	1114	Southern boundary excavation work, BD road install	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
468	10/21/2016	Site 6	1114	Southern boundary excavation work, BD road install	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
471	10/25/2016	Site 6	1114	Southern boundary excavation	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
472	10/25/2016	Site 6	1114	Southern boundary excavation	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
473	10/25/2016	Site 6	1114	Southern boundary excavation	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
474	10/26/2016	Site 6	1114	Southern boundary excavation planning	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
475	10/26/2016	Site 6	1114	Southern boundary excavation planning	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
476	10/26/2016	Site 6	1114	Southern boundary excavation planning	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
477	10/27/2016	Site 6	1114	Southern boundary excavation	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
478	10/27/2016	Site 6	1114	Southern boundary excavation	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
479	10/27/2016	Site 6	1114	Southern boundary excavation	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
480	10/28/2016	Site 6	1114	Southern boundary excavation	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
481	10/28/2016	Site 6	1114	Southern boundary excavation	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
482	10/28/2016	Site 6	1114	Southern boundary excavation	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
490	11/3/2016	Site 6	1122	Dewatered southern boundary excavation	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
491	11/3/2016	Site 6	1122	Dewatered southern boundary excavation	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00

Table 4

Costs incurred during Site 3 & Site 6 Remediation Work

DMP PE PC Invoices

May 11, 2017

Line#	Date	Site	Invoice#	Scope of Work (Contractor Supervision or Engineering)		Description	Quantity	Unit	Unit Rate	Total Cost	Bid Spec., Permitting, Meetings, Engineering	RSE, Crew, GH
492	11/3/2016	Site 6	1122	Dewatered southern boundary excavation		Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
493	11/4/2016	Site 6	1122	Southern boundary backfilling		RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
494	11/4/2016	Site 6	1122	Southern boundary backfilling		Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
495	11/4/2016	Site 6	1122	Southern boundary backfilling		Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
496	11/7/2016	Site 6	1122	Southern boundary backfilling		Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
497	11/7/2016	Site 6	1122	Southern boundary backfilling		Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
507	11/11/2016	Site 6	1122	Cap southern boundary, temp. fence install		RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
508	11/11/2016	Site 6	1122	Cap southern boundary, temp. fence install		Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
509	11/11/2016	Site 6	1122	Cap southern boundary, temp. fence install		Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
516	11/17/2016	Site 6	1122	Capped Site 6 & Black Ditch, Site 6 fence installation		RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
517	11/17/2016	Site 6	1122	Capped Site 6 & Black Ditch, Site 6 fence installation		Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
518	11/18/2016	Site 6	1122	Capped Black Ditch, Site 6 fence installation		Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
519	11/21/2016	Site 6	1122	Seeded Black Ditch and Site 6		RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
520	11/21/2016	Site 6	1122	Seeded Black Ditch and Site 6		Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
								Subtotal		$ 122,170.00	$ -	$ 122,170.00
								Site 6 Total		$ 122,170.00	$ -	$ 122,170.00
103	9/1/2015	Sites 3 & 6	1031	AT&T cable installation on poles	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
104	9/1/2015	Sites 3 & 6	1031	AT&T cable installation on poles	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
105	9/1/2015	Sites 3 & 6	1031	AT&T cable installation on poles	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
128	12/15/2015	Sites 3 & 6	1044	AT&T cable installation underground	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
129	12/15/2015	Sites 3 & 6	1044	AT&T cable installation underground	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
130	12/15/2015	Sites 3 & 6	1044	AT&T cable installation underground	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
115	12/2/2015	Sites 3 & 6	1044	AT&T for project completion schedule meeting on-site	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
131	12/18/2015	Sites 3 & 6	1044	Backfill AT&T excavation	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
132	12/18/2015	Sites 3 & 6	1044	Backfill AT&T excavation	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
133	12/18/2015	Sites 3 & 6	1044	Backfill AT&T excavation	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
116	12/4/2015	Sites 3 & 6	1044	Build berm to dewater at Greenwood Ave. for AT&T	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
117	12/4/2015	Sites 3 & 6	1044	Build berm to dewater at Greenwood Ave. for AT&T	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
118	12/4/2015	Sites 3 & 6	1044	Build berm to dewater at Greenwood Ave. for AT&T	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
122	12/8/2015	Sites 3 & 6	1044	Dewater at AT&T excavation.	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
123	12/8/2015	Sites 3 & 6	1044	Dewater at AT&T excavation.	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
124	12/8/2015	Sites 3 & 6	1044	Dewater at AT&T excavation.	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
100	8/31/2015	Sites 3 & 6	1031	Excavate access holes on Greenwood Ave for AT&T	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
101	8/31/2015	Sites 3 & 6	1031	Excavate access holes on Greenwood Ave for AT&T	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
102	8/31/2015	Sites 3 & 6	1031	Excavate access holes on Greenwood Ave for AT&T	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
106	9/3/2015	Sites 3 & 6	1031	Excavate test holes on Greenwood Ave for AT&T	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
107	9/3/2015	Sites 3 & 6	1031	Excavate test holes on Greenwood Ave for AT&T	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
108	9/3/2015	Sites 3 & 6	1031	Excavate test holes on Greenwood Ave for AT&T	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
119	12/7/2015	Sites 3 & 6	1044	Maintain berm for AT&T bore, fill in excavated hole	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
120	12/7/2015	Sites 3 & 6	1044	Maintain berm for AT&T bore, fill in excavated hole	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
121	12/7/2015	Sites 3 & 6	1044	Maintain berm for AT&T bore, fill in excavated hole	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
109	10/19/2015	Sites 3 & 6	1036	Place barrier wall for AT&T	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
110	10/19/2015	Sites 3 & 6	1036	Place barrier wall for AT&T	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
111	10/19/2015	Sites 3 & 6	1036	Place barrier wall for AT&T	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
112	11/13/2015	Sites 3 & 6	1040	Place barrier wall for AT&T	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
113	11/13/2015	Sites 3 & 6	1040	Place barrier wall for AT&T	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
114	11/13/2015	Sites 3 & 6	1040	Place barrier wall for AT&T	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
125	12/14/2015	Sites 3 & 6	1044	Remove berm for AT&T	AT&T	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
126	12/14/2015	Sites 3 & 6	1044	Remove berm for AT&T	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
127	12/14/2015	Sites 3 & 6	1044	Remove berm for AT&T	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
33	5/6/2015	Sites 3 & 6	1007	Utility pole installation to reroute AT&T cables	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00

Table 4

Costs incurred during Site 3 & Site 6 Remediation Work

DMP PE PC Invoices

May 11, 2017

Line#	Date	Site	Invoice#	Scope of Work (Contractor Supervision or Engineering)		Description	Quantity	Unit	Unit Rate	Total Cost	Bid Spec., Permitting, Meetings, Engineering	RSE, Crew, GH
34	5/7/2015	Sites 3 & 6	1007	Utility pole installation to reroute AT&T cables	AT&T	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
35	5/7/2015	Sites 3 & 6	1007	Utility pole installation to reroute AT&T cables	AT&T	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
								Subtotal		$ 45,350.00	$ -	$ 45,350.00
166	4/21/2016	Sites 3 & 6	1071	Fuse HDPE pipe for dewatering	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00		$ 240.00
167	4/21/2016	Sites 3 & 6	1071	Fuse HDPE pipe for dewatering	Dewatering	Support Crew	1	day	$ 1,000.00	$ 1,000.00		$ 1,000.00
168	4/22/2016	Sites 3 & 6	1071	Fuse HDPE pipe for dewatering	Dewatering	Engineering	1	hrs	$ 120.00	$ 120.00		$ 120.00
169	4/22/2016	Sites 3 & 6	1071	Fuse HDPE pipe for dewatering	Dewatering	Engineering	1	hrs	$ 120.00	$ 120.00		$ 120.00
170	4/22/2016	Sites 3 & 6	1071	Fuse HDPE pipe for dewatering	Dewatering	Support Crew	1	day	$ 1,000.00	$ 1,000.00		$ 1,000.00
171	4/25/2016	Sites 3 & 6	1071	Fuse HDPE pipe for dewatering	Dewatering	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
172	4/25/2016	Sites 3 & 6	1071	Fuse HDPE pipe for dewatering	Dewatering	Support Crew	1	day	$ 1,000.00	$ 1,000.00		$ 1,000.00
164	4/20/2016	Sites 3 & 6	1071	HDPE fusion	Dewatering	Engineering	4	hrs	$ 120.00	$ 480.00		$ 480.00
144	3/9/2016	Sites 3 & 6	1060	HPDE dewatering line installation	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
145	3/10/2016	Sites 3 & 6	1060	HPDE dewatering line installation	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
146	3/11/2016	Sites 3 & 6	1060	HPDE dewatering line installation	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
159	4/4/2016	Sites 3 & 6	1071	HPDE dewatering line installation	Dewatering	Engineering	6	hrs	$ 120.00	$ 720.00	$ 720.00	
161	4/6/2016	Sites 3 & 6	1071	HPDE dewatering line installation	Dewatering	Engineering	6	hrs	$ 120.00	$ 720.00		$ 720.00
162	4/7/2016	Sites 3 & 6	1071	HPDE dewatering line installation	Dewatering	Engineering	6	hrs	$ 120.00	$ 720.00		$ 720.00
163	4/8/2016	Sites 3 & 6	1071	HPDE dewatering line installation	Dewatering	Engineering	3	hrs	$ 120.00	$ 360.00		$ 360.00
140	3/1/2016	Sites 3 & 6	1055	HPDE dewatering line planning	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
142	3/7/2016	Sites 3 & 6	1060	HPDE dewatering line planning	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
143	3/8/2016	Sites 3 & 6	1060	HPDE dewatering line planning	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
141	3/2/2016	Sites 3 & 6	1055	HPDE dewatering line planning, NSWRD permitting	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
165	4/20/2016	Sites 3 & 6	1071	Install fittings for HDPE pipe for dewatering	Dewatering	Support Crew	1	day	$ 1,000.00	$ 1,000.00		$ 1,000.00
148	3/15/2016	Sites 3 & 6	1060	NSWRD dewatering discharge permit planning	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
150	3/21/2016	Sites 3 & 6	1060	NSWRD dewatering discharge permit planning	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
154	3/24/2016	Sites 3 & 6	1060	NSWRD dewatering discharge permit planning	Dewatering	Engineering	8	hrs	$ 120.00	$ 960.00	$ 960.00	
134	1/13/2016	Sites 3 & 6	1048	NSWRD permitting	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
135	1/26/2016	Sites 3 & 6	1048	NSWRD permitting	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
138	2/17/2016	Sites 3 & 6	1055	NSWRD permitting	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
139	2/23/2016	Sites 3 & 6	1055	NSWRD permitting	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
534	12/21/2016	Sites 3 & 6	1129	NSWRD Reporting, Campanella comm.	Dewatering	Engineering	4	hrs	$ 125.00	$ 500.00	$ 500.00	
528	12/5/2016	Sites 3 & 6	1129	NSWRD Reporting, fence planning, Campanella comm.	Dewatering	Engineering	4	hrs	$ 125.00	$ 500.00	$ 500.00	
173	4/26/2016	Sites 3 & 6	1071	Test and flush HDPE pipe for dewatering	Dewatering	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
174	4/26/2016	Sites 3 & 6	1071	Test and flush HDPE pipe for dewatering	Dewatering	Support Crew	1	day	$ 1,000.00	$ 1,000.00		$ 1,000.00
175	4/27/2016	Sites 3 & 6	1071	Test and flush HDPE pipe for dewatering	Dewatering	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
176	4/27/2016	Sites 3 & 6	1071	Test and flush HDPE pipe for dewatering	Dewatering	Support Crew	1	day	$ 1,000.00	$ 1,000.00		$ 1,000.00
177	4/29/2016	Sites 3 & 6	1071	Test and flush HDPE pipe for dewatering	Dewatering	Engineering	2	hrs	$ 120.00	$ 240.00		$ 240.00
178	4/29/2016	Sites 3 & 6	1071	Test and flush HDPE pipe for dewatering	Dewatering	Support Crew	1	day	$ 1,000.00	$ 1,000.00		$ 1,000.00
								Subtotal		$ 21,500.00	$ 5,800.00	$ 15,700.00
334	8/9/2016	Sites 3 & 6	1098	Backfilled Site 6, excavated Site 3	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
335	8/9/2016	Sites 3 & 6	1098	Backfilled Site 6, excavated Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
336	8/9/2016	Sites 3 & 6	1098	Backfilled Site 6, excavated Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
337	8/10/2016	Sites 3 & 6	1098	Backfilled Site 6, excavated Site 3	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
338	8/10/2016	Sites 3 & 6	1098	Backfilled Site 6, excavated Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
339	8/10/2016	Sites 3 & 6	1098	Backfilled Site 6, excavated Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
376	8/31/2016	Sites 3 & 6	1098	Backfilled Sites 3 & 6	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
377	8/31/2016	Sites 3 & 6	1098	Backfilled Sites 3 & 6	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
378	8/31/2016	Sites 3 & 6	1098	Backfilled Sites 3 & 6	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
379	9/1/2016	Sites 3 & 6	1098	Backfilled Sites 3 & 6	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00

Table 4

Costs incurred during Site 3 & Site 6 Remediation Work

DMP PE PC Invoices

May 11, 2017

Line#	Date	Site	Invoice#	Scope of Work (Contractor Supervision or Engineering)		Description	Quantity	Unit	Unit Rate	Total Cost	Bid Spec., Permitting, Meetings, Engineering	RSE, Crew, GH
380	9/1/2016	Sites 3 & 6	1098	Backfilled Sites 3 & 6	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
381	9/1/2016	Sites 3 & 6	1098	Backfilled Sites 3 & 6	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
382	9/2/2016	Sites 3 & 6	1098	Backfilled Sites 3 & 6	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
383	9/2/2016	Sites 3 & 6	1098	Backfilled Sites 3 & 6	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
384	9/2/2016	Sites 3 & 6	1098	Backfilled Sites 3 & 6	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
385	9/6/2016	Sites 3 & 6	1105	Backfilled Sites 3 & 6	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
386	9/6/2016	Sites 3 & 6	1105	Backfilled Sites 3 & 6	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
387	9/6/2016	Sites 3 & 6	1105	Backfilled Sites 3 & 6	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
388	9/7/2016	Sites 3 & 6	1105	Backfilled Sites 3 & 6	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
389	9/7/2016	Sites 3 & 6	1105	Backfilled Sites 3 & 6	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
390	9/7/2016	Sites 3 & 6	1105	Backfilled Sites 3 & 6	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
397	9/12/2016	Sites 3 & 6	1105	Backfilled Sites 3 & 6	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
398	9/12/2016	Sites 3 & 6	1105	Backfilled Sites 3 & 6	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
512	11/15/2016	Sites 3 & 6	1122	Cap Site 3, Site 6 fence installation	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
513	11/15/2016	Sites 3 & 6	1122	Cap Site 3, Site 6 fence installation	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
510	11/14/2016	Sites 3 & 6	1122	Cap Sites 3 & 6, Site 6 fence installation	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
511	11/14/2016	Sites 3 & 6	1122	Cap Sites 3 & 6, Site 6 fence installation	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
455	10/17/2016	Sites 3 & 6	1114	Capped Black Ditch	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
456	10/17/2016	Sites 3 & 6	1114	Capped Black Ditch	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
457	10/17/2016	Sites 3 & 6	1114	Capped Black Ditch	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
458	10/18/2016	Sites 3 & 6	1114	Capped Black Ditch, prepared for S. boundary excav.	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
459	10/18/2016	Sites 3 & 6	1114	Capped Black Ditch, prepared for S. boundary excav.	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
460	10/18/2016	Sites 3 & 6	1114	Capped Black Ditch, prepared for S. boundary excav.	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
461	10/19/2016	Sites 3 & 6	1114	Capped Black Ditch, prepared for S. boundary excav.	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
462	10/19/2016	Sites 3 & 6	1114	Capped Black Ditch, prepared for S. boundary excav.	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
463	10/19/2016	Sites 3 & 6	1114	Capped Black Ditch, prepared for S. boundary excav.	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
514	11/16/2016	Sites 3 & 6	1122	Capped Sites 3 & 6 & Black Ditch, Site 6 fence installation	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
515	11/16/2016	Sites 3 & 6	1122	Capped Sites 3 & 6 & Black Ditch, Site 6 fence installation	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
331	8/8/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
332	8/8/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
333	8/8/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
340	8/11/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
341	8/11/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
342	8/11/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
343	8/12/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
344	8/12/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
345	8/15/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
346	8/15/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
347	8/15/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
348	8/16/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
349	8/16/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
350	8/16/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
351	8/17/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
352	8/17/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
353	8/17/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
354	8/18/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
355	8/18/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
356	8/18/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
357	8/19/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
358	8/19/2016	Sites 3 & 6	1098	Excavated & backfilled Site 6, excavated Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
405	9/15/2016	Sites 3 & 6	1105	Excavated Site 3 and capping Site 3 & Site 6	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00

Table 4

Costs incurred during Site 3 & Site 6 Remediation Work

DMP PE PC Invoices

May 11, 2017

Line#	Date	Site	Invoice#	Scope of Work (Contractor Supervision or Engineering)		Description	Quantity	Unit	Unit Rate	Total Cost	Bid Spec., Permitting, Meetings, Engineering	RSE, Crew, GH
406	9/15/2016	Sites 3 & 6	1105	Excavated Site 3 and capping Site 3 & Site 6	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
407	9/15/2016	Sites 3 & 6	1105	Excavated Site 3 and capping Site 3 & Site 6	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
391	9/8/2016	Sites 3 & 6	1105	Excavated Site 6, backfilled Sites 3 & 6	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
392	9/8/2016	Sites 3 & 6	1105	Excavated Site 6, backfilled Sites 3 & 6	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
393	9/8/2016	Sites 3 & 6	1105	Excavated Site 6, backfilled Sites 3 & 6	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
394	9/9/2016	Sites 3 & 6	1105	Excavated Site 6, backfilled Sites 3 & 6	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
395	9/9/2016	Sites 3 & 6	1105	Excavated Site 6, backfilled Sites 3 & 6	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
396	9/9/2016	Sites 3 & 6	1105	Excavated Site 6, backfilled Sites 3 & 6	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
367	8/25/2016	Sites 3 & 6	1098	Excavated Sites 3 & 6 and backfilled Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
368	8/25/2016	Sites 3 & 6	1098	Excavated Sites 3 & 6 and backfilled Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
369	8/26/2016	Sites 3 & 6	1098	Excavated Sites 3 & 6 and backfilled Site 3	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
370	8/26/2016	Sites 3 & 6	1098	Excavated Sites 3 & 6 and backfilled Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
273	7/12/2016	Sites 3 & 6	1095	Prepared Black Ditch for import	Filling and Excavating	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
274	7/12/2016	Sites 3 & 6	1095	Prepared Black Ditch for import	Filling and Excavating	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
275	7/12/2016	Sites 3 & 6	1095	Prepared Black Ditch for import	Filling and Excavating	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
521	11/22/2016	Sites 3 & 6	1122	Seeded Black Ditch and Sites 3 & 6	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
522	11/22/2016	Sites 3 & 6	1122	Seeded Black Ditch and Sites 3 & 6	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
523	11/23/2016	Sites 3 & 6	1122	Seeded Site 6, Site 3 fence work, stabilized Black Ditch	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
524	11/23/2016	Sites 3 & 6	1122	Seeded Site 6, Site 3 fence work, stabilized Black Ditch	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
485	11/1/2016	Sites 3 & 6	1122	Site 3 cap drainage and Site 6 fence dismantlement	Filling and Excavating	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
486	11/1/2016	Sites 3 & 6	1122	Site 3 cap drainage and Site 6 fence dismantlement	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
501	11/9/2016	Sites 3 & 6	1122	Southern boundary backfilling, Site 3 fence work	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
502	11/9/2016	Sites 3 & 6	1122	Southern boundary backfilling, Site 3 fence work	Filling and Excavating	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
503	11/9/2016	Sites 3 & 6	1122	Southern boundary backfilling, Site 3 fence work	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
487	11/2/2016	Sites 3 & 6	1122	Southern boundary backfilling, Sites 3 & 6 fence work	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
488	11/2/2016	Sites 3 & 6	1122	Southern boundary backfilling, Sites 3 & 6 fence work	Filling and Excavating	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
489	11/2/2016	Sites 3 & 6	1122	Southern boundary backfilling, Sites 3 & 6 fence work	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
483	10/31/2016	Sites 3 & 6	1122	Southern boundary excavation backfilling, cap Site 3	Filling and Excavating	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
484	10/31/2016	Sites 3 & 6	1122	Southern boundary excavation backfilling, cap Site 3	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
469	10/24/2016	Sites 3 & 6	1114	Southern boundary excavation work, Site 3 cap grading	Filling and Excavating	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00
470	10/24/2016	Sites 3 & 6	1114	Southern boundary excavation work, Site 3 cap grading	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
498	11/8/2016	Sites 3 & 6	1122	Southern boundary excavation, Site 3 fence work	Filling and Excavating	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
499	11/8/2016	Sites 3 & 6	1122	Southern boundary excavation, Site 3 fence work	Filling and Excavating	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
500	11/8/2016	Sites 3 & 6	1122	Southern boundary excavation, Site 3 fence work	Filling and Excavating	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
								Subtotal		$ 120,150.00	$ -	$ 120,150.00
531	12/14/2016	Sites 3 & 6	1129	Campanella invoicing, Fence invoicing and AT&T planning	General	Engineering	8	hrs	$ 125.00	$ 1,000.00	$ 1,000.00	
532	12/19/2016	Sites 3 & 6	1129	Campanella invoicing, Fence invoicing and AT&T planning	General	Engineering	6	hrs	$ 125.00	$ 750.00	$ 750.00	
276	7/13/2016	Sites 3 & 6	1095	Construction of stabilized construction entrance	General	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
277	7/13/2016	Sites 3 & 6	1095	Construction of stabilized construction entrance	General	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
278	7/13/2016	Sites 3 & 6	1095	Construction of stabilized construction entrance	General	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
279	7/14/2016	Sites 3 & 6	1095	Construction of stabilized construction entrance	General	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
280	7/14/2016	Sites 3 & 6	1095	Construction of stabilized construction entrance	General	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
281	7/14/2016	Sites 3 & 6	1095	Construction of stabilized construction entrance	General	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
149	3/16/2016	Sites 3 & 6	1060	EPA communication regarding NSG & NSWRD status	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
8	3/20/2015	Sites 3 & 6	1000	EPA meeting	General	RSE	1	day	$ 1,900.00	$ 1,900.00	$ 1,900.00	
530	12/9/2016	Sites 3 & 6	1129	Fence completion planning, Campanella & ComEd comm.	General	Engineering	2	hrs	$ 125.00	$ 250.00	$ 250.00	
529	12/6/2016	Sites 3 & 6	1129	Fence completion planning, Campanella comm.	General	Engineering	2	hrs	$ 125.00	$ 250.00	$ 250.00	
533	12/20/2016	Sites 3 & 6	1129	Fence invoicing and AT&T planning	General	Engineering	4	hrs	$ 125.00	$ 500.00	$ 500.00	
525	11/30/2016	Sites 3 & 6	1122	Final inspections of Sites 3 & 6	General	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
526	11/30/2016	Sites 3 & 6	1122	Final inspections of Sites 3 & 6	General	Support Crew	1	day	$ 1,550.00	$ 1,550.00		$ 1,550.00

Table 4

Costs incurred during Site 3 & Site 6 Remediation Work

DMP PE PC Invoices

May 11, 2017

Line#	Date	Site	Invoice#	Scope of Work (Contractor Supervision or Engineering)		Description	Quantity	Unit	Unit Rate	Total Cost	Bid Spec., Permitting, Meetings, Engineering	RSE, Crew, GH
527	12/1/2016	Sites 3 & 6	1122	Final inspections of Sites 3 & 6	General	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
60	6/22/2015	Sites 3 & 6	1021	Post-bid meetings	General	RSE	1	day	$ 1,900.00	$ 1,900.00	$ 1,900.00	
61	6/23/2015	Sites 3 & 6	1021	Post-bid meetings	General	RSE	1	day	$ 1,900.00	$ 1,900.00	$ 1,900.00	
45	5/27/2016	Sites 3 & 6	1007	Pre-bid meeting and AT&T meeting on-site	General	RSE	1	day	$ 1,900.00	$ 1,900.00	$ 1,900.00	
504	11/10/2016	Sites 3 & 6	1122	Relocating S. boundary temp fence, Site 3 fence work	General	RSE	1	day	$ 1,950.00	$ 1,950.00		$ 1,950.00
505	11/10/2016	Sites 3 & 6	1122	Relocating S. boundary temp fence, Site 3 fence work	General	Support Crew	1	day	$ 1,050.00	$ 1,050.00		$ 1,050.00
506	11/10/2016	Sites 3 & 6	1122	Relocating S. boundary temp fence, Site 3 fence work	General	Guardhouse Attendance	1	day	$ 400.00	$ 400.00		$ 400.00
69	7/8/2015	Sites 3 & 6	1022	SW Sites bid & Greenwood Ave crossing support	General	Engineering	6	hrs	$ 120.00	$ 720.00	$ 720.00	
70	7/9/2015	Sites 3 & 6	1022	SW Sites bid & Greenwood Ave crossing support	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
71	7/10/2015	Sites 3 & 6	1022	SW Sites bid clarification request	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
72	7/13/2015	Sites 3 & 6	1022	SW Sites bid clarification request	General	Engineering	1	hrs	$ 120.00	$ 120.00	$ 120.00	
1	3/10/2015	Sites 3 & 6	994	SW Sites bid spec preparation	General	Engineering	11	hrs	$ 120.00	$ 1,320.00	$ 1,320.00	
2	3/11/2015	Sites 3 & 6	994	SW Sites bid spec preparation	General	Engineering	8	hrs	$ 120.00	$ 960.00	$ 960.00	
3	3/12/2015	Sites 3 & 6	994	SW Sites bid spec preparation	General	Engineering	8	hrs	$ 120.00	$ 960.00	$ 960.00	
4	3/13/2015	Sites 3 & 6	994	SW Sites bid spec preparation	General	Engineering	5	hrs	$ 120.00	$ 600.00	$ 600.00	
5	3/16/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
6	3/18/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
7	3/19/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
9	3/23/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	1.5	hrs	$ 120.00	$ 180.00	$ 180.00	
10	3/24/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
11	3/25/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	7	hrs	$ 120.00	$ 840.00	$ 840.00	
12	3/27/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	1.5	hrs	$ 120.00	$ 180.00	$ 180.00	
13	3/30/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
14	4/1/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
15	4/6/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	1.5	hrs	$ 120.00	$ 180.00	$ 180.00	
18	4/10/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
19	4/15/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	5	hrs	$ 120.00	$ 600.00	$ 600.00	
20	4/16/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	5.5	hrs	$ 120.00	$ 660.00	$ 660.00	
21	4/16/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	0.5	hrs	$ 120.00	$ 60.00	$ 60.00	
22	4/17/2015	Sites 3 & 6	1000	SW Sites bid spec preparation	General	Engineering	7	hrs	$ 120.00	$ 840.00	$ 840.00	
25	4/22/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	6	hrs	$ 120.00	$ 720.00	$ 720.00	
26	4/23/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	5	hrs	$ 120.00	$ 600.00	$ 600.00	
27	4/28/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	6	hrs	$ 120.00	$ 720.00	$ 720.00	
28	4/30/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	3	hrs	$ 120.00	$ 360.00	$ 360.00	
29	5/1/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	3.5	hrs	$ 120.00	$ 420.00	$ 420.00	
30	5/4/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	8	hrs	$ 120.00	$ 960.00	$ 960.00	
31	5/5/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	8	hrs	$ 120.00	$ 960.00	$ 960.00	
36	5/8/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
37	5/14/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	8	hrs	$ 120.00	$ 960.00	$ 960.00	
38	5/15/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	8	hrs	$ 120.00	$ 960.00	$ 960.00	
39	5/18/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	6	hrs	$ 120.00	$ 720.00	$ 720.00	
40	5/19/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
41	5/20/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
42	5/21/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
43	5/22/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	3	hrs	$ 120.00	$ 360.00	$ 360.00	
44	5/26/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	7	hrs	$ 120.00	$ 840.00	$ 840.00	
46	5/28/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
47	5/29/2015	Sites 3 & 6	1007	SW Sites bid spec preparation	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
23	4/20/2015	Sites 3 & 6	1007	SW Sites bid spec preparation & utility pole prep for AT&T	General	Engineering	5	hrs	$ 120.00	$ 600.00	$ 600.00	
24	4/21/2015	Sites 3 & 6	1007	SW Sites bid spec preparation & utility pole prep for AT&T	General	Engineering	6	hrs	$ 120.00	$ 720.00	$ 720.00	
32	5/6/2015	Sites 3 & 6	1007	SW Sites bid spec preparation & utility pole prep for AT&T	General	Engineering	8	hrs	$ 120.00	$ 960.00	$ 960.00	

Table 4

Costs incurred during Site 3 & Site 6 Remediation Work

DMP PE PC Invoices

May 11, 2017

Line#	Date	Site	Invoice#	Scope of Work (Contractor Supervision or Engineering)		Description	Quantity	Unit	Unit Rate	Total Cost	Bid Spec., Permitting, Meetings, Engineering	RSE, Crew, GH
58	6/18/2015	Sites 3 & 6	1021	SW Sites bid summary	General	Engineering	5	hrs	$ 120.00	$ 600.00	$ 600.00	
59	6/19/2015	Sites 3 & 6	1021	SW Sites bid summary	General	Engineering	8	hrs	$ 120.00	$ 960.00	$ 960.00	
48	6/1/2015	Sites 3 & 6	1021	SW Sites bidding support	General	Engineering	3	hrs	$ 120.00	$ 360.00	$ 360.00	
49	6/3/2015	Sites 3 & 6	1021	SW Sites bidding support	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
50	6/4/2015	Sites 3 & 6	1021	SW Sites bidding support	General	Engineering	1	hrs	$ 120.00	$ 120.00	$ 120.00	
51	6/5/2015	Sites 3 & 6	1021	SW Sites bidding support	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
52	6/8/2015	Sites 3 & 6	1021	SW Sites bidding support	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
53	6/9/2015	Sites 3 & 6	1021	SW Sites bidding support	General	Engineering	3	hrs	$ 120.00	$ 360.00	$ 360.00	
54	6/10/2015	Sites 3 & 6	1021	SW Sites bidding support	General	Engineering	3	hrs	$ 120.00	$ 360.00	$ 360.00	
55	6/11/2015	Sites 3 & 6	1021	SW Sites bidding support	General	Engineering	3	hrs	$ 120.00	$ 360.00	$ 360.00	
56	6/12/2015	Sites 3 & 6	1021	SW Sites bidding support	General	Engineering	2.5	hrs	$ 120.00	$ 300.00	$ 300.00	
57	6/17/2015	Sites 3 & 6	1021	SW Sites bidding support	General	Engineering	1	hrs	$ 120.00	$ 120.00	$ 120.00	
68	7/7/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
73	7/14/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
74	7/15/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
75	7/15/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	3	hrs	$ 120.00	$ 360.00	$ 360.00	
77	7/17/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	3	hrs	$ 120.00	$ 360.00	$ 360.00	
78	7/20/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	6	hrs	$ 120.00	$ 720.00	$ 720.00	
79	7/21/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
80	7/22/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
81	7/23/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	2.5	hrs	$ 120.00	$ 300.00	$ 300.00	
82	7/24/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
83	7/27/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
84	7/28/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
85	7/29/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
86	7/30/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	5	hrs	$ 120.00	$ 600.00	$ 600.00	
87	7/31/2015	Sites 3 & 6	1022	SW Sites bidding support	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
76	7/16/2015	Sites 3 & 6	1022	SW Sites bidding support & AT&T coordination	General	Engineering	3	hrs	$ 120.00	$ 360.00	$ 360.00	
88	8/3/2015	Sites 3 & 6	1027	SW Sites evaluation/award assistance	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
89	8/4/2015	Sites 3 & 6	1027	SW Sites evaluation/award assistance	General	Engineering	1	hrs	$ 120.00	$ 120.00	$ 120.00	
91	8/5/2015	Sites 3 & 6	1027	SW Sites evaluation/award assistance	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
93	8/6/2015	Sites 3 & 6	1027	SW Sites evaluation/award assistance	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
94	8/7/2015	Sites 3 & 6	1027	SW Sites evaluation/award assistance	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
95	8/10/2015	Sites 3 & 6	1027	SW Sites evaluation/award assistance	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
96	8/11/2015	Sites 3 & 6	1027	SW Sites evaluation/award assistance	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
97	8/12/2015	Sites 3 & 6	1027	SW Sites evaluation/award assistance	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
98	8/13/2015	Sites 3 & 6	1027	SW Sites evaluation/award assistance	General	Engineering	6	hrs	$ 120.00	$ 720.00	$ 720.00	
99	8/14/2015	Sites 3 & 6	1027	SW Sites evaluation/award assistance	General	Engineering	4	hrs	$ 120.00	$ 480.00	$ 480.00	
62	6/24/2015	Sites 3 & 6	1021	SW Sites Post-bid meeting summary	General	Engineering	5	hrs	$ 120.00	$ 600.00	$ 600.00	
63	6/26/2015	Sites 3 & 6	1021	SW Sites Post-bid meeting summary	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
67	7/6/2015	Sites 3 & 6	1022	SW Sites RAWP revision	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
64	6/30/2015	Sites 3 & 6	1021	SW Sites re-bid bid spec preparation	General	Engineering	6	hrs	$ 120.00	$ 720.00	$ 720.00	
65	7/1/2015	Sites 3 & 6	1021	SW Sites re-bid bid spec preparation	General	Engineering	8	hrs	$ 120.00	$ 960.00	$ 960.00	
66	7/2/2015	Sites 3 & 6	1021	SW Sites re-bid bid spec preparation	General	Engineering	6	hrs	$ 120.00	$ 720.00	$ 720.00	
90	8/4/2015	Sites 3 & 6	1027	Update Site 3 cost estimate	General	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
16	4/7/2015	Sites 3 & 6	1000	Utility meetings	General	RSE	1	day	$ 1,900.00	$ 1,900.00	$ 1,900.00	
17	4/8/2015	Sites 3 & 6	1000	Utility meetings	General	RSE	1	day	$ 1,900.00	$ 1,900.00	$ 1,900.00	
								Subtotal		$ 74,300.00	$ 57,950.00	$ 16,350.00
264	7/6/2016	Sites 3 & 6	1091	Crane mat removal	NSG	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
265	7/6/2016	Sites 3 & 6	1091	Crane mat removal	NSG	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00

Table updated October 13, 2017

Table 4

Costs incurred during Site 3 & Site 6 Remediation Work

DMP PE PC Invoices

May 11, 2017

Line#	Date	Site	Invoice#	Scope of Work (Contractor Supervision or Engineering)		Description	Quantity	Unit	Unit Rate	Total Cost	Bid Spec., Permitting, Meetings, Engineering	RSE, Crew, GH
266	7/6/2016	Sites 3 & 6	1091	Crane mat removal	NSG	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
234	6/21/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
235	6/21/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
236	6/21/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
237	6/22/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
238	6/22/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
239	6/22/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
240	6/23/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Engineering	5.5	hrs	$ 120.00	$ 660.00		$ 660.00
241	6/23/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
242	6/23/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
243	6/24/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Engineering	8	hrs	$ 120.00	$ 960.00		$ 960.00
244	6/24/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
245	6/24/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
246	6/27/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
247	6/27/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
248	6/27/2016	Sites 3 & 6	1091	Dewatering for NSG valve access & pipe excavation	NSG	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
267	7/7/2016	Sites 3 & 6	1091	Filling NSG excavations	NSG	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
268	7/7/2016	Sites 3 & 6	1091	Filling NSG excavations	NSG	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
269	7/7/2016	Sites 3 & 6	1091	Filling NSG excavations	NSG	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
270	7/8/2016	Sites 3 & 6	1091	Filling NSG excavations	NSG	RSE	1	day	$ 1,900.00	$ 1,900.00		$ 1,900.00
271	7/8/2016	Sites 3 & 6	1091	Filling NSG excavations	NSG	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
272	7/8/2016	Sites 3 & 6	1091	Filling NSG excavations	NSG	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
261	7/5/2016	Sites 3 & 6	1091	Filling NSG valve excavation	NSG	Engineering	2	hrs	$ 120.00	$ 240.00		$ 240.00
262	7/5/2016	Sites 3 & 6	1091	Filling NSG valve excavation	NSG	Support Crew	1	day	$ 1,500.00	$ 1,500.00		$ 1,500.00
263	7/5/2016	Sites 3 & 6	1091	Filling NSG valve excavation	NSG	Guardhouse Attendance	1	day	$ 350.00	$ 350.00		$ 350.00
136	2/10/2016	Sites 3 & 6	1055	NSG agreement review	NSG	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
137	2/11/2016	Sites 3 & 6	1055	NSG agreement review	NSG	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
92	8/5/2015	Sites 3 & 6	1027	NSG utility communication	NSG	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
147	3/14/2016	Sites 3 & 6	1060	NSG utility work planning	NSG	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
151	3/22/2016	Sites 3 & 6	1060	NSG utility work planning	NSG	Support Crew	1	day	$ 1,500.00	$ 1,500.00	$ 1,500.00	
153	3/23/2016	Sites 3 & 6	1060	NSG utility work planning	NSG	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
160	4/5/2016	Sites 3 & 6	1071	NSG utility work planning	NSG	Engineering	6	hrs	$ 120.00	$ 720.00	$ 720.00	
155	3/30/2016	Sites 3 & 6	1060	NSG utility work planning & NSWRD permitting	NSG	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
152	3/22/2016	Sites 3 & 6	1060	NSG utility work planning, meeting at NSG	NSG	RSE	1	day	$ 1,900.00	$ 1,900.00	$ 1,900.00	
								Subtotal		$ 35,470.00	$ 5,560.00	$ 29,910.00
156	3/31/2016	Sites 3 & 6	1060	NSG and Nicor utility planning	NSG and Nicor	Engineering	2	hrs	$ 120.00	$ 240.00	$ 240.00	
157	4/1/2016	Sites 3 & 6	1060	NSG and Nicor utility planning	NSG and Nicor	Engineering	1	hrs	$ 120.00	$ 120.00	$ 120.00	
158	4/1/2016	Sites 3 & 6	1060	NSG and Nicor utility planning	NSG and Nicor	Engineering	3	hrs	$ 120.00	$ 360.00	$ 360.00	
								Subtotal		$ 720.00	$ 720.00	$ -
		Sites 3 & 6						Site 3 and 6 Total		$ 297,490.00	$ 70,030.00	$ 227,460.00
								Site 3, Site 6, Site 3 and 6 Total		$ 549,740.00	$ 70,030.00	$ 479,710.00

Table updated October 13, 2017

Table 5

Costs incurred during Site 3 & Site 6 Remediation Work

Other Invoices

May 11, 2017

Clean Cut Tree Care (Work completed June 2015)

Line#	Description	Quantity	Unit	Unit Cost	Total Cost
1	Clear Site 6 of trees and grind stumps	1	LS	$ 4,500	$ 4,500
2				**Total**	**$ 4,500**

Action Fence (Work completed October - December, 2016)

Line#	Description	Quantity	Unit	Unit Cost	Total Cost
3	Site 3 Fence & Gate Construction	1	LS	$ 58,225	$ 58,225
4	Site 6 Fence & Gate Construction	1	LS	$ 99,050	$ 99,050
5				Subtotal	$ 157,275
6				Credit Memo	$ (2,332)
7				**Total**	**$ 154,944**

AT&T (Work completed 2015 - 2017)

Line#	Description	Quantity	Unit	Unit Cost	Total Cost
8	Engineering Labor	1	LS	$ 65,978	$ 65,978
9	Material Cost	1	LS	$ 32,129	$ 32,129
10	Construction Labor	1	LS	$ 86,415	$ 86,415
11	Contractor Cost	1	LS	$ 135,767	$ 135,767
12	Misc. Tax	1	LS	$ -	$ -
13				**Total**	**$ 320,289**

North Shore Gas (NSG) (Work completed 2015 - 2016)

Line#	Description	Quantity	Unit	Unit Cost	Total Cost
14	June 2015 (Site 4/5)	1	LS	$ 2,700	$ 2,700
15	September 2015 (Site 4/5)	1	LS	$ 69,869	$ 69,869
16	December 2015 (Site 4/5)	1	LS	$ 92	$ 92
17	June 2016	1	LS	$ 131,543	$ 131,543
18	July 2016	1	LS	$ 56,978	$ 56,978
19				**Total**	**$ 261,182**

North Shore Water Reclamation District (NSWRD) (Work completed 2016)

Line#	Description	Quantity	Unit	Unit Cost	Total Cost
22	Flow Monitoring Report - June 2016	9,395	x1000 gals	$ 1	$ 10,898
23	Flow Monitoring Report - July 2016	496	x1000 gals	$ 1	$ 575
24	Flow Monitoring Report - August 2016	8,011	x1000 gals	$ 1	$ 9,293
25				**Total**	**$ 20,766**

Total $ 761,681

Table updated October 13, 2017

Exhibit D

Manikas Invoice Table

Exhibit D

Manikas Invoice Table

Invoice Number	Invoice Period	Invoice Amount Site 3, 6 and 4/5	Invoice Amount related to work on Site 4/5	Invoice Amount Site 3 and Site 6	Utilities	IDOT Allocation*
84915	2/7/14 to 3/25/14	$ 3,900	$ 351	$ 3,549	Mainly North Shore Gas	$ 2,342
87865	6/10/14 to 6/27/14	$ 4,602	$ -	$ 4,602	Mainly AT&T, North Shore Gas	$ 3,037
90804	7/1/14 to 7/31/14	$ 8,351	$ 591	$ 7,760	AT&T, North Shore Gas	$ 5,122
91588	8/1/14 to 8/24/14	$ 5,304	$ -	$ 5,304	AT&T, North Shore Gas, ComEd	$ 3,501
97236	9/3/14 to 3/31/15	$ 28,041	$ 3,120	$ 24,921	AT&T, North Shore Gas, Covenants	$ 16,448
99401	4/1/15 to 5/29/15	$ 24,375	$ 1,950	$ 22,425	AT&T, North Shore Gas, Covenants	$ 14,801
100183	6/2/15 to 6/30/15	$ 8,346	$ 3,237	$ 5,109	AT&T, North Shore Gas	$ 3,372
100973	7/1/15 to 7/30/15	$ 9,555	$ 3,354	$ 6,201	AT&T, North Shore Gas	$ 4,093
101847	8/3/15 to 8/28/15	$ 5,148	$ 1,092	$ 4,056	AT&T, North Shore Gas	$ 2,677
102636	9/1/15 to 9/30/15	$ 4,251	$ 3,900	$ 351	AT&T, North Shore Gas	$ 232
104852	10/2/15 to 11/25/15	$ 9,750	$ 2,964	$ 6,786	AT&T, North Shore Gas	$ 4,479
106362	12/1/15 to 1/28/16	$ 4,485	$ 2,223	$ 2,262	Mainly North Shore Gas	$ 1,493
109227	2/2/16 to 4/27/16	$ 15,132	$ 1,989	$ 13,143	Mainly North Shore Gas	$ 8,674
111298	5/3/16 to 6/1/16	$ 2,379	$ -	$ 2,379	Mainly North Shore Gas	$ 1,570
					Total	$ 71,840

*Used 66% on all entries even though some entries were clearly all or mostly related to Site 3 and 6 and there was overall significantly more work legal support work performed for Sites 3 and 6. Included redacted entries only when clear that Sites 3 and/or 6 were involved. Did not include fully redacted entries or entries where the majority of the work was related to the North Shore Sanitary District (e.g, 2-17-14, 7-1-14, 7-7-14, 12-5-14, 12-29-14, 1-16-15, 1-28-15, 2-2-15, 12-3-15, 2-4-15, 3-12-15, 3-23-15, 4-10-15, 5-4-15, 5-27-15, 6-17-15, 6-18-15, 6-23-15, 6-26-15, 7-6-15, 7-8-15, 7-9-15, 7-13-15, 7-16-15, 8-7-15, 8-11-15, and 8-28-15).

