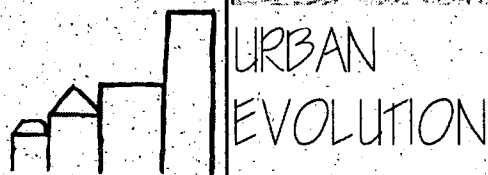
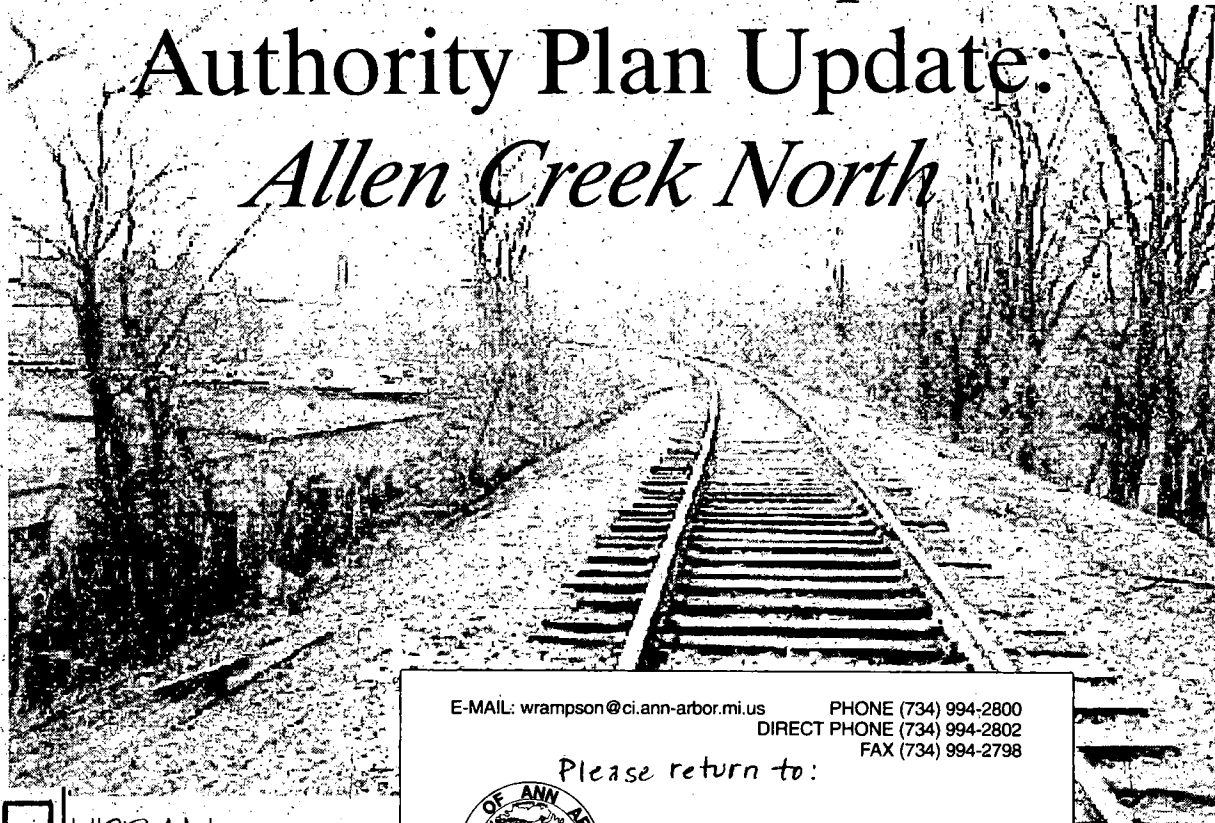


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★ Student
Project

City of Ann Arbor
Downtown Development
Authority Plan Update:
Allen Creek North



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<http://www.ci.ann-arbor.mi.us>



April 18, 2001



April 16, 2001

Sue Gott
Downtown Development Authority
City of Ann Arbor
2000 Bonisteel Blvd., Suite 3139
Ann Arbor, MI 48109

Dear Ms. Gott:

It is our pleasure to present you with this final report for the Allen Creek North area of downtown Ann Arbor. In response to the original Request for Proposals for the Downtown Development Authority plan update, we have prepared a plan that capitalizes on the strengths and assets of the Allen Creek North area while proposing direction for new development to improve it.

With regard for the present and historic role of the Allen Creek North, we have developed a vision of the area in the future. In this vision, Allen Creek North continues to support the great diversity of uses throughout its boundaries while fostering both an appropriate balance and compatibility of land uses. We believe that the recommendations herein will help to guide the evolution of this community into an exemplary place in downtown Ann Arbor, fully utilizing the opportunities and confronting the challenges that it presents. The unique needs of the Allen Creek floodplain, the relationship of the area to the heart of downtown on the east and the neighborhoods to the west, and the existing land uses have all been carefully addressed in our consideration of the area.

We are excited by the possibilities that the area is waiting to reveal and we have greatly enjoyed working with you in the process of discovering these opportunities. It has been a pleasure to be in partnership with you on this energizing project and we look forward to working with you in the future.

Sincerely,

Urban Evolution

Paul Siersma

William Ridder

Lindsay Mason

Jose Gutierrez

Pete McNally



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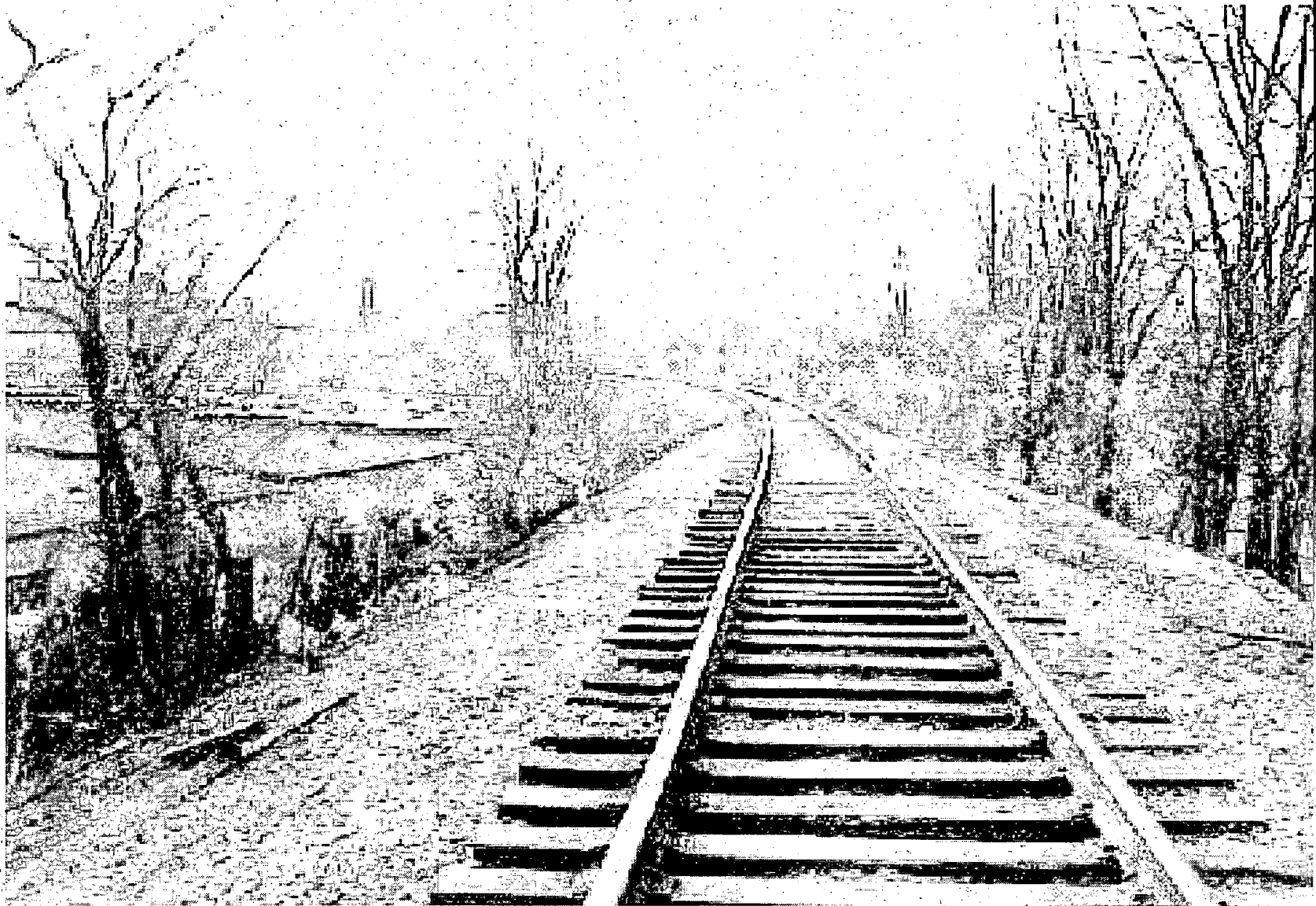
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Introduction





1.1 Description of Allen Creek North

Located 30 miles west of the Detroit Metropolitan area and 50 miles north of Toledo, Ohio, Ann Arbor is a unique city within the Southeast Michigan region with respect to its economy, population, and natural landform. Although only having a population of approximately 112,000 persons, the diversity of the Ann Arbor community rivals that of much larger cities. Both businesses and individuals alike come to be a part of the city's active downtown, traditional neighborhoods, and vast park system. Home of the University of Michigan, Ann Arbor is a true college town with a population of students from the university making up nearly 33% of the residents. Situated in the heart of downtown Ann Arbor, the University of Michigan provides a significant contribution to the character of the downtown environment as a generator of cultural diversity, physical form, and activity. Figure 1.1 provides an overview of the location of Ann Arbor in Southeastern Michigan.

The Allen Creek North study area occupies the western edge of downtown Ann Arbor. As shown in Figure 1.2, Allen Creek North is located in the Northwest corner of the Downtown Development Authority (DDA) boundary, bordered approximately by Ashley Street to the East, William Street to the South, Third Street to the West, and Kingsley Street to the North. True to its namesake, Allen Creek North encompasses the historic Allen Creek corridor aligned north to south along the western edge of downtown Ann Arbor. The existing landform reflects the evolution of Allen Creek from its natural beginnings to its present urban structure. The Allen Creek corridor is characterized by a low topography that follows the course of the creek North to where it flows into the Huron River. The topography of the landscape then rises on both sides of the corridor at moderately steep slopes to both the west and east.

Positioned between the central business district of Ann Arbor and the west side neighborhoods, Allen Creek North functions as a transi-

tional area between the Old West Side and the Main Street commercial district. It is a natural thoroughway for area residents to be able to access downtown activities, events, and services. Similarly, the area supports a great diversity of uses and people, combining residential, commercial, and industrial uses to the local community.

1.2 Vision Statement

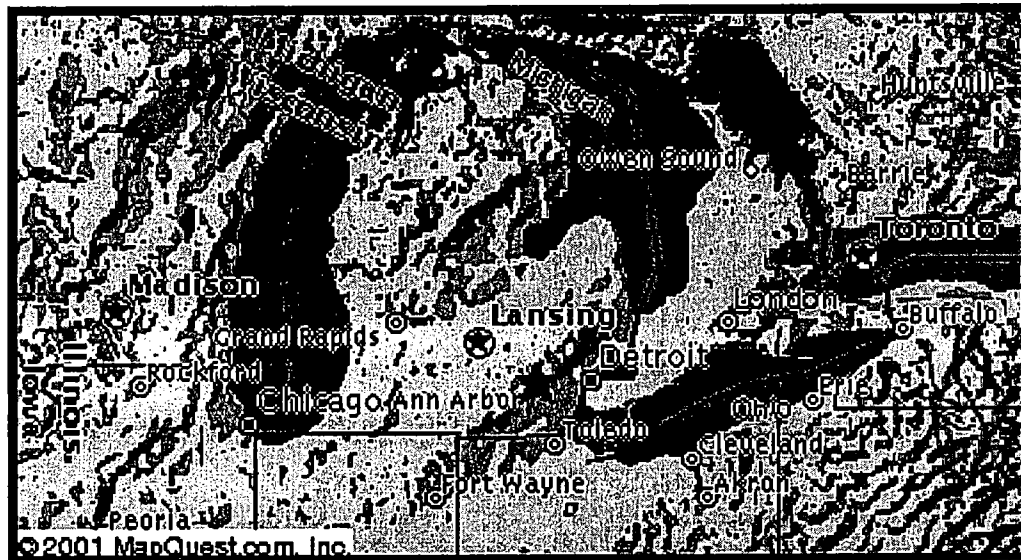
With regard for the present and historic role of Allen Creek North, the study group developed a vision of the area in the future of Ann Arbor. In this vision Allen Creek North continues to support the great diversity of uses throughout its boundaries while fostering both an appropriate balance and compatibility of development. Allen Creek North will integrate and maximize land uses within specific areas that are underutilized while evolving on a transitional scale. Allen Creek North will also provide strategic spaces, such as public parks and pedestrian corridors, that promote the positive integration of residential and commercial communities.

1.3 Organization of materials

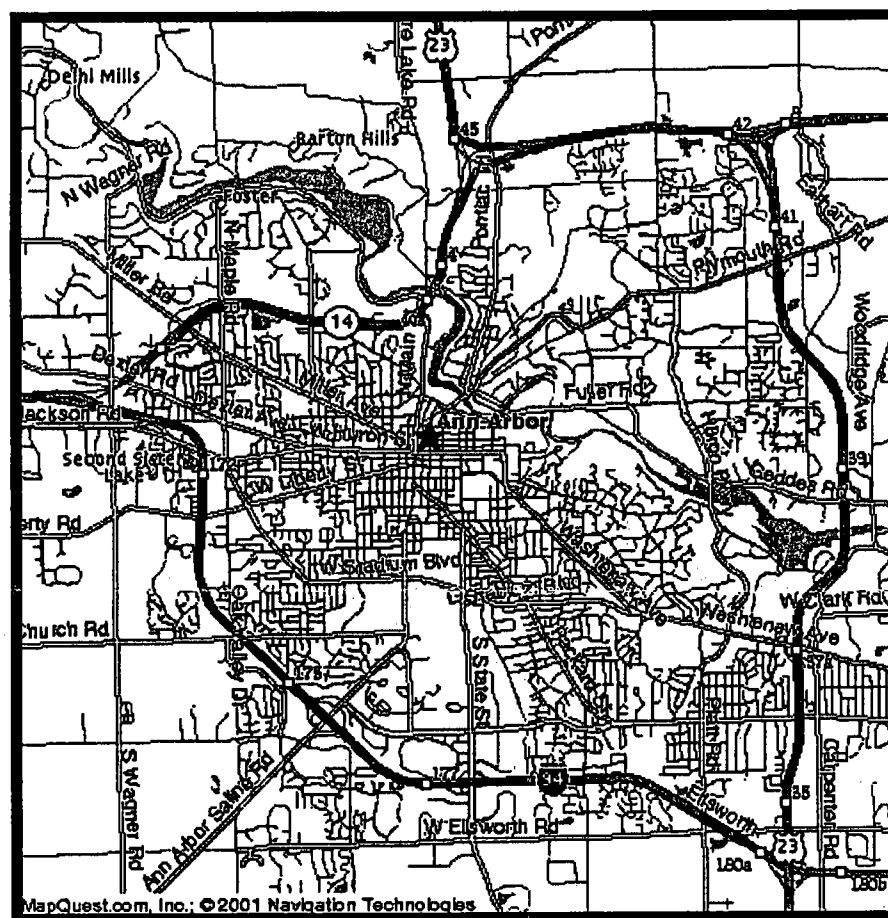
This is a plan that capitalizes on the strengths and assets of the Allen Creek North area while proposing direction for new development to improve it. The plan herein begins with a background overview of the Allen Creek North area to promote an understanding of the area's rich historic character and complex present condition. Based upon these present conditions, the plan defines the current problems that face the future of the area. Following a summary of the research analysis performed to study the project area in depth, a detailed set of goals and objectives are presented. These goals and objectives focus on the unique role the area has had and will continue to play in the Ann Arbor community. They highlight three significant issues to the



