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Allied Paper Landfill, a Case Study of Superfund

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Western Michigan University
Senior Honors Thesis for the Lee Honors College

Allied Paper Landfill: A Case Study of Superfund

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May 13, 2016
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Abstract

The Comprehensive Environmental Response, Compensation, and Liability Act (1980), more commonly known as Superfund, delegates the responsibility for cleanup of more than 1,300 hazardous waste sites to the federal Environmental Protection Agency (EPA). This thesis is designed as a case study to investigate the Superfund program through the lens of the Allied Paper Landfill portion of the Kalamazoo River Superfund Site. Through interviews with key stakeholders an evaluation was completed based on the following research questions: 1) are the current goals of Superfund appropriate, 2) is the funding mechanism sufficient to fulfill the goals of Superfund, and 3) is the community involvement process adequate? This research gleaned that the participants involved with Allied Paper Landfill significantly shaped the relationship Kalamazoo has with the Environmental Protection Agency. The Allied Paper Landfill portion of the Kalamazoo River Superfund Site, based on the results found, will be a model for Superfund sites as it relates to financing and community involvement.
I. Introduction

The environmental movement gained legitimacy in the 1960s and 70s, the government responded with legislation to limit and control emissions of toxins and disposal of pollutants. Over time, the United States Government realized the extent to which damage had already been done to our environment, forcing lawmakers to shift focus from controlling future pollution to correcting harms already done. Thus the Environmental Protection Agency in acknowledgment of the large contributors of hazardous waste created a program in which those creating the waste were held accountable for clean up.

In 1980 the Comprehensive Environmental Response and Liability Act (CERCLA), more popularly known as Superfund was enacted. Superfund was created to identify and clean up hazardous waste sites with the responsibility for cleanup delegated to the federal Environmental Protection Agency (EPA). The EPA maintains a National Priority List (NPL) of the most hazardous sites to human health and wellbeing; currently comprised of more than 1,300 sites(U.S. Department of Health and Human Services 1). The Environmental Protection Agency then implements cleanup of sites on the NPL by working with the communities surrounding the hazardous waste sites as well as potentially responsible parties, scientists, researchers, contractors and all levels of government in order to reach a level of decontamination (1).

Figure 1: The Superfund Process

De-listing a site is the ultimate goal, thus each cleanup must effectively satisfy several criteria. The nine criteria established in the law are: 1) overall protection of human health and the environment, 2) compliance with applicable or relevant and appropriate standards, 3) long-term effectiveness and permanence, 4) reduction of toxicity, 5) short-term effectiveness, 6) implementability, 7) cost, 8) state acceptance and 9) community acceptance (EPA (a) 1). These criteria must be met in order to not only decide upon an appropriate clean up method but to also physically perform the cleanup. The entire superfund process is depicted in Figure 1 above and the major steps are described below. The first step in this figure is the Preliminary Assessment or the Site Inspection (PA/SI), when the site is examined for hazardous waste. The Environmental Protection Agency follows the initial study with listing the site on the National Priority List (NPL). After the site has been listed the Environmental Protection Agency will go
forward with a Feasibility Study (FS). The EPA, after conducting the FS will come out with a Record of Decision, which is a published final decision on how the site will be cleaned up. The Environmental Protection Agency follows the ROD with a Remedial Design (RD) or Remedial Action (RA). The Remedial Design is the phase of Superfund where the plans for the cleanup are designed. The Remedial Action begins the actual cleanup at a site. During this phase of the Superfund Process the community should be informed of the EPAs work on the site. The following four steps: Construction Completion, Post-Construction Completion, NPL Deletion and Reuse focus on completing the cleanup of the Superfund site, monitoring the site over time and reusing the site.

The number of Superfund sites are in the thousands nationwide, specific to Michigan, the Kalamazoo River is one of many. The historic paper mill industry in Kalamazoo left a toxic byproduct called Polychlorinated Biphenyls (PCBs). In 1990 the EPA added the entire 81-mile stretch from Kalamazoo to Saugatuck as the Allied Paper/Portage Creek/Kalamazoo River Superfund Site. The Allied Paper Landfill portion of the Site includes 89 acres in central Kalamazoo bordered by Portage Road on the east and Burdick Street on the west; and between Cork Street to the south and Alcott Street to the north. The Allied Paper Landfill is located above the city’s central drinking water aquifer posing environmental, economic and health concerns to the Kalamazoo Community.

The Allied Paper Landfill’s paper manufacturing and disposal operations lasted until the late 1970s into the early 1980s (Environmental Protection Agency (b) 1). The PCB contamination was a by-product of carbonless copy paper; the ink in the recycled
copy paper contained the PCBs and were mixed into paper-making residuals during the recycling process (The City of Kalamazoo 1). The residuals found on the Allied Paper Landfill site are a mixture of clay and wood fibers, appearing as gray clay (Environmental Protection Agency (b) 1).

The Allied Paper Landfill is one portion of the Portage Creek/Kalamazoo River Superfund Site. The entirety of this site is composed of five disposal areas, five paper mill properties and an eighty-one mile stretch of the Kalamazoo River, reaching from Morrow Dam to Lake Michigan as well as a three-mile stretch of Portage Creek (“Environmental Protection Agency (b) 1). The portion of the entire Superfund site being evaluated here is shown below on the map, OU1 or Allied Paper Landfill is the current portion of the site being considered for cleanup.

Figure 2: Kalamazoo River Superfund Site, Michigan

Once heralded as a way to clean up the nations toxic legacy, there are several critiques of the Superfund process. Criticisms of the Superfund program range from attacking the EPA’s system of designating sites, to questioning the viability of “polluter pay” schemes, to what is defined as a cleanup, to how much time it takes, to how much community acceptance matters, and the cost of cleanup. These criticisms have thus questioned the validity of the Superfund program and how effective the clean up process is to the communities where hazardous waste sites are present.

Proponents of the “polluter pays” scheme contend that it is effective because it deters corporations from being irresponsible with toxic waste – the possibility of having to pay millions of dollars to clean up a pollution site is a huge economic disincentive. Critics of the principle say that it works in theory, but is much more difficult in practice. Those who actually benefited from the improper disposal of chemicals in the past would be shareholders and managers of the company who enjoyed the higher profits and consumers who saw lower product prices. But years down the road, when EPA is looking to assign responsibility, these people can be difficult to identify. Current shareholders,
managers and consumers, who would essentially be paying the price for cleanup, are not necessarily the guilty parties (Hird 327). Some politicians think of the program as a legal mess that simply enriches lawyers, and others recognize the flaws of Superfund, but insist that it is the only recourse we have in many cases of extreme toxic waste. In fact, in Washington circles, CERCLA is also known as the Full Employment Act for Lawyers (Hird, 1993).

Community involvement in environmental decision-making is highly valued by those making the decisions. The individual or the non-expert opinion of those in the community is highly regarded as being a key stepping-stone in making the best environmental decision. As environmental decisions affect those most living in the area in which the decision is occurring the citizen opinion is not only valuable to understand the community but is also ethical. EPA facilitated community involvement however has undergone criticism regarding its effectiveness as well as if the community is really considered. Critics claim that community involvement or acceptance, as a criterion for Superfund is more a hoop to jump through rather than an actual value in the process.

In light of these critiques, rather than investigating the scientific validity of cleanup and its protectiveness, two social political processes were chosen for the focus of this study – the financing and the community involvement. The Allied Site, instead of the Kalamazoo River in its entirety, was chosen since it is an active site in the final stages of a Proposed Plan and Record of Decision. In addition Allied Paper Landfill since 2007 has seen a strong and persistent community interest. Allied has four community groups heavily involved with the Superfund process: Kalamazoo River Protection Association, Kalamazoo River Watershed Counsel, Allied Task Force and the lead organization
Kalamazoo River Cleanup Coalition. In addition to the community groups, the
Kalamazoo City Government and independent citizens have been present in the
community involvement process. Allied Paper Landfill is appealing from a study
perspective because it is an orphan site. After the bankruptcy of the responsible parties a
lump sum of $50 million dollars is in a trust fund for the clean up of Allied, however
because there do not exist any other potential responsible parties funding falls back on the
Environmental Protection Agency’s budget. Upon applying the questions posed regarding
the effectiveness of Superfund, Allied Paper Landfill is a poster child for the major
criticisms of the community involvement and financing of Superfund.

As this research is a case study of Allied Paper Landfill, designed to investigate
the Superfund program interviews with key stakeholders were used to evaluated the
following research questions: 1) are the current goals of Superfund appropriate, 2) is the
funding mechanism sufficient to fulfill the goals of Superfund, and 3) is the community
involvement process adequate?

