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

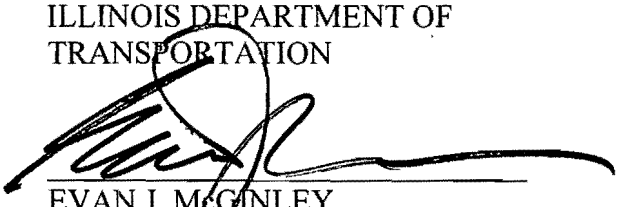
To: ALL PERSONS ON SERVICE LIST

Please take note that today, September 3, 2015, I have filed the following document in the above-referenced matter with the Clerk of the Illinois Pollution Control Board, a copy of which is attached hereto and is hereby served upon you:

- Respondent's Motion for Leave to Reopen Discovery For Limited Purposes

Respectfully Submitted,

ILLINOIS DEPARTMENT OF TRANSPORTATION



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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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

RESPONDENT'S MOTION FOR LEAVE TO REOPEN DISCOVERY FOR LIMITED PURPOSES

NOW COMES RESPONDENT, the Illinois Department of Transportation ("IDOT"), through its attorney LISA MADIGAN, Attorney General of the State of Illinois, which moves the Pollution Control Board ("Board"), pursuant to Board Rule 101.502, 35 Ill. Adm. Code 101.502, for leave to reopen discovery for the limited purposes of: 1) Deposing Complainant's expert, Douglas G. Dorgan, regarding a newly-asserted opinion which he offers for the first time in his July 27, 2015 "Expert Rebuttal Report of Douglas G. Dorgan Jr." ("Dorgan Rebuttal); and, 2) Deposing Complainant's employee, Denny Clinton, regarding certain communications he had with Mr. Dorgan and which, in turn, provided a significant basis for Dorgan's newly-asserted opinion.

INTRODUCTION

The Illinois Department of Transportation seeks to reopen limited expert discovery for the purpose of deposing Complainant's expert, Douglas G. Dorgan, regarding a new opinion that he rendered for the first time in his July 27, 2015 rebuttal report (Dorgan Rebuttal, p.7, § 2.6.) (A true and correct copy of the Dorgan Rebuttal is attached as Exhibit A to this Motion.) Specifically, IDOT seeks to depose Dorgan regarding Section 2.6 of his Rebuttal Report,

wherein he opines for the first time that "JM Did Not Build the Parking Lot of ACM." (Id.) IDOT also seeks to depose Denny Clinton, an employee of Johns Manville, not - as Johns Manville has alleged - for the purpose of reopening fact discovery in the case, but rather, because Dorgan's new opinion is apparently based on discussions he had with Clinton.

STATEMENT OF FACTS

In the late 1950s, Complainant Johns Manville constructed a parking lot on the south side of Greenwood Avenue, in Waukegan, Illinois, opposite of and immediately south of Johns Manville's factory, on land leased from Commonwealth Edison ("Parking Lot"). (First Amended Complaint ["FAC"], p. 3, ¶¶ 13, 20.) Johns Manville used pieces of asbestos-containing Transite pipes produced at its factory for curb bumpers in the Parking Lot. (FAC, p.4, ¶21.) The Parking Lot is located within the boundaries of what is today known as "Site 3." (FAC, p.3, ¶¶13, 20.)

On March 16, 2015, Johns Manville's expert, Douglas G. Dorgan, issued his expert report containing all of the opinions which he had purportedly developed regarding Sites 3 and 6. ("Expert Report of Douglas G. Dorgan ["Dorgan Report"], p.1, §1.1.) (A true and correct copy of the Dorgan Report is attached as Exhibit B to this Motion.) The Dorgan Report had very little to say about the Parking Lot, other than noting that: 1) it was approximately 48,000 square feet in size (Dorgan Report, p.11, §3.1); 2) Johns Manville used the Parking Lot from the late 1950s through approximately 1970. (Id.); and, that asbestos-containing Transite pipes were used as curb bumpers in the Parking Lot. (Id., p.12, §3.2.) Mr. Dorgan offered no opinions regarding the construction of the Parking Lot in his initial expert report. (*See generally,* Dorgan Report, Section 3.1 ["Site Usage"].)

The Dorgan Report contains a substantial bibliography of material which Dorgan cited to in the course of preparing his report. (Dorgan Report, Appendix B.) One of the reports cited in

the bibliography was the December 10, 1999 "Surface and Subsurface Characterization Site 2 and Site 3 Former Johns Manville Manufacturing Facility: Waukegan, Illinois", prepared by ELM Consulting, LLC ("ELM Report") (A true and correct excerpt from the ELM Report is attached as Exhibit C to this Motion.)[1] In the Executive Summary of the ELM Report, the report noted that:

> ACM in the subsurface was mostly concentrated in the area of the former parking lot. *This is to be expected since the materials used to build the former parking lot contained ACM.*
> (ELM Report, p.1-4.) (Emphasis added.)

During his May 6, 2013 deposition, Mr. Dorgan was asked the following questions and provided the following answers regarding the scope and finality of his opinions in this matter:

> 5 Q. . . . The report that's in front you,
> 6 sir, this report, as I understand it, contains all
> 7 of the opinions that you have made and reached with
> 8 respect to the engagement that you have undertaken
> 9 on behalf of Bryan Cave; is that correct?
> 10 A. That's correct.
>
> (Deposition of Douglas G. Dorgan, Jr. ["Dorgan Dep."], p.18:5-10.)[2] (A true and correct copy of excerpts from the transcript of Mr. Dorgan's deposition are attached as Exhibit D to this Motion.)
>
> * * *
>
> 12 Other than the opinions that are set
> 13 forth in this report, do you expect, should this matter
> 14 go to hearing, to offer any additional opinions besides

[1] The ELM Report is some 550 pages in length. Owing to its substantial size, and because only a very limited portion of the report is relevant for the purposes of this motion, IDOT has opted to include only an excerpt of the relevant portions of that document. IDOT is prepared to provide the Board with a complete copy of the ELM Report, should it require one.

[2] As the entire transcript of Mr. Dorgan's deposition exceeds 200 pages, IDOT has opted to include only an excerpt of the relevant portions of the transcript of his deposition. IDOT is prepared to provide the Board with a complete copy of the transcript, should it require one.

what you have already put into this report?
A. At this point I'm not expecting additional opinions. However, I would state that it's obvious that some of the ongoing work is a work in progress, which I've attempted to identify and recognize in the report.
There could be additional changes to the scope of the planned remedial effort, and I reserve the ability to modify my opinions if that additional information is provided which may warrant that.

(Dorgan Dep., p.19:12-24.)

During his May 6th Deposition, Dorgan was asked about the about whether he had reviewed the ELM Report. He replied that he had. (Dorgan Dep., p 41:1-10.) IDOT's counsel then asked him the following question:

Q. . . . The next sentence says: ACM in the subsurface was mostly concentrated in the area of the former parking lot. This is to be expected since the materials used to build the former parking lot contained ACM.
Would it be fair to read this as suggesting that ACM may have been used in the construction of the parking lot beyond simply putting Transite pipe on top of the parking lot?
A. I could not come to that conclusion with the information that's presented in this paragraph.

(Dorgan Dep., p.42:7-17.) (Emphasis added)

IDOT named Steven Gobelman, a now former IDOT employee, as its rebuttal expert. On May 29, 2015, Gobelman issued his rebuttal report ("Gobelman Report"). (A true and correct copy of the Gobelman Report is attached hereto as Exhibit E.) With regards to the question of the how the Parking Lot was constructed, Gobelman opined that:

> In order for Johns Manville to create a level and dry parking lot area [it] would have added fill material to bring up the parking area to a similar elevation as

> Greenwood Avenue and to keep the parking lot dry during the wet times of the year. According to the 1999 ELM Report, 'the parking lot was constructed with materials containing asbestos containing materials.'
> (Gobelman Report, p.7, §7.)

On July 27, 2015, Mr. Dorgan issued his "Expert Rebuttal Report" (Dorgan Rebuttal). In Section 2.6 of his report, for the first time, he opines that "JM Did Not Build the Parking Lot out of ACM." (Dorgan Rebuttal, p.7, §2.6.) In this section of his rebuttal report, Mr. Dorgan states that he spoke with Denny Clinton, a Johns Manville employee, about the statement in the ELM Report.[3] (Id.) He goes on to recount a conversation that he had with Mr. Clinton regarding the ELM Report, specifically, about the report's reference to ACM, and that:

> Mr. Clinton indicated that the sentence in ELM's 1999 Report regarding the parking lot being "constructed with materials containing asbestos containing materials" was referring only to the concrete Transite pipes used as parking bumpers on the surface of the parking lot.
> (Id.)

ARGUMENT

I. The Board Should Allow IDOT to Recall Douglas Dorgan for Deposition For the Limited Purpose of Questioning Him About His Newly Developed Opinions Regarding the Construction of the Parking Lot

During his May 6th Deposition, Mr. Dorgan was asked if the opinions in his initial expert report constituted all of the opinions that he was prepared to offer at hearing in this matter and he confirmed that they were (subject to the possibility that he might revise his opinions if USEPA were to change the scope of remedy they wanted Johns Manville to undertake at the site.) (Dorgan Dep., p.19:12-24.) Notably, Mr. Dorgan did not offer any opinion regarding the construction of the Parking Lot in his initial expert report. Now, however, with the issuance of his rebuttal report, Dorgan for the first time states in categorical terms that Johns Manville "did

[3] This is apparently the first time that Mr. Dorgan spoke with Mr. Clinton, as the bibliography to his initial report makes no mention of having Mr. Dorgan having spoken to Mr. Clinton. (*See generally,* Dorgan Report, Appendix B.)

not build the parking lot out of ACM," seeking to explain a statement contained in the ELM Report. (Dorgan Rebuttal, p. 7, §2.6.) This newly-rendered opinion comes about only after IDOT's counsel questioned him about the statement in the ELM Report - the same ELM Report that Mr. Dorgan listed in his bibliography and presumably referred to in the course of developing his initial opinions in this case. And, Mr. Dorgan's newly-rendered opinion came about only after Steven Gobelman had relied upon and made reference to this same statement in the ELM Report in his rebuttal report. Then and only then did Mr. Dorgan undertake an investigation into just what was meant by this statement in the ELM report. His investigation, in turn, apparently led him to discuss the ELM Report and the previously-quoted statement with Denny Clinton, Johns Manville's employee.

Nothing stopped Mr. Dorgan from offering this new opinion as part of his initial expert report. He consulted and cited this report in the bibliography to his report. Nor did anything stop Mr. Dorgan from speaking with Mr. Clinton to ascertain whether the reference to ACM in the statement "the materials used to build the former parking lot contained ACM," referred solely to asbestos-containing Transite pipe or whether, instead, it was referring the use of a broader range of asbestos-containing materials, prior to issuing his initial expert report.

Having now developed a new opinion regarding critical issues in this case which go beyond the opinions which he offered in his initial March 16, 2015 expert report, it is only fair that IDOT be permitted to depose Mr. Dorgan regarding this newly-developed opinion (and only about this newly-developed opinion). It allows IDOT the opportunity to fully understand Mr. Dorgan's newly-disclosed opinion and, in so doing, to adequately prepare to defend itself in this case.

IDOT should also be allowed to reopen discovery for the limited purposes described herein, because expert discovery has only recently closed and will not result in any significant delay toward the ultimate resolution of this case. There is no prejudice to Johns Manville if IDOT is allowed to depose Dorgan for this limited purpose. Given the likelihood, as IDOT has previously argued, that this case will not be resolved through summary judgment but will instead require a full evidentiary hearing, this deposition will not delay the matter at all.

It may be central to IDOT's presentation that the entire Johns Manville area, not just the area worked on by IDOT, contains ACM and therefore it is important to discover the basis for Dorgan's newly developed opinion regarding the parking lot. If IDOT is not allowed to depose Dorgan for this limited purpose, IDOT will be prejudiced.

II. The Board Should Allow IDOT to Depose Denny Clinton for the Limited Purpose of Exploring What Information He Provided to Dorgan About the Construction of the Parking Lot and the Bases Therefore

IDOT should be allowed to depose Denny Clinton regarding the information that he provided to Douglas Dorgan in the course of Mr. Dorgan's preparing his rebuttal report. In this regard, Mr. Dorgan's reliance on information which he learned from Mr. Clinton in the development of his new opinion regarding the Parking Lot is no different than his reliance on various environmental reports that informed the opinions that he presented in his initial report. Johns Manville provided IDOT with copies of all of the materials that Dorgan cited in the bibliography to his initial report. As a result, IDOT's counsel was able to review all of these materials in advance of IDOT's May 6, 2015 deposition of Mr. Dorgan and to gain a full and complete understanding of the apparent significance of those materials. Then, during Dorgan's May 6th deposition, IDOT's counsel was able to question Dorgan about how the materials cited

in the bibliography to his report played a part in the formation of the opinions which he was offering in this matter.

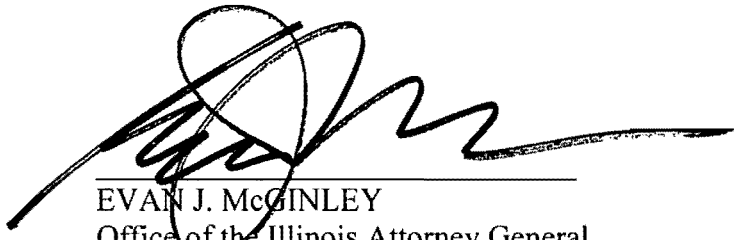
In order for IDOT to adequately prepare to re-depose Mr. Dorgan regarding his new opinion about the construction of the Parking Lot, it must also be allowed to depose Mr. Clinton. While Johns Manville will no doubt argue that it is improper for IDOT to depose Mr. Clinton after the close of fact discovery, the purpose of deposing him at this juncture is solely to understand all of the information that Mr. Dorgan relied upon in developing his newly-offered opinion regarding the construction of the Parking Lot. But for Mr. Dorgan's conversation with Mr. Clinton and his reliance on that conversation in the development of his rebuttal report, there would be no need for taking Mr. Clinton's deposition now.

WHEREFORE, Respondent, the Illinois Department of Transportation respectfully requests that the Board grant its Motion and:

1. Permit IDOT to recall Douglas Dorgan for deposition, for the limited purposes described herein;
2. Permit IDOT to take the deposition of Denny Clinton for the limited purposes described herein; and
3. For such other relief as the Board deems to be appropriate and just.

Respectfully Submitted,

ILLINOIS DEPARTMENT OF TRANSPORTATION



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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 3, 2015, I caused to be served on the individuals listed below, by first class mail, a true and correct copy of the attached Notice of Filing and a copy of the motion attached thereto:

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Chicago, Illinois 60601

Bradley Halloran
Hearing Officer
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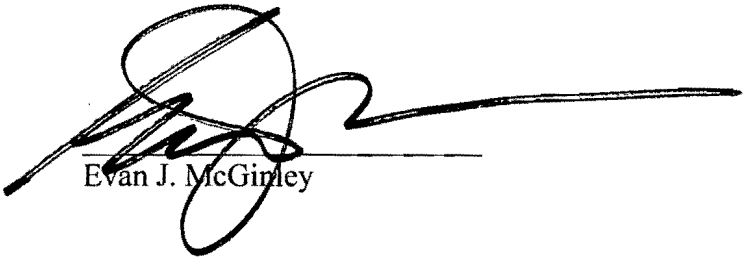


Evan J. McGinley

July 27, 2015

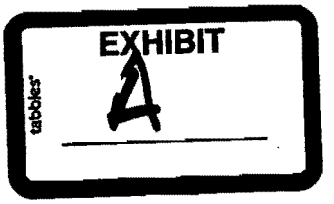
EXPERT REBUTTAL REPORT OF DOUGLAS G. DORGAN JR.

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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1 INTRODUCTION

1.1 Summary

The report presents my response to the Expert Rebuttal Report of Steven L. Gobelman, dated May 29, 2015 (herein referred to as Gobelman Report). I have elected to rebut certain "opinions" expressed by Mr. Gobelman in the Gobelman Report. In addition, I have addressed a number of "factual" statements contained in the Gobelman Report. My opinions in my initial report and this rebuttal report are made to a reasonable degree of scientific certainty. I reserve the right to supplement this and my original report if additional, relevant information becomes available.

1.2 Information Considered

For purposes of this report, in addition to reviewing the documents presented within the Gobelman Report, I have reviewed additional documents, including documents produced as a supplement to the original discovery, documents produced in response to a document request sent to Mr. Gobelman and the Deposition of Mr. Gobelman taken on July 10, 2015. Specific documents referenced herein have been cited and a Bibliography has been included at the end of the report.

2 REBUTTAL OPINIONS

The following provides my expert rebuttal opinions, followed by information in support of the various rebuttal opinions:

2.1 IDOT Placed Fill on Site 3 and Site 6 as Part of the Amstutz Expressway Construction Project

2.1.1 Gobelman Opinion on Who is Responsible for ACM Found Buried on Sites 3 and 6

Based upon the Gobelman Report[1] and his deposition[2], it is unclear to me whether he is expressing an opinion on whether IDOT is responsible for the asbestos containing material (ACM) found buried on Sites 3 and 6. If he is arguing that IDOT is not responsible, I disagree for many reasons. It is my opinion that it is more likely than not that the following occurred:

A) IDOT began work on the Amstutz Project (the Project) in approximately 1968 or 1969 at which time it surveyed Sites 3 and 6 in order to prepare the engineering drawings that were completed in September 1970. During this initial work, IDOT encountered concrete Transite pipe on top of the former JM parking lot. These pipes are evident in various aerial photographs available for Site 3, including an aerial photo dated June 11, 1970[3] which was taken during the time the initial work was being done in conjunction with the Amstutz Project.

B) IDOT treated these concrete Transite pipes as typical concrete pipe and set them to the side when it began work on Site 3. Mr. Gobelman generally agrees with this statement[2] (Page 56).

C) At some point, IDOT crushed some of the concrete Transite pipe and used the crushed pipe as well as other materials that contained pieces of ACM as fill on Sites 3 and 6.

2.1.2 IDOT "Caused or Allowed" ACM on Sites 3 and 6

I disagree with Mr. Gobelman and opine to a reasonable degree of scientific certainty that IDOT "caused or allowed" the use of, the spreading, the disposal, the burying and the placement of ACM on Sites 3 and 6.

First, as noted in my original report and depicted on Figures 1 through 5 of that report, ACM is found in the soils within the areas that were excavated and filled or simply filled at the direction of IDOT and in accordance with the plans drafted by IDOT. Second, in response to a question posed by USEPA[4] specifically regarding Site 3 (IDOT 000383),

IDOT's resident engineer admitted to dealing with "asbestos pipe during the project and burying some of it."[5]

Third, the Standard Specifications for Road and Bridge Construction[6] that Mr. Gobelman admits applied to this Project (the Road and Bridge Specifications), encourage the use of materials found on a project site, including concrete pipe, and indicate that such concrete pipe shall not be wasted and can be buried in embankments, within the right of way or outside the rights of way with the permission of the resident engineer (Section 202.03). In fact, the specifications penalize the contractor if it does not use surplus material found onsite, such as concrete pipe, requiring that it be hauled offsite at their own expense (Section 202.03).

Fourth, it is clear that IDOT directed the contractor on what to build, how to build it and where to place cut and fill materials and where to dispose of materials. Contrary to Mr. Gobelman's opinion on page 8 of his Report, IDOT's role was not limited to one of oversight and it was not the contractor's responsibility alone to determine how materials would be managed. This is evident by reviewing the contract (Contract) in place with Bolander[7]. The Contract includes multiple references to ways in which the Engineer controls the work. By way of example, on Page 3 of the Contract it states "...placing porous granular material where required by the plans or as directed by the Engineer." On the same page where discussing removal and disposal of unsuitable material, it states "...removal of unsuitable material to the lines and grades shown on the plans or as directed by the engineer, ...". The Road and Bridge Specifications state under Section 106.05: "The source of supply of each material used shall be approved by the Engineer before delivery is started." Section 202.03 states "...materials that cannot be placed in the embankment shall be disposed of at locations designated by the Engineer within the right of way...". Again, in Section 202.03, it states "The manner of disposal of surplus excavated material, unstable and unsuitable material by the Contractor outside the right of way limits, shall be subject to the approval of the Engineer, ...". Mr. Gobelman further concedes this point in his deposition where he stated IDOT "had control of doing the work associated with" Site 3 and 6 (Page 53). For illustration purposes, the IDOT Construction Limits, IDOT Limits of Easement, and IDOT Right of Way have been shown relative to the Johns Manville Parking Lot on Figure 1.

Fifth, excess materials, including suitable obstructions, found on Site 3 would have been used as fill material on Site 3 as well as in the embankments of Site 6.

Sixth, Mr. Gobelman has provided no reasonable rebuttal to JM's argument that IDOT crushed and used the concrete Transite pipe as fill on Sites 3 and 6 as outlined above.

Seventh, Mr. Gobelman provides no plausible alternative explanation for how the ACM became buried on Sites 3 and 6.

2.2 Unsuitable Material on Site 3 is Contradicted by the Record

It seems that Mr. Gobelman states that IDOT would not have used the concrete Transite pipes as fill because "Excavated unstable and unsuitable materials were excavated from Site 3 would not have been placed back on Site 3; there was no room within the right of way for this material to be placed." First of all, it is unclear what unstable or unsuitable materials would have been excavated from Site 3. While the IDOT Engineering Drawings[8] detail where unsuitable materials are located on other areas of the Project, they do not reference unstable or unsuitable materials required to be removed for the construction of Detour Road A. On Sheet 24 of the IDOT's Engineering Drawings (the Plan and Profile for Detour Road A), there is no notation for the removal of unsuitable materials associated with construction of Detour Road A. However, there are references to the cut and fill volumes anticipated for Detour Road A. On Sheet 24, a notation indicates that between Station 2+00 (the approximate intersection of Detour Road A and Sand Street) and 15+00 (the approximate intersection of Detour Road A and Greenwood Ave), there would be 5,148 cubic yards of cut, and 1,102 cubic yards of fill. The majority of the cut was necessary to remove a higher topographic feature between Stations 4+00 and 6+75 (located southwest of Site 3). The area of Detour Road A construction that transected Site 3, beginning at approximate Station 8+00, to Station 14+00, required fill to raise the existing site grades to the design elevation. Fill thicknesses ranged up to 2.5 feet in depth. In summary, for construction of Detour Road A across Site 3, no cut was planned, and fill was needed.