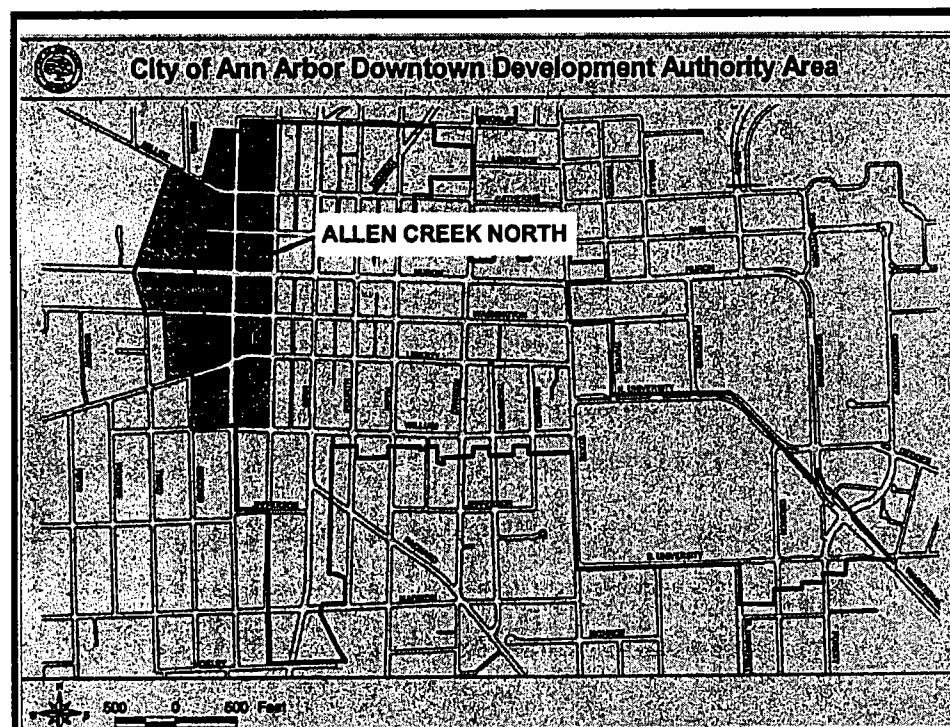
future success of the area, including land utilization, transportation, and area character. The accompanying list of recommendations and implementation strategies prescribe the tools to be used to achieve these goals and carry the proposed vision of Allen Creek North forward to reality. The plan finally ends with considerations for future issues that will continue to steer the planning course. For reference, we have included in the Appendix the list of persons interviewed, summaries of the case studies reviewed, and the list of documents consulted.



Ann Arbor in Southeast Michigan



City of Ann Arbor



Downtown Ann Arbor

Figure 1.1: Location of Study Area

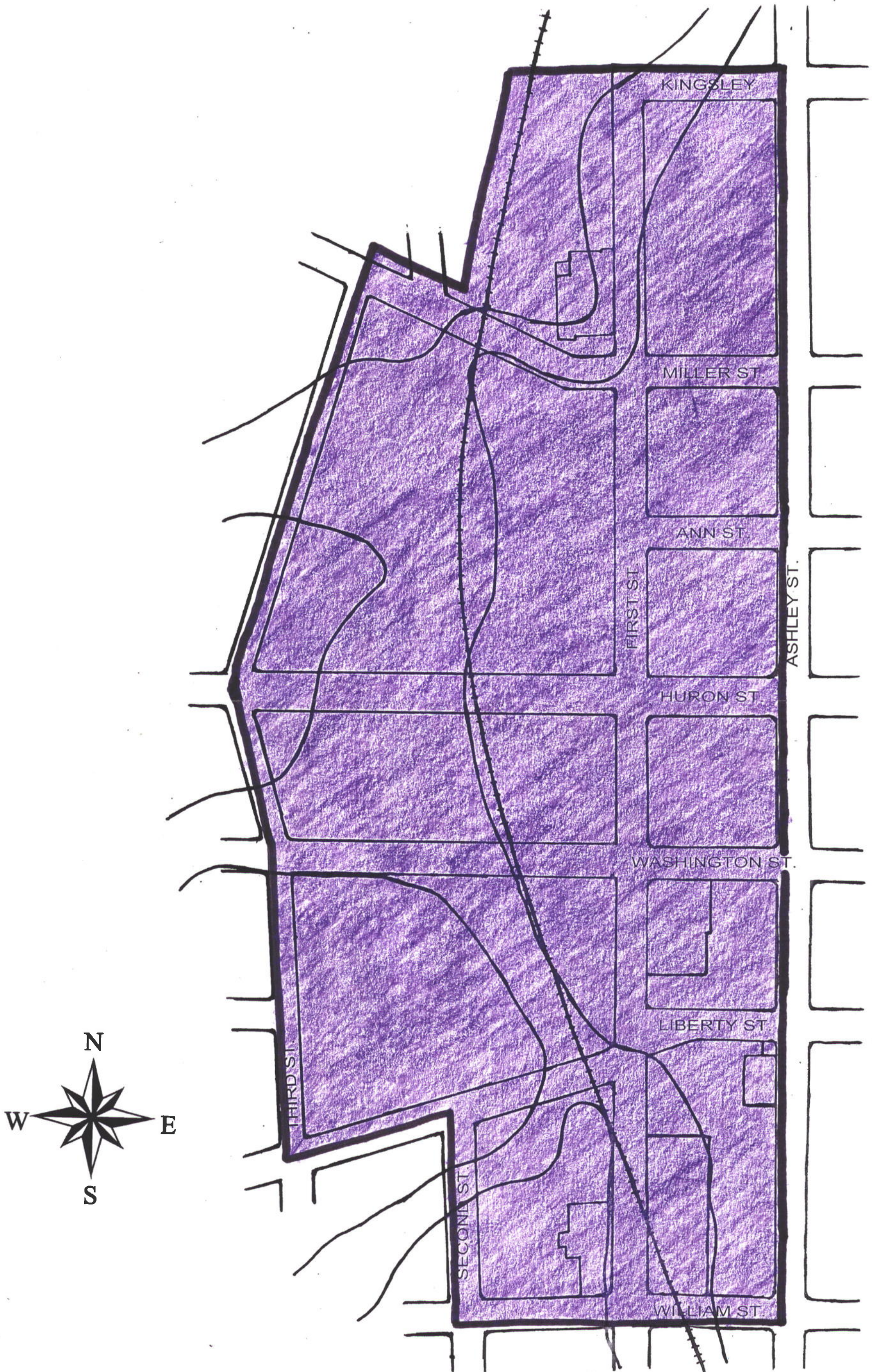
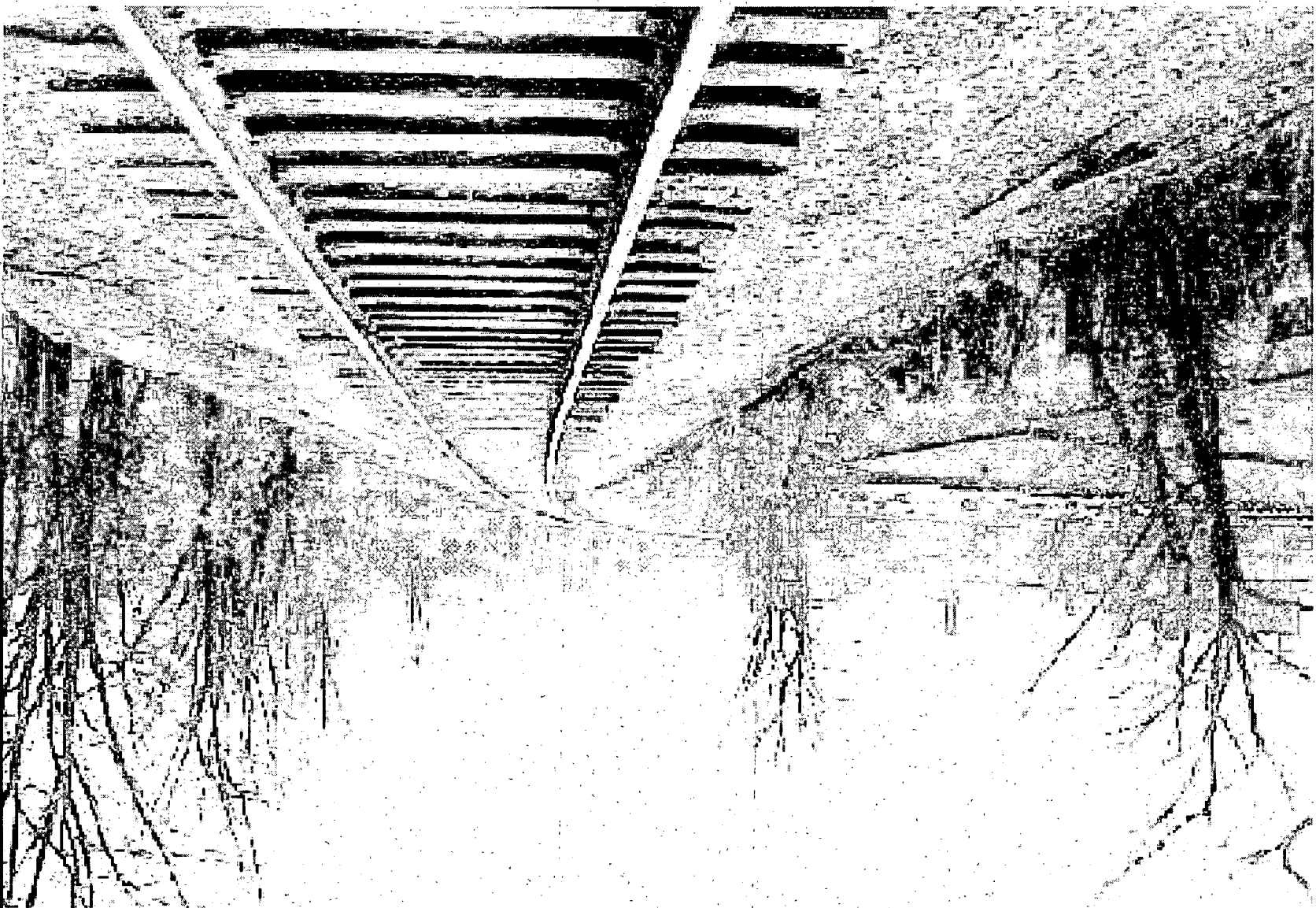


Figure 1.2: Allen Creek North Boundary



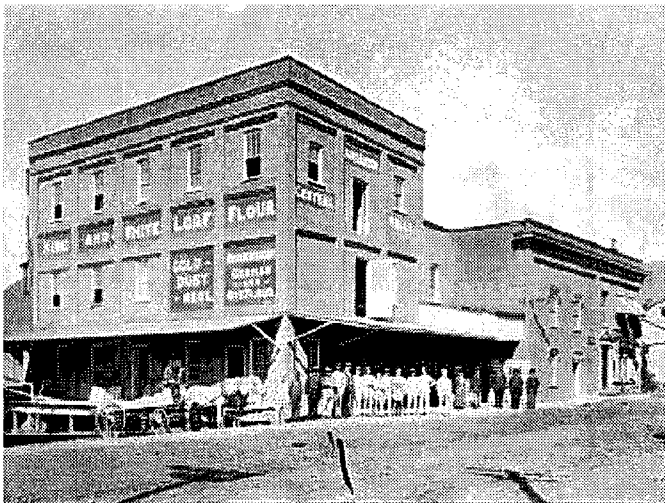
Background



2.1 Evolution of Allen Creek: Land Form Shaping Ann Arbor

At the time Ann Arbor was officially registered in May of 1824 Allen Creek was free flowing relatively undisturbed by human activity. This began to change however as interest in the Ann Arbor territory grew. Settlement patterns began to encroach along the lands proximal to Allen Creek and its tributaries because the creek provided residents easy access to water for drinking, cleaning and for dumping wastes. Residents of Ann Arbor used Allen Creek for many other uses as well. Allen Creek was used as the City's first known bathhouse, situated at Liberty and 1st Streets, the bathhouse was described as a white, octagonal building with a sharp spire in the middle with Victorian scrolls around the eaves (Grace Shackman). During the 1860-'s Ann Arbor resident took advantage of Allen Creek's low topography in creating a skating park near Miller and 1st by damming up Allen Creek and a couple of its tributaries.

Figure 2.1: Ann Arbor Central Mills on First Street looking northwest. Courtesy of the University of Michigan Bentley Library.



Industries also located their facilities next to Allen Creek to take advantage of its potential as a source of power, water and waste disposal. Water intensive industries such as tanneries, breweries, and mills were common all along Allen Creek. Figure 2.1 shows Ann Arbor Central Mills as it looked in 1902, situated between First Street (shown) and Allen Creek. This same building was once a brewery as well, using Allen Creek to cool its beer. This same building is still in use but now contains a variety of nightclubs. Industrial build up around Allen Creek was not only influenced by the creek but also by the railroad that was to be built along the creek.

Because of rising concern regarding the over-reliance on the University of Michigan's role as a source of economic prosperity the Ann Arbor Railroad was constructed in 1878 to diversify Ann Arbor's economic base by attracting more intensive industry. Taking advantage of Allen Creek's level topography, the railroad was built roughly paralleling the course of the creek. As a result of the railroad's presence, the Allen Creek corridor grew rapidly and emerged as a prime location for industrial production. But as industry became more mechanized through technological advancement and as rail transport faded in importance, Allen Creek's prominent role in Ann Arbor's economy similarly faded. Industry in Allen Creek North was abandoned leaving sites contaminated with heavy metals such as Arsenic and Lead, which presents a considerable obstacle to future development in this area.

As development progressed, however, impermeable surfaces began to increase in the Allen Creek valley and in the surrounding watershed. Rainfall that is normally absorbed by natural landscapes tends to "runoff" from impermeable surfaces such as rooftop, paved roads, and parking lots, and then collects into Allen Creek and its tributaries. This greatly increased the volume and velocity of water in the creek thus increasing the potential of flooding during heavy rains. In response to continued complaints about flooding from resi-



dents that resided within Allen Creek's floodplain, the city of Ann Arbor in 1926 embarked on a series of public service projects that would eventually enclose most of Allen Creek and its tributaries inside concrete culverts to protect residents from damaging floods.