Exhibit E

Johns Manville Payment Records

JM PAYMENTS (except for payments to EPA)

PO Number	Vendor Account Name	Mat.Inv. Value	Posting Date	SAP Invoice	Vendor Inv. Ref.	Year	Check #	Encashment #	Comment
4900013679	ACTION FENCE CONTRACTORS, INC.	$ (2,331.50)	1/17/2017	5702029826	120616CRD	2017	4100403338	1/12/2017	CR Applied to invoice 24001
4900013679	ACTION FENCE CONTRACTORS, INC.	$ 154,943.50	12/28/2016	500772489	24001	2016	4100403338	1/12/2017	
4900002326	AECOM	$ 33.75	12/18/2012	5016662600	37290104	2012	4100403339	1/12/2017	
4900002326	AECOM	$ 535.39	12/18/2012	5016662600	37290104	2102	4100403339	1/12/2017	
4900002326	AECOM	$ 21,706.35	12/18/2012	5016662600	37290104	2102	4100403339	1/12/2017	
4900002326	AECOM	$ 30,121.00	12/18/2012	5016662600	37290104	2102	4100403339	1/12/2017	
4900002326	AECOM	$ 1,121.93	12/18/2012	5016662600	37290104	2102	4100403339	1/12/2017	
4900002326	AECOM	$ 11.40	12/18/2012	5016662600	37290104	2102	4100403339	1/12/2017	
4900002326	AECOM	$ 24,672.56	4/12/2013	5019002690	37317325	2013	4100164050	4/23/2013	
4900002326	AECOM	$ 4,102.50	4/12/2013	5019002690	37317325	2013	4100164050	4/23/2013	
4900002326	AECOM	$ 7,136.42	4/12/2013	5019002690	37317325	2013	4100164050	4/23/2013	
4900002326	AECOM	$ 18,989.74	4/12/2013	5019002690	37317325	2013	4100164050	4/23/2013	
4900002326	AECOM	$ 14.14	4/12/2013	5019002690	37317325	2013	4100164050	4/23/2013	
4900002326	AECOM	$ 2,572.50	4/12/2013	5019002690	37317325	2013	4100164050	4/23/2013	
4900002326	AECOM	$ 1,923.41	4/12/2013	5019002690	37317325	2013	4100164050	4/23/2013	
4900002326	AECOM	$ 28,818.71	5/13/2013	5019641723	37327818	2013	4100171554	6/4/2013	
4900002326	AECOM	$ 40.00	5/13/2013	5019641723	37327818	2013	4100171554	6/4/2013	
4900002326	AECOM	$ 3,668.51	5/13/2013	5019641723	37327818	2013	4100171554	6/4/2013	
4900002326	AECOM	$ 12,019.20	5/13/2013	5019641723	37327818	2013	4100171554	6/4/2013	
4900002326	AECOM	$ 1,668.95	5/13/2013	5019641723	37327818	2013	4100171554	6/4/2013	
4900002326	AECOM	$ 3,852.50	5/13/2013	5019641723	37327818	2013	4100171554	6/4/2013	
4900002326	AECOM	$ 35,900.00	5/13/2013	5019641723	37327818	2013	4100171554	6/4/2013	
4900002326	AECOM	$ 18,054.64	8/1/2013	5021314599	37337583	2013	4100183555	8/6/2013	
4900002326	AECOM	$ 18,077.57	9/9/2013	5022160807	37370125	2013	4100198916	10/29/2013	
4900002326	AECOM	$ 25,944.44	9/9/2013	5022160807	37370125	2013	4100198916	10/29/2013	
4900002326	AECOM	$ 73,442.69	9/9/2013	5022160807	37370125	2013	4100198916	10/29/2013	
4900002326	AECOM	$ 5,838.34	9/9/2013	5022160807	37370125	2013	4100198916	10/29/2013	
4900002326	AECOM	$ 1,022.22	9/9/2013	5022160807	37370125	2013	4100198916	10/29/2013	
4900002326	AECOM	$ 97,013.72	9/9/2013	5022160807	37370125	2013	4100198916	10/29/2013	
4900002326	AECOM	$ 24,544.60	9/9/2013	5022160807	37370125	2013	4100198916	10/29/2013	
4900002326	AECOM	$ 6,874.17	9/9/2013	5022160807	37370125	2013	4100198916	10/29/2013	
4900002326	AECOM	$ 633.27	9/9/2013	5022160807	37370125	2013	4100198916	10/29/2013	
4900002326	AECOM	$ 15,408.46	9/9/2013	5022160807	37370125	2013	4100198916	10/29/2013	
4900005819	AECOM	$ 43,734.51	9/27/2013	5022553893	37381058	2013	4100205770	12/5/2013	
4900005819	AECOM	$ 12,517.50	9/27/2013	5022553893	37381058	2013	4100205770	12/5/2013	
4900005819	AECOM	$ 12,157.66	9/27/2013	5022553893	37381058	2013	4100205770	12/5/2013	
4900005819	AECOM	$ 3,522.50	9/27/2013	5022553893	37381058	2013	4100205770	12/5/2013	
4900005819	AECOM	$ 2,271.60	9/27/2013	5022553893	37381058	2013	4100205770	12/5/2013	
4900005819	AECOM	$ 660.49	9/27/2013	5022553893	37381058	2013	4100205770	12/5/2013	
4900005819	AECOM	$ 58,973.02	9/27/2013	5022553893	37381058	2013	4100205770	12/5/2013	
4900005819	AECOM	$ 15,912.91	9/27/2013	5022553893	37381058	2013	4100205770	12/5/2013	
4900005819	AECOM	$ 15,111.91	9/27/2013	5022553893	37381058	2013	4100205770	12/5/2013	
4900005819	AECOM	$ (2.02)	10/18/2013	5021391356	37385674	2013	4100214079	1/21/2014	

4900005819	AECOM	$ (0.17)	10/18/2013	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ (8.48)	10/18/2013	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ (13.23)	10/18/2013	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ (2.52)	10/18/2013	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ (3.84)	10/18/2013	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ 2.02	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ 0.17	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ 8.48	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ 13.23	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ 2.52	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ 3.84	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ (0.55)	10/18/2013	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ 0.55	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ (2.94)	10/18/2013	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ 2.94	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM	$ 26,347.92	12/30/2013	5024641292	37402932	2013	4100221102	3/3/2014	
4900005819	AECOM	$ 5,820.42	12/30/2013	5024641292	37402932	2013	4100221102	3/3/2014	
4900005819	AECOM	$ 2,366.25	12/30/2013	5024641292	37402932	2013	4100221102	3/3/2014	
4900005819	AECOM	$ 1,818.75	12/30/2013	5024641292	37402932	2013	4100221102	3/3/2014	
4900005819	AECOM	$ 1,480.94	12/30/2013	5024641292	37402932	2013	4100221102	3/3/2014	
4900005819	AECOM	$ 70,826.27	12/30/2013	5024641292	37402932	2013	4100221102	3/3/2014	
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4900005819	AECOM TECHNICAL SERVICES INC	$ (1.66)	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM TECHNICAL SERVICES INC	$ (0.21)	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM TECHNICAL SERVICES INC	$ (10.40)	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM TECHNICAL SERVICES INC	$ (9.97)	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM TECHNICAL SERVICES INC	$ (3.84)	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900005819	AECOM TECHNICAL SERVICES INC	$ (4.21)	1/14/2014	5021391356	37385674	2013	4100214079	1/21/2014	
4900002839	ARCADIS	$ 2,460.68	8/21/2012	5014242602	458047	2012	4100121735	9/11/2012	
4900002839	ARCADIS	$ 6,964.94	8/21/2012	5014242602	458047	2012	4100121736	9/12/2012	
4900002839	ARCADIS	$ 4,361.30	8/21/2012	5014242602	458047	2012	4100121737	9/13/2012	
4900002839	ARCADIS	$ 13,657.00	8/21/2012	5014242602	458047	2012	4100121738	9/14/2012	
4900002839	ARCADIS	$ 135.00	8/21/2012	5014242602	458047	2012	4100121739	9/15/2012	
4900010523	CAMPANELLA AND SONS INC	$ 34,075.00	7/1/2016	5701810069	5	2016	4100379953	8/22/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 5,373.00	7/1/2016	5701810069	5	2016	4100379953	8/23/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 10,000.00	7/1/2016	5701810069	5	2016	4100379953	8/24/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 25,725.00	7/1/2016	5701810069	5	2016	4100379953	8/25/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 10,580.00	7/1/2016	5701810069	5	2016	4100379953	8/26/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 9,000.00	7/1/2016	5701810069	5	2016	4100379953	8/27/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 6,740.00	7/1/2016	5701810069	5	2016	4100379953	8/28/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 78,050.00	7/1/2016	5701810069	5	2016	4100379953	8/29/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 33,575.00	7/1/2016	5701810069	5	2016	4100379953	8/30/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 33,575.00	7/1/2016	5701810069	5	2016	4100379953	8/31/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 15,948.96	7/1/2016	5701810069	5	2016	4100379953	9/1/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 16,850.00	7/1/2016	5701810069	5	2016	4100379953	9/2/2016	Retainage $31,709.20 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 34,075.00	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 597.00	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 33,575.00	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 9,970.00	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 3,470.00	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending

4900010523	CAMPANELLA AND SONS INC	$ 5,000.00	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 23,563.00	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 24,500.00	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 51,765.00	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 23,045.40	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 37,600.00	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 18,150.00	10/12/2016	5701920680	6	2016	4100389603	10/24/2016	Retainage $26,531.04 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 15,363.60	9/21/2016	5701903150	8	2016	4100392845	11/8/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 11,013.00	9/21/2016	5701903150	8	2016	4100392845	11/9/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 20,000.00	9/21/2016	5701903150	8	2016	4100392845	11/10/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 13,270.00	9/21/2016	5701903150	8	2016	4100392845	11/11/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 14,170.00	9/21/2016	5701903150	8	2016	4100392845	11/12/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 28,610.00	9/21/2016	5701903150	8	2016	4100392845	11/13/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 42,125.00	9/21/2016	5701903150	8	2016	4100392845	11/14/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 13,195.00	9/21/2016	5701903150	8	2016	4100392845	11/15/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 140,800.00	9/21/2016	5701903150	8	2016	4100392845	11/16/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 46,415.00	9/21/2016	5701903150	8	2016	4100392845	11/17/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 5,690.00	9/21/2016	5701903150	8	2016	4100392845	11/18/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 5,690.00	9/21/2016	5701903150	8	2016	4100392845	11/19/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 9,970.00	9/21/2016	5701903150	8	2016	4100392845	11/20/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 85,750.00	9/21/2016	5701903150	8	2016	4100392845	11/21/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 7,735.00	9/21/2016	5701903150	8	2016	4100392845	11/22/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 23,140.00	9/21/2016	5701903150	8	2016	4100392845	11/23/2016	Retainage $83,299.97 payment pending

4900010523	CAMPANELLA AND SONS INC	$ 22,500.60	9/21/2016	5701903150	8	2016	4100392845	11/24/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 215,180.00	9/21/2016	5701903150	8	2016	4100392845	11/25/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 95,882.50	9/21/2016	5701903150	8	2016	4100392845	11/26/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 29,538.00	10/11/2016	5701903150	8	2016	4100392845	11/27/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 98,114.10	10/11/2016	5701903150	8	2016	4100392845	11/28/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 41,029.80	10/11/2016	5701903150	8	2016	4100392845	11/29/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 322,770.00	10/11/2016	5701903150	8	2016	4100392845	11/30/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 159,645.00	10/11/2016	5701903150	8	2016	4100392845	12/1/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 24,420.00	10/11/2016	5701903150	8	2016	4100392845	12/2/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 13,270.00	10/11/2016	5701903150	8	2016	4100392845	12/3/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 14,170.00	10/11/2016	5701903150	8	2016	4100392845	12/4/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 28,610.00	10/11/2016	5701903150	8	2016	4100392845	12/5/2016	Retainage $83,299.97 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 28,610.00	11/28/2016	5701924385	9	2016	4100397344	12/7/2016	Retainage $75,741.69 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 29,538.00	11/28/2016	5701924385	9	2016	4100397344	12/7/2016	Retainage $75,741.69 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 13,270.00	11/28/2016	5701924385	9	2016	4100397344	12/7/2016	Retainage $75,741.69 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 14,170.00	11/28/2016	5701924385	9	2016	4100397344	12/7/2016	Retainage $75,741.69 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 98,114.10	11/28/2016	5701924385	9	2016	4100397344	12/7/2016	Retainage $75,741.69 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 41,029.80	11/28/2016	5701924385	9	2016	4100397344	12/7/2016	Retainage $75,741.69 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 25,850.00	11/28/2016	5701924385	9	2016	4100397344	12/7/2016	Retainage $75,741.69 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 322,770.00	11/28/2016	5701924385	9	2016	4100397344	12/7/2016	Retainage $75,741.69 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 159,645.00	11/28/2016	5701924385	9	2016	4100397344	12/7/2016	Retainage $75,741.69 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 24,420.00	11/28/2016	5701924385	9	2016	4100397344	12/7/2016	Retainage $75,741.69 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 25,606.00	12/20/2016	5702004640	10	2016	4100407413	2/7/2017	Retainage $122,062.03 payment pending

4900010523	CAMPANELLA AND SONS INC	$ 57,290.00	12/20/2016	5702004640	10	2016	4100407413	2/8/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 42,048.90	12/20/2016	5702004640	10	2016	4100407413	2/9/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 17,584.20	12/20/2016	5702004640	10	2016	4100407413	2/10/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 39,009.00	12/20/2016	5702004640	10	2016	4100407413	2/11/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 15,870.00	12/20/2016	5702004640	10	2016	4100407413	2/12/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 10,000.00	12/20/2016	5702004640	10	2016	4100407413	2/13/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 10,447.00	12/20/2016	5702004640	10	2016	4100407413	2/14/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 6,970.00	12/20/2016	5702004640	10	2016	4100407413	2/15/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 10,000.00	12/20/2016	5702004640	10	2016	4100407413	2/16/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 8,425.00	12/20/2016	5702004640	10	2016	4100407413	2/17/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 49,000.00	12/20/2016	5702004640	10	2016	4100407413	2/18/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 2,499.41	12/20/2016	5702004640	10	2016	4100407413	2/19/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 537,950.00	12/20/2016	5702004640	10	2016	4100407413	2/20/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 181,730.77	12/20/2016	5702004640	10	2016	4100407413	2/21/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 51,802.50	12/20/2016	5702004640	10	2016	4100407413	2/22/2017	Retainage $122,062.03 payment pending
4900010523	CAMPANELLA AND SONS INC	$ 116,987.50	12/20/2016	5702004640	10	2016	4100407413	2/23/2017	Retainage $122,062.03 payment pending
4900007716	CAMPANELLA AND SONS INC	$ 29,954.61	6/10/2015	5701389263	8523	2015	4100398814	12/19/2016	
4900007716	CAMPANELLA AND SONS INC	$ 4,250.00	6/10/2015	5701389263	8523	2015	4100398814	12/20/2016	
4900007716	CAMPANELLA AND SONS INC	$ 12,180.00	6/10/2015	5701389263	8523	2015	4100398814	12/21/2016	
4900007716	CAMPANELLA AND SONS INC	$ 7,040.00	6/10/2015	5701389263	8523	2015	4100398814	12/22/2016	
4900007716	CAMPANELLA AND SONS INC	$ 11,885.00	6/10/2015	5701389263	8523	2015	4100398814	12/23/2016	
4900007716	CAMPANELLA AND SONS INC	$ 14,142.23	9/18/2015	5701502878	8592	2015	4100335273	11/23/2014	
4900007716	CAMPANELLA AND SONS INC	$ 9,125.00	9/18/2015	5701502878	8592	2015	4100335273	11/24/2014	
4900007716	CAMPANELLA AND SONS INC	$ 7,380.00	9/18/2015	5701502878	8592	2015	4100335273	11/25/2014	
4900007716	CAMPANELLA AND SONS INC	$ 1,680.00	9/18/2015	5701502878	8592	2015	4100335273	11/26/2014	
4900007716	CAMPANELLA AND SONS INC	$ 5,170.00	9/18/2015	5701502878	8592	2015	4100335273	11/27/2014	
4900007716	CAMPANELLA AND SONS INC	$ 9,292.50	9/18/2015	5701502878	8592	2015	4100335273	11/28/2014	
4900007716	CAMPANELLA AND SONS INC	$ 20,801.52	10/26/2015	5701542628	8616	2015	4100339302	12/16/2015	
4900007716	CAMPANELLA AND SONS INC	$ 4,750.00	10/26/2015	5701542628	8616	2015	4100339302	12/17/2015	
4900007716	CAMPANELLA AND SONS INC	$ 5,022.50	10/26/2015	5701542628	8616	2015	4100339302	12/18/2015	
4900007716	CAMPANELLA AND SONS INC	$ 27,405.00	10/26/2015	5701542628	8616	2015	4100339302	12/19/2015	

4900007716	CAMPANELLA AND SONS INC	$ 34,972.50	10/26/2015	5701542628	8616	2015	4100339302	12/20/2015	
4900007716	CAMPANELLA AND SONS INC	$ 17,887.50	10/26/2015	5701542628	8616	2015	4100339302	12/21/2015	
4900007716	CAMPANELLA AND SONS INC	$ 84,194.11	2/3/2016	5701646607	8643	2016	4100352843; 4100398814	3/14/2016; 12/19/2016	Retainage paid out
4900007716	CAMPANELLA AND SONS INC	$ 75,762.50	2/3/2016	5701646607	8643	2016	4100352843; 4100398815	3/14/2016; 12/19/2017	Retainage paid out
4900007716	CAMPANELLA AND SONS INC	$ 66,071.44	2/3/2016	5701646607	8643	2016	4100352843; 4100398816	3/14/2016; 12/19/2018	Retainage paid out
4900007716	CAMPANELLA AND SONS INC	$ 55,335.00	2/3/2016	5701646607	8643	2016	4100352843; 4100398817	3/14/2016; 12/19/2019	Retainage paid out
4900007716	CAMPANELLA AND SONS INC	$ 18,817.50	2/3/2016	5701646607	8643	2016	4100352843; 4100398818	3/14/2016; 12/19/2020	Retainage paid out
4900007716	CAMPANELLA AND SONS INC	$ 31,352.70	2/3/2016	5701646607	8643	2016	4100352843; 4100398819	3/14/2016; 12/19/2021	Retainage paid out
4900007716	CAMPANELLA AND SONS INC	$ 6,659.31	7/1/2016	5701811145	8721	2016	4100380282	8/22/2016	
4900007716	CAMPANELLA AND SONS INC	$ 73,426.06	7/1/2016	5701811145	8721	2016	4100380283	8/22/2016	
4900007716	CAMPANELLA AND SONS INC	$ 40,993.54	7/1/2016	5701811145	8721	2016	4100380284	8/22/2016	
4900012586	CAMPANELLA AND SONS INC	$ 22,929.06	7/1/2016	5701811146	8733	2016	4100380282	8/22/2016	Retainage $4,292.91 payment pending
4900012586	CAMPANELLA AND SONS INC	$ 20,000.00	7/1/2016	5701811146	8733	2016	4100380283	8/22/2016	Retainage $4,292.91 payment pending
4900012586	CAMPANELLA AND SONS INC	$ 52,652.23	8/8/2016	5047187083	8752	2016	4100386445	10/3/2016	Retainage $30,799.89 payment pending
4900012586	CAMPANELLA AND SONS INC	$ 30,886.87	8/8/2016	5047187083	8752	2016	4100386446	10/3/2016	Retainage $30,799.89 payment pending
4900012586	CAMPANELLA AND SONS INC	$ 136,064.00	8/8/2016	5047187083	8752	2016	4100386447	10/3/2016	Retainage $30,799.89 payment pending
4900012586	CAMPANELLA AND SONS INC	$ 49,138.56	8/8/2016	5047187083	8752	2016	4100386448	10/3/2016	Retainage $30,799.89 payment pending
4900012586	CAMPANELLA AND SONS INC	$ 39,057.29	8/8/2016	5047187083	8752	2016	4100386449	10/3/2016	Retainage $30,799.89 payment pending
4900012843	CAMPANELLA AND SONS INC	$ 19,986.38	8/8/2016	5701852260	8753	2016	4100386445	10/3/2016	
4900012843	CAMPANELLA AND SONS INC	$ 33,655.80	8/8/2016	5701852260	8753	2016	4100386445	10/3/2016	
4900012843	CAMPANELLA AND SONS INC	$ 39,680.00	8/8/2016	5701852260	8753	2016	4100386445	10/3/2016	
4900012843	CAMPANELLA AND SONS INC	$ 3,500.00	8/8/2016	5701852260	8753	2016	4100386445	10/3/2016	
4900012843	CAMPANELLA AND SONS INC	$ 12,026.07	8/8/2016	5701852260	8753	2016	4100386445	10/3/2016	
4900012843	CAMPANELLA AND SONS INC	$ 32,230.50	8/8/2016	5701852260	8753	2016	4100386445	10/3/2016	
4900012843	CAMPANELLA AND SONS INC	$ 19,300.00	8/8/2016	5701852260	8753	2016	4100386445	10/3/2016	
4900012843	CAMPANELLA AND SONS INC	$ 19,280.45	8/8/2016	5701852260	8753	2016	4100386445	10/3/2016	
4900012843	CAMPANELLA AND SONS INC	$ 2,530.00	8/8/2016	5701852260	8753	2016	4100386445	10/3/2016	
4900012586	CAMPANELLA AND SONS INC	$ 9,037.77	9/21/2016	5048301551	8785	2016	4100392845	11/8/2016	Retainage $5,635.32 payment pending
4900012586	CAMPANELLA AND SONS INC	$ 7,964.07	9/21/2016	5048301551	8785	2016	4100392846	11/8/2016	Retainage $5,635.32 payment pending
4900012586	CAMPANELLA AND SONS INC	$ 9,719.44	9/21/2016	5048301551	8785	2016	4100392847	11/8/2016	Retainage $5,635.32 payment pending

4900012586	CAMPANELLA AND SONS INC	$ 19,231.96	9/21/2016	5048301551	8785	2016	4100392848	11/8/2016	Retainage $5,635.32 payment pending
4900012586	CAMPANELLA AND SONS INC	$ 10,400.00	9/21/2016	5048301551	8785	2016	4100392849	11/8/2016	Retainage $5,635.32 payment pending
4900012843	CAMPANELLA AND SONS INC	$ 34,769.55	9/21/2016	5701903152	8786	2016	4100392845	11/8/2016	
4900012843	CAMPANELLA AND SONS INC	$ 227,673.93	9/21/2016	5701903152	8786	2016	4100392846	11/8/2016	
4900012843	CAMPANELLA AND SONS INC	$ 87,619.50	9/21/2016	5701903152	8786	2016	4100392847	11/8/2016	
4900012843	CAMPANELLA AND SONS INC	$ 20,048.86	9/21/2016	5701903152	8786	2016	4100392848	11/8/2016	
4900012843	CAMPANELLA AND SONS INC	$ 82,070.00	9/21/2016	5701903152	8786	2016	4100392849	11/8/2016	
4900012843	CAMPANELLA AND SONS INC	$ 53,472.75	10/11/2016	5701924384	8880	2016	4100396791	12/1/2016	
4900007323	CLEAN CUT TREE SERVICE	$ 4,500.00	7/1/2015	5701412752	10249	2015	4100314874	8/6/2015	
4900005654	DAVID M PETERSON PE PC	$ 3,840.00	3/17/2015	5701316289	994	2015	2000426402	3/17/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 14,450.00	3/17/2015	5701316289	994	2015	2000426402	3/17/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 3,500.00	3/17/2015	5701316289	994	2015	2000426402	3/17/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 5,700.00	3/17/2015	5701316289	994	2015	2000426402	3/17/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 3,500.00	4/20/2015	5701346478	1000	2015	2000434084	4/20/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 12,850.00	4/20/2015	5701346478	1000	2015	2000434085	4/20/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 15,000.00	4/20/2015	5701346478	1000	2015	2000434086	4/20/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 4,800.00	4/20/2015	5701346478	1000	2015	2000434087	4/20/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 900.00	4/20/2015	5701346478	1000	2015	2000434088	4/20/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 4,900.00	4/20/2015	5701346478	1000	2015	2000434089	4/20/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 960.00	4/20/2015	5701346478	1000	2015	2000434090	4/20/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 6,100.00	6/2/2015	5701388843	1007	2015	2000444259	7/15/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 13,500.00	6/2/2015	5701388843	1007	2015	2000444260	7/15/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 23,950.00	6/2/2015	5701388843	1007	2015	2000444261	7/15/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 35,290.00	7/6/2015	5701422397	1021	2015	2000452053	8/10/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 9,990.00	8/4/2015	5701453381	1022	2015	2000459076	9/18/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 4,750.00	8/4/2015	5701453381	1022	2015	2000459077	9/18/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 5,340.00	8/4/2015	5701453381	1022	2015	2000459078	9/18/2015	ACH
4900005654	DAVID M PETERSON PE PC	$ 7,500.00	8/4/2015	5701453381	1022	2015	2000459079	9/18/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 480.00	9/3/2015	5701487079	1027	2015	2000465823	9/3/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 19,000.00	9/3/2015	5701487079	1027	2015	2000465824	9/3/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 25,500.00	9/3/2015	5701487079	1027	2015	2000465825	9/3/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 7,000.00	9/3/2015	5701487079	1027	2015	2000465826	9/3/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 3,000.00	9/3/2015	5701487079	1027	2015	2000465827	9/3/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 3,360.00	9/3/2015	5701487079	1027	2015	2000465828	9/3/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 8,400.00	10/6/2015	5701520563	1031	2015	2000474227	11/20/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 45,600.00	10/6/2015	5701520563	1031	2015	2000474228	11/20/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 36,000.00	10/6/2015	5701520563	1031	2015	2000474229	11/20/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ (38,000.00)	7/13/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 38,000.00	3/8/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ (30,000.00)	7/13/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ (7,000.00)	7/13/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 30,000.00	7/14/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 7,000.00	7/14/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 30,000.00	3/8/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 7,000.00	3/8/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH

4900010488	DAVID M PETERSON PE PC	$ (7,000.00)	7/12/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 38,000.00	7/14/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ (38,000.00)	7/12/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ (30,000.00)	7/12/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 38,000.00	2/18/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 30,000.00	2/18/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 7,000.00	2/18/2016	5701667212	1036	2016	2000502177	12/17/2015	ACH
4900010488	DAVID M PETERSON PE PC	$ 34,200.00	12/2/2015	5701581824	1040	2015	2000486622	1/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 27,000.00	12/2/2015	5701581824	1040	2015	2000486623	1/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 6,300.00	12/2/2015	5701581824	1040	2015	2000486624	1/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 30,360.00	1/4/2016	5701615250	1044	2016	2000494060	2/18/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 31,500.00	1/4/2016	5701615250	1044	2016	2000494060	2/18/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 5,250.00	1/4/2016	5701615250	1044	2016	2000494060	2/18/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 6,300.00	2/1/2016	5701644570	1048	2016	2000500720	3/17/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 360.00	4/11/2016	5701711809	1060	2016	2000516531	4/5/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 9,040.00	4/11/2016	5701711809	1060	2016	2000516531	4/5/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (13,300.00)	7/14/2016	5701741686	1071	2016	2000522896	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 13,300.00	7/13/2016	5701741686	1071	2016	2000522897	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (13,300.00)	7/13/2016	5701741686	1071	2016	2000522898	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (17,500.00)	7/13/2016	5701741686	1071	2016	2000522899	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 13,300.00	7/14/2016	5701741686	1071	2016	2000522900	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 17,500.00	7/14/2016	5701741686	1071	2016	2000522901	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 17,500.00	7/13/2016	5701741686	1071	2016	2000522902	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (17,500.00)	7/14/2016	5701741686	1071	2016	2000522903	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 13,300.00	5/2/2016	5701741686	1071	2016	2000522904	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 17,500.00	5/2/2016	5701741686	1071	2016	2000522905	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 3,960.00	5/2/2016	5701741686	1071	2016	2000522906	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 600.00	5/2/2016	5701741686	1071	2016	2000522907	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 1,440.00	5/2/2016	5701741686	1071	2016	2000522908	5/2/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 24,420.00	6/1/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 12,500.00	6/1/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 2,000.00	6/1/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (24,420.00)	7/13/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (12,500.00)	7/13/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (2,000.00)	7/13/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (24,420.00)	7/14/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 12,500.00	7/13/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 2,000.00	7/13/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (12,500.00)	7/14/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (2,000.00)	7/14/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 24,420.00	7/13/2016	5701775930	1080	2016	2000539608	7/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 37,680.00	7/13/2016	5701821116	1091	2016	2000539608	8/26/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 42,000.00	7/13/2016	5701821116	1091	2016	2000539608	8/26/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 9,100.00	7/13/2016	5701821116	1091	2016	2000539608	8/26/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (37,680.00)	7/14/2016	5701821116	1091	2016	2000539608	8/26/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (42,000.00)	7/14/2016	5701821116	1091	2016	2000539608	8/26/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (9,100.00)	7/14/2016	5701821116	1091	2016	2000539608	8/26/2016	ACH

4900010488	DAVID M PETERSON PE PC	$ 9,100.00	7/20/2016	5701821116	1091	2016	2000539608	8/26/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 37,680.00	7/20/2016	5701821116	1091	2016	2000539608	8/26/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 30,000.00	7/20/2016	5701821116	1091	2016	2000539608	8/26/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 12,000.00	7/20/2016	5701821116	1091	2016	2000539608	8/26/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 17,400.00	8/2/2016	5701846006	1095	2016	2000544430	9/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 4,200.00	8/2/2016	5701846006	1095	2016	2000544430	9/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 31,570.00	8/2/2016	5701846006	1095	2016	2000544430	9/16/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 127,500.00	9/7/2016	5047950140	1098	2016	2000552466	9/7/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ (42,500.00)	10/6/2016	5048669731	1098	2016	2000552466	9/7/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 24,600.00	10/6/2016	5701920246	1105	2016	2000559111	10/19/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 41,700.00	10/6/2016	5701920246	1105	2016	2000559111	10/19/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 68,150.00	11/1/2016	5701949117	1114	2016	2000565593	11/1/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 62,750.00	12/6/2016	5701987054	1122	2016	2000573504	12/6/2016	ACH
4900010488	DAVID M PETERSON PE PC	$ 7,000.00	1/3/2017	5702015346	1129	2017	2000579670	1/3/2017	ACH
4900005664	DAVID M PETERSON PE PC	$ 1,674.96	3/17/2015	5701316119	1640	2015	2000426402	5/1/2015	ACH
4900010064	NORTH SHORE GAS	$ 133,000.00	5/5/2016	5701746151	WAUKEGAN0516	2016	4100363628	5/23/2016	
4900013273	NORTH SHORE SANITARY DISTRICT	$ 10,898.20	7/27/2016	5046882157	MISC00000106232	2016	4100377829	8/29/2016	
4900013273	NORTH SHORE SANITARY DISTRICT	$ 9,292.76	9/7/2016	5047956585	106742	2016	4100389091	10/19/2016	
4900013273	NORTH SHORE WATER RECLAMATION DISTRICT	$ 575.36	8/11/2016	5047261575	MISC00000106541	2016	4100389091	10/19/2016	
4900013273	NORTH SHORE WATER RECLAMATION DISTRICT	$ 575.36	8/16/2016	5047396007	MISC00000106541	2016	4100389091	10/16/2016	
		$ 11,329,462.39							

Exhibit F

Cost Allocation and IDOT Attribution Table

Exhibit F

Cost Allocation and IDOT Attribution Table

Work/Cost Type	Task Bucket											
	Nicor Gas			City of Waukegan Water Line			AT&T			ComEd		
	Site 3	Site 6	Site 3 and Site 6	Site 3	Site 6	Site 3 and Site 6	Site 3	Site 6	Site 3 and Site 6	Site 3	Site 6	Site 3 and Site 6
Professional Engineering Services - LFR/Arcadis/AECOM	$ 106,086	$ -	$ -	$ 35,867	$ 48,433	$ -	$ 26,524	$ 31,105	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%			100%	0%	0%	66.0%	33.0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ 35,867	$ -	$ -	$ 17,506	$ 10,265	$ -	$ -	$ -	$ -
Professional Engineering Services - Completion Costs - AECOM Estimate	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,000	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	0.0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Operations and Maintenance - AECOM Estimate	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction Services - Campanella Base Bid	$ 106,848	$ -	$ -	$ 25,170	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ 25,170	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction Services - Campanella T&M Services	$ 5,156	$ -	$ -	$ -	$ 38,241	$ -	$ -	$ -	$ 53,548	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	40.9%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 21,901	$ -	$ -	$ -
Construction Services - DMP	$ -	$ -	$ 360	$ -	$ -	$ -	$ -	$ -	$ 45,350	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	40.9%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,548	$ -	$ -	$ -
Construction Services - Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction Services - Payments to Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ 82,127	$ 238,161		$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	66.0%	33.0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 54,204	$ 78,593	$ -	$ -	$ -	$ -
Easement Legal Support - Manikas	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EPA Oversight	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percent Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Costs	**$ 218,090**	**$ -**	**$ 360**	**$ 61,037**	**$ 86,674**	**$ -**	**$ 108,651**	**$ 284,266**	**$ 98,898**	**$ -**	**$ -**	**$ -**
Total IDOT Attribution	**$ -**	**$ -**	**$ -**	**$ 61,037**	**$ -**	**$ -**	**$ 71,710**	**$ 88,858**	**$ 40,449**	**$ -**	**$ -**	**$ -**

AT&T

Total AT&T Site 3 and Site 6	$	392,918
IDOT Attribution	$	160,568
Percent IDOT attribution		40.9%
AT&T IDOT Total	$	201,017

Exhibit F

Cost Allocation and IDOT Attribution Table

Work/Cost Type	Task Bucket											
	Utility/Asbestos Containing Material (ACM) Excavation			North Shore Gas (NSG)			Dewatering			Northeast (NE) Excavation		
	Site 3	Site 6	Site 3 and Site 6	Site 3	Site 6	Site 3 and Site 6	Site 3	Site 6	Site 3 and Site 6	Site 3	Site 6	Site 3 and Site 6
Professional Engineering Services - LFR/Arcadis/AECOM	$ -	$ -	$ -	$ 135,159	$ 81,028	$ -	$ -	$ -	$ -	$ 3,977	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	100.0%	27.9%	0%	0%	0%	0%	100.0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ 135,159	$ 22,631	$ -	$ -	$ -	$ -	$ 3,977	$ -	$ -
Professional Engineering Services - Completion Costs - AECOM Estimate	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	0%	100.0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000	$ -	$ -
Operations and Maintenance - AECOM Estimate	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction Services - Campanella Base Bid	$ -	$ 155,318	$ -	$ -		$ -	$ 140,800	$ 159,250	$ -	$ 35,957	$ -	$ -
Percentage Attribution to IDOT	0%	50.0%	0%	0%	0%	0%	75.0%	50.0%	0%	100.0%	0%	0%
IDOT Attribution	$ -	$ 77,659	$ -	$ -	$ -	$ -	$ 105,600	$ 79,625	$ -	$ 35,957	$ -	$ -
Construction Services - Campanella T&M Services	$ -	$ -	$ -	$ 162,678	$ -	$ 22,327	$ 24,325	$ -	$ 17,675	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	100.0%	0.0%	70.2%	75.0%	0.0%	70.9%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ 162,678	$ -	$ 15,674	$ 18,244	$ -	$ 12,532	$ -	$ -	$ -
Construction Services - DMP	$ -	$ -	$ -	$ -	$ -	$ 35,830	$ 74,530	$ -	$ 21,500	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0.0%	0.0%	70.2%	100.0%	0.0%	70.9%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ 25,153	$ 74,530	$ -	$ 15,244	$ -	$ -	$ -
Construction Services - Miscellaneous	$ -	$ -	$ -	$ -	$ -		$ -	$ -		$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%		0%	0%		0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -		$ -	$ -		$ -	$ -	$ -
Construction Services - Payments to Utilities	$ -	$ -	$ -	$ 34,687	$ 153,833		$ 19,429	$ 1,337	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	100.0%	27.9%	0.0%	100%	0%	0.0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ 34,687	$ 42,966	$ -	$ 19,429	$ -	$ -	$ -	$ -	$ -
Easement Legal Support - Manikas	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EPA Oversight	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percent Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Costs	**$ -**	**$ 155,318**	**$ -**	**$ 332,524**	**$ 234,861**	**$ 58,157**	**$ 259,084**	**$ 160,587**	**$ 39,175**	**$ 49,934**	**$ -**	**$ -**
Total IDOT Attribution	**$ -**	**$ 77,659**	**$ -**	**$ 332,524**	**$ 65,597**	**$ 40,826**	**$ 217,803**	**$ 79,625**	**$ 27,775**	**$ 49,934**	**$ -**	**$ -**

North Shore Gas (NSG)		Dewatering	
Total NSG Site 3 and Site 6	$ 567,385	Total dewater Site 3 and Site 6	$ 419,671
IDOT Attribution	$ 398,121	IDOT Attribution	$ 297,428
Percent IDOT attribution	70.2%	Percent IDOT attribution	70.9%
NSG IDOT Total	$ 438,947	Dewatering IDOT Total	$ 325,203

