

Road; and Industrial Boulevard.

- » Per the Comprehensive Water Plan, new 12" watermain would extend west into and through Site B.
- » Both 12" extensions would extend to Decker Avenue where they would be connected to complete a new watermain loop.
- » Based on the Comprehensive study, even with the water loop through Site B, there may be a small portion of Site B along Decker that may experience lower than desired water pressure.
- » Determination of the type of uses proposed (i.e. industrial versus residential), their water demand and pressure requirements will be evaluated with respect to the Comprehensive Water Plan and identify if other improvements to the City water system is needed.

Private Utilities

General Information

- » Calls have been placed to the individual providers as well as Gopher State One to obtain plans and schematic drawings for the location of private utilities within or near Site A and Site B
- » Additional information on Gas, Fiber, Telephone, and Cable will be forthcoming.

Electric – Xcel Energy

Site A (North Site)

- » Overhead electric lines currently run along County Road 23 to the north along 330th Street West to the south.
- » Site A can be serviced from electrical utilities along Garret Avenue, which runs down the center of the site. Electrical services can then be extended from Garret Avenue into the site.
- » Verification of end user electric needs will be required to determine if existing service is adequate.

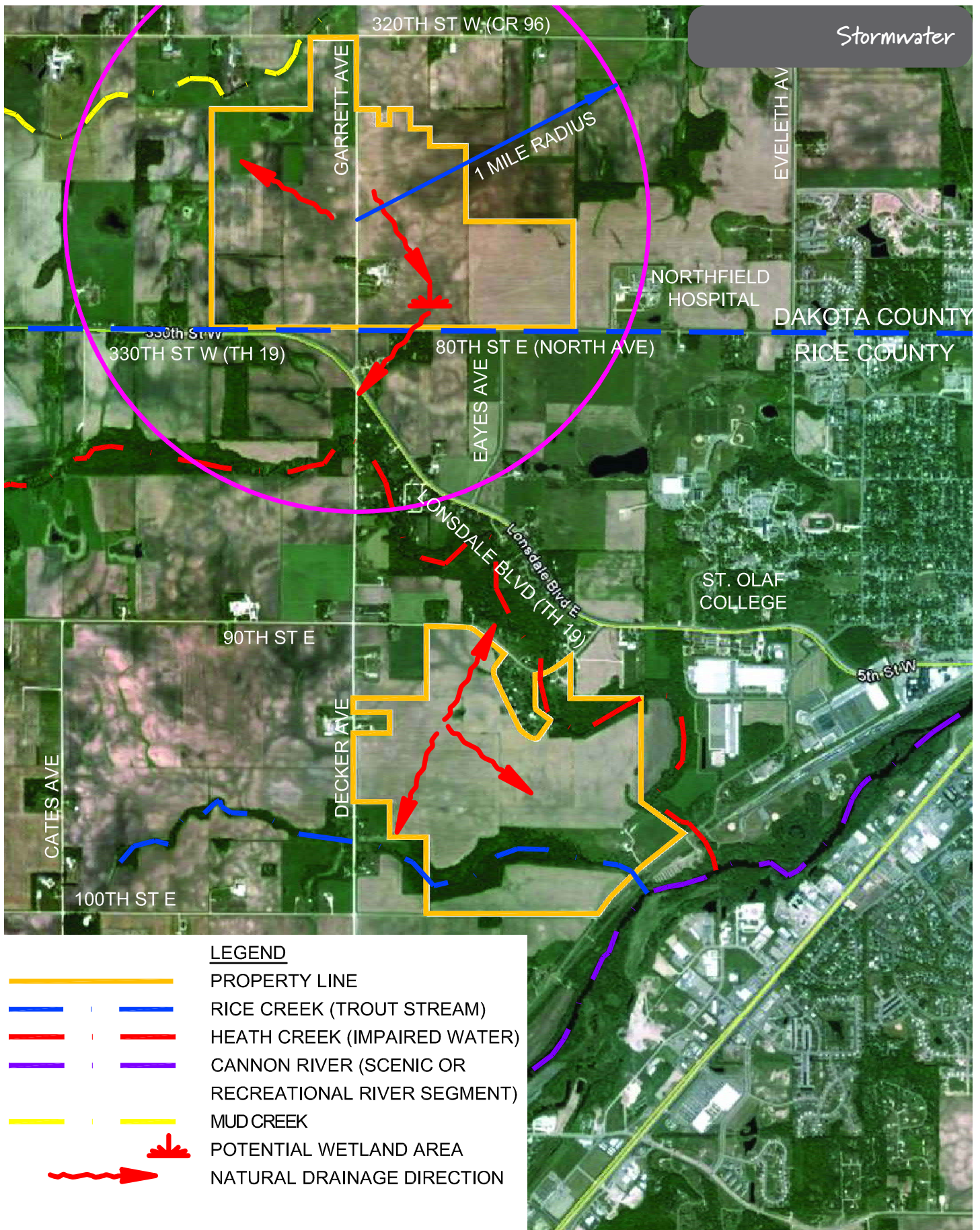
Site B (South Site)

