Introduction

The Gowanus Canal is a 1.8 mile long waterway in southwestern Brooklyn. It is bordered by the Red Hook peninsula to the west, Carroll Gardens and Cobble Hill neighborhoods to the north, Park Slope to the East, and the Gowanus Bay and greater New York Harbor to the south. Notorious today for its noxious pollution, stagnant waters laced with technicolor chemical sheens, and its infamous status as the final resting place for countless gangsters, the canal has been central to the development of the city for centuries. People have long been drawn to its banks for as many reasons as there are harmful bacteria in its murky waters. Native Americans, Dutch settlers, British soldiers, and many generations of enterprising Brooklynites have all staked a claim along its banks over the course of history.

Gowanus Canal: Issues & Challenges

Recently, much of the conversation surrounding the canal has been related to its recent designation as a Superfund site by the United States Environmental Protection Agency. After decades of industrial pollution paired with minimal governmental oversight or intervention, the canal was added to the EPA’s National Priority List in 2010, identifying it as one of the country’s most polluted waterways. Efforts are now underway for the cleanup of the canal, with remediation and construction expected to be complete within the next five to ten years.

Beyond the cleanup required by the EPA, the canal faces many other issues that will continue to play an important role in its future. Currently, the canal receives nearly 400 million gallons of raw sewage as a result of the 18 combined sewer outfalls that line its edge. Efforts are being made to mediate this significant pollution source, including public education for the residents within the canal’s sewershed to reduce their contribution to sewer overflows, as well as the installation of green infrastructure elements such as bioswales and raingardens to intercept stormwater runoff, reducing the stress on the city’s already undersized and overwhelmed sewer system.

Another issue that is poised to have an increasingly significant influence on the canal’s future is an impending rezoning from New York City’s Department of City Planning. With significant amount of vacant or underused properties, rising demand and value of housing, and the ev-
er-present pressure of development, residents, stakeholders, and city officials have all been engaging in the conversation of how the land surrounding the Gowanus Canal will be used in the future. Community planning initiatives have been undergone in recent years, and currently the city’s planning department has begun the formal process of considering the results of these community planning processes in the formulation of a new zoning framework for the neighborhood that will dictate land use policies for the foreseeable future.

Finally, the threat of climate change, rising seas, and the increasing risk of flooding is a serious challenge for the neighborhoods bordering the canal. Before the canal was built, the Gowanus was a creek surrounded by hundreds of acres of salt marshes, meadows, and wetlands. After centuries of development, the land surrounding the canal still sits in a floodplain, albeit one that has been almost completely covered in impermeable surfaces. In October of 2012, Superstorm Sandy revealed the true vulnerability of the area, inundating the majority of the neighborhoods bordering the canal with several feet of water. In the years following, significant efforts have been made to assess and address the risk of flooding, however it remains to be seen how effective these efforts will be until the next major storm events. Many studies have concluded that the only reliable method of reducing flooding is to construct a deployable flood gate at the mouth of the canal.

The ongoing canal cleanup, concerns over flooding, and the rapid change in land use and neighborhood character over the past half-century has given rise to an especially involved and vocal local culture. Community organizations and board meetings are well used and well attended. The residents feel a pride about their neighborhood and recognize its unique place in New York City’s urban fabric, and they remain in active conversation with stakeholders and city officials about the future of the Gowanus Canal.
This summer, I worked with one such community organization, and the experience as a whole greatly contributed to my understanding of the canal and the myriad issues that it is currently facing. The Gowanus Canal Conservancy (GCC) is a community-based non-profit organization that serves as the environmental steward for the Gowanus Canal Watershed. For over a decade, the organization has been working toward an “open, clean and alive Gowanus Canal watershed”, focused on creating new park space along the canal, ensuring healthy water, soil and air, and fostering ecological, business and cultural activity within the watershed. As an organization with such a mission, GCC has often found itself as a mediator between a wide range of stakeholders, including but not limited to the various communities that live within the watershed, owners of local businesses and properties, developers, local community boards, New York Department of Environmental Conservation, and the United States Environmental Protection Agency.

