Chapter 1.
Existing Conditions Evaluation

Background

The residents of Grand Forks, North Dakota, and East Grand Forks, Minnesota, will not soon forget the Flood of 1997 and the devastation it caused. In April of that year, a thick winter snowpack, heavy spring rains, and rapid warming led to a 210-year flooding event. More than 56,000 people had to evacuate before the waters of the Red River crested at 54.2 feet. Seventy five percent of Grand Forks and 95 percent of East Grand Forks was inundated with water. The cities made national headlines as 11 of Grand Forks’ downtown buildings burned. Residents returned to find almost every home and business severely damaged by floodwaters. Damage estimates have ranged as high as $2 billion, the equivalent of about $40,000 in losses to every person in the community. Yet the monetary losses only begin to describe the impacts of the Flood for the communities of Greater Grand Forks. The emotional distress of losing one’s home and everything in it, the economic impacts of lost wages and lost jobs due to damaged businesses, and a feeling of defeat against a river residents had fought so hard against, are also damages caused by the Flood.

Although some left the area, most residents stayed, and vowed to rebuild their communities to make them better than they were before the Flood. Neighbors, business owners and local governments began reconstruction and plans were made to revitalize downtown areas that had been in decline. To ensure that Greater Grand Forks would be protected against future flooding, the Corps of Engineers proposed the construction of a levee system along the Red River and Red Lake River systems.

The acquisition of lands within the levee system is almost complete. Residents envision this system of floodwalls and levees as an opportunity for the creation of a unique regional greenway system within the floodways of the two Rivers. This greenway concept was brought forward by the North Dakota Congressional delegation and has been initially planned by the Corps of Engineers in association with Greenways Incorporated of North Carolina. Toward this end, the State of North Dakota has pledged $52 million for flood control on the west side of the Red River. While the state of Minnesota has provided East Grand Forks with $26 million to move forward with flood control and greenway development. The approximate 2,200 acre Greenway (800 acres in Grand Forks, ND and 1400 acres in
East Grand Forks, MN) will not only protect against future flooding, but will also provide opportunities for economic growth, environmental education, ecological improvement, four-season recreation, and community revitalization. Map 1 illustrates the proposed Greenway.

Topography and Soils

The Red and Red Lake Rivers are located on the eastern edge of the northern Great Plains region, a vast expanse of rolling grassland once inhabited by semi-nomadic Native American tribes. Today, the region is part of the Midwestern farm belt, a sparsely populated rural, agricultural landscape that extends across the center of America for hundreds of miles (General Reevaluation Report and Environmental Assessment, Army Corps of Engineers, November 1998).

According to information obtained from the Minnesota Soil and Water Conservation District, soils within the Greenway study area east of the Red River include the following types.

Fairdale silt loam, 1-6 percent slopes, occasionally flooded
Bearden-Colvin Complex
Fluvaquents-Haploborolls Complex, 0 to 30 percent slopes
Colvin-Perella Complex
LaDelle silt loam, 0-3 percent slopes, occasionally flooded
Fargo silty clay, swales
Bygland silty clay loam, 0-6 percent slopes
Bearden silt loam, 2-6 percent slopes
Zell silt loam, 6-20 percent slopes, eroded

According to a 1981 Soil Survey of Grand Forks County, the soils on the west side of the Red River are categorized as being within the Bearden Association, defined as deep, level, somewhat poorly drained, moderately fine textured and fine textured soils. Soils are then divided further into the following types:
Zell-LaDelle silt loams: deep, well drained, moderately permeable soils on glacial lake plains and in areas between beach ridges. Slope ranges from 1-15 percent.
Bearden silty clay loam: deep, somewhat poorly drained, moderately slowly permeable soils on glacial lake plains. Slope ranges from 0-1 percent.
Cashel silty clay loam: deep, somewhat poorly drained, moderately slowly permeable soils on floodplains and channeled bottom land. Slope ranges from 1-25 percent.
LaDelle silt loam: deep, moderately well drained, moderately permeable soils on flood plains and stream terraces. Slope ranges from 0-3 percent.
The Greenway is located on relatively flat land with soils that are unstable. The banks of the Rivers continually experience erosion and siltation, shifting over time, due to high amounts of loam and silt. While such soils will present difficulties in building structures, they are fertile and support plant life well, thereby serving an excellent basis for wildlife habitat.