A total of eight in-depth interviews were conducted. Interview participants from
members comprised of two main groups: 1) Governmental and 2) Environmental and
Community. Within the Governmental group were the following subcategories: the
agency (EPA), City elected officials, and City bureaucrats. The Environmental and
Community group was comprised of representatives from four local environmental
groups and independent citizens.

In the following sections a brief review of Superfund’s funding mechanisms and
an overview of community involvement processes are given. The methodology and
interview results are then synthesized in light of this background to provide an historical
timeline of the process and analysis of Superfund through the lens of the Allied Paper Landfill.
II. Funding Mechanisms of Superfund

Superfund includes two major funding mechanisms: liability to potentially responsible parties and a trust fund (“Footing the Bill” 13). Significantly revised in 1986 by the Superfund Amendments and Reauthorization Act (SARA), the funding mechanisms underwent changes to the size of the trust fund, the revenue that replenished it, and the statutory requirements for clean up at sites (13)

This section will address the congressional budget, liability, an environmental tax, the trust fund, the specifics of clean up costs and a general overview of how hazardous waste sites are financed.

*Congressional Budget*

Environmental spending as displayed in the figure below, contributes to roughly 3% of the congressional budget in any given fiscal year (National Priorities). While a considerable amount of money, these funds do not cover the entire needs of the Environmental Protection Agency. The three percent that is allocated in the budget is for energy and environment, two very broad categories with dynamic needs. The constraints of the budget make it nearly impossible to address all environmental concerns, a fact that needs to be continuously acknowledged as the EPA addresses Superfund sites.

Figure 4: United State Discretionary Budget 2015

The Tax

Originally, Superfund was financed by taxes imposed on domestic and imported crude oil, petroleum products and forty-two organic and inorganic (ie feedstock chemicals) (“Footing the Bill” 12 ). The tax on each barrel of crude oil was 0.79 cents, and the tax on feedstock chemicals could not exceed two percent of the chemicals wholesale price (12). These taxes created significant revenue; Superfund was appropriated forty-four million dollars of the revenue created which was then placed in the trust fund (12).

In 1986 SARA amended the allocation and sources of moneys into the Superfund trust (Brazelli and Gerardi 678-679). SARA changed these standards by increasing anticipated revenues funneled into the trust fund from the petroleum tax on crude oil and organic and
inorganic chemicals. The taxes on petroleum and crude oil were reinstated and increased; crude oil increasing to 8.2 cents per barrel for domestic products and 11.7 cents per imported barrel (678-679). The final tax that the Superfund Amendments and Reauthorization Act created was a corporate environmental tax equating to about 0.12 percent of taxable income (678-679). The General Agreement of Tariffs and Trade ruled that the tax rates SARA created were a violation, resulting in an equalized tax at 9.7 cents per barrel (678-679). SARA also reinstated the prior tax rates for feedstock chemicals (tax ranging from .22 to 4.77 per ton), thus intending that five years into the tax policies SARA created Superfund would have appropriated 8.5 billion dollars (678-679).

Up until 1995 the Superfund tax was the sole source of funding for the Superfund trust, however, in 1995 under severe Republican pressure, Congress let the tax expire. The expiration of the tax was followed by the balance in the trust fund falling from $3.8 billion in 1996 to zero in 2003 (Virjee 27). The loss of funding resulted in the rapid decrease in the pace of Superfund cleanups, and the rate in which they are completed. In 1999 the Environmental Protection Agency completed eighty-nine cleanups compared to nineteen in 2009 (27).

Conflict over the Superfund legislation resulted in the deregulation movement that began in the 1970s. The 70s brought the dismantling of banking, airlines, trucking and railroads (Barnett 71). The Reagan administration’s goal was to eliminate a program financed in large by “generator industries and other responsible private parties” (83).

Since the expiration of the Superfund tax the question of funding has been left to Congress. The program could be funded entirely through general revenue since there is nothing in CERCLA or the congressional budget resolution saying otherwise (Reisch 2). The last four congressional budgets helped contribute to the life of Superfund by increasing the amount
appropriated. For example, Fiscal Year 1999 totaled 1.5 billion dollars, 1.175 billion dollars coming from the fund and 325 million dollars from general revenues (2). FY1999 was the first year that fewer dollars for Superfund came from the trust fund and more came from general revenue (2-3).

Figure 5: Major Sources of Revenue for the Superfund Trust Fund, FY 1981-FY 2007 133

**Liability**

The second way in which Superfund is funded is through liability. The Environmental Protection Agency labels those liable as potential responsible parties or PRPs. Liability runs on an ability to pay basis; the EPA acknowledges that it is impossible for some beneficiaries to pay
for the total cost of cleanup. Although legally liable for the full cost, the cost burden placed on potential responsible parties in practice based on income (Brazell and Gerardi 677).

Liability under CERCLA is strict, joint and several, and retroactive. Strict liability means that a party can be held liable for cleanup costs, regardless of whether it was negligent in its handling of the hazardous substances. Joint and several liability means that any one responsible party can be held liable for the entire cost of cleanup at a site. Retroactive liability means that responsible parties are liable for cleanup costs related to activities that took place before the enactment of CERCLA, including activities that were legal at the time (678)

Liability in the Superfund program runs on the polluter pays principal, where the individuals responsible for hazardous waste should have to pay for clean up. This liability scheme goes after the people who benefited from less expensive waste disposal from the past (680). Based on this liability approach there are four types of responsible parties, “a site’s present owners and operators, its previous owners and operators from periods during which it received hazardous substances, the generators of substances, and any waste transporters responsible for choosing the site” (Beider 4). The Environmental Protection Agency can enforce the current liability scheme by recovering the costs from responsible parties after clean up, usually in the way of a lawsuit or have the responsible parties perform the cleanup of hazardous material under governmental supervision (4). Recuperating costs from the PRPs is in theory a great principal; it enforces the idea that those who pollute are those who pay for the clean up of their pollution. However by allowing the clean up process to be constrained to this process, thus constrains the clean up that a
site will receive. As stated earlier, not all costs at ever site can be recovered, the remainder of the
cost of clean up thus falls back on the Environmental Protection Agency.

**Funding Process**

Ideally the goal for funding Superfund clean up is as follows “should be implemented
expeditiously and wrangling over who is responsible and for how much should take place after
the site is cleaned up” (“Footing the Bill 14).

Superfund was designed in such a way as to pull funds from the trust fund for the cleanup
process of these hazardous waste sites listed on the National Priorities List. After cleanup was
paid for, through funds originating in the trust fund, the Environmental Protection Agency would
direct its attention to recovering the money from the responsible parties. Additionally the fund is
the sole source for the many cases of orphan sites, sites where responsible parties are not found,
are not financially viable or parties found have not agreed to pay; in cases such as these the
Superfund trust fund is designed to pick up cleanup costs (“Footing the Bill” 14).

Expanding on just how Superfund sites are financed leads to just how much Superfund sites cost
to clean up. According to the Environmental Protection Agency individual site clean up costs
average $18.1 million dollars (Hamilton and Viscusi 13). However clean up and the on going
maintenance that Superfund sites require after clean up places site averages at $25.7 million
dollars (14).

What drives the cost of cleanup is how permanently a site is cleaned up.

A typical hazardous waste site consists of contaminated surface area
(e.g., contaminated soil, a pond into which waste was deposited) and
contaminated ground water. At most sites, imminent danger of exposure
to contaminants can usually be removed at low cost. Contaminated soil can be fenced off or capped, and an alternate water supply can be provided if ground water is used for drinking. What raises the cost of cleanup is the decision to clean up the site for future generations—for instance, to incinerate contaminated soil or to pump and treat an aquifer for 30 years to contain a plume of pollution.” Under the Comprehensive Emergency Response, Compensation and Liability Act (CERCLA), the U.S. Environmental Protection Agency (EPA) is responsible for deciding how permanent the cleanup at a hazardous waste site will be, at least at those sites deemed serious enough to be placed on the National Priorities List (NPL). In choosing how to address contaminated soils, EPA must determine (1) the size of the contaminated area needing remediation and (2) what remedial technology should be applied. The first of these decisions must protect the health of persons currently living near the site regardless of cost.2 By contrast, in the second stage of decision-making, EPA is directed to trade off permanence against cost (Gupta, Van Houtven and Cropper 564).

If permanence is the primary deciding factor that the Environment Protection Agency uses to make cleanup decisions the actual cost of cleanup fairly ambiguous. The Environmental Protection Agency’s data collected on cleanup costs is scarce, one reason is responsible parties are allowed to conduct site studies and clean up independently from the control of the EPA, while they are still under the direction of the EPA they are not required to report costs (transactional, cleanup, and site studies) (“Footing the Bill” 21). This limits the data available
regarding site cleanup; thus, between the EPA rough estimates, the non-reporting by PRPs and the measurement issues, we really have no good idea or sense on what a clean up cost is (Gupta, Van Houtven and Cropper 564).