2.3 Fill on Site 3 More Likely Than Not Originated From Cut for the Detour Roads and Surplus/Obstructions Found on Site 3

It is more likely than not that the fill needed for Detour Road A came from cut materials from Detour Road A construction or other parts of the Project. Based upon Mr. Gobelman's explanation of the process, it would have made the most sense for materials in close proximity to Site 3 to serve as this fill. Assuming Mr. Gobelman's discussion of the sequencing is accurate, the available cut from the southwestern portion of Detour Road A more likely than not served as the fill for the portion of Detour Road A that cuts across the JM parking lot. Based upon the sampling results as well as other evidence, it is my opinion that pieces of concrete Transite pipe were mixed in with this fill on Site 3. In his deposition, Mr. Gobelman suggested that additional fill might have been needed after obliterating Detour Road A to restore the Site to a condition that existed prior to the construction (Page 148). Given that Transite pipe is found along the roadway, if it was not placed there with the initial fill, it is more likely than not that IDOT used leftover concrete Transite pipe pieces as part of the fill needed to restore the area after the road was obliterated. In fact, the environmental sampling results demonstrate that buried Transite pipe is generally aligned along Detour Road A and the Greenwood Avenue southern right of way. This is demonstrated on Figure 2 which shows the distribution of Visual Transite pipe observed in investigation borings/test pits

as it relates to the Detour Road and Greenwood Embankment construction. A majority of the locations where visual Transite pipe was observed was either within or immediately outside the Construction Limits, Right of Ways or Easements for Detour Road A and the Greenwood Avenue embankment. In a few instances, ACM materials were observed outside of the Construction Limits or Easements. In some instances, this ACM was described as "suspect" Transite pipe (e.g., SB-16). In addition, at select locations, materials were observed to possibly be ACM, but no testing was performed to confirm this suspicion.

Figure 2 shows that the concrete Transite pipe pieces were found predominantly within the Construction Limits, Easements, and Right of Way for Sites 3 and 6. In fact, most of the concrete Transite pipe was found within the Detour Road A and within the Greenwood Road embankment/right of way. While there is one sampling location (SB-07) where visual Transite was discovered outside the limits of the right of way, the Road and Bridge Construction Specifications indicate that the contractor can dispose of materials outside of the right of way with the permission of the engineer, which would explain why concrete Transite pipe is found outside the right of way. In the case of SB-07, the Transite pipe is close to the right of way and within the limits of the former parking lot. There is one sampling location (SB-16) where suspected Transite pipe was noted in the subsurface logs. The logs do not indicate why this sample was treated as suspect instead of identified as Transite pipe.

It is my understanding from Mr. Gobelman's report that the right of way associated with Site 6, specifically the right of way on the south side of Greenwood Avenue, was originally owned by IDOT or its predecessor. Mr. Gobelman stated that he believes that the right of ways may now be owned by the City of Waukegan. I reserve the right to supplement this Report if additional information is discovered on this topic.

Further, there is no evidence in the record to indicate that concrete Transite pipe was deemed or should have been deemed unsuitable for use as fill. The Road and Bridge Specifications indicate that concrete found at a construction site can and should be used as fill material as discussed further below.

2.4 Mr. Gobelman's Sequencing Statements do Not Support His Claims, But Rather Support My Opinion that ACM was used as Fill on Sites 3 and 6

Mr. Gobelman describes the sequencing of construction as it relates to cut and fill volumes for construction of the detour roads. While not explicitly stating that Detour Road A was constructed first, he infers this to be the case by indicating that the net cut volume from Detour Road A construction was "...most likely used in the construction of Detour Road B and C." However, in Mr. Gobelman's deposition, he acknowledges that Detour Road C or B could have been constructed first (Page 134), or that they could

have been constructed at the same time. In fact, information presented within an IDOT memorandum dated October 13, 1971[9] (Bates Stamp IDOT 000247), indicates construction of Detour Road C first was being contemplated by the contractor. Mr. Gobelman also indicates in his deposition that only after completion of the Detour Roads would construction of the Greenwood Overpass be undertaken (Page 134).

In his Expert Report, Mr. Gobelman indicates that 4,046 cubic yards of soil would be available from construction of Detour Road A. Based on my review of the Engineering Drawings, it appears that for construction of the detour roads (A, B and C), a net total cut volume of 11,833 cubic yards of material was to be generated. Based upon Mr. Gobelman's description of the construction sequencing, this large volume of material would have been staged somewhere within the construction limits until it could be used on other parts of the Project (since completion of the Detour Road construction would precede construction of the Greenwood Avenue embankment).

From the environmental sampling data and other evidence, it is my opinion that crushed concrete Transite pipe was used in the construction of the Greenwood Avenue embankment. It is more likely than not that some of the excess cut material from the detour roads was also part of the fill. Construction of the Greenwood Avenue embankment required the excavation of unsuitable materials followed by backfilling to replace the excavated materials. In fact, the environmental investigations demonstrate that ACM, including concrete Transite pipe, is buried within the areas excavated and then filled by IDOT on Site 6. It should be noted that the only concrete Transite pipe observed on the south side of Site 6 was within samples collected from the area adjacent to Site 3. Further, the Road and Bridge Specifications expressly discuss the use of concrete in embankments.

2.5 Utilities Are Not Responsible for ACM On Sites 3 and 6

In his deposition, Mr. Gobelman says he has no opinion on how the ACM got buried on Site 3 and 6, but that "the installation of utilities would have potentially moved that [the ACM] into a different horizon from which it originally was in." (Page 66 and 67). Mr. Gobelman says that the location of asbestos lines up with the utilities. This is not supported by the record. Figure 2 shows the location of visual Transite pipe on Site 3 and Site 6. As shown on Figure 2 as well as Figure 3 in my original Report, the occurrence of Transite pipe and ACM in the subsurface generally aligns with the location of Detour Road A and the Greenwood Avenue right of way. From my review of the utilities onsite, the overall occurrence of ACM, including Transite pipe, does not align with any specific utility. Further, even if Mr. Gobelman's statements about utility work possibly moving pre-existing ACM were correct, it does not change the fact that IDOT placed the ACM there and abandoned it.

2.6 JM Did Not Build the Parking Lot out of ACM

On Page 7 of his Report, Mr. Gobelman states that "Based upon the materials found in the test pits and the fact that Johns Manville used Transite pipes to create curb bumpers and they used ACM to build the parking lot, economics would suggest that Johns Manville would have used all types of ACM material including Transite pipes to build the employee parking lot." In his deposition, Mr. Gobelman says that his only evidence for his "factual" statement that JM built the parking lot out of ACM comes from one line in one 1999 consultant report[10] which states that "according to Johns Manville, the parking lot was constructed with materials containing asbestos containing materials." (Pages 67-69; 171). It is my understanding Mr. Gobelman had no direct communications with anyone involved in the drafting of the report (either the original source at Johns Manville or with the author of the report). However, I spoke with a representative of Johns Manville, Mr. Denny Clinton, the primary technical contact for ELM at the time their 1999 work was being performed. Mr. Clinton indicated that the sentence in ELM's 1999 Report regarding the parking lot being "constructed with materials containing asbestos containing materials" was referring only to the concrete Transite pipes used as parking bumpers on the surface of the parking lot. It is his understanding, that the only ACM associated with construction of the parking lot is the aforementioned concrete Transite pipe. He never told ELM that the parking lot was constructed with ACM other than the concrete Transite pipe on the surface of the parking lot. He said that he has no evidence that prior to IDOT's construction work, ACM existed below the parking lot.

Furthermore, it is more likely than not that between 1939 and 1960 ComEd used cinders and other materials available on its property to fill in the lower lying portions of Site 3. I have reviewed a series of aerial photographs that are available in the record. Observations associated with Site 3 conditions can generally be described as follows:

1. 1939[11] – It appears that little disturbance has occurred to the Site 3 area in this aerial photo. Some remnant dune and swale topography appears to be present suggesting that there had not been any filling or levelling of this part of the property. Some lineal low lying features that appear to be wet are located on the Property, including across the north end of the property that comprises Site 3.

2. 1946[12] – In this aerial photo, the property immediately south of Site 3 appears to have been covered with a dark material presumed to be cinders originating from the Commonwealth Edison power plant. Some changes in the topography of the northern portion of the Property, which contains Site 3, appear to have occurred. The vegetation that appears in the 1939 photo appears to have been cleared. The dune and swale features are no longer present suggesting filling of the interdunal areas between 1939 and 1946.

3. 1967[13] - In this aerial photograph, the Johns Manville parking lot is clearly evident. In this aerial photo, the concrete Transite pipes used as parking bumpers are clearly evident. It appears that to the immediate east of the parking lot, a cinder access road is in operation. It appears that this road allows for the transport of materials, possibly fly ash and cinders, from the adjacent Commonwealth Edison power plant to what appears to be a pile of material on the southern portion of this Property (similar configuration as seen in 1946 photograph).

4. 1970[3] – This aerial photo again shows the Johns Manville parking lot, however, in this photo, there are no cars parked in the lot. However, as with the previous photo, the Transite pipe parking bumpers are clearly evident. The Transite pipe being used to demarcate the outer boundary of the parking lot appears to have been reconfigured on the northwest corner of the parking lot. The remainder of the site appears to be generally consistent with the 1967 aerial photo.

5. 1972[14] – Significant changes to the Site 3 conditions are evident in this aerial photo. The Johns Manville parking lot is no longer present, nor are its remnants easily recognizable. In addition, both Detour Roads A and B have been constructed across Site 3. Although difficult to discern with clarity, it appears that some ongoing construction is taking place along Greenwood Road, perhaps associated with construction of the embankment.

6. 1974[15] – It appears in this aerial photo that the Amstutz project is largely complete, at least as it relates to Site 3 and Site 6. Detour Road A and B appear to have been removed, although the remnant of Detour Road A is evident in the photo. The Greenwood Road embankment has been constructed and appears to be complete. The cinder access road referenced earlier appears to still be present in its original location.

From review of these aerial photos, contrary to Mr. Gobelman's opinion, it appears that Site 3 was filled prior to the time when JM placed concrete Transite pipe on Site 3 to outline a parking lot area and to be used as parking bumpers.

Mr. Gobelman has indicated that Detour Road A was built on top an asphalt parking lot. This is contradicted by the absence of an asphalt layer being observed from soil borings advanced throughout the Johns Manville parking lot area. If the parking lot had been constructed out of ACM, the soil borings would have shown ACM throughout the parking lot area as well as at multiple depths. Here, the depths of ACM are consistent with the work performed by IDOT. Also, the ACM is located predominantly on the north side of Site 3 where it borders Site 6 (where the embankment was constructed) and along and close to Detour Road A. The soil borings also indicate the presence of cinders as fill material at depths of as much as five feet, which indicates historic filling of the area with cinders.

2.7 IDOT Did Not Build Detour Road A On Top of an Asphalt Parking Lot

Mr. Gobelman states that "Based upon the record, Johns Manville's parking lot was never removed in order to construct Detour A road." Mr. Gobelman appears to be arguing that the JM parking lot contained an asphalt cover and that IDOT just built on top of it, somehow suggesting that IDOT never touched any ACM during its work at Sites 3 and 6.

He supports this opinion by referencing to Contract Changes (Authorization #14)[16], which recognized a deduction in the total square yards of 9" stabilized base course. Authorization #14 states "The deduction of the 9" stabilized base course is for areas where job conditions required the use of a variable thickness base. Some of this occurred at the intersection of the detours with Sand Street and Greenwood Avenue. The majority of the deductions though is where detour B crossed the Johns Manville parking lot. The existing bituminous material on the parking lot was sufficiently thick to serve as a base requiring only a 2" lift to strengthen and true up the surface for detour purpose. The additional binder course was substituted for the deleted 9" base course at a net savings as indicated." In Mr. Gobelman's Rebuttal Report, he indicates "Authorization #14 referred to Detour Road B crossing the Johns Manville parking lot, the document appears to contain a typo because Detour Road A crosses Johns Manville parking lot and not Detour B."

It is my opinion that Mr. Gobelman is interpreting the information incorrectly and that the Contract Change (Authorization #14) is correctly referencing Detour Road B and not Detour Road A. This opinion is supported by two primary pieces of evidence. First, both Detour Road A and Detour Road B were designed to transect parking lots. Detour Road B cut across JM's main parking lot on the north side of Greenwood Avenue. This parking lot was of asphaltic (bituminous) construction, and Detour Road B was constructed transecting this parking lot as shown on Sheet No. 25 of the IDOT Engineering Drawings.

Mr. Gobelman agrees that a parking lot transects Detour Road B (Page 153). However, in his deposition he maintained that the referenced Contract Change document (Authorization #14) contained the typo. His justification for this opinion was that "...the plans are already stated that there was a deviation going to be needed for the Detour Road B, so that's already built into the plan. So there wouldn't be a change order of deduction because of it. It's already been - - It's already built into the plans. So this is a deviation." (Page 155). This statement is inconsistent with the documents and it is unclear what "deviation" Mr. Gobelman is referring to in the plans. Sheet No. 25 are the plans that controlled construction of Detour Road B. A notation on this plan for a "Typical Section" of the Detour Road states: "PARKING LOT – Remove 9 inch exist. and replace with 9 inch stabilized bituminous base." This indicates that the original plans for construction anticipated the removal of the parking lot, and parking lot subbase to a

depth of at least 9 inches. This 9 inches of removed material would be replaced with 9 inches of stabilized bituminous base. However, based upon the subsequent Change Order[10], a decision was made not to remove the 9 inches, and simply add a 2 inch binder course on top of the existing parking lot. The Change Order specifically says "The majority of the deductions though is where detour B crossed the Johns Manville parking lot. The existing bituminous material on the parking lot was sufficiently thick to serve as a base requiring only a 2" lift to strengthen and true up the surface for detour purposes. The additional binder course was substituted for the deleted 9" base course at a net savings as indicated." By contrast, on Sheet No. 24, which is the corresponding plan for Detour Road A, there are no references to or notations concerning removal of a parking lot. It only refers to the placement of granular subbase material where required as directed by the engineer.

Further, Mr. Gobelman's belief that the Change Order contains a typo is further refuted by references to the "existing bituminous material". There is no evidence in the record suggesting that the former JM parking lot on Site 3 was constructed with asphalt. If Mr. Gobelman's assertion were correct, then the former asphalt parking lot would still be present. However, this is not supported by the numerous soil borings that have been performed within the limits of the former Site 3 parking lot. These borings do not show an asphalt layer being present. Mr. Gobelman maintains that IDOT returned Site 3 to its pre-construction condition after it obliterated Detour Road A. If this were true, IDOT would have had to place an asphalt layer where the parking lot previously existed. Contrary to Mr. Gobelman's suggestions, cinders in soil borings are not evidence of a former asphalt parking lot (Page 160).

2.8 IDOT Specifications Allow for Placement of Materials within the Construction Limits and Right of Way

On Page 6 of the Gobelman Report, Mr. Gobelman provides an opinion that "Any materials on the surface of the parking lot include the Transite pipes used as curb bumpers would have been cleared in accordance with Article 201.01 of the Standard Specifications because this material would have been in the way and removed from the construction project as with any other obstructions." I am in partial agreement with Mr. Gobelman concerning this opinion. At the initiation of the project, the Transite pipes would likely have been treated as an obstruction that would have been removed to clear the project area for construction of Detour Road A and the Greenwood Avenue embankment. Contrary to Mr. Gobelman's opinion expressed in the Gobelman Report, in his deposition (Page 126), he acknowledges "...cleared material could be placed within the right of way with the engineer's approval." Mr. Gobelman's opinion that the pipes would have "...been in the way and removed from the construction project with any other obstructions" is further contradicted by IDOTs Road and Bridge Specifications.

Section 201.08 of the Road and Bridge Specifications says that obstructions shall be disposed of in accordance with 202.03. Section 202.03 requires that "All stones, stumps, boulders, broken concrete and related materials that cannot be placed in the embankment, shall be disposed of at locations designated by the Engineer within the right of way; in borrow sites on or adjacent to the right of way or at other locations outside the right of way." Section 207.04 deals with what can be placed in an embankment. It says that "Embankments shall be constructed of materials that will compact and develop a stability satisfactory to the Engineer...When embankments are constructed of crushed material, *broken concrete (*emphasis added*)*, stones, or rocks and earth, such materials shall be well distributed and sufficient earth or other fine material shall be incorporated with them when they are deposited to fill the interstices and provide solid embankment. ... Pieces of *concrete* not exceeding 2 square feet for any area of surface ... may be broken up, provided they are well embedded ....". Accordingly, the concrete Transite pipe would have been subject to these requirements and would have remained on the site to be used either in the embankment, or would have been buried within or outside of the right of way. Mr. Gobelman in his deposition acknowledges that concrete can be used in embankments (Page 129). Pursuant to Section 202.03 of the Road and Bridge Specifications, the contractor would not have been paid to remove from the site the Transite pipe when it was required to be used or buried as part of the construction project. Suitable surplus material was removed at the contractor's expense. The contractor had a monetary incentive to bury the concrete pipes. Further, the Road and Bridge Specifications state that "Excavated materials that are suitable shall be used in the construction of the roadway as far as practical, and no such material shall be wasted without the permission of the Engineer." This is entirely consistent with information included in IDOTs 104e response[5]. In response to a question concerning Site 3, they disclosed that their resident engineer on the project "recalled dealing with asbestos pipe during the project and burying some of it."

From a practical perspective, the Site 3 Parking Lot was intersected by, and surrounded by, construction being undertaken/directed by IDOT (see Figure 1). Detour Road A transected the Site 3 Parking Lot, Detour Road B was aligned immediately to the west of the Site 3 Parking Lot, and work on the Greenwood Avenue embankment was occurring immediately north of the Site 3 Parking Lot. This places the Site 3 parking lot generally within a triangle comprised of three major elements of the Amstutz Project. In that the Road and Bridge Specifications required concrete pipe to remain on the site (as material for embankment construction, or disposed of within or outside of the right of way), there is a large area surrounding the Site 3 parking lot, even within the right of way, where the concrete pipe could have been placed.

2.9 EPA Concern with Frost Heave and ACM Exposure was Concern Driving Remedy Selection

Mr. Gobelman states in his report that "The potential freeze thaw cycles did not play a part in USEPAs decision making process because the freeze thaw cycles would only come into play if no remedial action was conducted." However, he contradicts this opinion in his deposition (Pages 214 and 215). He admits that "EPA was concerned with buried asbestos moving up to the surface and then exposing people on the surface." In my expert report, I opined that buried ACM is driving the remedy, whether it's above the utility corridor or not.

The opinion offered in my Expert Report related to the scope of the remedial action being more expansive than would have been necessary if the Transite pipe were not present buried in the soils at Site 3 and Site 6. The final selected remedy for Site 3 requires complete removal of soils from a limited area, construction of an engineered barrier over a large area of Site 3, and creation of clean corridors surrounding select onsite utilities. In the absence of IDOT causing or allowing the Transite pipe to be crushed, spread, used, buried, abandoned and disposed of, I continue to believe the more expansive remedial action would not have been required by USEPA. The remedial action would have been limited to the original planned soil barrier over portions of Site 3, which would have been significantly less costly to implement.

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3. 1970 Aerial Photo, Bates Stamp IDOT 002635

4. USEPA Request for Information, addressed to Hon. Kirk Brown, Secretary, Illinois Department of Transportation, dated September 29, 2000.

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10. Surface and Subsurface Characterization Site 2 and Site 3 Former Johns Manville Manufacturing Facility: Waukegan, Illinois dated December 10, 1999, prepared for Johns Manville and prepared by ELM Consulting, LLC.

11. 1939 Aerial Photograph, Bates Stamp JM0005840

12. 1946 Aerial Photograph, Bates Stamp JM0005839

13. 1967 Aerial Photograph, Bates Stamp IDOT 002634

14. 1972 Aerial Photograph, Bates Stamp IDOT 002636

15. 1974 Aerial Photograph, Bates Stamp JM0005835

16. State of Illinois, Department of Transportation, Elgin, Authorization of Contract Changes not Involving Section Length, Authorization No. 14, dated November 14, 1973.