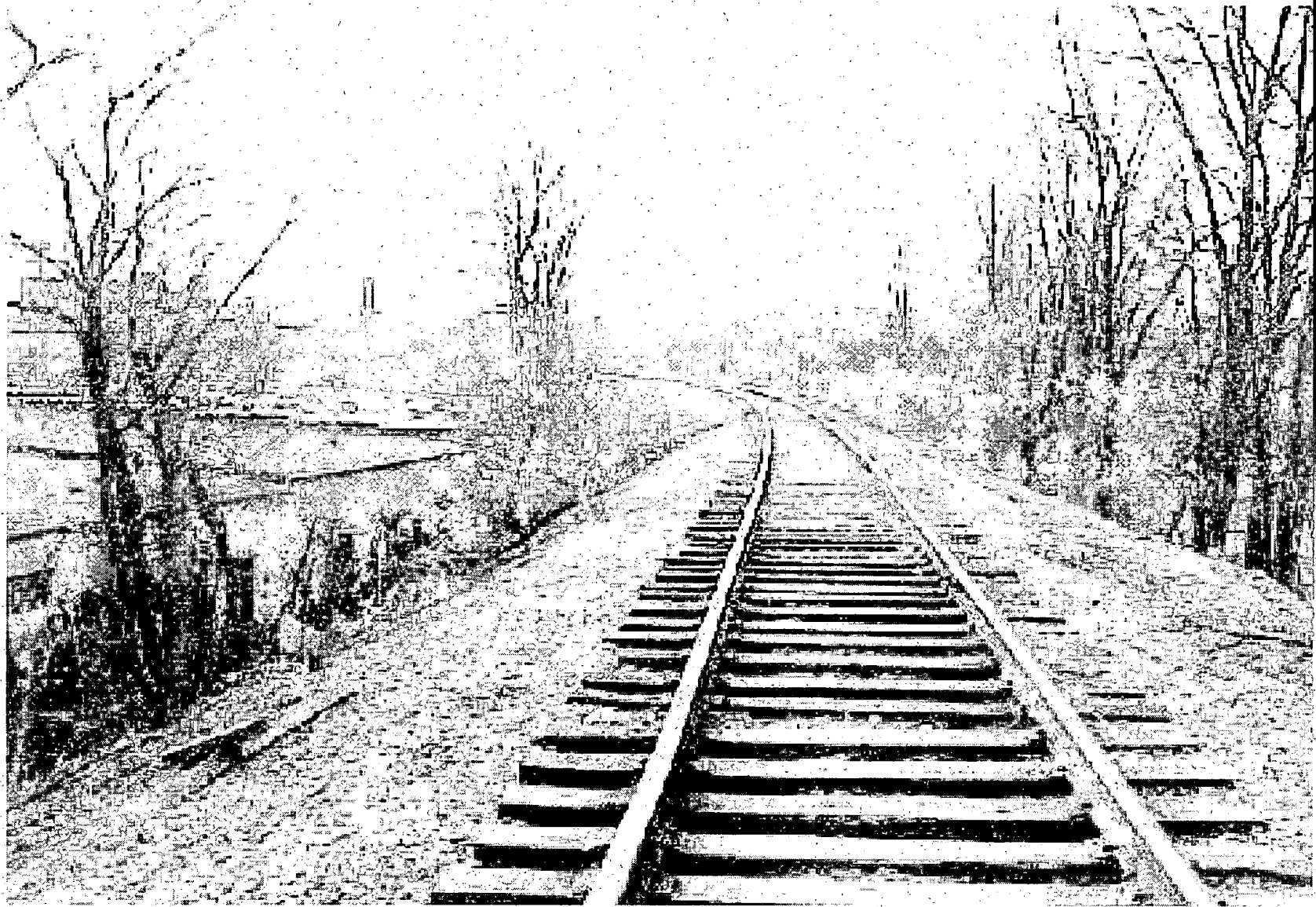
Since enclosing the creek, impermeable surfaces have continued to increase as the population of Ann Arbor grew. By 1995, 45.8% of the Allen Creek watershed, which lies entirely within Ann Arbor's city limits, was covered by impermeable surfaces. According to Schuler (1995), as every acre of natural meadow is converted to impermeable surfaces, the volume of water runoff is estimated to increase approximately 16 fold. The dangerous combination of increased volume and velocity of water has increased the potential of damaging floods for individuals that reside in the Allen Creek floodplain. Because the volumes and velocities of water runoff have increased so dramatically, current capacity of the Allen Creek drain is now inadequate and overburdened. Increased complaints by residents about flooded basements and objections to the regulations that restrict certain uses on property within the Allen Creek floodplain/floodway continue to intensify the debate over how Allen Creek North will evolve.

The Washtenaw County Drain Commission recently approved a storm water management code (Chapter 63) that requires landowners within Ann Arbor to improve storm water quality on site if any type of construction is performed. Methods of improving storm water quality include the construction of retention basins, or by reducing the overall impervious surfaces on the particular site. Although highly commendable in its goals, this ordinance has made any type of development within Allen Creek North even more difficult considering this area lies almost entirely within Allen Creek's floodplain and floodway where development is already restricted by multiple layers of governmental jurisdiction over floodplains and floodways. The Federal Emergency and Management Agency (FEMA), the Michigan Department of Environmental Quality (MDEQ), and the

Washtenaw County Drain Commission all retain some level of jurisdiction over the Allen Creek floodplain and floodway.

Even though Allen Creek North suffers from significant barriers to development there remains great potential to revitalize this once vibrant industrial corridor of Allen Creek North. Currently, the development in Allen Creek North is stagnant even while Ann Arbor experiences a boom in downtown construction. To keep pace and evolve with the adjacent downtown, Allen Creek North needs to find new and creative ways to foster development while respecting the environmental realities that shape this area's future.

Problem Statement





Section 3: Problem Statement

Allen Creek presents significant challenges to many activities. Even though it has been manipulated to flow in underground drains, it is still prone to flooding. The floodplain of Allen Creek covers a significant portion of the study area, and presents obstacles for development and the protection of existing structures. The issues and challenges that the Allen Creek North area faces are both specific to the area and fit into the larger concerns of Ann Arbor's Downtown Development Authority (DDA).

3.1 Issues

3.1.1 Land Utilization

The existing land uses in the Allen Creek North area underutilize the land available adjacent to the thriving Main Street area. The potential uses for the land are much greater than surface parking lots given that the city faces a deficit of affordable housing, open space, and other land demands. The Allen Creek North area contains some of the last remaining vacant property in the downtown. Therefore, it must be given careful consideration as to how it should be used.

Figure 3.1: Surface parking lots cover many properties within Allen Creek North.



3.1.2 Transportation

Allen Creek North is a natural throughway for area residents to access downtown activities, events, and services. Given the close proximity of the central business district to the west side neighborhoods there is potential for increased regular pedestrian and bicycle traffic through the area. However, as a result of the existing state of the Allen Creek North area, there is a significant lack of both linkages and infrastructure to provide safe, secure, and accessible pedestrian and bicycle travel. This need is evident in the condition of the sidewalks through the Allen Creek North

Figure 3.2: Different forms of transportation converge and present conflicts.



area, which are restricted by both rail and automobile oriented infrastructure. Additionally, the fragmented character of the landscape with disjointed buildings, inadequate lighting, and development at the automobile scale limits increased pedestrian use. The 1988 Ann Arbor Downtown Plan has supported the need for pedestrian scale development and non-motorized circulation throughout the downtown Ann Arbor area.

3.1.3 Character

The Allen Creek North area lacks a unifying identity, and is not well integrated into either the business community to the east or the residential neighborhoods west. The area does not fully embrace its potential role as an entrance corridor into the downtown. The overall impression the area gives is unwelcoming, noted by the abundance of surface parking lots, old industrial buildings, and the railroad. The transition from the Main Street area to the Old West Side residential area is broken up due to the quality and scale of the existing development. The 1988 Ann Arbor Downtown Plan indicated that these issues were priority concerns throughout the DDA, but these continue to be particularly relevant to the Allen Creek North area.

Figure 3.3: Huron is a transitional street from the west side neighborhoods into downtown, but is not welcoming.



3.2 Challenges

The Allen Creek North area requires unique understanding when considering both present and future land uses. The existing landform reflects the evolution of Allen Creek from its natural beginnings to its present urban structure. The Allen Creek valley is characterized by low topography. The land then rises on both sides of the corridor at a moderately steep slope to both the west and east. As Allen Creek area became urbanized, the flow of water in the creek channel was enclosed in an underground pipeline. Despite this manipulation of the creek system, the natural rhythms of the Allen Creek corridor have not changed. The creek still maintains its natural floodplain and buildings and storm drains within the area are often flooded during heavy rainfall.

The existence of an active floodway within Allen Creek North presents a distinct challenge to land use planning and development in the area. In general, construction may be permitted in the portions of the floodplain that are not directly in the floodway, provided local ordinance and building standards are met. New residential construction is specifically prohibited in the floodway. This challenge must shape a realistic vision for the future evolution of the Allen Creek North area.

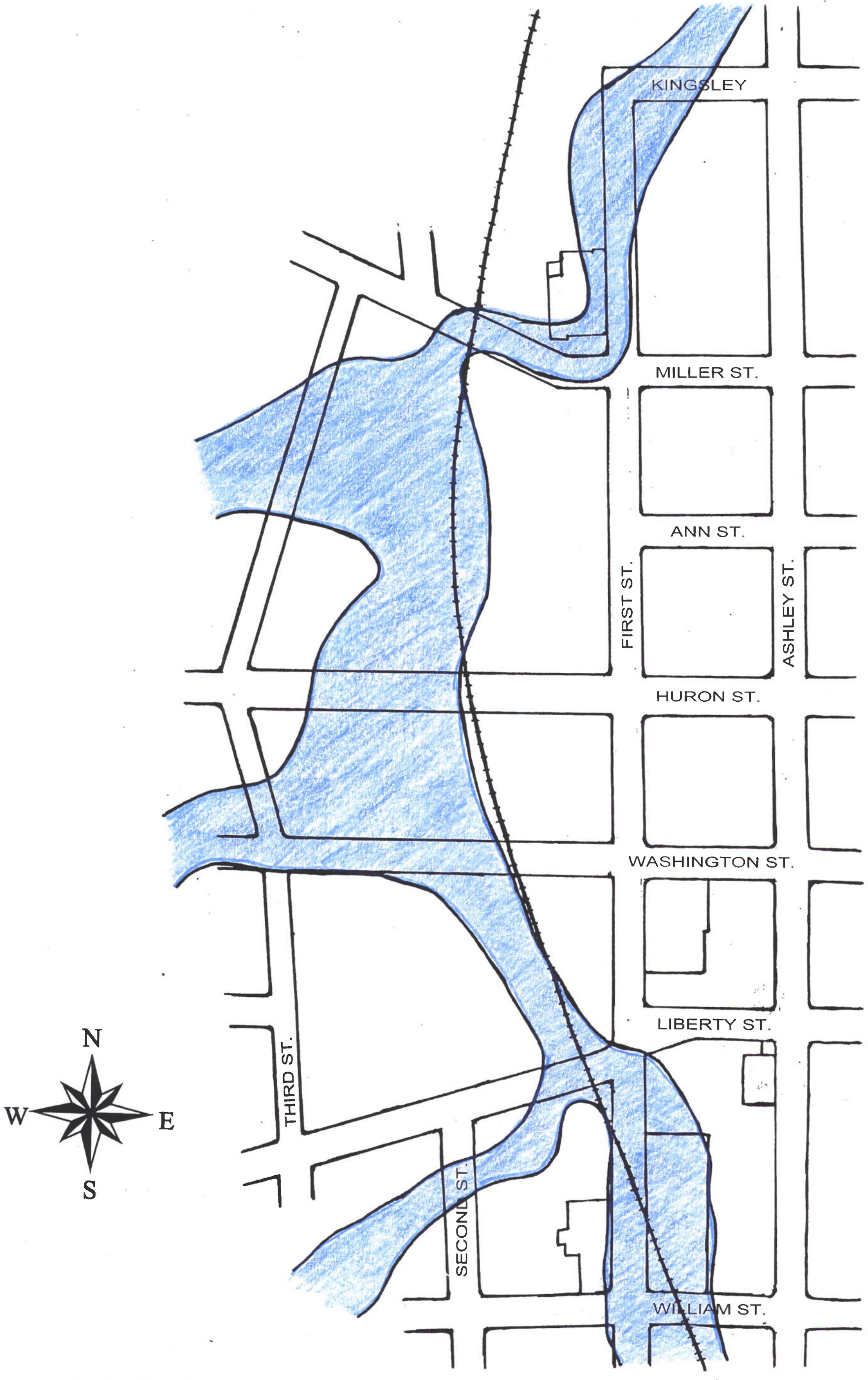
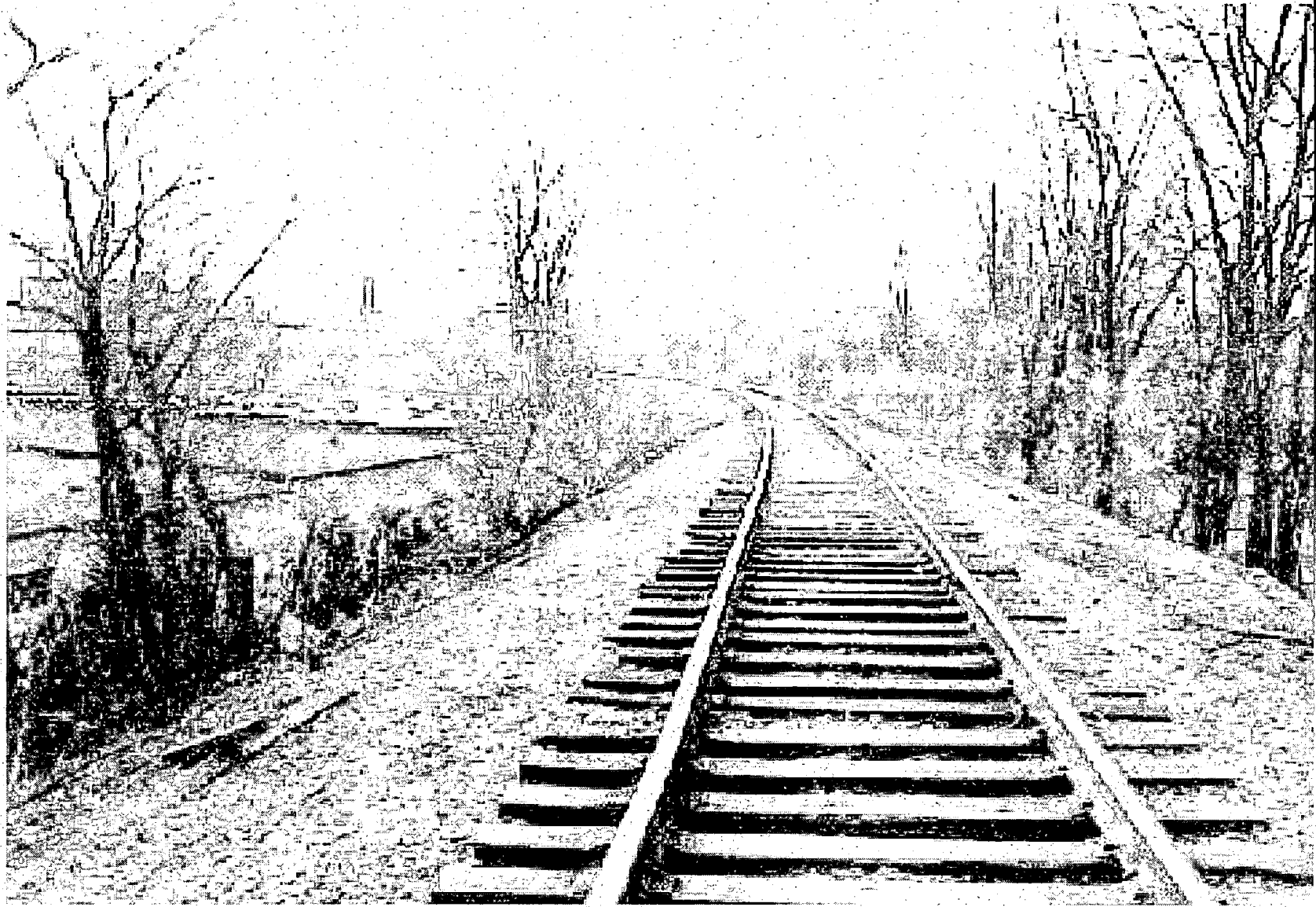


Figure 3.4: Allen Creek Floodway

Summary Analysis





In the interest of developing a plan that addresses the unique complexities of the Allen Creek North area, but was both innovative and feasible, the planning team established an extensive research and analysis strategy that required the use of many data sources.

4.1 Research Methodology

This process began with the identification of local stakeholders, community partners, and the public. These groups represented the incredible diversity of the study area in their representation of residents, business owners, prospective real-estate developers, and city officials.