Trail development within the Greenway will employ geotextile fabric and stone as a base, in addition to a paved surface. This flexible pavement system will serve as an independent structural unit in this way, designed to adjust to poor soil conditions. The location of any Greenway structure, such as a bridge or building, will require a detailed geotechnical analysis to determine proper location and construction design.

Vegetation and Habitat

The Greenway study area is located within the eastern edge of the Northern Great Plains, and the native biota is both wet and dry prairie dwelling species. Historically, vegetation consisted of grasses, sedges and wildflowers on the vast level areas, and occasional patches of northern floodplain forest along the streambanks and in the gullies. As the prairies were periodically swept by tremendous fires, the only woody plants in the area were those that survived them. As a natural consequence, stands of native trees and brush were few and widely scattered, found only on the streambanks or in naturally protected areas referred to as “riparian forests.” Today, the region is part of a vast, rich agricultural network stretching from the Rocky Mountains to the lakes region of Minnesota. (General Reevaluation Report and Environmental Assessment, Army Corps of Engineers, November 1998)

A Tree Inventory Report and Management Plan, completed in December 1998 for the Greater Grand Forks area (Grand Forks and East Grand Forks), includes information obtained from a complete inventory of tree cover along the proposed Greenway corridor. According to the Plan, more than 76 species and varieties of trees are located in the proposed Greenway, representing 27 different tree genera. A large percentage of the tree population is comprised of Green Ash and American Elm. A total of 101 separate wooded areas were recorded and the urban forest area was found to be made up of a population of primarily younger plants. The total plant value for the urban forest within the proposed Greenway was estimated to be $2,167,340.00. Further information about tree cover in the
The Greenway
Grand Forks, ND • East Grand Forks, MN

study area can be found in the recently-published Plan. (Refer to Tree Inventory Report and Management Plan, ACRT)

Various “edge” species of wildlife reside within the proposed Greenway corridor, including squirrels, rabbits, deer, foxes, and birds. These species of wildlife do not require large parcels of land for habitat, living instead in linear corridors and other areas abutting developed areas. According to David Lambeth, an active birder in the area, the Greenway area is now home to about 75 species of birds. Natural habitat along the Rivers is especially valuable for migrant songbirds, hawks, bald eagles and owls. This area is also located along the migratory routes of many species of birds.

There are approximately 65 different species of fish in the Red River and Red Lake River according to wildlife officials in North Dakota and Minnesota. The rivers are regarded as one of the premiere fisheries in North America for “channel catfish.” In fact, East Grand Forks and Grand Forks host the annual “Catfish Days” fishing tournament, which draws contestants from all over the world. The Red and Red Lake Rivers support both shore fishing and boat fishing, and are excellent fishing resources throughout the year.

Land Use

Land use within and adjacent to the study area is varied. Lands to be designated as part of the Greenway contain parkland, farmland and residential neighborhoods. Houses in many of these neighborhoods have been demolished or removed, and only streets, sidewalks, driveways, and a few outlying structures remain. Access to Greenway facilities may be accomplished by utilizing such remaining infrastructure. At the present time, it is intended that all houses and other major structures will be removed from the unprotected side of the levee system prior to construction. The Cities are currently in negotiations with landowners.

Outside the future levee system, there are the downtowns of Grand Forks and East Grand Forks on either side of the Red River. In the downtown areas, there exists denser land use with many commercial, retail and office buildings mixed with the institutional uses which dominate the downtowns. Although the flooding caused many buildings in the downtowns to be abandoned, most have been rebuilt and revitalization efforts are underway. Radiating from these areas are historic, residential neighborhoods with pocket parks. Further out are newer residential neighborhoods with golf courses.
and a few pocket parks. At the northern and southern portions of the study area, agricultural fields and industrial areas are prevalent.