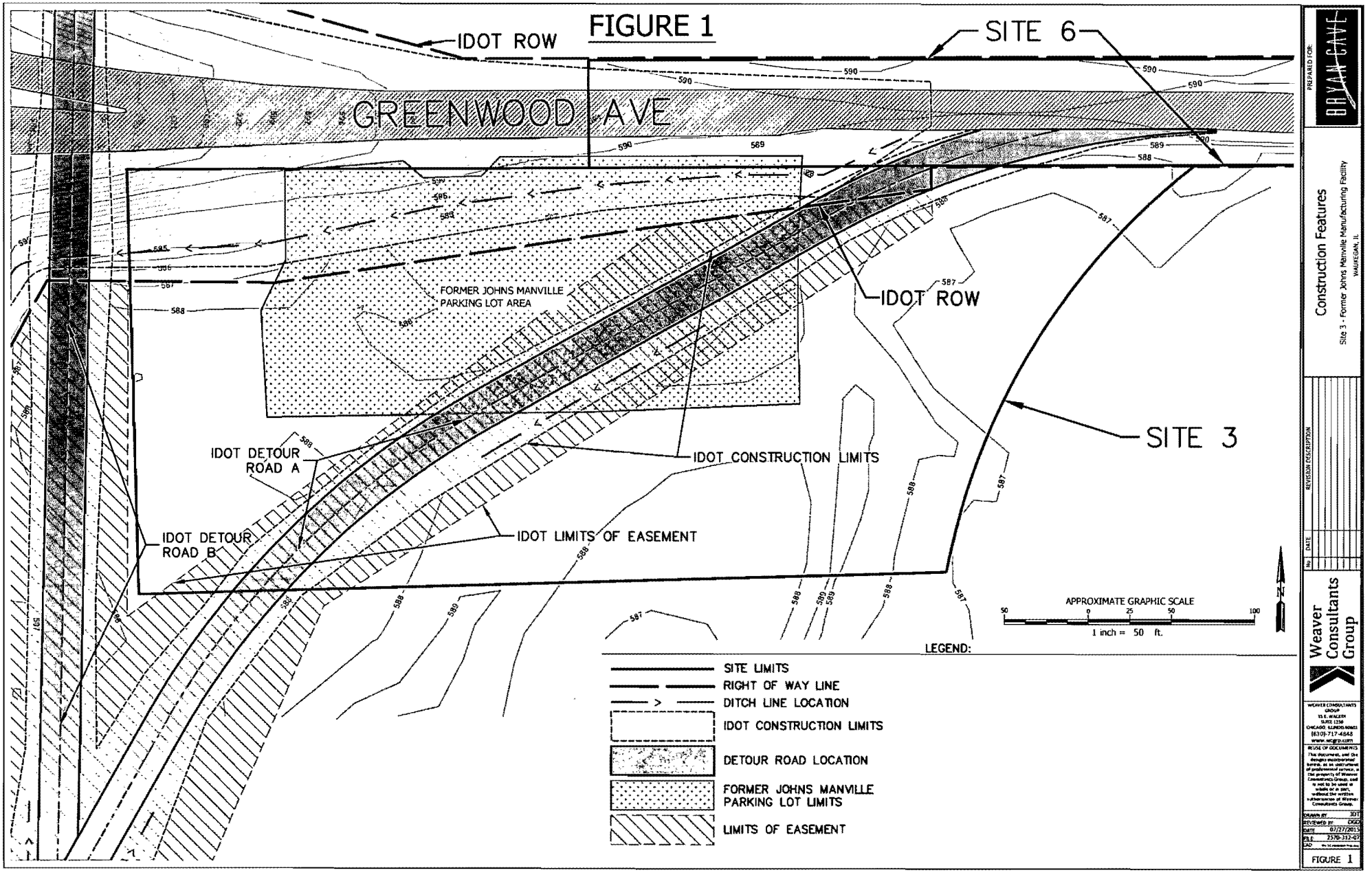
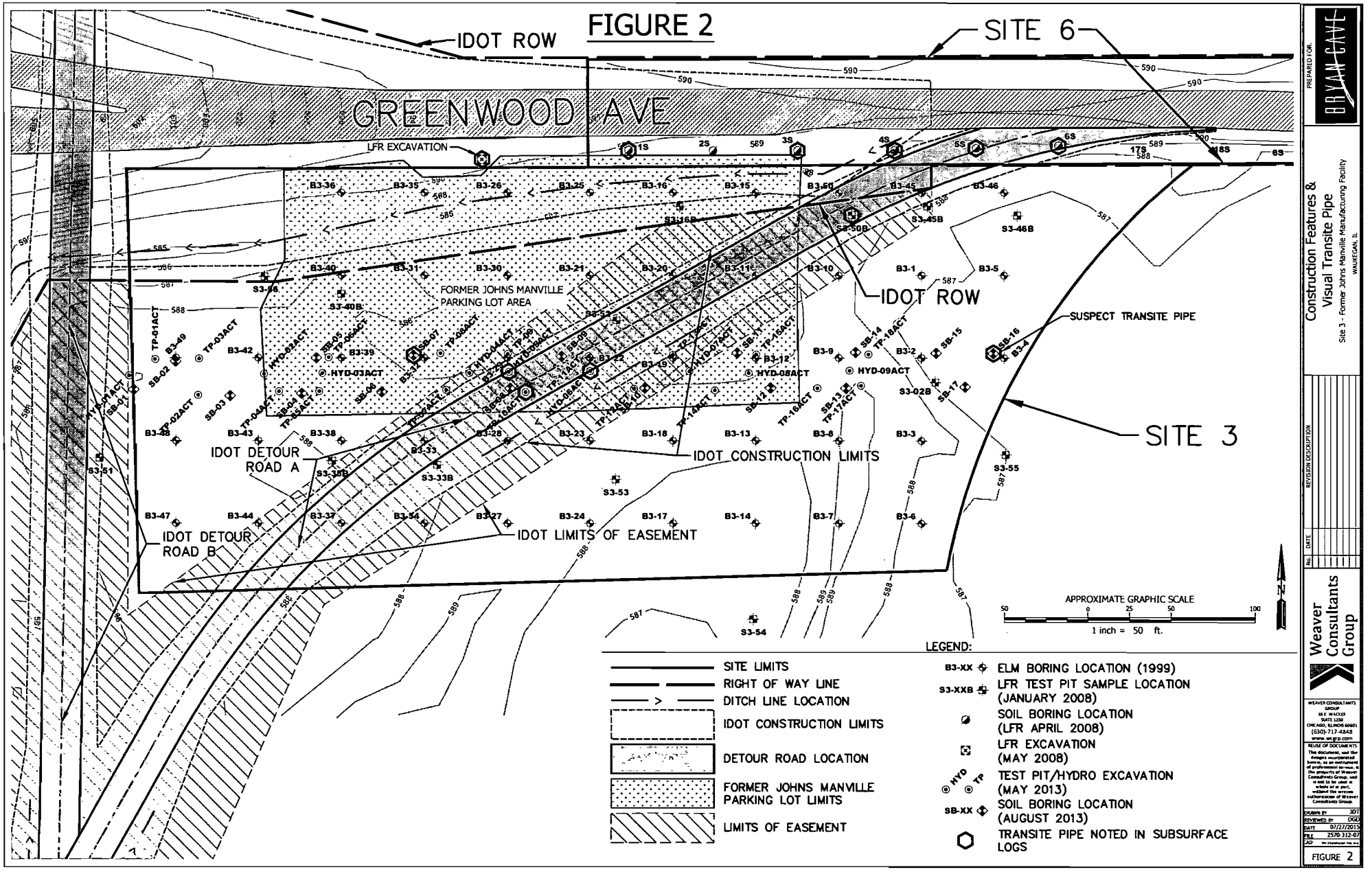


FIGURE 1
IDOT ROW
SITE 6
GREENWOOD AVE
FORMER JOHNS MANVILLE PARKING LOT AREA
IDOT ROW
SITE 3
IDOT DETOUR ROAD A
IDOT CONSTRUCTION LIMITS
IDOT DETOUR ROAD B
IDOT LIMITS OF EASEMENT
APPROXIMATE GRAPHIC SCALE
1 inch = 50 ft.
LEGEND:
SITE LIMITS
RIGHT OF WAY LINE
DITCH LINE LOCATION
IDOT CONSTRUCTION LIMITS
DETOUR ROAD LOCATION
FORMER JOHNS MANVILLE PARKING LOT LIMITS
LIMITS OF EASEMENT
PREPARED FOR:
BRYAN CAVE
Construction Features
Site 3 - Former Johns Manville Manufacturing Facility
WAUKEGAN, IL
Weaver Consultants Group
FIGURE 1



PREPARED FOR: BRYAN CAVE

Construction Features & Visual Transite Pipe
Site 3 - Former Johns Manville Manufacturing Facility
WAUKEGAN, IL

No.	DATE	REVISION DESCRIPTION

Weaver Consultants Group

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DRAWN BY	JDT
REVIEWED BY	DGD
DATE	07/27/2015
FILE	2570-312-07
JOB	

FIGURE 2

March 16, 2015

EXPERT REPORT OF DOUGLAS G. DORGAN JR.

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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1 INTRODUCTION

1.1 Executive Summary and Scope of Work

I have been requested by Bryan Cave, LLP (Client) to provide expert opinions on behalf of Johns Manville concerning Site 3 and Site 6 of the Johns Manville Southwestern Site Area located in Waukegan, Lake County, Illinois (respectively Site 3 and Site 6). The focus of my review has been on impacts to the scope of planned remediation activities resulting from past IDOT construction activities at Site 3, and the western limits of Site 6. I will refer to both Sites herein collectively as the "Site."

Historic investigation and remediation planning at the Site has been completed pursuant to an Administrative Order on Consent No. V-W-07-C-870 (AOC) executed by and between Johns Manville and Commonwealth Edison Company and the United States Environmental Protection Agency (USEPA). Weaver Consultants Group North Central, LLC (WCG) was retained to consider and provide opinions relating to whether the Illinois Department of Transportation (IDOT) is responsible for asbestos containing material ("ACM") found at Sites 3 and portions of Site 6; and, if so: 1) whether, how and when IDOT handled ACM at Sites 3 and 6; 3) whether and the extent to which IDOT's historic handling of the ACM caused or is causing Johns Manville to do additional work associated with its ongoing cleanup; and 3) based upon my experience, whether the IEPA would consider IDOT's handling of the ACM to be a violation of the Illinois Environmental Protection Act ("Act").

To prepare this report, I have reviewed various documents associated with the environmental conditions and remedial action at the Site, including IDOT's standard specifications and engineering drawings relating to its work at the Site in the 1970s, aerial photographs of the Site, environmental investigations at the Site, correspondence with USEPA regarding the Site, evolving plans to remediate the Site, draft cost estimates provided by AECOM, the current contractor, and the documents produced by both JM and IDOT in this case. I also relied upon information gathered from a Site reconnaissance performed on Monday, February 23, 2015. Lastly, I considered my experience with similar sites and projects and public domain documents. Based upon these factors, I have developed the following opinions:

1. The first developed use of the Site 3 occurred in the 1950s when Johns Manville leased Site 3 from ComEd to construct a parking lot for use by employees at the manufacturing facility located north of East Greenwood Drive. The parking lot was removed by IDOT in the late 1960s or early 1970s as part of its work on the Amstutz Expressway Project (the Amstutz Project). Site 3 is now vacant land. Site 6 has historically been used as a road. The road was modified as part of the Amstutz Project by IDOT. The road still exists.

2. IDOT is responsible for the placement and dispersion of ACM waste currently found at the Site. IDOT, at a minimum used, spread, buried, placed and disposed of ACM waste, including Transite® pipe, throughout Site 3 and portions of Site 6 during its work on the Amstutz Project from 1971 to 1976. IDOT's activities associated with the Amstutz Project resulted in crushed Transite® pipe and asbestos material being spread across and buried at Site 3 and the western end of Site 6. IDOT left and never removed the Transite® pipe and asbestos material they spread across and buried at the Site.
3. As a result of IDOT using, spreading, burying, placing, and disposing of ACM waste in and around Site 3 and Site 6 as part of the Amstutz Project, the scope of the expected remedial activities are significantly more extensive than would have otherwise been required by USEPA.

Based on my experience, IEPA would more likely than not consider IDOT's actions in using, spreading, burying, placing, disposing of and leaving ACM waste on Site 3 and Site 6 to be a violation of Section 21 of the Act. Additional and more specific opinions are presented in the text to the following report, together with a discussion of the basis for each major opinion. I reserve the right to modify my opinions should my review of additional information warrant it. In particular, I understand that IDOT is planning to produce certain emails that relate to this case. I also understand that the scope of planned remedial activities, and the cost estimates for implementing the work, continue to evolve. Review of emails to be produced by IDOT, as well as changes to the scope of planned remedial measures and corresponding updates to the associated cost estimates, may influence the opinions presented herein.

1.2 Qualifications

My resume, together with the list of my publications is presented in **Appendix A**.

I have over 25 years of experience working as an environmental consultant. I received my Bachelors of Science in Earth Science, with a Minor in Geology, from Eastern Illinois University in 1986. I received my Masters of Science in Geography with a Concentration in Environmental Science from Northern Illinois University in 1994. I am a Licensed Professional Geologist in the states of Illinois and Indiana.

Since 1986 my practice has focused principally 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 construction related issues. I have implemented various projects involving compliance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Additionally, I am familiar with and have completed projects under various Illinois regulatory programs including, but not limited to, the Resource Recovery and Conservation Act (RCRA), Leaking Underground Storage

Tank (LUST) Program, and Site Remediation Program (SRP). I have regularly interfaced with both the USEPA and IEPA in many contexts, including CERCLA and violations of the Act.

Of particular relevance to this case, I have worked on numerous commercial and industrial properties exhibiting legacy environmental impacts. Such properties have included steel mills, foundries, landfills, glass manufacturing facilities, rail yards, and commercial shopping centers. I have experience assessing and remediating soils and fill material impacted by a wide range of materials including, but not necessarily limited to, petroleum, chlorinated solvents, metals, polychlorinated biphenyl's (PCBs), and asbestos. I am experienced in the design, permitting, construction and environmental monitoring of both solid and hazardous waste disposal facilities. I have experience supporting environmental investigation and restoration associated with Brownfield's redevelopment, with specific emphasis on evaluating and mitigating risks to future users associated with site environmental conditions. Furthermore, I have significant experience working on projects throughout the Chicago metropolitan area, having spent most of my professional career based in Chicago. Locally, Weaver Consultants Group has offices in Chicago and Naperville, Illinois.

1.3 Information Considered

WCG was provided access to and has reviewed the full document record, including documents produced by IDOT and JM, available for this matter. WCG also reviewed IDOT standard specifications, aerial photographs and recent changes to the scope of work and associated cost estimates provided by AECOM. A bibliography of documents cited in this Expert Report is presented in **Appendix B**. Citations to these references are shown in superscripts in the following text.

1.4 Report Organization

This Expert Report is organized into the following sections:

- Section 2 presents Site background information, factual and historical information related to the Site;
- Section 3 presents my expert opinions, along with discussion supporting my opinions.

2 SITE BACKGROUND

2.1 Site Location

Site 3 and Site 6 are shown on the attached **Figure 1**. Site 3 is located southwest of the former Johns Manville (JM) facility at 1871 North Pershing Road, Waukegan Illinois, at the southeast corner of the intersection of East Greenwood Avenue and North Pershing Road. The Site lies within Lake County, and is within the northwest portion of Section 15, Township 45 North, Range 12 East of the Third Principal Meridian. Site 3 consists of approximately 3.115 acres with approximately 641 feet of frontage along East Greenwood Avenue. The Site is bounded to the north by East Greenwood Avenue, to the west by North Pershing Road, to the east by a railroad spur accessing the adjacent Midwest Generation facility, and the south is currently an empty lot.[1]

Site 6 is a linear feature adjacent to the former JM facility primarily comprising the shoulders of East Greenwood Road, in Waukegan, Illinois. The Site is owned by the City of Waukegan.

The surrounding area is a mix of industrial and residential properties, with industrial properties to the east of North Pershing Road and residential properties to the west. A coal-fueled power plant operated by Midwest Generation is located immediately to the east of Site 3, and to the south of Site 6. Illinois Beach State Park lies to the east of the Site on the shoreline of Lake.

2.2 Site History

2.2.1 Facility Operations

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. According to Nicor Gas Company, a 20-inch natural gas line was installed six to eight feet below ground surface (bgs) beneath Site 3 in 1948[1]. Pursuant to a lease agreement with ComEd, JM used Site 3 as a parking lot for JM employees and invitees from the late 1950s through approximately the early 1970s[13]. It is our understanding that JM constructed a parking lot on Site 3 circa late 1950s in order to provide additional parking for the administration building at the plant[11]. Based upon the record, asbestos-containing pipes were split in half lengthwise and used for curb bumpers within the parking lot on Site 3.

The parking lot was taken out of service in approximately 1972 by IDOT during the Amstutz Project, which included the construction of an embankment on the northwestern portion of the Site as well as IDOT Detour Road A as shown on **Figures 2** and **3**.

IDOT engineering drawings for the Amstutz Project show that IDOT needed to excavate and fill areas on the Site because the underlying material was unsuitable. Prior to IDOT's work on Sites 3 and 6, the elevation of Site 3 was approximately 587.5 to 588.5 feet above mean sea level and Site 6 was approximately 588 feet above mean sea level. Part of IDOT's work involved raising the grade of Site 3 slightly in some areas, lowering the grade in other areas, and raising the grade of Greenwood Avenue substantially in some areas. For example, following construction, the elevation near the intersection of Greenwood and Pershing Road was approximately 600 feet above mean sea level. After construction, the record indicates that the contractor hired by IDOT was paid a "special excavation" fee to "remove and obliterate the Detour Roadways".[18]

Site 3 is currently vacant with the exception of one transmission tower located on the eastern portion of the Site. Site 6 generally comprises the shoulders of East Greenwood Avenue.

2.2.2 Environmental Aspects of Historical Operations

Documents indicate that asbestos-reinforced cement (Transite®) pipes were placed on the Site 3 parking lot and used for tire stops (i.e., to keep the cars from going too far and off the parking lot[11]) in approximately the 1950s. Beginning in approximately 1971, IDOT constructed Detour Road A on Site 3 for use during construction of the Amstutz Project. In their response to USEPA's request for information regarding Site 3, IDOT disclosed that their resident engineer on the project "recalled dealing with asbestos pipe during the project and burying some of it[13]". During the construction of the Amstutz Project approximately 262,000 cubic yards of structural borrow material[14] was required for construction of the bridge approach embankments. The source of this borrow material is unknown at this time. This material would have been brought on the Site and compacted by mechanical means. Some quantity of this 262,000 cubic yards was placed within the western limits of Site 6, and on the northwest portions of Site 3.

2.3 Site Environmental Conditions

In 1998, JM discovered asbestos containing materials (ACM) at the surface on Site 3. In accordance with a sampling protocol agreed upon with USEPA, JM catalogued and removed surficial ACM and conducted sampling of the area.

2.3.1 ELM Sampling

ELM Consulting LLC (ELM) conducted sampling for ACM at Site 3 and issued a report dated December 1999. The northwest and northeast portions of Site 3 were not sampled during the ELM grid-sampling event due to the presence of standing water. Results of the ELM sampling have been visually represented on the attached **Figures 2, 3, 4** and **5**. In general, the ELM sampling identified visual ACM (see **Figure 2**) across generally the north central and northeast portions of Site 3, generally aligned with the location of former Detour

Road A. As demonstrated on **Figures 2** and **3**, asbestos was detected in a number of boring locations, again, generally aligned with the location of former Detour Road A, and across the eastern portions of the northern boundary of Site 3.

Between 1999 and 2007, little activity occurred on the Southwestern Sites. On June 11, 2007, JM, Commonwealth Edison and USEPA signed an Administrative Settlement Agreement and Order on Consent for Removal Action (Agreement). The Agreement recognized that the proceedings under the Agreement were subject to various sections of CERCLA. USEPA declined to consider IDOT a Potentially Responsible Party (PRP) under CERCLA.

2.3.2 LFR Sampling

Pursuant to the above referenced Agreement, LFR Inc. (LFR) conducted an investigation that included Site 3 and Site 6. Results of this investigation were documented in an initial Engineering Evaluation/Cost Analysis (EE/CA) report.

2.3.2.1 Site 3

The investigation of Site 3 involved the excavation of 14 test pits (see **Figures 2** and **3** for test pit locations). The locations of the test pits were generally placed near borings completed during the 1999 ELM investigation. Visual ACM was observed in two of the fourteen (14) test pits. Pursuant to USEPA approved plans, no soil samples were collected and analyzed for asbestos as a component of the Site 3 investigation.

2.3.2.2 Site 6

The investigation of Site 6 involved advancing both test pits and soil borings along the length of and within the shoulder of both sides of East Greenwood Avenue. The investigation resulted in 209 soil samples being submitted for PLM analyses, and 21 soils samples submitted for TEM analyses. Various areas of asbestos impacted soil was observed along Site 6. One of these areas includes the shoulder of East Greenwood Avenue immediately adjacent to the northern boundary of Site 3.

2.3.3 LFR Investigation

LFR subsequently advanced an excavation within the southern shoulder of East Greenwood Avenue immediately adjacent to the northern boundary of Site 3 (see **Figure 2** for excavation location) for another entity, Exelon.[8] This excavation was performed to expose two direct-buried electric lines. In a July 8, 2008 letter report written to Exelon, LFR documented the excavation activities. The letter report documents that "[d]uring the excavation, several pieces of Transite® pipe, which is an asbestos containing material, were encountered within the clay fill material." The letter report concludes, "[f]rom this

it may be concluded that the Transite® pipe was found within the soil placed as part of the Greenwood Avenue ramp construction."

2.3.4 AECOM Investigation

In May 2013, AECOM conducted additional ACM sampling on Site 3 to assess the vertical and lateral extents of ACM within a 25-foot wide corridor centered on a 20-inch natural gas line owned and operated by Nicor Gas Company. The Nicor Gas line was installed prior to IDOT's construction work. Owing to the presence of the Nicor gas line, excavations were advanced by hand digging to a depth of one foot below ground surface, below one foot, hydraulic excavation was used. Excavations were advanced to the top of the gas line. Additionally, eighteen (18) test pits were advanced generally along the gas line corridor. The test pits were generally advanced to a depth of approximately eight to nine feet below ground surface. Finally, seventeen soil borings were advanced generally along the gas line corridor. Locations for each of the hydraulic excavations, test pits, and soil borings completed by AECOM are shown on the attached **Figures 2** and **3**.

Asbestos sample results from the excavations, test pits and soil borings are shown on **Figures 2** and **3**. In summary, asbestos via PLM analysis was detected in one soil sample above the analytical sensitivity. In two hydraulic excavations, and four test pits, asbestos was detected but below the analytical sensitivity. Samples submitted for TEM analysis were below analytical sensitivity. Certain additional samples from soil borings and test pits exhibited structures of asbestos. Sample analytical results were believed to warrant additional investigation, which was undertaken in August of 2013.

During the August 2013 Supplemental Investigation, seventeen (17) soil borings were advanced to a maximum depth of nine feet below ground surface. A total of 126 soil samples were submitted for analysis of asbestos. Asbestos via PLM analysis was detected in one of the soil samples. Samples analyzed via TEM were below analytical sensitivity. However, asbestos structures were noted in five of the samples collected from three boring locations.

2.3.5 Remedy Background

Four revised versions of the EE/CA were submitted in response to comments made on behalf of the 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 EPA. EE/CA Revision 4 identified "Alternative 2" as the preferred remedy for Site 3. This alternative included limited soil excavation (approximately 660 cubic yards) in the northeast corner of Site 3 to a depth of approximately three feet below the ground surface and installation of a vegetated soil barrier over the entire site, at an estimated cost of between $595,000 and $630,000.

EE/CA Revision 4 identified "Alternative 3" as the preferred remedy for Site 6. This alternative was described as a "hybrid remedy" combining excavation and off-site disposal of approximately 2400 cubic yards of ACM-affected soil with a vegetated soil barrier running adjacent to Site 3 to avoid disrupting current stormwater drainage patterns. The total cost to implement Alternative 3 on Site 6 was estimated at between $417,500 and $500,000. USEPA disagreed with the remedy selected for both Sites. Eventually, the USEPA issued an Enforcement Action Memorandum for the Southwestern Site Area (which includes Site 3 and 6) dated November 20, 2012. For both Sites 3 and 6, USEPA generally required the removal of all asbestos-impacted soils and the creation of clean corridors for all utilities running through the Sites.

Between December 20, 2012 and September 28, 2013, multiple dispute notices regarding the Enforcement Action Memorandum were filed on behalf of JM. The dispute notices were officially resolved in a letter from the Director of the Superfund Division of the USEPA dated September 28, 2013. In response to the Enforcement Action Memorandum, JM coordinated additional site investigation activities at Site 3 that were conducted between May and August 2013 (summarized in Section 1.4.3 above). Ultimately, USEPA agreed to modify some of the more stringent requirements in its Action Memorandum. Thereafter, AECOM prepared a Removal Action Work Plan (RAWP). The most recent RAWP was submitted to the USEPA and is dated March 31, 2014.