Exhibit F

Cost Allocation and IDOT Attribution Table

Work/Cost Type	Task Bucket											
	Filling and Capping			Ramp			General Site/Site Preparation			Health and Safety		
	Site 3	Site 6	Site 3 and Site 6	Site 3	Site 6	Site 3 and Site 6	Site 3	Site 6	Site 3 and Site 6	Site 3	Site 6	Site 3 and Site 6
Professional Engineering Services - LFR/Arcadis/AECOM	$ -	$ -	$ -	$ 20,880	$ -	$ -	$ 355,534	$ 519,027	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	100%	0%	0%	74.2%	37.9%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ 20,880	$ -	$ -	$ 263,806	$ 196,711	$ -	$ -	$ -	$ -
Professional Engineering Services - Completion Costs - AECOM Estimate	$ -	$ -	$ -	$ -	$ -	$ -	$ 70,621	$ 53,250	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	74.2%	37.9%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 52,401	$ 20,182	$ -	$ -	$ -	$ -
Operations and Maintenance - AECOM Estimate	$ -	$ -	$ -	$ -	$ -	$ -	$ 310,903	$ -	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	80.0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 248,722	$ -	$ -	$ -	$ -	$ -
Construction Services - Campanella Base Bid	$ 328,983	$ -	$ -	$ -	$ -	$ -	$ 138,310	$ 95,560		$ -	$ -	$ 77,000
Percentage Attribution to IDOT	80.0%	0%	0%	0%	0%	0%	74.2%	37.9%	0%	0%	0%	63.1%
IDOT Attribution	$ 263,186	$ -	$ -	$ -	$ -	$ -	$ 102,626	$ 36,217	$ -	$ -	$ -	$ 48,587
Construction Services - Campanella T&M Services	$ 41,721	$ 188,183	$ 231,862	$ -	$ -	$ -	$ -	$ 37,410	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	80.0%	50.0%	67.4%	0%	0%	0%	0.0%	37.9%	0%	0%	0%	0%
IDOT Attribution	$ 33,377	$ 94,092	$ 156,275	$ -	$ -	$ -	$ -	$ 14,178	$ -	$ -	$ -	$ -
Construction Services - DMP	$ 55,550	$ 122,170	$ 120,150	$ -	$ -	$ -	$ -	$ -	$ 74,300	$ -	$ -	$ -
Percentage Attribution to IDOT	80.0%	50.0%	67.4%	0%	0%	0%	0%	0%	63.1%	0%	0%	0%
IDOT Attribution	$ 44,440	$ 61,085	$ 80,981	$ -	$ -	$ -	$ -	$ -	$ 46,883	$ -	$ -	$ -
Construction Services - Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ 57,362	$ 102,082	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	74.2%	37.9%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 42,563	$ 38,689	$ -	$ -	$ -	$ -
Construction Services - Payments to Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Easement Legal Support - Manikas	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EPA Oversight	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Percent Attribution to IDOT	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Costs	**$ 426,254**	**$ 310,353**	**$ 352,012**	**$ 20,880**	**$ -**	**$ -**	**$ 932,730**	**$ 807,329**	**$ 74,300**	**$ -**	**$ -**	**$ 77,000**
Total IDOT Attribution	**$ 341,003**	**$ 155,177**	**$ 237,256**	**$ 20,880**	**$ -**	**$ -**	**$ 710,118**	**$ 305,978**	**$ 46,883**	**$ -**	**$ -**	**$ 48,587**

Filling and Capping	
Total Fill and Cap Site 3 and Site 6	$ 736,607
IDOT Attribution	$ 496,180
Percent IDOT attribution	67.4%
Fill and Cap IDOT Total	$ 733,436

General Site/Site Preparation	Site 3	Site 6	Site 3/6
Total Construction Cost	$ 1,476,454	$ 1,232,059	$ 548,602
Total IDOT Attribution	$ 1,094,891	$ 466,915	$ 346,307
Percent IDOT Attribution	74.2%	37.9%	63.1%

Exhibit F

Cost Allocation and IDOT Attribution Table

Work/Cost Type	Task Bucket						Total			Total Site 3 and Site 6 Costs
	EPA Oversight			Legal Support Services						
	Site 3	Site 6	Site 3 and Site 6	Site 3	Site 6	Site 3 and Site 6	Site 3	Site 6	Site 3 and Site 6	
Professional Engineering Services - LFR/Arcadis/AECOM	$ -	$ -	$ -	$ -	$ -	$ -	$ 684,027	$ 679,593	$ -	$ 1,363,620
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%				
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 477,195	$ 229,607	$ -	$ 706,802
Professional Engineering Services - Completion Costs - AECOM Estimate	$ -	$ -	$ -	$ -	$ -	$ -	$ 80,621	$ 68,250	$ -	$ 148,871
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%				
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 62,401	$ 20,182	$ -	$ 82,583
Operations and Maintenance - AECOM Estimate	$ -	$ -	$ -	$ -	$ -	$ -	$ 310,903	$ -	$ -	$ 310,903
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%				
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 248,722	$ -	$ -	$ 248,722
Construction Services - Campanella Base Bid	$ -	$ -	$ -	$ -	$ -	$ -	$ 776,068	$ 410,128	$ 77,000	$ 1,263,196
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%				
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 532,539	$ 193,501	$ 48,587	$ 774,628
Construction Services - Campanella T&M Services	$ -	$ -	$ -	$ -	$ -	$ -	$ 233,880	$ 263,834	$ 325,412	$ 823,126
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%				
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 214,299	$ 108,270	$ 206,381	$ 528,950
Construction Services - DMP	$ -	$ -	$ -	$ -	$ -	$ -	$ 130,080	$ 122,170	$ 297,490	$ 549,740
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%				
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 118,970	$ 61,085	$ 186,809	$ 366,864
Construction Services - Miscellaneous	$ -	$ -	$ -	$ -	$ -	$ -	$ 57,362	$ 102,082	$ -	$ 159,444
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%				
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 42,563	$ 38,689	$ -	$ 81,252
Construction Services - Payments to Utilities	$ -	$ -	$ -	$ -	$ -	$ -	$ 136,243	$ 393,331	$ -	$ 529,575
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	0%				
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 108,320	$ 121,559	$ -	$ 229,879
Easement Legal Support - Manikas	$ -	$ -	$ -	$ -	$ -	$ 71,840	$ -	$ -	$ 71,840	$ 71,840
Percentage Attribution to IDOT	0%	0%	0%	0%	0%	47.5%				
IDOT Attribution	$ -	$ -	$ -	$ -	$ -	$ 34,124	$ -	$ -	$ 34,124	$ 34,124
EPA Oversight	$ 233,805	$ 125,675	$ -	$ -	$ -	$ -	$ 233,805	$ 125,675	$ -	$ 359,480
Percent Attribution to IDOT	74.2%	37.9%	0%	0%	0%	0%				
IDOT Attribution	$ 173,483	$ 47,631	$ -	$ -	$ -	$ -	$ 173,483	$ 47,631	$ -	$ 221,114
Total Costs	**$ 233,805**	**$ 125,675**	**$ -**	**$ -**	**$ -**	**$ 71,840**	**$ 2,642,990**	**$ 2,165,063**	**$ 771,742**	**$ 5,579,794**
Total IDOT Attribution	**$ 173,483**	**$ 47,631**	**$ -**	**$ -**	**$ -**	**$ 34,124**	**$ 1,978,492**	**$ 820,523**	**$ 475,901**	**$ 3,274,917**

Manikas Support Site 3/6	Site 3	Site 6	Site 3 and 6	Total
Total costs for utility work	$ 720,302	$ 761,119	$ 157,415	$ 1,638,837
Total IDOT Attribution	$ 465,271	$ 232,114	$ 81,275	$ 778,660
Percent IDOT Attribution				47.5%

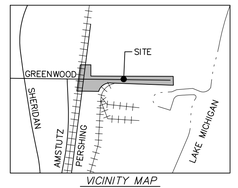
Exhibit G

Atwell Survey

PLAT OF TOPOGRAPHIC SURVEY

OF

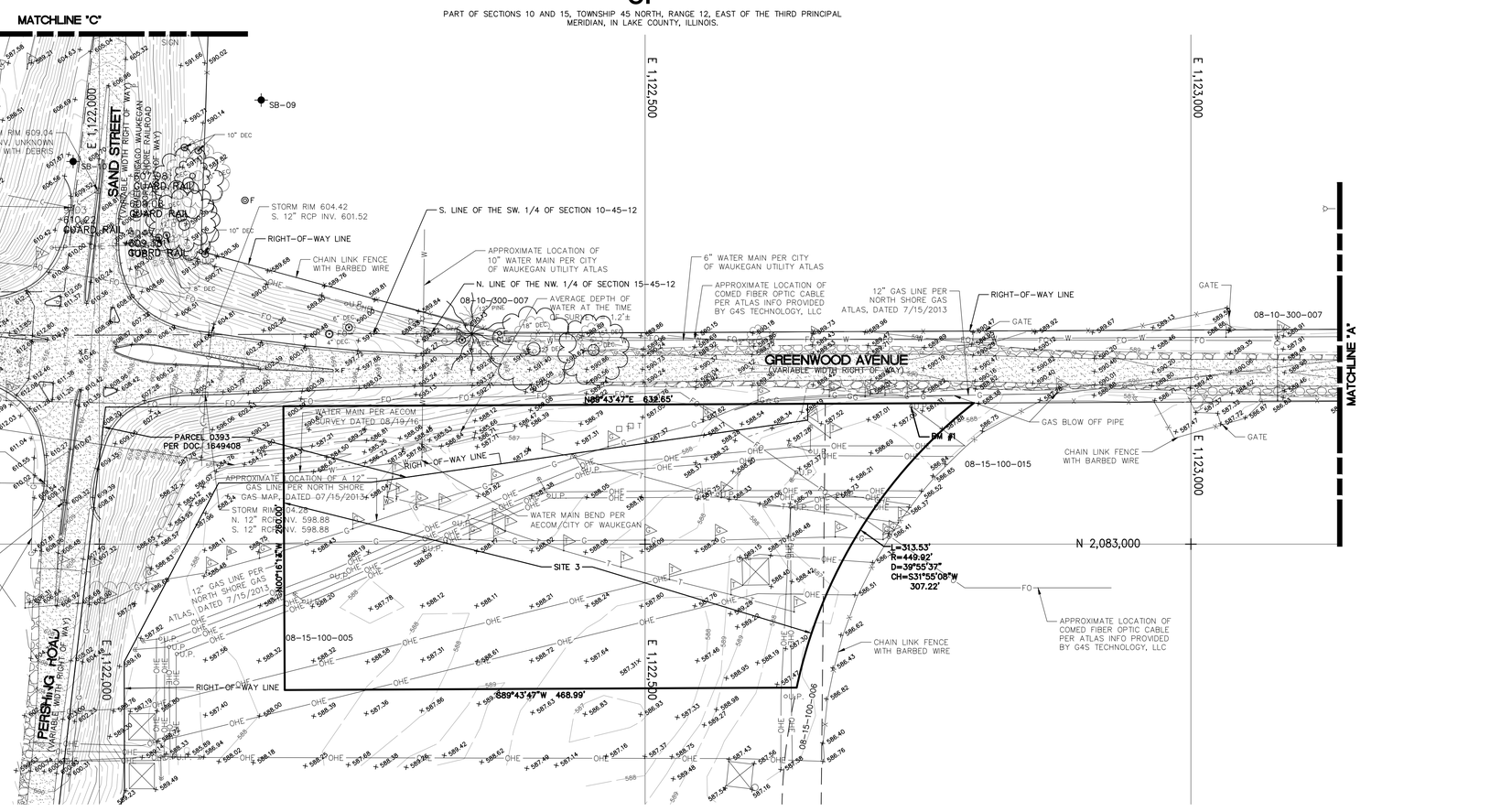
PART OF SECTIONS 10 AND 15, TOWNSHIP 45 NORTH, RANGE 12, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN LAKE COUNTY, ILLINOIS.



VICINITY MAP
NOT TO SCALE

LEGEND

- FOUND IRON PIPE
- FOUND CONCRETE MONUMENT
- FOUND PK NAIL
- EXISTING SOIL BORING
- EXISTING CATCH BASIN/MANHOLE
- EXISTING WATER VALVE
- EXISTING UTILITY POLE
- EXISTING CULVERT
- EXISTING SIGN
- EXISTING GUY WIRE
- EXISTING BOLLARD
- SPOT SHOT
- EXISTING TREE
- UNDERGROUND TELEPHONE MARKER
- UNDERGROUND GAS MARKER
- UNDERGROUND FIBER OPTIC CABLE MARKER
- UNDERGROUND WATER MARKER
- BOUNDARY ADJACENT LINE
- EXISTING CURB LINE
- EXISTING FENCE LINE
- EXISTING VEGETATION LINE
- EXISTING GUARD RAIL
- EXISTING EDGE OF WATER
- EXISTING OVERHEAD ELECTRIC LINE
- UNDERGROUND SANITARY LINE
- UNDERGROUND STORM LINE
- UNDERGROUND GAS LINE
- UNDERGROUND WATER LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND FIBER OPTIC CABLE
- EXISTING CONTOUR LINE
- EXISTING GRAVEL
- EXISTING ASPHALT
- EXISTING CONCRETE



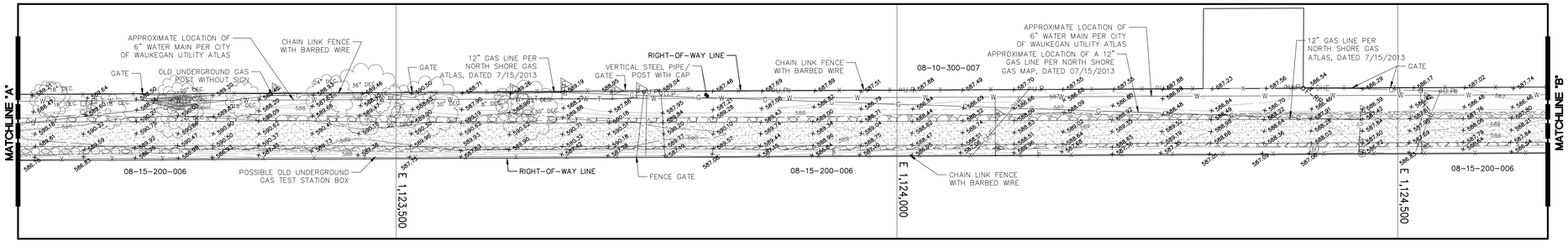
BASIS OF BEARING: ILLINOIS STATE PLANE EAST ZONE (NAD83)

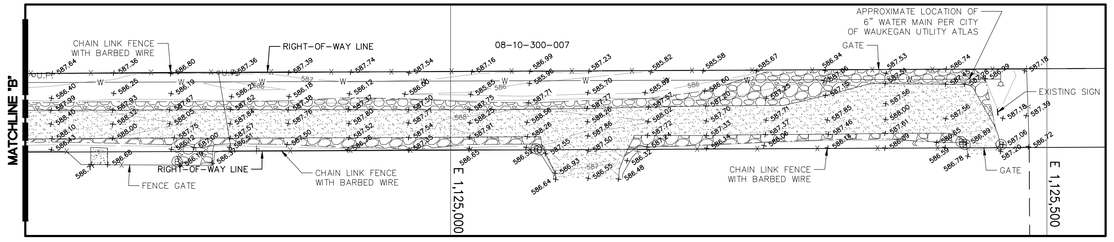
SURVEY CONTROL DATA				
POINT NUMBER	NORTHING	EASTING	ORIGINAL ELEVATION PROVIDED	ELEVATION MEASURED BY ATWELL (NAVD88 DATUM)
GPS-1	2084543.855	1122116.800	588.43	588.25
GPS-2	2083314.894	1122133.309	590.98	590.82
GPS-3	2085527.624	1123465.866	591.26	590.92
GPS-4	2085420.367	1126505.119	606.22	605.76
GPS-6	2083255.269	1123739.256	590.39	590.21
GPS-8	2085823.440	1122270.900	589.02	588.68

SITE BENCHMARKS:

SITE BM#1 = FOUND BENCH TIE IN THE NORTH FACE OF POWER POLE (AS REFERENCED ON LAKE COUNTY BENCHMARK RECOVERY SHEET TBM 7-60)
ELEVATION = 588.16' (NAVD88)

SITE BM#2 = FOUND CHISELED SQUARE IN TRAFFIC SIGNAL BASE (LAKE COUNTY BENCHMARK TBM 7-59) LOCATED AT THE SOUTHEAST CORNER OF SHERIDAN AND GREENWOOD AVENUE, NOT SHOWN HEREON.
MEASURED ELEVATION = 660.30' (NAVD88)





GENERAL NOTES:

1.) COMPARE ALL DISTANCES AND POINTS IN FIELD AND REPORT ANY DISCREPANCIES IN SAME TO SURVEYOR AT ONCE.
2.) CALL 811 ("COMMON GROUND ALLIANCE" NATIONAL UNDERGROUND UTILITY LOCATOR SERVICE) FOR FIELD LOCATION OF UNDERGROUND UTILITY LINES PRIOR TO ANY DIGGING OR CONSTRUCTION.
3.) NO DIMENSIONS SHOULD BE ASSUMED BY SCALING.
4.) FIELD WORK COMPLETED ON 07/15/2013.
5.) GPS CONTROL POINTS FROM THE MASTER SITE PLAN FOR THE JOHNS MANVILLE WAUKEGAN PLANT WERE RECOVERED AND FOUND TO BE ON THE SAME COORDINATE SYSTEM USED FOR THIS SURVEY (ILLINOIS STATE PLANE, EAST ZONE, NAD83, U.S. SURVEY FOOT). ATWELL HAS MEASURED THE ELEVATION OF THE GPS CONTROL POINTS RECOVERED ON THE NAVD88 DATUM, THE ELEVATIONS ARE SHOWN IN A TABLE ON SHEET 1 OF THIS SURVEY.
6.) ALL PIPE INVERTS SHOWN HEREON FOR SANITARY STRUCTURES ARE OPEN TROUGH STYLE PIPES. THE BOTTOMS OF THESE STRUCTURES CONTAINED A LAYER OF SILT/SAND, EVERY EFFORT WAS MADE TO MEASURE THE ACTUAL BOTTOM/INVERT OF THE STRUCTURES THROUGH THE LAYER OF SILT/SAND. (SEE TYPICAL DETAIL ON SHEET 2 OF 2 OF THIS SURVEY).

STATE OF ILLINOIS)
) SS
COUNTY OF DUPAGE)

I, ERIC W. BRAND, AN ILLINOIS PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT THIS BOUNDARY AND TOPOGRAPHIC SURVEY OF THE HEREON DESCRIBED PROPERTY HAS BEEN PREPARED UNDER MY SUPERVISION AND THAT THIS PLAT IS A TRUE AND CORRECT REPRESENTATION THEREOF. ALL DIMENSIONS ARE GIVEN IN FEET AND DECIMALS THEREOF.

DATED THIS 23RD DAY OF JUNE, 2017.

ERIC W. BRAND
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 035-3706
ATWELL, LLC
MY CURRENT LICENSE EXPIRES 11/30/2018.

STATE OF ILLINOIS · ERIC W. BRAND · 035-3706 · NAPERVILLE, IL · PROFESSIONAL LAND SURVEYOR

811 Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

ATWELL
866.850.4200 www.atwell-group.com
1245 EAST DIEHL ROAD, SUITE 100
NAPERVILLE, IL 60563
DESIGN FIRM #184-005876

SECTION 10 & 15
TOWNSHIP 45 NORTH, RANGE 12 EAST
LAKE COUNTY
STATE OF ILLINOIS

CLIENT: AECOM

PLAT OF TOPOGRAPHIC SURVEY

DATE 07/22/2013

06/16/17 – ADDED PARCEL 0393
06/19/17 – PER CLIENT COMMENTS
06/23/17 – PER CLIENT COMMENTS

REVISIONS

SCALE 0 30 60
1" = 60 FEET

DR.	JER	CH.	REW

P.M. E. BRAND
BOOK 127
JOB 13001174
SHEET NO. 1 OF 2

CAD FILE: 13001174TP-001.DWG

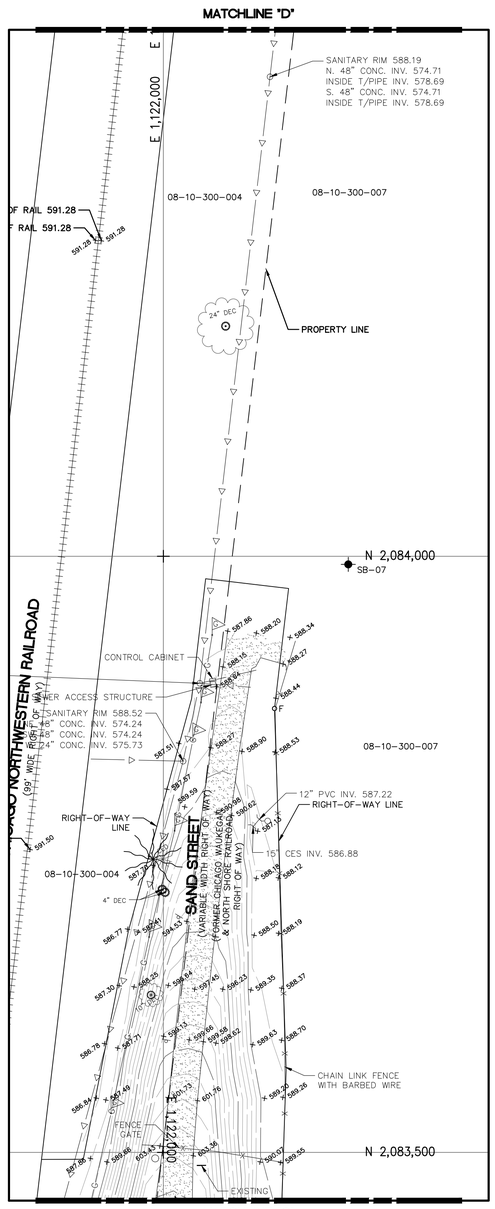
PLAT OF TOPOGRAPHIC SURVEY

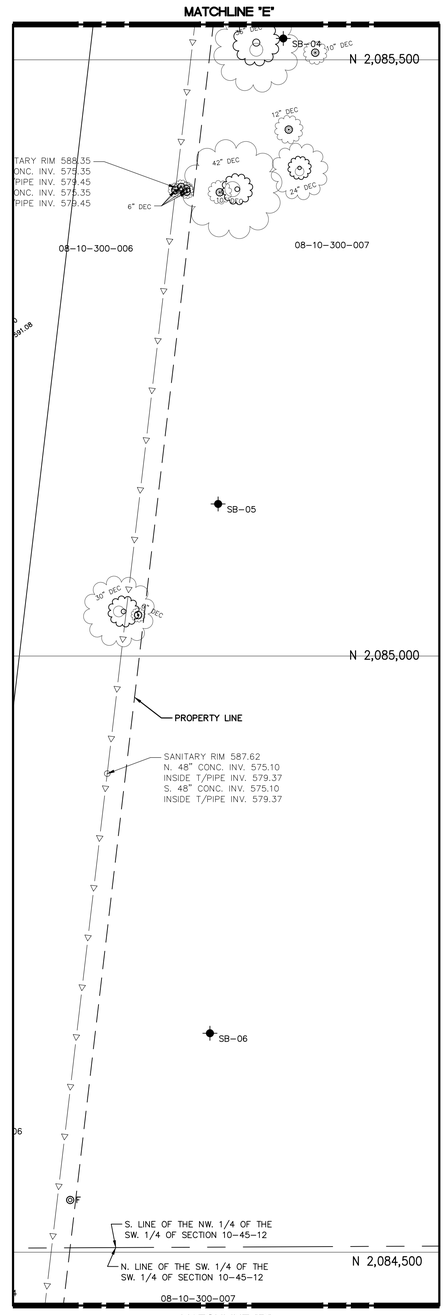
OF

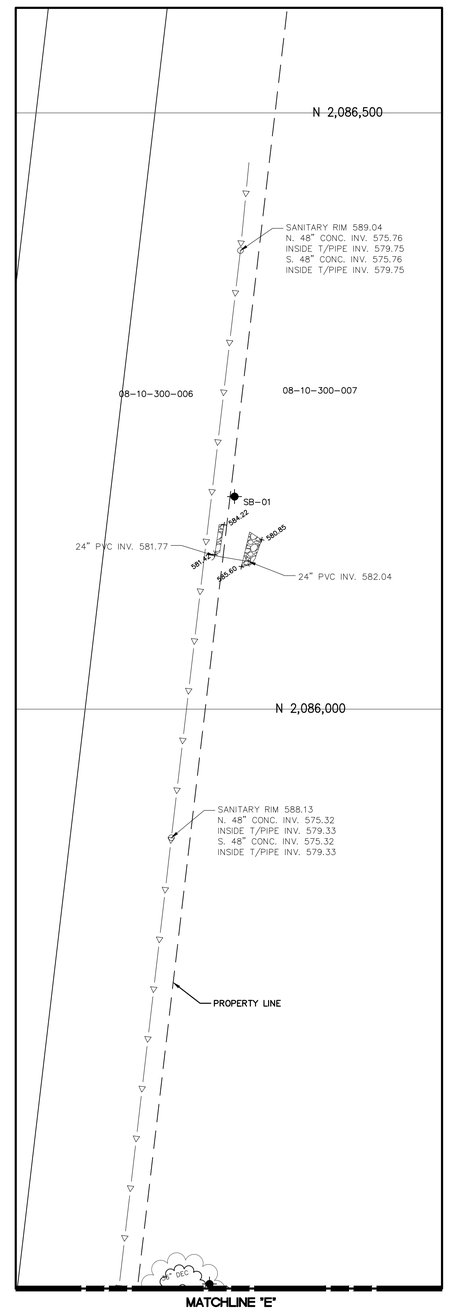
PART OF SECTIONS 10 AND 15, TOWNSHIP 45 NORTH, RANGE 12, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN LAKE COUNTY, ILLINOIS.

TYPICAL SANITARY STRUCTURE DETAIL

NOT TO SCALE







BASIS OF BEARING:
ILLINOIS STATE PLANE
EAST ZONE (NAD83)

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ATWELL
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1245 EAST DIEHL ROAD, SUITE 100
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SECTION 10 & 15
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REVISIONS

SCALE 0 30 60
1" = 60 FEET

DR. JER | CH. REW
P.M. E. BRAND
BOOK 127
JOB 13001174
SHEET NO. 2 OF 2

CAD FILE: 13001174P-001.DWG

EXHIBIT B

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter Of:	)	
	)	
JOHNS MANVILLE, a Delaware corporation,	)	
	)	
Complainant,	)	**PCB No. 14-3**
	)	
v.	)	
	)	
ILLINOIS DEPARTMENT OF TRANSPORTATION,	)	
	)	
Respondent.	)	

NOTICE OF FILING

To: See Attached Service List

PLEASE TAKE NOTICE that on August 13, 2019, I caused to be filed with the Clerk of the Pollution Control Board of the State of Illinois, *Stipulations*, a copy of which is attached hereto and herewith served upon you via e-mail. Paper hardcopies of this filing will be made available upon request.

Dated: August 13, 2019

Respectfully submitted,

BRYAN CAVE LLP

Attorneys for Johns Manville

By: */s/ Lauren J. Caisman*

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Chicago, IL 60601
E-mail: Don.Brown@illinois.gov

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

JOHNS MANVILLE, a Delaware corporation	)	
	)	
Complainant,	)	
	)	
v.	)	PCB No. 14-3
	)	(Citizen Suit)
	)	
ILLINOIS DEPARTMENT OF TRANSPORTATION,	)	
	)	
	)	
Respondent.	)	

STIPULATIONS

IT IS HEREBY STIPULATED AND AGREED, by and between all parties, that:

1. JM performed tasks with respect to Sites 3 and 6 that fall into the following "Task Bucket" categories, as identified in Section 3.2 and Exhibit F of the Expert Report of Douglas G. Dorgan Jr. on Damages Attributable to IDOT dated June 13, 2018 ("Dorgan Report") and Section 3 of the Expert Rebuttal Report of Steven Gobelman on Damages Attributable to IDOT Based on IPCB Order of December 15, 2016 ("Gobelman Report"): (a) Nicor Gas Line; (b) City of Waukegan Water Line; (c) AT&T; (d) Utility/ACM Soils Excavation; (e) Northeast Excavation; (f) Northshore Gas; (g) Dewatering; (h) Filling and Capping; (i) Ramp Work; (j) General Site and Preparation Work; (k) Health and Safety; (l) USEPA Oversight; and (m) Costs for Legal/Legal Support Services (Manikas/Walker, -Wilcox & Matousek).

2. The parties do not dispute the overall amount of costs JM has incurred with respect to Sites 3 and 6 ($5,579,794).

3. The parties do not dispute the amount of costs JM has incurred under each Task Bucket as set forth in Section 3.2 and Exhibit F of the Dorgan Report, Section 6 of the Gobelman Report and the Table below:

Task Bucket	Site 3	Site 6	Site 3 and 6	Total
Nicor Gas	$218,090		$360	$218,450
City of Waukegan Water Line	$61,037	$86,674	0	$147,711
AT&T	$108,651	$284,266	$98,898	$491,815
Utilities/ACM Soils Excavation	0	$155,318	0	$155,318
Northshore Gas	$332,524	$234,861	$58,157	$625,542
Northeast Excavation	$49,934	0	0	$49,934
Dewatering	$259,084	$160,587	$39,175	$458,846
Filling & Capping	$426,254	$310,353	$352,012	$1,088,619
Ramp	$20,880	0	0	$20,880
General Site/Site Preparation	$932,730	$807,329	$74,300	$1,814,359
Health & Safety				$77,000
EPA Oversight	$233,805	$125,675	0	$359,480
Legal Support Services			$71,840	$71,840

4. The parties do not dispute the reasonableness of costs set forth in the Table above in Paragraph #3.

Dated: August 13, 2019

Respectfully submitted,

OFFICE OF THE ATTORNEY GENERAL AND THE ILLINOIS DEPARTMENT OF TRANSPORTATION
Attorneys for Respondent

/s/ Evan J. McGinley (with permission)

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Attorneys for Complainant

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CERTIFICATE OF SERVICE

I, the undersigned, certify that on August 13, 2019, I caused to be served a true and correct copy of *Stipulations* upon all parties listed on the Service List by sending the documents via e-mail to all persons listed on the Service List, addressed to each person's e-mail address.

/s/ Lauren J. Caisman
Lauren J. Caisman

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EXHIBIT C

Transcript of the Testimony of
DOUGLAS DORGAN, JR.

Date: July 31, 2018

Case: JOHNS MANVILLE, A DELAWARE CORPORATION v. ILLINOIS DEPARTMENT OF TRANSPORTATION

TOOMEY REPORTING
312-853-0648
toomeyrep@sbcglobal.net
www.toomeyreporting.com

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

JOHNS MANVILLE, a Delaware corporation,	)	
Complainant,	)	
vs.	)	PCB No. 14-3 (Citizen Suit)
ILLINOIS DEPARTMENT OF TRANSPORTATION,	)	
Respondent.	)	

This is the deposition of DOUGLAS G. DORGAN, JR., called by the Defendant for examination, taken pursuant to the provisions of the Code of Civil Procedure and the Rules of the Supreme Court of the State of Illinois pertaining to the taking of depositions for the purpose of discovery, taken before PEGGY A. ANDERSON, a Certified Shorthand Reporter of the State of Illinois, at 69 West Washington Street, 18th Floor, Chicago, Illinois, on July 31, 2018, at 9:30 a.m.

Q So you were sort of serving in a consultative capacity for somebody else who was being an expert witness; is that an accurate statement?

A That's reasonable.

Q Prior to the work that you have done with respect to the current report, have you ever been asked to analyze and review legal bills concerning the reasonableness of the fees that are being billed for them?

A Yes.

Q You have. Please tell me about that. What are those instances?

A I review the fees that are generated by legal counsel representing Weaver Consultants. They have to be approved by me before being paid by our accounting department.

Q I don't see any mention of that in your report.

A I wasn't sure that it was relevant.

Q You didn't think that it would be relevant that you have professional experience, apparently, in reviewing legal counsel's bills and then to also make opinions about

Mr. Manikas' with respect to this matter?

A I did not reference in my report the specific experience I just referenced.

Q How often would you say you've had occasion to do that?

A Monthly.

Q For how long?

A Ten years. I may not receive an invoice every month but with regularity.

Q So all billings by legal counsel to Weaver Consultant Group for the past ten years, you've reviewed them?

A As well as other professional consultants. And I would stipulate that it may not have been all but certainly most.

Q With respect to your resume, the list of publications that's included here on Presentations, I see the earliest is dated 1989. The most recent is 2011. I assume you have done some presentations since 2011, correct?

A I have.

Q Have any of those presentations involved doing cost attribution work similar to

expert will ultimately come up with, yes?

A I've said I could come to agreement over his methodology. Whether we're in agreement on his number, I can't say until I see it.

Q Do you allow for the possibility that IDOT's expert might come up with a lower attribution amount and that you might actually even agree with that assessment of a lower amount? And I'm just asking you to envision a scenario where that's possible.

A I envision a scenario where he comes in with a number that's lower than mine, and we'll have to see on whether I agree with it or not.

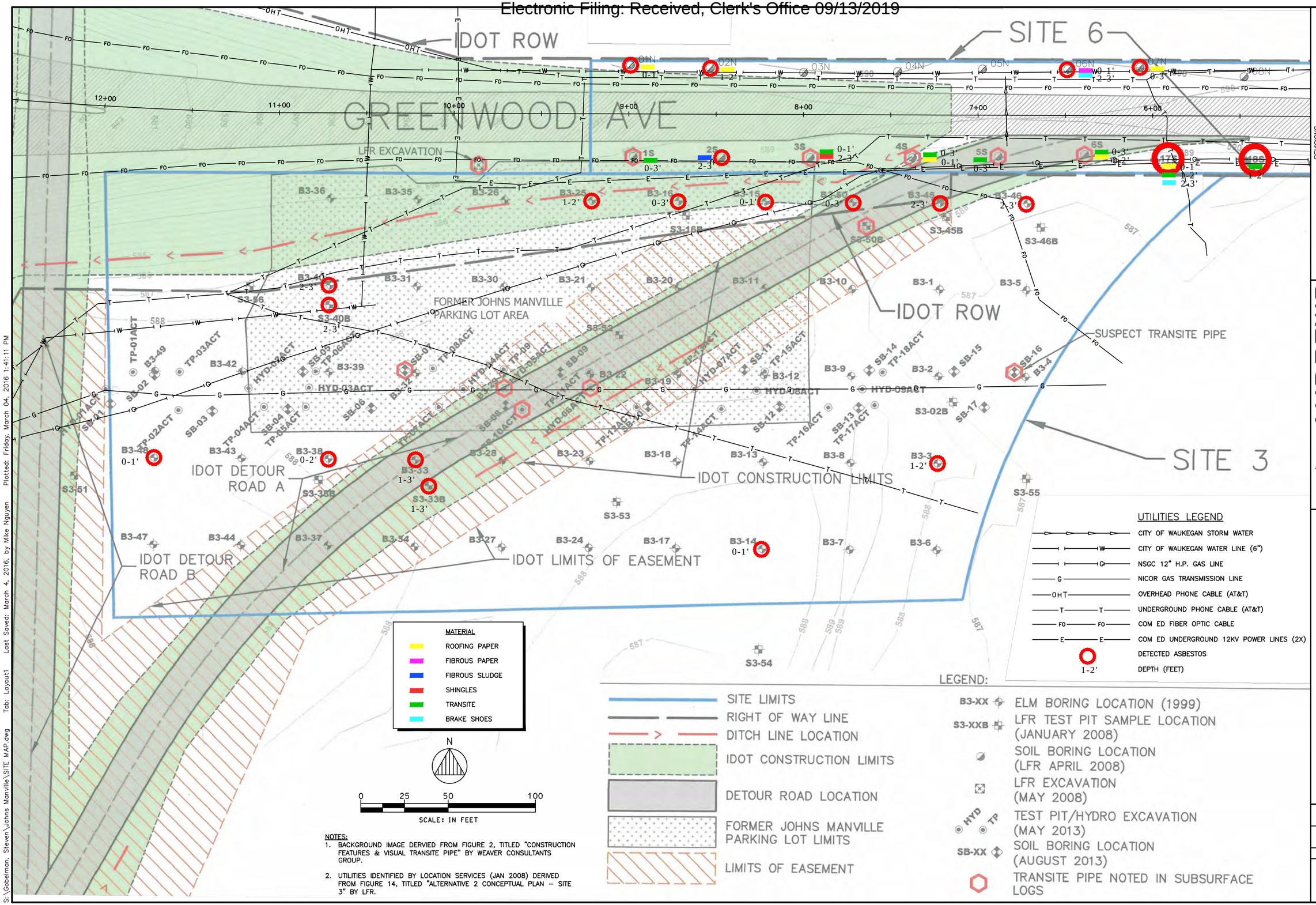
Q But it's at least possible that you might agree with it, correct?

A It's at least possible.

Q Thank you. Isn't it fair to say that you've never been asked in your entire -- You have been a professional in the environmental consulting realm for over 30 years at this point, right?

A Uh-huh, yes.

EXHIBIT D



MATERIAL
ROOFING PAPER
FIBROUS PAPER
FIBROUS SLUDGE
SHINGLES
TRANSITE
BRAKE SHOES

N

0 25 50 100

SCALE: IN FEET

NOTES:
1. BACKGROUND IMAGE DERVIED FROM FIGURE 2, TITLED "CONSTRUCTION FEATURES & VISUAL TRANSITE PIPE" BY WEAVER CONSULTANTS GROUP.
2. UTILITIES IDENTIFIED BY LOCATION SERVICES (JAN 2008) DERIVED FROM FIGURE 14, TITLED "ALTERNATIVE 2 CONCEPTUAL PLAN – SITE 3" BY LFR.