The City of Grand Forks has a Year 2015 Land Use Plan that was produced prior to the flood of 1997. The East Grand Forks Greenway Plan was completed in October, 1999 and includes plans for the Red River, Red Lake River and the loop dike that will encircle the city. East Grand Forks also conducted an extensive set of studies pertaining to the Greenway. These include: a recreation needs assessment and the East Grand Forks Master Plan (prepared by the University of Minnesota Design Center for the American Urban Landscape), preparation of a large scale working model of the city.

Population

Prior to the 1997 flood, Grand Forks had a population of 52,500 and East Grand Forks reported 9,000 residents. Since the flood, it is estimated that approximately 2,000 people have left Grand Forks and an additional 2,000 have left East Grand Forks. Growth is expected to continue at a 0.9 percent annual growth pattern, with the population of Grand Forks reaching 58,000 to 60,000 by the year 2020 and the population of East Grand Forks is projected to reach 11,000 by 2020.

Proposed Levee Alignment

The levee alignment proposed by the Army Corps of Engineers is illustrated in Map 1. To date, this alignment has not been finalized by the Corps, the City of Grand Forks, and the City of East Grand Forks and, therefore, may still change. Some utilities will be retained and modified to serve pedestrian uses, such trail lighting, and water service for safety and maintenance purposes. This alignment will be finalized by June 2000. Flood-walls and levees are anticipated to be an average of five to ten feet high, with levees up to twenty feet high in some areas.

Most utilities, including water, sewer and electric, located on the unprotected side of the levee are planned to be discontinued after dike construction. The below-ground infrastructure will be capped and above-ground structures will likely be removed. The cleared linear landscapes remaining provide opportunities for habitat restoration and trail development.

Figure 7: Frisbee golf players enjoy a sunny day at Central Park.
Description of the Study Area

North Dakota: West Bank of the Red River (including Grand Forks)

Agricultural Lands

Agricultural landscapes are found within the northern and southern portions of the Red River's west bank. Agricultural fields dominate this area, however, it is evident that development is continuing to radiate outward from the City of Grand Forks and encroach into former farmland. One example is “Shady Ridge Estates”, a high end residential development that has recently been constructed adjacent to agricultural fields. Agriculture is the predominant use of lands located outside of the study area, to the north and south.

Parks

There are approximately 1,130 acres of parks, open space and recreation land located within the City limits of Grand Forks. Outdoor recreation areas include 20 public parks and two golf courses. Five parks, listed below, are located within the Greenway project boundaries along the west bank of the Red River.

1. Sunbeam Park is located at the south end of the study area. This strip park follows the Red River and features a paved multi-use trail along its entire length and an old growth forest at the south end.

2. Lincoln Park is a more traditional park with a picnic area and shelter, horseshoe pits, basketball courts, tennis courts, flower gardens, and restrooms. Lincoln Park also features a public 18-hole golf course with a clubhouse and parking for 150 cars. Cross-country skiing is offered in the winter. The golf course is an attractive open green space within the Belmont Road area, offering panoramic views to surrounding residents. North Lincoln park has a warming house, playground and flower gardens adjacent to the golf course. The levee is proposed to be constructed so as to accommodate a 9-hole golf course, although these plans could change.

3. Central Park is also a traditional park providing picnic facilities and a shelter, horseshoe pits, playground, frisbee golf, flower gardens, restrooms, and a paved trail.

4. Kannowski Park is a small park between the downtown area and the River. It is adjacent to the downtown business district and has flower gardens, benches and shelters, a gazebo, water fountain, bike racks, a bike trail and a sidewalk system that connects Central park to the south and Riverside Park to the north. The historic Great Northern Railroad Bridge currently serves as a major pedestrian corridor linking Grand
Forks to East Grand Forks, yet it is scheduled to be removed as part of the levee project. A renovated railroad depot serves as the Chamber of Commerce. The City of Grand Forks owns the Riverbank strip of land between the Kennedy Bridge and the Point Bridge (Minnesota Ave.). This strip provides about 50 acres of valuable open space for the City's trail system.