- » Overhead electric lines currently run along Decker Avenue to the west, 90th Street East to the north, 100 Street East to the south, and along the existing railway to the east.
- » Site B can be serviced with electricity from all sides of the site. Verification of end user electric needs will be required to determine if existing service is adequate.

Gas – Xcel Energy

Site A (North Site)

- » Existing gas lines run along 80th Street East to Decker
- » Verification of end user gas needs will be required to determine if existing gas service is adequate.



Site B (South Site)

- » Existing gas lines run along 90th and 100 Street.
- » Verification of end user gas needs will be required to determine if existing gas service is adequate.
- » Electric lines currently run along Decker Avenue to the west, 90th Street East to the north, 100 Street East to the south, and along the existing railway to the east.

Fiber, Telephone & Cable

Information on service providers and available connection points for Site A and B are forthcoming.

Storm Water Management

Best Management Practices

- » A comprehensive surface water management plan was completed in 2007. The study investigated land and water resources, identified water resource concerns, management goals concerning water quantity, water quantity and guidelines on storm water management.
- » Storm Water best management practices for sites A and B shall be implemented in accordance with the Minnesota Pollution Control Agency and the City of Northfield Comprehensive Surface Water Management Plan.

Rate Control

General Information

- » New developments will be required to meet the Pre-Settlement conditions for the 2 (2.8 inches in 24 hours) and 100 (6.1 inches in 24 hours) year critical events. Pre-Settlement conditions are defined as the estimated land coverage prior to European settlement.

Site A (North Site)

- » Additional requirements beyond what is stated under General Information is not anticipated for rate control pertaining to Site A.

Site B (South Site)

- » Site B will be required to meet the maximum discharge rate of 0.1 cfs per acre for the 100 year critical storm event, due to the fact that it is located with in the Rice Creek Sub watershed, per the City of Northfield Comprehensive Surface Water Management Plan.

Infiltration

General Information

- » Based on the soils hydrologic group the following infiltration rates shall be used:

Hydrologic Soil Group	Infiltration Rate
A	0.50 in/hr
B	0.25 in/hr
C	0.10 in/hr
D	0.03 in/hr

- » According to the Natural Resource Conservation Service (NRCS) soil survey, both sites A and B contain soils that are predominately classified as soil group B.
- » According to the City of Northfield Comprehensive Surface Water Management Plan new developments are required to infiltrate storm water runoff except where it is demonstrated to be a risk to groundwater quality, the land use is incompatible, or soils are not conducive to infiltration. Conditions that will prohibit infiltration for either site A or B are not anticipated.
- » Pre-treatment of storm water is required prior to discharge to an infiltration basin.
- » Infiltration systems will be sized to infiltrate the runoff from the impervious surface area from a 0.34-inch rainfall event.
- » Projects that discharge storm water from a point that is within 1-mile of and flows to a trout stream, impaired water, or scenic or recreational river must infiltrate 0.5-inch of runoff from all impervious surfaces.
- » Infiltration practices shall maintain three feet of separation between the bottom of the system and the top of the groundwater or bedrock/impervious surface.

Site A (North Site)

- » Additional requirements beyond what is stated under General Information is not anticipated for infiltration pertaining to Site A.

Site B (South Site)

- » Site B may require additional infiltration of runoff from a 1-inch rainfall over the impervious surface area due to its proximity to Rice Creek.