Throughout the three months that I worked with GCC, the variety in my work reflected the many different approaches that the organization takes in addressing the canal. Whether it dealt with education, outreach, or concept development, the work allowed me to examine the canal and its environs in ways that I would have never had the opportunity to otherwise.

Much of the work that GCC does relates to educating the public, primarily those that live within the canal’s watershed, about the many ways in which the canal is directly affected by the people that live and work near it. From explaining the legacy of historic pollution, the problem of combined sewer overflow events, and the importance of green infrastructure, this education takes the form of hosting public lectures, having an online presence, and perhaps most importantly, developing a school curriculum that is open to any teacher to use within the classroom.

Through the STEM curriculum model, focusing on Science, Technology, Engineering, and Mathematics, GCC has developed an extensive curriculum that uses the Gowanus Canal as a basis for a wide variety of activities and project. This summer I assisted in the development of a unit devoted to teaching middle schoolers about climate change, the ways in which it has a direct impact on the Gowanus neighborhoods, and possibilities for adapting to anticipated effects of climate change, such as flooding due to frequent extreme storm events and sea-level rise. The maps and graphics that I produced for the unit helped me gain a clearer grasp of ways in which climate change is poised to have a large influence on the future of the neighborhood.

Graphs were created to help illustrate the indicators and effects of climate change on New York City.
Given its engagement with an active and concerned neighborhood, GCC often finds itself to be a mediator between various stakeholders, residents, and developers. The question of “What do you want the canal to be?” is often asked as a way to find common ground and inform further decisions and conversations.

Much of the work I did this summer was related to this sort of outreach. I helped to run several public events that encouraged people to engage with each other in discussing what their priorities are, particularly for the edge of the canal. I produced graphics and maps to help facilitate these discussions, and spent considerable time cataloging and analyzing feedback to gain a better understanding of overarching trends in public opinion. All of this data has been, and will continue to be, useful for the further development of ideas and designs.
In terms of larger-scale planning, the GCC has developed the concept of a “Gowanus Greenscape” concept, which has been the foundation for much of the work the GCC has done over the years. The Gowanus Greenscape vision has the goal of creating a cohesive system of open spaces along the canal. This goal can only be accomplished if there is a consistent vision that dictates strategies and design guidelines, and the GCC sees itself as being the organization best equipped to develop and promote this vision.

The conceptual design work I did this summer focused on studying and illustrating the variety of ways a canal-side esplanade could potentially be organized and arranged in terms of access, habitat creation, and flood management. Currently, the city’s waterfront access guidelines require a public access esplanade. These exploratory concepts will continue to inform further design development as concepts become more detailed and site-specific. Additionally, I developed design concepts for the 1st St turning basin, which were used at community meetings to discuss common goals for the final basin design.

Selection of initial design concepts for the 1st Street Turning Basin. These drawings were used to help communicate potential ideas for basin designs to community members, stakeholders, and developers.
Future Work

While the official internship was completed at the end of August, my work with the Gowanus Canal Conservancy and the canal in general is far from finished. As a result of my summer experience, I have decided to make the canal the subject of my capstone project, which is the final requirement for the masters of landscape architecture degree, and will be completed in the spring of 2017. The work involved with this capstone will be focused primarily on the dredging of a new basin as part of the EPA cleanup, and the opportunities that this project creates for habitat creation, public access, and flood mitigation.

Conclusion

The three months that I spent with the Gowanus Canal Conservancy were an incredible opportunity to observe, participate, and work within an organization that is directly engaging with a unique neighborhood facing more than its fair share of challenges and opportunities. This work not only contributed to the conservancy’s efforts of being the environmental stewards for the canal, but also allowed me to gain a deep understanding of the canal, which will provide a solid foundation upon which to continue my research and design work.

I would like to thank Andrea Parker, the Executive Director of the Gowanus Canal Conservancy, for her guidance and the hospitality with which she has shown me, treating me from the very first day like a valuable part of the conservancy. I would also like to thank my major professor, Richard Hawks, for his enthusiasm and ongoing support for this project. Finally, I would like to sincerely thank the Edna B. Sussman Foundation for its generosity that has made this entire experience possible. I look forward to building on the work that was done this summer, and will be forever grateful for this opportunity.

Ripple on the oil-covered waters of the canal. Photo by Steven Hirsch