

WIS 27 & I-90 Business Park Development Study

City of Sparta, WI

Drafted: April 26, 2016
Project No. 51035

Prepared by:

MSA

PROFESSIONAL SERVICES

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LIST OF EXHIBITS

- Existing Conditions Exhibit
- Concept Plan Exhibit
- Cost Estimate Exhibit

Section I. Study Objective

The City of Sparta is considering the purchase of approximately 180 acres on the south side of the City at the southeastern corner of the intersection of WIS 27 and I-90. The purpose of the potential land acquisition is to develop a new business park to stimulate the local economy by attracting new businesses, creating new jobs, and increasing the City's tax base.

This study is intended to aid the City in their decision making process by reviewing existing conditions within the project area, developing conceptual plans for the layout of a new business park and preparing planning level cost estimates for initial infrastructure improvements to serve the area.

Section II. Existing Conditions

The goal of this section of the study is to gather baseline information regarding the existing conditions of the project area to inform decisions regarding the conceptual layout of the planned business park. Refer to the Existing Conditions Exhibit at the end of this report.

Project Boundaries and Ownership

The site is bounded on the west by WIS 27, to the north by I-90, to the east by Ideal Road and to the south by Idylview Ave. The project site consists of seven parcels totaling 180.7 acres. All seven parcels are owned by D&P Sparta Investments, LLC. The site is strategically located 20 miles to the west of the intersection of I-90 and I-94 and 20 miles to the east from the City of La Crosse.

Land Uses and Zoning

The project area includes a mix of agricultural (80 acres), open space/scrubland (45 acres), woodland (55 acres), and wetland (1 acre) areas. There are five small agricultural buildings located in the middle of the project site accessed by a private driveway off of Ideal Road. The two western-most parcels (31.8 acres total) bordering WIS 27 are zoned M3 Manufacturing under the City's Zoning Code. The remainder of the site (148.9 acres) is currently zoned AG General Agricultural under the City's Zoning Code.

In 2016, the City adopted a new Comprehensive Land Use Plan. The Future Land Use Map identifies the project site for a mix of commercial and industrial development, with the commercial component adjacent to WIS 27. The Comprehensive Plan identifies the area as a Planned Business Park.

Adjacent land uses includes a new Theisens' Home Farm and Auto commercial business constructed in 2015 on the west side of WIS 27. There is also a small commercial business on the east side of WIS 27 adjacent to the southwest corner of the project site. To the south, lies a rural subdivision along Idylview Ave., undeveloped wooded lots and one rural home off of Ideal Road. On the east side of Ideal Road lies several rural residential homes and a cemetery. In addition, there are two rural homes on the west side of Ideal Road adjacent to the project site. Across I-90 to the north lies several commercial businesses including a gas station, two hotels and residential development. Those parcels to the south of the project site and east of Ideal Road are currently within the Town of Sparta, but zoned a mix of General Agricultural and Suburban Residential under the City's Extraterritorial Zoning Code. The City owns approximately 150 acres of land located 1,320 feet to the south which includes the residential development on Ida Avenue and the old landfill site.

Soils, Topography & Environmental Features

The project site features mostly Tarr (types TsA, TrC, TrB) and Boone Sand (type BoC and BoF) soils according to Natural Resources Conservation Service (NRCS) Web Soil Survey. The USDA Soils Inventory Website note these types of soils are suitable for dwellings and commercial buildings, street construction, and a source for reclamation materials and road fill. (Note, soil borings were not included in the scope of services for this report.)

The project site ranges in elevation from 810 feet to 910 feet. The high point is a wooded hill along the southern boundary of the site. There are two low points on the property, one to the north adjacent to I-90 and one to the west adjacent to WIS 27.

The low point along I-90 includes a two acre wetland, of which about half lies within the project area. According to the WDNR the wetland (ID 42423696351) is a Forested, Emergent/Wet Meadow (code T3/E1kf). In addition, the WDNR Surface Water Viewer also shows one unnamed intermittent stream (waterbody ID code 5026016) which flows from the south to the wetland along I-90. Given this area consists of tilled agricultural land it is unknown why this intermittent stream is shown on the WDNR's Surface Water Viewer or USGS Map. A WDNR determination of navigability was not included in the scope of services for this report.

There are no FEMA designated floodplain areas within the project site.

Transportation

Access to the project site is currently provided by an existing field entrance located directly across from Theisen's Home-Farm-Auto from WIS 27, and a second gravel access on the north end of the property from Ideal Road.

WIS 27 is a 2-lane rural section highway with an asphalt surface at the south end of the project area and transitions into a 4-lane divided highway with an asphalt surface at the north end of the project. The highway is classified as a Principal Arterial by the Wisconsin DOT with 7,300 annual average daily traffic (AADT) south of I-90 and 11,100 AADT north of I-90. The WisDOT has access control on WIS 27 to 608' south of the I-90 east bound on/off ramp centerline.

Ideal Road is a local road co-owned by the City and Town of Sparta. This is a rural type roadway with a 22' wide chip seal road surface in fair condition.

Storm Water System

There are two existing storm water discharge locations utilized by the property.

The west discharge serves both on-site and off-site drainage and discharges the storm water across WIS 27 through Theisen's Home-Farm-Auto property via three 36-inch culverts.

The north discharge serves both on-site and off-site drainage and discharges the storm water onto wetlands on private property south of Interstate 90. This water drains across Interstate 90 to the north onto private lands.