In 1980 when Superfund was established there existed an organized and standardized way in which the program was funded. However because Superfund was not updated as time progressed the process in which site clean up has been funded has lost its direction. Without the super fund there is no longer a way in which sites can be cleaned up without litigation and without the complete cooperation of responsible parties. Therefore sites that do not have responsible parties present cannot be funded unless the Environmental Protection Agency finances the clean up out of their general fund.

Is the funding mechanism used by Superfund adequate? It used to be. Site clean up always had a way to be paid for, if not by the responsible parties then by taxes placed on oil and organic and inorganic chemicals. As this fund does not exist site clean up has slowed and the goals of Superfund are not being fulfilled.
III. Community Involvement in Environmental Decision-Making

_Brief History of US Community Involvement in Agency Decision-Making_

Prior to understanding what community involvement is, one has to understand why it is necessary. The American Government is divided into three branches, the Legislative, Executive and the Judicial. Known as the fourth branch, administrative agencies are created by Congress and housed in the Executive branch. Agencies do not have powers that are explicitly spelled out in the Constitution; instead they are an extension of the Legislative Branch’s power granted in the form of the necessary and proper clause (“Necessary and Proper Clause”). In Article One, Section Eight, Congress has the power “to make all laws which shall be necessary and proper for carrying into Execution the foregoing Powers, and all other Powers vested by this Constitution in the Government of the United States, or any Department or Officer thereof” (“Necessary and Proper Clause”).

As fundamental as this check (created by one branch and run by another) was intended to be, agencies powers via the Congressional delegation doctrine include rulemaking (congress power), enforcement (president power) and adjudication (court power). Critiques of agency power argue that since agencies are tasked with the main powers of each branch of government within themselves, they violate the separation of powers doctrine. This critique has been well taken by Congress and the Executive and several remedies over the years have been applied to incorporate more accountability and transparency into these unelected powerful agency positions. For example “The explosion of New Deal agencies in the 1930s created inconsistency from one agency to
the next. In 1934, the **Federal Register**, which prints all rules and decisions made by agencies, was launched to provide a common source” (Paletz, Owen and Cook 2). As the now online daily publication of the federal government, the register serves to inform the public and solicit their feedback on all agency rulemaking.

Subsequently, the Administrative Procedure Act (5 *U.S.C.* § 500 et seq. 1946) sets up several processes to greatly ensure agency accountability and transparency of agency decision-making, include a formalized rulemaking process, informal rulemaking, strengthening the notice and comment process of the federal register as well as providing a process for the federal courts to directly review agency decisions. Agencies have to have their powers checked by the Arbitrary or Capricious test (Plater 668). If a government agency’s actions can be proven to arbitrary or capricious or in other words in bad faith then the actions will be declared void. For this being one of the only checks on agency power there are very few federal cases actually striking down agency actions (668). These provisions are all meant to provide a check on the authority of the federal agency as they carry out - or fail to carry out - their duties.

Throughout the 1960s and 1970s, Congress again enacted a sweeping new health, safety, and environmental regulatory regime that required agencies to promulgate thousands of new rules for implementation. Administrative agencies wield enormous power in the enactment of the myriad rules and regulations needed to supplement and implement these statutes. In theory, administrative agency lawmaking is held democratically accountable through legislative oversight and the election of the chief executive who controls its administrative subordinates. However, in practice judicial
review has also been the tool by which the citizenry has exerted control and influence over agencies.

Created as an independent agency by President Nixon in 1970, the Environmental Protection Agency (EPA) is an ideal example of regulatory bureaucratic function. It is charged with protecting human health and the environment, and this broad goal is implemented through the agency’s powers to interpret, implement and enforce compliance of the major federal environmental laws. These federal environmental laws range from mandates to reduce, control and monitor air and water pollution (Clean Air Act, 42 U.S.C. §7401 et seq.1970; Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq.1972), to safeguarding communities by reducing and managing toxic waste, chemical risks, and by cleaning up contaminated sites (Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq.1976; Toxic Substance Control Act, 15 U.S.C. §2601 et seq. 1976; Comprehensive Environmental Response Compensation & Liability Act 42 U.S.C. § 9601 et seq.1980). Additionally, the EPA provides the oversight for all other federal agencies compliance with the National Environmental Policy Act (42 U.S.C. § 4321 et seq.1970), which mandates an environmental impact assessment prior to any agency action.

The NEPA or the National Environmental Policy Act of 1970 mandated further public review and participation for every federal agency to consider the environmental impacts of every major project (Depoe 15). Prior to the 1960s and the 1970s the extent of public participation was voting, citizens historically have had very little interest in environmental matters. Distrust in the government, which grew significantly in the 1960s, spurred increased public participation in decision-making. Citizens were inspired to join
local citizen groups as well as nongovernmental organizations (NGOs) (15). Therefore it was distrust in the government that resulted in Federal and State laws mandating public participation beyond voting in elections. Now there has been documented and studied “best practices” in public participation; for example openness, trust building, dialogue, feedback, listening and increased information flow from agency to citizen (16).

Agencies were created mostly in the progressive, new deal and great society eras and their mission was seen as largely technical, that society needed trained technocrats to administer the nations programs (ie environmental scientists) (Depoe 15). Known as the expert model, the tension between agency discretion (ie the experts) and public transparency and accountability continues today (15). The American culture of citizen participation or community involvement is split between democracy and the expert opinion; recently it has been harder to work with both of those means of making decisions: the expert provides a scientific and technological knowledge that most members of the community do not (15). Democracy however has representatives that are designed to make decisions in the interests of their constituents.

What is Community Involvement

Community is defined in two different ways: a territory in which one lives (city, town, neighborhood) and the second is the connection that one has to the area and those who live within it. David W. McMillan and David M. Chavis propose that there are criteria in order to define community; one, the definition needs to be clear, two it is concrete, three it is representative of a connection and four, there is a description of the experience (9). These four criteria stand to be used as a way to look at what connects
individuals to the community in which they live. For the purposes of environmental decision establishing the ties one has to a community, is contingent on making a well-rounded and informed decision.

Community involvement for government agencies does not have a set definition spelled out in the dictionary. Although can be interpreted by how it is performed, it is observably the act of gathering information from stakeholders in the community in order to make a better-informed decision.

The National Environmental Policy Act (NEPA) mandates that Government Agencies notify the public of their actions. The Environmental Protection Agency publishes comments and summaries of their actions and reviews of other agency’s environmental studies in the Federal Register (“A Citizen’s Guide 2-4). The Federal Register is a daily publication detailing Federal agency actions. NEPA defines the opportunity for citizen input as: public meetings, conference calls, formal hearings, informal workshops and written comments are all forms of scoping used by agencies (“How Citizens can Comment”). In addition, NEPA facilitates the interaction with the public by requiring a minimum 45-day comment period on agency actions (“How Citizens can Comment”).

**Why (or why not) community involvement?**

Beyond the historical and legal arguments, and the principles of democratic government outlined in the above section, guiding agency decision-making, there are several reasons why community involvement is seen as beneficial or supportive of environmental decision-making. As we have defined what a community is, why is it
really necessary to involve everyone when they are not the experts in environmental concerns?

The public is involved in environmental decision making for the purpose of the values that they as non-experts possess (Depoe 4), and locals are vital to understanding any given situation. Non-experts are endowed with empirical information about the environment that observers are not able to understand or observe (Depoe 84). That is, in strictly expert decision making what is left out is one of the most important and most valued portions of public discourse: the expression and discovery of individual and community values (4). There are consequences of not factoring in the values provided by the community, one of those consequences is the decision making fails to serve the interests of those that the decisions affect the most. Other consequences include the loss of agency legitimacy and conditional democracy (4). For these reasons, citizen participation needs to be intertwined with the expert decision-making; they are reliant on each other for the best decision for any given environmental situation.

There are several positives as a result of community involvement for both the government agency and the citizens participating. The table below illustrates these advantages of citizen participation.
Figure 6: Advantages of Citizen Participation in Government Decision Making


For the government agency there is education derived from the citizen, established trust, alliances formed and increased legitimacy. These advantages are present in the following outcomes: decreased gridlock, better policy implantation and avoidance of litigation costs. The advantages to the citizen participants are similar, citizen’s benefit from education, citizens can persuade and enlighten the Government and gain skills in the role of activism. The outcomes from citizen’s involvement are a decrease in gridlock, gaining control over policy, and better policy and implementation. The process of Citizen Participation as detailed in the chart below act to be mutually beneficial to both the citizen and the government body involved.

There exist other positive to the process of community involvement. Scholars and practitioners argue that involvement can promote individual growth and moral
The process of becoming involved and seeing different and conflicting values and opinions can promote collaborative problem solving and a consensus seeking train of thought (O’Leary, 30).

