



REQUEST FOR ARCHITECTURAL / ENGINEERING SERVICES

Garfield Avenue Corridor Improvements

May 2014

Project No

12K1L

TABLE OF CONTENTS

<u>Project Background and Purpose</u>	Page 3
<u>Project Description</u>	Page 4
<u>Services Required</u>	Page 7
<u>General Requirements</u>	
Site	Page 10
Impact to Existing Site & Facilities	Page 10
Existing Utility Systems	Page 11
Impact to Existing Utility Systems	Page 11
Hazardous Materials	Page 12
Environmental Impact	Page 12
<u>Estimated Project Budget</u>	Page 12
<u>Project Schedule</u>	Page 12
<u>Appendix</u>	
Master Plan Garfield Avenue Concept	Page 13
Garfield Avenue & Roosevelt Avenue Site Map	Page 14
Steam System & Signal System Site Plans	Page 15

Project Background and Purpose

Garfield Avenue and associated subsurface utilities were originally constructed in the early 1950s. Since that time, sections of the road and utilities have been reconstructed to accommodate new building construction along the corridor. The pavement and utilities vary in age and construction materials. Sanitary and Storm sewer systems include vitrified clay, concrete, steel, iron, and PVC. Water mains are mostly cast iron. Steam conduits were installed along the road corridor in the mid-1960s. Roadway surfaces vary between concrete and bituminous materials. Traffic has been restricted on Garfield Avenue since the early 1970s and much of the road is currently closed to public traffic.

Garfield Avenue is the only through street on UW-Eau Claire's lower campus. It is also the only pedestrian corridor linking the upper campus residence hall area with lower campus. The north campus is linked to the lower campus via the Chippewa River footbridge. Through decades of aging, high groundwater, heavy use, and occasional flooding, the roadway and underlying utilities have become worn and damaged beyond economical repair. The roadway surface is very rough creating a traffic hazard. The curb and gutter has settled and no longer provide positive drainage to catch basins. Storm water collects in low points of Garfield Avenue, ponds until it flows over the curb and gutter and erodes the river bank of the Chippewa River. Video camera inspections of the sanitary sewer system documented general deterioration of the piping with many offset joints. Steam lines which run along the south side of Garfield Avenue and cross beneath the road at the south pedestrian bridge entry are 45 years old, beyond their useful life and need to be replaced.

In addition to basic infrastructure, this project will correct other issues. The slope of the pedestrian ramp to the footbridge across the Chippewa River is steeper than ADA guidelines allow. In addition, maintenance vehicle and bicycle traffic must cross pedestrian traffic at one point on the approach ramp resulting in a hazardous condition. The cross slope for Garfield Avenue at the base of the bluff, creates an unsafe intersection for pedestrians, bicycles, and vehicular traffic. Garfield Avenue has settled in this location, ponding storm water, and creating icy conditions during cold weather. In addition, this is the low point in the Garfield Avenue road profile, and the point flood waters enter the campus from the Chippewa River. Correcting this issue would keep the earliest incursion of flood waters from entering campus. Sidewalks along Garfield are too narrow for pedestrians causing students to overflow into the street. Finally, parallel parking along Garfield Avenue at Thomas Hall does not meet current accessibility design guidelines and will need to be addressed.

The campus has requested that portions of Garfield Avenue and Roosevelt Ave be officially vacated as part of this project. UW-System Administration in concert with UW-Eau Claire will work with the City of Eau Claire to complete the legal documentation. As part of the vacation process, an operating agreement will be

developed. It is anticipated that the domestic water, sanitary sewer and storm sewer will remain under city ownership in vacated right-of-way. Natural gas mains will remain the property of the local utility. Campus primary power, signal, steam and pumped condensate, and chilled water will remain under campus ownership. Storm sewer, sanitary sewer and domestic water will remain under campus ownership in current campus owned right-of-way. The roadways, walkways, pedestrian lighting, roadway lighting, lawn irrigation and landscaped areas within vacated right-of-ways will become university property.

