
CITY PLANNING COMMISSION
CITY OF NEW ORLEANS

MITCHELL J. LANDRIEU
MAYOR

ROBERT D. RIVERS
EXECUTIVE DIRECTOR

LESLIE T. ALLEY
DEPUTY DIRECTOR

ENVIRONMENTAL STUDY
&
HAZARDOUS SITES INVENTORY

PREPARED ON: MARCH 20, 2018

PREPARED BY:

NICOLETTE JONES
PAUL CRAMER
LARRY MASSEY
BROOKE PERRY
RACHAEL BERG
AMOS WRIGHT
KELLY BUTLER
JAMES GILLIE

Contents

Executive Summary	1
A. Introduction	4
Background	4
Scope of Work	8
Study Goals	8
B. Regulatory Framework	9
Federal Environmental Regulations	9
Federal Brownfield Programs and Grant Opportunities	13
State Environmental Regulations	17
State Environmental Programs	18
Regional Brownfields Programs	21
Local Environmental Regulations	21
C. Nationwide Best Practices	25
Austin	25
Baltimore	31
Baton Rouge	32
New York	34
Pittsburgh	39
Lessons Learned from Other Communities	42
D. Analysis	44
Inventory of Known Landfill Sites	44
Inventory of Open Dumps	49
Inventory of Incinerator Sites	51
Master Plan Analysis	57
Former Industrial Districts	60
Environmental Justice/Low-Income Communities Correlation	60
New Orleans Program Deficiencies	61
E. Public Comments & CPC Responses	63
Comments from October 24, 2017 Public Hearing	63
Written Public Comments	63
F. Recommendations	65
Recommendations: Land Use Policy & Planning	65
Recommendations: Brownfields Management & Revitalization	66

Recommendations: Leveraging Resources and Grants	68
Recommendations: Cultivating Partnerships	69
Recommendations: Education and Outreach	71
Map Attachments	

Executive Summary

Purpose of Study

The City Council Motion directed the City Planning Commission to include the following subject matter in the study:

- Develop an Environmental Plan, to create an inventory of waste disposal, waste incineration, or other known sites where environmental toxins exceed federally mandated safety standards.
- Contemplate limiting certain types of developments/uses on contaminated sites to ensure that future uses will not negatively impact surrounding residents and citizens.

Study Goals

The City Planning Commission staff developed the following goals and objectives to guide the Environmental Study and its recommendations:

1. Identify types of brownfield sites (e.g. waste disposal, waste incineration, or other known sites where environmental toxins exceed federally mandated safety standards).
2. Provide an overview of New Orleans environmental concerns and conditions.
3. Raise public awareness of environmental conditions of land in New Orleans and educate the public on resources for how to check the conditions or status of particular sites.
4. Develop programs to facilitate the use of available resources to improve environmental conditions, enforce and monitor environmental standards, improve City staffing and capacity, reporting procedures, and partnerships.
5. Provide recommendations to promote the appropriate reuse of sites with known environmental conditions.

Key Findings

Based on the review of nationwide practices and the analysis of the situation in New Orleans, the following key findings informed the proposed Environmental Plan Study recommendations:

- New Orleans has a number of landfill, incinerator, dump sites that should be further studied for appropriate reuse.
- Environmental conditions may be present at sites based on past land use or vehicle emissions.
- The City of New Orleans formerly had a brownfields program with staffing. All other cities studied have long-established brownfields programs and managers.
- Many other cities provide local tools and incentives for site remediation and redevelopment. New Orleans has the framework for such a program in restoration tax abatement. Recently passed federal legislation may result in areas of New Orleans being designated as Opportunity Zones, which would provide federal tax incentives for development in distressed areas, including any brownfields sites within the designated area.
- While the City of New Orleans has economic development organizations, the City lacks a brownfields manager who can work with established organizations, property owners and developers, focusing on the intersection of brownfields remediation and economic development.

Recommendations

Land Use Policy & Planning

1. Conduct area studies to systematically analyze the challenges related to multiple brownfield sites and incorporate site-specific assessment and cleanup into larger community revitalization efforts.
2. Takes steps to modify Future Land Use Map designations and zoning classifications for appropriate re-use of sites with environmental conditions.
3. Promote voluntary soil testing generally and consider soil testing requirements for certain areas proposed for residential and institutional uses.
4. Consider policies to prohibit residential or school uses on landfill sites.
5. Identify additional “Opportunity Sites” and related policies that would be appropriate for inclusion in the Master Plan.

Brownfields Management & Revitalization

1. Designate brownfields personnel to collaborate with state and federal environmental agencies, secure sources of seed money, and manage resources.
2. Perform outreach to educate property owners as well as the general public of the need to consider environmental conditions of certain sites, and of the resources available to perform assessments.
3. Focus on redevelopment of City-owned sites in need of cleanup and appropriate reuse.
4. Ensure up-to-date reporting and stewardship of current resources and grants.

Leveraging Resources and Grants

1. Obtain Area-Wide Planning Grants on areas of former industrial use.
2. Obtain grants for environmental site assessments.
3. Obtain grants to provide workforce development in fields related to environmental assessment and cleanup.
4. Consider creating a program of tax abatements or credits for site cleanups.
5. Reestablish a Revolving Loan Fund for environmental cleanup of sites.

Cultivating Partnerships

1. Assemble a team of committed partners which may include business organizations, community development corporations, philanthropic organizations, and local government to promote the redevelopment of brownfield sites.
2. Work with the Regional Planning Commission’s (RPC) well-established brownfield program, steering potential grant applicants to the RPC while the City of New Orleans’ (CNO) program is being reestablished.
3. Work with the New Orleans Business Alliance (NOLABA) to identify sites appropriate for economic development, appropriate re-use, and developers/investors.
4. Take advantage of technical assistance from Kansas State University – Technical Assistance to Brownfields (KSU-TAB) and the Louisiana State University (LSU) Agricultural Center.
5. Partner with the Port of New Orleans and other entities performing area wide planning or similar re-use planning efforts.

Education and Outreach

1. Provide inventories of sites with known, un-remediated environmental conditions for public awareness.

2. Advise property owners and developers on performing due diligence, and on the need for environmental assessment especially on sites that have a history of industrial use.
3. Participate in public events to raise public awareness of environmental issues and resources available.

A. Introduction

Background

Council Motion M-17-440

The scope of the Hazardous Sites Inventory and Environmental Study is outlined in the motion¹ that directs the City Planning Commission to conduct the study. City Council Motion No. M-17-440 directs the City Planning Commission to include the following subject matter in the study:

- ∞ Develop an environmental plan to create an inventory of waste disposal, waste incineration, or other known sites where environmental toxins exceed federally mandated safety standards.
- ∞ Contemplate limiting certain types of developments/uses on contaminated sites to ensure that future uses will not negatively impact surrounding residents and citizens.

City Council Motion No. M-17-440 grants the City Planning Commission and its staff the flexibility to expand the scope of the study to make any and all legal and appropriate recommendations deemed necessary in light of the study, review, and public testimony resulting from the motion.

Purpose of Study

The purpose of the study is to provide the City Council and city residents with information about where and how sites that may have been historically used for landfills, incinerators, or industrial use, and which could potentially contain hazardous substances such as of toxic chemicals or heavy metals, should be addressed when considering plans for future development.

New Orleans land use development history includes residential neighborhoods having been developed adjacent to industrial uses. Many of the City's residential neighborhoods are located side by side abandoned or operating rail lines, the wharves along the river, abandoned warehouses, processing facilities, transfer stations, highways, and former landfills/dumps, the proximity of which leaves residents to contend with concerns about their exposure risks and overall safety and health. Not to mention, residents also have to contend with the issue of blight, especially in the situations where industrial uses have been abandoned or decommissioned and where redevelopment may be stifled by fear of pollution liability or lack of financing. New Orleans is not alone in this situation as every aging city has sites with industrial areas and empty sites that once contained a factory, gas station, dry cleaner, or incinerator, for example. This study is intended to assist in providing an understanding about how to address environmentally sensitive sites, also referred to as brownfields², and to provide recommendations for opportunities for reuse and resurrection of environmentally sensitive sites.

Site of the Former Agriculture Street Landfill

The Master Plan amendments proposed by Gordon Plaza residents set the stage for this environmental study. The residents of Gordon Plaza reside atop the site of the former Agriculture Street Landfill in the Desire neighborhood. From approximately 1909 to 1957, the City of New Orleans operated a 95 acre landfill near Agriculture Street in the Desire Neighborhood bounded by Higgins Boulevard to the north, the

¹ Motion No. M-17-440 is attached to this report.

²The Environment Protection Agency defines a brownfield as a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

Peoples Avenue Canal to the west, the Florida Avenue Canal to the south, and Clouet Street to the east. The landfill received municipal waste, ash from municipal waste incinerators, construction materials, and debris and ash from open burning. There is no evidence that industrial or chemical waste were ever transported to, or disposed of, at the site.³ The landfill ceased operating in 1957 and it was replaced by the Florida Avenue and Seventh Street incinerators. The Agriculture Street landfill briefly reopened in 1965 after Hurricane Betsy as a burning and disposal area for debris from the storm. From the 1970s through the late 1980s, the City allowed the northern portion of the site to be developed with two residential communities, the Gordon Plaza Subdivision and the Housing Authority of New Orleans Press Park Townhomes. By 1984, 390 housing units were built on top of the landfill which was covered with less than a foot of topsoil. In addition to the residences, the Orleans Parish School Board constructed the Robert Moton Elementary School on the site. Approximately 45 acres of the former landfill site adjacent to Almonaster Avenue was never developed.



Figure 1. Photo of fire at Agriculture Street Landfill in 1947. Source: *The Times Picayune*

In 1993, the Agriculture Street Landfill class action suit was filed after the Environmental Protection Agency (EPA) found the former landfill site was contaminated with toxic materials and placed the site on

³ Superfund Record of Decision Agriculture Street Landfill OU4. EPA. 1997.

the National Priorities List. In 1999, the EPA declared the site a Superfund⁴ site and recommended soil remediation, which included removal, grading and placement of clean soil above a layer of geotextile filter fabric. The following quote from Elodia Blanco, President of the Concerned Citizens of Agriculture Street Landfill, provides insight into the frustration of those who have lived at the site which is important for decision makers to consider when examining the use of environmentally sensitive sites:

“Our community leaders, built homes on top of a landfill that contained debris from Hurricane Betsy because no one paid attention to the toxic effects of this debris. Attention must be paid to cleaning up our environment as we rebuild our city. Communities should never live near toxic landfills, and should never live on top of landfills like the people of Ag Street have lived.”



Figure 2. Moton Elementary School now vacant. Source: Huffington Post

Master Plan

In 2017, the City Planning Commission and City Council adopted amendments to the Master Plan. One series of adopted amendments, proposed by the residents of Gordon Plaza, have acted as a precursor to this study. The adopted amendments to the Volume 2, Chapter 12, titled “*Adapt to Thrive: Environmental Stewardship, Disaster Risk Reduction, and Climate Change,*” include action items related to the identification, remediation, and redevelopment of contaminated sites and buildings and are copied below.

⁴ Superfund is the informal term used for sites that are part of the Comprehensive Environmental Response, Compensation and Liability Act, established in 1980, that gives the EPA the funds and authority to clean up contaminated sites.

Table 1. Recommended Strategies and Actions of the Master Plan, Vol. 2 Chapter 12

Recommended Strategy	How	Who	When	Resources
6.D. Identify, remediate, and redevelop contaminated sites and buildings	1. Identify and apply for federal, state, and other funding to remediate brownfields and other contaminated sites	ORS	Ongoing	Staff time, EPA
	2. Provide increased funding and support for lead remediation initiatives for homes, schools, and gardens	Health Department, ORS, academic partners	First Five Years	Staff time, EPA, HUD
	3. Pursue public engagement and education around environmental contamination and lead remediation	Health Department, LDEQ	First Five Years	Staff time, LDEQ, EPA
	4. Develop an inventory and map of all inactive, abandoned, or closed waste disposal and waste incineration sites	Sanitation, ITI	First Five Years	Staff time
	5. Develop and establish standards for the use of sites formerly used for waste disposal or incineration and preventing new construction of residential, educational, or institutional facilities.	CPC, DSP	First Five Years	Staff time
	6. Identify funding and resources to assist and support residents living in or near designated brownfields, superfund sites, or other areas with documented environmental justice issues	ORS, Mayor's Office, OCD	Medium Term	Staff time
	7. Identify and apply for Federal, State, and other funding or resources to relocate residents of the Gordon Plaza Subdivision that was built on the Agriculture Street Landfill, a Superfund site.	Mayor's Office	First Five Years	Staff time, EPA, LDEQ

In addition to the action items above, another amendment in this chapter was adopted that provides detailed information on the problems of lead contamination and potential solutions. Lead contamination in soil comes not just from lead-based paint (as manufactured prior to 1978), but also from vehicle emissions settling to the ground. Therefore, areas with older homes and in areas of the city center with a long history of heavy automobile traffic are the areas with the highest concentration of lead contamination in soil. As stated in the Master Plan, “lead poisoning is a root problem of numerous health problems.” These problems include learning disabilities and behavioral problems in children, as well as reproductive, nervous system, and blood pressure problems in adults. Dr. Howard Mielke, currently with the Tulane University School of Medicine, conducted research showing that children’s blood lead levels are closely associated with soil lead. As now noted in the Master Plan, “landscaping with low lead soil around old homes is required to create safe play areas for children.”

Opportunities for Reuse and Revitalization

While some contaminated sites, such as former landfills, may require more restrictive land use regulations if they are to be redeveloped, many brownfields thought to be unusable due to environmental contamination represent some of our greatest opportunities to secure new land for development and to revitalize distressed communities. This study aims to discover strategies and best practices in brownfield redevelopment, recognizing that cleaning up brownfields not only provides benefits in terms of environmental conditions, but can also help the city achieve other goals related to neighborhood revitalization (incentivizing investment and encouraging development of housing and supportive commercial uses) and economic development (creation of new jobs and influx of new businesses or industries).

Scope of Work

The City Planning Commission used City Council Motion M-17-440 as a guide for this study, but expanded the scope to contemplate the existing realm of environmental regulations, including state, regional, and federally mandated requirements. The directive of the motion includes the creation of an environmental plan and inventory of waste disposal and waste incineration, as well as recommendations on land use and zoning regulations for environmentally sensitive sites. This study provides an inventory of the city's landfills, open dumps, and incinerator sites, but has not included an assessment of the current environmental conditions at each of these sites. The City Planning Commission has also taken a more expansive view of the directive to recommend land use regulations which would limit future development at these sites. As part of this study, the City Planning Commission has looked at existing remediation programs at the federal and state levels in order to understand how the City of New Orleans could leverage these resources to remediate potentially contaminated sites. Finally, the City Planning Commission has provided a review of best practices from other communities to understand how local governments regulate and revitalize both former landfill sites as well as other brownfields such as former manufacturing sites. Together, the endeavors of this study should point toward implementable policy actions.

The report is broken down into the following sections. **Section A** of the study explains the scope of the City Council Motion, the study goals, and the lays out the background and motivation for the study, including the history of the Agriculture Street Landfill, which was the impetus for this study. **Section B** outlines the regulatory framework which lays the foundation of U.S. environmental policy. It also summarizes the numerous programs, including federal, state, and local, related to the remediation and redevelopment of contaminated sites. It also discusses the selection of sites that are the focus of this study. **Section C** outlines nationwide best practices related to brownfields remediation and redevelopment. **Section D** provides further analysis of the city's environmentally sensitive sites, and includes an inventory of known contaminated sites, including closed landfills, historic open dumps, and historic incinerator sites. This section also analyzes brownfield sites in relation to their zoning and future land use map designations, and looks at the correlation between brownfield locations and distressed/economically disadvantaged communities. Finally, the analysis looks at programmatic deficiencies within the local government. **Section E** includes a summary of written public comments submitted to CPC staff or received at the City Planning Commission hearing on October 24, 2017. The final section, **Section F**, includes recommendations broken down in five categories.

Study Goals

The City Planning Commission staff developed the following goals and objectives to guide the Environmental Plan Study and its recommendations:

1. Identify types of brownfield sites (e.g. waste disposal, waste incineration, or other known sites where environmental toxins exceed federally mandated safety standards).
2. Provide an overview of New Orleans environmental concerns and conditions.
3. Raise public awareness of environmental conditions of land in New Orleans and educate the public on resources for how to check the conditions or status of particular sites.
4. Develop programs to facilitate the use of available resources to improve environmental conditions, enforce and monitor environmental standards, improve City staffing and capacity, reporting procedures, and partnerships.
5. Provide recommendations to promote the appropriate reuse of sites with known environmental conditions.

B. Regulatory Framework

Federal Environmental Regulations

The federal government establishes laws and regulations to protect public health and environmental quality. Federal environmental laws are created by the legislative branch of the United States government, signed into effect by the executive branch, and codified as amendments to the United States Code. A few examples of federal environmental law are the Clean Air Act, Clean Water Act, and the Endangered Species Act. The majority of environmental laws are administered through the Environmental Protection Agency (EPA), although there are some exceptions; for example, the Endangered Species Act is administered through the United States Fish and Wildlife Service. Typically, a federal law does not contain sufficient details on how to enforce the law; thus, Congress authorizes the EPA or other agencies to create regulations to administer and implement the law. The EPA or other implementing agency proposes the regulations. After a period of public comment and revision, they are published in the Code of Federal Regulations. These regulations set specific requirements for what is permitted under federal law. For example, the Clean Water Act in the United States Code may establish that certain bodies of water are protected and shall not be polluted, and a regulation in the Code of Federal Regulations may establish what sort of pollutants are prohibited and at what levels. The EPA, or other implementing agency, enforce these regulations by pursuing civil or criminal enforcement against violators of environmental laws.

Resource Conservation and Recovery Act (RCRA)

The Resource Conservation and Recovery Act (RCRA) is the primary law governing the disposal of solid and hazardous waste. The law, enacted in 1976, empowered the Environmental Protection Agency with the authority to control hazardous waste from "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of non-hazardous solid wastes, encourages states to develop comprehensive plans to manage nonhazardous industrial solid waste and municipal solid waste, sets criteria for municipal solid waste landfills and other solid waste disposal facilities, and prohibits the open dumping of solid waste. The act also addresses environmental problems that could result from underground storage tanks (UST) storing petroleum and other hazardous substances. States play the lead role in implementing non-hazardous waste programs under Subtitle D. EPA has developed regulations to set minimum national technical standards for how disposal facilities should be designed and operated. States issue permits to ensure compliance with EPA and state regulations. Hazardous waste is regulated under Subtitle C of RCRA. Under Subtitle C, EPA may authorize states to implement key provisions of hazardous waste requirements in lieu of the federal government. If a state program does not exist, EPA directly implements the hazardous waste requirements in that state. Subtitle C regulations set criteria for hazardous waste generators, transporters, and treatment, storage and disposal facilities. This includes permitting requirements, enforcement and corrective action or cleanup.

Toxic Substances Control Act (TSCA)

The Toxic Substances Control Act (TSCA) of 1976 provides the Environmental Protection Agency with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Section 8 (b) of the TSCA requires EPA to compile, keep current and publish an inventory (called the "TSCA Inventory") of each chemical substance that is manufactured or processed, including imports, in the United States. This inventory plays a central role in the regulation of most industrial chemicals in the United States. While the disposal of most solid or hazardous waste is regulated

under the Resource Conservation and Recovery Act (RCRA), Polychlorinated Biphenyl (PCB)⁵ landfills are regulated by the Toxic Substances Control Act.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress in 1980. The law established prohibitions on closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites; and, established a fund to provide for cleanup when no responsible party could be identified. This law also authorized the Environmental Protection Agency to pursue enforcement actions against parties responsible for contaminated sites. CERCLA also enabled the revision of the National Contingency Plan (NCP), which provides the guidelines and procedures for the federal government's response to releases and threatened releases of hazardous substances, pollutants, or contaminants. Within the NCP is the National Priorities List (NPL), which is the list of sites of national priority among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.

In 2002, the Small Business Liability Relief and Brownfields Revitalization Act (commonly referred to as "the Brownfields Law") amended the CERCLA. This act provided funds to assess and clean up brownfields, clarified the liability protections established in CERCLA, and provided additional funding to states and tribal governments to enhance remediation and response programs. The law defined brownfields as, "real properties, the expansion, development, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant." Brownfields do not include sites that are considered "Superfund" sites; a contaminated site is generally considered a "Superfund site" if the federal government is or plans to be involved in cleanup efforts, which are generally listed on the National Priorities List (NPL). The federal government is not directly involved in brownfields remediation. Instead, state and tribal response programs play a significant role in cleaning up and revitalizing these sites, frequently through state voluntary cleanup programs.

Clean Water Act (CWA)

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. The Water Quality Standards Regulation in the Code of Federal Regulations establishes the requirements for states and tribes to review, revise and adopt water quality standards. It also establishes the procedures for EPA to review, approve, disapprove and promulgate water quality standards pursuant to section 303 (c) of the Clean Water Act. The Clean Water Act authorizes the management of the National Pollutant Discharge Elimination System (NPDES) permit program to state, tribal, and territorial governments, enabling them to perform many of the permitting, administrative, and enforcement aspects of the NPDES program. In states authorized to implement CWA programs, EPA retains oversight

⁵ According to the EPA, PCBs are a group of an-made organic chemicals known as chlorinated hydrocarbons. PCBs were domestically manufactured from 1929 until manufacturing was banned in 1979. PCBs were used in industrial and commercial applications such as electrical and hydraulic equipment, plasticizers in paints and rubber products, pigments and dyes in copy paper, among several others.

responsibilities. Louisiana is one of 46 states and one territory who are authorized to implement the NPDES program.

