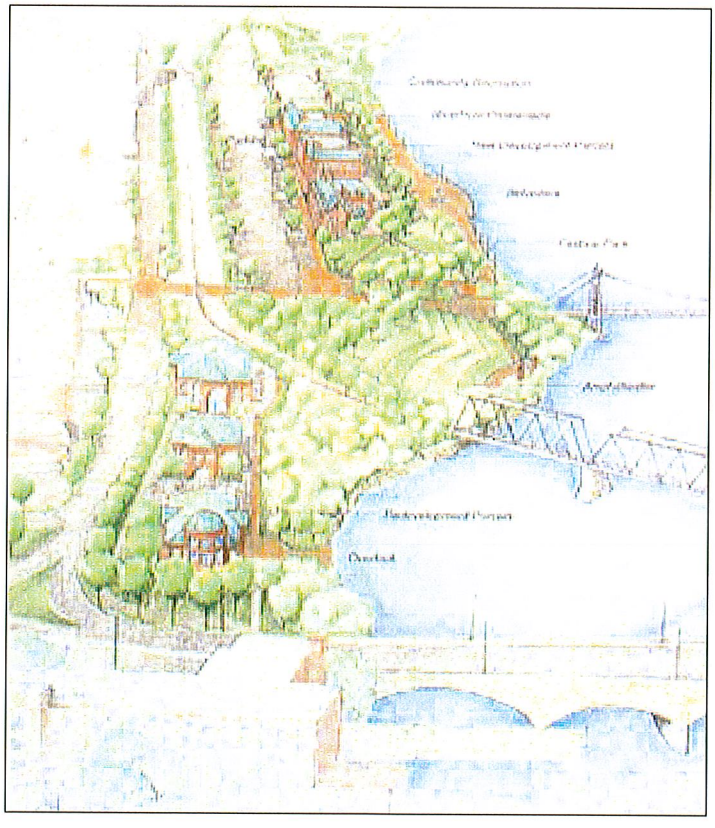
Waterville Riverfront Master Plan

Submitted to:

The City of Waterville
1 Common Street
Waterville, ME 04901



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I. INTRODUCTION

The City of Waterville is poised to begin one of the most significant revitalization efforts it has ever undertaken. The vision of turning the desolate Kennebec riverfront into a thriving, multiuse center for open space, recreation, and commercial activity will have far reaching benefits to the social and economic life of the community. At the doorstep of the downtown commercial and residential districts, the riverfront offers a wealth of opportunities to bring unique and desirable attractions to the center of the city while reinforcing connections to the Town of Winslow and the regional open space system along the Kennebec.

Having developed along the Kennebec River, Waterville slowly turned its' back on the river as the economic use of the waterway declined. After removing blighted residential and commercial activities along the river, the waterfront now lies open and fallow, awaiting the opportunity to once again become a focal point of the community. The City of Waterville has before it a remarkable opportunity to significantly enhance the function, appearance, and quality of it's downtown environment. The following plan is directed toward helping the city realize the potential of this unique area.

The Waterville community has long realized the importance of its' riverfront. Previous planning studies, including the REM visioning and downtown market and design studies of 1996 set forth a solid basis on which to develop more detailed plans. The idea of mixed uses along the water including recreational and commercial activities is echoed through most of the work completed to date. The master plan presented herein will seek to refine these community-based endeavors in the effort to envision a future for the city's waterfront.

The master plan seeks to include characteristics common to all successful waterfront development projects in recommending possible uses, activities and functions for the Waterville's riverfront. These themes include:

- *Combination of public and private interests – Waterfront redevelopment should encourage a synergy between public use and commercial activities. The balance between these interests will play a key role in the successful revitalization of the waterfront.*
- *Public / private partnership are essential to creating sustainable success. Begun by public entities with vision, plans will attract private groups to help bring the vision to reality.*

Private development can compliment the public facilities on a site, offset costs of public investment and assist in maintenance of the site.

- *Multiple use areas- successful riverfronts contain a wide range of activities- cultural, recreational, commercial, and in some cases residential.*
- *Water attracts people - Successful waterfronts offer combinations of uses to promote activities throughout the day and year.*
- *Establish strong connections to the downtown area. Successful waterfronts are linked to the downtown by gateways, view corridors and easily recognizable and accessibility routes.*
- *The waterfronts must be a source of pride to the community – they should build upon and reinforce the character and history of the community.*
- *Waterfront development should capitalize on opportunities for interpretation – historic, cultural, and natural.*
- *Waterfronts should have areas suitable for programmed activities, festivals, and community gathering. Build upon existing cultural institutions.*

The planning process for the Riverfront Master Plan involved four primary phases of work: Analysis, Programming, Conceptual Alternatives and Recommended Master Plan. Each phase of work built upon the last, establishing a direct relationship between analysis and recommendations. Following the completion of each phase of work, a public workshop was conducted to present the work and solicit public comment.

During the planning effort, the community identified a series of criteria to guide the development of the recommended master plan:

- *Enhance both physical and visual connections between riverfront and downtown. The riverfront parcel should be woven into the fabric of the downtown.*
- *The site should contain a combination of public uses and private development.*
- *A diversity of public spaces/activities should be provided, including an active public edge along the river.*
- *The economies of the riverfront and downtown are closely linked. Private development on the riverfront should compliment and support the activities, appearance and development patterns of downtown.*
- *On-site parking should be provided to meet the needs of proposed uses/development.*
- *Strong linkages between the riverfront, downtown and adjacent residential neighborhoods should be created.*
- *Maximize opportunities to create a multi-use trail along the river and integrate the trail with proposed public spaces at the Head of the Falls site. (i.e. Brunswick Trail and Eastern Promenade in Portland).*

The following report presents the recommendations for arrangements of land uses, master site plan for the riverfront, building design guidelines, and strategies for funding, implementation, and phasing. Conceptual cost estimates for recommended public improvements are identified. The appendices contain the analysis conducted to support the planning effort, the conceptual alternatives that were developed to explore various options for development of the riverfront and background traffic data.

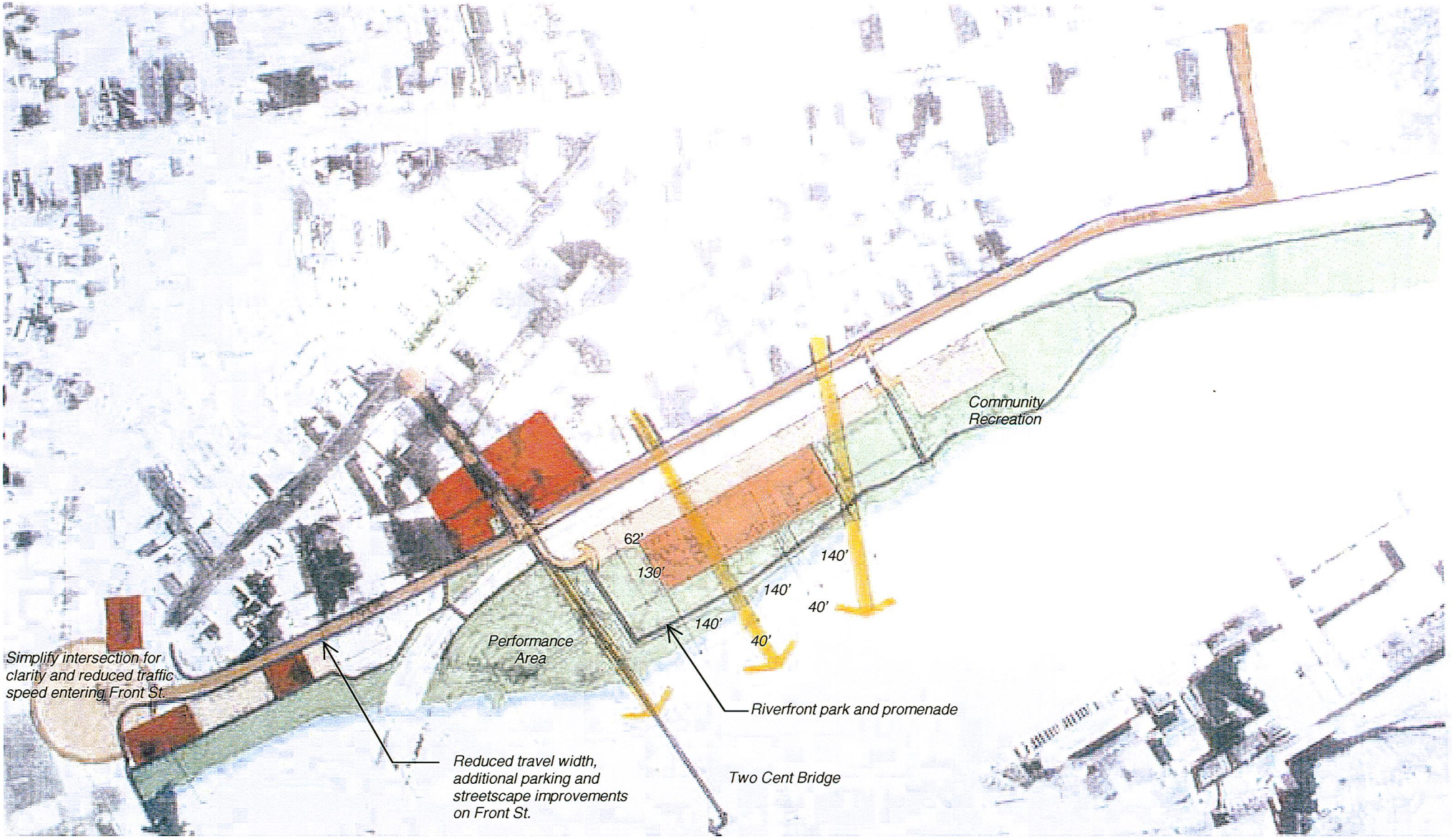
II. RIVERFRONT MASTER PLAN

The master plan for the riverfront organizes the Head of the Falls site into a series of interconnected spaces and activities in which public and private uses are closely integrated. The components of the plan include public spaces comprised of parks, walkways, and community recreation areas; three distinct development parcels; and circulation and parking improvements. To support the Head of the Falls project, the plan recommends improvements to key roadways leading to the site and identifies parcels in strategic gateway locations for redevelopment.

The Head of the Falls project area consists of 23+ acres of undeveloped land with approximately 4,600 feet of frontage along the Kennebec River. The site is bordered by the Kennebec River to the east, Front Street and the Guilford Rail Systems rail line to the west, Bridge/Spring Street to the south and the Guilford Intermodal facility to the north. Of the 23+ acres that constitute the site, 11.5 acres are owned by the City of Waterville and 12.5 acres are owned by the State of Maine. It is anticipated that the nine of the twelve acres owned by the state will be transferred to the City of Waterville and the remaining 3+ acres will be transferred to the adjacent intermodal transportation facility.

A. ORGANIZATION OF PROPOSED USES

The diagram of land uses recommended in the master plan is straightforward. The 11.5 acre active riverfront parcel north of the rail line and south of the post office is comprised of 7.3 acres of public open space, 2 acres of parking and 2.1 acres of land suitable for sale or lease for private development. The 2+ acre, 130 x 500 foot development envelope extends from the westerly edge of the proposed parking lot and 180 feet from the northerly edge of the Temple Street right-of-way. As described in detail below, the public open space is comprised of a park, riverfront walkway and community recreation facilities enveloping the area designated for private development. This development area is defined by three building parcels, separated by 40 foot openings between structures. View corridors established by the alignments of Temple, Appleton and Union Streets are kept open, preserving vistas to and across the river from the downtown



Waterville Riverfront Master Plan

Waterville, Maine

Land Use Diagram

- Development District
- Redevelopment Parcels
- Public Open Space
- Parking
- View Corridors
- Vehicular Circ. Improvements
- Pedestrian Connections

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The area bounded by Temple St. and the railroad right-of-way (South of Temple), currently used for parking is to be redeveloped as public open space and performance area. A reduction in width of the railroad right-of-way to a width consistent with that of the balance of the line to the north is recommended to allow more useable public open space. Similarly, the river embankment to the south of the rail R.O.W should remain as open space and improved with trails.

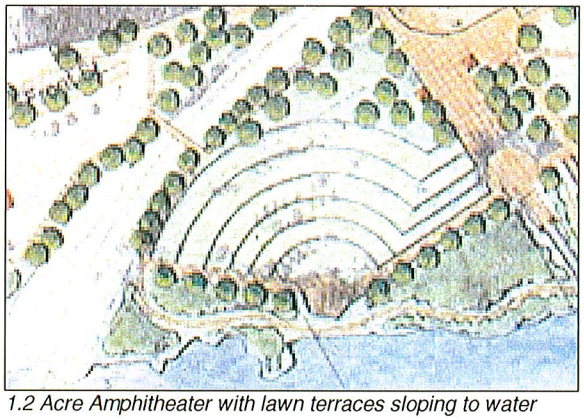
Several key parcels are identified as candidates for redevelopment to support riverfront activities, including the properties flanking the Temple/ Front Street intersection, the drive up bank building on Front St. and new parcels made available through the land reclaimed from the realignment of the Bridge St. intersection.

B. THE MASTER PLAN

Public Spaces

The majority of the study area, (approximately 90%), is recommended for dedication as public or community uses. These uses include the Amphitheater, Festival Park, Promenade and riverfront walkways, paths and trails, community recreation facilities including skating rink, playground and open play areas, and natural areas such as the river embankments.

The Amphitheater



1.2 Acre Amphitheater with lawn terraces sloping to water

Located south of the Temple St. corridor, the proposed amphitheater would occupy approximately 1.2 acres of land in part currently developed as 70 space municipal parking lot. The amphitheater is envisioned to be developed as broad lawn terraces, gently sloping to the river. The lawn terraces would be approximately 20 to 25 feet wide with a seating step between lawn panels. The lawn terraces function as great park space, offering attractive views down river and to the bridges. The grade changes at the terrace steps should be designed to blend with

Waterville Riverfront Master Plan

Waterville, Maine

Illustrative Site Plan

Approximate Scale – 1" = 220'

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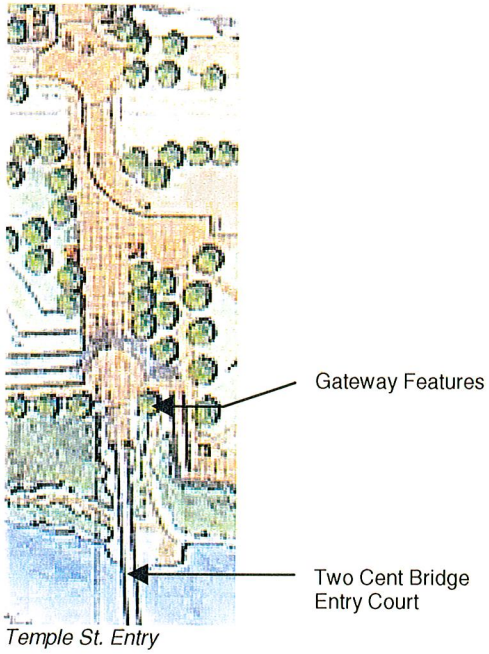
the lower entry plaza at the Two Cent Bridge that adjoins to the north. When used for performances, it is anticipated the amphitheater could hold between 900 and 1,000 people based on an average density of 1 person per 25 square feet (5'x 5'). A stage or performance area, either temporary or permanent would be erected at the bottom of the theater, with access to the adjoining pathways. The size and design of the stage area would be determined during subsequent detailed programming for the performance space. The upper or western portion of the amphitheater and adjoining park space is illustrated on land currently within the railroad right-of-way. In the area of the site between where the rail line crosses the river and Temple St., the rail right-of-way varies in width between approximately 60 and 110 feet. It is strongly recommended that in this portion of the study area, the railroad right-of-way be reduced to 60 feet or a width consistent with that of the balance of the right-of-way bordering the project area north of Temple Street. Although not essential for the development of the amphitheater, the acquisition of this additional right-of-way area would provide more functional open space and a larger more attractive buffer between the rail line and the amphitheater. (This adjustment to the right-of-way may be secured through negotiation with the rail line as part of the expansion of the intermodal facility). If possible, the existing sidewalk crossing the tracks should be retained and improved to reinforce connection between the amphitheater area and Castonguay Square.