Garfield Avenue serves as the primary artery connecting UW-Eau Claire's lower campus and upper campus precincts, as well as a main entrance to the campus from State Street, a primary arterial in the City of Eau Claire. It runs parallel and in close proximity to the scenic and environmentally significant Chippewa River, which intersects the campus. Additionally, this project will address the southern access to a footbridge which spans the Chippewa River. Garfield Avenue is a connector between the UW-Eau Claire campus and the important historic Third Ward Neighborhood that directly abuts the campus boundary to the east; and it also provides public access to bluffs and a scenic drive through Putnam Park connecting the lower campus and the Water Street precincts.

These unique conditions require that special attention be paid to not only the engineering aspects of the project, but also to the aesthetic qualities including best practices for creating a pedestrian and bicycle friendly thoroughfare; campus and neighborhood context; developing green spaces and overlooks where appropriate along the Chippewa River; designing surface treatments; lighting, benches, landscaping and other site amenities that contribute to campus identity and character. In short, the Garfield Avenue project has the potential to be transformational for the lower campus precinct and its planning will be of great interest to the campus and Eau Claire community.

Given the importance of Garfield Avenue to the UW-Eau Claire campus, the surrounding neighborhoods, and its close proximity to the Chippewa River, it will be vital that the many and varied stakeholders be consulted early and throughout the design and particularly via the Wisconsin Environmental Policy Act (WEPA) process.

Project Description

This project will reconstruct the Garfield Avenue Corridor from Park Avenue to the base of the bluff at the Putnam Parking Lot. Work includes the reconstruction of approximately 1,800 lineal feet of roadway, curb and gutter, sidewalk, lighting, and subsurface utilities. The roadway alignment will be adjusted to allow for the extension of the pedestrian bridge approach. The Garfield Avenue corridor will be reconstructed to allow for better parking accessibility, the addition of new bike parking, and the installation of decorative concrete plazas, signage, irrigation, and landscaping. The Roosevelt Avenue cul-de-sac will be modified to include construction of a campus gateway entrance. The construction of new handicap

accessible parking and a drop off area will replace the accessible parking and drop off area north of Schofield Hall. That drop-off area will be lost when the south approach to the river footbridge is modified.

The surface improvements will include vehicle and bicycle parking, wide pedestrian walkways, decorative concrete plazas and landscaping, lighting and way-finding signage. Garfield Avenue reconstruction shall include designing a shared use path for pedestrians, bicyclists and public and emergency transportation vehicles. In addition the south end of the pedestrian bridge shall be modified to allow better accessibility into the south portion of the campus. The campus is a partner with the City of Eau Claire in a joint WDNR Storm Water Permit. The improvements will comply with permit requirements.

A small parking lot located at the base of the bluff along Garfield Avenue across from Putnam Hall, will be removed and restored to natural conditions to correct the severe cross slope at the intersection.

On the west side of Garfield Avenue, halfway up the bluff, there is a concrete multi-flight staircase rising west from the road up to the top of the bluff to Horan Hall. It will be reconstructed to increase staircase width and include an integral bike ramp. Limits of reconstruction will need to be determined during design.

Overall drainage will be improved with particular attention to the base of the bluff. The area at the base of the bluff drains poorly and becomes inundated during heavy rainfall events. This area is the lowest elevation on the riverbank and is vulnerable to flooding during high river stages. Improvements may include raising the elevation to reduce the flood potential.

The storm sewer network in the project area includes approximately 800 lineal feet of storm sewer mains, various catch basins/manholes and four outfalls to the Chippewa River. It is anticipated the system will be reworked to provide adequate drainage for the revised roadbed and surrounding site, and campus buildings adjacent to the roadway including Old Library, Thomas Hall and Putnam Hall. The new system shall be designed to prevent backflow of flood water. The city will be replacing approximately 800 feet of their storm sewer from Park St to the outfall near the Ecumenical Religious Center during construction of this project. The consultant will need to coordinate with this city project.

A campus flood control structure is located at the base of the bluff just south of Garfield Avenue. Water outflow from the structure crosses beneath Garfield Avenue at that point. The structure is used to prevent the Chippewa River from back-flowing into the Little Niagara Creek during river flood conditions. Flood gates are closed when the river rises to flood stage and a pumping system is engaged to pump flow from the creek into the river. The Little Niagara Creek drains a portion of the Lower Campus. Garfield Avenue elevation is critical to the flood control system. At its lowest point, the elevation of Garfield Avenue is about equal to the 100 year flood level

defined by FEMA. Any road elevation modifications should maximize flood protection and provide dry land access to adjoining buildings. Coordination with DNR and FEMA will be required for any modifications to road elevation.