Water System

Currently the City's water system is extended to the site at the intersection of WIS 27 and the Theisen's Home-Farm-Auto driveway. The water system at this location consists of two mains; a high pressure main that is served by the City's Icecap Road Water Booster Station, and a main that operates on the City's primary pressure zone.

The primary pressure zone main consists of a 12-inch diameter ductile iron main. A fire flow test was conducted at fire hydrant C199, located near the intersection of WIS 27 and the Theisen's Driveway. The static pressure at the hydrant (elev. 818) varies from 48 psi to 52 psi. The fire flow test produced 1,020 gpm at 40 psi residual pressure. This main could provide Wisconsin Administrative Code minimum static pressure (35 psi) to an

elevation of 848' with fire flows ranging between 1,650 gpm and 3,000 gpm at a residual pressure of 20 psi. The available fire flows vary due to site elevations.

The high pressure system could serve the entire proposed development. This main is capable of providing between 35 psi and 77 psi water pressure under normal service with 1,800 gpm fire flows throughout the development. The available fire flows are limited by the suction pressure available at the Icecap Water Booster Station more than the site elevations or water main sizes.

Sanitary Sewer System

Currently the City's sanitary sewer system is extended to the east side of the intersection of WIS 27 and the Theisen's Home-Farm-Auto driveway. The sanitary system consists of a 15-inch SDR 35 PVC gravity sewer main with an invert elevation of 797'. This main flows to the existing Iband Avenue lift station.

The Iband Avenue lift station is a duplex submersible station constructed to serve the Ice Cap Road area and this proposed development. The lift station is designed to accept an average daily waste water flow of 144,000 gpd. Currently the average daily flow to this lift station is approximately 7,000 gallons per day.

Other Development Concerns

A review of the Wisconsin DNR Natural Heritage Inventory website identified critical habitat for species in this location. Potential threatened and endangered species in this area include: gray wolf, northern long-eared bat, whooping crane, eastern massasauga rattlesnake, karner blue butterfly and northern wild monkshood. On-site inventory of species or habitats were not included in the scope of services for this report.

Section III. Conceptual Site Layout and Preliminary Cost Estimates

The goal of this section of the study is to develop a conceptual site layout of the business park to determine the feasibility and cost effectiveness of the proposed project while maintaining current City and regulatory standards. Refer to the Concept Plan exhibit at the end of this report. This section of the study also includes planning level cost estimates for initial infrastructure improvement to serve the area.

Land Use Considerations

Per the Comprehensive Land Use Plan, the City envisions the lands bordering WIS 27 will have higher market potential for highway commercial land uses. Potential businesses include those geared toward interstate travel such as restaurants, gas stations, and hotels. Approximately 21 acres have been identified for these types of uses. The remaining portion of the site will feature a mix of industrial and mixed business land uses. Presently the City desires to market the site for one or two large industrial users; therefore, the concept plan includes approximately 104 acres devoted to future industrial uses. An additional 26 acres are identified as future mixed business development, generally commercial and office uses. These areas consist of the woodland area south of the proposed primary collector street. The steeper topography and woodlands offers an opportunity to develop higher end commercial/business uses following the natural contours of the land with minimal disturbance the woodlands.

The remaining undeveloped areas of the site include three areas identified for storm water management facilities and a conservation area. The storm water management areas include three sites encompassing approximately 17 acres. The locations of facilities coincide with the lowest elevations of the site. The 5-acre conservation area encompasses the high point of the site, which due to the steep topography, may be unlikely to support commercial building development. In addition, the concept plan identifies maintaining a minimum 50-foot vegetative buffer along the southern boundary of the site to minimize disturbances to the existing rural subdivision.

The purpose of the concept plan is to provide an understanding of the key concepts and general placement of future land uses. All land use boundaries and acreages shown on the concept plan are preliminary and may deviate based on actual market conditions as the business park developments.

Transportation Considerations

The concept plan identifies a primary collector street, which would extend from the existing access point on WIS 27 to a new access point on Ideal Rd. The collector road as shown features an 80 foot right of way. Since Ideal Road currently features a rural cross section the City anticipates that all heavy traffic will enter and exit the business park via WIS 27. The access connection from Ideal Road will be used for local traffic and passenger vehicles. The concept plan includes an additional local road extending north from the primary collector to the lands immediately adjacent to WIS 27 and I-90 east bound ramp. Since the City desires to market the site for one or two large industrial users at this time, no other roadways are shown on the concept plan to serve the 106 acre planned industrial area.

Access improvements will require a State Trunk Highway (WIS) Connection Permit. The type and size of the intersection will depend on the traffic the development will generate. As a minimum, the WisDOT will require a Type B1 intersection including a south bound left turn lane, north bound left turn lane (existing), north bound

through lane and north bound right turn lane. This will serve an estimated traffic volume of 1,000 average annual daily traffic (AADT) per the Wisconsin DOT FDM, Selection Criteria for Rural High Speed Intersections. If proposed AADT exceeds this volume, MSA anticipates the Wisconsin DOT will require a formal Traffic Impact Analysis report which most likely will conclude that a signalized or other type intersection will be required and intersection construction costs will significantly increase.