Seating steps at amphitheater can serve as attractive park elements when not in use for performances.

The Temple Street Entry Sequence

The principle pedestrian and vehicular access into the site is through the Temple Street corridor via an existing easement across the rail line. This entry should be significantly improved with feature



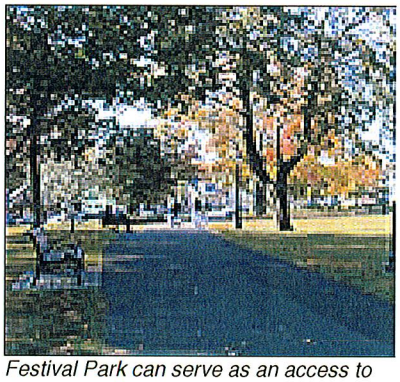
Temple St. Entry

paving, lighting, and gateway elements that celebrate the entry into the riverfront. These features lead to the Two-Cent Bridge, the unique and cherished historical resource that serves as the principle focal point of the riverfronts open space system. As the land slopes to the bridge, the plan envisions the development of an entry plaza at the deck elevation of the bridge. Accessed by steps and a ramp the entry court will serve as an appropriate gateway to the bridge and the connection to Winslow.

The Festival Park

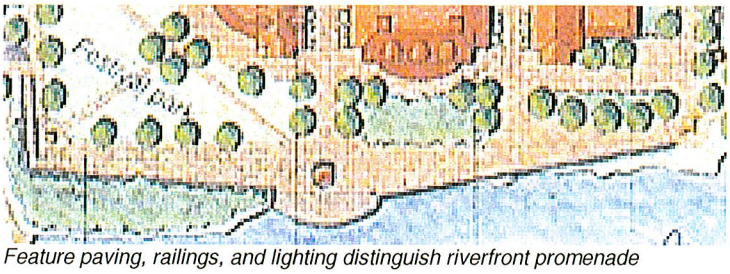
1.2 acre Festival park

Located north of the Temple St. entry and the Two Cent Bridge, the one-acre festival park is intended to serve as a large, centrally located park space. The park would function as an extension of Castonguay Square, creating an attractively landscaped open space that be suitable for both leisure activities and large community gatherings. The park would have a level lawn surface and be bisected by pathways with bordering vegetation. The park would serve both as an entry to the larger public spaces to the north and as a cross roads, linking the river walk, the Temple St. entry and the new commercial activities bordering to the north.


Festival Park can serve as an access to the river and an important community gathering space.

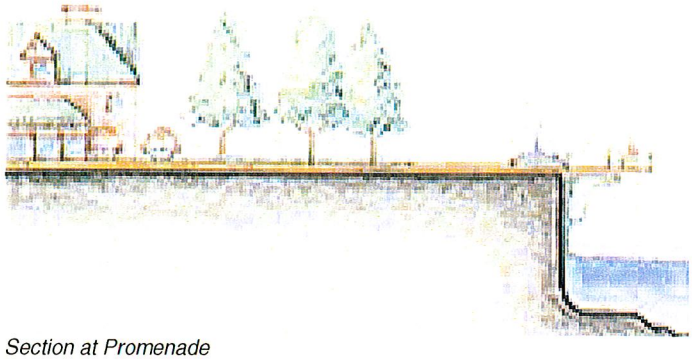
The Riverfront Promenade

The plan envisions a riverfront promenade be developed above the existing retaining walls. Built directly above the river, the walkway would connect the Temple St. entry / Two Cent Bridge with the community recreation facilities to the north. The wide walkway would feature elements consistent



Feature paving, railings, and lighting distinguish riverfront promenade

with those found in communities with successfully developed urban riverfronts - feature paving, attractive lighting and railings, and appropriate landscaping. The width of the walk varies from 20 to 50 feet, providing a dynamic experience for pedestrians. The promenade surface would be approximately 12 to 14 feet above the Kennebec. The western edge of the promenade would feature gardens areas to provide a soft contrast to the harder edge along the water. Developed in conjunction with the adjacent buildings, these landscape areas should subtlety distinguish and not screen the promenade from the bordering commercial activities. A belvedere is envisioned to be developed on axis with the Appleton St. view corridor to extend over the water providing the opportunity to view up and down stream. Pedestrian connections through the development parcels would provide linkages between the parking and the riverfront walk.

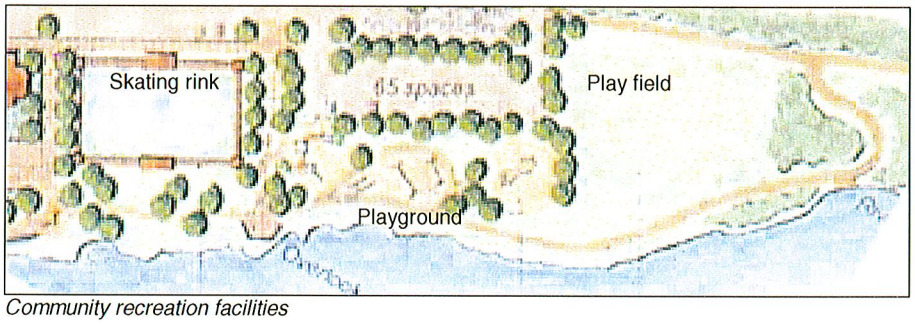


Section at Promenade

View south along Promenade

Community Recreation

Community recreation facilities comprise a significant component of programmed uses for the riverfront. In addition to passive activity areas such as the amphitheater, festival park and the promenade, the plan designates several areas for more active recreational activities. A community skating facility is located immediately north of Development Parcel C. This 80 x 150 foot rink is intended to provide year round activity, for both ice and inline skating. The facility is edged by



Community recreation facilities

a simple, roofed structure that offers shelter and can house changing rooms and warming areas. As noted below, it is desirable that the commercial uses in Development Parcel C support the adjacent recreational activities such as a cafe, skate rental, etc. A .5 acre playground is illustrated between the parking lot and the riverwalk north of the skating facility. The playground is intended to serve as a regional attraction, containing unique features that will distinguish it from other neighborhood play spaces. Industrial artifacts (or re-creations) can be used as a theme in the play structures to reference the history of the community. If developed properly, the skating facility and playground will serve as regional attractions, strengthening the appeal of the waterfront to a larger spectrum of visitors. A 120 ft. x 200 ft. lawn area for open field play is located north of the playground, easily accessed from the northern parking area.

Pathways and Trails

The ease with which people can get to and move about the riverfront will be critical to the project's success. The master plan recommends improvements to the pedestrian circulation system of sidewalks, pathways, and trails. The plan envisions a diverse pedestrian system highlighted by the Two Cent Bridge that will connect Bridge St. through the Head of the Falls site to the existing trail system. The southern portion of pathway system will run on the riverside of the development south of Temple on Front St. The path should be developed on the top of the embankment with structural support and stabilization where the slope of the embankment requires it. The pathway would connect to the Bridge St. sidewalk, and include a new river overlook developed at the existing concrete abutment just north of the bridge. This paved pathway would connect to the pedestrian system at the amphitheater and continue through the Head of the Falls site, connecting to the existing tote road that extends northward to the intermodal site.

A key component of the plan will be to create a loop trail across the Two Cent Bridge, connecting Waterville and Winslow. The path system would cross the Two Cent Bridge, follow the top of the bank in Winslow south of the Two Cent bridge, connect to the existing sidewalk on the Bridge St. bridge and then follow either the Front St. sidewalk or the new river path back to the Two Cent bridge. The creation of a loop will encourage foot traffic over the Two Cent Bridge and into the Head of the Falls site. The plan encourages Waterville to work

with the Winslow community to develop riverfront amenities such as an overlook and trail improvements. There are clear benefits to both communities to work together to support riverfront improvements.

Overlooks are located at several points along the pedestrian system to provide a closer vantage of the river. These are suitable locations for historical and interpretative elements that can be made part of the pedestrian system. The plan envisions the pathways as part of a heritage trail interpreting the industrial and cultural history of the Head of the Falls site. Artifacts (such as the Lombard tractor) and interpretive panels would be located at key points along the walkways. The trail system at the Head of the Falls site would link into the proposed multi-use trail developed on the existing tote road that extends up to, and as planned, beyond the intermodal center.

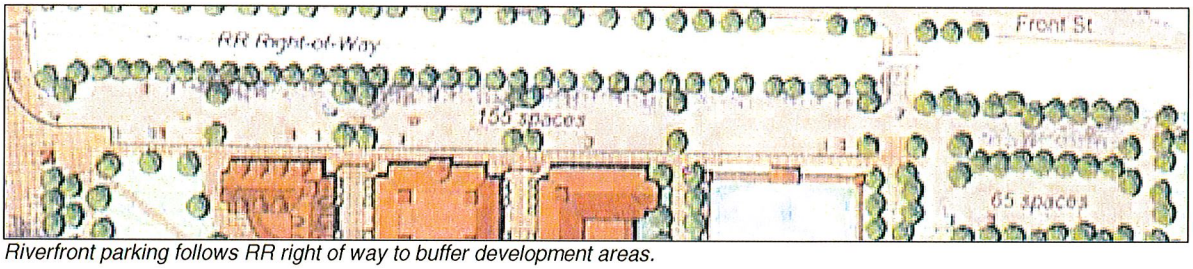
The plan recommends a pedestrian connection across the southern edge of the intermodal center at Ash St. to link the neighborhoods west of College Ave. to the existing multi-use trail and the riverfront. This connection should be secured in negotiation with the owners of the intermodal center who are seeking to expand the facility. This connection is important to enable the neighborhoods to the riverfront. The plan identifies several river contact points along the trail system. These would be located where existing grade slopes gently to the water, just north of the Two Cent Bridge and near the proposed play fields. Although river access is not desirable due to the downstream falls, points at which people can reach the water during safe periods of the year are appropriate for a riverfront park, particularly in light of the improving water quality of the Kennebec.

Surfacing

The pathways and sidewalks (including the festival park and promenade) in the developed portion of the riverfront area should have a higher level of finish with concrete and/or unit pavers. The trail connections such as that along the Kennebec north and south of the central developed area should be hard surfaced with asphalt. Softer surfaces typical of multi-use trails incorporating stone dust, broken stone or fine gravel should be used on the multi-use trail and the paths accessing the river.

Riverfront Access and Parking

The primary vehicle access/egress to the site is located at the existing Temple Street rail line crossing. Due to limitations of width, the existing underpass at the north end of the site would be used for exiting traffic only. New parking lots are located at the western edge of the site following the rail line. This location enables the parking to buffer the riverfront activities from



Riverfront parking follows RR right of way to buffer development areas.

adjacent to the rail line and provides for an efficient parking layout. The parking would be located adjacent to the development parcels, and with the well-defined pedestrian system, in proximity to the major open space features of the riverfront. A total of 155 parking spaces are provided in two bays against the tracks and 65 spaces in a lot to the north of the underpass. As the site access would be through the parking areas, it is desirable that the parking lots be developed as a streetscape with landscaping, sidewalks on each side and possibly a differentiated paving surface for the parking bays. With the removal of the existing 75 car municipal parking lot for development of the amphitheater, there would be a net gain of 145 spaces at the Head of Falls site. Prior to implementation, the status of dedicated parking at this lot for the Morning Sentinel (under a current lease agreement) and city hall employee parking should be addressed.

Should additional parking be required for the maximum development scenario, the proposed parking lot at the north end of the site could be expanded into the open play area to gain an additional 60 spaces. Should the economics of structured parking prove feasible in the future, the north end of the site would be a suitable location for a parking deck to provide additional parking. The following chart summarizes the relationship between the proposed development area and parking in the master plan:

Table 1- Analysis of Proposed Parking Demand

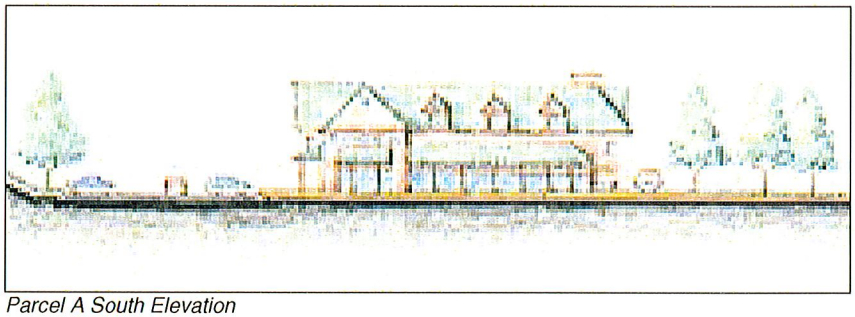
	Low Use	Parking Req.	High Use	Parking Req.	Total Low	Total High
Development Parcel A	6000 SF Rest (150 seats)	50 1 sp/3seats	6000 SF Rest (150 seats)	50		
			Inn 30 rooms	30 1 sp/rm	50	80
Development Parcel B	Office,Retail 20,000 SF	100 1sp/200SF	Office, Retail 30,000 SF	150	100	150
Development Parcel C	Office, Comm, Inst. 10,000 SF	50 1sp/200SF	Office, Comm., Inst 20,000 SF	100	50	100
subtotal					200	330
Displaced city hall Parking *					10	10
Displaced Sentinel Parking **					20	20
					200 - 230	330 - 360

* Alternative sites for city hall parking to be explored as well.
** Terms of agreement to be clarified. City is not obligated to provide parking if use of area changes.

Riverfront Development Parcels

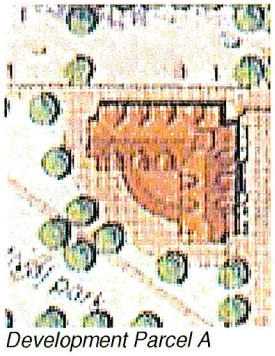
A two acre envelope, approx. 700 ft x 130 ft is designated for new commercial development on the riverfront. Within this envelope, three distinct development parcels are identified that accommodate the recommended development program. The development parcels and the public open spaces are designed to compliment and support one another – the development will bring activity to the riverfront and help animate the public spaces, the diversity of public spaces will draw people to the riverfront, helping to support the public oriented commercial activities.