National Pollutant Discharge Elimination System (NPDES)

The Clean Water Act prohibits anybody from discharging “pollutants” through a "point source" into a "water of the United States" unless they have a National Pollutant Discharge Elimination System (NPDES) permit. Point sources are any discernible, confined and discrete conveyance, such as a pipe, ditch, channel, tunnel, conduit, discrete fissure, or container used to convey water into a water body protected under the Clean Water Act. The water bodies regulated are defined broadly and include navigable waters, tributaries to navigable waters, interstate waters, the oceans out to 200 miles, and intrastate waters which are used by interstate travelers for recreation or other purposes, as a source of fish or shellfish sold in interstate commerce, or for industrial purposes by industries engaged in interstate commerce. The term pollutant is also defined very broadly and includes any type of industrial, municipal, and agricultural waste discharged into water. Some examples are dredged soil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste.

A NPDES permit is specifically tailored to an individual facility based on the information contained in the permit application (e.g., type of activity, nature of discharge, receiving water quality). In New Orleans, the Sewerage & Water Board issues the permit to the facility for a specific time period (not to exceed five years) with a requirement that the facility reapply prior to the expiration date. In essence, the permit translates general requirements of the Clean Water Act into specific provisions tailored to the operations of each person discharging pollutants. The NPDES program also controls stormwater runoff transported through municipal separate storm sewer systems (MS4s). An MS4 is a conveyance or system of conveyances that is owned by a state, city, town, village, or other public entity that discharges to waters of the U.S., designed or used to collect or convey stormwater (e.g., storm drains, pipes, ditches), not a combined sewer, and not part of a sewage treatment plant, or publicly owned treatment works. To prevent harmful pollutants from being washed or dumped into MS4s, certain operators are required to obtain NPDES permits and develop stormwater management programs (SWMPs). The SWMP describes the stormwater control practices that will be implemented consistent with permit requirements to minimize the discharge of pollutants from the sewer system.

Office of Environmental Justice

In 1992, the Environmental Protection Agency created the Office of Environmental Justice (OEJ) for the purpose of addressing adverse environmental and health impacts on low-income, minority, and overburdened communities. The OEJ has integrated environmental justice considerations into the EPA and also partners with other federal, state, local, and tribal agencies. The OEJ also works with stakeholders in communities to incorporate environmental justice practices into their policies and procedures. The OEJ provides guidance and assistance in the following three concentrated areas:

1. **Environmental Justice Integration** includes four programs aimed at integrating environmental justice internally, in other federal, state, local, and tribal agencies, and in communities.
 3. *The Federal Interagency Working Group on Environmental Justice (EJ IWJ)* works in collaboration with 17 federal agencies and the White House offices to assist in the implementation of solutions for environmental and health challenges. The EJ IWJ makes sure that the federal agencies are accessible and accountable for the environmental and health concerns of communities.

- ⋮ *International Human Rights & Rights of Indigenous Peoples* is collaboration between the EPA and the U.S. State Department that engages with other countries to share best practices and ensure vulnerable populations health and environments are protected.
 - ⋮ *National Environmental Policy Act (NEPA)* is charged with providing a framework for fostering effective, efficient, and consistent consideration of environmental justice for decision-making on federal actions that affect the environment and human health. Currently, NEPA is in the process of implementing the Promising Promises for Environmental Justice Methodologies in NEPA Reviews, which is a compilation of practices obtained through a 4-year review of more than 200 federal NEPA practitioners.
 - ⋮ *Title VI of the Civil Rights Act of 1964* requires each federal agency providing assistance and programs using federal dollars to ensure that all programs and activities receiving this assistance does not discriminate against recipients in any way based on race, color, or national origin.

- 2. **Direct Support** is provided through two grant programs. First, the Environmental Justice Small Grants Program assists communities in developing revitalization visions, and the Collaborative Problem-Solving Cooperative Agreement Program supports implementation level projects for holistic solutions to communities most current and pressing needs. Technical support for helping communities understand science, regulations, and policies related to environmental issues is also available through the Technical Assistance Services for Communities (TASC) Program.

- 3. **Partnerships and Engagement** - to ensure meaningful engagement of stakeholders and public participation opportunities, the EPA has created the National Environmental Justice Advisory Council (NEJAC), which is tasked with providing independent advice and recommendations to the EPA Administrator about issues related to environmental justice. Also, the Tribal Consultation and Indigenous People's Engagement working group is a collaboration between the EPA, tribes, other federal agencies, states, and other stakeholders to implement the EPA Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples.

Emergency Planning and Community Right-to-Know Act (EPCRA)

In 1986, Congress enacted the Emergency Planning and Community Right-to-Know Act (EPCRA) establishing requirements for federal, state, and local governments, tribes, and industry reporting on the handling and storing hazardous and toxic chemicals. EPCRA is commonly referred to as the “Community Right-to-Know” Act and the key provisions of the EPCRA include:

1. Sections 301 and 303, *Emergency Planning*: Requires local and state governments to prepare and monitor emergency response plans. These plans are required to be prepared by local governments and updated annually. State governments are responsible for overseeing and coordinating local planning efforts. Sites that maintain Extremely Hazardous Substances (EHS) while meeting designated threshold quantities are required to participate in preparation of the emergency plan.

2. Section 304, *Emergency Notification*: Facilities must report accidental releases of EHSs in quantities greater than the site's allowed amount, or Reportable Quantities (RQ), to state and local officials.

3. Sections 311 and 312, *Community Right-to-Know Requirements*: Facilities handling or storing any hazardous chemicals must submit Material Safety Data Sheets (MSDSs) (or Safety Data Sheets,

SDSs) to state and local officials and local fire departments. Hazardous chemicals are defined under the Occupational Safety and Health Act (OSHA) and its implementing regulations. MSDSs (or SDSs) also describe the properties and health effects of these chemicals. Facilities must also submit an inventory form for these chemicals to state and local officials and local fire departments.

4. Section 313, *Toxic Release Inventory (TRI)*: Facilities must complete and submit a toxic chemical release inventory form (known as Form R) annually. Form R must be submitted for each of the over 600 TRI chemicals that are manufactured or otherwise used above the applicable threshold quantities.
5. Section 322, *Trade Secrets*: Facilities are allowed to withhold the specific chemical identity from the reports filed under sections 303, 311, 312 and 313 of EPCRA if the facilities submit a claim with substantiation to EPA.

Federal Brownfield Programs and Grant Opportunities

The federal government and Environmental Protection Agency (EPA) play a major regulatory role by writing environmental laws and regulations, setting national standards, and enforcing federal regulations. In addition, the EPA also provides assistance for state or local governments, businesses, non-profit institutions, individuals, or others in understanding and complying with federal regulations. The EPA provides financial assistance through grants to state environmental programs, non-profits, or educational institutions for scientific research or cleanup. Grant funds may be used toward the direct costs associated with the inventory, assessment, and cleanup planning for brownfield sites. The agency also sponsors partnerships between businesses, governments, and other stakeholders to improve environmental outcomes. The EPA also conducts scientific research and educates the public on environmental issues. A summary of select programs and grants are provided on the following pages.

Liability and Responsible Parties

Under CERCLA, entities or persons can be held strictly liable for cleanup of hazardous substances or properties they currently own or operate, or were previously owned or operated. Strict liability under CERCLA means that liability for environmental contamination can be assigned based solely on property ownership, without regard to causation, culpability or intent. Liability is also retroactive: parties may be held liable for acts of contamination occurring prior to the enactment of CERCLA.

State and local governments can be liable by virtue of property ownership or actions with respect to a particular site. For sites with a release (or threatened release) of hazardous substances, potentially responsible parties include any person or party which currently owns or operates the property, formerly owned or operated the property at the time of disposal of hazardous substances, arranged for hazardous substances to be disposed at the site, or transported hazardous substances to the site. However, the Small Business Liability Relief and Brownfields Revitalization Act amended CERCLA to provide liability relief and protections for property owners in compliance with specific provisions of the statute, including conducting All Appropriate Inquiries (AAI) for present and past use of the property. AAI is the process of evaluating a property's environmental conditions and assessing potential liability for contamination.

Brownfield grantees are expressly prohibited from using grant money to pay for response or remediation costs at a brownfield site for which the grantee is potentially liable under CERCLA. Therefore, eligibility for a brownfields grant requires an eligible entity considered a "potentially responsible party" under CERCLA to demonstrate that they meet one of the liability protections or defenses set forth in CERCLA

by establishing innocence as a landowner, contiguous property owner, bona fide prospective purchaser, or governmental entity that acquired the property involuntarily through adjudication, tax foreclosure, bankruptcy, abandonment or powers of eminent domain. All Appropriate Inquiries (AAI) must be conducted, in the form of a Phase I and/or Phase II Environmental Site Assessment (ESA) prior to purchase before an entity can claim liability protection.

Brownfields Assessment Grants

The EPA's assessment grants supply funding to grant recipients to inventory, characterize, assess and conduct planning and community involvement initiatives pertaining to brownfields. Such grants are commonly used to conduct Phase I and Phase II Environmental Site Assessments prior to cleanup. Eligible entities may also apply for up to \$200,000 in funds for the assessments of hazardous materials and \$200,000 in funds for the assessment of petroleum. A coalition of three or more eligible entities can submit a single grant proposal for up to \$1,000,000. Applications are typically due in the fall on an annual basis. Non-profits, states, redevelopment authorities, regional councils, tribal governments, and any general purpose unit of local government may apply.

EPA grants may be utilized to fund the assessment and cleanup of city-owned land, but the grant or loan must come from a third party, such as the Regional Planning Commission or an autonomous redevelopment entity. If the City has acquired land involuntarily through tax adjudication or other legal proceeding, it is not considered a "responsible party" and may apply for EPA grants to assess or remediate these sites. The City may also apply for grants through the LDEQ to fund assessment and cleanup of city-owned land. The City is not considered a "responsible party" if contamination of the site was unknown, versus an incinerator or landfill site, where the contamination was known. The City may also sell contaminated land even when it is the responsible party to a non-profit or other redevelopment entity (signing a clause that the buyer is aware of a Phase I ESA and understands the environmental conditions of the property they are purchasing). Once sold, the buyer can apply for EPA grants to further assess and remediate.

Phase I Environmental Site Assessment

A Phase I Environmental Site Assessment (ESA) is a report examining potential or extant environmental contamination of a given site or parcels of land. The report often includes a site description of geology, hydrology, hydrogeology, groundwater use and classification at the site, as well as photographs, chain-of-title report, environmental liens, a justification for performing the investigation, and a thoroughgoing records review of standard environmental data sources such as state and federal databases, city directories, Sanborn maps, historical topographic maps, and other forms of site reconnaissance. The consultant also conducts interviews with pertinent stakeholders in order to elicit qualitative site information from those who may have managed the subject property or otherwise have specialized knowledge about the subject property's use or history. The environmental consultant tasked with producing the Phase I ESA will report the findings and conclude with an opinion on environmental conditions. Finally, the Phase I ESA further reports on any data gaps or data failures of the ESA.

The cost of a Phase I ESA varies from as little as \$2,000 for a small site and as much as \$10,000 for a large site with multiple parcels or lots of record. A Phase I ESA might be triggered by suspicion of contamination relating to zoning or land use history, anecdotal evidence from community members or property owners, or the age of a structure. Former gas stations, for example, are commonly brownfields because of the presence of Underground Storage Tanks (USTs). The Phase I ESA report offers a layer of liability protection to developers, prospective purchasers, and other brownfields stakeholders and should be considered an integral phase of the pre-construction redevelopment schedule.

Phase II Environmental Site Assessment

Typically initiated after the completion of a Phase I ESA which has recommended further action on the basis of suspected contamination, a Phase II ESA is an intrusive site investigation which requires original sampling of soil, groundwater, building material, and any other medium suspected of contamination; such media are scientifically sampled, shipped to a certified lab using standardized shipping and handling protocols, and analyzed for quantitative values of contaminants. These analytical results are then used in the determination of contamination and designing a cleanup protocol. A Phase II ESA can cost anywhere from \$30,000 to \$100,000 or more, depending on the size of the site, levels of contamination and general complexity of the sampling and testing design protocols.

Because the value of an environmentally impacted property can be significantly reduced by the cost of contamination and cleanup, and in some cases cleanup liability can exceed the value of the property, the Phase II ESA is important for delineating and characterizing the type and extent of contamination, as this information may affect a potential purchaser's decision to continue with a property transaction. Significant environmental impacts may stymie development altogether.

Once a Phase II ESA has been completed and reviewed, and the cost estimate of cleanup is known, a potential purchaser may decide that the cost of cleanup is such as to justify the purchase of the property. The Phase II ESA will also allow a developer to determine whether contamination and cleanup activities will preclude the proposed development. Finally, should the developer decide to proceed with the transaction, the results of the Phase II ESA can be used to design a cleanup protocol on the basis of the characterization of the site contamination. In some cases, such as the investigation of USTs, tank removal can be combined with the Phase II ESA.

Brownfields Cleanup Grants

Cleanup grants provide funding over a three year performance period to eligible grant recipients to fund brownfield cleanup activities. Eligible entities may apply for up to \$200,000 per site. Due to funding limits, no entity can apply for cleanup grants at more than three sites at one given time. Cleanup grants require a 20 percent cost share in the form of monetary contributions, labor, material, or services, and must be for allowable costs and cannot include administrative expenses. A cleanup grant applicant may request a waiver of the 20 percent cost share requirement on the basis of hardship. Applicants must own the site for which the application is being submitted. Non-profits, states, redevelopment authorities, regional councils, tribal governments, and any general purpose unit of local government may apply.

Brownfields Revolving Loan Funds

Often used to supplement an assessment grant, and designed to operate for years or decades, the EPA's Revolving Loan Fund (RLF) grant program awards funding to grant recipients to capitalize a revolving loan fund for the provision of no-interest or low-interest loans for the cleanup of brownfields. The loan is repaid and the loan amount returned to the fund; thereafter, it is loaned to other borrowers, and thus providing a revolving and continually renewed source of capital funds for cleanup activities. Applicants and RLF Coalitions⁶ may apply for up to \$1,000,000 in funding. RLF grantees are prohibited from loaning to themselves. Non-profits, states, redevelopment authorities, regional councils, tribal governments, and any general purpose unit of local government may apply.

Once RLF money is returned to the revolving fund, this money is designated as "program income" and the lender has some discretion in how this program income can be utilized. A portion of RLF money needs to

⁶ An RLF coalition is a coalition of eligible entities working together under one lead agency to create a pool of grant funds.

be distributed in the form of a loan, but can also be distributed in the form of sub-grants. There are two types of RLFs: one is used for hazardous sites, and the other for petroleum sites (sites with underground storage tanks). An RLF for hazardous sites must remain used for hazardous sites even with program income and the same holds true for RLFs originally granted for petroleum sites. Once program income is received, this money can also be used to fund positions, create new programs, match grants, or assist with assessment and cleanups. The City of New Orleans received and has twice used RLFs: one in 2000 for the “Planet of the Dreamers” in the amount of \$500,000, and one in 2007 for St. Margaret’s (former Lindy Boggs hospital site) –for the amount of \$1 million.

Area-Wide Planning Grants

The EPA’s Brownfields Area-Wide Planning Grant Program supplies funding to grantees for the development of area-wide planning activities which will support the assessment, cleanup, and subsequent reuse of high-priority and catalyst brownfield sites. The grant program was created to assist communities in responding to local brownfields challenges, particularly where multiple brownfield sites are in proximity, connected by infrastructure, and overall limit the economic, environmental and social prosperity of their surroundings.⁷ The grant program is also part of the interagency partnership between HUD, DOT, and the EPA known as the Partnership for Sustainable Communities. Funding is competitive and allocated for a discrete project area such as neighborhoods, downtown districts, commercial corridors, industrial districts, and waterfronts which may be adversely affected by a single monolithic or multiple brownfield sites. Such area-wide planning grants are made available to applicants every other year; the next funding cycle is scheduled for the summer of 2018.

The Port of New Orleans was awarded a \$200,000 area-wide assessment grant in 2017 for the development of planning and implementation strategies designed to ameliorate the Industrial Canal Corridor, a 5.5-mile corridor spanning from Lake Pontchartrain to the Mississippi River which contains industrial, residential, and mixed-use properties distressed by vacancy, deteriorating structures, and environmental conditions. Buildings in this area were constructed and industries operated here well before rules were in place to protect human health and the environment, which has left the Port with many legacy brownfields issues. Catalyst sites within the area are two sections of the Florida Avenue Turning Basin and the Morrison Yard site. Area-wide strategic planning efforts will facilitate the assessment and cleanup of blighted or contaminated industrial properties within the planning area.

Environmental Workforce Development and Job Training Grants

Environmental workforce development and job training grants allow non-profit and other organizations to recruit, train and place low-income and minority, unemployed and under-employed people living in areas affected by contamination. Trainees acquire the professional skills needed to secure full-time employment in the environmental field, including performance of assessment and cleanup activities. Such green jobs cultivate a qualified local workforce, reduce unemployment, and contribute to environmental remediation and sustainability. Workforce development grants are available on an annual basis. Workforce development grants are funded up to \$200,000 over a period of three years.

Grant Stewardship

Grant stewardship is important not only for the viability of any existing grant, but also for an entity’s ability to be competitive for future grants, as the EPA will consider the entity’s program performance record when assessing future applications. Grant responsibilities include submission of timely quarterly and annual

⁷ Brownfields Area-Wide Planning Program Fact Sheet • July 2012 • EPA-560-F-12-182

reports, attendance at required EPA Region 6 conferences, managing the grant budget, conducting outreach, collaborating with developers and property owners to assess brownfield properties, managing environmental consultants and contracts, vetting all environmental reports, grant compliance, and other duties and activities associated with operating a brownfield grant. The Brownfields Program Manager is also responsible for regularly updating the Assessment Cleanup Redevelopment Exchange System (ACRES) database, which the EPA uses for performance monitoring, documenting site contamination, and tracking progress of assessment activities.

Eligible entities include state, local, and tribal governments, as well as a range of governmental entities, including general purpose units of local government, land clearance authorities or other quasi-governmental entities operating under the control, supervision, or as agents of local governments, governmental entities or redevelopment agencies created or sanctioned by a state, and regional councils of governments.

State Environmental Regulations

Many of the federal laws, regulations, and programs discussed previously are implemented by state or tribal governments who control permitting, administrative, enforcement, and other aspects. The Louisiana Department of Environmental Quality (LDEQ) has jurisdiction over matters affecting the environment within the State of Louisiana, including the regulation of air quality, water pollution control, solid waste disposal, the regulation and control of radiation, the management of hazardous waste, and other environmental matters. The LDEQ regulates these issues through the issuance of permits, monitoring and inspections, enforcement of environmental laws, assessments of environmental quality, cleanup, and other programs. The bulk of the environmental laws and regulations for the state of Louisiana are contained in “Title 30. Minerals, Oil, and Gas and Environmental Quality” of the Louisiana Revised Statutes and “Title 33. Environmental Quality” of the Louisiana Administrative Code.

Louisiana Hazardous Waste Control Law

The Louisiana Hazardous Waste Control Law (RS 30:2171) establishes a framework for the regulation, monitoring, and control of the generation, transportation, treatment, storage, and disposal of hazardous wastes. It also authorizes the development, implementation, and enforcement of a comprehensive state hazardous waste control program. This law authorizes regulations for Underground Storage Tanks (USTs) by empowering LDEQ to promulgate rules and regulations to require the registration of certain underground storage tanks; to establish requirements for ensuring sound underground storage tank management for preventing, controlling, remediating, and abating actual or potential contamination of surface water, groundwater, or soils; to establish requirements for reporting of known releases and for taking corrective action in response to known releases from underground storage tank systems; to establish a field citation program with penalty imposing authority; and to establish a certification program for persons installing, repairing, or closing underground storage tank systems. The “Motor Fuels Underground Storage Tank Trust Fund”, also known as the “Tank Trust Fund,” also established by this law provides funding to offset the cost to the state of administering the underground storage tank program and the cost of investigation, testing, containment, control, and cleanup of releases from underground storage tanks containing regulated substances.

In addition, the law addresses liability for sites which contain with hazardous waste and authorizes LDEQ to identify locations at which a discharge or disposal of a hazardous substance may have occurred at any time in the past, to provide a mechanism to the department to ensure that the costs of remedial actions are borne by those who contributed to the discharge or disposal, and to allow the department to respond as quickly as possible to hazardous substance discharges while retaining the right to institute legal actions

against those responsible for remedial costs. The law provides a mechanism for a liability exemption for those (non-responsible) individuals who complete remedial actions to remove or remedy the contamination at the site in accordance with a voluntary remedial action plan approved in advance by LDEQ.

Louisiana Inactive and Abandoned Hazardous Waste Site Law

The Louisiana Inactive and Abandoned Hazardous Waste Site Law (RS 30:2221) addresses those situations where the State must direct or participate in the clean-up, closure, or post-closure of inactive and abandoned hazardous waste sites through the exercise of its police powers and the expenditure of public monies or both. The law establishes an inactive and abandoned hazardous waste site program and a Hazardous Waste Site Cleanup Fund to provide for the control, prevention, abatement, and cleanup of inactive and abandoned hazardous waste sites.