Storm Water System Considerations

Storm water management will be required to meet the suspended solids removal and discharge rate requirements of the Wisconsin DNR and City of Sparta. MSA recommends construction of regional storm water treatment facilities for peak discharge and water quality, including a system to convey the storm water to the treatment facilities as soon as development warrants. We recommend storm water infiltration be completed on individual lots as the WDNR states this is the best management practice for infiltration. The concept plan identifies a 7.2 acre site to serve the west discharge and a 9.4 acre site to serve the north discharge to be reserved for storm water management. Easements for storm water conveyance to the treatment areas will be needed and the locations of these will vary depending on site development. The facilities on both sites will include a combination of dry detention, wet detention and infiltration basins. The on-site storm water conveyance system will consist of a combination of ditches and berms initially which will be converted to storm sewer pipes, inlets and structures as the site develops.

This recommendation assumes the intermittent stream shown on the USGS maps and Wisconsin DNR maps is non-navigable water. MSA recommends that the City contact the Wisconsin DNR and request a Waterway Determination for Navigability for the unknown intermittent stream, and for the low area of the east drainage way to confirm whether either will be considered navigable waters. If these are found to be navigable waters storm water treatment will be required on-site before discharge to the intermittent stream and regional storm water treatment may require relocation of the stream.

Water System Considerations

Expectations of businesses which are constructing new commercial or industrial facilities generally require higher water pressures and fire flows than are available. To do so, the City should ultimately construct a reservoir to serve the Business Park when business development warrants increased service reliability and fire protection. At the same time the City should also consider the best options for serving the City-owned subdivision located on Ida Avenue, which is currently not allowed to develop due to groundwater contamination. Similarly, the existing homes on Idylview Avenue and Idol Avenue are near the old Sparta Landfill and may experience groundwater contamination in the future, which would require service from the City.

A more detailed water system study addressing service to the Business Park and the existing developments on Idaho Road, Ida Avenue, Idylview Avenue and Idol Avenue areas will be required to determine which option best suits the City's Business Park and future development concerns. For planning purposes, MSA has included preliminary cost estimates for the extension of water main from the existing system (primary pressure zone) with the Road Extension cost estimates. MSA has also included cost estimates for a new reservoir (3 options) including an elevated reservoir located on the south end of the Development, a ground reservoir located on the City owned property south of Ida Avenue, and a ground reservoir located on the City owned lands at the old landfill site.

Sanitary Sewer System Considerations

The existing sanitary sewer main can be extended to serve the entire development with gravity sewer service. The south and west portion of the development is best served with gravity sewer mains extended as the road system is built. Gravity sewer to serve the lower area on the north end of the development will require a deep sewer main, approximately 35 feet below existing ground, through the existing “ridge” about 2,300 feet east of WIS 27. Service to the lands east of the “ridge” will be through the main that serves the north end. The City will need to take this into consideration and as an alternative may wish to set aside lands along the I 90 east bound on-ramp for use in constructing a shallower sewer main to serve these areas.

The Iband Avenue Lift Station has the capacity to accept an average daily waste water flow of an additional 137,000 gallons per day. This is adequate to serve the proposed park based on normal residential or business uses. If a large waste water discharger is located in the Park the lift station capacity can be increased to an average daily flow of 350,000 gallons per day by replacing the pumps and extending the force main approximately 3,000 feet to discharge to the City’s interceptor sewer main at the intersection of River Road and WIS 27. Note that the force main extension will require crossing the La Crosse River State Trail, CP Railroad and the La Crosse River.

Phasing and Cost Estimates

The City envisions the business park developing in two or more phases. The first phase being construction of the access from STH 27 and approximately 500 feet of the primary collector street including the associated utilities to serve the planned commercial areas. The west discharge regional storm water facility is also included in this phase. As development continues, the phased construction of utilities and roadways would continue. Refer to the Cost Estimates Exhibit for related cost estimates:

- STH 27 Intersection, Type B 1
- Park Road (first 500 feet) including the initial primary collector street and local road stub to the north
- Park Road extension from the end of the initial primary collector east to Ideal Avenue
- Storm water management
 - West discharge area
 - North discharge area
 - Off-site storm water control
- Water reservoir construction options
 - On-site elevated storage
 - Ground reservoir, Ida Avenue area
 - Ground reservoir, landfill site area
- Lift station and force main improvements

Study Summary

The 180-acre STH 27/I-90 site is a feasible option for the City's next business park. Before purchasing the property MSA recommends the City complete initial site investigations including review of the navigability of the mapped intermittent stream, endangered species review, historic and archeological review, wetland delineation, phase one environmental review, ALTA survey and any other requirements requested by the City Attorney.

- Access to STH 27 utilizing a Standard DOT Type B 1 intersection will serve up to 1,000 AADT to the Business Park. The intersection geometry will ultimately require WisDOT approval.
- Regional storm water ponds would best serve the park provided there are no navigable waters on-site. The west discharge storm water facilities should be constructed during the initial access construction to make lots more marketable.
- Water system improvements during the initial development should include extending the existing water mains from the primary pressure zone. At the same time a more detailed water study should be undertaken to size and locate a future water reservoir that will serve the Park and additional lands to the south.
- To serve the initial development, MSA recommends extending the existing 15" sanitary sewer main, reserving easements for extending to serve the lower areas on the north end of the Park, and planning to improve the Idaho Road lift station when the average daily waste water flow reaches 140,000 gallons per day (the average daily water use of about 1,400 people).