Development Parcel A is located closest to Temple St. and fronts on the festival park. Active, publicly oriented uses, such as a restaurant and inn are recommended uses for this site. This site may be developed either as a single or multi level restaurant with approximately a 6,000 to 10,000 SF



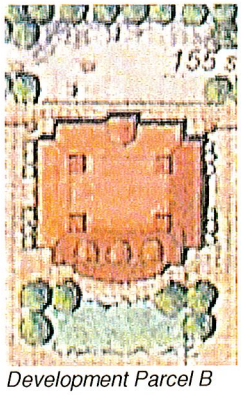
Parcel A South Elevation

(square foot) footprint. Alternately, a downtown inn, with 30 to 40 rooms would be an appropriate use for the upper levels of a building with a restaurant and retail uses on the ground floor. The total building size would not exceed 15,000 SF with a maximum mid-gable height of 35 feet. The building anchors the northwest corner of the festival park, opening southward with views down river to the bridges. As has been successfully developed in other riverfront projects and urban areas, the forecourt of the building is designed to accommodate uses such as a café that merge the public domain with private enterprises.


Development Parcel A

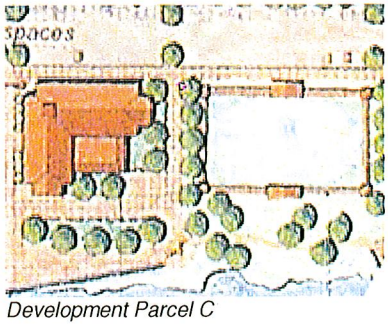
At 30,000 SF, ***Development Parcel B*** is the largest of the development sites and would be ideally suited for office and commercial uses. With a maximum footprint of 10,000 SF and a maximum height of four floors (45 to 50 feet), this parcel is designed for office uses on the upper levels and retail / publicly oriented activities on the ground floor. As the tallest of the structures, this building would serve as both a focal point and visual gateway to the riverfront.

Development Parcel B – River elevation


Development Parcel B

Development Parcel C with a maximum footprint of 10,000 SF and 20,000 SF in gross area is intended to be similar in size and massing to Development Parcel A. Office, commercial and /or institutional uses would be

Development Parcel C and Community Recreation – river elevation


Development Parcel C

appropriate in this location. The ground level should contain publicly oriented activities such as a café that would compliment the adjacent community recreation facilities.

Aerial Perspective Viewing North

View South Along Promenade

Waterville Riverfront Master Plan

Waterville, Maine

Perspective Views

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Kennebec River Elevation

Site Section South of Temple St.

Site Section North of Temple St.

Waterville Riverfront Master Plan

Waterville, Maine

Illustrative Site Sections

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C. DESIGN GUIDELINES

Design guidelines should be adopted to direct the siting and design of the proposed commercial buildings on the riverfront. As the scale, appearance, and quality of the commercial construction will have a significant influence on the ability of the riverfront to attract and sustain activity, it is important that the community institute a degree of control and regulation over what is built along the river. The following outlines some recommended guidelines for the design of commercial structures:

Intent

The development activities serve as a key link between the riverfront and the downtown area. Building design, height and massing should reflect the scale, character and detailing of historic structures in the downtown core.

Location

The north – south dimensions of the development parcels are defined by distinct separations (40 ft.) between the buildings, establishing view corridors from the downtown to the river. The eastern edge of the development area is defined at 200 – 225 feet from the eastern edge of the railroad right-of-way to ensure ample public open space along the river. The building should be sited close to the parking lot sidewalk to resemble the relationships between the setbacks of downtown structures and sidewalks. Maximum setback shall be 15 feet from the sidewalk. No off street parking or loading shall be permitted along the riverside of the buildings. Development activity should promote and not impede access to and along the river.

Table 2 – Development Parcel Dimension Guidelines

Parcel	Max. Footprint size	Max. Total SF	Max. Height
A	10,000	15,000	35
B	10,000	30,000	45
C	10,000	20,000	35

Materials and Appearance

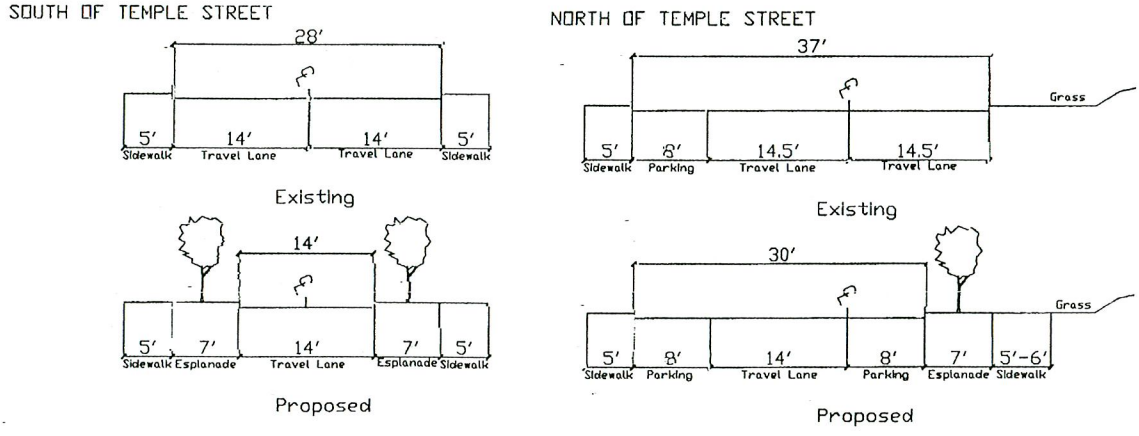
1. Facade material shall be traditional red brick. Windows and door heads, cornices and the like shall be made of contrasting material such as granite, cast stone or wood.
2. Unarticulated expanses of glass shall be avoided. Separate windows, divided lights or similar treatments are encouraged. The proportion of solid wall to window openings on the second and third stories shall be in keeping with historic downtown buildings of similar size and scale.
3. Building façades shall be articulated. Use of bays, decorative banding at floor levels, cornice detailing, etc. is encouraged.
4. Signage: Signage shall in keeping with the size, style and character of the building. Where possible, signage shall be integrated into the design of buildings by use of sign bands or similar treatments.
5. Building color shall be muted and sympathetic to historic uses in the area.

D. STREETSCAPE and CIRCULATION IMPROVEMENTS

In support of the riverfront development efforts, the plan recommends several public improvements be implemented to strengthen the connections between downtown and the riverfront. These involve modifications to the traffic patterns on Front Street and the alignment of the Bridge, Front and Spring St. intersection and streetscape improvements along Front, Temple, and Main Streets.

Front Street

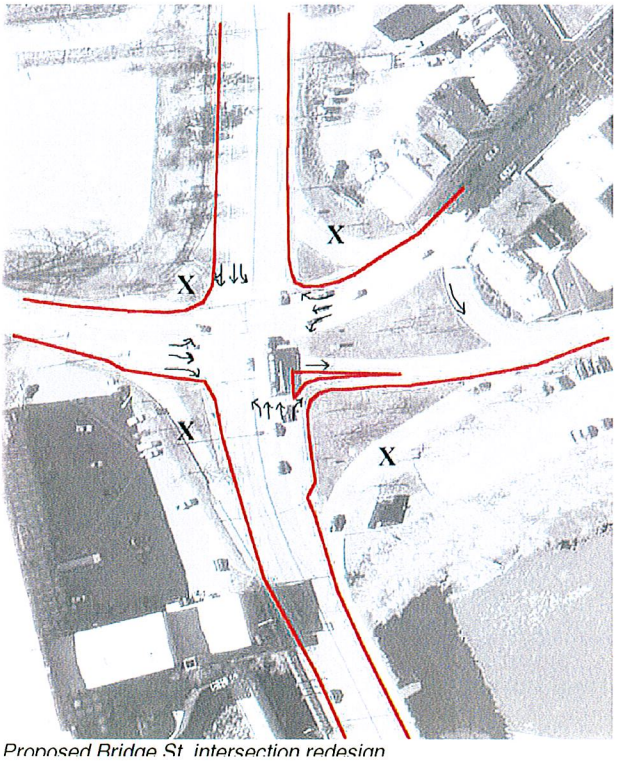
To improve the connection between downtown and the riverfront, it is imperative that Front Street does not function and appear as a barrier to pedestrian movement. Currently, the two lanes of traffic and the rapid speed of the traffic on Front Street creates a distinct separation between the downtown and the riverfront. The master plan recommends that Front Street be improved as an urban street, similar to Main Street rather than remaining a bypass thoroughfare. Front St. should be reduced to one lane of northbound traffic with ample, well-designated pedestrian crossing points. As illustrated in the accompanying diagram, the proposed change to the Front St. corridor into a single 14 foot wide travel lane would allow for streetscape improvements including landscaping and sidewalks as well as additional parking within the existing Front St. right-of-way.



Pedestrian crossings of Front St. will be shorter and designated with feature pavement treatments will blend seamlessly with the sidewalks and create "speed table" to slow traffic. As illustrated in the plan and sections, additional parallel parking could be developed north

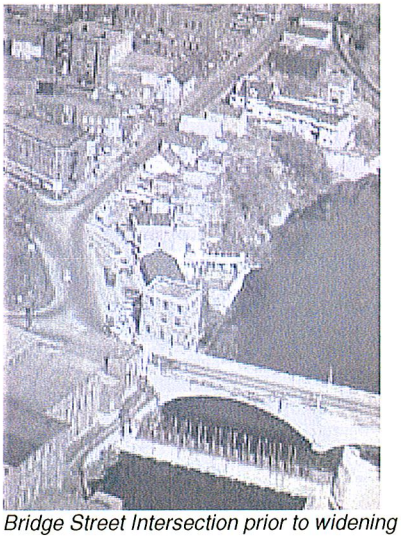
of Temple St., increasing the total number of on-street parking by 50 plus spaces. Information regarding the technical support for the proposed revisions to Front St. are found in Appendix D.

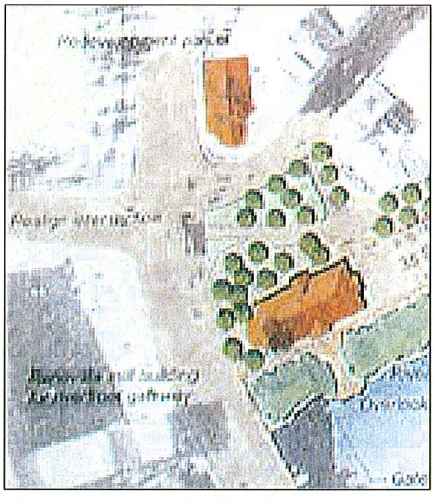
Bridge, Front and Spring St. Intersection



Proposed Bridge St. intersection redesign

The existing Bridge St. intersection offers a confusing and over-scaled entrance to the downtown. Analysis has determined that the intersection can be redesigned to moderate speed particularly that turning onto Front St. while remaining efficient at processing traffic. As illustrated below, the realignment plan would eliminate the "cut-offs" at Front St., Main St. and


Bridge Street Intersection prior to widening

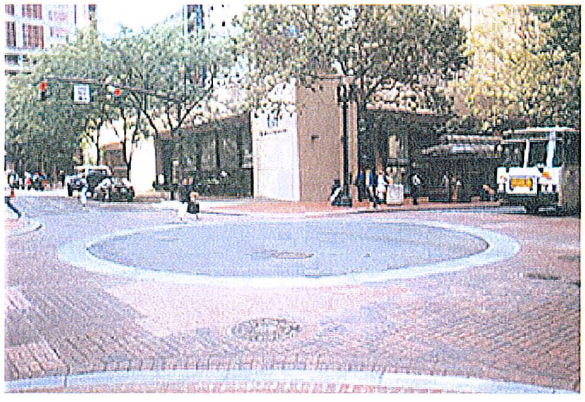

Realignment at Bridge St. offers development opportunities.

Water St. The new corners would have sufficient turning radii for all traffic, and the land reclaimed through the redesign could be used for open space or development. As noted below, this

realignment would create a prime gateway redevelopment parcel on Front St. This would reference the historical character of the intersection in which buildings formed a gateway to the community and the intersection had a more compact design. Technical support for the intersection redesign appears in Appendix D.

Temple St. Corridor

Temple St. serves as the primary pedestrian and vehicular connector between downtown and the riverfront. The plan proposes to retain the existing traffic patterns on Temple St., with an overlay of street improvements so that potential conflicts between pedestrians and traffic are mitigated. Distinctive streetscape improvements including paving, landscaping, and lighting details will serve to extend the riverfront theme up Temple St. to Main Street. These design features will help to draw attention and promote pedestrian activity between Main St. and the riverfront. Similarly, improvements to the Temple St. roadway such as paver surfacing will identify Temple St. a unique environment, and encourage movement to the riverfront.



Pavers at intersections signify importance of location and aid in traffic safety by slowing traffic and designating crosswalks.

A large paver feature should be located at the intersection of Front and Temple St. to identify the importance of the intersection. Such features help identify pedestrian crossings and slow through traffic.

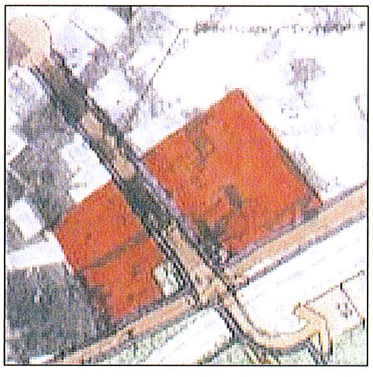
Main Street

Main Street serves as the gateway to the riverfront. Riverfront design features should be carried up Temple St. to Main Street. Gateway elements should be located on Main Street to signify the importance of the Temple Street corridor. The open edge along the Concourse should be strengthened through landscaping and/or development to draw attention on the Temple Street intersection. An sculptural feature, possibly evocative of the Two Cent Bridge ironwork, could be located on this improved landscaped edge to identify the importance of the Temple St. gateway.

College Ave. Connection

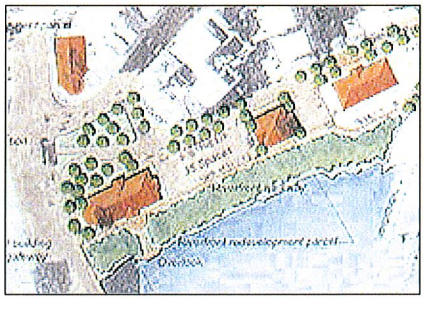
The master plan recommends the elimination of the confusing road network north of the Head of the Falls site. A new direct connection between Front Street and College Avenue is proposed to allow for an understandable and direct return to the downtown. The development of this loop will support the riverfront development by improving vehicular access circulating between the riverfront and downtown on the existing one-way traffic pattern.

Redevelopment Parcels



Key redevelopment parcels at Temple St. gateway.

The master plan identifies several key parcels adjacent to the Head of the Falls site as suitable for future redevelopment. The sites flanking Temple St. at the Front St. intersection are prime redevelopment candidates. A successful riverfront project will create demand for adjacent development, encouraging uses and development patterns compatible with the new riverfront activities. Guidelines for development should follow that of the riverfront, with references to the surrounding building fabric. Similarly, new development opportunities will be created with improvements to Front St. and the Bridge St. intersection. The importance of the gateway features should not be understated, and redevelopment opportunities should seek to reinforce the core and edges of the downtown.