5. Riverside Park is located at the north end of the Greenway study area. As a traditional park, it provides picnic facilities and shelters, four tennis courts, volleyball court, baseball fields, open field, play equipment, horseshoe pits, flower garden, skating and hockey rinks, warming house, a swimming pool and historic bathhouse. Riverside Park is an attractive open space within an urban setting, offering panoramic views to surrounding residents. Park trails link to Kannowski Park and the downtown business district via low traffic, historic Lewis Boulevard. (General Reevaluation Report and Environmental Assessment, Army Corps of Engineers, November 1998)

In addition to these parks, the City of Grand Forks owns the 18-acre Koinonia property, located off Olson Drive. This property, once used as a place for meditation, contains a tree-lined entryway, a boat launch, a small driveway bridge, and temporary dikes. The area is an open landscape that is currently maintained by the City, but not open for public use. The City of Grand Forks also owns riverside land used as a boat launch along the northern portion of the study area which is not well maintained. Fishing also occurs along the River at a small dam where problems with dumping and erosion exist.

Neighborhoods
Several different types of neighborhoods exist along the west bank of the Red River, all of which will be affected by the construction of the levee system. A relatively new neighborhood exists to the south, near Circle Hills Drive, off of Belmont Road. This neighborhood is located near Sunbeam Park, and many of the homes closest to the River will be removed with the present levee alignment. The Lincoln Drive neighborhood, located in a historic district along Belmont Road, is separated from the Red River by Lincoln Park and its golf course. The levee is planned to be routed through this golf course that functions as a major urban open green space with panoramic views from the residential area. The Red River loops around a neighborhood along Lincoln Drive. Prior to the 1997 flood, this low-lying area had been protected by a 15-20 foot high earthen levee and floodwall structure. A multi-use, paved trail is located to the east and on top of the existing levee which will be removed as part of the levee project. Many of the houses in this area have been removed, however, outlying structures and infrastructure remain at the present time. Such structures, streets, and sidewalks present opportunities for use...
as Greenway trails, access drives, warming huts, or interpretive displays. The Lewis Boulevard neighborhood is another historic area to the north of downtown Grand Forks, which contains Riverside Park. Several homes will be removed in this area as well.

**Historic/Cultural Sites**

Several historically and culturally significant areas and structures exist along the west bank of the Red River. One such area is the historic district along Belmont Road, which includes Campbell House, a historic carriage house and the original log Grand Forks Post Office. The Myra Museum is also located in this area. In Downtown Grand Forks, there are 16 historic and architecturally significant structures, as well as the cultural attraction of Fire Hall Theater. They are:

- Grand Forks City Hall
- Grand Forks Woolen Mills
- Telephone Company Building
- U. S. Post Office and Courthouse
- Grand Forks Herald
- Grand Forks County Courthouse
- First National Bank
- Finks & Gokey Block
- St. John’s Block
- Vets Hotel
- Dakota Block
- Lyons Garage
- Stratford Building
- Masonic Temple
- Wright Block
- Edgar Building

In addition, “granitoid”, a granite aggregate and concrete stamped material, were used in the construction of early downtown streets in Grand Forks. Examples of this pavement material are located on Lewis Boulevard between 3rd Street North and Conklin Avenue and also on several streets in the Central Park area, including Minnesota Avenue. Historic homes in neighborhoods affected by levee construction are planned to be moved to other sites which are located, in most cases, within the same neighborhoods on the protected side of the levee system.

**Downtown Grand Forks**

Revitalization efforts for the downtown of Grand Forks are becoming increasingly apparent. Badly damaged buildings are being removed while salvageable ones are being renovated for future uses. Streetscaping (including street lamps, sidewalks, street trees, and benches) has taken place in some areas of the downtown where it creates a more pedestrian-friendly atmosphere. The roof has been removed from the downtown mall and 3rd Street reopened to vehicular traffic. Restaurants and specialty retail establishments are moving back into downtown buildings. The new corporate center, county building and parking ramps are all taking shape.