Louisiana Solid Waste Management and Resource Recovery Law

The Louisiana Solid Waste Management and Resource Recovery Law (RS 30:2151) regulates the disposal and utilization of solid waste. The law also requires the state to develop a general solid waste management plan which encourages the maximum practicable use of resource recovery procedures as well as a coordinated statewide resource recovery and management program.

Louisiana Water Control Law

The Louisiana Water Control Law (RS 30:2071) regulates the discharge of waste materials, pollutants, and other substances into the waters of the state. This law establishes the "Louisiana Pollutant Discharge Elimination System (LPDES)", which is deemed equivalent to the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act, and for which Louisiana is the delegated authority. The LPDES authorizes the State to issue all permits provided for under the Clean Water Act, as well as the general permits program, the storm water discharge program, the pretreatment program, and the sewage sludge program.

State Environmental Programs

Programs Associated with Inactive & Abandoned Sites

The LDEQ has developed several programs for the identification, investigation, and remediation of inactive and abandoned hazardous waste or hazardous substance sites.⁸ One includes a mandatory reporting program to help identify inactive or uncontrolled sites where hazardous substances could have been disposed of or discharged. The owner, lessees, or other person who know of such a site, must report this information to the LDEQ. The department may also discover sites through its own investigations, referrals from other agencies, or other means.

Once a site has been reported, a preliminary evaluation is completed and the information is used to determine whether or not remedial action is necessary at the site. The LDEQ has developed a Risk Evaluation/Corrective Action Program (RECAP) to address risks to human health and the environment posed by the release of chemical constituents to the environment. The program uses risk evaluation to determine if corrective action is necessary for the protection of human health and the environment, and

⁸ These regulations are located in the Louisiana Administrative Code, Title 33. Environmental Quality, Part VI. Inactive and Abandoned Hazardous Waste and Hazardous Substance Site Remediation

identify levels in impacted media that do not pose unacceptable risks to human health or the environment by the RECAP standards.

The Louisiana Voluntary Remediation Program (VRP) provides a mechanism by which property owners (or potential owners) or others can clean up contaminated properties and receive a release of liability for further cleanup of historical contamination at a site. This release of liability flows to future owners of the property as well. Through the Voluntary Remediation Program, LDEQ provides administrative, technical, and legal incentives in order to encourage the redevelopment and reuse of brownfields properties.

Underground Storage Tanks Program

The goal of the Underground Storage Tanks (USTs) program is to protect human health and the environment by preventing releases of petroleum and hazardous substances from UST systems. The release of these regulated products into the environment threatens soil and groundwater resources and can cause explosive vapors to seep into confined spaces and occupied residences. To help prevent contamination caused by leaking tanks, tank owners and operators must comply with state rules for USTs. The objectives of the UST program are to ensure that UST systems are properly constructed and designed, installations, repairs, and removals are conducted and inspected by qualified individuals, that active USTs are properly operated and monitored for releases, and that USTs are properly closed and/or removed and the sites properly assessed for contamination.

Louisiana Pollutant Discharge Elimination System (LPDES)

Louisiana's Water Quality Regulations (LAC 33: Chapter IX) require permits for the discharge of pollutants from any point source into waters of the state of Louisiana. This surface water discharge permitting system is administered under the Louisiana Pollutant Discharge Elimination System (LPDES) program. The City of New Orleans has a Municipal Separate Storm Sewer Systems (MS4s) permit. The permit allows the City of New Orleans, along with the co-permittees Sewerage and Water Board of New Orleans, Louisiana Department of Transportation, Port of New Orleans, Jefferson Parish (due to the shared 17th Street Canal), and the Orleans Levee District, to discharge to waters of the State in accordance with the City's Storm Water Management Plan, effluent limitations, monitoring requirements, and other conditions set forth in the permit. LDEQ also issues permits to private businesses or facilities, examples of individual NPEDES permits in New Orleans include the NASA Michoud Assembly Facility, Southern Recycling, and the Fair Grounds Race Course.

Office of Environmental Services

Unlike the federal government, the State of Louisiana does not have an environmental justice agency, but does provide a public participation component through the LDEQ's Office of Environmental Services. The Public Participation Group (PPG) is a part of the Permit Support Services Division within the Office of Environmental Services. The PPG's public participation goals and objectives are to keep citizens informed and involved in all activities associated with the issuance of permits for air, hazardous waste, solid waste, water, and other LDEQ activities of public interest and to enable citizens to be a part of environmental decisions that may affect their life.⁹

⁹ LDEQ is required to issue public notice and hold public hearings and meetings associated with permitting activities related to the four categories of media (Air, Hazardous Waste, Solid Waste, and Water) in accordance with Subtitle II of Title 30 of LA Revised Statutes RS30:2001, Environmental Regulatory Codes LAC 33, and the Code of Federal Regulations 40 CFR.

The public is informed by the LDEQ about the status of a permit at the following stages:

Table 2. LDEQ Notification Stages

	Hazardous Waste	Solid Waste	Water	Air
Pre-Application	X	X		
Application Received	X	X		
Permit Application Deemed Complete	X	X	X	X
Proposed Permit or Draft	X	X	X	X
Final Decision	X	X	X	X

Local Brownfields Redevelopments

Redevelopment of Lindy Boggs Medical Center

Remediation work was just completed in late 2017 on the former Lindy Boggs Medical Center site which was abandoned after the facility flooded during Hurricane Katrina. The site is located at 301 N. Jefferson Davis Parkway in the heart of the Mid-City neighborhood next to Bayou St. John and the Lafitte Greenway. St. Margaret's Foundation bought the property in 2010 and have since redeveloped a part of the facility into a nursing home. St. Margaret's also performed a Phase I Environmental Site Assessment (ESA) prior to their purchase of the site. A Phase II ESA work plan and Quality Assurance Project Plan (QAPP) were subsequently created under the City of New Orleans Brownfield Program, and the site was enrolled in LDEQ's Voluntary Remediation Program. The Phase II was completed with funding under RPC's Brownfield Program. Asbestos abatement is being funded by a cleanup loan and grants from the City of New Orleans' revolving loan fund and cleanup grants from EPA and LDEQ to St. Margaret's Foundation. The property owners have received \$1.1 million in grants and loans for the remediation work. Cleanup included the removal of mold and asbestos abatement, and was performed by Aerostar contractors. There was also a concern about potential radioactive material from previous hospital operations, so the RPC enrolled the site into its Brownfield Program again to perform a radioactive health and safety screening and develop and RFP for the cleanup. The contractor is currently in the process of putting together the final report to send in to LDEQ and EPA for approval. Plans for the use of the buildings are still in consideration, though there have been talks of converting the buildings to a multi-family residential dwelling or an assisted living facility.



Regional Brownfields Programs

RPC Brownfield Program Manager

The Regional Planning Commission (RPC) has a Brownfields Redevelopment Program Coordinator (funded through program income from RLF grants) that offers technical assistance for brownfields in the Orleans, Jefferson, St. Bernard, Plaquemines, St. John, St. Tammany, St. Charles and Tangipahoa parishes. The Brownfields Redevelopment Program Coordinator applies for grants through the Environmental Protection Agency's (EPA) Brownfield and Land Revitalization Program to help assess and redevelop brownfields within these parishes. The grants provide funding for Phase 1 and 2 Environmental Site Assessments but does not fund cleanup activities.

The City of New Orleans formerly had an Office of Environmental Affairs that managed the Brownfield's Program. The City of New Orleans most recently had a loan and grant from the Brownfield Cleanup Revolving Loan Program. Much of this money is being used to remediate the former Lindy Boggs Medical Center Site, which was executed and overseen by the RPC Brownfields Redevelopment Program Coordinator in combination with the City of New Orleans' Office of Environmental Affairs (now the Office of Resilience and Sustainability).

Local Environmental Regulations

Lead-Based Paint

Painting is exempt from City permitting requirements; however, per **Chapter 82 – Health and Sanitation** of the City Code, a “Lead-Based Paint Removal Form” must be filed with the Building Inspection Division of the Department of Safety and Permits prior to starting work on the exterior of any structure built prior to 1979. In 2001, the City adopted Ordinance 20,345 M.C.S., which established standards for working with lead-based paint in New Orleans. This ordinance governs all activities which disturb or remove lead-based paint in and on all buildings and steel structures constructed prior to December 31, 1978. These regulations have been put in place to protect the public, especially children from the harmful effects of lead contamination. Lead-paint removal, if not properly contained, can cause lead contaminated dust which can easily be inhaled or ingested and also can settle into soil which similarly can be ingested and poison an individual or child.¹⁰ The City also provides guidelines on its website for the proper removal of lead paint and protection of soil and air. Per City requirements, property owners painting a home built prior to 1979 must do the following:

- ⋄ File a “Lead-Based Paint Removal Form” with the Department of Safety and Permits.
- ⋄ Notify all tenants of the structure that work with lead-based paint will be occurring.
- ⋄ If the work to be performed is a complete lead abatement, this must be performed by a State-licensed “Lead-Based Paint Abatement and Removal” contractor.

The lead-based paint regulations are complemented by the New Orleans Department of Health's Childhood Lead Poisoning Prevention Program which attempts to detect all sources of lead poisoning (which are not

¹⁰ Excessive lead-containing dust is lead in surface dust including but not limited to dust on interior window sills, window troughs, floors, and soil as defined according to regulations promulgated by the United States Environmental Protection Agency at 40 C.F.R. § 745.227. These standards are currently defined as 250 micrograms per square foot for interior window sills, 400 micrograms per square foot for interior window troughs, 400 micrograms per square foot for window troughs, 40 micrograms per square foot for floors, 400 parts per million for bare soil in play areas, and 1200 parts per million for soil in non-play areas of a yard.

exclusively attributed to lead-based paint), to track records, program outreach activities, and monitor contamination through inspections.

Local Brownfields Redevelopment

Redevelopment of the Falstaff Brewery

The Falstaff Apartments development is an approximately 2 acre site at 2600 Gravier Street. The property is the site of a former brewing facility, which according to historic City records operated from the beginning of the 20th century to the late 1970s as the Falstaff Brewing Corporation. Upon its closure, the facility sat vacant for several decades.

In August 2005, through funding from the Regional Planning Commission's Brownfield Assessment Grant Program, a Phase I Environmental Site Assessment was conducted at the site as well as asbestos and lead surveys. The environmental consultant found the following Recognized Environmental Conditions associated with the property: three rail spurs (possibly associated with petroleum and heavy metal contamination), transformers (evidence of high-voltage electrical feeds), containers of various chemicals, petroleum staining, sumps and drains (associated with areas with petroleum staining), and vaults (potentially associated with oil water separators). In addition, the following de minimis environmental conditions were found: thermometers (which may contain elemental mercury), municipal trash, treated rail lines, tires, and transformers.

The developer used the results of the Phase I Environmental Site Assessment to proceed independently with cleanup and rehabilitation of the historic landmark structure. The developer hired Leaf Environmental, LLC as a consultant during the remediation work. The facility now includes a mixed-use development and offers an affordable rental program. This brownfield redevelopment project showcases the leveraging millions of dollars in redevelopment value from a single Phase I Environmental Site Assessment grant.



Underground Storage Tanks

The local and state regulation of substances within underground storage tanks ensure the prevention of future hazard with regard to groundwater and soil contamination. The City's Fire Prevention Code contains regulations related to the removal of underground storage tanks. Any installation or removal/closure of an underground storage tank containing fuel or other combustible liquid is required to submit a building or demolition permit application to the Department of Safety and Permits which is then reviewed locally by the plans examiner of the New Orleans Fire Department Fire Prevention Division. If a property owner is removing/closing an underground storage tank, then he or she must also submit a "Notification of Intent to Perform Closure" letter addressed to the Louisiana Department of Environmental Quality's Underground Storage Tank Division. State regulations also require that owners and operators measure for the presence of a release, where contamination is most likely to be present at an underground storage tank site, before permanent closure or change-in-service is completed. After the closure is performed, the owner must submit the results of the closure assessment in the form of a "Closure Assessment Report" to LDEQ within 60 days. Detailed guidelines for closure of underground storage tanks are provided on the LDEQ's website and include recommended safety practices, recommended sampling procedures, among many other technical guidelines.

Local Agencies

The following local governmental agencies are responsible for promulgating different state and federal requirements within the New Orleans community and oversee programs to promote public health, sustainability, and environmental protection.

Sewerage & Water Board of New Orleans

The Sewerage and Water Board holds the primary responsibility to protect water quality through the management of stormwater runoff in Orleans Parish. The Sewerage and Water Board follows the 2012 International Plumbing Codes with Amendments specific to stormwater discharges that reflect requirements of the MS4 Permit tailored to Orleans Parish. These regulations are contained in Section 16.1 - Rules Governing Discharges into the Public Storm Drain System MS4 of the Municipal Code of the Sewerage and Water Board of New Orleans. Under the requirements of the Clean Water Act, and the Louisiana Environmental Quality Act, the Sewerage and Water Board of New Orleans is required to develop a Storm Water Enforcement Response Plan. The intent of the Enforcement Plan is to provide guidance to SWBNO officials in enforcing Section 16.1 of the Sewerage & Water Board of New Orleans Plumbing Code. In addition to its enforcement responsibilities, the Sewerage & Water Board performs public outreach to educate the public about water quality issues through school visits, community events, and other special programs. The Sewerage and Water Board received the EPA Urban waters Small Grant to support the SWBNO Green Infrastructure Monitoring Project. The SWBNO Green Infrastructure Monitoring Project involves the collection, analysis, and communication of data on the effects of green infrastructure installations on the water quality of urban runoff on the site specific level and on the community scale.

Sanitation Department

The Department of Sanitation directs all activities related to garbage collection, disposal, recycling, and street cleaning, including registration of new garbage and recycling cans. It is also responsible for ensuring compliance of local, state, and federal regulations for solid waste collection and disposal for the City of New Orleans. The Sanitation Department is critical in determining appropriate re-use of sites for which it is responsible.

Health Department

The City of New Orleans Health Department's mission is to protect, promote and improve the health of all where we live, learn, work and play. In 2015, the Department developed a strategic plan to build a "healthy New Orleans through equitable social and environmental conditions and through policies, programs and partnerships that promote health." The Health Department has received national accreditation by the Public Health Accreditation Board. Among its top eight priorities, the Department seeks to promote healthy environments through improving City ordinances related to environmental public health hazards. The presence of lead and other heavy metals in the soil is a particular environmental concern, and soil testing is recommended throughout the city, especially where young children are involved.

Office of Resilience & Sustainability

Using the City's resilience strategy, *Resilient New Orleans*, as a guide, the Office of Resilience and Sustainability (ORS) works with other City departments and agencies to advise on the strategic pursuit of comprehensive resilience priorities across environmental, social, economic, and infrastructural improvement goals. ORS also leads the outreach efforts associated with resilience-building projects and the management of the projects associated with the U.S. Department of Housing and Urban Development – National Disaster Resilience Competition award. Above all, ORS leads the strategic combination of efforts to achieve multiple benefits for public, private, and nonprofit initiatives in New Orleans.

This office was preceded by the Mayor's Office of Environmental Affairs, which had a similar mission though without as strong an emphasis on resilience or stormwater management. The Environmental Affairs Office housed the City's brownfields program from approximately 2006 to 2015. The brownfields manager facilitated environmental assessments for property owners of brownfield sites or potential brownfield sites in the city. Map 1 shows the sites, both privately and publicly owned, that were assessed through assistance from the former brownfields program manager. The City was also granted a Revolving Loan Fund (RLF) by the EPA for brownfield cleanup. This RLF is currently invested in the St. Margaret's facility at the former Lindy Boggs Hospital.

C. Nationwide Best Practices

To research best practices in local brownfields and environmental programs, the City Planning Commission staff selected cities for different reasons including history of industrial use, known inventive planning practices, and regional balance. Staff researched and synopsized best practices in brownfield assessment, remediation and general environmental hazard management, local organizational frameworks, and case studies on brownfield redevelopment projects in cities including Austin, Baltimore, Baton Rouge, New York City, and Pittsburgh.

Austin

Brownfields Program

The City of Austin's brownfields program is managed under the Department of Resource Recovery (formerly known as the Sanitation Department) which has a staff of approximately 400. The Brownfields Revitalization Office supports redeveloping properties by providing free site assessments and technical assistance to relieve environmental concerns. This office partners with other government agencies as well as community organizations to support the revitalization of brownfields as a way to return properties to the community as a greenspace or as a commercial, residential, or mixed-use development. The program uses collaborative strategies, such as securing federal grant dollars from the U.S. Environmental Protection Agency, providing zero to low interest remediation loans, and assisting with revitalization planning. Part, or \$1.8 million, of the Department of Resource Recovery's total \$94 million budget for FY 2017 - 2018 is programmed for "remediation" which includes maintenance of City's landfills in post closure, monitoring of groundwater contamination, and finally, management of the City's brownfields program.

In 2011, the City of Austin adopted a Resource Recovery Master Plan which outlines a diversion strategy to achieve a "Zero Waste" goal by 2040 (in accordance with UN Sustainable Development Goals). Part of the plan also focuses on economic development opportunities, including the redevelopment of brownfields sites. The economic benefits of brownfield redevelopment, as stated in the plan, were the following: "reduction of urban sprawl, creation of new jobs, increasing the local tax base, improving the value of adjacent property, and mitigating public health and safety concerns." The Resource Recovery Master Plan also stated the following environmental benefits of brownfields redevelopment: "preservation of open space and farmland, reuse of existing infrastructure, utilities, roads and services, climate protection through convenient and diverse transportation models, environmental justice through community participation, and redevelopment using green building and renewable technologies." The plan outlines several cross departmental collaborative opportunities including with the Parks and Recreation Department to support brownfields real estate reuses, by identifying sites, and partnering to apply for green-space grant funds. The plan also stresses collaboration with the Watershed Protection Department who can assist with the identification of brownfield properties and provide technical assistance with the evaluation and remediation of such properties.

In 2016, the Brownfields Revitalization Office received an EPA grant in the amount of \$820,000 which allowed the City to create a revolving loan fund for property owners and developers to fund cleanup of contaminated properties. This grant money allows Austin Brownfields Revitalization Office to provide loans that most banks would not, and to provide gap funding until the cleanup is over.

In 2017, the Brownfields Revitalization Office was awarded an EPA Community Wide Assessment Grant totaling \$300,000. The grant will fund community outreach activities, phase I and II environmental site

assessments, and cleanup plans specifically dedicated toward East Austin’s “Eastern Crescent” neighborhood where past zoning regulations allowed industrial facilities such as power plants, fuel tank farms and cement plants to operate resulting in hundreds of brownfield sites today. The City’s goal is to reduce the disproportionate concentration of contaminated sites in East Austin and to put blighted sites in the urban core back into productive use by conducting assessments.

The City of Austin’s Brownfields Revitalization Office also hosts a yearly soil testing fair, where residents can submit soil samples from their properties, and the City will run complimentary tests to report levels of metals and nutrients. The results of this annual testing is mapped and published on the City’s website.¹¹

Regulation of Closed Landfill Sites

The City of Austin currently requires developments on or within the buffer of identified closed landfill sites to file specific permitting information with the City of Austin prior to the release of a building permit or subdivision approval for new construction (including residential, commercial, or public enclosed structures). In addition, any development on a site of one acre or more is required to prepare and submit soil test to the Texas Commission of Environmental Quality. The soil test is intended to determine if a landfill exists on the property planned for development.

Per City of Austin requirements, all commercial or multi-family development applications for subdivision, site plan, and building permits on tracts more than one acre in size, or smaller tracts that are located within a landfill buffer area must provide a:

- Certificate sealed by a Professional Engineer certifying the site is not over a closed landfill and describing the basis for that determination, or;
- Development permit from the TCEQ, or;
- Letter from the TCEQ stating that the project is not subject to the requirements of TAC Ch. 330, Subchapter T.

This requirement conforms to a Texas statute adopted in 1994. Per the statute, any new development over a closed municipal landfill must obtain a permit by the Texas Commission of Environmental Quality (TCEQ) prior to construction. All existing developments constructed over closed landfills prior to 1993 do not need permits, but must register with the State as well as submit a landfill gas monitoring plan. These rules, however, exempt owners of single family homes and duplexes, but do apply to developers of subdivisions. Also, per state law, owners of property overlying a closed municipal landfill must file a written notice to include in the deed record for that property stating that the property contains a closed landfill. Additionally, any lessees, buyers, and occupants on land overlying the closed landfill must be notified of the landfill’s existence.

The City of Austin’s Watershed Protection Department and Development Services Department oversee the map of identified closed landfill sites within the jurisdiction’s boundaries. There are currently 80 identified sites. A cursory review of the marked sites against the City of Austin’s zoning map indicates that the closed landfill sites are designated with a variety of land use districts from P-Public District, TOD-Transit Oriented Development District, and SF-Single Family District.