The single largest positive that arises from community involvement in forms of decision-making is an increased standard of honesty and trust. The agency’s representatives “structure(s) a transparent and fair communication process designed to encourage parties to engage in meaningful dialogue. The process of jointly working through differences leads to rational relationships” (O’Leary, 30). The honest interaction between the Federal Agency and the public creates trust between the two bodies that have the largest decision making power. Trust allows for more fluid interactions and great quality decision making, stakeholders thus have an increased feeling of value and importance in the process.

As with every process there are disadvantages to the role of Citizen Participation in environmental decision-making, as presented in the second table below.

Figure 7: Disadvantages of Citizen Participation in Government Decision Making

The disadvantages to the government body in decision-making are: the process can be time consuming, costly and could result in more hostility towards the Government body. This appears in the following outcomes, loss of control in decision-making, a bad decision being made, and a smaller budget for the implementation of other projects. The disadvantages to the citizens involved are, a time consuming and dull process of involvement and pointless if the citizen opinion is ignored. The outcomes of these citizen disadvantages result in worse policies being created if a strong opposing interest is influencing the decision-making process.

**Environmental Protection Agency’s Superfund Community Involvement Process**

U.S. Environmental Protection Agency (EPA) is charged with protecting human health and the environment, and this broad goal is implemented through the agency’s powers to interpret, implement and enforce compliance of all the major federal environmental laws. All of these environmental laws are subject to the public

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### Table 2: Disadvantages of Citizen Participation in Government Decision Making

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<tr>
<th>Decision process</th>
<th>Disadvantages to citizen participants</th>
<th>Disadvantages to government</th>
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<tbody>
<tr>
<td></td>
<td>Time consuming (even dull)</td>
<td>Time consuming</td>
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<tr>
<td></td>
<td>Pointless if decision is ignored</td>
<td>Costly</td>
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<td></td>
<td></td>
<td>May backfire, creating more hostility</td>
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<td></td>
<td>Worse policy decision if heavily influenced by opposing interest groups</td>
<td>loss of decision-making control</td>
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<td></td>
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<td>Possibility of bad decision that is politically impossible to ignore</td>
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<td>Less budget for implementation of actual projects</td>
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involvement rules of the APA and the NEPA and the specific law itself, which can create
guidelines for agency public involvement.

Community involvement is the mechanism the Environmental Protection Agency
uses in order to communicate with the people living around Superfund sites. Many
government agencies are implementing a community involvement scheme in order to
achieve the same goal that the EPA has achieved by working with the community
(Charnley and Engelbert 166). It is a belief of several agencies that members of the public
should participate in decision making, environmental decision making specifically (166).

The goal of the community involvement program is to inform the public of
environmental problems at Superfund sites. This involves associated risks, remedial
responses undergoing consideration and the process towards cleanup (168). Members
from the surrounding communities of Superfund become involved in appropriate ways to
aid the cleanup decisions and processes in order to solve conflict (167).

The Environmental Protection Agency has sustained criticism regarding
procedural equity; procedural equity is the enforcement of rules and regulations (Petrie
1). Research was conducted on the EPA’s procedural equity showing that more penalties
were given to industries for environmental violations in white communities (1). Penalties
are meant to deter future violations, the disparity between penalties given in white
communities and minority communities display a bias on behalf of the EPA; human
health has a higher value in communities that are not minorities. There is also significant
proof indicating that Superfund sites in minority populated areas take longer to be put on
the National Priority List, clean up begins later, the least desirable method of clean up is
selected and capping a hazardous site is the most frequent method (1). This growing
issue, and the concerns of the public contributed to the formation of the Office of Environmental Justice in 1992 (1). Since then the Environmental Protection Agency has addressed environmental justice as well as increased their community involvement efforts.

Community involvement is a fundamental part of the remediation process of Superfund; in addition community involvement is an integral part of the environmental justice movement. Community involvement no longer warrants the “path of least resistance”, that is industry building in areas that will not band together and resist (Petrie 1). These areas in the past have been poor minority based communities. The environmental justice movement has spurred around 700 grass roots groups, 400 of the 700 being people of color (1). In theory, the most effective of community involvement processes is achieved through working with the Environmental Protection Agency’s Community Involvement Coordinator. With the Environmental Protection Agency’s guidance the community is projected to be involved with the environmental decisions taken by the EPA.

The Environmental Protection Agency focuses on making the cleanup of sites as green as possible while working with community groups to return sites to productive uses. Long-term the EPA remains responsible for site in order to maintain the protectiveness to the environment and human health. The EPA is required to conduct a review of the site every five years, where they will inspect the site, take new samples and discussing the conditions of the site with the residents. Below details the required and the recommended community involvement actions provided by the Environmental Protection Agency. Required actions include designating a community involvement coordinator,
public notice, public comments, fact sheets and public meetings. The required actions pointed out are consistent throughout the listing, the remedial investigation, feasibility study, the proposed plan, the record of decision and the clean up. In addition the EPA provides a list of recommended actions such as, meeting with local officials, a toll free phone line, and press releases. While not required, this actions guide an effective community involvement process in any given Superfund community.

Figure 8: Community Involvement Throughout the Superfund Remedial Process

The community involvement process run by the EPA has to be run in a particular and standardized manner. All outreach has to be documented in the EPA Records of Decision, which exist for each Superfund site. Records of Decision (RODs) outline the proposal, clean up selection and process, and community involvement (Petrie 1). Within the ROD the community involvement section has to include a community responsiveness summary, discussing community involvement, and the concerns of the community (1). Records of Decision require community involvement to be carried out through several different ways: public meetings, and an official comment period, both of these forms of outreach allow community members to listen to the EPA’s proposed alternative to the Superfund site and pose questions and provide feedback on the remedy (1).

What makes An Effective Community Involvement Process

Community involvement as a process has been thoroughly studied in order to develop a “best practice model”, instead of finding this model it was discovered that effective and non-effective community involvement is easily observed and not well duplicated. There exist extensive articles, many bibliographies compiled, case studies, and narratives chronicling public participation trends.

Generally speaking, currently the most common method of public participation is open forum or public meetings. In 1984 as well as in 2003 the public meeting was the most common community involvement method. Many agencies and community bodies view the public meeting as the most appropriate and most effective mode of community involvement (Depoe 27). Public meetings are familiar, common; ensure control by those leading, and manageable (27). However, there exist a lot of critiques of the public
meeting: it is detached, the meetings allow for interaction with the community but in a way where the experts lead the meeting and the public simply listens and responds (27). These conflicting opinions on effectiveness questions if the public meeting should be continued to be used, however because of the continued use despite opposition it is still the most used mode of public involvement.

Methods of public participation do not occur without conflict. Local environmental disputes result from an incongruity in expectations of public participation raised from laws, executive orders, treaties and the actual experiences of those participating (Depoe 18). The incongruity between what the public expects and what they observe in environmental decision-making is different. It was already noted that the most common method of participation, the public meeting, is also the most detached method of involving those who are most affected by the environmental decisions. As a result there becomes decreased levels of participation and the reoccurring increase of the small vocal minority (17).

Another conflict that results from public participation is a difference in understanding of what “effective” is (Depoe 18). Agencies are required to conduct community involvement, however they are not required to find the most effective method of doing so. The broad take away is that while “effective” has not been defined or easily replicated there is a very useful element of the non-expert decision maker. Depoe, Delicath and Elsenbeer call this the “public expertise”; the competency derived from this public expertise cannot be replaced or duplicated by technical and professional knowledge (85). Instead it needs to be merged with the technical knowledge in order to make well-rounded decision. However, a small portion of what does exist focuses on
successful or effective environmental community involvement (Depoe 19). Accessibility, fairness, perceived understandability, empowerment, openness, consistency, dialogue, and response legitimacy among others are the primary descriptors of effective public participation (20). All of which seem to point to what effective can be described as but none of which show effective public participation in action. Environmental Conflict Resolution (ECR) details five rules for public involvement. One, participation is usually voluntary, two, parties or representatives must be able to interact directly with the process, three, all participants must have the option to withdraw at any time and seek a resolution in a more formal manner such as litigation, four, “the third-party neutral must not have independent, formal authority to impose an outcome but rather should help the parties reach their own agreement”, (O’Leary, 6) and five, parties must agree to the outcome of the dispute (O’Leary, 6). Effective ECR incorporates the opinions and values of conflicting parties in order to find a mutually acceptable agreement. ECR’s defining value of negotiation is the give-and-take of conflicting parties; the result is a mutually beneficial outcome that benefits all parties (O’Leary, 9).