2.3.6 Summary of Remedy Scope

The March 2014 version of the RAWP has been developed to address a non-time critical removal action relating to ACM in soil at Sites 3 and 6. The RAWP used as the basis for design of the plan the following:

1. Utility relocation and abandonment
2. Required soil removal
3. Vegetative cover
4. Institutional controls
5. Subrogation agreements

Additionally, two basis of design for construction support activities include:

1. Construction dewatering systems
2. Water quality basis for discharge for NSSD

The RAWP relating to Site 3 and 6 contains a description of the following primary work items:

1. Sites 3 and 6 utility relocation, abandonment, and replacement plans
2. Site 3 soil removal and vegetative soil cover
3. Site 6 soil removal

4. Sites 3 and 6 long-term operations and maintenance (O&M)

2.3.6.1 Site 3

As noted above, the remedy for Site 3 involves relocation or abandonment of select utilities, excavation of ACM impacted soil, and construction of a vegetative soil cover. The following utilities present on Site 3 will be either abandoned, or a clean soil corridor will be created: 1) AT&T telecommunication lines will be relocated and reinstalled above ground, 2) confirmation will be provided documenting former decommissioning of a Commonwealth Edison electric power line, 3) a clean soil corridor will be constructed for a Nicor Gas line, 4) a North Shore gas line will be decommissioned, and 5) a City of Waukegan water main will be replaced and a clean soil corridor constructed (collectively, approximately 3,250 cubic yards of soil will be removed for utility clean soil corridor). Approximately 900 cubic yards of soil to a depth of approximately four feet will be removed from a 0.14-acre area on the northeast corner of Site 3. Finally, a vegetative soil cover will be constructed across approximately 3.14 acres of Site 3. In addition, an environmental covenant will be executed for Site 3 addressing soils remaining in-place under the vegetative cover and a fence will be constructed.

2.3.6.2 Site 6

As noted above, the remedy for Site 6 involves abandonment or relocation of select utilities, and removal of soil. The following utilities present on Site 6 will be relocated or abandoned: 1) AT&T telecommunication lines present on the south side of Site 6 will be relocated, 2) an existing North Shore Gas line will be permanently abandoned, and 3) a City of Waukegan water main will be relocated. Approximately 6,420 cubic yards of soil will be removed to an estimated depth of 3 feet.

2.4.5 Summary of Remedy Cost

The cost estimates provided for the Site is reflective of the increased scope of work due to the presence of ACM buried by IDOT. AECOM has prepared draft cost projections for the work to be performed on Site 3 and Site 6 as documented in their March 12, 2015 Correspondence addressed to Douglas Dorgan of Weaver Consultants Group[16]. Tables entitled DRAFT Sub-Project Cost Detail (with Markups) for both Site 3 and Site 6 have been included as **Appendix C**.

AECOM has estimated the cost for RAWP implementation at the Site based upon the March 31, 2014 RAWP as subsequently modified based on communications with USEPA. The communications have resulted in significant changes to the work required. As of the writing of this report, AECOM continues to refine the remediation scope and corresponding estimate of probable cost. The estimate of probable cost prepared by AECOM is included in Appendix C. For Site 3, this estimate projects costs for

implementation of the currently approved RAWP totaling $3.3M. For Site 6, this estimate projects costs for implementation of the currently approved RAWP totaling $4M.

3 OPINIONS

The following provides my expert opinions, followed by information in support of the various opinions:

3.1 Site Usage

The first developed use of the Site 3 occurred in the late 1950s when Johns Manville constructed a parking lot for use by employees at the manufacturing facility located north of East Greenwood Drive. Site 6 was historically used as a road. The road was elevated by IDOT in the 1970s.

The above opinion is supported by the following multiple lines of evidence.

Based upon review of the facility record, and review of certain available historical use sources, prior to the mid 1950s, Site 3 was a vacant, undeveloped property. In the late 1950s, under lease to Commonwealth Edison (ComEd), Johns Manville constructed an approximate 48,000 square foot parking lot that serviced the adjacent main facility complex located across East Greenwood Avenue. Prior to construction of the parking lot, there had been no previous structures present on the Site 3. The property had not been utilized by ComEd as part of its adjacent power generating facility, nor had it been utilized by the adjacent Johns Manville facility. The parking lot operated from its date of construction in the late 1950, through to approximately 1970 when the parking lot was destroyed under contract to the IDOT to accommodate construction of the Amstutz Project[17].

As of 1939, Site 6 was paved with a road, now known as Greenwood Avenue. The road was modified in the 1970s by IDOT as part of the Amstutz Project. Fill was used by IDOT to create the embankment and to raise Greenwood Avenue.

3.2 IDOT Construction Activities Responsible for ACM Waste

It is my opinion that IDOT is responsible for the placement and dispersion of ACM waste currently found at the Site. IDOT used, spread, buried, placed and disposed of ACM waste, including Transite® pipe, throughout Site 3 and portions of Site 6 during construction of the Greenwood Avenue ramp and expressway bypass from 1971 to 1976. These construction activities associated with the Amstutz Project resulted in crushed Transite® pipe and asbestos material being spread across and buried at Site 3 and the western end of Site 6. IDOT never removed the Transite® pipe and asbestos materials it spread across and buried at the Site.

The above opinion is supported by the following multiple lines of evidence.

Within the project record, there are multiple references to the use of Transite® Pipe within the JM parking lot serving as vehicle parking bumpers. Transite® Pipe, also known as Asbestos Cement Pipe, began being used in the 1940s for potable water, sanitary sewer, and storm drain pipelines (Williams, G. Eric and Aspern, Kent Von, date unknown). The Engineering Evaluation/Cost Analysis prepared by LFR references that "Transite® pipe was utilized as parking space "bumpers" on the ground surface". The USEPA subsequently confirmed this finding indicating in their Enforcement Action Memorandum that "Asbestos-containing pipes were split in half lengthwise and used for curb bumpers on Site 3." It would appear that there is little argument that Transite® pipe had been present on Site 3 associated with their use for parking bumpers in the Johns Manville parking lot. Transite® pipe was constructed primarily of Portland cement, however, asbestos was used to increase the pipe strength. Various reports suggest the asbestos content of Transite® pipe could range from 15 percent up to 20 percent, although in later years of production the content was lowered to less than 0.2% (2009, Aspern, Kent Von).

Aerial photos show the parking lot and apparent Transite pipe parking bumpers in aerial photographs from 1961 and 1967. In 1972, the parking lot is no longer evident in an available aerial photo.

In approximately 1970, IDOT began work on the Amstutz Project. The project involved portions of Site 3, and the western end of Site 6. Specifically, as indicated in IDOT Construction Drawings for the Project, a bypass road for the East Greenwood interchange (Detour Road A), was constructed across the center portion of Site 3 as shown on the attached **Figure 3**. Additionally, the Amstutz Project included the construction of the Greenwood Road Overpass, which involved raising the elevation of Greenwood Road and building an embankment near where Greenwood intersects with Pershing. The embankment is on portions of Site 6 and 3 (see Figure 2).

IDOT plans prepared by H.W. Lochner, Inc. for Amstutz Project (F.A. Route 437 – Section 8-HB & 8-VB) provide information documenting the importation of fill material (Borrow Excavation). On sheet 5, Schedule of Quantities, the Summary of Quantities lists total "Borrow Excavation" for the project as 262,540 cu yds. The plan cross sections for Greenwood Ave within Site 6 (Sta 7+00 to 9+22) shown on sheets 71 and 72 of the plans indicate excavation was performed in these areas and fill material was needed.

IDOT was responsible for the fill it brought to the Site. On Sheet 4 of the Lochner plans, the first note of the General Notes states "The "Standard Specifications for Road and Bridge Construction" adopted January 2, 1971, shall govern construction." The IDOT "Standard Specifications for Road and Bridge Construction" Section 204.42 state "Borrow Excavation shall not be placed in the embankment until the site location, excavation plan and material have been approved by the Engineer in writing." Thus, all Borrow Excavation material was to be approved by the IDOT Engineer prior to its use on the Site and IDOT was responsible for its contents.

In AECOMs Respondent Response Document to Engineering Evaluation/Cost Analysis[2], they indicate "[i]n their response to USEPAs request for information regarding Site 3, IDOT disclosed that their resident engineer on the project "recalled dealing with asbestos pipe during the project and burying some of it.""

As noted in the Background Section, several investigations for the presence of asbestos materials on Site 3 and Site 6 have been completed. The first of these investigations was completed in 1998 and included the visual observation and removal of asbestos fragments and fragment clusters from the surface of Site 3. Of the seventy-four (74) locations where ACM fragments or fragment clusters were encountered on Site 3, Transite® Pipe was observed at sixty-five (65) locations (Appendix F of referenced report). Additionally, Transite® was identified in several of the borings that were completed as part of this investigation (Appendix G).

Thereafter LFR undertook an investigation of Site 3 and Site 6. Results of this investigation were presented in the report "Engineering Evaluation/Cost Analysis, Southwestern Site Area Sites 3, 4/5, and 6, Revision 4" dated April 4, 2011[2]. Visual ACM was observed in test pits advanced as part of the investigation on Site 3.

In 2008, LFR was retained by ComEd to complete a soil excavation along the south side of the Greenwood Avenue shoulder. The work performed was documented in a letter report addressed to Exelon dated July 8, 2008. The excavation was noted to be located "within the southern shoulder of Greenwood Avenue and, based upon the elevation data, was also within the built-up ramp to the Amstutz Expressway. " The center of the excavation was reported to be at an elevation of approximately 591 to 591.5 feet above mean sea level (AMSL). The letter report documents that "[d]uring the excavation, several pieces of Transite® pipe, which is an asbestos containing material, were encountered within the clay fill material." ACM was observed within the excavation at approximately 588.5 feet AMSL. The nominal surface elevation of the adjacent Site 3 was reported to be at an approximate elevation of 587.5 feet AMSL. The letter report indicates that the excavation "falls clearly within the Greenwood Avenue ramp construction for the Amstutz Expressway." The letter report concludes by stating "[f]rom this it may be concluded that the Transite® pipe was found within the soil placed as part of the Greenwood Avenue ramp construction."

Finally, additional investigation of Site 3 was undertaken in 2013 and documented in the report entitled "Southwestern Site Area, Site 3, 4/5, and 6 Removal Action Workplan, Revision 2" prepared by AECOM dated March 31, 2014[1]. In planning for the removal action, additional characterization of the presence of ACM was undertaken using hydraulic and hand excavations, test pits, and soil borings. Consistent with the results of previous investigations, Transite® pipe was specifically noted to be present at three of the sample locations on Site 3 (HYD-05 0-1', HYD-06 0 – 1', TP-10 0-1'). As with previous

findings, the physical presence of identifiable Transite® pipe was generally located within the shallow subsurface at the Site.

The locations of Transite® pipe containing ACM discovered on Site s3 and 6, coupled with the Site history, demonstrate that IDOT used, spread, buried, placed, and disposed of ACM waste, including Transite® pipe, throughout Site 3 and portions of Site 6 during its work on the Amstutz Project from approximately 1971 to 1976. The distribution of visual ACM, mostly comprised of Transite® pipe, generally is consistent with the areas where IDOT performed work; the JM former parking lot, Bypass Road A and the embankment and south side of Greenwood Avenue. The occurrence of visual ACM is represented on **Figure 3,** which shows ACM generally being found within the central and northeastern areas of Site 3. This generally overlays with the location of the former parking lot area, which IDOT removed to build Detour Road A. Furthermore, the detection of asbestos in soil samples collected at Site 3 follows a similar pattern, with asbestos generally being detected within the central and northeastern areas of Site 3. Soil samples collected from across Site 3, and the western limits of Site 6, submitted for laboratory analysis exhibited concentrations of asbestos fibers in soil exceeding 0.1%. Asbestos fibers within the soil are believed to have originated at least in part from crushing of the Transite® pipe parking bumpers during the IDOT construction activities. Transite® pipe by nature is inert and non-friable. It is converted from a solid to a friable form during the crushing process. As evidenced by fragments of Transite® pipe being identified during various previous investigations, it is apparent that the condition of the original Transite® pipe bumpers had been changed by the disturbance associated with the construction activities performed by IDOT. The act of crushing Transite® pipe as a result of being tracked with heavy equipment, and being buried as occurred during the IDOT construction activities would result in asbestos fibers being released into the surrounding soils.

Further, when you compare the engineering drawings used by IDOT for Bypass Road A and Greenwood Avenue with the location of Transite® and ACM, it is clear that the Transite® and ACM is located in areas that were excavated and filled by IDOT as part of the construction. The Transite® pipe is located within three to four feet of the ground surface. This is demonstrated most clearly on **Figures 4** and **5,** which demonstrates the occurrence of asbestos within soil samples collected from fill materials placed by IDOT. The Transite® and ACM were found on Site 3 and Site 6 within fill materials placed by IDOT, above the predominant Site 3 and Site 6 elevation prior to IDOT construction, or in areas where IDOT excavated and removed "unsuitable materials". The July 8, 2008 LFR states "...it may be concluded that the Transite® pipe was found within the soil placed as part of the Greenwood Avenue ramp construction."

This evidence shows that when IDOT demolished the former JM parking lot to build Bypass Road A, it crushed and buried portions of the Transite® pipe that had been located on the parking lot. IDOT also spread the Transite® pipe around portions of Site 3 and 6 close to the former parking lot area as part of its work.

In summary, it is my opinion that the source of the Transite® pipe found at Sites 3 and the western limits of Site 6 immediately adjacent to the northern boundary of Site 3 was the Transite® pipe that had been used as parking bumpers in the former JM parking lot. The Transite® pipe bumpers were not removed but were crushed, buried, and mixed into the subsurface as part of Bypass Road A construction and the construction of the East Greenwood Road overpass embankment for the Amstutz Expressway.

3.3 IDOTs Handling of Transite® Pipe Resulted in a Substantial Increase in Scope of Remedy for Site 3 and Site 6

It is my opinion, that in the absence of the buried and dispersed Transite® pipe on the Site, it is unlikely that any response action would have been necessary at the site other than the surface ACM removal efforts.

As a result of IDOT's use, spreading, burying, placing and disposing of ACM in and around Site 3 and 6 as part of the Amstutz Project, the scope of the expected remedial activities are more extensive than would have otherwise been required by USEPA.

It is apparent that USEPA was concerned with the prospect of ACM moving up to the surface and becoming airborne. In the USEPA Modification to the EECA dated February 1, 2012, they specifically highlight concerns that "in frost susceptible areas, such as 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, asbestos-containing wastes that are covered with soil can, over time, reach the soil surface and become readily releasable to the air".

USEPA also notes, "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. Sites 3, 4/5, and 6 also contain utilities and these areas will be disturbed during maintenance and repair activities. Such damages or disturbance may result in the release of asbestos containing materials and asbestos fibers."

These concerns were used as the justification for requiring a more substantial cover design. The Transite® pipe observed on Site 3 and Site 6 is most comparable to "stones, and other large particles, such as broken scraps of asbestos". In the absence of this buried Transite® pipe, it is unlikely if any form of response activity would be needed.

On November 12, 2012, USEPA issued an Enforcement Action Memorandum (EAM). The purpose of the EAM was to communicate USEPAs position with respect to environmental conditions at Site 3 and Site 6. Specifically, the EAM documents USEPAs 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."

The EAM marked a significant expansion of the scope of the remedy when compared to AECOM's EECA version 4. USEPA makes a number of statements in this document demonstrating that the new remedy was mandated because asbestos was buried on the Site. The EAM repeats many of the same points raised in the February 1, 2012 EECA Modification it imposed.

However, it even takes it a step further when justifying its decision for all soil removal and clean corridors. The EAM states "of particular concern are digging and soil moving related to road repair, utility repair and any other construction activities on the sites." It also stresses that 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 of damaged lines." USEPA indicates that excavation would be necessary to access the utilities in an emergency situation and that the excavation "would be likely to result in the potential release of ACM and asbestos fibers. USEPA continues: "In the event of a breach of 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."

In the EAM, USEPA states that Site 3 potential receptors include: 1) utility workers from either ComEd servicing their buried lines that cross the Site or from other utilities who maintain buried lines or easements for their lines, 2) construction workers installing additional utilities in the future and 3) anyone walking or biking across the field, i.e., trespassers. Potential receptors for Site 6 include: 1) utility workers, 2) road repair and maintenance, and, 3) construction workers installing additional utilities in the future and the general public, as users of the roadway. USEPAs Risk Evaluation concluded that as a result of asbestos being present at Site 3 and Site 6 "[a]dverse health risks are reasonably anticipated in the event that exposure occurs."

It is apparent that the primary concern expressed by USEPA was buried ACM that could either impact workers servicing utilities or could reach the surface as a result of the upward thrust of additional fragments or "broken scraps of asbestos". As stated within the EAM, conditions at the Site were deemed to meet the criteria for a removal action. In the absence of buried ACM and broken scraps of asbestos having the potential to reach the ground surface, it is believed likely that no removal action at Site 3 or within the western limits of Site 6 would have been needed.

The conclusion that the Transite® pipe buried and spread by IDOT is causing an expansive remedy is supported by the well-documented approach being applied to ACM removal at the nearby Illinois Beach State Park. This site is located approximately one mile from Site 3. Past investigations have concluded that surficial ACM that washes onto the beach is

not expected to be harmful to human health.[14] The presence of limited quantities of generally non-friable ACM at the surface (assuming the absence of Transite® pipe) of Site 3 would be comparable to the conditions encountered at Illinois Beach State Park (IBSP). Therefore, it is reasonable to conclude that in the absence of Transite® pipe at Site 3 and within the western limits of Site 6, a strategy similar to that being employed at IBSP would be appropriate for managing Site conditions.

Alternatively, for purposes of assessing the broader scope resulting from IDOT's actions at Site 3 and the western limits of Site 6, I have considered a more conservative approach to managing the Site conditions assuming Transite® pipe had not been spread and buried. Under this alternative scenario, I have assumed that Transite® pipe had been left in its original location on the surface of Site 3 in 1970. Under this alternative scenario, I believe that the plan submitted in the EECA would have been more than adequate to manage the Site 3 conditions and that no remedy would have been required for the western portion of Site 6.

As noted above, the EECA Revision 4 had proposed Alternative 2 as the remedy for Site 3. This alternative included installation of a soil barrier over approximately 3.12 acres of Site 3. This alternative was projected to cost as much as $620,000 to construct, with long term Operations and Maintenance (O&M) costs projected at $142,000 (over a 30-year period). Based on the cost of construction, and long-term O&M, this alternative remedy would cost $762,000.

It is my opinion that due to the presence of buried Transite® pipe, the USEPA has demanded a more expansive scope for managing Site 3 conditions.

This added scope is reflected in the cost differentials. The current required remedy on Site 3 is projected to cost $3.3M. It is my opinion based on review of the estimate prepared by AECOM that this estimate is reasonable for the tasks that have been quantified. However, a number of additional required tasks have not been included in this estimate, and some uncertainty exists regarding the actual costs for removal and/or replacement of select utilities. Consequently, it is my opinion that the actual costs for implementing the USEPA required remedy may potentially expand by a factor of 20% or more, raising the total cost of construction to approximately $4.0M. Additionally, the AECOM estimate does not include long-term O&M expenses. Long-term O&M expenses are not expected to deviate substantially from the estimate included in the original EECA, and therefore, I have assumed additional O&M expenses of $140,000. This raises the total cost of remedy implementation being required by USEPA to $4.14M, resulting in an incremental cost increase for the selected remedy of $3.4M.

A similar analysis can be conducted for Site 6. However, the Transite pipe bumpers were not placed on Site 6. Thus, if you assume pre-IDOT construction conditions, there should have been no need for any remedy on the western portion of Site 6 and certainly no remedy that involves the creation of clean corridors or the excavation of ACM

contaminated soils. It is my opinion that IDOT's activities have caused the remedy on the western portion of Site 6.

USEPA is not requiring any work on the south side of Greenwood Road other than the area that was impacted by IDOT's work on the Amstutz Project.

As discussed in Section 2.4.2.2, the remedy selected for Site 6 involves abandonment or relocation of select utilities, and removal of soil. The following utilities present on Site 6 will be relocated or abandoned: 1) AT&T telecommunication lines present on the south side of Site 6 will be relocated, 2) an existing North Shore Gas line will be permanently abandoned, and 3) a City of Waukegan water main will be relocated. Approximately 6,420 cubic yards of soil will be removed to an estimated depth of 3 feet. For the southern portion of Site 6, the Scope of Work to be implemented pursuant to the approved RAWP includes:

1. Abandonment of a North Shore 12" gas line that transects Site 3, then intersects Site 6 and runs in an east/west orientation to the eastern limits of the Site 6 area located south of Greenwood Road.
2. Removal and relocation of an AT&T Fiber Optic Cable that transects Site 3 then intersects Site 6 and runs in an east/west orientation to the western limits of the Site 6 area located south of Greenwood Road.
3. Removal of asbestos contaminated fill material and replacement with clean fill.

Weaver Consultants has evaluated the Cost Estimate prepared by AECOM for the entire Site 6 (included as Appendix B). We have segregated those costs to be incurred for only the portion of Site 6 located on the south side of Greenwood Road, immediately adjacent to Site 3. Based upon our tabulation of these expenses, we believe that the work to be performed within the subject area will total between $700,000 and $1,000,000 (this is approximately 25% of the total estimated cost for the entire Site 6). However, a number of additional required tasks have not been included in this estimate, and some uncertainty exists regarding the actual costs for removal and/or replacement of select utilities. Consequently, it is my opinion that the actual costs for implementing the USEPA required remedy may potentially expand by a factor of 20% or more, raising the total cost of construction for the area of Site 6 immediately north of Site 3 to approximately $840,000 to $1.2M. It is my opinion based on review of the estimate prepared by AECOM that this estimate is reasonable for the tasks that have been quantified.

3.4 IDOT'S Conduct was a Violation Section 21 of the Act

Based upon my significant experience with IEPA, the IEPA regulations, the Act, CERCLA, RCRA and USEPA, it is my opinion that IDOT used, spread, buried, placed, disposed of and left pieces of asbestos containing Transite® pipe and ACM contaminated fill at Sites 3 and 6 as part of its work on the Amstutz Project. IDOT never removed the ACM and thus it remains largely in situ.

Based on my experience, the Transite® pipe and ACM contaminated fill attributable to IDOT would be treated by the regulators as "discarded material" under Section 3.535 of the Act and thus a would qualify as a "waste" per the definition. The material resulted from IDOT's work on the Amstutz Project.

Similarly, IDOT's actions were the result of the consolidation of refuse (crushed Transite® pipe and/or contaminated fill) at Site 3 and 6, neither of which would be viewed by IEPA as a sanitary landfill under Illinois law. Thus, it is my opinion based on past experiences with similar sites, that IEPA likely would view IDOT's conduct to be "open dumping" under Section 3.305 of the Act, 415 ILCS 5/3.30.

Both USEPA and IEPA treat crushed and buried ACM as both "solid waste" and "hazardous waste." Further, these agencies would likely view the dumping and placing of said ACM at Sites 3 and 6 as "disposal" under Section 3.185 of the Act, 415 ILCS 5/3.185.

Neither Site 3 nor Site 6 are permitted waste disposal sites or facilities, which meet the requirements of the Act or its regulations as they relate to the disposal or abandonment of waste.