UTILITIES LEGEND	
	CITY OF WAUKEGAN STORM WATER
W	CITY OF WAUKEGAN WATER LINE (6")
G	NSGC 12" H.P. GAS LINE
G	NICOR GAS TRANSMISSION LINE
OHT	OVERHEAD PHONE CABLE (AT&T)
T T	UNDERGROUND PHONE CABLE (AT&T)
FO FO	COM ED FIBER OPTIC CABLE
E E	COM ED UNDERGROUND 12KV POWER LINES (2X)
	DETECTED ASBESTOS
1-2'	DEPTH (FEET)

LEGEND:

	SITE LIMITS
	RIGHT OF WAY LINE
	DITCH LINE LOCATION
	IDOT CONSTRUCTION LIMITS
	DETOUR ROAD LOCATION
	FORMER JOHNS MANVILLE PARKING LOT LIMITS
	LIMITS OF EASEMENT

B3-XX	ELM BORING LOCATION (1999)
S3-XXB	LFR TEST PIT SAMPLE LOCATION (JANUARY 2008)
	SOIL BORING LOCATION (LFR APRIL 2008)
	LFR EXCAVATION (MAY 2008)
HYD TP	TEST PIT/HYDRO EXCAVATION (MAY 2013)
SB-XX	SOIL BORING LOCATION (AUGUST 2013)
	TRANSITE PIPE NOTED IN SUBSURFACE LOGS

NO.	DATE	REVISIONS DESCRIPTION	BY

ANDREWS ENGINEERING, INC.
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 FAX (217) 787-9495
PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO
PROFESSIONAL DESIGN ENGINEERING AND LAND SURVEYING FIRM #184.001541

DESIGNED BY: N/A | DRAWN BY: MPN | APPROVED BY: SLG

PLANS PREPARED FOR
JOHNS MANVILLE
WAUKEGAN, ILLINOIS

SITE MAP

DATE: MARCH 2016

PROJECT ID: 160021/0001

SHEET NUMBER:

FIG. 1

S:\Gobelman, Steven\Johns Manville\SITE MAP.dwg Tab: Layout1 Last Saved: March 4, 2016, by Mike Nguyen Plotted: Friday, March 04, 2016 1:41:11 PM

EXHIBIT E

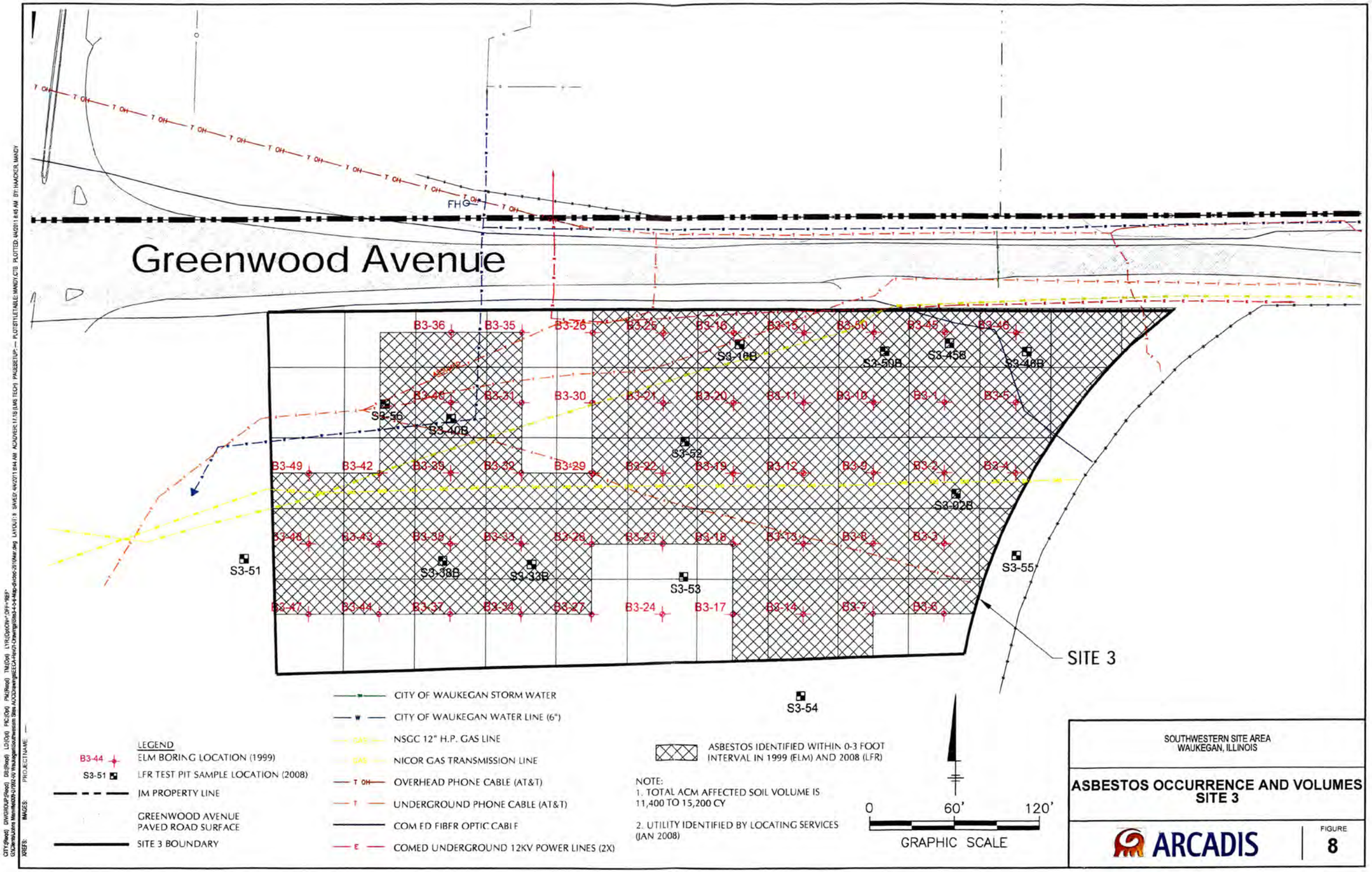

Greenwood Avenue
FHG
B3-36
B3-35
B3-26
B3-25
B3-16
B3-15
B3-50
B3-45
B3-46
S3-16B
S3-50B
S3-45B
S3-46B
B3-48
B3-31
B3-30
B3-21
B3-20
B3-11
B3-10
B3-1
B3-5
S3-56
S3-40B
S3-52
B3-49
B3-42
B3-39
B3-32
B3-29
B3-22
B3-19
B3-12
B3-9
B3-2
B3-4
S3-92B
B3-46
B3-43
B3-38
B3-33
B3-28
B3-23
B3-18
B3-13
B3-8
B3-3
S3-51
S3-38B
S3-33B
S3-53
S3-55
B3-47
B3-44
B3-37
B3-34
B3-27
B3-24
B3-17
B3-14
B3-7
B3-6
SITE 3
S3-54
CITY OF WAUKEGAN STORM WATER
CITY OF WAUKEGAN WATER LINE (6")
NSGC 12" H.P. GAS LINE
NICOR GAS TRANSMISSION LINE
OVERHEAD PHONE CABLE (AT&T)
UNDERGROUND PHONE CABLE (AT&T)
COM ED FIBER OPTIC CABLE
COMED UNDERGROUND 12KV POWER LINES (2X)
LEGEND
B3-44 ELM BORING LOCATION (1999)
S3-51 LFR TEST PIT SAMPLE LOCATION (2008)
JM PROPERTY LINE
GREENWOOD AVENUE PAVED ROAD SURFACE
SITE 3 BOUNDARY
ASBESTOS IDENTIFIED WITHIN 0-3 FOOT INTERVAL IN 1999 (ELM) AND 2008 (LFR)
NOTE:
1. TOTAL ACM AFFECTED SOIL VOLUME IS 11,400 TO 15,200 CY
2. UTILITY IDENTIFIED BY LOCATING SERVICES (JAN 2008)
0
60'
120'
GRAPHIC SCALE
SOUTHWESTERN SITE AREA
WAUKEGAN, ILLINOIS
ASBESTOS OCCURRENCE AND VOLUMES
SITE 3
ARCADIS
FIGURE
8

EXHIBIT F

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

NOV 3 0 2012

MEMORANDUM

SUBJECT: **ENFORCEMENT ACTION MEMORANDUM** – Determination of Threat to Public Health, Welfare, or the Environment to Conduct a Non-Time-Critical Removal Action at the Southwestern Site Area, Sites 3, 4/5, and 6 of the Johns-Manville Corp. Superfund Site
Waukegan, Lake County, Illinois
Site ID# 05A5 Operable Units 3, 4, and 8

FROM: Matthew J. Ohl, Remedial Project Manager
Remedial Response Section #2

THRU: Joan Tanaka, Chief
Remedial Response Branch 1

Samuel Borries, Chief
Emergency Response Branch #2

TO: Richard C. Karl, Director
Superfund Division

I. PURPOSE

The purpose of this memorandum is to document the determination of an imminent and substantial threat to public health, welfare or the environment posed by contaminated soils at the Southwestern Site Area (Site) including Sites 3, 4/5, and 6, in Waukegan, Lake County, Illinois, and to document approval of the proposed non-time critical removal action for the Site. This action is necessary to abate or mitigate releases of hazardous substances that may present an imminent and substantial endangerment to public health and the environment posed by the presence of soils that are contaminated with hazardous substances as defined pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This action is necessary to reduce the actual and potential exposure to the nearby human population and the food chain to hazardous substances from the Site. The action is expected to result in the removal and capping of contaminated materials at or near the surface which present a threat to trespassers or workers at the Site. Institutional controls to prohibit interference with caps and to prevent exposure to underlying contaminated materials are also a necessary component of this action.

Due to the availability of at least a six-month planning period before on-site activities must begin, the action is proposed as a non-time critical removal action. Certain potentially responsible parties (PRPs) characterized this Site by conducting an Engineering Evaluation/Cost Analysis (EE/CA) study. The U.S. Environmental Protection Agency (EPA) approved the EE/CA with modifications in a letter dated February 1, 2012. It is anticipated that this action will be conducted by PRPs with oversight by the EPA.

II. SITE CONDITIONS AND BACKGROUND

A. Physical Location

The Site is located along the southwestern perimeter of the former Johns Manville (JM) manufacturing facility at 1871 North Pershing Road to the west of Lake Michigan, Waukegan, Lake County, Illinois. These areas are part of the Johns Manville Corp. Superfund site (EPA ID # ILD005443544).

B. Site Description, Background and Previous Site Investigations and Response Actions

The Site includes properties owned by the Commonwealth Edison Company (ComEd) and properties adjacent to the JM facility in Waukegan, Lake County, Illinois, which are identified as Sites 3, 4/5, and 6. JM and ComEd entered into an Administrative Order on Consent (AOC) (VW-07-C-870) dated June 11, 2007 to conduct an EE/CA study for the Southwestern Site Area in response to the discovery of asbestos-containing waste materials (ACM) in soils in the areas identified as Sites 3, 4, 5 and 6, which are adjacent to the JM former manufacturing facility.

Site 3 is owned by ComEd and is located south of the Greenwood Avenue right-of-way near the southern property line of the former JM manufacturing facility. Pursuant to a license agreement with ComEd, JM used Site 3 as a parking lot for JM employees and invitees from the 1950s through approximately 1970. Asbestos-containing pipes were split in half lengthwise and used for curb bumpers on Site 3. Site 3 also contains miscellaneous fill material, some of which contains asbestos. The parking lot was taken out of service in approximately 1970 when the Amstutz Expressway was constructed.

In December 1998, Respondent JM discovered ACM at the surface on Site 3. JM removed surficial ACM and conducted sampling of the area which showed ACM at depths of at least three feet at Site 3. Surface and subsurface characterization of Site 3 was completed in 1998 by ELM Consulting LLC (ELM) and results were reported in a report dated December 1999. ELM sampling results are summarized in Table 2 and in Section 2.2.2 of the EE/CA. The northwest and northeast portions of Site 3 were not sampled during the ELM grid sampling event due to the presence of standing water. The ELM study identified these localized areas as wetlands. Levine Fricke (LFR) also conducted sampling in support of the EE/CA. During LFR's EE/CA sampling, these areas also exhibited areas of standing water, thereby precluding sample collection. The EE/CA sampling confirmed ACM in S3-50B and S3-40B. (See Figure 8 of the EE/CA). The

EE/CA confirmed ACM to depths of at least three feet at Site 3. The investigation results are discussed in Section 2.2.2 of the EE/CA.

Site 4/5 is on and adjacent to the western boundary of JM's former manufacturing facility in Waukegan, Illinois. Site 4/5 is located within the right-of-way owned by ComEd extending northward from the north end of the elevated roadway approach to Greenwood Avenue. Site 4/5 consists of an upland area and a low lying swale area between the upland area and a railroad right-of-way to the west. On October 26, 2000, JM personnel observed ACM at Site 4 during excavation activities related to the decommissioning of a nearby natural gas line. Pieces of ACM in the form of roofing materials, Transite™ sheeting and brake shoe materials were noted in the excavated soil. ACM exposed at the surface was picked up and disposed off-site at the Onyx Landfill located in Zion, Illinois but subsurface ACM remains. Site 4 was investigated concurrently with Site 5. Site 5 is located within a swale area of the ComEd right-of-way, which is on and adjacent to the western boundary of the former JM manufacturing facility in Waukegan, Illinois from Site 4 on the south to a point west of the north end of the pumping lagoon. Asbestos was discovered in the swale on Site 5 during investigations for a study prepared for the Waukegan Park District entitled "Waukegan Park District: An Evaluation of Offsite Asbestos and Air Pollutants and Their Potential Effect on Visitors to the Proposed Sports Complex in Waukegan, Illinois" dated March 7, 2002 (Waukegan Park District Study). According to the Waukegan Park District Study, a composite sample from the swale exhibited elevated asbestos concentrations. Both Sites 4 and 5 are located in the area adjacent to JM's western property line, and thus the two were combined for convenience.

The EE/CA study included visual ACM inspection, and Polarized Light Microscopy (PLM) and Transmission Electron Microscopy (TEM) analyses of soil samples collected from test pits within the expanded Site 4/5 investigation area, which indicated the presence of a variable thickness of ACM and/or asbestos fibers in soil above 0.25%. (See Figure 9A of the EE/CA). Visible ACM debris within the test pits included, but is not limited to, Transite™ pipe, roofing materials, fibrous process waste, wall board, brake liners, and flex-board. The investigation results for Site 4/5 are discussed in Section 2.3.2 of the EE/CA. The EE/CA investigation showed a variable thickness of ACM and/or asbestos fibers in soil above 0.25% in all but 4 of the 59 sampling rows. The EE/CA investigation showed occurrences of ACM and/or asbestos fibers greater than 4 feet below ground surface (bgs) encountered along the North Shore Sanitary District sewer main. (See Figure 9A of the EE/CA).

As part of the EE/CA, wetlands delineation for Site 4/5 was completed by Hey and Associates in a report dated January 7, 2009. (See Appendix K of the EE/CA). The field survey, conducted in October 7, 2008, determined that there were 4.09 acres of wetlands on Site 4/5.

Site 6 is adjacent to the JM former manufacturing facility on the shoulders of Greenwood Avenue and within the right-of-way of Greenwood Avenue in Waukegan, Illinois extending from the east end of Greenwood Avenue's elevated approach to Pershing Road on the west to the boundary of Site 2 on the east. Samples of this area were taken as part of the Waukegan Park District Study. Both shallow and deeper sample material from the Greenwood Avenue shoulder

showed elevated levels of concentrations of primarily chrysotile asbestos. Visible ACM debris included, but was not limited to, Transite™ pipe, roofing materials, fibrous process waste, wall board, brake liners, and flex-board. The investigation results are discussed in Section 2.4.2 of the EE/CA. The EE/CA investigation found that ACM either visible or detected by laboratory analysis was present in soil at 28 of 88 of the sample locations in Site 6. (See Table 4 and Figure 10 of the EE/CA). The EE/CA investigations found ACM down to 3 feet bgs at grid sample locations 02S through 09S and at certain sampling locations between 18N and 26N. ACM and/or asbestos fibers may extend at a depth below 3 feet bgs in these areas.

The area surrounding the Southwestern Site Area, Sites 3, 4/5, and 6 in Waukegan, Lake County, Illinois was screened for Environmental Justice (EJ) concerns using Region 5's EJ Assist Tool (which applies the interim version of the national EJ Strategic Enforcement Assessment Tool (EJSEAT 2011)). Census tracts with a score of 1, 2, or 3 are considered to be high-priority potential EJ areas of concern according to EPA Region 5. The Southwestern Site Area, Sites 3, 4/5, and 6 in Waukegan, Lake County, Illinois is in a census tract with a score of 9 (Attachment J). Therefore, Region 5 does not consider this Site to be a high-priority potential EJ area of concern. Please refer to the attached analysis for additional information. [1]

C. Streamlined Risk Evaluation

The streamlined risk evaluation is a general requirement of the EE/CA described in EPA Guidance document EPA 540-R-93-057. The results of the investigation indicate that ACM and/or asbestos fibers are present within the soil column at each Site, at depths ranging from the surface to lower than 5 feet in depth at some locations.

Exposure Route

The primary exposure route of concern is inhalation, where asbestos fibers from asbestos contaminated soil and damaged ACM may become airborne through human activity. Walking, biking and other physical disturbance of contaminated surface soils will result in airborne asbestos fibers and potential exposures to individuals involved in these activities. Of particular concern are digging and soil moving related to road repair, utility repair and any other construction activities on the sites. In addition to worker exposure, fugitive emissions from the sites may expose individuals off-site as well. Incidental ingestion from soils, and ingestion of asbestos fibers entrained in the mucous of the upper airways is a secondary exposure route, and likely of more concern in construction and utility workers.

Site Use

The current and anticipated future use of each Site is as follows:

• Site 3 is owned by ComEd and contains high voltage transmission lines. It consists of vegetated (uncut) open land that is unoccupied with no access restrictions. There are no plans to

1 Disclaimer: The values obtained from the EJSEAT 2011 are to be used for screening level analyses and should not be considered a definitive metric. EJSEAT 2011 is under development and review; therefore the values obtained from the tool should be considered interim.

change the current Site use and the area is zoned as General Industrial. Site 3 is currently being used by the following utilities:

*North Shore Gas Company: an underground high pressure gas line;
*City of Waukegan: 6-inch water line;
*ComEd: underground electric line;
*ComEd: fiber optic line;
*Nicor: gas transmission line; and
*AT&T: telephone cables.

• Site 4/5 is a ComEd right of way. It consists of vegetated (uncut) open land that is unoccupied with no access restrictions. There are no plans to change the current Site use and the area is zoned as General Industrial. Site 4/5 is currently being used by the following utilities:

*North Shore Sanitary District: sanitary sewer lines; and
*North Shore Gas Company: gas transmission line.

• Site 6 is owned by the City of Waukegan and serves as the shoulder to Greenwood Avenue. The city has recently added (within the past 4 years) approximately 2 to 3 feet of asphalt grindings to the original road elevation. The city has previously indicated that additional improvements to the roadway or adjacent shoulder areas may be completed in the future (*e.g.*, stormwater lines or surface paving); however, there are no current known plans to change the overall Site use as the Greenwood Avenue shoulder or right-of-way. The following utility lines are located on Site 6:

*AT&T: an underground phone cable;
*North Shore Gas Company: an underground high pressure gas line;
*City of Waukegan: 6-inch water line;
*ComEd: underground electric line; and
*ComEd: fiber optic line.

Potential Receptors
Potential receptors at each of the Sites are as follows:

• Potential receptor populations at Site 3 are (i) utility workers from either ComEd servicing their lines that cross the Site or from other utilities who maintain easements for their lines (see above), (ii) construction workers installing additional utilities in the future and (iii) anyone walking or biking across the field, i.e., trespassers.
• Potential receptor populations at Site 4/5 are (i) utility workers from either ComEd servicing their lines that cross the Site or from other utilities who maintain easements for their lines (i.e., North Shore Sanitary District); (ii) construction workers installing additional utilities in the future and (iii) anyone walking or biking along the railway right-of-way, i.e., trespassers.
• Potential receptor populations at Site 6 are (i) utility workers; (ii) road repair and maintenance and (iii) construction workers installing additional utilities in the future and the general public, as users of the roadway.

• Potential receptors as ACM and asbestos fibers come to the surface (freeze/thaw) at Sites 3, 4/5 and 6 and become airborne include residents approximately one-third to one-half of a mile to the west of these Sites, workers on or around each of Sites 3, 4/5, and 6, users of Greenwood Avenue, and wildlife in Illinois Beach State Park.

Potential Health Risks
Exposure to asbestos fibers via inhalation results in significant health effects including mesothelioma, lung cancer, asbestosis, thickening of the pleural lining around the lungs and pulmonary deficits. Exposures to soils containing asbestos fibers have been associated with all of these health effects including cancer.

Risk Evaluation
Air monitoring will be required for any disturbance of these areas because asbestos fibers are present in surface soils. The shoulders of Greenwood Avenue in Site 6 are not vegetated and are subject to physical disturbance from the general public as well as potential damage from vehicles, snow plows, salt trucks etc. Site 3 contains asbestos at less than 2 feet. Sites 3, 4/5 and 6 also contain utilities and these areas would be disturbed during maintenance or repair activities. Such damage or disturbance may result in the release of ACM and asbestos fibers. Adverse health risks are reasonably anticipated in the event that exposure occurs.

In frost-susceptible areas like Waukegan, stones and other large particles, such as broken scraps of asbestos, tend to move differentially upward through the soil with each freeze/thaw cycle. Thus, ACM and/or asbestos fibers currently covered with soil can, over time, reach the soil surface and become readily releasable to the air.

D. NPL Status

The areas addressed by this removal action are part of the JM Superfund Site, which was listed on the final NPL in 1983.

E. EE/CA Report

JM and ComEd submitted a draft EE/CA report to EPA dated April 4, 2011 that included the PRPs' recommendations for the removal action at the Site. EPA approved the EE/CA Report with modifications in a letter dated February 1, 2012. The April 4, 2011, EE/CA report and EPA's letter of February 1, 2012, together constitute the EE/CA report for the Site.

F. Current Site Conditions

The estimated volume of soil affected by ACM and/or asbestos fibers was determined from sampling results presented in Section 2 of the Report. Areas of asbestos occurrence are provided in Figure 8 (Site 3), Figure 9 (Site 4/5), and Figure 10 (Site 6) of the EE/CA Report. A summary of waste volumes identified is provided below:

- Site 3: 11,400 to 15,200 cubic yards of surface debris and localized ACM-affected soil
- Site 4/5: 16,700 to 25,000 cubic yards of ACM-affected soil
- Site 6: 3,200 to 7,500 cubic yards of ACM-affected soil

The detailed basis for soil volume estimates and spatial areas of ACM-affected soil is provided in Appendix L of the EE/CA Report.

G. State and Local Authorities Roles

1. State and Local Action to Date

   The Illinois EPA has actively participated in all stages of government response activities at the Site, including: (i) early site investigations, (ii) as support agency during the investigation of the sites, and (iii) as support agency during all phases of the recently concluded EE/CA process.

2. Potential for Continued State/Local Response

   EPA anticipates that Illinois EPA will continue its active involvement at the Site, assisting EPA in overseeing the design and construction of the selected removal action in a support agency role. The parties performing the removal action are expected to provide the Post Removal Site Control (PRSC)/Operation and Maintenance (O&M) measures necessary to ensure the success of the removal action and maintain compliance with ARARs.

III. THREAT TO PUBLIC HEALTH OR ENVIRONMENT; STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Site present an imminent and substantial endangerment to public health, or welfare, and the environment, and meet the criteria for a non-time critical removal action provided for in the NCP, 40 C.F.R. § 300.415(b)(2).

A. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants

Human populations and animals are exposed or potentially exposed to pollutants associated with the Southwestern Site in the form of ACM and/or asbestos fibers in the soils at Sites 3, 4/5 and 6. Potential risks were documented in the investigations and analyses performed during the EE/CA process. The human health evaluation documented elevated levels of asbestos creating a potential risk from soils to users of Greenwood Avenue at Site 6 and trespassers and workers at Sites 3, 4/5 and 6. Due to the presence of asbestos in soils, adverse health risks are reasonably anticipated in the event that exposure occurs.

Exposure to asbestos fibers via inhalation results in significant health effects including

mesothelioma, lung cancer, asbestosis, thickening of the pleural lining around the lungs and pulmonary deficits. Exposures to soils containing asbestos fibers have been associated with all of these health effects including cancer.

B. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate

This factor is present at the Southwestern Sites due to the existence of ACM and asbestos fibers in the surface and subsurface soils at the Sites 3, 4/5 and 6. Any activity that disturbs the soils has the potential to both release asbestos fibers from the soil and further damage the ACM releasing asbestos fibers into the air and soil. Asbestos migration onto adjacent properties may occur via airborne dust from the site or in water runoff. Friable asbestos is particularly susceptible to airborne migration. Furthermore, ACM and or asbestos fibers may be exposed in some areas of the Sites by erosion from rainfall events. When ACM is disturbed the materials may become damaged and asbestos fibers may separate and become airborne.

In frost-susceptible areas like Waukegan, stones and other large particles, such as broken scraps of asbestos, tend to move differentially upward through the soil with each freeze/thaw cycle. Thus, ACM and/or asbestos fibers currently covered with soil can, over time, reach the soil surface increasing asbestos contamination of surface soils and asbestos fibers may become readily releasable to the air.

C. Weather conditions that may cause hazardous substances or pollutants of contaminants to migrate or be released

This factor is present at the Southwestern Site due to the existence of ACM and/or asbestos fibers at or near the surface. Asbestos fibers may become airborne and migrate into adjacent areas during dry periods and/or periods of high winds or via surface runoff during heavy rains.

In frost-susceptible areas like Waukegan, stones and other large particles, such as broken scraps of asbestos, tend to move differentially upward through the soil with each freeze/thaw cycle. Thus, ACM and/or asbestos fibers covered with soil can, over time, reach the soil surface, increasing the contamination of the surface soils and asbestos fibers may become readily releasable to the air.

Therefore, conditions at the Site meet the following three criteria for a removal action as stated in 40 C.F.R. § 300.415 (b)(2): i) an actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants; ii) an actual or potential contamination of drinking water supplies; and iii) weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

IV. ENDANGERMENT DETERMINATIONS

Given the Site conditions, the nature of the hazardous substances, and the potential exposure pathways described above, actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the removal action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS

The objective of this non-time critical removal action is to mitigate the imminent and substantial threats posed to human health from hazardous substances in soils at the Site that have the potential to migrate from the Site. Specifically, EPA expects the selected removal action to essentially eliminate the following: 1) the potential for releases of ACM or asbestos fibers to the air or water, 2) direct contact with ACM or asbestos fibers and 3) exposure of site workers and the general public to asbestos fibers from contaminated site soils.

Based on the nature and extent of contamination at the Site and on the removal action objectives, the EE/CA report dated April 4, 2011, evaluated four removal action alternatives. EPA modified and approved the EE/CA report in its letter of February 1, 2012. The removal action selected for the Site include all components of Alternative 5 as described in the EE/CA report, dated April 4, 2011, as modified and approved by EPA's letter of February 1, 2012, and minor changes based upon comments received during the public comment period.

Pursuant to the AOC, Respondents shall submit a Removal Action Work Plan to EPA for review and approval that implements the removal action set forth below within 120 days after receiving notice to proceed from the Remedial Project Manager.

Selected Removal Action (Alternative 5) - Soil Cover for Sites 3 and Site 4/5 with Environmental Covenants and Removal of ACM and asbestos fibers in Utility Easements; and Complete Removal of ACM and asbestos fibers for Site 6 and Northeast Corner of Site 3

1. Site 6: Modified Alternative 1. According to the EPA-approved schedule in the Removal Action Work Plan, Respondents shall:
   a. Within 180 days of EPA approval of the Work Plan, excavate all soil contaminated with ACM and/or asbestos fibers at Site 6 without limitation to depth including at a minimum, but not limited to the area identified as "Area of Excavation for ACM Affected Soil" and "Paving and Potential Subsurface ACM" in Figure 13 in the EE/CA. In non-utility areas, this excavation is anticipated to extend to a minimum depth of 3 feet bgs. Excavate all soil and sediment to a minimum width of 25 feet centered on any utility line (limited only by the edge of Greenwood Avenue to the extent it is demonstrated to provide a competent barrier to excavation) and to a minimum depth of two feet below the deepest utility line (and extending to the depth needed for protectiveness of utility workers at the

deepest utility line) with placement of a continuous barrier at the base and sides of the excavation to inhibit further excavation beyond the clean fill. Install and maintain warning signs or monuments at every point where a utility line passes under Greenwood Avenue. If during or after the soil excavation at Site 6, visual observation, samples from the sidewall, or other samples that may be collected indicate the presence of ACM or asbestos fibers under Greenwood Avenue, then warning signs or monuments will be installed and maintained every 100 ft. in length along Greenwood Avenue in all areas where ACM or asbestos fibers remains in place.

b. Post Excavation Sampling and Analysis. Conduct post excavation sampling and analysis to confirm that there are no remaining ACM or asbestos fibers in the soil at Site 6 after excavation. At a minimum, Respondents shall: i) collect and analyze soil samples for asbestos using Polarized Light Microscopy (PLM) CARB Level A (analytical sensitivity of 0.25% asbestos); ii) analyze 10% of the soil samples (from random interval depths) via Transmission Electron Microscopy (TEM) CARB Level B (analytical sensitivity of 0.1% asbestos); and iii) visually inspect to confirm that there are no remaining ACM or asbestos fibers in soil remaining after excavation.

c. Backfill excavated areas with clean, non-asbestos-containing material and restore any cover materials to original specifications described in paragraph 4 below.

d. Dispose of excavated material in an off-site landfill, or Respondents may seek approval from EPA for disposal of certain excavated materials (excluding sludges), in the JM industrial canal and/or pumping lagoon under the vegetated soil cover.

e. Institutional Controls by Owner of Greenwood Avenue. Greenwood Avenue was not sampled during the EE/CA Study. It is unknown if ACM or asbestos fibers are located under the Greenwood Avenue Paved Road Surface identified in Figure 13 of the EE/CA. Respondents shall obtain an environmental covenant pursuant to Illinois Environmental Covenant Act, 765 ILCS Ch. 122 substantially in the form of Attachment B and signed by the City of Waukegan. Respondents shall submit the executed environmental covenant to EPA as an attachment to the Work Plan. If this environmental covenant is not provided in accordance with this paragraph, the Removal Action Work Plan shall provide for an investigation and the full removal of any ACM or asbestos fibers that may remain under Greenwood Avenue to prevent its potential release during road or utility maintenance.

f. Confirmation Sampling and Analysis. Conduct confirmation sampling and analysis of surface soils located at 10S-30S, 09N-13N, 43N-49N, 56N-58N and 36S-54S of Site 6 to confirm that there are no ACM or asbestos fibers in the soil. At a minimum, Respondents shall collect and analyze soil samples for asbestos using TEM CARB Level B (analytical sensitivity of 0.1% asbestos).

2. Site 3: Modified Alternative 2. According to the EPA-approved schedule in the Removal Action Work Plan, Respondents shall:
   a. Within 90 days of approval of the Work Plan, excavate soil in northeast portion of Site 3 (approximately 0.14 acres) identified as the limited excavation area shown in Figure 15 of the EE/CA to remove all ACM and asbestos fibers (estimated to a depth of 4 feet) and dispose of excavated materials in an off-site landfill in full compliance with the off-site rule, or for excavated materials, excluding sludges, subject to EPA approval, in the industrial canal and pumping lagoon under the vegetated soil cover. ComEd Fiber Optic Cable is located in this area and special provisions may be required to support or remove/relocate this utility to enable complete removal of ACM and asbestos fibers near this utility.
   b. Utility Areas: i) Within 90 days of approval of the Work Plan, excavate soil and sediments contaminated with ACM and/or asbestos fibers to a minimum depth of 2 feet below each utility line and extending to the depth requested by the owner of the utility line with placement of a continuous barrier at the base and sides of the excavation to inhibit further excavation and/or exposure beyond the clean fill and a minimum width of 25 feet centered on each utility line and clean backfill to provide a clean corridor for utility maintenance on Site 3.
   ii) Subject to review and approval by EPA, additional excavation and removal may be performed to achieve complete removal of ACM and asbestos fibers, thereby potentially reducing the size of the vegetated soil cover subject to approval by EPA.
   iii) Alternate Compliance Option: Respondents may in lieu and instead of complying with the requirements set forth in 2.b.i, abandon the utility lines and relocate them if: 1) Respondents provide a written request and obtain written approval from EPA prior to the deadline for submittal of the Work Plan; and 2) Respondents include as part of the Work Plan a signed voluntary subrogation agreement substantially in the form of Attachment E, whereby the utility agrees to abandon the line and subrogate its property interest to the Environmental Covenant required by paragraph 2.f. If Respondents elect this alternate compliance option, Respondents shall construct new lines of appropriate materials and have sufficient capacity to replace the existing lines and be properly connected to prevent any significant interruption in service. The new lines shall be placed either outside of the area contaminated with ACM and/or asbestos fibers to bypass this area, or within fully enclosed utility vaults that eliminate the need for excavation during repair or maintenance activities. Upon certification that the new lines are operational and functional, Respondents shall properly abandon the old utility lines in place.
   c. Post Excavation Sampling and Analysis. Conduct post excavation sampling and analysis to confirm that there are no remaining ACM or asbestos fibers in soil or sediment within either the northeast portion of Site 3 shown in Figure 15 of the EE/CA or within each utility corridor located at Site 3. At a minimum, Respondents shall: i) collect and analyze soil and sediment samples for asbestos using PLM CARB Level A (analytical sensitivity of 0.25% asbestos); ii) analyze

10% of the samples (from random interval depths) via TEM CARB Level B (analytical sensitivity of 0.1% asbestos); and iii) visually inspect to determine the presence of any remaining ACM or asbestos fibers after excavation in soil and sediments including adjacent areas.

d. Dispose of excavated material in a licensed off-site landfill, or Respondents may seek approval from EPA for disposal of certain excavated materials (excluding sludges), in the JM industrial canal and/or pumping lagoon under the vegetated soil cover.

e. Place and maintain the vegetated soil cover as described in paragraph 4 below, in those areas of Site 3 where ACM or asbestos fibers remain in place, including without limitation, the area marked as Vegetated Soil Barrier with Vegetative Surface in Figure 15 of the EE/CA unless otherwise approved by EPA. Enroll the areas, including without limitation, the area marked as Vegetated Soil Barrier with Vegetative Surface area in Figure 15 in the State One Call Program (currently the Joint Utility Locating Information for Excavators (JULIE).

f. Institutional Controls by Owner of Site 3: The Respondent Owner of Site 3 shall execute and record an environmental covenant pursuant to the Illinois Environmental Covenants Act, 765 ILCS Ch. 122 substantially in the form of Attachment C. The Respondent Owner shall obtain title insurance, which shows the land affected by the Environmental Covenant to be free and clear of all prior liens and encumbrances (except when EPA waives the release or subordination of such prior liens or encumbrances)

g. Reroute, pipe, or remove surface water as needed to support this removal action as set forth in the Work Plan approved by EPA.

h. Install and maintain security fencing with warning signs every 100 feet and at all gates completely surrounding all areas where ACM or asbestos fibers remain in place.

i. Long term operation and maintenance (O&M) of the vegetated soil cover. Respondents shall include in the Work Plan a schedule for submittal of an O&M Plan to EPA for review and approval. The O&M Plan shall provide for monitoring of the cap for integrity as well as non-native and invasive species periodically and taking all necessary actions during the operations and maintenance period. The O&M period is for a minimum of 30 years beginning when construction is completed.

3. Site 4/5: Modified Alternative 2. According to the EPA-approved schedule in the Removal Action Work Plan, Respondents shall:

a. i) North Shore Sanitary District Utility Area of Site 4/5: A) Within 180 days following EPA approval of the Work Plan, Respondents shall excavate soil contaminated with ACM and/or asbestos fibers to a minimum depth of 2 feet below the North Shore Sanitary District (NSSD) sewer lines and extending to the depth requested by the owner of the utility lines with placement of a continuous barrier at the base and sides of the excavation to inhibit further excavation beyond the clean fill and a minimum width of 25 feet centered on the utility lines and

backfill to provide a clean corridor for utility maintenance on Site 4/5. Additional excavation and removal may be performed to achieve complete removal of ACM and asbestos fibers, thereby potentially reducing the size of the vegetated soil cover subject to approval by EPA.

B) Alternate Compliance Option: Respondents may in lieu and instead of complying with the requirements set forth in 3.a.i.A, abandon the existing NSSD sewer lines on Site 4/5 and relocate them if: 1) Respondents provide a written request and obtain written approval from EPA prior to the deadline for submittal of the Work Plan; and 2) Respondents include as part of the Work Plan a signed voluntary subrogation agreement substantially in the form of Attachment E, whereby NSSD agrees to abandon the line and subrogate its property interest to the Environmental Covenant required by paragraph 3.h. If Respondents elect this Alternate Compliance Option, within 180 days following EPA approval of the Work Plan, Respondents shall construct sanitary sewer lines either outside of the area contaminated with ACM and/or asbestos fibers to bypass this area, or within fully enclosed utility vaults that eliminate the need for excavation during repair or maintenance activities. The new sewer lines must be constructed of appropriate materials and have sufficient capacity to replace the existing NSSD sewers and be properly connected to the NSSD sewer lines to prevent any significant interruption in service. Upon certification that the new sewer lines are operational and functional, Respondents shall properly abandon the old sewer lines in place.

ii) North Shore Gas Company Utility Area of Site 4/5: Within 180 days after EPA approval of the Work Plan, either excavate and remove soil contaminated with ACM and/or asbestos fibers to a minimum depth of 2 feet below the North Shore Gas Company line and a minimum width of 25 feet centered on the utility line to provide a clean corridor for utility maintenance or disconnect and properly abandon the North Shore Gas Company natural gas transmission line to the south of Site 4/5 at Greenwood Avenue and submit a subrogation agreement substantially in the form of Attachment E (executed by Respondents and North Shore Gas) as an attachment to the Work Plan.

b. Post Excavation Sampling and Analysis: If EPA requires soil and/or sediment excavation at Site 4/5, conduct post excavation sampling and analysis to confirm clean utility corridors. At a minimum, Respondents shall: i) collect and analyze soil and sediment samples for asbestos using PLM CARB Level A (analytical sensitivity of 0.25% asbestos); ii) analyze 10% of the samples (from random interval depths) via TEM CARB Level B (analytical sensitivity of 0.1% asbestos); and iii) visually inspect to determine the presence of any remaining ACM or asbestos fibers after excavation in soil and sediments including adjacent areas.

c. Backfill any excavation with clean non-asbestos containing material and restore any cover materials to original specifications described in paragraph 4 below.

d. Dispose of excavated material in an off-site landfill, or Respondents may seek approval from EPA for disposal of certain excavated materials (excluding sludges), in the JM industrial canal and/or pumping lagoon under the vegetated soil cover.

e. Place and maintain the vegetated soil cover as described in paragraph 4 below over areas where ACM or asbestos fibers may remain in place, including without limitation, the area marked for a vegetated soil barrier in Figure 19 of the EE/CA. Also fill wet areas to allow for cap construction above seasonal high water level to prevent potential erosion in the long term. Enroll the areas, including without limitation, the area marked for a vegetated soil barrier in Figure 19 of the EE/CA in the State One Call Program (currently the JULIE).

f. Develop and submit a sediment and erosion control plan.

g. Submit a detailed design, monitoring and maintenance plan, with specified performance standards, for EPA review and approval, for restoring the 4.09 acres of emergent wetlands that may be impacted as part of the Work Plan that meets the requirements of 40 C.F.R. § 230.94(c)(2)-(14).

h. Institutional Controls by Owner of Site 4/5. The Respondent Owner of Site 4/5 shall execute and record an environmental covenant in substantially the form of Attachment D. The Respondent Owner shall obtain title insurance, which shows the land affected by the Environmental Covenant to be free and clear of all prior liens and encumbrances (except when EPA waives the release or subordination of such prior liens or encumbrances)

i. Install and maintain security fencing with warning signs every 100 feet and at all gates completely surrounding all areas where ACM or asbestos fibers remain in place.

j. Long term O&M of the vegetated soil cover. Respondents shall include in the Work Plan a schedule for submittal of an O&M Plan to EPA for review and approval. The O&M Plan shall provide for monitoring of the cap for integrity as well as non-native and invasive species periodically and taking all necessary actions during the operations and maintenance period. This period is at least 30-years and it starts when construction is completed.

4. Vegetated Soil Cover for Sites 3 and 4/5

A 24-inch, two-layer cover was selected for the JM Superfund Site in the 1987 ROD. The cover thickness was designed to ensure that, on the average, the frost layer does not enter the waste materials more than 10 times per century. This minimizes the freeze/thaw effects because no particle movement occurs when the frost layer does not enter the waste materials. In addition, calculations made by JM's consultant indicate that the 24-inch, two-layer cover would prevent asbestos from reaching the surface and becoming releasable to the air for well in excess of 100 years. Unless an alternative cover design with a thickness of greater than 24 inches and equivalent or better frost protection is approved by U.S. EPA, Vegetated Soil Cover shall mean, at least 6 inches of non-asbestos containing sand beneath compacted non-asbestos-containing soils with the following minimum composition: a geotextile layer overlain by 15 inches of native clayey soil, overlain by 3 inches of topsoil and a vegetation cover. Clean fill from the Borrow Pit or currently stockpiled at the Johns-Manville Site (unused soil from Zion) may be used if it meets the requirements for the vegetated soil cover including that it does not contain detectable levels of asbestos fibers using TEM CARB Level B (analytical

sensitivity of 0.1% asbestos). Non-asbestos containing sandy soils are expected to exist at the Site that, if located or placed above surrounding grade, may provide the benefits (e.g., drainage and mitigation of particle migration) of the six-inch layer of sand required at the base of the vegetated soil cover described in the 1987 Record of Decision (ROD) for the JM NPL Site. In any areas where at least 6 inches of non-asbestos containing sand does not exist above surrounding grade, at least 6 inches of such sand shall be provided prior to placing the geotextile layer of the vegetated soil cover. Additional grading material or alternative cover materials may be required as part of the vegetation cover to ensure proper drainage and to support an appropriate mix of local, native plant species. These native species are anticipated to include heavy hydroseeding with little bluestem (Schizachyrium scoparium). The seed must be of midwest genotype preferably from sources within a few hundred miles of the Site. If requested by EPA, Respondents shall apply a secondary seeding to provide root growth between the bunch grass for erosion control, thereby potentially reducing maintenance requirements after the excavation work has been completed. If approved by EPA, other plant species may need to be added during the secondary seeding to control erosion, but no invasive plants including, but not limited to, crown vetch, sweet clover, and spotted knapweed shall be used.

5. Respondents shall submit and implement an EPA-approved transportation plan as part of the Removal Action Work Plan that will ensure truck traffic is directed to and from the sites during construction in a safe and orderly manner. The transportation plan shall include a street sweeper to clean streets regularly to remove soil that is left behind on the roads by trucks transporting material in and out of the Site.

The other removal alternatives considered for the Southwestern Site are described in detail in the EE/CA Report. They included:

- Alternative 1: Complete Removal
- Alternative 2: Soil Barrier
- Alternative 3: Hybrid Remedy
- Alternative 4: Alternate Soil Barrier Remedy (Site 3 only)

VI. EVALUATION CRITERIA

EPA believes the selected remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria. The decisive factors that led to selecting the remedy include: 1) the high level of protectiveness in a relatively short time frame; 2) the high level of compliance with ARARs; 3) the excellent long-term effectiveness while mitigating risks posed during implementation; 4) the expected high level of supporting agency and community acceptance; and 5) the reasonable present worth and operation and maintenance costs given the risk reduction to be achieved compared to the other alternatives.

A. Overall Protectiveness of Human Health and the Environment

The selected removal action will protect human health and the environment by removing asbestos or covering any remaining asbestos to reduce the potential for exposure. Removal may be more protective in the long-term because it does not rely on the maintenance of covers or compliance with institutional controls. Complete removal is required at Site 6 because the ACM or asbestos fibers are located in the public right-of-way for Greenwood Avenue. There is no reliable way to prevent access and maintain a vegetative cover over the ACM or asbestos fibers located in Site 6. Any vegetative cover and fencing placed at the edge of Greenwood Avenue would be subject to potential damage from vehicles, snow plows, salt trucks, etc. Sites 3, 4/5, and 6 also contain utilities and any cover would be disturbed during maintenance or repair activities. Such damage or disturbance may result in the release of ACM and/or asbestos fibers. Dust from the disturbed ACM and/or asbestos fibers can be hazardous when inhaled. Exposure to asbestos fibers via inhalation results in significant health effects including mesothelioma, lung cancer, asbestosis, thickening of the pleural lining around the lungs and pulmonary deficits. Exposures to soils containing asbestos fibers have been associated with all of these health effects including cancer. Sites 3 and 4/5 include non-utility containing areas where access to ACM or asbestos fibers could be controlled with proper engineering controls supplemented by institutional controls if, and only if, Respondents can establish such controls promptly in accordance with the requirements of the selected removal action.