Garfield Avenue has multiple storm sewer outfalls to the Chippewa River. New storm sewer outfalls will need to be designed to pass through the riverbank stabilization components. Deep concrete piers, approximately 3 feet in diameter, underlie the steel rail parallel to the river on the north side of Garfield Avenue. These piers are integral to the riverbank stabilization system constructed in 2004 and must not be disturbed.

Sanitary sewer mains and lateral work includes replacing approximately 1,000 lineal feet of existing sanitary main and laterals, installing new sanitary manholes and approximately 1,300 lineal feet of new 8" sanitary sewer main and 6" sanitary sewer laterals. Existing campus sanitary laterals serving campus buildings may be relocated as part of this project. New system shall be designed to prevent intrusion of flood and ground water.

Water main work includes replacing approximately 1,600 lineal feet of existing mains and services and installing new water mains, valves, hydrants and building services. Approximately 1,000 lineal feet of 6" mainline and 600 lineal feet of 6" building service lines will be replaced. The A/E will need to perform a Fire flow analysis to confirm preliminary line sizing. Water service to all buildings must be maintained except for planned outages of 24 hours maximum.

Lighting renovation will include removal of existing fixtures and installation of new pedestrian and roadway lighting in accordance with new campus fixture standards, and DFD standards.

The steam distribution system will be replaced. Approximately 1050 lineal feet of concrete box conduit with 12" high pressure steam line and 6" condensate line will be replaced from pit 8 at the base of the hill to pit FA-1 at the base of the river footbridge. In addition, approximately 200 lineal feet of concrete box conduit with 10" high pressure steam line and 5" condensate line will be replaced from pit FA-1 to pit HU-1 adjacent to the Ecumenical Religious Center. Pits 8, 9 and 10 will be replaced and pit FA-1 will be expanded. Isolation valves will be added to steam mains in each pit to enable de-energizing line segments for servicing while providing steam to facilities from the heating plant via both legs of the steam loop. Steam pits shall be designed to prevent intrusion of flood waters up to the optimal point determined for flood protection. Concrete box conduit and the steam service laterals to Putnam Hall, Thomas Hall and McIntyre Library will also be replaced. Putnam Hall lateral piping is approximately 95 lineal feet of 3" high pressure steam and 1 – 1/2" condensate. Thomas Hall lateral piping is approximately 50 lineal feet of 3" high pressure steam and 1-1/2" condensate. McIntyre Library piping is approximately 170 feet of 3" high pressure steam and 2" condensate. Abandoned steam pits north of Thomas Hall and Old Library will be removed. Pressure reducing valve stations in Putnam Hall and

Thomas Hall, and steam traps in Pit FA-1 will be replaced. Steam service cannot be disrupted except for planned outages without providing alternate supply.

Xcel Energy will install approximately 1200 lineal feet of new natural gas main from the terminus of a main located in the street near the Ecumenical Religious Center to the base of the bluff. This new gas line will allow natural gas to be connected to emergency generators in current and future buildings adjacent to the Garfield corridor. The gas main will be installed by a utility approved contractor and owned by Xcel Energy. The utility corridor will accommodate this new gas line.

Campus Signal/IT network utility work will include the installation of additional concrete encased conduit along existing signal ductbank pathways. Approximately 800 lineal feet of four 4" conduits will be installed from signal pit S57 through pits S58, S59, S60 to S61. Approximately 100 lineal feet of two 4" conduits will be added to the service lateral from signal pit 61 to the Old Library. Approximately 100 lineal feet of two 4" conduits will be added to the service lateral from signal pit 61 to Schofield Hall. The existing manholes will need modification or replacement to accommodate the additional ducts and cable hangars. The cable path from the exterior wall or floor penetration to the point of termination inside the building will be determined by the AE. Additional modifications inside the buildings may be needed to establish the route to the telecommunications room. For design purposes, cabling will be assumed to be metallic.