Redevelopment parcels at Bridge St gateway

III. RECOMMENDED PHASING AND IMPLEMENTATION STRATEGY

Implementation of the riverfront master plan should proceed through a well-choreographed set of steps. The strategy can be divided into several disciplines including organization, economics, programming and physical improvements.

A. Organization.

A successful redevelopment of the riverfront will be dependent on the creation of a suitable implementation organization and support staff. This organization and political infrastructure to support it will be essential to bring the vision set forth in the master plan to a reality, and sustain it into the future.

As was noted throughout the master plan process, there is concern regarding the City of Waterville's responsibility and potential costs, in terms of capital improvements and ongoing maintenance for the public portions of the riverfront project. Given the pressures on municipal budgets, this is certainly a legitimate concern, and to be done correctly, the project will likely require a substantial investment of both public and private funds. A model that has worked successfully in other cities (In Hartford, Connecticut, the River Recapture project, in New York City, the Central Park projects and the Midtown Improvement District to name a few) is the development of a non-profit corporation to partner with the city to implement and maintain the project. This organization might consist of leaders of business and industry who have a stake in the economic, social and cultural well being of the city (Colby College, Thomas College, the hospitals, Marden's, Hathaway, the Mitchell family, etc.), partnered with residents and the city administration. With minimal risk, the organization could raise and leverage funding for capital improvements and maintenance, participate in project implementation and assist in programming and marketing the project. The support such an organization could bring to the riverfront may exceed what the city administration could achieve acting alone.

Staff for the project may involve both city and outside sources. A non-profit organization like WRACC could play a key role in partnering with the city to fulfill the requirements for implementation and programming.

B. Financing

Financing Approaches

Implementation of the Master Plan for the development of the Waterville Riverfront will require a combination of public and private investment. The public investment will involve the development of the basic infrastructure necessary to support redevelopment as well as the construction of the proposed public facilities. The private investment will involve the construction of buildings for private use.

This section looks at possible ways for funding the public investment that will be needed to carry out the Master Plan. There are essentially four basic approaches for paying for these improvements under current conditions:

1. Funding through the City's general fund paid for essentially by property tax revenues
2. The use of a Tax Increment Financing district or TIF
3. Grants and loans from other sources
4. Private fund raising including sponsorships

General Fund Financing

This is the simplest approach but most costly to the City in the long term. The City could borrow the funds needed for the public improvements through a bond that would be repaid over a number of years by the taxpayers of the City. This is probably the least attractive funding approach but represents the fallback source of funding if other sources are inadequate.

Tax Increment Financing

When a building is built or improved, the City charges the owner of that building property taxes based upon the assessed value of the property. These property tax revenues normally go into the general fund and are used for the overall operation of the City and school system. Maine law allows a municipality to set aside all or a portion of the property taxes from new nonresidential development for economic development purposes through the creation of a tax

increment financing (TIF) district. Within this district, all or a portion of the property tax revenues paid by new taxable valuations can be used for specified economic development activities rather than going to the general fund. These dedicated funds can be used for a range of activities including construction of infrastructure needed to support the private investment, credit enhancement agreements with the private party making the investment, general economic development activities, etc. In the case of the Riverfront redevelopment, a TIF could allow some or all of the property taxes paid by the owners of the new buildings constructed on the riverfront to be dedicated to paying for the infrastructure (street, utilities, drainage, parking) required for the project. The revenues derived under a TIF could not be used, however, for the recreational facilities.

The use of tax increment financing has an additional benefit for the City since the new valuation within the TIF district is "sheltered". This means that this increase in valuation is not included in the official state valuation figures that are used in determining the City's education subsidy, are used in calculating the City's share of the County tax, and are part of the state revenue sharing formula. This has potential financial benefits for the City. The formula used to determine the amount of state education subsidy the City receives essentially is based upon the property valuation per pupil. If new development increases property valuation without increasing the number of pupils in the school system, the valuation per pupil goes up and the City is viewed as "richer" and therefore more able to pay for school costs locally. As a result, the state education subsidy goes down. For the current year, if there had been new private development valued at $5,000,000 on the waterfront, the state's educational subsidy would have gone down by about $7,600. When county tax and revenue sharing impacts are included, the City would lose almost $10,000/year as a result of this new valuation. This reduces the property tax benefit by this amount.

The use of Tax Increment Financing for infrastructure improvements must be done cautiously. The property tax revenues that are dedicated for this purpose occur only if there is, in fact, new valuation from new development that pays property taxes. Some communities have gotten into trouble by creating a TIF district and doing infrastructure improvements without assurances that the private investments would actually be made. In one community, extensive public improvements were made with the expectation that private investments

would occur resulting in new property taxes that would go into the TIF account to pay for the improvements. But the private investment never occurred at the level anticipated and the Town is now faced with paying for the improvements with little or no TIF revenues. Therefore, use of TIF funding should be tied to assured private investment.

Grants and Loans

Most grants have annual deadlines with the exception of the Department of Transportation which has a two year cycle of funding within a larger six year transportation plan. It will take some time to get included in this funding but they can then provide funding on alternate years over the next six year cycle.

• Department of Transportation:	Enhancement funds, next cycle: Bicycle and Pedestrian funds: (range about $400,000 per proposal)	October 2002 October 2002
• Department of Conservation:	National Recreational Trails Funds ($25,000 per proposal)	Dec 1, annually
• Land and Water Conservation Funds	Deadline not announced yet, funds just dedicated for next year	
• Department of Community and Economic Development:	CDBG $400,000	Deadlines thru-out year

Waterville may qualify for funding under several options in the CDBG program:

- Slum and Blight
- Previous Urban Revitalization plan
- Under 1990 census part of the city qualifies as low and moderate income which could benefit the targeted riverfront and downtown areas - this may change as soon as the 2000 census is in, so it is advisable the City act immediately to qualify for funding.

All of these state departments have grants which can support ongoing programming on the riverfront focusing on community, arts, heritage, etc. Many of these may be written to include partial funding for the actual restoration of the riverfront.

U.S. Department of Agriculture (USDA)
U.S. Department of Commerce (DOC)
U.S. Department of Defense (DOD)
U.S. Department of Education (ED)
U.S. Department of Energy (DOE)
U.S. Department of Health and Human Services (HHS)
U.S. Department of Housing and Urban Development (HUD)
U.S. Department of Interior (DOI)
U.S. Department of Justice (DOJ)
U.S. Department of Labor (DOL)
U.S. Department of State (DOS)
U.S. Department of Transportation (DOT)
Advisory Council on Historic Preservation (ACHP)
Corporation for National and Community Service (CNS)
Environmental Protection Agency (EPA)
Federal Emergency Management Agency (FEMA)
Institute of Museum and Library Services (IMLS)
National Endowment for the Arts (NEA)
National Endowment for the Humanities (NEH)
National Science Foundation (NSF)

Technical Assistance in Rail area, trails or riverfront restoration:
National Park Service, Brunswick Office, Apply before June 2001

The following is a sampling of private foundations that support projects in Maine that would be appropriate requesting funds from $1,000 to $100,000. This list is not divided into categories since many of them overlap, i.e., ask for funding for the physical changes as well as for ongoing programming. The function of this list would be to first provide funding for the riverfront restoration itself, then ongoing for cultural, heritage, arts, community, and educational programs. Many grants could be structured to include both restoration and programming. Some have annual deadlines, others have multiple deadlines per year. Since this is a multi-year project, specific deadlines are not listed.

Kenduskeag Foundation	Charles Butcher Fund	Martin Foundation
Libra Foundation	Bay Foundation	Ford Foundation
Maine Community Fund:	Henry and Joan Berry Fund	B. & W. S. Conover Foundation

Baker Conservation Fund	Baldwin Foundation Trust	Connemara Fund
King Cummings Fund	Baldwin Foundation	John Channy Trust
Maine Charity	Baker Charitable Trust	Edmund and Betsy Cabot
Pew Trusts	B and R Foundation	Ellis L Phillips Foundation
Great Northern Nakoosa Foundation	American Stock Exchange Corp. Giving	Rockefellers Brothers Fund and Foundation
Kresse Foundation	American General Foundation	Nellie May Foundation
Market Trust	Agway Foundation	Phillips Van-Heusen
Davis Conservation Foundation	Agape	Gilbert Verney Foundation

Samples of foundations that can be approached for community programs organized around cultural and heritage regional development, physical improvements and program development and delivery:

Ford Foundation - in conjunction with EMDC

Maine Arts Commission

Maine Humanities

Coordinating all riverfront and downtown projects into a single master plan.

The Kennebec River Trails project from Fairfield to the Head of the Falls in Waterville is a project which will compete with the riverfront restoration for the same categories of funding in several areas. Linking these two projects together will greatly enhance raising funds for both projects when seen as one coordinated community vision. Each project is over a million dollars and for the area to work on these separately simultaneously will not only have them compete against each other, it will not allow the area to leverage funds raised for one project to be matched as part of the other.

Private Fund Raising

The potential for private fund raising for the public and community facilities should be explored. The City has already used this approach for the Stearns Building project and an organization is in place with experience in fund raising. The Master Plan should carve out possible projects that could be done through community fund raising.

A second approach that is growing in popularity is the use of commercial sponsorships for underwriting the costs of community facilities. While this approach is most popular with sports arenas, stadiums, and civic centers, it may be able to be used for specific waterfront facilities such as the amphitheater.

A third approach for private fund raising involves finding a benefactor who is willing to underwrite the cost of a particular improvement. In some cases, former or residents who have gone on to be successful can be a source of this type of funding.

A final approach to private funding involves the development of a "wish book" in which various aspects of the development are identified and priced out. Individuals or businesses can then buy that element and receive recognition at the waterfront. For example, fixtures such as benches, lights, planters, fountains etc. may be able to be paid for in this way. A number of years ago, the City of Portland did this and wound up getting someone to donate a bandstand for Deering Oaks Park. Other communities have used this approach with various degrees of success but the concept of "buying" a specific element of the project can be attractive for some people.

Fiscal Implications

Development of the Riverfront as envisioned in the Master Plan will result in increased property tax revenues for the City as a result of private, taxable development. This will probably be the only ongoing revenue source of any significant magnitude. At the same time, the development could generate some demand for additional public services. This section analyzes the potential revenues and costs associated with the project.

Potential Revenues

The primary on-going source of revenue from the redevelopment of the Riverfront will be the property taxes paid on any private development that occurs as a result of the project. There also is the potential for incidental revenues such as use or parking fees but these are unlikely to be significant revenues. If the City decided to lease rather than sell the redevelopment sites, there is also the potential for an annual rent payment.

The amount of property taxes that will be derived from the project on an annual basis is a function of the value of the private real estate and taxable personal property and the City's tax rate.

The following analysis looks at the potential property taxes based upon a high value and a low value development scenario:

High Value Development Scenario

Building A	15,000 SF of Restaurant/Retail/Office Space	$1,500,000
Building B	30,000 SF of Office/Commercial Space	2,700,000
Building C	20,000 SF of Office/Commercial Space	1,800,000
Taxable Personal Property		500,000
Total Assessed Valuation		$6,500,000
	Times Current Tax Rate	X 0.02499
Estimated Annual Property Tax Revenue		***...$162,435***

Low Value Development Scenario

Building A	6,000 SF Restaurant	$720,000
Building B	20,000 SF of Office/Commercial Space	1,600,000
Building C	10,000 SF of Office Space	...800,000
Taxable Personal Property		200,000
Total Assessed Valuation		$3,320,000
	Times Current Tax Rate	X 0.02499
Estimated Annual Property Tax Revenue		*....$82,967*

Potential Service Costs

Development of the riverfront as envisioned in the Master Plan will probably result in some additional demand for public services. The exact nature of these services will vary depending on the amount and type of public and private development and arrangements for the maintenance responsibilities of parking areas and other infrastructure. It is possible to generally evaluate the likely impacts of development on services and to assess the ability of the operating departments to provide those services. The impact of riverfront development is likely to fall primarily on the police department, public works department, and the parks and recreation department:

C. Phasing of Improvements

The implementation of physical improvements identified in the master plan will be likely be phased in over a period of years, based on availability of funding. Investment in public improvements should follow two parallel tracks: one, investment in infrastructure to support private investment and two, development of public amenities to draw people to the riverfront. The following outlines a recommended sequence of public improvements to develop the riverfront. Engineering and design time are included in each of the vents noted below. A time line for these activities should be derived in further discussions with the city.

1. "Small Wins" Begin immediately to make small improvements to the riverfront such as clearing brush, and opening vistas to the river to show that improvements are beginning and to get the community focuses on the project.
2. Initiate detailed survey of project area, including topography, utilities, and boundaries.
3. Negotiate with Guilford Industries.- Secure easement rights across property near Ash Street and narrow rail R.O.W south of Temple St.
4. Renovation of Two Cent Bridge, including lighting. Develop plan for lighting of falls and RR bridge.
5. Develop pathways along the river south of Temple St. Connect to Bridge St. and temporary connection across riverfront to link to existing trail system.
6. Develop amphitheater and portion of public parking including necessary public infrastructure for commercial development.
7. Develop Temple St. entrance area and Two Cent Bridge entrance court.
8. Develop riverfront promenade.
9. Develop community recreation facilities.

IV. COST ESTIMATES

The cost estimate that follows represents informed assumptions about the level and type of riverfront improvements. More detailed design and engineering will be required to develop more accurate estimates of probable cost, yet these estimates are likely representative of the level of public investment required. The estimates include the Head of the Falls site and do not contain costs for improvements at Front St, Temple St. Main Street or the Bridge St intersection.