B. Long Term Effectiveness and Permanance and Contribution to Remedial Performance

The selected removal action will significantly reduce any long-term threats posed through ingestion, inhalation and direct contact with the hazardous substances, which are attributable to the Site. Long-term effectiveness in areas where ACM or asbestos fibers remain in place is reduced by the presence of utilities that require maintenance and repair, especially those that may require immediate action due to damage or failure. Utilities such as natural gas, electric, communications, water and sewer in Sites 3, 4/5, and 6 require immediate access and repair to respond to leaks or damaged lines. Time-critical excavation necessary to respond to an emergency situation such as a gas leak or a damaged electrical line would be likely to result in the potential release of ACM and asbestos fibers. In the event of a breach or other loss of integrity, pressurized underground utilities also have the potential to force overlying soils to the surface resulting in the potential release of ACM and asbestos fibers. Therefore, excavation of clean corridors for all such utilities must be provided as soon as possible to prevent the potential release of ACM and asbestos fibers. The replacement of a sewer line such as the one in Site 4/5 is likely to require significant advanced planning and thus additional time has been provided for this action. Furthermore, rerouting or reconfiguration of the sewer line may also reduce the potential for the release of ACM or asbestos fibers.

Performance monitoring of the various components of the remedy will allow EPA to evaluate the potential need for any further remedial investigation or remedial action. Furthermore, if the selected removal action operates as expected, it will adequately address the threats described in

Section III above, and EPA would not expect future remedial action to be necessary. To the extent additional action would be necessary at the Site, however, based upon available information, the selected removal action will not impede such future response actions. Given that the removal action may result in waste left in place that will not allow unrestricted use and unlimited exposure, EPA intends to conduct discretionary five-year reviews of the selected removal action at the Site. Air monitoring including activities equivalent to activity based sampling may be necessary to properly monitor the response action and support the five-year reviews. EPA may conduct these five-year reviews as part of the site-wide five year reviews.

C. Reduction of Toxicity, Mobility or volume Through Treatment

Treatment is not a component of the selected removal action. However, removal and proper disposal or placement of a properly designed cover is expected to reduce the mobility of asbestos fibers.

D. Short Term Effectiveness

There will be some short-term exposure risk during the implementation of the selected removal action. Proper personal protective equipment and waste management practices will be employed to mitigate this risk. Complete removal through excavation may appear to have the potential for higher short-term risk; however, the grading of ACM and asbestos contaminated soils necessary for placement of a cover will also result in increased short-term risk.

E. Implementability

The selected removal action involves complete removal of ACM and asbestos fibers at Site 6 and in utility right of ways. If the unused gas line can be properly abandoned at Greenwood Avenue to the south of Site 4/5, the sewer lines rerouted around Site 4/5, and the required environmental covenants are implemented, Site 4/5 may be covered with the Vegetated Soil Cover. There is no reliable way to prevent access and maintain a two-foot cap with vegetation over the ACM and asbestos fibers at Site 6. The selected removal action is technically and administratively feasible. Both excavation and covering of ACM and asbestos fibers have been conducted at the JM Site. Coordination with the City of Waukegan and ComEd should be easily carried out. The necessary services and materials are readily available within Waukegan and surrounding areas. State or community concerns are not expected to result in significant changes to the selected removal action. Complete removal is relatively simple. Properly trained workers are readily available and there are existing agreements in place to facilitate coordination with the various utilities. Relocation of utilities for construction projects occurs frequently and doesn't overly complicate the removal process provided proper location of the utilities and coordination with the owners is done in advance. Covering of ACM and asbestos fibers could be implementable in limited areas; however, it is unknown whether the necessary Institutional Controls could be properly implemented, monitored, and enforced for all of the utilities present at the Sites. Responding to emergencies including, but not limited to gas leaks, may require prompt access to Sites.

F. Cost

The estimated cost for the selected removal action (Alternative 5) is $6,448,849 to $10,018,701. The upper end of this range of costs is based upon the potential additional cost involved with creating clean utility corridors or relocating the utilities that run through Sites 3 and 4/5. (See the cost estimates in the administrative record for this Enforcement Action Memorandum). The construction cost for Alternative 5 is estimated to be $6,082,852 to $9,652,704. The long term operation and maintenance cost for Alternative 5 is estimated to be $365,997. These costs are based on the following costs for each of the sites:

Site 6 – construction $1,868,790, annual O&M $0
Site 4/5 - construction $2,508,366 to $5,676,292, annual O&M $14,897, and net present worth of O&M $184,860; and
Site 3 - construction $1,705,696 to $2,107,622, annual O&M $14,597, and net present worth of O&M $181,137

Alternative 5 is compliant with ARARs and is more effective and protective than other alternatives that would leave asbestos containing material in place in utility areas and areas accessible to the public at the Site. Alternative 5 is cost effective and its costs are proportional to its overall effectiveness.

G. Applicable or Relevant and Appropriate Requirements

Pursuant to Section 300.415 (j) of the NCP, the selected removal action will comply with federal and/or, where more stringent, State applicable or relevant and appropriate requirements (ARARs).

1. State of Illinois Solid Waste Standards (35 IAC 807.305)

Specifications related to soil cover design are described in 35 IAC 807.305. These rules are applicable to all areas of the Southwestern Area Site where deposits of ACM or asbestos fibers would remain in place following the excavation work as part of the selected remedy. This soil cover shall be designed and implemented to achieve compliance with the state capping requirements for landfills in 35 IAC 807, which the Illinois EPA has identified as a State ARAR.

2. Executive Order 13112

Executive Order 13112 seeks to prevent the introduction of invasive species. The soil cover for Sites 3 and 4/5, disturbed areas and any wetland restoration shall be vegetated to mitigate erosion using native plant species consistent with the nearby nature preserve and approved by EPA. This vegetation shall be maintained consistent with the intent of Executive Order 13112.

3. National Emissions Standards for Hazardous Air Pollutants for Asbestos (40 C.F.R. Part 61)

Federal standards for inactive asbestos waste disposal sites are described in 40 C.F.R. § 61.151, which requires no visible emissions or a cover over an inactive waste disposal site that contains ACM. 40 C.F.R. § 61.151(4)(d) requires approval by the Administrator if there will be disturbance of an inactive waste disposal site containing ACM and off-site disposal for any excavated ACM. For inactive waste disposal sites containing ACM, 40 C.F.R. § 61.151(4)(e) requires implementation of title documents that run with the land and notify prospective purchasers in perpetuity that the property is subject to the Asbestos NESHAP. Alternative 5 complies with 40 C.F.R. § 61.151 because it requires a vegetative cover over the inactive waste disposal areas of the Southwestern Site. Alternative 5 also requires environmental covenants for the inactive waste disposal areas of the Southwestern Site, which comply with 40 C.F.R. § 61.151(4)(e).

Under 40 C.F.R. § 61.141, "facility" is defined to include inactive asbestos waste disposal sites and "renovation" is defined to mean altering a facility or one or more facility components in any way. 40 C.F.R. § 61.145 requires removal of all regulated asbestos-containing material from a facility being renovated "before any activity that would break up, dislodge, or similarly disturb the material." Existing easements on the asbestos waste disposal areas of the JM Southwestern Site authorize entry for excavation, maintenance and other activities that could alter the asbestos waste disposal areas. Removal of asbestos-containing material prior to any activity that would break up, dislodge, or similarly disturb the material is applicable and relevant and appropriate to utility easement areas. Alternative 5 complies with this requirement because ACM is or will be removed in areas that may become disturbed, such as utility rights of way.

4. State of Illinois Emissions Standard for Asbestos (35 IAC 228)

Alternative 5 and Removal Action Work Plan will comply with the air emissions standards set forth in 35 IAC 228.

5. Clean Water Act Section 404

Clean Water Act Section 404 regulates the discharge of dredged or fill material into waters of the United States, including wetlands, through a permit process. While CERCLA remedies are exempt from permit requirements, the substantive requirements of these rules apply to the wetlands area of Site 4/5. Compensatory mitigations must be provided in accordance with the Section 404(b)(1) guidelines, 40 C.F.R. § 230.10(a). Superfund policy is to require a minimum of one acre of wetlands mitigation for each acre of wetland filled. (See "Considering Wetlands at CERCLA Sites" OSWER 9280.0-03). Alternative 5 may require capping of a wetlands area in Site 4/5 and in that case 4.09 acres of wetlands will need to be restored. The Federal Mitigation Rule requires that mitigation plans include the following fundamental components: objectives; site selection

criteria; site protection instruments (e.g., conservation easements); baseline information (for impact and compensation sites); credit determination methodology; a mitigation work plan; a maintenance plan; ecological performance standards; monitoring requirements; a long-term management plan; an adaptive management plan; and financial assurances. (*Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* 40 C.F.R. § 230.94(c)(2-14)). Also a sediment and erosion control plan will be incorporated into the Removal Action Work Plan.

6. Executive Orders 11988/11990 - Protection of Floodplains/Wetlands and the Fish & Wildlife Coordination Act, 16 U.S.C. § 661 *et seq.*

The Removal Action Work Plan and construction activities will comply with the provisions of Executive Orders 11988/11990, which require action to be taken to mitigate the impacts on wetlands. For construction activities impacting an area greater than one acre within Site 4/5, a sediment and erosion control plan will either be incorporated into the Removal Action Work Plan, or prepared as a separate document meeting the requirements of Title 35 IAC Subtitle C, Chapter 1 and Lake County Illinois guidance.

To Be Considered

765 ILCS Ch. 122 Illinois Uniform Environmental Covenants Act (UECA) authorizes implementation of environmental covenants that arise under an environmental response project. Alternative 5 includes implementation of environmental covenants pursuant to UECA on Sites 3 and 4/5.

Air Monitoring

As there is no defined ambient air quality standard for airborne asbestos, air monitoring results collected during the removal action will be compared with 10% of the OSHA time-weighted average (TWA) personal exposure limit (0.1 fibers per cubic centimeter) for asbestos (29 C.F.R. § 1910.1001).

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed action or non-action would result in an increased likelihood of dermal contact, ingestion, and inhalation of hazardous substances by the human population accessing the Site or future users of the Site. Delayed action will also result in an increased likelihood of increased amounts of ACM and/or asbestos fibers being carried off-site.

VIII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues for the Site.

IX. ENFORCEMENT

See Enforcement Confidential Memorandum Attachment.

X. CHANGES TO PROPOSED PLAN

For Site 4/5, the proposed plan required an environmental covenant whereby a clean corridor for the North Shore Sanitary District would be achieved during NSSD's next large maintenance project. The selected recommended removal action accelerates the timing of the removal of ACM and asbestos fibers to create a clean utility corridor at the NSSD utility line by a date certain –180 days after approval of the Work Plan. The recommended alternative also allows an alternative approach of relocating the sewer line at Site 4/5 and utility lines at Site 3 and abandoning existing lines under a vegetative cover. For Sites 3 and 4/5 where utilities are present, to improve long term risk protectiveness EPA has added the placement of a barrier to inhibit excavation beyond the clean fill and the option of relocating the utility lines into fully enclosed utility vaults such that no excavation will be necessary to access the utility lines for repair or maintenance activities. These changes are in response to concerns raised during and after the public comment period and could have been reasonably anticipated based on the proposed removal of asbestos to create clean utility corridors for other utilities and the proposed abandonment of the North Shore Gas line at Site 4/5 and information in the administrative record. The cost range for the response action has been expanded from that in the proposed plan as additional options including relocating utility lines were added to provide greater flexibility to the parties implementing the response action. For more information on these changes and the related costs, please see the detailed cost estimates in the administrative record for this decision.

XI. RECOMMENDATIONS

As noted in Section II. C, the PRPs conducted a streamlined risk evalaution as part of the EE/CA report to evaluate the actual or potential threats to human health and the environment posed by the Site. When evaluating the most appropriate removal alternative(s) for a Site, an EE/CA must consider the criteria of effectiveness, implementability, and cost. Based upon the EE/CA support sampling results and the streamlined risk evaluation, EPA believes the removal action selected in this Enforcement Action Memorandum will be effective because it will significantly reduce potential exposure to contamination and isolate the waste to prevent direct contact, inhalation and incidental ingestion of contaminants. Finally, the cost of implementing the removal action is reasonable when compared to the associated reduction in risk.

This decision document presents the selected removal action for the Southwestern Site Area including Sites 3, 4/5, and 6, Waukegan, Illinois, developed in accordance with CERCLA, as amended, and it is not inconsistent with the NCP. This decision is based on the Administrative

Record for this Site. (see Attachment J) Conditions at the Site meet the criteria under 40 C.F.R. § 300.415(b)(2) of the NCP for a removal action, and I recommend your approval of the proposed non-time critical removal action. You may indicate your decision by signing below:

APPROVE: _____
Richard C. Karl, Director
Superfund Division

DISAPPROVE: _____
Richard C. Karl, Director
Superfund Division

Attachments:

A. Map of Southwestern Site
B. Environmental Covenants – Greenwood Avenue
C. Environmental Covenant – Site 3
D. Environmental Covenant – Site 4/5
E. Sample Subrogation Agreement
F. Soil Management and Health and Safety Plan
G. Responsiveness Summary
H. Enforcement Confidential Memorandum
I. Administrative Record Index
J. Environmental Justice Analysis

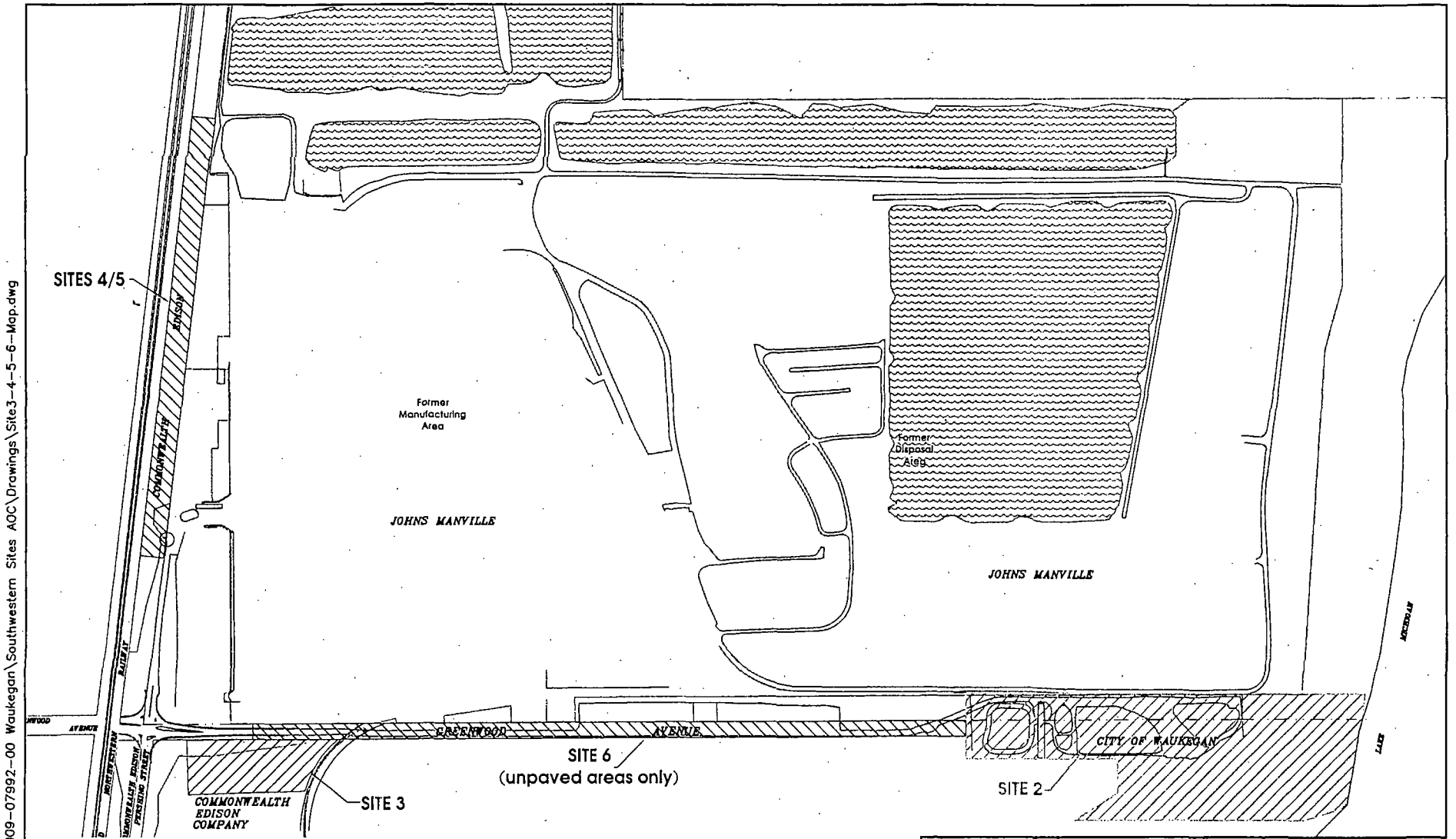
cc: S. Fielding, EPA 5104A
V. Darby, U.S. Department of Interior, w/o Enf. Addendum

BCC PAGE HAS BEEN REDACTED

NOT RELEVANT TO SELECTION OF

REMOVAL ACTION

ATTACHMENT A



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JOHNS MANVILLE

Southwestern Site Area
Sites 3, 4, 5, and 6
Waukegan, Illinois

LFR

Attachment A

ATTACHMENT B

Environmental Covenant – City of Waukegan re: Greenwood Avenue

[space above reserved for recording information]

This instrument was prepared by:

Name:
Address:

Please return this instrument to:

Name:
Address:

ENVIRONMENTAL COVENANT

1. This Environmental Covenant is made this _____ day of _____, 20__, by and among City of Waukegan (Grantor) and the Holders/Grantees further identified in paragraph 3 below pursuant to the Uniform Environmental Covenants Act, 765 ILCS Ch. 122 (UECA) for the purpose of subjecting the Property to the activity and use limitations described herein.

2. Property and Grantor.

A. Property: The real property subject to this Environmental Covenant is located in Lake County, Illinois and is legally described in Appendix A, hereinafter referred to as the "Property". The county parcel number for this Property is _____.

B. Grantor: City of Waukegan is the current fee owner of the Property and is the "Grantor" of this Environmental Covenant. The mailing address of the Grantor is _____.

3. Holders (and Grantees for purposes of indexing).

A. Illinois EPA is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to its authority under Section 3(b) of UECA. The mailing address of the Illinois EPA is 1021 N. Grand Avenue East, P.O. Box 19276, Springfield, IL 62794-9276.

B. The City of Waukegan is a Holder (and Grantee and Grantor for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of the City of Waukegan is _____. Regardless of any future transfer of the Property, the City of Waukegan shall remain a Holder of this Environmental Covenant. City of Waukegan is to be identified as both Grantee and Grantor for purposes of indexing.

C. Commonwealth Edison is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Commonwealth Edison is _____.

D. Johns Manville is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Johns Manville is 717 17th Street, Denver, CO 80202.

4. Agencies. The Illinois EPA and the U.S. EPA are "Agencies" within the meaning of Section 2(2) of UECA. The Agencies have approved the environmental response project described in paragraph 5 below and may enforce this Environmental Covenant pursuant to Section 11 of UECA.

5. Environmental Response Project and Administrative Record.

A. This Environmental Covenant arises under an environmental response project as defined in Section 2(5) of UECA.

B. The Property is currently a paved area of Greenwood Avenue. Asbestos-containing material was found on the shoulders of Greenwood Avenue in the area demarcated on Appendix B, which is adjacent to the Property. The area in Appendix B is part of the Johns Manville Southwestern Site Area ("Site"), which is undergoing environmental remediation pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). In an Action Memorandum, the U.S. EPA Region 5 Division Director selected a removal action for the Southwestern Site that provided, in part, for the placement of land use restrictions for the Southwestern Site. The extent of asbestos-containing material underneath the paved areas on the Property identified in Appendix A has not been determined. Activity and use limitations are required under the plan for environmental remediation approved by the Agencies at the Site. This Environmental Covenant is required by the removal action.

C. Grantor wishes to cooperate fully with the Agencies in the implementation, operation, and maintenance of all response actions at the Site.

D. The Administrative Record for the environmental response project at the Site (including the Property) is maintained at the U.S. EPA Superfund Record Center, 7th Floor, 77 West Jackson Blvd, Chicago, Illinois 60604.

6. Grant of Covenant. Covenant Runs With The Land. Grantor creates this Environmental Covenant pursuant to UECA so that the Activity and Use Limitations and associated terms and conditions set forth herein shall "run with the land" in accordance with

Section 5(a) of UECA and shall be binding on Grantor, its heirs, successors and assigns, and on all present and subsequent owners, occupants, lessees or other person acquiring an interest in the Property.

7. **Activity and Use Limitations.** The following Activity and Use Limitations apply to the use of the Property:

No excavation under Greenwood Avenue: The extent of asbestos contamination associated with the soils underneath the paved areas of the Property (Appendix A) has not been determined. No action shall be taken to drill or intrude into, or demolish the paved areas demarcated in Appendix A unless the Owner, Johns Manville and/or Commonwealth Edison follows the asbestos renovation procedures set forth in 40 C.F.R. § 61.145 and the procedures identified in the Asbestos Soil Management and Asbestos Health and Safety Plan set forth in Appendix C prior to any activity that would break up, dislodge, or similarly disturb asbestos-containing material underneath the area demarcated in Appendix A.

8. **Right of Access**. Grantor consents to officers, employees, contractors, and authorized representatives of the Holders, Illinois EPA and U.S. EPA entering and having continued access at reasonable times to the Property for the following purposes:

A. Implementing, operating and maintaining the environmental response project described in paragraph 5 above;

B. Monitoring and conducting periodic reviews of the environmental response project described in paragraph 5 above including without limitation, sampling of air, water, groundwater, sediments and soils;

C. Verifying any data or information submitted to U.S. EPA or Illinois EPA by Grantor and Holders; and

D. Verifying that no action is being taken on the Property in violation of the terms of this instrument, the environmental response project described in paragraph 5 above or of any federal or state environmental laws or regulations;

Nothing in this document shall limit or otherwise affect U.S. EPA and Illinois EPA's rights of entry and access or U.S. EPA's and Illinois EPA's authority to take response actions under CERCLA, the National Contingency Plan ("NCP"), RCRA or other federal and state law.

9. **Reserved rights of Grantor**: Grantor hereby reserves unto itself, its successors, and assigns, including heirs, lessees and occupants, all rights and privileges in and to the use of the Property which are not incompatible with the activity and use limitations identified herein.

10. **No Public Access and Use**: No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

11. Future Conveyances, Notice and Reservation:

A. Grantor agrees to include in any future instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases and mortgages, a notice and reservation which is in substantially the following form:

THE INTEREST CONVEYED HEREBY IS SUBJECT TO AND GRANTOR SPECIFICALLY RESERVES THE ENVIRONMENTAL COVENANT EXECUTED UNDER THE UNIFORM ENVIRONMENTAL COVENANTS ACT (UECA) AT 765 ILCS CH. 122 RECORDED IN THE OFFICIAL PROPERTY RECORDS OF _____ COUNTY, ILLINOIS ON _____ AS DOCUMENT NO. _____, IN FAVOR OF AND ENFORCEABLE BY GRANTOR AS A UECA HOLDER, JOHNS MANVILLE AS A UECA HOLDER, THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY AS A UECA HOLDER AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY AS A UECA AGENCY.

B. Grantor agrees to provide written notice to Illinois EPA and U.S. EPA within 30 days after any conveyance of fee title to the Property or any portion of the Property. The notice shall identify the name and contact information of the new Owner, and the portion of the Property conveyed to that Owner.

12. Enforcement and Compliance.

A. Civil Action for Injunction or Equitable Relief. This Environmental Covenant may be enforced through a civil action for injunctive or other equitable relief for any violation of any term or condition of this Environmental Covenant, including violation of the Activity and Use Limitations under Paragraph 7 and denial of Right of Access under Paragraph 8. Such an action may be brought individually or jointly by:

i. the Illinois Environmental Protection Agency;
ii. the Holders of the Environmental Covenant;
iii. U.S. Environmental Protection Agency;

B. Other Authorities Not Affected. No Waiver of Enforcement. All remedies available hereunder shall be in addition to any and all other remedies at law or in equity, including CERCLA. Nothing in this Environmental Covenant affects U.S. EPA or Illinois EPA's authority to take or require performance of response actions to address releases or threatened releases of hazardous substances or pollutants or contaminants at or from the Property, or to enforce a consent order, consent decree or other settlement agreement entered into by U.S. EPA or Illinois EPA. Enforcement of the terms of this instrument shall be at the discretion of the Holders, the U.S. EPA and Illinois EPA and any forbearance, delay or omission to exercise its rights under this instrument in the event of a breach of any term of this instrument shall not be deemed to be a waiver by the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA.

C. Former Owners And Interest Holders Subject to Enforcement. An Owner, or other person that holds any right, title or interest in or to the Property remains subject to enforcement with respect to any violation of this Environmental Covenant by the Owner or other person which occurred during the time when the Owner or other person was bound by this Environmental Covenant regardless of whether the Owner or other person has subsequently conveyed the fee title, or other right, title or interest, to another person.

13. Waiver of certain defenses: This Environmental Covenant may not be extinguished, limited, or impaired through issuance of a tax deed, foreclosure of a tax lien, or application of the doctrine of adverse possession, prescription, abandonment, waiver, lack of enforcement, or acquiescence, or similar doctrine as set forth in Section 9 of UECA.

14. Representations and Warranties: Grantor hereby represents and warrants to the Illinois EPA, U.S. EPA and any other signatories to this Environmental Covenant that, at the time of execution of this Environmental Covenant, that the Grantor is lawfully seized in fee simple of the Property, that the Grantor has a good and lawful right and power to sell and convey it or any interest therein, that the Property is free and clear of encumbrances, except those noted on **Appendix D** attached hereto, and that the Grantor will forever warrant and defend the title thereto and the quiet possession thereof. After recording this instrument, Grantor will provide a copy of this Environmental Covenant to all holders of record of the encumbrances including those entities noted on **Appendix D**.

15. Amendment or Termination. Except the Illinois EPA and U.S. EPA, all Holders and other signers waive the right to consent to an amendment or termination of the Environmental Covenant. This Environmental Covenant may be amended or terminated by consent only if the amendment or termination is signed by the Illinois EPA, U.S. EPA and the current owner of the fee simple of the Property, unless waived by the Agencies. If Grantor no longer owns the Property at the time of proposed amendment or termination, Grantor waives the right to consent to an amendment or termination of the Environmental Covenant.

16. Notices: Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and shall either be served personally or sent by first class mail, postage prepaid, addressed as follows:

To Grantor:

_____

_____

_____

To Holder:

_____

_____

_____

To Agencies:

U.S. Environmental Protection Agency
Superfund Division Director
77 West Jackson Boulevard
Chicago, IL 60604

Illinois Environmental Protection Agency
Chief, Bureau of Land
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

17. Recording and Notice of Environmental Covenant, Amendments and Termination.

A. The Original Environmental Covenant. An Environmental Covenant must be recorded in the Office of the Recorder or Registrar of Titles of the county in which the property that is the subject of the Environmental Covenant is located. Within 30 days after the Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Grantor this Environmental Covenant, the Grantor shall record this Environmental Covenant in the office of the County Recorder or Registrar of Titles for the County in which the Property is located.

B. Termination, Amendment or Modification. Within 30 days after Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Owner any termination, amendment or modification of this Environmental Covenant, the Owner shall record the amendment, modification, or notice of termination of this Environmental Covenant in the office of the County Recorder or Registrar of Titles in which the Property is located.

C. Providing Notice of Covenant, Termination, Amendment or Modification. Within 30 days after recording this Environmental Covenant, the Grantor shall transmit a copy of the Environmental Covenant in recorded form to:

i. the Illinois EPA;
ii. the U.S. EPA;
iii. the Holders;
iv. each person holding a recorded interest in the Property, including those interests in Appendix D;
v. each person in possession of the Property; and
vi. each political subdivision in which the Property is located.

Within 30 days after recording a termination, amendment or modification of this Environmental Covenant, the Owner shall transmit a copy of the document in recorded form to the persons listed in items i to vi. above.

18. Compliance Reporting. The Owner, Holder Johns Manville and Holder Commonwealth Edison shall submit to U.S. EPA on an annual basis a written report confirming compliance with the Activity and Use Limitations provided in Paragraph 7. Reports shall be submitted on the first

July 1 that occurs at least six months after the effective date of this Environmental Covenant, and on each succeeding July 1 thereafter. The Owner, Holder Johns Manville and Holder Commonwealth Edison shall notify the Illinois EPA as soon as possible of any actions or conditions that would constitute a breach of the Activity and Use Limitations in Paragraph 7.

19. General Provisions:

A. Controlling law: This Environmental Covenant shall be construed according to and governed by the laws of the State of Illinois and the United States of America.

B. Liberal construction: Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the grant to effect the purpose of this instrument and the policy and purpose of the environmental response project and its authorizing legislation. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

C. No Forfeiture: Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect.

D. Joint Obligation: If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

E. Captions: The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

20. Effective Date. This Environmental Covenant is effective on the date of acknowledgement of the signature of the Illinois EPA and U.S. EPA, whichever is later.

21. List of Appendices:

Appendix A – Legal Description and map of the Property
Appendix B – Map of ACM found on shoulders of Greenwood Avenue
Appendix C – Asbestos Soil Management and Asbestos Health and Safety Plan
Appendix D – Title Commitment

[Signature Pages to follow]

THE UNDERSIGNED REPRESENTATIVE OF THE GRANTOR REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE GRANTOR:

City of Waukegan

By_____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of the City of Waukegan, on behalf of City of Waukegan.

_____(signature)
Notary Public
My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

Johns Manville

By_____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Colorado)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Johns Manville, on behalf of Johns Manville.

_____(signature)
Notary Public
My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

Commonwealth Edison

By_____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Commonwealth Edison, on behalf of Commonwealth Edison.

_____(signature)
Notary Public
My Commissioner Expires _____

FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By_____ (signature)

_____ , Director
Illinois Environmental Protection Agency

State of Illinois)
)SS.
County of)

This instrument was acknowledged before me on _____, 20____, by _____, a delegate of the Director of the Illinois Environmental Protection Agency, a state agency, on behalf of the State of Illinois.

_____ (signature)
Notary Public
My Commission Expires _____

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

On behalf of the Administrator of the
United States Environmental Protection Agency

By: _____
Richard C. Karl, Director
Superfund Division
U.S. Environmental Protection Agency, Region 5

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this ___ day of _____, 20__, by Richard C. Karl, Director, Superfund Division, Region 5 of the United States Environmental Protection Agency.

_____ (signature)
Notary Public
My Commission Expires _____

APPENDICES

Respondents will prepare the Appendices and submit them to EPA for review and approval.

ATTACHMENT C

Environmental Covenant Re: Site 3

[space above reserved for recording information]

This instrument was prepared by:

Name:
Address:

Please return this instrument to:

Name:
Address:

ENVIRONMENTAL COVENANT

1. This Environmental Covenant is made this _____ day of _____, 20__, by and among Commonwealth Edison Company (Grantor) and the Holders/Grantees further identified in paragraph 3 below pursuant to the Uniform Environmental Covenants Act, 765 ILCS Ch. 122 (UECA) for the purpose of subjecting the Property to the activity and use limitations described herein.

2. Property and Grantor.

A. Property: The real property subject to this Environmental Covenant is located in Lake County, Illinois and is legally described in Appendix A, hereinafter referred to as the "Property". The county parcel number for this Property is _____.

B. Grantor: Commonwealth Edison Company is the current fee owner of the Property and is the "Grantor" of this Environmental Covenant. The mailing address of the Grantor is _____.

3. Holders (and Grantees for purposes of indexing).

A. Illinois EPA is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to its authority under Section 3(b) of UECA. The mailing address of the Illinois EPA is 1021 N. Grand Avenue East, P.O. Box 19276, Springfield, IL 62794-9276.

B. Commonwealth Edison Company is a Holder (and Grantee and Grantor for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Commonwealth Edison Company is _____. Regardless of any future transfer of the Property, Commonwealth Edison Company shall remain a Holder of this Environmental Covenant. Commonwealth Edison Company is to be identified as both Grantee and Grantor for purposes of indexing.

C. Johns Manville is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Johns Manville is 717 17th Street, Denver, CO 80202.

4. Agencies. The Illinois EPA and the U.S. EPA are "Agencies" within the meaning of Section 2(2) of UECA. The Agencies have approved the environmental response project described in paragraph 5 below and may enforce this Environmental Covenant pursuant to Section 11 of UECA.

5. Environmental Response Project and Administrative Record.

A. This Environmental Covenant arises under an environmental response project as defined in Section 2(5) of UECA.

B. Asbestos-containing waste material has been disposed of on the Property. The Property is subject to the National Emission Standard for Asbestos set forth at 40 C.F.R. Part 61, Subpart M.

C. The Property is part of the Johns Manville Southwestern Site Area ("Site"), which is undergoing environmental remediation pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). In an Action Memorandum dated _____, the U.S. EPA Region 5 Division Director selected a removal action for the Property that provided, in part, for the placement and maintenance of a vegetated soil cover over the asbestos contaminated material on the Property. (See Appendix B). The vegetated soil cover means at least six inches of non-asbestos-containing sand beneath compacted non-asbestos-containing soils with the following minimum composition: geotextile layer overlain by 15 inches of native clayey soil, three inches of topsoil and a vegetated cover. The Action Memorandum includes the following remediation options for utility line corridors on the Property: a) removal of ACM to a minimum depth of two feet below each utility line and a minimum width of 25 feet centered on each utility line to provide a clean corridor for maintenance of the line on the Property with placement of a barrier at the base and sides of the excavation; or b) relocation of utiities lines to a fully enclosed utility vault. Asbestos-containing material remains under the vegetated soil cover and outside the barriers and vaults of the clean corridors provided for the utility lines. Activity and use limitations are required under the plan for environmental remediation approved by the Agencies at the Site, including the Property, which are set forth in this Environmental Covenant.

D. Grantor wishes to cooperate fully with the Agencies in the implementation, operation, and maintenance of all response actions at the Site.

E. The Administrative Record for the environmental response project at the Site (including the Property) is maintained at the U.S. EPA Superfund Record Center, 7th Floor, 77 West Jackson Blvd, Chicago, Illinois 60604.

6. Grant of Covenant. Covenant Runs With The Land. Grantor creates this Environmental Covenant pursuant to UECA so that the Activity and Use Limitations and associated terms and conditions set forth herein shall "run with the land" in accordance with Section 5(a) of UECA and shall be binding on Grantor, its heirs, successors and assigns, and on all present and subsequent owners, occupants, lessees or other person acquiring an interest in the Property.

7. Activity and Use Limitations. The following Activity and Use Limitations apply to the use of the Property:

a. No action shall be taken to disturb or intrude into the vegetated soil cover described in paragraph 5.B and Appendix B or to excavate soils on the Property described in Appendix A unless the Owner or Johns Manville controls emissions during the excavation or disturbance and disposes of all excavated soils that contain asbestos-containing material off-site in a licensed facility in accordance with the Asbestos Soil Management and Asbestos Health and Safety Plan in Appendix E.

b. The Owner and/or Johns Manville shall maintain the vegetated soil cover and, if the vegetated soil cover is disturbed, the Owner and/or Johns Manville shall immediately repair or replace the vegetated soil cover according to its original specification described in paragraph 5.B. of this Environmental Covenant and the Action Memorandum.

c. The Property is subject to the Asbestos NESHAP, and all asbestos-containing material must be removed prior to any activity begins that would break up, dislodge, or similarly disturb the asbestos-containing material underneath the vegetative soil cover described in Appendix B.

d. No action shall be taken to disturb either the barriers demarcating the clean corridors for utility areas or the utility vaults described in Appendix F unless the Owner or Johns Manville controls emissions during the excavation or disturbance and disposes of all excavated soils that contain asbestos-containing material off-site in a licensed facility in accordance with the Asbestos Soil Management and Asbestos Health and Safety Plan in Appendix E.

e. Excavated asbestos-containing material soil shall be disposed of off-site in an asbestos-licensed facility in accordance with the Asbestos NESHAP.

f. No action shall be taken to construct buildings on the Property.

g. All uses of the Property are prohibited except those compatible with industrial land use.

h. No action shall be taken to disturb the fence surrounding Site 3 as described in Appendix D.

i. No activities shall be conducted on the Property that extract, consume, or otherwise use any groundwater from the Property.

8. **Right of Access**. Grantor consents to officers, employees, contractors, and authorized representatives of the Holders, Illinois EPA and U.S. EPA entering and having continued access at reasonable times to the Property for the following purposes:

A. Implementing, operating and maintaining the environmental response project described in paragraph 5 above;

B. Monitoring and conducting periodic reviews of the environmental response project described in paragraph 5 above including without limitation, sampling of air, water, groundwater, sediments and soils;

C. Verifying any data or information submitted to U.S. EPA or Illinois EPA by Grantor and Holders; and

D. Verifying that no action is being taken on the Property in violation of the terms of this instrument, the environmental response project described in paragraph 5 above or of any federal or state environmental laws or regulations;

Nothing in this document shall limit or otherwise affect U.S. EPA and Illinois EPA's rights of entry and access or U.S. EPA's and Illinois EPA's authority to take response actions under CERCLA, the National Contingency Plan ("NCP"), RCRA or other federal and state law.

9. **Reserved rights of Grantor**: Grantor hereby reserves unto itself, its successors, and assigns, including heirs, lessees and occupants, all rights and privileges in and to the use of the Property which are not incompatible with the activity and use limitations identified herein.

10. **No Public Access and Use**: No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

11. **Future Conveyances, Notice and Reservation**:

A. Grantor agrees to include in any future instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases and mortgages, a notice and reservation which is in substantially the following form:

THE INTEREST CONVEYED HEREBY IS SUBJECT TO AND GRANTOR SPECIFICALLY RESERVES THE ENVIRONMENTAL

COVENANT EXECUTED UNDER THE UNIFORM ENVIRONMENTAL COVENANTS ACT (UECA) AT 765 ILCS CH. 122 RECORDED IN THE OFFICIAL PROPERTY RECORDS OF _____ COUNTY, ILLINOIS ON _____ AS DOCUMENT NO. _____, IN FAVOR OF AND ENFORCEABLE BY GRANTOR AS A UECA HOLDER, JOHNS MANVILLE AS A UECA HOLDER, THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY AS A UECA HOLDER AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY AS A UECA AGENCY.

B. Grantor agrees to provide written notice to Illinois EPA and U.S. EPA within 30 days after any conveyance of fee title to the Property or any portion of the Property. The notice shall identify the name and contact information of the new Owner, and the portion of the Property conveyed to that Owner.

12. Enforcement and Compliance.

A. Civil Action for Injunction or Equitable Relief. This Environmental Covenant may be enforced through a civil action for injunctive or other equitable relief for any violation of any term or condition of this Environmental Covenant, including violation of the Activity and Use Limitations under Paragraph 7 and denial of Right of Access under Paragraph 8. Such an action may be brought individually or jointly by:

i. the Illinois Environmental Protection Agency;
ii. the Holders of the Environmental Covenant;
iii. U.S. Environmental Protection Agency;

B. Other Authorities Not Affected. No Waiver of Enforcement. All remedies available hereunder shall be in addition to any and all other remedies at law or in equity, including CERCLA. Nothing in this Environmental Covenant affects U.S. EPA or Illinois EPA's authority to take or require performance of response actions to address releases or threatened releases of hazardous substances or pollutants or contaminants at or from the Property, or to enforce a consent order, consent decree or other settlement agreement entered into by U.S. EPA or Illinois EPA. Enforcement of the terms of this instrument shall be at the discretion of the Holders, the U.S. EPA and Illinois EPA and any forbearance, delay or omission to exercise its rights under this instrument in the event of a breach of any term of this instrument shall not be deemed to be a waiver by the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA.

C. Former Owners And Interest Holders Subject to Enforcement. An Owner, or other person that holds any right, title or interest in or to the Property remains subject to enforcement with respect to any violation of this Environmental Covenant by the Owner or other person which occurred during the time when the Owner or other person was bound by this Environmental Covenant regardless of whether the Owner or other person has subsequently conveyed the fee title, or other right, title or interest, to another person.