Since effective community involvement is best understood as a set of characteristics or a “know when you see it” approach, a case study that exemplify public involvement as presented by the EPA and “lessons learned” is included below to further flesh out this concept.
Omaha - The Papillion Creek System

The Papillion Creek System, otherwise known as Papio, is a farmland region located north and west of Omaha. This system gathers pollutants from urban runoff and agriculture prior to joining with the Missouri River. This watershed affects a population of 605,000 and due to flooding the Papillion Creek has been straightened and channelized in many regions. These changes to the creek are expensive to maintain and contribute to poor water quality and degraded aquatic habitat. Upstream citizens whose decision making power influences Omaha have a history of voting down projects that would pose a positive effect to the Omaha region. Projects including building a dam for flood control.

A new decision-making process was tested on the Papillion Creek watershed as a product of a grant from the Environmental Protection Agency. Researchers, municipal individuals, environmental planning and regulatory agencies met to evaluate alternatives for the Papillion Creek Watershed. These alternatives included: environmental (improve habitats), developmental (real estate), recreational (parks and trails), and flood protection (dams). By evaluating these alternatives and making a decision with the residents of Omaha and communities upstream there was a hope that these residents would be able to see that changes to the watershed would be mutually beneficial. This was achieved by convening a participatory working group that included agency participation, rural and urban participation and developers. This participatory group posted articles in newspapers, distributed literature around the Papillion Creek region, directly contacted the residents of the surrounding neighborhoods, and provided pizza at the scheduled meetings. These efforts intended to contact and attract interested stakeholders in order to gain more support for the proposed alternatives.
The researchers conducting the grant for public involvement in Papillion Creek Watershed found that there were a lot of failures in this outreach. There was very little public interest because there was no defined problem that needed to be addressed.

Another failure was that the stakeholders role was strictly advisory and they did not have an actual stake in the decision making process, the stakeholders needed to be motivated on the basis that their role would be a key and fundamental portion of decision making.

The last and one of the most important failures was the failure to generate involvement from real estate developers. There needed to be an economic advantage to redevelopment of the Papillion Creek Watershed. (Irving and Stansbury 60-61)
IV. Methodology

The goal of this research is to evaluate the performance of the Environmental Protection Agency’s Superfund program through the lens of Allied Paper Landfill. The literature review focused on community involvement and financing, to provide the context to comprehend the functionality of Superfund; the case study of Allied Paper Landfill functions as the application of Superfund.

Specifically this thesis examined three things: 1) are the current goals of Superfund appropriate, 2) is the funding mechanism sufficient to fulfill the goals of Superfund, and 3) is the community involvement process adequate? To answer these questions information was compiled from the following sources: 1) primary research of Environment Protection Agency documents (i.e. their website and Community Involvement Blog), 2) primary research on the background and historical documentation of the creation, evolution and actions of the Kalamazoo River Cleanup Coalition and the Allied Site Task Force (i.e. website, newsletters), and 3) interviews of members from Allied Site Policy Network (i.e. elected officials, environmental groups, and EPA).

Interviews

The major source of data for this study is one-on-one interviews with participants involved with the Allied Paper Landfill site. The objective of these interviews was to assess the level of understanding and knowledge of the Environmental Protection Agency’s Superfund program, specifically the processes of financing and community involvement.

Data collection followed a strategy detailed by John W. Creswell in *Qualitative Inquiry and Research Design: Choosing Among Give Traditions*, a “data collection circle.” An application for permission to pursue interviews was completed in accordance with the Human
Subjects Institutional Review Board process. Exemption from full-panel review was granted on December 14, 2015; this exemption is included in Appendix A.

Subjects were recruited to reflect a wide range of participants in the Allied Paper Landfill policy network. Interview participant identification was organized by inclusion in two main groups: 1) Governmental and 2) Environmental & Community. Within the Governmental category, potential interview participants represented the following subcategories: 1) Environmental Protection Agency, 2) Michigan Department of Environmental Quality, 3) County Elected, 4) City Elected and 5) City Staff. Within the Environmental and Community category, potential interview participants represented the following subcategories: 1) The Kalamazoo River Cleanup Coalition, 2) The Kalamazoo River Protection Association, 3) The Kalamazoo River Watershed Council and 4) Citizens in the Allied Site Task Force.

For each category, several individuals with leadership positions or large time commitments (ie had attended public meetings regularly over several years) were identified for a total of thirty-seven potential interview participants (See Appendix B for a full list of all potential subjects).

Following the creation of the contact list, the next step was making initial contact and developing a working relationship through continued communication. The first email served as the method of initial contact, in which to request a sit down interview. An HSIRB consent form was attached to each email sent out to create contact and to speed up the pre-interview process. After initial contact, I waited a week to hear back from all potential subjects, during this downtime I conducted the interviews I was able to schedule. In order to compensate for the individuals that did not express interest in the interview I used the recommendations that I obtained from the subjects that I was able to interview. Once the potential subject expressed
interest, a second email was sent in order to schedule a time for the face-to-face interview. Attached to the second email was a list of questions similar to the ones that will be asked in the interview. All interviews conducted were recorded using an Olympus DS-500 voice recorder, which allowed for playback and transcription after the interview. All the audio files were deleted upon completion of the thesis in order to protect the identity of the subjects. Using the transcriptions from the interviews, a synopsis was taken in the form of notes.

The interviews took place over a five-week period throughout February and March 2016. A total of eight in-depth interviews were conducted with representatives from the following categories:

1 from Environmental Protection Agency (Governmental)
3 from City Elected (Governmental)
1 from Kalamazoo River Clean up Coalition (Environmental and Community)
1 from Kalamazoo River Watershed Council (Environmental and Community)
1 From Kalamazoo River Protection Association (Environmental and Community)
1 from Allied Site Task Force (Environmental and Community)

The questions utilized in the interviews included an individual account of Allied Paper Landfill events, personal experience with the Allied Site, understanding and engagement in the community involvement, and understanding of financing operations of Superfund. For a detailed list of the interview questions refer to Appendix C. The questions were designed in a way that the interview subject could follow their personal account of involvement in Allied Paper Landfill.
V. Study Results

A total of eight interviews were conducted with representatives from the EPA, City elected officials, City bureaucrats, representatives from three local environmental groups and independent citizens. Interview participants are from this point forward only distinguished as to which major group they came from: Government (EPA, City of Kalamazoo), or Environment & Community. From these interviews I first present the overall results from several ranking questions. Next I present a historical timeline compiled from merging the primary data sources (EPA and organization websites) with the interview participants own story of Allied events. The interviews then form the primary data source for an in-depth examination at the financing and community involvement in the Allied Paper Landfill Superfund process.

I. Overall Summary

All participants were asked to rank, on a scale from 1-10 with 1=lowest and 10=highest, their overall level of involvement, how well the financing process worked, and how well the community involvement was done. Mean scores with the number of participants responding (N) are presented in Table X. One participant’s response one the involvement was a twenty-five, since this response was off the scale for the purposes of classification it was coded as the highest possible value of 10.

Table 9 Mean Scores of Participants on Level of Involvement and Quality of Financing and Community Involvement.
<table>
<thead>
<tr>
<th>Question</th>
<th>Mean (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Your Involvement?</td>
<td>9.25 (N=6)</td>
</tr>
<tr>
<td>How well was the Budget done?</td>
<td>3.5 (N=3)</td>
</tr>
<tr>
<td>How well was Community Involvement Done?</td>
<td>8.8 (N=5)</td>
</tr>
</tbody>
</table>

Although not all subjects answered the question, participants reported they were heavily involved in the Allied Superfund process. Although this study only interviewed eight participants, the subjects were from leadership or otherwise heavily involved, indicating the study did find the right people to tell the story of Allied. Six of the eight participants rated their level of involvement, averaging 9.25, thus proving that that participants selected for the study were among the most involved people in Kalamazoo. Only three participants chose to rank “On a scale of 1 to 10 how well do you think the budget was done/presented for Allied” indicating general avoidance of an attempt to rank the overall funding situation of not only Allied Paper Landfill but of Superfund. Those that did answer the question ranked funding very poorly. The final question was “On as scale of 1 to 10 how well was Community Involvement done” the five out of the eight participants that selected to answer this question averaged an 8.8. Thus indicating that the heavily involved community members had extremely positive feelings on the EPA’s community involvement process.
II. The Story of Allied Paper Landfill

Both the primary source documents (from EPA and KRCC) were used along with the interview participant’s story of Allied to construct the following chronological timeline of events. When available, interview participants understanding or comments on the event are included to provide detail.

The Early Years (1970-2000)

1970, The Environmental Protection Agency had knowledge of the toxicity that PCBs posed to human health and the environment. One Respondent from the Environmental and Citizen Group identified this event. One Respondent explained that while the Environmental Protection Agency had the information necessary to understand the risks that PCBs can cause they did not take any strides in cleaning up the Kalamazoo River.