In addition, MSA also recommends the site ultimately be included on the Wisconsin Economic Development Corporation's (WEDC) 'Locate in Wisconsin' site to assist in marketing the future business park to perspective tenants. The City should consider the additional step of achieving "Certified" status through the WEDC. "Certification" means that the key reviews, documentations and assessments most commonly required for industrial uses are already in place. More information can be found at www.inwisconsin.com.

BUSINESS PARK DEVELOPMENT AREA

CITY OF SPARTA, WI

Concept Plan

DISCLAIMER: New roads and land use boundaries, including the stormwater management areas, are conceptual. Final layout and configuration will be determined during the development review process.



**CITY OF SPARTA
BUSINESS PARK DEVELOPMENT STUDY
PRELIMINARY COST ESTIMATE**

Cost Estimate Summary

April, 2016

STH 27 Intersection, Type B2	\$ 236,250.00
Park Road (First 500 Feet)	\$ 537,630.00
Park Road Extension to Ideal Avenue	\$ 3,974,092.50
Water Reservoir	
Elevated water Reservoir, On-Site	\$ 3,326,250.00
Ground Reservoir, Ida Avenue Area	\$ 2,547,750.00
Ground Reservoir, Landfill Area	\$ 2,137,500.00
Iband Avenue Lift Station Improvements	\$ 608,550.00
Storm Water Management	
West Storm Water Treatment	\$ 354,000.00
North Storm Water Treatment	\$ 468,300.00
West Offsite Storm Water Control	\$ 62,250.00

**CITY OF SPARTA
BUSINESS PARK DEVELOPMENT STUDY
PRELIMINARY COST ESTIMATE
STH 27 CONNECTION
April 2016**

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
<u>General</u>					
	Mobilization, Bonds and Insurance	1	L.S.	\$ 8,000.00	\$ 8,000.00
	Erosion Control	1	L.S.	\$ 500.00	\$ 500.00
	Clearing and Grubbing	1	L.S.	\$ 200.00	\$ 200.00
	Turf Restoration	1	L.S.	\$ 8,500.00	\$ 8,500.00
	Traffic Control	1	L.S.	\$ 10,000.00	\$ 10,000.00
<u>Water Main</u>					
	Hydrant Relocation	2	Ea.	\$ 3,500.00	\$ 7,000.00
<u>Sanitary Sewer</u>					
	48-inch Sanitary Sewer Manhole	1	Ea.	\$ 2,200.00	\$ 2,200.00
	15-inch PVC Sanitary Sewer Main	100	L.F.	\$ 100.00	\$ 10,000.00
<u>Storm Sewer</u>					
	36-inch RCP	200	L.F.	\$ 50.00	\$ 10,000.00
	36-inch Apron Endwall w/Gate	4	Ea.	\$ 1,500.00	\$ 6,000.00
	Rip-Rap	20	SY	\$ 35.00	\$ 700.00
<u>Roadway</u>					
	Unclassified Excavation/Borrow	2,500	CY	\$ 12.00	\$ 30,000.00
	12-inch Crushed Aggregate Base Course	1,250	Ton	\$ 16.00	\$ 20,000.00
	36-inch Concrete Curb and Gutter	160	L.F.	\$ 45.00	\$ 7,200.00
	4-inch Asphaltic Concrete Pavement (2 Layers)	260	Ton	\$ 120.00	\$ 31,200.00
	Pavement Marking,	1	LS	\$ 5,000.00	\$ 5,000.00
	Stone Tracking Pad	1	Ea.	\$ 1,000.00	\$ 1,000.00
CONSTRUCTION SUBTOTAL:					\$ 157,500.00
CONTINGENCIES (20%):					\$ 31,500.00
CONSTRUCTION TOTAL:					\$ 189,000.00
ENGINEERING, ADMIN, LEGAL					\$ 47,250.00
PROJECT TOTAL					\$ 236,250.00

Assumptions:

- 1 Construction of the B2 intersection is acceptable to the Wisconsin DOT, high traffic volumes may require a signalized intersection or other more expensive intersection design.
- 2 Intersection costs include construction to the end of the concrete radius.
- 3 Two 36-inch RCP culverts will be used for storm water discharge to the north stormwater pond area.
- 4 No additional right-of-way will be required to construct the added lanes.
- 5 Sanitary sewer will be extended to move the manhole out of the DOT right-of-way.
- 6 The fire hydrants will need to be moved out to a safe distance from the traveled way.
- 7 A gravel cul-de-sac to be built for maintenance vehicles to turn around.