Waterville Riverfront Master Plan
Head of the Falls Site

Conceptual Cost Estimate

Coplon Associates
11/16/00

ITEM	QUAN.	UNIT	UNIT COST	ITEM TOTAL	SUBTOTAL	REMARKS
1. Removals						
a. Misc removals	1	Allow	$10,000.00			incidental removals
					$10,000	
2. Earthwork						
a. Common Excavation	500	CY	$7.00	$3,500		Req. site work
b. Common borrow	500	CY	$8.00	$4,000		Req. site work
c. Finish Grading	50000	SY	$3.00	$150,000		
d. Excavation for amphitheater	1500	CY	$7.00	$10,500		
e. Reclaim ex. asphalt parking lots	3333	SY	$1.50	$5,000		Incl removal, stockpile and placement
					$173,000	
3. Sediment and Erosion Control						
a. Sediment/Construction fence	1700	LF	$2.50	$4,250		
b. Haybales, CB inlet protection		Allow	$4.00	$500		
c. Dust abatement		Allow	$2,000.00	$0		
					$4,750	
4. Storm Drainage						
a. Catch Basins	20	EA	$2,500.00	$50,000		
b. Piping	2700	LF	$40.00	$108,000		New and replacement of existing lines
					$158,000	
5. Paving, Curbing and Surfacing						
a. Bituminous Concrete Pavement - Parking	15260	SY	$7.75	$118,265		parking areas, 3" pavement
b. Bituminous Concrete Pavement - Walkways	2500	SY	$7.75	$19,375		
c. Granite Curbing	2700	LF	$35.00	$94,500		5"X18" standard granite curb
d. Pavment Markings	4400	LF	$0.25	$1,100		parking stall delineation
e. Feature Paving	43500	SF	$7.50	$326,250		unit pavers.(subst. Concrete surface, subtract $152,250)
f. Soft surface trail	900	LF	$3.00	$2,700		repair existing
					$562,190	
6. Utility Lines	allow	LF	$33.00	$75,000		New sewer and water
					$75,000	
7. Ramp, Steps and Walls						
a. Repair / recap existing retaining wall	600	LF	$100.00	$60,000		
b. New retaining walls for ramp	150	LF	$250.00	$37,500		at south end of promenade
c.Seating steps at amphitheater	1600	LF	$50.00	$80,000		
d. Steps at Two Cent Bridge entry court	500	LF	$50.00	$25,000		
e. Belvedere		Allow		$50,000		cantilevered platform
					$252,500	
8. Site Furnishings / Amentites						
a. Ralilings along promenade	650	LF	$150.00	$97,500		
b. Playground and play fields		Allow		$200,000		
c. Benches	25		$800.00	$20,000		
d. Misc. Site furnishings		Allow		$25,000		trash receptacles, bollards,flagpole,s etc.
e. Heritage features		Allow		$30,000		relocate existing and fabrication.
					$372,500	
9. Lighting						
a. Parking Area Lights	18	EA	$3,500.00	$63,000		
b. Pedestrian lighting	50	EA	$2,500.00	$125,000		
c. Conduit and conductor runs	2000	LF	$20.00	$40,000		parking lot area only
					$228,000	
10. Landscaping						
a. Loam	1000	CY	$30.00	$30,000		furnish, spread, fine grade 4" loam, fertilize, hydroseed
b. Seeding	90	MSF	$40.00	$3,600		
c. Plants						
1. Trees	175	ea	$500.00	$87,500		average price for 3- 4" cal. tree
2. Shrubs	500	ea	$50.00	$25,000		
					$146,100	
Subtotal - Site work					**$1,982,040**	
Fees, and soft costs (17%)					$336,946.72	Legal, design and permitting fees
TOTAL					**$2,318,986**	

Appendix A

Executive Summary

EXECUTIVE SUMMARY

The Master Plan for the Waterville Riverfront represents the results of nearly a year-long planning effort. The Waterville community was actively engaged in the planning process, contributing to the design process through several public workshops in which goals and desires for the riverfront were discussed, possible uses and activities were identified, and alternative development scenarios were presented.

The Riverfront – Public Open Spaces

As illustrated in the Land Use Plan, the majority of land along the riverfront is dedicated to public uses. A variety of linked public spaces are envisioned to be developed along the river's edge, connecting Bridge Street to the regional multi-use trail proposed for the west bank of Kennebec River. The public spaces identified in the plan reflect opportunities for a diversity of activities that will serve to attract people to the riverfront throughout the year.

The site is organized into several use or activity zones. Focused around the Two-Cent Bridge, the Temple St. corridor serves as the primary gateway to the site, establishing a strong axial connection between downtown and the riverfront. An ***entry court*** is proposed at the entrance to the bridge, connecting activities to the south of the Temple St. spine with the balance of the site to the north. The ***amphitheater*** to the south of Temple St. is comprised of several broad lawn steps, creating an attractive passive recreation area when not in-use for programmed activities. The one- acre amphitheater could accommodate up to 1,000 spectators for performances. A 1.2 acre ***festival park*** is located north of the Temple St. corridor providing opportunities for community gatherings and group activities. A broad ***riverfront promenade*** edges the river along the existing retaining wall, connecting the festival park with the community recreation areas to the north. Developed with attractive railings, lighting, and surfacing materials, the promenade will draw people to the river with elements similar to well-known waterfront projects in larger communities. A belvedere extends out over the river affording vistas up and down stream.

The promenade links the passive pubic open spaces to the south with a variety of more active ***community recreation facilities*** to the north. A year round public skating area (approximately 80' x 150') is located adjacent to Development Parcel C, with a playground and play fields located north of the skating facility. If developed properly, the skating facility and playground will serve as regional attractions, strengthening the appeal of the waterfront to a larger spectrum of visitors.

The Riverfront – Development Opportunities

Three primary development parcels are identified within the Head of the Falls site. Facing south, ***Development Parcel A*** is located closest to Temple St. and fronts on the festival park. Active, publicly oriented uses, such as a restaurant and hotel are the most appropriate uses for this site and will help animate the adjacent public spaces. For a multi-level, multi-use building, a restaurant and supporting retail development should be located on the first floor with a small hotel above. A properly designed stand alone restaurant facility would also be suitable in this location. Maximum size of this facility would be 15,000 SF and three levels (35 feet). Located north of Parcel A, ***Development Parcel B*** is the largest of the parcels and would be suitable for office and commercial uses. At 30,000 SF and a maximum of four levels (40 to 45 feet), the parcel is intended to encourage office uses on the upper levels and retail / publicly oriented activities on the first level. ***Development Parcel C*** (max. 20,000 SF), similar in size and massing to Development Parcel A, may contain a variety of uses from office to commercial to institutional. The ground level publicly oriented activities such as a café should be developed to compliment the adjacent community recreation facilities. The north – south dimensions of the development parcels are defined by distinct separations between the buildings, establishing view corridors from the downtown to the river. The eastern edge of the development area is defined to secure ample public open space along the river. Design guidelines for the buildings will encourage development consistent with the materials, scale and appearance of the best of the downtown's buildings.

The Riverfront – Redevelopment Opportunities

Successful development of the riverfront may be supported by redevelopment of key adjacent downtown parcels. The parcels bordering the intersection of Temple and Front St. offer

commercial development potential and substantial opportunities to improve linkages between the riverfront and downtown. Improvements along Front St. and at the Bridge/Front/ Spring St. intersection can create opportunities for new commercial development to support the efforts begun by the Morning Sentinel. New buildings in this area, reminiscent of historical development patterns, will strengthen the gateway into Waterville and reinforce the edges of downtown.

Pedestrian Connections

The ease with which people can get to and move about the riverfront will be critical to the project's success. The master plan recommends improvements to the pedestrian circulation system comprised of sidewalks, pathways, and trails. The plan envisions a pedestrian system highlighted by the Two Cent Bridge that connects Bridge St. through the Head of the Falls site to the existing trail system that extends north to the intermodal center. The trail may feature a heritage theme, providing historical references to Waterville's rich cultural and manufacturing past. Overlooks and river contact points are located at key points along the path system. The plan recommends a pedestrian connection across the southern edge of the intermodal center at Ash St. to link the neighborhoods west of College Ave. to the existing multi-use trail and the riverfront.

Vehicular Circulation and Gateway Improvements

The ability to knit the riverfront back into the downtown will have a significant impact on the success of the riverfront project and the benefits projected back into the downtown. To assist in this integration, the plan recommends improvements to the road system accessing the riverfront. Front Street is envisioned to resemble other urban streets in the downtown rather than a thoroughfare to move traffic out of town. The plan recommends on-street parking north of Temple St., widened sidewalks, pedestrian crosswalks at intersections and streetscape improvements. Traffic data supports the reduction of through traffic on Front St. to one lane, creating opportunities for on street parking, walkway improvements and landscaping. The southern gateway intersection at Front/Bridge/Spring Street is simplified to reduce the confusing traffic patterns and reduce traffic speed entering Front Street. Supported by traffic data, the realignment of the intersection creates additional useable public space and development

opportunities on the along the river. A new connector is proposed to link Front St. directly to College Ave., allowing a simpler and quicker return to downtown.

Improvements at key gateways to the riverfront will be critical to drawing activity to the river. Paving and streetscape improvements along Main St. near the Temple St. intersection will assist in identifying the riverfront gateway. Better definition to the western edge of Main St. along the Concourse with landscaping and/or building will help strengthen the Main St. corridor and focus attention on the Temple St. gateway.

Riverfront Access and Parking

Primary vehicle access/egress to the site is provided at Temple Street. The underpass at the north end of the site would be used for exiting traffic only. Parking lots are located at the western edge of the site, buffering the riverfront activities from adjacent to the rail line. A total of 155 parking spaces are provided in two bays against the tracks and 65 spaces in a lot to the north of the underpass. There would be a net gain of 145 spaces at the Head of Falls site. Reducing Front St. to one lane of traffic creates approximately 50 new on-street parking spaces.

Appendix B

Existing Conditions and Site Analysis

EXISTING CONDITIONS AND SITE ANALYSIS

A. Study Area

The Waterville Riverfront project area consists of 23+ acres of undeveloped land with approximately 4,600 feet of frontage along the Kennebec River. The site is bordered by the Kennebec River to the east, Front Street and the Guilford Rail Systems rail line to the west, Bridge Street to the south and the Guilford Intermodal facility to the north. Of the 23+ acres that constitute the site, 11.5 acres are owned by the City of Waterville and 12.5 acres are owned by the State of Maine. It is anticipated that nine of the twelve acres owned by the state will be transferred to the City of Waterville and the remaining 3+ acres will be transferred to the adjacent intermodal transportation facility. In consideration of the context of the site within the downtown area, the study area is roughly determined to be Elm Street to the west, The Kennebec River to the east, Spring St. to the south, and Union Street to the north.

B. Site Mapping

Existing aerial photography and City of Waterville assessing maps were used for the project maps.

C. Zoning And Regulatory Criteria

The study area is described by several zoning districts, Commercial (C-A), General Industrial (I) and Resource Protection. (RP). The city owned land is an equal mosaic of Commercial and Industrial zoned properties. The RP district is contained in the state owned property. Zoning district description and map are attached. The 100 year flood zone (Flood Insurance Rate Map, zone AE) is locate at elevation – and closely parallels the river, with the exception of the area between the Two Cent Bridge and the rail road trestle, where the flood zone widens to approximately 100 feet from the water. The designated flood zone in the RP zone is approximately 60 to 80 feet wide. Development is permissible within the AE zone provided that there are no downstream effects resulting from changes in the floodway and structures are suitably flood proofed. Setbacks for structures is 25 feet from the high water mark of the river. Development on top of existing abutments is permissible within the

state mandated setback, but should be reviewed with the Department of Environmental Protection during the planning stages.

D. History

The history of the Kennebec riverfront, particularly that of the Head of the Falls area, reflects important periods in the development of the City of Waterville. The river served as the center of transportation and commerce and as the city grew, numerous mills and small manufacturing businesses developed along the waterfront. By 1900 a dense assemblage of residential and industrial uses co-mingled in the narrow area between Front Street and the river. The introduction of the rail line in the mid 1800's spurred larger industrial activity which began to marginalize the smaller commercial and residential uses. The area became home to immigrant groups, most notably the Lebanese and French – Canadians, who formed distinguished, closely-knit communities in the area . With the decline of the railroad and the migration of businesses and residents out of the downtown area after the second world war, the Head of the Falls area deteriorated. As part of the urban renewal efforts in the 1960's, the district was determined to be a "blighting" influence on the city and most of the buildings, roads and infrastructure were removed. The area has lay fallow for many years, and only recently, with the development of the Morning Sentinel property, have redevelopment efforts begun. Recognizing the economic value of the riverfront to the downtown area and the social value the area holds for the citizens of Waterville, the city has begun a comprehensive planning effort to ensure appropriate and compatible uses are developed in the future. The most notable remaining historic feature is the Two Cent Bridge, a remarkable foot bridge which carried pedestrian traffic across the river between the mills in Winslow and the City of Waterville. Recently restored, the bridge is listed in the National Register of Historic Places.

SITE ANALYSIS

A. Site Context and Characteristics

The riverfront study area is located east of the downtown, adjacent to the central business district. Bordered by the Guilford rail line on the west and the river to the east, the site extends approximately 4600 feet from Bridge Street on the south, to the Guilford intermodal facility on the North. The site varies in width from approximately 400 feet at the widest point adjacent to the Two Cent Bridge, to 180 feet, within the state owned parcel north of union Street. The following summarizes relevant characteristics and features of the site:

Vegetation and Land Cover - The central portion of the site between the railroad bridge and the crossing under the tracks north of Union Street is largely unvegetated with some pioneering growth along the river bank. The north of the site, that section zoned RP and currently owned by the state is more heavily vegetated, with immature growth of maple, poplar, birch and other hardwoods. South of Temple Street the site is more heavily developed with an existing 76 space municipal parking lot. Between Bridge Street and the railroad trestle, the steep slopes leading down to the river are thickly vegetated with volunteer shrubs and young hardwoods. The vegetation plays an important role preventing erosion by stabilizing the steep river embankments. The plateau at the top of the embankment along Front Street is the only section within the study area that is largely developed.

Soils - The soils in the study area are largely an urban complex, consisting of a variety of materials from previous uses and activities on the site. To date, testing has not been initiated to determine the type, quality and environmental suitability of the in situ materials. There is no evidence of hazardous or toxic wastes on site. Additional testing will be required before pursuing site specific recommendations.

Topography - The site is generally level, with a gentle slope to the north and toward the river averaging between two and four percent. Throughout most of the length of the site, this level plateau drops off sharply toward the river. At the south end of the study area,

there is a high and steep embankment giving way to a lower and more gently sloping edge to the river at the north, as the elevation of the site decreases. No detailed topographic mapping of the site is currently available.

Drainage and Hydrology – No significant natural drainages or water features exist on the site. The watershed is limited to the project area, with off-site contributions limited by the storm drainage system in Front Street. Site drainage is characterized by overland sheet flow toward the river. Some surface runoff is concentrated into drainage swales discharging into the river, most notably in the northern portion of the site.

Utilities – Front Street contains several storm, sanitary and water lines that service the eastern portion of downtown. A 42" sewer interceptor connecting Fairfield and Benton to the treatment plant south of Bridge Street runs through the riverfront site, following the alignment of the existing tote road. City of Waterville sewer lines connect to this main line at Temple Street. Buildings cannot be constructed within the 20 foot right-of-way of this regional sewer line. Several storm drain lines from Front Street cross the site and discharge into the river. Although not a restriction to development, disturbance of these lines should be avoided if possible. Adequate water service exists in the area to service future development.

Site Features – Due to the comprehensive removal of development on the site, few distinguishing features remain. The retaining walls that formed the foundations to former mill buildings remain at the south end of the site near Bridge Street and at the center of the study area just north of the Two Cent Bridge. An old tote road leads through the site from Temple Street to the intermodal facility to the north. As noted above, the most recent improvement is the municipal parking lot developed off Temple Street to the north of the rail line.