In order to define the problems and issues of Allen Creek North, field studies were conducted to assess the current conditions of the area. Walk-through inventories were used to gain a greater understanding of the character and identity of the study area. Specifically, visual observations were performed to examine the state of existing buildings, infrastructure, land use and environmental concerns. This process enabled the identification of both significant issues and assets of Allen Creek North.

Based upon an initial problem definition determined through field studies, the planning team performed a review of existing documents and conducted interviews with the identified groups of stakeholders, partners, and public. This approach allowed the team to develop a sense of what the stakeholders felt were important issues and concerns, in addition to providing an overview of general perceptions of the study area as well as its political climate. The review of existing documents included an investigation of physical plans, market based studies, and public surveys previously conducted on Allen Creek North. From this phase of the analysis, the team was able to evaluate the initial problem definition and formulate an appropriate set of goals and objectives.

Following the establishment of project specific goals and objectives, an intense phase of research and analysis was enacted. This phase focused on the comprehensive inventory of published material regarding Allen Creek North in terms of its current and past physical, social, political, and environmental condition. Assimilating data from diverse sources of information enable the planning team to identify key opportunities and constraints of the area. Occurring concurrently were the collection of data and the review of problem specific documents. The collection of data in relation to Allen Creek North was critical to fully understanding the past, present and potential dynamics associated with the area. Data was derived primarily through the use of prior studies by the City of Ann Arbor, private research, newspaper articles, and personal interviews. Additionally, case studies that possessed characteristics similar to Allen Creek North were reviewed.

Based upon the opportunities and constraints revealed in the research and analysis, preliminary recommendations were drafted. These recommendations were reviewed for feasibility through a process of both targeted interviews and a public participation forum. In the public forum, preliminary recommendations were presented to an open group of the local Ann Arbor community to reveal potential problems and to resolve conflicting recommendations. During the forum, citizens were encouraged to critique the conclusions, voice opposition, and to suggest possible alternatives. Suggestions and comments from the public were compiled for use in revising the final recommendations.

4.2 Data Sources

The project specific data used during the research and analysis phases of the research methods was obtained from a variety of sources. An extensive compilation of data was necessary to address the array of issues for the study area, including floodplain develop-



ment, storm water management, and urban creek design. A complete listing of all data sources, along with case study summaries, is located in the Appendix. The existing documents that addressed the specific issues and concerns of Allen Creek North included:

- DDA, Ann Arbor Downtown Plan, 1988
- Rules of the Washtenaw County Drain Commissioner: Procedures and Design Criteria for Storm Water Management Systems
- City of Ann Arbor, 2000-2005 Parks and Recreation Open Space Plan
- City of Ann Arbor, Central Area Plan, 1992
- DDA, Master Plan for Pedestrian Improvements, 1988

Additionally, periodical literature, including local newspaper articles were referenced to gain a clearer understanding of the local social and political atmosphere related to the issues facing the Allen Creek North area. During the periodical literature review, current proposals for development within the Allen Creek North area were noted.

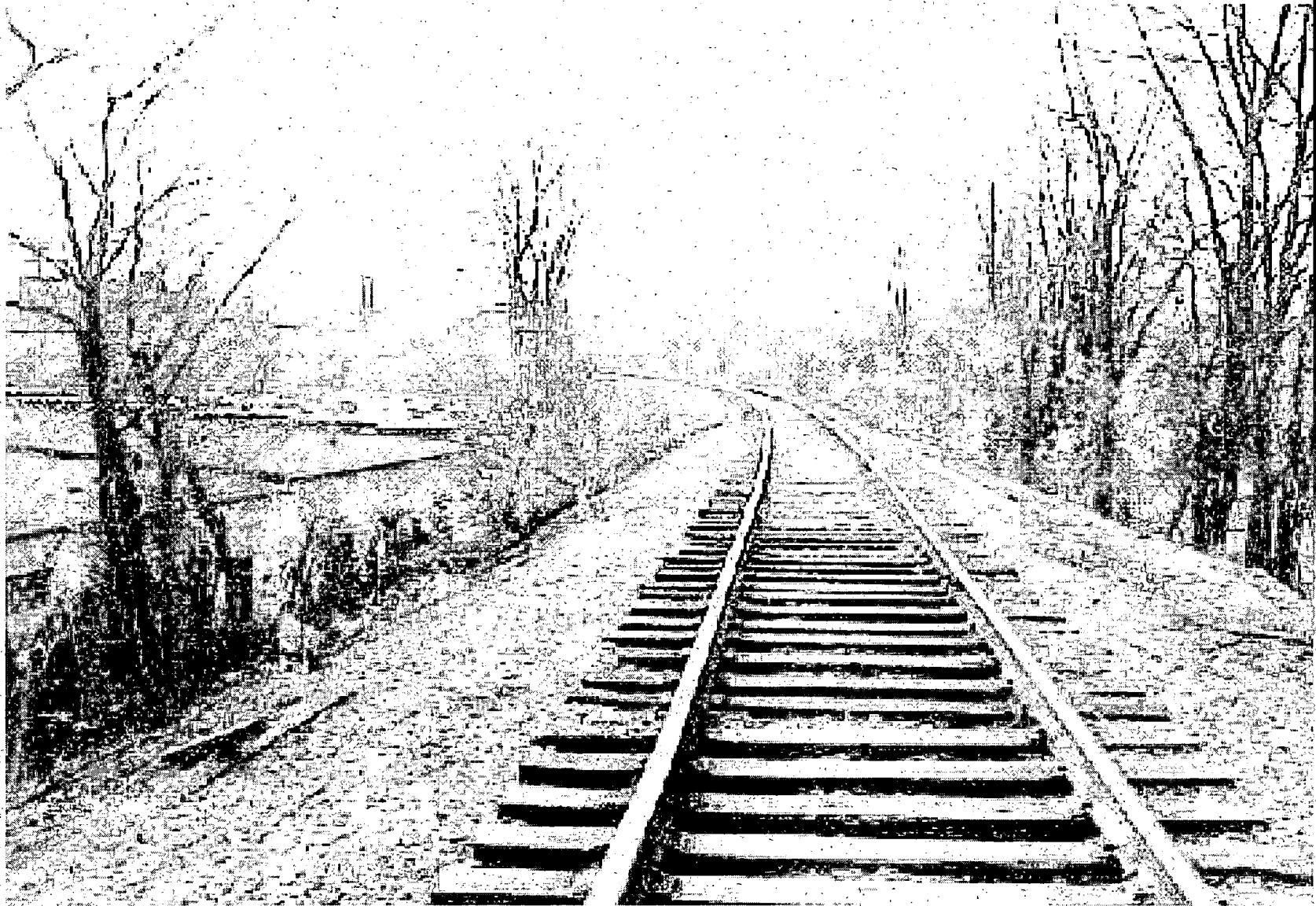
These proposals were then investigated further through personal interviews with direct contacts for each of these projects. The most significant proposals, as shown in Figure 4.1, include:

- The Ann Arbor YMCA
- The Ann Arbor Homeless Shelter
- First Street and Washington Street Parking Structure

In the development of feasible recommendations for the issues involved in Allen Creek North, case studies of both local and out of state projects were investigated. With respect to the demands of floodway development and storm water management, the primary focus of the case studies used involved urban creek systems. These case studies included:

- The Don River, Toronto, Canada
- Arcadi Creek, Kalamazoo, Michigan
- City of Arnold, Missouri

Goals & Objectives





The Allen Creek North area is envisioned to be a transitional zone that blends the residential communities to the west with the downtown Central Business District to the east. The area will continue to support the diversity of uses that currently exist, while promoting the realization of its development potential. Allen Creek North can fulfill many of the land use demands of the downtown and in the process develop its own unique character. The following goals and objectives were developed in response to the identified issues of land utilization, transportation and character.

5.1 Land Utilization

The existence of an active floodway within Allen Creek North presents a distinct challenge to land use planning in the area. Development is subject to various restrictions based upon the location of the site in relationship to the floodway while certain forms of construction are specifically prohibited altogether. This challenge must shape a realistic vision for the future evolution of the Allen Creek North area.

5.1.1 Goal: Match land-uses with appropriate zones within the Allen Creek North corridor to promote diversity and activity.

- 5.1.1.1 Objective:** Target land development densities in accordance with existing and desired land-uses as well as site character.
- 5.1.1.2 Objective:** Allow for public and park areas within the corridor to adequately balance open space with development and to control flooding.
- 5.1.1.3 Objective:** Establish multi-use areas that afford opportunities for various forms of compatible developments.

5.1.2 Goal 2: Maximize the land-use potential within Allen Creek North area in order to take advantage of the proximity to the Central Business District.

The existing land uses in the Allen Creek area underutilize the land available adjacent to the thriving Main Street area. The potential uses for the land are much greater than surface parking lots given that the city faces a deficit of affordable housing, open space, and other land uses. The Allen Creek area contains some of the last remaining vacant property in the downtown.

- 5.1.2.1 Objective:** Explore creative developments within flood-prone areas.
- 5.1.2.2 Objective:** Encourage new development throughout the Allen Creek North corridor.

5.2 Transportation

The Allen Creek North area acts as both a throughway to various destinations in the city and as a destination in itself. Traffic patterns and speeds for these uses are often different and may sometimes conflict if not carefully planned for.

5.2.1 Goal: Improve non-motorized transportation options for better access from residential areas to downtown destinations.

- 5.2.1.1 Objective:** Improve existing pedestrian walkways in areas to draw pedestrian traffic.
- 5.2.1.2 Objective:** Clarify pedestrian routes through physical design of streetscape



Allen Creek North is a natural throughway for area residents to access downtown activities, events, and services. Given the close proximity of the central business district to the west side neighborhoods, it would seem obvious that there would be regular pedestrian and bicycle traffic through the area. However, there is a significant lack of both connectivity and infrastructure to provide safe, secure, and accessible pedestrian and bicycle travel.

5.2.1.3 Objective: Create bicycle routes that run through the area and connect with other areas of the city.

5.2.1.4 Objective: Establish a safe atmosphere along routes for pedestrians and bicyclists.

5.2.2 Goal: *Improve and expand parking facilities in the Allen Creek North area.*

As the city continues to grow there is an increasing demand for parking in downtown Ann Arbor. This need must compete with the other uses for valuable city land. For maximum benefit to the city, all land must be carefully and efficiently utilized.

5.2.2.1 Objective: Eliminate surface parking that utilizes land inefficiently.

5.2.2.2 Objective: Provide additional on-street parking where possible.

5.2.2.3 Objective: Encourage underground and surface parking development options wherever feasible.

5.3 Character

The Allen Creek North area lacks a unifying identity, and is not well integrated into either of the communities to the east and west. The area does not fully embrace its potential role as an entrance corridor into the downtown. The overall impression the area gives is unwelcoming, noted by the abundance of surface parking lots, old industrial buildings, and the railroad. The transition from the Main Street area to the Old West Side residential area is broken up due to the quality and scale of the existing development.

5.3.1 Goal: *Enhance the character of Allen Creek North to establish this area as an attractive and unique urban form that contributes to the livability of downtown.*

5.3.1.1 Objective: Establish a unique identity by encouraging preservation and renovation of historic sites and buildings.

5.3.1.2 Objective: Encourage continued support of buildings and locales that possess distinguishing attributes that contribute to the diversity of Ann Arbor.

5.3.2 Goal: *Improve the visibility and quality of Allen Creek North's appeal to stimulate continued investment in the area.*

5.3.2.1 Objective: Establish urban design guidelines to direct new development and renovations in a coherent manner.

5.3.2.2 Objective: Preserve a downtown's western neighborhood edges by promoting designs that reflects incremental transitions in scale and character and are

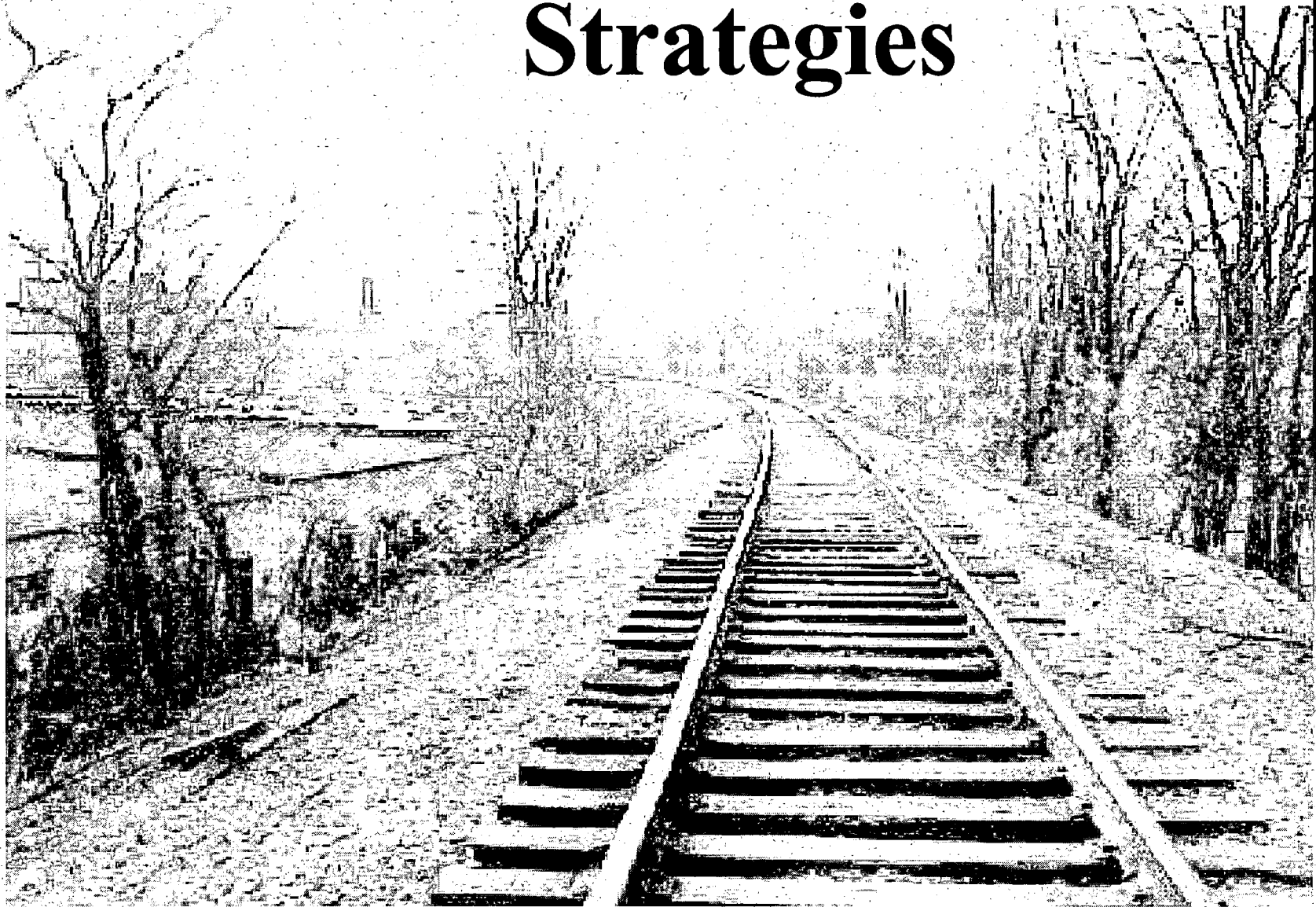
Section 5: Goals & Objectives



sensitive to the context of the area.

- 5.3.2.3** **Objective:** Provide incentives to ensure maintenance of existing structures, re-investment in troubled areas and renovation of deteriorating structures.

Implementation Strategies





Section 6 defines the specific recommendations that address the issues of Land Utilization, Transportation, and Character that were identified in the Problem Statement (Section 4) and further explored in the Goals and Objectives (Section 5). Recommendations that address each goal are listed. Feasibility is discussed immediately following each recommendation, followed by a specified implementing agency, time frame and cost estimates.