1980 Allied Paper Landfill went out of business. One Respondent from the Governmental group identified this event. One Respondent was employed at Allied Paper prior to the company going out to business and was able to recall interacting directly with the contaminates.

1990, Allied Paper Landfill and the Kalamazoo River were listed as a Superfund Site.

**1998 & 1999**

Removal Actions of 146,000 cubic yards of PCB-containing sediment at Allied.

One respondent from the Environmental and Citizen group identified this event.

- *Other Waste In Place, Cap and Consolidated Landfills Completed*
  - 2001-2002 Kings Highway;
  - 2006-2009 Willow Blvd A Site

**2000**

Michigan Department of Environmental Quality passed responsibility of Allied Paper Landfill to the Environmental Protection Agency. One Respondent from the Environmental and Citizen Group identified this event. Many Respondents recalled this event and posed questions as to why responsibility of the site changed hands.

*Citizen Action (2007-2013)*

**2007**

A Time Critical Action in Plainwell by the Environmental Protection Agency; Plainwell Dam was removed and the EPA planned on moving PCB contaminates from this site to Allied Paper Landfill. The Kalamazoo River Cleanup Coalition and the larger Allied Site Task Force were created to protect the interests of Kalamazoo. Based on the citizen action and protest, combined with the coordinated City effort to stop the movement of PCBs, the EPA determined that Kalamazoo qualified for “enhanced community involvement”. Seven Respondents from both Governmental and Environmental/Citizen groups identified this event. One Respondent was involved in rallying people to protest the PCBs being moved to Kalamazoo. Elderly residents from a home close in proximity to the site were asked to stand outside City Hall and protest. The same Respondent explained that if the EPA moved forward with this plan then the city was going to make it look terrible to the press. The 2007 Plainwell Removal Action to bring PCB-
containing sediment to Allied led to Citizen Opposition by the Kalamazoo River Clean up Coalition and Allied Site Task Force resulting in the action being stopped

**2008** A Remedial Investigation was conducted. One Respondent from the Governmental group identified this event.

**2009** An agreement was made with Georgia Pacific, one of the Potential Responsible Parties (PRPs) as identified by the EPA. One Respondent from the Environmental and Citizen group recalled this event.

**2009** A series of public meetings were held by the Environmental Protection Agency in respect to Allied Paper Landfill. All of these meetings focused around the option to Cap and Consolidate the site. One Respondent from the Environmental and Citizen group identified this event.

**2009** The Feasibility Study was conducted by the Potential Responsible Parties, which was then taken over by the Environmental Protection Agency. One Respondent from the Governmental group identified this event.

**2010** Millennium Holdings, the last Potential Responsible Party went out of business and declared bankruptcy. A fixed pie of $100 million was given to the Kalamazoo River from the bankruptcy, $50million for each Allied and $50 Million for the rest of the Kalamazoo River. One Respondent from the Governmental group and one Respondent from Environmental and Citizen group identified this event. One Respondent explained that because we have a limit on the
money available for clean up, the EPA should provide a sufficient clean up option within this
budget. The KRCC was also part of a group who got a settlement for residents in the Homecrest
Circle neighborhood, adjacent to the site, out of this bankruptcy

2011 Environmental Protection Agency published different clean up options. One Respondent
from the Governmental group identified this event.

2011 Time Critical Removal Action at Portage Creek. One Respondent from the Environmental
and Citizen group identified this event.

2011-2012 City of Kalamazoo pushed for total removal of PCB contaminates on the Allied Paper
Landfill site. One Respondent from the Governmental group identified this event. One
Respondent stated that while the City worked with the Environmental Protection Agency to get
the best outcome for Kalamazoo because they did not achieve total removal they did not achieve
their goal.

2011, Resolutions are passed by both the City of Kalamazoo and the County of Kalamazoo in
support of total removal (ie against any cap and consolidate). One participant from the
Environmental and Citizen group identified this event.

2012 Environmental Protection Agency discovered new methods for community involvement by
increasing the involvement from the city government, state government, and community groups.
One Respondent from the Governmental group identified this event.
2013 Record of Decision was expected. One Respondent from the Environmental and Citizen Group identified this event.

2013 A series of letters were exchanged between Mayor Hopewell and the Environmental Protection Agency. One Respondent from the Environmental and Citizen group identified this event.

2013 The Environmental Protection Agency released the Feasibility Study. The City of Kalamazoo asked the EPA to take a breather and consider other options other than cap and consolidate. One Respondent from the Governmental group identified this event.

2013 The Environmental Protection Agency began moving forward with a cap and consolidation method at Allied Paper Landfill. The community began a “clean up not cover up” campaign in response. One Respondent from the Governmental group identified this event.

2013 The City of Kalamazoo took a run at funding and a lobbyist and several elected officials traveled to D.C. to talk with Fred Upton, only to find out there is no money. One Respondent from the Governmental group identified this event.

A Partnership Forms

2014 The City of Kalamazoo began meeting with the EPA for discussions, all of which happened beyond closed doors. During this time the city was looking for ways to repurpose the site. One
Respondent from the Governmental group and one from the Environmental and Citizen group identified this event.

2015 A new redevelopment option is crafted and revealed, this option was brokered by the City of Kalamazoo, the Environmental Protection Agency and key stakeholders. These groups meet to discuss whether they will all support the new option. One respondent from the Environmental and Citizen group identified this period in time.

- City Holds Meeting in February 2015 to support adding the new option
- EPA adds the new option to Feasibility Study in June 2015

2015 (December) The city holds a community meeting to unveil the new redevelopment option with assistance by the Environmental Protection Agency. Citizens and community members share cautious optimism in acceptance of the new option. One respondent from the Environmental and Citizen group identified this period in time.

- EPA’s initial redevelopment option: Partial cap and consolidation of the PCB contaminates on the site.
- What the Kalamazoo Community wanted: Total removal of PCB contaminates.
- The final decision: Consolidating and capping the PCB materials. In addition a groundwater-monitoring network will be installed. Areas that were part of the landfill will be available for redevelopment.

2015 The Environmental Protection Agency and citizen groups begin working together on community involvement. One Respondent from the Environmental and Citizen Group identified
this event. One Respondent explained that one of the community groups canvassed the
neighborhoods surrounding Allied Paper Landfill to spread awareness of the public meetings
hosted by the EPA.

2015 In September a proposed plan was made, the financing was explained and in order to get
more funding the claim would have to be argued before Congress to draw money out of the
EPA’s general fund. One Respondent from the Environmental and Citizen Group identified this
event.

2016 A Record of Decision is expected in March. One Respondent from the Environmental and
Citizen Group identified this event.

2016 Biotech is an alternative clean up option. One Respondent from the Environmental and
Citizen group was quoted saying that “Biotech is the 11th hour wrench in the process”. One
Respondent from the Governmental group was quoted saying, “biotech deserves a chance but
would need to begin testing their chemicals on the site”.

III. The Superfund Process

Participants in this study of the Superfund process were asked several questions regarding
the nature of the program. Participants were asked to identify the goals of Superfund. One
respondent from the Governmental group identified the goals to be, “the mitigation of risks, to
find clean up alternatives, cut off risk pathways both short term and long term and to find the
most cost effective ways to do all of the above”. All respondents except one from the
Government group were able to identify the key goals of the Superfund process.

Respondents learned how Superfund worked from their educational backgrounds
(secondary and post-secondary) and from involvement with Allied Paper Landfill.

Respondents compared the goals of the Superfund process to the Allied Paper Landfill
process. Respondent from the Government group came to the following conclusion: “stakeholder
involvement, the EPA and working with the city made the Superfund process better”, another
respondent from the Governmental group stated, “because total removal is no longer an option
the city did not achieve all of their goals”. Members from the Environment/Citizen group
thought, “it is amazing that the Environmental Protection Agency has considered the City of
Kalamazoo in decision making”, another respondent stated “the EPA really tired to
accommodate the community while what was going on downstream, resulting in more delays”
and “timing was not achieved but everything else was done well”.

One Respondent from the Governmental group concluded, “no one gets exactly what
they want in what we do, compromise is a part of that and compromise has to benefit the city and
the residents”.

Respondents from both groups, Environmental and Citizen and Governmental understood
the goals of Superfund. Respondents grasped that Superfund aims to protect human welfare and
the environment and to minimize risk in the process. Respondents felt that this goal, the goal to
protect, is appropriate and fits the needs of communities and of the sites across the country.
There are goals of Superfund that are not quite as broad, the goals in financing and in community
involvement are far more specific than protectiveness. There are several takeaways from the
respondents understanding of the Superfund process, 1) participants knew the goals of superfund,
2) respondents understood that there are tradeoffs involving the type of clean and the cost associated with it, and 3) participant’s amazement at the ability to work together after such animosity.