**CITY OF SPARTA
BUSINESS PARK DEVELOPMENT STUDY
PRELIMINARY COST ESTIMATE
Park Road, First 500 Feet
April 2016**

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
<u>General</u>					
	Mobilization, Bonds and Insurance	1	L.S.	\$ 12,000.00	\$ 12,000.00
	Erosion Control	1	L.S.	\$ 1,000.00	\$ 1,000.00
	Clearing and Grubbing	1	L.S.	\$ 2,500.00	\$ 2,500.00
	Turf Restoration	1	L.S.	\$ 5,000.00	\$ 5,000.00
	Traffic Control	1	L.S.	\$ 1,000.00	\$ 1,000.00
<u>Water Main</u>					
	12-Inch Water Main	1,000	L.F.	\$ 100.00	\$ 100,000.00
	6-Inch Water Main	66	L.F.	\$ 40.00	\$ 2,640.00
	12-inch Valve	2	Ea.	\$ 1,500.00	\$ 3,000.00
	6-Inch Valve	2	Ea.	\$ 1,000.00	\$ 2,000.00
	Fire Hydrant	2	Ea.	\$ 3,500.00	\$ 7,000.00
	1-Inch Water Service	132	L.F.	\$ 25.00	\$ 3,300.00
	1-Inch Corp., Curb Stop and Box	4	Ea.	\$ 180.00	\$ 720.00
	6-inch Fire Protection Service w/Valve	2	Ea.	\$ 3,500.00	\$ 7,000.00
<u>Sanitary Sewer</u>					
	48-inch Sanitary Sewer Manhole	1	Ea.	\$ 2,200.00	\$ 2,200.00
	15-inch PVC Sanitary Sewer Main	500	L.F.	\$ 75.00	\$ 37,500.00
	15-inch x 6-inch Wye	4	Ea.	\$ 200.00	\$ 800.00
	6-inch Service	132	L.F.	\$ 25.00	\$ 3,300.00
<u>Storm Sewer</u>					
	Manhole, Type 3 (72")	2	Ea.	\$ 50.00	\$ 100.00
	Inlet, Type 3	2	Ea.	\$ 1,000.00	\$ 2,000.00
	36-inch RCP	200	L.F.	\$ 48.00	\$ 9,600.00
	18-inch RCP	36	L.F.	\$ 35.00	\$ 1,260.00
	36-inch Apron Endwall w/Gate	1	Ea.	\$ 2,000.00	\$ 2,000.00
	Rip-Rap	20	SY	\$ 35.00	\$ 700.00
<u>Roadway</u>					
	Unclassified Excavation and Grading	3,600	CY	\$ 12.00	\$ 43,200.00
	12-inch Crushed Aggregate Base Course	1,850	Ton	\$ 16.00	\$ 29,600.00
	30-inch Concrete Curb and Gutter	1,000	L.F.	\$ 25.00	\$ 25,000.00
	4-inch Asphaltic Concrete Pavement (2 Layers)	450	Ton	\$ 120.00	\$ 54,000.00
CONSTRUCTION SUBTOTAL:					\$ 358,420.00
CONTINGENCIES (20%):					\$ 71,684.00
CONSTRUCTION TOTAL:					\$ 430,104.00
ENGINEERING, ADMIN, LEGAL					\$ 107,526.00
PROJECT TOTAL					\$ 537,630.00

Assumptions:

- 1 Estimate is for the first 500 feet of street from intersection east with gravel cul-de-sac.
- 2 40' back of curb to back of curb urban street
- 3 36-inch storm sewer is sized to collect storm water from on-site development.
- 4 Offsite drainage to be channeled to storm pond with separate drainage swale/berm system
- 5 Stormwater control costs are not included in this estimate.
- 6 Utilities to be extended to the end of the roadway, 4 standard services and 2 fire protection services are included.

**CITY OF SPARTA
BUSINESS PARK DEVELOPMENT STUDY
PRELIMINARY COST ESTIMATE
Park Road, Additional 3,900 Feet
April 2016**

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
General					
	Mobilization, Bonds and Insurance	1	L.S.	\$ 80,000.00	\$ 80,000.00
	Erosion Control	1	L.S.	\$ 5,000.00	\$ 5,000.00
	Clearing and Grubbing	1	L.S.	\$ 30,000.00	\$ 30,000.00
	Turf Restoration	1	L.S.	\$ 50,000.00	\$ 50,000.00
	Traffic Control	1	L.S.	\$ 1,500.00	\$ 1,500.00
Water Main					
	12-Inch Water Main	4,600	L.F.	\$ 100.00	\$ 460,000.00
	10-Inch Water Main	700	L.F.	\$ 100.00	\$ 70,000.00
	6-Inch Water Main	350	L.F.	\$ 40.00	\$ 14,000.00
	12-inch Valve	16	Ea.	\$ 1,500.00	\$ 24,000.00
	6-Inch Valve	14	Ea.	\$ 1,000.00	\$ 14,000.00
	Fire Hydrant	14	Ea.	\$ 3,500.00	\$ 49,000.00
	1-Inch Water Service	1,287	L.F.	\$ 25.00	\$ 32,175.00
	1-Inch Corp., Curb Stop and Box	39	Ea.	\$ 180.00	\$ 7,020.00
	6-inch Fire Protection Service w/Valve	6	Ea.	\$ 3,500.00	\$ 21,000.00
Sanitary Sewer					
Proposed Road					
	48-inch Sanitary Sewer Manhole	12	Ea.	\$ 2,200.00	\$ 39,600.00
	15-inch PVC Sanitary Sewer Main	200	L.F.	\$ 75.00	\$ 30,000.00
	12-inch PVC Sanitar Sewer Main	400	L.F.	\$ 65.00	\$ 188,500.00
	10-inch PVC Sanitary Sewer Main	1,000	L.F.	\$ 55.00	\$ 176,000.00
	6-inch PVC Sanitary Sewer Service	1,200	L.F.	\$ 50.00	\$ 10,000.00
	Service Wye	33	Ea.	\$ 200.00	\$ 1,200.00
North Side					
	48-inch Sanitary Sewer Manhole	18	Ea.	\$ 2,200.00	\$ 26,400.00
	15-inch PVC Sanitary Sewer Main	400	L.F.	\$ 75.00	\$ 15,000.00
	12-inch PVC Sanitar Sewer Main	2,900	L.F.	\$ 65.00	\$ 26,000.00
	10-inch PVC Sanitary Sewer Main	3,200	L.F.	\$ 55.00	\$ 55,000.00
	6-inch PVC Sanitary Sewer Leads	200	L.F.	\$ 50.00	\$ 60,000.00
	Service Wye	6	Ea.	\$ 200.00	\$ 6,600.00
Storm Sewer					
	Manhole, Type 3 (72")	2	Ea.	\$ 3,500.00	\$ 7,000.00
	Manhole, Type 2 (60")	6	Ea.	\$ 3,000.00	\$ 18,000.00
	Inlet, Type 3	16	Ea.	\$ 1,000.00	\$ 16,000.00
	48-inch RCP Storm Sewer Main	60	L.F.	\$ 60.00	\$ 3,600.00
	36-inch RCP Storm Sewer Main	450	L.F.	\$ 48.00	\$ 21,600.00
	24-inch RCP Storm Sewer Main	2,400	L.F.	\$ 35.00	\$ 84,000.00
	18-inch RCP Storm Sewer Leads	320	L.F.	\$ 35.00	\$ 11,200.00
	48" Apron Endwall w/Gate	2	Each	\$ 3,500.00	\$ 7,000.00
Roadway					
	Unclassified Excavation and Grading	20,000	CY	\$ 12.00	\$ 240,000.00
	12-inch Crushed Aggregate Base Course	12,200	Ton	\$ 16.00	\$ 195,200.00
	30-inch Concrete Curb and Gutter	7,800	L.F.	\$ 25.00	\$ 195,000.00
	4-inch Asphaltic Concrete Pavement (2 Layers)	2,990	Ton	\$ 120.00	\$ 358,800.00
CONSTRUCTION SUBTOTAL:					\$ 2,649,395.00
CONTINGENCIES (20%):					\$ 529,879.00
CONSTRUCTION TOTAL:					\$ 3,179,274.00
ENGINEERING, ADMIN, LEGAL:					\$ 794,818.50
PROJECT TOTAL:					\$ 3,974,092.50