Plans for revitalizing downtown Grand Forks began three years prior to the 1997 flood, when a River Forks Plan for Greater Grand
Forks was published that advocated downtown Grand Forks and East Grand Forks focus attention toward the River as a means to revitalize the downtown areas. In July of 1997, a vision for the future of the Greater Grand Forks Downtown areas was published for the Mayors’ Task Force on Business Redevelopment. This vision included using the Red River of the North to link the two Cities, connecting the proposed greenway with downtown areas, and redeveloping downtowns as multi-use areas with retail uses, office uses, entertainment, and residential uses co-existing. In September 1997, the Urban Lands Institute issued recommendations for reconstructing the devastated Grand Forks downtown, including celebration of the River. ULI proposed creating three principal land use districts: a residential, retail and entertainment district; the existing government and education center; and a new financial center.

The downtown greenway and park along the Red River will provide opportunities for community events. Such events that are now held by the River include the Forks Fest in July, First Night on New Year’s Eve, the Frosty Bobber, the Grand Pasta Party on the Prairie, and a 4th of July celebration. The City of Grand Forks plans to continue events such as these in order to market the downtown and the River.

Providing connections between the downtown and the Red River of the North Greenway will be important in increasing revenues for downtown businesses and promoting tourism in the area. Currently, such connections exist, but are not highlighted as gateways.

Bicycle and Pedestrian Facilities

According to the Grand Forks Recreational Needs Assessment (July 1998), the most frequently used recreation resources in the City are the trails in the parks, followed by playgrounds, the Lincoln Golf Course and outdoor playing fields. The west bank of the Red River contains several multi-use, asphalt or concrete trails which can accommodate bicyclists, pedestrians and rollerbladers, as well as cross-country skiers in the winter months. (The trail within Kannowski Park is cleared of snow for winter use by bicyclists and pedestrians.) Paved, multi-use trails along the River within the Greenway study area include:

- A trail within Sunbeam Park, extending from 39th Avenue South to 47th Avenue South, which is paved with asphalt and 8-10 feet wide.
- A trail extending from Lanark Avenue to Lincoln Drive and the Lincoln Park Golf Course, which is routed on top of a levee in some
areas, constructed of concrete, and 10 feet wide.
• A trail extending from Minnesota Avenue in the south to Lewis Boulevard in the north, routed through Kannowski Park, and connecting to Riverside Park. The trail is 10-feet wide, asphalt, and connects to a rail trail which extends west to the University.

According to a recent draft of the Grand Forks/East Grand Forks Bicycle Plan, there are 25 miles of bikeways, both on-road and off-road, that currently exist in both cities. Many of the on-road routes connect to the trails along the River, creating a more extensive bicycling network. These connections should be encouraged as future bikeway projects are constructed.

Bicycle and pedestrian connections between the downtowns of Grand Forks and East Grand Forks will be important in encouraging recreational activities and tourism on both sides of the Red River. Currently, the River acts, to some degree, as a barrier to non-motorized travel, with the exception of the DeMers Ave. bridge (Sorlie Historic Bridge) which contains sidewalks (though not accessible by the physically challenged), and the former railroad bridge which is used by bicyclists and pedestrians. The Corps currently plans on removing this bridge, to reduce future flooding, and construct other bridges devoted exclusively to bicycling and walking in other areas. Providing a bicycle and pedestrian bridge across the Red River will be needed to connect the two downtowns in this area.

Minnesota: East Bank of the Red River and Red Lake River (including East Grand Forks)
Agricultural Lands
The Greenway study area which lies in the State of Minnesota is not as developed as that which lies in North Dakota. Agricultural lands are prevalent along the banks of the Red Lake River, and the eastern bank of the Red River, outside the City limits of East Grand Forks. These areas include crop fields as well as some natural areas which serve as streamside buffers. Some industrial land use related to the agriculture industry also exists in these areas to the north, south, and east of the study area.