**IV. Finance**

Five Respondents from both Governmental and Environment/Community groups were able to identify most of the ways in which Superfund is financed. Three Respondents from Environmental and Community and Government groups were not able to identify most of the ways in which Superfund is financed. Those who understood how Superfund is financed discussed the expired tax, liability and the Environmental Protection Agency’s general fund. Those who were unable to identify the key components, mentioned one or none of the items listed above as the important elements of how the program is financed.

Those who understood how the financing process learned through reading the law, direct interaction with the Environmental Protection Agency or physically seeking more money.

Respondents were asked how they thought Superfund should be financed. Members of the Governmental group thought, “people should clean up their own messes”. Other proposals ranged from a tax on corporations, and corporate America stepping up. Members of the Environmental and Community group thought that the original tax should be reinstated, and responsible parties need to pay for all of the clean up. One respondent stated that, “our society needs to recognize that in order to take care of the environment there needs to be a budget (spend what you have)”.

Most respondents from both Government and Environment/Community were not able, or did not want to give a well rounded answer to whether Allied was constrained by clean up
financing However, members from both groups made insightful comments regarding the process as they understand it. One respondent from the Government group stated, “The Environmental Protection Agency does the best they can with the inadequate resources they have, however they still have the rest of the Kalamazoo River to clean up”. One respondent from the Environment/Community group explained that “Allied was not constrained to the budget process of Superfund, 50 million dollars should be more than enough to clean up the site. In addition the Environmental Protection Agency does not have any interest in redeveloping the sites”.

The study of how Superfund is financed as it relates to Allied Paper Landfill produced significant findings: (1) that MOST folks actually understood the finance mechanisms, however they failed to directly state that the problem is not just constraint to Allied, but all the respondents recognized and supported the major ways to fix the budget problem. 2) respondents were slow to understanding how specifically Superfund is financed. However most respondents had a very basic understanding of the structure. Superfund originally was just that a “Superfund”; a trust was established and the money collected from a tax imposed on domestic and imported crude oil, petroleum and organic/inorganic chemicals was kept in the fund. In 1996 the taxes that funded Superfund expired and Congress never renewed the tax. The balance of the trust fund went from 3.8 billion to zero in between the years of 1996 and 2003. Most respondents identified that the tax had expired and there no longer was a fund that paid for the site clean up if liable parties were not present. 3) the same basic understanding of how Superfund is financed exists for liability. Respondents were able to identify that liability exists for parties responsible, however all respondents did not go into depth regarding the different types of liability. There are four different form of liability: joint, strict, several and retroactive liability. The function of liability makes it so that parties that are currently contributing, have contributed or were involved
with the disposal of the waste could be held responsible. 4) the goals for the funding mechanism of Superfund were agreed upon to be broken. Respondents from both groups acknowledged that no longer is there a fund present to finance site clean up. Due to shallow funds there cannot be a universal goal. A respondent from the Governmental group was able to explain that while money should not be the defining factor in a clean up alternative the present system forces it to be. Allied Paper Landfill, unlike a lot of sites has money, $50 million dollars for clean up. Some respondents felt that the clean up alternative should be restricted to this dollar amount, while others believed that the funds do not matter when there is hazardous waste present.

V. Community Involvement

Respondents were asked how community involvement is a part of the Superfund process. All of the respondents with the exception of one from the Government group had a strong opinion of the role of community involvement. One member from the government group stated that “community involvement is matching the needs of the community, while engaging the city and stakeholder groups”. Other respondents from the government group believed the Environmental Protection Agency does not fully understand how the process of community involvement should work. However respondents do think that the EPA is beginning to understand that communities like Kalamazoo want to be involved and cannot be ignored.

Members from the Environment/ Community group had significantly more to say about community involvement than those of the Government group. Members of this group stated that “The Environmental Protection Agency is required to take the public comment into consideration; strictly speaking the EPA does fulfill this requirement”. Other stated that,
“community involvement is entirely done by the Government but citizens bring awareness into decision-making, this is an asset that the Government can utilize through public participation”. More specifically regarding the process, one respondent stated that, “CERCLA requires community acceptance, and Allied Landfill is the first instance where there has been such an organized effort”.

Respondents from both groups agreed on the idea of empowerment. Citizens that are directly involved with community involvement facilitated by the EPA who are listened to and not just heard, face a great level of empowerment and trust in those making the decisions.

Respondents identified the groups of people that were most involved and made the largest difference as well as those who were missing from Community Involvement. Two respondents concluded that the Kalamazoo River Clean Up Coalition was the glue that held the community involvement together. One Respondent stated that no one was missing from the process. One respondent observed that the Hispanic population was missing from involvement. One respondent gave significant credit to the Community Involvement Coordinator and Site Project Manager.

A Government group respondent concluded, “Stakeholder involvement played an important role to where we are today, if the EPA [stayed] in their bubble [we] could have proposed alternatives that are protective and cost effective, the alternative we came up with working with the city is better for a variety of reasons one of which is it gives us the likelihood of a long-term stewardship ”.

Respondents were asked to conclude and reflect on their involvement with Allied Paper Landfill by identifying what they learned and what they would do differently. There was an overwhelming agreement on what the respondents learned; the importance of community
involvement, friendships have emerged, community leaders and elected officials influenced the
system, and finally if you listen you can get more done. Some of the common elements of the
process that respondents would do differently are approach the community differently and find
different approaches to doing so.

A respondent from the Environmental and Citizen group told the story of considering
different risks, how the community and the EPA have not considered subsidence fishing in the
Kalamazoo River and Lake Allegan. Broadening the EPA and the community’s risk assessment
is the perfect example of how respondents felt when asked what they would do differently.
Approaching the community differently with these perspectives in mind may have changed the
process.

Respondents from both groups agreed that the goal of community involvement is to
incorporate the public into the environmental decisions made by the Environmental Protection
Agency. Respondents held the belief that community involvement is adequate, however this
consensus cannot be universal site wide. The City of Kalamazoo has had a very unique
community involvement process, with community and environmental groups as well as the city
playing a very large role alongside the EPA’s decision-making process.

Respondents understood how community involvement was meant to work, however most
respondent’s knowledge of the importance and the function of community involvement came
from direct participation with the Environmental Protection Agency. Only one respondent from
the Environmental and Citizen group read the laws associated with Superfund (National
Environmental Policy Act and the Administrative Procedure Act); the other respondents learned
from experience. Respondents recalled that community involvement builds trust and alliances
but can be time consuming.
VI. Discussion

The requirement for community involvement is not only required but it is vital for an effective environmental decision making process. Community involvement is needed because the agency is the fourth branch of the United States government, and due to how agencies were create their power does not have a standardized check and balance process. Thus the public opinion serves to be the check and balance on agency decision making. Community involvement is attributed to, accountability, pluralism, increased quality of decisions, the resolution of conflict and education of the public and the government.

The evaluation of Allied Paper Landfill through the lens of the community members uncovered that community involvement exceeded the expectation. Region five of the Environmental Protection Agency reached out to community groups as well as the city government. In addition, the Environmental Protection Agency did not only meet the required community involvement actions but most of the recommended actions. Those involved in the study held very positive feelings regarding the effectiveness of the community involvement process at Allied. The EPA’s above and beyond attitude fostered an environment of trust, thus creating relationships. These actions promoted a community involvement process where the community had a stake in the decision making process.

This satisfaction did not always exist, respondents within the Kalamazoo community, were satisfied with the more recent (2013-2015) community involvement facilitated by the Environmental Protection Agency. Prior to 2013, participants stated that meetings were held behind closed doors or blackout periods where communication with the EPA was limited or unheard of.
The question that needs to be asked is how effective community involvement was achieved.

As researched, the important components of an effective community involvement process are trust and respect. The members of Kalamazoo were finally (2013-2015) made to feel that their input could and would change the decisions made at Allied Paper Landfill; and it did, a new redevelopment option was created that met some needs of the Kalamazoo community. The positive process of community involvement that occurred in Kalamazoo was not easy to achieve, the community groups and the city opposed the EPA’s original decision to cap and consolidate the PCB contaminates.

Gleaned from the interviews, the way in which effective community involvement was achieved at Allied Paper Landfill was trust, the alliance between the city of Kalamazoo and the EPA, roundtable discussions, stakeholder meetings and the joint awareness campaign. But why, why did these components add up to an effective process? The answer was presented above, it was the impasse between the city of Kalamazoo and the EPA. The community did not allow for the Environmental Protection Agency to make decisions without the public opinion. Due to the fact that the city and the Environmental Protection Agency were not going to achieve their goals independently they were in a sense forced to work together, creating what we are not labeling “effective”.