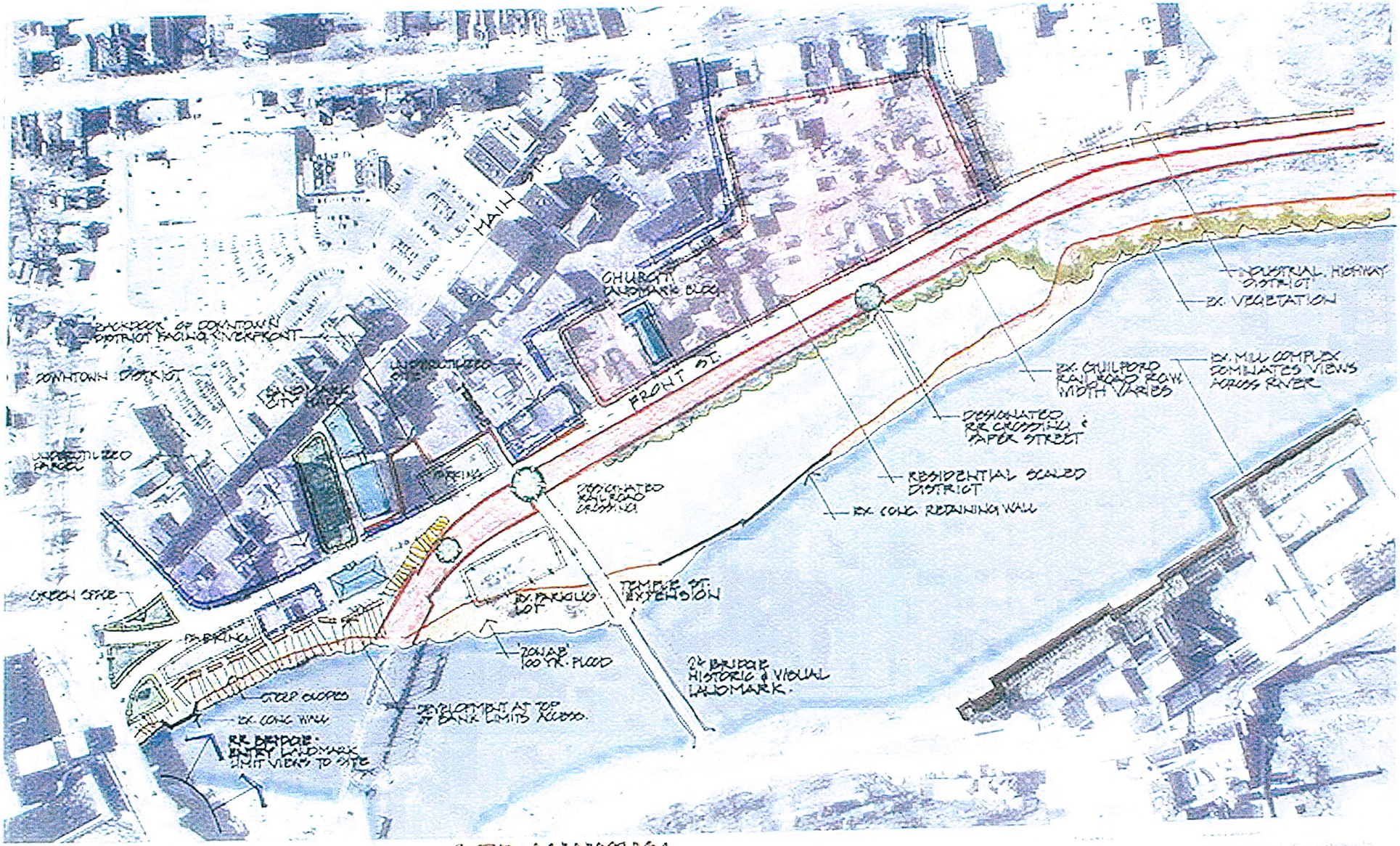
The Guilford (formerly Main Central) rail line crosses the river south of Temple Street, isolating the northern section of the riverfront. The rail line continues parallel to Front St. creating a distinctive edge to the site. The rail right-of-way varies in width,

averaging approximately 60 feet. Two municipal rights-of-way allow crossing of the tracks –a surfacing crossing at Temple Street and an underpass south of Union Street. To retain a level grade on the rail bed, an embankment was developed along Front Street to meet the sharply rising terrain to the north. The embankment and rail line serve to obstruct visual and physical access to the site along much of the Front Street edge. The rail line connects the east side of Augusta with the Guilford intermodal facility and is marginally active, with infrequent freight service. Organizations with an interest in extending passenger rail service north of Portland are exploring the possibilities of using this line for a connection with downtown Waterville.

Context – The riverfront is adjacent to several distinct districts in the downtown area. To the south, extending from Bridge Street to the north side of Temple Street, the riverfront is edged by the central business district, with the density, scale, and building forms typical of historic regional centers. The uses, scale and pattern of development quickly changes from commercial to residential north of Temple Street, extending to Union Street this downtown residential neighborhood offers an important balance to the adjacent commercial activities. North of Union Street the scale, appearance and use becomes industrial, loosing most connections to the finer grained, pedestrian scaled environments to the south.

Several landmarks dominate the urban landscape and serve as reference points for the riverfront site. City Hall and Castonguay Square act as anchors for the downtown, opening to the riverfront area. The church on the corner of Appleton and Front Street dominates the surrounding residential landscape, and offers an important visual landmark from most locations along the riverfront. The Morning Sentinel building offers the potential to create a built form link between the downtown and the riverfront.

Although the riverfront creates a dynamic edge to the downtown area, the site is conspicuously disconnected from the central business district because of Front Street and the rail line. This disconnect is reinforced by the back of downtown buildings facing the riverfront. This pattern of development is typical of many American cities in which the rivers were viewed as utilities and the development that grew up around them as



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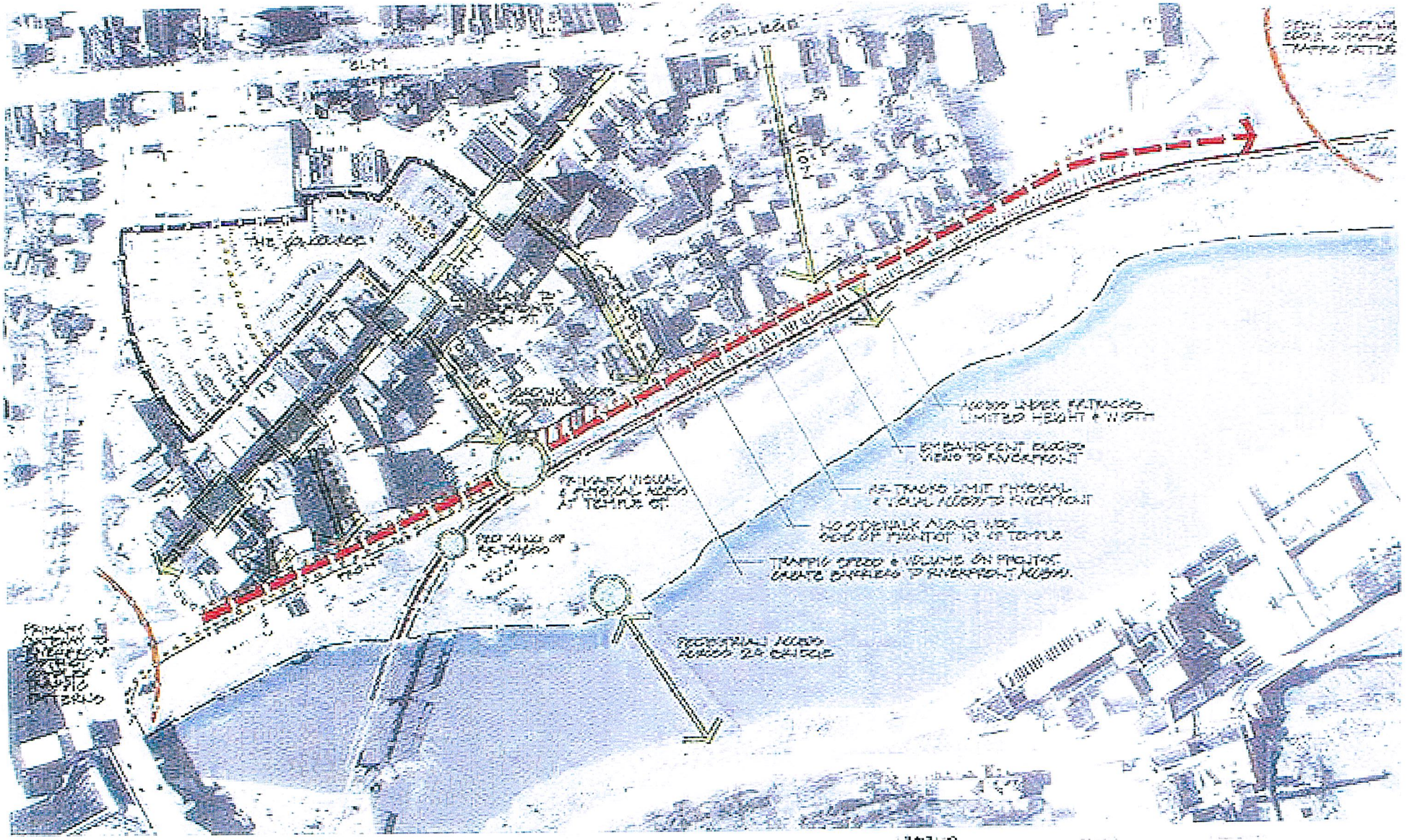
SITE ANALYSIS: SITE CONTEXT & CHARACTERISTICS

unattractive. Existing development at the gateways to the site, such as the Temple and Front Street intersection do not enhance or promote the riverfront location.

Views to the Head of the Falls area entering Waterville from the east on Bridge Street are limited by the railroad trestle crossing the river. This approach offers good visibility of the river embankment and Front Street area south of the rail line. Views from the site across the river are dominated by the old Kimberly Clark Mill in Winslow directly across the river from the project area. Views down river are dominated by the Two Cent Bridge and the railroad trestle offering an interesting, attractive and historic component to the riverfront vistas. Views upriver offer a more natural, non urbanized vista, an interesting contrast to the urban elements dominating the other vistas from the site.

Gateways, Edges and Connections - The riverfront is adjacent to the downtown, but ironically very much removed from it. The speed and volume of traffic on Front Street together with rail line create substantial barriers that isolate the riverfront from the neighboring downtown area. The isolation of the riverfront is reinforced by the largely discontinuous connections between Main Street and the riverfront, with Temple St. offering the only direct visual and physical link to the waterfront. As noted above, the substantial berm on which the rail line is built extending north of Temple Street limits visual and physical access to the riverfront. The access under the rail line north of Union St. does not align with a gateway roadway servicing the riverfront. The bend in Appleton Street and the uneven transition from Castonguay Square to the riverfront serve to minimize direct, meaningful connections to the riverfront.

The traffic patterns serve to reinforce the disconnections. With Front Street one way northbound, the connecting streets of Appleton and Union do not allow for access to the primary entrance to the riverfront at Temple Street. This gateway problem is further diminished by Appleton Street running one way westbound, away from the river, with a "Do Not Enter" sign at the Main Street intersection. The Main Street gateways to the streets leading to the riverfront do not provide visual or informative clues that the riverfront



Waterville Riverfront Master Plan

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SITE ANALYSIS: GATEWAYS, EDGES & CONNECTIONS

LEGEND

- GATEWAYS
- MAJOR ROAD CROSSINGS
- PEDESTRIAN ACCESS
- BARRIERS

is close by. Entering the central business district area on Main Street, one is unaware of the proximity of the river to the downtown area.

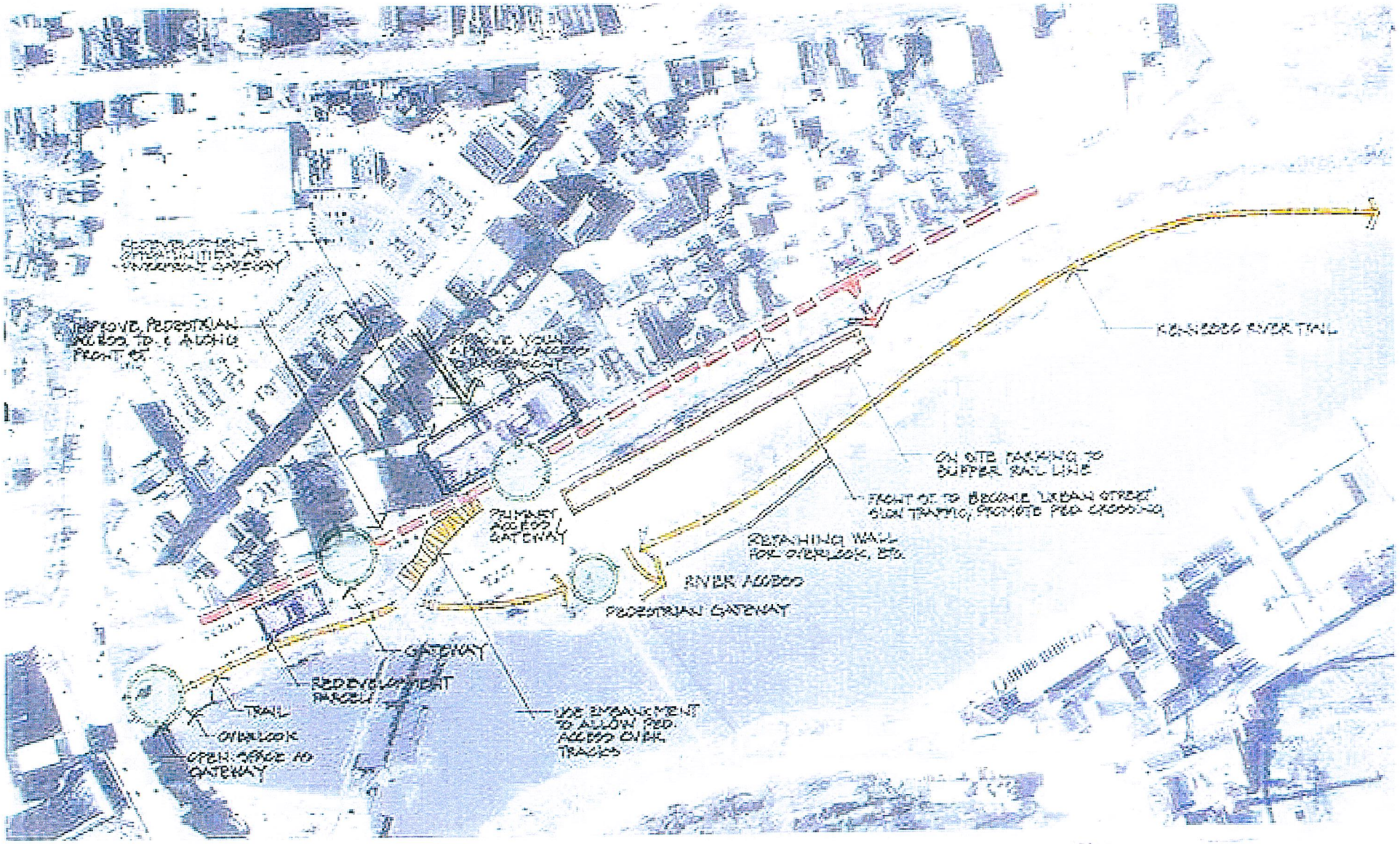
Access across the rail line to the riverfront is limited to two locations – the Temple Street crossing, where the city retains a sixty foot right-of-way and the access under the rail line just north of Union Street. This underpass is limited in height and width (approx. 11 x 20 feet). A small informal track crossing exists south of Temple Street to access the municipal parking lot.

Pedestrian connections to the riverfront vary from fair to poor. Access along Front Street is fair, with several locations interrupted by parking and business activities crossing the sidewalk. The sidewalk is not distinguished from the driveway in these locations. As noted above, there is no sidewalk on account of the rail line on the east side of Front Street, north of Temple Street. The pedestrian connections to the riverfront from downtown are fair, but can be improved with signage and more prominent visual clues to the river. The recently renovated Two Cent Bridge is a remarkable historic and recreational resource, and can serve as the focal point for the pedestrian system along and across the river.

SITE OPPORTUNITIES

The challenge in planning for future uses on the riverfront is in improving the connections to the downtown area. Although it is unlikely the railroad will be removed, opportunities exist to improve connections across the rail line and make the Front Street corridor a more attractive, comfortable and "user friendly" environment.

A. **Gateways** – Improvements to the Temple St. entrance to the site as the primary entrance can offer important physical and visual clues to site activities. Gateway improvements through signage, paving and other means at Main Street will reinforce the connections between the downtown business district and the riverfront. Gateways along Front Street and at all major intersections should be developed to draw people toward the access points to the riverfront site. The riverfront access points themselves should be developed in way to celebrate the entrance to this unique area. Redevelopment of parcels along the



Waterville Riverfront Master Plan

WATERVILLE MAINE

SITE OPPORTUNITIES

edges of the site, particularly at the gateway points could reinforce the sense of entry and compliment riverfront uses.

B. **The Rail Line -** Existing crossings should be fully developed and opportunities for new ones explored. A possible new pedestrian crossing may take advantage of the grade difference between the sidewalk and the rail line on the east side of Front Street south of Temple, allowing for a pedestrian bridge over the tracks. This would more directly connect the Castonguay Square area with the riverfront. As the rail line will likely have to buffered from the new activities in the riverfront area, on-site parking could be located along the rail line, north of Temple Street. This will help insulate site activities from the rail line.

C. **Site Features** – The Two Cent Bridge is a remarkable resource and should be celebrated in any riverfront development plan. Use of the bridge could facilitate pedestrian connections between the downtown, the riverfront and potential redevelopment of the Kimberly Clark mill. The existing concrete retaining walls along the river offer opportunities for overlooks and/or river related development close to the water's edge. The site offers many recreational opportunities and may serve as a trail head for the proposed Kennebec River trail that will connect to Fairfield.

D. **Front Street** – Proper treatment of Front Street, in both design of improvements and management of traffic flow will have a significant impact on successfully connecting the downtown to the riverfront. Front Street should become an urban street, rather than a thoroughfare. As part of the riverfront development, Front Street should be redesigned to slow traffic speed and encourage pedestrian traffic along and across it.

Appendix C

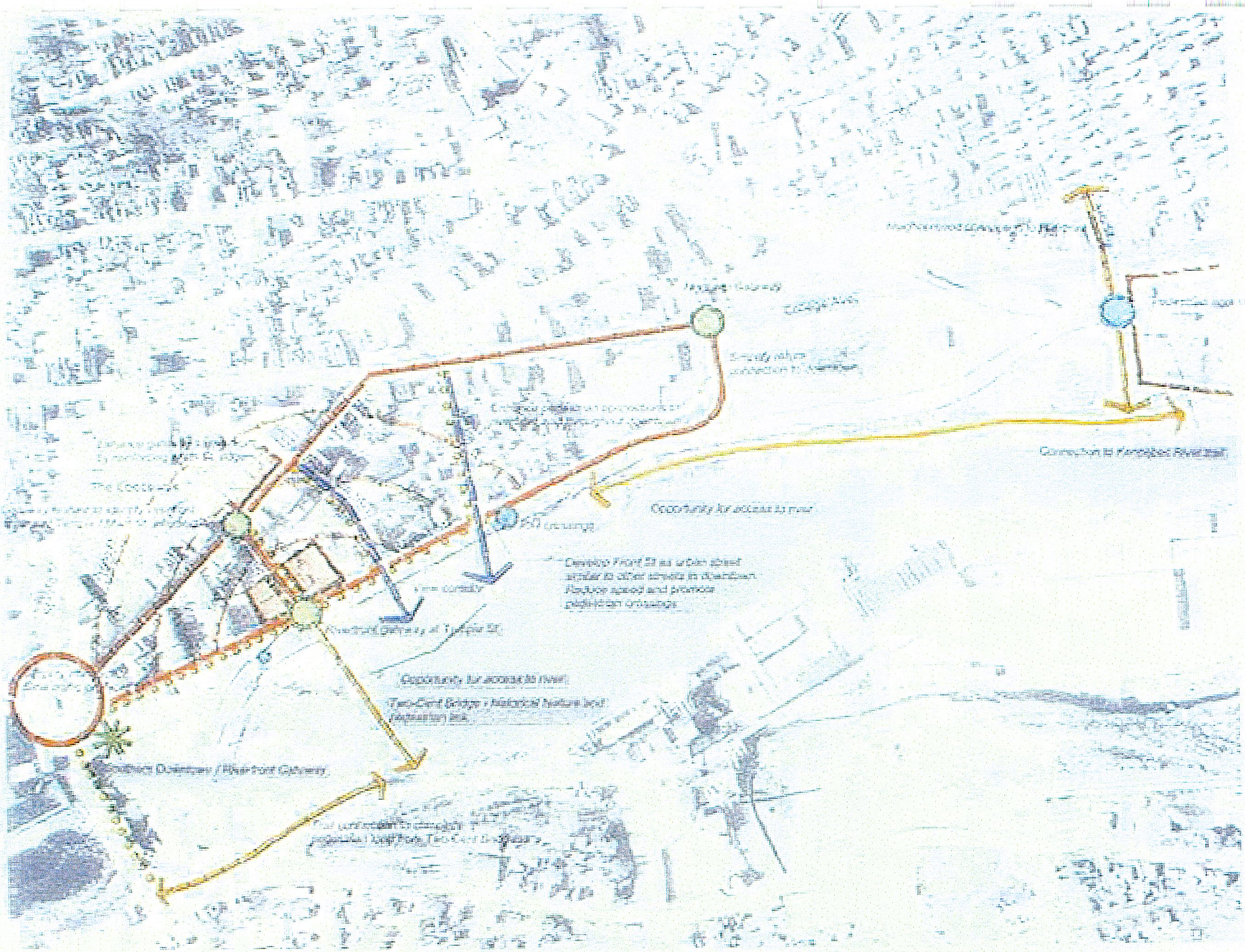
Conceptual Master Plan Alternatives

CONCEPTUAL ALTERNATIVES

As part of the master planning process for the Waterville riverfront, several conceptual plans were developed to explore various arrangements of desired and possible uses for the Head of the Falls site. The opportunities for public amenities and private development reflected in the plans were identified during the analysis and programming phase of the project and were discussed during the first public workshop session.

The conceptual alternative plans A, B, and C reflect several approaches to achieving these objectives. The plans represent diagrams of opportunities and are designed to illustrate relative arrangements of desirable land uses and activities on the site. They are not intended to suggest specific building footprints or open space designs. A more detailed plan reflecting such designs will be developed during the next phase of work, after public review and comment on the opportunities presented in the alternative plans. The recommended plan may not necessarily be one of the illustrated alternatives, but may include elements from each of the plans found to be desirable. Although the alternatives reflect a variety of options for locating public and private activities on the site, they identify common recommendations that are important to supporting a successful riverfront project establishing key connections to the downtown:

- *Establish gateway improvements at the intersection of Temple and Main Streets. Identify linkages to the river.*
- *Reinforce Temple St. corridor to the riverfront.*
- *Strengthen pedestrian linkages/loops within the downtown.*
- *Simplify and improve "Southern Gateway" at intersection of Bridge/Front Streets.*
- *"Tame" Front St. Redesign Front St. corridor to become urban street rather than high-speed thoroughfare. Widen sidewalks, establish pedestrian crossings and develop parallel parking.*
- *Improve "return" connection to downtown, by establishing a "Northern Gateway" – a direct connection between Front St. and College Ave. north of the Post Office.*
- *Establish connection from residential neighborhoods north of College Ave. to riverfront.*
- *The historic Two Cent Bridge as a focus for the development.t*
- *Keep corridors established by Temple, Appleton and Union Streets open on the riverfront to preserve views.*
- *Use parking as a buffer along the railroad tracks.*
- *Establish public promenade along river – make use of existing retaining walls.*
- *Use private development to activate riverfront and compliment public spaces.*



Waterville Riverfront Master Plan

WATERVILLE, MAINE

Design Context

- *Public spaces should include both active and passive activities.*
- *Maximize opportunities to access and explore river's edge.*
- *Take advantage of the "bridge-scape" that characterizes the riverfront by lighting the bridges and falls, and establishing viable pedestrian connections across the Two-Cent Bridge.*
- *Integrate with regional multi-use trail.*
- *Promote trail connections across the Kennebec in Winslow for pedestrian loops using Two Cent Bridge.*
- *Identify opportunities for redevelopment in the vicinity of the riverfront to support downtown / riverfront activities.*

Conceptual Alternative Plan A

Plan A explores arrangements of development parcels and public open space focused around the Two-Cent Bridge. A strong axial connection is established along the Temple Street corridor, leading into the site. Gateway elements reflective of the spires of the bridge are located at the entry to the site and carried up Temple Street to Main Street. An upper and lower entry court are created at the entrance to the bridge. An amphitheater consisting of lawn terraces is located south of the bridge, taking advantage of the natural topographic slope of the river edge. This feature is envisioned to accommodate both everday passive recreational uses and programmed performance space for festivals and community gatherings. (based on an area of 25 SF/person, approximately 500 people could be accommodated in the amphitheater) North of the bridge, two development parcels totaling 30,000+ SF in footprint are located close to the parking bays established east of the railroad right-of-way. The southern building site is pulled close to the Temple Street corridor, to frame the entrance to the site and the Two Cent Bridge. A riverside promenade with garden areas fronting the buildings establishes an active pedestrian edge along the river. The building parcels are intended to help activate and animate the public spaces along the river, with restaurant, inn, retail, and office / institutional uses. The most active of these uses is focused on the view to the south, with opportunities for outdoor cafes and open-air commercial activity. The building sites are located so as to preserve the views to the river established by the Temple, Appleton and Union Street corridors. Public recreation areas that may include skating, playgrounds and open field areas terminate the public promenade at the north end of the site. The walkway system connects to the regional multi-use trail envisioned for the west shore of the Kennebec. Access to the river for canoeing, fishing, and other possible water related activities can be accommodated at the north end of the site and near the Two Cent Bridge where the land

naturally tapers to water. Primary vehicle access/egress to the site is provided via Temple Street with the underpass at the north end of the site permitting egress only from the parking areas. A capacity of 160 parking spaces is illustrated at the riverfront with an additional 35 spaces in a lot at the southern end of Front Street.

Establishing elements evocative of the riverfront at the intersection of Main and Temple reinforces this important gateway. Towers evocative of the Two-Cent Bridge establish a theme that can be carried down Temple Street and other access-ways to the site. Concourse parking along Main Street is replaced with an open space that announces the riverfront gateway, reinforces the Main Street corridor and provides additional green space within the downtown. Gateway references may be further strengthened by pavement treatments and crosswalks. The properties at the intersection of Front and Temple Street offer opportunities for redevelopment that would support riverfront development and promote linkages between the river and downtown.

The ability to knit the riverfront back into the downtown will have a significant impact on the success of the riverfront project and the benefits projected back into the downtown. To assist in this integration, the plan recommends improvements to the road system accessing the riverfront. Front Street is envisioned to resemble other urban streets in the downtown rather than a thoroughfare to move traffic out of town. The plan recommends on-street parking, widened sidewalks, pedestrian crosswalks at intersections and streetscape improvements. Traffic data supports the reduction of through traffic to one lane, creating opportunities for on-street parking and walkway improvements, including sidewalks on the eastern (railroad) side of the street. As Front Street is improved as an urban street, the drive up bank site maybe come a viable redevelopment parcel and compliment the recently developed newspaper offices to the north.

The southern gateway intersection at Front/Bridge/Spring Street is simplified to reduce the confusing traffic patterns and reduce traffic speed entering Front Street. Supported by traffic data, the realignment of the intersection creates additional useable public space on the riverside. The plan illustrates the concept of establishing a welcome/ information center at this southern gateway to the downtown and the riverfront. A structure in this location will frame the entrance

Waterville Riverfront Master Plan

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Conceptual Alternative - Plan A

to the downtown and recall structures historically located there prior to the intersection reconstruction. The gateway parcel is connected to the riverfront both by sidewalks along Front Street and riverside trails that run along the backside of the existing properties, leading to an overlook established above the existing retaining wall. The connections to downtown are further strengthened by developing a direct connection to College Ave. at the north end of the site enabling a simplified return pattern to the downtown.

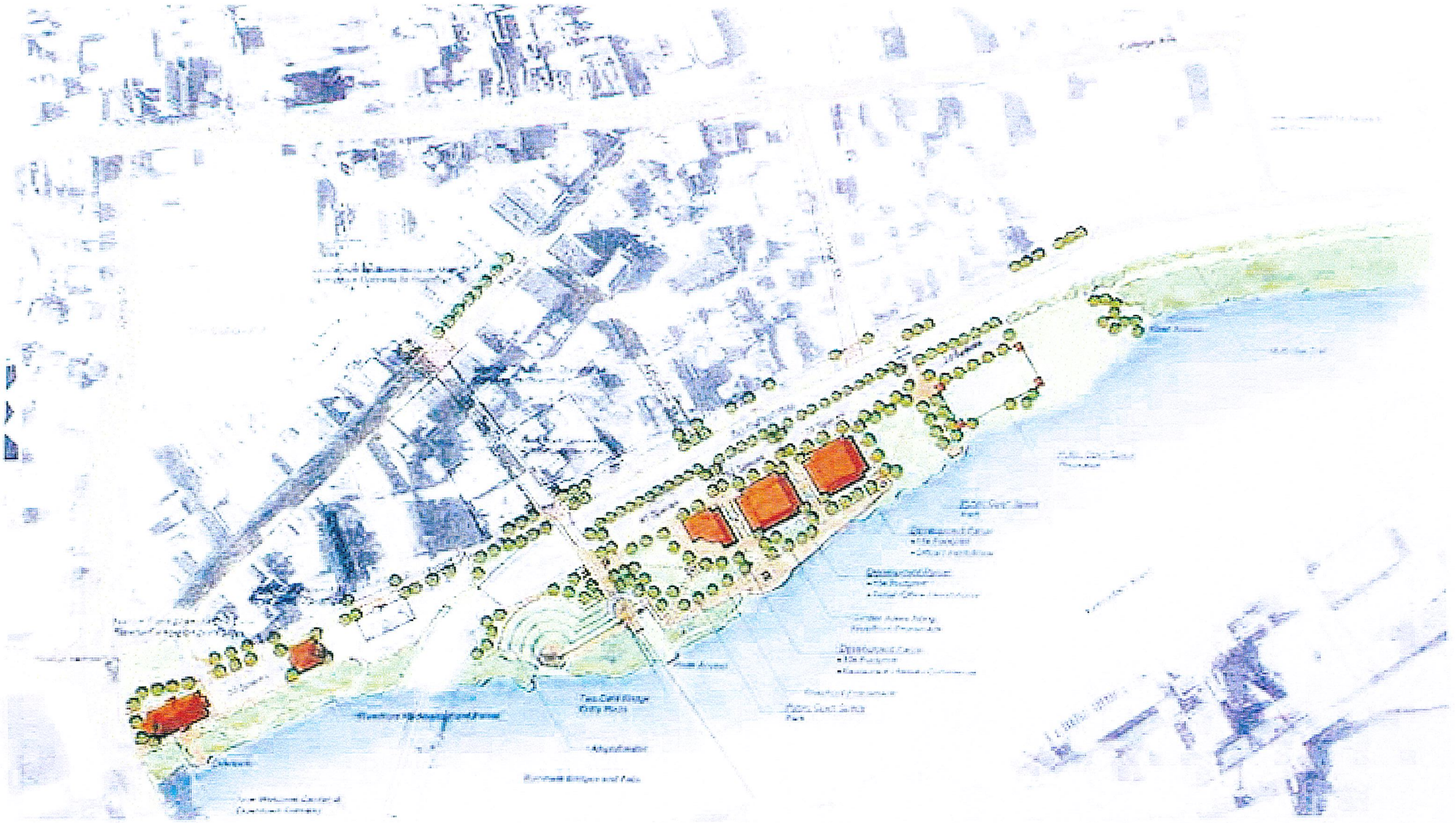
Conceptual Alternative Plan B

Plan B differs from Plan A by establishing a "town green" at the gateway to the site, adjacent to the Two-Cent Bridge. Together with the amphitheater to the south of the bridge, this park forms a large area of community open space framing the Two-Cent Bridge in the area of the site closest to the downtown connections. The development parcels are set further to the north, and allowing for view corridors, are divided into three parcels of 10,000 SF, 15,000 SF, and 15,000 SF footprints. The most animated uses, such as restaurant and retail are located to the south, fronting on the park space. The development parcels are framed by a park area to the north, which terminates the public promenade along the river wall. Community recreation is illustrated to the north of the egress point at the underpass. A total of 164 off-street spaces are illustrated.