13. **Waiver of certain defenses**: This Environmental Covenant may not be extinguished, limited, or impaired through issuance of a tax deed, foreclosure of a tax lien, or application of the doctrine of adverse possession, prescription, abandonment, waiver, lack of enforcement, or acquiescence, or similar doctrine as set forth in Section 9 of UECA.

14. **Representations and Warranties**: Grantor hereby represents and warrants to the Illinois EPA, U.S. EPA and any other signatories to this Environmental Covenant that, at the time of execution of this Environmental Covenant, that the Grantor is lawfully seized in fee simple of the Property, that the Grantor has a good and lawful right and power to sell and convey it or any interest therein, that the Property is free and clear of encumbrances, except those noted on **Appendix C** attached hereto, and that the Grantor will forever warrant and defend the title thereto and the quiet possession thereof. After recording this instrument, Grantor will provide a copy of this Environmental Covenant to all holders of record of the encumbrances including those entities noted on **Appendix C**.

15. **Amendment or Termination**. Except the Illinois EPA and U.S. EPA, all Holders and other signers waive the right to consent to an amendment or termination of the Environmental Covenant. This Environmental Covenant may be amended or terminated by consent only if the amendment or termination is signed by the Illinois EPA, U.S. EPA and the current owner of the fee simple of the Property, unless waived by the Agencies. If Grantor no longer owns the Property at the time of proposed amendment or termination, Grantor waives the right to consent to an amendment or termination of the Environmental Covenant.

16. **Notices**: Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and shall either be served personally or sent by first class mail, postage prepaid, addressed as follows:

To Grantor:

_____

_____

_____

To Holder:

_____

_____

_____

To Agencies:

U.S. Environmental Protection Agency
Superfund Division Director
77 West Jackson Boulevard
Chicago, IL 60604

Illinois Environmental Protection Agency
Chief, Bureau of Land

1021 N. Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

17. Recording and Notice of Environmental Covenant, Amendments and Termination.

A. The Original Environmental Covenant. An Environmental Covenant must be recorded in the Office of the Recorder or Registrar of Titles of the county in which the property that is the subject of the Environmental Covenant is located. Within 30 days after the Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Grantor this Environmental Covenant, the Grantor shall record this Environmental Covenant in the office of the County Recorder or Registrar of Titles for the County in which the Property is located. .

B. Termination, Amendment or Modification. Within 30 days after Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Owner any termination, amendment or modification of this Environmental Covenant, the Owner shall record the amendment, modification, or notice of termination of this Environmental Covenant in the office of the County Recorder or Registrar of Titles in which the Property is located.

C. Providing Notice of Covenant, Termination, Amendment or Modification. Within 30 days after recording this Environmental Covenant, the Grantor shall transmit a copy of the Environmental Covenant in recorded form to:

i. the Illinois EPA;
ii. the U.S. EPA;
iii. the Holders;
iv. each person holding a recorded interest in the Property, including those interests in Appendix C;
v. each person in possession of the Property; and
vi. each political subdivision in which the Property is located.

Within 30 days after recording a termination, amendment or modification of this Environmental Covenant, the Owner shall transmit a copy of the document in recorded form to the persons listed in items i to vi. above.

18. Compliance Reporting. The Owner shall submit to U.S. EPA on an annual basis a written report confirming compliance with the Activity and Use Limitations provided in Paragraph 7. Reports shall be submitted on the first July 1 that occurs at least six months after the effective date of this Environmental Covenant, and on each succeeding July 1 thereafter. Owner shall notify the Illinois EPA as soon as possible of any actions or conditions that would constitute a breach of the Activity and Use Limitations in Paragraph 7.

19. General Provisions:

A. Controlling law: This Environmental Covenant shall be construed according to and governed by the laws of the State of Illinois and the United States of America.

B. Liberal construction: Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the grant to effect the purpose of this instrument and the policy and purpose of the environmental response project and its authorizing legislation. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

C. No Forfeiture: Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect.

D. Joint Obligation: If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

E. Captions: The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

20. Effective Date. This Environmental Covenant is effective on the date of acknowledgement of the signature of the Illinois EPA and U.S. EPA, whichever is later.

21. List of Appendices:

Appendix A – Legal Description and Map of the Property
Appendix B - Vegetative Soil Cover
Appendix C – Title Commitment
Appendix D – Map of Fence surrounding Site 3
Appendix E – Asbestos Soil Management and Asbestos Health and Safety Plan
Appendix F – Location of Barriers and Utility Vaults in Utility Corridors

[Signature Pages to follow]

THE UNDERSIGNED REPRESENTATIVE OF THE GRANTOR REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE GRANTOR:

Commonwealth Edison Company

By_____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Commonwealth Edison, on behalf of Commonwealth Edison.

_____(signature)
Notary Public
My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

Johns Manville

By_____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Colorado)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Johns Manville, on behalf of Johns Manville.

_____(signature)
Notary Public
My Commissioner Expires _____

FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By_____ (signature)

_____ , Director
Illinois Environmental Protection Agency

State of Illinois)
)SS.
County of)

This instrument was acknowledged before me on _____, 20____, by _____, a delegate of the Director of the Illinois Environmental Protection Agency, a state agency, on behalf of the State of Illinois.

_____ (signature)
Notary Public
My Commission Expires _____

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

On behalf of the Administrator of the
United States Environmental Protection Agency

By: _____
Richard C. Karl, Director
Superfund Division
U.S. Environmental Protection Agency, Region 5

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this ___ day of _____, 20__, by Richard C. Karl, Director, Superfund Division, Region 5 of the United States Environmental Protection Agency.

_____ (signature)
Notary Public
My Commission Expires _____

APPENDICES

Respondents shall prepare the Appendices and submit them to EPA for review and approval.

ATTACHMENT D
Environmental Covenant Re: Site 4/5

[space above reserved for recording information]

This instrument was prepared by:

Name:
Address:

Please return this instrument to:

Name:
Address:

ENVIRONMENTAL COVENANT

1. This Environmental Covenant is made this _____ day of _____, 20__, by and among Commonwealth Edison Company (Grantor) and the Holders/Grantees further identified in paragraph 3 below pursuant to the Uniform Environmental Covenants Act, 765 ILCS Ch. 122 (UECA) for the purpose of subjecting the Property to the activity and use limitations described herein.

2. Property and Grantor.

A. Property: The real property subject to this Environmental Covenant is located in Lake County, Illinois and is legally described in Appendix A, hereinafter referred to as the "Property". The county parcel number for this Property is _____.

B. Grantor: Commonwealth Edison Company is the current fee owner of the Property and is the "Grantor" of this Environmental Covenant. The mailing address of the Grantor is _____.

3. Holders (and Grantees for purposes of indexing).

A. Illinois EPA is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to its authority under Section 3(b) of UECA. The mailing address of the Illinois EPA is 1021 N. Grand Avenue East, P.O. Box 19276, Springfield, IL 62794-9276.

B. Commonwealth Edison Company is a Holder (and Grantee and Grantor for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Commonwealth Edison Company is _____. Regardless of any future transfer of the Property, Commonwealth Edison Company shall remain a Holder of this Environmental Covenant. Commonwealth Edison Company is to be identified as both Grantee and Grantor for purposes of indexing.

C. Johns Manville is a Holder (and Grantee for purposes of indexing) of this Environmental Covenant pursuant to UECA. The mailing address of Johns Manville is _____.

4. **Agencies.** The Illinois EPA and the U.S. EPA are "Agencies" within the meaning of Section 2(2) of UECA. The Agencies have approved the environmental response project described in paragraph 5 below and may enforce this Environmental Covenant pursuant to Section 11 of UECA.

5. **Environmental Response Project and Administrative Record.**

A. This Environmental Covenant arises under an environmental response project as defined in Section 2(5) of UECA.

B. Asbestos-containing waste material has been disposed of on the Property. The Property is subject to the National Emission Standard for Asbestos set forth at 40 C.F.R. Part 61, Subpart M.

C. The Property is part of the Johns Manville Southwestern Site Area ("Site"), which is undergoing environmental remediation pursuant to Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"). In an Action Memorandum, the U.S. EPA Region 5 Division Director selected a removal action for the Property, that provided, in part, for the placement and maintenance of a vegetated soil cover on the Property. The vegetated soil cover means at least six inches of non-asbestos containing sand beneath compacted non-asbestos-containing soils with the following minimum composition: a geotextile layer overlain by 15 inches of native clayey soil, three inches of topsoil and a vegetated cover. The Action Memorandum includes the following remediation options for utility line corridors on the Property: a) removal of ACM to a minimum depth of two feet below each utility line and a minimum width of 25 feet centered on each utility line to provide a clean corridor for maintenance of the line on the Property with placement of a barrier at the base and sides of the excavation; or b) relocation of utility lines to a fully enclosed utility vault. Asbestos-containing material remains under the vegetated soil cover and outside the barriers and vaults of the clean corridors provided for the utility lines. Activity and use limitations are required under the plan for environmental remediation approved by the Agencies at the Site, including the Property, which are set forth in this Environmental Covenant.

D. Grantor wishes to cooperate fully with the Agencies in the implementation, operation, and maintenance of all response actions at the Site.

E. The Administrative Record for the environmental response project at the Site (including the Property) is maintained at the U.S. EPA Superfund Record Center, 7th Floor, 77 West Jackson Blvd, Chicago, Illinois 60604.

6. Grant of Covenant. Covenant Runs With The Land. Grantor creates this Environmental Covenant pursuant to UECA so that the Activity and Use Limitations and associated terms and conditions set forth herein shall "run with the land" in accordance with Section 5(a) of UECA and shall be binding on Grantor, its heirs, successors and assigns, and on all present and subsequent owners, occupants, lessees or other person acquiring an interest in the Property.

7. Activity and Use Limitations. The following Activity and Use Limitations apply to the use of the Property:

a. No action shall be taken to disturb or intrude into the vegetated soil cover described in paragraph 5.B. and set forth in Appendix B or to excavate soils on the Property described in Appendix A unless the Owner or Johns Manville controls emissions during the excavation or disturbance and disposes of all excavated soils that contain asbestos fibers or asbestos-containing material off-site in a licensed facility in accordance with the procedures in the Asbestos Soil Management and Asbestos Health and Safety Plan in Appendix C.

b. The Owner and/or Johns Manville shall maintain the vegetated soil cover and, if the vegetated soil cover is disturbed, the Owner and/or Johns Manville shall immediately repair or replace the cover according to its original specification described in paragraph 5.B. of this Environmental Covenant and the Action Memorandum

c. No action shall be taken to disturb either the barriers demarcating the clean corridors for utility areas or the utility vaults described in Appendix F unless the Owner or Johns Manville controls emissions during the excavation or disturbance and disposes of all excavated soils that contain asbestos-containing material off-site in a licensed facility in accordance with the Asbestos Soil Management and Asbestos Health and Safety Plan in Appendix E.

d. The Property is subject to the Asbestos NESHAP, and all asbestos-containing material must be removed prior to any activity begins that would break up, dislodge, or similarly disturb the asbestos-containing material underneath the vegetative soil cover described in Appendix B.

e. No action shall be taken to construct a building on the Property.

f. All uses of the Property are prohibited except those compatible with industrial land use.

g. No action shall be taken to disturb the fence surrounding Site 4/5 as described in Appendix E.

h. No activities shall be conducted on the Property that extract, consume, or otherwise use any groundwater from the Property.

8. **Right of Access**. Grantor consents to officers, employees, contractors, and authorized representatives of the Holders, Illinois EPA and U.S. EPA entering and having continued access at reasonable times to the Property for the following purposes:

A. Implementing, operating and maintaining the environmental response project described in paragraph 5 above;

B. Monitoring and conducting periodic reviews of the environmental response project described in paragraph 5 above including without limitation, sampling of air, water, groundwater, sediments and soils;

C. Verifying any data or information submitted to U.S. EPA or Illinois EPA by Grantor and Holders; and

D. Verifying that no action is being taken on the Property in violation of the terms of this instrument, the environmental response project described in paragraph 5 above or of any federal or state environmental laws or regulations;

Nothing in this document shall limit or otherwise affect U.S. EPA and Illinois EPA's rights of entry and access or U.S. EPA's and Illinois EPA's authority to take response actions under CERCLA, the National Contingency Plan ("NCP"), RCRA or other federal and state law.

9. **Reserved rights of Grantor**: Grantor hereby reserves unto itself, its successors, and assigns, including heirs, lessees and occupants, all rights and privileges in and to the use of the Property which are not incompatible with the activity and use limitations identified herein.

10. **No Public Access and Use**: No right of access or use by the general public to any portion of the Property is conveyed by this instrument.

11. **Future Conveyances, Notice and Reservation**:

A. Grantor agrees to include in any future instrument conveying any interest in any portion of the Property, including but not limited to deeds, leases and mortgages, a notice and reservation which is in substantially the following form:

THE INTEREST CONVEYED HEREBY IS SUBJECT TO AND GRANTOR SPECIFICALLY RESERVES THE ENVIRONMENTAL COVENANT EXECUTED UNDER THE UNIFORM ENVIRONMENTAL COVENANTS ACT (UECA) AT 765 ILCS CH. 122 RECORDED IN THE

OFFICIAL PROPERTY RECORDS OF _____ COUNTY, ILLINOIS ON _____ AS DOCUMENT NO. _____, IN FAVOR OF AND ENFORCEABLE BY GRANTOR AS A UECA HOLDER, JOHNS MANVILLE AS A UECA HOLDER, THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY AS A UECA HOLDER AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY AS A UECA AGENCY.

B. Grantor agrees to provide written notice to Illinois EPA and U.S. EPA within 30 days after any conveyance of fee title to the Property or any portion of the Property. The notice shall identify the name and contact information of the new Owner, and the portion of the Property conveyed to that Owner.

12. Enforcement and Compliance.

A. Civil Action for Injunction or Equitable Relief. This Environmental Covenant may be enforced through a civil action for injunctive or other equitable relief for any violation of any term or condition of this Environmental Covenant, including violation of the Activity and Use Limitations under Paragraph 7 and denial of Right of Access under Paragraph 8. Such an action may be brought individually or jointly by:

i. the Illinois Environmental Protection Agency;
ii. the Holders of the Environmental Covenant;
iii. U.S. Environmental Protection Agency;

B. Other Authorities Not Affected. No Waiver of Enforcement. All remedies available hereunder shall be in addition to any and all other remedies at law or in equity, including CERCLA. Nothing in this Environmental Covenant affects U.S. EPA or Illinois EPA's authority to take or require performance of response actions to address releases or threatened releases of hazardous substances or pollutants or contaminants at or from the Property, or to enforce a consent order, consent decree or other settlement agreement entered into by U.S. EPA or Illinois EPA. Enforcement of the terms of this instrument shall be at the discretion of the Holders, the U.S. EPA and Illinois EPA and any forbearance, delay or omission to exercise its rights under this instrument in the event of a breach of any term of this instrument shall not be deemed to be a waiver by the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA of such term or of any subsequent breach of the same or any other term, or of any of the rights of the Holders, U.S. EPA or Illinois EPA.

C. Former Owners And Interest Holders Subject to Enforcement. An Owner, or other person that holds any right, title or interest in or to the Property remains subject to enforcement with respect to any violation of this Environmental Covenant by the Owner or other person which occurred during the time when the Owner or other person was bound by this Environmental Covenant regardless of whether the Owner or other person has subsequently conveyed the fee title, or other right, title or interest, to another person.

13. Waiver of certain defenses: This Environmental Covenant may not be extinguished, limited, or impaired through issuance of a tax deed, foreclosure of a tax lien, or application of the

doctrine of adverse possession, prescription, abandonment, waiver, lack of enforcement, or acquiescence, or similar doctrine as set forth in Section 9 of UECA.

14. **Representations and Warranties**: Grantor hereby represents and warrants to the Illinois EPA, U.S. EPA and any other signatories to this Environmental Covenant that, at the time of execution of this Environmental Covenant, that the Grantor is lawfully seized in fee simple of the Property, that the Grantor has a good and lawful right and power to sell and convey it or any interest therein, that the Property is free and clear of encumbrances, except those noted on **Appendix D** attached hereto, and that the Grantor will forever warrant and defend the title thereto and the quiet possession thereof. After recording this instrument, Grantor will provide a copy of this Environmental Covenant to all holders of record of the encumbrances including those entities noted on **Appendix D**.

15. **Amendment or Termination**. Except the Illinois EPA and U.S. EPA, all Holders and other signers waive the right to consent to an amendment or termination of the Environmental Covenant. This Environmental Covenant may be amended or terminated by consent only if the amendment or termination is signed by the Illinois EPA, U.S. EPA and the current owner of the fee simple of the Property, unless waived by the Agencies. If Grantor no longer owns the Property at the time of proposed amendment or termination, Grantor waives the right to consent to an amendment or termination of the Environmental Covenant.

16. **Notices**: Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and shall either be served personally or sent by first class mail, postage prepaid, addressed as follows:

To Grantor:

_____

_____

_____

To Holder:

_____

_____

_____

To Agencies:

U.S. Environmental Protection Agency
Superfund Division Director
77 West Jackson Boulevard
Chicago, IL 60604

Illinois Environmental Protection Agency
Chief, Bureau of Land
1021 N. Grand Avenue East
P.O. Box 19276

Springfield, IL 62794-9276

17. Recording and Notice of Environmental Covenant, Amendments and Termination.

A. The Original Environmental Covenant. An Environmental Covenant must be recorded in the Office of the Recorder or Registrar of Titles of the county in which the property that is the subject of the Environmental Covenant is located. Within 30 days after the Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Grantor this Environmental Covenant, the Grantor shall record this Environmental Covenant in the office of the County Recorder or Registrar of Titles for the County in which the Property is located. .

B. Termination, Amendment or Modification. Within 30 days after Illinois EPA and U.S. EPA (whichever is later) sign and deliver to Owner any termination, amendment or modification of this Environmental Covenant, the Owner shall record the amendment, modification, or notice of termination of this Environmental Covenant in the office of the County Recorder or Registrar of Titles in which the Property is located.

C. Providing Notice of Covenant, Termination, Amendment or Modification. Within 30 days after recording this Environmental Covenant, the Grantor shall transmit a copy of the Environmental Covenant in recorded form to:

i. the Illinois EPA;
ii. the U.S. EPA;
iii. the Holders;
iv. each person holding a recorded interest in the Property, including those interests in Appendix D;
v. each person in possession of the Property; and
vi. each political subdivision in which the Property is located.

Within 30 days after recording a termination, amendment or modification of this Environmental Covenant, the Owner shall transmit a copy of the document in recorded form to the persons listed in items i to vi. above.

18. Compliance Reporting. The Owner shall submit to U.S. EPA on an annual basis a written report confirming compliance with the Activity and Use Limitations provided in Paragraph 7. Reports shall be submitted on the first July 1 that occurs at least six months after the effective date of this Environmental Covenant, and on each succeeding July 1 thereafter. Owner shall notify the Illinois EPA as soon as possible of any actions or conditions that would constitute a breach of the Activity and Use Limitations in Paragraph 7.

19. General Provisions:

A. Controlling law: This Environmental Covenant shall be construed according to and governed by the laws of the State of Illinois and the United States of America.

B. Liberal construction: Any general rule of construction to the contrary notwithstanding, this instrument shall be liberally construed in favor of the grant to effect the purpose of this instrument and the policy and purpose of the environmental response project and its authorizing legislation. If any provision of this instrument is found to be ambiguous, an interpretation consistent with the purpose of this instrument that would render the provision valid shall be favored over any interpretation that would render it invalid.

C. No Forfeiture: Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect.

D. Joint Obligation: If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

E. Captions: The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.

20. Effective Date. This Environmental Covenant is effective on the date of acknowledgement of the signature of the Illinois EPA and U.S. EPA, whichever is later.

21. List of Appendices:

Appendix A – Legal Description and Map of the Property
Appendix B – Vegetative Soil Cover
Appendix C – Asbestos Soil Management and Asbestos Health and Safety Plan
Appendix D – Title Commitment
Appendix E - Map of Fence
Appendix F – Location of Barriers and Utility Vaults in Utlity Corridors

[Signature Pages to follow]

THE UNDERSIGNED REPRESENTATIVE OF THE GRANTOR REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE GRANTOR:

Commonwealth Edison Company

By_____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Commonwealth Edison, on behalf of Commonwealth Edison.

_____(signature)
Notary Public
My Commissioner Expires _____

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS ENVIRONMENTAL COVENANT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

Johns Manville

By_____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Colorado)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of Johns Manville, on behalf of Johns Manville.

_____(signature)
Notary Public
My Commissioner Expires _____

FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By_____ (signature)

_____, Director
Illinois Environmental Protection Agency

State of Illinois)
)SS.
County of)

This instrument was acknowledged before me on _____, 20____, by _____, a delegate of the Director of the Illinois Environmental Protection Agency, a state agency, on behalf of the State of Illinois.

_____ (signature)
Notary Public
My Commission Expires _____

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

On behalf of the Administrator of the
United States Environmental Protection Agency

By: _____
Richard C. Karl, Director
Superfund Division
U.S. Environmental Protection Agency, Region 5

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

The foregoing instrument was acknowledged before me this ___ day of _____, 20__, by Richard C. Karl, Director, Superfund Division, Region 5 of the United States Environmental Protection Agency.

_____ (signature)
Notary Public
My Commission Expires _____

APPENDICES

Respondents shall prepare the Appendices and submit them to EPA for review and approval.

ATTACHMENT E
SUBROGATION AGREEMENT

[space above reserved for recording information]

This instrument was prepared by:

Name:
Address:

Please return this instrument to:

Name:
Address:

SUBROGATION AGREEMENT

[UTILITY] of _____ CITY, STATE is the holder of an [EASEMENT] granted by _____ CITY, STATE to UTILITY, dated _____, recorded with the County Registry of Deeds as document number _____, hereafter referred to as [EASEMENT]. A copy of this EASEMENT is set forth in Appendix A.

[UTILITY] intends to abandon the _____ line described in the [EASEMENT].

[UTILITY] hereby assents to the Environmental Covenant, which was granted by COMMONWEALTH EDISON COMPANY pursuant to the Uniform Environmental Covenants Act (UECA), 765 ILCS Ch. 122, dated _____ and recorded with the County Registry of Deeds as Document No. _____ .[to be filled in upon recordation and/or registration of the Environmental Covenant and of this Subrogation Agreement,

immediately following]. A copy of the Environmenmental Covenant is set forth in Appendix B.

[UTILITY] agrees that the EASEMENT shall be subject to the Environmental Covenant and to the rights, covenants, restrictions and easements created by and under said Environmental Covenant insofar as the interests created under the EASEMENT affect the Property identified in the Environmental Covenant as if for all purposes said Environmental Covenant had been executed, delivered and recorded prior to the execution, delivery and recordation and/or registration of the EASEMENT.

List of Appendices:

Appendix A – [Easement]
Appendix B – Environmental Covenant

THE UNDERSIGNED REPRESENTATIVE OF THE HOLDER REPRESENTS AND CERTIFIES THAT HE/SHE IS AUTHORIZED TO EXECUTE THIS SUBROGATION AGREEMENT.

IN WITNESS WHEREOF, THIS INSTRUMENT HAS BEEN EXECUTED ON THE DATES INDICATED BELOW:

FOR THE HOLDER:

[UTILITY]

By_____ (signature)

[Name of signer] _____ (print)

[Title] _____ (print)

State of Illinois)
) SS.
County of _____)

On _____, 20 __, this instrument was acknowledged before me by, <Name>, <Title> of [UTILITY], on behalf of [UTILITY].

_____(signature)
Notary Public
My Commissioner Expires _____

APPENDICES

Respondents shall prepare the Appendices and submit them to EPA for review and approval.

ATTACHMENT F

Asbestos Soil Management and Asbestos Health and Safety Plan

Southwestern Site Area: Sites 3, 4/5, and 6

Table of Contents

1. Introduction

The purpose of this Asbestos Soil Management Plan (SMP) and Asbestos Health and Safety Plan (HSP) is to address soil management and health and safety matters related to potential asbestos exposure during future (post-remedy) excavation and construction activities beneath the soil barrier (or equivalent) that are completed by property owners and/or utility and other easement holders within the Southwestern Site Area (Sites 3, 4/5, and 6). It does not extend to other soil management or health and safety matters (e.g., excavation/trenching requirements pursuant to OSHA or other applicable standards) related to work being conducted.

2. Site Description

The Southwestern Site Area (the "Site") is located in areas adjacent to the western and southern borders of the Johns Manville (JM) property and consists of Sites 3, 4/5, and 6. Site 3 is owned by Commonwealth Edison Company (ComEd) and is located south of the Greenwood Avenue right-of-way and east of North Pershing Road near the southwestern corner of the former JM manufacturing facility (**Figure O-1). Figure O-1** shows the occurrence of asbestos within Site 3 as identified in 1999 and 2008 investigations.

Site 4/5 is located adjacent to the western boundary of JM's former manufacturing facility within a ComEd right of way. Site 4/5 consists of an upland area and a low lying swale area between the upland area and a railroad right-of-way to the west. **Figures O-2** show the occurrence of asbestos within Site 4/5 in both plan and cross-section view as identified in a 2008 investigation.

Site 6 is located adjacent to the JM property on the unpaved shoulders of Greenwood Avenue within the road right-of-way. Site 6 extends east from the eastern end of the Greenwood Avenue elevated approach to Pershing Road to the western boundary of Site 2. **Figure O-3** shows the occurrence of asbestos within Site 6 as identified in a 2008 investigation.

In certain areas of the Site, asbestos-containing building materials mixed with soil (principally Transite™ materials such as pipe and siding) have been covered by a two-foot thick (or equivalent) clean soil barrier.

3. Potential Health Risks

Exposure to asbestos carries potential health risks. If the soil barrier is penetrated, exposure to asbestos-affected soil/debris may occur and therefore, any disturbance of the underlying asbestos-affected soil must be properly managed to avoid health risks.

Dust from this asbestos-containing material can be hazardous when inhaled. Exposure to asbestos dust can cause irritation of eyes and mucous membranes, upper respiratory irritation, delayed and often serious breathing problems, and stomach upsets. Asbestos can produce a lung fibrosis called asbestosis. Asbestos is also a cancer-producing agent (lung cancer and mesothelioma, among others). Heavy exposure to dust containing asbestos can also cause skin irritation. Epidemiological studies have shown that lung cancer appears to be related to the degree of exposure, the type of asbestos and whether or not the individuals smoke cigarettes. It is significant that cigarette smoking greatly increases the risk of lung cancer in those who are exposed to asbestos.

4. Soil Management Plan

A 48-hour notice of intent to enter the property shall be provided to ComEd and Johns Manville prior to any excavation, construction or other activity that would break up, dislodge, or similarly disturb the vegetative cover or the asbestos-containing material underneath the vegetative cover. ComEd and JM personnel shall conduct the following activities and/or provide oversight for handling of asbestos contaminated materials during any excavation, construction or other activity that may break up, dislodge, or similarly disturb the vegetative cover and underlying asbestos-containing material.

Notification shall be provided to:

ComEd Environmental Manager
Tim Bulthaup, Manager Environmental Programs
Com Ed
3 Lincoln Centre
Oakbrook Terrace, IL 60181
Office: 630-576-6725
Cell: 630-247-9569
Pager: 877-366-0967

JM Waukegan Site Manager,
Denny Clinton
Johns Manville
1871 North Pershing Road
Waukegan, IL 60087
Cell: 303-808-2127

U.S. EPA Remedial Project Manager (Johns Manville Site)
Matthew Ohl
U.S. Environmental Protection Agency
77 West Jackson Blvd,
Mail Code SR-6J
Chicago, IL 60604-3590
Tel: 312-886-4442
FAX: 312-692-2447

A person competent in asbestos-related work ("Competent Person") shall be assigned to any project where the potential exists for encountering asbestos-affected soil (*i.e.,* excavations in areas where soil barriers have been placed) for the purpose of conducting asbestos hazard identification and mitigation during the planning, construction, and soil management phases of work activities. As defined in 29 C.F.R. §1926.1101(b), ***Competent Person*** means, in addition to the definition in 29 C.F.R.§ 1926.32 (f), one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 C.F.R. § 1926.32(f).

Prior to excavation, construction and/or any activity begins that would break up, dislodge, or similarly disturb the vegetative cover or the asbestos-containing material underneath the vegetative cover, all asbestos-containing material shall be removed and disposed of off site as required by the renovation provisions of 40 C.F.R. § 61.145(c). The following procedures shall be implemented regarding soil management:

a. **Worker Training**—At a minimum, 2-hour asbestos awareness training for all site personnel anticipated to be present within the work area is required, with additional training as may be specified in 29 C.F.R. § 1926.1101

(Asbestos OSHA Standard) or OSHA guidance in place at the time of the work.

b. **Removal of Soil Barrier** – A two-foot thick soil barrier or pavement is in place over the underlying asbestos-impacted soil. Prior to disturbing the underlying asbestos-impacted soil, the barrier will be removed in such a manner that prevents cross-contamination of the barrier materials with the underlying asbestos-impacted soil. However, to further mitigate the potential for cross-contamination during excavation, the soil barrier material removed deeper than eighteen inches below ground surface and any soil barrier materials that may have come into contact with or mixed with asbestos affected soil or any soil below the barrier will be considered contaminated and will not be re-used as clean soil barrier material. In that case, this material must be managed as a waste material which must be disposed of off-site at a facility licensed to accept asbestos wastes.

c. **Dust Control Procedures** – Work shall be completed at the direction of the Competent Person using wet methods such that no visible emissions (*i.e.*, dust) will be allowed during any activities. The contractor shall comply with all OSHA asbestos requirements including personal air monitoring. The presence of visible emissions in any work area shall result in immediate notification of this condition to all parties listed in paragraph a, above and immediate stoppage of all activities in that area until visible emissions can be controlled.

d. **On-Site Management of Excavated Soils** –Asbestos-containing material including debris/soil shall be placed directly into plastic-lined roll-off boxes or trucks and covered by competent plastic sheeting. At no time will asbestos-affected debris/soil be allowed to remain uncovered overnight.

e. **Off-Site Soil Disposal** – All asbestos-containing material shall be disposed off-site at a facility licensed to accept asbestos wastes in accordance with all local, state, and federal regulations.

f. **Equipment Decontamination** – Any equipment (*i.e.*, excavators, shovels, etc.) that contacts asbestos-affected debris/soil shall be decontaminated prior to leaving the work zone. Decontamination may include removal of visible debris and equipment washing, and rinseate testing, as necessary to ensure no asbestos fibers remain on the equipment or otherwise leave the

area of excavation. Any decontamination wastes (*e.g.*, washwater) shall be managed in accordance with all local, state, and federal regulations.

5. Asbestos Health and Safety Plan

The Competent Person assigned to the project (Section 4) shall be responsible for development and implementation of health and safety activities related to asbestos hazards during all phases of work. Work activities include pre-construction planning, worker protection, air monitoring, site access and control, decontamination, and control procedures.

5.1 Pre-Excavation/Construction Activities

Prior to conducting any excavation/construction activities within the Southwestern Site Area, Site figures and environmental covenants shall be reviewed and the site visually inspected to determine whether the activities may result in contacting asbestos-affected soil beneath a soil barrier. If that is the case, then a Competent Person shall be identified to address/manage asbestos-related matters as described in this plan. The asbestos emission control procedures for renovations set forth in 40 C.F.R. § 61.145(c) shall be followed prior to any excavation, construction or any activity that would break up, dislodge, or similarly disturb asbestos-containing material or preclude access to the material.

5.2 Worker Protection in Areas of Asbestos Disturbance

As prescribed by the Competent Person, an asbestos work zone and perimeter related to the potential for asbestos exposure will be established. The size of the perimeter will be based on the daily task activities and should be discussed with all project personnel during a tailgate or job safety meeting. The work zone should delineated by traffic cones, barricades, signs, caution tape, or other means effective in identifying the work zone perimeter. Only authorized personnel will be allowed inside the perimeter of the work zone. Other site workers and visitors to the site should be kept out of the work zone. If visitors need access to the work zone, the visitors should have an escort at all times.

Unless otherwise directed by the Competent Person, each worker within the asbestos work zone must take the following minimum precautions by wearing

proper personal protective equipment (PPE) to limit the potential risk of asbestos exposure via dermal contact, ingestion, or inhalation:

- National Institute for Occupational Safety and Health– (NIOSH-) approved half-face or full-face air-purifying respirator (APR) equipped with HEPA filter cartridges. Respirators will be stored in clean containers (*e.g.*, self-sealing bag) when not in use. Respirator cartridges will be replaced at least weekly or whenever the employee detects an increase in breathing resistance. Respiratory protection must be conducted in accordance with, at a minimum, the requirements set forth in 29 C.F.R. § 1926.1101(h).

- Washable boots or disposable boot coverlets to be removed at the completion of a work shift and only in change areas provided for that purpose.

- Coveralls or similar full-body work clothing (*e.g.*, disposable Tyvek suits).

- Nitrile or Latex Protective disposable gloves.

- Do not eat, drink or smoke in any area where excavation work is being performed.

- Avoid direct contact, to the greatest extent practicable, with asbestos-affected soil.

5.3 Air Monitoring During Maintenance and Construction Work Activities

A Competent Person shall assess the appropriate level of air monitoring and respiratory protection necessary for each phase of work. Pursuant to 29 C.F.R. § 1926.1101(c)(1), the employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air (f/cc) as an eight (8) hour time-weighted average (TWA). Moreover, the employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 f/cc as averaged over a sampling period of thirty (30) minutes (Excursion Limit).

5.4 Decontamination

All employees exiting the work zone will remove contaminated PPE and place it in appropriate containers for proper off-site disposal in accordance with all applicable federal, state, and local regulations. In most cases this may be interpreted to be disposal in a landfill licensed to accept asbestos-affected waste materials.

6. Emergency Contact List

In the event that an injury, over-exposure or spill has occurred, Appendix A provides the emergency contact list for the project. All employees working on this project should be shown the location and proper use of all emergency equipment prior to beginning work on the project.

Appendix A

Emergency Contact List

Appendix A –
Emergency Contact List

Southwestern Site Area
Sites 3, 4/5, and 6

Waukegan, Illinois

Emergency Contact List

Emergency Contact	Phone
Local Police	911 (if appropriate) and 847-360-9000
Local Ambulance	911 (if appropriate) and 847-360-3000
Local Fire Department	911 (if appropriate) and 847-249-5410
Local Hospital – Victory Memorial Hospital	847-360-3000
Local Weather Data	http://www.weather.gov/ http://www.weather.com/ http://www.nws.noaa.gov/nwr/
Poison Control	800.332.3073
National Response Center (all spills in reportable quantities)	800.424.8802
U.S. Coast Guard (spills to water)	800.424.8802

Emergency Notification Procedure:

Step 1: Dial 911

Step 2: Contact Respondents

Step 3: Wait for appropriate emergency personnel to arrive onsite

Step 4: Direct emergency personnel to incident area

If emergency attention is not needed but professional medical attention is necessary, the employee will be taken to (see hospital route):

Medical Facility: Victory Memorial Hospital
Address: 1324 North Sheridan Road
Waukegan, IL 60087

Phone Number: 847-360-3000

Appendix A –
Emergency Contact List

Southwestern Site Area
Sites 3, 4/5, and 6

Waukegan, Illinois

ATTACHMENT G

RESPONSIVENESS SUMMARY

SOUTHWESTERN SITE AREA
WAUKEGAN, LAKE COUNTY, ILLINOIS

To provide the public with an opportunity to comment on the proposed response action, EPA held a public comment period from February 10, 2012 to March 12, 2012 and a public open house on February 22, 2012.

Response to Comments Received from the Public via Electronic Mail During the Public Comment Period

Electronic Mail (Email) 1

1. *Hi, I would like to know what kind of traffic plan is in place for when the material is removed. A couple of years ago a huge number of dump trucks were used in some sort of project using Greenwood Avenue from the Lakefront. Some of the problems I saw were: trucks appeared to be speeding going south on Sheridan road (more than 40mph). Trucks going south used the median on Sheridan as a third turn lane to turn east on Greenwood, cutting off cars trying to turn. Trucks were speeding thru that turn - I saw one had overturned, was laying on it's side with it's load spilled into Bob and Anne's parking lot. It appeared the trucks were taking something from the lakefront to Veolia's on Greenbay in Zion. Just doing my errands I'd see that the route they took was Sheridan north to Wadsworth west and north to Veolia. And reverse on the return. I had seen the trucks at different times going in either direction, speeding up to go thru lights turning yellow and then red as they passed thru. During the morning rush hour, these trucks have very little regard for other drivers and constantly lay on their air horns when drivers try to change lanes to turn onto Greenwood from southbound Sheridan. I live on the corner of Longview and Sheridan and I see school bus drivers unable for a long time to make a left turn onto Sheridan from Longview because truckers are either approaching very fast (southbound toward Greenwood light) or are stopped so far north on Sheridan because of traffic build up and the truckers won't let them through. The dirt chunks that are left on Greenwood from east of the Amstutz to Sheridan are left to get so big, cars can drive about 20mph to avoid breaking an axle. This is from the Amstutz west to Sheridan. Is anything planned to mitigate these traffic problems?*

Response: The Action Memorandum requires that Respondents submit and implement a U.S. EPA approved transportation plan as part of the Removal Action Work Plan that will ensure truck traffic is directed to and from the Site during construction in a safe and orderly manner. The Action Memorandum also requires that the transportation plan include a street sweeper to clean streets regularly to remove dirt that is left behind on the roads by trucks transporting material in and out of the Site.

Email 2

2. *I am a resident of Waukegan and live less than one mile from the Johns-Manville site. I also regularly jog on the shoulder of Greenwood Avenue (Site 6). My*

preference is for Alternative 1 (complete removal). This alternative unquestionably would be the most effective, and once the material is removed there would be no need for long-term maintenance. Alternative 5 would leave asbestos-containing material in the area, and does not appear to address restoration of the wetland area in Site 4/5.

Response: The Action Memorandum selected Alternative 5, which includes removal of asbestos-containing soil in the shoulder of Greenwood Avenue (Site 6). However, asbestos will remain on Sites 3, 4 and 5 after implementation of the remedy. At Sites 3, 4 and 5, the asbestos will not be accessible to the public or releasable to the air because it will be covered with a vegetated soil cover of clean material. Note that Alternative 5 for Sites 4/5 does include restoration of 100% of the original on-site wetlands area of 4.09 acres to the extent it is impacted by the response action. The Action Memorandum requires that Respondents prepare and implement a storm water management and wetlands restoration plan as part of the Removal Action Work Plan.

3. *I would also like to express my concern about the fact that, nearly 30 years after the Johns-Manville site was listed on the NPL, the asbestos-containing material in the surrounding area has still not been fully cleaned up. I am glad to see that EPA is planning to address this, and hope that an effective remedy will be put into place.*

Response: Comment noted.

Email 3

4. *I believe that Waukegan has waited long enough for this area to be cleaned up - it is 450 acres sitting right on our lakefront, which is earmarked to be the key development area in our economically depressed area - we paid a heavy price for the contamination in the first place, with many of our citizens being sickened by the asbestos-laden products produced at that site - since its closure, we have paid a heavy price with negative publicity and loss of valuable property that could trigger a revival of Waukegan's economy - we want the ENTIRE AREA CLEANED UP ONCE AND FOR ALL - there should be no plans to leave warning signs of eminent danger of toxic pollutants remaining at that site when the EPA leaves - the property should get its NFR letter and be ready for redevelopment when the owner is let off the hook - please do not keep the people of Waukegan on the hook with any remainder of this environmental mess....*

Response: The Action Memorandum addresses the JM Southwestern Site (approximately 7.5 acres) identified in Attachment A to the Action Memorandum but does not address areas outside of the Southwestern Site such as the JM owned portion of the NPL Site or JM manufacturing area currently enrolled in the State of Illinois Voluntary Site Remediation Program (SRP). Although not addressed by this Action Memorandum, the U.S. EPA and/or the State of Illinois has investigated and conducted

certain response actions or are currently investigating the JM owned NPL Site and SRP Property.

After implementation of the proposed remedy, asbestos will remain on Sites 3, 4 and 5 of the Southwestern Site, which will be covered with at least 24 inches of material with vegetation. The current owner of Site 3, 4 and 5 will implement environmental covenants restricting use at these areas. Since ACM waste will remain at the Site, the fence and warning signs will have to stay to caution and protect the public from any exposure to the ACM waste.

Response to Comments Received from North Shore Sanitary District on March 9, 2012

Site 4/5

1. *The District supports the U.S. EPA's plan to clean up areas contaminated with asbestos in the area near the Johns Manville and Commonwealth Edison properties in Waukegan, IL. The District also understands and shares the concerns regarding maintenance workers' exposure to asbestos-containing materials while servicing utility lines in these areas.*

Response: The comments provided by North Shore Sanitary District (NSSD) for Site 4/5 have been noted by the U.S. EPA.