Within the community involvement literature review, two tables were presented which showed the positives and the negatives of community involvement. Many of these positives as well as some negatives were found in the Allied Paper Landfill community involvement process. Positives included: education, persuading and enlightening, activism skills, building strategic alliances, and gaining legitimacy of decisions. The positives played out as the newest proposal
for cleanup was created with the city of Kalamazoo government and the support of this cleanup option. The negatives that were seen at Allied Paper Landfill were the time consuming nature of involving the public in decision making. A record of decision was initially expected in 2013, however three years of involvement has significantly pushed the ROD back to 2016. However now there is widespread support of the expected record of decision.

The funding mechanism of Superfund is the second element of the program that was evaluated and research in the study of Allied Paper Landfill. Prior to the expiration of the Superfund tax the way in which site cleanups were conducted were uniform and predictable. However since 1996, the Superfund has been depleted, leaving funding in the hands of the potential responsible parties. Paying for the cleanup of sites is now entirely dependent on the cooperation of such parties; leaving funding to be entirely not uniform. The Environmental Protection Agency in many situations is responsible for finding ways to pay for cleanup beyond what was recovered from PRPs. Since the tax expiration, the funding mechanism of Superfund has remained broken. Participants involved in Allied Paper Landfill understood how broken the current funding system is and acknowledged that while Allied has $50 million to cleanup the site, the EPA will have to pay for the remainder that was not covered by the PRPs. Participants in the study were asked to come up with the way they thought Superfund should be funded; many believed that the tax should be reinstated or that the polluter should pay for all costs to cleanup.

As disclosed prior to the timeline of Allied Paper Landfill, relying on the knowledge of community members, government officials and environmental groups allows this study to have a wide range of information, some of it coming from experts and others not. While these eight people were very involved and knowledgeable they are not representative of all Kalamazoo or
their agencies or City. A larger cross section of individuals would need to be studied. Also, a limitation of this study is that it only included one case study, so we do not know if the same results or outcomes would be similar at other sites.

As the researcher in this study, there are several very significant takeaways. 1) Community involvement is vital to an outcome that will benefit the community, 2) it takes concerned citizens who want to work alongside the Environmental Protection Agency, 3) the city government in which the Superfund site resides needs to be involved in order to achieve a more effective community involvement process, 4) the tax or another form of funding needs to be created in order to fund site cleanup, and 5) the EPA needs to invest in educating the public on the community involvement and financing of the Superfund program.

VII. Conclusion

The case study of Allied Paper Landfill researched, uncovered and thus opened the door for more questions to be asked about the Superfund program. Through the lens of this site both the financing of the program as well as the community involvement as areas in which can be improved to better suit the needs of communities. While there are many more questions to be asked and studied, as a result of this study several conclusions can be drawn.

It can be assumed that while the community involvement that Kalamazoo experienced is adequate other sites in the country may not share this sentiment. After evaluating and comparing the literature with the results from the interviews, the process and thus the results were different from other Superfund sites. The question that emerges as a result is why is Kalamazoo different?

The immediate responses that this study produced are: community involvement, governmental and community relationships, size and affluence of a community, and city
government. Based on this study it can be assumed that all of these variables are flexible, not predictable and vary depending on the community. Therefore it cannot be just the style of the meetings held by the Environmental Protection Agency or the community groups efforts’ that result in effective public participation.

At Allied, arguably, it could be the number of community and environmental groups that played an active role with the citizens of Kalamazoo and the Environmental Protection Agency and the City’s involvement. In 2015 one of the environmental groups began a joint community outreach effort with the Environmental Protection Agency. The partnership symbolized the agency and the community being on the same side and therefore fighting for the same cause. So how does this happen? It is trust. Since the 1970s there has been a lack of coherence between the goals of the Government and the goals of the citizens, but effective community involvement may just be defined simply by trust. While after this study was conducted identifying how to conduct effective participation was more easily defined, but how you actually achieve this element of trust is still unknown and is site and individual specific. However, there were other factors that came into play: size and affluence of the community and city government. There are thousands of Superfund sites around the country, in fact roughly everyone lives within three miles of a site. Allied Paper Landfill sits in the middle of a large residential community and a city, which may have influenced the participation and success in achieving an acceptable clean up alternative.

There are still a lot of questions that can be used to guide further research: What happens now after the community has shaped the process? Are there risks still present? What about the rest of the river? What will the community involvement look like/who will be the major players? Can Kalamazoo be a case study for future Superfund sites?
The answers to these questions are still up in the air, from here Kalamazoo will see a Record of Decision and eventually the start of the cleanup process at Allied. As Allied Landfill is only site OU1 of an 81 mile larger Superfund site, the work is not yet done. Allied Paper Landfill even after cleanup will need constant monitoring from the Environmental Protection Agency. The other operable units of the Kalamazoo River Superfund site will need to constant presence of city governments and community groups to achieve the best possible cleanup.

The way in which Superfund is currently funded is completely inadequate. Liability being the sole funding mechanism does not allow Superfund to operate the way it was intended to when created in 1980. Site cleanup has slowed significantly and more and more the EPA is being relied on to fund the cleanup of these sites. The current and future Presidential administrations need to examine Superfund’s funding and determine if in fact reinstating the tax would be a solution to the problem. A greater significance needs to be placed on the quality of the environment and finding solutions to hazardous waste that is posing a significant threat to human health and the environment.

Kalamazoo as well as the stretch of the Kalamazoo River have the opportunity to create a new way to study Superfund and its components. As Superfund progresses throughout the years the funding and community involvement mechanisms will need to be questioned in regards to their adequacy. Allied Paper Landfill and the Respondent in this study will be drawn upon, as a way to change the outcomes at future sites.
Works Cited


VIII. Appendices

A. Human Subjects Institutional Review Board Approval

WESTERN MICHIGAN UNIVERSITY

Date: December 14, 2015
To: Denise Keel, Principal Investigator
    Kaitlin Braunschweig, Student Investigator for honors thesis
From: Amy Naugle, Ph.D., Chair
Re: Approval not needed for HSIRB Project Number 15-12-28

This letter will serve as confirmation that your project titled “Allied Paper Landfill: a Case Study of Superfund” has been reviewed by the Human Subjects Institutional Review Board (HSIRB). Based on that review, the HSIRB has determined that approval is not required for you to conduct this project because you are analyzing a program and not collecting personal identifiable (private) information about an individual.

Thank you for your concerns about protecting the rights and welfare of human subjects.

A copy of your protocol and a copy of this letter will be maintained in the HSIRB files.
### B. Potential Interview Subjects

<table>
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C. Interview Questions

Part I: Involvement in the Process
1. What is the goal of your agency/organization with respect to the Allied Landfill Supercild Site?
2. How long have you been involved with your agency/organization and the Allied Landfill? <1 year, 5 years, 10 years
3. Rate your level of involvement with your agency/organization in relation to Allied Landfill. How involved are you on a scale of 1 to 10.
4. Tell me a little about your involvement over that time. Provide me a BRIEF story/timeline of the Allied Landfill events, start with your involvement. What would you consider to be the major events? Were there other major events since then?

Part II: The Superfund Process
1. What is the goal of the Superfund process in your understanding? (Criteria)
2. How did you learn or explain or achieve the goals of the Superfund process?
3. What do you see as the goal for Allied?
4. How well do you think the overall goals of Superfund were achieved or implemented at Allied?
5. It is adequate?

Part III: Finance
1. In your understanding, how is Superfund financed/ how does the budget work as a criteria for the Superfund process. Tell me about your perception of your role in the budgetary process of Allied Landfill.
2. How did you learn or explain or achieve the funding criteria.
3. What should be the funding process goal for Superfund (Allied Landfill)?
4. How well do you think the budget/cost/finance criteria was achieved?
5. Looking back do you now understand the budget process of Superfund?
6. On a scale of 1 to 10 how well do you think the budget was done/presented for Allied?
7. Was Allied Landfill constrained to that process of funding, as you understand it?
8. Is it adequate?

Part IV: Community Involvement
1. In your understanding how is Community Involvement a part of the criteria of the Superfund process?
2. How would you describe the process of Community Involvement?
3. Tell me about your perception of your role in the community involvement process? (How did the subject learn about community involvement in the community)
4. How would you describe the relationship between the various groups in the community? What are your views of these different roles? Are there any other people missing? Did anybody dominate or change the process?
5. How successful do you think each constituent was/or the overall process of Community Involvement?
6. On a scale of 1 to 10 how well was Community Involvement done?
Part V: Conclusions

1. Looking back do you now understand the goals, budget process and community involvement of Superfund better?
2. What did you learn?
3. What would you do differently?
4. Is there anything that I have not asked you that you feel is important to my study of Allied Landfill?