The Allen Creek North area was divided into four regions, defined as Districts A, B, C, and D (please see Figure 6.1 for orientation). This approach allowed for greater focus on the issues specific to particular areas and in specifying recommendations.

6.1 Land Utilization

As mentioned previously, the Allen Creek North area suffers from the underutilization of land. Located adjacent to the popular downtown Main Street area, Allen Creek should benefit from the activity of visitors to that area. However, both a lack of destinations to draw people into the area and stretches of parking lots acting as barriers prevent this from happening. This section will address strategies for correcting these problems, including creating a greenway corridor for recreation and transportation, increasing densities, and allowing a mixture of land uses. A new position will be created to promote the development of problematic areas.

6.1.1 Goal 1: Match land-uses with appropriate sites within the Allen Creek North corridor to promote diversity and activity.

6.1.1.1 Recommendation: A Greenway Overlay Zone will be created along the Allen Creek drain easement.

The Greenway Overlay Zone will occupy the drain easement, within which development is prohibited by current Drain Commission regulations (see Figure 6.2). The Overlay Zone provides a means of acquiring land to be used as a public bike and walkway in the future. Incentives will be provided to property owners for dedication of a public access easement.

The purpose of the easement is to allow the Drain Commission to perform necessary repairs to the drain without disturbing or being hindered by structures. Within this easement new construction and modification of existing structures is prohibited. Because the Greenway will be primarily within this easement, it will not place further restrictions on the property. The Overlay Zone will provide incentives for the property owner to either sell the land to the City for the creation of the Greenway corridor or grant a public access easement while maintaining ownership of the property.

The presence of a Greenway will reduce the impervious surfaces along the Creek, which will help to absorb excess stormwater, thus reducing the damage incurred during storm events. The Greenway will provide a north-south linkage on the western edge of downtown for public recreation and transportation uses. The Greenway will connect to West Park through the residential neighborhood on Chapin Street, and to the Argo Park bike trail to the north on the Huron River. To the South, the Greenway corridor will extend beyond the Allen Creek North boundaries through town.



Implementing Agencies:

Although the Department of Parks and Recreation will be the lead agency on this project, the cooperation of other agencies is required. The Department of Parks and Recreation will include the Greenway in their updated plan to acquire title or access easements to the property. Land/easement acquisition will be done by the Department of Parks and Recreation, who will also maintain the area. The Department will appoint a Task Force to explore the feasibility of constructing the bike path, ideally over the existing railroad tracks should they at some point be decommissioned. If deemed feasible, the Drain Commission, which controls the 60-66 foot easement on either side of the buried drain, will allow the bike path to be constructed in the easement with the understanding that could be temporarily removed if necessary for drain repairs. Creation of Overlay Zone will be implemented by the Planning Commission to be included in the Zoning Ordinance.

Time frame:

- Creation of Overlay Zone: 1-3 years.
- Land/easement acquisition: 10-15 years.
- Bike path: feasibility dependent.

Costs:

A Greenway Task Force will be formed immediately to explore possible funding sources, including Federal, State and Local programs, private agencies, and tax assessments. The Task Force will also explore the feasibility of constructing a bikeway through the Greenway in the future. The costs involved are land acquisition, construction of the bikeway, including lighting and tree planting, and maintenance.

6.1.1.2

Recommendation: District A, the northwest corner of Allen Creek North, will retain its residential orientation, while expanding the available parkland by connecting West Park with the Greenway Corridor (see Recommendation 6.1.1.1) in the floodway that covers most of this area.

Except for the new Greenway Overlay Zone, the zoning of this district will not be changed. Currently, there are many residential units along the east side of Chapin Street that lie within the floodway, but the zoning is a mixture of Limited Industrial (M1), Limited Light Industrial (M1A), and Fringe Commercial (C3). (See Table 6.1) The existing structures are not permitted to be modified without being brought up to current regulation standards, including permitted uses. Since the floodway restrictions do not allow residential uses, these would no longer be permitted if these structures needed repairs or modifications.

Implementing Agency:

Rezoning of districts will be implemented by the Planning Commission in the Zoning Ordinance.

Time frame: 1-3 years

Costs: Staff time involved with zoning changes.

6.1.1.3

Recommendation: District B, the Northeast section, zoning will be changed from a mixture of C2B/R and C2B to C2B/R throughout.

Area A
No Zoning Change

Area B
C2B/R
(FAR 300%-600%)

Area C
C2A
(FAR 400%-600%)

Area D
C1/B

Current Zoning

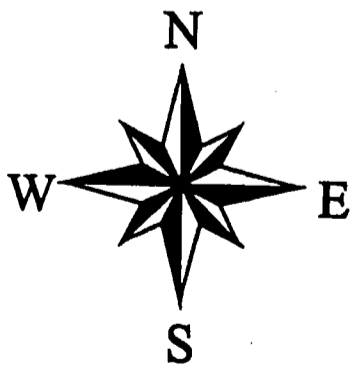
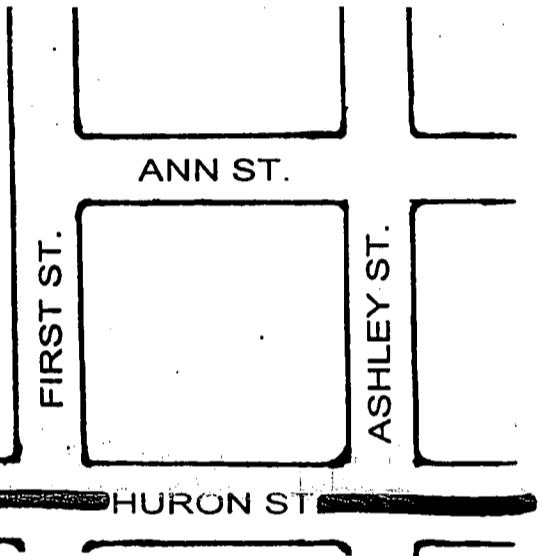
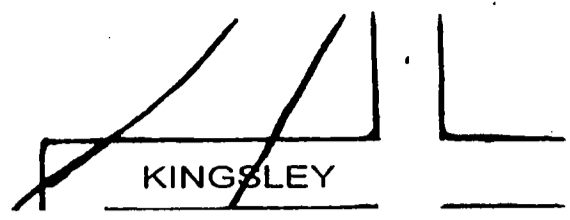
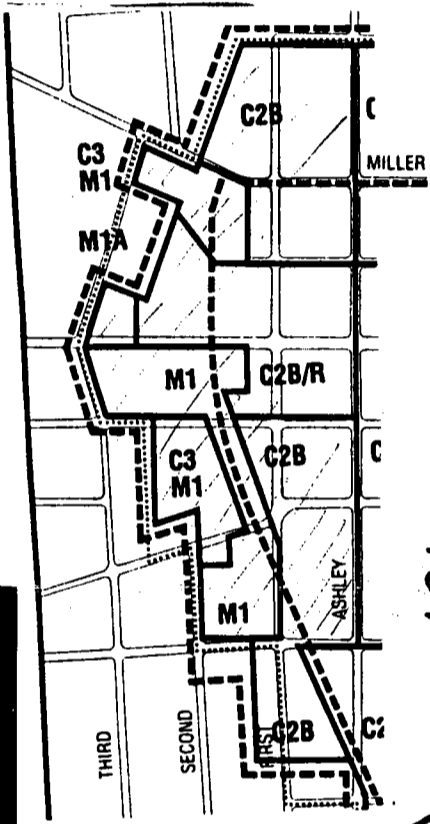


Figure 6.1: Districts/Zoning Changes



Figure 6.2: Greenway Overlay Zone



Table 6.1: Selected Zoning Classifications that Apply to Allen Creek North

District	District Name	Principle Uses
C1B	Community Convenience Center	Uses that serve the needs of the surrounding community: retail sales and service establishments, providing for day-to-day needs, food, restaurants, etc.
C2A	Central Business	Uses that serve the central retail marketing area of Ann Arbor: hotels, retail businesses, enclosed theatres, radio and television studios, charitable institutions, business and personal services, uses permitted in "R" districts. FAR 400-600% (with premiums).
C2B	Business Service	All C2A uses, retail sales, drive-ins, automobile storage/repair, offices. FAR 200%. Maximum height 35'.
C2B/R	Business Service/Residential	Encourage the orderly clustering and placement of family-oriented high-density residential and commercial development within the Business Service District. Uses include those permitted in C2B and R3 districts. FAR 300-600% (with premiums).
C3	Fringe Commercial	Vehicle-oriented uses.
R3	Townhouse Dwelling	Townhouses, Two-family dwellings, Single-family dwellings, childcare centers and nursery schools, schools, libraries. Maximum density: 10 units per acre.
R4A	Multiple-Family Dwelling	Multi-family dwellings, convalescent and nursing homes, hospitals. Maximum density: 10 units per acre.
M1	Limited Industrial	Offices, research facilities, trade, transportation, laundry facilities, manufacturing plants and automobile repair.
M1A	Limited Light Industrial	M1 uses, and general sales, automobile rental.

District B will be predominately a mix of office buildings and multi-family residential units. Higher densities will be encouraged to reflect its proximity to downtown Ann Arbor, without height restrictions.

Time frame: 1-3 years.

Costs: Staff time involved with zoning changes.

Implementing Agency:

Rezoning of districts will be implemented by the Planning Commission in the Zoning Ordinance.

6.1.1.4

Recommendation: In District C, the Southeast section, the zoning will be changed to C2A (Central Business) to expand the core business district and extend the densities and mixture of downtown uses



to the west (see Table 6.1 for zoning classification definitions).

This change reflects the desire for higher densities, expanded retail sales, business services and housing opportunities and increased activity throughout the Allen Creek North area. Land uses consistent with the adjacent Central Business District will be zoned. A mixture of uses will need to be accommodated and parking options will be provided.

Implementing Agency:

Rezoning of districts will be implemented by the Planning Commission.

Time frame: 1-3 years.

Costs: Staff time involved with zoning changes.

6.1.1.5 Recommendation: In Area D, the Southwest section, zoning will be changed to C1B (Community Convenience Center) to address the need for community-oriented retail and service businesses (See Table 6.1 for zoning classification definitions).

Area D will act as a transitional zone from the residential areas to the downtown. This will be reflected in its moderate density and land uses, such as multi-family residential and businesses that provide goods and services to the residential community (neighborhood grocery store, YMCA, non-profit organizations, etc.). This classification also allows residential uses as permitted in the R3 district, which includes townhouses, at a maximum density of 10 units

per acres. Although most of the area lies within the floodway, there are some parcels that will be able to be developed with residential uses. Existing industrial uses will remain as conditional uses, but may eventually shift to lower intensity office, retail and service uses.

Implementing Agency:

Rezoning of districts will be implemented by the Planning Commission.

Time frame: 1-3 years.

Costs: Staff time involved with zoning changes.

6.1.2 Goal: Maximize the land-use potential within the Allen Creek North area to take advantage of the proximity to the Central Business District.

6.1.2.1 Recommendation: Appoint a Floodplain & Brownfield Manager to provide assistance to developers interested in developing floodplain and contaminated properties in order to support development in difficult areas throughout the city.

The proximity to the downtown makes the properties on the western side of the railroad tracks valuable for redevelopment, but the constraints imposed by the floodplain and possible contamination reduces the appeal for developers to go through the various processes required. This new position will help to streamline the process to attract developers. The Manager will be responsible for the coordination of site as-



assessment, development modeling, approval processes,



Source: www.dpz.com

Figure 6.3: Conceptual drawing of preferred development type.

communication with relevant agencies, and clarifications of regulations, while representing the interests of the City. Properties within the floodplain are often the ones that are potentially contaminated since industries tended to locate along the banks of rivers and streams. Not allowing development to occur in these areas can lead to a lack of maintenance, vacant and abandoned properties, and a deterioration of the surrounding community.

The YMCA project (see Figure 6.4) proposed for the current location of the Technology Center (bounded by Huron, Third and Washington Streets) is an example of a development that can overcome the challenges of difficult floodplain and contamination conditions. Although 94% of the property is within the floodway and 95% is in the floodplain, the YMCA designers were able to design a building that will actually reduce current floodplain levels. The current buildings on the property act as a barrier to flood wa-

ters and the massing requires the water to be displaced to higher ground. The design for the new building includes a ground floor parking level that will allow floodwaters to flow under the main facilities of the building rather than acting as a barrier. Nearly half of the site will be left open as a park. In addition, a site assessment revealed that there are problems with lead, arsenic, and chromium on the property, but these will be able to be contained on site without the expense of removing the soil. The YMCA project shows that development can improve flood conditions up- and down-stream and the redevelopment of contaminated sites can improve an area.

Implementing Agency:

New position created under the Building Department, Department of Environmental and Infrastruc-

Figure 6.4: Proposed YMCA site plan. Building fronts on Washington Street. (Courtesy of SmithGroup JJR).





ture Services.

Time Frame: 1-5 years.

Cost: Salary for qualified individual will be \$35,000 – 50,000 per year.

6.2 Transportation

Transportation routes throughout the Allen Creek North area are predominantly geared toward automobile traffic. While some streets, like Huron, will be maintained as a vehicle throughway, the streetscapes of Ashley, First, Washington and Liberty Streets will be designed to reflect their nature as local traffic routes and pedestrian-oriented streets. Streetscape improvements, non-motorized transportation amenities, and traffic calming strategies will be addressed.

6.2.1 Goal: Improve non-motorized transportation options for better access from residential areas to downtown destinations.

6.2.1.1 Recommendation 1: Construct, widen or improve continuous sidewalks along both sides of First, Miller, Washington, and Liberty Streets—maintaining consistent widths throughout the DDA boundary.

Figure 6.5: Map showing main pedestrian routes.

Sidewalks and walkways separate pedestrians from the roadway and provide places for people to walk, run, skate, ride bikes, and play. Sidewalks are associated with significant reductions in pedestrian collisions with motor vehicles. Such facilities also improve mobility for pedestrians.

A minimum width of 5 feet for a sidewalk or walkway allows two people to pass comfortably or to walk side by side. Wider sidewalks should be installed in downtown areas or anywhere high concen-

Table 6.2: Estimated costs of sidewalk improvements.

Item	Cost
Removing old curb, sidewalks, bricks	\$5.00/ lineal foot @ 5280 feet
Concrete curbs	\$15.00/ lineal foot @ 5280 feet
Concrete pavers	\$23.00/lineal foot @ 5280 feet
Estimated Total	\$467,000

trations of pedestrians exist. Careful planning of sidewalks and walkways is important for a neighborhood or area to provide adequate safety and mobility. Sidewalks should be continuous along both sides of a street and sidewalks should be fully accessible to pedestrians in wheelchairs.

Implementing Agency:

DDA will perform the necessary improvements.

Time Frame: 1-5 years.

Costs and Funding: TEA-21 Programs can be explored for funding.