Assumptions:

- 1 40' back of curb to back of curb urban street
- 2 36-inch storm sewer sized to collect storm water from on-site development, this will end 400 feet short of the high point on the proposed road and a separate system will collect storm water east of the high point and discharge this north to the drainageway. A 48" storm pipe will convey storm water across the road at the existing low point/drainage way.
- 3 Offsite drainage from the East Drainageway to pass through the site. This could be rerouted to an Ideal Road Ditch.
- 4 Road is to generally follow the existing ground, no major grading is included.
- 5 Water main includes the high pressure transmission main to the high area for future reservoir.
- 6 Sanitary sewer generated west of the high point to be discharges by gravity sewer with a main under the proposed roadway. Sanitary sewer generated east of the high point to be discharges through the north side sanitary sewer main.
- 7 Stormwater control costs not included, see storm water control estimate.

**CITY OF SPARTA
BUSINESS PARK DEVELOPMENT STUDY
PRELIMINARY COST ESTIMATE
Elevated Water Reservoir on Business Park Site
April 2016**

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
General					
	Mobilization, Bonds and Insurance	1	L.S.	\$ 100,000.00	\$ 100,000.00
	Erosion Control	1	L.S.	\$ 5,000.00	\$ 5,000.00
	750,000-gallon Single Pedestal Welded Steel Elevated Water Storage Reservoir, Complete	1	L.S.	\$ 1,900,000.00	\$ 1,900,000.00
	Drain-back Valve and Controls	1	L.S.	\$ 40,000.00	\$ 40,000.00
	Yard Piping	1	L.S.	\$ 80,000.00	\$ 80,000.00
	Access Driveway	1	L.S.	\$ 35,000.00	\$ 35,000.00
	Telemetry and Controls	1	L.S.	\$ 45,000.00	\$ 45,000.00
	Electrical Service	1	L.S.	\$ 10,000.00	\$ 10,000.00
	Telephone Service	1	L.S.	\$ 2,500.00	\$ 2,500.00
CONSTRUCTION SUBTOTAL:					\$ 2,217,500.00
CONTINGENCIES (20%):					\$ 443,500.00
CONSTRUCTION TOTAL:					\$ 2,661,000.00
ENGINEERING, ADMIN, LEGAL					\$ 665,250.00
PROJECT TOTAL					\$ 3,326,250.00

Assumptions:

- 1 Reservoir elevation high water level estimated to be set at 1005 to allow 80 psi to elev. 820, some homes on Ida Road will need individual water booster stations. A detailed water study will be required to determine final reservoir volume and overflow elevation.
- 2 Yard piping includes water main from the street to the reservoir, flushing hydrants and valving.
- 3 Driveway costs include grading, base course, and asphalt for a 12' wide driveway and small parking/turn-around area.