Water Quality Treatment

General Information

- » Per the Comprehensive Surface Water Management Plan new developments must adhere to one of the following water quality treatment standards:
 - » Developments must incorporate effective non-point source pollution reduction Best Management Practices to achieve 90% total suspended solids removal and 60% phosphorous removal from the runoff generated by the 2.5 inch rainfall.
 - » New Developments must treat storm water to the National Urban Runoff
 - » Protection guidelines which include: a permanent pool volume greater than or equal to the 2.5" storm over the entire contributing drainage area, a permanent pool depth greater than or equal to 4' and less than or equal to 10', side slopes of 3:1 (horizontal to vertical) or flatter, a 10' wide safety shelf below the permanent pool, and a pond ratio of 3:1 length to width.
- » Catch basins shall have a 2' deep sump, and a 3' deep sump prior to discharge to a wetland, lake, or stream.

Stream, River, Wetland Buffers

General Information

- » Scenic or Recreational river segments and trout streams (special waters) shall require an undisturbed buffer zone of 100 linear feet from the ordinary high water mark (OHW) of the special water. The city promotes and encourages the establishment of wetland buffers where feasible.

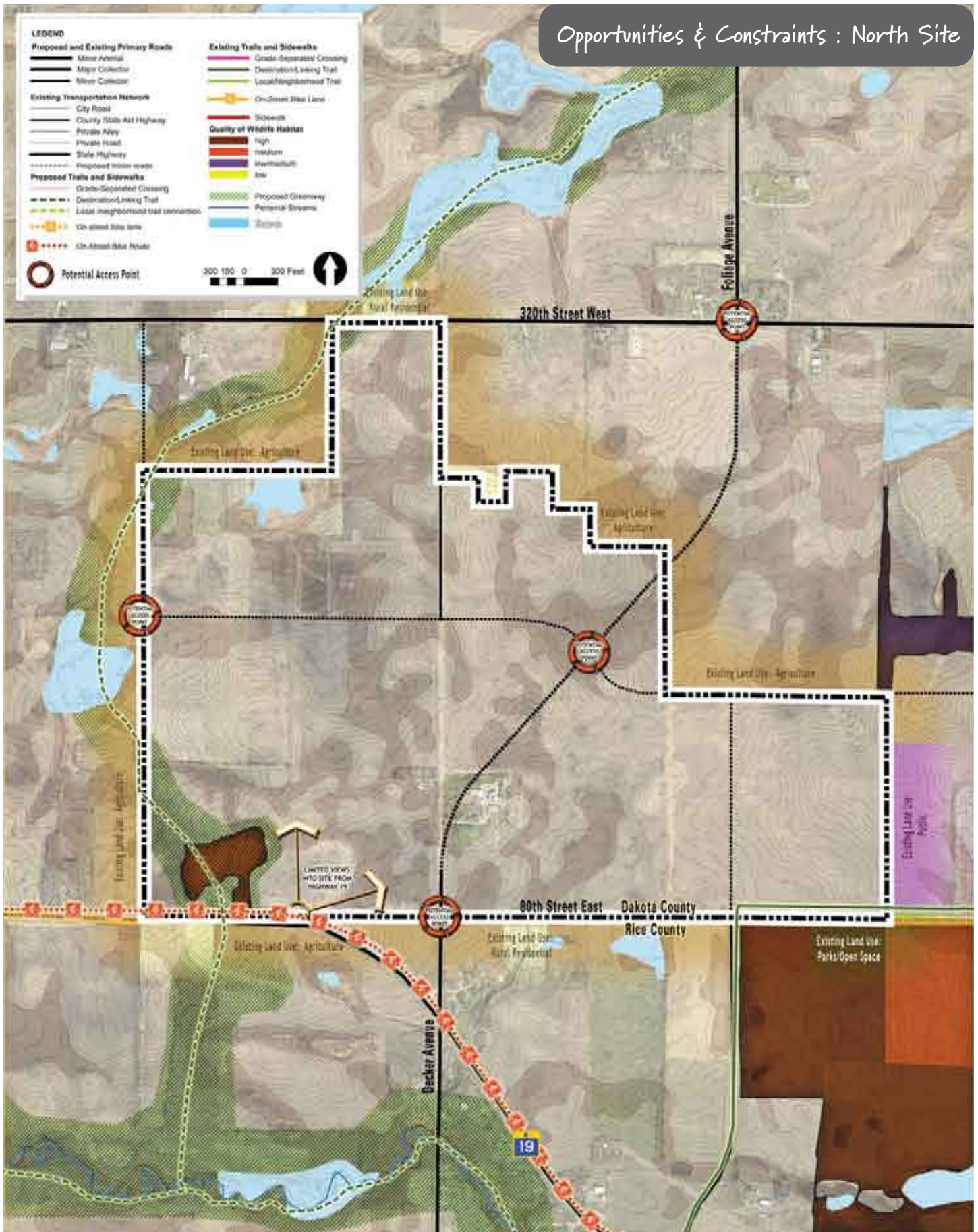
Site A (North Site)