Treatments at the gateways are similar to Plan A, with the exception of the Main / Temple Street intersection. A smaller landscaped treatment with shade trees and understory plantings is proposed for the Concourse edge, with a sculptural gateway element at the plaza across from Temple Street The roadway and circulation improvements are similar to those illustrated in Plan A.

Conceptual Alternative Plan C

Plan C contrasts with Alternative B in that it offers the most urban approach to development of the site around the Temple Street entry. Temple Street is envisioned as continuing (as it did historically) to the bridge with buildings framing the corridor. A 10,000 SF to 12,000 SF building footprint may be located to the south (possibly containing a restaurant/inn) with a 15,000 SF parcel to the north contain retail and office use. A park / performance space, (more



Waterville Riverfront Master Plan

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Conceptual Alternative - Plan B

level than the amphitheater due to topographic restrictions) is located between the 17,000 SF development parcels, centered on the Appleton Street visual corridor. As with the other alternatives, a public promenade extends in front of the building sites along the riverfront. A park is located to the north of the building site terminating the riverfront promenade. A parking lot terminates the parking along the rail right-of-way and together with a playground, edges the north end of the park. The playground leads to a community recreation area that forms the north end of the developed site. Similar to Alternatives A and B, Plan C illustrates connections to a multi-use trail along the Kennebec. A total of 238 off-street parking spaces are illustrated.

Plan C illustrates a revision to the width of the rail right-of-way south of Temple, using some of the existing open area for parking to support the 12,000 SF commercial building site. A location for excursion rail station is illustrated should use of the rail line change in the future.

Roadway and circulation improvements are similar to Alternatives A and B. The southern gateway in Plan C illustrates an open space approach, with a small gateway pavilion and park space in the areas reclaimed from the intersection improvements. The Temple and Main Street gateway is created by the development of a welcome/visitor center along Main Street at the edge of the concourse parking lot. This development would serve to create a strong edge along Main Street, now lost to the open parking area and help identify, with landscape and pavement improvements, the Temple Street access corridor to the riverfront.

Waterville Riverfront Master Plan

WATERVILLE, MAINE

Conceptual Alternative - Plan C

Appendix D

Transportation Systems Analysis

Study Area Access and Circulation

The waterfront redevelopment site is located near the cross-roads of multiple state and US numbered roadways. Primary access to the riverfront site is provided by one-way roadways, Front Street and Main Street (from Temple Street, a two-way street). Figure 1 shows the average daily traffic volumes on study area roadways. Based on available traffic counts and observation, roadways and intersections of interest to redevelopment of the waterfront site appear to be below capacity. Figure 1 also shows traffic circulation patterns in the area.

Front Street is designated as US Route 201/State Route 100. It is a two-lane, one-way roadway that serves through-traffic as well local access within the downtown. Daily traffic volumes varied from approximately 10,500 near Bridge Street to 12,500 at Temple Street in 1996 (MDOT). Hourly volumes remain at or above 600 vehicles per hour from 7 AM to 7 PM, peaking between 4 PM and 5 PM at approximately 850 vehicles. The hourly distribution of traffic (in 1996) is shown in Figure 2 below.

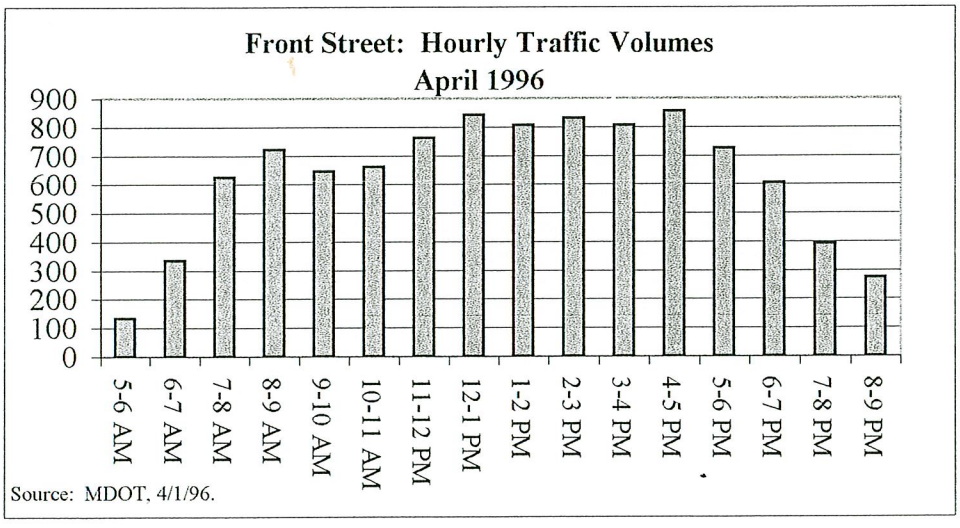

Figure 2

Front Street varies in width from 28 feet (Bridge Street to Appleton Street) to 36 feet (Appleton Street to Colby Street) where on-street parking is permitted on the west side of the street. Large curb cuts to allow parking at City Hall and just north of Temple Street permit cars to back out onto Front Street to exit parking areas. The design of the road and intersections near Spring Street/Bridge Street allows for high speed travel on Front Street.

Site Access

Current main access to the site is provided at Temple Street. The width of the existing roadway is 31 feet. The railroad tracks are offset from the roadway by approximately 28 feet. The railroad overpass provides a second potential outlet from the site to Front Street just north of

Union Street. Its width is 28 feet and overhead clearance is approximately 10 feet. The elevation of the tracks north of Temple Street creates a barrier to additional access points.

Accident Data

The Maine DOT uses the combined criteria of Critical Rate Factor (CRF) and number of accidents to identify intersections and roadways with potential safety problems. The Critical Rate Factor is the ratio of the number of actual accidents to the number of 'expected' accidents at similar locations statewide. For example, a CRF equal to 2.0 identifies a location with twice the number of accidents as similar locations. Locations with a CRF equal to and above 1.0 and having 8 or more accidents over the latest three year period are classified by the MDOT as High Accident Locations (HAL).

Two HAL are located in the immediate area around the waterfront site: the intersection of Front Street at Temple Street and the roadway segment immediately before this intersection, Front Street from Common Street to Temple Street.

High Accident Locations

Intersection	**CRF**	**Number of Accidents**
Front Street at Temple Street	2.4	16
Road Segment		
Front Street: Common to Temple	1.7	8

Source: MDOT, Accident Records, 1996-1998.

Other intersections with a notable number of accidents (although not classified as HAL) include: Front Street/Bridge Street/Spring Street, 21 accidents; Front Street/Bridge Street Ramp merge, 7 accidents; Front Street/Appleton Street, 7 accidents; and, Front Street/Union Street, 6 accidents.

Front Street, from Temple Street to Appleton Street, had 7 accidents over this same time period (MDOT, Accident Records, 1996-1998).

PEDESTRIAN ACCESS AND CIRCULATION

Waterville enjoys a compact, pedestrian-scaled downtown. Pedestrian access to the site is provided by a network of sidewalks along public streets. Of particular importance to the site is the quality of the connections to the downtown, to better integrate the site with the downtown. Primary cross access from Main Street to Front Street and the waterfront is provided by Common Street/Castonguay Square, Temple Street and Appleton Street. Currently, the quality of pedestrian facilities on side streets such as Temple Street and Appleton Street is fair. Pedestrian-scaled lighting has been installed along the north side of Temple Street.

On Front Street north of Temple Street, a sidewalk is provided on one side (the west side) of the street. Wide curb cuts disrupt the sidewalk network along Front Street at City Hall and at stores just north of Temple Street. Pedestrian amenities and desirable streetscape elements such as street trees, benches and lighting are absent along Front Street.

Crosswalks are provided at numerous locations along Front Street. Pedestrian crossings are difficult due to the speed and character of the traffic (moderate volumes and percentage of trucks). Crosswalks are located at the following locations on Front Street:

- Parking lot south of Fleet Bank;
- Opposite Common Street to the Morning Sentinel;
- Opposite Castonguay Square to the Morning Sentinel;
- Opposite City Hall and the sidewalk/stairs from the riverfront parking lot; and,
- Opposite Front Street.

Pedestrian connections to and along the river are non-existent or weak. The Two Cent Bridge provides an historic pedestrian link to Winslow and its riverfront and downtown. No dedicated pedestrian connection exists from Front Street to the bridge. Accessibility along the river is hampered by steep slopes along the river, parking lots and the location and configuration of the railroad. A regional Kennebec River Trail (serving bicyclists and pedestrians) has been proposed by previous planning efforts.

PARKING

Three main reservoirs of public parking are provided in the study area: The Concourse, on-street parking and surface lots along Front Street. These are identified in Figure 3. The Concourse provides a combination of long term (no time limit, approximately 500 spaces) and shorter term (2 hour limit, approximately 65 spaces) parking. Combined, these spaces total 565.

Along Main Street, parallel and diagonal parking provide short-term, 2-hour parking totaling approximately 140 on-street parking spaces. Additional on-street short-term parking is provided on Silver Street, Common Street, Temple Street and Appleton Street. Twenty-nine on-street parking spaces are striped on Front Street north of Appleton Street.

Three off-street surface lots are located along Front Street. Short-term parking is provided in a lot next to City Hall. Two long term lots are located along the river. The first, south of Fleet Bank, has a capacity of 60 spaces. The lot located at the redevelopment site has a capacity of 75 spaces. These two lots have low usage.

Shared Parking

Shared parking is a concept that allows parking to serve multiple uses. For instance, many uses have overlapping peak parking periods but many do not. For instance, theaters have peak parking often on weekends and evenings while office uses generally peak during weekdays during the daytime. These two uses have a high potential for sharing parking. Shared parking does not have to be on the same site but within convenient walking distance. The quality of pedestrian connections and close monitoring and management become key to the success of shared parking within downtowns. The potential for shared parking for the riverfront site (both on-site and off-site parking) should be kept in mind.

PRELIMINARY FINDINGS WITH SITE CONSIDERATIONS:

- Roadways and intersections providing access to the site have excess capacity over existing demand;
- Front Street serves both regional through-traffic and local traffic;
- Traffic speeds on Front Street are observed to be high;
- A moderate to high percentage of truck traffic is observed on Front Street;
- Two High Accident Locations are located at/near the site on Front Street;
- The railroad tracks present pedestrian and vehicle site access constraints;
- Pedestrian facilities vary from very good (along Main Street and in The Concourse) to fair (side streets and Front Street) condition within the downtown;
- Pedestrian crossings of Front Street are made difficult by the speed and character of traffic;
- Streetscape quality for pedestrians along Front Street is fair to poor;
- Use of the parking at the waterfront parcel is currently low; and,
- Public parking downtown near the site (on-street and off-street) is well distributed in location and size with the largest supply at "The Concourse".

II. CONVERTING FRONT STREET FROM TWO LANES TO ONE LANE

Front Street and Temple Street Intersection

An analysis was performed at the intersection of Front Street and Temple Street in Waterville to interpret the effects of changing Front Street from two through lanes to one through lane with a left turn bay. Traffic volumes, traffic control, and intersection geometry were considered for this analysis.

- Existing traffic volumes were collected at the subject intersection during the p.m. peak hour. These traffic volumes were then adjusted using the Trip Generation Manual from the Institute of Transportation Engineers to account for a 44,000 square foot mixed-use retail/office development. An adjustment of 20% was then added to the existing traffic volumes to anticipate future growth in traffic.

- Existing traffic control consists of Temple Street traffic controlled by stop signs and Front Street traffic uncontrolled or free flow. A brief review of traffic signal warrants in the Manual of Uniform Traffic Control Devices (MUTCD) was conducted and revealed traffic signals do not appear to be warranted.

- The assumed geometry of the intersection is as follows: North Bound Temple Street (exiting the waterfront site) has one through lane and one right turn lane. South Bound Temple Street has one lane, which is a shared through and left turn lane. East Bound Front Street has one lane, which is a shared through and right turn lane, and in addition has a left turn bay of about 100 feet long.

To assess the traffic conditions at the Front Street and Temple Street intersection, two different computer programs were used, CORSIM and HCS. The following sections summarize the output for this intersection.

CORSIM

CORSIM simulates traffic and traffic control systems on a street network using vehicle and driver behavior models. Assuming 50 pedestrians cross at each approach per hour, there are no adverse effects on traffic. Table 1 shows the maximum queue length (vehicles) for all lanes that are not equal to zero.

Table 1

Maximum Queue Length By Lane (# vehicles)	
Front Street Left	1
Southbound Temple Street Left	1
Northbound Temple Street Through	1
Northbound Temple Street Right	2

WSA concludes that the reduction in street width would benefit pedestrians by reducing travel speeds, making them in line with speed limits and also by reducing crossing distance for pedestrians at mid-block locations where there currently are crosswalks.

Highway Capacity Software (HCS)

HCS analyzes existing intersection operations based upon procedures contained in the 1998 Highway Capacity Manual, Transportation Research Board. Table 2 shows the level of service (LOS) and total delay time (seconds/vehicle) estimated for vehicles on Temple Street. LOS is the term used to denote the different operating conditions which occur on a given roadway facility under various traffic volume demands. LOS is a qualitative measure dependent on the effect of a number of factors including roadway geometrics, travel speed, travel delay, freedom to maneuver, and safety. Six levels of service are defined in the highway Capacity Manual. They are given the letter designations ranging from A to F, with LOS A representing the best operating conditions and LOS F representing the worst.

Table 2

Intersection Movements	**P.M. PEAK**	
	LOS	**Average Delay (seconds/vehicle)**
Temple Southbound Through/Left	E	39.8
Temple Northbound Through	C	21.1
Temple Northbound Right	C	15.5
Front Left	A	7.3