2. *However, we strongly object to U.S. EPA's position in the proposed cleanup plan that the need for access and repair to sewer lines at Site 4/5 appears to be much lower than other utilities and that immediate action is not necessary in the event of damage to or failure of sanitary sewer lines located within Site 4/5.*

   The two District sanitary sewer lines located in Site 4/5 are large diameter (39" & 48") interceptor sewers with a combined capacity of approximately 40 MGD. The interceptors convey raw sewage from Waukegan, Zion, Beach Park and Winthrop Harbor to the District's Waukegan Sewage Treatment Plant. Any damage or failure of these lines would result in significant and immediate environmental and public health concerns for this area, and would therefore require an immediate response to correct the situation.

   The District strongly supports and recommends that U.S. EPA implement it's recommended clean up approach presented in Alternative 5, which includes modified Alternative 2 for Site 4/5 with the provision that a clean corridor is provided for all utility lines in the area, including the District's interceptor sewers. This plan would achieve the overall objective for the cleanup and essentially eliminate the potential for release of or direct contact with asbestos-containing material.

Response: The NSSD's objection to the U.S. EPA selected remedy regarding immediate action of repair to the sanitary sewer line at Site 4/5 has been noted. Based upon the public comments received from the NSSD and subsequent discussions with NSSD, EPA is making a change to the proposed response action for Site 4/5. This change would accelerate the timing of ACM removal to create a clean utility corridor at Site 4/5 or alternatively, allow for the abandonment of the sewer lines in place and reconstruction of the sewer lines nearby and outside of the soils with ACM or asbestos fibers. This change could have been reasonably anticipated based upon the proposed removal of asbestos to create clean utility corridors for other utilities and the proposed abandonment in place of the gas line at Site 4/5.

Response to Comments Received from a member of the Waukegan Community Advisory Group Received on February 22, 2012

1. Favored alternative 5 – What is "clean soil"?

Response: The details of the type of soil that will be used for backfill and cover material will be determined as part of the Removal Action Work Plan process, which is the next phase of this project.

2. Will sand be Lake Michigan beach soil? Will native plants be local genotype?

Response: The specific source of soil and/or sand is not known at this time. Respondents will submit a detailed design, monitoring and maintenance plan, with specified performance standards, for U.S. EPA review and approval, for restoring the 4.09 acres of emergent wetlands that may be impacted as part of the Work Plan. The specification of soil type will be determined during the Removal Action Work Plan phase of the project. The soil that will be used in construction will meet the specifications in the approved Removal Action Work Plan.

For Site 3, the Action Memorandum requires native plant species including heavy hydroseeding with little bluestem (Schizachyrium scoparium). The seed must be of midwest genotype preferably from sources within several hundred miles of the site. If requested by U.S. EPA, Respondents shall apply a secondary seeding to provide root growth between the bunch grass for erosion control, thereby potentially reducing maintenance requirements after the excavation work has been completed. If approved by U.S. EPA, other native plant species may need to be added during the secondary seeding to control erosion, but no invasive plants such as crown vetch shall be used.

3. What type of soil is compacted & what does compacted mean?

Response: In this case the term compacted refers to the compressing of soil particles to improve the engineering properties of the soil. Generally soil compaction prevents soil settlement and frost damage; provides stability; and reduces water seepage, swelling,

contraction and settling of soil. The compaction requirements will be determined in the Removal Action Work Plan.

4. *Will there be assessment of flora & fauna (current)?*

Response: The Respondent conducted a wetlands delineation of Site 4/5, which is set forth in Appendix K of the EE/CA. The Action Memorandum requires that the Removal Action Work Plan include an Operation and Maintenance Plan, which will require review and maintenance of wetlands restoration.

5. *How will the wetland be restored?*

Response: It is Superfund Policy to require a minimum of one acre of wetlands mitigation for each acre of wetland filled. See "Considering Wetlands at CERCLA Sites," OSWER 9280.0-03). On Site 4/5, the Respondents delineated 4.09 acres of an emergent marsh that has high functional value for sediment/toxicant retention, and nutrient removal/transformation. The wetland has moderate functional value for storm water detention and wildlife habitat. It has high native vegetative quality based on the Floristic Quality Assessment (FQA). The wetlands lost during construction will be restored at the same locations or some other nearby location following the Federal Mitigation Rule. The Federal Mitigation Rule requires that mitigation plans include the same 12 fundamental components: objectives; site selection criteria; site protection instruments (e.g., conservation easements); baseline information (for impact and compensation sites); credit determination methodology; a mitigation work plan; a maintenance plan; ecological performance standards; monitoring requirements; a long-term management plan; an adaptive management plan; and financial assurances. (*Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* 40 C.F.R. § 230.94(c)(2-14)).

6. *Some of the native vegetation prefers beach sand over other types of sand (sea rocket, seaside spurge). Beach sand is highly preferable. The soil in this area is primarily sand. Clay & black top soil are not suitable. Native plants have root systems that may exceed 15 feet. A clay cap and/or geotextile may/will inhibit survival of the plants used for restoration.*

Response: The Action Memorandum requires that appropriate soils and vegetation will be used to ensure the integrity of the vegetated soil cover and prevent the introduction of invasive species. The details of the types of soil and vegetation to be used will be further refined in the Removal Action Work Plan.

7. *Using non-native & plants that are not local genotype is not acceptable because of the closeness of the IBSP Nature Preserve. Local insects are highly dependent on native vegetation as a food source. IBSP & the Waukegan Dunes are highly diverse areas which are home to many E & Ts. Introduction of non-native soil, plants & animals may jeopardize the diversity of this area.*

Response: During development of the Removal Action Work Plan and construction of the selected remedy efforts will be made to ensure that appropriate native plant species

are used to the extent practicable without impacting the integrity of the response action. See response to 5 and 6 above.

8. *Plants such as crown vetch for soil stability is not acceptable because of its invasiveness.*

Response: The Action Memorandum does not allow crown vetch as part of the soil cover. The responsible party will be required to ensure that the plant mix used to restore the Site does not contain invasive plants. This issue will be addressed during the Removal Work Plan phase of the selected remedy.

9. *Merriam grass, sand reed grass, little bluestem, beach wormwood, St. Johnswort etc are native plants but don't provide thick ground cover.*

Response: An appropriate plant mix will be used by the responsible party to restore the Site. This issue will be addressed during the Removal Action Work Plan phase of the selected remedy. The use of these grasses should reduce the need for watering, fertilizing, mowing, and other maintenance. The vegetated soil cover must be carefully maintained to prevent the growth of weeds or invasive species of plants due to the close proximity to the nature preserve. The vegetated soil cover must be constructed above the estimated high groundwater elevation (post construction) to protect its integrity and long-term performance.

10. *Plants of the lake shore community do not produce thick vegetation so I wouldn't expect a thick ground cover from native vegetation.*

Response: Appropriate plant mix will be used by the responsible party to restore the Site. This issue will be addressed in the Removal Action Work Plan of the selected remedy.

11. *Once the area is restored periodic monitoring for non-native & invasive species will be required.*

Response: Under the AOC, the cap will be monitored for integrity as well as non-native and invasive species periodically during the operation and maintenance period. This period is at least 30 years and it starts when construction is completed.

Response to Comments Received from Johns Manville and ComEd (Respondents) on March 12, 2012

REMEDY SELECTION AND RESPONDENTS' COMMENTS TO U.S. EPA'S PROPOSED ALTERNATIVE

Site 3

1. *Respondents' Comment: ComEd and JM believe that placement of the two-foot thick soil barrier and proposed excavation in the northeast corner is an appropriate and protective remedy for Site 3 (Alternative 2). The Respondents object to the creation of "clean corridors" for each utility, as well as the need for geotextile at the base of the soil barrier. As proposed, Alternative 2 is in compliance with regulatory requirements and is, therefore, an acceptable remedy, even without the geotextile. U.S. EPA's additional requirements embodied in their Alternative 5, are excessive and burdensome; and do not provide a material reduction in risk to human health or the environment for the substantial increase in cost – contrary to the remedy selection requirements of CERCLA, the NCP and U.S. EPA guidance.*

Response: The geotextile layer or barrier provides a visual marker of potential underlying asbestos contamination and thus helps to prevent "accidental overexcavation" or disturbance of the underlying contamination. The geotextile layer also provides added protection against the upward movement of large particles, such as broken scraps of ACM, through the soil with each freeze/thaw cycle. The additional protection to the public outweighs the additional cost of the geotextile layer. The added protection to human health and environment is achieved with increase in cost that is expected to be less than 1% of the total response action cost. The requirement to excavate soil in northeast portion of Site 3 (approximately 0.14 acres) identified as the limited excavation area shown in Figure 15 of the EE/CA is reasonable and necessary. This area contains materials with high levels of asbestos and the potential for disturbance is higher than other areas due to its location making a cover over the area less reliable.

Site 4/5

2. *Respondents' Comment: The Respondents agree with installing the 3.2-acre cover of the area identified in the EE/CA (Revision 4). However, the Respondents disagree with the need to install a soil cover over the additional 2.7 acres of "wet areas" referred to by the U.S. EPA. U.S. EPA has not specifically identified the location of this "wet area," though presumably it is some variant of the area of surface water located towards the west.*

Response: The 2.7 acre area includes the wet area on the west portion of the Sites. This area was not sampled due to presence of standing water in this area of the Sites. Samples collected from grids up to the edge of this wet area contained ACM. Therefore, it is safe to presume that this wet area may also contain ACM that may be accessible to

the public during dry periods. The capping of this area will address the potential risk to human health and environment for exposure to ACM present in the wet area. During Design the Respondents may choose to sample the wet area to deterimine whether ACM is present. At that time the Agency will consider those results and may revisit the requirement to cap this area.

3. *Respondents' Comment: In addition, clarity is needed from the U.S. EPA with respect to the proposed environmental covenant with North Shore Sanitary District (NSSD).*

Response: Under the proposed plan, U.S. EPA included an Environmental Covenant for Site 4/5 that required removal of ACM on and underneath the NSSD sewer line by a date agreed to between NSSD and the Respondents. The removal action in the Action Memorandum selects a date certain for the removal of ACM by Respondents from the sewer line corridor and thus the Environmental Covenant is no longer a part of the removal action. The Action Memorandum also sets forth an alternative action whereby in lieu of complete removal of ACM along the utility line, Respondents could re-route the NSSD sewer line and abandon the existing sewer lines. The alternative action would require voluntary agreement by NSSD to abandon the existing sewer lines and subrogate its easements to the Environmental Covenant to prohibit interference with the vegetated soil cover.

Site 6

4. *Respondents' Comment: Inherent in Alternative 5 is an opinion on the part of the U.S. EPA that, while an environmental covenant may be applied to the area beneath the surface of an asphalt roadway, it is not appropriate to apply it to a two-foot soil cover on the shoulders of the road. The Respondents object to this arbitrary determination of covenant applicability and use. As proposed, Alternative 3 is in compliance with regulatory requirements and is, therefore, an acceptable remedy. U.S. EPA's additional requirements embodied in their Alternative 5 are therefore excessive and burdensome, and do not provide a material reduction in risk to human health or the environment for the substantial increase in cost contrary to remedy selection requirements of CERCLA, the NCP and US EPA guidance.*

Response: U.S. EPA has considered the potential for asbestos to be released from beneath an unusually thick roadbed vs. the roads unpaved shoulder and does not find them to be comparable. The paved surface and built-up roadbed offers more of a deterrent to excavation or unintentional disturbance than the unpaved shoulder. Treating the areas differently is appropriate. Furthermore, institutional controls such as environmental covenants supported by property access systems are only intended to supplement engineering controls, not replace them.

5. *Respondents' Comment: The Asbestos NESHAP requires signage in areas where ACM is present and a soil cover is not used. As there will be no areas in Site 6 with known ACM remaining that will not have a cover meeting the NESHAP*

standards, Respondents do not believe signage is required on Site 6 by any ARAR. And, as noted in the JULIE section below, Respondents believe there are other ways to provide notice to those who might excavate in Site 6 or the paved roadway.

Response: The Action Memorandum requires Respondents to install and maintain warning signs or monuments at every point where a utility line passes under Greenwood Avenue. If during or after the soil excavation at Site 6, visual observation, samples from the sidewall, or other samples that may be collected indicate the presence of ACM or asbestos fibers under Greenwood Avenue, then Respondents must install and maintain warning signs or monuments every 100 ft. in length along Greenwood Avenue in all areas where ACM or asbestos fibers may remain in place. The Action Memorandum also requires signage for Sites 3 and 4/5.

ARARS

Site 3

6. *Respondents' Comment: The U.S. EPA has posited that the Respondent's preferred alternative for Site 3 may not comply with Applicable or Relevant and Appropriate Requirements (ARARs) (see U.S. EPA revisions to Table 10 and Section 5.2.1.2), principally on the grounds that (i) "[a]reas subject to utility easements will be disturbed during maintenance and other purposes and at such times the asbestos disposal area would not be considered "inactive" and (ii) that "it is unknown if the utilities will agree to the provisions in the Environmental Covenant, which requires handling and disposal of all excavated soils that contain ACM off-site in a licensed facility in accordance with the Asbestos Soil Management and Asbestos Health and Safety Plan." For these two reasons, the U.S. EPA proposes creating clean utility corridors. ComEd and JM disagree with these assertions regarding compliance with ARARs.*

U.S. EPA regulations at 40 C.F.R. § 61.141 defines an Inactive Waste Disposal Site as "any disposal site or portion of it where additional asbestos-containing waste material has not been deposited with the past year." It is clear that no ACM has been "deposited" on Site 3 within the past year (the parking area was constructed in the 1950s). The U.S. EPA has, in this case, apparently determined that "disturbance" during a hypothetical future utility excavation is the functional equivalent of "deposit" from a regulatory perspective, without regard to the requirement for any material to be "additional." By stretching the definition of "depositing" to include "disturbing," the U.S. EPA supports its proposal to compel the creation of a "clean corridor" for each utility. However, there is no regulatory basis for this interpretation. The use of a soil cover (commonly known as an "engineered barrier"), whether over a utility or not (i.e., Alternative 2) does not violate ARARs, is entirely appropriate, and is used at thousands of sites across the United States, even where utilities are present.

Response: Under 40 C.F.R. § 61.141, "facility" is defined to include inactive asbestos waste disposal sites and "renovation" is defined to mean altering a facility or one or more facility components in any way. 40 C.F.R. § 61.145 requires removal of all regulated asbestos-containing material from a facility being renovated "before any activity that would break up, dislodge, or similarly disturb the material." Existing easements on the asbestos waste disposal areas of the JM Southwestern Site authorize entry for excavation, maintenance and other activities that could alter the asbestos waste disposal areas. Thus it is relevant and appropriate to remove the ACM along the utility lines prior to such excavation, maintenance and other activity that would break up, dislodge, or similarly disturb the asbestos-containing material. Also, under 40 C.F.R. § 61.151(d), disturbance of a waste disposal site requires notification to U.S. EPA and approval by U.S. EPA of the procedures to be used to control emissions and ultimate disposal of excavated asbestos-containing material.

The title commitment for the Site does not reference any environmental covenants signed by the utilities regarding asbestos at the Site.

7. *Respondents' Comment: The U.S. EPA also opines that Alternative 2 does not comply with ARARs because affected utilities may not comply with Environmental Covenants regarding excavated soil. Environmental Covenants, including those which require management of excavations or, for example, off-site disposal of all wastes in accordance with an Asbestos Soil Management and Asbestos Health and Safety Plan, are legally binding documents. The Respondents agree to inclusion in the Environmental Covenants of a requirement that, if ACM-impacted soil is excavated as part of utility excavations, it will be properly disposed off-site, and the cover restored to its original condition. Therefore, an alternative that incorporates executed covenants does not violate ARARs and is entirely appropriate.*

Response: The chain of title for the Site does not include an environmental covenant that provides for removal of ACM prior to any activity that would break up, dislodge, or similarly disturb the materials at Site 3 and Site 4/5 that is free and clear of prior encumbrances such as the existing utility easements. The need for rapid response to a leaking or damaged utility line exists on Sites 3 and Site 4/5. The need for the responders to don appropriate personal protective equipment will slow down the response and make the work more difficult compared to implementing the removal in a thoughtful and methodical manner now. 40 C.F.R. § 61.145(c) requires removal of all asbestos-containing material before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal. Cleanup now will avoid problems in the future. Furthermore, institutional controls such as environmental covenants supported by property access systems are only intended to supplement engineering controls, not replace them.

Site 6

8. *Respondents' Comment: The U.S. EPA has posited that the Respondent's preferred alternative for Site 6 does not comply with ARARs (see U.S. EPA revisions to Table 10), principally on the grounds that "the public has unlimited access to the shoulders of Greenwood Ave and, thus this asbestos disposal area is not "inactive" (see U.S. EPA modifications to Section 5.2.1.2). As to the issue of whether or not a disposal site may be considered "inactive," 40 C.F.R.§ 61.141 defines an Inactive Waste Disposal Site as "any disposal site or portion of it where additional asbestos-containing waste material has not been deposited with the past year." While it is clear that no additional ACM has been "deposited" on Site 6 within the past year, the U.S. EPA has, in this case, determined that "disturbance" from snowplows, during a hypothetical future utility excavation or catastrophic vehicle accident that penetrates a two foot cover is the functional equivalent of "deposit" from a regulatory perspective. Therefore, in U.S. EPA's opinion, the site is no longer "inactive" and the soil cover remedies in 40 C.F.R. § 61 and 35 Illinois Administrative Code Part 807 are not available for areas where such "deposition" could occur. By stretching the definition of "depositing" to include "disturbing," the U.S. EPA is then able to compel the removal of all asbestos. The use of a soil cover (commonly known as an "engineered barrier"), whether over a utility or remaining portion of a road shoulder (i.e., Alternative 3) does not violate ARARs, is entirely appropriate, and is used at many sites across the United States. Site 6 is not unique and therefore, unique remedies should not be arbitrarily applied.*

Response: Site 6 is a public right-of-way and is not located on a site under the ownership and control of the Respondents or surrounded by a secured fence with proper warning signs. This makes it unusual compared to the on-site contamination at the JM owned portion of the NPL site and other similar sites. There is no reliable way to prevent access and maintain a vegetated soil cover over the ACM located in Site 6. Any vegetated soil cover and fencing placed at the edge of Greenwood Avenue would be subject to potential damage from vehicles, snow plows, salt trucks, etc. Site 6 presents a unique combination of public right-of-way and utilities that may require time-critical excavation necessary to respond to an emergency situation such as a gas leak or a damaged electrical line would be more likely to result in the potential release of ACM and asbestos fibers. In the event of a breach or other loss of integrity, pressurized underground utilities also have the potential to force overlying soils to the surface resulting in the potential release of ACM and asbestos fibers. See also response to question 10 regarding the requirement to remove all asbestos-containing material before any activity begins that would break up, dislodge, or similarly disturb the material.

9. *Respondents' Comment: U.S. EPA also contends that the "unrestricted access and unrestricted use of the shoulders of Greenwood Avenue would not be in compliance with the use restrictions of 35 IAC 807 and 40 C.F.R.§ 61.141, which require an **undisturbed** (emphasis added) cover on an inactive asbestos disposal area." The Respondents acknowledge that the regulations require that a cover be*

"maintained" (e.g., C.F.R. § 61.151(2) and (3)), but that is not the functional equivalent of "undisturbed." Maintaining a cover would ensure compliance with ARARs and is a simple matter of periodic inspection and repair, as well as replacement of the cover following utility maintenance, as is done at countless sites across the United States.

Response: The general public would not be aware of the requirement of 40 C.F.R. § 60.145(c) to remove ACM prior to activity that would break up, dislodge, or similarly disturb the ACM located on the shoulders of Greenwood Avenue. It would be inappropriate to select a remedy with the expectation that the cover integrity will be breached and patched every time utility maintenance is needed.

ILLINOIS BEACH STATE PARK

Site 3

10. Respondents' Comment: Site 3 is located approximately one mile from Illinois Beach State Park (IBSP), where there is the well documented presence of ACM on the public beach, in a manner and distribution virtually identical to the ACM found at Site 3. In response to the presence of ACM on the public beach, the U.S. EPA conducted activity-based air monitoring in September 2007 to determine whether its presence was potentially harmful to human health. The Agency for Toxic Substances and Disease Registry (ATSDR) reviewed the activity-based sampling results and, in a health consultation report dated March 10, 2009, concluded that recreational use of the beach was not expected to be harmful to human health, despite the presence of the surficial ACM. The ATSDR recommended periodic beach sweeps to remove ACM and to educate users of the IBSP as to the hazards of ACM. U.S. EPA relied on the ATSDR report and is implementing the recommendations as the IBSP remedy.

The limited presence of surficial and subsurface ACM on Site 3 is virtually identical to that found on IBSP, but Site 3 is private property not visited by the general public. Nonetheless, ComEd and JM have proposed a much more protective remedy for Site 3, placing a two-foot thick cover over the entirety of Site 3, virtually precluding any surficial exposure. Moreover, the Respondents would erect fencing with asbestos signage surrounding the site to virtually eliminate casual access by the public. In addition, to protect potential exposure to utility workers, the utility companies who hold easements, would be required to execute an environmental covenant with the Respondents and U.S. EPA requiring that any excavations beneath the cover be conducted in accordance with applicable regulations (e.g., OSHA) and a Soil Management Plan and Asbestos Health and Safety Plan developed specifically for the Site.

The Respondents' EE/CA proposal provides layers of protection against potential exposures on Site 3, which is a private property, unlike the very public Illinois Beach State Park. It is difficult to reconcile allowing unrestricted access on one

site (the public beach) while requiring a two-foot cover, clean utility corridors, and a locked fence at significant cost on a private property.

Response:

As set forth in the Action Memorandum, U.S. EPA has reviewed the alternatives and has concluded that to protect human health and environment the selected alternative for Site 3 is appropriate and meets the criteria under the NCP. The results for studies done at other sites may not be relevant because all environmental conditions and parameters will not be identical at every site.

The IBSP is not an NPL Site and the conditions at IBSP greatly differ from the JM Southwestern Site.

U.S. EPA has conducted assessment work at IBSP. In September 2007, U.S. EPA conducted an "activity-based sampling" study that simulated a variety of recreational activities at IBSP. EPA's project involved the collection of 248 air, 23 microvac and 61 soil samples. Of the 201 air samples analyzed, only 13 contained quantifiable levels of asbestos. Asbestos was not detected in any of the 23 microvac samples, nor was it detected in any of the 61 soil samples. In a draft Health Consultation dated March 10, 2009, ATSDR determined that levels found at IBSP were within or below the EPA target cancer risk range and that recreational use of the IBSP was not expected to harm people's health. U.S. EPA and ATSDR note that pieces of ACM do wash up on IBSP shoreline and both recommend that IDNR continue with regular beach sweeps to remove ACM from the environment and to continue efforts to educate IBSP users about the potential hazards of ACM. The source of the ACM that washes onto the IBSP is unknown at this time. Thus hand removal of ACM that washes onto the beach is the only option available at this time to address the ACM. In March 2007, IDNR removed a potential source of ACM by removing approximately 8,000 tons of ACM contaminated sand from the Feeder Beach at North Point Marina and disposing of it at Zion.

At Sites 3, 4/5 and 6, the EE/CA demonstrates that asbestos in soil samples exceeds 1% in numerous locations. Activity based sampling is not necessary to demonstrate that response action is appropriate at Sites 3, 4/5 and 6. Unlike IBSP, the location of the sources of ACM that may come to the surface at Sites 3, 4/5 and 6 of the Southwestern Site has been identified in the EE/CA. The selected remedy appropriately addresses the source of ACM that is at or may come to the surface at the Southwestern Site.

SAFETY

Site 3

11. Respondents' Comment: The U.S. EPA estimates that approximately 10,000 cubic yards of soil will be excavated and disposed off-site to create the "clean corridors" for each utility. This will result in 1,500 to 2,000 truck trips through the city streets (each truck first arriving empty and then leaving full), thus

creating unnecessary traffic and an increased safety hazard. The Respondents believe that this is an unnecessary risk.

Response: Short-term risks posed by increased truck traffic during excavation activities can be mitigated through proper traffic control plans, ensuring that trucks are properly lined and covered, and applying appropriate health and safety procedures during loading and transport of material.

12. *Respondents' Comment: The Respondents acknowledge that U.S. EPA has indicated that the soil could be used as fill in the Industrial Canal or Pumping Lagoon, thereby eliminating the need for truck traffic to and from the landfill. However, filling of the Industrial Canal and Pumping Lagoon has not been approved by U.S. EPA and that project is highly unlikely to be ready for implementation prior to completion of the Site 3 excavation.*

Response: Comment noted. If use of the fill material for the Industrial Canal and Pumping Lagoon is not feasible, risks related to increased truck traffic can be mitigated as described in the response to Comment 11.

JULIE

Site 3, [Site 4/5, Site 6]

13. *Respondents' Comment: In addition to the proposed environmental covenants with existing utilities, the Respondents will enroll as a voluntary member of the Joint Utility Locating Information for Excavators (JULIE). As such, a map of Site 3 [Site 4/5, Site 6] will be registered on that system. Therefore, if JULIE receives a call requesting a utility locate on or near ACM-affected soil at Site 3[Site 4/5, Site 6], they will notify the Respondents or their designated contractor (a virtually universal [common] practice by utilities such as the easement holders) of the proposed excavation and the Soil Management Plan and Asbestos Health and Safety Plan developed specifically for the Site can then be communicated to the parties. [Using JULIE should eliminate the need for signage in areas where ACM is not known to be present (such as under the paved road surface and other paved areas of Site 6).]*

Response: The signage is considered to be an important element of notification to anybody entering the Site that the utility is located within the soil containing ACM. Also, refer to Comment 5 above.

EMERGENCY EXCAVATIONS

Site 3, [Site 6]

14. *Respondents' Comment: The Respondents believe that the executed covenants with the utilities and the presence of a locked fence and asbestos-signage at the site will prevent so-called "emergency excavations" outside the legal requirements of the existing and proposed environmental covenants. [The Respondents believe that executed covenants with the utilities and the JULIE enrollment will prevent so-called "emergency excavations."] However, should these occur despite efforts to prevent them, the U.S. EPA's activity-based monitoring of virtually identical material on IBSP showed no similar concern for public safety, let alone potential exposure at occupational levels applicable to utility workers. Moreover, occupational air sample results collected by the Respondents from personnel present, adjacent to, and within the excavations during the investigation did not exceed the permissible exposure limit (PEL) for asbestos. Therefore, even if there is an excavation conducted without the benefit of the management requirements in the Soil Management Plan and Asbestos Health and Safety Plan, existing representative air sampling data from the site do not indicate that an unacceptable exposure to utility workers would occur. Thus, existing sample data collected during relevant site activity suggest that a so-called "emergency excavation" would not result in unacceptable worker exposure to asbestos. Further, potential exposure to the public during an emergency excavation is not applicable, as it is not reasonable to assume the public would be present near or within the excavation, especially given the presence of the fence surrounding the site.*

Response: The results for studies done at other sites cannot be used for making decisions for public/utility worker exposure because all environmental conditions and parameters will not be identical at every site. Since the activity based monitoring study has not been done along the utility corridors it cannot be determined if emergency excavations along the utility corridors will be safe. Furthermore, the majority of the utility companies have informed the U.S. EPA that they would want to have clean utility corridor for future maintenance.

GEOTEXTILE

Site 3, [Site 4/5]

15. *Respondents' Comment: The Respondents were also requested to install a geotextile as part of the two-foot thick soil cover. According to the U.S. EPA, six inches of non-asbestos containing sand would be placed on the existing ground surface, followed by the geotextile, atop which would be placed 15 inches of native clayey soil, three inches of topsoil, and a vegetated cover. The geotextile, added to Alternative 2 at U.S. EPA demand, would serve as a visible marker layer*

to delineate the transition downward into the underlying ACM-affected soil. Accordingly, work beneath the marker layer would need to be performed in accordance with the Soil Management Plan and Asbestos Health and Safety Plan. However, installation of the geotextile adds approximately $35,500 [$36,000] in material costs. The Respondents believe a less expensive material, such as plastic construction fence, could be substituted and serve the same function as the geotextile for a much lower cost (approximately $8,300 [$8,000]). U.S. EPA's modifications recognize that the cover design for the Johns Manville site, equal in cover depth to that proposed here but which does NOT include a geotextile, is sufficient to prevent upward migration of ACM due to freeze-thaw cycles.

Response: The geotextile layer provides a visual marker of potential underlying asbestos contamination and thus helps to prevent "accidental over excavation" or disturbance of the underlying contamination. The geotextile layer also provides added protection against the upward movement of large particles, such as broken scraps of asbestos through the soil with each freeze/thaw cycle. The additional protection to the public outweighs the additional cost of the geotextile layer. The geotextile cost is expected to be less than 1% of the total response action cost. The plastic construction fence will not provide equal or greater protection than the geotextile.

SEEDING WITH LITTLE BLUESTEM (*SCHIZACHYRIUM SCOPARIUM*)

Site 3, Site 4/5

16. *Respondents' Comment: To the extent that Little Bluestem thrives on the proposed cover, Respondents have no objection to its use. However, as this species does well in less fertile soil and somewhat drier conditions, the Respondents reserve the right to propose an alternative non-invasive species if (i) use of clay soil for the cover or (ii) highly saturated conditions (e.g., low areas of Site 3) precludes its successful application.*

Response: Comment noted. If requested by U.S. EPA, Respondents shall apply a secondary seeding to provide root growth between the bunch grass for erosion control, thereby potentially reducing maintenance requirements after the excavation work has been completed. If approved by U.S. EPA, other native plant species may need to be added during the secondary seeding to control erosion, but no invasive plants such as crown vetch shall be used.

SCHEDULE

Site 3

17. *Respondents' Comment: The Agreement stipulates that the Respondents will submit a Remedial Action Work Plan within 120 days of receiving U.S. EPA's notice to proceed. Moreover, the Agreement stipulates that the Work Plan will*

provide an "expeditious schedule" for completing the work. While the U.S. EPA acknowledges that their Alternative 5 is "complicated" by the presence of subsurface utilities at Site 3, the Respondents believe that U.S. EPA has vastly underestimated the potential complications and associated impacts to the project schedule. These utilities include telephone, natural gas, fiber optic, water, and electrical lines that serve Midwest Generation and the ComEd substation. Potential service disruptions to the utility and the associated substation are not insignificant "complications," in addition to addressing safety concerns related to working with high voltage electricity (14,000 volts) and high pressure natural gas. These issues will require a significant timeframe to address and will have a material effect on the overall project schedule.

Response: Comment noted. However, U.S. EPA will consider requests for time extensions on a case by case basis.

COST

Site 3

18. *Responents' Comment: According to the U.S. EPA, implementing the U.S. EPA's proposed "clean utility corridors" would result in excavating and handling more than 10,000 cubic yards of ACM-affected soil at an estimated cost of $2,196,000. The Respondents independently estimated the cost of U.S. EPA's Alternative 5 to be approximately $3,438,000. This estimated cost represents an increase of between $1,500,000 and $2,800,000 over the Respondents' proposed alternative without providing a commensurate benefit to human health or the environment, contrary to CERCLA, the NCP and U.S. EPA guidance on the cost effectiveness element of remedy selection. See "Guidance on Conducting Non-Time-Critical Removal Actions Under CERCLA" OSWER Directive 9360.0-32, (1993). See also the authorities cited in U.S. EPA's Quick Reference Fact Sheet, "The Role of Cost in the Superfund Remedy Selection Process," OSWER Publication 9200.3-23FS (1996).*

Response: The independent cost estimate determined by the Respondents cannot be verified since the details of the cost estimate were not provided with the comment. Therefore, the appropriateness of the Respondents cost estimate is not known. The cost estimates presented in the proposed plan have been refined and the cost range for the response action has been expanded from that in the proposed plan as additional options including relocating utility lines were added to provide greater flexibility to the parties implementing the response action. For example, response action costs may be reduced for Site 3 by relocating certain utility lines overhead instead of underground or moving them outside of the area and thereby reducing the extent of excavation needed. For more information on these changes and the related costs, please see the detailed cost estimates in the administrative record for this decision. Respondents' initial proposed alternative was not ARAR-compliant because in utility areas Respondents' alternative allowed replacement of asbestos containing material beneath the soil barrier after utility

maintenance instead of removing the asbestos material prior to maintenance and disposing of the asbestos offsite in compliance with the Asbestos NESHAP. Alternative 5 is compliant with ARARs and is more effective than Respondents' initial proposed alternative. Alternative 5 is cost effective and its costs are proportional to its overall effectiveness.

Site 4/5, [Site 6]

19. *Respondents' Comment: The U.S. EPA's cost estimate for Alternative 5 is $1,468,000 [$1,869,000], a substantial increase in cost over Respondents' preferred alternative (Alternative 2 [Alternative 3]), without providing a commensurate benefit to human health or the environment, which is contrary to CERCLA, the NCP and U.S. EPA guidance on the cost effectiveness element of remedy selection. See "Guidance on Conducting Non-Time- Critical Removal Actions Under CERCLA" OSWER Directive 9360.0-32, (1993). See also the authorities cited in U.S. EPA's Quick Reference Fact Sheet, "The Role of Cost in the Superfund Remedy Selection Process," OSWER Publication 9200.3-23FS (1996). The Respondents independently estimated the cost of Alternative 5 to be approximately $1,975,000 [$3,559,000]. This additional incremental cost of between approximately $600,000 and $1,375,000 over Alternative 2 [$1,400,000 and $3,100,000 over Alternative 3] is neither justified nor necessary.*

Response: Refer to response to Comment 18. The cost range for the response action has been expanded from that in the proposed plan as additional options including relocating utility lines were added to provide greater flexibility to the parties implementing the response action. For more information on these changes and the related costs, please see the detailed cost estimates in the administrative record for this decision

Site 4/5

20. *Respondents' Comment: The soil cover in Alternative 2 would be protected from erosion during periods of high water by the rip rap planned for placement along the western embankment of the soil cover. Alternative 2 has the added advantage of being able to maintain the wetlands area at their original extent of 4.09 acres.*

Response: The wet area on the western portion of Sites 4/5 was not previously sampled by Respondents due to standing water in this area of the Sites. Samples collected from grids up to the edge of this wet area contained ACM. Therefore, the probability that the wet area also contains ACM is high and it may become accessible to the public during dry periods. The potential risk of exposure to ACM in this area will be addressed through capping of this area. During the work plan approval process, an appropriate location for wetland restoration will be determined.

COVENANTS

Site 4/5

21. *Respondents' Comment: In Section 3(a)(i) of Attachment 1 to U.S. EPA's letter dated February 1, 2012, the U.S. EPA specified that the Respondents had the option of submitting a fully executed covenant with the NSSD substantially in the form of Appendix N.3 or creating a clean soil corridor for the NSSD sanitary line if the covenant was not submitted within 90 days following U.S. EPA approval of the Removal Action Work Plan (Work Plan). However, Section 5.B and Section 7 of the proposed covenant (Appendix N.3) require the Respondents to create a clean utility corridor by removing asbestos-containing material to create a clean utility corridor for the NSSD sanitary line. Thus, Appendix N.3 provided by U.S. EPA contradicts Section 3(a)(i) of U.S. EPA's letter by requiring installation of a clean utility corridor. The Respondents object to the excavation of ACM-affected soil associated with the NSSD sewer line (as required by the current language in the proposed covenant) as excessive and unnecessary.*

Response: The intent of the proposed plan was to require a clean corridor for the NSSD sanitary line – only the timing of the removal was to be addressed by the environmental covenant to coincide with NSSD's next required maintenance.

22. *Respondents' Comment: Any future breach of the cover to conduct maintenance or repair to the sewer line can be managed in accordance with applicable regulations and the Soil Management Plan and Asbestos Health and Safety Plan in the area of the excavation. If the language in the covenant was not U.S. EPA's intent, the Respondents request that it be modified to reflect such.*

Response: The comment is noted. The Action Memorandum requires that within 180 days following U.S. EPA approval of the Work Plan, Respondents shall excavate soil contaminated with ACM and/or asbestos fibers to a minimum depth of 2 feet below the North Shore Sanitary District Sewer line and a minimum width of 25 feet centered on the utility line and backfill to provide a clean corridor for utility maintenance on Site 4/5. Alternatively, within 180 days following U.S. EPA approval of the Work Plan, Respondents shall construct sanitary sewer lines either outside of, or a minimum of two feet above (using lift stations as necessary), the area contaminated with ACM and/or asbestos fibers to bypass this area. The new sewer lines must be constructed of appropriate materials and have sufficient capacity to replace the existing NSSD sewers, and be properly connected to the NSSD sewer lines to prevent any significant interruption in service. Upon certification that the new sewer lines area is in operation and functional, Respondent shall properly abandon the old sewer lines in place.

23. *Respondents' Comment: As U.S. EPA recognized in the modifications, the sewer line is not likely to have regular maintenance, and the particular estimated date, even if it could be estimated, is of no consequence if the management controls are*

in place in the covenant. Thus, Respondents request the reference in the proposed covenant to a specific date of the next maintenance be removed.

Response: Refer to response to Comment 21 above.

Site 6

24. *Respondents' Comment: Site 6 is owned by the City of Waukegan. The U.S. EPA's position that Alternative 3 does not comply with ARARs is also predicated on U.S. EPA's inconsistently applied opinion that the City of Waukegan's system of managing access to their rights of way is not adequate to address appropriate notice to any party with a planned excavation within Site 6. While U.S. EPA feels that their proposed covenant is adequate to address the area beneath the Greenwood Avenue pavement, they do not apply the same judgment to the shoulders of Greenwood Avenue. It is the Respondent's opinion that the covenant is appropriately applied to both the pavement and the shoulders.*

Response: There is the potential for asbestos to be located under the roadbed, however the paved roadbed has not yet been sampled. The unpaved shoulder area differs from the pavement because sampling has confirmed that asbestos is located in the unpaved shoulder. In addition, U.S. EPA has considered the potential for asbestos to be released from beneath an unusually thick roadbed vs. the roads unpaved shoulder and does not find them to be comparable. The paved surface and built-up roadbed offers more of a deterrent to excavation or unintentional disturbance than the unpaved shoulder. Treating the areas differently is appropriate. Furthermore, institutional controls such as an environmental covenant supported by property access systems are only intended to supplement engineering controls, not replace them.

25. *Respondents' Comment: Alternative 3 does comply with ARARs. To assert without evidence that legally-binding covenants cannot be put in place or enforced presumes that the parties would willfully violate the law. Therefore, an alternative that incorporates executed covenants does not violate ARARs and is entirely appropriate.*

Response: The environmental covenants under Respondents' initial proposed alternative would allow replacement of disturbed asbestos containing material beneath the soil barrier after utility maintenance instead of removing the asbestos material prior to maintenance and disposing of the asbestos containing material offsite prior to disturbance. Respondents' initial proposed environmental covenant is not in compliance with the Asbestos NESHAP. Also, the need for the responders to provide proper decontamination facilities, don appropriate personal protective equipment, etc., will slow down the response and make the work more difficult compared to the same response to repair utilities in clean soils. Furthermore, institutional controls such as restrictive covenants are only intended to supplement engineering controls, not replace them.

COVER AREA

Site 4/5

26. *Respondents' Comment: In Section 3(e) of U.S. EPA's February 1, 2012 letter, the U.S. EPA modified the aerial extent of the soil barrier by adding the requirement to "fill wet areas to allow for cap construction above seasonal high water level to prevent potential erosion in the long term." According to U.S. EPA's revision to Table 5, this results in a 2.7 acre increase in the area of the soil barrier. U.S. EPA justification for this substantial increase is not appropriate, as Alternative 2 had already proposed the use of rip-rap armoring along the western embankment of the soil cover to address potential erosion during periods of high water. Therefore, the Respondents object to the increase in the cover area as unjustified and unnecessary.*

Response: The 2.7 acre area includes the wet area on the west portion of the Sites. This area was not previously sampled by Respondents due to standing water in this area of the Sites. Samples collected from grids up to the edge of this wet area contained ACM. Since the samples collected along the edge of the wet area contained ACM, it is presumed that this wet area also contains ACM that may become accessible to the public during dry periods. The potential risk of exposure to ACM in this area will be addressed through capping of this area.

27. *Respondents' Comment: The increase in cover area to include the "wet areas" may also have a detrimental effect on stormwater drainage. This area conveys stormwater from the City of Waukegan to the Illinois Nature Preserve located to the north of the site (i.e., the reason it is "wet"). The consequences to any changes in the surface elevation of this area (i.e., placement of a two-foot cover in the "wet areas") have not been evaluated with respect to potential erosional impacts to the railroad line or flooding of City of other property located hydraulically upgradient (e.g., west of the railroad line).*

Response: The comment provided by Respondents has been noted. The Removal Action Work Plan will have to address the issues identified about erosional impacts to the railroad line, flooding of properties located hydraulically upgradient and water that is currently conveyed to the nature preserve.