The list identified landfills was initially compiled in 1984 when the City first hired a consultant to identify and locate waste disposal sites (i.e. landfills and dumps) in and around the City. The assessment targeted all known or suspected waste sites in the area, including City-owned/operated and non-City owned/operated

¹¹ 2016 soil test results maps can be viewed here:
http://austintexas.gov/sites/default/files/files/Resource_Recovery/SK2016-MetalsResultsMap.pdf

sites, and included an assessment of the sites' environmental conditions or potential conditions and recommendations. The assessment resulted in the identification of 66 waste sites, 39 active and 27 inactive. Over the years, more sites were added as more were identified. In 2004, the City commissioned another updated assessment of these identified waste sites, which included recommended actions for each landfill based on the results of the condition assessments and based on those which may pose a material threat to human health or the environment or represent a regulatory violation.

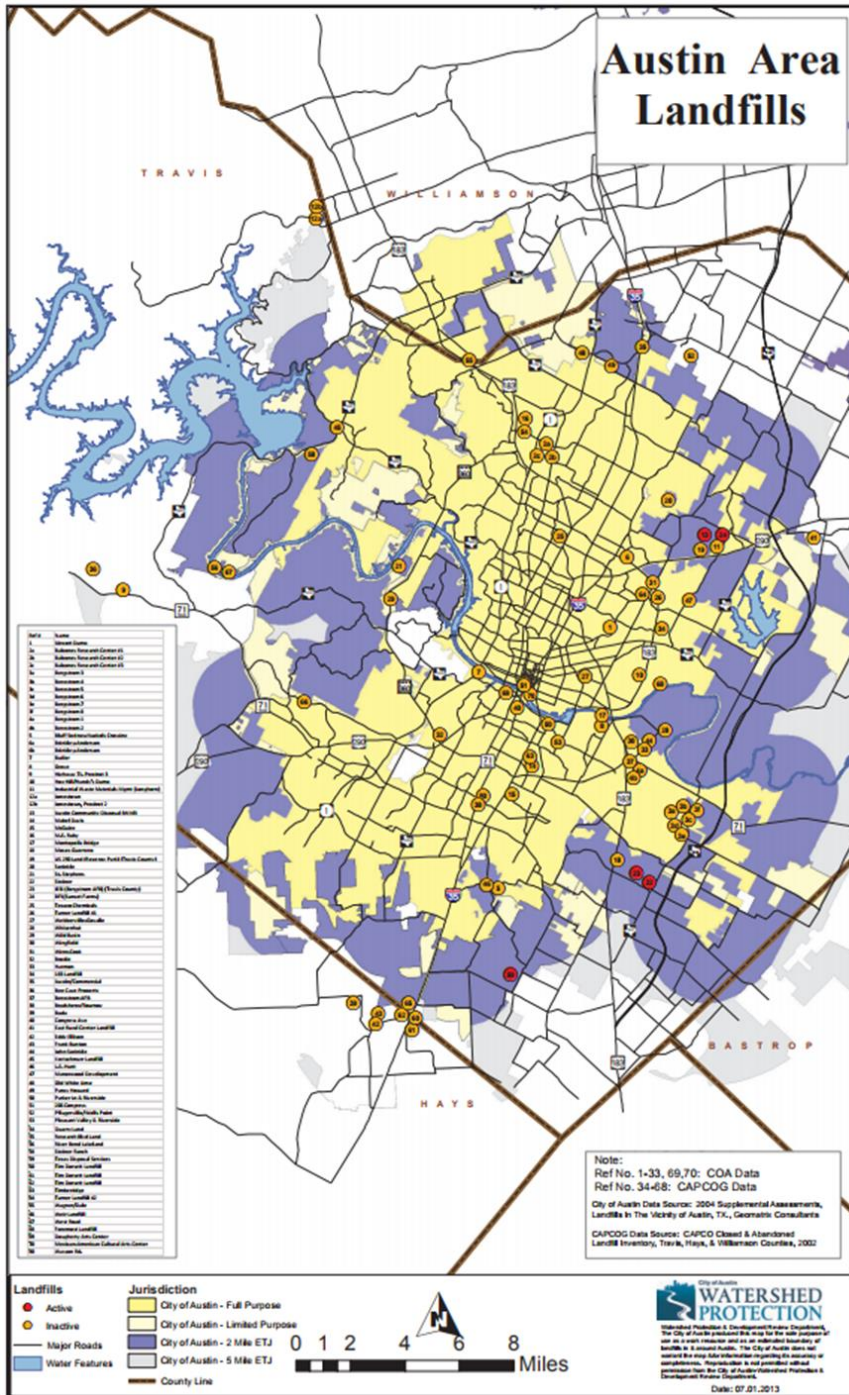


Figure 3. Austin Area Landfill Map. Source: City of Austin, Watershed Protection

Austin Brownfields Revitalization Projects

Conversion of illegal dumpsite into net-zero subdivision

In 2005, a local non-profit, the Guadalupe Neighborhood Development Corporation, acquired an 11 acre illegal dumpsite in East Austin. Through the collaboration of several non-profits, neighborhood residents and churches, as well as funding from public and private entities, the site has been remediated and redeveloped into the “Guadalupe-Saldaña Net Zero Subdivision” and will ultimately provide 125 long-term affordable housing units as well as ample green space. Approximately half of the housing developments will be designated as “net-zero” units, meaning they will be designed to produce as much energy in a year as they consume. The subdivision also includes a newly opened multi-family development which is operated by Austin’s Jeremiah Program, a program that provides housing and daycare for single-mothers who are completing coursework for college. The final housing units in the subdivision are slated for completion in 2018.



Figure 4. Multi-family development which provides temporary housing to single mothers enrolled in university programs. Image Source: Stewart Electrical Services

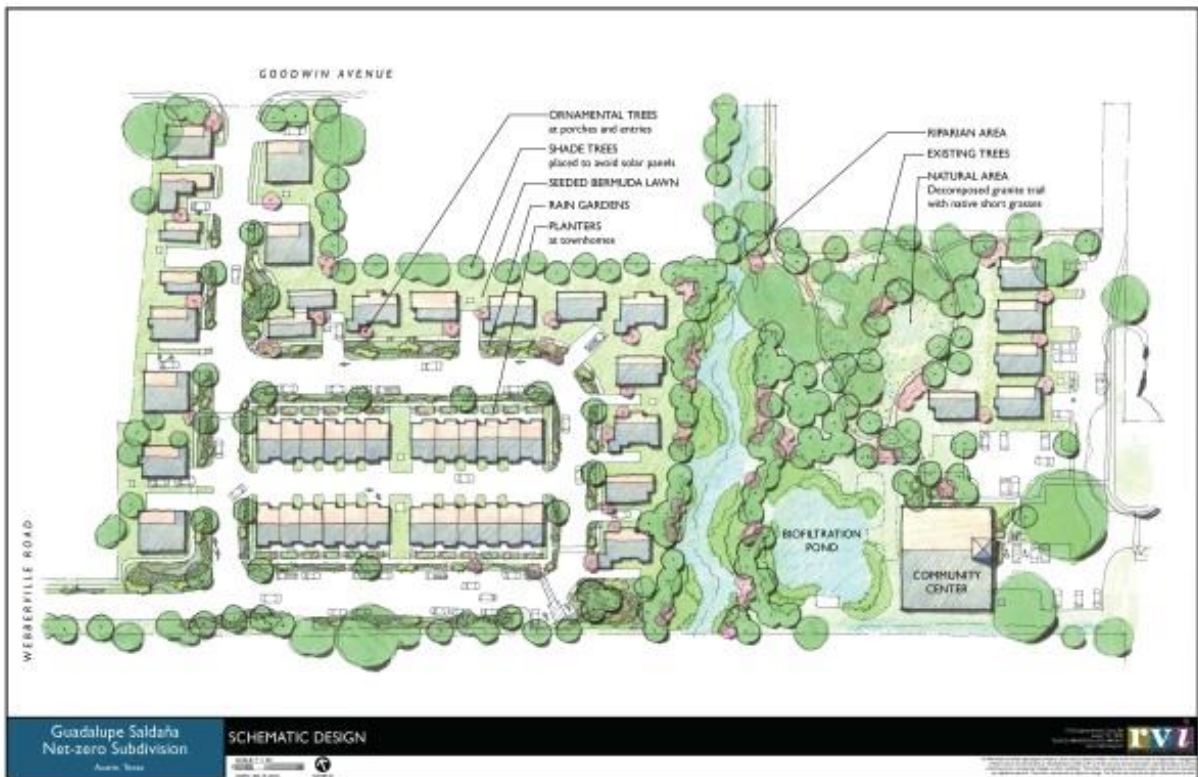


Figure 5. Newly constructed net-zero affordable housing constructed within the Guadalupe-Saldana Subdivision (photo and site plan). Image Source: Armech

Conversion of former power plant to public library

The City of Austin recently completed the redevelopment of the City’s main library at the site of a decommissioned electric substation in downtown Austin. The area surrounding the former power plant is being called the “Seaholm District.” A once large industrial district in the downtown, this area is experiencing a transformation into a mixed-use urban neighborhood. Remediation of the site involved removing soils contaminated with arsenic, lead, and other byproducts of burned oil. Contractors removed approximately 30,000 cubic yards of waste for off-site disposal.



Figure 6. Photo of Seaholm cleanup. <http://kut.org/post/seaholm-substation-cleanup-complete>



Figure 7. Austin Central Library nearing completion in 2017. <https://www.mystatesman.com/news/local/austin-new-central-library-due-open-oct/DWck9o6fhQ7E4YWbt5Jq7N/>

Conversion of former landfill into the “Austin [Re] Manufacturing Hub”

The City of Austin outlined in their Resource Recovery Master Plan the potential reuse of a City-owned, approximately 390 acre closed landfill as a major recycling hub which will help the City meet its “zero waste” goal, while reducing the distances traveled in order to recycle. The landfill, which is under 30-year post-closure care within the EPA Subtitle D requirements, occupies approximately 286 acres of the property, leaving approximately 105 acres of developable land. The zoning of the site allows limited industrial services. The City proposes selling off some of the developable land; meanwhile, with the rest of the site, the City proposes to develop re-manufacturing plant/recycling facility with approximately 12 businesses related to recycling manufacturing and research and development recyclables. The City is still in the preliminary phase of the development and is working to secure funding with private parties to fund infrastructure improvements.

Baltimore

Baltimore has a number of coordinating institutional stakeholders active in the brownfields space. The Baltimore Office of Sustainability is identifying vacant contaminated properties under City ownership for assessment and possible future cleanup with the goal of transforming them into greenspaces. The Baltimore City Department of Planning currently has a Brownfields Community-Wide Assessment grant from the EPA and anticipates assessing five or more sites. The Baltimore City Department of Recreation & Parks is also working on a separate brownfields assessment grant. Lastly, the Baltimore Development Corporation, described below, offers a brownfields tax credit. All of the forgoing agencies work in tandem at various levels of the brownfields redevelopment process in order to inventory, assess, cleanup and incentivize redevelopment of contaminated properties in Baltimore.

Tax Credits

The Baltimore Development Corporation issues a five-year tax credit of 50-70 percent on the appreciation in local property tax (10-years if the site is located within an Enterprise Zone) upon the successful completion of the redevelopment of an eligible brownfield site – sites that have gone through the state of Maryland’s Voluntary Cleanup Program (VCP). The Corporation reports that more than 40 brownfields have been redeveloped in Baltimore City since 1996, creating more than 7,000 jobs and leveraging more than \$500 million in new investment. In tandem with the Baltimore Development Corporation, Baltimore County also offers a tax credit to properties that complete the Maryland Voluntary Cleanup Program (VCP) and receive formal designation from the Maryland Department of Business and Economic Development as a Qualified Brownfield Site. Established by County Bill 107-97, the tax credit program offers 50 percent property tax credit on the increased real property tax liability subsequent to the voluntary cleanup or corrective action plan approved by the Maryland VCP. The Baltimore County Department of Economic Development has a Brownfields Coordinator on staff to manage the brownfields property tax credit program. The Baltimore Office of Sustainability sponsors brownfield contests to generate public support and community involvement in the brownfield assessment and redevelopment processes.

The City of Baltimore received a Revolving Loan Fund in 1997 from the EPA under which 20 sites were targeted for assessment and remediation. The City of Baltimore later received and executed an EPA cleanup grant for a 12.5 acre site controlled by the National Aquarium. In addition to site remediation, illegally dumped debris and invasive grass species were removed from the site.

Brownfields Job Training Program

Using Brownfields Workforce Development funds from the EPA, the City of Baltimore also partnered with Civic Works to implement a Brownfields Job Training Program. Brownfield redevelopment is contingent

upon the availability of a local qualified workforce with the knowledge, training, skills and competencies necessary for the assessment and remediation of contaminated sites, which often requires a degree of technical expertise that might be in short supply in the absence of such job training programs.

The Brownfields Job Training Program has the task of creating skilled jobs offering a viable wage. Enrolled participants earn environmental health and safety certifications that are recognized by state and federal agencies. The program has a three-part model: workforce development, social enterprise and high-road business development. Workforce development provides both hard and soft skills for participants either in brownfield remediation or in residential energy efficiency. Social Enterprise provides on-job training and High-Road Business Development connects graduates of the program with job opportunities where the employer is ensured a quality entre-level employee and in turn the business is marketed as socially responsible.

Graduates of the training program are certified as OSHA Hazardous Waste Site Worker, Asbestos Abatement Supervisor, Lead Abatement Worker, and Confined Space Operations. Graduates of the job training program then become eligible for job placement assistance in the city.

Baton Rouge

The City of Baton Rouge's Brownfield Assessment Program is considered among the most successful in the state. Between 2000 and 2017, the City's program positively impacted more than 50 sites and leveraged \$40,507,015 in redevelopment value, creating more than 60 new jobs, and in the same period completing more than 80 environmental assessments on sites contaminated with petroleum products, asbestos and lead-based paint.

As assessment and redevelopment of a contaminated site can be a protracted process; therefore, program continuity and longevity are crucial to the success of a brownfield redevelopment. The City of Baton Rouge has two staff members (a Senior Planner and a Long-Range Planning Manager) dedicated wholly or partially to managing and implementing the EPA brownfield assessment program. Baton Rouge does not have local land use controls specifically for brownfields, though it collaborates with LDEQ in all corrective actions and the submission of unauthorized discharge notices.

The Baton Rouge Planning Commission developed its own brownfield program application to collect information such as property identification numbers, site history and property characteristics from applicants that is used in the submission of the Property Eligibility Form to the EPA. The Property Eligibility Form must be submitted and approved by the EPA before a site is considered eligible to receive petroleum or hazardous grant funds for assessment. As assessment grants currently have a lifespan of three years, the development of marketing materials targeting the local development and real estate communities generates awareness of the program among those communities and stakeholders with the most direct access and knowledge of contaminated properties.

Staff members regularly attend the EPA Region 6 brownfield conference as well as various required and optional trainings and certifications offered by the EPA. The Region 6 brownfield conference allows brownfield program managers to network with program managers from other jurisdictions and to participate in knowledge sharing: lessons learned by an assessment grantee in Shreveport, Louisiana or Little Rock, Arkansas may prove applicable and valuable to the assessment and remediation of a challenging site in Baton Rouge. Staff also attend the Center for Community Progress' Reclaiming Vacant Properties Conference series. Such conferences provide opportunities for brownfield program managers to think about

brownfield redevelopment in innovative ways and keep up with the latest research and best practices in the brownfield redevelopment community.

The Baton Rouge Planning Commission maintains relationships with the Louisiana Brownfields Association and South Central Planning and Development Commission, which maintains a Revolving Loan Fund. The Revolving Loan Fund provides access to cleanup funds for sub-grantees upon the successful completion of Phase 1 and Phase 2 environmental site assessments. The Baton Rouge program is also partnered with KSU TAB (Technical Assistance to Brownfields), a free technical assistance program offered by Kansas State University offering workshops, webinars, online trainings, and other types of technical assistance to grantees and applicants.

Planning Commission staff also convened consistent quarterly stakeholder partner meetings to confer with relevant agencies about new developments pertaining to brownfields. To this end, the Commission cultivated a close working relationship with the Chamber of Commerce and East Baton Rouge Parish Redevelopment Authority (RDA) as many contaminated sites are either owned by the RDA or received through the adjudication process.

Procurement

Before assessments can be conducted, the municipal procurement process for contracting with environmental consultants should be thoroughly understood by staff and in place to the greatest extent possible before the grant period commences. Front-loading the procurement process facilitates the execution of contracts with vendors and environmental consultants and saves time during the life of the grant that would otherwise be squandered navigating an oftentimes labyrinthine and laborious procurement process. While the City of Baton Rouge executed contracts with three different environmental consulting firms – Providence Engineering, Aerostar and CK Williams – some jurisdictions execute contracts with a single vendor as the use of multiple vendors can complicate the budget management of a brownfield assessment grant.

Reporting Methods

As part of the grant work plan agreement with the EPA, the Baton Rouge brownfield program submits quarterly reports updating the EPA about progress in the assessment of approved sites, new applications for assessment and the brownfield program budget. This quarterly report includes both a narrative summary and budget tables, as well as performance metrics tracking milestones and demonstrating compliance with the authorized work plan, which can be revised and updated on an annual basis. Planning Commission staff submit an annual report to the Metro Council apprising the Council of the brownfield program's progress throughout the year.

Baton Rouge Brownfields Revitalization Project

Gracie Subdivision

The Gracie Subdivision is a 2-acre site in the Mid-City neighborhood of Baton Rouge. It comprises the entirety of a city block and is surrounded by a mix of residential and light commercial and miscellaneous industrial uses. Though vacant for many years, the multi-lot site was used historically for motor vehicle sales and repair, and was the subject of LDEQ violations. The site underwent both Phase I and Phase II environmental site assessments funded with an EPA assessment grant. According to the project's environmental consultant, as documented in the Phase 2 report, the site set a new company record for the number of environmental contaminants on a single site: historical releases of petroleum and hazardous substances associated with auto repair activities, including significant groundwater impacts from prior

industrial uses and unauthorized discharges, which made it expedient to enter the site into LDEQ's Voluntary Remediation Program. Gulf Coast Housing Partnership has committed to redeveloping the site as a mixed-use program for veteran's housing, which will fulfill an urgent need in the community as well as remediating an environmental liability for the Mid-City neighborhood.

New York

Much of the City of New York's brownfields redevelopment program activity occurs within the Office of Environmental Remediation (OER). Created in 2008 through a charter amendment, the office was tasked to plan, establish, coordinate, and oversee city policy regarding the identification, investigation, remediation, and redevelopment of brownfields and protective of public health and the environment, as well as supportive of the city's economic development. The OER also is charged with developing and administering brownfield cleanup program as well as financial and other incentive programs to encourage the remediation and redevelopment of brownfields. Finally, the agency is responsible for educating and training community groups, developers, and property owners about the brownfields remediation and redevelopment, including cleanup measures as well as how to take advantage of funding programs available. According to OER's website, New York has seen over 1,825 affordable housing units built on land cleaned up under OER oversight, 38 lots cleaned up in coastal zones, and 104 lots cleaned in low to moderate income neighborhoods. New York's Department of City Planning has also collaborated with OER by developing several strategic area plans that can advise community-based organizations on their brownfield and neighborhood revitalization work. The plans include comprehensive area analyses and recommendations for reuse and revitalization. These planning efforts were funded through the New York State Brownfield Opportunity Area Program grants. To date, the agencies have completed area plans for nine distinct areas.

E-Designation Program

New York's Office of Environmental Remediation administers what is known as the "E" Designation Program which is a zoning map designation that indicates the presence of an environmental requirement. The purpose of this "E" designation being overlaid upon the zoning map is to ensure that environmental requirements established during land rezoning process are fully addressed in a new development.

Many former manufacturing sites, or sites adjacent to manufacturing sites, or areas of high transit in New York City are assigned an "E-Designation – Environmental Review Program for Hazardous Materials, Air Quality, and Window/Wall Noise Attenuation" or a "Restrictive Declaration," which requires additional review by the New York City Department of Environmental Protection and the Office of Environmental Planning and Assessment to evaluate the potential contaminants as well as noise and air quality impacts. The "E" designation is specific to either hazardous materials (property located near a manufacturing district or on a site formerly used for manufacturing, or located near a gas station or on a lot formerly used as a gas station), air quality (located near an exhaust stack or near other sites that emit noxious odors), or window/wall noise attenuation (property is located near a busy thoroughfare, railroad or airport). The designation mandates environmental remediation to ensure environmental requirements have been met prior to any new development or new usage of the site. The "E-Designation" may be assigned based on the following:

- Rezoning from manufacturing to a commercial or residential zone
- New development in a manufacturing zone
- Development adjacent to a manufacturing zone

- Rezoning from commercial to residential, including mixed-use zones
- Development on a vacant or underutilized site if there is a reason to suspect contamination or illegal dumping
- Development on or adjacent to a solid waste landfill site, inactive hazardous waste site, power-generating/transmitting facility, or railroad tracks or a railroad right-of-way.
- Development where underground and/or aboveground storage tanks are on or adjacent to the site

E-Designations become integrated onto the zoning map by the Department of City Planning. Properties that have been a gas station, dry cleaners, auto repair, and manufacturing businesses are examples of properties that might be designated with an “E”, or with environmental restrictions. Sites with an E-Designation will typically require multiple assessments and reports including a Phase I Environmental Site Assessment a Phase II Investigation Work Plan, a Phase II Investigation, or a Remedial Investigation Report, a Remedial Action Work Plan, implementation of a Remedial Action and a Remedial Action (or Closure) Report. This is needed in order to ensure construction doesn’t disrupt contaminants embedded in the soil or groundwater that could negatively affect the site and the neighboring properties. The E-Designation has been placed on over 8,000 properties in the five boroughs that make up New York City. Any site designated with an “E” must comply with specific regulations and remedial actions before a developer is granted a building permit or before there is a change of use on the property that is not currently permitted. The E-designation does not impact a current legal use of the property; the owner may continue to use the property as previously used for an unlimited duration as long as the use doesn’t change and new development doesn’t occur.