Abandoned utilities encountered in the removal and renovation of this utility corridor will be removed to the extent needed for the new construction. There are some known abandoned steam and condensate lines along the north side of Schofield Hall, Old Library, Thomas, and Putnam Halls. The demolition plan should account for removals and abandonment of utilities if required to construct the new utilities and road corridor. Other utilities may be taken out of service, but will be abandoned in place.

This project also includes the re-design of the Roosevelt Avenue cul-de-sac south of Schneider Hall. Roosevelt Avenue cul-de-sac work includes replacement of the roadway and construction of a drop off area and handicapped parking. This includes replacement of the pavement, curb and gutter, walkways and landscaping. Roadway and pedestrian lighting will be upgraded to campus and DFD standards. It is anticipated that one steam pit access structure will require modification to locate the access point out of the roadway. Sanitary sewer, storm sewer and domestic water utilities are not anticipated to be modified in this portion of the project.

Services Required

In addition to services required in the DFD Policy & Procedure Manual for Architects/Engineers and Consultants and the Professional Services Contract, the AE will provide the following services:

The design team will provide a project schedule with monthly updates.

The design team will provide a detailed site survey. The site survey will verify the location, depth and sizes of existing utilities. Test excavations may be required to verify depth, pipe/conduit material and dimensions, as well as dimensions of existing structures.

The design team will work with appropriate parties to develop potential revisions to the flood zone elevations. They will assist the Agency and provide mapping and documentation to modify local zoning and the FEMA flood zone maps as necessary.

The design team will complete a geotechnical investigation for the design of the pedestrian bridge extension. A geotechnical report will be required prior to submission of preliminary design.

The design team will have access to the University's existing utility plans. These plans do not reflect as-built conditions. The design team will investigate and verify existing conditions and make copies of any needed campus drawings and return the originals to the University.

The design team will provide a detailed survey in the buildings at the signal/IT service entrance. The survey will include the route from the wall penetration to the telecommunications room. The design team will determine the appropriate point of termination for work included in this project.

The design team will assist the campus staff during cost allocation discussions with non-state utility owners. The design team will facilitate coordination of design, schedule and construction, including site restoration, with non-state utility owners.

The Wisconsin Department of Transportation plans to reconstruct the Water Street/Summit Street Bridge in 2016 and 2017. Any closures of the UW-Eau Claire footbridge shall be scheduled not to coincide with closure of the DOT Bridge to bike and pedestrian traffic.

The design team will meet with city, campus, DFD, UW - System and other entities as deemed appropriate by the DFD project manager during the project's design process. The design team will comply with all applicable codes and permit requirements (including the joint WDNR Storm Water Permit). Approximately four such meetings are estimated.

The design team will engage potentially affected groups to get their input for the design options of the Garfield Pedestrian Corridor. Consent building is to involve campus groups, staff and community members. Based on the input gathered through the consent building process, the core project team will direct the design team to develop site plans, sections and perspective drawings to convey the

pedestrian corridor design option(s) to the affected groups. The final design option will be chosen by DFD and the agency. Approximately five such meetings are estimated.

The consultants must also become familiar with the following:

Links

2011-13 Campus Physical Development Plans:

<http://www.uwec.edu/Facplanning/plans/cpdp.htm>

The design team will verify and update the preliminary project description above and develop a Conceptual Design Plan including the following additional information:

- (1) Plan and sections of the Garfield Corridor preferred design.
- (2) Plans showing survey, ground water and soil testing information
- (3) Plans showing conceptual route, alternate routes and tie-in points for pedestrians and emergency vehicles.
- (4) Flow diagrams for steam and domestic water including fire flow analysis.
- (5) Comparison of existing parking and transportation routes with proposed parking and transportation routes for pedestrians and vehicles.
- (6) Description of basic landscaping and pavement materials.
- (7) Listing of required regulatory permits and timeframe for obtaining approval on each permit.
- (8) Description of temporary utility requirements.
- (9) Description and layout of storm water management features including quality and quantity controls and floodplain modifications.
- (10) Preliminary budgets for roadway and utility work.
- (11) General construction sequencing plan and preliminary schedule for roadway and utility work.
- (12) General Traffic and pedestrian control plans.