6.2.1.2 Recommendation 2: Install pedestrian oriented street lighting along Miller, Washington, and Liberty Streets.

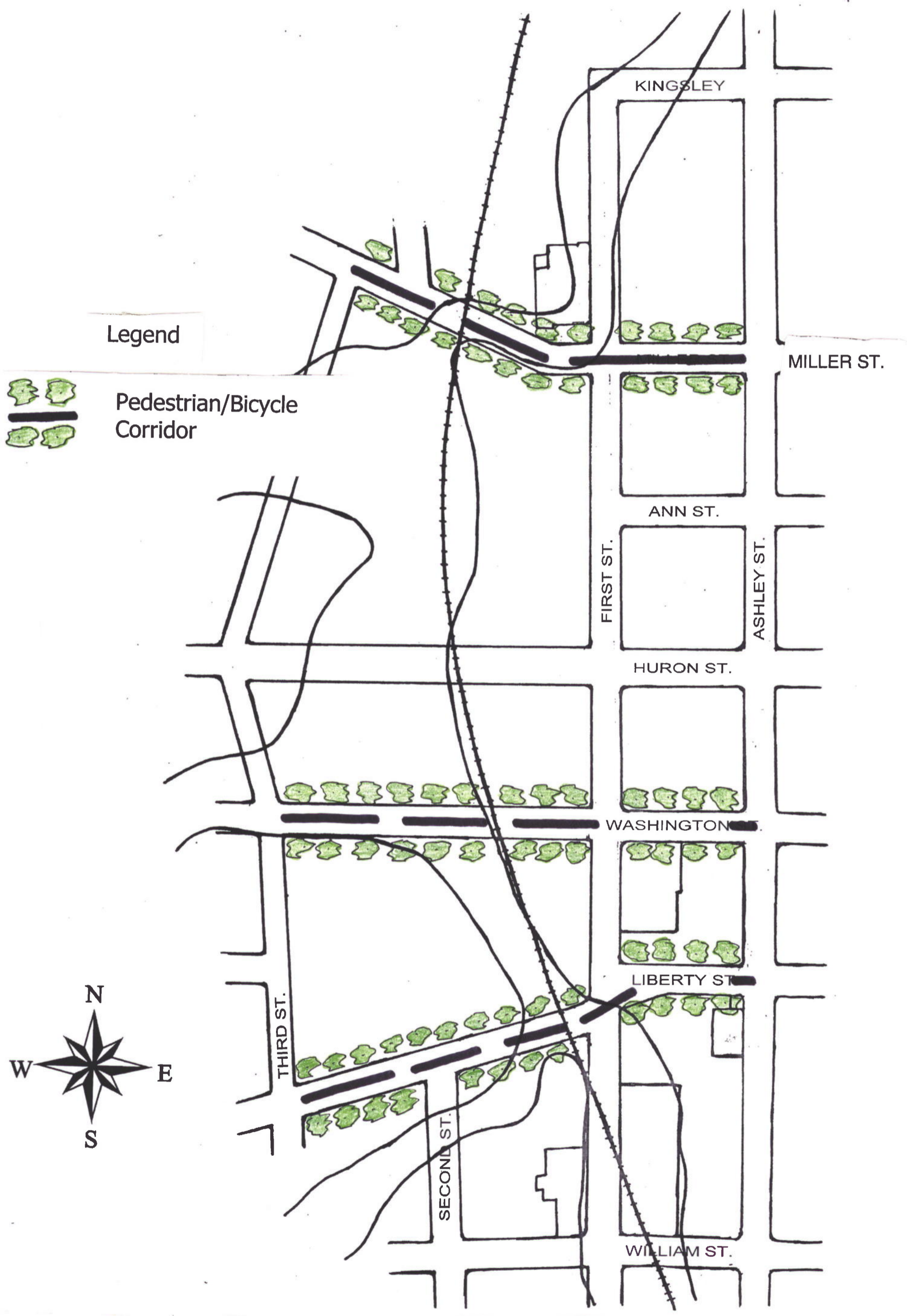


Figure 6.5: Pedestrian/Bicycle Corridors

Section 6: Implementation Strategies



Figure 6.5: Pedestrian streetscape. Source: Pedestrian Improvement Plan, Pollack Designs.



Good quality and placement of lighting can enhance an environment as well as increase comfort and safety. In commercial areas with nighttime pedestrian activity, streetlights and building lights can enhance the ambiance of the area and the visibility of pedestrians by motorists. It is best to place street lighting along both sides of arterial streets and to provide a consistent level of lighting along a roadway. Night-time pedestrian crossing areas may be supplemented with brighter or additional lighting. In commercial areas or in downtown areas, specialty pedestrian level lighting may be placed over the sidewalks to improve pedestrian comfort, security and safety. (www.walkinginfo.org)

Implementing Agency:

DDA will perform the necessary improvements.

Time Frame: 1-5 years.

Costs & Funding: TEA-21 program. See Table 6.3 for estimated costs.

6.2.1.3 Recommendation 3: Plant trees on sidewalks to provide pedestrian amenity and buffer to streets along

Table 6.3: Estimated costs of lighting improvements.

Item	Cost
Single globe light fixture with pole	\$3,500 each @ 20 fixtures
Post top fixture	\$5,500 each @ 10 fixtures
Electric power distribution	\$72,500/ block @ 6 blocks
Estimated Total	\$560,000

Miller, Washington, and Liberty Streets.

Street trees serve several functions in the streetscape. They act as a buffer between people on the sidewalk and cars on the road to provide a sense of safety. They shade the street, keeping temperatures regulated. Trees also provide a human-scaled element along the street. Finally, trees also add to the aesthetics of the street.

Implementing Agency:

DDA will be responsible for the tree planting.

Time Frame: 1-5 years.



Costs & Funding: TEA-21 program. See Table 6.4 for estimated costs.

Table 6.4: Estimated costs of street tree additions.

Item	Cost
Tree pit foundation (concrete)	\$3,500-5,000 each @ 40 trees
Trees (4" min. radius)	\$800 each @ 40 trees
Planter soil mix	\$25.00/cubic yard @ 8 yards/tree
Irrigation	\$30,000 / block @ 6 blocks
Estimated Total	\$320,000

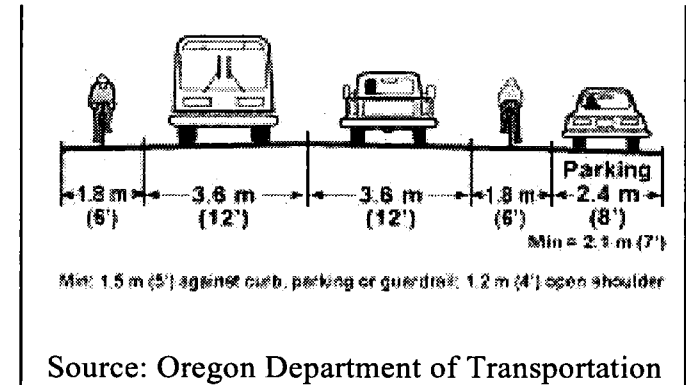
6.2.1.4 Recommendation 4: Construct or improve bicycle routes on both sides of Miller, Washington, and Liberty Streets (See Figure 6.5).

Bicycle routes provide alternative commuting choices and recreational opportunities for residents. Bike lanes wider than 6 ft are desirable in areas of very high use. Care must be taken so they are not mistaken for a motor vehicle lane or parking area, with adequate marking or signing. A bike lane must always be marked with pavement stencils and an 8" wide stripe. This width increases the visual separation of a motor vehicle lane and a bike lane. If parking is permitted, the bike lane must be placed between parking and the travel lane, and have a minimum width of 5 ft., as shown in Figure 6.7 (www.bicyclinginfo.org).

Implementing Agency:

DDA will perform the necessary improvements.

Figure 6.7: Bike line width guidelines.



Transportation engineers will explore the feasibility of adding bicycle lanes to existing streets.

Time Frame: 1-5 years.

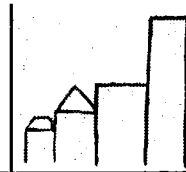
Cost & Funding: TEA-21 program.

6.2.1.5 Recommendation 5: Install bike racks within all DDA parking structures to help increase bicycle ridership throughout the city.

Provides bicycle parking that is covered and secure to encourage alternate transportation options.

Implementing Agency:

DDA will dedicate at least one parking space (with room for at least 10 bicycles) within each structure



and install bicycle racks.

Time Frame: 1-2 years.

Cost & Funding: TEA-21 program. The bicycle hoops will cost \$250.00 each, plus the cost of installation.

6.2.2 Goal: Improve and expand parking facilities in the Allen Creek North area.

6.2.2.1 Recommendation: Revise Chapter 55 of the Zoning Ordinance, section 5:10.19 (C2A Central Business District), to prohibit surface parking lots except as a conditional use.

Surface parking lots take up valuable property space that is then unavailable for tax-generating uses. Imbedded or underground parking options that are integrated into the design improves aesthetics and pedestrian atmosphere.

Implementing Agency:

The Planning Department will propose the revision to the Zoning Ordinance.

Time Frame: 1-5 years.

Cost & Funding: Staff time.

6.2.2.2 Recommendation: Provide on-street parking on the south side of Washington and the east side of First Street.

Not only will the on-street parking help to create a barrier between pedestrian and vehicle traffic, but will also provide traffic-calming benefits. The additional spaces created will help meet the ever-present demand for more parking.

Implementing Agency:

The DDA will be responsible for

Time Frame: 1-10 years.

Cost & Funding: Staff time.

6.2.2.3 Recommendation: Parking infrastructure will be designed into new developments so that they utilize underground or imbedded facilities within the Central Business District (C2A).

Density bonuses will be offered to encourage this strategy. See design guidelines in recommendation 6.3.2.1.

Implementing Agency:

The Planning Department will proposed changes to the Zoning Ordinance to incorporate the density bonuses for utilization of underground and imbedded parking strategies.

Time frame: 1-5 years.

Costs: Staff time involved in proposal of zoning changes.

6.3 Character

As stated earlier the Allen Creek North area lacks a unifying identity and is not well integrated into either the downtown to the east or the neighborhood fringes on the west. As a result its role as an effective transitional Area remains unfulfilled. In order to enhance the transitional nature of Allen Creek North, physical design strategies are proposed to bring about greater visibility and quality to Allen Creek North and to stimulate further investment in the area. Historic preservation strategies are also proposed to enhance the physical form and appeal of this area. A focus on physical design will establish this area as a unique urban form that significantly contributes to the livability of downtown Ann Arbor and its neighborhood fringes. The following strategies address the issue of character.

6.3.1 Goal: Enhance the character of Allen Creek North to establish this area as an attractive and unique urban form that contributes to the livability of downtown.

6.3.1.1 Recommendation: Identify structures and sites within Allen Creek North that are historically significant and register them for historical designation and protection.

The historic Old West Side district, perhaps the largest of the historic districts in Ann Arbor, entirely overlaps District D in Allen Creek North. In addition to the Old West Side historic district, many individual buildings within the boundaries of Allen Creek North have been protected through historic designation. The historic site that previously housed Ann

Arbor Central Mills at 208-210 South First Street now houses nightclubs that cater to a variety of age groups, giving this area distinctive appeal. The former Ann Arbor Organ Company building on the northwest corner of Washington and First Streets provides an excellent example of an historic building that contributes to Ann Arbor’s distinctive style and connection to its past that sets it apart from other urban landscapes. This recommendation reflects Ann Arbor’s commitment to the preservation of historic sites and districts around town.

Implementing Agency:
Ann Arbor Historical Society

Time Frame: 1-2 years.

Cost Estimate: Staff time.

6.3.1.2 Recommendation: Enforce regulations that prescribe preservation guidelines for owners of historical property.

It is important that preservation guidelines be enforced in order to enhance the aesthetic character they provide to urban environments. Property values of parcels that lie adjacent to properties where preservation activities occur often rise thus raising the tax base. It is also important because historic preservation is often used as a marketing tool to draw new business owners, tourists, and consumers into town.

Implementing Agency:
Ann Arbor Historical Society



Time Frame: Ongoing

Cost Estimate: Staff time.

6.3.2 Goal: Improve the visibility and quality of Allen Creek North’s appeal to stimulate continued investment in the area.

6.3.2.1 Recommendation: Create urban design guidelines that are site specific and respective of each districts’ context in the urban environment.

This strategy reflects recommendations already expressed in the *Ann Arbor Downtown Plan (DDA District)* dated July 1988.

District B: As outlined in recommendation 6.1.1.3 floor area ratios (FAR) will be increased for this area. Areas that lie adjacent to the core of the city remain underutilized and are prime locations for increasing density. Guidelines shall specify stepped-up building heights to avoid the massing of buildings at the top of the Allen Creek Valley. Stepped-up designs will also enhance the physical form of the Allen Creek Valley as it slopes down to the west and will function to tie buildings into the surrounding context.

Design guidelines will address the DDA’s commitment for increasing parking downtown by encouraging underground and imbedded parking facilities that will provide spaces in excess of tenant use requirements.

Figure 6.8. Source: Ann Arbor Downtown Development Authority, submitted by Victor Saroki and Associates, Architects PC.



District C: Design guidelines will reflect the increases in floor area ratios (FAR) outlined in recommendation 6.1.1.4. The intent of the design guidelines for District C is to promote the physical extension of the core city and to draw pedestrian activity into this area. Building scale will be increased and will include retail, office space, and residential uses. Pedestrian oriented designs will be required for developments that front pedestrian streets. Figure 6.8 is a good example of a mixed-use design that has incorporated pedestrian activity, building size, and imbedded parking facilities. This proposal has been submitted to the DDA for approval for the western half of the block encompassed by Washington, First and Liberty Streets.



Design guidelines will address the DDA's commitment for increasing parking downtown by encouraging underground and imbedded parking facilities that will provide spaces in excess of tenant use requirements.

District D: The intent of the design guidelines for District D is to promote its role as a transitional area that transition from residential use on the western edges to a greater density downtown region to the east. Pedestrian scale buildings that are appropriate to the neighborhood context will be promoted by establishing maximum heights. New developments occurring within Area D have the potential to increase the overall volume of buildings within the floodway/floodplain thus increasing the likelihood and severity of floods. In an attempt to counter this, design features such as stilts that raise buildings off the ground will be required for all new developments to reduce

the volume of buildings in the floodway/floodplain. See Figure 6.9 to see how stilting can be incorporated into new developments.

Implementing Agency:

Ann Arbor's Downtown Development Authority (DDA) shall be the coordinating agency. In addition to the DDA, Ann Arbor's Planning, Building and Engineering Departments will be given equal representation for implementing this recommendation.

Time Frame: 1-5 years

Cost Estimate: Staff time

6.3.2.2

Recommendation: Integrate urban design guidelines as standards into the review and approval process for new developments.

This strategy reflects recommendations already expressed in the *Ann Arbor Downtown Plan*, July 1988.

Integrating design criteria into the approval and review process will ensure that developments within Allen Creek North will progress in a cohesive manner matching form and function with the surrounding urban environment.

Implementing Agency:

Ann Arbor Planning Department

Time Frame: 1-2 years

Cost Estimate: Staff time.

Figure 6.9: Conceptual drawing of the proposed YMCA, which incorporates floodplain design strategies. Courtesy of SmithGroup JJR.

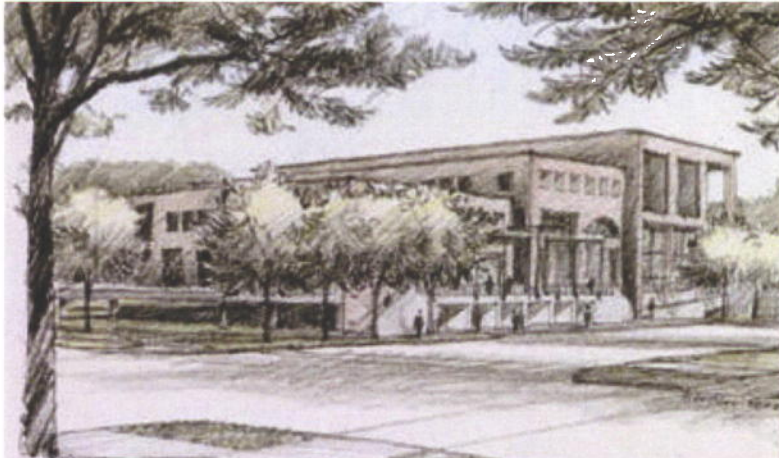


Table 6.5: Summary Table of Recommendations.