New York City’s Voluntary Cleanup Program (VCP)

New York City also has a Voluntary Cleanup Program administered by the New York City Office of Environmental Remediation (OER). This program is specifically for vacant properties with low or moderate amounts of contaminates. Since the inception of the program in 2011, over 500 projects have completed or started a remediation process. The program incentivizes participation by providing government environmental liability protection that ensures the city or state government will not enforce additional remediation after a project has completed this program. The program also offers grants, soil recycling, and waivers for some government taxes and fees connected to the cleanup. It also provides a certificate that signifies that the City accepts the remediation, and verifies that it is one of the safest places to live and work. The following steps must be taken in this order in order to complete the program:

- **Remedial Investigation.** The developer must first generate a Remedial Investigation Report in order to devise a cleanup plan. The investigation and cleanup plan occur before a formal enrollment in the Voluntary Cleanup Program. The Remedial Investigation Report will identify all potential contaminates based on past uses, detail the extent of the contaminants, perform a human health exposure assessment, and will assess the potential effects of contaminates in groundwater and soil.
- **Remedial Action Work Plan Scoping.** The project team will assess the Remedial Investigation Report, the proposed building design and use of the property, and will create a conceptual plan based on the design, use, and report, called a Remedial Action Work Plan (RAWP). The RAWP includes a 30 day time period open for public comment. The RAWP includes a work schedule, health and safety plan, and a description of all engineering and

institutional controls if any projects fall under one of the “restricted” categories below. The Remedial Action Work Plan has four categories:

- o Unrestricted – the highest form of cleanup allowing for any use
 - o Restricted residential – some contamination may be left on site requiring some controls if the highest use of the site will be residential
 - o Restricted commercial - some contamination may be left on site requiring some controls if the highest use of the site will be commercial
 - o Restricted Industrial – some contamination may be left on site requiring some controls if the highest use of the site will be industrial
- **Application to the NYC Voluntary Cleanup Program.** The applicant needs four documents to formally apply for the VCP: the Remedial Investigation Report, Remedial Action Work Plan, A formal application, and a NYC VCP agreement.
 - **Remedial Action Report.** This is drafted after cleanup action is complete. This report will also detail a description of Engineering and Institutional Controls in a Site Management Plan.
 - **Notice of Completion.** This is issued after OER inspects and determines that all remediation outlined in the report has been completed. Once the Notice of Completion is received, the property no longer has any environmental liability to New York City.

Grants in NYC

Brownfield Incentive Grant (BIG)

Brownfield grants are available for qualified projects, community development projects and recipients of the Brownfield Opportunity Area (BOA) grant. The grants can be used for any phase of the brownfield cleanup including environmental investigations, environmental cleanup, and purchase of environmental insurance. Grant amounts vary but can range from \$60,000 - \$100,000 per project. There are four categories of this grant

- Any properties eligible for the Voluntary Cleanup Program (VCP) listed above
- Community supported programs like affordable housing or community facilities or project supported by community brownfield planning organizations– these grants are typically larger
- Bonus grants for Qualifying Brownfield Properties and Preferred Community Development Projects that increase their total grant money allotment
- Pre-development funds available for non-profit community planners

Jump Start

New York City provides new city-supported development for affordable and supportive housing technical assistance to enroll eligible sites into the state Brownfield Cleanup Program and to receive brownfield tax credits with a City program called Jump Start. In addition to the technical assistance, the Jump State Program offers a no-interest loan in the amount of \$250,000 of City funds to help with the remediation of the contaminated site. The OER may also be eligible to provide up to \$150,000 in financial support to City-supported affordable and supportive housing developments.

Community-Based Organizations

OER also provides for community based organizations (CBO) to remediate and bring into commerce vacant or underutilized properties in their communities. OER offers two grants. The first is a Community Technical Assistance Grant of \$10,000 and the second is a Community Brownfield Planning Grant of \$25,000. The grants can be used to create concept plans, design, market analysis, and property studies among other uses. Community based organizations may also use the grants to work with an OER contractor.

New York Brownfields Revitalization Projects

Freshkills/Staten Island New York

New York City is presently remediating and repurposing what was once the largest landfill in the world. Freshkills Landfill in Staten Island became open as a temporary landfill in the undeveloped area of Staten Island’s west shore. Freshkills, named in the 17th century by Dutch Settlers for the “fresh waters”; “Kill” means stream in Dutch. This area was once coastal salt marshland, woods and meadows that housed a thriving ecosystem. However, the wetlands weren’t recognized for their assets and in the mid-20th century, this valuable land was converted into a landfill.

Freshkills soon became the largest landfill in the world, serving as New York City’s primary landfill until 2001. The site consists of four mounds that, together, are made up of approximately 150 million tons of solid waste and cover 2,200 acres (almost three times the size of Central Park). The highest mound stands at nearly 200 feet. In the 1960s, the size of the landfill had grown to over 12 square miles and was so infested with rats and feral animals that birds were brought in to help mitigate the rat population, leading eventually to a thriving ecosystem.

At the peak of its operation in 1986-1987, the landfill employed over 650 employees and received nearly 29,000 tons of trash per day. Two of the mounds were covered with an impermeable cap and closed in 1997, but Fresh Kills remained New York City’s only operating landfill receiving residential garbage until the landfill closed in 2001, with the last shipment containing the remains of the World Trade Center post 9/11.



Figure 8. Freshkills Park. Source: New York Department of Parks and Recreation



Figure 9. Rendering of North Park. Source: New York Department of Parks and Recreation

The City of New York conducted an international Design competition in 2001, in association with the Municipal Art Society, New York State Department of State, New York City Department of Sanitation, New York City Department of Parks & Recreation, and New York City Department of Cultural Affairs to take advantage of adaptively repurposing the site to bring it back into commerce. The first phase of the development was a call for a master plan granted to an architectural consultant team, the same team responsible for the adaptive reuse of High Line Park.

The complete repurposing of the landfill is not slated for full completion for another 30 or so years. Three of the four mounds that constitute the landfill are covered and capped with layers of thick soil, impermeable plastic, underground barriers, and gas-containment pipes at a cost of nearly 600 million dollars. On the surface, only native grasses and other flora can be detected. The design firm that won the competition plans to use the current topography to create trails, picnic grounds, performance stages, kayak docks, ball courts, restaurants, soccer fields, boardwalks, exhibits and public art installations, golf, a nature educational area, and wetlands among other assets for the city and residents of Staten Island. Currently, the public can access a few ball fields and green spaces on the outskirts of the landfill. It will take many years before the interior will be open.

Freshkills is also capitalizing on what would be considered one of its negative aspects, the methane gas that the landfill produces as it decomposes. The gas emitted, methane, carbon dioxide, water and other organic compounds, is collected through a network of wells connected by pipes below the surface of the landfill. It is then either burned or processed at an onsite recovery plant to become pipeline ready. Once harvested and processed, the energy can be used domestically to heat homes. As a result of this process, gas emissions and other pollutants are reduced by almost 100%. Once the emissions eventually subside, the landfill will utilize wind to harvest energy through wind turbines.

Pittsburgh

The Urban Redevelopment Authority of Pittsburgh (URA), incorporated in 1946, is the principal agency spearheading and coordinating brownfield redevelopment in the City of Pittsburgh. Thus, the renown of Pittsburgh's brownfield redevelopment efforts suggests the importance of having a viable redevelopment authority, not only for the handling of adjudicated properties but also for inventorying, assessing and redeveloping contaminated properties to return them to a productive use for the community. The URA is also the responsible agency tasked with the acquisition and disposition of properties for the purpose of assembling sites for redevelopment, and acts as the City's agent in assembling properties for City-sponsored projects.

The City of Pittsburgh benefits from the Western Pennsylvania Brownfields Center at Carnegie Mellon University, which offers resources promoting brownfield redevelopment: a site selection tool, site-focused workshops, school outreach programs, university coursework, brownfield mapping, environmental technician workforce training, brownfield life cycle analysis and carbon foot printing, and a tool to compare the impacts of brownfield redevelopment versus comparable greenfield developments. The Center also provides case study research with information on site history, site assembly and control, environmental contamination profile, market conditions, project financing, economic and community impact, costs and economic infrastructure, and physical infrastructure.

Specially Planned Districts

Pittsburgh regulates two former brownfield sites as Specially Planned Districts (SP District), which are designed to provide a flexible framework for alternative forms of development on very large sites of City-wide importance. To qualify as a SP District, the development site must comprise a contiguous area of land no less than fifteen acres; one hundred percent of the land in an SP District must be controlled by the applicant from the time of application through ownership or sales options; and the SP District must be in a location that is suitable for the proposed development, evidenced by compliance with plans and policy documents adopted by the Planning Commission and by demonstrating compatibility with development in adjacent areas.

The South Side Works and Washington's Landing are former brownfield sites regulated as Specially Planned Districts. The South Side Works was a 123 acre brownfield redevelopment on the site of former Ling-Temco-Vought Steel Finishing Mill on the Monongahela River. The plant operated from 1893 to 1985 and once employed 8,500 people. It closed due to foreign competition, high labor costs, and a lack of the modern equipment necessary for the manufacturing of steel. After many years of dilapidation and neglect, the site was purchased in 1993 by the URA; from 1994-1996, the URA undertook community outreach and consensus-building prior to redevelopment of the site. Subsequently, the URA solicited interest for development while simultaneously conducting environmental assessments, infrastructure and traffic enhancements and executing a Tax Increment Finance (TIF) package. The redevelopment project relied on more than \$100 million in financing from multiple sources including City/URA Funding, TIF, HUD Section 108 Loans, HUS Brownfields Economic Development Initiative Grant, HUD Economic Development Grant, State funding, the Pittsburgh Water & Sewer Authority, and Private Garage Funding. Today, the site is a mixed-use development featuring office space, a sports medicine complex and practice fields, and housing and retail along the city's riverfront. Public access to the riverfront will also be implemented at a later phase.

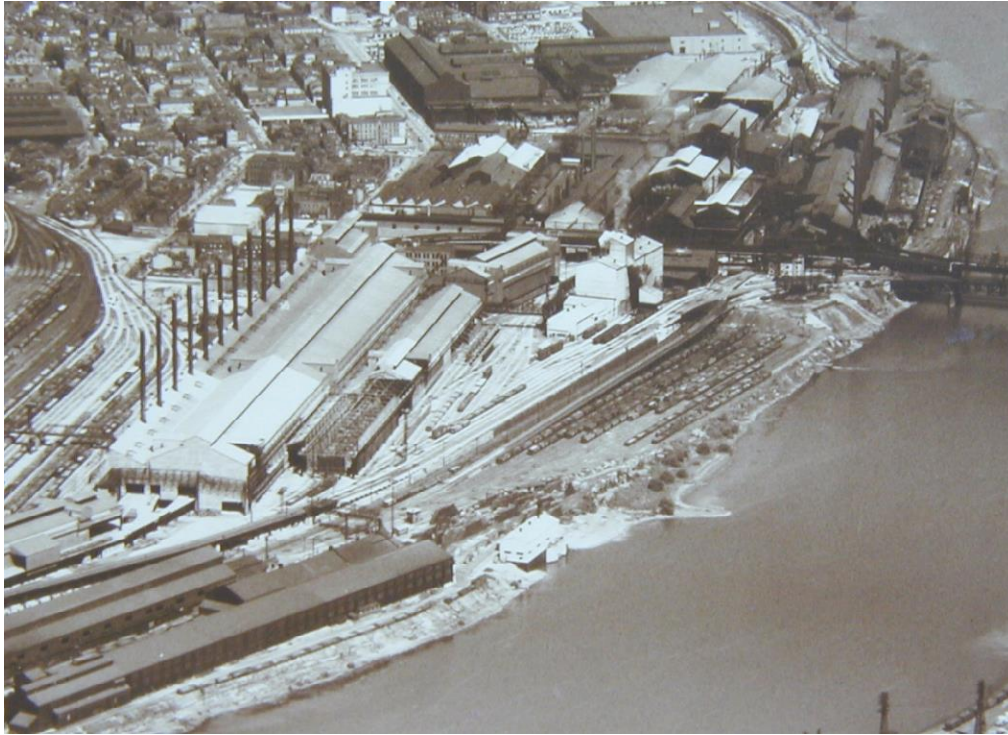


Figure 10. Historic photo of the former LTV steel plant at South Side Works. Image Source: Urban Recovery Authority of Pittsburgh



Figure 11. The redeveloped South Side Works in Pittsburgh. Image Source: Environmental Planning and Design

Environmental Overlay Zoning Districts

Coupled with the Specially Planned Districts, the City of Pittsburgh's Zoning Ordinance also uses Environmental Overlay Zoning Districts. The purposes of these districts, as pronounced in the Zoning Ordinance, are to:

- reduce hazards to life and protect structures and uses from damages which may be caused by construction on or use of land which is unsafe for development
- protect land, public infrastructure, and waters of the city from damages caused by improper use or construction on land which has physical, environmental or aesthetic limitations or development
- maintain and enhance natural land features which are environmentally significant or which constitute a natural resource of importance to the community at large, including especially wooded hillsides, river frontages and stream valleys; enhance public access to, and enjoyment of, the city's rivers and riverfronts
- implement the policies enumerated in the Vacant, Environmentally Sensitive Land Management Study of 1979
- and carry out the mandates imposed upon governments in Pennsylvania by Article I, Section 27 of the Commonwealth's constitution, which states, "The people have a right to clean air, pure water and to the preservation of the natural, scenic, historic and aesthetic values of the environment. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all people."

Pittsburgh Brownfields Revitalization Projects

Summerset at Frick Park

Pittsburgh has a long and established industrial history. One of the nation's first brownfield sites to be remediated for a residential use, Summerset at Frick Park, was a former Duquesne Slag Company site for the disposal of steel manufacturing byproducts estimating more than 17 million cubic yards. None of the industrial waste was removed from the site, but was re-graded to contour the property and then contained and landscaped. Because this site was at the vanguard in the redevelopment of brownfield properties for a residential use, environmental clearance criteria had to be devised for the project. The State Act 2 Clearance process was designed by the Pennsylvania Department of Environmental Protection to supply the legislative and regulatory environment in which such redevelopment would lawfully occur. Summerset at Frick Park came to fruition through a \$250 million public-private partnership between developers, architects, planners, the EPA, PA DEP, U.S. Army Corps of Engineers, and the Urban Redevelopment Authority (URA) of Pittsburgh. Public sources of funding included the Commonwealth of Pennsylvania RACP and Growing Greener programs, Allegheny County, Pittsburgh Water and Sewer Authority, and the URA of Pittsburgh; the outcome of this partnership was the conversion of a 20-story slag heap into a vibrant mixed-use center.

Homewood Senior Housing

Pittsburgh has also utilized EPA brownfield program funds to increase the city's stock of affordable housing options. Homewood Senior Housing was a former gas station which remained vacant due to the unknown extent and nature of contamination from possible leaking USTs. Project efficiencies were achieved by the phasing of site soil remediation into the excavation for the senior housing facility. The project created 41 units of affordable senior housing, a café and a 4,000 square feet of retail space in proximity to transit stops. EPA funds leveraged over \$11.5 million of investment, or \$144 private dollars for every EPA dollar.

Coke Works Facility – Hazelwood

The last urban brownfield in Pittsburgh's inventory – the 178-acre site of LTV Coke Works that once employed almost 13,000 people during the steel industry's halcyon days – is a case study in how large

industrial tracts can be remediated and redeveloped to increase the city's limited supply of land available for large-scale commercial, industrial and research uses. The steel works closed in 1998, and the site idled for many years thereafter. The site's master plan calls for a mixed-used development blending housing, offices, research and development, light manufacturing, retails, parks, trails and transportation, while deploying an array of sustainable design standards and infrastructure. The project's first phase will renovate the existing Mill 19 structure and construct a 65,000 square-foot net zero energy building in an adaptive reuse of the steel shell of the former mill, thereby deploying contemporary building technologies while honoring the site's industrial past. Uber is currently using a portion of the site for testing self-driving vehicles.

Lessons Learned from Other Communities

All of the cities researched as part of this analysis of best practices have established brownfields remediation programs, grants, and/or incentives to help remediate contaminated property into useable land for recreation, housing, public service, or commerce. These practices include assigning special land-use designations for regulatory oversight, incentivizing voluntary clean-up programs, requiring soil sampling/testing, supplying grants for private property remediation and redevelopment, and creating job training programs specifically to establish a workforce skilled in remediating contaminated property. The City of New Orleans can model future programs based on those described in the above section. Specifically:

- The City of New Orleans should establish a brownfields remediation office and model a future brownfield program after Baton Rouge, New York, or Austin, where at least one dedicated staff member is housed within a City Charter-mandated department or commission. The Brownfields Remediation Office could be a division of the City Planning Commission. Its staff would be responsible for applying for and maintaining EPA and LDEQ grants, performing outreach and education to the general public regarding brownfields, serving as a liaison between state and federal environmental agencies, attending brownfield trainings, working to remediate City-owned property, implementing other outreach programs such as a soil testing fair or certification programs.
- After a brownfield remediation manager and/or office is established, the City of New Orleans should identify critical sites that have the potential to be repurposed, similarly to how Pittsburgh has utilized EPA brownfield program funds to help fund remediation of large sites with the intent of creating more affordable housing stock. The City of New Orleans could work with NOLABA, community groups, or private developers to help with the identification, remediation, and redevelopment of these sites.
- The City of Austin has a specific permitting protocol for former landfills and the buffer area around the former landfill for any new construction. The City of New Orleans could benefit by establishing similar guidelines or regulations for its former landfills, dumps, and incinerator sites, which may require sampling, assessment, and remediation. Similarly, such properties could also be required to be identified as former landfill sites by recorded covenant, as is required in the City of Austin.
- Several cities studied in this section have implemented and utilize local tools such as grants and tax credits to help incentivize private remediation and development of brownfields. The City of New Orleans has the ability to also implement incentives for development. These may take the form of tax abatement programs, an expedited permitting process, a voluntary remediation program, or small grants.
- Similar to the NYC Planning Department, the City Planning Commission, potentially with funding from the EPA Area-Wide Assessment Grant, could perform comprehensive area studies of

prioritized sites or corridors within the city which would then inform the development revitalization plans for certain communities.

- The City of New Orleans could designate certain properties as environmentally sensitive such as does New York, to ensure that soil remediation occurs at particular sites prior to redevelopment or rezoning.
- Former landfill or incinerator sites could be put back into commerce as recycling plants, solar farms, or with other publically beneficial services similar to those recently developed or under development in the City of Austin.
- The City of New Orleans could require developments meeting certain threshold criteria to undergo soil sampling prior to permitting as is a practice in the City of Austin.
- The City of New Orleans should maintain an inventory of former landfill, dump, and incinerator sites to be updated as locations are confirmed.
- The City of New Orleans, in partnership with the LSU Ag Center, could host an annual or bi-annual soil testing fair modeled after the City of Austin as a public awareness campaign. The results could be published on the City's website along with resources citizens may use to help clean or remediate their soil.
- The Freshkills Landfill in New York took advantage of a competitive design competition to generate innovative ideas during the visionary stage of adaptively repurposing the Freshkills Landfill. This type of design competition should be holistic and imagine ways in which to bring people to stigmatized areas with creative and enticing ideas. The City of New Orleans could work with the Arts Council, environmental and neighborhood groups to bring forward fresh ideas using a design competition to repurpose former landfills and incinerator sites within New Orleans.
- The City of New Orleans should partner with local universities to implement a job training program, similar to that utilized in Baltimore to have a trained, skilled workforce to remediate contaminated sites within the city. This program would help ensure more citizens are being trained in a skill which provides a viable wage.

D. Analysis

Much of the land in New Orleans has an extensive and evolving land use history. In previous times, prior to the adoption of modern zoning ordinances, industrial uses were often situated beside residential uses which provided workforce housing in proximity to employment centers. Such land use patterns are especially prevalent in the city's older neighborhoods. Industrial uses may have deposited heavy metals or petroleum products, among other contaminants, into the soil on these site. Additionally, large areas used for dump sites and incinerators may have changed uses generations ago with little current public awareness of the land use history. Old dumps may have accepted household hazardous waste or industrial waste as not much concern was given to effects of the waste on the environment once the dump was closed and converted to another use. Prior to 1900, another method of garbage disposal involved dispersing it downriver. Garbage was hauled to boats on the Mississippi River, which took it downriver and dumped the trash into the Mississippi River.¹²

Sites used for landfills and incinerators in the mid to late 20th Century are relatively well-documented. City incinerators were used in a program of waste disposal starting in 1916 up to the early 1970s and was the primary method to dispose of household waste for much of that timeframe. Though public incinerator sites may be documented, as they were part of the City's waste disposal system and were designated by City ordinances, areas where incinerator ashes (the remains of incinerated garbage) were dumped may not be as well documented. Similarly, private industries may have included on-site incinerators that ceased to operate when the industry closed or before.