Parks
The City of East Grand Forks has established several parks along the south side of the Red Lake River and along the east bank of the Red River. Eight of these parks are located within the Greenway project study area. The following parks exist along the Red
Lake River.
1. Folson Park is a passive recreation park, containing a large open area, a boat launch, picnic area, playground and trail along the River.
2. O’Leary Park is connected to Folson Park via a multi-use trail and is located adjacent to the Veterans Memorial Arena. This park offers an open play field, playground and picnic facilities.
3. Griggs Park is located at the mouth of the Red Lake River and includes a small playground, skating area and open play fields. It abuts Rivers Edge Park, and provides an opportunity for use by the nearby, newly-constructed Sacred Heart School and retirement community located in downtown East Grand Forks.

The following parks exist along the Red River.
1. Rivers Edge Campground is, as the name suggests, on the banks of the Red River. Prior to the flood, it contained a campground which is no longer open. A boat launch within the park is used by the public, fishing access is provided as well as paved trails routed along the River, linking with O’Leary and Folson Parks.
2. LaFarve Park is located between Rivers Edge Campground and Dike Park. It contains a paved trail that links the three areas.
3. Dike Park is located to the northwest of Rivers Edge Park, along the edge of the Red River.
4. Sherlock Park is a more traditional park, containing a swimming pool, playground, picnic shelters, trails and open space. The Park also contains numerous mature tree specimens.
5. River Heights Park is separated from the Red River by River Road, containing picnic facilities, exercise equipment and a sidewalk/trail.
6. Valley Golf Course is an 18-hole course located in the northern portion of the study area, adjacent to newer residential developments. The Course is directly adjacent to the Red River.

Neighborhoods
Many of the neighborhoods in East Grand Forks were comprised of older homes located on the edges of the downtown area. This includes the Sherlock Park neighborhood, which is now completely abandoned due to the 1997 flood. It is located along the River on the unprotected side of the future levee system. Roads, sidewalks and driveways remain in the area, along with many mature trees. Newer residential areas exist between the banks of the Red and Red Lake Rivers along 8th Street and other roadways. Large lot sizes include significant setbacks from the Red Lake River in this area.
Downtown

The downtown area of East Grand Forks is smaller than that of Grand Forks, yet is very similar in age and atmosphere. The area continues post-flood restoration efforts, including the construction/renovation of a floodwall and riverwalk, Campbell Library, Holiday Mall, Blarney Mill, Whitey’s Restaurant, the Blue Moose Restaurant has been relocated, Cabelas (a major outdoor retailer) has recently been constructed. A new city hall, library, firehall addition, parking, and renovation of retail business are planned or are in progress. Cabelas will be a major attraction for visitors throughout the region. Other retail, office and institutional uses currently exist in the downtown.

The vision for redeveloping the downtown, as mentioned in the above text regarding downtown Grand Forks, would also apply to the downtown of East Grand Forks. Plans include comprehensive, coordinated efforts to revitalize both downtowns through mixed use development, aesthetic improvements and creating a more bicycle and pedestrian friendly atmosphere. Plans also include focusing on the Red River as an area of celebration (landscaping could incorporate design for outdoor events, music festivals, etc.), activity and urban respite.

Historic Sites

East Grand Forks is a transportation crossroads and has a history of wagon, ox-cart, train, steamboat and motor vehicle travel. Several historic buildings exist in the downtown of East Grand Forks including Whitey’s and the Creamery. Many have been renovated, and the City is making an effort to preserve any historic structures that need to be moved from the unprotected side of the proposed levee.

Bicycle and Pedestrian Facilities

The City of East Grand Forks built a multi-use, paved trail in 1996 along the Red River and Red Lake River connecting with the downtown and the bicycle/pedestrian (former trestle) bridge into Grand Forks. At the time of this writing, the bridge is proposed to be demolished by the Corps. An easily accessible, pedestrian connection to both downtown areas is desirable for economic activity and convenient access, and especially if tourist-oriented riverside events are to take place. This asphalt trail is routed on the 4th Avenue bridge and other roadways to connect the downtown/LaFarve Park area to O’Leary and Folson Park. Additionally, sidewalks are provided in the downtown area and in some residential areas of East Grand Forks.