Recommendation	Description	Implementing Agency	Time Frame	Cost Estimate	Page Reference
Land Utilization					
6.1.1.1	Greenway Overlay Zone	Department of Parks and Recreation, Drain Commission, Planning Commission	1-3 years 10-15 years	Various funding sources	19
6.1.1.2	District A – residential orientation, greeway connection to West Park	Planning Commission	1-3 years	Staff Time	20
6.1.1.3	District B – Rezoned to C2B/R throughout district	Planning Commission	1-3 years	Staff Time	20
6.1.1.4	District C – Rezoned to C2A	Planning Commission	1-3 years	Staff Time	21
6.1.1.5	District D – Rezoned to C1B	Planning Commission	1-3 years	Staff Time	22
6.1.2.1	Appoint floodplain/brownfield manager	Building Department, Department of Environment and Infrastructure Services	1-5 years	\$35,000 – 50,000/year	22
Transportation					
6.2.1.1	Construct/widen or improve sidewalks	Downtown Development Authority	1-5 years	TEA-21 Program	24
6.2.1.2	Install pedestrian oriented street lighting	Downtown Development Authority	1-5 years	TEA-21 Program	24
6.2.1.3	Plant trees on sidewalk to provide pedestrian amenity	Downtown Development Authority	1-5 years	TEA-21 Program	25
6.2.1.4	Construct/improve bicycle routes	Downtown Development Authority	1-5 years	TEA-21 Program	26
6.2.1.5	Install bike racks in all DDA parking structures	Downtown Development Authority	1-2 years	TEA-21 Program \$250/bicycle hoop + installation	26
6.2.2.1	Prohibit surface lots except as conditional use	Planning Department	1-5 years	Staff Time	27
6.2.2.2	Provide on-street parking	Downtown Development Authority	1-10 years	Staff Time	27
6.2.2.3	Underground and imbedded parking facilities	Planning Department	1-5 years	Staff Time	27
Character					
6.3.1.1	Identify & register historic structures and sites	Ann Arbor Historical Society	1-2 years	Staff	28
6.3.1.2	Enforce preservation guidelines	Ann Arbor Historical Society	Ongoing	Staff	28
6.3.2.1	Create urban design guidelines	Downtown Development Authority, Planning Department, Building Department, Engineering Department	1-5 years	Staff	29
6.3.2.2	Integrate urban design guidelines into review and approval process	Planning Department	1-2 years	Staff	30

Future Considerations



Section 7: Future Considerations



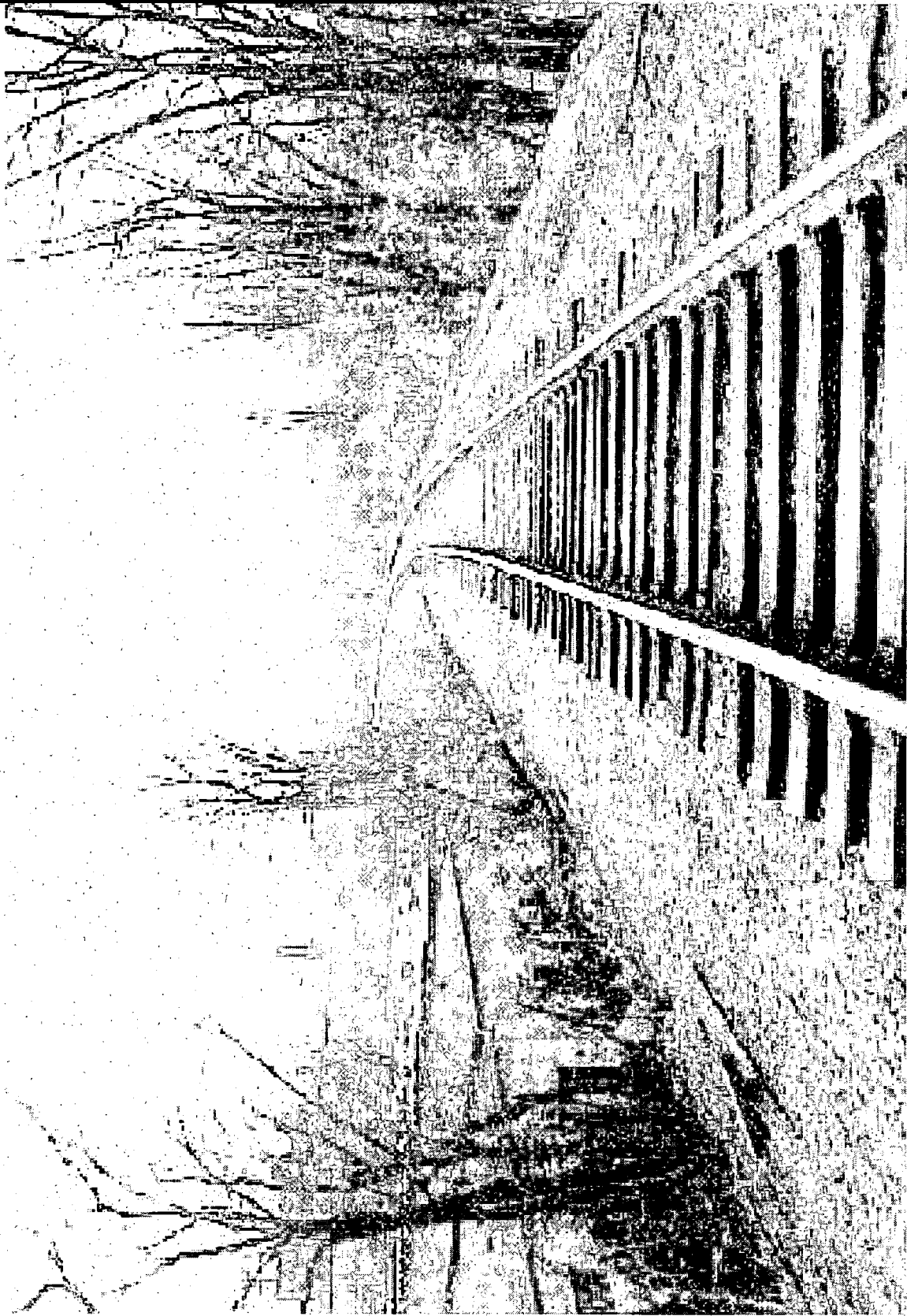
Over the course of the research and analysis that has gone into the preparation of this report, there has been continual controversy unveiled regarding both development within the Allen Creek floodway and the potential for daylighting the buried creek.

Although current proposals for new development within the floodway can actually decrease the negative impacts of the existing structures they will replace, increased density of development in the overall area may begin to limit this effect. However, creative floodplain designs, decreasing impervious surfaces, and the new stormwater regulations may have the overall affect of increasing the development threshold of the area without further degrading the creek.

In all, how much development is sustainable in the Allen Creek North area must be determined both from scientific analysis and a holistic view of development in the downtown region. This is a significant issue that must be given due attention such that the potential for Allen Creek North can be realized without adding to the burden of floodway concerns.

Similarly, there has been some interest within the Ann Arbor community to daylight the buried creek system to restore the natural environment of the Allen Creek corridor. With many unknowns as to the implications of such an act and with case studies that must be considered highly site specific, the daylighting of Allen Creek is not recommended at this time. However, given the allocation of a greenway that will encompass the Allen Creek drain, there is potential for such ideas to be considered in the future. Realizing that the daylighting of the creek cannot be done in a piece meal fashion, the provision of a greenway affords the opportunity to reconsider the daylighting of Allen Creek at a time when its process is unhindered by physical constraints and thus its possible success is greatest.

Appendices





Floodplain Case Study:
City of Arnold, Missouri

In order to reduce the potential for future flood damages, the acquisition or relocation of properties in floodplains and the conversion of the property into open space provides an opportunity for the return of the natural function of the floodplain and the re-establishment of wetlands. In many communities parks and recreation areas will occupy lands where flood-prone homes once stood.

The case study of the City of Arnold, located in Jefferson County, Missouri, is a good example of the reduction in flood losses through property acquisition and a strong floodplain management program. The City of Arnold is located about 20 miles southwest of St. Louis at the confluence of the Meramec and Mississippi Rivers. The geography of the area is such that when the Mississippi River overflows its banks, the City of Arnold experiences backwater conditions at the Meramec tributary which causes river water to be forced back into the Meramec tributary, impeding normal discharge. In turn, flooding along the Meramec tributary occurs, causing backwater conditions to occur at the narrower channels of several local creeks.

The floodplains of the Mississippi and Meramec Rivers and local creeks, have been extensively developed in the last half-century. Structures that began as summer or fishing cottages became year round residences. This development decreased the natural functions of the floodplain resulting in area flooding. The increased velocity and flow of the Mississippi River, due to the steady reduction of previous surface upriver, heightened the risk of area flooding. The rate of the growth in storm water runoff outpaced efforts of the U.S. Army Corps of Engineers to mitigate the effects of the increased runoff with structural flood barriers. Adding to the problem, Jefferson County had no procedures for storm water management planning.

To initiate protection of existing floodplain resources and to guide

future development, the City of Arnold adopted a floodplain management program in 1991. The plan included the following elements:

- A greenway to supplement the floodplain of the Mississippi River.
- Stream maintenance to clear vegetation and debris from storm water channels, and
 - identify and replace undersized culverts. Muddy Creek improvement study to
 - determine solutions to this heavily developed area floodplain (over 100 residential properties).
- Acquisition program to purchase damaged or destroyed properties and help with
 - relocation, thereby facilitating the creation of the greenway.
- Protection Assistance (flood insurance public education campaign) to encourage
 - residents to buy flood insurance.
- Development of a preparedness plan to define operational procedures in future floods.
- Upgrade critical facilities to increase flood resistance of local bridges, roads,
 - interceptor sanitary sewer systems, and parks.
- Establish floodplain regulations to guide development that is consistent with floodplain
 - management objectives, including a requirement that the lowest floor elevation be at
 - least 2 feet above the 100-year flood level.
- Development of a watershed management plan for two creeks and those parts of the
 - Meramec watershed within the county.

The 1993 floods had a devastating effect on Arnold. Approximately 250 structures were affected by the high waters and 528 households applied for Federal disaster assistance, which amounted to over \$2



million. Local authorities established over 60 sandbag sites to try to hold back rising waters. The city's acquisition program totaled \$7.3 million; the city's floodplain management program, as an illustration of their commitment to mitigation, was a key factor in obtaining Federal assistance.

Although not as severe as the 1993 floods, the 1995 flood was the fourth largest in the City of Arnold's history. The damage was much less severe because, as the Arnold City Manager indicated, "Most of the areas affected had been bought out, so the people weren't there."³⁰ Only three or four sandbag sites were needed 1995, and only 26 households applied for Federal disaster assistance. The total amount of Federal disaster assistance granted after the 1993 floods was over \$2 million. After the 1995 floods, assistance was less than \$40,000.

In addition to illustrating the value of acquisition, the City of Arnold, Missouri case highlights the value of planning as a mitigation tool. The recognition of the problem and its extent, and development of plans to solve the problem, prepared the city to respond to the 1993 floods with a long-term solution for mitigating against future flood damages. The city created land use plans, which included changes to lessen the impacts of future disasters, and they developed organizational plans to implement the land use strategies. Capital improvement plans to obtain the funds needed to accomplish the city's goals were also developed. When combined with the outside assistance these plans facilitated, the city was able to go a long way towards reaching a long-term solution to sustaining flood damages. The experience of 1995 documented these accomplishments.

The mitigation projects in the Midwest ranged in size and complexity from one to two home elevations to Valmeyer, Illinois which relocated a significant portion of the town to a new location, to Wakenda, Missouri which acquired and demolished all the town's structures, and disincorporated. What all these projects hold in common is that

they reflected the communities' visions of themselves. Communities must be aware of their risks and plan accordingly, weighing mitigation alternatives with community needs.



Bringing Back The Don River

(http://vrl.tpl.toronto.on.ca/helpfile/ss_b0003.html)

Introduction

"Somewhere along the line, as the pace of life quickened and the demands of transportation and industry increased, Toronto forgot that the Don was a river."

The Don River Watershed is one of the great natural resources of the Metro Toronto Region. Its valleylands form a ribbon of greenspace in the heart of the city and provide a habitat for vegetation and wildlife. Unfortunately, two centuries of urbanization have left their mark on the watershed. Lands adjacent to the river have been developed for industrial and residential use, pollutants have adversely affected the river's water quality and the construction of the Don Valley Parkway has turned the Lower Don into a transportation corridor. A recent study for the Metropolitan Toronto and Region Conservation Authority succinctly described the Don as "an ecosystem that has been degraded by urban development and activity". But all is not lost for the Don, as the waterway has many friends who can envisage a brighter future for it. Today, groups such as the Task Force to Bring Back the Don are devising plans which would revitalize the Don and reintroduce the natural beauty of the river system to a generation of Torontonians. Their success or failure will of be interest to all those who are seeking the answers to questions such as: How do we go about regenerating damaged ecosystems? How can we incorporate environmental considerations into the planning process? Can we keep our cities green? This guide will highlight some of the many resources on the Don which are available in the Urban Affairs Library's collection.

History

The Don is one of more than sixty rivers and streams that flow south from the Oak Ridges Moraine, a porous, water-filled ridge of glacial debris. It is estimated that the Don was 'born' over 13,000 years ago

and that native peoples such as the Mississauga Indians gradually established seasonal encampments on the Don centred around activities such as hunting, fishing, food gathering and trading. French traders mapped the area as early as 1688, but major colonization did not take place until after the Toronto Purchase of 1787.

Early Development:

When Governor and Lady Simcoe arrived in what is now Toronto in the 1790's, the Don was still relatively untouched by man. The Valley was covered with mixed forests, which provided a home for animals such as deer and wolves, and the river teemed with fish and waterfowl. However, the river and its valley were increasingly viewed by settlers as either resources to be exploited or obstacles to be overcome. In the early 1800's, forest land began to be cleared both for farms and for the mills that were powered by the river.

20th Century:

By the turn of the century, the river south of Gerrard had been straightened to facilitate industrial and railway development and the Don Valley Brickworks was in operation. In the early 1900's, the marshes at the mouth of the Don were filled in for sanitary reasons and to facilitate port development. The 20th century has seen continued residential and industrial encroachment on watershed lands and ongoing construction of bridges, railways and sewers. The completion of the Don Valley Parkway in the 1950's reinforced the view of the Don as an industrial and transportation corridor.

General Histories:

Because the river is intertwined with so many prominent individuals, events and buildings in the city's history, there are many sources of information on the history of the Don. General historical works such as *Toronto of Old* by Henry Scadding and *Toronto The Way It Was* by Michael Kluckner make frequent mention of the Don, as do books about neighbourhoods near to the river, such as *Cabbagetown Remembered* by George Rust-D'eye.

Histories of the Don:

Charles Sauriol, a longtime champion of the Don, has compiled two books which weave together recollections and reminiscences of those who lived, worked and played on the Don: *Remembering the Don*, which reproduces articles from *The Cardinal*, the newsletter of the Don Valley Conservation Association; and *Tales of the Don*, which focuses on stories from the first half of the twentieth century. Ann Guthrie's *Don Valley Legacy: A Pioneer History* tells the story of the Don through its relation to the Taylor family, which was involved in many aspects of the economic development of the region. Both the Don Valley Conservation Report, prepared by the Ontario Department of Planning and Development in 1950, and the Task Force report *Bringing Back the Don* provide extensive and detailed histories of the Don's early development. Both also help to place historical developments in an environmental context.

Environment And Planning

The Don River Watershed is located within Canada's most highly urbanized metropolitan region. Residential, commercial and industrial uses, including manmade alterations to the river's course, have had a significant environmental impact on the Don's vegetation, wildlife and water quality. Both *Bringing Back The Don* and the Don Valley Conservation Report, mentioned above, provide excellent overviews of many aspects of the Don's development.