Based upon my experience and the foregoing, it is my opinion that IEPA would more likely than not view IDOT's conduct during the Amstutz Project involving asbestos as violating Section 21 of the Act. We believe that a client engaged in similar activities would be subject to potential enforcement action.

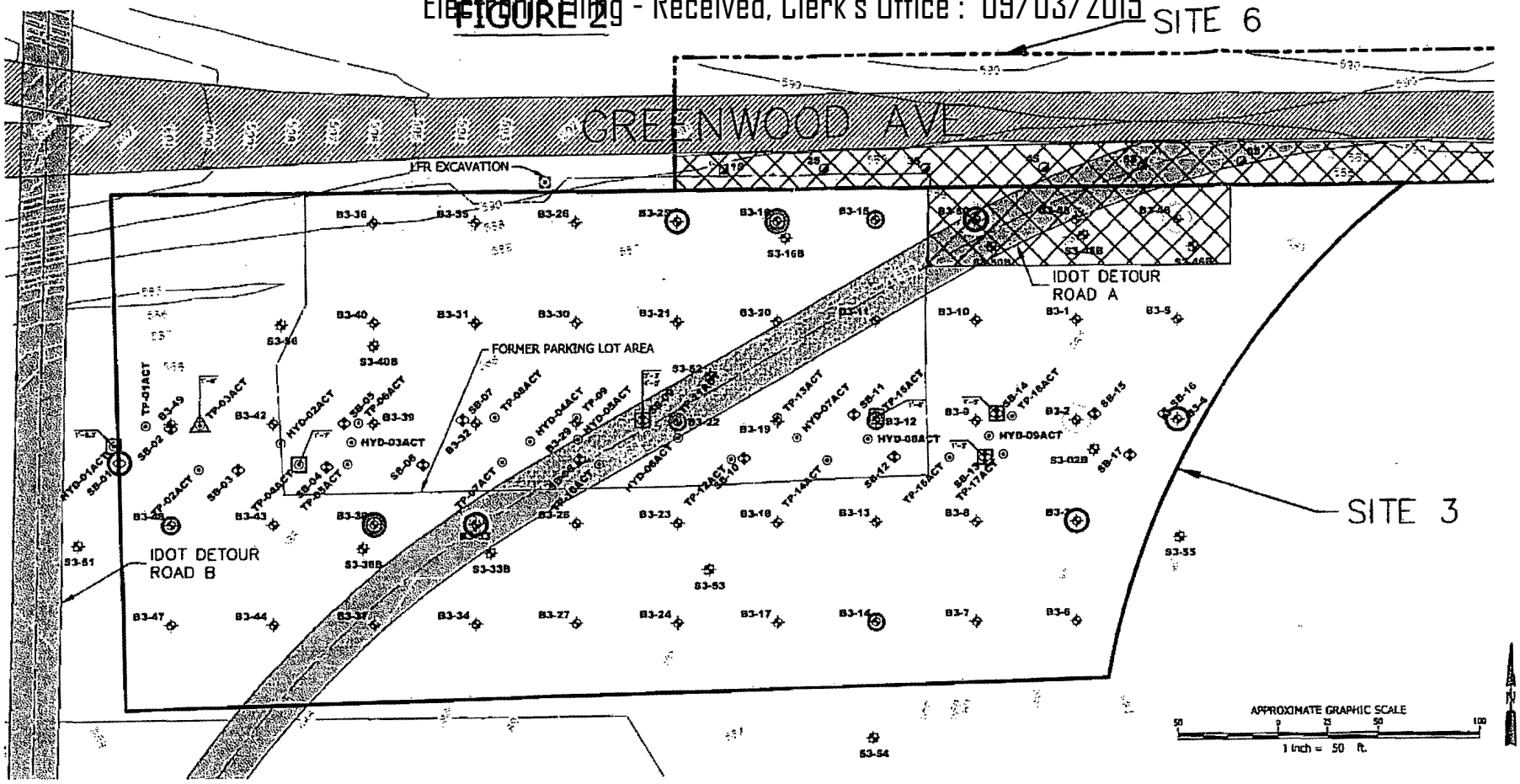
Weaver Consultants Group

Site Location Map

Site 3 - Former Johns Manville Manufacturing Facility
Waukegan, IL

FIGURE 1

FIGURE 2



LEGEND:

- B3-XX — ELM BORING LOCATION (1999)
- B3-XXB — LFR TEST PIT SAMPLE LOCATION (2008)
- LFR EXCAVATION (MAY 2008)
- SOIL BORING LOCATION (LFR APRIL 2008)
- SB-XX — SOIL BORING LOCATION (AUGUST 2013)
- HYD / TP — TEST PIT/HYDRO EXCAVATION (MAY 2013)
- 0'–1' SAMPLE RESULTS YIELDED > 0.25% ACM VIA PLM CARB A
- 1'–2' SAMPLE RESULTS YIELDED > 0.25% ACM VIA PLM CARB A
- 2'–3' SAMPLE RESULTS YIELDED > 0.25% ACM VIA PLM CARB A
- SAMPLE RESULTS YIELDED ≤ 0.1% ACM, LESS THAN 5 ASBESTOS FIBERS COUNTED VIA TEM CARB B (DEPTH INTERVAL DENOTED ON FIGURE)
- SAMPLE RESULTS YIELDED > 0.25% ACM, VIA PLM CARB A (SAMPLE WAS A COMPOSITE OF DEPTH, DENOTED ON FIGURE)
- AREA OF SOIL EXCAVATION

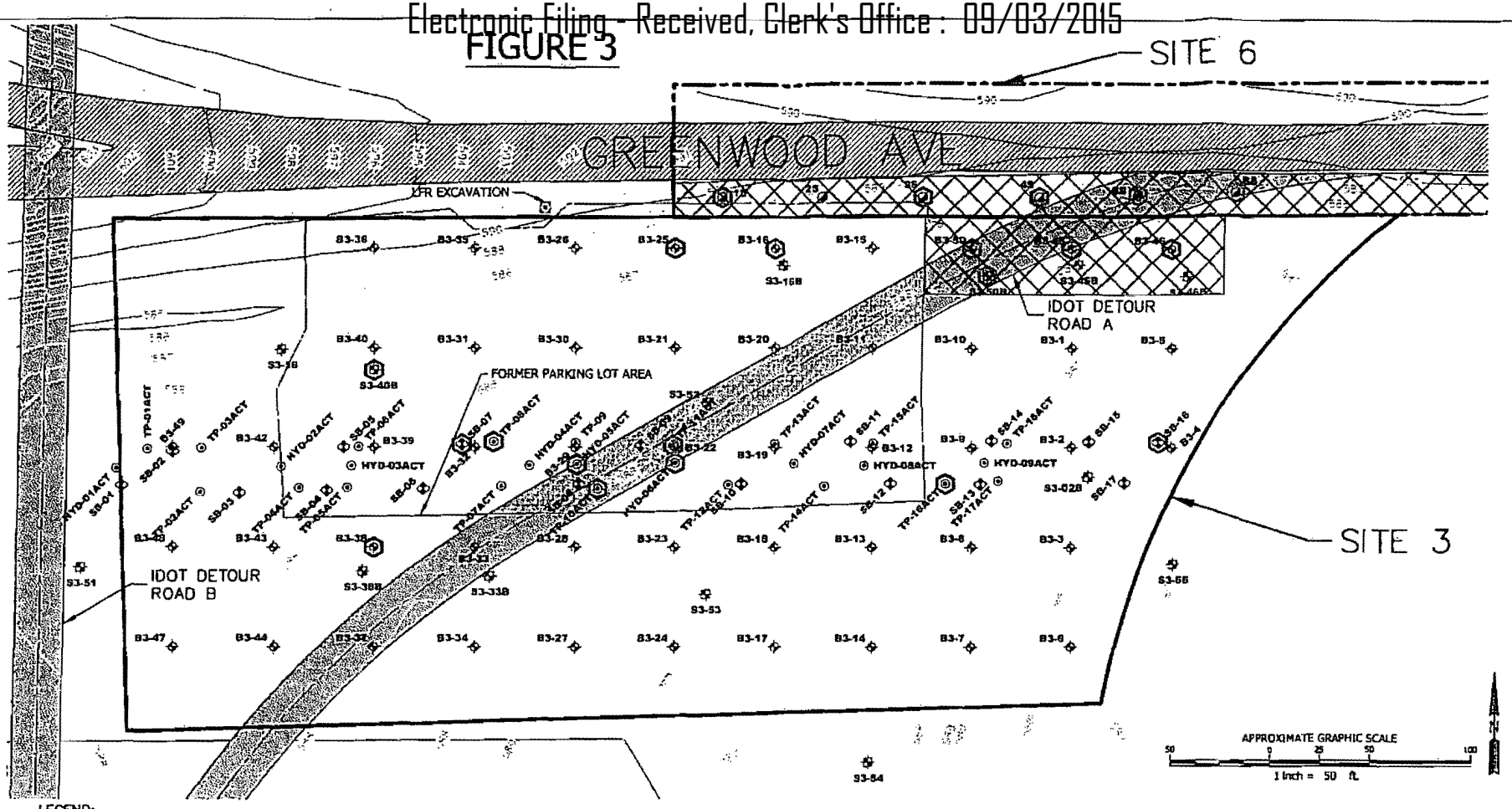
PREPARED FOR: BRYAN CAVE

Asbestos Content Location Map
Composite Overlay of Soil
Site 3 - Former Johns Manville Manufacturing Facility
WAUKEGAN, IL

Weaver Consultants Group

FIGURE 2

FIGURE 3



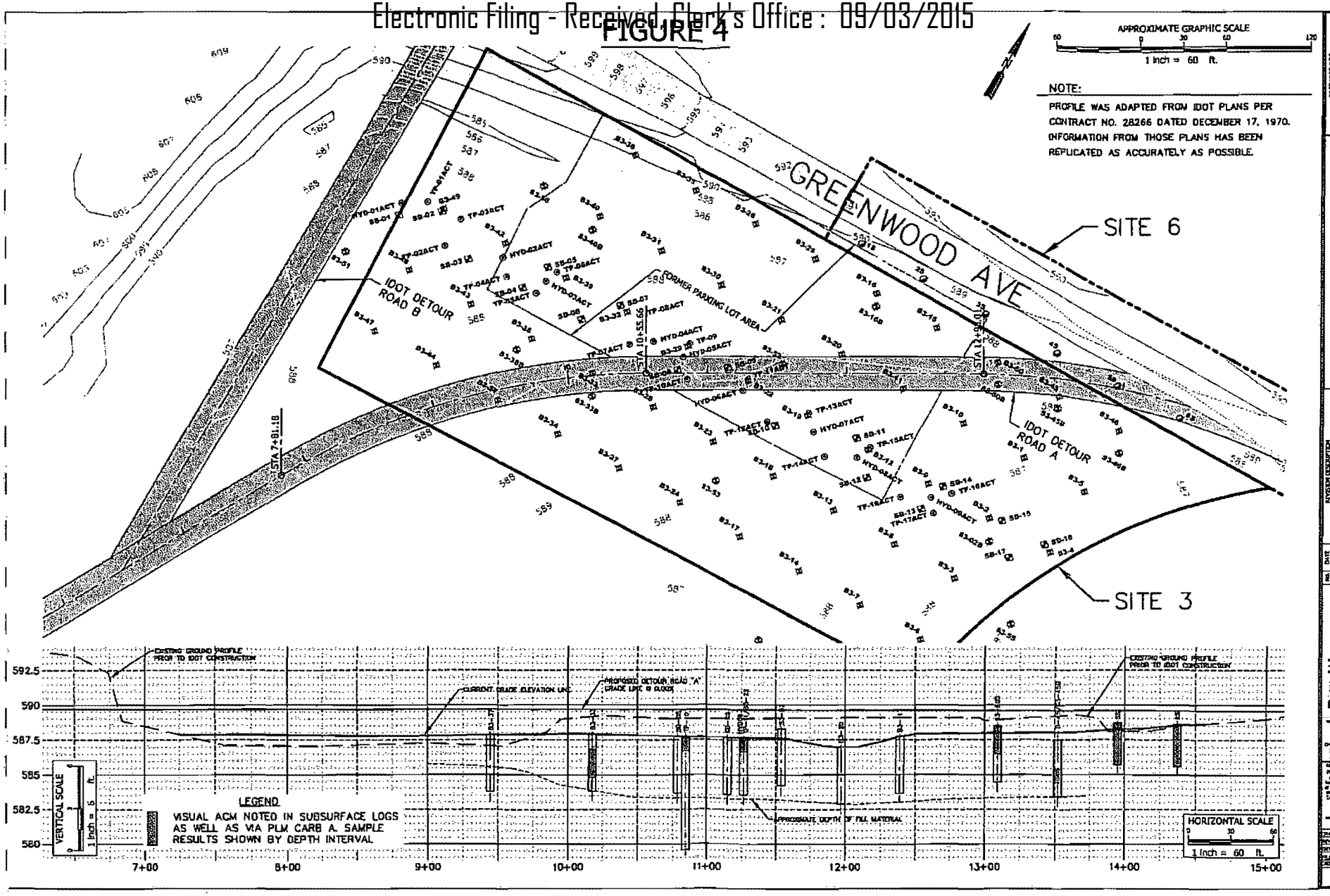
Visual Asbestos Containing Material Location Map

Site 3 - Former John Manville Manufacturing Facility

Weaver Consultants Group

FIGURE 3

FIGURE 4



PREPARED FOR: BRYAN CAVE

Plan and Profile - Detour Road "A"

Site 3 - Former Johns Manville Manufacturing Facility
WAUKEGAN, IL

NO. | DATE | REVISION DESCRIPTION

Weaver Consultants Group

FIGURE 4

FIGURE 5

NOTE:

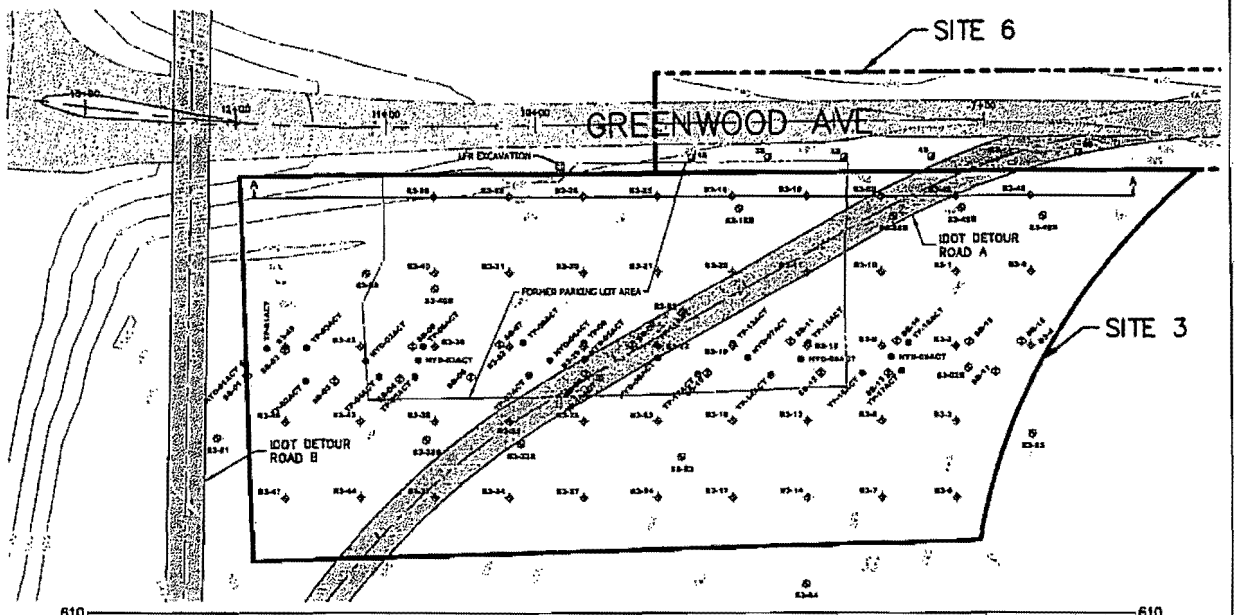
PROFILE WAS ADAPTED FROM IDOT PLANS PER CONTRACT NO. 28266 DATED DECEMBER 17, 1970. INFORMATION FROM THOSE PLANS HAS BEEN REPLICATED AS ACCURATELY AS POSSIBLE.

LEGEND

LFR EXCAVATION (MAY 2006)

APPROXIMATE GRAPHIC SCALE

1 inch = 80 ft.



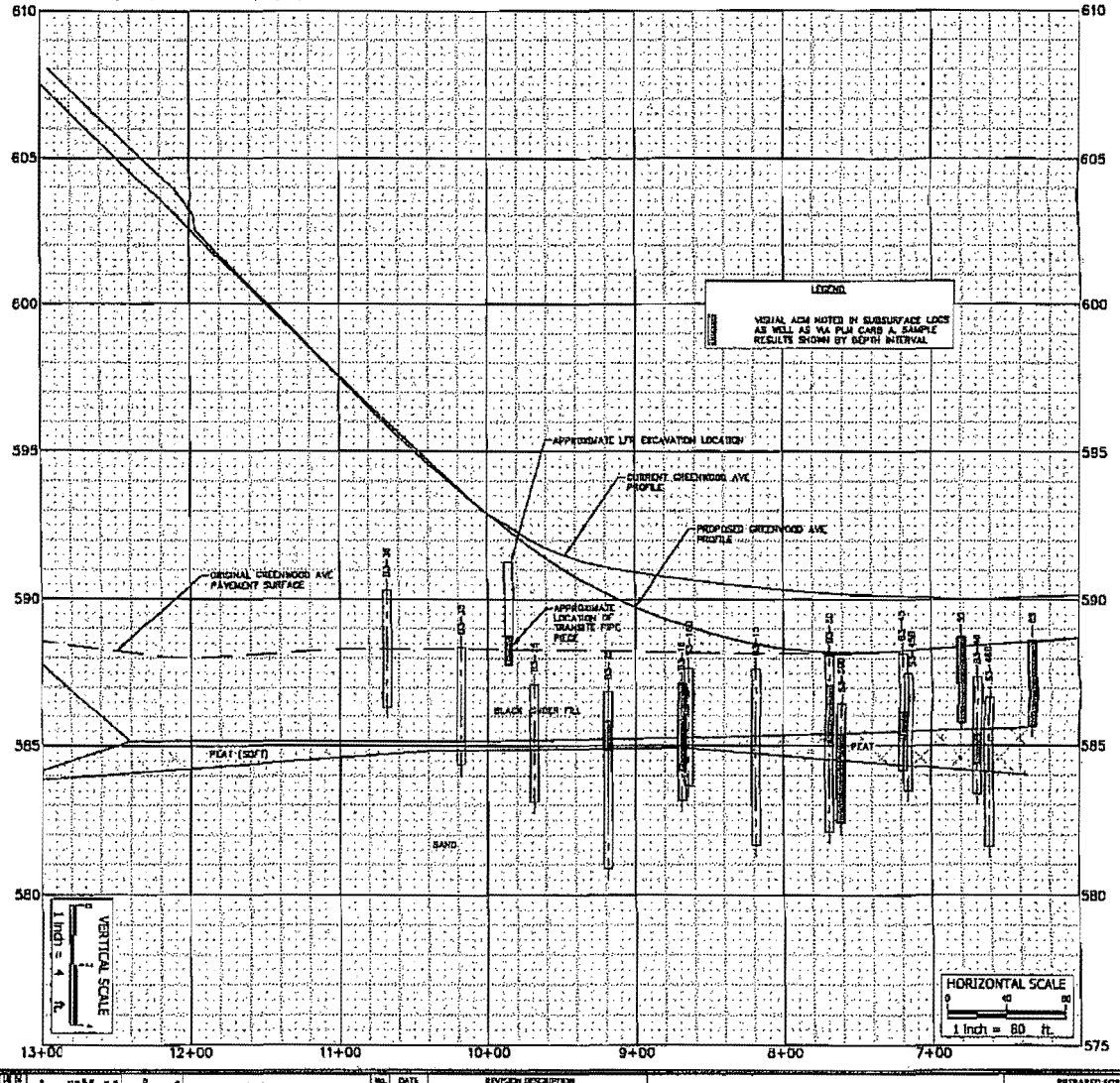


FIGURE 5	Weaver Consultants Group	Plan and Profile - Greenwood Avenue Site 3 - Former Johns Manville Manufacturing Facility WAUKEGAN, IL	PREPARED FOR: BRYAN PARK

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

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 Principal and Senior Project Manager with Weaver Consultants Group. He has over twenty years of environmental and solid waste control project experience. He currently leads the firms Environmental Practice professional staff. 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 permitting.

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 50 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 manages activities performed in compliance with a RCRA Hazardous Waste Management Permit for a major steel company located in Northwest Indiana. 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 manages 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 is responsible for overseeing design, permitting and compliance

DOUGLAS G. DORGAN, JR., LPG

Principal

activities for a Type II and III Solid Waste Disposal facility in Pines, Indiana. He is 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 is collaborating 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 is currently managing an Illinois SRP application for a former die casting facility with PCB impacts to facility structures, soils, and shallow groundwater. Extensive site investigation has been undertaken and TACO Tier 2 and 3 modeling performed. A Site Investigation and Remediation Objectives Report has been submitted to support remediation objectives negotiation. He is coordinating planning for remedial activities including the acquisition of a Pollution Legal Liability and Environmental Cost Cap insurance policy.

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 responsibili-ties 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 investiga-tion 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 include 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.

Mr. Dorgan managed a Phase I, II, and III Environmental Site Assessment of a 45-acre business park in Indianapolis. Project activities were performed on an accelerated basis to facilitate an aggressive land transfer negotiation. A detailed hydrogeologic assessment and a risk assessment was performed, quantifying required remedial measures.

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 recommen-dations 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.

He has secured a focused NFR letter pursuant to Illinois SRP requirements for a fleet maintenance facility in the Chicago area. Project activities were implemented on an expedited basis to accommodate a property transaction. Direct

DOUGLAS G. DORGAN, JR., LPG

Principal

negotiations and communications with the IEPA allowed the NFR letter to be issued within 10 weeks of submission of the Site Investigation and Remediation Objectives Report.