Prior to incinerators and landfills, "open dumping" was one of the primary methods of refuse disposal. Open dumps involved locations considered "low areas" and initially were towards the city's developed edge where certain items were scavenged and much of the other materials were burned. In 1918-19, a City Health and Sanitary Survey noted eight open dump locations throughout the city, but did not map or clearly identify the locations.¹³ Due to time passed and perhaps lack of official status, less documentation is available about the location of such sites and any steps that were taken to provide a barrier when and if they were eventually redeveloped. Maps 2 and 3 show waste disposal and incinerator sites.

The following inventories are provided for informational purposes and do not include an environmental assessment.¹⁴ Further study including a Phase II Environmental Site Assessment is necessary to evaluate the conditions.

Inventory of Known Landfill Sites

Landfills are sites where garbage is buried. A landfill can be for general household waste (solid waste) or it could be for construction/demolition and vegetative debris only. A landfill is considered "sanitary" if it is sufficiently isolated from the surrounding environment, which would include liners and soil coverings. Early landfills did not take the care or precautions of more recent times in terms of site selection, lining and other measures to prevent contamination of ground water, though some measures may have been taken retroactively to prevent further exposure. There are a number of landfills in New Orleans and all but one

¹² Ibid.

¹³ Board of Health, City of New Orleans and Metropolitan Life Insurance Co., "Health and Sanitary Survey". 1918-1919.

¹⁴ The Agriculture Street Landfill is an exception, having been designated a Superfund site by the Environmental Protection Agency.

are closed. Below is a summary of landfill sites in New Orleans and a description of the surrounding zoning districts, which control land use.

Old Gentilly, 10200 Almonaster Avenue

Old Gentilly landfill accepted general household waste from 1960 until its initial closure in 1986. Following Hurricane Katrina, the landfill was approved to accept construction and demolition debris (c&d) only and currently operates in that manner. The c&d landfill is operated on top of the solid waste landfill. The site is within a large area zoned as an HI Heavy Industrial District and surrounding properties on the north side of the Intracoastal Waterway within 1,000 feet are also within the HI District. Across the Intracoastal Waterway is a large NA Natural Area District.



Figure 12. Entrance to Old Gentilly Landfill.

Recovery One, 17000 Chef Menteur Highway

The Recovery One closed landfill site is located on the southern side of Chef Menteur Highway. It was originally constructed in 1976 and finally closed in 1995. It is set back a significant distance from Chef Menteur Highway on the opposite side of the railroad tracks. The site is within an NA Natural Area District surrounded on three sides by a large NA District. On the other side is a large GPD General Planned Development District. As a relatively isolated and secure site without trees, this site could be studied for appropriate re-use, considering a solar farm among other possibilities.

Agriculture Street

The 95 acre Agriculture Street closed landfill site is located generally between Almonaster Avenue and Press Street. This site was a municipal landfill from the early 1900s to 1965. For much of that time, this was the City's primary landfill, with sites along the riverfront and rail lines designated as transfer stations to take garbage that ultimately would be transported to Agriculture Street Landfill. In the 1970s and 1980s, portions of the site were developed with residences of the Gordon Plaza and Press Park communities as well as Moton Elementary School. In 1994, the landfill was declared a Superfund site and in 1997, the

Environmental Protection Agency conducted a cleanup that included soil removal, installation of a geotextile fabric barrier and a layer of clean soil.¹⁵

The landfill site is within a BIP Business Industrial Park District and an S-RD Suburban Two Family Residential District. On the western side, the landfill is bordered by a railroad and the Peoples Avenue drainage canal. On the eastern side, it adjacent to an S-RD District. All portions of the landfill site that have not been redeveloped are within the BIP District. The New Orleans Business Alliance has indicated there is a potential for light industrial use of the area.¹⁶

¹⁵ Environmental Protection Agency, “Agriculture Street Property Summary”

¹⁶ SKEO Solutions. “Reuse Assessment Summary for the Agriculture Street Landfill Superfund Site”, July 29, 2014.

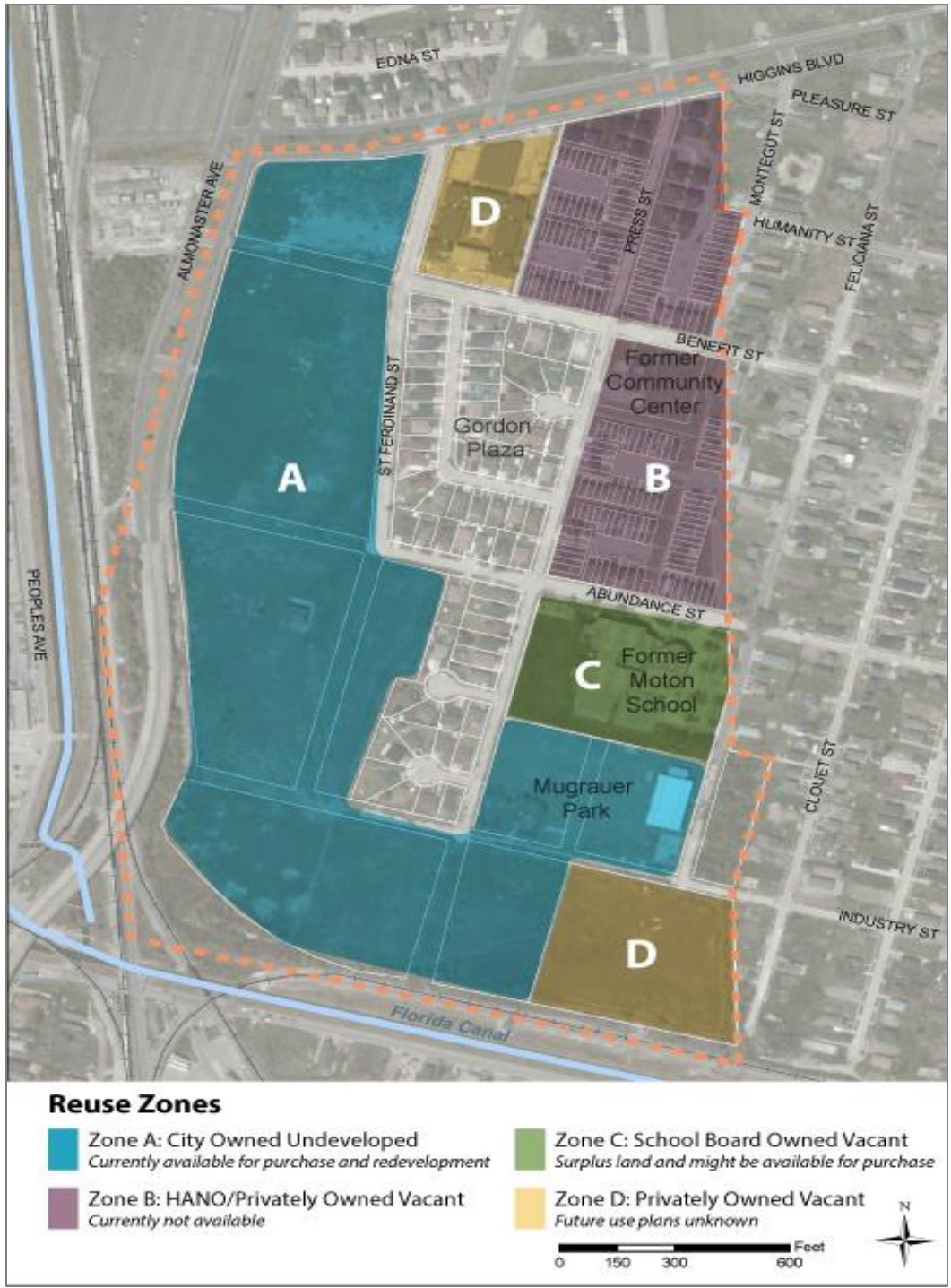


Figure 13. Environmental Protection Agency Agriculture Street Landfill Site Reuse Assessment, 2014.

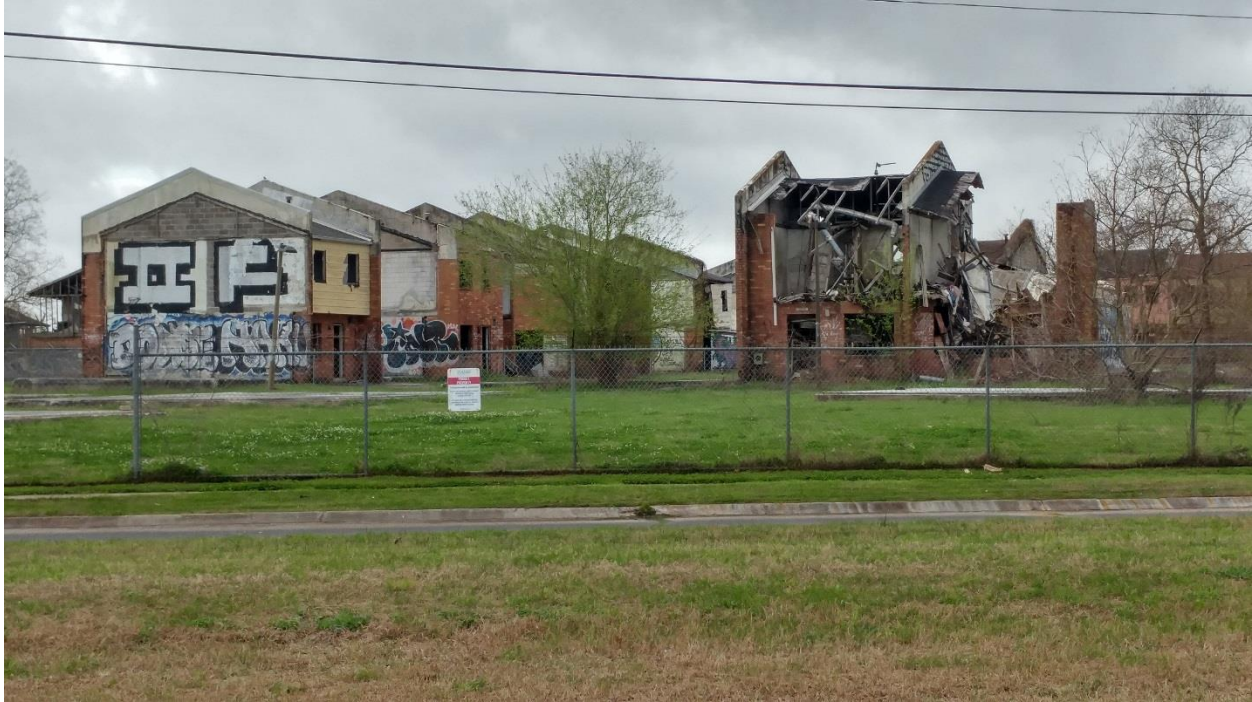


Figure 14. Former HANO housing development at Agriculture Street Landfill site.

Algiers Lower Coast/Plaquemines Parish border

The closed landfill site is located off Woodland Highway near the Orleans/Plaquemines Parish border on the same side of the Intracoastal Waterway as Lower Coast Algiers. This site may include land entirely within Plaquemines Parish or possibly both parishes. Within New Orleans, any land that was formerly used as the dump and any adjacent land is within a triangular Business Industrial Park District that is surrounded on two sides by Plaquemines Parish and by the Intracoastal Waterway on the third side.

Crescent Acres, 6599 Florida Avenue

The Crescent Acres closed landfill site is located primarily in St. Bernard Parish on the border with Orleans Parish. This landfill closed in 1992.¹⁷ A State document indicates that it is located in both Orleans and St. Bernard Parishes.¹⁸ It appears that any portion in New Orleans is within a large NA Natural Areas District. Nearby, there is a Sewerage & Water Board facility within an HI Heavy Industrial District. Also nearby is the rear portion of Jackson Barracks, which is zoned MU-1 Mixed Use Medium Intensity District.

Chef Menteur C&D Landfill, 16600 Chef Menteur Highway

This construction and demolition debris landfill opened by an executive order of Mayor Ray Nagin following Hurricane Katrina. With all of the debris of structure demolitions following the hurricane, the City hoped that allowing this landfill would help speed recovery. Unfortunately, it is likely that much hazardous waste also was dumped in the landfill because the contents of structures were not necessarily sorted to remove hazardous waste. Controls to remove such content at the landfill would inevitably not

¹⁷ Florida Avenue Transfer Station Solid Waste Standard Permit Application, New Orleans Sanitation Dept., April 19, 2005. P. 4-5.

¹⁸ RS 30:2159. Closure of the Crescent Acres Landfill.

catch portions of household hazardous waste.¹⁹ The landfill closed within months of opening. The site is within a General Planned Development District and is adjacent to NA Natural Area, C-1 General Commercial, S-B2 Suburban Neighborhood Business, and BIP Business Industrial Park Districts.

Inventory of Open Dumps

The sites of former dumps are not well known. The Deep South Center for Environmental Justice researched former dump locations and provided the CPC staff with their findings. The CPC staff investigated City records and newspaper articles in the New Orleans Public Library's Louisiana Collection. In many cases, the described locations are somewhat approximate, leaving some doubt as to the exact location and extent. Many of the older, former dumps have been converted to other uses, such as parks, neutral grounds, and streets. Other sites became occupied by industrial uses and housing.

In 1911, Mayor Martin Behrman read from a Public Works Commission special report:

*“The City has been so successful in dumping refuse into old unused canals and swamp lands that many low places, filled with garbage, have been converted into beautiful parks and fine avenues. This system has proven itself to be a very economical, as well as beneficial, means of getting rid of the refuse collected throughout the city, as it saves the enormous expense of filling in all these unused canals and swamp lands, besides eliminating breeding places for mosquitos.”*²⁰

Lower Hagan

The Lower Hagan Street dump was located near the intersection of Dumaine Street and Bayou St. John and may have extended along Hagan Street as far as Canal Street. The location includes the Jefferson Davis Parkway neutral ground and possibly former industrial properties along the Carondelet drainage canal. Between 1905 and 1911, three hundred and fifteen thousand mule-drawn loads of garbage were deposited in the Hagan dump.²¹

Upper Hagan

The Upper Hagan Street dump appears to have been located around the current neutral ground area of Jefferson Davis Parkway between the Pontchartrain Expressway and Calliope Street.²²

Independence Square (St. Roch Park)

Bounded by St. Roch Avenue, N. Johnson, and N. Roman Streets, this dump was filled with garbage starting in 1906 and by 1911 had been converted to “Independence Square.” The Times Picayune described the park as “one of the many picturesque scenes of the city.”²³

¹⁹ “Taking Out the Trash”. Gambit, August 8, 2006

²⁰ “City is Not Behind in Sanitary Reforms”. The Times Picayune, August 30, 1911, p. 1.

²¹ Ibid.

²² “Black Will Urge City Erect Three Garbage Plants, Incinerators to Take Place of Antiquated System”. The Times Picayune, July 10, 1921.

²³ Ibid.

Taylor Park

Taylor Park, bounded by Washington Avenue, Third, S. Roman, and S. Derbigny Streets, was a dump filled by 1907, and converted to a park in 1911. In 2011, Taylor Park was remediated for lead hazard contained in the soil.²⁴

Thomy Lafon Playground

At the intersection of Magnolia and Sixth Streets, a garbage dump was converted to a playground. In 1920, the head of the Child Health Organization described the playground as “the best she has seen in her travels over the United States in the interest of child welfare.”²⁵

Clio/Silver City

“Clio” or “Old Silver City” was a dump site generally in the area now developed with the B. W. Cooper housing development. This old dump site was more recently in the news following a proposal for the redevelopment of Booker T. Washington School. The public awareness generated by this news story was part of the impetus for this study. The Calliope Street Housing Project was developed following the passage of the United States Housing Act in 1937.²⁶ This area is now within an HU-RM1 Historic Urban Multiple Family Residential District.

Earhart

A large area bounded by present-day Earhart Boulevard, Broad Street, Howard Avenue and N. Roman Street and now largely occupied by an expansive rail corridor, was reported as an area with garbage used as fill.²⁷

Florida/Peoples Avenues

Both a dump and an incinerator have been located within the area currently used for the Sewerage & Water Board’s facilities in the vicinity of Florida and Peoples Avenues. The incinerator structure is one of only two remaining in the City. This site is within an LI Light Industrial District and is adjacent to MU-1 Mixed Use Medium Intensity and HU-RS Historic Urban Single Family Residential Districts.

Cuccia-Byrnes (Carrollton) Park

This two-square park is an older dump of the city as shown in early newspaper references.²⁸

Claiborne Avenue

Along Claiborne Avenue generally between Louisiana Avenue and Jefferson Avenue, a canal became a dump and was eventually was filled.

The Fly at Audubon Park

“The Fly” or batture portion of Audubon Park was also filled using non-putrescible garbage.²⁹

²⁴ Ibid.

²⁵ “Thomy Lafon Playground Declared to be Model One”, The Times Picayune, May 9, 1920.

²⁶ Office of Policy Planning, City of New Orleans, “Calliope Neighborhood Profile”, 1978.

²⁷ “City is Not Behind in Sanitary Reforms”. The Times Picayune, August 30, 1911, p. 1.

²⁸ Ibid.

²⁹ “Insect Breeding Charge Denied”. The Times Picayune, January 11, 1957, p. 8.

Milton Street

Milton Street dump was a privately owned dump in the middle of the 20th Century which was extensively remediated for post-Hurricane Katrina redevelopment projects.³⁰

Streets and Former Canals filled with Garbage

As described earlier, many streets were constructed using garbage as fill.³¹ Many of these streets were formerly canals. These include:

- Orleans Avenue, Claiborne Ave. to Broad St.
- Jefferson Davis Parkway, Hagan Ave. to Canal St.
- Spain Street, Derbigny St. to Dorgenois St.
- Galvez Street, Julia St. to Washington Ave.
- Toulouse Street, White St. to Hagan Ave.
- Hagan Avenue, St. Louis St. to Toulouse St.
- Humanity Street, Frenchmen St. to Elysian Fields Ave.
- Tonti Street, Frenchmen St. to St. Anthony St.
- Howard Avenue and vicinity, bounded by Howard Ave., Roman St., Broad St., and Calliope St.
- Virtue Street, Frenchmen St. to St. Anthony St.
- St. Anthony Avenue, Prieur St. to Galvez St.
- Derbigny, Roman, Prieur, Johnson, Galvez, Miro, and Tonti Streets, from Washington Ave. to Second St.
- First, Second, Third, Fourth Streets, from Claiborne Ave. to Galvez St.
- Dublin Street, Belfast St. to Palmetto St.

Inventory of Incinerator Sites

All incinerator sites³² in New Orleans are now closed. The incinerator structures mostly have been demolished with the exception of one located on Almonaster Avenue near the Old Gentilly landfill and one located on the Sewerage & Water Board's Peoples Avenue campus. Below is a summary of incinerator sites in New Orleans and a description of the surrounding zoning districts, which control land use. The five most recently operating incinerators are: (1) Florida/Elysian Fields, (2) New Orleans East, (3) St. Louis, (4) Saratoga/7th Street, and Algiers/Hendee.

Florida/Elysian Fields Avenue, 2928 Elysian Fields Avenue

This former incinerator site at the intersection of Elysian Fields and Florida Avenues is heavily used by the Sanitation Department as a transfer station, equipment storage, and for special collection events such as household hazardous waste collection day. The site is the size of two city squares and is within an LI Light Industrial District. On the eastern side, the site is bordered by a large HU-RD2 Two Family Residential District. On the northern side is an HU-B1 Neighborhood Business District. Across Elysian Fields Avenue on the western side is a large LI Light Industrial District. On the southern side, the site is separated from a C-2 General Commercial District by the Florida Avenue Canal.

³⁰ "Rat-Infested Dumps Threaten City Health". New Orleans Item, June 12, 1945, p. 1.

³¹ "City is Not Behind in Sanitary Reforms". The Times Picayune, August 30, 1911, p. 1.

³² Switzer/Greenleaf, "Metropolitan Solid Waste Program, City of New Orleans, Louisiana". 1968.

New Orleans East, 10200 Old Gentilly Avenue

The closed incinerator site in New Orleans East was near the Old Gentilly Landfill. The facilities occupy only about one third of the 14 acre site with the rest being in a more natural state. The site is within a large area zoned as GPD General Planned Development District. Across Old Gentilly Road is a BIP Business Industrial Park District. Across Almonaster Avenue at the rear of the site, is a large HI Heavy Industrial District that contains the Old Gentilly Landfill.



Figure 15. New Orleans East Incinerator (closed).

St. Louis, 433 N. Derbigny Street

The St. Louis incinerator site, about one-half city square in size, was located at the corner of N. Derbigny and St. Louis Street. It is within HU-MU Historic Urban Mixed Use District and adjacent to OS-G Open Space Greenway, HU-RD2 Two Family Residential, and MU-1 Mixed Use Medium Intensity HU-Districts. The site is currently home to a vehicle towing and recovery service and storage lot.

S. Saratoga/7th Street

This one city square site is bounded by S. Saratoga Street, Loyola Avenue, Sixth and Seventh Streets. The site contained an incinerator from the 1930s to 1974. From 1974 to 1986, it was a waste transfer station. The site has been vacant since 1987. The City employed a consultant to perform an environmental assessment of the site. While the assessment found shallow contaminated soils, it also stated that excavation of the soils is a feasible corrective action. The site is within an HU-MU Historic Urban Mixed Use District adjacent to a large HU-RM1 Historic Urban Multi-Family Residential District and an OS-N Neighborhood Open Space District occupied by cemeteries.

Algiers/Hendee, 2300 Hendee Street

This approximately two city square sized site was used as an incinerator from the early 1940s until 1976. Since then, it has been used intermittently as a transfer station. Although the site is currently within an S-

RS Suburban Single Family Residential District, a Master Plan Future Land Use Map amendment for the site was recently approved by the City Council, changing the designation from residential to General Commercial. Given the burgeoning commercial development adjacent to the site in the City of Gretna, the site may be appropriate for commercial re-use. However, the Department of Sanitation notes the site may still be needed to accommodate vegetative debris following storm events.



Figure 16. Algiers/Hendee Street Incinerator site.

Public Works Facility, 838 S. Genois Street

Located on a full city square at the edge of the Pontchartrain Expressway, this site formerly contained an incinerator. More recently, the site was used for facilities maintenance by the City's Department of Public Works. It will soon be converted to an auto towing and storage facility. The site is within a large MU-2 High Intensity Mixed Use District.

Algiers/Riverfront

An incinerator was formerly located on the riverfront square bounded by Newton St., Brooklyn Ave., Diana Street, and the Mississippi River. This site likely ceased being used for an incinerator when the Algiers/Hendee site came into operation. The riverfront site is now occupied by an industrial warehouse within an MU-2 Mixed Use High Intensity District.

Florida/Peoples Avenues

An incinerator operated within the area currently used for the Sewerage & Water Board's facilities in the vicinity of Florida and Peoples Avenues. The incinerator structure is one of only two remaining in the City. This site is within an LI Light Industrial District and is adjacent to MU-1 Mixed Use Medium Intensity and HU-RS Historic Urban Single Family Residential Districts.

Table 3. Inventory of Incinerators, Landfills, and Dumps.

Site		Zoning District		Future Land Use Designation		Source
Name	Type					
Agriculture Street Landfill	Landfill	BIP	Business-Industrial Park District	BC	Business Center	Environmental Protection Agency, "Agriculture Street Property Summary"
		S-RD	Suburban Two-Family Residential District	RLD-POST	Residential Density Post-War Low	
Algiers Incinerator	Incinerator	MU-2	High Intensity Mixed-Use District	MUH	Mixed-Use Density High	Sanborn Maps: New Orleans 1929 - 1940, vol. 7, 1937, Sheet 712
Chef Menteur C & D Landfill	Landfill	GPD	General Planned Development District	PDA	Planned Development Area	"Taking Out the Trash". Gambit, August 8, 2006
Crescent Acres Landfill	Landfill	NA	Natural Areas District	NA	Natural Areas	1Florida Avenue Transfer Station Solid Waste Standard Permit Application, New Orleans Sanitation Dept., April 19, 2005. P. 4-5.
Cuccia - Byrnes Playground	Dump	OS-N	Neighborhood Open Space District	P	Parkland and Open Space	"Black Will Urge City Erect Three Garbage Plants, Incinerators to Take Place of Antiquated System". The Times Picayune, July 10, 1921.
Florida Avenue Incinerator	Incinerator	LI	Light Industrial District	IND	Industrial	Sanborn Maps: New Orleans 1994, vol. 10, 1937, Sheet 1026
Gentilly Incinerator	Incinerator	GPD	General Planned Development District	PDA	Planned Development Area	Sanborn Maps: New Orleans 1979, vol. 16, Sheet 126
Gentilly Landfill	Landfill	HI	Heavy Industrial District	IND	Industrial	Switzer/Greenleaf, "Metropolitan Solid Waste Program, City of New Orleans, Louisiana". 1968.
Hendee Incinerator	Incinerator	S-RS	Suburban Single-Family Residential District	RSF-POST	Residential Single-Family Post-War	Sanborn Maps: New Orleans 1978, vol. 7, Sheet 747
Incinerator B	Incinerator	HU-MU	Historic Urban Neighborhood Mixed-Use District	MUL	Mixed-Use Density Low	Sanborn Maps: New Orleans 1909 - 1951, vol. 4, 1937, Sheet 398

Site		Zoning District		Future Land Use Designation			Source
Name	Type						
Incinerator C	Incinerator	HU-MU	Historic Urban Neighborhood Mixed-Use District	MUM	Mixed-Use Density	Medium	Sanborn Maps: New Orleans 1929 - 1940, vol. 2, 1940, Sheet 114
Incinerator D	Incinerator	MU-2	High Intensity Mixed-Use District	MUH	Mixed-Use Density	High	Sanborn Maps: New Orleans 1929 - 1940, vol. 3, 1940, Sheet 254
Incinerator E	Incinerator	LI	Light Industrial District	IND	Industrial		Sanborn Maps: New Orleans 1929 - 1951, vol. 10, 1937, Sheet 1028
Independence Square	Dump	OS-N	Neighborhood Open Space District	P	Parkland and Open Space		"City is Not Behind in Sanitary Reforms". The Times Picayune, August 30, 1911, p. 1
Recovery One Landfill	Landfill	NA	Natural Areas District	P	Parkland and Open Space		Switzer/Greenleaf, "Metropolitan Solid Waste Program, City of New Orleans, Louisiana". 1968.
Earhart Dump	Dump	MU-2	High Intensity Mixed-Use District	MUH	Mixed-Use Density	High	"City is Not Behind in Sanitary Reforms". The Times Picayune, August 30, 1911, p. 1
		BIP	Business-Industrial Park District	BC	Business Center		
		C-3	Heavy Commercial District	GC	General Commercial		
Silver City Dump	Dump	HU-RM1	Historic Urban Multi-Family Residential District	GC	General Commercial		"Report on Garbage Collection and Disposal," Carl Schneider, Aide to the City of New Orleans Commissioner of Public Property. Undated.
		C-2	Auto-Oriented Commercial District	RMD-PRE	Residential Medium Density Pre-War		
Taylor Playground	Dump	OS-N	Neighborhood Open Space District	P	Parkland and Open Space		"City is Not Behind in Sanitary Reforms". The Times Picayune, August 30, 1911, p. 1
The Fly at Audubon Park	Dump	OS-R	Regional Open Space	P	Parkland and Open Space		"Insect Breeding Charge Denied," The Times Picayune, January 11, 1957, p. 8

Site		Zoning District		Future Land Use Designation		Source
Name	Type					
Thomy Lafon Site	Dump	HU-RM1	Historic Urban Multi-Family Residential District	RMD-PRE	Residential Medium Density Pre-War	"Thomy Lafon Playground Declared to be Model One", The Times Picayune, May 9, 1920.
Lower Hagan Avenue Dump	Dump	MU-1	Medium Intensity Mixed-Use District	MUM	Medium Intensity Mixed-Use	"City is Not Behind in Sanitary Reforms". The Times Picayune, August 30, 1911, p. 1
		OS-G	Greenway Open Space District	P	Parkland and Open Space	
		HU-MU	Historic Urban Neighborhood Mixed-Use District	MUL	Mixed-Use Low Density	
Upper Hagan Avenue Dump	Dump	C-2	Auto-Oriented Commercial District	GC	General Commercial	"Obnoxious Dump to be Eliminated," The Times Picayune, November 27, 1921
		C-3	Heavy Commercial District	GC	General Commercial	
		EC	Educational Campus District	INS	Institutional	
Milton Street Dump	Dump	S-RD	Suburban Two-Family Residential District	P	Parkland and Open Space	"Rat-Infested Dumps Threaten City Health," New Orleans Item, June 12, 1945, p. 1
		S-RD	Suburban Two-Family Residential District	RLD-POST	Residential Low Density Post-War	
		EC	Educational Campus District	INS	Institutional	

Master Plan Analysis

Future Land Use Map Designations

Chapter 13: Land Use Plan (formerly Chapter 14) of the Master Plan designates the Future Land Use of all properties in the city of New Orleans. The landfill, dump, and incinerator sites cited in this report are contain a variety of Future Land Use designations. When looking at the total number of sites, the majority are located within General Commercial (4, 12%) and Parkland and Open Space (7, 21%) designations, closely followed by the Mixed-Use High Density and Industrial designations (3, 9%). A more distinct pattern is detectible when landfills and dumps are considered independently of incinerator sites. Twenty-eight percent of landfills and dumps are located on properties designated Parkland and Open Space, and 16% are located on properties designated General Commercial. It is logical that the greatest number of landfills are located in Parkland and Open Space and Natural Areas designations because landfills were mostly located on the edge of the city for the time in which they were developed. Many dumps were located in current urbanized areas, most of which have been converted to parks, neutral grounds, and streets. Exceptions to this include the Chef Menteur Landfill and most of the former Agriculture Street Landfill, which are designated Industrial and Business Center, respectively.

Table 4. FLUM designations of landfill, dump, and incinerator Sites

Future Land Use Category		Landfills/Dumps		Incinerators		Total Sites	
		#	%	#	%	#	%
BC	Business Center	2	8%	0	0%	2	6%
GC	General Commercial	4	16%	0	0%	4	12%
IND	Industrial	1	4%	2	25%	3	9%
INS	Institutional	2	8%	0		2	6%
MUH	Mixed-Use High Density	1	4%	2	25%	3	9%
MUL	Mixed-Use Low Density	1	4%	1	13%	2	6%
MUM	Mixed-Use Medium Density	1	4%	1	13%	2	6%
NA	Natural Areas	1	4%	0	0%	1	3%
P	Parkland and Open Space	7	28%	0	0%	7	21%
PDA	Planned Development Area	1	4%	1	13%	2	6%
RLD-POST	Residential Low Density Post-War	2	8%	0	0%	2	6%
RMD-PRE	Residential Medium Density Pre-War	2	8%	0	0%	2	6%
RSF-POST	Residential Single-Family Post-War	0	0%	1	13%	1	3%
	TOTAL	25	100%	8	100%	33	100%

Fifty percent of incinerator sites are located in a mixed-use designation: Mixed-Use High Density (2, 25%), Mixed-Use Medium Density (1, 13%), and Mixed-Use Low Density (1, 13%). Twenty-five percent are located on properties designated Industrial. All of these sites are located within the older parts of the city in the Mid City, Central City, Tulane-Gravier, and Treme Neighborhoods. There is also one site located along the riverfront in the Algiers Riverview neighborhood where the Algiers Incinerator once stood, which is now occupied by a warehouse.

Sites currently designated with a residential Future Land Use category include the Clio/Silver City dump, a portion of the Agriculture Street landfill, and the former dump in the Harmony Oaks development where

the Thomy Lafon School was located. The Thomy Lafon site and Clio/Silver City Dump are both designated Residential Medium Density Pre-War (RMD-Pre). This designation allows residential areas that have a variety of housing types, and has allowances for businesses and traditional corner stores and supporting public recreational and community facilities. In total, 36% of landfill, dump, and incinerator sites found by CPC staff are located in residential or open space Future Land Use categories. Soil testing and remediation is critical in these areas, as well as areas like them, prior to redevelopment. Additionally, in the case of the residential categories, the appropriateness of these designations should be reconsidered during the next Master Plan amendment process.

The remaining 64% of the sites are currently located in natural, commercial, industrial, or mixed-use categories. These areas promote the preservation of natural areas or the development of uses that are more compatible with the former use of these properties. Even though mixed-use categories allow some residential uses, they also allow the development of a wide range on non-residential uses.

Opportunity Sites

The Master Plan notes that “underutilized commercial and industrial properties (and public properties no longer needed), are prime candidates for transition to new uses.” The Master Plan specifically identifies several of these types of sites as “Opportunity Sites” where new land uses and development could contribute to the success of adjacent neighborhoods and the city as a whole. Several former industrial corridors have been identified as opportunity sites within the Master Plan. They include: Lindy Boggs Medical Center, Earhart Boulevard, and South of the Convention Center.

Zoning Analysis

Future Land Use categories dictate the range of zoning districts that are allowable on properties throughout the city. With that said, the patterns described in the previous FLUM analysis section are mirrored in the zoning districts of landfills, dumps, and incinerator sites.

Table 5. Zoning district designations of landfill, dump, and incinerator sites

Zoning District		Landfills/Dumps		Incinerators		Total Sites	
		#	%	#	%	#	%
BIP	Business-Industrial Park District	2	8%	0	0%	2	6%
C-2	Auto-Oriented Commercial District	2	8%	0	0%	2	6%
C-3	Heavy Commercial District	2	8%	0	0%	2	6%
EC	Educational Campus District	2	8%	0	0%	2	6%
GPD	General Planned Development District	1	4%	1	13%	2	6%
HI	Heavy Industrial District	1	4%	0	0%	1	3%

Zoning District		Landfills/Dumps		Incinerators		Total Sites	
		#	%	#	%	#	%
HU-MU	Historic Urban Neighborhood Mixed-Use District	1	4%	2	25%	3	9%
HU-RM1	Historic Urban Multi-Family Residential District	2	8%	0	0%	2	6%
LI	Light Industrial District	0	0%	2	25%	2	6%
MU-1	Medium Intensity Mixed-Use District	1	4%	0	0%	1	3%
MU-2	High Intensity Mixed-Use District	1	4%	2	25%	3	9%
NA	Natural Areas District	2	8%	0	0%	2	6%
OS-G	Greenway Open Space District	1	4%	0	0%	1	3%
OS-N	Neighborhood Open Space District	3	12%	0	0%	3	9%
OS-R	Regional Open Space	1	4%	0	0%	1	3%
S-RD	Suburban Two-Family Residential District	3	12%	0	0%	3	9%
S-RS	Suburban Single-Family Residential District	0	0%	1	13%	1	3%
TOTAL		25	100%	8	100%	33	100%

The majority of landfill and open dump sites are located in Natural Areas Districts and Open Space Districts. This is a function of the location of modern landfills being located at the edge of the city limits and open dumps often being located at the edge of the city at the time, then converted to park space. Another pattern similar to the FLUM data is the concentration of former incinerator sites in mixed-use and industrial districts. Six of the eight former incinerator sites are located in three districts: Light Industrial District (2, 25%), High Intensity Mixed-Use District (2, 25%), and Historic Urban Neighborhood Mixed-Use District (2, 25%).

Six of the 33 districts in which these sites are located are intended primarily for residential development. This includes the Clio/Silver City and Thomy Lafon sites (HU-RM1 Historic Urban Multi-Family Residential District), a portion of the former Agriculture Street Landfill (S-RD Suburban two-Family Residential District), and the Hendee Incinerator site (S-RS Suburban Single-Family Residential District). The Hendee Incinerator site was the subject of a recent Future Land Use Map amendment to be changed to

a non-residential designation more appropriate for the re-use of the site. Presumably, this will also result in a change of the current zoning district to a more appropriate classification.

Nearly all of the former landfill, dump, and incinerator sites are within a zoning district that primarily allows non-residential uses, conservation of natural and park areas, or a mix of residential and non-residential uses. Similar to its position resulting from the Future Land Use analysis, the staff believes the zoning districts that are primarily devoted to residential uses should be reconsidered for the sites found in the incinerator, landfill, and dump inventory.

Former Industrial Districts

Many areas in the city historically developed with industrial uses have been evolving as these uses have relocated or ceased to operate. In 2015, the City adopted a new Comprehensive Zoning Ordinance and zoning map that reflected such trends. With this change, many areas formerly zoned for industrial uses were changed to parallel the changing realities of those areas. Former industrial buildings can be excellent opportunities for adaptive reuse and sites are often quite large, providing a flexible design space. However, former industrial use should be a sign that property owners and developers need to further investigate the history of use and whether any environmental conditions need to be addressed. Maps 4 and 5 show areas formerly within industrial districts and those currently within industrial districts.

Some notable concentrations of industrial zoning districts that were changed with the new CZO include the Lafitte Greenway Corridor, the lakeside of Tchoupitoulas Street uptown, and the industrial districts in the Marigny and Bywater. The transition of the Lafitte Street corridor from industrial uses with a rail line to a linear park was the impetus for rezoning the majority of the bordering area for mixed-use development. The changes along Tchoupitoulas Street and in the Marigny and Bywater neighborhoods reflect the evolution of these river-adjacent areas from an industrial history to a mix of commercial, residential, and artisan manufacturing uses. The area between the railroad switching yard and Franklin/Almonaster Avenues was also changed from industrial to a more appropriate two-family residential district. This area was historically developed with residential uses but was zoned industrial in 1929, presumably because of its proximity to the railroad. Though it has been zoned industrial for decades, the area has retained its residential character, with a few commercial and industrial uses.

Other significant concentrations of changes include the area near the Interstate 10 corridor between the Superdome and South Carrollton Avenue, and areas in New Orleans East south of the Mississippi River Gulf Outlet and areas around Bayou Gentilly. The properties in New Orleans East have been rezoned to Natural Areas Districts and General Planned Development Districts in order to promote the conservation or responsible redevelopment of these areas.

Environmental Justice/Low-Income Communities Correlation

Mapping of former landfills/dumps, incinerator sites, and industrial districts show a strong correlation with current low-income Census tracts. The map overlaying this information (Map 6) was created utilizing 2015 Census tract data where poverty levels are twenty percent (20%) or more. Staff researched the former landfill/dump, incinerator sites and included the former and current industrial districts on the map. The map indicates that every known landfill/dump and incinerator site is within a low-income neighborhood. The staff has every reason to believe these neighborhoods were also low income when the use was open or operating as the City would use dumps as intensely as possible until public complaints became overwhelming. African American households in New Orleans have historically been more susceptible to poverty than white households due to housing and employment policies instituted at the federal and local

levels. Because of this, housing opportunities were not as open to African American families who were relegated to living in segregated neighborhoods where housing was more affordable. The result of this is that low-income African American households were disproportionately exposed to the effects of living in neighborhoods near these incompatible land uses, having less political influence to have them closed in a timely manner.

The staff believes that there are opportunities for leveraging this information into funding opportunities to improve the areas where former noxious land uses were located. The staff has recently learned about the federal Opportunity Zone tax incentive program that is aimed at improving distressed areas aligned with the qualified census tracts in the New Market Tax Credit program. The Opportunity Zones program could provide an economic boost to the areas pointed out in the map and provide a way to remediate lasting effects of former industrial land uses in these areas. The staff believes targeting these low-income neighborhoods where former policy decisions have resulted in this correlation would provide the city with an opportunity to incorporate an environmental justice path to remediate sites and find appropriate reuse.

New Orleans Program Deficiencies

Brownfields Program and Staffing

The City of New Orleans does not currently have designated brownfields program staff. Because the grant terms require a Quality Assurance Manager and a Brownfields Program Manager, as defined in the Quality Management Plan, the City should allocate one or more positions to Brownfield management. Such staff should have the responsibility of managing the program, completing reporting requirements, conducting outreach with the EPA contractor overseeing the assessments, and communicating with the Brownfields Redevelopment Program Coordinator at RPC. Such staff would oversee and maintain the reporting process, and understand the nuances of applying for and using EPA grant money (ensuring the money is only used for eligible sites). The Brownfield Program Manager would also understand and utilize LDEQ's and EPA's targeted Assistance to Brownfields program for assessments and KSU TAB's resources for outreach. In addition to applying for and administering grants, this position would have the responsibility of implementing some of the practices learned from other cities in this section. The Brownfield Program Manager may be empowered with the discretion of choosing what types of programs are right for the City and establishing protocols for the handling and maintenance of known contaminated sites. The Brownfield Program Manager and Quality Assurance Manager are both required to complete quality assurance training and certification offered by the EPA.

Local Tools and Incentives for Remediation and Redevelopment

The City of New Orleans lacks incentive environmental cleanup programs that many of the other cities discussed in the "Best Practices" section of this study utilize to help cleanup privately-owned land. These incentive programs range from voluntary cleanup programs, matching grants, tax abatements, developer incentives, and other resources to remediate property. New Orleans has a Restoration Tax Abatement program for the renovation of historic structures and is studying whether this may be a useful tool in the provision of affordable housing. A tax abatement or similar incentive for the remediation of brownfields should be considered.

Strategic Partnerships

While the City of New Orleans fosters economic development through partners including GNO Inc. and NOLABA, it has not recently had a Brownfields Program Manager. The redevelopment of a brownfield site is a "win-win" situation where both economic development and environmental goals are simultaneously

achieved. The Brownfields Program Manager can focus on building partnerships at the federal, state and local levels, and leverage grants that other cities have used to help promote citizen engagement, facilitate cleanup, and return contaminated property to commerce.

Public Awareness of Environmental Conditions

The City of New Orleans could boost public awareness of potentially hazardous environmental conditions with a more concerted effort. The Health Department has been promoting soil testing for lead and other contaminants, which can be done inexpensively through the Louisiana Agricultural Center. The risks associated lead contamination of soil are fairly well publicized as are concerns with the sanding of lead-based paint (paint manufactured prior to 1979.) To complement those efforts, the City could provide guidance on multiple levels for how to consider a site's land use history in planning for redevelopment and revitalization. With the City's declining need for industrial land area, many former industrial districts have been changed to mixed use, providing redevelopment opportunities often in locations convenient to the City's historic core. Property owners, developers, and community members alike should consider whether a site has had a history of industrial use and take steps to investigate the environmental conditions.

Potential Area Studies

New Orleans' City Charter establishes a program for changing land use regulations. The Charter requires consistency between the Master Plan and Zoning Ordinance. Every one to five years, the Master Plan may be amended, which ultimately may result in changing zoning district maps or zoning text. Engaging in area or neighborhood planning efforts can inform this process and help meet the City's evolving needs.

E. Public Comments & CPC Responses

Comments from October 24, 2017 Public Hearing

Maxwell Ciardullo, Greater New Orleans Fair Housing Action Center – this organization seeks to address historic patterns of segregation which have contributed to a disproportionate share of hazardous sites in communities of color. Contaminated sites should not be used for housing or schools.

- ⌘ The City Planning Commission shares the social justice goal in this effort. Through transparency, heightened public awareness, and tools that provide information about environmental land conditions, there is greater potential for social justice. With the information provided in this report, more informed choices can be made about how land should be used or what actions need to take place before certain uses are authorized. The City can also use consider whether certain areas may have a more appropriate Future Land Use Map or zoning designation based on environmental issues.

Written Public Comments

John Koeferl, Citizens Against Widening of the Industrial Canal – there are toxic sediments in the Industrial Canal that should be left undisturbed.

- ⌘ Numerous sites along the Inner Harbor Navigation Canal (Industrial Canal) are identified as having environmental issues. The Port of New Orleans, in partnership with the City of New Orleans, has recently received a grant from the U.S. EDPA Brownfields Area-Wide Planning program to develop a strategic plan for the remediation and redevelopment of Brownfield properties along the canal. The project does not involve any new testing of sites and is not associated with the widening of the Industrial Canal.
- ⌘ The potential widening of the Industrial Canal’s lock, a project that would also involve the dredging of the Canal bottom, has been discussed for many years. A 1997 Environmental Impact Statement, as well as subsequent sampling and analysis, indicated the presence of contamination at the surface and subsurface of the Canal. The US Army Corps of Engineers disposal techniques for dredged sediments are an issue primarily for any portions that would be downriver.

Ray Bergeron, Lakeview Civic Improvement Assoc. – make sure West End neutral ground fallout shelter is included in the inventory.

- ⌘ In 2004, environmental consultant Materials Management Group, Inc. conducted a “Limited Indoor Air Quality and Environmental Conditions Survey Report” for the “New Orleans Civil Defense Bunker.” The bunker is owned by the City on land owned by the Orleans Levee District. Even at that time prior to Hurricane Katrina, the survey found that the structure was flooded and there were various chemicals and heavy metals in need of proper disposal. Underground storage tanks and fuel lines were also present. The Civil Defense Bunker site is included on the map of sites with known environmental conditions.

Monique Harden, Deep South Center for Environmental Justice – advice on the extent of environmentally questionable sites and methods of research. The Center also promotes a land use policy to not reuse contaminated or previously contaminated sites for schools or housing.

- 8 Many sites in New Orleans have an extensive and changing land use history. In previous times, industrial uses were less separated from residential uses. Additionally, large areas used for dump sites, incinerators, or transfer stations may have changed uses generations ago with little current public awareness of the land use history. Public and private developers must perform due diligence to know the land use history and possible environmental conditions of development sites. While environmental conditions can be mitigated through certain actions, it may be preferable to exercise additional caution when developing housing and schools. In certain cases, the City may choose to re-evaluate the land use category for future use of sites with known environmental conditions.

F. Recommendations

Assessing and improving the city's environment will be an ongoing effort which requires multiple strategies and coordinated efforts to accelerate cleanup and redevelopment of potentially contaminated sites. Based on the analysis of this Environmental Study, recommendations are divided into four categories: (1) land use policy and planning, (2) brownfields program management, (3) grants and resources, and (4) education and outreach. Recommended actions to achieve the goals of the Environmental Plan are enumerated under each category.

Recommendations: Land Use Policy & Planning

- 1. Conduct area studies to systematically consider the challenges related to multiple brownfield sites, and incorporate site-specific assessment and cleanup into larger community revitalization efforts.**

This City should take advantage of funding available through the EPA's Brownfields Area-Wide Planning Grant Program to fund planning efforts to redevelop and reinvigorate certain neighborhoods around the city which may be depressed by abandoned industrial uses or environmental issues. Some prime areas for further study may be the area around Agriculture Street landfill and larger areas and corridors that formerly were within industrial districts, as shown on Maps 3 and 4.

The planning grant can fund essential elements of strategy development including market analyses and community engagement events such as design charrettes or round table sessions. An area-wide planning process enables a community to develop a shared vision for revitalization within the project area, strategize the best way to implement that vision, and more efficiently remediate and reuse brownfield sites to help reverse disinvestment.

- 2. Takes steps to modify Future Land Use Map (FLUM) designations and zoning classifications for appropriate re-use of sites with environmental conditions.**

Based on the analysis of best practices of other cities detailed in Section D of this Environmental Study, the City of New Orleans should further contemplate redevelopment opportunities for specific brownfield sites. Considering real estate values, development trends, site development feasibility, and Master Plan goals, the City should analyze individual sites for possible future amendments to the Future Land Use Map and ultimately the Comprehensive Zoning Ordinance.

The staff found that 64% of the incinerator, landfill, and dump sites are located on properties with a natural, commercial, mixed-use, or industrial designation. These categories either promote the preservation of natural areas, or the development of uses that would not be sensitive to the historic use of the site. Though it is important for all property owners to understand the environmental conditions of a site, it is absolutely critical in the areas which exclusively promote residential development or park space. The staff also believes that the FLUM designations of the Thomy Lafon Park, the portion of the Agriculture Street Landfill designated RLD-Post, and the former B.W. Cooper site (Clio/Silver City dump) should be reconsidered during the next Master Plan amendment process. If this reconsideration results in a change to the FLUM, then a zoning change to a more appropriate district should be made to promote a range of uses more consistent with the new FLUM category.

3. Promote voluntary soil testing generally and consider soil testing requirements for certain areas proposed for residential and institutional uses.

Depending on a site's historical land use and its location within the city, soil testing prior to reuse is advisable for many different projects. If there is reason to believe that an industrial use, incinerator, or dump was a former use of the property, soil contamination from the use is possible. If an underground storage tank is currently or was formerly located on the property, soil contamination is possible. Even absent such a land use histories, soil may be contaminated with lead from decades of vehicle emissions settling to the ground – especially in older parts of the city. Particular care should be taken for a land use expected to accommodate small children, as they are most likely to ingest contaminated soil. The LSU Agricultural Center offers relatively inexpensive and convenient soil testing services, which should be further promoted. The City may also consider requiring soil testing in certain areas with a history of industrial, incinerator, and landfill/dump uses.

4. Consider policies to prohibit residential or school uses on landfill sites.

The staff found that it is possible for many industrial, brownfield, or even landfill/dump sites to be safely repurposed for new development. However, as seen with the Agriculture Street landfill, such sites not only carry with them real health and safety concerns, but also have the potential to carry a stigma. Given that there are relatively few modern landfill sites in New Orleans, it is realistic to promote redevelopment of such sites to uses other than residential or school sites. However, the staff recommend

5. Identify additional “Opportunity Sites” and related policies that would be appropriate for inclusion in the Master Plan.

The staff believes that the Agriculture Street Landfill area, the Hendee Incinerator site, and the site of Incinerator B are good candidates for inclusion in the Master Plan as “Opportunity Sites.” Chapter 13 of the Master Plan currently lists 10 Opportunity Sites across the city that are ideal for various types of redevelopment projects. Opportunity Sites normally include data regarding housing potential and retail market potential of those areas. Completing this type of market analysis and presenting them to the public in the Master Plan hopefully does some of the work identifying underutilized properties and provide concrete information regarding the properties' viability for redevelopment.

Recommendations: Brownfields Management & Revitalization

1. Designate brownfields personnel to collaborate with state and federal environmental agencies, secure sources of seed money, and manage resources.

The City should prioritize the creation of a “Brownfields Revitalization Office” staffed with adequate personnel to leverage and secure sources of funding and other grants which would spur revitalization efforts of the city's contaminated sites. Designated staff would also be able keep up with the monitoring and reporting requirements of these grants including reporting on the success of projects in terms of “outputs” and “outcomes.” As indicated through the research of best practices, peer cities are consistently applying for and being rewarded grant funding for the redevelopment projects including public facilities, housing developments, commercial industrial developments, and mixed-use developments. Absent dedicated staff to compete for these funding opportunities, the City of New Orleans is missing out on thousands of dollars assistance which

could be used to enhance environmental conditions and invigorate economically depressed neighborhoods.

The research of best practices also found that many cities house their brownfields staff, who are dedicated both wholly and partially, in permanent departments such as Sanitation Departments and Planning Departments. Dedicated staff would not only be responsible for applying for and reporting on grant programs, but could also focus on developing strategic partnerships with other stakeholder agencies as well as private developers to coordinate redevelopment efforts. Personnel can also be responsible for advising other city agencies and officials on the identification, investigation, remediation and redevelopment of contaminated sites and serve as intermediary for other agencies, including local, regional, and state, for brownfields matters. Additionally, dedicated staff could coordinate with the Louisiana Department of Environmental Quality and make better utilization of the many data and resources they maintain in implementing the State's environmental programs. Finally, because both the assessment and redevelopment of brownfield sites involve sometimes long and drawn-out processes, it is advantageous for there to be program continuity and longevity so that key partnerships and funding streams are maintained and projects can be seen to completion.

2. Perform outreach to educate property owners as well as the general public of the need to consider environmental conditions of certain sites, and of the resources available to perform assessments.

The City could greatly expand public awareness on both current environmental conditions of certain neighborhoods or corridors, as well as on opportunities to improve public health through environmental remediation. It is important that the City take a more active role in educating property owners about local environmental hazards to which they are commonly susceptible, especially on account of the age of the city and the wide span of historical industrial development throughout its borders. It is also imperative that the City never allow situations to occur such as that which happened with the development of Gordon Plaza.

Outreach activities could be performed by designated staff of a brownfields remediation office. The office could direct interested members of public to special resources, both informational and monetary, that could help them better understand their property's history and options in remediation. The brownfields office could partner with the LSU AgCenter to encourage more members of the public to submit soil samples for testing through an annual event, in a manner similar to the Soil Kitchen held in the community of Austin each year. The City could also manage a document repository online similar to New York's Office of Environmental Remediation, who maintains all records relating to all remediation projects categorized by site address and borough. New York also created a certification program in which all properties who have completed their "Voluntary Cleanup Program" are awarded a plaque to be mounted on the building noting that the building is a safe place to live and work. Finally, in addition to some of these creative outreach strategies, the City could provide the public with more traditional outreach materials such as printable brochures, maps, how-to guides, online videos, and other online educational content.

3. Focus on redevelopment of City-owned sites in need of cleanup and appropriate reuse.

In renewing its own brownfields office, the City can also focus on several City-owned sites in need of assessment, remediation, and/or reuse. Among these are the West End Civil Defense Bunker. While the building is owned by the City, the land is owned by the Orleans Levee District. An opportunity may exist for a cooperative endeavor involving the City, Orleans Levee District, and

the Regional Planning Commission in obtaining resources to further assess and plan for the cleanup and demolition of the existing structure.

A number of former incinerator sites have largely been dormant for many years. The Saratoga/7th Street former incinerator site is in the heart of the city, but has been vacant for over thirty years. A Phase 2 Environmental Assessment indicates that remediation and redevelopment is feasible. The Algiers/Hendee former incinerator site has recently been given a General Commercial designation in the City's Master Plan. With the adjacent development in Jefferson Parish, this site may be appropriate for future commercial use, if no longer needed by the Sanitation Department.

4. Ensure up-to-date reporting and stewardship of current resources and grants.

If in the future the City of New Orleans is to become a recipient of any of the previously outlined federal grant programs, then it is necessary that staff time be dedicated to the proper stewardship of these resources. Proper stewardship includes the submission of timely quarterly and annual performance and technical reports, data management, budget management, ensuring compliance, and project management. As discussed in this study, grant stewardship is important not only for the viability of any existing grant, but also an entity's ability to be competitive for future grants, as the EPA will consider the entity's program performance record when assessing future applications. Ideally, the City of New Orleans would create a "Brownfields Revitalization Office" with at least two dedicated staff members as is typical in other mid-sized communities.

Recommendations: Leveraging Resources and Grants

1. Obtain Area-Wide Planning Grants on areas of former industrial use.

The EPA offers grant funding for the development of area-wide planning activities supporting assessment and cleanup of high-priority brownfield sites. Funding is competitive and allocated for specific project areas such as neighborhoods, downtown districts, commercial and industrial corridors, and waterfronts adversely affected by a single monolithic or multiple brownfield sites. Area wide planning efforts can contribute to the revitalization of large contaminated sites adversely affecting the environmental health of a community.

2. Obtain grants for environmental site assessments.

Environmental cleanup of contaminated sites is often costly. The City can apply for competitive EPA grant funding to assist in the environmental assessment of potentially contaminated properties. Assessment grants can significantly mitigate pre-construction costs for developers redeveloping sites in communities most affected by brownfields. Environmental assessments are also critical as liability protections for potential purchasers of contaminated property and for determining the scope of contamination in order to inform a site cleanup protocol.

3. Obtain grants to provide workforce development in fields related to environmental assessment and cleanup.

Environmental workforce development and job training grants allow non-profit and other organizations to recruit, train and place low-income and minority, unemployed and under-employed people living in areas affected by contamination. Trainees acquire the professional skills needed to secure full-time employment in the environmental field, including assessment and cleanup activities. Such green jobs cultivate a qualified local workforce, reduce unemployment, and contribute to environmental remediation and sustainability.

4. Consider creating a program of tax abatements or credits for site cleanups.

Some cities and counties provide tax incentives as another layer of incentive to developers for the cleanup of brownfield sites. Such tax incentive packages are designed to relieve increased taxes associated with post-cleanup and post-redevelopment appreciation in property values which are expected with a “clean” property. Whereas assessment and cleanup grants can reduce the frontend costs of redeveloping a contaminated site, a tax abatement program can relieve costs many years thereafter. The recently adopted Tax Act of 2017 also provides federal tax incentives through its “Opportunity Zone Program.” The incentives provide tax abatement and deferral and can encourage investors to invest in remediation of brownfields which would have otherwise been cost-prohibitive. The City should work with the Governor’s office to ensure that eligible areas in the New Orleans community are included in an application to the Department of Treasury to become “Opportunity Zones.” The application deadline is April 20th, 2018.

5. Reestablish a Revolving Loan Fund for environmental cleanup of sites.

The City should consider reestablishing a Revolving Loan Fund (RLF) for cleanup activities. A Revolving Loan Fund is capitalized by an EPA RLF grant for the provision of no-interest or low-interest loans for the cleanup of brownfields. The loan is repaid and the loan amount returned to the fund; thereafter it is loaned to other borrowers, thus providing a revolving and continually renewed source of capital funds for cleanup activities.

Recommendations: Cultivating Partnerships

1. Assemble a team of committed partners which may include business organizations, community development corporations, philanthropic organizations, and local government to promote the redevelopment of brownfield sites.

A coalition that includes representatives from several existing organizations (including non-profits, quasi-governmental agencies, and public entities) should be created to leverage knowledge and resources. This coalition should include individuals from the New Orleans Business Alliance (NOLABA), the New Orleans Redevelopment Authority (NORA), Greater New Orleans, INC (GNO INC), the City Planning Commission (CPC), the Office of Community Development (OCD), the Office of Economic Development (OED), the Regional Planning Commission (RPC) as well as other stakeholders in the City or State who may have an interest in spurring development or remediating brownfields. This coalition could work together to apply for grant applications, identify brownfields with high opportunity for revitalization, allocate funding, and collaborate with businesses with an interest in investing in New Orleans.

2. Work with the Regional Planning Commission’s (RPC) well-established brownfield program, steering potential grant applicants to the RPC while the City of New Orleans’ program is being reestablished.

The Regional Planning Commission’s Brownfield Redevelopment Program is well-established and has been the recipient of several assessment and clean-up grants from the EPA. The staff recommends that the City utilize the opportunity to partner, learn, and coordinate grant applications with the RPC. The Brownfield Manager at RPC can work with the coalition and the prospective Brownfield Manager at the City to provide insight on grant applications, grant reports, and grant maintenance. Though the City does not currently have a brownfield manager or program, grant

applicants in the City can still work with the RPC to apply for and receive assistance for assessment grants.

3. Work with the New Orleans Business Alliance (NOLABA) to identify sites appropriate for economic development, appropriate re-use, and developers/investors.

The New Orleans Business Alliance is a key stakeholder that the City of New Orleans should utilize to help identify sites located in under-resourced but high opportunity areas. Many of these opportunity areas may be located in former industrial areas. NOLABA has the responsibility of bringing economic development into New Orleans by promoting the city's various tax credit programs, skilled work force, infrastructure, and other incentives. Partnering with the New Orleans Business Alliance would allow the City to leverage resources, making funding and eligibility for grants more competitive.

4. Take advantage of technical assistance from Kansas State University – Technical Assistance to Brownfields (KSU-TAB) and the Louisiana State University (LSU) Agricultural Center.

There are several organizations that can provide assistance with environmental assessment and cleanup. The U.S. Environmental Protection Agency's Technical Assistance to Brownfields Communities (TAB) Program provides technical assistance to communities to increase their understanding and involvement in brownfields cleanup, revitalization and reuse. TAB grantees serve as an independent resource to help communities, among other things, understand the health impacts of brownfields sites, how science and technology are used for site assessment, remediation, redevelopment and reuse, and how to comply with voluntary cleanup requirements. Kansas State University received a grant to provide TAB services in EPA Region 6, which includes Louisiana. The City should utilize the KSU TAB program's free resources including training, workshops, webinars, online tools, and other assistance.

In addition to KSU TAB, there are also local institutions and organizations that can provide assistance. The Louisiana State University Agricultural Center, known as the LSU AgCenter, provides the people of Louisiana with research-based educational information that will improve their lives and economic well-being. The LSU AgCenter includes the Louisiana Cooperative Extension Service, which extends the knowledge derived from research to the people of the state by offices established in each parish. The Louisiana Brownfields Association, through community outreach and education, promotes a wide array of Brownfields-related goals, objectives and initiatives, including environmental restoration, economic development and revitalization, natural resources preservation, enhancement of financial and regulatory incentives, and protection of human health.

5. Partner with the Port of New Orleans and other entities performing area wide planning or similar re-use planning efforts.

The Port of New Orleans, in partnership with the City of New Orleans, obtained funding from the U.S. EPA Brownfields Area-Wide Planning program to fund a strategic plan for the remediation and redevelopment of Brownfield properties along the Inner Harbor Corridor in New Orleans. The Port will lead the development of the PIER Plan in close partnership with the City, and through a transparent and inclusive planning process that will be substantially bolstered by the credibility of EPA grant funding, guidance and technical assistance.

Recommendations: Education and Outreach

1. Provide inventories of sites with known, unremediated environmental conditions for public awareness.

One significant component of this study was for the staff to identify the sites of former landfills, incinerator and open dumping grounds. The staff was able to identify 23 sites and numerous streets that were used for one or both of these purposes. Though these sites have been identified, the staff believes that the history and inventory could be further studied. Some site locations found in research was not exact and the extent of the older open dumps is not fully known. Additionally, several locations along the Public Belt were used as transfer locations for garbage transported to the Agriculture Street Landfill. The staff recommends that the inventory continue to be updated and expanded, specifically to narrow in on exact locations and boundaries of open dumps and transfer stations throughout the city.

The staff also recommends that the proposed city personnel dedicated to these environmental issues keep an inventory of certain possibly-contaminated, but un-remediated sites. This would be a valuable public resource for identifying sites that could be eligible for financial assistance for assessment and remediation.

2. Advise property owners and developers on performing due diligence, and on the need for environmental assessment especially on sites that have a history of industrial use.

Similar to providing outreach and education to the public on general environmental conditions and remediation opportunities, it is also important for City personnel, who are involved in development-related activities and programs, to provide property owners and interested developers with adequate information regarding their liability to remediate environmental hazards, and the importance of performing due diligence through environmental site assessments. City Planning Commission staff, or future staff of a Brownfields Office, could prepare this information in written brochures or handouts and provide it to targeted constituents, especially owners or developers of formerly industrial properties, during consultations. Similar to New York's Office of Environmental Remediation, the City could also produce and host a Brownfield Educational Video Series on its website.

3. Participate in public events to raise public awareness of environmental issues and resources available.

New Orleans' residents, property owners and developers should have an increased awareness of the environmental issues associated with property and potential health implications. As noted earlier, the city's historical land use patterns and the potential soil contamination should be a consideration for redevelopment projects. The EPA provides a myriad of resources for local governments to access technical assistance, peer exchange opportunities, outreach support, and analytical tools in order to develop policies and programs on environmental issues such as, climate change, air quality, radiation, pesticides, transportation, waste and cleanup, water, and several others. There are also numerous local events held throughout Louisiana that could provide information on programs, resources, and funding opportunities. Some of these are listed below:

- LDEQ posts a monthly events calendar of meetings, workshops, presentations, and deadlines.
- Louisiana Solid Waste Association Partnership Conference is held annually.

- LDEQ hosts live webinars on understanding environmental regulations.
- The Regional Planning Commission Brownfield Redevelopment Program holds outreach events throughout the year to learn about brownfield redevelopment and funding programs.
- Louisiana Brownfields Association conducts community outreach and education to promote Brownfields initiatives including, environmental restoration, economic development, enhancement of financial and regulatory incentives and natural resource preservation.