Ecology and Natural Features:

Don River Watershed: State of the Ecosystem, prepared in 1992 by Paragon Engineering Limited and Ecologistics Limited for the Metropolitan Toronto and Region Conservation Authority, provides a detailed contemporary analysis of the quality of the environment within the Watershed. Earlier studies by the Conservation Authority, such as the 1982 *Environmentally Significant Areas Study* and the 1980 *Watershed Plan* are also excellent sources of information on the Don's natural features. Another source of descriptive information on plants

and animals native to the Don are the publications of the Toronto Field Naturalists, such as *Toronto the Green*, A Metro Toronto Natural Resources Inventory: A Case Study in East York and West Don River Valley 1974-1978. Metro Toronto's Parks and Property Department presently oversees several parks along the Don and the Department's 1991 Park Fact Sheets is a useful source of information on parks such as Todmorden Mills, Taylor Creek, Serena Gundy and Sunnybrook.

Water Quality:

The river's water quality is the subject of *Strategy for Improvement of Don River Quality*, a 1989 report by Paul Theil Associates Limited and Beak Consultants Limited. Other studies on pollution in Metro Toronto's rivers and waterfront, such as *Strategies for Restoring Our Waters: The Metro Toronto and Region Remedial Action Plan*, help to place the Don's environmental problems in a broader context.

Land Use Planning:

Land use planning in areas adjacent to the Don Watershed is shared by several different regional and local governments. The official plans of municipalities such as Toronto, East York and North York (including relevant neighbourhood or secondary plans), can be useful sources of information on land use policies and patterns in areas touching on the Don. Today, as an ecosystem approach to planning becomes increasingly accepted, many cities are attempting to incorporate environmental principles into new or revised planning studies. Metropolitan Toronto's September 1992 draft official plan *The Liveable Metropolis*, sets forth general principles regarding the conservation of Metropolitan Toronto's natural resources and the establishment of an integrated Green Space System which would include the Don Watershed. The December 1991 *Metropolitan Waterfront Plan: Planning Directions for the Metropolitan Waterfront* also deals with issues of environmental sustainability, as does the City of Toronto's *Environmental Backgrounder*, Report No. 9 in the Cityplan '91 series.



Studies of Specific Developments and Sites:

Studies are also available on specific transportation, engineering and industrial developments which have had a direct impact on the Don River Valley. Reports such as Don Valley Brickworks: Master Planning Study, Keating Channel Environmental Assessment: Main Report, Don Valley Corridor Transportation Study all provide information on a particular aspect of the Don's development and land use characteristics.

A Vision For The Future

Planning for the longterm health of the Don is a task which will involve many different agencies, groups and individuals. At present, there are two governmental task forces which are specifically devoted to the restoration of the Don: the City of Toronto's Task Force to Bring Back the Don; and the Metropolitan Toronto and Region Conservation Authority's Don Watershed Task Force. The Provincial Government has also established the Waterfront Regeneration Trust as an ongoing agency to deal with the recommendations of the Royal Commission on the Future of the Toronto Waterfront.

The Task Force to Bring Back the Don:

The mandate of the Task Force to Bring Back the Don is to "undertake initiatives that will contribute to the ultimate restoration of the entire watershed by focusing on rehabilitation efforts within the jurisdiction of the City of Toronto". The Task Force's 1991 report, Bringing Back the Don, created a surge of public interest in and awareness of the Don. The report outlines a restoration strategy which has six objectives for the Lower Don: enhancement of the river mouth; creation of aquatic habitats (i.e., wetlands); restoration of terrestrial habitats; appropriate uses of the valley; improving access to the valley; and coordinating planning policy for the valley.

The Don Watershed Task Force:

The Don Watershed Task Force's purpose is to develop whole watershed or ecosystem strategies for the entire river system. The Don Watershed Task Force is currently involved in preparing a Don Water-

shed Strategy and its activities can be followed in the monthly newsletter On the Don, published by the Metropolitan Toronto and Region Conservation Authority.

The Waterfront Regeneration Trust and the Royal Commission on the Future of the Toronto Waterfront:

The 'ecosystem approach to the regeneration of cities' was also a guiding principle of the Royal Commission on the Future of the Toronto Waterfront, chaired by David Crombie, which began work in 1988. The Commission's 1992 Final Report Regeneration: Toronto's Waterfront and the Sustainable City makes many recommendations for the revitalization of watersheds across the entire Metro Toronto bioregion and includes an analysis of the problems and opportunities of the Don as a 'typical' watershed. The many background studies of the commission, such as Pathways: Towards an Ecosystem Approach, and Watershed, the 1990 Interim Report, are also helpful in understanding the Commission's philosophy and approach. In 1992, the Ontario Legislature established the Waterfront Regeneration Trust as an agency of the provincial government. The Trust's purpose is to build on the work of the Royal Commission and see that its recommendations are implemented. A good summary of the agency's objectives is provided in the October 1992 issue of the Newsletter of the Canadian Waterfront Resource Centre.



Daylighting: New Life For Buried Streams

Written by Richard Pinkham, Rocky Mountain Institute,
Snowmass, CO September, 2000

Kalamazoo, Michigan

Arcadia Creek

The city of Kalamazoo daylighted a five-block section of Arcadia Creek in downtown as part of a multi-year, multi-million-dollar redevelopment project completed in 1995. While the new channel could not be naturalized, this project does show that waterways can be daylighted in very dense urban centers.

Background

Kalamazoo is a city of 80,000 people at the hub of a concentration of 250,000 people in southwestern Michigan. The city's economy is diverse and supported by several colleges and universities, regional hospitals, a major pharmaceutical company, and a number of manufacturing firms. However, by the mid-1980s, the northern portion of its central business district was in decline. With rundown buildings, increasing crime, and a history of flooding, this core area had come to be perceived as a risky place for investment. Arcadia Creek had been buried underneath downtown for more than a century. The creek drains a highly urban watershed encompassing much of the city before joining the Kalamazoo River just east of the central business district. As development in the watershed progressed through the middle part of the 20th century, flooding problems increased because the culvert was not sized to accommodate greater runoff from increased impervious surfaces.

Planning began in 1986 for a 13-block redevelopment project intended to attract business to the rundown portion of down-

town. An important part of the redevelopment effort was to reduce flooding by increasing the creek's capacity. The city formed a Downtown Development Authority to coordinate and fund the project. Land purchases, public involvement in planning, and preliminary engineering continued into 1990. As part of this process, the idea of daylighting Arcadia Creek surfaced during a national design competition for the redevelopment zone. Some citizens complained that exposing the creek would be too costly, but engineering studies revealed that an open channel could provide the necessary flood capacity at relatively low incremental cost over improving and re-burying Arcadia Creek's aging culvert. The overall redevelopment project went through several iterations, which scaled back costs from the original plans. From 1989 to 1992, the Downtown Development Authority and its consultants completed engineering studies and design work, secured development agreements, and funded the project. Construction took place from 1989 to 1995.

STS Consultants Ltd., an engineering firm with offices throughout the Midwest, led the development of the daylighting portion of the project with comprehensive planning and construction management services.

Actions

Kalamazoo daylighted Arcadia Creek through five large blocks of downtown— three blocks of concrete-lined channel and two blocks as an open stormwater pond with grassy slopes for recreation. Room did not exist to create a meandering, naturalized channel and vegetated riparian corridor through downtown at reasonable cost. Also, because impervious surfaces and storm drain systems cover much of the watershed, the ground water receives so little recharge that the water table has dropped well below the level of the Arcadia Creek channel. An earthen-



bottomed stream here would lose water into the area's sandy soils and carry little or no flow except during storms.

The newly opened section of the creek first passes through three blocks in an open concrete channel 20 feet wide by 12 feet deep, fitted with six weirs that pond water in the channel about 1.5 feet deep. Without the weirs, the water would ordinarily flow only a few inches deep. The designers felt that an illusion of deeper flow would prove more attractive. At the same time, they kept the weirs relatively low to retain considerable flood capacity between the weir tops and the top of the channel.

Slowing water in the channel also causes the creek to drop much of its sediment load there, where a small front-loader can periodically scrape silt off the concrete bottom with relative ease, reducing the frequency of more difficult dredging operations at the earth-lined, grass-banked stormwater pond downstream. A stormwater pond completes the final two blocks of the daylighted section of Arcadia Creek. Its gentle, grassed slopes provide an area for people to relax and recreate. This landscaped

area and an adjacent parking lot are also used as a festival site. The total length of the reopened system is 1,550 feet, including the channel, several wide bridges, and the pond. Downstream of the pond, Arcadia Creek passes underground for another nine blocks before joining the Kalamazoo River. In this section, engineers used the existing culvert and constructed an additional new culvert to increase storm capacity.

Results

The combined channel, stormwater pond, and double culvert provide Kalamazoo with protection from a 500-year flood. Authorities have now redrawn local floodplain maps. Down-

town properties no longer pay flood insurance, and the perception of flood vulnerability has been lifted. The flood-protection benefit and amenity value of the creek combine with the overall redevelopment effort to boost the attractiveness of Kalamazoo's downtown for private investment. Ken Nacci, director of the Downtown Development Authority, puts it succinctly: "What we have is much better than what we had." Public-sector investments of \$18 million for the entire redevelopment project have leveraged more than \$200 million in private development, including a new museum, a bank headquarters, and other institutions and businesses. Property tax revenues to the city from the redevelopment zone have increased from \$60,000 to \$400,000 annually. Activities at the new festival site by the stormwater pond generate an estimated \$12 million annually in sales and payroll for local businesses.

Economics/Funding

Of the city's \$18 million investment, \$7.5 million were related to the creek corridor project, including environmental assessments, engineering, and construction. Much of the expense related to technical challenges described below. To pay for the investments, the Downtown Development

Authority issued bonds based on tax-increment financing; these bonds are now being repaid by property-tax revenues from the redevelopment zone. Private philanthropic organizations helped reduce costs to the city by funding acquisition of some of the necessary properties. The Downtown Development Authority pays the maintenance costs associated with the channel and pond (sediment and trash removal, mowing, and so on). These costs average \$50,000 per year—more in years when pond dredging is required, considerably less in other years. "The channel has worked beautifully," says Nacci, "but you do have



to maintain it for silt, weeds, algae, and so on.”

Challenges and Lessons

This project daylighted a sizeable stream in a dense down-town setting. The proximity of the culvert and the new chan-nel to several existing buildings required special measures to shore up foundations during and after construction. Contaminated soils also produced significant challenges. Because Kalamazoo’s downtown was once subject to heavy industrial use, the engi-neering work for this project included both surface and subsur-face environmental assessments. Soils in a number of locations required excavation and replac-ement; in others, contaminated soils were capped. These struc-tural and environmental meas-ures contributed significantly to the \$7.5 million price tag for the stream corridor work, though one capping project saved the city \$1.3 million versus the expected costs of excavation. In ad-dition to the technical solutions to the contaminated soil prob-lems, the city decided to maintain ownership of the land to pro-ject developers from potential environmental lia- bilities. The city leases out each parcel in the redevelopment

The daylighted section of Arcadia Creek, beginning near the top center of this photograph, runs through three full city blocks in downtown Kalamazoo, Michigan, then opens into a stormwater pond. Courtesy of STS Consultants, Ltd.

zone, and indemnifies developers from future environmental problems related to the site. The aged infrastructure under downtown created some sur-prises for the city public works de-partment and some proper-ty owners. Crews found (and often broke) a number of unmapped water service lines. Also, after they sealed the old storm culvert, some buildings experienced

water backups because roof drains or basement sumps had been connected directly to the culvert instead of tapped into official laterals. The city razed several buildings during the redevelop-ment effort. This provoked concerns over historic preservation and integration of new buildings with Kalamazoo’s existing archi-tectural flavor. As a result, the city instituted a commission that reviews new buildings for their sensitivity to local architec-tural conditions. Asked his advice for other cities considering major projects like this, Ken Nacci said it’s important to re-member that “things like this don’t happen overnight.” Kalama-zoo’s project took almost 10 years from inception to completion. And once the construction is done, the work is not all over. Says Nacci: “You can’t build it and let it set there. We still have some avail-able properties, and could have done a better job marketing the redevelopment zone to the world.”

Sources: Nacci 1999; Sheff 1999; STS Consultants 1999.



Data Sources Consulted

Documents:

- Ann Arbor Downtown Plan, Ann Arbor Downtown Development Authority, 1988
- Ann Arbor Transportation Plan Update, 1990
- Rules of the Washtenaw County Drain Commissioner: Procedures and Design Criteria for Storm Water Management Systems, Washtenaw County Drain Commission, 2000.
- 2000-2005 Parks and Recreation Open Space Plan, City of Ann Arbor,
- Central Area Plan, City of Ann Arbor, 1992
- Master Plan for Pedestrian Improvements, Ann Arbor Downtown Development Authority, 1988
- Bicycle Master Plan: Executive Summary, 1992

Periodical Literature:

- O'Donnell, Catherine. "DDA eyes parking garage plan: proposals for First and Washington streets reviewed." *The Ann Arbor News*, February 16, 2001.
- Lofy, John. "Storm Warning." *Ann Arbor Observer*, November, 1999.
- Shackman, Grace. "109 East Madison." *Then & Now* section, *Ann Arbor Observer*, January, 2000.

Development Proposals:

- The Ann Arbor YMCA
- The Ann Arbor Homeless Shelter
- First Street and Washington Street Parking Structure
- Allen Creek Village, Ann Arbor, Michigan (student project proposal with real-estate feasibility analysis)

Case Studies:

- "Bringing Back The Don River." Urban Affairs Library, Toronto, Canada, accessed March, 2000 at http://vrl.tpl.toronto.on.ca/helpfiles/ss_b0003.html
- Pinkham, Richard. "Daylighting: New Life For Buried Streams." Rocky Mountain Institute, Snowmass, Colorado, September, 2000
- City of Arnold, Missouri

Other Sources:

- US Census Block Group Data, Housing and Population, 1990

Interviews

1. Peter Allen, Peter Allen & Associates Real Estate
2. Janice Bobrin, Washtenaw County Drain Commissioner
3. Gerry Clark, City of Ann Arbor Department of Parks and Recreation
4. Paul Daniels, DDA Citizens Advisory Committee
5. Ray Detter, DDA Citizens Advisory Committee
6. Paul Fontaine, Smith Group JJR
7. Susan Lackey, Washtenaw Development Council
8. Graham Mitchell, The City of Farmersville, California, Planning Department
9. Peter Pollack, Pollack Design
10. Susan Pollay, DDA, Executive Director
11. Wendy Rampson-Gage, City of Ann Arbor Planning Department
12. Mike Rein, Bowers and Rein Associates, Inc.
13. Grace Shackman, Old West Side Residents Association
14. Ed Shaffrin, DDA Board of Directors

Greenway Goals—Ray Detter
September 7, 2004

- 1. Define what we might mean by Greenway within the bounds of what we have defined as our study corridor: pedestrian and bikeway, connections to series of greenspaces, swath of greenspace, etc.**
- 2. More clearly define our goals in relation to greenspace, transportation, development, preservation, etc. in relation to our greenway concept. Resolve conflicting goals where possible.**
- 3. Examine all existing plans to see how this greenway may complement Allen Creek, alternative transportation, parks, DDA, sewer plans, etc. Where do conflicts of values arise? Where do opportunities currently exist?**
- 4. Develop a feasibility and cost analysis for each greenway possibility.**
- 5. Connect with political entities--city, county, DDA, and others-- to get them to fully support the concept and planning process—perhaps designate a fully representative group as the task force.**
- 6. Develop a Public Process procedure as suggested in Amy's Greenway article.**

ALLEN CREEK GREENWAY

AGENDA

NOVEMBER 2, 2004

- Peter: MAP project and applications
 - Design Subcommittee preliminary greenway route review
 - Confirm (consolidate) goals list
 - Update on the creation of a trust (non-profit)
 - City Council?
 - Parks Advisory Commission?
 - DDA?
 - County Drain Commissioner?
 - Tasks / Assignments
 - 1988 Master Plan ??
 - Briarwood superimposed on downtown
 - Other?
-
- Next Meeting = December 7, 2004 @ 4:30 (?) @ _____

• Calvin Trillium - books.
• Ethiopia book