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

"Distributian of Cadmium, Copper, Lead and Silver in Surface Soils of the Chicago Metropalitan 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 Indian University Northwest, July, 2011

Professional Affiliations

National Brownfield Association
Air and Waste Management Association

Weaver Consultants Group

APPENDIX B

BIBLIOGRAPHY OF DOCUMENTS CITED

1. Removal Action Work Plan, Revision 2; Southwestern Site Area – Sites 3, 4/5, and 6, Johns Manville Site, Waukegan, Illinois dated March 31, 2014, prepared for United States Environmental Protection Agency (USEPA) Region 5 and prepared by AECOM Technical Services, Inc.
2. Engineering Evaluation/Cost Analysis (EE/CA) Southwestern Site Area Sites 3, 4/5, and 6: Revision 4 and Addendum dated April 4, 2011 and October 31, 2011, prepared for Johns Manville and Commonwealth Edison Company and prepared by ARCADIS U.S., Inc.
3. Surface and Subsurface Characterization Site 2 and Site 3 Former Johns Manville Manufacturing Facility: Waukegan, Illinois dated December 10, 1999, prepared for Johns Manville and prepared by ELM Consulting, LLC.
4. Johns Manville Southwestern Site Area, Waukegan, Lake County, Illinois: Administrative Order on Consent, V-W-07-C-870 dated February 1, 2012 (initial version dated June 11, 2007), prepared for Johns Manville and prepared by USEPA Region 5.
5. Fourth Five-Year Review Report for Johns-Manville Site dated April 30, 2013, prepared for USEPA Region 5 and prepared by USEPA Region 5.
6. Enforcement Action Memorandum dated November 30, 2012, prepared for Johns Manville and Commonwealth Edison Company and prepared by USEPA Region 5.
7. Standard Specifications for Road and Bridge Construction dated January 1, 2012, prepared for Illinois Department of Transportation and prepared by Illinois Department of Transportation.
8. Results of Power Line Excavation; Greenwood Avenue Ramp adjacent to Southwestern Site Area; Waukegan Illinois dated July 8, 2008, prepared for Commonwealth Edison Company and Exelon Corporation and prepared by LFR Inc.
9. Brad Bradley (USEPA) to Denny Clinton (Johns Manville) dated July 10, 1998, *Exhibit C.*
10. Second Five-Year Review Report for Johns-Manville Site dated May 2, 2003, prepared for USEPA Region 5 and prepared by USEPA Region 5.
11. Bruce D. Ray (Johns Manville) to Margaret Herring (USEPA Region 5) dated July 1, 1999, *Response to CERCLA Section 104(e) Request.*
12. Barnhardt, M.L, 2010, *Surficial Geology of Waukegan Quadrangle, Lake County, Illinois: Illinois State Geological Society*, USGS-STATEMAP contract report, 2 sheets, 1:24,000.
13. Respondents Response Document to Engineering Evaluation/Cost Analysis (EE/CA), Revision 4, as Modified and Approved by USEPA; Southwestern Site Area, Waukegan,

APPENDIX B

BIBLIOGRAPHY OF DOCUMENTS CITED

Illinois dated March 12, 2012, prepared for USEPA Region 5 and prepared by AECOM Technical Services, Inc.

14. Cali, S., Scheff, P., and Sokas, R., 2006, *Illinois Beach State Park (IBSP): Determination of Asbestos Contamination in Beach Nourishment Sand Final Report of Findings*, Great Lakes Centers for Occupational and Environmental Safety and Health.
15. AECOM Johns Manville Site 3 and Site 6 Draft Cost Estimate_11Mar15 dated March 12, 2015, prepared for Weaver Consultants Group and prepared by AECOM Technical Services, Inc.
16. Williams, E.G.; Von Aspern, K., *Asbestos Cement Pipe: What if it Needs to be Replaced?*, HDR Engineering, Inc.
17. Modifications to the Engineering Evaluation/Cost Analysis dated February 2012, prepared for Johns Manville and prepared by USEPA Region 5.
18. Complainant's Motion for Leave to File it's First Amended Complaint, In the Matter of: Johns Manville, a Delaware Corporation, Complainant, vs. Illinois Department of Transportation, Respondent, PCB No. 14-3 dated March 12, 2014

Sub-Project Cost Detail Report (with Markups)

Estimate Documentation for Site 3 (probable cost):

1. Dewatering and soil removal can be accomplished over Nicor gas line (2640 cy)
2. Decomissioning 8-inch North Shore Gas pipe and AT&T lines
3. Establish Clean utility corridor along City of Waukegan water main (330 LF)
4. Install 2-foot soil cover over entire site and site restoration (3.14 acres)
5. Dewatering and limit soil removal in northeastern corner (900 cy)

Nicor Gas Line excavation + city water main	3250	cy
Northeastern corner soil excavation area	900	cy
Clean corridor for North Shore Gas easement	794	cy
Additional utility excavation pits for NSG and AT&T	500	cy
Vegetative cover area	3.14	acre

Total Sub-Project Marked-up Cost: $3,329,171.00

Description	Quantity	UOM	Material	Labor	Equip	Sub Bid	Extended Cost	Estimating Notes
AECOM - regulatory, field sampling, air monitoring	1	LS	$0.00	$0.00	$0.00	$180,000.00	$180,000.00	
DMP - RSE	1	LS	$0.00	$0.00	$0.00	$60,000.00	$60,000.00	
Utility abandonment - north shore gas	1	LS	$0.00	$0.00	$0.00	$188,940.00	$188,940.00	25% of Oct 2013 Cost Esimate
Utility abandonment - AT&T	1	LS	$0.00	$0.00	$0.00	$111,655.60	$111,655.60	35% of Oct. 28, 2014 cost estimate
Utility installation - ATT (Phase II)	1400	LF	$0.00	$0.00	$0.00	$75.00	$105,000.00	Move utilities underground
Required soil excavation + water main removal	5444	CY	$0.00	$0.00	$0.00	$40.00	$217,777.78	Excavation, transportation and landfill disposal
Dewatering operations plus water disposal (NSWRD)	21,600,000	GAL	$0.00	$0.00	$0.00	$0.10	$2,160,000.00	30 days dewatering at 500 gpm, Incl labor & equipment
Install road crossing - horizontal bore for dewatering pipe	100	LF	$0.00	$0.00	$0.00	$200.00	$20,000.00	
Install new 10-inch HDPE water main	330	LF	$0.00	$0.00	$0.00	$60.00	$19,800.00	
Geotextile	15,198	SY	$0.00	$0.00	$0.00	$2.50	$37,994.00	
Borrow Pit Sand - backfill excavation	5,444	CY	$0.00	$0.00	$0.00	$14.00	$76,222.22	
Borrow Pit Sand - vegetative cover sand layer	2,533	CY	$0.00	$0.00	$0.00	$14.00	$35,461.07	
Clay final cover material - 15-inch thickness	6,332	CY	$0.00	$0.00	$0.00	$8.00	$50,656.67	
Imported Compost-Sand mix	1,266	CY	$0.00	$0.00	$0.00	$25.00	$31,661.67	
Chain-link fencing	1,700	LF	$0.00	$0.00	$0.00	$20.00	$34,000.00	

Sub-Project Cost Detail Report (with Markups)

Estimate Documentation for Site 6 (Probable Cost):

Ongoing remedial action for Site 6 portion of the Southwestern Sites

1. Excavation of ACM Impacts
2. Excavation and Replacement of Water Main Clean Utility Corridor on N Side of Greenwood Ave (4417 CY)
3. Decommissioning of North Shore Gas main on N Side of Greenwood Ave
3. Conventional trench box installation of 10-inch water line (3482 LF)
4. Site restoration (1.30 AC)

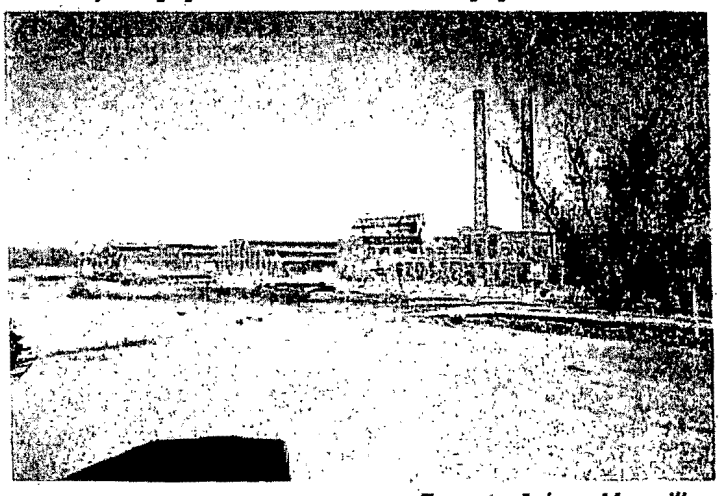
Excavation for ACM Impacts	7510 cy	
Trenching for City of Waukegan water main	4901 cy	plus 30% contingency
Excavation for additional ACM identifed in 2014 sampling	2000 cy	
Excavation for utility pits (North Shore Gas, AT&T)	500 cy	
Length of new 10-inch HDPE water main	3482 LF	
Area of excavation for site restoration	1.80 AC	

Site 6 Sub-Project Total Cost: $4,074,989.40

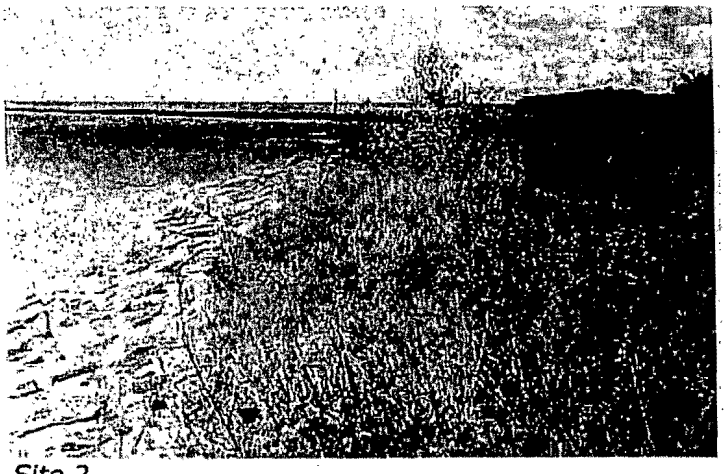
Description	Quantity	UOM	Material	Labor	Equip	Sub Bid	Extended Cost	Estimating Notes
AECOM - regulatory, soil sampling, air monitoring	1	LS	$0.00	$0.00	$0.00	$140,000.00	$140,000.00	
DMP - RSE	1	LS	$0.00	$0.00	$0.00	$60,000.00	$60,000.00	
Utility abandonment - north shore gas (cost estimate)	1	LS	$0.00	$0.00	$0.00	$377,875.00	$377,875.00	50% of Oct 2013 quote
Utility abandonment and relocation - (Oct 2014 work order)	1	LS	$0.00	$0.00	$0.00	$207,360.40	$207,360.40	65% of Oct. 28, 2014 quote
Utility installation - ATT Fiber optic underground run (Phase II)	1400	LF	$0.00	$0.00	$0.00	$75.00	$105,000.00	Move utilities underground
Required soil excavation + water main removal	14911	CY	$0.00	$0.00	$0.00	$40.00	$596,440.00	Excavation, transportation, landfill disposal
Dewatering operations plus water disposal	20,160,000	LS	$0.00	$0.00	$0.00	$0.10	$2,016,000.00	70 days dewatering at 500 gpm, incl labor & equipment
Install new 10-inch HDPE water main	3482	LF	$0.00	$0.00	$0.00	$60.00	$208,920.00	
Install new 16-inch casing water main across Greenwood	100	LF	$0.00	$0.00	$0.00	$200.00	$20,000.00	
Borrow Pit Sand - excavation backfill	14,911	CY	$0.00	$0.00	$0.00	$14.00	$208,754.00	
Vegetation	1	LS	$0.00	$0.00	$0.00	$15,000.00	$15,000.00	
Chain-link fencing	3,482	LF	$0.00	$0.00	$0.00	$20.00	$69,640.00	
Traffic control	1	LS	$0.00	$0.00	$0.00	$50,000.00	$50,000.00	

Surface and Subsurface Characterization
Site 2 and Site 3
Former Johns Manville Manufacturing Facility
Waukegan, Illinois
Volume 1, Appendix A – Appendix K

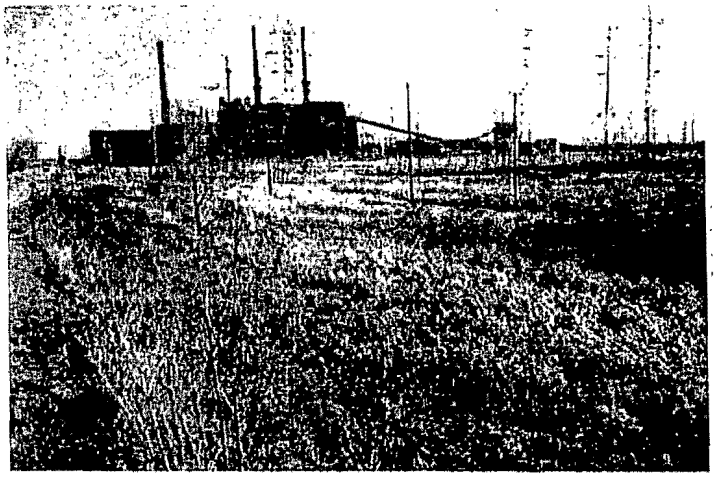
DRAFT



Former Johns Manville Manufacturing Facility



Site 2



Site 3

Prepared For:
Johns Manville

Prepared By:

E L M CONSULTING, L.L.C.

December 10, 1999

DRAFT

SURFACE AND SUBSURFACE CHARACTERIZATION FOR SITE 2 AND SITE 3

FORMER JOHNS MANVILLE MANUFACTURING FACILITY
1871 NORTH PERSHING ROAD
WAUKEGAN, ILLINOIS 60087

VOLUME 1, APPENDIX A – APPENDIX K

Prepared for:

Johns Manville Corporation
Littleton, Colorado

Prepared by:

ELM Consulting, L.L.C.
Barrington, Illinois

Written by: Jeff Stringer
Project Manager

Reviewed by: Jeffrey B. Seagrist, QEP
Senior Project Manager

Project No. 98000701

December 1999

DRAFT

SURFACE AND SUBSURFACE CHARACTERIZATION FOR SITE 2 AND SITE 3

FORMER JOHNS MANVILLE MANUFACTURING FACILITY
1871 NORTH PERSHING ROAD
WAUKEGAN, ILLINOIS 60087

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DRAFT

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1.0 EXECUTIVE SUMMARY

1.1 Statement of Purpose and Scope of Work

Recent findings indicate the presence of asbestos containing material (ACM) at two sites (Site 2 and Site 3) located immediately adjacent to and south of the former JM Manufacturing Facility in Lake County, Waukegan, Illinois. In addition, it was reported that municipal waste and expended and unexpended small arms ammunition may be present at Site 2, which was used as a firing range during and after the 1959 Pan Am Games hosted by the City of Chicago. Concerns associated with the historic and present land use at these Sites necessitated the collection and analysis of soil samples to determine the presence of ACM, expended/unexpended lead shot and lead shavings and municipal waste at Site 2 and ACM at Site 3.

Per the attached letter, dated July 10, 1998 from Brad Bradley of the United States Environmental Protection Agency (USEPA), the USEPA, the Illinois Environmental Protection Agency (IEPA) and the Illinois Department of Natural Resources (IDNR) requested that conditions at these two Sites be characterized so that remediation options can be evaluated (Appendix A). The primary objective of the surface and subsurface characterization was to define the horizontal and vertical extent of ACM, lead shot and lead shavings and municipal waste on the surface and in the top three feet of soil of Site 2, and to define the horizontal and vertical extent of ACM on the surface and in the top three feet of soil of Site 3. These objectives were accomplished through a site surface inspection and grid-defined subsurface sampling and analysis plan. The purpose of the lead sampling was to determine the extent of lead in soil due to the accumulation of spent, and, perhaps unexpended small arms ammunition used at the firing range. Since there was evidence of a former municipal landfill located on Site 2, there was the possibility of finding municipal waste materials during subsurface sampling activities.

Additionally, a qualitative threatened and endangered plant species survey and a wetland delineation were performed within the boundaries of Site 2 and Site 3 to determine the presence of state-listed plant species and wetlands. This information will be useful in deciding which long-term management strategy will be best suited for both Sites from a natural resource perspective.

1.2 Surface and Subsurface Characterization Summary

Defoliating of Site 2 and Site 3 occurred so that all areas could be visually inspected. Subsequently, a surface inspection of both Sites occurred so that the horizontal extent of ACM could be delineated.

A total of 158 separate locations, encompassing both Sites 2 and 3, were found to contain surface ACM fragments or fragment clusters. A total of 84 separate locations contained ACM at Site 2, and a total of 74 separate locations contained ACM at Site 3. Each location was flagged and given a discreet surface ACM location identification number. All ACM fragments and fragment clusters were documented as to size and what type of material was found. Once the surface inspection was complete, a USEPA accredited/Illinois Department of Public Health (IDPH) Licensed Asbestos Worker properly handled and removed the surface ACM from Sites 2 and 3. The ACM was doubled bagged and deposited into an ACM secured containment area located on the property of the former Johns Manville (JM) Manufacturing Facility to

be disposed of at this facility at a later date according to all applicable rules and regulations.

Surveying activities began on December 9, 1998 and were completed on December 10, 1998. Activities included the creation of a 100'X100' grid to determine subsurface sampling locations at Site 2 and a 50'X50' grid to determine subsurface sampling locations at Site 3. These sampling points were then located by survey with respect to elevation and to North-South and East-West section lines. Additionally, all locations at which surface ACM was identified were located by survey with respect to elevation and to North-South and East-West section lines during this time period. A total of 75 subsurface sampling points were established after the creation of the grid at Site 2, and a total of 49 subsurface sampling points were established after the creation of the grid at Site 3.

On December 9, 1998, penetrating activities commenced on Sites 2 and 3 and concluded on December 14, 1998. Of the 75 sampling points established at Site 2, a total of 64 locations were penetrated to a depth of 4 feet to retrieve a representative core for soil core inspection. Also, of the 49 sampling points established at Site 3, a total of 48 locations were penetrated to a depth of four feet to retrieve a representative core for soil core inspection.

The soil core inspection process began on December 9, 1998 and concluded on December 15, 1998. At Site 2, a total of 206 one-foot soil core intervals (encompasses every one-foot interval inspected) were inspected for ACM, lead shot and lead shavings and municipal waste. There was visible evidence of ACM at a total of 36 one-foot intervals or 17.4%.

A total of 162 one-foot intervals were submitted for bulk asbestos analysis using the Polarized Light Microscopy (PLM) Method at Site 2. A total of 126 one-foot intervals were submitted for PLM analysis where no ACM was observed in the field during the soil core inspection. Of those 126 submitted intervals, 14 (or 11.1%) were positively identified as having some form of asbestos at a given quantity within the one-foot interval of soil. Of those 14, 1 (or 7.1%) contained an asbestos content greater than 1%. Additionally, at Site 2, a total of 36 one-foot intervals were submitted for PLM analysis where ACM was observed in the field during the soil core inspection for those intervals. Of those 36 submitted intervals, 35 or (97.2%) were identified as having some form of asbestos at a given quantity within the one-foot interval of soil. Of those 35, 22 (or 62.8%) contained an asbestos content greater than 1%.

At Site 3, a total of 168 one-foot soil core intervals (encompasses every one-foot interval inspected) were inspected for ACM. The inspection of soil for lead and municipal waste was not part of the scope of work for Site 3 and therefore no attempt was made to document this material. There was visible evidence of ACM at a total of 11 one-foot intervals or 6.5%.

A total of 154 one-foot intervals were submitted for bulk asbestos analysis using the PLM Method at Site 3. A total of 143 one-foot intervals were submitted for PLM analysis where no ACM was observed in the field during the soil core inspection. Of those 143 submitted intervals, 12 (or 8.3%) were positively identified as having some form of asbestos at a given quantity within the one-foot interval of soil. Of those 12, 1 (or 8.3%) contained an asbestos content greater than 1%. Additionally, at Site 3, a total of 11 one-foot intervals were submitted for PLM analysis where ACM was observed in the field during the soil core inspection for those intervals. Of those

11 submitted intervals, 11 or (100.0%) were identified as having some form of asbestos at a given quantity within the one-foot interval of soil. Of those 11, 8 (or 72.7%) contained an asbestos content greater than 1%.

During the subsurface characterization at Site 2, 71 soil samples were submitted for total lead analysis (Method 6010). Only one sample (B2-2a) exceeded the Tier 1 Soil Remediation Objective for Industrial/Commercial or Residential Properties for lead of 400 mg/kg. The total lead concentration of the sample at B2-2a was 831 mg/kg. The second highest total lead concentration at Site 2 was found at B2-16a, and the result was 149 mg/kg. The two samples with the highest total lead concentration (B2-2a and B2-16a) were submitted for TCLP Leachate Analysis (Method 1311/6010). B2-2a had a TCLP lead concentration of 2.7 mg/L and B2-16a had a TCLP lead concentration of 0.078 mg/L.

During the subsurface characterization, no municipal waste was identified beyond materials that would be expected in parking lots areas and vacant parcels.

1.3 Threatened and Endangered Plant Species Survey Summary

On August 2 and August 5, 1999, a qualitative threatened and endangered plant species survey was performed on Site 2 and Site 3. Three state-listed species were present within the boundaries of the surface and subsurface characterization at Site 2: *Ammophila breviligulata* (Marram Grass), *Chamaesyce polygonifolia* (Seaside Spurge), and *Cakile edentula* (Sea Rocket). The first two are currently Illinois State Endangered, while the third is Illinois State Threatened.

No state-listed plant species was found within the boundaries of the surface and subsurface characterization at Site 3.

1.4 Wetland Delineation Summary

On September 1, 1999, a wetland delineation was performed within the boundaries of Site 2 and Site 3. Five areas were delineated as "Man Induced" wetland and two areas were delineated as "Scrub-Shrub" wetland at Site 2. Additionally, a "Waters of the U.S." area was identified on the east side of Site 2 consisting of Lake Michigan and contiguous beachfront. Two areas were delineated as "emergent drainageways" on Site 3. It was estimated that there were approximately 3.5 total acres of wetland and "Waters of the U.S." within the boundaries of Site 2 and Site 3.

1.5 Conclusions

Surface ACM was located throughout Site 2 with the exception of the beachfront area east of the dune and on the southeast end of the Site (Figure 2 – Appendix L). This is consistent with reports that berms used during the Pam Am Games that consisted of ACM were leveled after the completion of the games. Visible ACM was removed from the Site during the surface characterization. However, ELM personnel have located small pieces of ACM on the Site since the completion of the surface inspection. As previously mentioned however, this ACM is in a non-friable form and is of little threat to human health or the environment.

There is little ACM at 0-3' bgs when the size of Site 2 and the number of soil sampling locations are taken into account. There is little to no ACM in the fishing

pier area and along the beach. Most of the ACM observed was located in the areas where the former berms were created and then subsequently leveled.