The design team will develop a Design Report and Preliminary Design Documents including:

- (1) Plans and profiles for selected route.
- (2) Location of tie-in points for surface construction.
- (3) Location of utility relocations in the path of the new utility corridor.
- (4) Discussion of impact on existing buildings and temporary utility requirements.
- (5) Preliminary construction sequencing plan and phasing of the construction.
- (6) Discussion of impact on existing utilities.
- (7) Discussion of the impact on flooding.
- (8) Solutions of transportation issues and signage.
- (9) Permit development.
- (10) Site plans for landscaping, roadways, parking lots, and sidewalks.

- (11) Storm Water Management solutions.
- (12) Traffic and pedestrian control designs with signage for each stage of construction.

The design team will develop all permit applications for campus submission required for construction except construction dewatering. The design team will obtain all DNR and Corps of Engineers permits necessary for construction in the flood zone and for modification of the flood zone.

The design team will provide a steel pipe stress analysis for the new steam, steam condensate and existing steam, steam condensate lines that are interconnected. Analysis will extend to next existing remaining pipe anchor location. Revised pipe stress analyses for as-built conditions are required as construction progresses.

GENERAL REQUIREMENTS

Site:

The project will occur on two distinct sites both located on the Lower Campus of the University of Wisconsin – Eau Claire campus. Project sites are delineated on the aerial photo contained in the appendix.

Impact to the Existing Site and Facilities:

The existing utility systems provide steam, chilled water, domestic water, electrical power and signal, sanitary sewer and storm sewer to dormitories, libraries, classrooms, offices, and academic buildings. The design of this project must include means of minimizing the impacts to the program in these buildings.

The extension of the utility distribution systems must be coordinated to minimize the impact to the transportation systems. Emergency vehicle and delivery routes must be provided on to each building adjoining Garfield Avenue. A two-lane vehicle route must be provided to the parking areas and buildings accessed from Roosevelt Avenue. Unobstructed pedestrians and bicycle traffic routes must be provided at all times with typical campus walkway security lighting and emergency phones. Temporary routes may be needed during construction.

Additional safeguards will need to be implemented to maintain the safety and security of the construction site.

The design team must attempt to minimize impact to existing mature, healthy trees. New landscaping materials, including soil and growing media will be designed and installed along the Garfield corridor.

Existing Utility Systems:

The Central Heating Plant located on the Upper Campus has a capacity of 170,000 pound per hour and produces 115 PSI steam for distribution to all buildings. The plant feeds an underground distribution system with a loop configuration. Lower campus buildings are served from this loop distribution network, however the steam service to the North Campus is a radial line which is mounted below the pedestrian footbridge.

The campus has a chilled water plant located on Upper Campus and a chilled water plant located on Lower Campus that deliver chilled water via underground piping to various buildings. The chilled water plant located in the library on Lower Campus has a capacity of 2,030 tons and provides chilled water for most buildings located on Lower Campus. Chilled water distribution lines run through the Garfield Avenue Corridor. These lines will be in operation during the construction period and they must be protected.

The campus signal IT data network and telephone head-end facilities are located in Schofield Hall. Fiber optic cables and copper cables are distributed from the head-end facilities to all campus buildings via concrete encased conduits. Signal conduits run through the Garfield Avenue corridor and under the pedestrian footbridge to the North Campus. Signal cables in these conduits will be in operation during the construction period and they must be protected.

The campus primary electrical system consists of 15kV service switchgear on the Upper Campus with looped distribution feeder cables in concreted encased conduits serving all buildings. Power conduits cross beneath Garfield Avenue. Power cables will be in operation during construction and they must be protected.

Impact to the Existing Utility Systems:

The utility services to the surrounding buildings must be maintained at all times except for planned outages.

The existing steam, steam condensate piping will need to be de-energized for asbestos abatement. The design team needs to coordinate the work affecting the steam and condensate distribution to minimize the steam system outages from September through May. Temporary steam services will need to be designed to keep buildings operational.

Temporary domestic water supply may be needed to maintain fire protection and building service. Sanitary sewer bypass pumping will be needed to maintain building service.

Hazardous Materials:

A substantial amount of asbestos abatement will be required to replace existing steam lines and remove abandoned steam lines. Hazardous materials may also be encountered in the building areas disturbed for connection of additional signal service. The design team is to determine the extent of demolition. DFD asbestos/hazardous material abatement staff will provide budget estimates and schedules for the asbestos abatement work. DFD will be responsible for the design and contracting of the actual asbestos abatement work.

Environmental Impact:

In accordance with the Wisconsin Environmental Policy Act (WEPA), this project will likely require a Type II Environmental Impact Assessment (EIA), or as found in the EIA process, may be determined to require a Type I Environmental Impact Statement (EIS). This assessment will be done by a separate consultant retained by DFD.

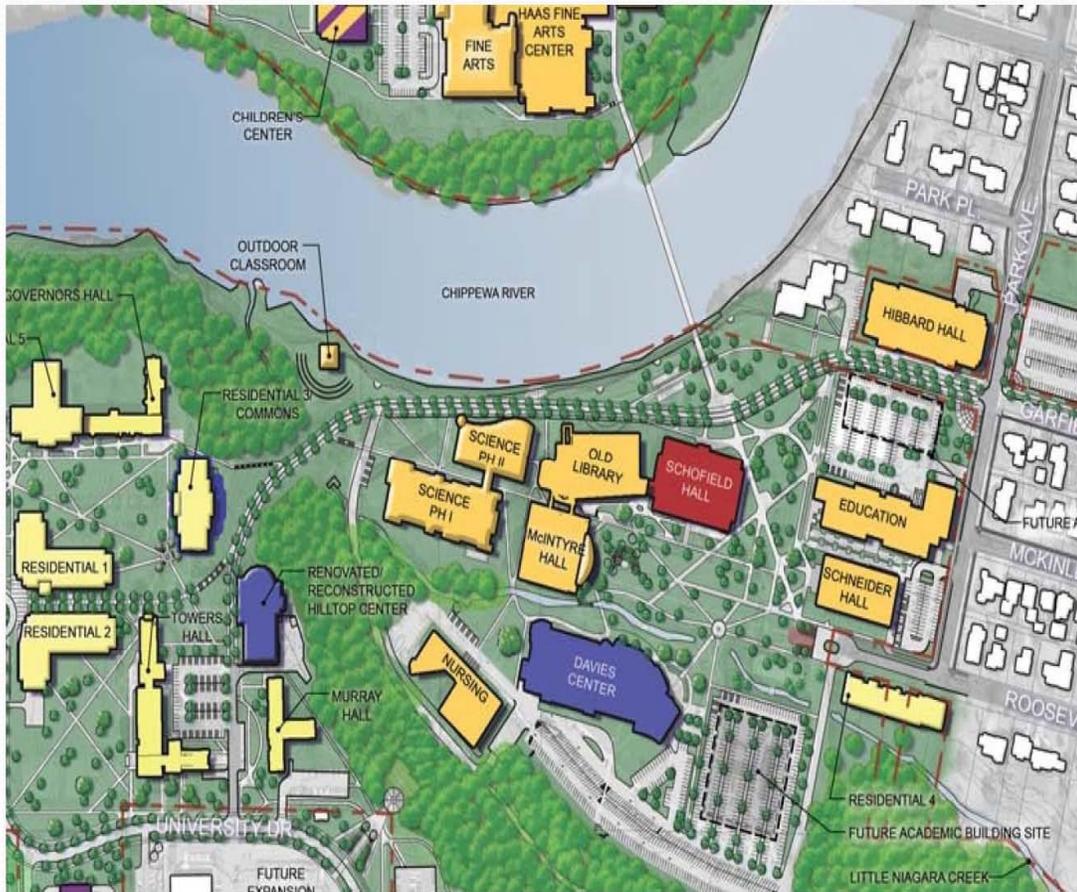
ESTIMATED PROJECT BUDGET

Construction	\$ 9,712,000
Asbestos Abatement	100,000
A/E Fees	808,000
DFD Supervision	447,000
<u>Contingency</u>	<u>1,357,000</u>
Total Project Cost	\$ 12,424,000

PROJECT SCHEDULE

Authority to Plan	July 2013
Select A/E	October 2014
Design Report Approval	October 2015
Bid Date	October 2016
Start Construction	June 2017
Substantial Completion	September 2019
Project Closeout	February 2020

Appendix



Master Plan Garfield Avenue Concept