WETLANDS RESTORATION

Site 4/5

28. *Respondents' Comment: In the EE/CA (Revision 4), Alternative 2 included full restoration, post construction, of the current extent of wetlands adjacent to Site 4/5 (4.09 acres). Of concern was the western edge of the soil cover and its potential encroachment into the wetlands. In its Alternative 5, the U.S. EPA has*

proposed putting a soil cover over "wet areas" encompassing 2.7 acres, all of which is assumed to be within the existing wetlands. Yet, the requirement to restore the wetlands to their original 4.09 acres remains in U.S. EPA's Alternative 5. U.S. EPA has not specified how it is possible to restore wetlands when the objective of their additional soil cover in this area is to prevent erosion during periods of high water. Placing a soil cover over wet areas to presumably bring their elevation above standing water in order to avoid erosion is contradictory to maintaining the area as wetlands. As the Respondents already object to the additional soil cover area, restoring the wetlands in the absence of the additional cover is feasible. It is not possible to restore wetlands in an area that is being filled specifically to avoid the presence of standing water. If the additional soil cover is required, the Respondents object to the requirement to restore the wetlands.

Response: The wetlands lost during construction will be restored at the same locations or some other nearby location following the Federal Mitigation Rule. The Federal Mitigation Rule requires that mitigation plans include the same 12 fundamental components: objectives; site selection criteria; site protection instruments (e.g., conservation easements); baseline information (for impact and compensation sites); credit determination methodology; a mitigation work plan; a maintenance plan; ecological performance standards; monitoring requirements; a long-term management plan; an adaptive management plan; and financial assurances. (*Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* 40 C.F.R. § 230.94(c)(2-14)).

PAVED AREA ALONG NORTH SHOULDER OF GREENWOOD AVENUE

Site 6

29. *Respondents' Comment: Regarding the north shoulder of Greenwood Avenue, the U.S. EPA is proposing to require the Respondents to excavate material beneath the paved portion of the shoulder extending from Station 28N to 43N. This area was not required to be investigated by U.S. EPA as part of the Agreement, yet the agency is now requiring remediation without evidence of impact from ACM. The Respondents do not believe the U.S. EPA has provided justification for removal of the paved surface and underlying soil, particularly when the eastern end of this area (i.e., east of Station 43N) did not contain ACM-affected soil. The Respondents assert that the paved surface and underlying soil should be left in place and the paved surface utilized as an "engineered barrier" against potential exposure to asbestos (the presence of which is not even confirmed in this area), a practice used at thousands of sites nationally under various regulatory programs. Moreover, similar to the barrier proposed on the south side of Greenwood adjacent to Site 3, the Respondents believe that the current pavement and annual inspections/repairs, in addition to execution of an environmental covenant (or equivalent) with the City of Waukegan and registering the area with JULIE are appropriate safeguards against planned or emergency excavations.*

Response: The pavement from Station 28N through 43N is not an adequate paved surface to constitute an engineered barrier. Therefore, for the paved surface to serve as an engineered barrier, the paved surface would require either re-paving to restore the integrity of the surface or installation of an engineered barrier and appropriate operation and maintenance requirements.

Response to Comments Received from Mr. Kakuris and Mr. Camplin Illinois on March 12, 2012

1. Mr. Kakuris and Mr. Camplin made several comments related to areas other than the Johns Manville Southwestern Site as follows:

   Comment: The Engineering Evaluation/Cost Analysis must be rejected by the U.S. EPA and a new study must be mandated that properly and adequately identifies the true scope of asbestos waste and microscopic toxic asbestos fiber contamination that exist in areas well beyond those identified in the draft clean-up plan.

   Comment: **Sites Around the Superfund Site Will Remain Contaminated from Flawed U.S. EPA Evaluations & Clean-ups Conducted Over the last 25+ Years. A Complete Re-Evaluation, Site- Wide, is Needed to Ensure the Protection of Public Health!** *The draft clean-up plan has numerous fatal flaws and should be rejected as a remedy that will protect human health from the decades of asbestos pollution in and around the Johns Manville Superfund site.*

   Comment: Not only is the current draft clean-up plan inadequate, but previous evaluations and clean-ups at other sites around the Johns Manville property contain the same fatal flaws.

   Comment: A much more thorough U.S. EPA conducted evaluation is required that doesn't rely upon previously inadequate testing to ensure that the property surrounding the Johns Manville site properly identifies the true scope of areas contaminated from toxic waste originating from the Johns Manville Waukegan operations. There have been too many errors made under the U.S. EPA's watch over the last 25+ years to accurately characterize the full scope of asbestos contamination in and around the Johns Manville Superfund site.

   Comment: Reports relied upon by the U.S. EPA that identified asbestos contamination at sites 3, 4/5, and 6, also identified asbestos in other areas not covered by the draft clean-up plan. All areas known to contain asbestos contamination along the Illinois Lake Michigan shoreline in front of Johns Manville and Midwest Generations in Waukegan must be re-evaluated for the extent of existing asbestos-contamination and the remediation of these sites must be included in the proposed clean-up plan.

Comment: Asbestos contamination from the Johns Manville Superfund site have contaminated the sediments where dredging by ComEd/Midwest Generation has identified the presence of asbestos debris matching the asbestos pollution/debris identified in sites 3, 4/5, and 6. The asbestos contaminated sediments near the Johns Manville site have been dredged and dumped on and off-shore of Illinois Beach State Park. The U.S. EPA conducted activity-based testing in 2007, yet a final report on the findings of airborne exposures to the public from the Superfund asbestos wastes have not been released. A draft report was released in early 2009 and challenge by myself and the Illinois Dunesland Preservation Society charging scientific fraud. The report was resubmitted for a second peer review in 2009 but never finalized. The extensive asbestos contamination on Illinois Beach State Park must be made part of the draft clean-up plan or the CDC/ATSDR public health study from 2007 must be finalized stating the chronic pollution poses no risk to the public. Five years to release a report on asbestos exposure that occurred to visitors of Illinois Beach State Park under the U.S. EPA's watch is bordering on a criminal act. Release the finalized public health study of airborne asbestos exposures your agency and CDC/ATSDR conducted in 2007!

Comment: The U.S. EPA's lack of attention to known areas of asbestos contamination poses an unreasonable risk to human health along the entire Illinois Lake Michigan Shoreline U.S. EPA Intentionally Downplays Asbestos Contamination Found by Others

The U.S. EPA's website (http://www.epa.gov/R5Super/npl/illinois/ILD005443544.html) describes contamination surrounding the Johns Manville site as follows: "Since 1998, seven additional areas, all of which contained asbestos-containing material (ACM) were discovered outside of the Johns-Manville fence line. These areas have been characterized by Johns-Manville." What the U.S. EPA fails to mention is that others outside of the U.S. EPA have identified these sites well after the U.S. EPA had already claimed they were not contaminated. Many of these seven sites were NOT identified by the U.S. EPA. All of these sites were discovered by other studies unrelated to the U.S. EPA's activities. Additional contamination outside of the seven sites has been identified that the U.S. EPA has failed to include in the Superfund evaluation and clean-up. The U.S. EPA's lack of attention to known areas of asbestos contamination poses an unreasonable risk to human health along the entire Illinois Lake Michigan Shoreline.

Comment: Finding #1: The U.S. EPA has continually failed to perform proper site evaluations both in and around the Johns Manville site since they have been responsible for determining the extent of asbestos contamination back in the mid-1980's! A more thorough and comprehensive site evaluation for contamination is necessary to provide confidence in the effectiveness of the proposed clean-up plan to be protective of human health.

Comment: Asbestos contamination is known to be present in areas well beyond the very limited additional clean-up proposed at sites 3, 4/5, and 6. Midwest Generation (formerly owned by Commonwealth Edison) continues to find significant amounts of asbestos contamination when the lake sediments are dredged from the lake water intake and warm water discharge at their site along the Lake Michigan shoreline. The source of the asbestos contamination fits the laboratory "finger print" of Johns Manville pollution found within the U.S. EPA's Superfund site. This same asbestos "finger print" is found in the chronic asbestos pollution that appears on Illinois Beach State Park on a daily basis. The shoreline should be reevaluated and included into the proposed clean-up plan to prevent the continuous spreading of this toxic waste and protect human health.

Comment: Finding #2: A much more thorough U.S. EPA conducted evaluation is required that doesn't rely upon previously inadequate testing to ensure that the property surrounding the Johns Manville site properly identifies the true scope of areas contaminated from toxic waste originating from the Johns Manville Waukegan operations. There have been too many "errors" made under the U.S. EPA's watch over the last 25+ years to accurately characterize the full scope of asbestos contamination in and around the Johns Manville Superfund site.

Comment: The data relied upon to develop the proposed clean-up plan contains fatal flaws that require a more detailed re-evaluation of the extent of asbestos contamination in sites 3, 4/5, 6. In addition, known contamination in other areas under the U.S. EPA's jurisdiction must also be included in the re-evaluation.

The additional sites currently being ignored by the U.S. EPA's faulty clean-up plan includes:

- *Contaminated soils in Site 2;*
- *Contaminated soils, beach sands, and sediments along the Lake Michigan shoreline bordering the Johns Manville and Midwest Generation property;*
- *Contaminated sediments at the discharge pipe (expired NPDES permit) out in Lake Michigan where toxic microscopic asbestos fibers and other toxic pollutants from waste water have improperly discharged into the federal navigable waters in apparent violation of federal and state statutes;*
- *Contaminated beach sand and sediments from past and CONTINUED dredging and dumping of asbestos-contaminated sediments along the Illinois Lake Michigan shoreline.*

Comment Finding #7: All areas known to contain asbestos contamination along the Illinois Lake Michigan shoreline in front of Johns Manville and Midwest Generations in Waukegan must be re-evaluated for the extent of existing asbestos- contamination and the remediation of these sites must be included in the proposed clean-up plan.

Comment: **U.S. EPA Ignores Known Contamination Impacting Lake Michigan Shoreline** *Asbestos waste and microscopic asbestos contamination from the Johns Manville Superfund site has been spread up and down the Illinois Lake Michigan shoreline by dredging operations by Commonwealth Edison, Midwest Generation, the Army Corps of Engineers, and the Illinois Department of Natural Resources. The spreading of this contamination has occurred under the observation and acknowledgement of the Illinois Attorney General.*

The continued dredging and dumping of asbestos-contaminated sediments has impacted public health from the Illinois-Wisconsin border/Illinois Beach State Park/Waukegan, down to northshore communities such as Lake Forest and Highland Park, and further along to Chicago's Oak Street beach. The existing contamination that is currently being ignored by the U.S. EPA and State of Illinois must be evaluated and included in the proposed clean-up plan. The current testing performed on Lake Michigan sediments is not risk-based. The sediments were polluted from the Johns Manville asbestos discharges into Lake Michigan and must be evaluated by the U.S. EPA as potential new clean-up sites.

Comment: Finding #8: The U.S. EPA must perform evaluations to determine the extent of Johns Manville asbestos pollution known to have polluted shoreline sediments along the entire Illinois Lake Michigan shoreline that are continually spread through annual dredging operations. Past and current testing and evaluations performed and/or mandated by the State of Illinois are not able to demonstrate levels of the current toxic microscopic asbestos fiber contamination in these sediments do not pose an unreasonable risk to human health. The misleading testing required by the State of Illinois does not exempt the U.S. EPA from its responsibilities to evaluate the shorelines for Superfund clean-up consideration.

Response: The Action Memorandum addresses the JM Southwestern Site (Sites 3, 4/5 and 6 in Attachment A to the Action Memorandum) but does not address areas outside of the Southwestern Site such as the Illinois Beach State Park, JM-owned portion of the NPL Site or other areas noted in Mr. Kakuris and Mr. Camplin's comments. U.S. EPA wishes to move forward now, rather than further delaying completion of the cleanup on the Southwestern Site. Although not addressed by this Action Memorandum, the U.S. EPA and/or the State of Illinois has investigated and conducted certain response actions or are currently investigating areas near the Southwestern Site. Nothing in the Action Memorandum or the Administrative Order on Consent prevents U.S. EPA from taking response actions at any area near the Southwestern Site.

2. *Mr. Kakuris and Mr. Camplin made several comments critical of the type of sampling conducted in the EE/CA. Mr. Kakuris and Mr. Camplin would like additional sampling information to characterize the risk at the Southwestern Site. These Comments are as follows:*

Comment: The sampling and analytical methodologies required to determine the scope and extent of contamination must utilize clean-up objectives that are risk-based and protective of human health.

Comment: Asbestos is an airborne hazard and the site evaluations did not include any air testing to evaluate exposures where asbestos contaminated soils were below the clean-up objective.

Comment: The clean-up plan relies solely upon inadequate soil testing along with smoke and mirrors to give the illusion the 40 years of toxic pollution in these sites will not pose a risk to the community or workers.

Comment: Appendix A has an U.S. EPA memo requiring clean-up objectives for asbestos clean-ups to be risk based. The draft clean-up plan contains fatally flawed clean-up objectives.

Comment: The testing utilized as the basis for the Engineering Evaluation/Cost Estimate did not accurately define a scope of work due to improper testing, lack of a risk based clean-up objective, and reliance on assumptions that past testing was accurate.

Comment: Fatal flaws exist in the testing and analytical methods relied upon in the draft clean-up plan that require a complete re-evaluation of the site to ensure the clean-up is protective of human health.

Response: U.S. EPA has determined that there is sufficient information on which to determine that response action should be undertaken at all areas of Sites 3, 4/5 and 6 of the Southwestern Site. Further efforts to characterize the Southwestern Site or potential airborne exposures before response action is taken are not required, but may be conducted to facilitate the design and/or construction of the response action. Existing data indicates that sufficiently high levels of asbestos are present at the Southwestern Site to warrant response action at Sites 3, 4/5 and 6.

3. *Mr. Kakuris and Mr. Camplin had comments based on the belief that 0.25% asbestos in soil is the cleanup objective for the Southwestern Site. Mr. Kakuris and Mr. Camplin also had comments based on the belief that certain areas of the Sites 3, 4/5 and 6 were excluded by the proposed plan. These comments are as follows:*

Comment: The proposed clean-up plan currently utilizes sampling, testing and clean-up objectives that are not able to demonstrate the clean-up is protective of human health.

Comment: Sampling methodologies allow microscopic toxic asbestos fibers in soil to be diluted below analytical detection levels resulting in the asbestos contaminated soils being excluded from the clean-up plan. The dilution of soil

sample results poses an unreasonable risk to human health. Sampling methodologies utilized to determine whether asbestos is present in soils allow for significant dilution of samples well below the inadequate detection levels. Composite sampling in one foot depths results in significant dilution of microscopic asbestos fibers that may be present in surface soils. Soils contaminated on the surface with toxic microscopic asbestos fiber concentrations above clean-up objectives of 0.25% would be reported as "non-detect" for the presence of asbestos when mixed (diluted) with 12" of asbestos-free soil. This fatal flaw results in soils contaminated with toxic microscopic asbestos fibers to be reported as "non-detect" and excluded from the clean-up plan posing an unreasonable risk to human health.

Comment: The analytical (laboratory) methods selected for determining the presence of microscopic toxic asbestos fibers in soils utilized a minimum detection level 2500% higher than what could actually be detected by the laboratory. This fatal flaw results in asbestos contaminated soils being excluded from the clean-up plan and poses an unreasonable risk to human health. The testing method for soil states it can accurately determine the presence of microscopic toxic asbestos fibers in soils down to 0.25%. However, the lab used to analyze the soil samples indicates that they have the ability to accurately report soil results to concentrations less than 0.01%. The draft clean-up plan utilized a sensitivity level of 0.25% which allowed for significantly diluted soil samples (discussed in #1 [#11] above) to have the analytical sensitivity reporting levels diluted as well. This fatal flaw results in soils that have significant surface contamination of toxic microscopic asbestos fibers to be excluded from the clean-up plan posing an unreasonable risk to human health.

Comment: The clean-up objective in the draft clean-up plan (0.25% asbestos) has not been demonstrated as a site specific, risk based criteria that is protective of human health. The use of a flawed clean-up objective violates Superfund requirements and will exclude soils contaminated with toxic microscopic asbestos fibers diluted below the clean-up objective (see #1 [#11] and #2 [#12] above). The omission of asbestos contaminated soils in the draft clean-up plan poses an unreasonable risk to human health. The U.S. EPA requires that remedies to Superfund clean-ups demonstrate that they are protective of human health. The clean-up objective selected by the U.S. EPA for the draft clean-up plan has not been evaluated using site specific, risk- based methodologies and cannot be demonstrated to be protective of human health. There are numerous areas that had detectable levels of asbestos that were below the clean-up objective. These soils contaminated with microscopic toxic asbestos fibers would be excluded from the clean-up plan even though they could still pose an unreasonable risk to human health. Furthermore, sampling and analytical methods used to evaluate the soils significantly diluted the reporting of microscopic toxic asbestos fibers that could be present in surface soils (see #1 [#11] and #2 [#12] above). A much larger scope of clean-up would be required if more sensitive sampling and analytical methods were used in combination with a risk-based clean-up

objective. The fatal flaw of selecting a clean-up objective that is not risk based is a violation of Superfund resulting in a clean-up that is not protective of human health.

Comment: The flawed sampling, analytical, and clean-up objectives established as the foundation for the draft clean-up plan significantly dilutes the true amounts of asbestos contamination found in the sites soil, including the more virulent amphibole asbestos crocidolite. Amphibole asbestos is more harmful to human health. The severe diluting of soil samples coupled with analytical methods with improper detection levels minimizes and downplays the significant impact on human health posed by the more harmful microscopic amphibole asbestos fibers. The production of several materials at the Johns Manville asbestos plan in Waukegan utilized a rare type of asbestos fiber from Africa that is extremely potent to human health. Crocidolite, the blue asbestos, has been estimated by some risk based studies to be 500 times more potent to human health than the more common chrysotile asbestos. There were some sample test sites in Engineering Evaluation/Cost Estimate performed by Johns Manville that had detectable amounts of crocidolite that were not included in the draft clean-up plan. In addition, the significant dilution of soil samples combined with laboratory sensitivities that were 2500% higher than what the labs could actually detect, resulted in soils potentially contaminated with the more harmful crocidolite asbestos being labeled as "non-detect" for asbestos. The presence of crocidolite asbestos in soils significantly increases the risk to human health. The sampling, analytical, and clean-up objectives used as the basis for the draft clean-up plan allows crocidolite asbestos to be diluted below clean-up objective levels or the less sensitive laboratory detection levels. Improper identification of the rare, but extremely toxic crocidolite asbestos, results in a clean-up that is not protective of human health.

Comment: Soil samples that were found to contain toxic microscopic asbestos fibers below the 0.25% clean-up can still pose an unreasonable risk to human health, yet are ignored in the draft clean-up plan. Toxic microscopic asbestos fibers, including the more virulent crocidolite asbestos, will remain in soil as a pose an unreasonable risk to human health. The percentage of asbestos in the sample results obtained by visual estimation, point-counting, and by weight, do not evaluate the airborne risk of the fibers that were detected in numerous samples below the clean-up objective. Therefore, the soil samples found to contain any level of toxic microscopic asbestos fibers can still pose a risk to human health and must be included in a revised clean-up plan until a risk-based clean- up objective can be established. Even with the severe fatal flaws in the sampling and analytical methods outlined in the points above, there are numerous samples taken from soil that were found to contain toxic microscopic asbestos fibers. More disturbing is the finding that the more virulent asbestos, crocidolite, is present in many of those samples (see Appendix B for examples). The quantity of asbestos in soil has nothing to do with the airborne exposure to human health once the soils are disturbed. Therefore, any soils that contain toxic

microscopic asbestos fibers in concentrations at 0.25% or less are currently omitted from the clean-up plan even though they can still pose an unreasonable risk to human health. Air sampling and risk assessments are required to establish a clean-up objective that is protective of human health. The Engineering Evaluation/Cost Estimates provided by Johns Manville does not provide any risk based evidence that would allow asbestos contaminated soils, below the err ridden clean-up objective, to be ignored in the draft clean-up plan. All soils with detectable levels of asbestos must be included in the draft clean-up plan until risk-based clean-up objectives are established.

Comment: The U.S. EPA must require Johns Manville to provide current re-evaluations of each site using the most thorough investigation, sampling, testing, and analytical methods that accurately quantify the extent of contamination. The areas determine not to be contaminated must be verified to be clean to a level protective of human health. All clean-up objectives must be demonstrated to be protective of human health. Currently no such standard exists in this U.S. EPA proposed clean-up plan

Comment: The U.S. EPA's clean-up objective of 0.25% is not risk-based and cannot be used as the basis of the proposed clean-up plan at sites 3, 4/5, and 6. Multiple soil samples contained detectable levels of asbestos below the clean-up objective. There is no risk-based data provided to demonstrate that detectable levels of asbestos fibers in soil do not pose an unreasonable risk to human health. New soil and air sampling utilizing more accurate analytical methods is required to properly characterize a cleanup that is protective of health. Air testing is mandatory to evaluate an airborne hazard.

Comment: Johns Manville Engineering Study Erroneously "Assumes" Past Testing is Accurate and Can Be Used to Exclude Contaminated Areas from Clean-Up.

The Engineering Evaluation/Cost Analysis prepared by Johns Manville relies upon older testing results and makes assumptions that significantly reduce the scope of the clean-up required by their plan. The Johns Manville Engineering Evaluation/Cost Analysis relied upon testing from others and assumes it is accurate. For example, the report states on page 19, "Previously completed grid sampling characterization of Site 3 is assumed to have determined the horizontal extent of ACM-impacted soils." There should be no assumptions about the absence of contamination based on previously flawed studies. All areas that are currently "assumed" to be non-contaminated must be re-evaluated utilizing clean-up objectives and sampling techniques that demonstrate the clean-up objectives are protective of human health. The previous studies relied upon to determine the extent of contamination do not contain scientifically accepted protocols and standards that demonstrated to be protective of human health. The past defective and limited studies contained fatal flaws in excess of what is

discussed in this letter. Past limited and flawed studies should not be allowed to be used to exclude areas from the draft clean-up plan.

Comment: Finding #3: The U.S. EPA must require Johns Manville to provide current re- evaluations of each site using the most thorough investigation, sampling, testing, and analytical methods that accurately quantify the extent of contamination. The areas determined by Johns Manville not to be contaminated with microscopic toxic asbestos fibers must be verified to be clean to a level protective of human health. All clean-up objectives must be demonstrated to be protective of human health. Currently no such standard exists in this U.S. EPA proposed clean-up plan. Therefore, the draft clean-up plan is fatally flawed and does not support its conclusion that it is protective of human health.

Comment: The clean-up objective of 0.25% asbestos detected is not risk-based and cannot be demonstrated to be protective of public health. Other available analytical methods used to test soils for the presence of asbestos measure for concentrations well below 0.25%. Additionally, no risk based air sampling was performed to establish clean-up objectives that are protective of human health.

Comment: Finding #4: The U.S. EPA's clean-up objective of 0.25% is not risk-based and cannot be used as the basis of the proposed clean-up plan at sites 3, 4/5, and 6. Multiple soil samples contained detectable levels of asbestos below the clean-up objective. There is no risk-based data provided to demonstrate that detectable levels of toxic microscopic asbestos fibers in soil do not pose an unreasonable risk to human health. New soil and air sampling utilizing more accurate analytical methods is required to properly characterize a cleanup that is protective of health. Proper, scientifically-base air testing using accepted protocols is mandatory to evaluate an airborne asbestos hazard!

Response:

All areas of Sites 3, 4/5 and 6 are addressed by the cleanup plan. No areas of Sites 3, 4/5 or 6 are excluded based solely on sampling results below the PLM detection limit in the EE/CA. A cleanup level of 0.25% asbestos is not the cleanup objective for the Southwestern Site. After completion of the remedy, all areas of Sites 3 and 4/5 where asbestos containing materials or asbestos fibers remain in place will have a clean cover. On Site 6, the area noted on Figure 13 of the EE/CA will be excavated and removed and replaced with a clean cover. Certain areas of Site 6 were shown to be below the asbestos detection limit using PLM. The cleanup plan requires confirmation sampling and analysis of these non-detect areas on Site 6 to confirm that these areas do not present a risk to human health and the environment from asbestos fibers releasable to the air. U.S. EPA believes that the selected remedy is protective of the human health and environment. The remedies include either removal of all asbestos containing material and/or a cover to mitigate exposure to asbestos-containing soil.

4. Other Comments

Comment: The U.S. EPA must also provide significant clarification of misleading wording and terms used by Johns Manville to minimize and distort the extent of asbestos contamination identified in the flawed cleanup plan for sites 3, 4/5, and 6.

Response: The misleading wording and terms used by Johns Manville have not been provided by the author of this comment, therefore, no response is provided.

Comment: Johns Manville's Report Deceptively Uses Wording to Downplay Contamination *The Engineering Evaluation/Cost Analysis (Arcadis, April 4, 2011) prepared by Johns Manville's consultant uses vague descriptions of what asbestos contamination was found to develop an inadequate clean-up plan that does not demonstrate it is protective of public health. The report is riddled with undefined terms that misrepresent the toxic pollution found in soil. Some of the terminology appears to be used interchangeably in some areas and for specific uses in other areas. Terms noted that do not have a clear definitions in the clean-up plan include "asbestos", "presence of asbestos", "presence of ACM", "ACM not present above the clean-up objective", "detected but below the "ACM-affected soil", "soil affected by ACM", "asbestos-impacted soil", "asbestos-affected soil", "asbestos-affected soil/debris", and "asbestos-affected debris/soil".*

Response: The language that is the subject of this comment is taken out of context. In context of the EE/CA the presented information is understandable.

Comment: The soil is clearly polluted with asbestos, not "affected by asbestos". The citizen's and worker's health are affected by the asbestos polluted soil. The Johns Manville Engineering Evaluation/Cost Analysis that was conducted using a flawed clean-up object of 0.25%, further misuses invented, undefined, and misleading terms to downplay their inappropriate evaluation of asbestos pollution at these sites. Clarification of terms to describe contaminated vs. non-contaminated soils must be provided by the U.S. EPA before a reasonable public evaluation of the Engineering Evaluation/Cost Analysis can be made.

Response: The terms "polluted with asbestos" and "affected with asbestos" are meant to refer to the same conditions.

ATTACHMENT H

ENFORCEMENT CONFIDENTIAL MEMORANDUM

TWO PAGES

NOT RELEVANT TO SELECTION OF REMOVAL ACTION

ATTACHMENT I

ADMINISTRATIVE RECORD INDEX

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
JOHNS-MANVILLE SOUTHWESTERN SITE AREA
INCLUDING SITES 3,4,5,6
WAUKEGAN, ILLINOIS

ORIGINAL
DECEMBER 11, 2006

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	04//20/98-07/22/02	U.S. EPA	Public	Administrative Record Documents for the Johns-Manville Additional Sites 2 and 3, Original and Updates 1-3 **(DOCUMENTS INCLUDED BY REFERENCE)**	
2	12/10/99	ELM Consulting, LLC	U.S. EPA	Surface and Subsurface Characterization for Site 2 and Site 3 for the Former Johns Manville Manufacturing Facility Volume 1, Appendices A-K (DRAFT)	519
3	12/10/99	ELM Consulting, LLC	U.S. EPA	Surface and Subsurface Characterization for Site 2 and Site 3 for the Former Johns-Manville Manufacturing Facility Volume 2, Appendix L Figures 1-30 (DRAFT)	33
4	07/16/01	O'Tool, M., ComEd	Rafati, M., U.S. EPA	104(e) Response to Information Request re: The Johns Manville Site (Site 4)	17
5	01/30/02	Clinton, W., Johns Manville	Rafati, M., U.S. EPA	104(e) Response to Information Request re: The Johns Manville Site (Site 4)	28
6	03/07/02	Berman, W., Aeolus, Inc.	Waukegan Park District	Waukegan Park District: An Evaluation of Offsite Asbestos and Air Pollutants and Their Potential Effect on Visitors to the Proposed Sports Complex in Waukegan w/Cover Letter	42

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
JOHNS-MANVILLE SOUTHWESTERN SITE AREA
INCLUDING SITES 3,4/5 AND 6
WAUKEGAN, ILLINOIS

UPDATE #1
FEBRUARY 7, 2012

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	02/01/12	Ohl, M., U.S. EPA	Clinton, D., Johns Manville	Letter re: U.S. EPA's Modification to the April 4, 2011 Engineering Evaluation Cost Analysis Report w/Attachments **(SDMS ID: 420444)**	109
2	02/01/54	Commonwealth Edison Company	Northern Illinois Gas Company	Joint Use of Property Between Commonwealth Edison Company and Northern Illinois Gas Company **(PROVIDED ON OCT. 31, 2011 AS AN ADDENDUM TO THE APRIL 4, 2011 EE/CA FOR THE SOUTHWESTERN SITE AREA SITES 3, 4/5 AND 6/SDMS ID: 420445)**	17
3	11/27/71	Commonwealth Edison Company	North Shore Gas Company	Supplemental Easement Agreement Between Commonwealth Edison Company and North Shore Gas Company **(PROVIDED ON OCT. 31, 2011 AS AN ADDENDUM TO THE APRIL 4, 2011 EE/CA FOR THE SOUTHWESTERN SITE AREA SITES 3, 4/5 AND 6/SDMS ID: 420446)**	13
4	06/20/87-04/05/05	U.S. EPA	Public	Administrative Record Documents for the Johns-Manville Site, Original and all Updates **(DOCUMENTS ARE INCLUDED BY REFERENCE NOT COPIED FOR PHYSICAL INCLUSION)**	
5	04//20/98-12/11/06	U.S. EPA	Public	Administrative Record Documents for the Johns-Manville Additional Sites 2 and 3, Original and Updates 1-3 and Johns-Manville Southwestern Site Area, Original **(DOCUMENTS ARE INCLUDED BY REFERENCE NOT COPIED FOR PHYSICAL INCLUSION)**	

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
6	06/11/07	Karl, R., U.S. EPA	Respondents	Administrative Settlement Agreement and Order on Consent for Removal Action (V-W-'07-C-870) w/Cover Letter **(SDMS ID: 276017)**	37
7	04/04/11	Johns Manville & Commonwealth Edison Company	U.S. EPA	Engineering Evaluation/ Cost Analysis (EE/CA), Revision 4; Southwestern Site Area Sites 3, 4/5 and 6 with Cover Letter **(SDMS ID: 410081)**	720

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INCLUDING SITES 3,4,5,6
WAUKEGAN, ILLINOIS

UPDATE #2
JUNE 2012

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	05/00/94	U.S. EPA/ OSWER	U.S. EPA	Guidance: Considering Wetlands at CERCLA Sites (Publication 9280.0-03) **(SDMS ID: 430475)**	46
2	08/10/04	Cook, M., U.S. EPA	Superfund National Policy Managers, Regions 1-10	Memorandum re: Clarifying Cleanup Goals and Identification of New Assessment Tools for Evaluating Asbestos at Superfund Cleanups (Appendix B - 1% Memo) **(SDMS ID: 437056)**	4
3	09/00/08	U.S. EPA/ OSWER	U.S. EPA	Guidance: Framework for Investigating Asbestos-Contaminated Superfund Sites (OSWER Directive 9200.0-68) **(SDMS ID: 430467)**	71
4 Notice: 1	02/09/12	Lake County News-Sun	Public	U.S. EPA Public Announcement of February 10-March 12, 2012 Public Comment Period and February 22, 2012 Open House **(SDMS ID: 430469)**	
5	02/22/12	Wilson, D., CAG	U.S. EPA	Public Comment Sheet re: Comments on Proposed Cleanup Plan for the Johns-Manville Superfund Site **(SDMS ID: 430469)**	1
6	03/09/12	Pierce, D., North Shore Sanitary District	Joyce, M., U.S. EPA	Letter re: Public Comment on the Johns Manville Cleanup Site **(SDMS ID: 430470)**	2
7	03/12/12	Bow, W., AECOM	Ohl, M., U.S. EPA	Letter re: Respondents Response Documents to Engineering Evaluation/ Cost Analysis (EE/CA), Revision 4, as Modified and Approved by U.S. EPA for the Southwestern Site Area **(SDMS ID: 430471)**	15

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
8	03/12/12	Camplin, J.,	Joyce, M.,	Letter re: Public	
19		CSP	U.S. EPA	Comments on the Flawed EPA Oversight for the Johns Manville Proposed Cleanup Plan for Superfund Sites 3,4,5,6 **(SDMS ID: 430472)**	
9	03/12/12	Concerned Citizens	U.S. EPA	E-Mail Transmissions re: Three Public Comments Received February 21-March 13, 2012 on the Proposed Cleanup Plan for the Johns-Manville **Site (PORTIONS OF THIS DOCUMENT HAVE BEEN REDACTED/ SDMS ID: 436995)**	6
10	03/12/12	Kakuris, P.,	Joyce, M.,	Letter re: Public	
21		Illinois Dunesland Preservation Society	U.S. EPA	Comments on the Flawed EPA Oversight for the Johns Manville Proposed Cleanup Plan for Superfund Sites 3,4,5,6 **(SDMS ID: 436996)**	
11	06/13/12			Excel Spread Sheet re: Cost Estimates for Eastern and Western Sanitary Sewers Relocations **(SDMS ID: 437055)**	

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UPDATE #3
JULY 5, 2012
(SDMS ID: 424335)

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	06/04/12	Weston Solutions Inc.	U.S. EPA	Excel Spreadsheet re: Sites 4/5 Comparative Alternatives Clean Corridor **(SDMS ID: 424334)**	

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JOHNS MANVILLE SOUTHWESTERN SITE AREA
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UPDATE #4
NOVEMBER 8, 2012

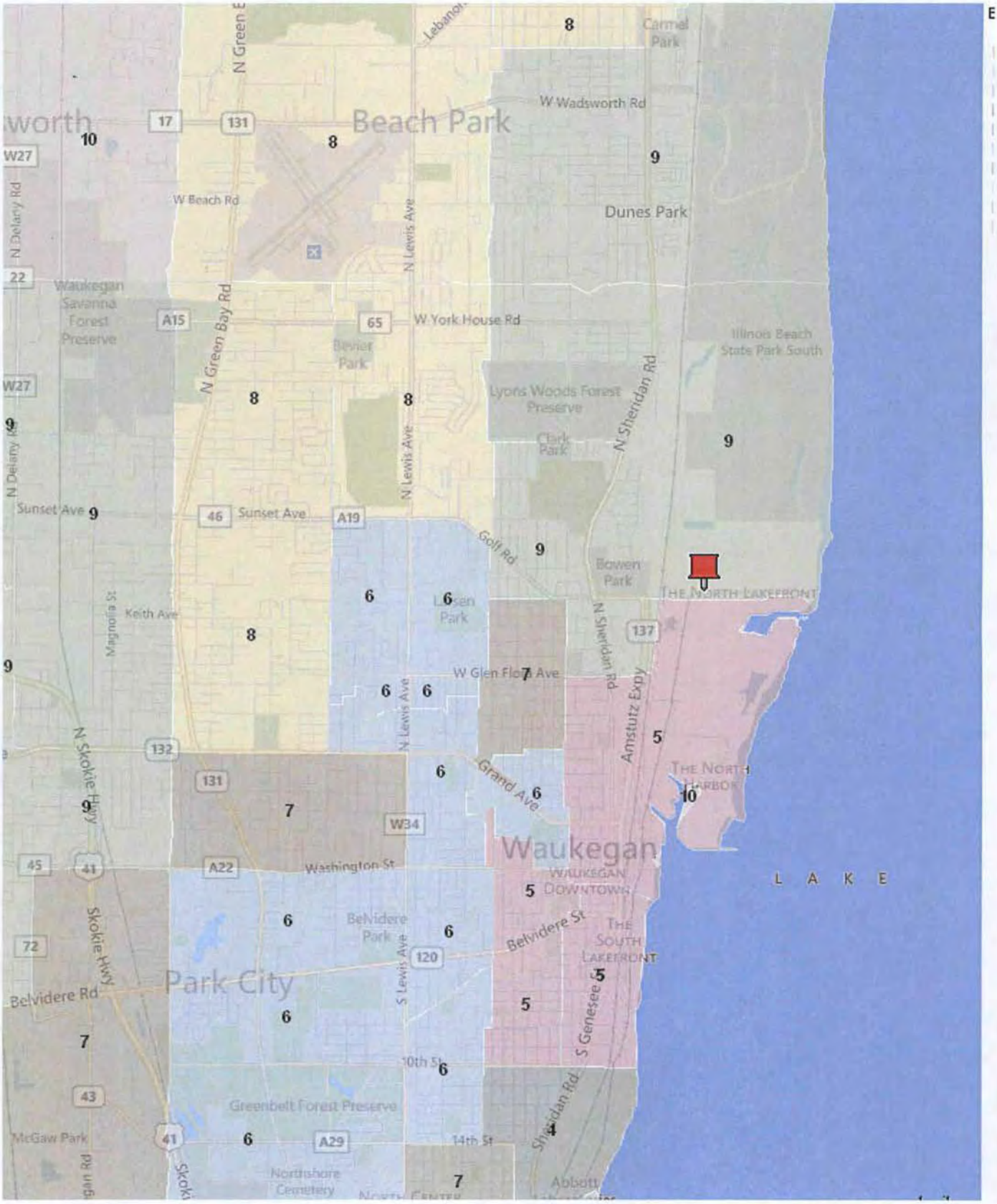
NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	10/22/12	Weston Solutions, Inc.	U.S. EPA	Johns Manville Southwestern Site Area Enforcement Action Memorandum Cost Estimates	14

ATTACHMENT J

REGION 5 SUPERFUND EJ ANALYSIS

SOUTHWESTERN SITE AREA
WAUKEGAN, LAKE COUNTY, ILLINOIS

CERCLIS Site ID# 05A5



Overview

Total Persons:	3488	Land Area:	98.8%	Households in Area:	1317
Population Density:	1294.39 /sq mi	Water Area:	1.2%	Housing Units in Area:	1375
Percent Minority:	39.6%	Persons Below Poverty Level:	201 (5.8%)	Households on Public Assistance:	28
Percent Urban:	100%	Housing Units Built <1970:	78%	Housing Units Built <1950:	27%

Race and Age*

Race Breakdown	Persons (%)	Age Breakdown	Persons(%)
White:	2432 (69.7%)	Child 5 years or less:	287 (8.2%)
African-American:	470 (13.5%)	Minors 17 years and younger:	902 (25.9%)
Hispanic-Origin:	834 (23.9%)	Adults 18 years and older:	2586 (74.1%)
Asian/Pacific Islander:	23 (0.7%)	Seniors 65 years and older:	451 (12.9%)
American Indian:	3 (0.1%)	*This space intentionally left blank*	
Other Race:	441 (12.7%)		
Multiracial:	118 (3.4%)		

(* Columns that add up to 100% are highlighted)

Gender

Gender Breakdown	Persons (%)
Males:	1697 (48.7%)
Females:	1791 (51.3%)

Education

Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	159 (7.4%)
9th -12th grade:	208 (9.7%)
High School Diploma:	643 (30.0%)
Some College/2 yr:	522 (24.4%)
B.S./B.A. or more:	611 (28.5%)

Language

Ability to Speak English	Persons (%)
Population Age 5 and Over:	3244
Speak only English:	2411 (74.3%)
Non-English at Home:	834 (25.7%)
Speak English very well:	469 (14.5%)

Speak English well:	178 (5.5%)
Speak English not well:	93 (2.9%)
Speak English not at all:	94 (2.9%)
Speak English less than well:	187 (5.8%)

Income

Income Breakdown	Households (%)
Less than $15,000:	93 (7.0%)
$15,000 - $25,000:	135 (10.3%)
$25,000 - $50,000:	347 (26.4%)
$50,000 - $75,000:	289 (21.9%)
Greater than $75,000:	434 (32.9%)

Tenure

Tenure Breakdown	Households (%)
Occupied Housing Units:	1317 (100.0%)
Owner Occupied:	1033 (78.4%)
Renter Occupied	284 (21.6%)

County and State Comparison

Overview

	Study Area	LAKE County, IL	ILLINOIS
Total Persons:	3488	644356	12419293
Population Density:	1294.39 /sq mi	1439.7 /sq mi	223.43 /sq mi
Percent Minority:	39.6%	26.6%	32.2%
Persons Below Poverty Level:	201 (5.8%)	35714 (5.7%)	1291958 (10.7%)
Households in Area:	1317	216297	4591779
Households on Public Assistance:	28	3391	152667
Housing Units Built <1970:	78%	41%	62%
Housing Units Built <1950:	27%	15%	32%

Race

Race Breakdown	Study Area		LAKE County, IL		ILLINOIS	
White:	2432	(69.7%)	516179	(80.1%)	9123564	(73.5%)
African-American:	470	(13.5%)	43614	(6.8%)	1864619	(15.0%)
Hispanic-Origin:	834	(23.9%)	93075	(14.4%)	1529141	(12.3%)
Asian/Pacific Islander:	23	(0.7%)	25305	(3.9%)	423440	(3.4%)
American Indian:	3	(0.1%)	1553	(0.2%)	30407	(0.2%)
Other Race:	441	(12.7%)	44076	(6.8%)	724021	(5.8%)
Multiracial:	118	(3.4%)	13267	(2.1%)	249431	(2.0%)
(* Columns that add up to 100% are highlighted)						

Statistics represent residential population, by Census Block Group, within a 1 mile buffer around feature of interest: