



2010 Practicum Report

# **TAKING BACK LAWRENCE: Cleaning and Transforming the Canals and Alleyways**



Final presentation to Mayor William Lantigua and other local leaders, Lawrence Heritage State Park, May 12, 2010.

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## Executive Summary

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This report is a product of the work done by eight students over three months for the MIT@Lawrence Spring 2010 practicum course. The MIT@Lawrence partnership, which began in 1999, is a sustained campus-community partnership between faculty, students and staff at the Massachusetts Institute of Technology (MIT) and civic leaders, residents and community-based organizations in Lawrence, Massachusetts. The focus of this year's practicum – the cleaning and transformation of Lawrence's blighted alleyways and canals – was collectively selected by Lawrence Mayor William Lantigua and community partners at Lawrence CommunityWorks and Groundwork Lawrence, with support from the MIT@Lawrence teaching staff.

### ***Mandate for a Cleaner Lawrence***

When Lawrence Mayor William Lantigua visited MIT in December of 2009, he stressed that the top priority for his administration was to clean up the city. Thus, a major portion of the students' research focused on the issue of illegal dumping, which affects canals and alleyways throughout Lawrence. In particular, students analyzed the city's policies on trash clean up, examined the role of inter-departmental coordination around solid waste management, and looked at examples of best practices in response to illegal dumping in similar-sized cities.

### ***Revitalizing the Canals***

Through their research, students uncovered that stakeholders' visions for the canals have three key common goals: (1) good maintenance, (2) increased public use, and (3) economic development. Strong community organizing around these goals is underway in Lawrence, but Enel's Essex Company has yet to meaningfully take part in the planning process. To help increase collaboration between Lawrence stakeholders and Enel on short term canal maintenance and long term canal revitalization, students developed a strategic plan. Included in this plan is discussion of the ownership of mill powers – water units that generate a certain amount of energy. A 1970 lawsuit established that mill power owners must pay \$1200 per mill power per year to the Essex Company to maintain the canals. Since Enel is currently using all of the mill powers, the corporation should have the responsibility to use that full amount (about \$160,000 per year) to conduct maintenance of the canals.

### ***Taking Back the Alleyways***

To understand the current state of Lawrence alleyways, students performed a physical inventory of all 99 alleys, documenting their condition, access points and usage. Based on trends found in the inventory, students created a categorization system to distinguish among the different "types" of alleyways. This system will enable stakeholders to more precisely understand how alleyways are used in different areas of the city and to help them to make more informed decisions about future alley usage.

The alleyway inventory revealed that 65% of alleyways are grounds for illegal trash dumping. This finding prompted students to focus on the issue of illegal dumping, investigating its causes and possible prevention methods. This research led to recommendations for a more systematic approach to trash collection that is education- and prevention-based, while also being more inclusive of the entire Lawrence population.

Among community members, students found deep concern, but also coordinated action, to tackle the lack of stewardship around the alleyways. However, recent organizing efforts have lost momentum due to a lack of support from the City. Additionally, the ownership of alleyways remains unclear: Enel denies ownership and City Hall has not officially claimed the alleys as public space. Many abutters use alleyways as access points to private parking, but the perceived absence of any true owner has led many alleys to become grounds for dumping and other illegal activities. Therefore, the question of ownership must be addressed before an alleyway transformation plan can be executed.

### ***Engaging the Community***

Lawrence has an extraordinarily engaged cohort of residents, mill owners, and community organizations with a longstanding interest in cleaning and transforming the city's neglected public spaces from liabilities into city assets. Together, they have made extensive progress towards envisioning goals and beginning the revitalization process.

Students were fortunate to join and support this growing coalition of stakeholders, which is a major asset to the city.

In line with the view that planning initiatives must be predicated on substantial community engagement, students made a conscious effort to involve the community's concerns and feedback in this work. Students took a multifaceted approach to community engagement, holding meetings with community partners and residents, attending community meetings and events, and using various publicity outlets to inform residents about their research.

### ***Moving Forward***

What does "taking back Lawrence" mean for the different stakeholders interested in cleaning and transforming the alleyways and canals?

- For the Mayor, it means prioritizing alleyway and canal revitalization and implementing illegal dumping prevention mechanisms.
- For city department heads, it means defining their departments' roles in enforcing dumping ordinances.
- For community organizations, it means assisting residents with alley and canal transformation.
- For mill owners, it means engaging Enel and other stakeholders around canal revitalization.
- For residents, it means working with community organizations and other stakeholders to hold the City and Enel accountable for alleyway and canal revitalization.

We, the students, hope that our research, analysis and recommendations are useful as city officials and community members move forward on this important initiative.

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## What is the MIT@Lawrence Practicum?

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The MIT@Lawrence Practicum is the cornerstone of the longstanding partnership between students, faculty and staff at MIT and the people of Lawrence, Massachusetts. This year, the practicum students worked closely with the Lawrence city government, engaging directly with Community Development Director James Barnes and Economic Development Director Patrick Blanchette as primary practicum partners.

In January 2010, then incoming mayor, William Lantigua, charged the students with examining neglected public spaces in the City of Lawrence - particularly canals and alleyways - and strategizing how these "liabilities" can be cleaned up and transformed into "assets" for the City. Mayor Lantigua was especially interested in eliminating the problem of trash dumping while also illuminating the City's entangled relationship with the Enel Corporation. He asked that students gather information in order to help the City and other stakeholders move forward in engaging Enel in order to reclaim the canals and alleyways.

This year, the community partners for the MIT@Lawrence Practicum included three entities: Lawrence City Hall, Lawrence CommunityWorks, and Groundwork Lawrence. In Appendix I, we provide details on these primary partners.

On the MIT side, eight students were involved in this year's practicum and worked on this project from February 3<sup>rd</sup> to May 14<sup>th</sup>. During the first month of the course, we divided ourselves into different work groups in order to examine a) illegal dumping, b) canals, and c) alleyways, while also engaging the community in both the research and planning processes. In Appendix II, we outline our team's division of labor in terms of these different work groups.

Chronologically, we divided our work into four "sprints," which are detailed below:

- During the first sprint, we performed background research on the City of Lawrence and held initial meetings with community partners.
- During the second sprint, we conducted a comprehensive physical inventory of all of the alleyways in Lawrence and made preliminary contacts with canal stakeholders.
- During the third sprint, we focused on community outreach, engaging Lawrence's mill owners in a strategy meeting and gathering community feedback on alleyway use and conditions at the 2010 Lawrence CommunityWorks Annual Convention and through interviews with Lawrence youth.
- During the fourth sprint, we synthesized our data and formulated phased recommendations for moving forward on canal and alleyway revitalization.

## Community Engagement

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In accordance with our view that planning initiatives must be predicated on substantial community engagement, we made a conscious effort to involve the community's concerns and feedback in our work. We took a multifaceted approach to community engagement, holding meetings with community partners and residents, attending community meetings and events, and using various publicity outlets to inform residents about our work.

### ***First Public Meeting***

Our first community meeting on March 29<sup>th</sup> was our first public interaction with residents of the city of Lawrence. We publicized the meeting by informing our community partners, asking them to spread the word, and by disseminating posters. Eleven civic leaders attended this meeting. We presented our findings, gathered feedback, generated creative ideas for the canals and alleyways through a participatory brainstorming exercise, and formulated next steps for our work. From that point, we looked to develop a more sophisticated system of classifying the alleyways, which eventually led to our formulation of the typologies.

### ***North Canal Mill Owners Meetings***

On April 7<sup>th</sup>, we attended a meeting of the North Canal Mill Owners. There were 13 people in attendance, the majority of whom were mill owners. On April 14<sup>th</sup>, we organized a meeting between MIT@Lawrence and the North Canal Mill Owners, where GWL and LCW representatives were also in attendance.

### ***2010 Lawrence CommunityWorks Annual Convention and North Common Neighbors Meeting***

We attended the Lawrence CommunityWorks convention on April 10<sup>th</sup>, where we networked with many residents and supporters of Lawrence, obtained contact information, and disseminated informational flyers about the prevalence of dumping in Lawrence alleyways. As a follow up to that activity, we attended a community meeting in the North Common neighborhood on April 26<sup>th</sup> to discuss community needs and to inform residents about our upcoming presentation to the Mayor.

### ***Meeting with LFDSC Students***

On April 16<sup>th</sup>, we facilitated peer interviews with 30 teenagers from the Lawrence Family Development Charter School (LFDSC) to understand their perspective on alleyways, canals, and illegal dumping. Most students expressed that the alleys were dirty and that no one cared about them. A teacher commented that the cleanliness of the city influences its image and the way in which residents and outsiders perceive it.

### ***Community Partners Meeting***

We met with Nelson Butten of LCW and Kathryn Prybylski of GWL on April 16<sup>th</sup> to discuss our vision for the project, to update them on the research that we had done in Lawrence and on the alleyway typologies, and to talk about steps for moving forward. The meeting concluded with our better understanding of the following key points:

- Many community members have been uprooted due to home foreclosures; as a result, the community is not as united as it has been in the past on issues such as alleyway revitalization.
- It is important to ensure that residents do not become jaded about alleyway restoration through superfluous meetings.
- Hispanic small business owners in Lawrence are not well organized, a reality that could represent a future frontier for unity.
- It is important to invite residents to the third and final MIT@Lawrence meeting with the Mayor in order to show community members that the City is dedicated to transforming public spaces in Lawrence.

In preparation for that final community meeting, we followed up with more than 60 of our community contacts by phone and email, personally inviting them to attend the meeting.

### ***Discussions with City Officials***

In an effort to shed light on the complicated process of solid waste management and the issue of illegal dumping in Lawrence, we reached out to key city departments, including the Department of Public Works (DPW), Inspectional Services of City Hall (IS), the Police Department, the Fire Department, and the Board of Health (BOH). We aimed to understand these departments' respective roles in trash pick up, preventing illegal dumping, and the extent of inter-departmental coordination.

### ***Final Public Meeting***

At the conclusion of our final public meeting on May 12th, we opened up the floor to Mayor Lantigua, our community partners, and other community residents to comment on our research, recommendations, and phasing ideas. Meeting attendees were also able to ask questions and give general suggestions for moving forward.

Mayor Lantigua began by thanking us for our hard work and dedication and went on to discuss a number of local initiatives that he planned to implement with the help of our guidelines. He verbally committed to the implementation of a hotline for residents to call to report illegal dumping and ask questions; he also stated that this issue is a priority to him and the City. He said that he is eager to work on cleaning up and taking back Lawrence, but first needs Enel to take the necessary legal measures. He stated that Enel has been cooperative thus far, and seems willing to work with the City. Mayor Lantigua also introduced the following ideas:

- Creating an "Alleyways Committee" that would consist mostly of alleyway abutters
- Allowing abutters to claim portions of the alleyways, a move that could help to alleviate illegal dumping
- Keeping the alleyways clean and under defined ownership for public safety purposes

In addition to Mayor Lantigua's comments, our community partners added their insights. Notes from this portion of the meeting are included in Appendix III.

# I. Illegal Dumping and Solid Waste Management

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## A. Summary

The illegal dumping team investigated the causes of and public response to illegal dumping in Lawrence's alleyways. Students conducted online research and spoke with city officials in departments involved in addressing the issue of dumping, as well as will MIT@Lawrence community partners and residents who currently abut alleyways or are invested in improving conditions in these spaces. Based on our findings, we created recommendations for the city to manage illegal dumping and improve the local solid waste management system.

## B. Process

When the MIT@Lawrence students conducted the physical alleyway inventory, we repeatedly noted poor conditions in the alleys, such as unpaved paths, graffiti along many of the abutting walls, and the presence of trash (particularly bulky items such as televisions, mattresses, furniture, lumber, tires, and even a few toilets). In fact, in our analysis, we found that 65% of Lawrence's 99 alleys are sites for illegal dumping. In addition, residents expressed frustration and confusion about the current system for disposing of bulky solid waste items. In response to these conditions, the team decided to further explore the causes of illegal dumping.

We also spoke with residents and city officials at the 2010 Lawrence CommunityWorks Annual Convention. Specifically, we met three residents of the North Common neighborhood who were actively involved in alleyway clean up: Sandra Mouzon, Luz Santana, and Ana Rodríguez. These women have taken the initiative to keep the Orchard Street alley safe and clean for the other neighbors. Each mentioned that they work to organize clean up events and promote gardening in the alleyway. They also informed us that they have established an unofficial agreement with Inspectional Services to haul away any solid waste in their alley and to punish dumping offenders if community members could provide evidence to prove guilt (i.e. photos, video, license plates, etc.).

At the convention, we also spoke with the head of DIS, Peter Blanchette, and the new recycling director, Joel Chales. Mr. Blanchette informed us that often, citizens who are caught dumping explain that they do not know the laws. Both officials emphasized that the recycling division of the Department of Public Works is making the issue of solid waste management and illegal dumping a department priority. This commitment was evident in the colorful information fliers that were handed out to residents at the convention.

After collecting this information, we began researching the current procedures for managing and preventing illegal dumping in Lawrence. Before interviewing city officials, we conducted background research on what kind of information is available to the public through the Lawrence website, where we gained further insight into some of the obstacles that may be complicating the process for residents. We also referenced the Environmental Protection Agency's *Guidebook for Preventing Illegal Dumping*, which provided us with further resources and case studies.

## C. Interviews

Through phone conversations with various city officials and employees, we gathered information about the particular roles that city departments play in Lawrence's solid waste management system. Through these interviews, we were also able to get a sense of the communication and collaboration among the different departments. Overall, city officials were approachable and open to answering all questions, but at times it was difficult to reach them. A summary of our interviews can be found in Appendix IV.

From these interviews, we drew out the following conclusions:

(1) There is a need for a **common vision** and **inter-departmental coordination**.

Each department is doing what it can to address the issue of illegal dumping, but a lack of resources and labor capacity appears to heavily limit their time and ability to take a broad-based approach to managing the city's problems. The present strategy for solid waste management is more of a case-by-case approach. The MIT@Lawrence team also noticed that the highest number of departments working together at one time was only three (i.e. the Community Policing Unit, Inspectional Services, and the Department of Environmental Protection), a reality that is perhaps reflective of a lack of a shared vision and coordination among the key players in combating illegal dumping in general, and, specifically, in alleyways.

(2) There is a need for **streamlined** and **bilingual systems**.

While some of the city officials said that Lawrence tries to work with the large Latino community (by either having a Latino or Spanish-speaking representative in the department), there is no evidence to demonstrate that this process is institutionalized. This concern should be addressed in a city where 74% of the population speaks a language other than English, presumably Spanish, at home (American Community Survey, 2006-2008). One way to potentially solve this problem is by considering the recommendations of a few officials; they suggest (a) implementing a hotline to make the process for disseminating information about solid waste disposal and for reporting illegal dumping more uniform and efficient, as well as (b) making this information available in both English and Spanish to foster a more inclusive process for the diverse communities of Lawrence.

Furthermore, in Appendix V, we outline more information on best practices in solid waste management, gleaned from analysis of management processes in other small, industrial cities in the United States.

## ***D. Recommendations***

First, the City of Lawrence needs to **create a vision** for solid waste management and clearly state what it seeks to accomplish with regard to the cleanliness, safety, and sustainability of the city's alleyways and canals.

Then, the City must enforce that vision by creating **specific ordinances** and **laws** against illegal dumping of solid waste. Next, the City needs to create a process for **disseminating information** about these regulations to the public; it must also determine which departments will be charged with **enforcement**. Lastly, a **uniform system of issuing fines and penalties** against dumping offenders must be established and executed.

Moving forward, the City must **delegate specific roles** to each city department that addresses illegal dumping. From our research, we inferred that there is currently a high level of confusion in Lawrence about which city departments are responsible for handling trash dumping. For now, it is important to emphasize that Lawrence *is trying* to ameliorate the problem; however, we believe that reforming the system by assigning specific departmental roles would contribute to improved conditions in the city.

Finally, we recommend implementing an **inclusive strategy** that emphasizes transparency and education. The Mayor and City representatives need to reach out to all members of the community and engage them in the problem-solving process. This requires the sharing of information regarding the City's vision, making the laws understandable, and educating people on where to seek help on questions and concerns around illegal dumping. Also, information must be provided in English and Spanish, and potentially other languages.

Aspects of an inclusive strategy could include the all of the following:

- Community efforts to minimize dumping must be recognized on a public forum - like the Lawrence city website – where information can be posted about those people, groups, or organizations making positive

contributions to the city. Another approach could be to partner with community organizations on grant applications for funds for neighborhood cleaning and improvement.

- Targeting specific audiences, such as young people, could generate a secondary positive effect in the larger community. Through public education programs in schools, different departments can engage audiences early on to explain why the issue of dumping in alleys is important, while also educating them about proactive activities like neighborhood clean ups and reporting crimes in alleys.
- Public service announcements transmitted through traditional media outlets, like television, radio, and the Internet, could bring further attention to the illegal dumping issue. One resident suggested creating a mini-documentary, which could be expanded to promote contests where Lawrence community members generate ideas for how to frame the issue and then resolve it.

## II. Strategic Plan for the Canals

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### **A. Summary**

Lawrence has an extraordinarily engaged community of residents, mill owners, and community organizations that have made much progress towards envisioning goals for the revitalization of the canals. The visions for the canals that we discovered through our research have three key common goals: (1) good maintenance, (2) increased public use, and (3) economic development. Strong community organizing around these goals is underway in Lawrence, but Enel's Essex Company has yet to meaningfully take part in the planning process. It seems that creating a functional coalition with all stakeholders, including Enel, has been the greatest stumbling block so far. In response, we have designed a strategic plan to help open up a collaborative process between Lawrence stakeholders and Enel to move forward on plans for better canal maintenance in the short term and canal revitalization in the long term. The plan focuses on creating a positive dialogue with Enel, in which common interests are identified and pursued. For example, Enel's desire to have a positive green image provides an opportunity to work together to pursue Lawrence's vision for the canal. The strategic plan also provides suggestions for putting pressure on Enel to collaborate productively around canal revitalization, should there be some initial resistance. The strategic plan thus presents background research on Enel, identifies stakeholders and their interests, suggests coalition-building strategies, discusses tactics to pressure Enel if necessary, and provides a list of potential resources to support this effort.

The first step towards creating change for the canals is to identify all of the relevant stakeholders. The canals coalition that should be created must include as many stakeholder groups as possible so that the process is participatory and resistance to the project does not come from groups that have been excluded. Consequently, the coalition should make every possible attempt to include Enel as a committed partner in this canal revitalization endeavor. However, if Enel refuses to cooperate in good faith, the coalition should begin using harder tactics to pressure Enel.

### **B. Background on Enel**

In order for Lawrence partners to successfully work with Enel to achieve their goals for the canals, they should develop a complete understanding of Enel's leadership structure, decision-making process, resources, and the role that the hydropower plant in Lawrence plays within the larger company. Thus, we have outlined some of this information below.

#### ***Company***

The parent company is Enel North America Inc., which is held by Enel Green Power International BV and operates under the Renewable Energy division of Enel SpA. Subsidiaries of Enel North America in Massachusetts include Lawrence Hydroelectric Associates LP, Littleville Power Company Inc., Essex Company, Boott Hydropower Inc., Crosby Drive Investments Inc. (Annual Report 2009, 2009).<sup>1</sup> Lawrence Hydroelectric Associates LP is held by Essex Company (92.5%) and Crosby Drive Investments Inc. (7.5%); it is 100% owned by Enel Group.

#### ***Business and Financial Information***

Enel is present in 20 U.S. states and is one of only a few companies to have a diversified portfolio in the four areas of wind, geothermal, hydroelectric, and biomass technologies, with an installed capacity of 788 megawatts (MW) and output in 2009 of 2.4 terawatt-hours (TWh). With a strong focus on technological innovation, in North America, Enel Green Power is completing two new geothermal plants using binary technology in Churchill County, Nevada. The Enel Group entered into two major strategic agreements, one with Geronimo Wind Energy, a Minnesota-based wind plant company, to develop a 4,000 MW wind energy facility in the upper Midwest, and one

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<sup>1</sup> A complete list of subsidiaries can be found in Enel's 2009 Annual Report.

with Padoma Wind Power, which is specialized in wind power development in California, for 4,000 MW of potential projects. In 2009, Enel SpA's profits amounted to \$7.1 billion. Enel's total net electricity generation in the renewable energy division outside of its home base of Italy is 7196 million kilowatt-hours kWh (4458 hydroelectric, 155 geothermal, 2291 wind, 292 other resources).

### **Enel in Lawrence**

Lawrence's Great Stone Dam produces approximately 16.8 MW of energy. In Lawrence, rights to waterpower were legally assigned through a system of "mill powers" when the Great Stone Dam was constructed. Mill powers are the right to draw water so to give a power equal to 30 cubic feet of water per second when the head and fall is 25 feet. There are a limited number of mill powers created by the dam - approximately 133.

In 1846, the Directors of Essex agreed to:<sup>2</sup>

- "Construct and forever keep in good repair the principle canals"
- "Forever to maintain the dam in the Merrimack River, at the head of [the canals]"

Today, mill power owners are obliged to pay \$1,200 per year per mill power to the Essex Corporation as rent for maintenance of the dam and canals.<sup>3</sup> When Essex built the hydropower project, the company leased the mill powers from the mill owners and agreed to pay the rental obligations to itself. The Essex Company leased the mill powers for 50 years, beginning when the hydro plant began operating, with the sole option to renew the lease for an additional 25 years.

A Federal Energy Regulatory Commission (FERC) license allows Enel to run the hydro plant. The license expires in about 2030, and Enel must begin the re-licensing process in about 2025. Currently, Enel's power generation capacity is as follows:

- In Lawrence: 16.8 MW
- In Massachusetts: 49.6 MW
- In Northeast: 175.7 MW
- In North America: 748.5 MW
- In the World: 30,000 MW

So what does Lawrence mean for Enel? Below, we provide a break down of Lawrence as a percent of Enel's holdings at several scales:

- Lawrence as a percent of Enel's holdings in Massachusetts: 34%
- Lawrence as a percent of Enel's holdings in the U.S. Northeast: 9.6%
- Lawrence as a percent of Enel's holdings in North America: 2.2%
- Lawrence as a percent of Global Enel: 0.06%

### **Enel Decision-Makers**

The senior management of Enel North America is composed of both Italians and Americans. If strong pressure tactics are necessary, the coalition may want to conduct research on individual members of the management team in order to identify a) any points in managers' past experience that could be highlighted to make them view Lawrence's goals in a more friendly light, b) any personal connections that the coalition team may have with members of the management team that they could leverage to gain a hearing, and c) any affiliations management members may have with universities, business associations, or other groups; coalition members could then approach those groups and ask them to put pressure on the management member to be a good partner to Lawrence. Brief biographies of the management team and a list of the members of the Board of Directors are listed in Appendix VI.

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<sup>2</sup> These agreements are outlined in "Proposals By The Essex Company For The Sale Of Their Mill Power And Land, On Merrimack River In Massachusetts."

<sup>3</sup> The *Essex v. Benjamin B. Goldman* case of 1970 defined the amount of this rent and stated that the Essex Company must use rent from the mill powers to maintain the dam and canal.

### ***C. Identifying Canals Stakeholders***

The coalition should rely on the particular resources available from each stakeholder group to most effectively accomplish their goals. The coalition should also explicitly identify and take into account the interests of every stakeholder group. Based on this understanding, the coalition will be best equipped to identify their action priorities and potential sources of conflict.

The major conflict may come down to Enel’s interests in a) saving money on canal maintenance and b) keeping the canal water level low in order to create more energy from the hydropower plant. These interests are in direct opposition to the interests of Lawrence stakeholders, such as the mill owners, the city government, and the local residents. However, there are also areas of shared interests between Enel and the community, such as Enel’s desire to have a positive, “green” corporate image, a fact that provides an opportunity to pursue Lawrence’s vision for the canal. Therefore, the coalition should work to identify further intersections of interests between the different stakeholder groups.

In Figure 1 below, we have constructed a table that identifies several stakeholder groups and the resources and interests we believe they may have. However, this table should be a living document that changes based on the work of the coalition and their deeper understanding of each stakeholder group.

<b>STAKEHOLDER</b>	<b>RESOURCES</b>	<b>INTERESTS</b>
<b><i>Enel</i></b>	Financial resources, technical expertise, legal representation, paid staff	The status quo, minimum spending on canal maintenance, maximum profit on hydropower, maintaining a positive green image
<b><i>Mill owners</i></b>	Community connections, organized network, financial resources, knowledge about the mills and canals	High property values, safe, clean and attractive canals, raised water levels for power generation
<b><i>Canal neighbors</i></b>	Community connections, organizing capacity, political pressure, local knowledge	Safe, clean and attractive canals for recreational use, affordable housing, economic opportunities
<b><i>Residents (city-wide)</i></b>	Community connections, organizing capacity, political pressure, local knowledge	Safe, clean and attractive canals for recreational use, economic opportunities
<b><i>LCW</i></b>	Community connections, organized network, political connections, staff resources, ability to attract media attention	Safe, clean and attractive canal for recreational use, affordable housing
<b><i>GWL</i></b>	Community connections, organized network, political connections, staff resources, technical knowledge, ability to attract media attention	Safe, clean and attractive canals for recreational use, green space
<b><i>Neighborhood associations</i></b>	Community connections, organized network, local knowledge	Safe, clean and attractive canals for recreational use
<b><i>City Hall and Mayor of Lawrence</i></b>	Political capital, staff resources, regional political connections, power to bring Enel to the table, access to staff with technical knowledge, decision-making power, ability to attract media attention	Safe, clean and attractive canals for recreational use, tourism and economic development
<b><i>Department of Parks and Recreation</i></b>	Staff resources, decision-making power, technical knowledge	Green space, safe, clean and attractive canals for recreational use

<b>City Council</b>	Political capital, regional political connections, decision-making power, community connections	Safe, clean and attractive canals for recreational use, tourism and economic development.
<b>Department of Economic Development</b>	Staff resources, decision-making power, technical knowledge	Economic development
<b>Department of Health</b>	Staff resources, decision-making power, technical knowledge	Safe canals
<b>Massachusetts Department of the Environment</b>	Staff resources, decision-making power, technical knowledge	Clean canals
<b>Federal Energy Regulatory Commission (FERC)</b>	Decision-making power, staff resources, technical knowledge	Enel to be in compliance with federal regulations, to ensure that the community's rights to exercise their voice are protected
<b>Lawrence History Center</b>	Community connections, working relationship with Enel, historical knowledge	Tourism, safe, clean and attractive canals for recreational use
<b>Others</b>	TBD	TBD

Figure 1. Table outlining current canals stakeholders in Lawrence.

**D. Tactics**

This plan includes two sets of tactics. The first set of tactics center around creating a dialogue with Enel and other stakeholders. If Enel is reluctant to engage in this dialogue, the second set of tactics center around ways to pressure them to come to the table.

**1. Create a Dialogue with Enel**

This tactic would invite senior leadership of Enel to a meeting convened by MIT that includes all canals stakeholders. This meeting is a very important first step in creating a dialogue with Enel. It is also crucial that as many of the stakeholders as possible are included and that MIT is framed as a neutral party in the process.

We recommend framing the dialogue around **shared environmental concerns**. As our issue analysis revealed, this frame can be used as a way to **discuss opportunities for creating value**. Questions to pose to Enel that may help explore these opportunities include all of the following:

- How do you see your role in Lawrence as fitting into the larger mission of Enel?
- What are your environmental objectives in Lawrence?
- Part of our vision for revitalizing the canals and riverfront involves greening these spaces; what role do you see for Enel in this process?

We also recommend making the issue public through a press conference announcing the partnership and initiative. Making the issue public will create accountability for Enel and the entire partnership. All major media should be contacted, including mainstream, as well as ethnic and neighborhood, press.

**2. Pressure Enel Senior Leadership to Come to the Table (if they are reluctant)**

If Enel sends lower level representatives with no decision-making power who do not sincerely engage the initiative, the following tactics can be employed to pressure Enel to come to the table as a partner.

### ***Media***

A press conference announcing the initiative can demand that Enel senior leadership participate. A press conference could be held at the entrance to the North Canal, which is notoriously filthy. Other possible sites include the entrance to the hydropower dam, or Enel North America's corporate headquarters in Andover, MA. This press conference can include representatives from all of the stakeholder groups who can speak to their interests but also frame the issue around environmental concerns and how Enel must take responsibility to be a good neighbor and community member. If Enel is dismissive of the dialogue, the company could be talked about as a 'bad neighbor and community member' and 'profiting off of the community and not giving back.' Other media sources to draw attention include op-eds, announcements in community organization newsletters, and radio station public affairs programs and public service announcements.

### ***Legal Measures***

A legal strategy may also be explored. The Conservation Law Foundation has expressed interest in participating in this action. The City of Lowell is currently involved in a legal struggle with Enel and can be looked to as another resource.

## ***E. Key Coalition-Building Considerations***

Below are key questions and concerns that should be considered to help coalition members understand where and how they should use their energy. These questions and concerns address who has the power to make a deal and the steps that must be taken to make that deal. Again, the questions and concerns below should be revisited by coalition members as part of the coalition building process. The information below is an initial attempt and example of how these questions and concerns could be addressed.

### ***The Deal Makers/Sequencing Alliances and Deals***

The canal mill owners are most interested in a deal. For Enel, the best alternative to a deal is maintaining the status quo even while suffering from a negative image. On the other hand, the best alternative for all of the other stakeholders is maintaining the status quo.

To properly sequence the deal, canals stakeholders should start with working around canal maintenance and transparency around the maintenance fund. They should establish a solid partnership and then begin working towards revitalization measures.

### ***Power Analysis***

Enel has access to and control of vital canal-related information. Specifically, the corporation has information about the canal maintenance fund. It will be important to discuss this information and to include the other stakeholders in setting the goals and priorities of this maintenance fund; this is the key to a joint problem solving approach to addressing the problems of the canals.

Certain “sticks” exist for Enel around Lawrence’s canals. For example, the FERC process can be used to pressure Enel but that process does not start until 2025. Other potential sticks include the legal strategy, discussed in the tactics section, or an investigation by the Department of Health and Environment into safety and health issues created by the current conditions of the canals.

Stakeholders can also present Enel with “carrots.” For instance, they can give Enel an opportunity to give back to the Lawrence community and contribute to a green solution to the problems of the canals.

In Appendix VII, we outline additional questions to consider for strengthening the canals coalition.

## **F. Resources**

### **Financial Resources: Funding from Enel**

The Enel Corporation should serve as the main financial resource for canal maintenance, though other sources of funding should be sought for canal revitalization.

With Enel at the table, the Lawrence stakeholders should negotiate for the following: a) that the canal maintenance fund be set aside internally within Enel's budget, b) that the full amount of the canal maintenance be used for maintenance and revitalization, and c) that the public be granted access to maintenance information.

### **Financial Resources: Public Funding**

Government funding can supplement Enel's resources, but will likely be available primarily to contribute towards revitalization efforts, since the canals are Enel's property and are thus their sole maintenance responsibility. Possible public funding options include the following:

- *Massachusetts Downtown Initiative*: available to promote downtown revitalization, especially through promoting downtown assets and preserving and enhancing downtown character. This grant could be used to provide technical assistance for canal revitalization.
- *Community Development Action Grant*: intended to build local economies, eliminate blight, and create jobs. This grant may support infrastructure and streetscape improvements and is given in amounts up to \$1 million.
- *Community Development Block Grants (CDBG)*: the city of Lawrence may want to consider investing a small amount of CDBG funding in the canals in order to leverage these resources to attract more funding from both public and private sources. An investment of this type would demonstrate Lawrence's commitment to the project and may encourage other potential funders to invest as well.

The North Canal Feasibility Study has identified many more funding recommendations and may be used as the primary guide to funding opportunities. The city government also has significant information about governmental funding sources and must take the lead on these funding applications.

### **Volunteer Resources**

Major volunteer events have been undertaken in the past to clean up the canals, suggesting that there is a pool of interested residents who could be mobilized for other canal revitalization efforts. Additionally, the City or the mill owners coalition could partner with institutions to organize short-term service opportunities. For example, Timberland employees volunteered to clean up the alleyways in 2005; these employees and those of other companies could be mobilized again.

Partnerships with local schools could create opportunities for service learning for students that could take the form of a longer-term engagement. Alternatively, schools could create all-school volunteer days. Volunteers could be mobilized at different stages of the revitalization process, ranging from trash clean-ups at the beginning to landscaping and beautification efforts as the project progresses.

Community organizations, such as Lawrence CommunityWorks and Groundwork Lawrence, are in a strong position to provide long-term support to the revitalization efforts. These entities could organize committees of residents to provide input on the plans, to head up efforts to put pressure on Enel, to coordinate volunteer efforts, and to serve as watchdogs who hold Enel accountable for maintenance and revitalization.

The canals revitalization team could also approach local businesses, especially those that will profit from an improved waterfront, to ask for in-kind donations. Restaurants and grocery stores could provide food for volunteer days; engineers or construction companies could provide structural assessments or occasional labor; hardware stores could provide tools.

### ***Technical Resources***

The canals revitalization team should seek technical expertise from university engineering, design, and planning students and faculty. The MIT@Lawrence studio will continue to provide planning support, but technical expertise from other disciplines will also be necessary. Architecture and design departments conduct similar studios and can be approached to address the canal revitalization issue. Engineering students may also be willing to take on thesis projects having to do the canals. Additionally, the team should approach design and engineering firms that might be willing to donate their time or charge reduced rates.

## ***G. Goals and Feasibility***

### ***Short Term***

In the short term, the coalition should address the pressing needs having to do with canal maintenance and the achievable goals of expanding current opportunities for public use of the canals. The coalition may want to press Enel to begin with a complete cleaning and rehabilitation of the canals. Then, they may want to discuss some metrics by which they can define adequate maintenance of the canals, such as by asking the following questions:

- Is there visible trash in the canals?
- Is there trash below the water level?
- Is there plant growth visible in the canal walls?
- Are there visible cracks in the canal walls?
- Is the structural integrity of the canals sufficient to enable them to be filled to the original water level?
- Are the canals inspected annually to ensure that these conditions are met?

Additionally, below are ideas for short term opportunities to expand public use of the canals:

- Show more outside films for the public
- Hold outdoor festivals and vendor fairs
- Install benches along the canals
- Air public service announcements promoting events along the canals and remind people that canals are a good place to spend leisure time
- Map walking paths for people to exercise along canals

### ***Long Term***

In the long term, the coalition may want to address the power generation issue, collectively deciding if this is something they want to pursue. A pilot project could be developed to demonstrate the feasibility of power generation in the mills. The coalition may also want to create a master plan geared towards the full revitalization of the canals. This plan can be created collectively with a participatory process that includes residents and local organizations and may be funded with a large government grant. This process may be begun early on in the coalition, but complete implementation of the plan will likely be a longer term goal.

### III. Alleyways: Current Conditions and Proposed Changes

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#### **A. Summary**

Lawrence alleyways have continuously suffered from a lack of stewardship due in part to the ambiguity around their ownership. However, through numerous interactions with community members, we uncovered both deep concerns and coordinated action on the part of residents to tackle these issues. Unfortunately, these efforts have become unsustainable due to a lack of help from the City, no public recognition of the problems plaguing the alleyways, and resident fatigue. Thus, we asked community organizers: what type of information would be most effective in pushing forward the alleyways agenda? The response was a collective charge to create a categorization system for the city's alleyways.

In response, our team performed a comprehensive physical inventory of all 99 Lawrence alleyways and eventually developed a typology that organizes all alleyways into three "future use" groupings. We also addressed potential ownership scenarios for the alleys, as well as funding options for the proposed revitalization work. Based on resident feedback, we examined the issue of illegal dumping in the alleyways, highlighting the need for a more systematic approach to trash collection based in education and prevention, as well as adopting an inclusive strategy for addressing solid waste management. In the end, we combined our research into a plan of phased recommendations that details how the City should manage the alleyways.

#### **B. Ownership**

##### ***Complexity of the Issue***

The paramount issue surrounding the alleyways - and a contributing factor to their current degrading conditions - is a lack of clarity around their ownership. In fact, the ownership issue guided our initial research for the practicum as we asked the following questions: who owns the alleyways and what should be done with them? Many residents believe that Enel owns the alleys, yet the company denies ownership (please refer to Appendix VIII for the Enel Affidavit). There has been some discussion of the City taking ownership of the alleyways, but its official position regarding this issue is unclear. With the exception of a few notable cases, the residents of Lawrence do not claim the alleyways, as is demonstrated by their current conditions.

Abandoned land is often perceived as a problem, but if residents and city officials are able to look beyond this bleak landscape, alternative conceptions of abandoned land are possible. It may come to symbolize opportunity; an asset that they City can capitalize upon.

If the City of Lawrence can accept this posture and begin to move forward on an alleyway revitalization plan, decisions must be made about the ownership of the alleyways. As part of this course, our class consulted with lawyers, land use experts, and historians in an attempt to determine the rightful owners of Lawrence's alleyways. However, despite our best efforts, very little was revealed about the ownership, and it quickly became apparent that this was not a question that could be answered within the constraints of our academic semester. However, we hope that this will not limit the discussion of alleyways but instead, will refocus efforts on the most appropriate ownership structures for the future of the alleyways.

##### ***Ownership Structures in Urban Space***

There are three types of ownership structures in urban space: public, private and public-private. We believe that each of these three structures has a place in Lawrence's transformation strategy. In order to determine the most appropriate type of ownership for the future of an alleyway, information was collected on the location, condition, and use of each alley (through the comprehensive physical inventory). This information is valuable for the City and our community partners to move forward with a plan to reclaim and revitalize these neglected public spaces.

## ***C. Physical Inventory***

On the recommendation of the community partners, the alleyway team decided to conduct a detailed survey of all alleys in Lawrence. To accomplish this goal, the group identified previous similar studies, created an alley base map using geographic information systems (GIS) data and historical maps, and conducted an in-site visual survey of each alley. The team then analyzed the resulting inventory data to identify common conditions and trends, and used these findings to create a proposed future use alleyway typology.

### ***Physical Inventory***

Our research began with a review of existing documents about Lawrence alleys, including Groundwork Lawrence's "North Common Alleyways Project" report from June 2008, and the North Common Alleyway Inventory from May 2005. These reports provided historical baseline data to evaluate current conditions in the alleys; the data also served to suggest the variables for our alleyway survey data collection instrument.

Using GIS data, we created an initial alleyway map by mapping all land in Lawrence not covered by GIS layers representing the city's public streets or private parcels. We brought the resulting map to the Lawrence Historical Center, where we visually confirmed the location of alleys based on an Essex Company official 1914 city map. Next, an on-site survey was conducted by small groups of students. In addition to recording data on a wide variety of variables (in written form), class participants took photographs of all alleyways and discussed alleys with residents who they encountered on the ground. Finally, we edited our original map to reflect changes observed during the in-person inventory.

### ***Major Trends***

Through the creation and subsequent analysis of the alleyway inventory, we discovered that the uses and conditions of the alleys ranged widely throughout Lawrence. This diversity, together with the suggestions of several community partners, led us to recommend a multi-faceted strategy to reclaim and revitalize the alleys.

In total, we identified 99 alleys in Lawrence. We found a range of land uses surrounding the alleys: 27% of alleys abut only commercial areas; 19% abut only residential areas; and 54% abut mixed use areas. Many of the abutting properties have loading docks, driveways, or parking areas that residents and business owners access from the alleys. Overall, 79% of alleyways are used for parking or access to parking.

The pavement conditions of the alleys range widely: 23% of alleyways are unpaved, 22% are fully paved, and 55% are a combination of paved and unpaved. Among many alleys, sections near the streets are paved while lesser-used inner sections are partially paved or unpaved. Many alleyways presented with deteriorated conditions, including potholes and muddy ruts, but others exhibited evidence of paving, gravel, or other types of abutter maintenance.

Another major observed trend was the high prevalence of illegal dumping. In total, 65% of alleys suffer from some amount of dumping. However, this activity was unevenly distributed. In general, dumping occurred in alleys near residential areas towards the center of the alley, as well as in other areas with limited visibility. In addition, 23% of alleyways had graffiti. These ranged from minor tags or other writing to more elaborate murals or artwork.

Finally, in addition to the two alleys used for community gardens, we found evidence of other alleys uses for gardening or recreation. Despite the presence of dumping, we found toys and other evidence that these alleys are used for play by children.

Please refer to Appendix IX for maps of the major trends that were uncovered via the alleyways inventory.

## D. Typologies

### **Typology I: Existing Uses**

Based on the major trends that were discovered in the 99 alleyways, we created an existing use typology with five types of alleyways (based on their current use). The five “existing use” types of alleys are as follows:

- 1) Obstructed alleyways
- 2) Alleyways that are paved and abut commercial lots
- 3) Alleyways that contain gardens, recreational space, or murals
- 4) Alleyways that are paved and used for parking or access to parking
- 5) Alleyways that are partially paved or unpaved and are used for parking or access to parking

Please refer Appendix X for maps depicting these different “existing use” types of alleys.

### **Typology II: Future Uses**

Based on a careful examination of our data and with an ear towards the suggestions of our community partners, we proceeded to categorize the alleyways into three types according to their proposed future use: 1) through traffic and parking, 2) garden, recreational space and murals, and 3) abutter-owned and -maintained.

Before designating all of the alleyways into the three-type typology framework, we divided the originally-marked 79 alleys into 99 segments because some ‘L,’ ‘H,’ and ‘T’ shaped alleyways have multiple uses in their different sections. In Figure 2 below, we present an example of a ‘T’ shaped alley in which the north-south direction is used for through traffic while the east-west direction is less maintained and used by abutter residents.

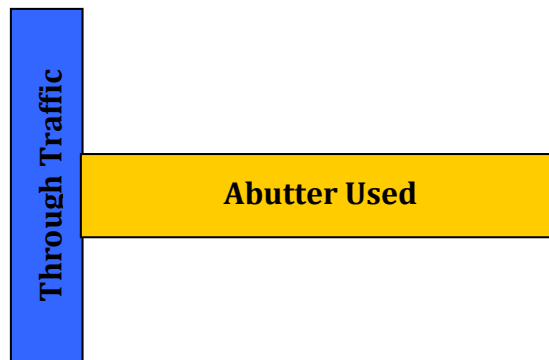


Figure 2. In many “T-shaped” alleyways, the different segments of the alley are used in different manners. One such combination of uses is depicted in the graphic above.

Furthermore, on some blocks the terrain (condition, height, etc.) varies from one part to another. Lastly, when both commercial and residential properties exist within a certain block, different parts of an alleyway are typically used for different purposes. Consequently, we identified 99 alleyway segments in our future use typology and assigned a single future use to each. The three proposed “future use” types of alleys are as follows:

1. **Through Traffic and Parking:** in the United States, alleyways exist in both older commercial and residential areas, for service purposes and automobile access. In residential areas, primarily those built before 1950, alleys provide rear access to properties where a garage was located, or where waste could be collected by service vehicles. A benefit of this access was the location of these activities to the rear of the building, thus towards the less public side of a dwelling. Such alleys are typically roughly paved, but some may be dirt. These facts are consistent with what we observed on the sites of the proposed through traffic and parking alleyways. Under this context, we gave priority to the alleys with the existing use of parking and street access, as well as vehicular access. Specifically, 59 out of the 99 alleyways are defined for future use as through traffic and parking alleys.

2. **Garden, Recreational Space and Murals:** in some residential and mixed use neighborhoods, alleys are not well paved or maintained. Furthermore, there were no commercial activities, such as garbage pick-up or delivery, observed during the alleyway inventory. In such cases, residents could use these alleys for recreational activities and gardening. Transforming the alleys within residential neighborhoods will provide more open space to local residents. Graffiti can also be carefully designed for these recreational spaces; thus, abutters and other residents will experience increased access to public art and improved aesthetics. From the existing use typology, 12 alleyways demonstrate the above characteristics and could be used for open recreational space.
3. **Abutter-owned and Maintained (Commercial and Residential):** The 28 remaining alleys will be privately used and maintained by abutting property owners in both commercial and residential areas. Based on our observations, these alleys are already fully paved or partially paved, and provide vehicular access to abutters. We assume that the adjacent landowners have treated the alleys as their own properties and that transferring the alleyways' ownership to the abutting landowners could be both feasible and beneficial. In the future use typology, 12 of the 28 alleys will be designated as abutter-owned and maintained by commercial land users, while the remaining 16 alleyways will be marked as abutter-owned and maintained by residential property owners.

Please refer Appendix XI for a map depicting these different “future use” types of alleys.

As a long-term goal, we recommend creating a straightforward numbering and naming system for the 99 alleyways, which serve useful in the city’s tracking of alleyway reconstruction and maintenance projects. We propose to follow the naming convention established in the 1914 North and South Lawrence Plan, which is composed of both letter and number. For example, the alleyways designated as ‘N1’ will represent the first alley that was inventoried in the North Common neighborhood. We have identified alleyways in four sub-regions of the city, namely in the North Common, North-west Lawrence, North-north Lawrence, and South Lawrence. Additionally, new alley IDs should be consistent with old alley IDs as specified on the aforementioned 1914 map. Please refer to Appendix XII for a complete table of Lawrence alleyways and their future use types.

## ***E. Implementation***

In order to move forward on implementing the future use typology for alleyways, we must determine two key elements: ownership and funding.

### ***Proposed Ownership Structures***

As mentioned before, urban space correlates to three ownership structures, namely those that are public, private, and public-private. Thus, the three types of alleyways in the future use typology match each of these ownership structures, as detailed in Figure 3 below.

<b>Ownership Structure</b>	<b>Type of “Future Use” Alleyway</b>
Public	Through Traffic and Parking
	Recreational and Open Space
Private	Abutter-owned and Maintained
	Recreational and Open Space
Public-Private	Recreational and Open Space

Figure 3. Table depicting which future use types of alleyways correspond to each ownership structure.

Alleyways that have been designated as through traffic and parking have a one-to-one relationship with the public ownership structure (i.e. they are the only alleys that the City can own). We believe that it is in the City's best interest to take over and maintain these alleyways.

Abutter-owned and -maintained alleyways also have a one-to-one match but with the private ownership structure. As the name implies, we believe that ownership of these alleyways should be transferred to the abutting property owners.

Lastly, recreational and open space alleyways do not fall into a single ownership structure. We can imagine that this category of alleyways could take on any of the three ownership scenarios; these alleyways could be publicly-owned and -maintained, privately-owned, or they could fall into the public-private ownership structure. For the privately-owned option, a nonprofit organization could take ownership of the alleyways, which we have already seen in Lawrence with LCW and GWL.

If there is no willing public or private party that is interested in these alleyways, an organization such as a community land trust could own some of the alleyways that are slated for recreational and open space. A community land trust acquires land through purchase or donation and retains the title in perpetuity, removing the land from the speculative market. Normally, land trusts acquire property in order to resell it. However, since this would not be the case with the alleyways, the land would be held by the land trust, the trustees would pay property taxes on the parcels, and develop the alleyways into recreational and open space.

#### ***Methods for Gaining Ownership***

Of course in order to implement *any* of the ownership structures for the alleyways, ownership of this land must be clear. In the past, Lawrence CommunityWorks has accomplished this by using a "release deed" (please see Appendix XIII for a copy of this document). A release deed transfers the title of the land from one owner to another by simply describing the boundaries of the parcel in transfer. Please note that although a survey was conducted for the generation of this release deed, this is not a mandatory procedure.

If necessary, the City could also take possession of the alleyways via eminent domain. Typically, governments may only seize ownership of private land via eminent domain for the "public good." In Lawrence however, the City could easily argue that it needs to take over the alleyways for public health and public safety reasons due to the extensive dumping and alleged criminal activity that occurs in the alleys.

Furthermore, the City could also grant a community organization the right of eminent domain. Boston adopted a similar approach in the 1980's in order to combat blight in the Dudley Street neighborhood of Roxbury. In 1988, the Boston Redevelopment Authority converted the nonprofit Dudley Neighbors, Inc. (DNI) to a Massachusetts 121A Corporation, which granted DNI the ability to take over private vacant land for the purpose of affordable housing development. In order to make these efforts more sustainable, DNI founded a community land trust that ensures that DNI's land continues to be used for affordable housing (Dudley Neighbors, Inc., 2007).

Finally, precedent has also been set for groups of neighbors to mobilize, develop a collective plan for alleyway development, and then petition their municipality for transfer of title to the land in question. In 2007, Baltimore city officials passed the Gating and Greening Alleyway Ordinance, which allows alleyway abutters to organize amongst themselves and request that the Department of General Services allow for the **gating** of their alleyway in order to prohibit through traffic, trash dumping, and loitering. If the abutters are interested in further developing the alley into recreational and open space, they can request that the City allow them to **gate and green** their alleyway (Alley Gating and Greening Program, (c) 2010). However, the alleyway must first be publicly owned for the ordinance to be valid, but this is yet another option to consider as we move forward on alleyways in Lawrence.

Please refer to Appendix XIV for further analysis of case studies for alleyway revitalization.

**Funding Possibilities**

Once the City of Lawrence officially adopts the future use alleyway typology, it will need funding in order to implement the typology. For example, each “recreational and open space” alleyway will cost approximately \$8,000 to construct, according to cost estimates provided by Groundwork Lawrence (Green Alleyway Materials Budget, 2004). Thus, we suggest exploring a variety of funding sources and possibly combining grant applications with those for canals revitalization in order for the projects to be eligible for comprehensive community development funding. Some potential funding sources include the following:

- National Park Service
- Land and Water Conservation Fund
- Massachusetts Environmental Trust
- Massachusetts Office of Coastal Zone Management
- Massachusetts Downtown Initiative
- U.S. Department of Housing and Urban Development Community Development Block Grants (note: Brea, California and Middleton, Ohio have used HUD CDBG funding for alleyway revitalization (Community Development Block Grant Program, 2009))

## Next Steps: Phased Recommendations

To synthesize our findings and suggestions for next steps, in Figure 4 below, we provide recommendations for moving forward on both canal and alleyway revitalization.

Canals	Alleyways
<b>Phase 1: Prioritize canal and alleyway revitalization and implement dumping prevention</b>	
Identify stakeholders	Define specific roles for each of the city departments involved in the trash collection process
Educate stakeholders about the Enel Corporation	Enforce dumping ordinances
Bring Enel to the table with other stakeholders	Emphasize inclusion of all members of the community and education about the hazards and consequences of trash dumping
<b>Phase 2: Adopt future use typology and establish ownership. Reinforce the canals coalition as needed.</b>	
<b>Phase 3: Implement “Through Traffic and Parking” Alleyway Type</b>	
	Apply permeable pavement in unpaved and partially paved alleyways
	Provide adequate lighting in the alleyways by pruning overgrown trees and installing motion-sensor lighting for nighttime traffic
	Demarcate parking spaces in the alleyways in order to inhibit parking that would prohibit through traffic
<b>Phase 4: Implement “Recreational and Open Space” Alleyway Type</b>	
	Build upon the LCW and GWL models for green alleyways
	Clear overgrowth and trash
	Launch community plantings program as an entrepreneurship opportunity for community members to plant their own fruit and vegetables in alleyway garden beds and then sell the produce at a local farmer’s market to generate revenue
<b>Phase 5: Implement “Abutter-owned and Maintained” Alleyway Type</b>	
	City Assessor’s Office must reevaluate property taxes on for each abutter’s land
	City must construct physical barriers to public access through these alleyways; while residential lots must always be gated, commercial abutters have the option of leaving their alleyway parcel left open for commercial deliveries and trash collection

Figure 4. Table depicting phased recommendations for moving forward on canals and alleyways revitalization.

We thank you very much for your attention and hope that the findings, analyses, and recommendations provided in this report have been helpful to you. We continuously welcome your feedback and suggestions; we encourage you to contact us at [lawrence2010@mit.edu](mailto:lawrence2010@mit.edu).

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## Appendices

### Appendix I. Community Partners

Partnering Organization	Primary Partners
<b>Lawrence City Hall</b>	<b>James Barnes</b> Community Development Director, City of Lawrence 147 Haverhill Street, Lawrence, MA 01840 jbarnes@cityoflawrence.com
	<b>Patrick Blanchette</b> Economic Development Director, City of Lawrence 200 Common Street, Lawrence, MA 01840 patrickblanchette@cityoflawrence.com
<b>Lawrence CommunityWorks, Inc. (LCW)</b> 168 Newbury Street, Lawrence, MA 01840	<b>Tamar Kotelchuck (DUSP/MCP '99)</b> Real Estate Project Manager tkotelchuck@lcworks.org
	<b>Armand Hyatt</b> Legal Counsel ahyatt@lcworks.org
	<b>Nelson Butten</b> Director of Collective Action and Mobilization nbutten@lcworks.org
	<b>Bill Traynor</b> Executive Director billatlcw@yahoo.com
<b>Groundwork Lawrence, Inc. (GWL)</b> 60 Island Street Lawrence, MA 01840	<b>Heather McMann</b> Executive Director hcmann@groundworklawrence.org
	<b>Kathryn Prybylski</b> Project Manager kprybylski@groundworklawrence.org

Figure 5. Table of community partners for the 2010 MIT@Lawrence Practicum.

### Appendix II. Students' Division of Labor

Work Group	Team Members
<b>Illegal Dumping</b>	Jeffrey Juárez
	Dorian Dargan
<b>Alleyway Revitalization</b>	Jeffrey Juárez
	Anne Emig
	Dorian Dargan
	Polina Bakhtearov
	Jingsi Xu
	Robert Goodspeed
<b>Canal Revitalization</b>	Lindsay Schubiner
	Alexander Goldenberg
<b>Community Engagement</b>	Dorian Dargan
	Alexander Goldenberg
<b>Project Management</b>	Polina Bakhtearov

Figure 6. Table detailing the division of labor among the eight students in the 2010 MIT@Lawrence Practicum.

## ***Appendix III. Feedback from Final Community Presentation with Mayor Lantigua***

At the conclusion of our final public meeting on May 12th, we opened up the floor to Mayor Lantigua, our community partners, and other community residents to comment on our research, recommendations, and phasing ideas. Meeting attendees were also able to ask questions and give general suggestions for moving forward.

Mayor Lantigua began by thanking us for our hard work and dedication and went on to discuss a number of local initiatives that he planned to implement with the help of our guidelines. He verbally committed to the implementation of a hotline for residents to call to report illegal dumping and ask questions; he also stated that this issue is a priority to him and the City. He said that he is eager to work on cleaning up and taking back Lawrence, but first needs Enel to take the necessary legal measures. He stated that Enel has been cooperative thus far, and seems willing to work with the City. Mayor Lantigua also introduced the following ideas:

- Creating an “Alleyways Committee” that would consist mostly of alleyway abutters
- Allowing abutters to claim portions of the alleyways, a move that could help to alleviate illegal dumping
- Keeping the alleyways clean and under defined ownership for public safety purposes

In addition to Mayor Lantigua’s comments, our community partners added their insight, which is outlined below.

### **James Barnes**

- The City is currently working on applications to state and federal funding sources and they need to know about neighborhood trends of alleyway conditions and uses in order to incorporate this data into the applications.
- The City would like the practicum students to look into collaborating with MIT engineering students to research storm-water runoff in Lawrence alleyways.
- In the long term, it will be difficult to improve the alleyways without resolving the ownership issue.
- Issues that are important for the Mayor are the immediate problems with trash and dumping.

### **Patrick Blanchette**

- The City is frustrated with continued illegal dumping.
- The City will set up a hotline for residents to call in to report illegal dumping.
- The City will also form an “alleyway committee” to address the conditions in alleyways.
- MIT@Lawrence has provided a roadmap for moving forward and sitting down with interested stakeholders.
- Bringing Enel to the table should be easy.
- Cleaning and maintenance are priorities for the canals.
- Both legal and illegal dumping is bringing in high costs for the City.
- Once recycling efforts have been put into place, residents will see much less trash in the streets.
- Allied Waste will provide overflow trash bags to businesses.
- The Department of Environmental Protection (DEP) gave a grant to the city to install monitoring cameras, which were used for a short while and then disappeared.
- In November, legislation passed that requires businesses, mixed-use buildings, and buildings with six (6) or more units to have their own dumpster.
- The City has to charge for trash pick-up (every other community charges).

### **Kathryn Prybylski**

- Quantitative data and quantifiable trends are important when writing grants.
- Groundwork Lawrence is looking forward to getting things done in some of the alleyways.
- There is still confusion over whom to call about illegal dumping.
- There is a problem with absentee landlords because residents are not informed on how to properly dispose of solid waste. This issue should be addressed through education.
- Alleyways should be paved using modern technology to create a permeable covering.

- As the City increases the recycling percentage, they will not have to pay as much for trash pick-up.
- Youth are on board with recycling. They are currently working to separate trash and recycle.

#### **Nelson Butten**

- Student recommendations were explained well.
- It was important that students combined academic research with the experiences of the community.

#### **Sandra Mouzon**

- Recently, there has been a change in how and what is being picked up with the city's trash collection service. There was a time when waste management would pick up everything that was set out on the curb (except for couches and fridges, for which you had to call and get them specifically picked up [but for free]). Now, there exists the sticker system and residents must pay for waste removal, which puts a twist on trash pick-up in these hard economic times.
- Residents consistently leave TVs, monitors, and mattresses on the street.
- There was a TV lying on the Common in front of City Hall for 2-3 days. This public display of the trash problem really brings the issue to the forefront.
- There is a need to create bilingual education about proper trash disposal.
- Some people do not know who to call for trash collection so they just leave their waste on the curb and it gets pushed down the street and, eventually, ends up in a vacant lot.
- Education needs to be emphasized.
- Each household should receive a recycling bin and the education required to know how to use the bin.
- Sandra signed up for a recycling bin at the 2010 Annual LCW Convention but nothing happened.
- There is a difference between alleyway maintenance and cleaning up dumping.

#### **Tamar Kotelchuck**

- Stickers should be readily available for purchase in stores throughout Lawrence.
- The City must figure out how much money they are spending on trash collection and see if this cost is less than what it would cost to enforce a prevention strategy for dumping.

#### **Chet Sidell**

- The ownership ambiguity would be the big-time issue to continue to address.
- Enel is receiving resident money to adjust the hydro plant, yet the canals remain in poor condition. Canals receive no maintenance.
- Quote: "Our canals should be an asset, not a liability."

#### **Armand Hyatt**

- It is important to have year-to-year continuity with the subject matter of the MIT@Lawrence practicum course. Had there been continuity in the past, there would not be a liquor store on a lot that LCW was looking to develop in the interest of the neighbors. The topic of canal and alleyway revitalization would benefit if it was expanded to other semesters.
- Mayor Lantigua has heart, brains, and a backbone. He is going to make things happen for us.
- The "real life" examples for trash collection in other cities could work in Lawrence. It is a good idea to have a mascot for solid waste management and illegal dumping in Lawrence, like in the example city of Allentown, PA.

#### **Spencer Buchholz**

- Is the recycling center in Allentown open 24/7? Students need to look into this more thoroughly.

Finally, other community members echoed a) the idea of seeing what role alleyways can play in absorbing storm water run-off through the use of permeable pavement, and b) that ownership must be determined to bring about real change.

## ***Appendix IV. Summary of Interviews with Officials from Lawrence City Departments***

### ***Department of Public Works (DPW)***

One of the people with whom we spoke was John Isensee, Supervisor of the Department of Public Works. He offered some key insights into why illegal dumping might be occurring in the city, including the idea that people in Lawrence are not willing pay for the trash pick up stickers and would rather discard items in streets or alleys to avoid this cost. He also stated that currently, the only way to buy the stickers is in person, with few exceptions. Mr. Isensee also noted that people from outside of Lawrence come into the city on what he called “midnight drives,” wherein illegal dumpers cruise through an ally and quickly unload solid waste. He suspects that stickers in other towns may be more expensive (and presumably the enforcement procedures more strict), and therefore, non-residents feel that they can dispose of trash in Lawrence without repercussions.

It is important to note that Mr. Isensee informed us that DPW has faced large losses in human and financial capacity over the past few years. When he first started working there, there were many more employees on the workforce (approximately 400). Today, only 20 employees remain to make sure that the entire city is serviced. This decrease in labor could possibly be correlated with the accumulation of dumped materials in alleyways.

### ***Fire Department***

The Fire Department is a key player in trash collection because illegal dumping of large items like televisions, tires, mattresses, and lumber, presents many possible hazards, such as obstructions to fire equipment in the event of an emergency. Captain Robert Wilson, of the Lawrence Fire Department, noted that his department views dumping as a big problem because the sight of it encourages more dumping. The department’s education and outreach campaign occurs mainly when firefighters are out in the community responding to a call - they take advantage of the opportunity to talk to residents and let them know about the dangers that illegal dumping creates.

For the Fire Department, like for DPW, it has been difficult to do more in terms of outreach, considering their limited manpower and funds.<sup>4</sup> Despite the difficult situation, they try to deter dumping offenders by issuing citations for violations of the fire code. The fines for these tickets are issued in incremental amounts based on the number of offenses (for example, the first offense is \$100, the second is \$300, the third is \$500, etc.). In terms of inter-communication with other city departments, the Fire Department mainly communicates through Inspectional Services, offering information that the latter can investigate. Captain Wilson echoed DPW’s opinion of why dumping might be occurring in Lawrence, stating that people do not want to pay to have solid waste hauled away and that outsiders often opt to bring their waste materials into Lawrence.

### ***Police Department***

The Community Policing Unit (CPU), a division of the Lawrence Police Department, also plays a key role in the prevention of illegal dumping in alleyways. It appears that this entity generally plays an intermediary role when it comes to dealing with illegal dumping. Often, CPU advises either DPW or Inspectional Services to take action on illegal dumping activities. In addition, the police have the ability to issue fines, but seem more concerned with illegal activities other than dumping in and around the alleyways. Lawrence Police Captain Roy Vasque said that the Community Policing Unit has requested the aid of the Department of Environmental Protection (DEP) to install cameras in select alleyways that would monitor the area and inform the police of any suspicious activity. The Police Department also plays an important role in education through its representation at various community meetings where they inform residents of any recent illegal dumping activity in order to show that they are dealing with the problem, as well as to increase awareness of the issue.

### ***Inspectional Services (IS) and Board of Health (BOH)***

Despite extensive outreach, we were unable to coordinate times to talk and obtain information from Inspectional Services (IS) and the Board of Health (BOH). From conversations with other agencies, it seems that Inspectional

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<sup>4</sup> The Fire Department recently had to close down two of its stations.

Services are highly involved in the handling of illegal dumping. Not only does IS seem to investigate who is responsible for the dumping, but it also enforces dumping violations that occur in alleys and makes sure that the dumped materials are hauled away. Future research teams should investigate whether the department maintains records of this information and if they conduct public outreach/education campaigns.

## ***Appendix V. Illegal Dumping Case Studies***

While finding examples that address the issue of illegal dumping in residential (as well as commercial) areas, we identified cities or towns similar to Lawrence to see what ideas those locations yielded for improving the problem.<sup>5</sup> These cities include Allentown and Reading, Pennsylvania, and Trenton, New Jersey. In different ways, these case study cities all encompass a strategic way for dealing with illegal dumping through the following set of four principles:

1. Vision: having clearly defined goals for the future coupled with an emphasis on sanitation, maintenance, and ownership of alleyways
2. Enforcement: ensuring that authorized departments uphold ordinances, laws, and regulations involving trash disposal
3. Defined Roles: delegating specific roles to relevant departments to deal with handling illegal dumping in order ensure that efforts are not duplicated and that there is proper coordination and communication
4. Inclusion: developing programs, outreach strategies, and means of communication that help to inform the public at large about what is being done to improve the community, how residents can participate, and whether the efforts are effective

The first of these objectives is promoting a clear vision. For example, Trenton includes a mission statement on its website which states the following:

*Recognizing that the people of Trenton have made us guardians of the public Trust... We are committed to enhancing the quality of life throughout the city and providing quality services to all citizens, particularly those in greatest need. We are committed to conducting the City's affairs with respect for our environment, to fostering opportunity, empowerment and public participation, and to pursuing a vision of the city as a community shared equally by all people (2009 Annual Report for the City of Trenton, 2009).*

The other two cities also include a mission statement either as part of the city's goals or via one of the trash collecting departments. Having these objectives made public not only indicates accountability and responsibility, but also demonstrates to the residents that city officials care about the community.

As for enforcement, all three case study cities had detailed ordinances, laws, and regulations on how to manage the collection of trash and the prevention of illegal dumping. For instance, Reading, Pennsylvania, defined 'illegal dumping' as litter, which is not permitted in public places. Additionally, all of the towns specifically mentioned alleyways as protected public rights-of-way in which dumping is prohibited.

In terms of departmental roles, most of the case study cities have one specific department responsible for handling illegal dumping. In Trenton, the Division of Solid Waste, a branch of the Public Works Department, handles issues

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<sup>5</sup>By "similar," we mean towns characterized as having a long history (5,000 or more residents prior to 1880), having a relatively small population (approximately 15,000 to 150,000 residents according to the 2000 U.S. Census), and currently experiencing a difficult economic downturn (median household income of less than \$35,000 according to the 2000 Census) (Hoyt and Leroux, 2007).

related to bulky items left out in the alleyways or other public spaces. Residents who encounter problems or have concerns can call a single automated hotline for help. In Allentown, the City has set up a very well-designed website through which residents can educate themselves on the definitions of illegal dumping, how to report it, and how to volunteer if they want to help clean up areas that suffer from dumping. Allentown also has a hotline through which residents can report illegal dumping “in progress” and receive up to a \$5,000 reward if the criminal is apprehended.

Allentown, Pennsylvania is unique because of the level of transparency and amount of resources available to the public around the issue of illegal dumping. The City has four different programs in place that focus on illegal dumping in relationship to recycling. The programs are called Don’t Trash Allentown, Clean and Green, Graffiti Busters, and Solid Waste Enforcement and Education Program (SWEET) (please refer to Figure 7 below for a screen shot of the City website that advertizes these initiatives). The advantage of having all of these programs is that they each contain various components that emphasize information, education, and involvement on behalf of both the City and community. Links to a plethora of agencies and organizations committed to environmental protection and trash management issues (both local and nationwide) allow residents within and outside of Allentown to learn about how to decrease problems related to solid waste management.



Figure 7. Allentown’s website - <http://www.allentownpa.gov/> - advertizes four different trash collection programs, as can be seen in the screen shot above.

## **Appendix VI. Profile of Enel's Management Team**

### **TONI VOLPE**

President and CEO

President and CEO of Enel North America, Inc. since 2005, Mr. Volpe has been responsible for the introduction of geothermal activities into the Company's U.S. portfolio, as well as the expansion of wind and hydropower projects. Mr. Volpe worked previously in Corporate Strategy at Enel S.p.A. His main activity was to assist the Group CEO, whom he reported to, on projects of strategic relevance. He managed high-profile tasks involving key stakeholders and the Board of Directors. Prior to joining Enel, Mr. Volpe was a senior consultant at Bain & Company in Italy where he served clients in various industries (luxury goods, financial services, postal services, ICT companies) focusing on strategy, business planning and organization. He was previously a manager at Decathlon Logistics in Marseilles, France. Mr. Volpe holds an MBA from Columbia University's Graduate School of Business and graduated cum laude in Management, Economics and Industrial Engineering from Politecnico of Milan, Italy.

### **PASCAL J. BRUN, P.E.**

Senior Vice President, and President of CHI Canada Inc.

Pascal J. Brun, based out of ENA's Canadian corporate office in Montreal, is responsible for overseeing business development and administration of Enel's Canadian investments. Those investments include the Star Lake hydroelectric project and St. Lawrence wind farm in Newfoundland and the St. Felicien biomass facility in Quebec. Mr. Brun also oversees the development of new projects in Canada including the significant expansion of wind projects in Alberta. Mr. Brun joined Enel in 1988. Previously, he was the Vice President with the SNC Group (now SNC/Lavalin), a large Canadian engineering and construction firm. Mr. Brun holds an MBA from the University of Montreal and bachelor's and master's degrees in Applied Sciences from Laval University.

### **STEPHEN E. CHAMPAGNE**

Senior Vice President and General Counsel

Stephen Champagne is responsible for legal affairs and business development at ENA. Mr. Champagne joined the Company in 2004. Mr. Champagne spent 16 years as a partner at Curtis Thaxter LLC in Portland, Maine where he worked as outside counsel for ENA. In various capacities, Mr. Champagne has worked on the acquisition, development and financing of over 100 renewable energy projects. He has also advised utilities on their restructuring activities and foreign countries on renewable energy policy. Mr. Champagne holds a JD degree and bachelor's degree from the University of Minnesota. He also served as a judicial clerk for Justice David A. Nichols of the Maine Supreme Judicial Court.

### **VICTOR A. ENGEL**

Vice President, Engineering and Regulatory Affairs

Victor Engel is responsible for the management and coordination of all hydroelectric engineering and construction activities. Mr. Engel leads ENA's Technical Services Group which supports project operations with engineering, construction, permitting, regulatory affairs, safety and economic analysis needs. Mr. Engel was previously a project manager and design engineer for Rivers Engineering Corporation. Mr. Engel holds a bachelor's degree in Civil Engineering from the University of Massachusetts.

### **MARCO FOSSATARO**

Vice President, Chief Financial Officer

Marco Fossataro is responsible for ENA's financial accounting, planning, control and risk management. Mr. Fossataro joined ENA in 2006 after serving at Enel's corporate headquarters as the Head of Group Purchasing Control. As a former manager at KPMG Consulting, Mr. Fossataro assisted clients from various industries (chemical, transportation, consumer goods, telecommunications and real estate) with business planning, control, purchasing and logistics. Mr. Fossataro holds an MBA from Columbia Business School and London Business School. He graduated cum laude from La Sapienza University of Rome with a degree in Business Administration.

**DANIEL S. PEASE**

Senior Vice President and COO

Daniel Pease is responsible for the operation, maintenance, engineering, construction, and regulatory compliance for ENA's North American project portfolio. In addition, Mr. Pease supervises the Company's human resource and information technology functions. Mr. Pease directs contract negotiations for major procurement, construction and engineering projects and works closely with the business development team on their undertakings. Mr. Pease joined the company in 1986. He was formerly a construction manager with the Walsh Construction Company where he was in charge of heavy civil construction projects. Mr. Pease holds a bachelor's degree in Engineering from the University of Connecticut.

**MICHAEL I. STORCH**

Executive Vice President, Strategy and Development

Michael Storch leads ENA's business development team and is responsible for all aspects of Business Development in North America including the structuring of transactions related to acquisitions and greenfield development projects. Mr. Storch joined the Company in 1987. Throughout his tenure he's had various responsibilities including management of operations, accounting, finance, administration and investor relations. Mr. Storch was formerly the Vice President of G.O. Holdings Management, Inc and the Senior Audit Manager for Price Waterhouse. Mr. Storch holds a bachelor's degree in Business Administration from Baruch College in New York.

Board of Directors:

Piero Gnudi: Chairman

Fulvio Conti: Chief Executive Officer and General Manager

Giulio Ballio: Director

Lorenzo Codogno: Director

Renzo Costi: Director

Augusto Fantozzi: Director

Alessandro Luciano: Director

Fernando Napolitano: Director

Gianfranco Tosi: Director

***Appendix VII. Additional Questions for Strengthening the Canals Coalition***

In what sequence should issues be resolved? Hardest first? Easiest first?

How specific should the terms be? Should you negotiate general principles for defining terms? Should you negotiate details of terms?

How do we assess the value of a party joining the coalition now or later?

**Appendix VIII. Enel Affidavit Denying Ownership of Lawrence Alleyways**

**AFFIDAVIT RELATING TO TITLE  
Pursuant to M.G.L. c. 183, Sec. 5B**

The Undersigned, Joanne M. Avallon, Esq. and Melvin G. Laxberg, on behalf of the Essex Company, a Massachusetts corporation with offices at Six Broadway, Lawrence, Massachusetts, and pursuant to M.G.L. c. 183, sec. 5B, having reviewed the records of said Essex Company state that they each have personal knowledge of the facts herein presented:

According to the records of the Essex Company and based solely upon the information contained therein as applied to that set of maps currently used by the Assessor's Office for the City of Lawrence described as "Tax Map, City of Lawrence, Essex County, Massachusetts, Prepared by James W. Sewall Company, Old Town, Maine, Date of Completion 4-10-80, Date of Revisions 5-3-85," a set of which maps are held at the offices of said Essex Company, and pursuant to M.G.L. c. 183, sec. 5B, regarding real estate abutting a way, watercourse, fence, or other monument, and without in any way opining as to the status of properties abutting any alleyway in the City of Lawrence not herein listed, Essex Company retains no right, title or ownership interest of any kind or nature whatsoever in any alleyway or portion of any alleyway abutting the following parcels of property located in Lawrence, Massachusetts:

**ASSESSOR'S MAP 80**

Parcels: 38, 39, 40, 41, 43, 45 and 54

**ASSESSOR'S MAP 81**

Parcels: 1, 3, 4, 6, 7, 8, 9, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 22A, 23, 26, 27, 28, 29, 30, 31, 32, 33, 34, 34A, 35, 36, 37, 38, 40, 41, 42, 43, 44, 45, 48, 49, 50, 51, 53, 54, 55, 56, 56A, 57, 58, and 59

**ASSESSOR'S MAP 82**

Parcels: 1, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 50A and 51

**ASSESSOR'S MAP 85**

Parcels: 9, 10, 11 and 12

**ASSESSOR'S MAP 87**

Parcels: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,  
14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27,  
28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41,  
42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53,  
54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67,  
68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81,  
82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95,  
96, 97, 98, 99, 100, 101, 102 and 103

**ASSESSOR'S MAP 88**

Parcels: 6, 6A, 18, 19, 23, 24, 26, 27, 28, 29, 30,  
32, 33, 38, 39, 40, 41, 45, 46, 49, 50, 55, 56A, 57, 58  
and 59

**ASSESSOR'S MAP 89**

Parcels: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13

**ASSESSOR'S MAP 100**

Parcels: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 16, 17,  
18, 19, 20, 21, 22, 23, 24, 26, 27, 27A, 29, 30, 31, 32,  
34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 46, 47, 48 and  
49

**ASSESSOR'S MAP 101**

Parcels: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,  
14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28,  
29, 30, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 44,  
45, 46, 47, 48, 49, 50, 51A, 51B, 52, 53, 54, 55A, 56, 57,  
58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71,  
72, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85 and 86

**ASSESSOR'S MAP 102**

Parcels: 1, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18,  
19, 20, 21, 22, 23, 24, 25, 26A, 26B, 27, 28, 29A, 29B,  
30, 31, 32, 33, 33A, 34, 35, 36, 37, 38, 39, 40, 41, 42,  
43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56,  
58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71 and  
72

**ASSESSOR'S MAP 106**

Parcels: 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15,  
16, 17, 18, 19, 20, 25, 26, 27, 28, 29, 30, 31, 32, 33,  
34, 35, 36, 37, 38, 39, 40, 40A, 41, 42, 43, 44, 45, 46,  
47, 48, 49, 50A, 50B, 51, 52, 53, 54, 55, 56, 57, 58, 59,  
60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73,  
74, 75, 76, 77, 78, 79, 80, 81, 82, 82A, 83, 84, 85, 86,  
87, 88, 89, 90 and 92

ASSESSOR'S MAP 107

Parcels: 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78 and 79

ASSESSOR'S MAP 108

Parcels: 102, 102A, 103, 104, 105, 106, 107, 109, 110, 111, 112, 113, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 128, 134, 135, 136, 138, 139, 140, 141, 142 and 143

ASSESSOR'S MAP 120

Parcels: 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 26A, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 58, 59, 60, 61, 62, 63, 64, 68, 69 and 70

ASSESSOR'S MAP 121

Parcels: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30A, 31, 32, 33, 34, 35, 36, 37, 38, 39, 50, 51, 52, 53, 54, 55, 56, 57A and 60

ASSESSOR'S MAP 122

Parcels: 33

ASSESSOR'S MAP 125

Parcels: 4, 5, 6, 7, 8, 9, 10, 11, 11A, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21

ASSESSOR'S MAP 124

Parcels: 1, 2, 3, 4, 5, 6, 7, 8, 9, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 39, 40, 41, 42, 43, 46, 47, 48, 49, 50, 51, 52, 58, 59, 60 and 62

ASSESSOR'S MAP 127

Parcels: 26, 27, 28, 29, 30, 31, 32, 33, 34 and 35

ASSESSOR'S MAP 140

Parcels: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 62A, 63, 64, 65, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79 and 80A

ASSESSOR'S MAP 141

Parcels: 33, 34, 35, 36, 37, 38, 40, 41, 42, 43, 44, 44A, 45, 45A, 46, 47, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72 and 73

ASSESSOR'S MAP 144

Parcels: 17, 20 and 21

ASSESSOR'S MAP 145

Parcels: 2, 4, 5, 25, 27, 28, 29A, 29B, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49 and 50

ASSESSOR'S MAP 146

Parcels: 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16

ASSESSOR'S MAP 147

Parcels: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 30, 31, 32, 33, 34, 35 and 36

ASSESSOR'S MAP 164

Parcel: 11

ASSESSOR'S MAP 165

Parcels: 44, 45, 46, 47, 48 and 49

ASSESSOR'S MAP 166

Parcels: 32, 33, 34, 35, 36, 37, 42, 43, 44, 46, 47, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63 and 64

ASSESSOR'S MAP 167

Parcels: 22, 23, 24, 25, 26, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37A, 38, 38A, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 51, 52, 53, 54, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 76, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94 and 95

ASSESSOR'S MAP 168

Parcels: 83, 84, 85, 86, 87, 88, 89, 91, 92, 94, 95, 96, 97, 97, 98, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 126, 127, 128, 129, 130, 131, 132, 134, 135, 136, 137, 139, 140, 141, 142A, 143, 144, 145, 146A and 147

ASSESSOR'S MAP 167

Parcels: 17, 19, 20, 21, 22, 24, 25, 27 and 28

ASSESSOR'S MAP 207

Parcels: 31 and 32

ASSESSOR'S MAP 208

Parcels: 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 54,  
55, 56, 57, 58, 59, 60, 61, 62 and 63

Signed under penalties of perjury this 4<sup>th</sup> day of  
September, 1992.

  
Joanne M. Avalon  
Attorney for Essex Company

  
Melvin G. Lesberg  
President, Essex Company

Commonwealth of Massachusetts )  
County of Essex, ss )

Then personally appeared the above-named Joanne M. Avalon and acknowledged the foregoing to be her free act and deed on behalf of the Essex Company, before me,



  
Susan H. Davis  
Notary Public  
My Commission expires:

My Commission Expires Sept. 27, 1996

Commonwealth of Massachusetts )  
County of Essex, ss )

CERTIFICATE OF ATTORNEY AT LAW

The undersigned, Joanne M. Avalon, attorney at law admitted to the Bar of Massachusetts hereby states that the facts stated in the above affidavit are relevant to the title of the land described therein and will be of benefit and assistance in clarifying the chain of such title or titles.

Signed under penalties of perjury this 1<sup>st</sup> day of September, 1992.

*Joanne M. Avalon*  
Joanne M. Avalon, Esq.  
SSO #546643

Commonwealth of Massachusetts )  
County of Essex, ss )

Then personally appeared the above-named Joanne M. Avalon and acknowledged the foregoing to be her free act and deed before me,

*Susan H. Davis*  
Notary Public  
My Commission expires:

My Commission Expires Sept 21, 1994



**Appendix IX. Maps Depicting Major Alleyway Trends**

**Map of Alleyways in the City of Lawrence, 2010**

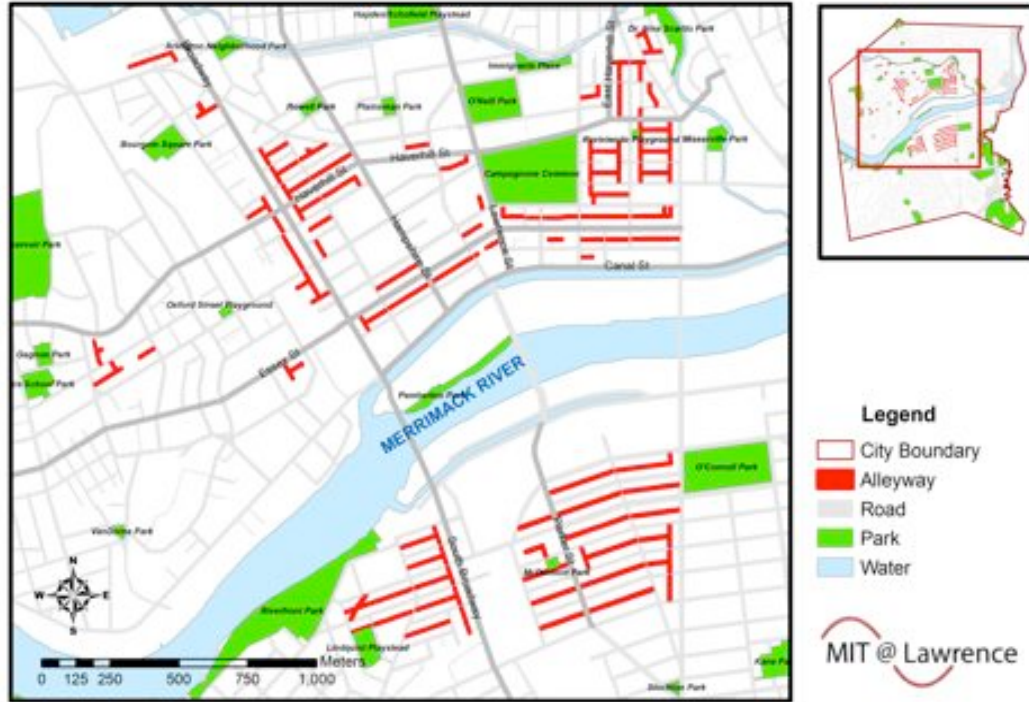


Figure 8. Map depicting all alleyways in the City of Lawrence

## Land Use of Alleyways in the City of Lawrence, 2010

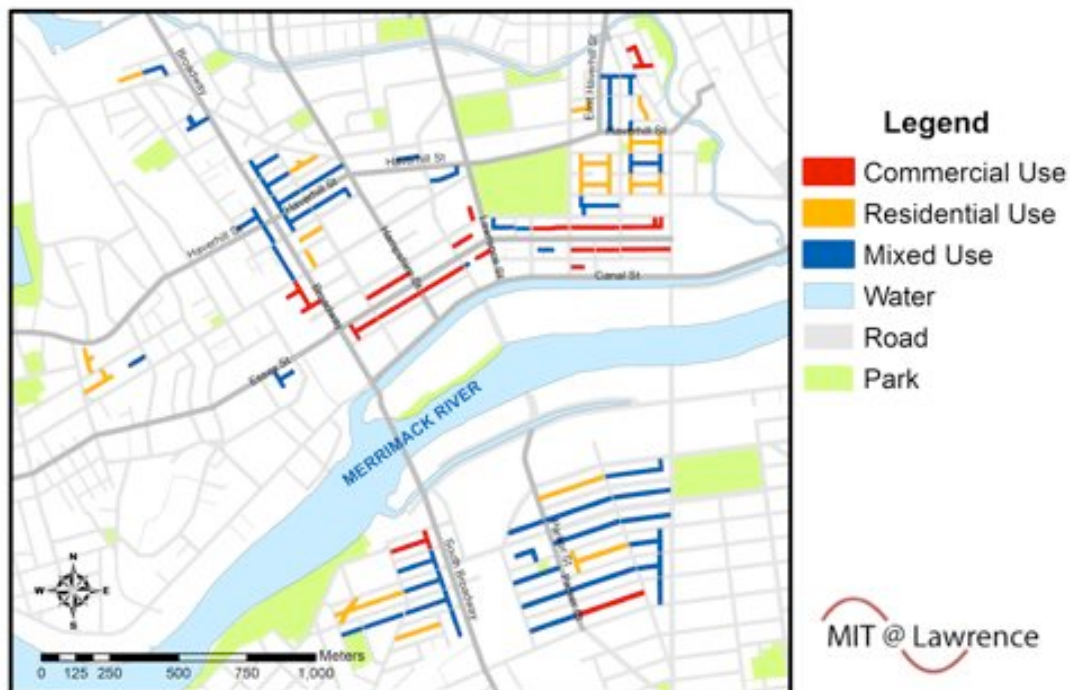


Figure 9. Map depicting use of land abutting alleyways in the City of Lawrence.

## Dumping in Alleyways in the City of Lawrence, 2010

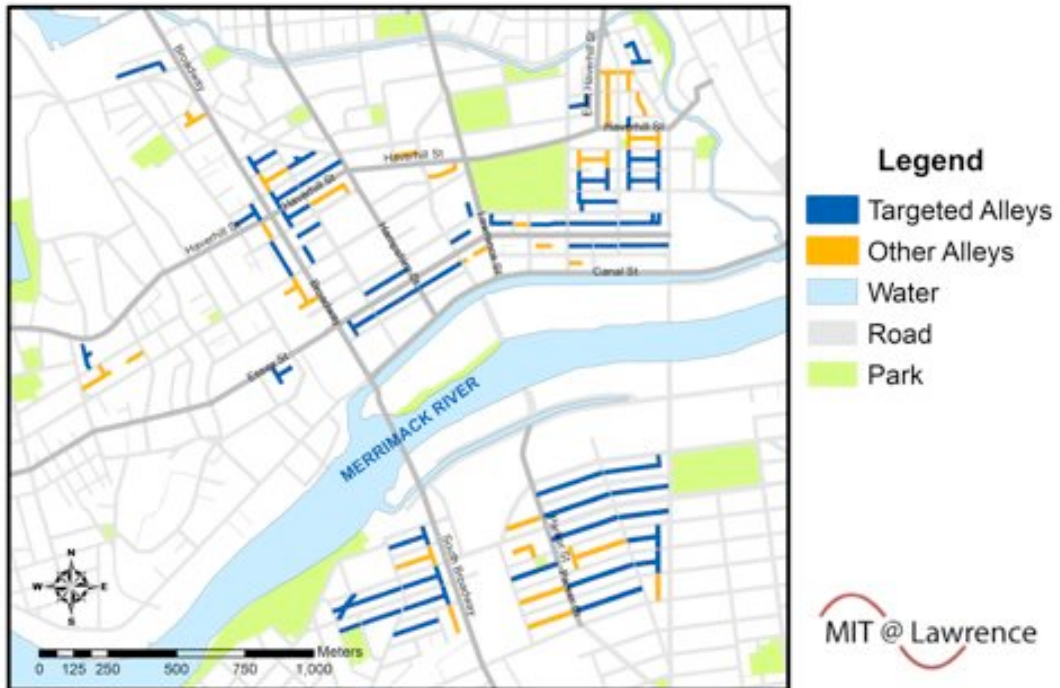


Figure 10. Map highlighting alleyways in the City of Lawrence where dumping occurs.

## Pavement of Alleyways in the City of Lawrence, 2010

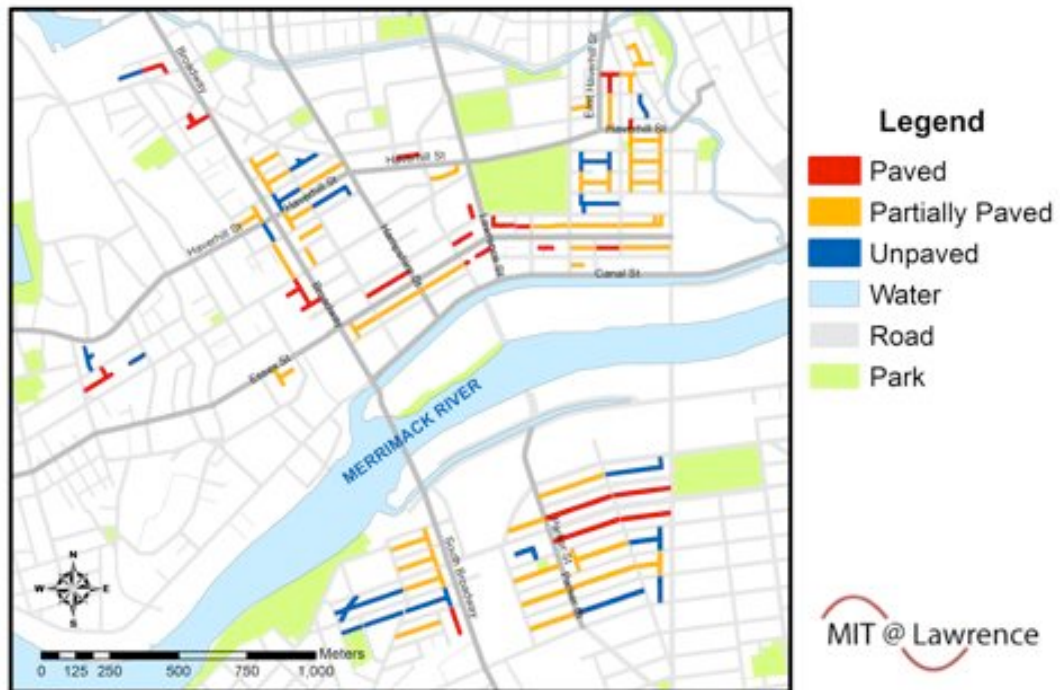


Figure 11. Map highlighting the three types of pavement that is found in alleyways in the City of Lawrence. Alleyways are paved, partially paved, or unpaved.

## Parking in Alleyways in the City of Lawrence, 2010

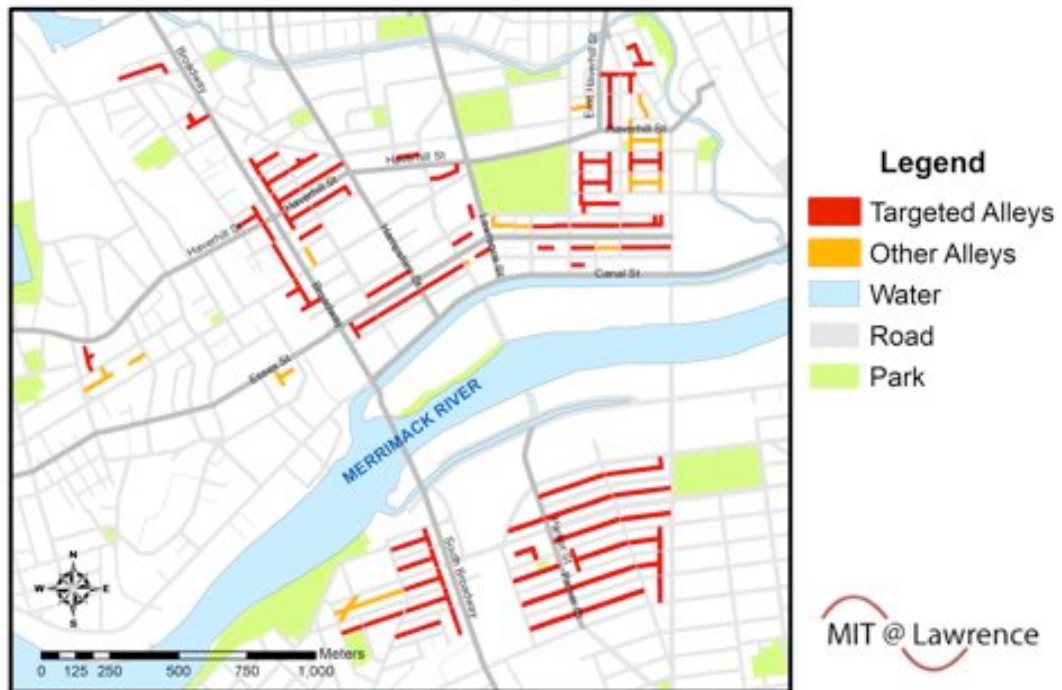


Figure 12. Map highlighting alleyways in the City of Lawrence that are used for parking or for access to parking.

# Graffiti in Alleyways in the City of Lawrence, 2010

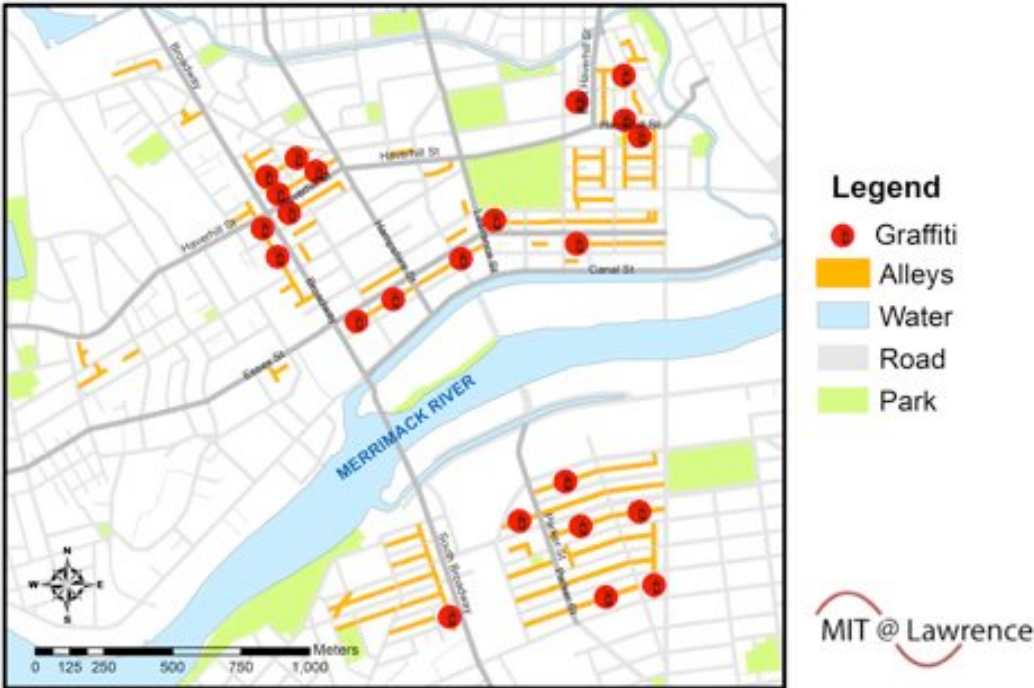


Figure 13. Map highlighting alleyways in the City of Lawrence where graffiti was observed.

**Appendix X. Maps Depicting Existing Use Alleyway Typology**

**Existing Use: Obstructed Alleys**

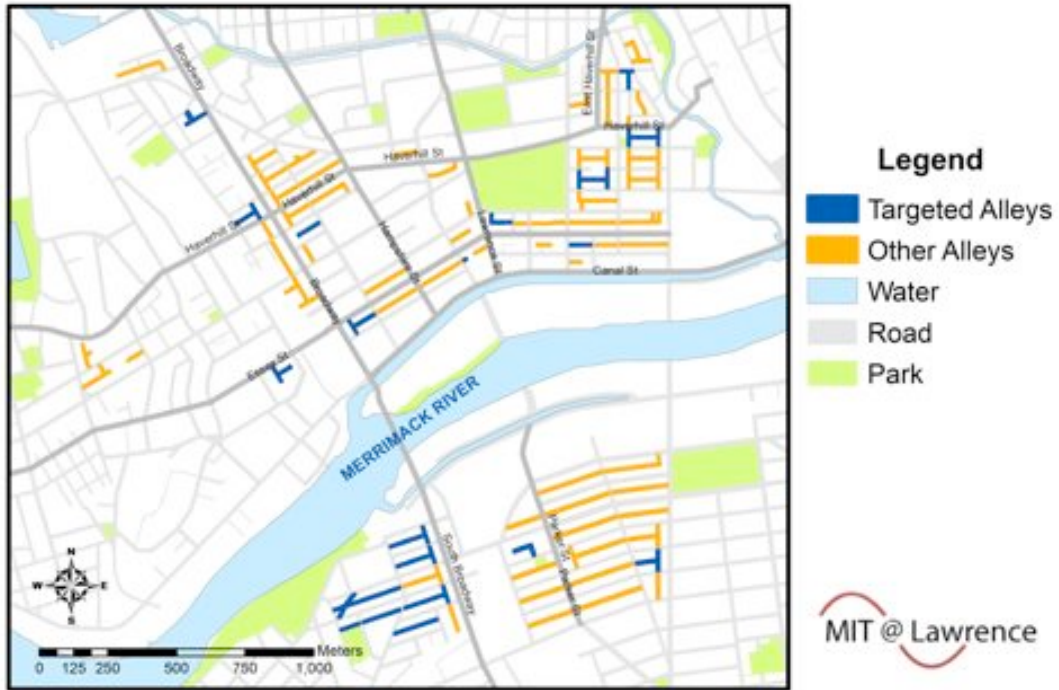


Figure 14. Map highlighting obstructed alleyways in the City of Lawrence.

## Existing Use: Commercial Area, Paved

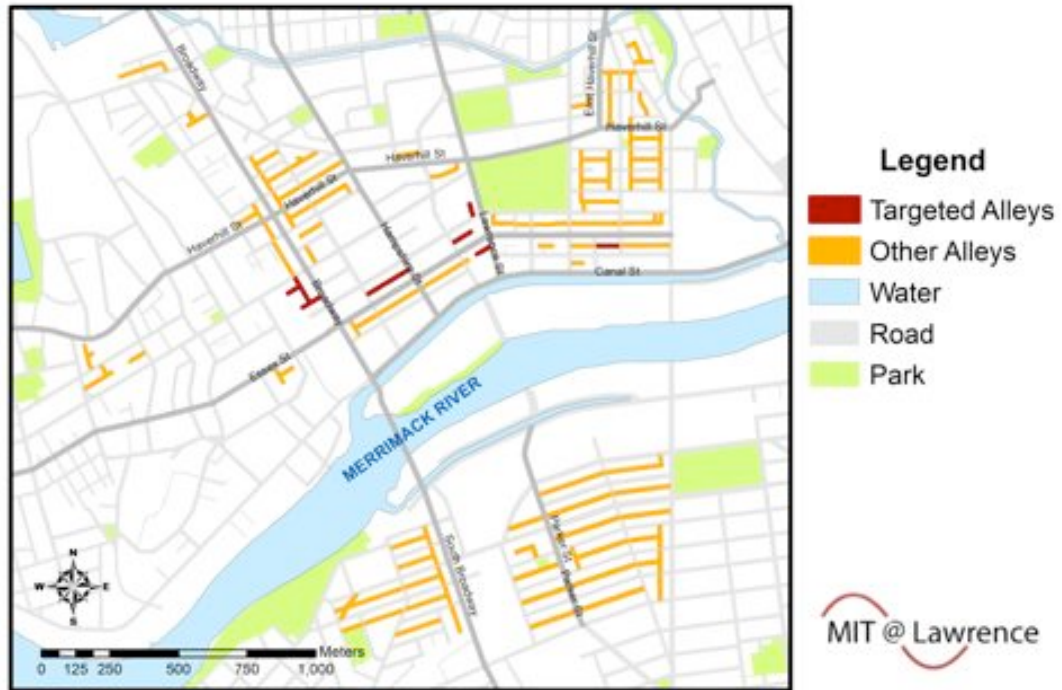


Figure 15. Map highlighting alleyways in the City of Lawrence that are paved and that abut commercial lots.

## Existing Use: Gardens, Recreational Space, Murals

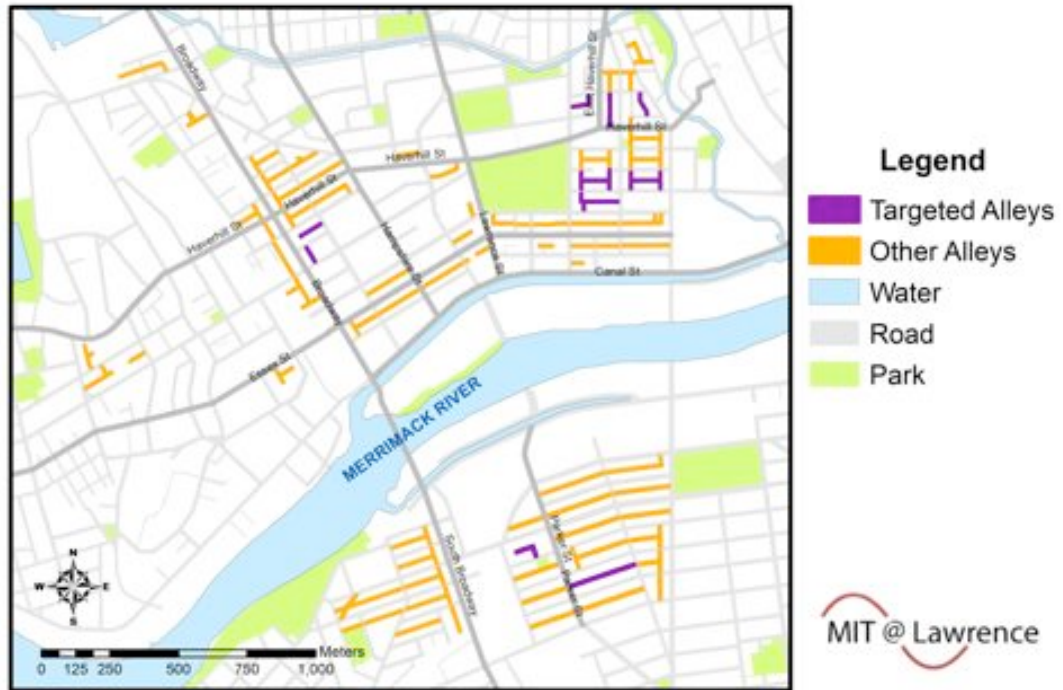


Figure 16. Map highlighting alleyways in the City of Lawrence that contain gardens, recreational space, or murals.

# Existing Use: Parking (all land uses), Paved

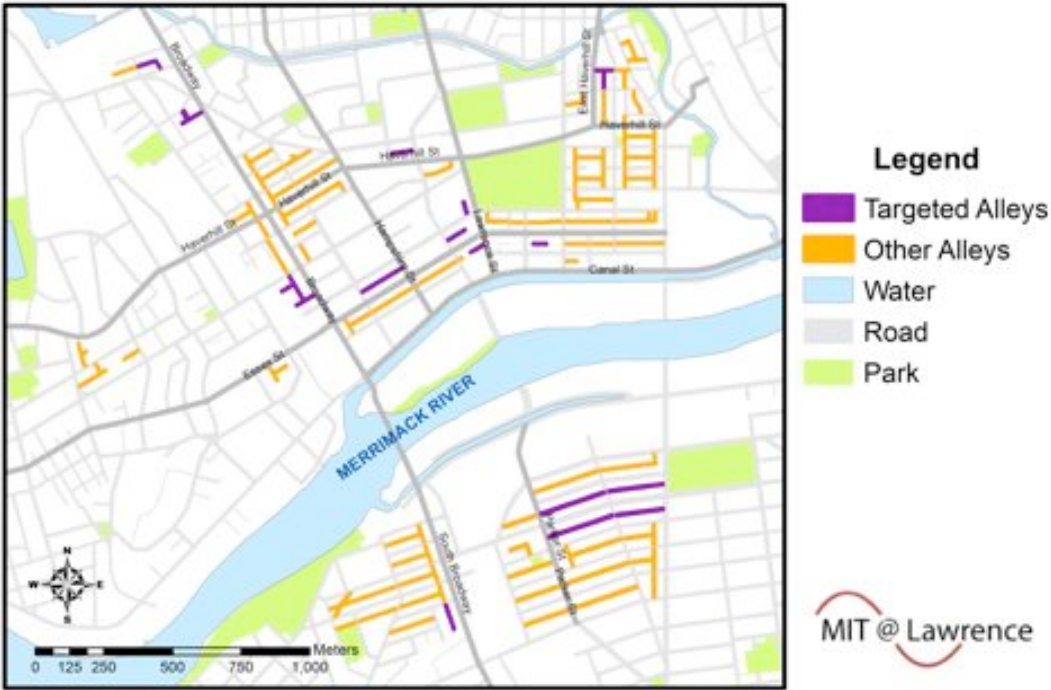


Figure 17. Map highlighting alleyways in the City of Lawrence that are paved and are used for parking or for access to parking.

## Existing Use: Parking (all land uses), Partially Paved and Unpaved

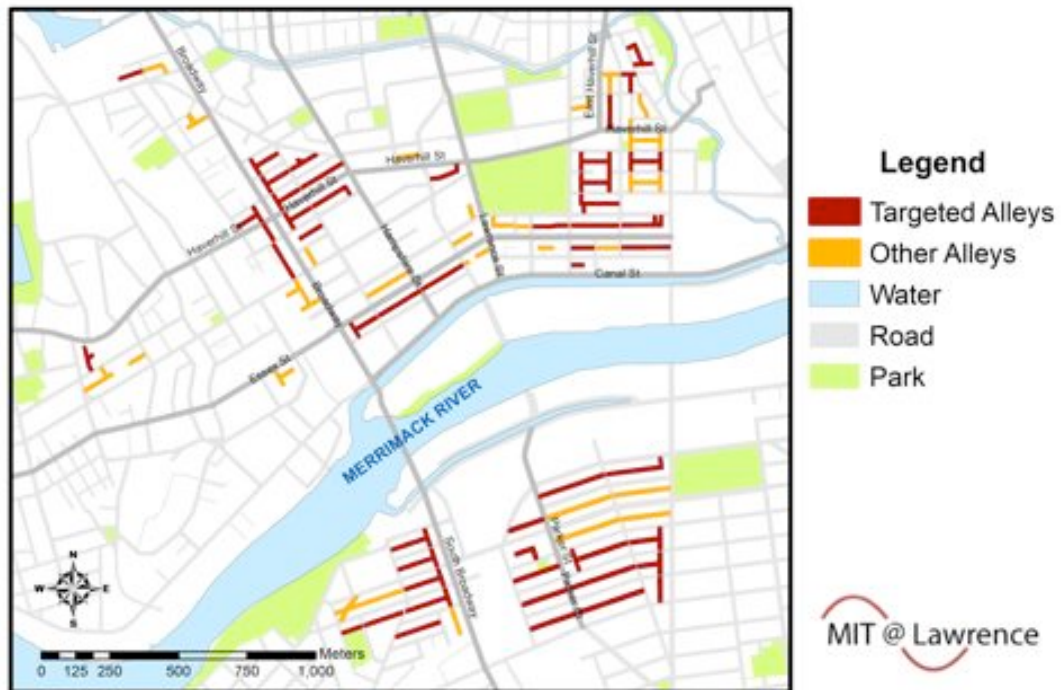


Figure 18. Map highlighting alleyways in the City of Lawrence that are partially paved or unpaved and are used for parking or for access to parking.

**Appendix XI. Map Depicting Future Use Alleyway Typology**

**Future Use Typology for Alleyways in the City of Lawrence, 2010**

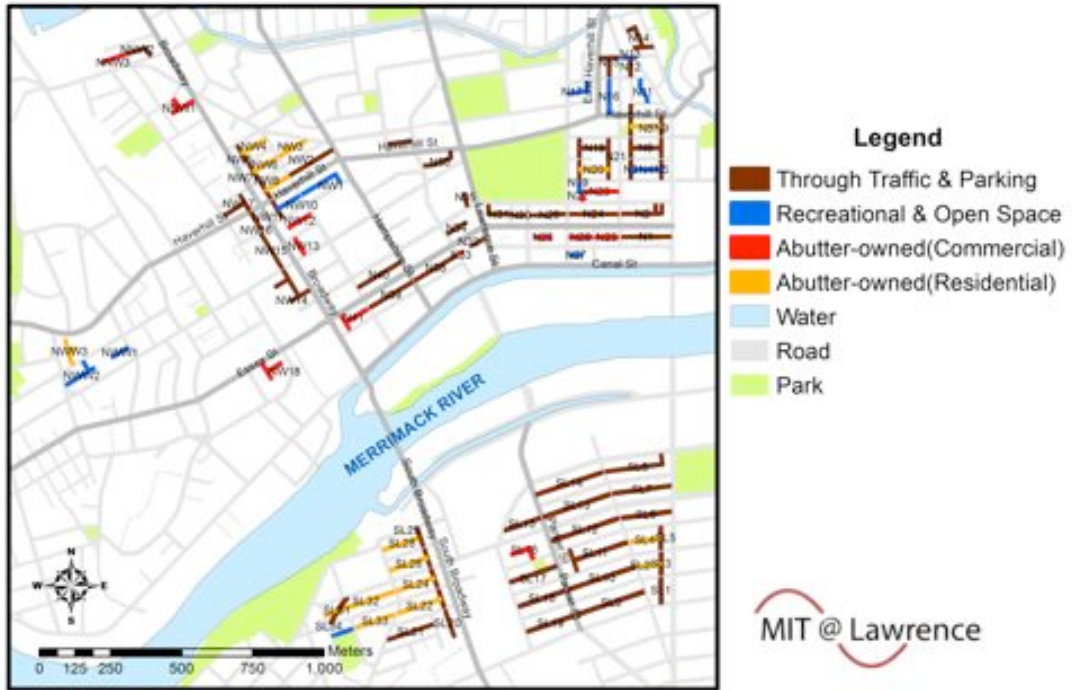


Figure 19. Map depicting the three future uses of alleyways in the City of Lawrence.

## Appendix XII. Table of Lawrence Alleyways and their Future Use Type

Alley ID	Future Use ID	Address	Land Use	Vacant Lots	Commercial Use	Parking	Dumping	Garden	Graffiti	Feces	Sanitation	Maintenance	Street Access	Abutment Access	Obstructions	Vehicular Access
N1	MJ1	Malbecq & Essex, Union & Newbury	1	0	1	1	1	0	0	2	3	0	1	1	0	1
N2	MJ1	Essex & Common	1	0	1	1	1	0	0	2	1	1	1	1	0	1
N3	MJ1	Garden & Orchard	2	0	0	0	1	1	0	2	3	0	1	1	0	0
N4	MJ2	Garden & Orchard	2	0	0	0	1	1	0	2	3	0	1	1	0	0
N5	MJ1	Garden & Orchard	2	0	0	0	1	1	0	2	3	0	1	1	0	0
N6	MJ1	Orchard & Summer, Union & Newbury	3	0	0	1	1	0	0	2	3	0	1	1	0	1
N7	MJ1	Summer & Haverhill, Union & Newbury	2	1	0	0	0	0	1	2	4	0	1		1	1
N8	MJ4	Summer & Haverhill, Union & Newbury	2	1	0	0	0	0	1	2	4	0	1		1	1
N9	MJ1	Summer & Haverhill, Union & Newbury	2	1	0	0	0	0	1	2	4	0	1		1	1
N10	MJ1	Garden & Orchard	2	0	0	0	1	1	0	2	3	0	1	1	0	0
N11	MJ2	Mechanic & Union	2	1	0	0	0	1	0	2	2	1	0	1	0	0
N12	MJ1	Elm & Willard, S. Union & Newbury	3	1	0	1	0	0	1	2	4	0	0	1	1	1
N13	MJ2	Elm & Willard, S. Union & Newbury	3	1	0	1	0	0	1	2	4	0	0	1	1	1
N14	MJ1	Union & Brook & Willard	1	1	0	1	1	0	0	2	4	0	1	1	0	1
N15	MJ1	Elm, Newbury & East Haverhill	2	0	1	1	0	0	1	1	1	1	1	1	0	1
N16	MJ2	Haverhill & Elm, Newbury & E. Haverhill	3	1	0	1	0	1	0	2	3	0	1	1	0	1
N17	MJ2	Elm & Oak, Jackson & East Haverhill	2	0	0	0	1	1	1	2	3	0	1	1	0	0
N18	MJ1	Summer & Jackson Court, Newbury & Jackson Street	2	0	0	1	0	0	0	2	1	1	1	1	0	1
N19	MJ1	Garden & Jackson Court, Newbury & Jackson Street	2	0	0	1	1	1	0	2	4	0	1	1	1	1
N20	MJ4	Garden & Jackson Court, Newbury & Jackson Street	2	0	0	1	1	1	0	2	4	0	1	1	1	1
N21	MJ1	Garden & Jackson Court, Newbury & Jackson Street	2	0	0	1	1	1	0	2	4	0	1	1	1	1
N22	MJ2	Common & Garden, Newbury & Jackson Street	3	0	1	1	1	1	0	2	3	0	1	1	0	1
N23	MJ3	Common & Garden, Newbury & Jackson Street	3	0	1	1	1	1	0	2	3	0	1	1	0	1
N24	MJ1	Essex & Common	1	0	1	1	1	0	0	2	1	1	1	1	0	1
N25	MJ2	Malbecq & Essex, Mill & Newbury	1	1	1	0	1	0	0	1	3	0	1	1	0	1
N26	MJ3	Malbecq & Essex, Jackson & Mill	1	0	0	1	1	0	1	2	3	0	1	1	1	0
N27	MJ2	Malbecq & Canal, Jackson & Mill	1	0	0	1	0	0	0	2	1	1	1	1	0	0
N28	MJ3	Appleton & Jackson, Essex & Malbecq	3	0	1	1	0	0	1	1	1	1	1	1	0	0
N29	MJ1	Essex & Common	1	0	1	1	1	0	0	2	1	1	1	1	0	1
N30	MJ1	Pemberton & Appleton, Essex & Common	3	0	0	0	0	0	1	2	1	1	1	1	0	0
N31	MJ1	Common & Essex, Lawrence & Pemberton	3	0	1	0	1	0	1	1	4	0	1	1	1	0
N32	MJ1	Lawrence & Amesbury, Essex & Canal (closer to Lawrence St.)	1	0	1	1	0	0	0	1	2	0	1	1	0	1
N33	MJ3	Essex & Canal St, Amesbury & Lawrence (closer to Amesbury St.)	3	0	1	0	0	0	1	1	1	1	0	1	1	0
N34	MJ1	Essex & Common, Lawrence & Amesbury	1	0	1	1	1	0	0	1	3	0	1	1	0	1
N35	MJ1	Common & Lowell, Lawrence & Amesbury	1	0	1	1	1	0	0	1	1	0	1	1	0	1
N36	MJ1	Haverhill & Lowell, Amesbury & Lawrence	3	0	1	1	0	0	0	2	1	0	1	1	0	1
N37	MJ1	Lebanon & Haverhill, Amesbury & White	3	0	1	1	0	0	1	1	1	1	1	1	0	1
N38	MJ1	Malbecq & Essex, Hampshire & Amesbury	1	1	1	1	1	0	0	2	4	0	1	1	0	1
N39	MJ1	Essex & Methuen, Franklin & Hampshire	1	1	1	1	1	0	1	2	4	0	1	1	0	1
M40	MJ1	Essex & Common, Franklin & Hampshire	1	0	1	1	1	0	0	1	3	0	1	1	0	1
M41	MJ2	Essex & Methuen, Franklin & Broadway	1	1	1	1	1	0	1	2	4	0	1	1	1	1
MW1	MJ2	Acton & S. Broadway Ave., Broadway & Washington	3	0	1	1	0	0	1	2	1	0	1	1	0	0

NW2	NU1	Lake & Manchester, Washington & Broadway	3	0	1	1	1	0	0	1	3	0	1	1	0	1
NW3	NU3	Lake & Manchester, Washington	2	0	0	1	1	0	0	2	2	0	1	1	0	1
NW1	NU2	Haverhill & Bradford, Franklin & Hampshire	3	1	1	1	0	0	0	2		0	1	1	0	1
NW2	NU1	Tremont & Haverhill, Hampshire & Franklin	3	0	1	1	1	0	1	2	3	0	1	1	0	1
NW3	NU4	Franklin/Cross/Tremont	2	1	0	1	1	0	1	2	3	0	1	1	0	1
NW4	NU4	Cedar & Green, Broadway & Franklin	3	1	0	1	1	0	0	2	3	0	1	1	0	1
NW5	NU1	Cedar & Green, Broadway & Franklin	3	1	0	1	1	0	0	2	3	0	1	1	0	1
NW6	NU4	Green & Tremont, Broadway & Franklin	3	0	0	1	0	0	1	2	2	0	1	1	0	1
NW7	NU1	Green & Tremont, Broadway & Franklin	3	0	0	1	0	0	1	2	2	0	1	1	0	1
NW8	NU4	Franklin & Broadway, Tremont & Haverhill	3	0	0	1	1	0	1	2	2	0	1	1	0	1
NW9	NU1	Franklin & Broadway, Tremont & Haverhill	3	0	0	1	1	0	1	2	2	0	1	1	0	1
NW10	NU2	Haverhill & Bradford, Franklin & Broadway	3	1	1	1	1	0	1	2	3	0	1	1	0	1
NW11	NU1	Haverhill & Bradford, Franklin & Broadway	3	1	1	1	1	0	1	2	3	0	1	1	0	1
NW12	NU2	Franklin & Broadway, Concord & Bradford	3	0	1	1	0	1	0	1	1	1	1	1	0	1
NW13	NU3	Broadway & Franklin, Concord and Lowell	1	0	0	3	0	0	0	2	2	0	0	2	1	0
NW14	NU1	Lowell & Common, Winter & Broadway	1	1	1	1	0	0	1	3	0	1	1	0	1	
NW15	NU1	Lowell & Bradford, Broadway & Winslow Pl.	3	0	1	1	1	0	1	2	2	0	1	1	0	1
NW16	NU1	Bradford & Haverhill, West & Broadway	3	0	1	1	0	0	1	2	1	0	1	1	0	1
NW17	NU1	Tremont & Haverhill, West & Broadway	3	0	0	1	1	0	0	2	3	0	1	1	1	1
NW18	NU3	Essex & Medford, Oxford & Winter	3	0	0	0	1	0	0	2	4	0	0	3	1	0
NW19	NU2	Warren & Miller, Butler & Lowell(Warren side)	3	0	0	0	0	0	0	2	3	0	0	1	0	1
NW20	NU2	Butler & Lowell, Miller & Warren(Miller side)	2		0	0	0	0	1	2	1	1	1	0	1	
NW21	NU4	Butler & Haverhill, Miller & Warren	2	0	0	1	1	0	0	2	4	0	1	1	0	1
SL1	NU1	South Union & Foster, <u>Eschbach</u> & Andover	3	0	1	1	0	0	1	2	3	0	1	1	0	1
SL2	NU4	Abbott & <u>Eschbach</u> , South Union & Foster	3	1	1	1	1	0	0	2	3	0	1	1	1	1
SL3	NU1	Abbott & <u>Eschbach</u> , South Union & Foster	2	1	1	1	1	0	0	2	3	0	1	1	1	1
SL4	NU4	Saley & Abbot, Foster & S. Union	3	0	0	1	1	0	0	2	3	0	1	1	0	1
SL5	NU1	Saley & Abbot, Foster & S. Union	3	0	0	1	1	0	0	2	3	0	1	1	0	1
SL6	NU1	Saley & Salem, Foster & South Union St	3	1	0	1	1	0	1	4	0	1	1	0	1	
SL7	NU1	Salem & Springfield, Foster & South Union St	3	1	0	1	1	0	0	1	3	0	1	1	0	1
SL8	NU1	Market & Springfield, South Union & Foster St	2	1	0	1	1	0	0	2	4	0	1	1	0	1
SL9	NU1	<u>Eschbach</u> & Andover, Foster & Parker	1	0	1	1	1	0	1	2	3	1	1	1	0	1
SL10	NU1	Abbott & <u>Eschbach</u> , Parker & Foster	3	0	0	1	1	1	0	2	2	0	1	1	0	1
SL11	NU1	Saley & Abbott, Parker & Foster	2	0	0	1	0	0	0	2	2	1	1	1	0	1
SL12	NU1	Saley & Salem, Parker & Foster	3	0	1	1	1	0	1	3	0	1	1	0	1	
SL13	NU1	Salem & Springfield, Parker St & Foster St	3	0	0	1	1	0	0	1	3	0	1	1	0	1
SL14	NU1	Foster & Parker St, Springfield & Market St	2	0	0	1	1	0	1	2	3	0	1	1	0	1
SL15	NU1	Parker/Salem/Market	3	0	1	1	0	0	1	2	2	0	1	1	0	1
SL16	NU3	Saley & Salem St, Blanchard & Parker	3	0	0	1	0	0	1	0	2	2	1	0	1	1
SL17	NU1	Saley & Abbott, Parker & Blanchard	3	0	0	1	1	0	0	2	2	0	1	1	0	1
SL18	NU1	Abbott & <u>Eschbach</u> , Blanchard & Parker	3	1	1	1	0	0	0	2	3	1	1	1	0	1
SL19	NU1	Parker & Blanchard, <u>Eschbach</u> & Andover	3	1	1	1	0	0	0	2	2	1	1	1	0	1
SL20	NU1	Durham & Front, Ella & S. Broadway	3	0	1	1	0	0	1	1	2	1	1	1	0	1
SL21	NU1	Ella & Newton, Durham & Atkinson	2	1	0	1	1	0	0	2	3	1	1	1	1	1
SL22	NU4	Emmett & Burke (Newton & Kingston) second half of alley Burke & S. Broadway (Kingston & 3 Durham)	3	0	0	1	1	0	0	2	4	0	1	1	1	1
SL23	NU1	Emmett & Burke (Newton & Kingston) second half of alley Burke & S. Broadway (Kingston & 3 Durham)	3	0	0	1	1	0	0	2	4	0	1	1	1	1
SL24	NU4	Kingston & Salem, South Broadway & Newton	3	0	1	1	1	0	0	2	3	0	1	1	0	1
SL25	NU1	Kingston & Salem, South Broadway & Newton	3	0	1	1	1	0	0	2	3	0	1	1	0	1
SL26	NU4	Crosby & Salem, S. Broadway & Newton	3	0	1	1	0	0	0	2	2	0	1	1	1	1
SL27	NU1	Crosby & Salem, S. Broadway & Newton	3	0	1	1	0	0	0	2	2	0	1	1	1	1
SL28	NU4	Shattuck & Broadway, S. Broadway & Newton	1	0	1	1	1	0	0	2	4	0	1	1	1	1
SL29	NU1	Shattuck & Broadway, S. Broadway & Newton	1	0	1	1	1	0	0	2	4	0	1	1	1	1
SL30	NU4	Kingston & Salem, Broadway & Emmett	2	0	0	0	1	0	0	2	4	0	1	0	1	0
SL31	NU1	Kingston & Salem, Broadway & Emmett	2	0	0	0	1	0	0	2	4	0	1	0	1	0
SL32	NU4	Kingston & Salem, Broadway & Emmett	2	0	0	0	1	0	0	2	4	0	1	0	1	0
SL33	NU4	Emmett & Burke (Newton & Kingston) second half of alley Burke & S. Broadway (Kingston & 3 Durham)	3	0	0	1	1	0	0	2	4	0	1	1	1	1
SL34	NU2	Emmett & Burke (Newton & Kingston) second half of alley Burke & S. Broadway (Kingston & 3 Durham)	3	0	0	1	1	0	0	2	4	0	1	1	1	1

(Source: Created by MIT@Lawrence, 2010, Alleyway Revitalization Group)

Note: NU1: Through Traffic and Parking  
 NU2: Gardens, Recreational Space, and Murals  
 NU3: Abutter-owned and Maintained (Commercial)  
 NU4: Abutter-owned and Maintained (Residential)

**Appendix XIII. Example of Enel Release Deed**

**RELEASE DEED**

**ESSEX COMPANY**, a Massachusetts Corporation with offices in Andover, Essex County, Massachusetts, for consideration paid, and in full consideration of less than one hundred dollars grant to **COMMUNITYWORKS HOLD AND CONTROL LLC**, a Massachusetts limited liability company with a usual place of business at 60 Inland Street, Lawrence, MA 01840 all of the right, title and interest that the within Grantor may have, if any, in the below-described property:

All that certain parcel of land situated in the City of Lawrence, County of Essex, Commonwealth of Massachusetts, being formerly called "Harding's Alley" and being further described as follows:

Beginning at a point on the westerly line of Newbury Street at a point two hundred (200) feet northward from the northerly line of Elm Street which constitutes the southeasterly corner of the within-described premises;

thence running northerly along said westerly line of Newbury Street a distance of fourteen (14) feet to a point that constitutes the northeasterly corner boundary of the parcel of land identified as "Parcel II" in a deed from Lawrence CommunityWorks, Inc. to Nuestra Casa LLC dated January 31, 2006 and recorded at the Essex County North District Registry of Deeds on February 1, 2006 at Book 10019, Page 220;

thence turning and running in a predominantly westerly direction a distance of one hundred ninety-eight and seventy-five one-hundredths (198.75) feet to the point of intersection with the easterly line of East Haverhill Street;

thence turning and running in a predominantly southerly direction along said easterly line of East Haverhill Street a distance of fourteen (14) feet to a point that constitutes the southwesterly corner of the premises now or formerly of Thong Le Ha and commonly known as being the street address 51 East Haverhill Street;

thence turning and running in a predominantly easterly direction a distance of two hundred (200) feet to the point of beginning

Said parcel contains approximately two thousand seven hundred ninety-five (2,795) square feet of land, and is granted by this Release Deed, subject to easements and restrictions of record.

See AFFIDAVIT RELATING TO TITLE PURSUANT TO M.G.L. c. 183 section 5B, dated September 4, 1992 and recorded in the North Essex Registry of Deeds on September 4, 1992 at Book 3538, Page 264.

WITNESS the corporate signature(s) and seal this 14th day of September, 2006.

Witness: Handwritten Signature

ESSEX COMPANY

By: Handwritten Signature  
Its: Vice President

COMMONWEALTH OF MASSACHUSETTS

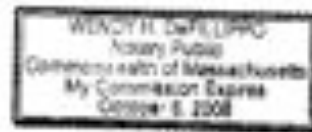
ESSEX, SS.

September 14, 2006

Then personally appeared the above-named Victor A Engel

and acknowledged the foregoing instrument to be his free act and deed on behalf of the Corporate Grantor, before me,

Wendy H. DeFilippo  
Notary Public -  
My Commission Expires:



## ***Appendix XIV. Alleyway Revitalization Case Studies***

In trying to understand how Lawrence can address the problem of illegal dumping in alleyways and other public spaces, we researched different ideas for moving forward on this issue. Below, we outline some of the more relevant examples of cities proactively tackling the issues of ownership, safety, maintenance, and illegal dumping in public spaces, including alleyways.

In Los Angeles, the Green Alleys Project offered some very insightful ways on how to improve alleys and convert them into assets (Cassidy et. al., 2009). This model is similar to Chicago's Green Alley Project, which proposes using environmentally friendly materials to resurface alleys (The Chicago Green Alley Handbook). There are three types of alleyway strategies recommended by this model, which we summarize as follows:

- 1) Install permeable pavement made of asphalt, concrete, or pavers, which allows storm water to drain into the ground. Water that seeps back into the earth helps prevent water from pooling near homes, thus reducing the threat from flooding-related damaged; this extra drainage also helps to reduce the risk of diseases that arise from stagnant water, which attracts mosquitoes.
- 2) Use high albedo pavement, which absorbs heat and reduces the urban heat island effect.
- 3) Use recycled materials (i.e. rubber, concrete aggregate, and slag) instead of traditional materials as a more environmentally conscious way of improving the physical environment.

The report also advocates for a) improving the quality of water flowing back to streams, rivers, and coastal areas, b) using alleys in new ways, such as parks in park-poor areas, c) making neighborhoods more pedestrian-friendly, and d) adding safety by installing more lighting.

There are also other creative ways to think about alleys that are not simply about re-paving or repairing lighting. One of the more creative examples of alley transformation is Nord Alley of Seattle, Washington, where a business owner improved the public right-of-way behind his business by simply purchasing items like tables, vases, and other art-related materials from online sites in order to decorate the alleyway (Campanario, 2010). Another example can be found in Seattle, Washington: AlleyArt.Org sponsored a "Green Alley" competition in which design experts and students submitted ideas and visualizations on projects to improve local alleyways (Green Alley Competition, (c) 2010). One such improvement suggested putting micro-businesses/public markets in alleys where people could walk through and buy goods. Moreover, in Pittsburgh, Pennsylvania, the Strawberry Way alley is an example of a collaboration between businesses, civic organization, residents, foundations, and professionals (Strawberry Way, (c) 2010). These entities joined forces to pay for neon lighting to decorate the walls along the alleyway. This project, in addition to creating a brighter environment at night, also improves the alley's ambiance by providing a livelier and more inviting allure to passer-byers who otherwise might not walk though this type of public space.