- » In reviewing USGS and National Wetland Inventory maps, wetlands may be present on Site A. The determination of wetlands that may fall within the project area will require confirmation through wetland delineation by a certified wetland delineator.

Site B (South Site)

- » Rice Creek which is classified as a trout stream runs through Site B and will have to maintain an undisturbed 100 foot buffer zone from the OHW.

Opportunities & Constraints : North Site



Issues, Opportunities, & Constraints North Site

Issues

Significant issues related to development of the North Site as a future employment center include the following:

- » Distance (6 miles) of site from Interstate Highway 35 is not an advantage for distribution and warehouse uses
- » Potential for site development to create sense of “gateway” into the City of Northfield
- » Site access from State Highway 19 needs improvement to make it safe for increased traffic and truck traffic
- » Future routing of County Road 23 through the site is critical to establish better site access and egress
- » Multiple land owners, including St. Olaf College
- » Relationship to nearby St. Olaf College
- » Hydric soils
- » Cost of providing infrastructure to serve the site for future development



Opportunities

Significant opportunities related to development of the North Site as a future employment center include the following:

- » Good visibility from State Highway 19
- » Potential for site development to create a positive sense of “gateway” into the City of Northfield
- » Improve site access
- » Connect Northfield Hospital more directly to State Highway 19
- » The sites natural features are conducive to large scale, commercial development
- » Build on success of Northfield Hospital
- » Build on “campus” theme
- » Connect to the regional trail and open space system

Constraints

Significant constraints related to development of the North Site as a future employment center include the following:

- » Site is not currently served by public utilities – water, sanitary and storm sewer, gas, electric, etc.
- » Current site access is unsafe and challenging for truck traffic
- » Distance (6 miles) of site from Interstate Highway 35 is not an advantage for distribution and warehouse uses
- » Multiple land owners

Issues, Opportunities, & Constraints South Site

Issues

Significant issues related to development of the South Site as a future employment center include the following:

- » The site lies within Bridgewater Township - it has not been annexed into the City of Northfield
- » Distance (7 miles) of site from Interstate Highway 35 is not an advantage for distribution and warehouse uses
- » Site access and visibility are currently poor, particularly for commercial uses
- » Multiple land owners
- » Potential storm water impacts to Heath Creek and Spring Brook
- » Potential trout habitat impacts to Spring Brook
- » Existing residential uses located adjacent to the site
- » Topography does not lend itself to large scale, industrial buildings
- » Cost of providing infrastructure to serve the site for future development



Opportunities

Significant opportunities related to development of the North Site as a future employment center include the following:

- » Unique site amenities – the two creeks – offer a desirable location for certain land uses (corporate office and residential)
- » Development of the site and new land uses provide the opportunity to restore and enhance the stream corridors and improve water quality
- » Potential to improve site access and visibility
- » Connect to the regional trail and open space system
- » Potential to annex site into City of Northfield

Constraints

Significant constraints related to development of the North Site as a future employment center include the following:

- » Site is not currently served by public utilities – water, sanitary and storm sewer, gas, electric, etc.
- » Current site access and visibility are poor, particularly for commercial uses
- » Distance (7 miles) of site from Interstate Highway 35 is not an advantage for distribution and warehouse uses
- » Multiple land owners
- » Streambank and stormwater ordinance restrictions limit and control the type of development that can occur on the site
- » Site does not lie within the City of Northfield