**CITY OF SPARTA
BUSINESS PARK DEVELOPMENT STUDY
PRELIMINARY COST ESTIMATE
Ground Reservoir on City Property (Ida Road Area)
April 2016**

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
General					
	Mobilization, Bonds and Insurance	1	L.S.	\$ 85,000.00	\$ 85,000.00
	Erosion Control	1	L.S.	\$ 15,000.00	\$ 15,000.00
	750,000-gallon Precast Concrete Ground Storage Reservoir, Complete (DN Tanks)	1	L.S.	\$ 800,000.00	\$ 800,000.00
	16-inch D.I. Water Main	4,000	L.F.	\$ 150.00	\$ 600,000.00
	16-inch Water Valves	5	Ea.	\$ 5,000.00	\$ 25,000.00
	Drain-back Valve and Controls	1	L.S.	\$ 40,000.00	\$ 40,000.00
	Yard Piping	1	L.S.	\$ 50,000.00	\$ 50,000.00
	Access Driveway	1	L.S.	\$ 20,000.00	\$ 20,000.00
	Telemetry and Controls	1	L.S.	\$ 45,000.00	\$ 45,000.00
	Electrical Service	1	L.S.	\$ 15,000.00	\$ 15,000.00
	Telephone Service	1	L.S.	\$ 3,500.00	\$ 3,500.00
CONSTRUCTION SUBTOTAL:					\$ 1,698,500.00
CONTINGENCIES (20%):					\$ 339,700.00
CONSTRUCTION TOTAL:					\$ 2,038,200.00
ENGINEERING, ADMIN, LEGAL					\$ 509,550.00
PROJECT TOTAL					\$ 2,547,750.00

Assumptions:

- 1 Reservoir elevation high water level estimated to be set at 1005 to allow 80 psi to elev. 820, some homes on Ida Road will need individual water booster stations. A detailed water study will be required to determine final reservoir volume and overflow elevation.
- 2 Yard piping includes water main from the street to the reservoir, flushing hydrants and valving.
- 3 Driveway costs include grading, base course, and asphalt for a 12' wide driveway and small parking/turn-around area.
- 4 Water reservoir location may limit fire flows in Business Park area.

CITY OF SPARTA
BUSINESS PARK DEVELOPMENT STUDY
PRELIMINARY COST ESTIMATE
Ground Reservoir on City Property (Landfill Area)
April 2016

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
General					
	Mobilization, Bonds and Insurance	1	L.S.	\$ 75,000.00	\$ 75,000.00
	Erosion Control	1	L.S.	\$ 5,000.00	\$ 5,000.00
	750,000-gallon Precast Concrete Ground Storage Reservoir, Complete (DN Tanks)	1	L.S.	\$ 800,000.00	\$ 800,000.00
	16-inch D.I. Water Main	2,200	L.F.	\$ 150.00	\$ 330,000.00
	16-inch Water Valves	5	Ea.	\$ 5,000.00	\$ 25,000.00
	Drain-back Valve and Controls	1	L.S.	\$ 40,000.00	\$ 40,000.00
	Yard Piping	1	L.S.	\$ 30,000.00	\$ 30,000.00
	Access Driveway	1	L.S.	\$ 50,000.00	\$ 50,000.00
	Telemetry and Controls	1	L.S.	\$ 45,000.00	\$ 45,000.00
	Electrical Service	1	L.S.	\$ 20,000.00	\$ 20,000.00
	Telephone Service	1	L.S.	\$ 5,000.00	\$ 5,000.00
CONSTRUCTION SUBTOTAL:					\$ 1,425,000.00
CONTINGENCIES (20%):					\$ 285,000.00
CONSTRUCTION TOTAL:					\$ 1,710,000.00
ENGINEERING, ADMIN, LEGAL					\$ 427,500.00
PROJECT TOTAL					\$ 2,137,500.00

Assumptions:

- 1 Reservoir elevation high water level estimated to be set at 1005 to allow 80 psi to elev. 820, some homes on Ida Road will need individual water booster stations. A detailed water study will be required to determine final reservoir volume and overflow elevation.
- 2 Yard piping includes water main from the street to the reservoir, flushing hydrants and valving.
- 3 Driveway costs include grading, base course, and asphalt for a 12' wide driveway and small parking/turn-around area.
- 4 Water reservoir location may limit fire flows in Business Park area.

**CITY OF SPARTA
BUSINESS PARK DEVELOPMENT STUDY
PRELIMINARY COST ESTIMATE
Iband Avenue Lift Station, Force Main Extension
April 2016**

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
General					
	Mobilization, Bonds and Insurance	1	L.S.	\$ 15,000.00	\$ 15,000.00
	Erosion Control	1	L.S.	\$ 1,500.00	\$ 1,500.00
	Clearing and Grubbing	1	L.S.	\$ 1,500.00	\$ 1,500.00
	Turf Restoration	1	L.S.	\$ 7,500.00	\$ 7,500.00
	Traffic Control	1	L.S.	\$ 5,000.00	\$ 5,000.00
Force Main					
	8-Inch HDPE Force Main	1,300	L.F.	\$ 35.00	\$ 45,500.00
	8-Inch HDPE Force Main (HDD Installation)	1,870	L.F.	\$ 60.00	\$ 112,200.00
	Bore and Jack 18-inch Casing Pipe w/Carrier Pipe	230	L.F.	\$ 400.00	\$ 92,000.00
	8-inch Gate Valve	3	Ea.	\$ 1,500.00	\$ 4,500.00
	Connect to Existing Manhole	1	Ea.	\$ 1,000.00	\$ 1,000.00
	Lift Station Pump and Control Upgrade	1	L.S.	\$ 120,000.00	\$ 120,000.00
CONSTRUCTION SUBTOTAL:					\$ 405,700.00
CONTINGENCIES (20%):					\$ 81,140.00
CONSTRUCTION TOTAL:					\$ 486,840.00
ENGINEERING, ADMIN, LEGAL					\$ 121,710.00
PROJECT TOTAL					\$ 608,550.00

Assumptions:

- 1 Current capacity of Iband Lift Station is 400 gpm. The flow is limited by the existing flow capacity in the receiving gravity sewer main on Avon Road.
- 2 The existing sewer main in Black River Street (STH 27) is 15-inch dia with a capacity of 1250 gpm.
- 3 Lift station pumps to be replaced with pumps capable of discharging 1065 gpm.
- 4 Horizontal directional drill installation required to cross the wetlands and La Crosse River.
- 5 Boring and Jacking an 18 inch casing pipe required to cross the state trail and CP Railroad.