Surface ACM was located throughout Site 3 with the exception of the south-central portion of the Site. Historically, the former JM Administration Building parking lot was located on the northeast end of the Site. According to JM, the parking lot was constructed with materials containing ACM. Over a period of years during the use of the lot and during and after its demolition, ACM was distributed throughout the surrounding area. Visible ACM was removed from the Site during the surface characterization. However, ELM personnel have located small pieces of ACM on the Site since the completion of the surface inspection. As previously mentioned however, this ACM is in a non-friable form and is of little threat to human health or the environment.

There is little ACM at 0-3' bgs when the size of Site 3 and the number of soil sampling locations are taken into account. ACM in the subsurface was mostly concentrated in the area of the former parking lot. This is to be expected since the materials used to build the former parking lot contained ACM.

Of the 71 samples submitted for total lead analysis, one sample yielded at total lead concentration above The Tier 1 Soil Remediation Objective for Industrial/Commercial and Residential Properties for lead of 400 mg/kg. This concentration was 831 mg/kg at B2-2a. Since all of other samples were below the referenced threshold of 400 mg/kg, the distribution and potential impact of expended/unexpended lead shot and lead shavings at Site 2 were sufficiently addressed.

The soil samples from B2-2a and B2-16a (the two soil samples yielding the highest total lead concentration) were also submitted for TCLP analysis. The concentrations from the TCLP analysis were 2.7 mg/L and 0.078 mg/L, respectively. The soil sample from B2-2a exceeded the Soil Component of the Groundwater Ingestion Exposure Route Value for Class II groundwater of 0.1 mg/L. The concentration of 2.7 mg/L did exceed the established threshold. However, no remedial action is necessary as a result of this concentration because the drinking water source for the City of Waukegan is Lake Michigan. The City of Waukegan has entered into a Memorandum of Understanding with the IEPA that shows Waukegan has adopted an ordinance that effectively prohibits the installation or use of groundwater as a potable supply of water. Also, a concentration of 2.7 mg/L does not meet the characteristic of a hazardous waste based on the TCLP procedure. The criterion for lead to exhibit hazardous waste characteristics is 5.0 mg/L and is utilized for the purposes of removal and disposal of contaminated soil.

Three state-listed species were discovered within the boundaries of Site 2 (Marram Grass, Seaside Spurge and Sea Rocket). All sensitive species were concentrated on the east and southeast side of Site 2. All of the species are located in areas that are fences off to the public with the exception of Plots 1 – 4 (Figure 26 – Appendix L).

Results from the wetland delineation yielded seven separate wetlands within Site 2 and Site 3 with an approximate total acreage of 3.5. These wetlands are of low quality and most were more than likely created by the industrial activity that has taken place within the Sites over the course of the past 60 years (the "man-induced" wetlands of Site 2 and the emergent drainageways of Site 3.) Depressions, trenches and drainage ditches were created at these Sites while construction of various structures such as roads and buildings took place. As a result, evasive species, such

a common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*) and cattail (*Typha angustifolia*) were established in these impacted areas. Despite the poor quality of the wetlands, a permit to alter the wetlands in any way (fill, excavate, etc.) would more than likely require a permit.

Transcript of the Testimony of
DOUGLAS G. DORGAN

Date: May 6, 2015

Case: JOHNS MANVILLE VS. IDOT

TOOMEY REPORTING
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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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

The deposition of DOUGLAS G. DORGAN, JR., LPG, called by the Respondent for examination, taken pursuant to the Illinois Pollution Control Board's procedural rules and the Illinois Rules of Civil Procedure pertaining to the taking of depositions for the purpose of discovery, taken before KATHLEEN M. DUFFEE, a Notary Public within and for the County of Cook, State of Illinois, and a Certified Shorthand Reporter of said state, at Suite 1800, 69 West Washington Street, Chicago, Illinois, on the 6th day of May, A.D. 2015 at 10:06 a.m.

PRESENT:

BRYAN CAVE LLP,
161 North Clark Street, Suite 4300
Chicago, Illinois 60601-3315
(312) 602-5124, by:
SUSAN E. BRICE, ESQUIRE,
susan.brice@bryancave.com

appeared on behalf of the Complainant;

OFFICE OF THE ATTORNEY GENERAL, STATE OF ILLINOIS, ATTORNEY GENERAL LISA MADIGAN,
ENVIRONMENTAL BUREAU,
69 West Washington Street, Suite 1800
Chicago, Illinois 60602
(312) 814-3153, by:
EVAN J. McGINLEY, ESQUIRE, and
ELLEN F. O'LAUGHLIN, ESQUIRE,
emcginley@atg.state.il.us

appeared on behalf of the Respondent.

PRESENT VIA TELEPHONE:

Mr. Matt Dougherty
Mr. Steven Gobelman

REPORTED BY: KATHLEEN M. DUFFEE, CSR
TOOMEY REPORTING (312) 853-0648

I N D E X

E X H I B I T S

Q. And when we talk about Johns Manville, we're talking about Bryan Cave on behalf of Johns Manville. Is that accurate?

A. That's correct.

Q. Thank you. The report that's in front you, sir, this report, as I understand it, contains all of the opinions that you have made and reached with respect to the engagement that you have undertaken on behalf of Bryan Cave; is that correct?

A. That's correct.

Q. Okay. And as I read, and we'll go into this in more detail, but there are essentially three or four, depending on how you want to count it, opinions that you've rendered: first, about the site usage; secondly, about how the construction project that was undertaken by IDOT in the 1970s purportedly resulted in the spreading and moving around of asbestos material at Sites 3 and 6; and that the third, I guess, would be that as a result of this work Johns Manville has to take on a more substantial set of remedial obligations, more expensive work to remediate the site than might otherwise have been the case.

Does that sound about right to you?

A. I believe that generally describes it all --

MS. BRICE: No.

BY THE WITNESS:

A. -- although that's not specifically how the opinions have been rendered --

MS. BRICE: Objection.

BY THE WITNESS:

A. -- in the document.

MS. BRICE: The best evidence rule is the report itself.

BY MR. McGINLEY:

Q. Other than -- let me ask you this then instead.

Other than the opinions that are set forth in this report, do you expect, should this matter go to hearing, to offer any additional opinions besides what you have already put into this report?

A. At this point I'm not expecting additional opinions. However, I would state that it's obvious that some of the ongoing work is a work in progress, which I've attempted to identify and recognize in the report.

There could be additional changes to the scope of the planned remedial effort, and I reserve the ability to modify my opinions if that additional information is provided which may warrant that.

ACM was distributed throughout the surrounding area.

Do you see that sentence there, sir?

A. I do.

Q. Okay. And if you go down into the next full paragraph, you'll see -- this is the paragraph starting: "There is little ACM at 0-3 feet bgs."

The next sentence says: ACM in the subsurface was mostly concentrated in the area of the former parking lot. This is to be expected since the materials used to build the former parking lot contained ACM.

Would it be fair to read this as suggesting that ACM may have been used in the construction of the parking lot beyond simply putting Transite pipe on top of the parking lot?

A. I could not come to that conclusion with the information that's presented in this paragraph.

Q. But it's at least -- wouldn't you have to agree, though, that it's at least suggestive of there being something besides simply Transite pipe being placed on the subsurface?

MS. BRICE: Objection.

BY MR. McGINLEY:

Q. On the surface. Excuse me.

MS. BRICE: Objection, calls for speculation.

MR. McGINLEY: Well, certainly as an expert Mr. Dorgan is capable of speculating. I mean, you have certainly experience; so...

BY THE WITNESS:

A. This doesn't suggest any type of specific ACM. The only specific reference to ACM material appears later in the record when there's discussions about the asbestos-containing material Transite pipe, and this could easily be referring to the Transite pipe. It would be, it would be unclear to me what else this could be referring to.

BY MR. McGINLEY:

Q. Okay. You are aware, however, that in addition to Transite pipe having been found at Site 3 that there's also records of other types of ACM material having been found there as well; correct?

A. I'm aware of that.

Q. And material such as roofing material, are you aware of roofing material having been found at Site 3?

A. Yes, I am.

Q. Okay. And what about asbestos-containing insulation; are you aware of that having been found at Site 3 as well?

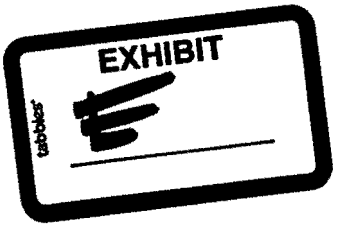
Expert Rebuttal Report of Steven L. Gobelman

Johns Manville

vs

Illinois Department of Transportation

May 29, 2015



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LIST OF APPENDICES

1. Purpose and Summary

I have been asked by counsel for the Respondent to review and comment on the Expert Report of Douglas G. Dorgan Jr (Mr. Dorgan's Report) concerning the former Johns Manville Facility Sites 3 and 6 dated March 16, 2015. (1) In addition to reviewing the report, a review was also conducted of some of the bibliography of documents citied in the Report, and other historical records available regarding sites 3 and 6. My comments to the Report can be found in Section 3 through 15. Attached to this report are two Appendixes, Appendix A is a copy of Bibliography of Documents Cited in this report and Appendix B is a copy of my resume.

2. Qualifications

My resume is presented Appendix B.

I obtained a B.S. in Geological Engineering from the University of Missouri-Rolla in 1993 and a M.S. in Geological Engineering from the University of Alaska-Fairbanks in 1985.

I have over 29 years of environment engineering experience. I began my professional career with the Illinois Environment Protection Agency (IEPA). I have over 7 years of experience with IEPA, my responsibilities included processing and managing underground injection control (UIC) permits, Site Remediation Program (SRP) as they related to public and private remediations including brownfield sites, project manager on Comprehensive Environmental Resource, Compensation, and Liability Act (CERCLA) related cleanups under IEPA's State Funded remediations, project management under Resource Recovery and Conservation Act (RCRA) including RCRA corrective actions, RCRA closures, leaking underground storage tank (LUST) program, and solid waste permits and closures.

The past 21 years I have been employed with the Illinois Department of Transportation (Department). My responsibilities with the Department include waste assessments and investigations, overseeing soil and/or groundwater remediation, assisting construction with waste minimization and management, and overseeing the Department's environmental compliance audit (ECA) process and the implementation of an environmental management information system (EMIS) for Department's maintenance yards and laboratory facilities.

As part of my role with the Department, I have to reviewed numerous construction plans to determine the extent of an investigation to be performed and to write a special provision on the proper management of impacted soil and groundwater during construction. This role requires direct interaction with project design and construction personnel. I have participated in writing over a thousand special provisions that were inserted into the construction plans include the pay items and quantities associated with the special provision. I have participated in pre-construction meetings and weekly

construction status meetings with Contractor. Worked at transportation construction projects regarding soil excavation and management and how this process interacts and affects the transportation project.

I was also the Departments technical expert reviewer on Highway Authority Agreement (HAA). I have reviewed over a thousand HAA which included determining the Department's acceptable extent of impacts on our right of way. As part of the HAA review process and for executed HAA, I reviewed completed construction projects that have an existing HAA or as part of a new HAA review and determined the Department's environmental cost associated with the HAA area. Some of these HAA review required reviewing old construction projects to figure out what was construction, how it was constructed, what the pay items and quantities were used on the construction project, and change orders associated with the project.

I attended continued education seminars with the Department regarding Staging and Traffic Control, Erosion Control, Phase I Process Overview, Location and Environmental Studies, Phase II Startup and Coordination, Earthwork and Quantities Calculations, Plan Format and Composition, Specification/Special Provision/Plan Notes, Assessments/Plan Processing/Letting, Land Acquisition and Surveying, Managing Consultant Projects, IDOT Highway Program Finance, and Geometric Design.

I am registered Professional Engineer and a Licensed Professional Geologist in Illinois. I am a member of the Transportation Research Board (TRB) – ADC60 Committee for Waste Management and Recourse Efficiency in Transportation.

3. Background Information Regarding Contract 28266 and the 1971 Standard Specifications for Road and Bridge Construction

Contract 28266 had a letting date of September 3, 1971. (2) Contracts are advertised in at least 9 times a year by the Department. Each group of projects are published in the Transportation Bulletin and typically a Contractor has five weeks to get a copy of the plans, prepare their bid, and submit the bid to the Department. The date the bids are open is call the letting date. These bids are competitive and the lowest acceptable bid is awarded the contract.

This project was necessary to create a structure that will carry Greenwood Avenue over Federal Aid (FA) Route 42 (Amstutz Expressway) and a separation structure which will carry Greenwood Avenue over the Chicago and North Western Railroad, this contract also included constructing detours, grading, drainage structures, a retaining wall, and surfacing of Greenwood Avenue and Sand Street. (3) The contract was awarded to Eric Bolander Construction Company on September 30, 1971 and the construction improvements were expected to start on or about October 12, 1971. (4)

The construction plan general notes states that the Standard Specifications for Road and Bridge Construction adopted January 2, 1971 (5) (Standard Specifications) shall govern construction. (3)

In accordance with Article 101.07 of the Standard Specifications, the contract was a "written agreement between the Department and" Eric Bolander Construction Company (Contractor) "setting forth the obligations of the parties". (5) "The contract includes the invitation for bids, proposal, letter of award, contract forms and contract bond, specifications, supplemental specifications, special provisions, general and detailed plans, also any agreements that are required to complete the construction of the work in an acceptable manner." (5) Article 105.05 states that the construction "plans will govern over specifications, supplemental specifications will govern over specifications, and special provisions will govern over both specifications and plans". (5)

A special provision included in the contract plans required the construction work to have a specific sequence of operations. "The Contractor shall conduct his operations in accordance with the following sequence of operations.

1. Construct Detour A, B, and C.
2. Divert Greenwood Avenue traffic to Detour C and Sand Street traffic to Detour A and B.
3. Construct the bridges carrying Greenwood Avenue of FA 42 and the Chicago and North Western Railroad.
4. Complete the grading and paving of Greenwood Avenue from Sand Street to the west end of the project.
5. Complete the grading and paving of Sand Street for its entire length.
6. Divert traffic from Detours B and C to Greenwood Avenue and Sand Street and remove Detours B and C.
7. Complete the grading and paving of Greenwood Avenue from the beginning of the project to Sand Street.
8. Divert traffic from Detour A to Sand Street and remove detour." (2)

This construction contract included a number of pay items and quantities but the following were specific to this issue.

•	202008	Removal and Disposal of Unsuitable Material	44,809 cubic yards
•	205001	Special Excavation	19,228 cubic yards
•	209002	Porous Granular Embankment	20,431 cubic yards
•	603005	Storm Sewer Class 1 12 inch diameter	169 linear feet
•	603030	Storm Sewer Class 2 12 inch diameter	466 linear feet (2)

There was a special provision for Porous Granular Embankment and Removal and Disposal of Unsuitable Material in the bid documents. (2) The other pay items were defined in the Standard Specifications. (5)

Removal and Disposal of Unsuitable Material means the "removal of unsuitable material to the lines and grades shown on the plans or as directed by the Engineer, and the satisfactory disposal of same in accordance with the applicable portions of Article 202.03 of the Standard Specifications". (2) "The Contractor shall replace the excavated portion with porous granular material. The porous granular material shall be placed in an

elevation approximately two feet above the water table." (2) Unsuitable material would include organically rich soils, landscape material, wet soils that are unstable, and any soil that cannot be used in an embankment. Embankment material must be able to be "compacted to not less than 95 percent of the standard laboratory density". (5)

"Special Excavation shall consist of the removal of all existing structures defined herein; earth excavation, rock excavation, and borrow excavation; the placing of all suitable excavated materials in the subgrade, or embankments, or as replacement; and the satisfactory disposal of all surplus materials, or materials unsuitable for use in the subgrade, or embankments, or as replacement." (5) "Special excavation shall include all materials encountered, and no other classification of excavated materials will be made." (5) This pay item was used for all types of excavation completed in the construction contract.

Porous Granular Embankment "shall consist of furnishing, transporting, and placing porous granular material where required by the plans or as directed by the Engineer in accordance with Article 209 of the Standard Specifications" or "the Contractor may elect to furnish broken stone". (2) Porous granular embankment was used as part of the embankment, structural fill, and as a sub-base material beneath the temporary road. When a road is constructed the existing ground surface is call the subgrade, which can be graded and compacted. On top of the subgrade is the sub-base, the sub-base is a furnished material that is compacted to provide a stable base and drainage for the road. In the case of this contract, porous granular embankment was used as a sub-base material. The road itself is called the base, in regards to the detour roads the base included a 9 inch stabilized bituminous layer.

For the pay items Storm Sewer Class 1 and 2, the Contractor can choose from Reinforced Concrete Culvert Storm Drain and Sewer Pipe (RRCP), Asbestos Cement Non-Pressure Sewer Pipe (ACSP), Standard Strength Clay Sewer Pipe (SSCSP), and Standard Strength Non-reinforced Concrete Sewer Pipe (SSNCSP). (5)

Other terms used in the contract plans are cut and fill. Cut means the volume of material that must be excavated to reach the designed subgrade or the necessary grade line. The cut material was assumed to be a stable and suitable material and can be used in other areas needing fill. Fill means the volume of material needed to elevate the subgrade or elevate an area to the necessary grade line, which would include any embankments. Fill areas can used excess material from the cut areas or borrow material would have to be brought in.

Borrow material was an excavation that "consist of excavating, transporting, and placing of materials obtained from locations furnished by the Contractor or from borrow pits furnished by the State and shown on the plans, necessary for the construction of embankment, subgrade, shoulders, sub-base, intersections, approaches, entrances, and other parts of the work". (5)

The construction records for this contract do not provide the disposal locations of the unstable and unsuitable material. All excavated material including the removal of the detour roads were paid as special excavation.

Excavated unstable and unsuitable materials were excavated from Site 3 would not have been placed back on Site 3; there was no room within the right of way for this material to be placed. In regards to the detour roads, sheet 24 of the construction plans shows the extent of the easement through Site 3. Within the easement area was the construction limit and within the construction limit was the detour road and ditches had to be constructed. (3) All work was to be conducted within the construction limits. (5) There was no information available nor did the construction plans show any required removal of unstable and unsuitable materials, therefore the volume of unstable and unsuitable material removed during the construction of detour road A was not known. If any unstable and unsuitable materials were removed it would not have been used within detour road's construction limit because at the end of the construction project the Contractor was to "restore Commonwealth Edison Company's property substantially to the same condition it now exists upon Contractor's completion of work". (2) The Contractor would not add material that he would have to remove at a later date.

The construction plans show that detour road A would have an estimated 5,148 cubic yards of cut and 1,102 cubic yards of fill. (3) Therefore, an estimated 1,102 cubic yards of the cut material could have been used as fill for detour road A and the remaining 4,046 cubic yards of soils would have to be removed and most likely used in the construction of detour B and C. The construction sequencing required detour roads A, B, and C to be constructed first. The total estimated cut for all the detour roads was estimated at 16,495 cubic yards and the estimated volume of fill needed was 17,059 cubic yards. (3) Therefore, in the construction of detour roads A, B, and C, all cut material could have been used in the construction of the detour roads. An additional 564 cubic yards of borrow material would have been required to complete the construction of the detour roads.

The removal of Detour A at the end of the project would not have been placed on Site 3 because the Contractor was required to "restore Commonwealth Edison Company's property substantially to the same condition it now exists upon Contractor's completion of work". (2)

4. Site 3 Parking Lot Removal

In Mr. Dorgan's Report he stated that the "parking lot was destroyed under the contract to the IDOT to accommodate construction of the Amstutz Project". (1) Based upon the record, Johns Manvile's parking lot was never removed in order to construct Detour A road. Authorization of Contract Changes not Involving Section Length, Authorization #14, dated November 14, 1973, indicated a deduction of 2,644 square yards of Stabilized Base Course 9 inches. (6) The justification for this change was that "The deduction of the 9 inch stabilized base course is for areas where the job conditions required the use of a variable thickness base. Some of this occurred at the intersection

of the detours with Sand Street and Greenwood Avenue. The majority of the deduction was where Detour B crossed the Johns Manville parking lot. The existing bituminous material on the parking lot was sufficiently thick to serve as a base requiring only a 2 inch lift to strengthen and true up the surface for detour purpose." (6) Authorization #14 referred to Detour B crossing the Johns Manville parking lot, the document appears to contain a typo because Detour A crosses Johns Manville parking lot and not Detour B.

Authorization of Contract Changes not Involving Section Length, Authorization #18 (Final), dated May 5, 1975, added additional special excavation volume for the removal and obliteration of the Detour Roadways. "The reduction in Removal and Disposal of Unsuitable Material (noted in the change order as R.U.M.) and Porous Granular Embankment were based on a field judgement, that much of the sub-surface material was in fact suitable and did not warrant removal and replacement. The reduction in borrow excavation was made to agree with the source of measurement i.e. from the "Borrow Pit" to the "Embankment in Place" as outlined in the Special Provisions." (7)

Any materials on the surface of the parking lot include the Transite® pipes used as curb bumpers would have been cleared in accordance with Article 201.01 of the Standard Specification because this material would have been in the way and removed from the construction project as with any other obstructions. Article 201.01(a) Clearing, "clearing shall consist of the removal and disposal of all obstructions such as fences, walls, foundations, buildings, accumulations of rubbish of whatever nature, and existing structures the removal of which are not otherwise provided for in Article 207.04, all logs, shrubs, brush, grass, weeds, other vegetation, and stumps of less diameter than 6 inches". (5) Any material on top of the parking lot would have been removed or moved out of the way in order to place the 2 inch bituminous lift. The Transite® pipes would not have been crushed and scattered throughout the site because the Contractor would not have taken any action that would potentially damage the stability of the parking lot. The Contractor already planned on keeping the parking lot in place and only adding a 2 inch bituminous lift.

5. Site 3 Parking Lot Easement With Commonwealth Edison Company and Greenwood Avenue east of Railroad was obtained in the Name of the State However the City of Waukegan and Lake County are paying for all Improvements

According to the agreement with the City of Waukegan regarding this project dated April 11, 1966; "the City of Waukegan will negotiate, pay for and acquire in the name of the CITY all right of way east of the Chicago and North Western Railroad necessary to reconstruct the at-grade intersection of Greenwood Avenue and Sand Street. The CITY will maintain the improvement along Greenwood Avenue in its entirely". (8)

According to the agreement with the Lake County regarding this project dated October 26, 1965; "the COUNTY will acquire all agreements with the Chicago and North Western Railroad necessary to construct Greenwood Avenue over the railroad". (9)

The resolution documents further state that "the CITY will reimburse the STATE 40-percent of the cost of all construction along Greenwood Avenue east of Station 13+20, including the railroad grade separation structure, intersection work at Sand Street and any reimbursable utility work necessary". (8) "The COUNTY will reimburse the STATE 60-percent of all cost of all construction along Greenwood Avenue east of Station 13+20, including the railroad grade separation structure, intersection work at Sand Street and any reimbursable utility work necessary." (9)

Based upon the record, the City of Waukegan and Lake County paid 100-percent of the improvements to Greenwood Avenue and Sand Street east of the Chicago and North Western Railroad tracks, including the construction of Detour A and B. The Department in the design of Amstutz Expressway could have designed the expressway road to go over Greenwood Avenue thus not affecting any aspect of Greenwood Avenue or Sand Street. However it would appear that the City of Waukegan and Lake County wanted these improvements to Greenwood Avenue and Sand Street in order to improve traffic congestion and safety across the Chicago and North Western Railroad tracks.

6. Utility Adjustments Made Prior to and After the Department's Construction Project

A number of utilities were in conflict and had to be adjusted prior to the start of this project. (4) Utilities buried under the Johns Manville parking lot in Site 3, including City of Waukegan Storm Water, City of Waukegan Water, Nicor Gas, AT&T Phone Cable, Commonwealth Edison Company Fiber Optic Cable, and Commonwealth Edison Company 12KV Power Lines. (10) It is my opinion that over the years the installation and maintenance of these lines would have disturbed the existing conditions and potential asbestos material could have been buried when these underground utility lines were installed or during maintenance. The 1999 ELM report stated that "according to Johns Manville, the parking lot was constructed with materials containing asbestos containing materials (ACM)". (11) Therefore, any utility excavation for installation or maintenance would have encountered ACM and that material would have been redeposit throughout the utility excavation.

7. How was Johns Manville Parking Lot on Site 3 Construction?

It was never specified what types of ACM was used to create the parking lot. Based on the materials found in the test pits and the fact that Johns Manville used Transite® pipes to create curb bumpers and they used ACM to build the parking lot, economics would suggest that Johns Manville would have used all types of ACM material including Transite® pipes to build the employee parking lot.

No information was provided nor was discussed in Mr. Dorgan's Report regarding John Manville parking lot on Site 3 prior to 1950. It has been reported that sometime in the 1950s the parking lot was created to provide parking spaces to the Johns Manville

employees and visitors. (1) Based on the 1954 aerial photo the parking lot does not exist. (12)

In a review of historical topographic maps from 1908, 1914, 1929, 1939, 1960, 1972, 1980, 1993, and 2012, the area shown as a marshy wet area from 1908 till 1960 where the area was no longer depicted as a wet area. (13) A review of the 1939 aerial photography of Site 3 shows the area as vegetative with swales. (14) A swale is a low area, a wet depression between ridges.

In order for Johns Manville to create a level and dry parking area for their employees, Johns Manville would have added fill material to bring up the parking area to a similar elevation as Greenwood Avenue and to keep the parking lot dry during the wet times of the year. According to the 1999 ELM Report, "the parking lot was constructed with materials containing asbestos containing materials (ACM)". (11) The LFR test pit borings logs show that some of this area was filled with cinders and slag. (15) Cinders and slag waste can be produced during the burning of coal from an electrical power plant and the closest source of cinders and slag would be the Midwest Generation facility.

8. The Department Did Not Use, Spread, Place, and Dispose of ACM

The Department did not use, spread, bury, place and dispose of ACM regarding site 3 and 6, the Department's only involvement was construction oversight and it was the Contractor's responsibility to determine how materials will be managed. There was no record showing that the Department dictated the use, spread, placement, and disposal of ACM on Site 3 and Site 6 as part of the construction of detour road A. In accordance with 202.03 of the Standard Specifications, "if unsuitable material is present at or below the finished grade, it shall be removed and replaced with suitable material". (5) The construction plans do not provide any volume of unsuitable material required to be removed from Site 3, only that the earthwork requiring a cut of 5,148 cubic yards and a fill of 1,102 cubic yards. (3) Some of the cut materials could have been used as fill material if the Department's Resident Engineer determined that the material was suitable. Excess material would not have been placed in Site 3 because the Contractor knows that at the end they must "restore Commonwealth Edison Company's property substantially to the same condition it now exists upon Contractor's completing of work". (2)

Article 202.03 of the Standard Specifications further states that if not otherwise directed, "unstable and unsuitable material shall be disposed of by the Contractor at their own expense, outside the limits of the right of way". (5) It was the Contractor's responsibility to manage this unstable and unsuitable material, the Department only concern was that it was removed and no longer affecting any aspect of the project.

Article 201.01(a) Clearing, "clearing shall consist of the removal and disposal of all obstructions such as fences, walls, foundations, buildings, accumulations of rubbish of

whatever nature, and existing structures the removal of which are not otherwise provided for in Article 207.04, all logs, shrubs, brush, grass, weeds, other vegetation, and stumps of less diameter than 6 inches". (5) It was the Contractor's responsibility to clean materials that are in the way, including material on top of the parking lot and remove them at their own expense. The Department would not have dictated where cleared materials could go only that they are no longer affecting any aspect of the project.

The property was owned by Commonwealth Edison Company and the Department obtained an easement to allow the Contractor to build temporary detour roads. All road improvements east of the Chicago and North Western Railroad are being funded 100-percent by Lake County and City of Waukegan. (8) (9) This work was not the Department's work but work being conducted on behalf of Lake County and City of Waukegan.

9. Information that the Prime Contractor Spread, Buried, Placed, and Disposed of ACM and the Department's Resident Engineer Disclosed that Pipes were Moved and Buried

The Contractor may have managed asbestos cement pipes (Transite®) at some time along the construction project. As stated in Mr. Dorgan's Report and in the Department's 104(e) response dated November 27, 2000, "retired Resident Engineer, Duane Mapes, recalled dealing with asbestos pipe during the project and burying some of it". (16) Mr. Mapes recalled dealing with asbestos pipe during the project, the project meaning the entire construction project not just Johns Manville parking lot on Site 3 or Site 6. As presented in #3 above, storm sewers can include asbestos cement pipes and no information was available regarding the use of asbestos cement pipes in Site 3 or Site 6. In addition, no information was available regarding the used as perforated asbestos cement underdrains beneath Greenwood Avenue or Sand Street. As part of the construction project these asbestos cement pipes could have been encountered and abandoned as part of other drainage improvements along Greenwood Avenue.

If the Contractor moved Transite® pipes from the Johns Manville parking lot it would have been removed as unstable and unsuitable material or as part of clearing the site. Based on the sequencing of the project that will be discussed later, the Contractor would have either removed the material off-site or out of the way.

10. Disposal of Transite® Pipes during the Johns Manville's Use of the Parking Lot

Johns Manville would not have any economic motivation to remove broken and un-useable Transite® pipes that were used as a curb bumper but would have moved them off the edge of the parking lot. It is unclear how many, if any, Transite® pipes were located on the parking lot at the time construction started. The June 11, 1970 aerial photo shows a vacant parking lot and the condition of the parking lot appears different as compared to the October 20, 1967 aerial photo. (12) It appears that between 1967 and

1970, Transite® pipes were moved to either improve the parking lot or close it. Mr. Dorgan stated that the parking lot created in the 1950s and was taken out of service in 1970. (1) The easement was obtained from Commonwealth Wealth Edison on August 3, 1971. (17) No information was available on the amount of Transite® pipes used to create parking curb bumpers or what happened to the Transite® pipes over the years when the Transite® pipes could no longer function as they were intended and were replaced. No information was available on whether the un-useable Transite® pipes curb bumpers were removed from the parking lot or just move off the lot onto the ground surface.

At the time the detour road was constructed, the parking lot was determined to be suitable for supporting the detour road and left in-place. (6) Any Transite® pipes that were on the parking lot at the time of construction would have been removed or moved out of the way to allow for the placement of a 2 inch lift to strengthen and true up the surface. (6)

The Contractor was getting paid under pay item 202008 to Removal and Disposal of Unsuitable Material and under pay item 209002 to replace the removed material with Porous Granular Embankment. (2) The contractor was not getting paid to crush and use the Transite® pipes as part of their fill. Also, the crushing of the Transite® pipes could damage the existing parking lot that the Contractor had already determine could be left in place. The Contractor would not have taken the time to scatter the pipes throughout Site 3, but if we were to assume that the Contractor left the Transite® pipes on-site, the Contractor would have put all the Transite® pipes in one place. However, the analytical results and test pits do not show that there were any areas within the construction limit that contained a concentration of Transite® pipes. Only that Transite® pipes were scattered throughout Site 3, which could have been a result of 25 years of using the pipes as car bumpers, the ACM material used to create the parking lot, number of years this area sat adjacent to the Johns Manville site, and the number of utility lines that go through this area.

11. Borrow Material Approval

In Mr. Dorgan's Report, it was stated in Article 204.02 that "Borrow Excavation shall not be placed in the embankment until the site location, excavation plan and material have been approved by the Engineer in writing". (1) The Engineer's approval was to make sure the borrow material was suitable for embankment, meaning that it can meet the necessary compaction requirements. The borrow pit was excavated "in order to insure an aesthetically acceptable borrow site, the steepest slopes used in excavating borrow shall be 4:1". (5)

The contract plans give the Contractor an option to use fly ash as the borrow material. Fly ash can be produced during the burning of coal in an electrical power plant and the closest source of fly ash would be the Midwest Generation facility. Based on a Supervising Engineer's Report dated October 23, 1972, fly ash was being used as the

borrow material in the embankments. (18) No other information was available regarding any other sources of borrow used in this construction project.

12. Sequencing and Temporary Road Removal

Mr. Dorgan's opinion did not take into account the construction projects sequencing of work. (2) Mr. Dorgan used the LFR conclusions as evidence that "IDOT demolished the former JM parking lot to build Bypass Road A, it crushed and buried portions of the Transite® pipe that had been located on the parking lot. IDOT also spread the Transite® pipe around portions of Site 3 and Site 6 close to the former parking lot area as part of the work". (1) In the 2008 LFR investigation for Commonwealth Edison Company, LFR concluded that the "Transite® pipe found within the soil was placed there as part of the Greenwood Avenue ramp construction". (15) What LFR's conclusion failed to take into account was the construction sequencing.

Prior to building the embankment on Greenwood Avenue, all detour road had to be completed. Once the detour roads were completed, then Greenwood Avenue could be closed and construction began by removing the roadway and building the embankment. No material from Site 3 could have been used in the embankment for Greenwood Avenue or Sand Street because the roads are still open at the time the detours are completed and there was no embankments being built at this time. All construction had to be completed on Greenwood Avenue and Sand Street before the detour road could be closed. Once Greenwood Avenue and Sand Street were open and the detours closed, then the detours were removed. No material from the closure of the detour road could have been used as part of the embankment because the embankments were all completed.

The contractor had no financial incentive to crush and use the Transite® pipes as part of their fill. As stated earlier, sheet 24 of the construction plans provides the extent of the easement through Site 3. Within the easement area was the construction limit and within the construction limit, the detour road had to be constructed. (3) All work was to be conducted within the construction limits. (5) There was no information available regarding the volume of unstable and unsuitable material removed during the construction of detour road A. The unstable and unsuitable material would not be used within detour roads construction limit because at the end of the construction project the Contractor was to "restore Commonwealth Edison Company's property substantially to the same condition it now exists upon Contractor's completion of work". (2) The Contractor would not add material that he would have to remove at a later date.

As stated in the construction change order, the Contractor did not demolish the parking lot but used the parking lot as the sub-base for the temporary road. The Contractor added a 2 inch lift to strengthen and true up the surface for the detour purpose. (6) Any Transite® pipes that may have been on the parking lot at the time of the detour road construction would have been removed when the site was cleared or moved out of the way.

Johns Manville in creating a level and dry parking area for the Johns Manville employees would have had to add fill material to this area in order to create a parking area base. According to the 1999 ELM Report, "the parking lot was constructed with materials containing asbestos containing materials (ACM)". (11) The LFR test pit borings logs show that some of this area was filled with cinders and slag. (15) Cinders and slag material was most likely came from the waste products from a coal fired power plant, Midwest Generation facility.

Materials found near the parking lot area may have been placed there from historical use of the parking lot, number of years this area sat adjacent to the Johns Manville site, and potentially the creation of the parking lot.

13. USEPA's Concerns

The United States Environmental Protection Agency (USEPA) remedial strategy are based on protecting all future asbestos exposures. USEPA's remedial concerns are to remove potential exposure to any receptor, for Site 3 those receptors included utility workers, construction workers, and anyone walking or biking across the field. (19) Mr. Dorgan's Report states that if not for "IDOTs construction project that capping the parking lot area and monitoring the remainder of the site would be all that USEPA would require". (1) Mr. Dorgan's opinion is not consistent with the opinion of USEPA and does not take into account the information from the 1999 ELM report.

In the 1999 ELM report that was prepared for Johns Manville, it stated that "according to JM, the parking lot was constructed with material containing ACM. Over a period of years during the use of the lot and during and after its demolition, ACM was distributed throughout the surrounding area". (11) It further stated that, "ACM in the subsurface was mostly concentrated in the area of the former parking lot. This was to be expected since the materials used to build the former parking lot contained ACM." (11)

Underground utility lines extend across Site 3 and through the Johns Manville parking lot. Knowing that the Department's Contractor did not remove the parking lot to build the detour road but could have removed some of the parking lot with the removal of the detour road at the completing of the construction project, the asbestos containing materials beneath parking lot were placed there during the construction of the original parking lot by Johns Manville and the spread of asbestos containing materials during the 25 or more years the parking lot was in service. Based on the existing condition before the Department's 1971 construction project, and if you remove the Department's construction project from the USEPA remedy evaluation, the selected removal action by USEPA would not have changed. The remedy required by USEPA would have been to eliminate all potential releases of ACM or asbestos fibers, direct contact with ACM or asbestos fibers, and exposure to site workers and general public.

Without creating a clean corridor of the utility workers, workers have to be trained regarding the potential exposure to asbestos and wearing of personal protection equipment (PPE). The use of PPE would require annual respirator fit test and medical

monitoring as required by Occupational Safety and Health Administration (OSHA). Also, emergency repairs may cause asbestos exposures in areas not previously requiring a worker caution or the use of PPE.

The public was allowed to comment on USEPA's proposed response action and the utility companies that are in this area had concerns regarding future worker exposures to asbestos when conducting emergency and routine maintenance repairs. (19) USEPA agreed that to improve long term risk, USEPA added a barrier be placed to inhibit the excavation beyond the clean backfill and an option to relocate the utility to a fully enclosed utility vault. (19)

14. USEPA Remedy of South Side of Greenwood Avenue

Based on the sequencing of the Department's construction project, the Contractor would not have placed any asbestos containing materials into Site 6 from Site 3. There was no information regarding how this asbestos material was placed in Site 6. Asbestos was found on the south side of Greenwood Avenue and also on the north side of Greenwood Avenue. Utilities are located along the south and north side of Greenwood Avenue. The asbestos material could have been placed in this location by the long term exposure to the Johns Manville facility, utility relocations and installations over the history of the site, or as part of the creation and use of Site 3's parking lot.

Based on the existing condition before the Department's 1971 construction project, and if you remove the Department's construction project from the USEPA remedy evaluation, the selected removal action by USEPA would not have changed. Similar to Site 3, Site 6's potential receptors included utility workers, construction workers, and the general public the use the roadway. USEPA's remedy was to remove all asbestos that could impact a potential receptor. (19)

15. Frost Heaving through Freeze Thaw Cycles was not the Issue with USEPA's Decision

The potential freeze thaw cycles did not play a part in USEPA's decision making process because the freeze thaw cycles would only come into play if no remedial action was conducted. Mr. Dorgan's stated in his report that USEPA's concern with frost heaving actions caused by freeze thaw cycles would move asbestos materials to the surface of Site 3 and Site 6 was the justification USEPA used to require a "more substantial cover design". (1) USEPA's only concern was to remove all asbestos that could impact a potential receptor. USEPA did use the frost susceptible soils as part of their risk evaluation regarding broken pipes and asbestos fibers in the soil that could move upward. (19)

If Site 3 did not contain any underground utilities, then the only requirement by USEPA would have been a vegetated soil cover. There are three conditions that must exist in order to create frost heave: freezing temperatures, water, and frost susceptible soils. If any one of these conditions was eliminated by the cap design, then the soil will not be

subject to frost heave and ACM would not move to the surface. The vegetated soil cover design has no control on freezing temperature. Removal of all frost susceptible soils would require a removal of all soils down to 48 inches, which was not feasible. The vegetative soil cover can control was the infiltration of water to the frost susceptible soils. Installing a 24 inch vegetative soil cover that includes a 15 inches of native clayey soil layer would move the frost line up 24 inches, so instead of the maximum frost line at 48 inches below the existing grade, it would only impact the top 24 inches of the existing grade. This will reduce the effects of freeze thaw actions and the movement of ACM upward.

Appendix A

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3. *State of Illinois Department of Public Works and Buildings, Division of Highways, Plans for Proposed Federal Aid Highway, F.A. Route 42 – Section 8-HB & 8-VB, Lake County, Contract #28266.* 1971.

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5. *Standard Specifications for Road and Bridge Construction.* adopted January 2, 1971.

6. **Riddle, Paul F.** *Authorization of Contract Changes not Involving Section Length, document Authorization #14.* November 14, 1973.

7. —. *Authorization of Contract Changes not Involving Section Length, Authorization #18 (Final).* May 5, 1975.

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17. *Easement Documents for Grant of Public Highway.* August 3 1971.

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Appendix B

Years of Experience

IL Dept. of Transportation	22
IL Environmental Protection Agency	8

Education

MS/Geological Engineering
University of Alaska-Fairbanks

BS/Geological Engineering
University of Missouri-Rolla

Undergraduate work/Engineering
Belleville Area College
Belleville, Illinois

Licenses

Professional Engineer – IL
Licensed Professional Geologist – IL

Certification

OSHA Hazardous Waste Site Worker Certification (40 hr)

OSHA Hazardous Waste Worker Refresher (8 hr)

Awards

1998 IDOT Central Office Engineer of the Year

Affiliations

Transportation Research Board Member, ADC60 – Committee for Waste Management and Recourse Efficiency in Transportation

Publications

"Sublimation of Reconstituted Frozen Silts", MS Thesis, University of Alaska-Fairbanks, May 1985.

Steven L. Gobelman, P.E., L.P.G.

Geologic and Waste Assessment Specialist
Illinois Department of Transportation
Bureau of Design and Environment
Geologic and Waste Assessment Unit
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Springfield, Illinois 62764
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Professional Experience

Illinois Department of Transportation
Springfield, Illinois
September 2014 to Present

Technical Manager. Responsible for providing highly specialized technical expertise department wide, for conducting assessments and investigations of special waste, and when required remediation. Review and prepare risk assessments, work plans, quality assurance/quality control plans, recommend further action, NEPA documents, and coordinate various contract activities with districts, central office bureaus, and regulatory agencies.

Illinois Department of Transportation
Springfield, Illinois
September 2013 to September 2014

Technical Manager. Acting Roadside Maintanence Manager. Responsible for policies for operation and maintenance of highway rest areas statewide and responsible for reviewing all rest area plans and making recommendations regarding their design and construction. Responsible for administrative rest area maintenance contracts. Develop policies for turf and plan management for highway rights-of-way statewide (items included are mowing policy, herbicide, plant varieties and diseases, fertilization, and erosion control measures). Technical expert on hazardous waste related to pesticide/herbicide management.

Illinois Department of Transportation
Springfield, Illinois
September 1993 to September 2013

Technical Manager. Responsible for providing highly specialized technical expertise departmentwide, for conducting assessments and investigations of special waste, and when required remediation. Review and prepare risk assessments, work plans, quality assurance/quality control plans, recommend further action, NEPA documents, and coordinate various contract activities with districts, central office bureaus, and regulatory agencies.

Illinois Environment Protection Agency
Springfield, Illinois
March 1992 to September 1993
Lead Worker. Project Manager in the Bureau of Land, Division of Remediation Management, Remedial Project Management Section, Remediation Engineering Sub-Unit. Section's technical expert on geology, hydrogeology, and engineering. Conduct engineering and technical research on problems associated with cleanups conducted in the Section. Conduct public meetings and provide engineering and technical details to public information personnel for media and citizen inquiries.

Illinois Environment Protection Agency
Springfield, Illinois
May 1988 - March 1992
Environment Protection Engineer. Project Manager in the Bureau of Land, Division of Remediation Management, Remedial Project Management Section, State Sites Unit. Unit's technical expert on geology, hydrogeology, and engineering. Perform duties associated with State site cleanup projects, including voluntary cleanup actions negotiated with industry, which are highly technical in nature and include complex engineering, geology, and hydrogeologic problems as well as sensitive issues concerning toxic environmental contaminants and their public health effects. Manage contracts with engineering and cleanup firms for remedial investigations (RI), feasibility studies (FS), design, and cleanup projects. Perform RI/FS that include sampling of groundwater, soil, and hazardous waste.

Illinois Environment Protection Agency
Springfield, Illinois
November 1985-April 1988
Environmental Protection Engineer. Permit Reviewer in the Bureau of Land, Division of Land Pollution Control, Permit Section. Performed a variety of geology, hydrogeologic, and engineering functions pertaining to permit review of underground injection control (UIC) permits, RCRA closures, and solid waste permit and closure applications. Determine the feasibility of the application based on technical/engineering, geology, hydrogeologic data, and financial assurance. Based on the feasibility made recommendations for approval or denial. Worked with computer modeling of pollutant transport in groundwater to determine the extent of groundwater contamination.

Presentations

"Managing 'Uncontaminated Soil' and Special Waste through General Construction Contracts", Presented Various IDOT Districts, Project Implementation Annual Meeting, and Project Development Annual Meeting, 2012 and 2013.

"Acquiring Liability and Avoiding it at the Same Time", Presented to the Transportation Research Board's ADC60 Summer Meeting, Portland, Oregon, July 27, 2011.

"IDOT Approach to EMIS", Presented to the Transportation Research Board's ADC60 Summer Meeting, Baltimore, Maryland, June 17, 2008.

"Creating and Implementing Programs for Environmental Compliance Audits", Panel Discussion, Presented to the Transportation Research Board's ADC60 Summer Meeting, Ft Worth, Texas, July 9, 2007.

"IDOT's Management of Waste", Presented to Various IDOT Districts, July 2006.

"IDOT's Management of Waste", Presented at the Illinois Environmental Protection Agency RCRA Retreat, September 30, 2004.

"Phase II Process", Presented at the IDOT's Annual Program Development Meeting, September 2003.

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"Site Safety Plans - An Agency Viewpoint", Presented at HazMat '92 - Chicago, March 1992.

"Illinois EPA Cleanup Program", Presented at Illinois Environmental Regulation Conference, October 1991.

"Implementation of Mobile Incineration at the Paxton Avenue Lagoons Site, Chicago, Illinois", Presented at the Environmental Management Exposition, October 1990.

"Illinois Environmental Protection Agency's Procedure on Setting Cleanup Objectives", Presented at Federation of Environmental Technologist, Illinois Environmental News and Views, May 1990.