**CITY OF SPARTA
BUSINESS PARK DEVELOPMENT STUDY
PRELIMINARY COST ESTIMATE
West Storm Water Treatment
April 2016**

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
General					
	Mobilization, Bonds and Insurance	1	L.S.	\$ 12,000.00	\$ 12,000.00
	Erosion Control	1	L.S.	\$ 6,000.00	\$ 6,000.00
	Clearing and Grubbing	1	L.S.	\$ 1,000.00	\$ 1,000.00
	Turf Restoration	1	L.S.	\$ 16,000.00	\$ 16,000.00
Site Grading					
	Site Grading	18,000	CY	\$ 4.00	\$ 72,000.00
	Dry Detention Pond	1	L.S.	\$ 45,000.00	\$ 25,000.00
	Wet Detention Pond	1	L.S.	\$ 75,000.00	\$ 60,000.00
	Infiltration Pond	1	L.S.	\$ 50,000.00	\$ 30,000.00
	Storm Sewer Main	400	L.F.	\$ 35.00	\$ 14,000.00
CONSTRUCTION SUBTOTAL:					\$ 236,000.00
CONTINGENCIES (20%):					\$ 47,200.00
CONSTRUCTION TOTAL:					\$ 283,200.00
ENGINEERING, ADMIN, LEGAL					\$ 70,800.00
PROJECT TOTAL					\$ 354,000.00

Assumptions:

- 1 Regional pond along STH 27 for storm water treatment.
- 2 Storm water discharge to pond site included in street construction costs.
- 3 Off-site storm water bypasses pond, no treatment or detention of off-site stormwater is included in this estimate.
- 4 Wet detention pond to be lined with PVC liner.

**CITY OF SPARTA
BUSINESS PARK DEVELOPMENT STUDY
PRELIMINARY COST ESTIMATE
North Storm Water Treatment
April 2016**

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
General					
	Mobilization, Bonds and Insurance	1	L.S.	\$ 10,000.00	\$ 10,000.00
	Erosion Control	1	L.S.	\$ 9,200.00	\$ 9,200.00
	Clearing and Grubbing	1	L.S.	\$ 4,000.00	\$ 4,000.00
	Turf Restoration	1	L.S.	\$ 20,000.00	\$ 20,000.00
Site Grading					
	Site Grading	25,000	CY	\$ 4.00	\$ 100,000.00
	Dry Detention Pond	1	L.S.	\$ 35,000.00	\$ 35,000.00
	Wet Detention Pond	1	L.S.	\$ 78,000.00	\$ 78,000.00
	Infiltration Pond	1	L.S.	\$ 42,000.00	\$ 42,000.00
	Storm Sewer Main	400	L.F.	\$ 35.00	\$ 14,000.00
CONSTRUCTION SUBTOTAL:					\$ 312,200.00
CONTINGENCIES (20%):					\$ 62,440.00
CONSTRUCTION TOTAL:					\$ 374,640.00
ENGINEERING, ADMIN, LEGAL					\$ 93,660.00
PROJECT TOTAL					\$ 468,300.00

Assumptions:

- 1 Regional pond along I-90 for storm water treatment.
- 2 Storm water discharge to pond site included in street construction costs.
- 3 Wet detention pond to be lined with PVC liner.

**CITY OF SPARTA
BUSINESS PARK DEVELOPMENT STUDY
PRELIMINARY COST ESTIMATE
Offsite Storm Water Drainage Berms/Ditches
April 2016**

ITEM NO.	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT PRICE	TOTAL PRICE
General					
	Mobilization, Bonds and Insurance	1	L.S.	\$ 5,000.00	\$ 5,000.00
	Erosion Control	1	L.S.	\$ 4,500.00	\$ 4,500.00
	Clearing and Grubbing	1	L.S.	\$ 8,000.00	\$ 8,000.00
	Turf Restoration	1	L.S.	\$ 8,000.00	\$ 8,000.00
Site Grading					
	South Property Line Berm/Ditch Grading	2,000	C.Y.	\$ 8.00	\$ 16,000.00
CONSTRUCTION SUBTOTAL:					\$ 41,500.00
CONTINGENCIES (20%):					\$ 8,300.00
CONSTRUCTION TOTAL:					\$ 49,800.00
ENGINEERING, ADMIN, LEGAL					\$ 12,450.00
PROJECT TOTAL					\$ 62,250.00

Assumptions:

- 1 Assume an 8'wide, 2 foot deep ditch with soil used to construct a berm on the north side of the ditch. No hauling offsite or borrow required.
- 2 Erosion control includes stone weepers/erosion logs and silt fence.
- 3 Site is fully wooded, extensive clearing and grubbing required.
- 4 Stormwater control costs are not included in this estimate.